



TRAFFIC MEMORANDUM

To: MnDOT, St. Louis County, & City of Hermantown
From: Jacob Rojer P.E., PTOE
Date: March 27, 2026
Subject: Hermantown Industrial - Construction Conditions (2027) Traffic Analysis

INTRODUCTION

This memo analyzes the impact of Hermantown Industrial construction traffic on the surrounding roadway network and determines any mitigations necessary to support the temporarily elevated traffic levels. The Hermantown Industrial site is located at the southwest corner of Midway Road & Morris Thomas Road in Hermantown, MN. The project site location and study area is shown in **Exhibit 1**. All Exhibits are presented in **Attachment A**. A Traffic Impact Analysis (TIA) was completed for the Hermantown Industrial site which analyzed the impacts of the completed development in the short- and long-term. This memorandum includes the volume development for the construction conditions in the potential construction year of 2027. It also includes a capacity analysis for the construction conditions, and the determination of any mitigation measures necessary to facilitate access to the construction site while maintaining acceptable traffic conditions at the nearby study intersections.

All intersections studied in the Hermantown Industrial TIA were also analyzed for this memorandum. Existing geometry and intersection control is shown in **Exhibit 2**. Turning Movement Counts (TMCs) were collected at five (5) study intersections in April 2025, with the PM peak (4:00 PM to 6:00PM) collected on Wednesday, April 9, and the AM peak (7:00 AM to 9:00 AM) collected on Thursday, April 10.

VOLUME DEVELOPMENT

For the purpose of this memo, trip generation includes the construction of Phase One of the site, which includes an administrative building and one of four industrial buildings in the year 2027. Construction trip generation estimates were determined using estimates for similar sized projects. The expected construction trips generated are shown below in **Table 1**. At the peak of construction, there are expected to be 390 construction trips (330 entering, 60 exiting) during the AM peak hour and 340 construction trips (70 entering, 270 exiting) during the PM peak hour.

To determine the effects of the busiest construction period on the roadway network, the AM and PM peak periods of construction traffic were studied instead of the peak periods of adjacent street traffic. Based on the anticipated arrival patterns, the AM peak hour of street traffic is estimated to be 7:15 AM to 8:15 AM, while the PM peak hour of site traffic is estimated to coincide with the PM peak hour of adjacent street traffic at 4:15 PM to 5:15 PM. The Existing (2025) peak hour traffic volumes are shown in **Exhibit 3**.

A small percentage of truck trips are estimated to be generated throughout the day, but these trips are expected to be spread relatively throughout the workday and are generally not expected to coincide with the peak periods for passenger vehicle trips. Because there is not expected to be substantial truck trips during the peak periods, existing heavy vehicle percentages were utilized for the analysis.

Table 1: Construction Trip Generation

Trip Type	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Total	330	60	390	70	270	340

The distribution of construction site trips was determined via a review of the existing roadway characteristics, traffic patterns, and knowledge of the site characteristics. The global distribution for traffic traveling to/from the site is as follows:

- 40% to/from southeast on US Highway 2
- 15% to/from north on Midway Road
- 15% to/from south on Midway Road
- 15% to/from east on Morris Thomas Road
- 10% to/from west on Morris Thomas Road
- 5% to/from northwest on US Highway 2

For the sake of this analysis, it was assumed that all construction traffic would access the site from the primary access point located along Morris Thomas Road. The overall trip distribution for the site is shown in **Exhibit 4**, while the trip assignment for the Hermantown Technology Park Construction traffic is shown in **Exhibit 5**.

Based on an analysis of Hermantown population growth and expected traffic volume growth, an annual growth rate of 0.6% was determined to be used for background growth. Two years of background growth was applied to the Existing (2025) traffic volumes to determine No-Build (2027) traffic volumes, shown in **Exhibit 6**. The Construction Conditions (2027) traffic volumes were determined by applying trip assignment in **Exhibit 5** to No-Build (2027) traffic volumes in **Exhibit 6**. The Construction Conditions (2027) traffic volumes are shown in **Exhibit 7**.

RAILROAD CROSSING QUEUE ANALYSIS

A railroad crossing conditions analysis was conducted on the Construction Conditions (2027) to determine the necessary mitigation for 10-minute train crossing events during the peak construction conditions. Results of the analysis, along with the Existing (2025) Conditions results are given below in **Table 2**.

Table 2: 10-Minute Train Crossing Event Queueing Results

Scenario	Maximum Queue by Movement				
	US Highway 2 & Midway Road			Midway Road & Morris Thomas Road	
	EBR	WBL	SBT	NBT	EBL/R ¹
(Available Queue Storage)	300'	450'	-	-	- / 250'
Existing (2025) Conditions – AM Peak	26'	59'	164'	1,346'	298'
Existing (2025) Conditions – PM Peak	75'	167'	1,808'	1,078'	277'
Construction Conditions (2027) – AM Peak	167'	720'	1,286'	2,129'	292'
Construction Conditions (2027) – PM Peak	62'	227'	2,175'	1,517'	2,686'
Rerouted Construction (2027) – AM Peak	157'	420'	1,180'	2,627'	284'
Rerouted Construction (2027) – PM Peak	57'	209'	2,169'	1,477'	2,828'

¹Dedicated left turn storage (250') was assumed at Midway Road & Morris Thomas Road under Construction Conditions.

Based on the results of the analysis, the peak construction conditions are anticipated to cause significant increases in queueing during 10-minute crossing events compared to the existing conditions. During the AM Peak hour of the Construction Conditions (2027), the westbound left turn lane at US Highway 2 & Midway Road is anticipated to exceed its storage capacity with maximum queues of 720'. It is recommended that traffic traveling to the site from US Highway 2 south of St. Louis River Road should be routed to turn at St. Louis River Road to avoid this railroad crossing and reduce potential undesirable queueing in the westbound left turn lane.

The Rerouted Construction (2027) Traffic Volumes are shown in **Exhibit 8**. Under the rerouted construction conditions, the westbound left turn queue is reduced to 420' which is within the available storage. During the PM peak hour of the Construction Conditions (2027), the eastbound approach of Midway Road & Morris Thomas Road is anticipated to see maximum queues of approximately ½ mile. Eastbound queues do not extend to any major intersection and are not expected to cause significant issues. All other movements are generally anticipated to see acceptable levels of queueing during 10-minute crossing events and no further mitigation is required.

In review of the MnDOT provided data for the railroad crossing from June through October 2025, a total of 97 railroad crossings occurred during the weekday AM peak hour (7:45 AM to 8:45 AM) when the projected queues for the turn lanes on US 2 are the longest. 97 crossings in the 5 months represents 0.9 events per weekday AM peak. While there are anticipated to be crossings almost every day during the AM peak hour, only 23 crossings exceeded 5 minutes and only 1 crossing in the 5-month time frame was 10 minutes. Therefore, the analysis condition outlined above for a 10-minute training crossing is not anticipated to be a regular occurrence.

CONSTRUCTION CONDITIONS (2027) CAPACITY ANALYSIS

Traffic analysis was conducted for the Construction Conditions (2027) scenario as described above. Analysis was conducted using capacity analysis software SimTraffic within Synchro 12. Sim Traffic Reports are presented in **Attachment B**. The level of service is shown in **Table 3**.

Table 3: Construction Conditions (2027) Level of Service

Intersection	Control	Approach	Operations by Movement							
			AM Peak Hour				PM Peak Hour			
			Left	Through	Right	Overall	Left	Through	Right	Overall
Midway Road & US Highway 2	Signal	EB	C (26.1)	C (25.4)	A (6.1)	C (26)	C (23.6)	C (20.3)	A (6.2)	B (14.2)
		WB	E (57.4)	B (15.2)	B (10.6)		C (24.2)	B (15.2)	A (5.8)	
		NB	B (19.2)	C (27.4)	A (7.4)		B (17.2)	B (19.3)	A (6.1)	
		SB	B (19.9)	B (15.8)	A (4.2)		B (14.4)	B (13.9)	A (4.8)	
Midway Road & Morris Thomas Road	Side Street Stop	EB	F (82.1)	-	F (76.8)	F (82.1)	F (100+)	-	F (100+)	F (100+)
		WB	-	-	-		-	-	-	
		NB	C (19.6)	C (19.5)	-		A (6.1)	A (4.3)	-	
		SB	-	A (8.2)	A (5.4)		-	A (7)	A (4.2)	
Midway Road & St Louis River Road	Side Street Stop	EB	A (7.6)	B (10.8)	A (2.3)	B (10.8)	A (8.1)	B (12)	A (1.7)	B (12)
		WB	-	A (4.3)	A (3.7)		A (9.8)	A (7)	A (2.4)	
		NB	A (0.3)	A (0.6)	A (0)		A (2.2)	A (0.4)	A (0)	
		SB	A (2.7)	A (0.7)	A (0)		A (2.3)	A (2.4)	A (0)	
US Highway 2 & Morris Thomas Road	Side Street Stop	EB	A (5.7)	A (6)	-	A (6.3)	B (12.9)	B (10.4)	-	B (12.9)
		WB	-	A (3.5)	A (2.6)		-	A (3.6)	A (3.4)	
		NB	-	-	-		-	-	-	
		SB	A (6.3)	-	A (3)		A (9.7)	-	A (2.8)	
St Louis River Road & US Highway 2	Side Street Stop	EB	-	A (0.9)	A (0.1)	A (9.6)	-	A (1.2)	A (0)	A (8.5)
		WB	A (2.9)	A (1.7)	-		A (2.3)	A (0.6)	-	
		NB	A (9.6)	-	A (2.8)		A (8.5)	A (0.7)	A (4)	
		SB	-	-	-		-	-	-	
Morris Thomas Road & Industrial Access	Side Street Stop	EB	-	B (11.2)	A (3.1)	E (39.8)	-	C (19.7)	A (4.1)	F (81.6)
		WB	E (39.8)	D (31.8)	-		A (7)	A (7)	-	
		NB	A (8.9)	-	A (2.5)		F (71.6)	-	F (81.6)	
		SB	-	-	-		-	-	-	

Note: Worst side street delay is reported instead of overall delay at side-street stop-controlled intersections.

Based on the Construction Conditions (2027) analysis, the following individual movements are expected to operate at LOS F:

- Eastbound left at Midway Road & Morris Thomas Road (AM & PM)
- Eastbound right at Midway Road & Morris Thomas Road (AM & PM)

- Northbound left at Morris Thomas Road & Construction Access (PM)
- Northbound right Morris Thomas Road & Construction Access (PM)

The current intersection control at Midway Road & Morris Thomas Road is Side Street Stop Control. Due to this, the eastbound approach is the only approach with a stop sign. Vehicles are unable to make an eastbound left or right turn in a timely matter because of limited turning opportunities on Midway Road. In order to reduce delays at this intersection, it is recommended that this intersection be signalized. Based on the recommendation given in the Hermantown Industrial Traffic Impact Analysis, installation of a permanent traffic signal is recommended to mitigate issues related to queueing at the nearby railroad crossing along Midway Road. The delay and queueing issues at Morris Thomas Road & Construction Access are almost entirely due to the problems previously discussed at Midway Road & Morris Thomas Road. Thus, proper mitigation at Midway Road & Morris Thomas Road is expected to resolve conflict at Morris Thomas Road & Construction Access.

Analysis of 95th percentile queue lengths shows all queues remain in their respective storage bays apart from the westbound left movement at Midway Road & US Highway 2. The 95th percentile queue is expected to be at a maximum of 14 feet beyond the 350-foot storage bay in the AM peak hour. This queue is not expected to extend onto the through lane because vehicles should fit within the taper length. The extended queue is primarily due to the current signal phasing which does not have enough allotted time to allow the full westbound left queue to complete the movement in one cycle. An adjustment of the signal time is expected to be enough to provide reduced queue lengths.

MITIGATED CONSTRUCTION CONDITIONS (2027) CAPACITY ANALYSIS

In order to show the impact of mitigation strategies on the roadway network, the Mitigated Construction Conditions (2027) Capacity Analysis was conducted. The following modifications recommended in the Hermantown Industrial Traffic Impact Study were applied to the model:

- Install a permanent traffic signal at Midway Road & Morris Thomas Road. The traffic signal would require coordination with the railroad crossing and the existing signal at US Highway 2 & Midway Road
- Install northbound-left, southbound-right, and eastbound-left turn lanes at Midway Road & Morris Thomas Road
- Optimize signal timings at US Highway 2 & Midway Road and implement coordination with the proposed signal at Midway Road & Morris Thomas Road
- Install a westbound left turn lane at the development driveway/construction access
- Reroute all entering traffic from US Highway 2 that is coming from the southeast onto St. Louis River Road

Analysis was conducted using capacity analysis software SimTraffic within Synchro 12. The level of service is shown in **Table 4**.

Table 4: Construction Conditions (2027) Level of Service

Intersection	Control	Approach	Operations by Movement							
			AM Peak Hour				PM Peak Hour			
			Left	Through	Right	Overall	Left	Through	Right	Overall
Midway Road & US Highway 2	Signal	EB	C (26.6)	C (22.6)	A (5)	B (19.1)	C (30.5)	C (20.2)	A (6.2)	B (14.7)
		WB	C (29.2)	B (19.7)	A (8.1)		C (24.8)	B (15.8)	A (7.3)	
		NB	B (20)	C (23.7)	A (5.9)		B (18.4)	B (19.9)	A (8.1)	
		SB	B (17.7)	B (14.5)	A (4.2)		B (14.9)	B (13.9)	A (5)	
Midway Road & Morris Thomas Road	Signal	EB	C (26.1)	-	A (3.4)	B (10.7)	B (13.8)	A (1.2)	A (5.5)	B (13.2)
		WB	-	-	-		-	-	-	
		NB	B (12.3)	A (8)	-		B (14.6)	B (10.9)	-	
		SB	-	B (10.7)	A (7.6)		-	B (18.2)	A (7.4)	
Midway Road & St Louis River Road	Side Street Stop	EB	A (6.8)	B (12.3)	A (1.9)	B (12.3)	A (9.3)	C (15.1)	A (1.9)	C (15.1)
		WB	-	A (2.8)	A (6.6)		A (9.9)	A (6.7)	A (3.2)	
		NB	A (0.6)	A (1)	A (0.1)		A (2.1)	A (0.4)	A (0)	
		SB	A (6.2)	A (1.1)	A (0)		A (2.2)	A (2)	A (0)	
US Highway 2 & Morris Thomas Road	Side Street Stop	EB	A (7.9)	A (6.4)	-	A (7.9)	B (13.6)	B (12.3)	-	B (13.6)
		WB	-	A (2.3)	A (1.1)		-	A (3.7)	A (2.4)	
		NB	-	-	-		-	-	-	
		SB	A (6.9)	-	A (2.8)		B (12)	-	A (2.8)	
St Louis River Road & US Highway 2	Side Street Stop	EB	-	A (1.5)	A (0.1)	B (11.2)	-	A (1.3)	A (0)	A (9.5)
		WB	A (4.7)	A (1.2)	-		A (2.1)	A (0.3)	-	
		NB	B (11.2)	-	A (3.7)		A (9.5)	A (0.1)	A (4)	
		SB	-	-	-		-	-	-	
Morris Thomas Road & Industrial Access	Side Street Stop	EB	-	A (1.8)	A (0.2)	B (14.8)	-	A (3.1)	A (0.1)	B (13.6)
		WB	A (5.5)	A (4)	-		A (1.4)	A (1.6)	-	
		NB	B (14.8)	-	A (3.3)		B (13.6)	-	B (10.7)	
		SB	-	-	-		-	-	-	

Results from the Construction Conditions (2027) Capacity Analysis show that all intersections are expected to operate at LOS D or better and all individual movements are expected to operate at LOS D or better. After a review of 95th percentile queue lengths, all turn lane queues are expected to remain within their respective storage bays.

CONCLUSION AND RECOMMENDATIONS

Build-out of the Hermantown Industrial Project was modeled to occur in the year 2027. A capacity analysis on the Construction Conditions (2027) on the existing roadway system was conducted. The results showed that multiple delay issues present themselves at Midway Road & Morris Thomas Road and Morris Thomas Road and Construction Access. Based on the results of this analysis and coordination with St. Louis County & MnDOT, the following mitigation measures will be required as a result of the proposed development:

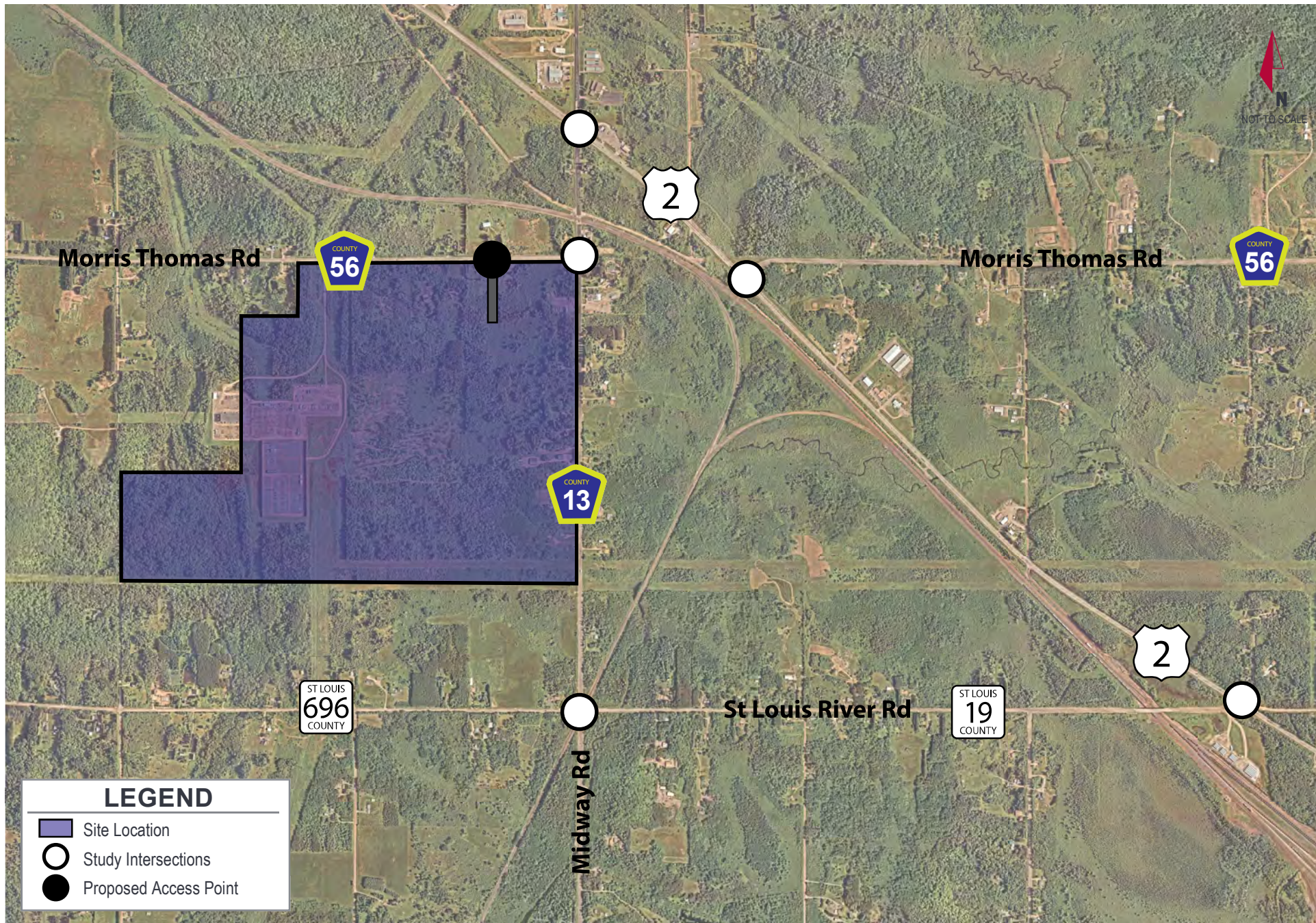
1. Intersection of Morris Thomas Rd (CSAH 56) and development driveway
 - a. Construct a westbound dedicated left-turn lane on Morris Thomas Road at the driveway.
 - b. Driveway will be stop controlled.
2. Intersection of Midway Rd (CSAH 13) and Morris Thomas Rd (CSAH 56)
 - a. Construct a northbound dedicated left-turn lane on Midway Road at Morris Thomas Road.
 - b. Construct eastbound dedicated left-turn and right-turn lanes on Morris Thomas Road at Midway Road. Storage for the right-turn lane will ensure vehicles are not occluded from accessing the right-turn lane during 95% of the time.
 - c. Construct a southbound dedicated right-turn lane on Midway Road at Morris Thomas Road.
 - d. Install a permanent traffic signal.
 - e. Install conduit/cable to coordinate the signal controller with the railroad crossing controller (USDOT #251905S) and the signal controller at the US 2 signal system.
3. Railroad crossing (DOT #251905S)
 - a. Install a traffic queue cutter signal system that will face southbound Midway Road traffic and be located immediately north of Old Hwy 2
 - b. The need for railroad crossing upgrades will be coordinated with the MnDOT Rail Office (Paul DeLaRosa, paul.delarosa@state.mn.us).
4. Intersection of US 2 and Midway Road (CSAH 13)
 - a. Install conduit/cable to coordinate the signal controller with the railroad crossing controller (USDOT #251905S) and the signal controller at the Midway Road/Morris Thomas Road signal system.
5. Intersection of US 2 and St. Louis River Road
 1. Construct a northwest bound dedicated left turn lane to accommodate additional site traffic.
6. Signal timing
 - a. Develop optimized signal timing models for both the Midway Road/Morris Thomas Road and US 2/Midway Road signal systems to accommodate non-train and train events.

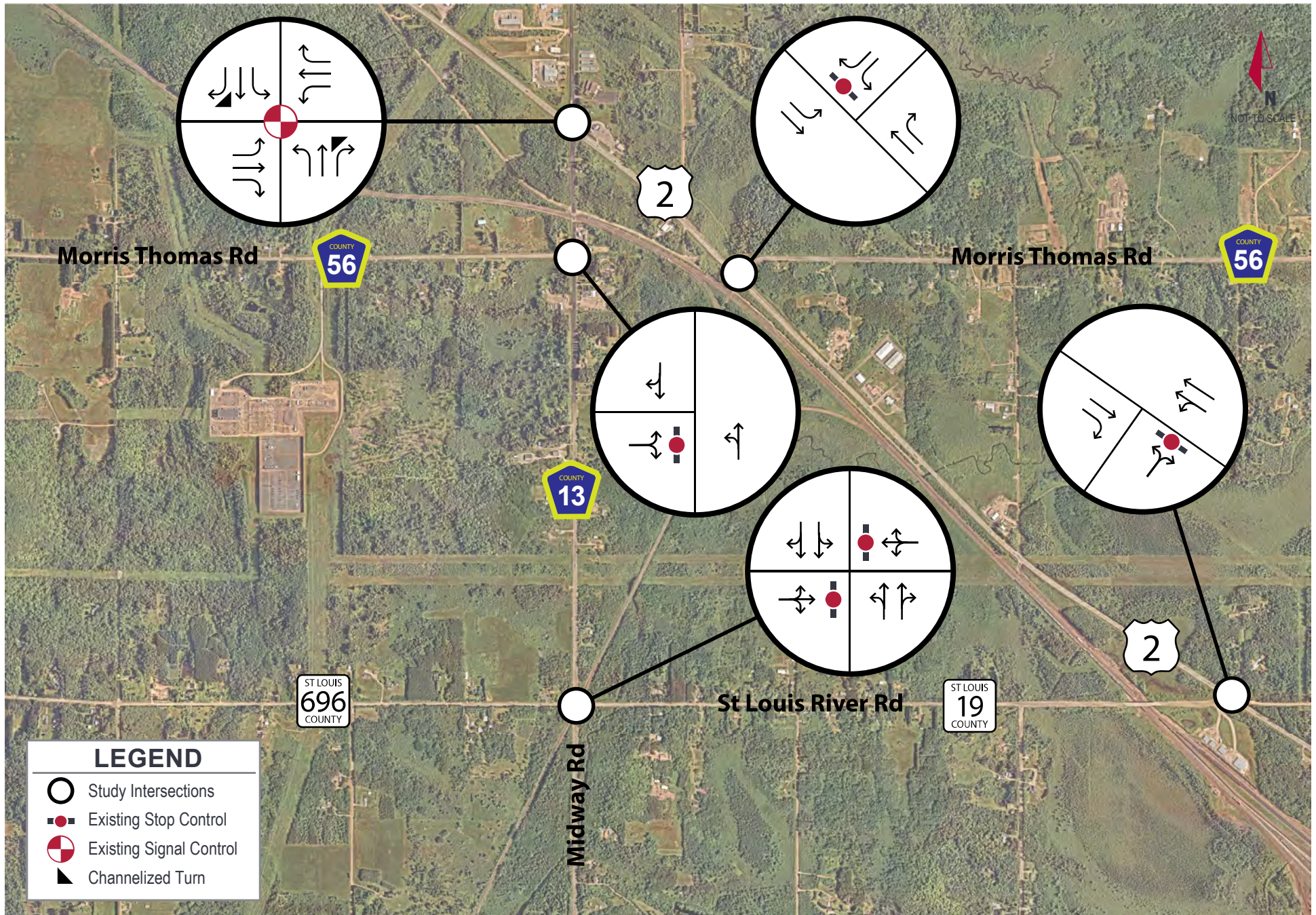
7. Travel Demand Management (TDM)

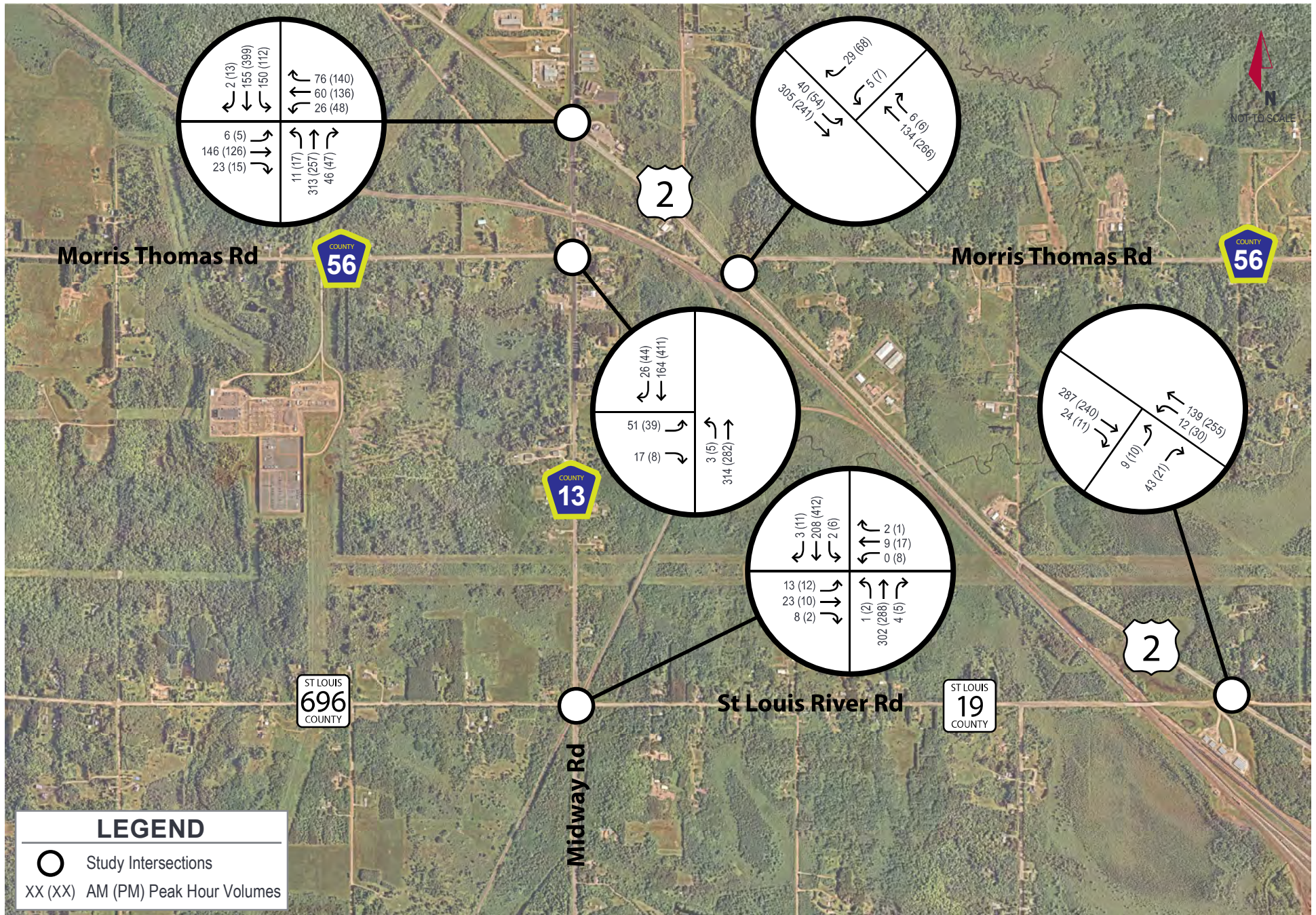
1. A plan completed prior to the beginning of construction will be included in project bid documents, agreements, and notices to sub-contractors, suppliers, and employees. The TDM plan will direct all traffic traveling to the site from US Highway 2 southeast of St. Louis River Road to turn onto St. Louis River Road and enter from the south along Midway Road instead of turning left onto Midway Road from US Highway 2.
- b. If the TDM plan does not prove to be effective at limiting queues at Midway Road & US Highway 2, additional mitigation such as variable message signs or other advanced warning during train event could be implemented at US Highway 2 & St. Louis River Road.

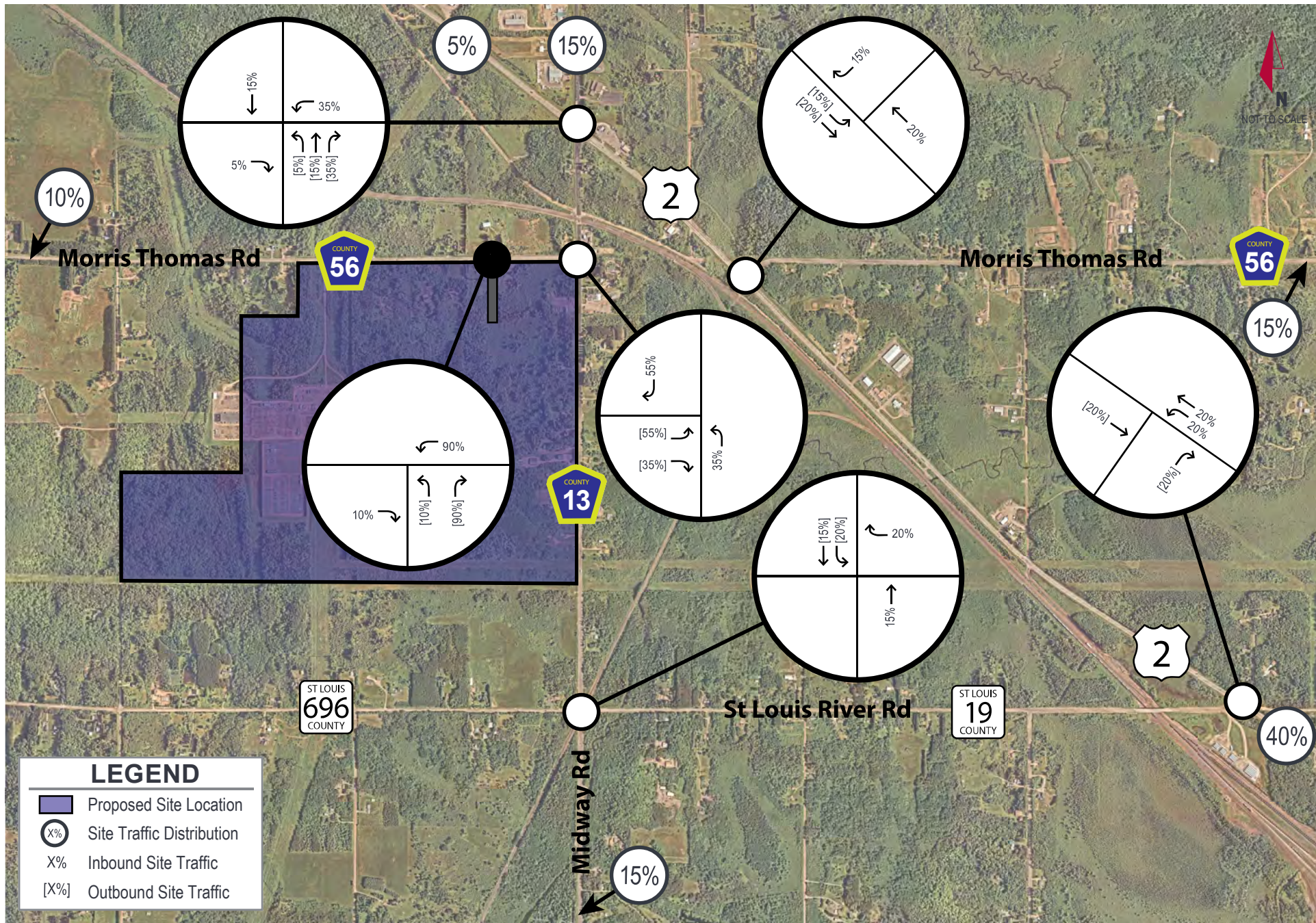
The mitigation plan is shown graphically in **Exhibit 9**. All mitigation aligns with the recommended permanent mitigation outlined in the Hermantown Industrial Site Specific TIA.

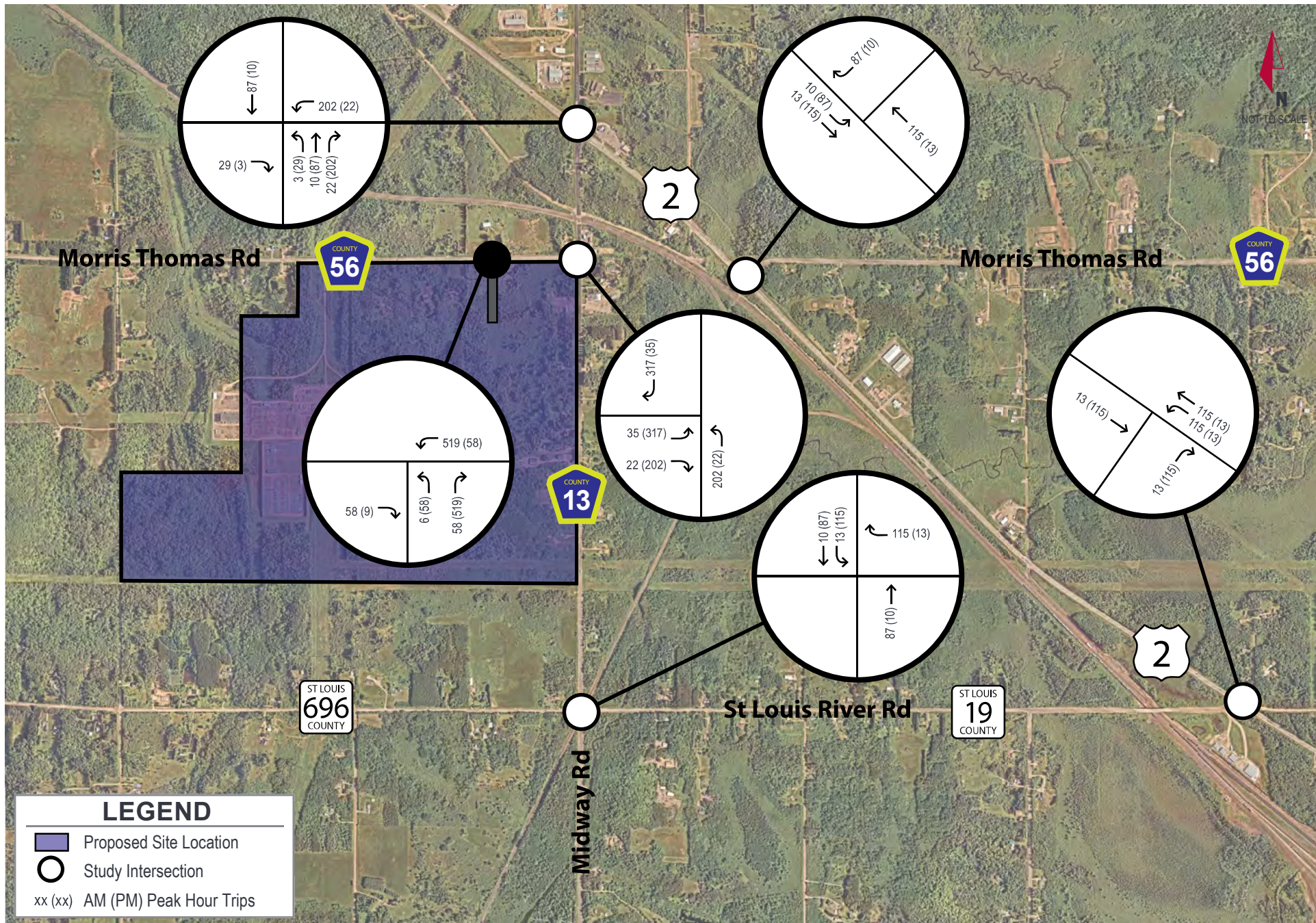
ATTACHMENT A: EXHIBITS

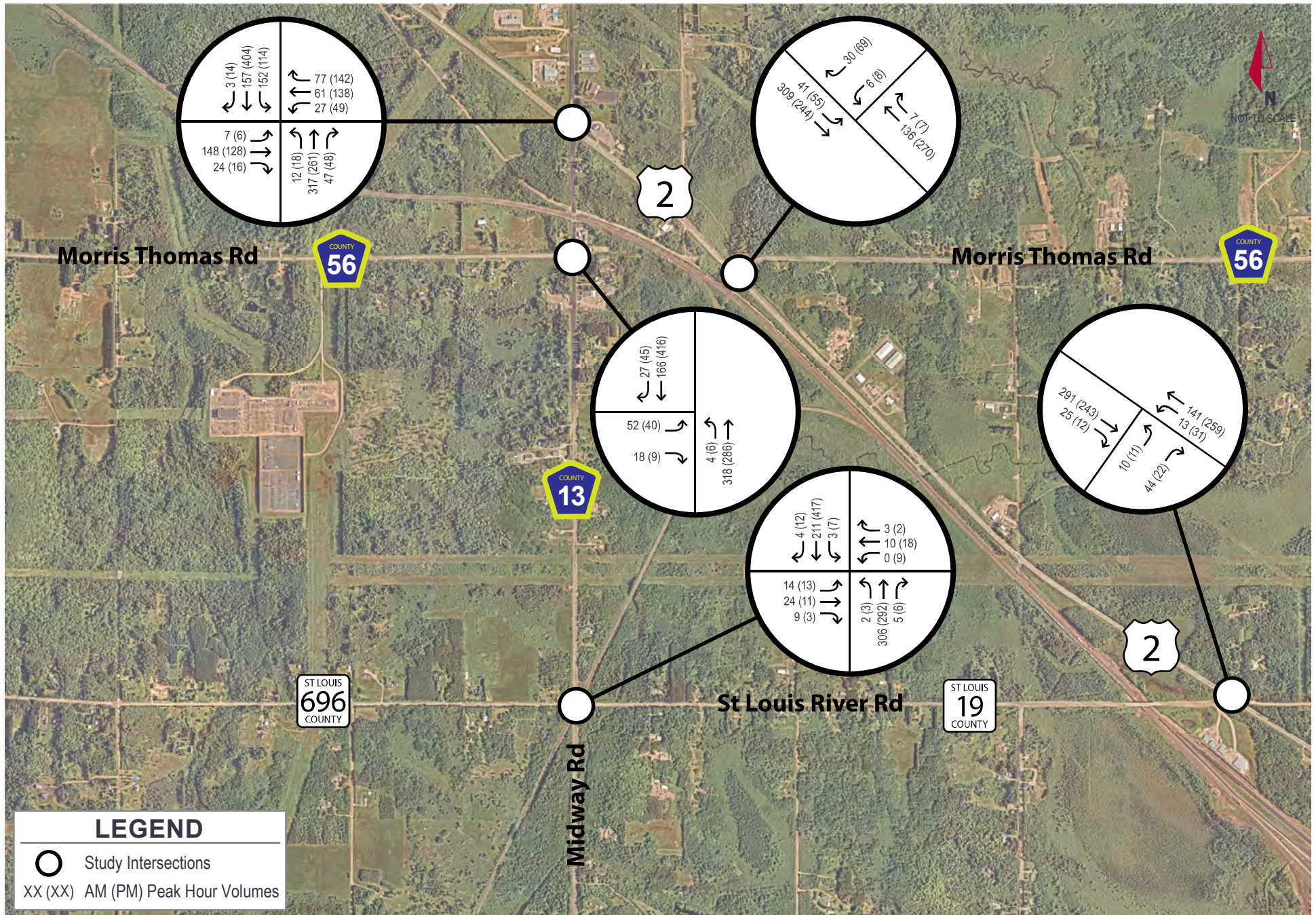


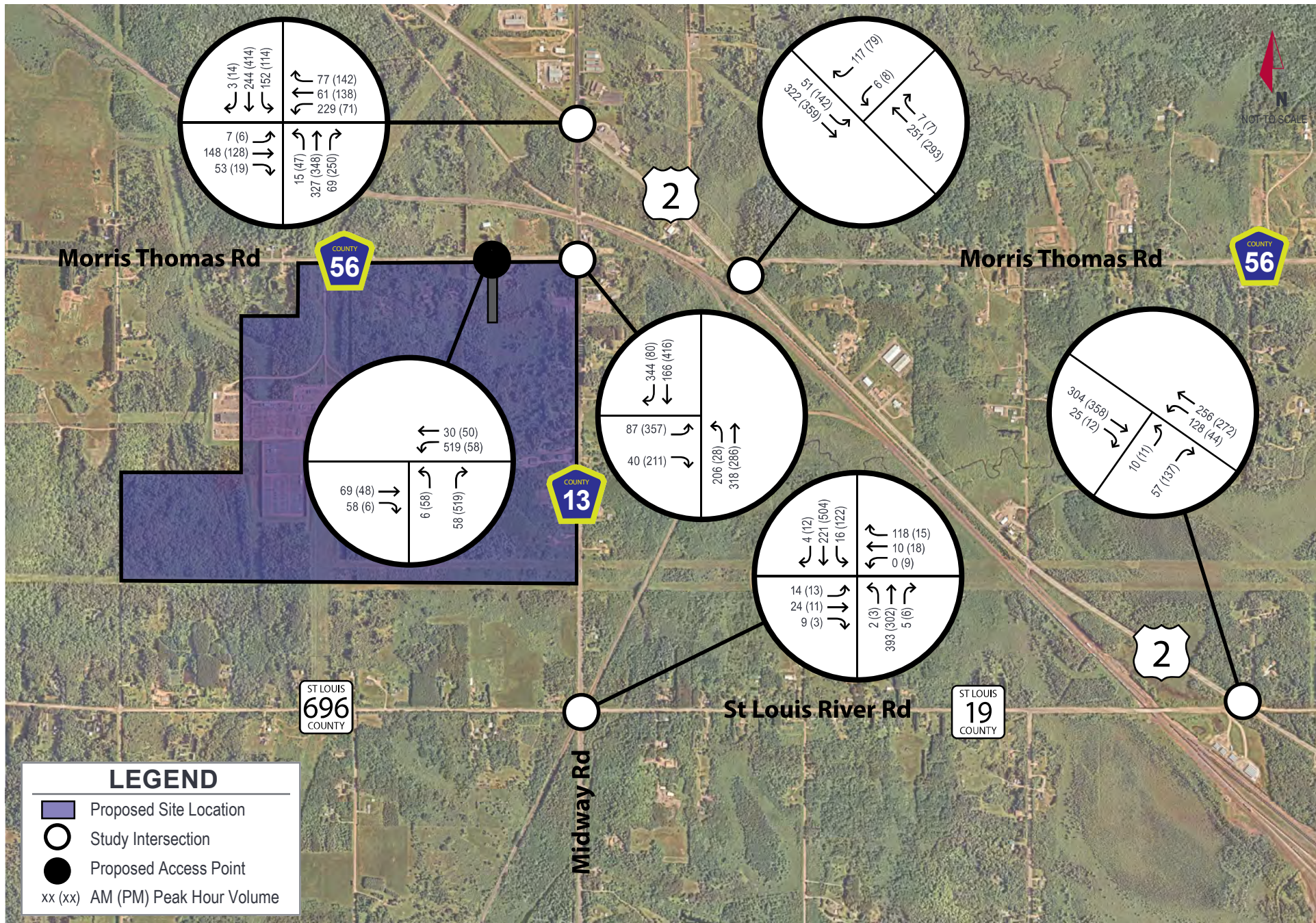


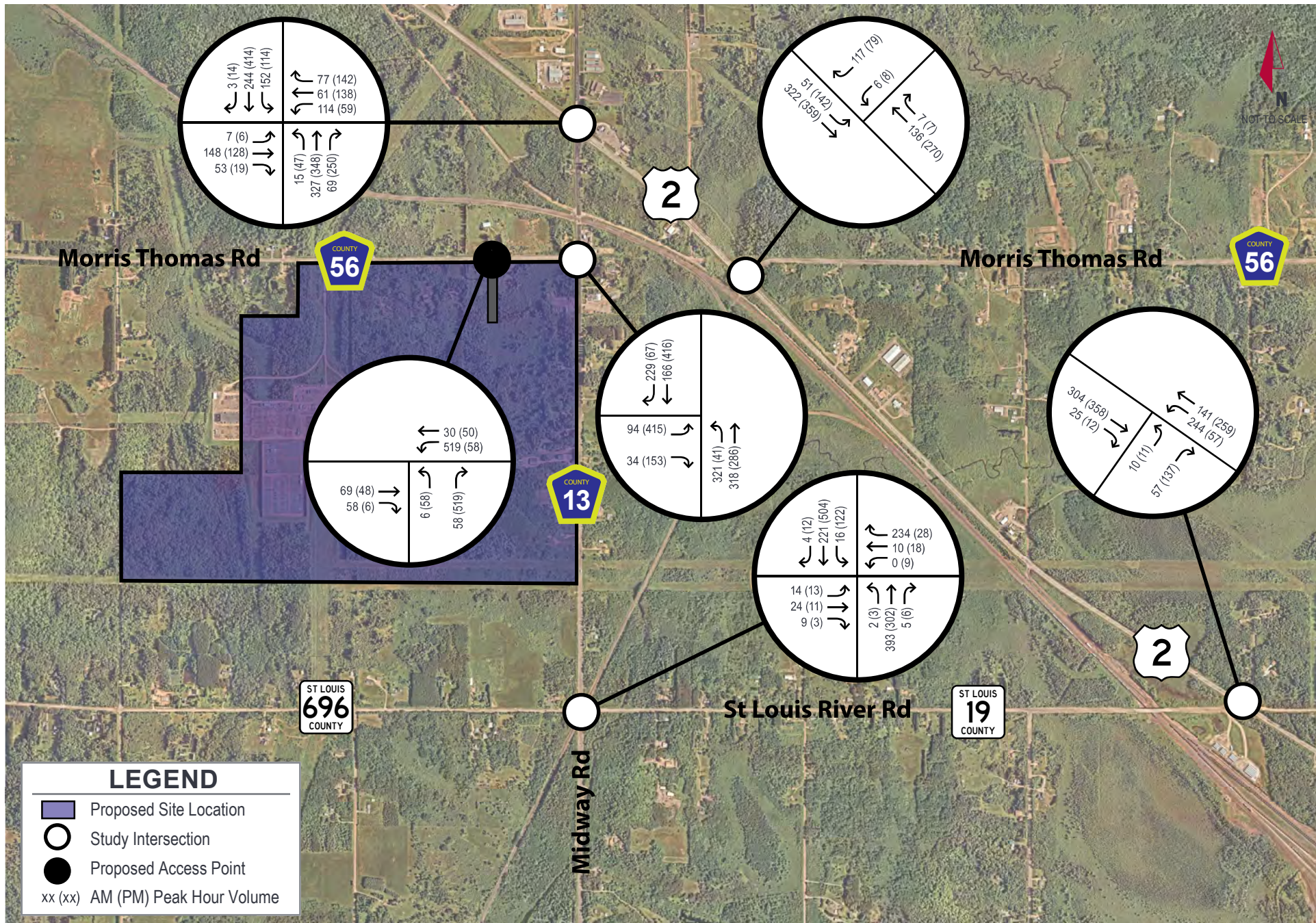


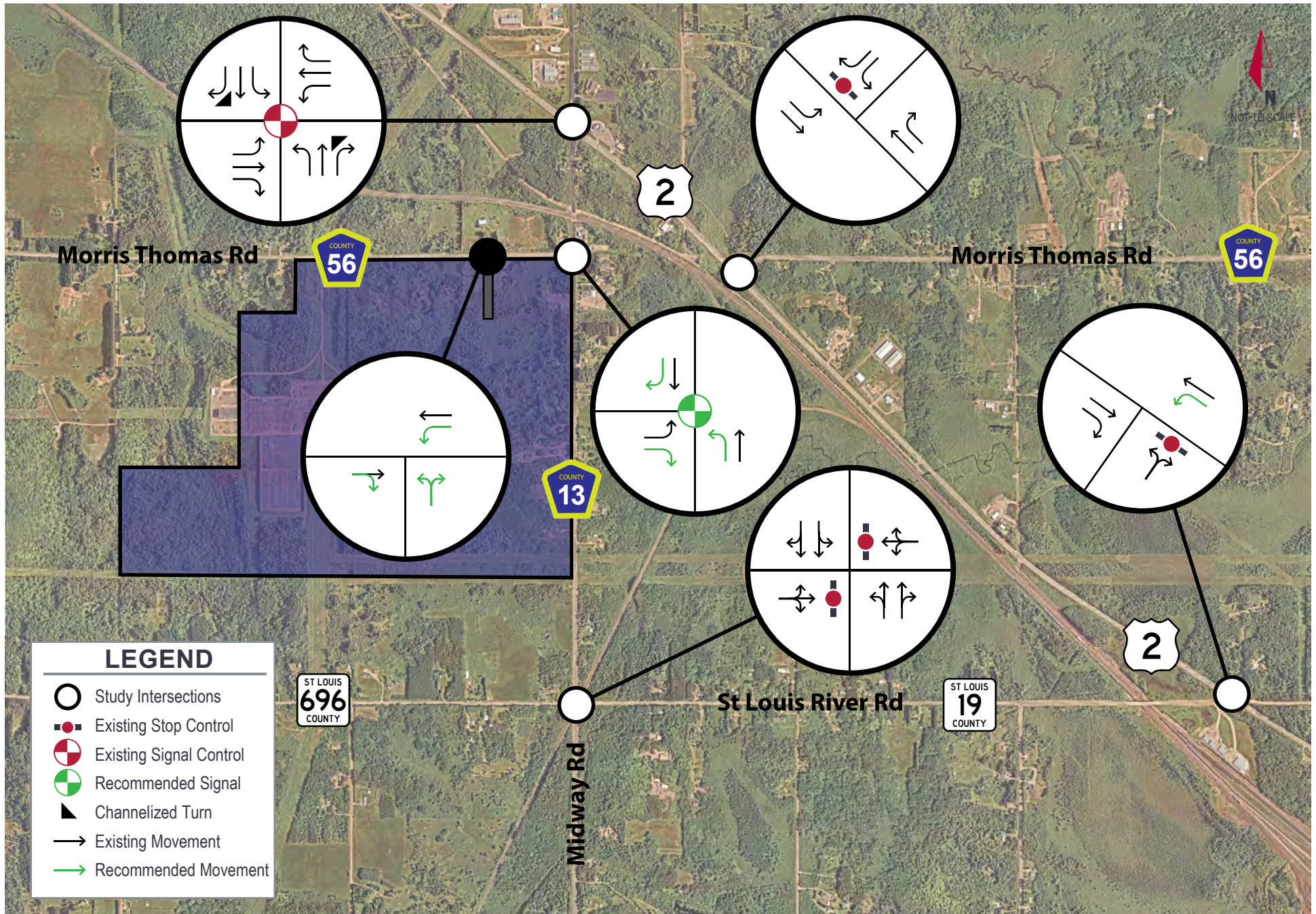












ATTACHMENT B: SIM TRAFFIC REPORTS

1: Midway Rd & US Highway 2 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.2	0.1	0.4	0.0	0.4	0.1	0.0	0.0	3.5	0.7	3.4
Total Del/Veh (s)	26.1	25.4	6.1	57.4	15.2	10.6	19.2	27.4	7.4	19.9	15.8	4.2

1: Midway Rd & US Highway 2 Performance by movement

Movement	All
Denied Del/Veh (s)	0.6
Total Del/Veh (s)	26.0

2: Midway Rd & Morris Thomas Rd Performance by movement

Movement	EBL	EBT	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	82.1	11.5	76.8	19.6	19.5	8.2	5.4	19.8

3: Midway Rd & St Louis River Rd Performance by movement

Movement	EBL	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	7.6	10.8	2.3	4.3	3.7	0.3	0.6	0.0	2.7	0.7	0.0	1.7

4: US Highway 2 & Morris Thomas Rd Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.4	3.6	0.6
Total Del/Veh (s)	5.7	6.0	3.5	2.6	6.3	3.0	4.6

5: St Louis River Rd & US Highway 2 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.9	0.1	2.9	1.7	9.6	2.8	1.7

6: Construction Access & Morris Thomas Rd Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.2	0.1	0.6	0.0	0.1	0.1	0.5
Total Del/Veh (s)	11.2	3.1	39.8	31.8	8.9	2.5	30.8

Total Network Performance

Movement	All
Denied Del/Veh (s)	1.1
Total Del/Veh (s)	50.9

Queuing and Blocking Report
Construction Conditions (2027) - AM Peak Hour

07/29/2025

Intersection: 1: Midway Rd & US Highway 2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	L	T
Maximum Queue (ft)	26	175	50	382	471	334	47	274	196	232
Average Queue (ft)	4	68	11	186	72	36	7	128	63	78
95th Queue (ft)	19	134	33	364	365	201	29	221	135	161
Link Distance (ft)	1622	1622	1622		2530			1423		1155
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)				350		450	200		300	
Storage Blk Time (%)				8	0			1		0
Queuing Penalty (veh)				11	0			1		0

Intersection: 2: Midway Rd & Morris Thomas Rd

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	352	448	56
Average Queue (ft)	108	124	10
95th Queue (ft)	309	339	38
Link Distance (ft)	985	4896	1423
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Midway Rd & St Louis River Rd

Movement	EB	WB	SB
Directions Served	LTR	LTR	LT
Maximum Queue (ft)	62	62	47
Average Queue (ft)	22	36	7
95th Queue (ft)	49	57	29
Link Distance (ft)	1279	6729	289
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Queuing and Blocking Report
Construction Conditions (2027) - AM Peak Hour

07/29/2025

Intersection: 4: US Highway 2 & Morris Thomas Rd

Movement	EB	SB	SB
Directions Served	L	L	R
Maximum Queue (ft)	46	24	74
Average Queue (ft)	9	4	30
95th Queue (ft)	33	19	58
Link Distance (ft)	1667		
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	350		150
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: St Louis River Rd & US Highway 2

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	146	52
Average Queue (ft)	39	17
95th Queue (ft)	99	38
Link Distance (ft)	134	811
Upstream Blk Time (%)	0	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Construction Access & Morris Thomas Rd

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	82	651	53
Average Queue (ft)	33	250	23
95th Queue (ft)	67	600	52
Link Distance (ft)	604	985	749
Upstream Blk Time (%)		0	
Queuing Penalty (veh)		0	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 13

1: Midway Rd & US Highway 2 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.1	3.2	0.7	3.3
Total Del/Veh (s)	23.6	20.3	6.2	24.2	15.2	5.8	17.2	19.3	6.1	14.4	13.9	4.8

1: Midway Rd & US Highway 2 Performance by movement

Movement	All
Denied Del/Veh (s)	0.5
Total Del/Veh (s)	14.2

2: Midway Rd & Morris Thomas Rd Performance by movement

Movement	EBL	EBT	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	26.7	0.0	17.8	0.0	0.0	0.0	0.0	8.6
Total Del/Veh (s)	191.8	89.5	178.9	6.1	4.3	7.0	4.2	75.1

3: Midway Rd & St Louis River Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	8.1	12.0	1.7	9.8	7.0	2.4	2.2	0.4	0.0	2.3	2.4	0.0

3: Midway Rd & St Louis River Rd Performance by movement

Movement	All
Denied Del/Veh (s)	0.0
Total Del/Veh (s)	2.1

4: US Highway 2 & Morris Thomas Rd Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0.2	0.0	0.0	0.0	0.2	3.7	0.4
Total Del/Veh (s)	12.9	10.4	3.6	3.4	9.7	2.8	7.8

5: St Louis River Rd & US Highway 2 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	1.2	0.0	2.3	0.6	8.5	0.7	4.0	1.6

6: Construction Access & Morris Thomas Rd Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	39.4	42.6	32.7
Total Del/Veh (s)	19.7	4.1	7.0	7.0	71.6	81.6	64.3

Total Network Performance

Denied Del/Veh (s)	17.2
Total Del/Veh (s)	88.7

Queuing and Blocking Report
Construction Conditions (2027) - PM Peak Hour

07/29/2025

Intersection: 1: Midway Rd & US Highway 2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T
Maximum Queue (ft)	26	133	45	100	97	65	49	165	42	114	236
Average Queue (ft)	3	54	6	35	33	12	19	96	1	44	97
95th Queue (ft)	16	111	23	75	74	39	41	156	30	85	176
Link Distance (ft)	1622	1622	1622		2530			1424			1155
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)				350		450	200		300	300	
Storage Blk Time (%)								0			0
Queuing Penalty (veh)								0			0

Intersection: 2: Midway Rd & Morris Thomas Rd

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	998	69	4
Average Queue (ft)	764	10	0
95th Queue (ft)	1227	40	3
Link Distance (ft)	985	4896	1424
Upstream Blk Time (%)	14		
Queuing Penalty (veh)	83		
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Midway Rd & St Louis River Rd

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LT	LT
Maximum Queue (ft)	35	48	21	105
Average Queue (ft)	15	14	1	29
95th Queue (ft)	36	33	8	74
Link Distance (ft)	1279	6727	299	289
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report
Construction Conditions (2027) - PM Peak Hour

07/29/2025

Intersection: 4: US Highway 2 & Morris Thomas Rd

Movement	EB	SB	SB
Directions Served	L	L	R
Maximum Queue (ft)	69	36	65
Average Queue (ft)	25	6	23
95th Queue (ft)	55	25	44
Link Distance (ft)	1667		
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	350		150
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: St Louis River Rd & US Highway 2

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	66	70
Average Queue (ft)	14	28
95th Queue (ft)	45	53
Link Distance (ft)	134	811
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Construction Access & Morris Thomas Rd

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	93	77	898
Average Queue (ft)	24	31	389
95th Queue (ft)	65	63	974
Link Distance (ft)	604	985	849
Upstream Blk Time (%)			27
Queuing Penalty (veh)			0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 83

SimTraffic Performance Report
Construction Conditions (2027) Rerouted - AM Peak Hour

11/04/2025

1: Midway Rd & US Highway 2 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	2.7	0.4	2.6	0.6	0.0	0.5	0.1	0.0	0.1	3.5	0.6	3.3
Total Del/Veh (s)	26.6	22.6	5.0	29.2	19.7	8.1	20.0	23.7	5.9	17.7	14.5	4.2

1: Midway Rd & US Highway 2 Performance by movement

Movement	All
Denied Del/Veh (s)	0.9
Total Del/Veh (s)	19.1

2: Midway Rd & Morris Thomas Rd Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Total Del/Veh (s)	26.1	3.4	12.3	8.0	10.7	7.6	10.7

3: Midway Rd & St Louis River Rd Performance by movement

Movement	EBL	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	6.8	12.3	1.9	2.8	6.6	0.6	1.0	0.1	6.2	1.1	0.0	2.9

4: US Highway 2 & Morris Thomas Rd Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.3	3.5	0.6
Total Del/Veh (s)	7.9	6.4	2.3	1.1	6.9	2.8	4.9

5: St Louis River Rd & US Highway 2 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Total Del/Veh (s)	1.5	0.1	4.7	1.2	11.2	3.7	2.7

6: Morris Thomas Rd Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.0	0.1	0.1	0.1
Total Del/Veh (s)	1.8	0.2	5.5	4.0	14.8	3.3	4.6

Total Network Performance

Movement	All
Denied Del/Veh (s)	1.1
Total Del/Veh (s)	29.2

Queuing and Blocking Report
Construction Conditions (2027) Rerouted - AM Peak Hour

11/04/2025

Intersection: 1: Midway Rd & US Highway 2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	L	T
Maximum Queue (ft)	156	166	44	194	129	94	40	234	174	164
Average Queue (ft)	58	60	8	73	33	16	8	116	57	74
95th Queue (ft)	118	119	26	148	92	50	28	195	116	135
Link Distance (ft)		1621			2530			1423		1155
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	300		300	350		450	200		300	
Storage Blk Time (%)								1		
Queuing Penalty (veh)								1		

Intersection: 2: Midway Rd & Morris Thomas Rd

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	R
Maximum Queue (ft)	122	52	169	94	123	136
Average Queue (ft)	51	15	76	25	39	51
95th Queue (ft)	103	39	135	67	90	103
Link Distance (ft)		969		4884	1423	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	300		300		300	
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 3: Midway Rd & St Louis River Rd

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	LT	TR	LT	TR
Maximum Queue (ft)	56	102	5	6	96	9
Average Queue (ft)	24	49	0	0	5	0
95th Queue (ft)	50	81	4	5	47	6
Link Distance (ft)	1278	6729	299	299	288	288
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Queuing and Blocking Report
Construction Conditions (2027) Rerouted - AM Peak Hour

11/04/2025

Intersection: 4: US Highway 2 & Morris Thomas Rd

Movement	EB	SB	SB
Directions Served	L	L	R
Maximum Queue (ft)	43	23	78
Average Queue (ft)	7	4	31
95th Queue (ft)	29	18	59
Link Distance (ft)	1667		
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	350	150	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: St Louis River Rd & US Highway 2

Movement	EB	EB	WB	NB
Directions Served	T	R	L	LR
Maximum Queue (ft)	4	15	134	81
Average Queue (ft)	0	1	55	21
95th Queue (ft)	0	8	107	52
Link Distance (ft)	568			806
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		300	300	
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: Morris Thomas Rd

Movement	EB	WB	NB
Directions Served	TR	L	LR
Maximum Queue (ft)	22	106	82
Average Queue (ft)	1	44	33
95th Queue (ft)	8	88	62
Link Distance (ft)	1188		902
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	150		
Storage Blk Time (%)	0		
Queuing Penalty (veh)	0		

Network Summary

Network wide Queuing Penalty: 1

SimTraffic Performance Report
Construction Conditions (2027) Rerouted - PM Peak Hour

11/04/2025

1: Midway Rd & US Highway 2 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	2.4	0.2	2.8	0.0	0.0	0.0	0.1	0.0	0.1	3.4	0.7	3.4
Total Del/Veh (s)	30.5	20.2	6.2	24.8	15.8	7.3	18.4	19.9	8.1	14.9	13.9	5.0

1: Midway Rd & US Highway 2 Performance by movement

Movement	All
Denied Del/Veh (s)	0.5
Total Del/Veh (s)	14.7

2: Midway Rd & Morris Thomas Rd Performance by movement

Movement	EBL	EBT	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.1
Total Del/Veh (s)	13.8	1.2	5.5	14.6	10.9	18.2	7.4	13.2

3: Midway Rd & St Louis River Rd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	9.3	15.1	1.9	9.9	6.7	3.2	2.1	0.4	0.0	2.2	2.0	0.0

3: Midway Rd & St Louis River Rd Performance by movement

Movement	All
Denied Del/Veh (s)	0.0
Total Del/Veh (s)	2.0

4: US Highway 2 & Morris Thomas Rd Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0.3	0.0	0.0	0.1	0.4	3.5	0.4
Total Del/Veh (s)	13.6	12.3	3.7	2.4	12.0	2.8	9.0

5: St Louis River Rd & US Highway 2 Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	1.3	0.0	2.1	0.3	9.5	0.1	4.0	1.4

6: Morris Thomas Rd Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.6	0.5	0.4
Total Del/Veh (s)	3.1	0.1	1.4	1.6	13.6	10.7	9.0

Total Network Performance

Denied Del/Veh (s)	0.8
Total Del/Veh (s)	34.1

Queuing and Blocking Report
Construction Conditions (2027) Rerouted - PM Peak Hour

11/04/2025

Intersection: 1: Midway Rd & US Highway 2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T
Maximum Queue (ft)	26	128	39	76	120	90	97	204	168	102	243
Average Queue (ft)	3	52	5	29	33	22	20	104	7	43	97
95th Queue (ft)	16	104	20	62	81	61	60	173	68	79	184
Link Distance (ft)	1621			2530			1423			1155	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	300		300	350		450	200		300	300	
Storage Blk Time (%)	0										
Queuing Penalty (veh)	2										

Intersection: 2: Midway Rd & Morris Thomas Rd

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	R
Maximum Queue (ft)	214	91	60	150	247	57
Average Queue (ft)	115	35	23	60	103	22
95th Queue (ft)	178	69	52	117	197	47
Link Distance (ft)	980		4884		1423	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	300	300		300		
Storage Blk Time (%)	0					0
Queuing Penalty (veh)	0					0

Intersection: 3: Midway Rd & St Louis River Rd

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LT	LT
Maximum Queue (ft)	43	44	20	91
Average Queue (ft)	16	18	1	19
95th Queue (ft)	39	34	10	60
Link Distance (ft)	1278	6727	299	288
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report
Construction Conditions (2027) Rerouted - PM Peak Hour

11/04/2025

Intersection: 4: US Highway 2 & Morris Thomas Rd

Movement	EB	SB	SB
Directions Served	L	L	R
Maximum Queue (ft)	74	33	60
Average Queue (ft)	24	6	24
95th Queue (ft)	56	24	44
Link Distance (ft)	1667		
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	350	150	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 5: St Louis River Rd & US Highway 2

Movement	WB	NB
Directions Served	L	LR
Maximum Queue (ft)	38	67
Average Queue (ft)	14	22
95th Queue (ft)	36	47
Link Distance (ft)	805	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	300	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Morris Thomas Rd

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	4	40	312
Average Queue (ft)	0	4	112
95th Queue (ft)	3	21	238
Link Distance (ft)	1181	980	693
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 2

Queuing and Blocking Report

10 Minute Crossing - Existing (2025) - AM Peak

11/03/2025

Intersection: 1: Midway Rd & US Highway 2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T
Maximum Queue (ft)	26	162	26	59	66	76	84	975	280	116	164
Average Queue (ft)	4	40	4	11	17	18	5	132	15	48	39
95th Queue (ft)	16	97	14	36	50	53	22	533	132	93	103
Link Distance (ft)	3164			2724			966			2950	
Upstream Blk Time (%)								1			
Queuing Penalty (veh)								3			
Storage Bay Dist (ft)	325	325		700	450		200	300		300	
Storage Blk Time (%)								5			
Queuing Penalty (veh)								3			

Intersection: 2: Midway Rd & Morris Thomas Rd

Movement	EB	NB	NB
Directions Served	LR	L	T
Maximum Queue (ft)	298	131	1346
Average Queue (ft)	76	7	239
95th Queue (ft)	228	78	940
Link Distance (ft)	2892		2801
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		250	
Storage Blk Time (%)			19
Queuing Penalty (veh)			1

Intersection: 4: Midway Rd & Railroad Crossing

Movement	NB	SB
Directions Served	T	T
Maximum Queue (ft)	398	941
Average Queue (ft)	160	221
95th Queue (ft)	459	736
Link Distance (ft)	392	966
Upstream Blk Time (%)	25	2
Queuing Penalty (veh)	101	5
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 113

Queuing and Blocking Report

10 Minute Crossing - Existing (2025) - PM Peak

11/03/2025

Intersection: 1: Midway Rd & US Highway 2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	30	138	75	167	142	202	212	892	350	350	1808	140
Average Queue (ft)	3	44	12	41	45	31	13	120	20	87	423	5
95th Queue (ft)	16	105	48	116	103	100	74	485	154	287	1330	74
Link Distance (ft)	3164			2724			966			2950		
Upstream Blk Time (%)								0				
Queuing Penalty (veh)								1				
Storage Bay Dist (ft)	325	325		700	450		200	300		300	300	
Storage Blk Time (%)								5		0	20	
Queuing Penalty (veh)								3		2	28	

Intersection: 2: Midway Rd & Morris Thomas Rd

Movement	EB	NB	NB
Directions Served	LR	L	T
Maximum Queue (ft)	277	25	1078
Average Queue (ft)	65	1	199
95th Queue (ft)	202	11	765
Link Distance (ft)	2892	2801	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		250	
Storage Blk Time (%)		17	
Queuing Penalty (veh)		1	

Intersection: 4: Midway Rd & Railroad Crossing

Movement	NB	SB
Directions Served	T	T
Maximum Queue (ft)	398	984
Average Queue (ft)	155	334
95th Queue (ft)	454	1050
Link Distance (ft)	392	966
Upstream Blk Time (%)	24	20
Queuing Penalty (veh)	84	101
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 220

SimTraffic Performance Report
10 Minute Crossing - 2027 Construction AM Peak (Signalized)

10/10/2025

1: Midway Rd & US Highway 2 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	1.9	0.3	2.2	2.6	0.7	2.8	0.0	0.0	0.2	2.0	0.5	1.9
Total Del/Veh (s)	38.2	37.8	62.3	148.4	34.4	16.7	49.1	57.7	28.5	85.2	91.8	29.0

1: Midway Rd & US Highway 2 Performance by movement

Movement	All
Denied Del/Veh (s)	1.1
Total Del/Veh (s)	74.8

2: Midway Rd & Morris Thomas Rd Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	2.1	0.2	2.0	0.6	0.0	0.0	0.7
Total Del/Veh (s)	106.5	4.2	115.6	126.7	15.3	13.5	70.4

4: Midway Rd & Railroad Crossing Performance by movement

Movement	NBT	SBT	All
Denied Del/Veh (s)	1.7	0.2	0.9
Total Del/Veh (s)	54.9	96.6	78.1

Total Network Performance

Movement	All
Denied Del/Veh (s)	1.9
Total Del/Veh (s)	158.1

Queuing and Blocking Report

10 Minute Crossing - 2027 Construction AM Peak (Signalized)

10/10/2025

Intersection: 1: Midway Rd & US Highway 2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	34	173	167	720	936	79	209	983	350	350	1286	70
Average Queue (ft)	5	70	33	279	121	13	12	219	26	133	298	5
95th Queue (ft)	22	145	110	686	606	44	82	724	177	339	947	73
Link Distance (ft)	3164			2724			966			2950		
Upstream Blk Time (%)								2				
Queuing Penalty (veh)								8				
Storage Bay Dist (ft)	325	325		700	450		200	300		300	300	
Storage Blk Time (%)				8	0		12			5		16
Queuing Penalty (veh)				13	0		10			13		27

Intersection: 2: Midway Rd & Morris Thomas Rd

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	R
Maximum Queue (ft)	292	238	300	2129	404	300
Average Queue (ft)	87	32	102	561	79	70
95th Queue (ft)	230	159	287	1736	281	224
Link Distance (ft)	2892		2789		392	
Upstream Blk Time (%)				0	1	
Queuing Penalty (veh)				0	6	
Storage Bay Dist (ft)	250	250		250		
Storage Blk Time (%)	6	10		22	0	3
Queuing Penalty (veh)	3	31		50	1	6

Intersection: 4: Midway Rd & Railroad Crossing

Movement	NB	SB
Directions Served	T	T
Maximum Queue (ft)	398	988
Average Queue (ft)	172	376
95th Queue (ft)	473	1082
Link Distance (ft)	392	966
Upstream Blk Time (%)	26	20
Queuing Penalty (veh)	114	118
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 400

SimTraffic Performance Report
10 Minute Crossing - 2027 Construction PM Peak (Signalized)

10/10/2025

1: Midway Rd & US Highway 2 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	2.2	0.2	2.3	2.7	0.6	2.7	0.3	0.0	0.1	1.9	0.6	1.9
Total Del/Veh (s)	51.9	31.6	49.9	81.1	20.3	7.0	31.6	32.1	19.3	88.7	117.8	94.5

1: Midway Rd & US Highway 2 Performance by movement

Movement	All
Denied Del/Veh (s)	0.8
Total Del/Veh (s)	55.4

2: Midway Rd & Morris Thomas Rd Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	4.4	3.2	1.6	0.3	0.0	0.0	1.8
Total Del/Veh (s)	254.3	201.8	136.6	142.2	22.6	7.2	140.4

4: Midway Rd & Railroad Crossing Performance by movement

Movement	NBT	SBT	All
Denied Del/Veh (s)	3.3	1.1	2.4
Total Del/Veh (s)	38.8	107.4	68.7

Total Network Performance

Denied Del/Veh (s)		3.3
Total Del/Veh (s)		187.8

Queuing and Blocking Report

10 Minute Crossing - 2027 Construction PM Peak (Signalized)

10/10/2025

Intersection: 1: Midway Rd & US Highway 2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	31	150	62	227	182	107	233	973	350	349	2175	210
Average Queue (ft)	5	55	11	64	46	28	28	153	48	80	538	5
95th Queue (ft)	20	116	40	170	118	71	109	542	236	256	1652	73
Link Distance (ft)		3164			2724			966			2950	
Upstream Blk Time (%)								0			0	
Queuing Penalty (veh)								3			0	
Storage Bay Dist (ft)	325		325	700		450	200		300	300		300
Storage Blk Time (%)								5	2	0	24	
Queuing Penalty (veh)								16	7	0	34	

Intersection: 2: Midway Rd & Morris Thomas Rd

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	R
Maximum Queue (ft)	300	2684	299	1517	411	300
Average Queue (ft)	219	1027	34	415	126	49
95th Queue (ft)	379	2686	149	1196	370	205
Link Distance (ft)		2892		2789	392	
Upstream Blk Time (%)		3			4	
Queuing Penalty (veh)		0			21	
Storage Bay Dist (ft)	250		250			250
Storage Blk Time (%)	44	1		30	7	0
Queuing Penalty (veh)	97	2		9	6	0

Intersection: 4: Midway Rd & Railroad Crossing

Movement	NB	SB
Directions Served	T	T
Maximum Queue (ft)	403	991
Average Queue (ft)	177	435
95th Queue (ft)	485	1130
Link Distance (ft)	392	966
Upstream Blk Time (%)	30	20
Queuing Penalty (veh)	206	112
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 512

Queuing and Blocking Report

10 Minute Crossing - 2027 Mitigated Construction AM Peak

11/03/2025

Intersection: 1: Midway Rd & US Highway 2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	26	183	157	420	247	148	130	954	280	350	1180	70
Average Queue (ft)	5	58	28	100	39	17	10	171	25	116	261	2
95th Queue (ft)	20	126	96	277	173	91	63	579	174	311	826	51
Link Distance (ft)	3164			2724			966			2950		
Upstream Blk Time (%)								0				
Queuing Penalty (veh)								2				
Storage Bay Dist (ft)	325	325		700	450		200	300		300	300	
Storage Blk Time (%)					0		9		0	4	14	
Queuing Penalty (veh)					1		8		0	11	24	

Intersection: 2: Midway Rd & Morris Thomas Rd

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	R
Maximum Queue (ft)	284	311	300	2627	406	300
Average Queue (ft)	93	38	125	767	61	65
95th Queue (ft)	233	183	315	2358	228	207
Link Distance (ft)	2892		2789		392	
Upstream Blk Time (%)				5	1	
Queuing Penalty (veh)				0	3	
Storage Bay Dist (ft)	250			250		
Storage Blk Time (%)	5			11	23	1
Queuing Penalty (veh)	2			34	83	2

Intersection: 4: Midway Rd & Railroad Crossing

Movement	NB	SB
Directions Served	T	T
Maximum Queue (ft)	401	991
Average Queue (ft)	158	354
95th Queue (ft)	462	1050
Link Distance (ft)	392	966
Upstream Blk Time (%)	26	18
Queuing Penalty (veh)	115	81
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 369

Queuing and Blocking Report

10 Minute Crossing - 2027 Mitigated Construction PM Peak

11/03/2025

Intersection: 1: Midway Rd & US Highway 2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	R	L	T	R	L	T	R
Maximum Queue (ft)	32	163	57	209	187	126	213	964	350	350	2169	70
Average Queue (ft)	4	55	9	55	47	28	31	165	42	85	517	2
95th Queue (ft)	18	121	35	149	126	78	126	587	223	267	1623	51
Link Distance (ft)	3164			2724			966			2950		
Upstream Blk Time (%)								0				
Queuing Penalty (veh)								3				
Storage Bay Dist (ft)	325	325		700	450		200	300		300	300	
Storage Blk Time (%)							0	5	1	0	22	
Queuing Penalty (veh)							0	17	4	0	32	

Intersection: 2: Midway Rd & Morris Thomas Rd

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	R
Maximum Queue (ft)	300	2684	299	1477	412	300
Average Queue (ft)	224	1100	46	412	128	47
95th Queue (ft)	378	2828	174	1200	367	194
Link Distance (ft)	2892		2789		392	
Upstream Blk Time (%)	4				5	
Queuing Penalty (veh)	0				27	
Storage Bay Dist (ft)	250			250	250	
Storage Blk Time (%)	45	1	0	28	8	
Queuing Penalty (veh)	98	3	0	13	6	

Intersection: 4: Midway Rd & Railroad Crossing

Movement	NB	SB
Directions Served	T	T
Maximum Queue (ft)	397	992
Average Queue (ft)	178	437
95th Queue (ft)	487	1127
Link Distance (ft)	392	966
Upstream Blk Time (%)	30	19
Queuing Penalty (veh)	207	106
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 514