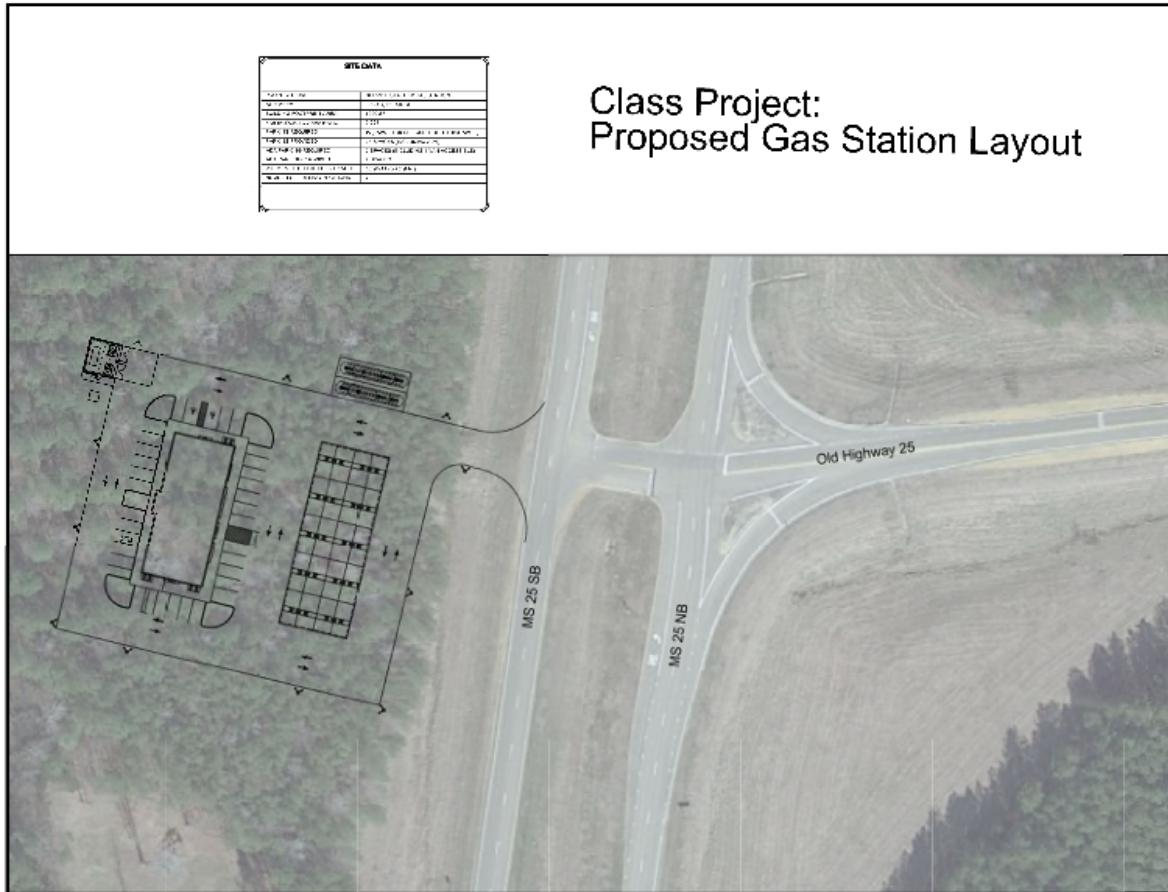


Traffic Impact Analysis

for the proposed

Gas Station on MS HWY 25 @ MS Old HWY 25



Final Report
May 2024

Prepared by:
Ben Shannon

Table of Contents

Section 1: Introduction.....	3
Figure 1.1 Vicinity Map.....	4
Section 2: Existing Conditions.....	5
2.1 MS HWY 25.....	5
2.2 Old MS HWY 25.....	5
2.3 Intersection of MS 25 and Old MS 25.....	5
Section 3: Evaluation of Existing Conditions.....	6
3.1 Existing Traffic Volumes.....	6
3.2 Basis of Analysis.....	6
Figure 3.1 Existing Traffic Volumes.....	7
3.3 MS HWY 25 and Old HWY 25.....	8
Figure 3.2 Existing Intersection Level-of-Service.....	8
Section 4: Proposed Development.....	9
4.1 Proposed Site.....	9
Figure 4.1 Site Plan.....	9
4.2 Trip Generation.....	10
Figure 4.2 Site Traffic Analysis.....	10
4.3 Non-Site Traffic Forecast.....	11
Table 4.2 Historical Daily Traffic Volumes.....	12
Figure 4.3 Year 2026 Non-Site Traffic Volumes.....	13
4.4 Year 2024 Total Traffic.....	14
Figure 4.4 2026 Total Traffic Volumes.....	14
4.5 Year 2026 Traffic Analysis.....	15
Table 4.3 Year 2026 Non-Site Traffic Level-of-Service.....	15
Table 4.4 Year 2026 Total Traffic Level-of-Service.....	15
Section 5: Recommendations and Conclusions.....	16
5.1 Conclusion.....	16
5.2 All Way Stop Controlled Intersection on MS HWY @ Old MS 25.....	16
Table 5.1 Year 2026 Total Traffic Level-of-Service – Roundabout.....	16
5.3 Roundabout on MS HWY @ Old MS 25.....	17
Table 5.2 Year 2026 Total Traffic Level-of-Service – Roundabout.....	17
Appendix.....	18
6.1 Year 2024 Existing Traffic Volumes.....	19
6.2 Year 2024 Existing Traffic Analysis.....	21
6.3 Peak Hour Volumes and Trip Distribution.....	23
6.4 Year 2026 Build Traffic Volumes.....	25
6.5 Year 2026 Build Traffic Analysis.....	27
6.6 Year 2026 Non-Site Volumes.....	29
6.7 Year 2026 Non-Site Analysis.....	31
6.8 Year 2026 Roundabout Build Analysis.....	33
6.9 Year 2026 All Way Stop Build Analysis.....	35
6.10 Year 2026 Warrant Analysis.....	37

Section 1: Introduction

This report summarizes the findings of the traffic analysis performed by Ben Shannon for the proposed gas station located on the west side of MS HWY 25 and MS Old HWY 25 in Oktibbeha County, MS. This proposed site would include a 6,000 ft² building in a 153,507 ft² total area, 20 fueling positions, and 35 total parking spaces including 2 required ADA spaces. This site is proposed with one driveway on the intersection of MS HWY 25 @ MS Old HWY 25.

The purpose of this analysis is to estimate the trip generation potential for the project site and to evaluate the impact of the site traffic on adjacent roadways and intersections. Based on these impacts, recommended improvements, if necessary were evaluated to mitigate traffic concerns as they relate to the site development. To analyze the related impact to the surrounding area, existing roadway capacity and non-site traffic levels-of-service were also evaluated.

Figure 1.1



Proposed Project Location (Google Earth)

NB/SB: MS HWY 25

EB/WB MS Old HWY 25

Section 2: Existing Conditions

This property is located on the west side of MS HWY 25 and MS Old HWY 25 in Oktibbeha County, MS. Currently the site is undeveloped on the west side of the intersection.

The study area is comprised of one existing intersection along MS HWY 25: MS Old HWY 25

2.1 MS HWY 25

In the area of this proposed project site, MS 25 is a divided 4-lane highway that typically includes 12-foot travel lanes with a 65 MPH speed limit. The Mississippi Department of Transportation (MDOT) indicates an AADT of 7000 vehicles per day on MS HWY 25 south of Old MS 25 in 2022.

2.2 Old MS HWY 25

In the area of this proposed project site, Old MS 25 is a two-lane roadway. Old MS 25 has a typical section that includes 10-foot travel lanes and a 55 MPH speed limit. MDOT recorded an AADT of 4000 on Old MS 25 northeast of its intersection with MS HWY 25 in 2022.

2.3 Intersection of MS HWY 25 and Old MS HWY 25

The intersection of MS HWY 25 and Old MS HWY 25 is currently an unsignalized two-way stop controlled-intersection, with the northbound and southbound approaches being uncontrolled. The northbound and southbound lanes provide a dedicated left turn lane, one through lane, and one shared through-right lane. The westbound approach provides a left turn lane and a flared right turn lane. There is no bike or pedestrian traffic at the intersection.

Section 3: Evaluation of Existing Conditions

3.1 Existing Traffic Volumes

The project area for this analysis includes the unsignalized intersection of MS HWY 25 and Old MS HWY 25. Peak-hour turning movement counts were conducted at the existing study intersections in 2020. The AM and PM peak hour volumes for the intersection are shown graphically in Figure 3.1.

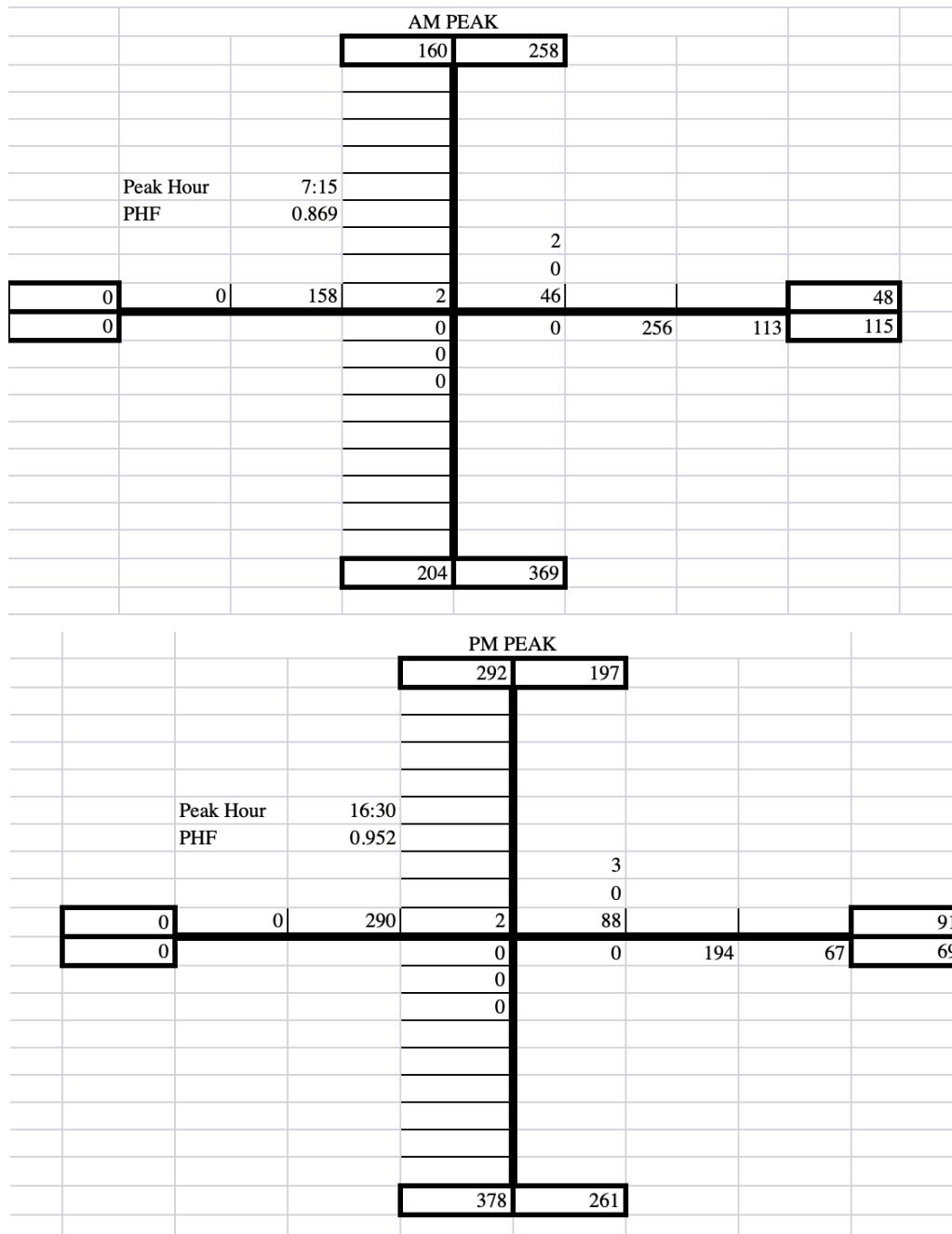
3.2 Basis of Analysis

From a performance perspective, the effective operation of an intersection is evaluated based on the delay, turning movement volumes, traffic composition and roadway geometrics. The methodology utilized in this analysis is based on the Highway Capacity Manual, 6th Edition. Intersection level-of-service is based on delay per vehicle (in seconds). The level-of-service, as outlined in the Manual, is reported as a letter designation of LOS A through F (A is the least delay and F is the most delay). The delay range for signalized intersections and unsignalized intersections is as follows:

Signalized Intersections		Unsignalized Intersections	
LOS	Delay (s/veh)	LOS	Delay (s/veh)
A	≤ 10	A	≤ 10
B	> 10 – 20	B	> 10 – 15
C	> 20 – 35	C	> 15 – 25
D	> 35 – 55	D	> 25 – 35
E	> 55 – 80	E	> 35 – 50
F	> 80	F	> 50

A Microsoft Excel model was used to show the existing peak hour traffic volumes at the intersection.

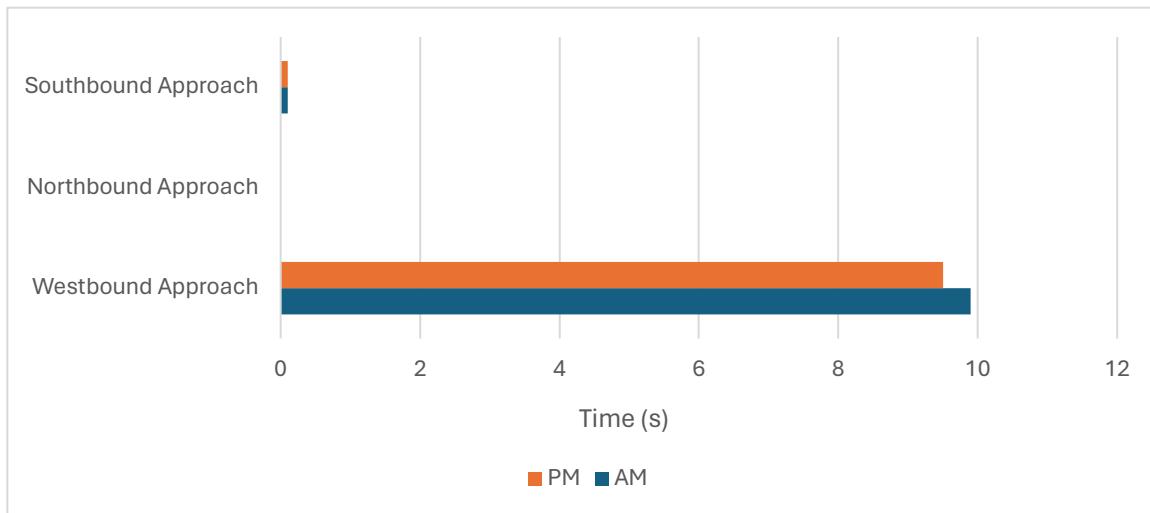
Figure 3.1 – Existing Traffic Volumes



3.3 MS HWY 25 and Old MS 25

The MS HWY 25 @ Old MS 25 intersection levels-of-service, based on the Year 2024 traffic volumes, are illustrated in Figure 3.2

Figure 3.2 – Existing Intersection Level-of-Service
MS HWY 25 @ Old MS 25



All approaches meet Level-of-Service A with the Year 2024 traffic volumes. The intersection does show much larger delays on the side streets, which is common on stop-controlled intersections with high volume arterials. This is a result of large volumes on the major roadway, which limit acceptable gaps for side movements to be made.

Signalized Intersections	
LOS	Delay (s/veh)
A	≤ 10
B	> 10 – 20
C	> 20 – 35
D	> 35 – 55
E	> 55 – 80
F	> 80

Section 4: Proposed Development

4.1 Proposed Site

This site is proposed to be developed into a total 153,507 ft² gas station with 35 parking spaces and 20 fueling pumps. The proposed site has one full access driveway connecting to the west approach of MS HWY 25 @ Old HWY 25.

Figure 4.1 illustrated the proposed site plan.

Figure 4.1 - Proposed Site Plan



4.2 Trip Generation

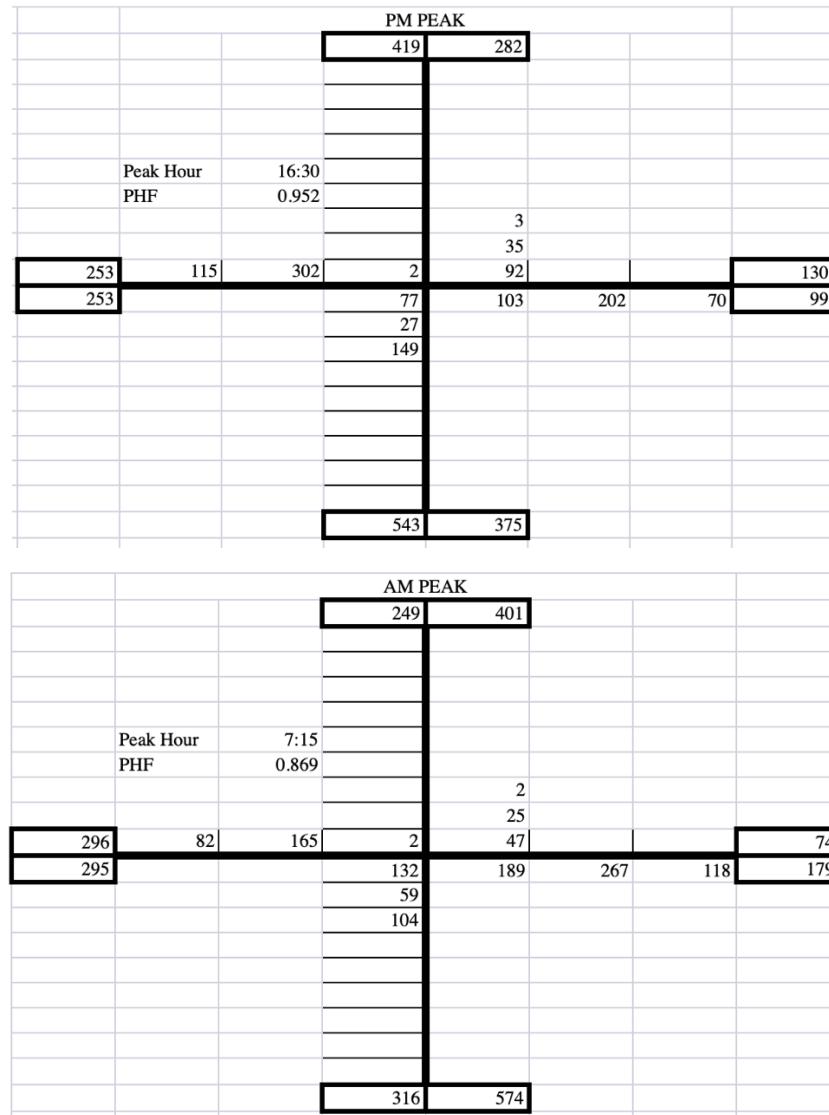
The trip generation of the proposed gas station was developed using the trip rates contained in the Institute of Transportation Engineers Trip Generation Manual, 11th Edition. The trip generation calculations for the project site are shown in Table 4.1. No pass-by trip reductions were used in this analysis.

Table 4.1 – Trip Generation

Land Use	Land Use Subcategory	Intensity	AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out
Convenience Store/Gas Station	GFA (5.5-10K)	20 VFP	632	316	316	538	269	269
Convenience Store/Gas Station	VFP (16-24)	6 1000 Sq ft GFA	549	275	274	474	237	237
Total New Trips			591	296	295	506	253	253
AM Peak Hour Traffic Generation								
Convenience Store/Gas Station - GFA [ITE 945]		Average Rate	31.6	% in	50%	% out	50%	
Convenience Store/Gas Station - VFP [ITE 945]		Average Rate	91.35	% in	50%	% out	50%	
PM Peak Hour Traffic Generatin								
Convenience Store/Gas Station - GFA [ITE 945]		Average Rate	26.9	% in	50%	% out	50%	
Convenience Store/Gas Station - VFP [ITE 945]		Average Rate	78.95	% in	50%	% out	50%	

The estimated site traffic volumes are illustrated in Figure 4.2. The intersection volume calculations are provided in the Appendix.

Figure 4.2 – Site Traffic Analysis



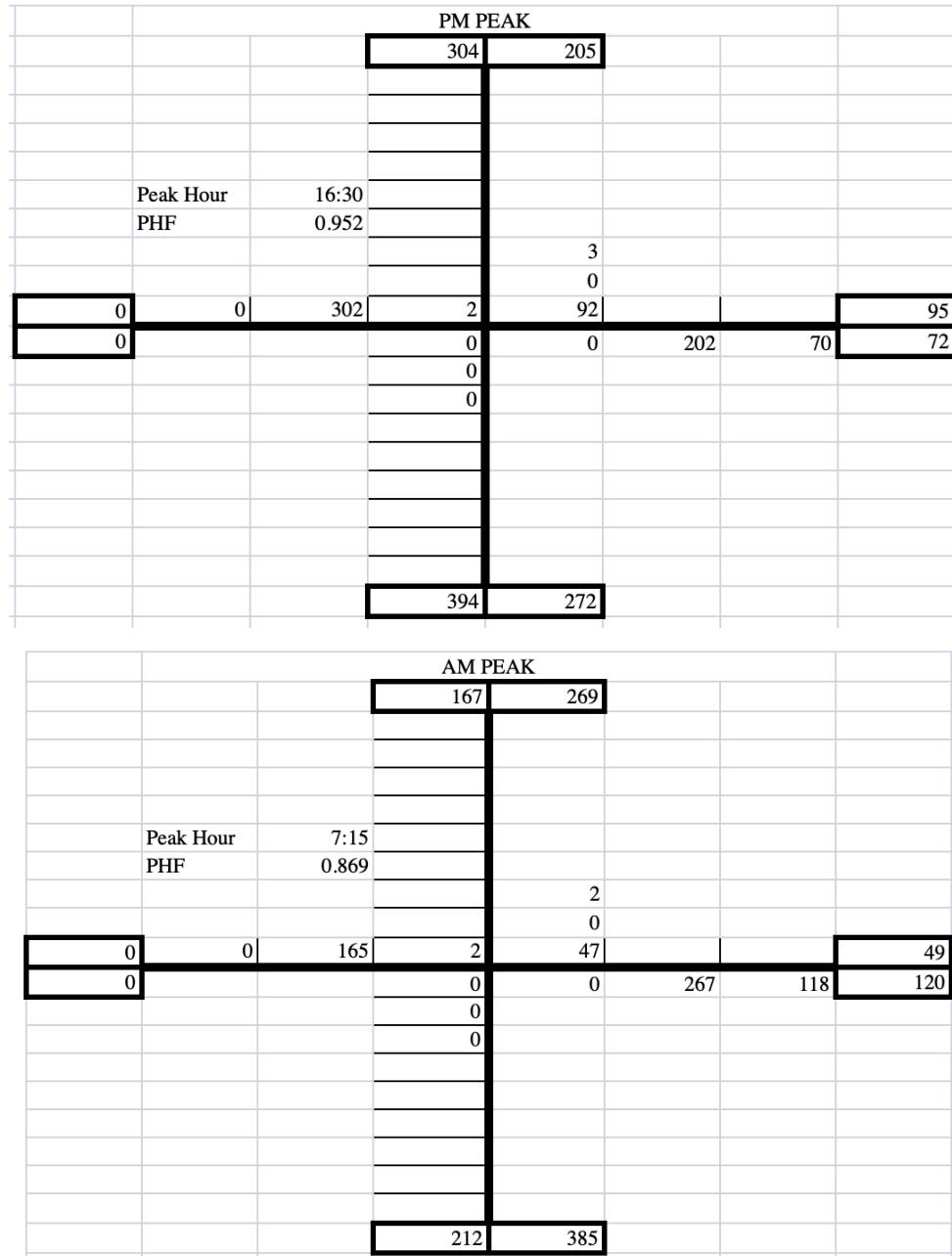
4.3 Non-Site Traffic Forecast

A review of the historical 24-hour daily traffic volumes from MDOT traffic counts was conducted to see the historical impacts of traffic growth on the roadways adjacent to the project site. The comparison of traffic volumes is provided in Table 4.2.

Table 4.2 – Historical Daily Traffic Volumes

Census Population Data			Historical Traffic Volumes				
Year	Starkville	Oktibbeha County	Year	HWY 25 Sou	HWY 25 Nor	Louisville	East of Intersection
2010	23888	47671	2014	6500	--	--	
2020	24360	51788	2015	--	--	4200	
Growth Rate	0.2%	0.8%	2017	7300	--	--	
			2018	--	7100	4900	
			2021	--	8400	4100	
			Growth Rate	3.9%	5.8%	-0.4%	
Growth Rate	2.07%						

The historical traffic counts show an increasing rate in the area. This growth rate was used to forecast the non-site traffic for Year 2026. Figure 4.3 illustrates Year 2026 Non-Site Traffic Volumes.

Figure 4.3 – 2026 Non-Site Traffic Volumes

4.4 Year 2026 Total Traffic

Site generated traffic volumes were added to non-site traffic volumes to arrive at total (Year 2026) traffic volumes. Figure 4.4 illustrates the Year 2024 Total Traffic Volumes.

Figure 4.4 – 2026 Total Traffic Volumes

AM PEAK						
	0.27729636	82	132	0.44714038		
Peak Hour	7:15					
PHF	0.869					
0		0	0	0	0	0
296	82	0	0	0	25	25
295		132	189	0	0	59
0		59				0.19930676
		104				
	0.35355286	104	189	0.63951473		
PM PEAK						
	0.45341615	115	77	0.30590062		
Peak Hour	16:30					
PHF	0.952					
0		0	0	0	0	0
253	115	0	0	0	35	35
253		77	103	0	0	27
0		27				0.10714286
		149				
	0.58695652	149	103	0.4052795		

4.5 Year 2026 Traffic Analysis

An analysis of the Year 2026 Non-Site and Total traffic volumes was conducted using information provided by the Highway Capacity Manual, 6th Edition. The lane geometry and traffic control for the total traffic analysis includes the existing traffic control and lane geometry at the intersection of study. The results of the analysis are shown in Table 4.3 and Table 4.4.

Table 4.3 – Year 2026 Non-Site Traffic Level-of-Service

Unsignalized Intersection	Peak Hour	Level-of-Service – Delay (sec/veh)		
		Northbound	Southbound	Westbound
MS HWY 25 @ Old HWY 25	AM	A - 0.0	A – 0.1	B – 11.5
	PM	A – 0.0	A – 0.1	A – 9.6

*Uncontrolled Approach

Table 4.4 – Year 2026 Total Traffic Level-of-Service

Unsignalized Intersection	Peak Hour	Level-of-Service – Delay (sec/veh)			
		Northbound	Southbound	Eastbound	Westbound
MS HWY 25 @ Old HWY 25	AM	A – 2.9	A – 3.1	F – 221.9	B – 11.9
	PM	A – 2.4	A – 2.5	C – 21.2	A – 9.9

*Uncontrolled Approach

The eastbound approach will experience significant delay in the Year 2026 Build condition. It is common for minor stop-controlled approaches to experience delay while on a major arterial, but this proposed build exacerbates the delay, especially in the AM peak hour.

Section 5: Recommendations and Conclusions

5.1 Conclusion

The development of this project with the 153,507 ft² gas station site is expected to create significant capacity related delays exiting the gas station into the intersection. To keep this layout, signalization could be considered. However, this will decrease Level-of-Service on the major street through movements. Another option would be to install a roundabout at the intersection which would allow access to and from the new gas station and also limit the disruption on major street through movements. A warrant analysis was performed for 2026 population and no warrants were met. Signalization can still help LOS for 2026 build numbers.

5.2 All Way Stop Controlled Intersection on MS HWY 25 @ Old MS 25

An All Way Stop Controlled Intersection somewhat helps the LOS in the AM Eastbound. However this intersection does not have any A level LOS's. This intersection plans for two through lanes on the Northbound and Southbound movements, and one shared left/right/through lane for Eastbound and Westbound traffic. A further analysis on this intersection can be seen in the appendix.

Table 5.1 - Year 2026 All Way Stop Level-of-Service – Roundabout

Signalized Intersection	Peak Hour	Level-of-Service – Delay (sec/veh)			
		Northbound	Southbound	Eastbound	Westbound
MS HWY 25 @ Old HWY 25	AM	B – 15.5	B – 12.3	B – 24.9	B – 12.1
	PM	B – 12.2	B – 12.4	B – 16.8	B – 12.4

5.3 Roundabout on MS HWY 25 @ Old MS 25

A roundabout has the potential to increase level of service on side street movements without severely impacting the major street. Signalized intersections on major highways can also be a dangerous source of crossing conflict points. A roundabout has potential to increase safety, reducing the number of total conflict points from 32 conflict points in a typical 4-legged signalized intersection to 8 conflict points in a typical 4-legged roundabout.

Table 5.2 - Year 2026 Total Traffic Level-of-Service – Roundabout

Unsignalized Intersection	Peak Hour	Level-of-Service – Delay (s/veh)				Intersection Delay, (s/veh)
		Northbound	Southbound	Eastbound	Westbound	
MS HWY 25 @ Old HWY 25	AM	A – 5.2	A – 4.8	A – 7.1	A – 6.5	A - 5.7
	PM	A – 4.0	A – 5.0	A – 7.5	A – 5.5	A – 5.3

This intersection operates at an exceptional level of service with both eastbound and westbound movements having large improvements in delay time. This does slightly increase the delay on north and southbound through movements, however all LOS's remain at the A level.

This roundabout provides two through lanes in the northbound/southbound direction and one through lane in the eastbound/westbound direction. This project provides a protected right turn from the southern approach turning onto Old MS 25 and a yielding right turn from the northern approach when turning into the proposed gas station.

Appendix

- 6.1 - Year 2024 Existing Traffic Volumes**
- 6.2 - Year 2024 Existing Traffic Analysis**
- 6.3 - Peak Hour Volumes and Trip Distribution**
- 6.4 - Year 2026 Build Traffic Volumes**
- 6.5 - Year 2026 Build Traffic Analysis**
- 6.6 - Year 2026 Non-Site Volumes**
- 6.7 - Year 2026 Non-Site Analysis**
- 6.8 - Year 2026 Roundabout Build Analysis**
- 6.9 - Year 2026 Two Way Stop Control Analysis**
- 6.10 - Year 2026 Warrant Analysis**

6.1.1 - EXISTING TRAFFIC VOLUMES (AM)

AM PEAK

151 243

Peak Hour	7:15
PHF	0.869
	2
	0
0 0	149 2 43 45
0	0 0 241 106 108
	0
	0

192 347

Bus Percentage	0.40%
Single Unit Truck Percentage	0.90%
Articulated Truck Percentage	7.30%
Heavy Vehicle Percentage	8.60%

Census Population Data

Year	Starkville	Oktibbeha County
2010	23888	47671
2020	24360	51788
Growth Rate	0.20%	0.80%

Growth Rate 0.51%

6.1.2 - EXISTING TRAFFIC VOLUMES (PM)

PM PEAK

275 186

Peak Hour	16:30
PHF	0.952
	3
	0
0 0	273 2 83 86
0	0 0 183 63 65
	0
	0

356 246

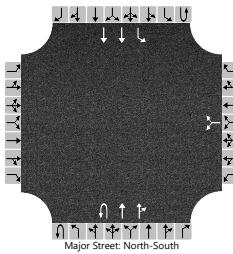
Bus Percentage	0.00%
Single Unit Truck Percentage	1.70%
Articulated Truck Percentage	5.10%
Heavy Vehicle Percentage	6.80%

Historical Traffic Volumes

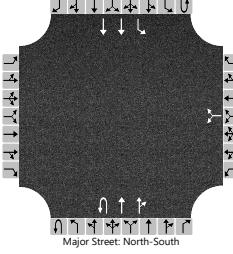
Year HWY 25 So HWY 25 Nc Louisville East of Intersection

2014	6500	--	--
2015	--	--	4200
2017	7300	--	--
2018	--	7100	4900
2021	--	8400	4100
Growth Rat	3.90%	5.80%	-0.40%

6.2.1 - Year 2024 Existing Traffic Analysis (AM)

HCS Two-Way Stop-Control Report																																							
General Information				Site Information																																			
Analyst		Ben Shannon				Intersection				Hwy 25 @ Old Hwy 25																													
Agency/Co.		MSU CEE				Jurisdiction				Oktibbeha																													
Date Performed		4/12/2024				East/West Street				Old MS 25																													
Analysis Year		2024				North/South Street				MS 25																													
Time Analyzed		AM PEAK				Peak Hour Factor				0.87																													
Intersection Orientation		North-South				Analysis Time Period (hrs)				0.25																													
Project Description		Existing 2024																																					
Lanes																																							
 Major Street: North-South																																							
Vehicle Volumes and Adjustments																																							
Approach		Eastbound				Westbound				Northbound				Southbound																									
Movement		U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R																						
Priority		10	11	12		7	8	9		1U	1	2	3	4U	4	5	6																						
Number of Lanes		0	0	0		0	1	0		1	0	2	0	0	1	2	0																						
Configuration							LR			U		T	TR		L	T																							
Volume (veh/h)						2		46		0		256	113	0	2	158																							
Percent Heavy Vehicles (%)						9		9		9				9	9																								
Proportion Time Blocked																																							
Percent Grade (%)							3																																
Right Turn Channelized																																							
Median Type Storage		Left Only								3																													
Critical and Follow-up Headways																																							
Base Critical Headway (sec)						7.5		6.9	6.4					4.1																									
Critical Headway (sec)						7.57		7.37	6.58					4.28																									
Base Follow-Up Headway (sec)						3.5		3.3	2.5					2.2																									
Follow-Up Headway (sec)						3.59		3.39	2.59					2.29																									
Delay, Queue Length, and Level of Service																																							
Flow Rate, v (veh/h)						55		0						2																									
Capacity, c (veh/h)						793		1064						1083																									
v/c Ratio						0.07		0.00						0.00																									
95% Queue Length, Q ₉₅ (veh)						0.2		0.0						0.0																									
95% Queue Length, Q ₉₅ (ft)						5.3		0.0						0.0																									
Control Delay (s/veh)						9.9		8.4						8.3	0.0																								
Level of Service (LOS)						A		A						A	A																								
Approach Delay (s/veh)						9.9		0.0						0.1																									
Approach LOS						A		A						A																									

6.2.2 - Year 2024 Existing Traffic Analysis (PM)

HCS Two-Way Stop-Control Report																																									
General Information								Site Information																																	
Analyst	Ben Shannon							Intersection				Hwy 25 @ Old Hwy 25																													
Agency/Co.	MSU CEE							Jurisdiction				Oktibbeha																													
Date Performed	4/12/2024							East/West Street				Old MS 25																													
Analysis Year	2024							North/South Street				MS 25																													
Time Analyzed	PM PEAK							Peak Hour Factor				0.95																													
Intersection Orientation	North-South							Analysis Time Period (hrs)				0.25																													
Project Description	Existing 2024																																								
Lanes																																									
 Major Street: North-South																																									
Vehicle Volumes and Adjustments																																									
Approach	Eastbound				Westbound				Northbound				Southbound																												
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R																									
Priority	10	11	12		7	8	9	1U	1	2	3	4U	4	5	6																										
Number of Lanes	0	0	0		0	1	0	1	0	2	0	0	1	2	0																										
Configuration						LR		U		T	TR		L	T																											
Volume (veh/h)					3		88	0		194	67	0	2	290																											
Percent Heavy Vehicles (%)					7		7					7	7																												
Proportion Time Blocked																																									
Percent Grade (%)						3																																			
Right Turn Channelized																																									
Median Type Storage	Left Only						3																																		
Critical and Follow-up Headways																																									
Base Critical Headway (sec)						7.5		6.9	6.4				4.1																												
Critical Headway (sec)						7.54		7.34	6.54				4.24																												
Base Follow-Up Headway (sec)						3.5		3.3	2.5				2.2																												
Follow-Up Headway (sec)						3.57		3.37	2.57				2.27																												
Delay, Queue Length, and Level of Service																																									
Flow Rate, v (veh/h)						96		0					2																												
Capacity, c (veh/h)						890		895					1250																												
v/c Ratio						0.11		0.00					0.00																												
95% Queue Length, Q ₉₅ (veh)						0.4		0.0					0.0																												
95% Queue Length, Q ₉₅ (ft)						10.6		0.0					0.0																												
Control Delay (s/veh)						9.5		9.0					7.9	0.0																											
Level of Service (LOS)						A		A					A	A																											
Approach Delay (s/veh)						9.5		0.0					0.1																												
Approach LOS						A		A					A	A																											

6.3.1 - SITE TRAFFIC AND TRIP DISTRIBUTION (AM)

AM PEAK
0.277296 82 132 0.44714

Peak Hour	7:15
PHF	0.869
	0
0	25
296	0
295	0
0	132
	189
	0
	0
	59
	104
	0.083189
	25
	59
	0.199307

0.353553 104 189 0.639515

Bus Percentage	0.40%
Single Unit Truck Percentage	0.90%
Articulated Truck Percentage	7.30%
Heavy Vehicle Percentage	8.60%

Land Use	Land Use Subcategory	Intensity
----------	----------------------	-----------

Convenience Store/Gas Station	GFA (5.5-10K)	20 VFP
Convenience Store/Gas Station	VFP (16-24)	6 1000 Sq ft

Total New Trips

AM Peak Hour Traffic Generation

Convenience Store/Gas Station - GFA [ITE 945]	Average Rate
Convenience Store/Gas Station - VFP [ITE 945]	Average Rate

PM Peak Hour Traffic Generation

Convenience Store/Gas Station - GFA [ITE 945]	Average Rate
Convenience Store/Gas Station - VFP [ITE 945]	Average Rate

6.3.2 - SITE TRAFFIC AND TRIP DISTRIBUTION (PM)

PM PEAK
0.453416 115 77 0.305901

Peak Hour	16:30
PHF	0.952
	0
0	35
253	0
253	77
0	103
	0
	0
	27
	149
	0.141304
	35
	27
	0.107143

0.586957 149 103 0.40528

Bus Percentage	0.00%
Single Unit Truck Percentage	1.70%
Articulated Truck Percentage	5.10%
Heavy Vehicle Percentage	6.80%

AM Peak Hour			PM Peak Hour		
Total	In	Out	Total	In	Out
632	316	316	538	269	269
549	275	274	474	237	237
591	296	295	506	253	253
31.6	% in		50%	% out	50%
91.35	% in		50%	% out	50%
26.9	% in		50%	% out	50%
78.95	% in		50%	% out	50%

6.4.1 - Year 2026 Build Traffic Volumes (AM)

AM PEAK

249 401

Peak Hour 7:15
PHF 0.869

				2				
				25				
296	82	165	2	47				74
295			132	189	267	118		179
				59				
			104					

316 574

Bus Percentage	0.40%
Single Unit Truck Percentage	0.90%
Articulated Truck Percentage	7.30%
Heavy Vehicle Percentage	8.60%

6.4.2 - Year 2026 Build Traffic Volumes (PM)

PM PEAK

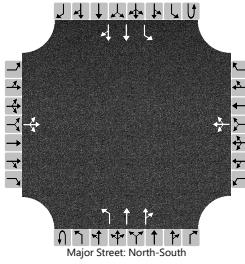
419 282

Peak Hour	16:30
PHF	0.952
	3
	35
253	115
	302
	2
	92
253	77
	103
	202
	70
	130
	99
	27
	149

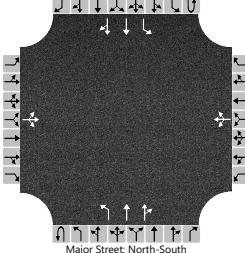
543 375

Bus Percentage	0.00%
Single Unit Truck Percentage	1.70%
Articulated Truck Percentage	5.10%
Heavy Vehicle Percentage	6.80%

6.5.1 - Year 2026 Build Traffic Analysis (AM)

HCS Two-Way Stop-Control Report																																						
General Information								Site Information																														
Analyst	Ben Shannon							Intersection		Hwy 25 @ Old Hwy 25																												
Agency/Co.	MSU CEE							Jurisdiction		Oktibbeha																												
Date Performed	4/12/2024							East/West Street		Old MS 25																												
Analysis Year	2026							North/South Street		MS 25																												
Time Analyzed	AM PEAK							Peak Hour Factor		0.87																												
Intersection Orientation	North-South							Analysis Time Period (hrs)		0.25																												
Project Description	Build 2026																																					
Lanes																																						
 Major Street: North-South																																						
Vehicle Volumes and Adjustments																																						
Approach		Eastbound				Westbound				Northbound				Southbound																								
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R																						
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6																						
Number of Lanes	0	1	0		0	1	0	0	0	1	2	0	0	1	2	0																						
Configuration		LTR				LTR				L	T	TR		L	T	TR																						
Volume (veh/h)	132	59	104		2	25	47	0	189	267	118	0	82	165	2																							
Percent Heavy Vehicles (%)	9	9	9		9	9	9	9	9			9	9																									
Proportion Time Blocked																																						
Percent Grade (%)	0			3																																		
Right Turn Channelized																																						
Median Type Storage	Left + Thru								3																													
Critical and Follow-up Headways																																						
Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1																								
Critical Headway (sec)		7.68	6.68	7.08		8.28	7.28	7.38		4.28				4.28																								
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2																								
Follow-Up Headway (sec)		3.59	4.09	3.39		3.59	4.09	3.39		2.29				2.29																								
Delay, Queue Length, and Level of Service																																						
Flow Rate, v (veh/h)			339			85			217				94																									
Capacity, c (veh/h)			250			608			1329				1066																									
v/c Ratio			1.35			0.14			0.16				0.09																									
95% Queue Length, Q ₉₅ (veh)			18.1			0.5			0.6				0.3																									
95% Queue Length, Q ₉₅ (ft)			485.1			13.4			16.1				8.0																									
Control Delay (s/veh)			221.9			11.9			8.2	0.4			8.7	0.3																								
Level of Service (LOS)			F			B			A	A			A	A																								
Approach Delay (s/veh)	221.9				11.9				2.9				3.1																									
Approach LOS	F				B				A				A																									

6.5.2 - Year 2026 Build Traffic Analysis (PM)

HCS Two-Way Stop-Control Report																																					
General Information								Site Information																													
Analyst	Ben Shannon							Intersection	Hwy 25 @ Old Hwy 25																												
Agency/Co.	MSU CEE							Jurisdiction	Oktibbeha																												
Date Performed	4/12/2024							East/West Street	Old MS 25																												
Analysis Year	2026							North/South Street	MS 25																												
Time Analyzed	PM PEAK							Peak Hour Factor	0.95																												
Intersection Orientation	North-South							Analysis Time Period (hrs)	0.25																												
Project Description	Build 2026																																				
Lanes																																					
 Major Street: North-South																																					
Vehicle Volumes and Adjustments																																					
Approach	Eastbound				Westbound				Northbound				Southbound																								
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R																					
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6																					
Number of Lanes	0	1	0		0	1	0	0	0	1	2	0	0	1	2	0																					
Configuration			LTR				LTR			L	T	TR		L	T	TR																					
Volume (veh/h)	77	27	149		3	35	92	0	103	202	70	0	115	302	2																						
Percent Heavy Vehicles (%)	7	7	7		7	7	7	7				7	7																								
Proportion Time Blocked																																					
Percent Grade (%)	0				3																																
Right Turn Channelized																																					
Median Type Storage	Left + Thru																																				
Critical and Follow-up Headways																																					
Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1																							
Critical Headway (sec)		7.64	6.64	7.04		8.24	7.24	7.34		4.24				4.24																							
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2																							
Follow-Up Headway (sec)		3.57	4.07	3.37		3.57	4.07	3.37		2.27				2.27																							
Delay, Queue Length, and Level of Service																																					
Flow Rate, v (veh/h)		266				137			108				121																								
Capacity, c (veh/h)		483				874			1201				1237																								
v/c Ratio		0.55				0.16			0.09				0.10																								
95% Queue Length, Q ₉₅ (veh)		3.3				0.6			0.3				0.3																								
95% Queue Length, Q ₉₅ (ft)		87.1				15.8			7.9				7.9																								
Control Delay (s/veh)		21.2				9.9			8.3	0.3			8.2	0.4																							
Level of Service (LOS)		C				A			A	A			A	A																							
Approach Delay (s/veh)	21.2				9.9				2.4				2.5																								
Approach LOS	C				A				A				A																								

6.6.1 - Year 2026 Non-Site Volumes (AM)

AM PEAK

167 269

Peak Hour 7:15
PHF 0.869

0	0	165	2	47		49	
0			0	0	267	118	120
			0				
			0				

212 385

Bus Percentage 0.40%
Single Unit Truck Percentage 0.90%
Articulated Truck Percentage 7.30%
Heavy Vehicle Percentage 8.60%

Growth Rate 2.07%

6.6.2 - Year 2026 Non-Site Volumes (PM)

PM PEAK

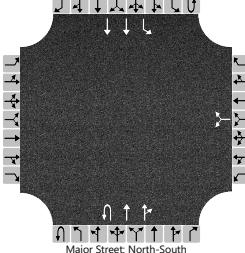
304 205

Peak Hour	16:30							
PHF	0.952							
				3				
				0				
0	0	302	2	92			95	
0			0	0	202	70	72	
				0				
				0				

394 272

Bus Percentage	0.00%
Single Unit Truck Percentage	1.70%
Articulated Truck Percentage	5.10%
Heavy Vehicle Percentage	6.80%

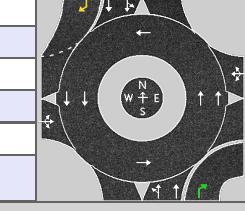
6.7.1 - Year 2026 Non-Site Analysis (AM)

HCS Two-Way Stop-Control Report																
General Information								Site Information								
Analyst	Ben Shannon	Intersection	Hwy 25 @ Old Hwy 25													
Agency/Co.	MSU CEE	Jurisdiction	Oktibbeha													
Date Performed	4/12/2024	East/West Street	Old MS 25													
Analysis Year	2026	North/South Street	MS 25													
Time Analyzed	AM PEAK	Peak Hour Factor	0.87													
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25													
Project Description	No Build 2026															
Lanes																
 Major Street: North-South																
Vehicle Volumes and Adjustments																
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	10	11	12		7	8	9	1U	1	2	3	4U	4	5	6	
Number of Lanes	0	0	0		0	1	0	1	0	2	0	0	1	2	0	
Configuration						LR		U		T	TR		L	T		
Volume (veh/h)					47		2	0		267	118	0	2	165		
Percent Heavy Vehicles (%)					9		9	9				9	9			
Proportion Time Blocked																
Percent Grade (%)						3										
Right Turn Channelized																
Median Type Storage		Left Only										3				
Critical and Follow-up Headways																
Base Critical Headway (sec)						7.5		6.9	6.4				4.1			
Critical Headway (sec)						7.58		7.38	6.58				4.28			
Base Follow-Up Headway (sec)						3.5		3.3	2.5				2.2			
Follow-Up Headway (sec)						3.59		3.39	2.59				2.29			
Delay, Queue Length, and Level of Service																
Flow Rate, v (veh/h)						56		0					2			
Capacity, c (veh/h)						606		1051					1066			
v/c Ratio						0.09		0.00					0.00			
95% Queue Length, Q ₉₅ (veh)						0.3		0.0					0.0			
95% Queue Length, Q ₉₅ (ft)						8.0		0.0					0.0			
Control Delay (s/veh)						11.5		8.4					8.4	0.0		
Level of Service (LOS)						B		A					A	A		
Approach Delay (s/veh)		11.5						0.0					0.1			
Approach LOS		B						A					A			

6.7.2 - Year 2026 Non-Site Analysis (PM)

HCS Two-Way Stop-Control Report																																								
General Information								Site Information																																
Analyst	Ben Shannon							Intersection	Hwy 25 @ Old Hwy 25																															
Agency/Co.	MSU CEE							Jurisdiction	Oktibbeha																															
Date Performed	4/12/2024							East/West Street	Old MS 25																															
Analysis Year	2026							North/South Street	MS 25																															
Time Analyzed	PM PEAK							Peak Hour Factor	0.95																															
Intersection Orientation	North-South							Analysis Time Period (hrs)	0.25																															
Project Description	No Build 2026																																							
Lanes																																								
 Major Street: North-South																																								
Vehicle Volumes and Adjustments																																								
Approach	Eastbound				Westbound				Northbound				Southbound																											
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R																								
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6																								
Number of Lanes	0	0	0		0	1	0		1	0	2	0	0	1	2	0																								
Configuration						LR			U		T	TR		L	T																									
Volume (veh/h)						3		92	0		202	70	0	2	302																									
Percent Heavy Vehicles (%)						7		7	7				7	7																										
Proportion Time Blocked																																								
Percent Grade (%)							3																																	
Right Turn Channelized																																								
Median Type Storage		Left Only											3																											
Critical and Follow-up Headways																																								
Base Critical Headway (sec)						7.5		6.9	6.4					4.1																										
Critical Headway (sec)						7.54		7.34	6.54					4.24																										
Base Follow-Up Headway (sec)						3.5		3.3	2.5					2.2																										
Follow-Up Headway (sec)						3.57		3.37	2.57					2.27																										
Delay, Queue Length, and Level of Service																																								
Flow Rate, v (veh/h)						100		0					2																											
Capacity, c (veh/h)						880		879					1237																											
v/c Ratio						0.11		0.00					0.00																											
95% Queue Length, Q ₉₅ (veh)						0.4		0.0					0.0																											
95% Queue Length, Q ₉₅ (ft)						10.6		0.0					0.0																											
Control Delay (s/veh)						9.6		9.1					7.9	0.0																										
Level of Service (LOS)						A		A					A	A																										
Approach Delay (s/veh)		9.6						0.0					0.1																											
Approach LOS						A		A					A																											

6.8.1 - Year 2026 Roundabout Build Analysis (AM)

HCS Roundabouts Report																									
General Information					Site Information																				
Analyst		Ben Shannon								Intersection		Hwy 25 @ Old Hwy 25													
Agency or Co.		MSU CEE								E/W Street Name		Old MS 25													
Date Performed		4/26/2024								N/S Street Name		MS 25													
Analysis Year		2024								Analysis Time Period, hrs		0.25													
Time Analyzed		AM PEAK								Peak Hour Factor		0.87													
Project Description		Build 2026								Jurisdiction		Oktibbeha													
Volume Adjustments and Site Characteristics																									
Approach	EB			WB			NB			SB															
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R									
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	0	2	0	0	0	2	0									
Lane Assignment	LTR			LTR			LT			T			LT			T									
Volume (V), veh/h	0	132	59	104	0	2	25	47	0	189	267	118	0	82	165	2									
Percent Heavy Vehicles, %	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9									
Flow Rate (v _c e), pc/h	0	165	74	130	0	3	31	59	0	237	335	148	0	103	207	3									
Right-Turn Bypass	None			None			Non-Yielding			Yielding															
Conflicting Lanes	2			2			1			1															
Pedestrians Crossing, p/h	0			0			0			0															
Proportion of CAVs, %	0																								
Critical and Follow-Up Headway Adjustment																									
Approach	EB			WB			NB			SB															
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass										
Critical Headway, s	4.3276			4.3276			4.5436			4.5436			4.5436			4.9763									
Follow-Up Headway, s	2.5352			2.5352			2.5352			2.5352			2.5352			2.6087									
Flow Computations, Capacity and v/c Ratios																									
Approach	EB			WB			NB			SB															
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass										
Entry Flow (v _e), pc/h	369			93			269			303			148			146									
Entry Volume (veh/h)	339			85			247			278			136			134									
Circulating Flow (v _c), pc/h	313			737			342			271															
Exiting Flow (v _e), pc/h	177			268			559			340															
Capacity (d _q), pc/h	1088			759			1040			1040			1110			1110									
Capacity (c), veh/h	998			696			954			954			1018			1018									
v/c Ratio (x)	0.34			0.12			0.26			0.29			0.13			0.15									
Delay and Level of Service																									
Approach	EB			WB			NB			SB															
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass										
Lane Control Delay (d), s/veh	7.1			6.5			6.4			6.8			4.7			4.9									
Lane LOS	A			A			A			A			A			A									
95% Queue Length, Q ₉₅ (veh)	1.5			0.4			1.0			1.2			0.5			0.0									
95% Queue Length, Q ₉₅ (ft)	40.2			10.7			26.8			32.2			13.4			13.4									
Approach Delay, s/veh LOS	7.1			A			6.5			A			5.2			A									
Intersection Delay, s/veh LOS	5.7													A											

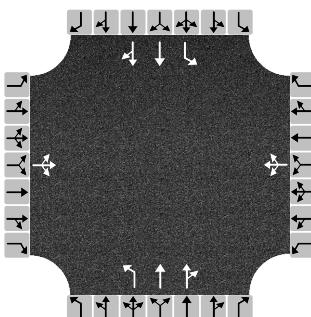
6.8.2 - Year 2026 Roundabout Build Analysis (PM)

HCS Roundabouts Report																										
General Information								Site Information																		
Analyst	Ben Shannon								Intersection		Hwy 25 @ Old Hwy 25															
Agency or Co.	MSU CEE								E/W Street Name		Old MS 25															
Date Performed	4/26/2024								N/S Street Name		MS 25															
Analysis Year	2024								Analysis Time Period, hrs		0.25															
Time Analyzed	PM PEAK								Peak Hour Factor		0.95															
Project Description	Build 2026 Roundabout								Jurisdiction		Oktibbeha															
Volume Adjustments and Site Characteristics																										
Approach	EB				WB				NB				SB													
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R										
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	0	2	0	0	0	2	0										
Lane Assignment	LTR				LTR				LT		T		LT		T											
Volume (V), veh/h	0	77	27	149	0	3	35	92	0	103	202	70	0	115	302	2										
Percent Heavy Vehicles, %	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9										
Flow Rate (v_{pce}), pc/h	0	88	31	171	0	3	40	106	0	118	232	80	0	132	347	2										
Right-Turn Bypass	None				None				Non-Yielding				Yielding													
Conflicting Lanes	2				2				1				1													
Pedestrians Crossing, p/h	0				0				0				0													
Proportion of CAVs, %	0																									
Critical and Follow-Up Headway Adjustment																										
Approach	EB				WB				NB				SB													
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass											
Critical Headway, s		4.3276			4.3276		4.5436	4.5436		4.5436	4.5436		4.9763													
Follow-Up Headway, s		2.5352			2.5352		2.5352	2.5352		2.5352	2.5352		2.6087													
Flow Computations, Capacity and v/c Ratios																										
Approach	EB				WB				NB				SB													
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass											
Entry Flow (v_e), pc/h		290			149		165	186	80	225	254		2													
Entry Volume, veh/h		266			137		151	170	73	207	233		2													
Circulating Flow (v_s), pc/h	482				438				251				161													
Exiting Flow (v_{ex}), pc/h	163				158				426				521													
Capacity (c_{pce}), pc/h		943			979		1130	1130		1226	1226		1175													
Capacity (c), veh/h		865			898		1037	1037		1125	1125		1078													
v/c Ratio (x)		0.31			0.15		0.15	0.16		0.18	0.21		0.00													
Delay and Level of Service																										
Approach	EB				WB				NB				SB													
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass											
Lane Control Delay (d), s/veh				7.5				5.5		4.8	5.0		4.8	5.1	3.4											
Lane LOS				A				A		A	A		A	A	A											
95% Queue Length, Q_{95} (veh)				1.3				0.5		0.5	0.6		0.7	0.8	0.0											
95% Queue Length, Q_{95} (ft)				34.8				13.4		13.4	16.1		18.8	21.4	0.0											
Approach Delay, s/veh LOS	7.5			A	5.5			A	4.0			A	5.0													
Intersection Delay, s/veh LOS	5.3												A													

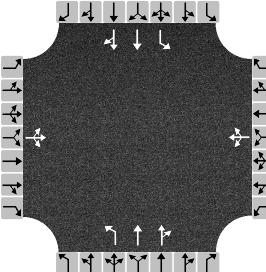
6.9.1 - Year 2026 All Way Stop Control Build Analysis (AM)

HCS All-Way Stop Control Report												
General and Site Information				Lanes								
Analyst	Ben Shannon											
Agency/Co.	MSU CEE											
Date Performed	5/6/2024											
Analysis Year	2026											
Analysis Time Period (hrs)	0.25											
Time Analyzed	AM											
Project Description	AWSC											
Intersection	MS 25 @ Old 25											
Jurisdiction	Oktibbeha											
East/West Street	MS Old 25											
North/South Street	MS HWY 25											
Peak Hour Factor	0.87											
Turning Movement Demand Volumes												
Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume (veh/h)	132	59	104	2	25	47	189	267	118	82	165	0
% Thrus in Shared Lane										50		50
Lane Flow Rate and Adjustments												
Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			L	T	TR	L	T	TR
Flow Rate, v (veh/h)	339			85			217	153	289	94	95	95
Percent Heavy Vehicles	9			9			9	9	9	9	9	2
Initial Departure Headway, h_d (s)	3.20			3.20			3.20	3.20	3.20	3.20	3.20	3.20
Initial Degree of Utilization, x	0.301			0.076			0.193	0.136	0.257	0.084	0.084	0.084
Final Departure Headway, h_d (s)	7.34			7.67			7.48	6.96	6.62	8.05	7.53	7.41
Final Degree of Utilization, x	0.691			0.181			0.451	0.297	0.532	0.211	0.198	0.195
Move-Up Time, m (s)	2.3			2.3			2.3	2.3	2.3	2.3	2.3	2.3
Service Time, t_s (s)	5.04			5.37			5.18	4.66	4.32	5.75	5.23	5.11
Capacity, Delay and Level of Service												
Approach	Eastbound			Westbound			Northbound			Southbound		
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			L	T	TR	L	T	TR
Flow Rate, v (veh/h)	339			85			217	153	289	94	95	95
Capacity (veh/h)	490			469			482	517	544	447	478	486
95% Queue Length, Q_{95} (veh)	5.3			0.7			2.3	1.2	3.1	0.8	0.7	0.7
95% Queue Length, Q_{95} (ft)	142.0			18.8			61.6	32.2	83.1	21.4	18.8	17.8
Control Delay (s/veh)	24.9			12.1			16.2	12.6	16.6	12.9	12.1	11.9
Level of Service, LOS	C			B			C	B	C	B	B	B
Approach Delay (s/veh) LOS	24.9	C		12.1	B		15.5	C		12.3	B	
Intersection Delay (s/veh) LOS				17.0					C			

6.9.1 - Year 2026 All Way Stop Control Build Analysis (PM)

HCS All-Way Stop Control Report													
General and Site Information		Lanes											
Analyst	Ben Shannon												
Agency/Co.	MSU CEE												
Date Performed	5/6/2024												
Analysis Year	2026												
Analysis Time Period (hrs)	0.25												
Time Analyzed	PM												
Project Description	AWSC												
Intersection	MS 25 @ Old 25												
Jurisdiction	Oktibbeha												
East/West Street	MS Old 25												
North/South Street	MS HWY 25												
Peak Hour Factor	0.95												
Turning Movement Demand Volumes													
Approach	Eastbound			Westbound			Northbound			Southbound			
Movement	L	T	R	L	T	R	L	T	R	L	T	R	
Volume (veh/h)	77	27	149	3	35	92	103	202	70	115	302	2	
% Thru in Shared Lane									50			50	
Lane Flow Rate and Adjustments													
Approach	Eastbound			Westbound			Northbound			Southbound			
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3	
Configuration	LTR			LTR			L	T	TR	L	T	TR	
Flow Rate, v (veh/h)	266			137			108	106	180	121	159	161	
Percent Heavy Vehicles	7			7			7	7	7	7	7	2	
Initial Departure Headway, h_d (s)	3.20			3.20			3.20	3.20	3.20	3.20	3.20	3.20	
Initial Degree of Utilization, x	0.237			0.122			0.096	0.095	0.160	0.108	0.141	0.143	
Final Departure Headway, h_d (s)	6.95			7.07			7.45	6.93	6.64	7.36	6.85	6.75	
Final Degree of Utilization, x	0.514			0.269			0.224	0.205	0.332	0.248	0.302	0.302	
Move-Up Time, m (s)	2.3			2.3			2.3	2.3	2.3	2.3	2.3	2.3	
Service Time, t (s)	4.65			4.77			5.15	4.63	4.34	5.06	4.55	4.45	
Capacity, Delay and Level of Service													
Approach	Eastbound			Westbound			Northbound			Southbound			
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3	
Configuration	LTR			LTR			L	T	TR	L	T	TR	
Flow Rate, v (veh/h)	266			137			108	106	180	121	159	161	
Capacity (veh/h)	518			509			483	519	542	489	526	533	
95% Queue Length, Q_{95} (veh)	2.9			1.1			0.9	0.8	1.4	1.0	1.3	1.3	
95% Queue Length, Q_{95} (ft)	76.6			29.0			23.8	21.1	37.0	26.4	34.3	33.0	
Control Delay (s/veh)	16.8			12.4			12.3	11.4	12.6	12.5	12.5	12.3	
Level of Service, LOS	C			B			B	B	B	B	B	B	
Approach Delay (s/veh) LOS	16.8	C		12.4	B		12.2	B		12.4	B		
Intersection Delay (s/veh) LOS				13.3					B				

6.10.1 - Year 2026 Warrant Analysis (AM)

HCS Warrants Report																													
Project Information																													
Analyst	Ben Shannon			Date	5/6/2024																								
Agency	MSU CEE			Analysis Year	2026																								
Jurisdiction	Oktibbeha			Time Period Analyzed	AM																								
Project Description	Build 2026																												
General																													
Major Street Direction	North-South			Population < 10,000	No																								
Starting Time Interval	7			Coordinated Signal System	No																								
Median Type	Divided			Crashes (crashes/year)	0																								
Major Street Speed (mi/h)	65			Adequate Trials of Crash Exp. Alt.	No																								
Nearest Signal (ft)	0																												
Geometry and Traffic																													
																													
Approach		Eastbound			Westbound			Northbound			Southbound																		
Movement		L	T	R	L	T	R	L	T	R	L																		
Number of Lanes, N	0	1	0	0	1	0	1	2	0	1	2																		
Lane Usage		LTR			LTR		L	TR		L	TR																		
Vehicle Volumes Averages (veh/h)	0	0	0	53	0	3	0	180	53	1	182																		
Pedestrian Averages (peds/h)	0			0			0			0																			
Gap Averages (gaps/h)	0			0			0			0																			
Delay Averages (s/veh)	0.0			0.0			0.0			0.0																			
Delay Averages (veh-hrs)	0.0			0.0			0.0			0.0																			
School Crossing and Roadway Network																													
Number of Students in Highest Hour	0			Two or More Major Routes				No																					
Number of Adequate Gaps in Period	0			Weekend Counts				No																					
Number of Minutes in Period	0			5-year Growth Factor (%)				6																					
Railroad Crossing																													
Grade Crossing Approach	None			Rail Traffic (trains/day)				4																					
Highest Volume Hour with Trains	Unknown			High Occupancy Buses (%)				0																					
Distance to Stop Line (ft)	-			Tractor-Trailer Trucks (%)				10																					