

Traffic Impact Study

To: Fall Mountain Farm Company
From: Eli Farney, PE, PTOE
Date: September 22, 2025

Fall Mountain Farm El Paso County, Colorado

Prepared By:



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Table of Contents

Executive Summary.....	3
Introduction	4
Traffic Volumes and Distribution	7
Traffic Operations Analysis	10
Conclusion.....	12

List of Figures

Figure 1: Vicinity Map	5
Figure 2: Existing Traffic Volumes and Lane Geometry	6
Figure 3: Site-Generated Traffic Volumes.....	8
Figure 4: Total Traffic Volumes	9

List of Tables

Table 1: Levels of Service	10
Table 2: 95 th Percentile Queue Lengths.....	11

List of Appendices

- Appendix A: Traffic Counts
- Appendix B: Fall Mountain Farm Traffic Data
- Appendix C: Synchro Reports

Executive Summary

JR Engineering (JR) has completed a review of the traffic impacts resulting from Fall Mountain Farm in El Paso County, Colorado (County).

The objectives of this Traffic Impact Study (TIS, Study) are:

- Collect Year 2025 existing traffic count data at nearby intersections.
- Estimate site-generated traffic and route trips onto adjacent streets.
- Perform traffic operations analysis at nearby intersections.
- Make recommendations related to traffic operations.

The methodology, content, and findings of this TIS are consistent with the following document:

- *El Paso County Engineering Criteria Manual, Appendix B: Transportation Impact Study Guidelines*

Key Findings of this TIS

- **Levels of Service:** All movements are LOS B or better at the Study intersections with the addition of site-generated traffic. No operational issues are identified.
- **Queue Lengths:** 95th percentile queue lengths are nominal at the Study intersections with the addition of site-generated traffic. No queuing issues are identified.
- **Recommendations:** JR recommends that the County accept the traffic operations in the vicinity of Fall Mountain Farm. The site does not adversely impact traffic operations at the nearby intersections.

Introduction

JR has completed a review of the traffic operations in the vicinity of Fall Mountain Farm. A vicinity map is included in Figure 1.

Existing Land Use

Fall Mountain Farm is a recreational/educational farm site located in El Paso County. It is open to the public on select days, with weekends being the busiest. The farm also hosts school field trips and private events.

Study Intersections

Two existing intersections were analyzed in this Study:

1. Doolittle Road/Site Access & Mt Herman Lane
 - Non-standard intersection, analyzed as all-way stop control
2. Doolittle Road & Lindbergh Road
 - Two-way stop control

Existing Roadway Conditions

Doolittle Road is paved east of Lindbergh Road and gravel to the west. Lindbergh Road is gravel both north and south of Doolittle. Both roads have a posted speed limit of 30 mph.

Existing Traffic Volumes

Existing traffic volumes were obtained on Saturday, September 13, 2025 by All Traffic Data Services. Mid-day peak hour turning movement counts were collected at the intersection of Doolittle Road & Lindbergh Road. Additionally, 24-hour counts were collected on Doolittle Road west of Lindbergh Road. Existing traffic volumes and lane geometry at the Study intersections are shown in Figure 2. Traffic counts are included in Appendix A.

Proposed Land Use

Fall Mountain Farm proposes to operate a pumpkin patch during the fall season. The pumpkin patch was open in the fall of 2024, and the County is requesting that a TIS be performed for this land use. The pumpkin patch is planned to open for business on Thursday, Friday, Saturday, and Sunday.



Figure 1 - Vicinity Map

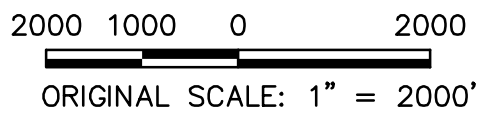
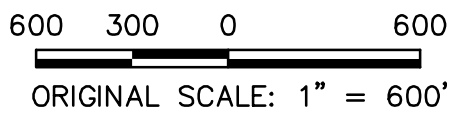
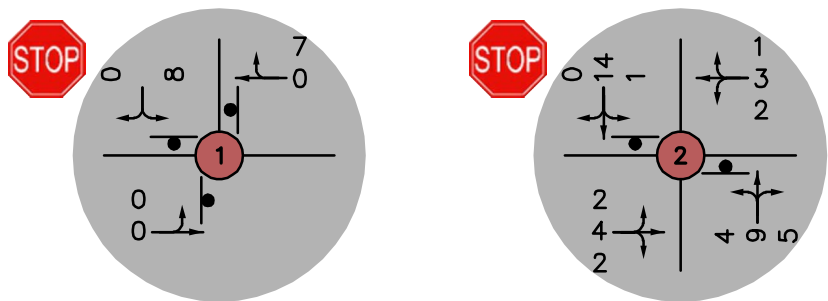







Figure 2 - Existing Traffic Volumes and Lane Geometry



LEGEND

-  EXISTING INTERSECTION
-  SATURDAY PEAK HOUR TRIPS
-  STOP SIGN CONTROL

Traffic Volumes and Distribution

Background Traffic Volumes

For the purposes of this Study, background traffic is the counted traffic volumes during the Saturday mid-day peak hour. Counts were collected while Fall Mountain Farm was closed.

Site-Generated Traffic Volumes

In standard practice, site-generated traffic volumes would be estimated using the ITE *Trip Generation Manual*. However, Fall Mountain Farm does not match well with any of the ITE land uses. Therefore, JR estimated site-generated traffic volumes based on ticket sales.

Fall Mountain Farm provided JR with data from one of their busiest days in 2024. Based on this data, JR concluded that the site generated 91 entering trips during the busiest hour. For the purposes of this Study, JR assumed that 91 trips would exit the site as well.

Site-generated traffic volumes are shown in **Figure 3**. Traffic data provided by Fall Mountain Farm is included in **Appendix B**.

Distribution of Site-Generated Traffic

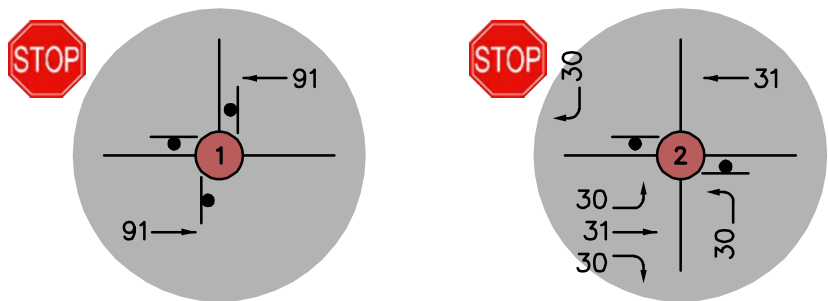
Site-generated traffic from Fall Mountain Farm was assumed to distribute evenly on the legs of the Doolittle & Lindbergh intersection (i.e., about 33% of traffic was routed to/from the north, east, and south).

Total Traffic

Total traffic is the sum of background and site-generated traffic. Total traffic volumes are shown in **Figure 4**.



Figure 3 - Site-Generated Traffic Volumes



600 300 0 600
 ORIGINAL SCALE: 1" = 600'

LEGEND




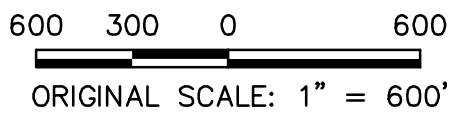
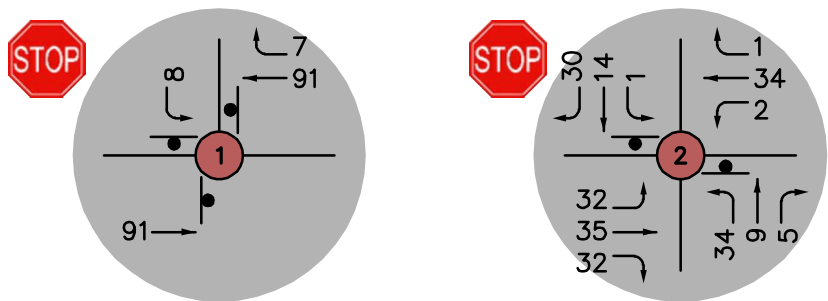



-  EXISTING INTERSECTION
-  SATURDAY PEAK HOUR TRIPS
-  STOP SIGN CONTROL



Figure 4 - Total Traffic Volumes



LEGEND

-  EXISTING INTERSECTION
-  SATURDAY PEAK HOUR TRIPS
-  STOP SIGN CONTROL



Traffic Operations Analysis

Traffic operations were analyzed using *Highway Capacity Manual*, 7th Edition methodology. Synchro reports are included in Appendix C.

Levels of Service

JR analyzed both of the Study intersections for peak hour level of service (LOS). Table 1 includes the LOS for each approach under two conditions: 1) background traffic only, and 2) total traffic including site-generated traffic from Fall Mountain Farm.

Table 1: Levels of Service

	Intersection	Approach	Background LOS	Total LOS
	1: Doolittle Road/Site Access & Mt Herman Lane	Eastbound	-	A
		Westbound	A	A
		Southbound	A	A
	2: Doolittle Road & Lindbergh Road	Eastbound	A	A
		Westbound	A	A
		Northbound	A	B
		Southbound	A	A

Discussion on Levels of Service

In the background traffic condition, all traffic operations are LOS A, suggesting nominal delays at the Study intersections. In the total traffic condition, levels of service remain similar. The northbound approach at Doolittle & Lindbergh degrades slightly to LOS B, but this is not an operational concern.



Due to the low traffic volumes and satisfactory levels of service at the study intersection, JR does not anticipate any operational issues at nearby intersections such as Lindbergh Road/Mesa Top Drive and Fairchild Avenue/Arnold Avenue.

While a 20-year horizon analysis is typically performed, in this case it would serve limited purpose. The area surrounding Fall Mountain Farm appears to be generally built-out, meaning future growth is expected to be minimal. As a result, a 20-year forecast would be anticipated to show operational results similar to those identified for the 2025 analysis.

Queue Lengths

JR analyzed both of the Study intersections for 95th percentile queue lengths. **Table 2** includes the queue lengths for each approach under two conditions: 1) background traffic only, and 2) total traffic including site-generated traffic from Fall Mountain Farm.

Table 2: 95th Percentile Queue Lengths

	Intersection	Approach	Background Queue (ft)	Total Queue (ft)
	1: Doolittle Road/Site Access & Mt Herman Lane	Eastbound	-	<25
		Westbound	<25	<25
		Southbound	<25	<25
	2: Doolittle Road & Lindbergh Road	Eastbound	<25	<25
		Westbound	<25	<25
		Northbound	<25	<25
		Southbound	<25	<25

Discussion on Queue Lengths

Queue lengths are minimal at both intersections in the background condition. This is a result of low traffic volumes. In the total traffic condition, queue lengths remain nominal. No issues with queuing are identified.

Conclusion

Below is a summary of the conclusions and findings of this TIS.

Levels of Service

Levels of service are LOS B or better at both Study intersections with the addition of site-generated traffic. No operational issues are identified.

Queue Lengths

95th percentile queue lengths are nominal at both Study intersections with the addition of site-generated traffic. No issues related to queuing are identified.

Recommendations

JR recommends that the County accept the traffic operations in the vicinity of Fall Mountain Farm. JR has determined that the site does not adversely impact traffic operations at the nearby intersections.

Appendix A: Traffic Counts

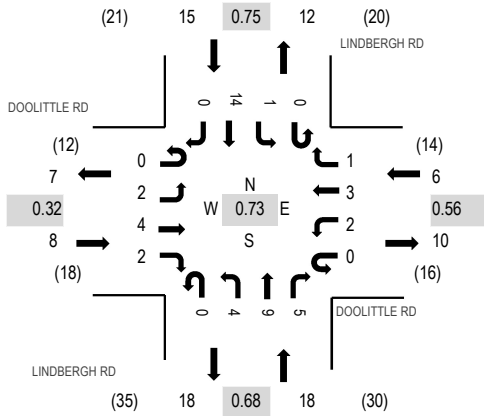
Location: 1 LINDBERGH RD & DOOLITTLE RD Noon

Date: Saturday, September 13, 2025

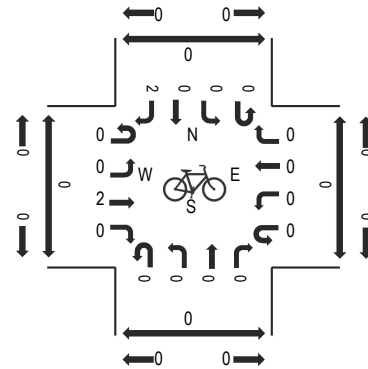
Peak Hour: 11:15 AM - 12:15 PM

Peak 15-Minutes: 11:30 AM - 11:45 AM

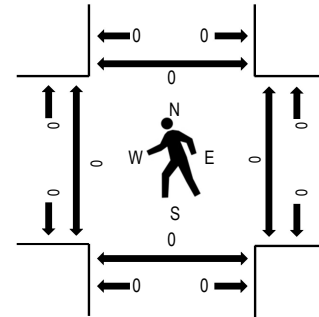
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	DOOLITTLE RD Eastbound				DOOLITTLE RD Westbound				LINDBERGH RD Northbound				LINDBERGH RD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
11:00 AM	0	0	0	1	0	3	0	0	0	0	1	1	0	0	2	0	8	46	0	0	4	0
11:15 AM	0	0	0	1	0	0	1	0	0	2	1	1	0	0	3	0	9	47	0	0	0	0
11:30 AM	0	2	2	1	0	1	1	0	0	0	4	0	0	1	4	0	16	47	0	0	0	0
11:45 AM	0	0	2	0	0	0	1	0	0	1	3	2	0	0	4	0	13	45	0	0	0	0
12:00 PM	0	0	0	0	0	1	0	1	0	1	1	2	0	0	3	0	9	37	0	0	0	0
12:15 PM	0	0	0	0	0	0	3	1	0	1	1	0	0	0	3	0	9		0	0	0	0
12:30 PM	0	0	2	5	0	0	0	0	0	0	5	2	0	0	0	0	14		0	0	0	0
12:45 PM	0	0	0	2	0	0	1	0	0	0	0	1	0	0	1	0	5		0	0	0	0
Count Total	0	2	6	10	0	5	7	2	0	5	16	9	0	1	20	0	83		0	0	4	0
Peak Hour	0	2	4	2	0	2	3	1	0	4	9	5	0	1	14	0	47		0	0	0	0



All Traffic Data Services

2 - DOOLITTLE RD WEST OF LINDBERGH RD

Time	EB	WB	Total
9/13/2025	0	0	0
9/13/2025 12:15:00 AM	0	0	0
9/13/2025 12:30:00 AM	0	0	0
9/13/2025 12:45:00 AM	0	0	0
9/13/2025 1:00:00 AM	0	0	0
9/13/2025 1:15:00 AM	0	0	0
9/13/2025 1:30:00 AM	0	0	0
9/13/2025 1:45:00 AM	0	0	0
9/13/2025 2:00:00 AM	0	0	0
9/13/2025 2:15:00 AM	1	0	1
9/13/2025 2:30:00 AM	0	0	0
9/13/2025 2:45:00 AM	0	0	0
9/13/2025 3:00:00 AM	0	0	0
9/13/2025 3:15:00 AM	0	0	0
9/13/2025 3:30:00 AM	0	1	1
9/13/2025 3:45:00 AM	1	0	1
9/13/2025 4:00:00 AM	0	0	0
9/13/2025 4:15:00 AM	0	0	0
9/13/2025 4:30:00 AM	0	0	0
9/13/2025 4:45:00 AM	0	0	0
9/13/2025 5:00:00 AM	0	0	0
9/13/2025 5:15:00 AM	0	0	0
9/13/2025 5:30:00 AM	0	0	0
9/13/2025 5:45:00 AM	0	0	0
9/13/2025 6:00:00 AM	0	0	0
9/13/2025 6:15:00 AM	0	0	0
9/13/2025 6:30:00 AM	0	1	1
9/13/2025 6:45:00 AM	1	0	1
9/13/2025 7:00:00 AM	0	0	0
9/13/2025 7:15:00 AM	0	0	0
9/13/2025 7:30:00 AM	1	0	1
9/13/2025 7:45:00 AM	2	0	2
9/13/2025 8:00:00 AM	1	2	3
9/13/2025 8:15:00 AM	3	0	3
9/13/2025 8:30:00 AM	3	2	5
9/13/2025 8:45:00 AM	2	0	2
9/13/2025 9:00:00 AM	5	3	8
9/13/2025 9:15:00 AM	1	1	2
9/13/2025 9:30:00 AM	1	0	1
9/13/2025 9:45:00 AM	2	0	2
9/13/2025 10:00:00 AM	2	2	4
9/13/2025 10:15:00 AM	2	1	3
9/13/2025 10:30:00 AM	3	0	3
9/13/2025 10:45:00 AM	1	2	3
9/13/2025 11:00:00 AM	1	0	1
9/13/2025 11:15:00 AM	1	3	4
9/13/2025 11:30:00 AM	5	1	6
9/13/2025 11:45:00 AM	2	2	4
Total	41	21	62
Percentage	66.1%	33.9%	
Peak Hour	8:15 AM	11:00 AM	8:15 AM
Volume	13	8	19
PHF	0.650	0.667	0.594



All Traffic Data Services

2 - DOOLITTLE RD WEST OF LINDBERGH RD

Time	EB	WB	Total
9/13/2025 12:00:00 PM	0	1	1
9/13/2025 12:15:00 PM	0	4	4
9/13/2025 12:30:00 PM	7	0	7
9/13/2025 12:45:00 PM	2	1	3
9/13/2025 1:00:00 PM	1	5	6
9/13/2025 1:15:00 PM	1	1	2
9/13/2025 1:30:00 PM	2	2	4
9/13/2025 1:45:00 PM	1	0	1
9/13/2025 2:00:00 PM	4	2	6
9/13/2025 2:15:00 PM	0	0	0
9/13/2025 2:30:00 PM	2	1	3
9/13/2025 2:45:00 PM	1	4	5
9/13/2025 3:00:00 PM	3	2	5
9/13/2025 3:15:00 PM	1	3	4
9/13/2025 3:30:00 PM	1	2	3
9/13/2025 3:45:00 PM	1	2	3
9/13/2025 4:00:00 PM	1	2	3
9/13/2025 4:15:00 PM	0	5	5
9/13/2025 4:30:00 PM	2	2	4
9/13/2025 4:45:00 PM	2	1	3
9/13/2025 5:00:00 PM	3	1	4
9/13/2025 5:15:00 PM	1	0	1
9/13/2025 5:30:00 PM	2	1	3
9/13/2025 5:45:00 PM	1	0	1
9/13/2025 6:00:00 PM	0	4	4
9/13/2025 6:15:00 PM	3	2	5
9/13/2025 6:30:00 PM	2	4	6
9/13/2025 6:45:00 PM	3	3	6
9/13/2025 7:00:00 PM	2	0	2
9/13/2025 7:15:00 PM	1	1	2
9/13/2025 7:30:00 PM	1	3	4
9/13/2025 7:45:00 PM	0	2	2
9/13/2025 8:00:00 PM	0	2	2
9/13/2025 8:15:00 PM	1	1	2
9/13/2025 8:30:00 PM	5	0	5
9/13/2025 8:45:00 PM	0	1	1
9/13/2025 9:00:00 PM	0	0	0
9/13/2025 9:15:00 PM	3	1	4
9/13/2025 9:30:00 PM	0	0	0
9/13/2025 9:45:00 PM	0	0	0
9/13/2025 10:00:00 PM	0	1	1
9/13/2025 10:15:00 PM	0	1	1
9/13/2025 10:30:00 PM	0	2	2
9/13/2025 10:45:00 PM	0	1	1
9/13/2025 11:00:00 PM	0	0	0
9/13/2025 11:15:00 PM	0	0	0
9/13/2025 11:30:00 PM	0	0	0
9/13/2025 11:45:00 PM	0	0	0
Total	60	71	131
Percentage	45.8%	54.2%	
Peak Hour	12:30 PM	6:00 PM	6:00 PM
Volume	11	13	21
PHF	0.393	0.813	0.875
Grand Total	101	92	193
Percentage	52.3%	47.7%	

Appendix B: Fall Mountain Farm Traffic Data

HOURLY VEHICLE TRAFFIC
106 day-hours represented

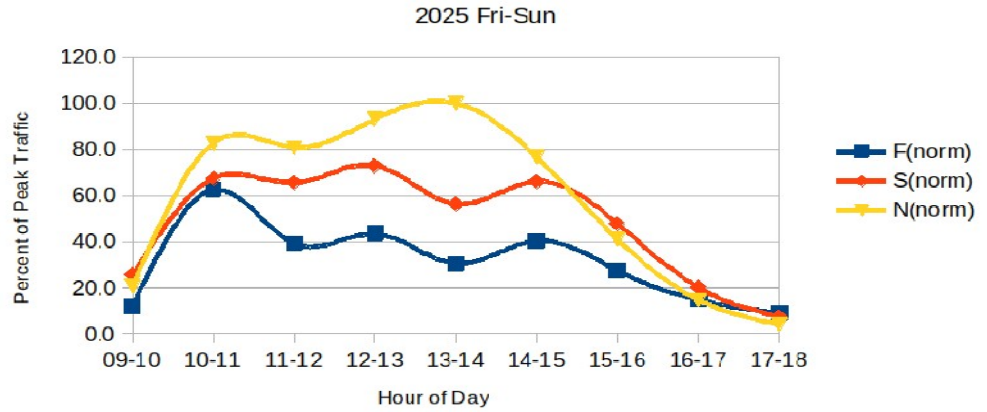
F = Friday S = Saturday N = Sunday

DOW	Date	@ Hour,	#Veh
Sat	2024-09-14	@ 10hr,	3
Sat	2024-09-14	@ 11hr,	6
Sat	2024-09-14	@ 12hr,	3
Sat	2024-09-14	@ 13hr,	9
Sat	2024-09-14	@ 14hr,	3
Sat	2024-09-14	@ 15hr,	16
Sun	2024-09-15	@ 10hr,	4
Sun	2024-09-15	@ 11hr,	7
Sun	2024-09-15	@ 12hr,	7
Sun	2024-09-15	@ 13hr,	1
Sun	2024-09-15	@ 14hr,	4
Fri	2024-09-20	@ 10hr,	4
Fri	2024-09-20	@ 11hr,	5
Fri	2024-09-20	@ 12hr,	4
Fri	2024-09-20	@ 13hr,	1
Fri	2024-09-20	@ 14hr,	4
Fri	2024-09-20	@ 15hr,	1
Sun	2024-09-22	@ 10hr,	2
Sun	2024-09-22	@ 11hr,	1
Sun	2024-09-22	@ 12hr,	2
Sun	2024-09-22	@ 13hr,	6
Sun	2024-09-22	@ 14hr,	2
Sun	2024-09-22	@ 15hr,	6
Fri	2024-09-27	@ 10hr,	6
Fri	2024-09-27	@ 11hr,	4
Fri	2024-09-27	@ 12hr,	2
Fri	2024-09-27	@ 13hr,	2
Fri	2024-09-27	@ 14hr,	6
Fri	2024-09-27	@ 15hr,	2
Sun	2024-09-29	@ 09hr,	1
Sun	2024-09-29	@ 10hr,	19
Sun	2024-09-29	@ 11hr,	15
Sun	2024-09-29	@ 12hr,	12
Sun	2024-09-29	@ 13hr,	16
Sun	2024-09-29	@ 14hr,	14
Sun	2024-09-29	@ 15hr,	1
Fri	2024-10-04	@ 10hr,	13
Fri	2024-10-04	@ 11hr,	6
Fri	2024-10-04	@ 12hr,	3
Fri	2024-10-04	@ 13hr,	11
Fri	2024-10-04	@ 14hr,	10
Fri	2024-10-04	@ 15hr,	7
Sat	2024-10-05	@ 10hr,	36
Sat	2024-10-05	@ 11hr,	24
Sat	2024-10-05	@ 12hr,	23
Sat	2024-10-05	@ 13hr,	22
Sat	2024-10-05	@ 14hr,	25
Sat	2024-10-05	@ 15hr,	13
Sat	2024-10-05	@ 16hr,	3
Sun	2024-10-06	@ 14hr,	72
Sun	2024-10-06	@ 15hr,	72
Fri	2024-10-11	@ 10hr,	50
Fri	2024-10-11	@ 11hr,	34
Fri	2024-10-11	@ 12hr,	19
Fri	2024-10-11	@ 13hr,	12
Fri	2024-10-11	@ 14hr,	16
Fri	2024-10-11	@ 15hr,	7
Fri	2024-10-11	@ 16hr,	4
Sat	2024-10-12	@ 10hr,	70
Sat	2024-10-12	@ 11hr,	44
Sat	2024-10-12	@ 12hr,	33
Sat	2024-10-12	@ 13hr,	35
Sat	2024-10-12	@ 14hr,	36
Sat	2024-10-12	@ 15hr,	29
Sat	2024-10-12	@ 16hr,	8
Sat	2024-10-12	@ 21hr,	1
Sun	2024-10-13	@ 10hr,	70
Sun	2024-10-13	@ 11hr,	51
Sun	2024-10-13	@ 12hr,	32
Sun	2024-10-13	@ 13hr,	48
Sun	2024-10-13	@ 14hr,	37
Sun	2024-10-13	@ 15hr,	4
Sun	2024-10-13	@ 21hr,	5
Fri	2024-10-18	@ 10hr,	37
Fri	2024-10-18	@ 11hr,	24
Fri	2024-10-18	@ 12hr,	24

In this chart, the year is actually **2024**, not 2025 - oops!
F = Friday, S=Saturday, N=Sunday.

It was an **atypical year** in that our usually busiest day, Saturday Oct 19th, was snowed-out, and the following day was nice. So, most of Saturday's guests came on Sunday, adding to Sunday's normal numbers.

FMF Normalized Traffic Flows



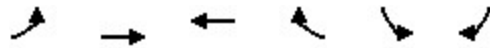
Fri 2024-10-18 @ 13hr,	18
Fri 2024-10-18 @ 14hr,	15
Fri 2024-10-18 @ 15hr,	3
Sun 2024-10-20 @ 10hr,	55
Sun 2024-10-20 @ 11hr,	58
Sun 2024-10-20 @ 12hr,	68
Sun 2024-10-20 @ 13hr,	91
Sun 2024-10-20 @ 14hr,	43
Sun 2024-10-20 @ 15hr,	16
Fri 2024-10-25 @ 10hr,	13
Fri 2024-10-25 @ 11hr,	9
Fri 2024-10-25 @ 12hr,	19
Fri 2024-10-25 @ 13hr,	14
Fri 2024-10-25 @ 14hr,	16
Fri 2024-10-25 @ 15hr,	13
Fri 2024-10-25 @ 16hr,	4
Sat 2024-10-26 @ 10hr,	56
Sat 2024-10-26 @ 11hr,	42
Sat 2024-10-26 @ 12hr,	50
Sat 2024-10-26 @ 13hr,	54
Sat 2024-10-26 @ 14hr,	49
Sat 2024-10-26 @ 15hr,	29
Sat 2024-10-26 @ 16hr,	6
Sun 2024-10-27 @ 10hr,	54
Sun 2024-10-27 @ 11hr,	43
Sun 2024-10-27 @ 12hr,	37
Sun 2024-10-27 @ 13hr,	47
Sun 2024-10-27 @ 14hr,	38
Sun 2024-10-27 @ 15hr,	9
Sun 2024-10-27 @ 16hr,	1

Total vehicles: 2241

Appendix C: Synchro Reports

Lanes, Volumes, Timings
 1: Doolittle Road & Mt Herman Lane

JR Engineering
 09/18/2025



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↔		↘	
Traffic Volume (vph)	0	0	0	7	8	0
Future Volume (vph)	0	0	0	7	8	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.865					
Flt Protected					0.950	
Satd. Flow (prot)	0	1863	1611	0	1770	0
Flt Permitted					0.950	
Satd. Flow (perm)	0	1863	1611	0	1770	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		1211	2614		976	
Travel Time (s)		27.5	59.4		22.2	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	0	0	0	9	10	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	9	0	10	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Stop	Stop		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	13.3%
Analysis Period (min)	15
	ICU Level of Service A

Intersection	
Intersection Delay, s/veh	6.8
Intersection LOS	A

















Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	0	0	0	7	8	0
Future Vol, veh/h	0	0	0	7	8	0
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	9	10	0
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay, s/veh	0	6.4	7.2
HCM LOS	-	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	100%
Vol Thru, %	100%	0%	0%
Vol Right, %	0%	100%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	0	7	8
LT Vol	0	0	8
Through Vol	0	0	0
RT Vol	0	7	0
Lane Flow Rate	0	9	10
Geometry Grp	1	1	1
Degree of Util (X)	0	0.008	0.012
Departure Headway (Hd)	3.958	3.352	4.15
Convergence, Y/N	Yes	Yes	Yes
Cap	0	1073	868
Service Time	1.964	1.357	2.15
HCM Lane V/C Ratio	0	0.008	0.012
HCM Control Delay, s/veh	7	6.4	7.2
HCM Lane LOS	N	A	A
HCM 95th-tile Q	0	0	0

Lanes, Volumes, Timings
2: Lindbergh Road & Doolittle Road

JR Engineering
09/18/2025

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	4	2	2	3	1	4	9	5	1	14	0
Future Volume (vph)	2	4	2	2	3	1	4	9	5	1	14	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.963			0.983			0.965				
Fl _t Protected		0.987			0.982			0.989			0.997	
Satd. Flow (prot)	0	1771	0	0	1798	0	0	1778	0	0	1857	0
Fl _t Permitted		0.987			0.982			0.989			0.997	
Satd. Flow (perm)	0	1771	0	0	1798	0	0	1778	0	0	1857	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2614			865			823			832	
Travel Time (s)		59.4			19.7			18.7			18.9	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	3	5	3	3	4	1	5	12	6	1	18	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	11	0	0	8	0	0	23	0	0	19	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	13.3%						ICU Level of Service A					
Analysis Period (min)	15											

Intersection												
Int Delay, s/veh	7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	4	2	2	3	1	4	9	5	1	14	0
Future Vol, veh/h	2	4	2	2	3	1	4	9	5	1	14	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	5	3	3	4	1	5	12	6	1	18	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	5	0	0	8	0	0	29	22	6	26	22	4
Stage 1	-	-	-	-	-	-	12	12	-	10	10	-
Stage 2	-	-	-	-	-	-	18	10	-	16	13	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1616	-	-	1613	-	-	979	872	1076	985	871	1079
Stage 1	-	-	-	-	-	-	1009	886	-	1011	888	-
Stage 2	-	-	-	-	-	-	1001	887	-	1004	885	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1616	-	-	1613	-	-	956	869	1076	963	868	1079
Mov Cap-2 Maneuver	-	-	-	-	-	-	956	869	-	963	868	-
Stage 1	-	-	-	-	-	-	1007	885	-	1010	886	-
Stage 2	-	-	-	-	-	-	979	886	-	983	883	-

Approach	EB			WB			NB			SB		
HCM Ctrl Dly, s/v	1.81			2.41			8.93			9.21		
HCM LOS							A			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	938	422	-	-	571	-	-	874
HCM Lane V/C Ratio	0.025	0.002	-	-	0.002	-	-	0.022
HCM Ctrl Dly (s/v)	8.9	7.2	0	-	7.2	0	-	9.2
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Lanes, Volumes, Timings
 1: Doolittle Road & Mt Herman Lane

JR Engineering
 09/18/2025



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	91	91	7	8	0
Future Volume (vph)	0	91	91	7	8	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t	0.990					
Fl _t Protected					0.950	
Satd. Flow (prot)	0	1863	1844	0	1770	0
Fl _t Permitted					0.950	
Satd. Flow (perm)	0	1863	1844	0	1770	0
Link Speed (mph)	30		30	30		
Link Distance (ft)	1211		2614	976		
Travel Time (s)	27.5		59.4	22.2		
Peak Hour Factor	0.78	0.82	0.82	0.78	0.78	0.78
Adj. Flow (vph)	0	111	111	9	10	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	111	120	0	10	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)	0		0	12		
Link Offset(ft)	0		0	0		
Crosswalk Width(ft)	16		16	16		
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control	Stop		Stop	Stop		

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	15.2% ICU Level of Service A
Analysis Period (min)	15

Intersection	
Intersection Delay, s/veh	7.7
Intersection LOS	A

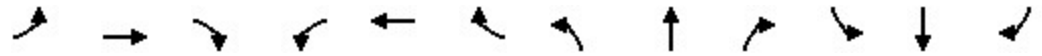
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	0	91	91	7	8	0
Future Vol, veh/h	0	91	91	7	8	0
Peak Hour Factor	0.78	0.82	0.82	0.78	0.78	0.78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	111	111	9	10	0
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay, s/veh	7.7	7.6	7.7
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	100%
Vol Thru, %	100%	93%	0%
Vol Right, %	0%	7%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	91	98	8
LT Vol	0	0	8
Through Vol	91	91	0
RT Vol	0	7	0
Lane Flow Rate	111	120	10
Geometry Grp	1	1	1
Degree of Util (X)	0.125	0.133	0.013
Departure Headway (Hd)	4.041	3.992	4.53
Convergence, Y/N	Yes	Yes	Yes
Cap	886	897	778
Service Time	2.071	2.022	2.627
HCM Lane V/C Ratio	0.125	0.134	0.013
HCM Control Delay, s/veh	7.7	7.6	7.7
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.4	0.5	0

Lanes, Volumes, Timings
2: Lindbergh Road & Doolittle Road

JR Engineering
09/18/2025



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Volume (vph)	32	35	32	2	34	1	34	9	5	1	14	30
Future Volume (vph)	32	35	32	2	34	1	34	9	5	1	14	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.956			0.997			0.987			0.910	
Fl _t Protected		0.984			0.997			0.966			0.999	
Satd. Flow (prot)	0	1752	0	0	1852	0	0	1776	0	0	1693	0
Fl _t Permitted		0.984			0.997			0.966			0.999	
Satd. Flow (perm)	0	1752	0	0	1852	0	0	1776	0	0	1693	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2614			865			823			832	
Travel Time (s)		59.4			19.7			18.7			18.9	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	41	45	41	3	44	1	44	12	6	1	18	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	127	0	0	48	0	0	62	0	0	57	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	28.2%
ICU Level of Service	A
Analysis Period (min)	15

Intersection												
Int Delay, s/veh	5.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	32	35	32	2	34	1	34	9	5	1	14	30
Future Vol, veh/h	32	35	32	2	34	1	34	9	5	1	14	30
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	41	45	41	3	44	1	44	12	6	1	18	38

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	45	0	0	86	0	0	205	197	65	182	217	44
Stage 1	-	-	-	-	-	-	147	147	-	49	49	-
Stage 2	-	-	-	-	-	-	58	50	-	133	168	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1563	-	-	1510	-	-	753	698	999	779	681	1026
Stage 1	-	-	-	-	-	-	855	775	-	964	854	-
Stage 2	-	-	-	-	-	-	954	853	-	871	759	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1563	-	-	1510	-	-	685	678	999	739	661	1026
Mov Cap-2 Maneuver	-	-	-	-	-	-	685	678	-	739	661	-
Stage 1	-	-	-	-	-	-	832	754	-	962	852	-
Stage 2	-	-	-	-	-	-	897	852	-	828	738	-

Approach	EB			WB			NB			SB		
HCM Ctrl Dly, s/v	2.38			0.4			10.58			9.44		
HCM LOS							B			A		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	706	531	-	-	97	-	-	869
HCM Lane V/C Ratio	0.087	0.026	-	-	0.002	-	-	0.066
HCM Ctrl Dly (s/v)	10.6	7.4	0	-	7.4	0	-	9.4
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0	-	-	0.2