



# Traffic Impact Study

## Proposed Warehouse Building

SEC Ferry Road at  
Frieder Lane

Aurora, Illinois

September 30, 2021

Prepared For:

**LPC Acquisition Company , LLC**

A Delaware Limited Liability Company  
One North Wacker Drive  
Suite 1925  
Chicago, IL 60606

*Prepared by:*

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**GHA** GEWALT HAMILTON  
ASSOCIATES, INC.

## Part I. Introduction and Project Context

Gewalt Hamilton Associates, Inc. (GHA) has conducted a Traffic Impact Study (TIS) for the proposed Logistics / Warehouse building to be constructed on the approximately 17.5-acre subject site located at the southeast corner of the Ferry Road intersection with Frieder Lane in Aurora, Illinois. Per the September 24, 2021 Site Plan, prepared by Webster, McGrath & Ahlberg, Ltd, LPC Acquisition Company, LLC, a wholly-owned entity of Logistics Property Company, LLC (hereafter LPC) is proposing to construct a single 270,953 square foot building with access to both Frieder Lane and Meridian Road as well as Sunrise Road.

The following summarizes our findings and provides various recommendations for your consideration. *Appendices* referenced are in the Technical Addendum at the end of this document.

## Part II. Background Information

### *Site Location Map and Roadway Inventory*

*Exhibit 1* provides a site location map. The existing traffic operations in the site area are illustrated on *Exhibit 2. Appendix A* provides a photo inventory of operations along the site frontage. Pertinent comments to the adjacent roadways include:

#### Ferry Road (County Hwy #3)

- Ferry Road is an east-west Major Collector under the jurisdiction of the DuPage County Division of Transportation (DUDOT).
- Along the site frontage, Ferry Road provides two travel lanes in each direction separated by a wide ( $\pm 16$ -foot), barrier curb, landscaped median.
- Ferry Road has a posted speed limit of 45 miles per hour (mph) in the vicinity of the site.
- Separate eastbound and westbound left turn lanes are provided at the unsignalized intersections of Ferry Road with both Frieder Lane and Meridian Road.
- The Annual Average Daily Traffic (AADT), year 2016, on Ferry Road was 10,500 vehicles per day.

#### Frieder Lane

- Frieder Lane is a north south, local route under the jurisdiction of the City of Aurora.
- Frieder Lane provides one travel lane in each direction south of Ferry Road.
- Frieder Lane extends approximately 1,000 feet south of Ferry Road where it terminates as a cul-de-sac.
- There is no posted speed limit on Frieder Lane and no historic AADT traffic volume available.
- Frieder Lane is under Stop sign control at its intersection with Ferry Road.

#### Meridian Road

- Meridian Road is a north south, local route under the jurisdiction of the City of Aurora, that intersects Ferry Road approximately 950 feet east of Frieder Lane.
- Meridian Road provides a single travel lane in each direction within a narrow ( $\pm 20$ -ft) pavement section.
- Meridian Road extends approximately 1,000 feet south of Frieder Lane and terminates at Sunrise Road.
- Meridian Road has a posted speed limit of 25 mph, but no historical AADT volume is available.

Both Frieder Lane and Meridian Road terminate at Ferry Road, but private access driveways, each providing separate left and right turn lanes for southbound traffic under Stop sign control align with the public roads.

#### Sunrise Road

- Sunrise Road is a local, east-west roadway that extends east from Frieder Lane across Meridian Road and continues east until it turns north and ultimately intersects Ferry Road as Meadow Road.
- Sunrise Road provides a single travel lane in each direction within a narrow ( $\pm 20$ -ft) pavement section.
- No speed limit is posted on Sunrise Road along the site frontage and no historical AADT volume is available.

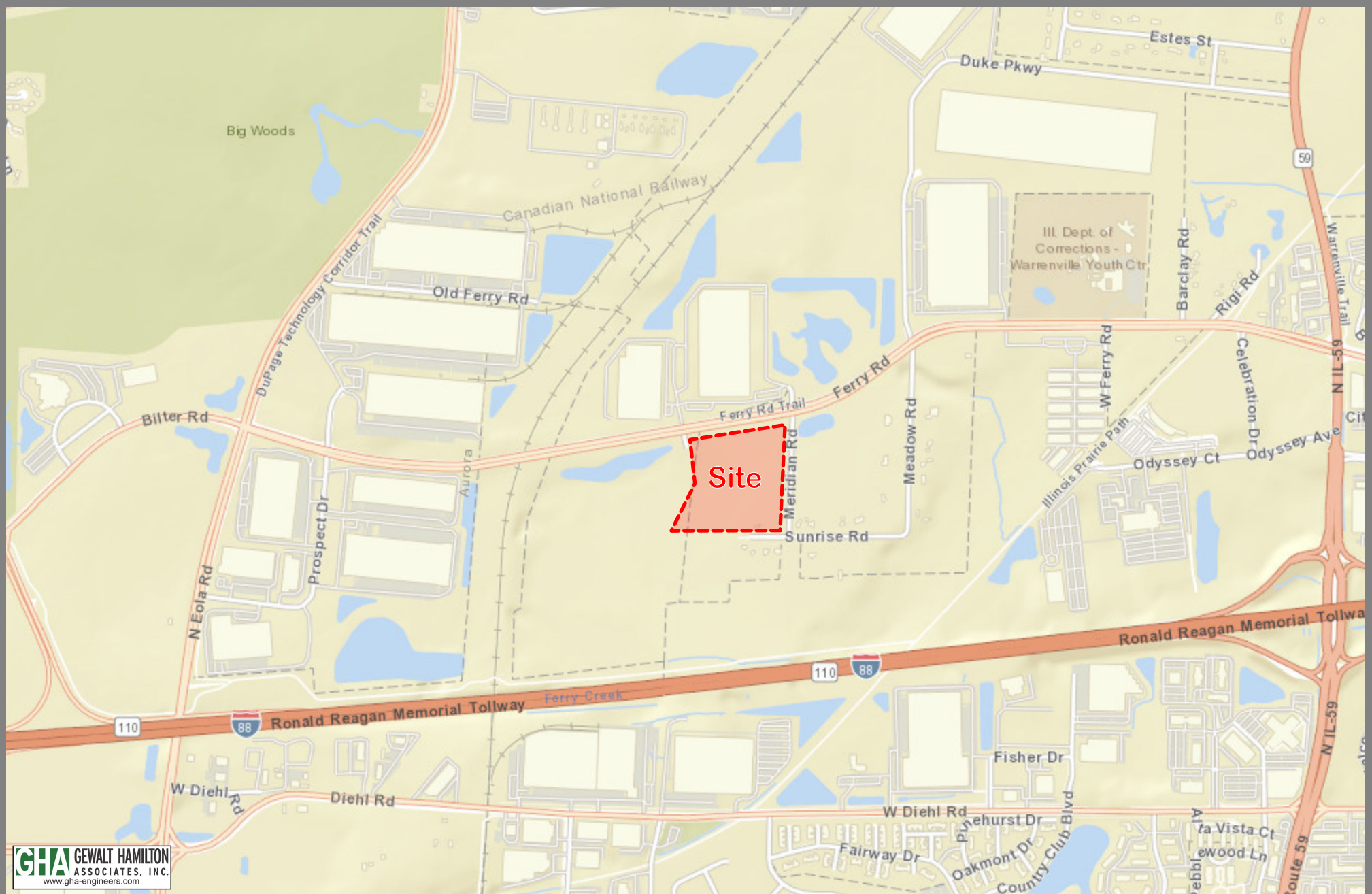
#### Pedestrian Facilities

- A sidewalk is provided along the south side of Ferry Road along the site frontage.
- An approximately 8-ft wide HMA multi-use path is provided along the north side of Ferry Road in the vicinity of the site.
- A sidewalk is provided along a majority of the west side of Frieder Lane, but it does not connect with the Ferry Road pedestrian facilities.

#### Transit

- There are no PACE routes along Ferry Road in the vicinity of the subject site.





1 inch = 1,520 Feet

## Exhibit 1 Site Location Map

Proposed Office/Warehouse  
Aurora, IL





**Legend:**

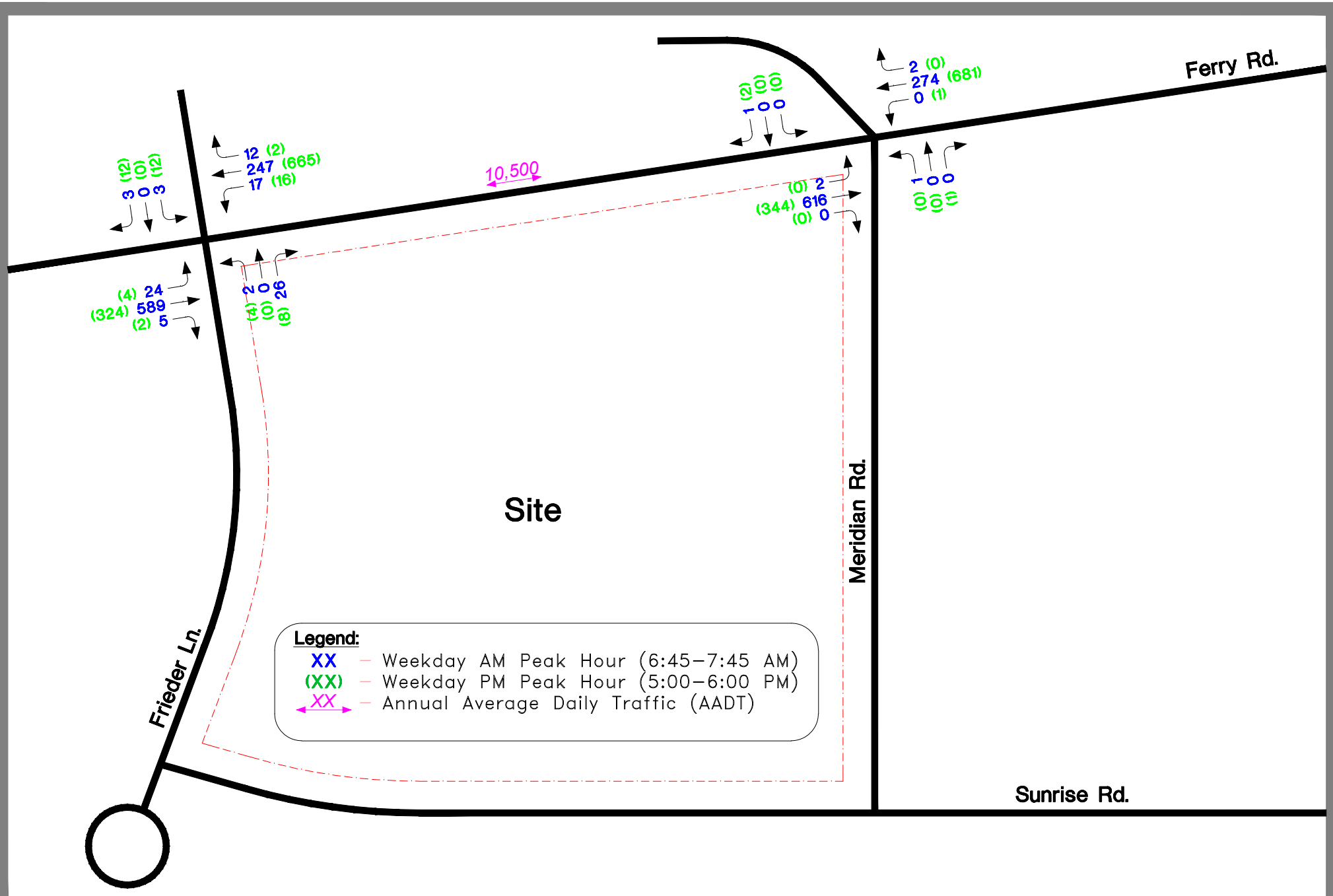
- Existing Travel Lane
- New/Modified Travel Lane
- Existing Stop Sign
- Posted Speed Limit

## ***Existing Traffic***

***Exhibit 3*** summarizes the existing weekday morning and evening peak hour traffic volumes. Peak period traffic turning movement counts were conducted by GHA on Thursday September 9, 2021 from 6:00 AM to 9:00 AM and from 4:00 PM to 7:00 PM at the Ferry Road intersections with Frieder Lane and Meridian Road. The observed weekday morning and evening peak hours generally occurred from 6:45 to 7:45 AM and 5:00 to 6:00 PM respectively. ***Exhibit 3*** also provides the AADT (24-hour volume) along Ferry Road (year 2016) as published by IDOT on their website: [www.gettingaroundillinois.com](http://www.gettingaroundillinois.com).

A summary of the traffic counts can be found in ***Appendix B***. It should be noted that traffic counts conducted during this post-pandemic time period should be compared to historical data (if available) to analyze whether the volumes have increased or decreased. If the volumes have decreased, a COVID factor should be applied to ensure that the maximum impacts are considered. The traffic counts conducted in 2021 were compared to a 2018 count conducted by GHA at the Ferry Road intersection with IL Rte 59 to the east. Westbound morning and evening peak hour observed traffic was increased by 35 and 40 percent respectively and eastbound morning peak hour traffic was increased by 15 percent. Eastbound evening peak hour traffic was higher than previously observed eastbound volumes and not adjusted for COVID-19.

No unusual activities (e.g., roadway construction, or inclement weather) were observed during our counts that would be expected to impact traffic volumes or travel patterns in the vicinity. Summaries of the 2021 existing and 2018 reference traffic counts can be found in ***Appendix B***.





## Crash Analysis

Crash data was obtained from the IDOT Division of Transportation and Safety for the last five calendar years, 2016 through 2020. A summary of the crash data is provided in **Table 1** with the locations mapped on the exhibit contained in **Appendix C**.

**Table 1: Crash Summary (2016-2020) <sup>A</sup>**

Location	No. of Crashes	Severity <sup>B</sup>					Crash Type <sup>D</sup>							Percent During Wet/Icy Conditions
		PD	PI <sup>C</sup>			F	Animal	Turn	Parked	SSD	SOD	FO	Ped Bike	
			A	B	C									
Intersections - Crashes within 200' of intersection														
Ferry Road at Frieder Lane	4	3	-	-	1	-	-	1	1	-	-	2	-	0%
Ferry Road at Meridian Road	4	4	-	-	-	-	1	1	-	1	1	-	-	25%
Total (2016-20)	8	7	0	0	1	0	1	2	1	1	1	2	0	13%

<sup>A</sup> Source: IDOT Division of Transportation Safety for the 2016-2020 calendar years.

<sup>B</sup> PD = property damage only; PI = personal injury; F = fatality.

<sup>C</sup> Type A (incapacitating injury); Type B (non-incapacitating injury); Type C (possible injury).

<sup>D</sup> Animal = Hit Animal; Turn = Turning; Parked = Hit Parked Vehicle; SSD = Sideswipe Same Direction;

SOD = Sideswiped Opposite Direction FO = fixed object; Bike/Ped = Bicycle or pedestrian.

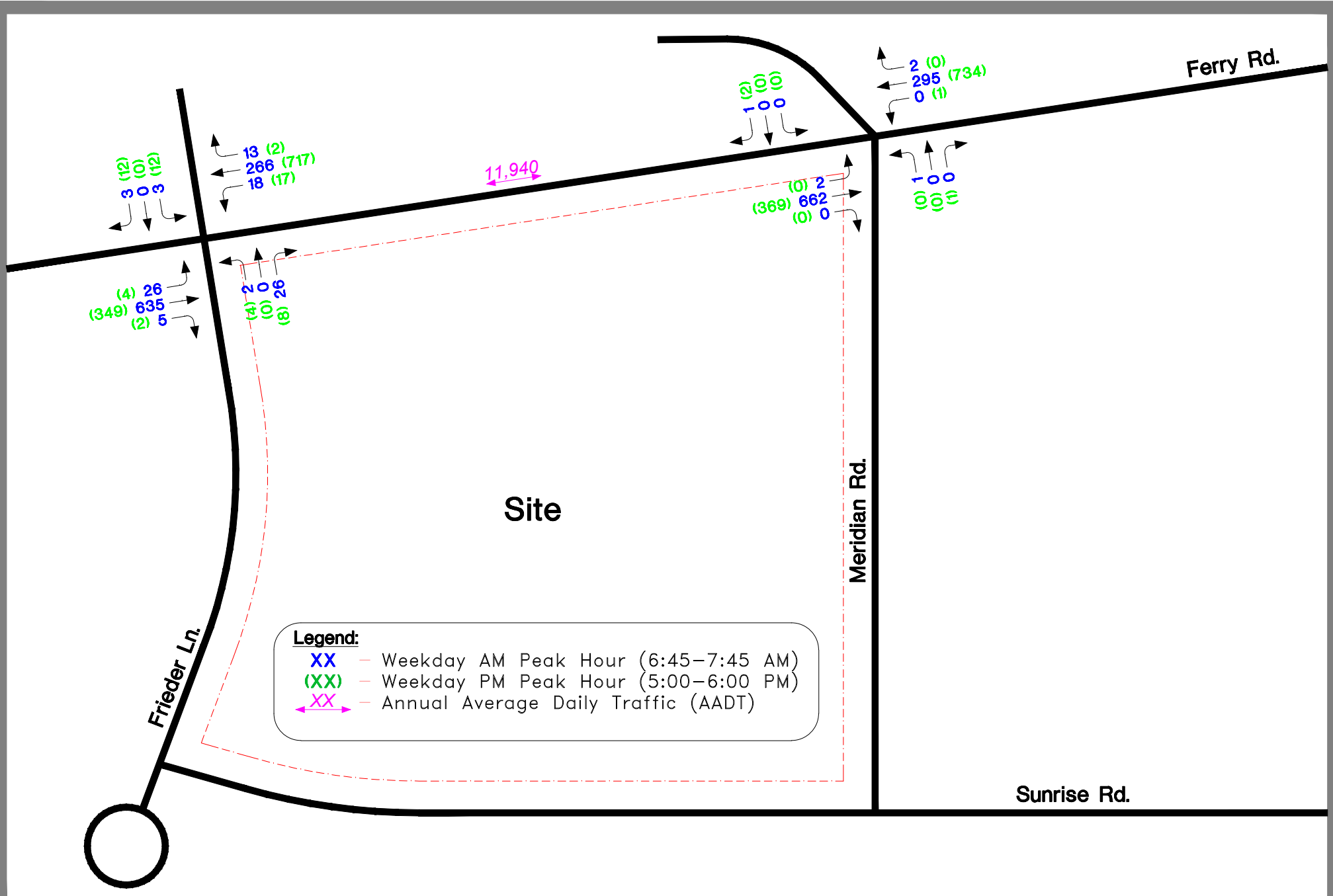
As shown in Table 1, the intersections of Ferry Road with Frieder Lane and Meridian Road each experienced 4 crashes in the 5-year period. There were two turning movement crashes (one at each intersection) and two fixed object crashes (both at Frieder Lane) during the 5-year period. Only 1 of the 8 observed crashes occurred during a wet/icy pavement condition.

Only one crash resulted in a minor injury, and all others were reported as Property Damage Only (PD) crashes.

One reported crash involved an animal (deer). There were no reported crashes that involved pedestrians or bicyclists throughout the study area.

## No-Build Traffic

Traffic growth in the area is a function of expected land development in the region. Future traffic volume conditions were developed for the year 2028, build-out year of the development (year 2023) plus five years. Based on a review of historical traffic volumes and the Chicago Metropolitan Agency for Planning (CMAP) 2050 projections (see **Appendix D**), traffic volumes along Ferry Road are assumed to experience an overall annual compounded growth rate of approximately 0.7 percent per year. Accordingly, the 2028 No-Build peak hour traffic volumes (see **Exhibit 4**) were developed by applying the predicted growth rates to the COVID-19 adjusted existing traffic.



## Part III. Traffic Evaluation

### *Future Site Characteristics*

#### **Proposed Development Plan**

LPC proposes to construct a single 270,953 square foot office / warehouse facility on the approximately 17.5-acre subject site located on the south side of Ferry Road between Frieder Lane and Meridian Road in Aurora, Illinois. Proposed access for the building is provided on Frieder Lane, Sunrise Road, and Meridian Road. Truck access is focused on the west side (Frieder Lane) of the building, with the auto parking lot and building entrance oriented towards the east side (Meridian Road).

The September 11, 2021 Site Plan is provided in *Appendix E*.

#### **Trip Generation**

*Table 2* summarizes the traffic generation calculations for the proposed development. Trip generation rates published by the Institute of Transportation Engineers (ITE) in the 10<sup>th</sup> Edition of the Manual *Trip Generation* were used to determine the anticipated traffic generated by the proposed development. As can be seen in *Table 2*, the proposed warehouse development is expected to generate approximately 60 trips (combined inbound and outbound) during each of the Peak Hours and approximately 475 trips (again inbound and outbound total) in a 24-hour period.

See *Appendix F* for excerpts of the ITE manual.

**Table 2: Trip Generation Calculations**

Land Use	Size	ITE Code	Weekday Peak Hours						Daily			
			Morning 7:00-8:00 AM			Evening 5:00-6:00 PM						
			In	Out	Sum	In	Out	Sum	In	Out	Sum	
Delivery Station												
Warehouse	270.9	KSF	150	45	13	58	16	44	60	237	237	474
New Trips				45	13	58	16	44	60	237	237	474

Sources: ITE Trip Generation Manual, 10th Edition - See Appendix F

### *Trip Distribution*

*Table 3* provides the anticipated distribution of site traffic. This was based on existing site travel patterns, proposed access, and the operational characteristics of the adjacent street system, including the observed distribution of the similar land uses on the north side of Ferry Road.



Table 3: Trip Distribution

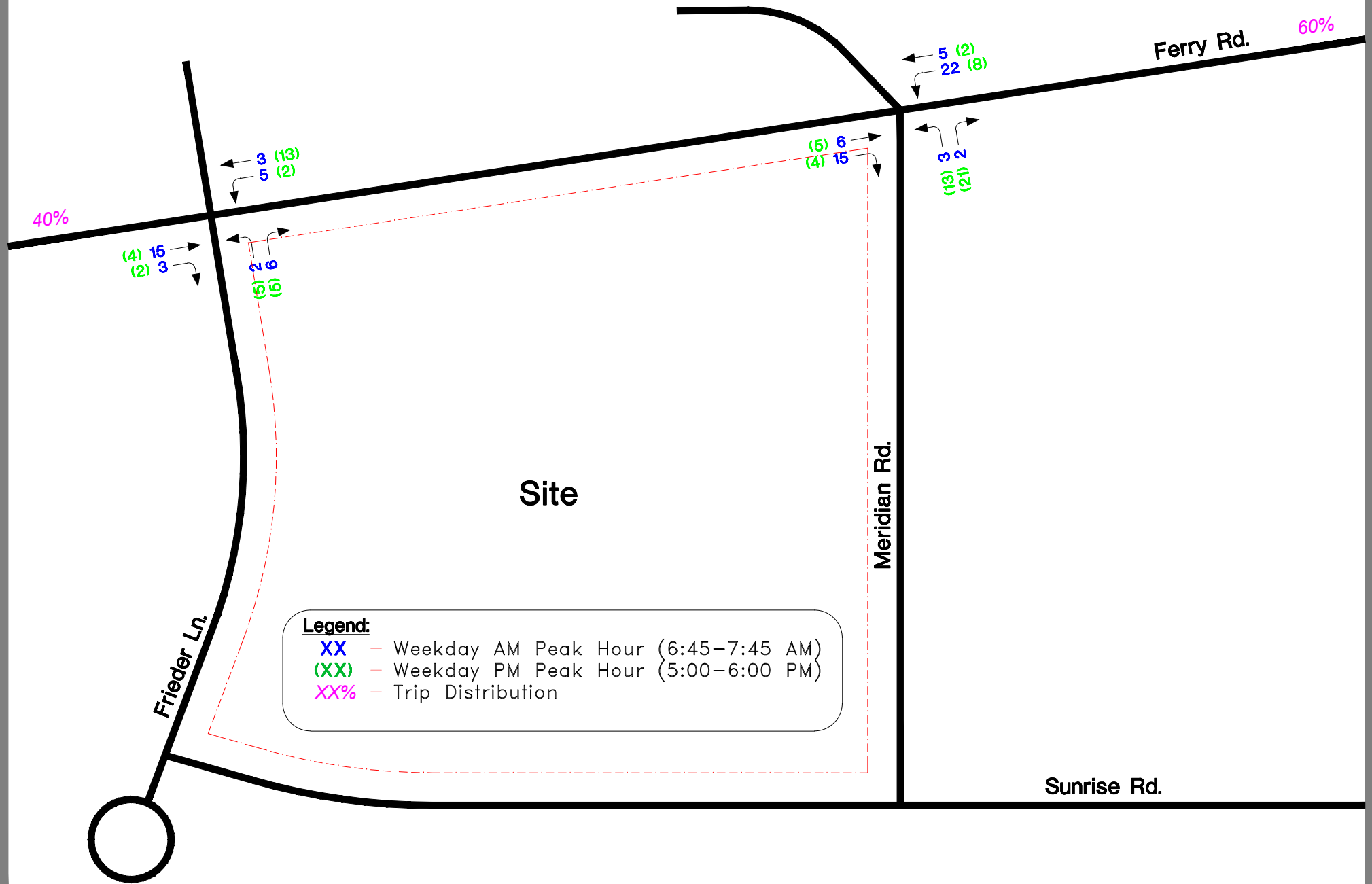
Route & Direction	Percent Route To/From Site
<b>Ferry Road</b>	
West of Site	40%
East of Meridian Lane	60%
<b>Sunrise Road</b>	
East of Meridian Lane	negligible
<i>Totals =</i>	<i>100%</i>

Traffic usage of the area roadway network is also illustrated on *Exhibit 5*.

#### *Site and Total Traffic Assignments*

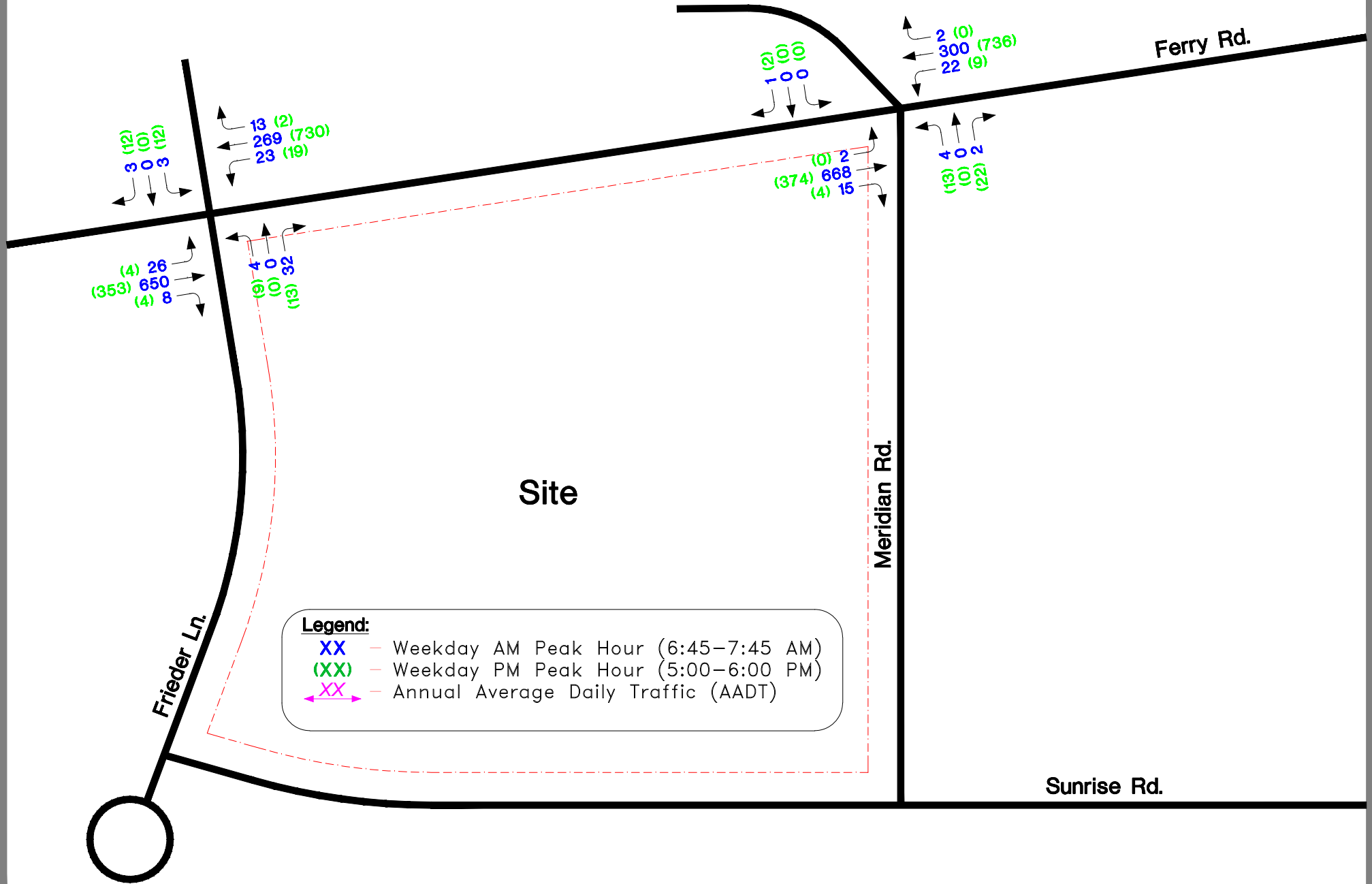
*Exhibit 5* illustrates the site traffic assignment for the development's trips, which is based on the traffic characteristics summarized in *Tables 2 and 3* (traffic generation and trip distribution) and assigned to the area roadways. As previously noted, the proposed development is anticipated to open in late 2022 or early 2023. Therefore, we have considered the total impacts of the complete development for the year 2028, or buildout plus five years.

The site traffic (*Exhibit 5*) and 2028 No-Build traffic (*Exhibit 4*) were combined to produce the 2028 Total traffic, which is illustrated on *Exhibit 6*.



**Legend:**

- XX — Weekday AM Peak Hour (6:45–7:45 AM)
- (XX) — Weekday PM Peak Hour (5:00–6:00 PM)
- XX% — Trip Distribution





## Capacity Analysis

Capacity analyses are a standard measurement that identifies how an intersection operates. They are measured in terms of Level of Service (LOS). The concept of LOS is defined as a qualitative measure describing operational conditions within a traffic stream and their perception by motorists and/or passengers. A level-of-service definition provides an index to quality of traffic flow in terms of such factors as speed, travel time, freedom to maneuver, traffic interruptions, comfort, convenience, and safety.

Six Levels of Service are defined for each type of facility. They are given letter designations from A to F, with LOS A representing the best operating conditions and LOS F the worst. LOS C is often considered acceptable for design purposes and LOS D is usually considered as providing the lower threshold of acceptable operations. Since the level of service is a function of the traffic flows placed upon it, the facility may operate at a wide range of levels of service, depending on the time of day, day of week or period of year. A description of the operating condition under each level of service, based on the analysis parameters as published in the Transportation Research Board's (TRB) Highway Capacity Manual (HCM), Sixth Edition, is provided in **Table 4**.

**Table 4: Level of Service (LOS) Summary**

LOS	Description	Delay (seconds / vehicle)	
		Traffic Signal	Stop Sign
A	Describes conditions with little to no delay to motorists.	<10	< 10
B	Represents a desirable level with relatively low delay to motorists.	>10 and < 20	>10 and < 15
C	Describes conditions with average delays to motorists.	>20 and < 35	>15 and < 25
D	Describes operations where the influence of congestion becomes more noticeable. Delays are still within an acceptable range.	>35 and < 55	>25 and < 35
E	Represents operating conditions with high delay values. This level is often considered within urban settings or for minor streets intersecting major arterial roadways to be the limit of acceptable delay.	>55 and < 80	>35 and < 50
F	Is unacceptable to most drivers with high delay values that often occur when arrival flow rates exceed the capacity of the intersection.	>80	>50

Capacity analyses were performed using the methodologies outlined in the HCM, for the following scenarios:

- *Existing Traffic* – COVID-19 Adjusted Existing traffic (year 2021),
- *No-Build Traffic* – Future (non-site, year 2028) traffic with background growth, and
- *Total Traffic* – Future No-Build traffic volumes (year 2028) plus the addition of the site generated traffic.

**2028 Total traffic conditions assumed the following, with *Exhibit 7*, illustrating future traffic operations:**

- Eastbound right turns into Frieder Lane and Meridian Road will be made from the existing outside through lane along Ferry Road.
- Westbound left turns into Frieder Lane and Meridian Road will be made from the dedicated left turn lanes that exist within the landscaped median on Ferry Road.
- Site access drives will provide one inbound and one outbound lane under Stop Sign control.
- It is our understanding that LPC will be required to reconstruct and widen by 8-feet the west half of Meridian Road along the site frontage.
- Additionally, LPC will be widening and reconstructing the west half of Sunrise Road along the south site boundary.
- Frieder Lane and Meridian Road will continue to provide a single travel lane in each direction at their respective intersection with Ferry Road

**Table 5** summarizes the intersection capacity and queue analysis results.

Table 5: Level-of-Service Summary

Intersection / Timeframe / Scenario	Roadway Conditions	LOS Per Movement By Approach												Intersection / Approach	
		> = Shared Lane - = Non Critical or not Allowed Movement													
		Eastbound LT   TH   RT			Westbound LT   TH   RT			Northbound LT   TH   RT			Southbound LT   TH   RT			Delay (sec / veh)	LOS
1. Ferry Road at Frieder Lane	TWSC NB & SB Stop	Eastbound			Westbound			Northbound			Southbound			NB Approach Delay	
A. Weekday Morning Peak Hour															
Existing Traffic (See Exhibit 3)	• Current	A	-	-	A	-	-	>	B	<	B	-	A	10.9	B
	• 95th Queue Length (ft)	3	-	-	3	-	-	-	5	-	0	-	0	-	-
No-Build Traffic (See Exhibit 4)	• Current	A	-	-	A	-	-	>	B	<	B	-	A	11.2	B
	• 95th Queue Length (ft)	3	-	-	3	-	-	-	5	-	0	-	0	-	-
Total Traffic (See Exhibit 6)	• Current	A	-	-	A	-	-	>	B	<	B	-	A	11.6	B
	• 95th Queue Length (ft)	3	-	-	3	-	-	-	5	-	0	-	0	-	-
B. Weekday Evening Peak Hour															
Existing Traffic (See Exhibit 3)	• Current	A	-	-	A	-	-	>	B	<	C	-	B	10.1	B
	• 95th Queue Length (ft)	0	-	-	0	-	-	-	3	-	3	-	3	-	-
No-Build Traffic (See Exhibit 4)	• Current	A	-	-	A	-	-	>	B	<	C	-	B	10.3	B
	• 95th Queue Length (ft)	0	-	-	0	-	-	-	3	-	3	-	3	-	-
Total Traffic (See Exhibit 6)	• Current	A	-	-	A	-	-	>	B	<	C	-	B	10.7	B
	• 95th Queue Length (ft)	0	-	-	0	-	-	-	3	-	3	-	3	-	-

Table 5: Level-of-Service Summary (cont.)

Intersection / Timeframe / Scenario	Roadway Conditions	LOS Per Movement By Approach												Intersection / Approach	
		> = Shared Lane - = Non Critical or not Allowed Movement													
		Eastbound LT TH RT			Westbound LT TH RT			Northbound LT TH RT			Southbound LT TH RT			Delay (sec / veh)	LOS
2. Ferry Road at Meridian Road	TWSC NB & SB Stop	Eastbound			Westbound			Northbound			Southbound			NB Approach Delay	
A. Weekday Morning Peak Hour															
Existing Traffic (See Exhibit 3)	• Current	A	-	-	A	-	-	>	B	<	B	-	A	14.0	B
	• 95th Queue Length (ft)	0	-	-	0	-	-	-	0	-	0	-	0	-	-
No-Build Traffic (See Exhibit 4)	• Current	A	-	-	A	-	-	>	B	<	B	-	A	14.7	B
	• 95th Queue Length (ft)	0	-	-	0	-	-	-	0	-	0	-	0	-	-
Total Traffic (See Exhibit 6)	• Current	A	-	-	A	-	-	>	B	<	B	-	A	13.6	B
	• 95th Queue Length (ft)	0	-	-	3	-	-	-	0	-	0	-	0	-	-
B. Weekday Evening Peak Hour															
Existing Traffic (See Exhibit 3)	• Current	A	-	-	A	-	-	>	A	<	B	-	A	9.4	A
	• 95th Queue Length (ft)	0	-	-	0	-	-	-	0	-	0	-	0	-	-
No-Build Traffic (See Exhibit 4)	• Current	A	-	-	A	-	-	>	B	<	C	-	B	11.8	B
	• 95th Queue Length (ft)	0	-	-	0	-	-	-	0	-	0	-	0	-	-
Total Traffic (See Exhibit 6)	• Current	A	-	-	A	-	-	>	B	<	C	-	B	10.8	B
	• 95th Queue Length (ft)	0	-	-	0	-	-	-	5	-	0	-	0	-	-

Capacity analysis summary printouts are provided in *Appendix G*.



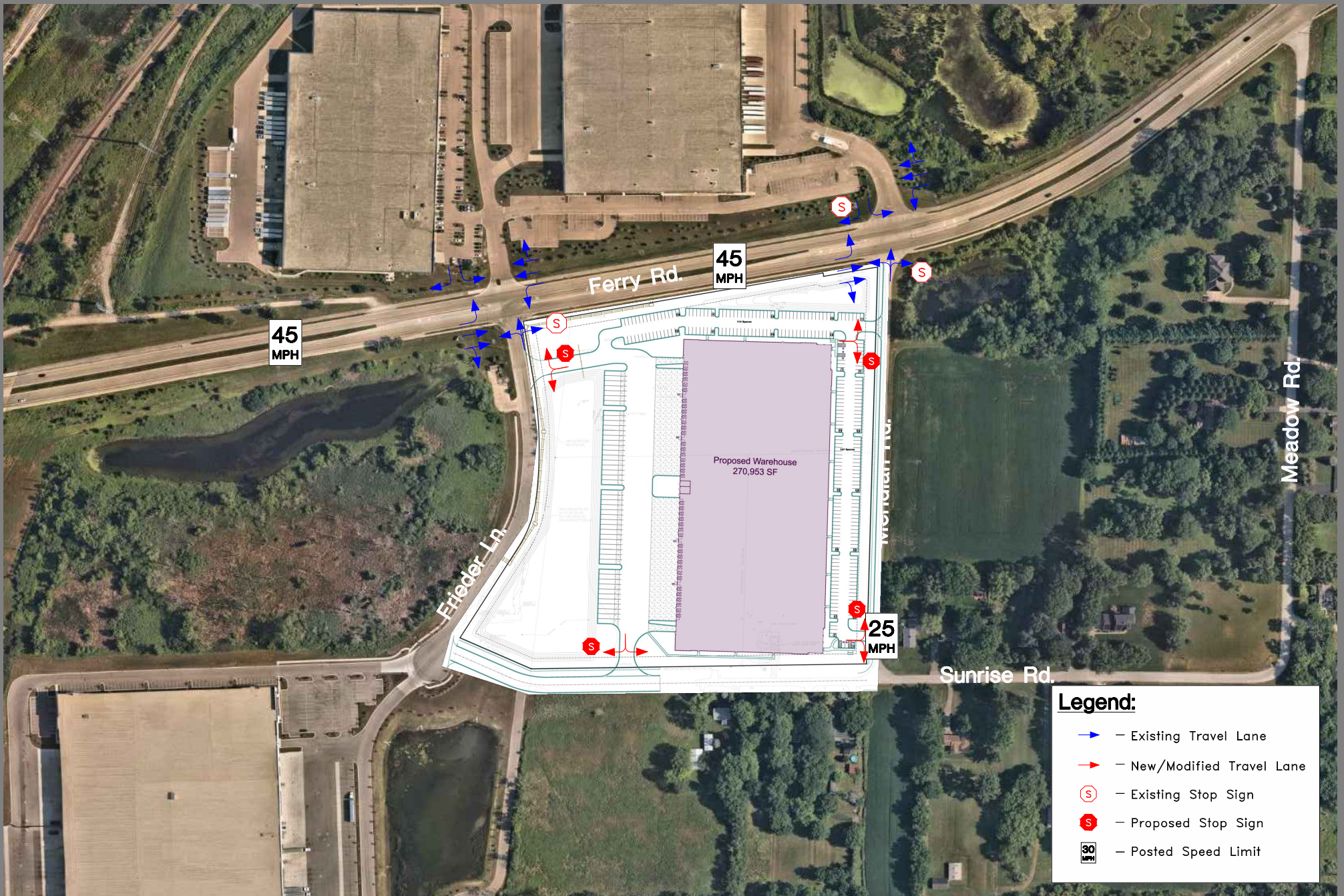
The following summarizes the findings of the Capacity Analyses.

Ferry Road at Frieder Lane

All individual movements and stopped approaches are expected to operate at or above the “design” Level of Service (LOS C) through the year 2028. Calculated queues are minimal, and no additional improvements are needed to accommodate traffic generated by the proposed development.

Ferry Road at Meridian Road

All individual movements and stopped approaches are expected to operate at or above the “design” Level of Service (LOS C) through the year 2028. Calculated queues are minimal, and no additional improvements are needed to accommodate traffic generated by the proposed development.



**Legend:**

- Existing Travel Lane
- New/Modified Travel Lane
- (S) — Existing Stop Sign
- (S) — Proposed Stop Sign
- 30 — Posted Speed Limit

## Part IV. Recommendations and Conclusions

Analyses have been conducted under existing and future conditions to determine the impact from the proposed warehouse development on the study area intersections. The capacity analysis results indicate that the increase in project site-generated traffic has little to no effect upon the Peak Hour operations of the area roadway network.

- Eastbound right turns into Frieder Lane and Meridian Road will be made from the existing outside through lane along Ferry Road.
- Westbound left turns into Frieder Lane and Meridian Road will be made from the dedicated left turn lanes that exist within the landscaped median on Ferry Road.
- Site access drives will provide one inbound and one outbound lane under Stop Sign control.
- It is our understanding that LPC will be required to reconstruct and widen by 8-feet the west half of Meridian Road along the site frontage.
- Additionally, LPC will be widening and reconstructing the west half of Sunrise Road along the south site boundary.
- Frieder Lane and Meridian Road will continue to provide a single travel lane in each direction at their respective intersection with Ferry Road

## Part V. Technical Addendum

The following Appendices were previously referenced. They provide technical support for our observations, findings and recommendations discussed in the text.

### Appendices

- A. Photo Inventory
- B. 2021 Traffic Count Summaries
- C. Crash Summary Map
- D. CMAP Traffic Projections
- E. September 24, 2021 Site Plan by Webster, McGrath & Ahlberg
- F. ITE Trip Generation Manual Excerpts
- G. Capacity Analysis Worksheets

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*LPC Acquisition Company, LLC  
SEC Ferry Road at Frieder Lane  
Aurora, Illinois*

## TECHNICAL ADDENDUM



## APPENDICES

- A. Photo Inventory
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- F. ITE Trip Generation Manual Excerpts
- G. Capacity Analysis Worksheets

## **APPENDIX A**

### *Photo Inventory*



Looking south across Ferry Road at Site



Looking north along Frieders Ln. approaching Ferry Road



Looking west along Ferry Road from Frieders Lane.



Looking east along Ferry Road from Frieders Lane.





Looking north along Meridian Road approaching Ferry Road



Looking south across Ferry Road approaching Meridian Road.



Looking west along Ferry Road across Meridian Road



Looking east along Ferry Road across Meridian Road.

## **APPENDIX B**

### *2021 & Historic Traffic Count Data*

Turning Movement Data

Start Time	Frieder Southbound					Ferry Westbound					Frieder Northbound					Ferry Eastbound					App. Total	Peds	App. Total	Int. Total		
	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds	U-Turn	Left	Thru	Right	Peds						
6:00 AM	0	4	0	1	0	5	0	6	24	4	0	34	0	1	0	3	0	4	0	5	43	0	0	48	91	
6:15 AM	0	1	0	0	0	1	0	4	30	5	0	39	0	0	0	6	0	6	0	1	65	2	0	68	114	
6:30 AM	0	0	0	1	0	1	0	2	40	3	0	45	0	0	0	5	0	5	0	2	96	0	0	98	149	
6:45 AM	0	1	0	1	0	2	0	5	43	5	0	53	0	0	0	5	0	5	0	7	121	1	0	129	189	
Hourly Total	0	6	0	3	0	9	0	17	137	17	0	171	0	1	0	19	0	20	0	15	325	3	0	343	543	
7:00 AM	0	0	0	1	0	1	0	5	47	3	0	55	0	0	0	9	0	9	0	7	123	2	0	132	197	
7:15 AM	0	1	0	1	0	2	0	5	38	1	0	44	0	1	0	6	0	7	0	4	126	0	0	130	183	
7:30 AM	0	1	0	0	0	1	0	2	46	3	0	51	0	1	0	6	0	7	1	6	138	2	0	147	206	
7:45 AM	0	3	0	1	0	4	0	4	45	5	0	54	0	0	0	3	0	3	2	3	116	4	0	125	186	
Hourly Total	0	5	0	3	0	8	0	16	176	12	0	204	0	2	0	24	0	26	3	20	503	8	0	534	772	
8:00 AM	0	3	0	2	0	5	0	4	38	6	0	48	0	1	0	5	0	6	0	4	89	2	0	95	154	
8:15 AM	0	1	0	1	0	2	0	4	55	6	0	65	0	1	0	3	0	4	0	4	104	1	0	109	180	
8:30 AM	0	1	0	1	0	2	0	6	33	3	0	42	0	2	0	3	0	5	0	2	96	2	0	100	149	
8:45 AM	0	2	0	0	0	2	0	4	36	1	0	41	0	2	0	2	0	4	0	1	84	6	0	91	138	
Hourly Total	0	7	0	4	0	11	0	18	162	16	0	196	0	6	0	13	0	19	0	11	373	11	0	395	621	
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4:00 PM	0	3	0	5	0	8	0	1	128	2	0	131	0	3	0	6	0	9	0	0	71	0	0	71	219	
4:15 PM	0	6	0	4	0	10	0	3	95	2	0	100	0	2	0	5	0	7	0	1	60	1	0	62	179	
4:30 PM	0	4	0	2	0	6	0	3	121	0	0	124	0	1	0	1	0	2	0	2	80	0	0	82	214	
4:45 PM	0	5	0	4	0	9	0	4	110	1	0	115	0	1	0	2	0	3	0	1	62	2	0	65	192	
Hourly Total	0	18	0	15	0	33	0	11	454	5	0	470	0	7	0	14	0	21	0	4	273	3	0	280	804	
5:00 PM	0	3	0	5	0	8	0	6	127	1	0	134	0	0	0	3	0	3	0	2	80	2	0	84	229	
5:15 PM	0	3	0	2	0	5	0	3	128	0	0	131	0	1	0	0	0	1	0	2	75	0	0	77	214	
5:30 PM	0	6	1	5	0	12	0	6	138	1	0	145	0	2	0	2	0	4	0	0	81	0	0	81	242	
5:45 PM	0	0	0	0	0	0	0	1	126	0	0	127	0	1	0	3	0	4	0	0	78	0	0	78	209	
Hourly Total	0	12	1	12	0	25	0	16	519	2	0	537	0	4	0	8	0	12	0	4	314	2	0	320	894	
6:00 PM	0	1	0	2	0	3	0	3	113	2	0	118	0	5	0	5	0	10	0	1	54	0	0	55	186	
6:15 PM	0	4	0	2	0	6	0	3	94	0	0	97	0	0	0	5	0	5	0	2	75	1	0	78	186	
6:30 PM	0	3	0	0	0	3	0	2	57	0	0	59	0	6	0	2	0	8	0	0	47	2	0	49	119	
6:45 PM	0	0	0	1	1	1	0	3	50	0	0	53	0	0	0	4	0	4	0	1	51	2	0	54	112	
Hourly Total	0	8	0	5	1	13	0	11	314	2	0	327	0	11	0	16	0	27	0	4	227	5	0	236	603	
Grand Total	0	56	1	42	1	99	0	89	1762	54	0	1905	0	31	0	94	0	125	3	58	2015	32	0	2108	4237	
Approach %	0.0	56.6	1.0	42.4	-	-	-	0.0	4.7	92.5	2.8	-	-	0.0	24.8	0.0	75.2	-	-	0.1	2.8	95.6	1.5	-	-	-
Total %	0.0	1.3	0.0	1.0	-	2.3	0.0	2.1	41.6	1.3	-	45.0	0.0	0.7	0.0	2.2	-	3.0	0.1	1.4	47.6	0.8	-	49.8	-	
Lights	0	39	0	30	-	69	0	21	1672	42	-	1735	0	22	0	19	-	41	1	48	1944	22	-	2015	3860	
% Lights	-	69.6	0.0	71.4	-	69.7	-	23.6	94.9	77.8	-	91.1	-	71.0	-	20.2	-	32.8	33.3	82.8	96.5	68.8	-	95.6	91.1	
Medians	0	3	0	3	-	6	0	0	35	1	-	36	0	0	0	1	-	1	2	2	41	0	-	45	88	
% Medians	-	5.4	0.0	7.1	-	6.1	-	0.0	2.0	1.9	-	1.9	-	0.0	-	1.1	-	0.8	66.7	3.4	2.0	0.0	-	2.1	2.1	

[illegible]

### Turning Movement Data

Start Time	Meridian Southbound					Ferry Westbound					Meridian Northbound					Ferry Eastbound					Int. Total				
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total							
6:00 AM	0	0	0	0	0	0	0	0	34	1	0	35	0	0	0	0	0	0	0	50	0	0	50	85	
6:15 AM	0	0	0	0	0	0	0	0	39	0	0	39	0	0	0	1	0	1	0	0	72	0	0	72	112
6:30 AM	0	0	0	1	0	1	0	0	43	2	0	45	0	1	0	0	1	1	0	1	99	0	0	100	147
6:45 AM	0	0	0	0	0	0	0	0	52	1	0	53	0	0	0	0	0	0	0	2	126	0	0	128	181
Hourly Total	0	0	0	1	0	1	0	0	168	4	0	172	0	1	0	1	1	2	0	3	347	0	0	350	525
7:00 AM	0	0	0	1	0	1	0	0	53	0	0	53	0	0	0	0	1	0	0	0	131	0	0	131	185
7:15 AM	0	0	0	0	0	0	0	0	43	0	0	43	0	0	0	0	0	0	0	0	132	0	0	132	175
7:30 AM	0	0	0	0	0	0	0	0	51	1	0	52	0	1	0	0	0	1	0	0	144	0	0	144	197
7:45 AM	0	0	0	0	0	0	0	0	53	0	0	53	0	0	0	0	0	0	0	0	122	0	0	122	175
Hourly Total	0	0	0	1	0	1	0	0	200	1	0	201	0	1	0	0	1	1	0	0	529	0	0	529	732
8:00 AM	0	0	0	0	0	0	0	0	50	1	0	51	0	0	0	0	0	0	0	0	98	0	0	98	149
8:15 AM	0	1	0	0	0	1	0	0	65	1	0	66	0	0	0	1	0	1	0	0	109	0	0	109	177
8:30 AM	0	0	0	0	0	0	0	1	43	1	0	45	0	0	0	0	0	0	0	0	98	0	0	98	143
8:45 AM	0	0	0	0	0	0	1	0	40	1	0	42	0	0	0	0	0	0	0	0	85	0	0	85	127
Hourly Total	0	1	0	0	0	1	1	1	198	4	0	204	0	0	0	1	0	1	0	0	390	0	0	390	596
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	1	0	0	0	1	0	0	131	0	0	131	0	0	0	0	0	0	0	0	78	1	0	79	211
4:15 PM	0	0	0	0	0	0	0	3	102	0	0	105	0	0	0	0	0	0	0	0	74	0	0	74	179
4:30 PM	0	0	0	0	0	0	1	0	132	0	0	133	0	0	0	1	0	1	0	0	84	2	0	86	220
4:45 PM	0	0	0	0	0	0	0	0	107	0	0	107	0	0	0	1	0	1	0	0	67	0	0	67	175
Hourly Total	0	1	0	0	0	1	1	3	472	0	0	476	0	0	0	2	0	2	0	0	303	3	0	306	785
5:00 PM	0	0	0	0	0	0	1	0	146	0	0	147	0	0	0	0	0	0	0	0	89	0	0	89	236
5:15 PM	0	0	0	0	0	0	0	0	132	0	0	132	0	0	0	0	0	0	0	0	76	0	0	76	208
5:30 PM	0	0	0	2	0	2	0	0	148	0	0	148	0	0	0	0	1	0	0	0	92	0	0	92	242
5:45 PM	0	0	0	0	0	0	0	1	135	0	0	136	0	0	0	1	0	1	0	0	79	0	0	79	216
Hourly Total	0	0	0	2	0	2	1	1	561	0	0	563	0	0	0	1	1	1	0	0	336	0	0	336	902
6:00 PM	0	0	0	0	0	0	1	0	116	0	0	117	0	0	0	1	0	1	0	0	61	0	0	61	179
6:15 PM	0	0	0	0	0	0	0	0	98	0	0	98	0	0	0	0	0	0	0	0	84	0	0	84	182
6:30 PM	0	0	0	0	0	0	0	0	59	0	0	59	0	0	0	1	0	1	0	0	52	0	0	52	112
6:45 PM	0	0	0	0	0	0	0	1	60	0	0	61	0	0	0	1	0	1	0	0	53	0	1	53	115
Hourly Total	0	0	0	0	0	0	1	1	333	0	0	335	0	0	0	3	0	3	0	0	250	0	1	250	588
Grand Total	0	2	0	4	0	6	4	6	1932	9	0	1951	0	2	0	8	3	10	0	3	2155	3	1	2161	4128
Approach %	0.0	33.3	0.0	66.7	-	-	0.2	0.3	99.0	0.5	-	-	0.0	20.0	0.0	80.0	-	-	0.0	0.1	99.7	0.1	-	-	-
Total %	0.0	0.0	0.0	0.1	-	0.1	0.1	0.1	46.8	0.2	-	47.3	0.0	0.0	0.0	0.2	-	0.2	0.0	0.1	52.2	0.1	-	52.3	-
Lights	0	2	0	4	-	6	4	5	1763	7	-	1779	0	2	0	8	-	10	0	2	1995	3	-	2000	3795
% Lights	-	100.0	-	100.0	-	100.0	100.0	83.3	91.3	77.8	-	91.2	-	100.0	-	100.0	-	100.0	-	66.7	92.6	100.0	-	92.5	91.9
Mediums	0	0	0	0	-	0	0	1	34	0	-	35	0	0	0	0	-	0	0	0	41	0	-	41	76
% Mediums	-	0.0	-	0.0	-	0.0	0.0	16.7	1.8	0.0	-	1.8	-	0.0	-	0.0	-	0.0	-	0.0	1.9	0.0	-	1.9	1.8

[illegible]

Turning Movement Data

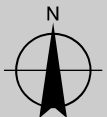
Start Time	IL 59 Southbound						Ferry Rd Westbound						IL 59 Northbound						Ferry Rd Eastbound						
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	Int. Total
6:00 AM	0	30	156	11	0	197	0	5	11	21	0	37	2	29	216	23	0	270	0	17	49	21	0	87	591
6:15 AM	0	56	234	8	0	298	0	3	16	28	0	47	0	34	272	29	0	335	0	22	68	14	0	104	784
6:30 AM	0	61	277	24	0	362	1	7	30	67	0	105	2	50	290	43	0	385	0	34	98	21	0	153	1005
6:45 AM	0	77	296	26	1	399	0	9	31	54	1	94	1	45	275	55	0	376	0	24	119	20	0	163	1032
Hourly Total	0	224	963	69	1	1256	1	24	88	170	1	283	5	158	1053	150	0	1366	0	97	334	76	0	507	3412
7:00 AM	0	59	225	2	0	286	0	17	28	72	0	117	4	26	255	34	0	319	0	26	133	31	0	190	912
7:15 AM	0	93	303	16	0	412	0	13	21	75	0	109	0	53	286	56	0	395	0	23	136	25	0	184	1100
7:30 AM	0	93	349	11	1	453	0	25	51	77	2	153	1	27	283	52	0	363	0	43	168	34	0	245	1214
7:45 AM	0	113	314	13	0	440	0	13	45	58	0	116	1	50	227	51	0	329	0	30	180	26	0	236	1121
Hourly Total	0	358	1191	42	1	1591	0	68	145	282	2	495	6	156	1051	193	0	1406	0	122	617	116	0	855	4347
8:00 AM	2	103	286	17	0	408	0	9	30	54	0	93	0	31	280	74	0	385	0	18	120	20	0	158	1044
8:15 AM	0	107	262	14	0	383	0	26	29	63	0	118	2	25	229	60	0	316	0	25	151	24	0	200	1017
8:30 AM	0	106	262	15	0	383	1	12	24	46	0	83	4	28	264	45	0	341	0	16	103	20	0	139	946
8:45 AM	0	61	226	14	0	301	0	22	31	53	0	106	3	29	248	42	0	322	0	12	103	19	0	134	863
Hourly Total	2	377	1036	60	0	1475	1	69	114	216	0	400	9	113	1021	221	0	1364	0	71	477	83	0	631	3870
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	0	41	289	19	0	349	0	51	77	63	0	191	2	45	234	20	0	301	0	15	39	24	0	78	919
3:15 PM	0	43	267	17	0	327	0	59	93	82	0	234	1	32	244	19	0	296	0	16	36	30	0	82	939
3:30 PM	0	67	379	16	0	462	0	59	67	91	0	217	1	27	281	18	0	327	0	28	44	69	0	141	1147
3:45 PM	0	69	340	23	0	432	0	41	114	69	0	224	6	39	244	14	0	303	0	14	43	24	0	81	1040
Hourly Total	0	220	1275	75	0	1570	0	210	351	305	0	866	10	143	1003	71	0	1227	0	73	162	147	0	382	4045
4:00 PM	0	47	292	14	0	353	0	72	133	80	0	285	1	40	266	27	0	334	0	17	46	38	0	101	1073
4:15 PM	0	59	330	15	0	404	0	84	136	83	0	303	4	38	267	14	0	323	0	15	51	13	0	79	1109
4:30 PM	0	58	312	17	0	387	0	98	155	99	1	352	3	49	291	17	0	360	0	22	45	34	0	101	1200
4:45 PM	0	65	328	24	0	417	0	79	143	84	0	306	4	30	335	20	0	389	0	26	44	31	0	101	1213
Hourly Total	0	229	1262	70	0	1561	0	333	567	346	1	1246	12	157	1159	78	0	1406	0	80	186	116	0	382	4595
5:00 PM	0	52	307	20	0	379	1	102	186	91	0	380	14	38	253	13	2	318	0	21	60	39	1	120	1197
5:15 PM	0	82	369	23	0	474	1	64	154	90	0	309	5	69	366	16	0	456	0	19	49	33	0	101	1340
5:30 PM	0	70	328	23	0	421	1	69	146	81	0	297	5	61	268	14	1	348	0	27	63	24	0	114	1180
5:45 PM	0	80	347	18	0	445	0	54	120	73	0	247	9	81	282	14	0	386	0	19	32	26	0	77	1155
Hourly Total	0	284	1351	84	0	1719	3	289	606	335	0	1233	33	249	1169	57	3	1508	0	86	204	122	1	412	4872
Grand Total	2	1692	7078	400	2	9172	5	993	1871	1654	4	4523	75	976	6456	770	3	8277	0	529	1980	660	1	3169	25141
Approach %	0.0	18.4	77.2	4.4	-	-	0.1	22.0	41.4	36.6	-	-	0.9	11.8	78.0	9.3	-	-	0.0	16.7	62.5	20.8	-	-	-
Total %	0.0	6.7	28.2	1.6	-	36.5	0.0	3.9	7.4	6.6	-	18.0	0.3	3.9	25.7	3.1	-	32.9	0.0	2.1	7.9	2.6	-	12.6	-
Lights	0	1643	6489	381	-	8513	5	953	1838	1592	-	4388	75	873	5952	727	-	7627	0	499	1963	564	-	3026	23554
% Lights	0.0	97.1	91.7	95.3	-	92.8	100.0	96.0	98.2	96.3	-	97.0	100.0	89.4	92.2	94.4	-	92.1	-	94.3	99.1	85.5	-	95.5	93.7
Mediums	0	28	225	10	-	263	0	12	25	41	-	78	0	21	169	21	-	211	0	16	12	27	-	55	607
% Mediums	0.0	1.7	3.2	2.5	-	2.9	0.0	1.2	1.3	2.5	-	1.7	0.0	2.2	2.6	2.7	-	2.5	-	3.0	0.6	4.1	-	1.7	2.4
Articulated Trucks	2	21	364	9	-	396	0	28	8	21	-	57	0	82	335	22	-	439	0	14	5	69	-	88	980



## **APPENDIX C**

*Crash Summary Map*





1 inch = 810  
Feet

Map Center: 88.22111°W 41.80656°N

## Appendix C - IDOT Crash Data (2016-2020)

Proposed Warehouse Development  
Naperville, IL



## **APPENDIX D**

### ***CMAP Traffic Projections***



Chicago Metropolitan  
Agency for Planning

433 West Van Buren Street  
Suite 450  
Chicago, IL 60607

312-454-0400  
cmap.illinois.gov

September 7, 2021

Daniel P. Brinkman, P.E., PTOE  
Assistant Director of Transportation Services  
Gewalt Hamilton Associates  
625 Forest Edge Drive  
Vernon Hills, IL 60061

**Subject: *Ferry Road @ Frieder Lane***  
IDOT, DuPage DOT

Dear Mr. Brinkman:

In response to a request made on your behalf and dated September 7, 2021, we have developed year 2050 average daily traffic (ADT) projections for the subject location.

ROAD SEGMENT	2016 ADT	Year 2050 ADT
Ferry Road east of Eola Road	10,500	15,100

Traffic projections are developed using existing ADT data provided in the request letter and the results from the June 2021 CMAP Travel Demand Analysis. The regional travel model uses CMAP 2050 socioeconomic projections and assumes the implementation of the ON TO 2050 Comprehensive Regional Plan for the Northeastern Illinois area. The provision of this data in support of your request does not constitute a CMAP endorsement of the proposed development or any subsequent developments.

If you have any questions, please call me at (312) 386-8806.

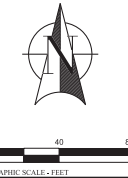
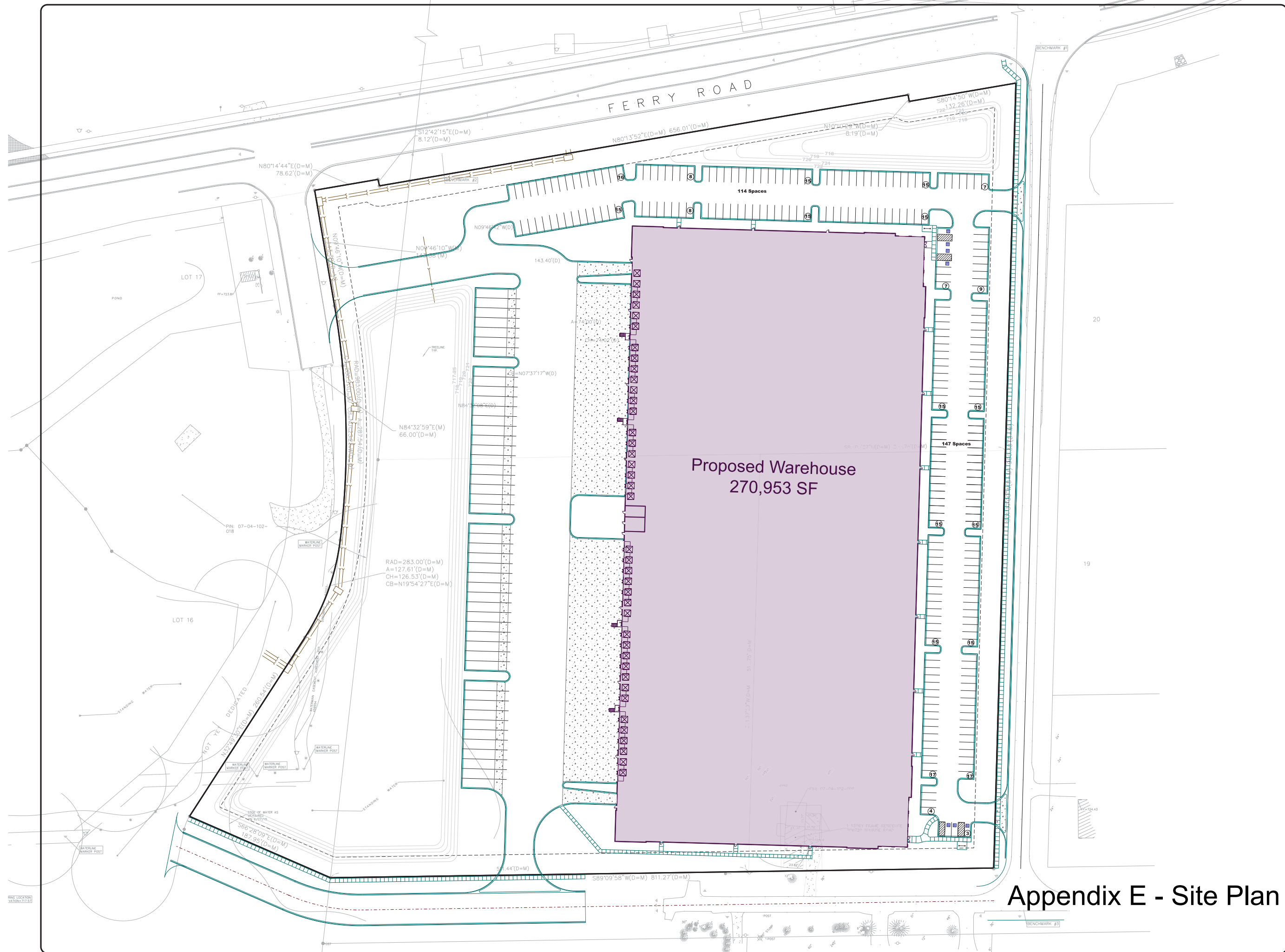
Sincerely,

Jose Rodriguez, PTP, AICP  
Senior Planner, Research & Analysis

cc: Rios (IDOT)  
\\2021\_CY\_TrafficForecast\\Naperville\\du-42-21\\du-42-21.docx

**APPENDIX E**  
*September 24, 2021 Site Plan*





**NEW WAREHOUSE  
AT FERRY AND MERIDIAN**

Prepared For:  
**Logistics Property Co.**  
One North Wacker, Suite 1925  
Chicago, IL 60606  
Phone: 708.557.5555

WEBSTER, MCGRATH & AHLBERG, LTD.



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PH (630) 668-7603 WWW.WWALDO.COM  
DESIGN FIRM LICENSE NO. 184003101

REVISION DESCRIPTION	DATE	BY	CHKD
Section: Township of Langley County: NW's 04-36-09			
JOB #	4454	SURV.	Compass
DRAWN:	DHB	REVIEW:	SHR
SCALE:	1" = 40'	DATE:	X06-06-00
SHEET NAME			
<div style="text-align: center;"> <h1>PAVING AND LAYOUT PLAN</h1> <h2>C-2</h2> </div>			

## **APPENDIX F**

*ITE Trip Generation Manual Excerpts*

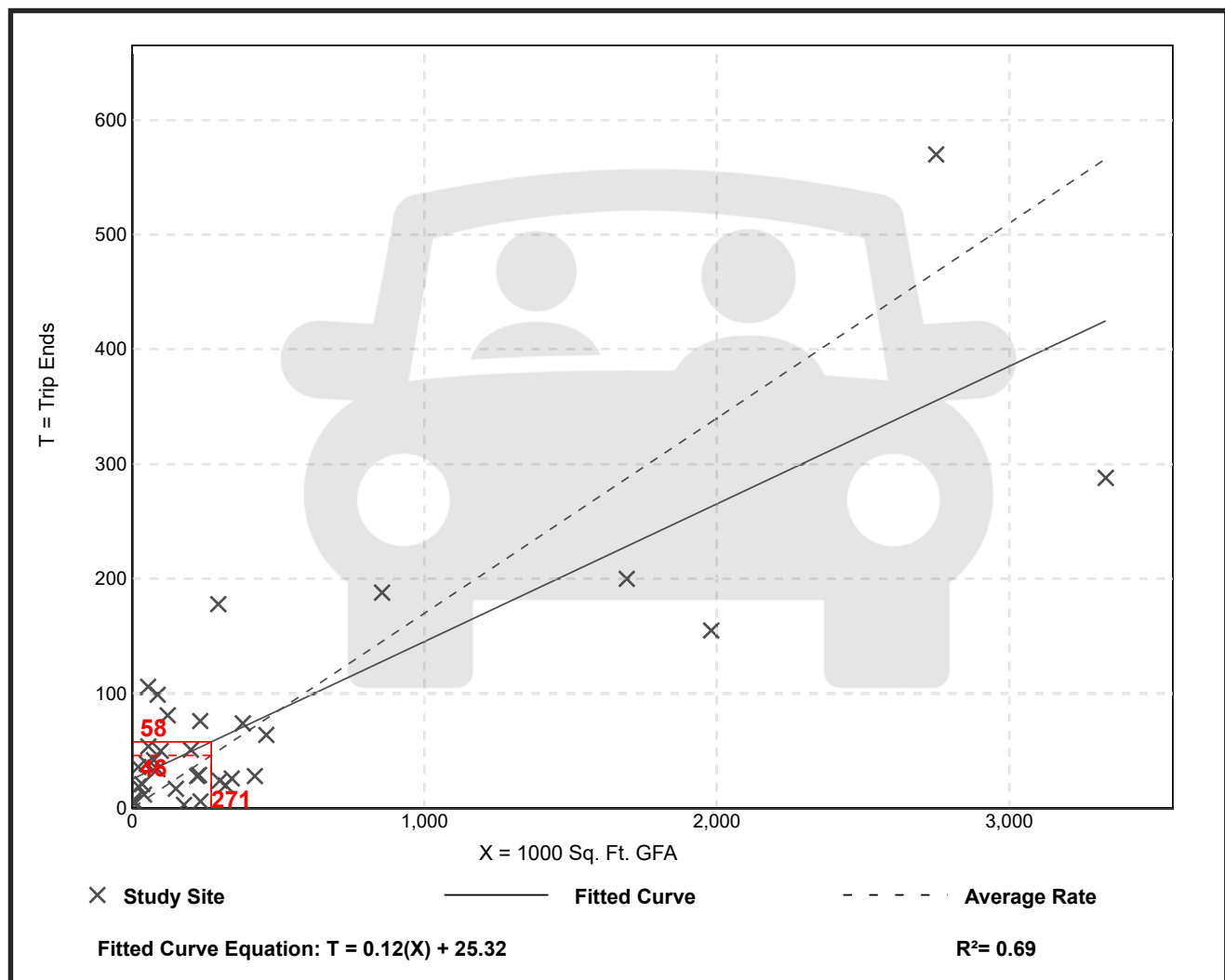
# Warehousing (150)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA  
 On a: Weekday,  
 Peak Hour of Adjacent Street Traffic,  
 One Hour Between 7 and 9 a.m.  
 Setting/Location: General Urban/Suburban  
 Number of Studies: 34  
 Avg. 1000 Sq. Ft. GFA: 451  
 Directional Distribution: 77% entering, 23% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.17	0.02 - 1.93	0.20

## Data Plot and Equation



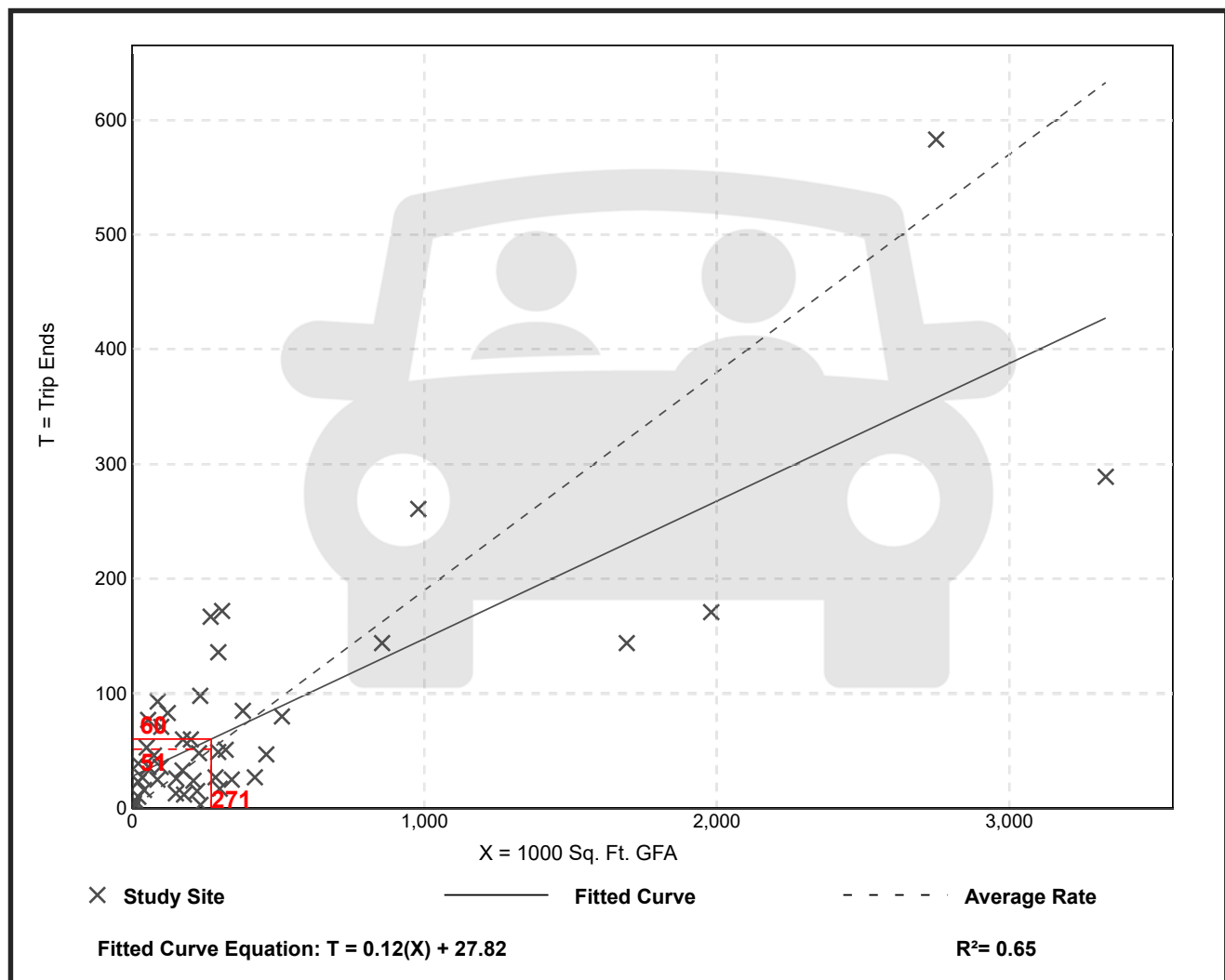
# Warehousing (150)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA  
 On a: Weekday,  
 Peak Hour of Adjacent Street Traffic,  
 One Hour Between 4 and 6 p.m.  
 Setting/Location: General Urban/Suburban  
 Number of Studies: 47  
 Avg. 1000 Sq. Ft. GFA: 400  
 Directional Distribution: 27% entering, 73% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.19	0.01 - 1.80	0.18

## Data Plot and Equation



# Warehousing (150)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA  
On a: Weekday

Setting/Location: General Urban/Suburban

Number of Studies: 29

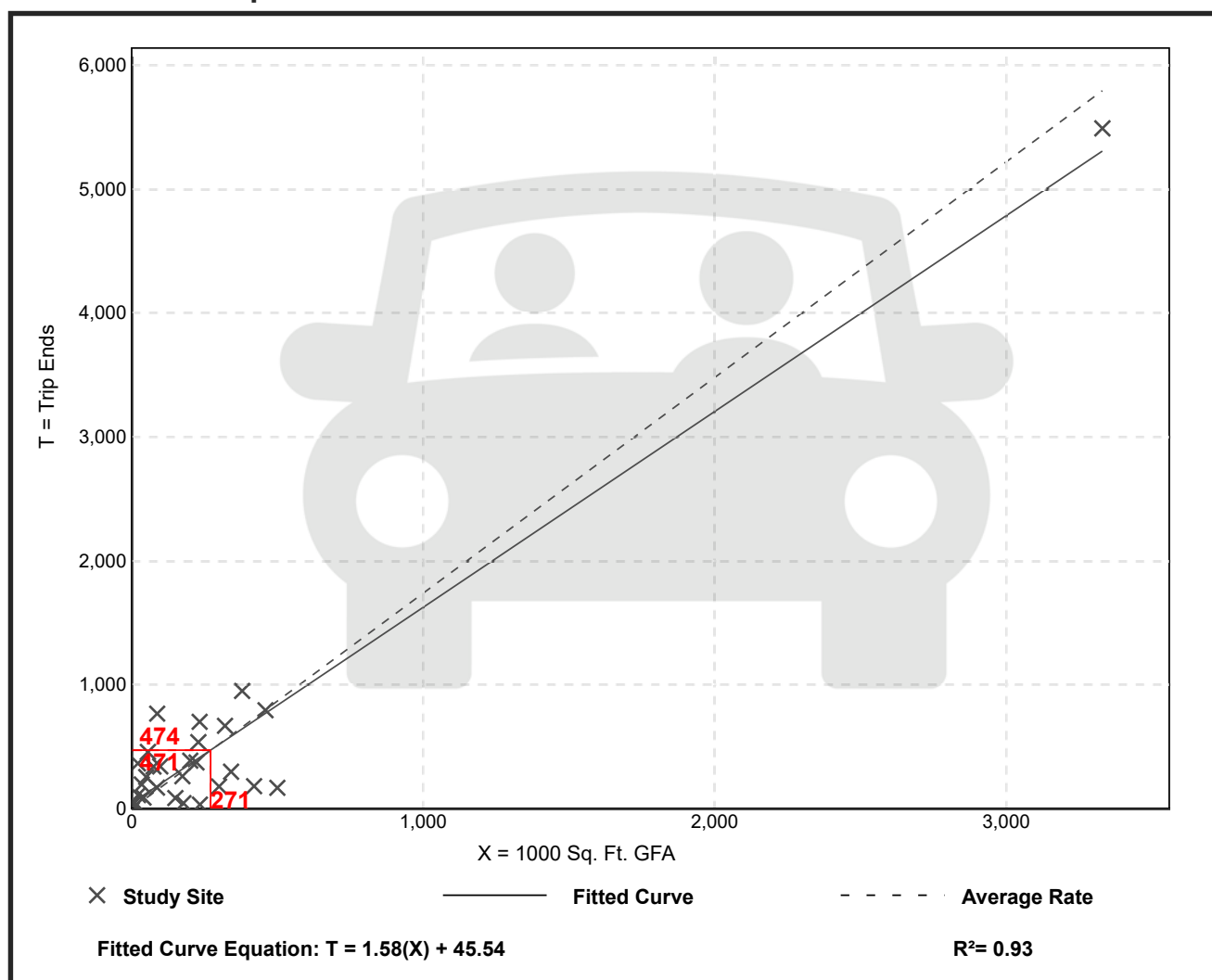
Avg. 1000 Sq. Ft. GFA: 285

Directional Distribution: 50% entering, 50% exiting

## Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.74	0.15 - 16.93	1.55

## Data Plot and Equation





## Land Use: 150 Warehousing

### Description

A warehouse is primarily devoted to the storage of materials, but it may also include office and maintenance areas. High-cube transload and short-term storage warehouse (Land Use 154), high-cube fulfillment center warehouse (Land Use 155), high-cube parcel hub warehouse (Land Use 156), and high-cube cold storage warehouse (Land Use 157) are related uses.

### Additional Data

Time-of-day distribution data for this land use are presented in Appendix A. For the 13 general urban/suburban sites with data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 11:30 a.m. and 12:30 p.m. and 3:00 and 4:00 p.m., respectively.

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in California, Connecticut, Minnesota, New Jersey, New York, Ohio, Oregon, Pennsylvania, and Texas.

### Source Numbers

184, 331, 406, 411, 443, 579, 583, 596, 598, 611, 619, 642, 752, 869, 875, 876, 914, 940

## **APPENDIX G**

### *Capacity Analysis Worksheets*

# HCS7 Two-Way Stop-Control Report

Appendix G - HCS Reports

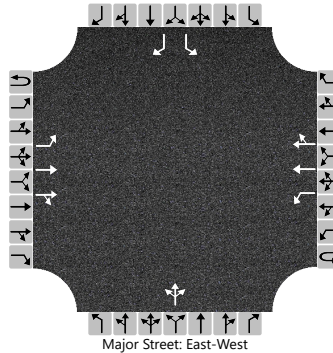
## General Information

Analyst	JL
Agency/Co.	GHA
Date Performed	9/23/2021
Analysis Year	2021
Time Analyzed	EXISTING AM PEAK
Intersection Orientation	East-West
Project Description	OLD DOMINION

## Site Information

Intersection	FERRY @ FRIEDERS
Jurisdiction	IDOT
East/West Street	FERRY ROAD
North/South Street	FRIEDERS LANE
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

## Lanes



## 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	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	0	0	1	2	0		0	1	0		1	0	1
Configuration		L	T	TR		L	T	TR			LTR			L		R
Volume (veh/h)	0	24	589	5	0	17	247	12		2	0	26		3		3
Percent Heavy Vehicles (%)	3	3			3	3				3	3	3		3		3
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized													No			
Median Type   Storage	Left Only								8							

## Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5		6.9
Critical Headway (sec)		4.16				4.16				7.56	6.56	6.96		7.56		6.96
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5		3.3
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53		3.33

## Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		26				18					30			3		3
Capacity, c (veh/h)		1271				929					636			551		878
v/c Ratio		0.02				0.02					0.05			0.01		0.00
95% Queue Length, Q <sub>95</sub> (veh)		0.1				0.1					0.2			0.0		0.0
Control Delay (s/veh)		7.9				9.0					10.9			11.6		9.1
Level of Service (LOS)		A				A					B			B		A
Approach Delay (s/veh)	0.3				0.6				10.9				10.3			
Approach LOS									B				B			

# HCS7 Two-Way Stop-Control Report

Appendix G - HCS Reports

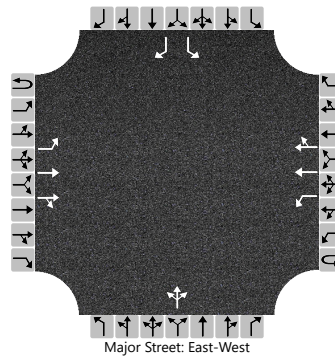
## General Information

Analyst	JL
Agency/Co.	GHA
Date Performed	9/23/2021
Analysis Year	2028
Time Analyzed	NO BUILD AM PEAK
Intersection Orientation	East-West
Project Description	OLD DOMINION

## Site Information

Intersection	FERRY @ FRIEDERS
Jurisdiction	IDOT
East/West Street	FERRY ROAD
North/South Street	FRIEDERS LANE
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

## Lanes



## 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	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	0	0	1	2	0		0	1	0		1	0	1
Configuration		L	T	TR		L	T	TR			LTR			L		R
Volume (veh/h)	0	26	635	5	0	18	266	13		2	0	26		3		3
Percent Heavy Vehicles (%)	3	3			3	3				3	3	3		3		3
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized													No			
Median Type   Storage	Left Only								8							

## Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5		6.9
Critical Headway (sec)		4.16				4.16				7.56	6.56	6.96		7.56		6.96
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5		3.3
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53		3.33

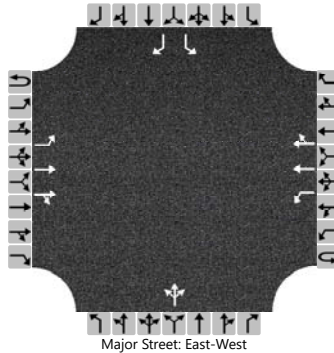
## Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		28				20					30			3		3
Capacity, c (veh/h)		1247				889					610			526		864
v/c Ratio		0.02				0.02					0.05			0.01		0.00
95% Queue Length, Q <sub>95</sub> (veh)		0.1				0.1					0.2			0.0		0.0
Control Delay (s/veh)		8.0				9.1					11.2			11.9		9.2
Level of Service (LOS)		A				A					B			B		A
Approach Delay (s/veh)	0.3				0.6				11.2				10.5			
Approach LOS									B				B			

## General Information

Analyst	JL	Intersection	FERRY @ FRIEDERS
Agency/Co.	GHA	Jurisdiction	IDOT
Date Performed	9/23/2021	East/West Street	FERRY ROAD
Analysis Year	2028	North/South Street	FRIEDERS LANE
Time Analyzed	TOTAL AM PEAK	Peak Hour Factor	0.92
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	OLD DOMINION		

## Lanes



## 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	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	0	0	1	2	0		0	1	0		1	0	1
Configuration		L	T	TR		L	T	TR			LTR			L		R
Volume (veh/h)	0	26	650	8	0	23	269	13		4	0	32		3		3
Percent Heavy Vehicles (%)	3	3			3	3				3	3	3		3		3
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized													No			
Median Type   Storage	Left Only								8							

## Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5		6.9
Critical Headway (sec)		4.16				4.16				7.56	6.56	6.96		7.56		6.96
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5		3.3
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53		3.33

## Delay, Queue Length, and Level of Service

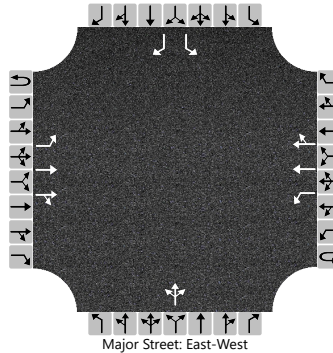
Flow Rate, v (veh/h)		28				25					39			3		3
Capacity, c (veh/h)		1244				874					582			508		862
v/c Ratio		0.02				0.03					0.07			0.01		0.00
95% Queue Length, Q <sub>95</sub> (veh)		0.1				0.1					0.2			0.0		0.0
Control Delay (s/veh)		8.0				9.2					11.6			12.1		9.2
Level of Service (LOS)		A				A					B			B		A
Approach Delay (s/veh)	0.3				0.7				11.6				10.7			
Approach LOS									B				B			



## General Information

Analyst	JL	Intersection	FERRY @ FRIEDERS
Agency/Co.	GHA	Jurisdiction	IDOT
Date Performed	9/23/2021	East/West Street	FERRY ROAD
Analysis Year	2021	North/South Street	FRIEDERS LANE
Time Analyzed	EXISTING PM PEAK	Peak Hour Factor	0.92
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	OLD DOMINION		

## Lanes



## 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	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	0	0	1	2	0		0	1	0		1	0	1
Configuration		L	T	TR		L	T	TR			LTR			L		R
Volume (veh/h)	0	4	324	2	0	16	665	2		4	0	8		12		12
Percent Heavy Vehicles (%)	3	3			3	3				3	3	3		3		3
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized													No			
Median Type   Storage	Left Only								8							

## Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5		6.9
Critical Headway (sec)		4.16				4.16				7.56	6.56	6.96		7.56		6.96
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5		3.3
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53		3.33

## Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		4				17					13			13		13
Capacity, c (veh/h)		867				1194					712			355		631
v/c Ratio		0.01				0.01					0.02			0.04		0.02
95% Queue Length, Q <sub>95</sub> (veh)		0.0				0.0					0.1			0.1		0.1
Control Delay (s/veh)		9.2				8.1					10.1			15.5		10.8
Level of Service (LOS)		A				A					B			C		B
Approach Delay (s/veh)	0.1				0.2				10.1				13.2			
Approach LOS									B				B			

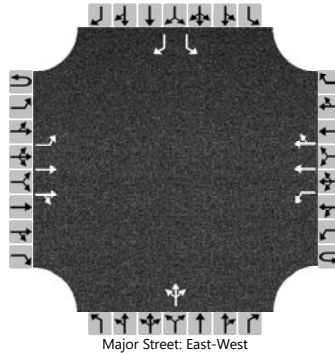
## General Information

Analyst	JL
Agency/Co.	GHA
Date Performed	9/23/2021
Analysis Year	2028
Time Analyzed	NO BUILD PM PEAK
Intersection Orientation	East-West
Project Description	OLD DOMINION

## Site Information

Intersection	FERRY @ FRIEDERS
Jurisdiction	IDOT
East/West Street	FERRY ROAD
North/South Street	FRIEDERS LANE
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

## Lanes



## 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	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	0	0	1	2	0		0	1	0		1	0	1
Configuration		L	T	TR		L	T	TR			LTR			L		R
Volume (veh/h)	0	4	349	2	0	17	717	2		4	0	8		12		12
Percent Heavy Vehicles (%)	3	3			3	3				3	3	3		3		3
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized													No			
Median Type   Storage	Left Only								8							

## Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5		6.9
Critical Headway (sec)		4.16				4.16				7.56	6.56	6.96		7.56		6.96
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5		3.3
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53		3.33

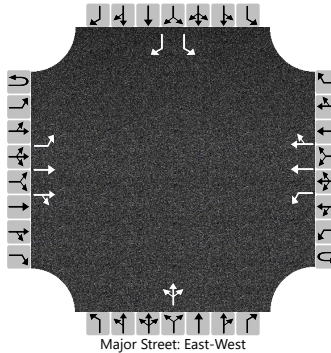
## Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		4				18					13			13		13
Capacity, c (veh/h)		825				1166					690			326		605
v/c Ratio		0.01				0.02					0.02			0.04		0.02
95% Queue Length, Q <sub>95</sub> (veh)		0.0				0.0					0.1			0.1		0.1
Control Delay (s/veh)		9.4				8.1					10.3			16.5		11.1
Level of Service (LOS)		A				A					B			C		B
Approach Delay (s/veh)	0.1				0.2				10.3				13.8			
Approach LOS									B				B			

## General Information

Analyst	JL	Intersection	FERRY @ FRIEDERS
Agency/Co.	GHA	Jurisdiction	IDOT
Date Performed	9/23/2021	East/West Street	FERRY ROAD
Analysis Year	2028	North/South Street	FRIEDERS LANE
Time Analyzed	TOTAL PM PEAK	Peak Hour Factor	0.92
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	OLD DOMINION		

## Lanes



## 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	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	0	0	1	2	0		0	1	0		1	0	1
Configuration		L	T	TR		L	T	TR			LTR			L		R
Volume (veh/h)	0	4	353	4	0	19	730	2		9	0	13		12		12
Percent Heavy Vehicles (%)	3	3			3	3				3	3	3		3		3
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized													No			
Median Type   Storage	Left Only								8							

## Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5		6.9
Critical Headway (sec)		4.16				4.16				7.56	6.56	6.96		7.56		6.96
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5		3.3
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53		3.33

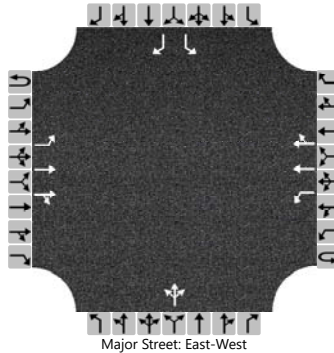
## Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		4				21					24			13		13
Capacity, c (veh/h)		815				1160					660			317		599
v/c Ratio		0.01				0.02					0.04			0.04		0.02
95% Queue Length, Q <sub>95</sub> (veh)		0.0				0.1					0.1			0.1		0.1
Control Delay (s/veh)		9.4				8.2					10.7			16.8		11.1
Level of Service (LOS)		A				A					B			C		B
Approach Delay (s/veh)	0.1				0.2				10.7				14.0			
Approach LOS									B				B			

## General Information

Analyst	JL	Intersection	FERRY @ MERIDIAN
Agency/Co.	GHA	Jurisdiction	IDOT
Date Performed	9/23/2021	East/West Street	FERRY ROAD
Analysis Year	2021	North/South Street	MERIDIAN ROAD
Time Analyzed	EXISTING PM PEAK	Peak Hour Factor	0.92
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	OLD DOMINION		

## Lanes



## 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	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	0	0	1	2	0		0	1	0		1	0	1
Configuration		L	T	TR		L	T	TR			LTR			L		R
Volume (veh/h)	0	0	344	0	0	1	681	0		0	0	1		0		2
Percent Heavy Vehicles (%)	3	3			3	3				3	3	3		3		3
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized													No			
Median Type   Storage	Left Only								5							

## Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5		6.9
Critical Headway (sec)		4.16				4.16				7.56	6.56	6.96		7.56		6.96
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5		3.3
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53		3.33

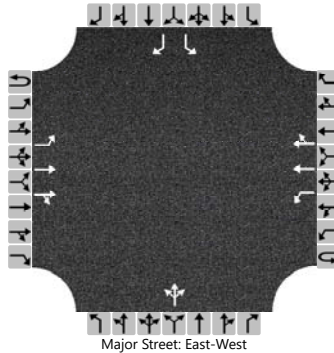
## Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0				1					1			0		2
Capacity, c (veh/h)		856				1174					820			364		624
v/c Ratio		0.00				0.00					0.00			0.00		0.00
95% Queue Length, Q <sub>95</sub> (veh)		0.0				0.0					0.0			0.0		0.0
Control Delay (s/veh)		9.2				8.1					9.4			14.9		10.8
Level of Service (LOS)		A				A					A			B		B
Approach Delay (s/veh)	0.0				0.0				9.4				10.8			
Approach LOS									A				B			

## General Information

Analyst	JL	Intersection	FERRY @ MERIDIAN
Agency/Co.	GHA	Jurisdiction	IDOT
Date Performed	9/23/2021	East/West Street	FERRY ROAD
Analysis Year	2028	North/South Street	MERIDIAN ROAD
Time Analyzed	NO BUILD AM PEAK	Peak Hour Factor	0.92
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	OLD DOMINION		

## Lanes



## 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	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	0	0	1	2	0		0	1	0		1	0	1
Configuration		L	T	TR		L	T	TR			LTR			L		R
Volume (veh/h)	0	2	662	0	0	0	295	2		1	0	0		0		1
Percent Heavy Vehicles (%)	3	3			3	3				3	3	3		3		3
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized													No			
Median Type   Storage	Left Only								5							

## Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5		6.9
Critical Headway (sec)		4.16				4.16				7.56	6.56	6.96		7.56		6.96
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5		3.3
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53		3.33

## Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		2				0					1			0		1
Capacity, c (veh/h)		1227				871					373			578		852
v/c Ratio		0.00				0.00					0.00			0.00		0.00
95% Queue Length, Q <sub>95</sub> (veh)		0.0				0.0					0.0			0.0		0.0
Control Delay (s/veh)		7.9				9.1					14.7			11.2		9.2
Level of Service (LOS)		A				A					B			B		A
Approach Delay (s/veh)	0.0				0.0				14.7				9.2			
Approach LOS									B				A			



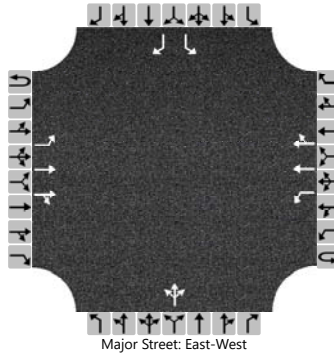
## General Information

Analyst	JL
Agency/Co.	GHA
Date Performed	9/23/2021
Analysis Year	2028
Time Analyzed	TOTAL AM PEAK
Intersection Orientation	East-West
Project Description	OLD DOMINION

## Site Information

Intersection	FERRY @ MERIDIAN
Jurisdiction	IDOT
East/West Street	FERRY ROAD
North/South Street	MERIDIAN ROAD
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

## Lanes



## 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	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	0	0	1	2	0		0	1	0		1	0	1
Configuration		L	T	TR		L	T	TR			LTR			L		R
Volume (veh/h)	0	2	668	15	0	22	300	2		4	0	2		0		1
Percent Heavy Vehicles (%)	3	3			3	3				3	3	3		3		3
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized													No			
Median Type   Storage	Left Only								5							

## Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5		6.9
Critical Headway (sec)		4.16				4.16				7.56	6.56	6.96		7.56		6.96
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5		3.3
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53		3.33

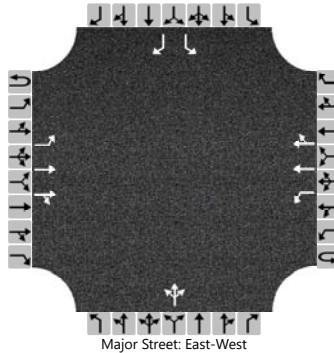
## Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		2				24					7			0		1
Capacity, c (veh/h)		1221				854					424			536		848
v/c Ratio		0.00				0.03					0.02			0.00		0.00
95% Queue Length, Q <sub>95</sub> (veh)		0.0				0.1					0.0			0.0		0.0
Control Delay (s/veh)		8.0				9.3					13.6			11.7		9.2
Level of Service (LOS)		A				A					B			B		A
Approach Delay (s/veh)	0.0				0.6				13.6				9.2			
Approach LOS									B				A			

## General Information

Analyst	JL	Intersection	FERRY @ MERIDIAN
Agency/Co.	GHA	Jurisdiction	IDOT
Date Performed	9/23/2021	East/West Street	FERRY ROAD
Analysis Year	2021	North/South Street	MERIDIAN ROAD
Time Analyzed	EXISTING PM PEAK	Peak Hour Factor	0.92
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	OLD DOMINION		

## Lanes



## 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	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	0	0	1	2	0		0	1	0		1	0	1
Configuration		L	T	TR		L	T	TR			LTR			L		R
Volume (veh/h)	0	0	344	0	0	0	274	2		0	0	1		0		2
Percent Heavy Vehicles (%)	3	3			3	3				3	3	3		3		3
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized													No			
Median Type   Storage	Left Only								5							

## Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5		6.9
Critical Headway (sec)		4.16				4.16				7.56	6.56	6.96		7.56		6.96
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5		3.3
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53		3.33

## Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0				0					1			0		2
Capacity, c (veh/h)		1251				1174					820			660		866
v/c Ratio		0.00				0.00					0.00			0.00		0.00
95% Queue Length, Q <sub>95</sub> (veh)		0.0				0.0					0.0			0.0		0.0
Control Delay (s/veh)		7.9				8.1					9.4			10.5		9.2
Level of Service (LOS)		A				A					A			B		A
Approach Delay (s/veh)	0.0				0.0				9.4				9.2			
Approach LOS									A				A			

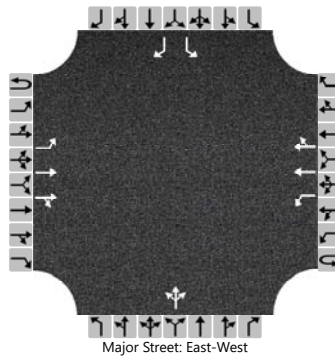
## General Information

Analyst	JL
Agency/Co.	GHA
Date Performed	9/23/2021
Analysis Year	2028
Time Analyzed	NO BUILD PM PEAK
Intersection Orientation	East-West
Project Description	OLD DOMINION

## Site Information

Intersection	FERRY @ MERIDIAN
Jurisdiction	IDOT
East/West Street	FERRY ROAD
North/South Street	MERIDIAN ROAD
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

## Lanes



## 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	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	0	0	1	2	0		0	1	0		1	0	1
Configuration		L	T	TR		L	T	TR			LTR			L		R
Volume (veh/h)	0	0	369	0	0	1	734	0		1	0	0		0		2
Percent Heavy Vehicles (%)	3	3			3	3				3	3	3		3		3
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized													No			
Median Type   Storage	Left Only								5							

## Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5		6.9
Critical Headway (sec)		4.16				4.16				7.56	6.56	6.96		7.56		6.96
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5		3.3
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53		3.33

## Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0				1					1			0		2
Capacity, c (veh/h)		814				1147					530			336		598
v/c Ratio		0.00				0.00					0.00			0.00		0.00
95% Queue Length, Q <sub>95</sub> (veh)		0.0				0.0					0.0			0.0		0.0
Control Delay (s/veh)		9.4				8.1					11.8			15.7		11.0
Level of Service (LOS)		A				A					B			C		B
Approach Delay (s/veh)	0.0				0.0				11.8				11.0			
Approach LOS									B				B			

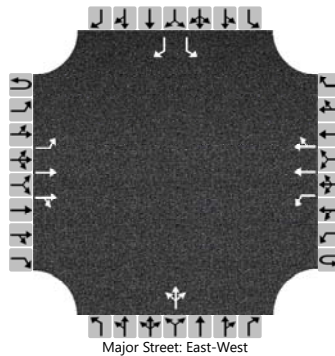
## General Information

Analyst	JL
Agency/Co.	GHA
Date Performed	9/23/2021
Analysis Year	2028
Time Analyzed	TOTAL PM PEAK
Intersection Orientation	East-West
Project Description	OLD DOMINION

## Site Information

Intersection	FERRY @ MERIDIAN
Jurisdiction	IDOT
East/West Street	FERRY ROAD
North/South Street	MERIDIAN ROAD
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

## Lanes



## 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	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	0	0	1	2	0		0	1	0		1	0	1
Configuration		L	T	TR		L	T	TR			LTR			L		R
Volume (veh/h)	0	0	374	4	0	9	736	0		13	0	22		0		2
Percent Heavy Vehicles (%)	3	3			3	3				3	3	3		3		3
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized													No			
Median Type   Storage	Left Only								5							

## Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.5	6.5	6.9		7.5		6.9
Critical Headway (sec)		4.16				4.16				7.56	6.56	6.96		7.56		6.96
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5		3.3
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53		3.33

## Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		0				10					38			0		2
Capacity, c (veh/h)		812				1137					664			325		597
v/c Ratio		0.00				0.01					0.06			0.00		0.00
95% Queue Length, Q <sub>95</sub> (veh)		0.0				0.0					0.2			0.0		0.0
Control Delay (s/veh)		9.4				8.2					10.8			16.1		11.1
Level of Service (LOS)		A				A					B			C		B
Approach Delay (s/veh)	0.0				0.1				10.8				11.1			
Approach LOS									B				B			