

EXHIBIT I

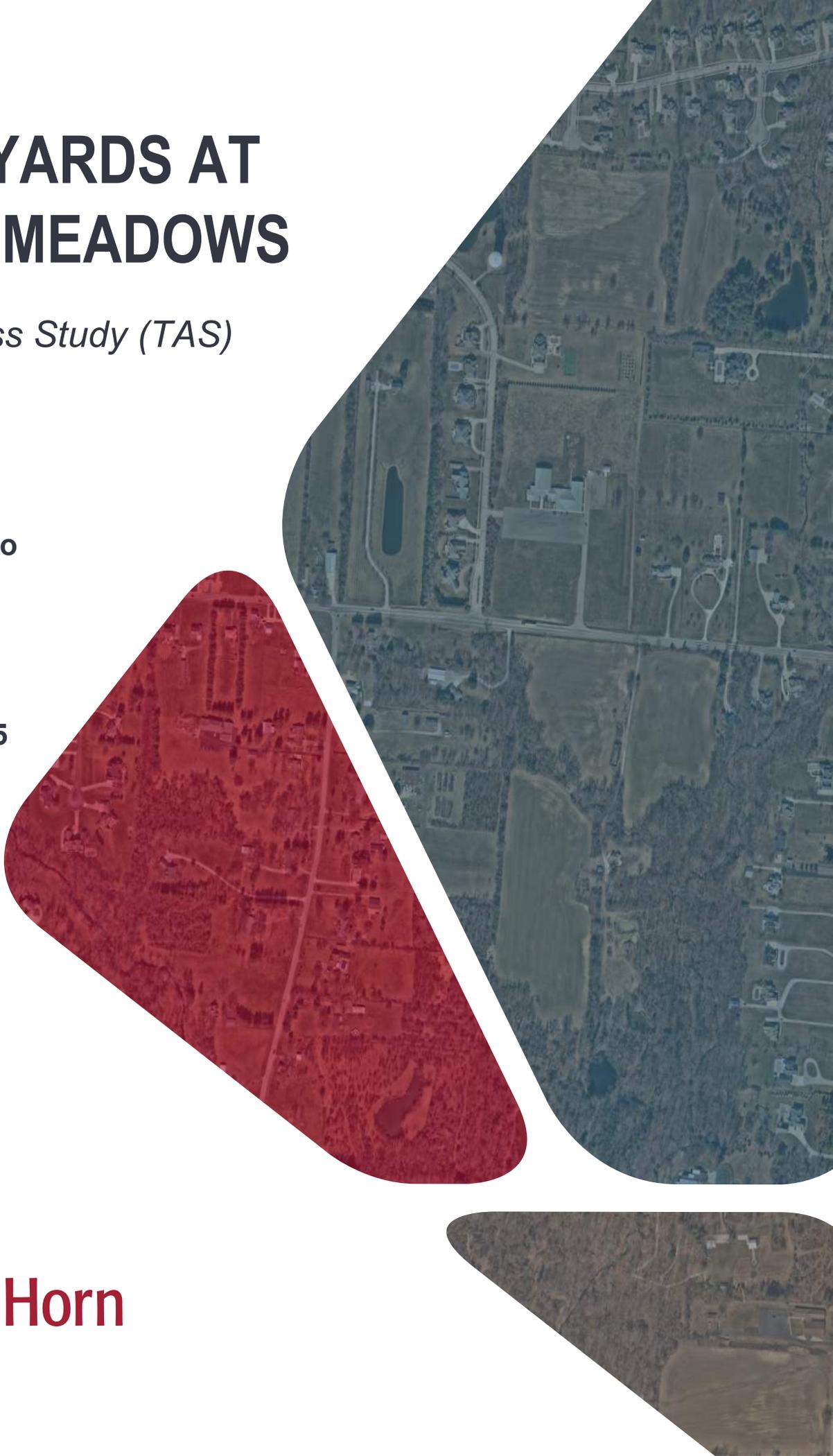
COURTYARDS AT VIOLET MEADOWS

Traffic Access Study (TAS)

Columbus, Ohio

November 2025

Kimley»»Horn



Courtyards at Violet Meadows Traffic Access Study (TAS)

November 2025

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INTRODUCTION

Kimley-Horn and Associates, Inc. (Kimley-Horn) was retained to perform a traffic study for a proposed single-family residential development located south of Blacklick Eastern Road NW, between Toll Gate Road and Pickerington Road NW in Violet Township, Ohio. The proposed 60.6-acre development will replace undeveloped agricultural land. An aerial view of the study location and the surrounding roadway network is presented in **Exhibit 1**, and a copy of the preliminary site plan is provided in **Appendix A**.

A Memorandum of Understanding (MOU) call was conducted on September 23, 2025 with ODOT District 5 to determine the scope of the study. The MOU outlining the complete scope of the traffic study can be found in **Appendix B**.

This study includes an overview of existing conditions at and around the subject property and a derivation of trip generation characteristics for the proposed use. Site-generated traffic volumes were added to background traffic volumes to assess the site's impact on the area roadway network.

Figure 1: Site Location Map



NO BUILD CONDITIONS

Kimley-Horn collected relevant information pertaining to existing land uses in the surrounding area, the adjacent street system, current traffic volumes and operating conditions, lane configurations and traffic controls at nearby intersections, and other key roadway characteristics. This section of the report details information on these existing conditions.

AREA LAND USES AND EXISTING ROADWAY CHARACTERISTICS

The proposed residential development is to be constructed south of Blacklick Eastern Road NW, between Pickerington Road NW and Toll Gate Road in Violet Township, Ohio. The 60.6-acre site is to include 142 single-family housing units. The proposed development will be surrounded by other residential uses. ODOT Transportation Information Mapping System (TIMS) was used to gather roadway classifications. The study area for this analysis includes the following intersection:

- Blacklick Eastern Road NW and Access A

Blacklick Eastern Road NW is a two-lane minor arterial that generally runs east to west in the site vicinity and provides one travel lane in each direction. This roadway has a posted speed limit of 45 mph. There are no designated sidewalks present on either side of Blacklick Eastern Road NW within the site vicinity.

TRAFFIC COUNT DATA COLLECTION

24-hour morning (AM) and evening (PM) peak traffic volumes along Blacklick Eastern Road NW were collected via MioVision cameras on Wednesday, October 1, 2025. The collected traffic count data can be referenced in **Appendix C** and are illustrated in **Exhibit 2**.

BACKGROUND TRAFFIC VOLUMES

Background traffic in the study area was developed with consideration for regional traffic growth over time. To estimate the growth in ambient levels of traffic in the study area, an annual growth rate was applied to the existing traffic volumes in the study area. Growth rates were obtained from the Mid-Ohio Regional Planning Commission (MORPC) and are provided in **Table 1**. Copies of the MORPC growth rates are provided in **Appendix D**. The growth rate provided for the Church Access was not applied because the existing use is fully built out. Analysis will be completed for the 2027 and 2047 AM and PM peak hour scenarios. 2027 and 2047 No Build volumes are illustrated in **Exhibits 3 and 4**.

Table 1: MORPC Growth Rates

<i>Location</i>	<i>Growth Rate</i>
<i>Blacklick Eastern Road NW</i>	<i>2.00%</i>

Exhibit 2: Raw Counts Peak Hour Volumes

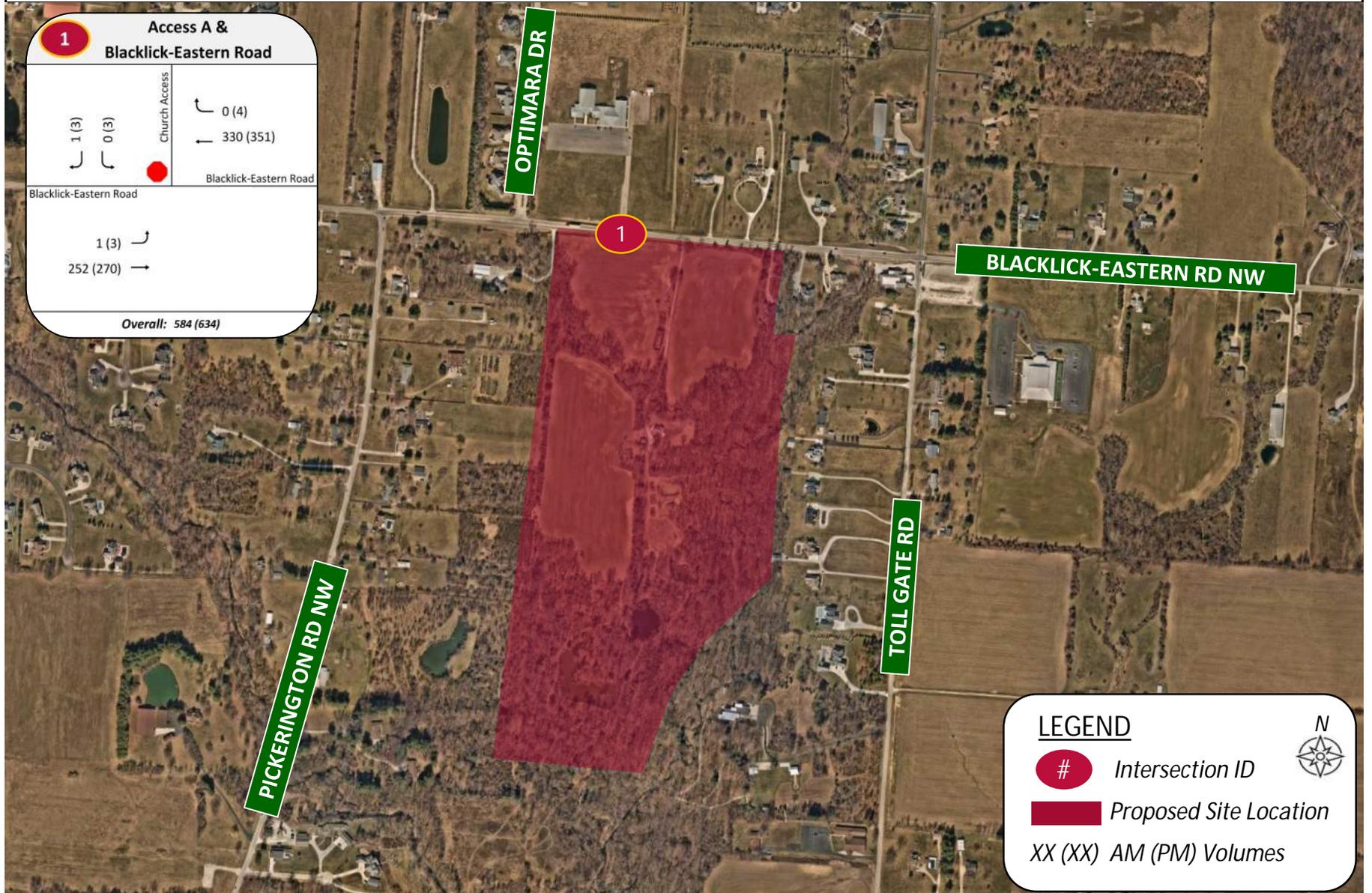


Exhibit 3: 2027 No Build Peak Hour Volumes

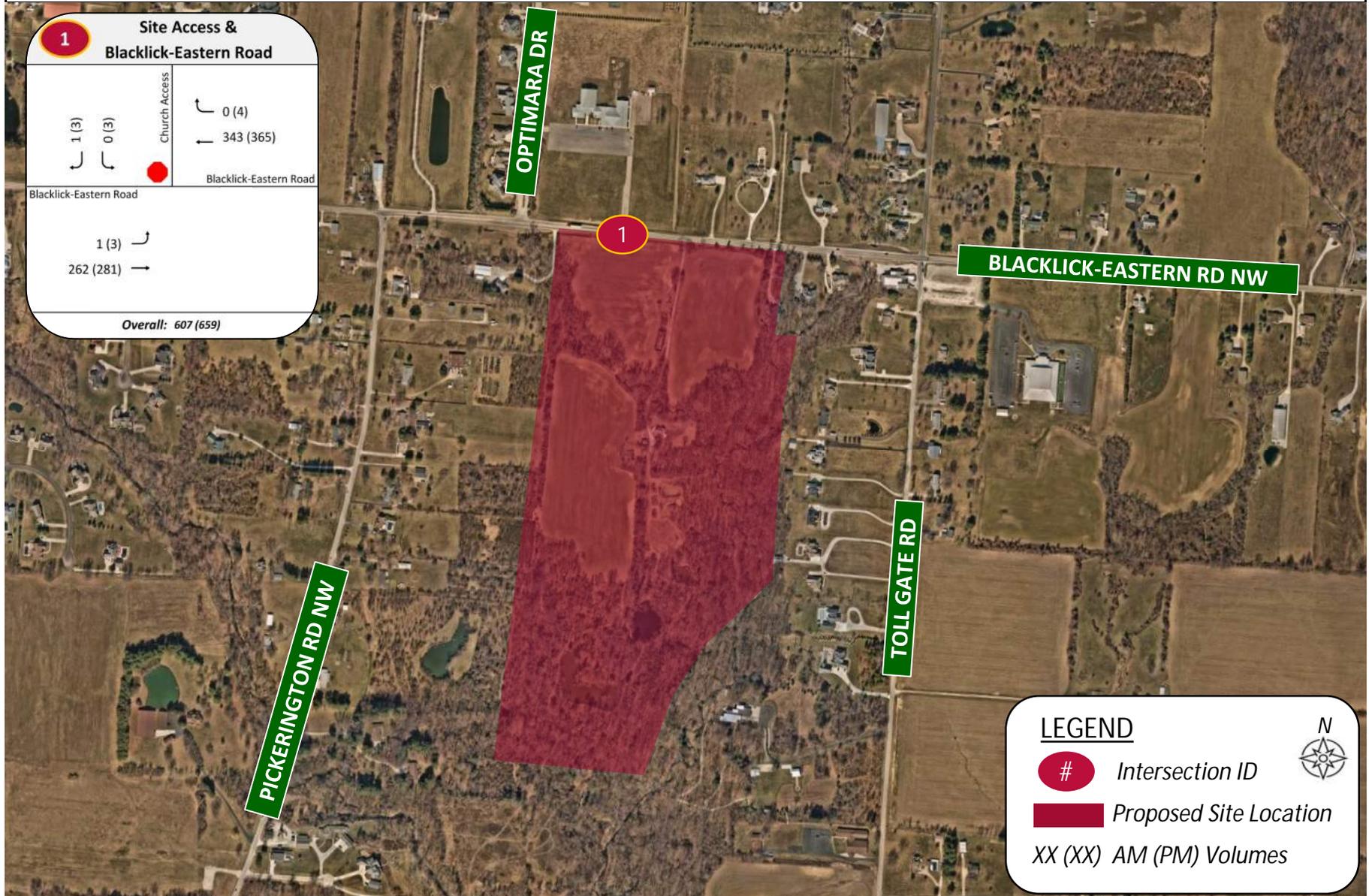
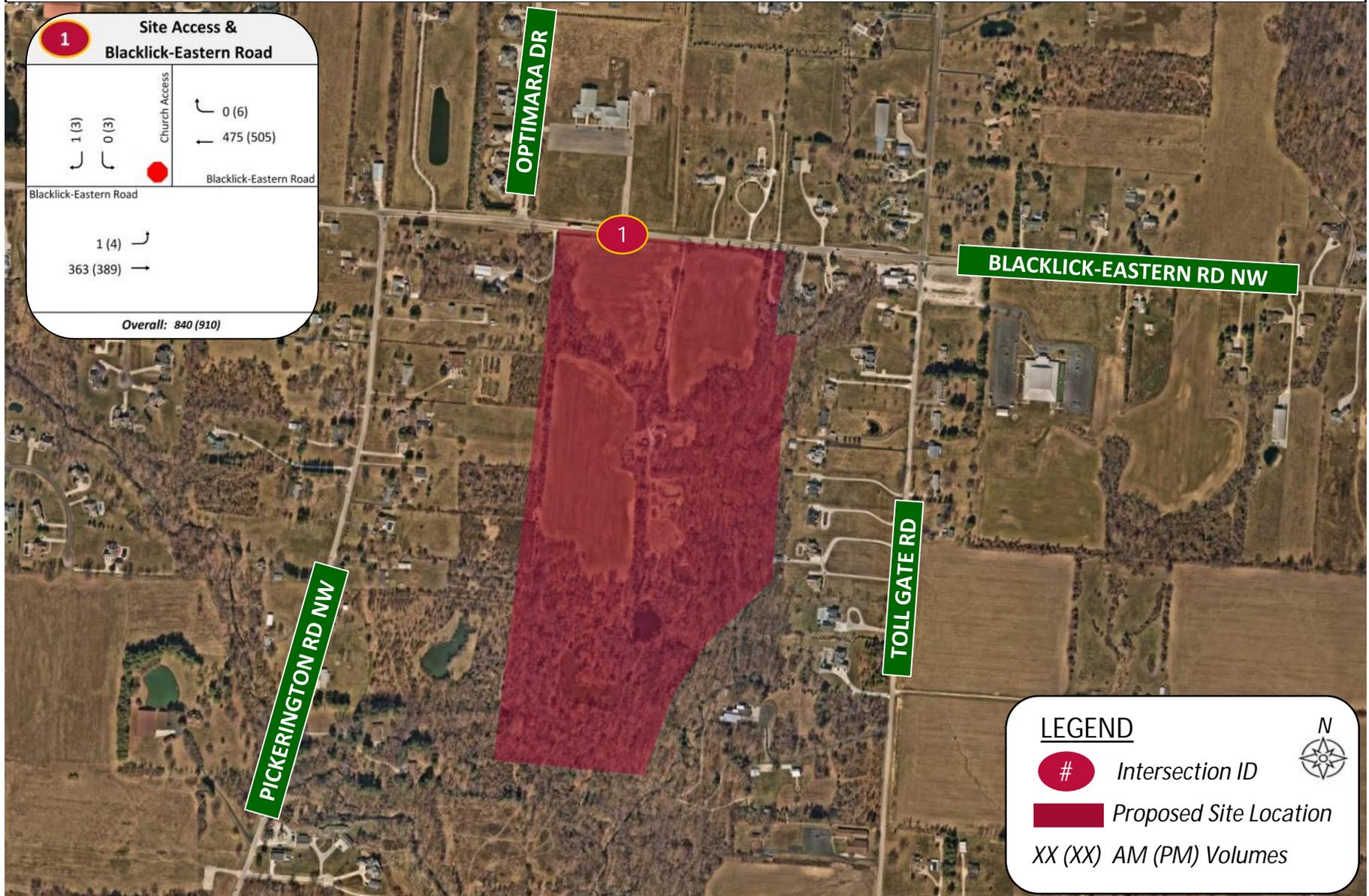


Exhibit 4: 2047 No Build Peak Hour Volumes



BUILD CONDITIONS

This section of the report outlines the proposed site plan and summarizes site-specific traffic characteristics.

DEVELOPMENT CHARACTERISTICS

The proposed 60.6-acre residential development includes 142 single-family housing units connected via an internal roadway system that circulates through the site. Access to the proposed development will be via one full-access drive along Blacklick Eastern Road NW, with one emergency access drive. The site access configuration is illustrated on the conceptual site plan included in **Appendix A**.

TRIP GENERATION PROPOSED DEVELOPMENT

To calculate trips generated by the proposed industrial development, data was referenced from the Institute of Transportation Engineers' (ITE) *Trip Generation Manual, 12th Edition*. The provided site plan includes 142 single-family housing units (Single-Family Detached Housing, LUC 210). Trip generation rates are summarized in **Table 2**. Copies of the ITE data are provided in **Appendix E**.

Table 2: ITE Trip Generation Data

ITE Land Use	Weekday		
	Daily	AM Peak Hour	PM Peak Hour
Single-Family Detached Housing (210)	$T = 8.07(x) + 265.45$ 50% in/50% out	$T = 0.67(x) + 5.59$ 27% in/73% out	$\ln(T) = 0.92\ln(x) + 0.33$ 62% in/38% out

T – Site-generated trips X – Units

For this study, all trips are expected to be “Primary Trips” when traveling to and from the subject site. Primary trips are trips to and from the proposed site that would not normally travel on the study roadways and are considered new trips within the study area. Per these assumptions, the proposed site generated traffic projections are illustrated in **Table 3**. The total site-generated trips for the development are shown in **Exhibit 5**.

Table 3: Proposed Site Generated Traffic Projections

ITE Land Use	Units	Daily	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Single-Family Detached Housing (210)	142	1,411	27	74	101	82	50	132

DIRECTIONAL DISTRIBUTION

The estimated distribution of the site-generated traffic on the surrounding roadway network as it approaches and departs the study area is a function of several variables, such as the nature of surrounding land uses, prevailing traffic volumes/patterns, characteristics of the street system, and the ease with which motorists can travel over various sections of that system. To determine the percentage of traffic traveling to/from the proposed site, the traffic counts to/from each direction were compared. The anticipated directional distributions estimated for the proposed site-related primary trips are outlined in **Table 4**.

Table 4: Anticipated Trip Distribution

Direction	Anticipated Trip Distribution
West on Blacklick Eastern Road NW	57%
East on Blacklick Eastern Road NW	43%

BUILD TRAFFIC VOLUMES

The Build traffic assignment represents traffic volumes at the study intersections upon construction of the proposed development. The Build traffic volumes consist of the No Build volumes plus the site-generated trips. 2027 Build and 2047 Build traffic volumes are shown in **Exhibits 6** and **7**, respectively.

Exhibit 5: Site-Generated Peak Hour Volumes

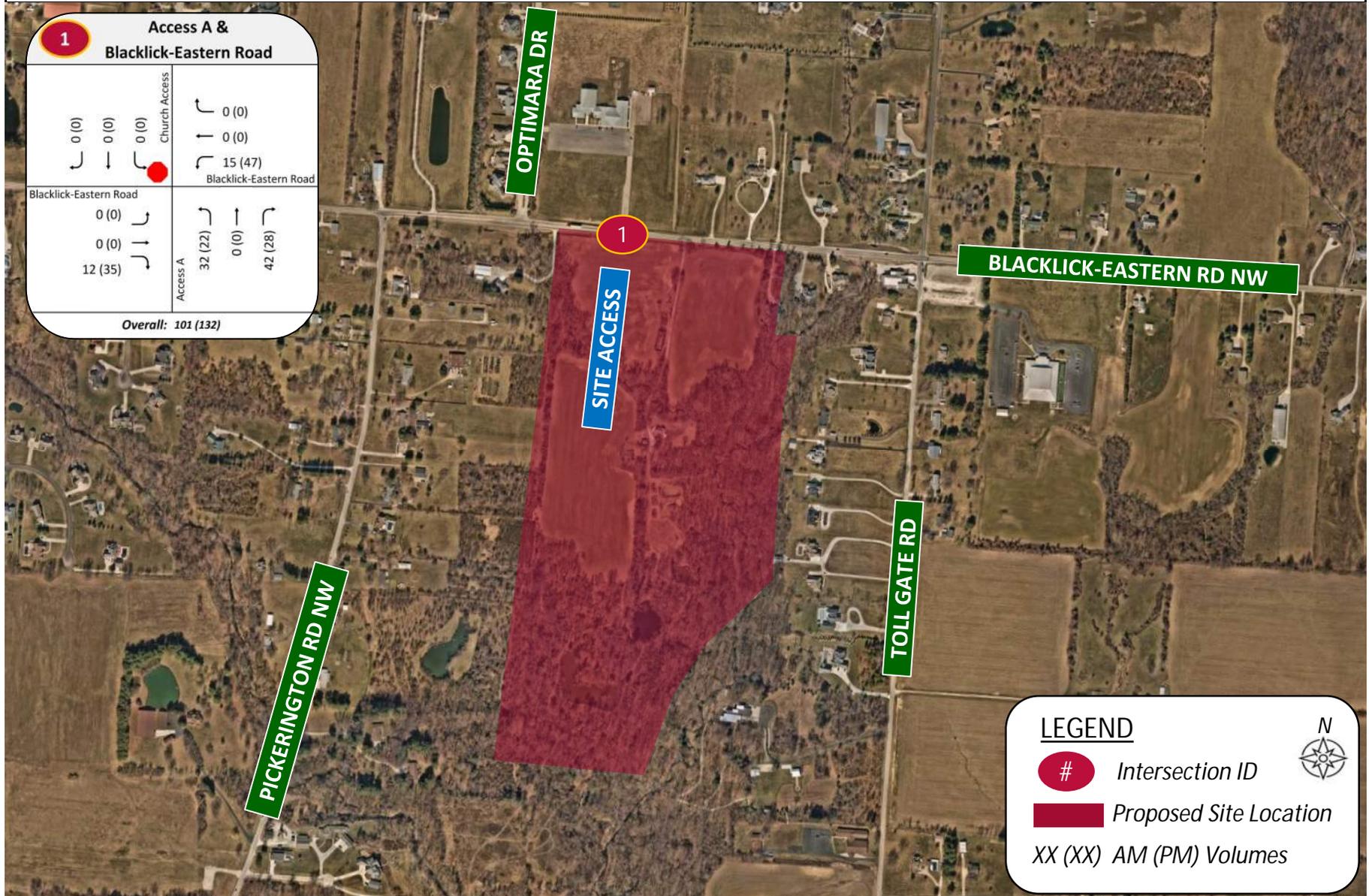


Exhibit 6: 2027 Build Peak Hour Volumes

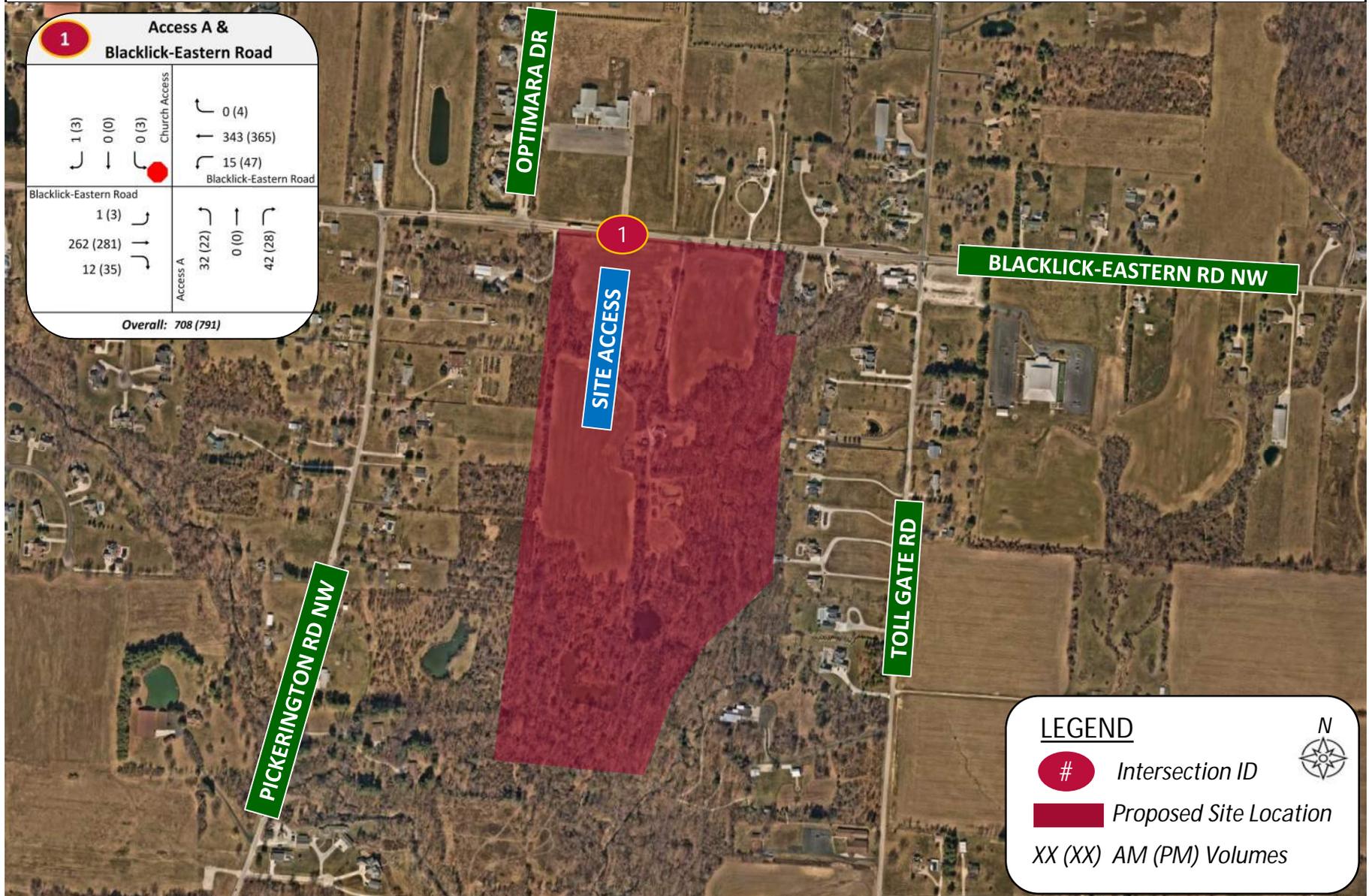
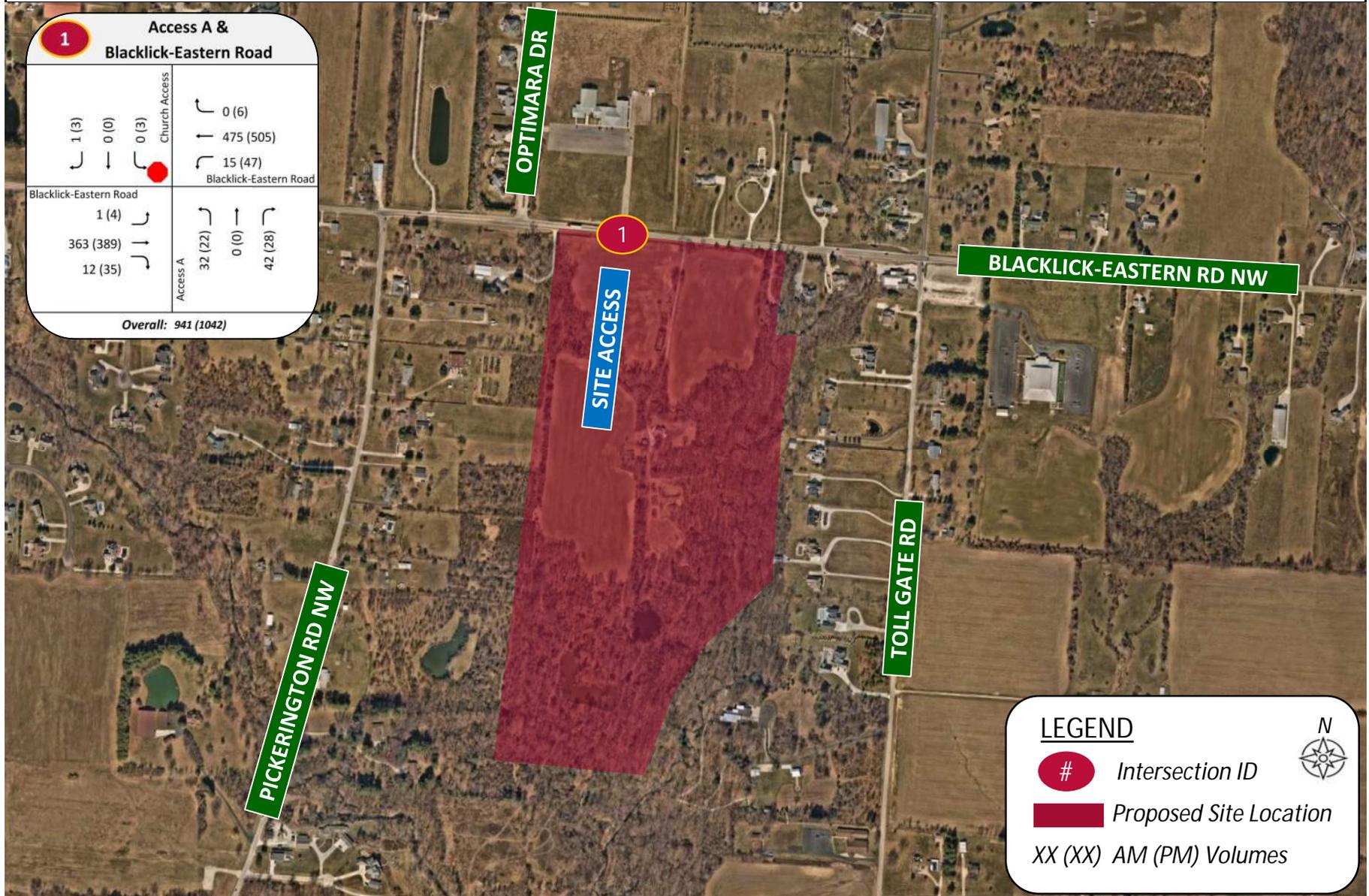


Exhibit 7: 2047 Build Peak Hour Volumes



ANALYSIS

This section of the report provides an overview of capacity analysis and turn-lane analysis for the study intersections and identifies recommended transportation improvements to accommodate the proposed development.

TURN-LANE WARRANT ANALYSIS

The ODOT Location and Design (L&D) Manual was used to determine if turn lanes were warranted at the study intersections. A summary of the turn lane warrant analysis and calculated turn lane length per ODOT Location and Design Manual Standards is provided in **Table 5**. These lengths include a 50-foot diverging taper. Additionally, a copy of the turn lane analysis and turn lane length calculations are provided in **Appendices F** and **G**, respectively.

Table 5: Turn Lane Warrant Analysis and Length Summary

Intersection	Movement	Calculated Turn Lane Length (ft)		Recommended Turn Lane Length (ft)
		2027 Build	2047 Build	
Blacklick Eastern Road NW and Access A	EBRT	Not Warranted	Not Warranted	-
	WBLT	175	175	175

CAPACITY ANALYSIS

A capacity analysis was performed to quantify the delay and level of service at the study intersections during the weekday AM and PM peak hours. McTrans HCS™ 2025 software was utilized to evaluate the capacity of the proposed study intersections for the peak hours of site-generated traffic.

The capacity of an intersection quantifies its ability to accommodate traffic volumes and is expressed in terms of level of service (LOS) according to the average delay per vehicle passing through the intersection. Levels of service range from A to F with LOS A as the highest (best traffic flow and least delay), LOS E as saturated or at-capacity conditions, and LOS F as the lowest (oversaturated conditions). The LOS grades shown below, which are provided in the Transportation Research Board's Highway Capacity Manual (HCM), quantify and categorize the driver's discomfort, frustration, fuel consumption, and travel times experienced as a result of intersection control and the resulting traffic queuing. A detailed description of each LOS rating can be found in **Table 6**. The range of control delay for each rating (as detailed in the HCM) is shown in **Table 7**. Because signalized intersections are expected to carry a larger volume of vehicles and stopping is required during red time, higher delays are tolerated for the corresponding LOS ratings.

Traffic models for the following scenarios were developed, and the capacity analysis (delay and LOS) was evaluated for each scenario. The scenarios that were analyzed are as follows:

- 2027 Build
- 2047 Build

Table 6: Level of Service Grading Descriptions

Level of Service ¹	Description
A	Minimal control delay; traffic operates at primarily free-flow conditions; unimpeded movement within traffic stream.
B	Minor control delay at signalized intersections; traffic operates at a fairly unimpeded level with slightly restricted movement within traffic stream.
C	Moderate control delay; movement within traffic stream more restricted than at LOS B; formation of queues contributes to lower average travel speeds.
D	Considerable control delay that may be substantially increased by small increases in flow; average travel speeds continue to decrease.
E	High control delay; average travel speed no more than 33 percent of free flow speed.
F	Extremely high control delay; extensive queuing and high volumes create exceedingly restricted traffic flow.

¹ Highway Capacity Manual 7th Edition

Table 7: Level of Service Grading Criteria

Level of Service	Average Control Delay (s/veh) at:	
	Unsignalized Intersections	Signalized Intersections
A	0 – 10	0 – 10
B	> 10 – 15	> 10 – 20
C	> 15 – 25	> 20 – 35
D	> 25 – 35	> 35 – 55
E	> 35 – 50	> 55 – 80
F ²	> 50	> 80

¹ Highway Capacity Manual 7th Edition

² All movements with a volume-to-capacity (v/c) ratio greater than 1 receive a rating of LOS F.

Table 8 is from section 5.9 of the OATS Manual, which outlines the LOS criteria for intersections. Intersections exceeding LOS “D” do not meet operational goals as defined by the ODOT OATS Manual.

Table 8: Operational Goals of Intersections

Result	Operational Goal
Intersection LOS	D or better ¹
Approach LOS	E or better
Control LOS	E or better
v/c	All movements < 1.0 with < 0.93 preferred.
QSR	All movements < 1.0 from Synchro analysis, otherwise TransModeler may be needed to determine if queuing impacts upstream intersections.

¹ A LOS E may be acceptable at locations where a vulnerable road user project on a low-speed facility is implemented if the Build condition does not have significant adverse impact on the safety and operations within the study area.

v/c – Volume-to-capacity ratio, QSR = Queue-Storage ratio

BUILD CONDITION CAPACITY ANALYSIS

Table 9 summarizes the capacity analysis results for the study intersections at the morning and evening peak hours during the 2027 and 2047 Build conditions. HCS 2025 capacity analysis reports are included in **Appendix H**. All approaches operated at an acceptable LOS during 2027 and 2047 Build peak hour conditions.

Table 9: Build Weekday AM and PM Peak Hour – Study Intersections Capacity Analysis

Intersection	2027 Build AM			2027 Build PM			2047 Build AM			2047 Build PM		
	v/c	Delay (s/veh)	LOS									
▲ Blacklick Eastern Road NW and Site Access												
<i>Eastbound</i>	0.0	0.0	A	0.0	0.1	A	0.0	0.0	A	0.0	0.1	A
<i>Westbound</i>	0.02	0.5	A	0.04	1.3	A	0.02	0.5	A	0.05	1.3	A
<i>Northbound</i>	0.23	15.9	C	0.14	15.4	C	0.33	23.4	C	0.20	21.3	C
<i>Southbound</i>	0.0	10.8	B	0.01	15.3	C	0.0	12.3	B	0.03	20.5	C

▲ – Minor-Leg Stop-Controlled Intersection

BUILD MITIGATED CAPACITY ANALYSIS

Build Mitigated analysis was used to determine the operational benefits of potential mitigation measures to offset the impact of the increased traffic attributed to the proposed development and background traffic growth. The Build Mitigated condition included the following roadway improvements:

Blacklick Eastern Road NW and Site Access

- Construction of a 175-foot westbound left-turn lane, which includes a 50-foot diverging taper.

Table 10 summarizes the capacity analysis results for the study intersections at the morning and evening peak hours during the 2027 and 2047 Build Mitigated conditions. HCS 2025 capacity analysis reports are included in **Appendix I**. With the above mitigated improvements, all approaches operated at an acceptable LOS during 2027 and 2047 Build Mitigated peak hour conditions.

Table 10: Build Mitigated Weekday AM and PM Peak Hour – Study Intersections Capacity Analysis

Intersection	2027 Build Mitigated AM			2027 Build Mitigated PM			2047 Build Mitigated AM			2047 Build Mitigated PM		
	v/c	Delay (s/veh)	LOS									
▲ Blacklick Eastern Road NW and Site Access												
<i>Eastbound</i>	0.0	0.0	A	0.0	0.1	A	0.0	0.0	A	0.0	0.1	A
<i>Westbound</i>	0.02	0.3	A	0.04	0.9	A	0.02	0.3	A	0.05	0.7	A
<i>Northbound</i>	0.22	15.8	C	0.14	15.3	C	0.33	23.2	C	0.20	20.9	C
<i>Southbound</i>	0.0	10.8	B	0.01	15.2	C	0.0	12.3	B	0.03	20.2	C

▲ – Minor-Leg Stop-Controlled Intersection

CONCLUSIONS

Kimley-Horn conducted an analysis to examine the impact of a proposed residential development located south of Blacklick Eastern Road NW, between Toll Gate Road and Pickerington Road NW in Violet Township, Ohio. Based on an evaluation of traffic conditions at the study intersections, the addition of site-generated traffic is not expected to significantly impact existing traffic operations at the study intersections.

The following improvements are recommended based on the analysis of this study. Improvements recommended below are warranted based on the addition of site-generated traffic volumes.

Blacklick Eastern Road NW and Site Access

- Construction of 175-foot westbound left-turn lane, which includes a 50-foot diverging taper. This improvement requires widening on the west leg of the Blacklick Eastern Road NW and Site Access intersection. The existing 3-lane roadway section at the Optimara Drive and Blacklick Eastern Road NW intersection should be extended to the proposed site access (approximately 400 feet). Pavement markings are recommended to designate an eastbound left-turn lane into the Church Access.

APPENDIX

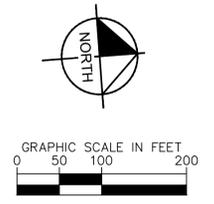
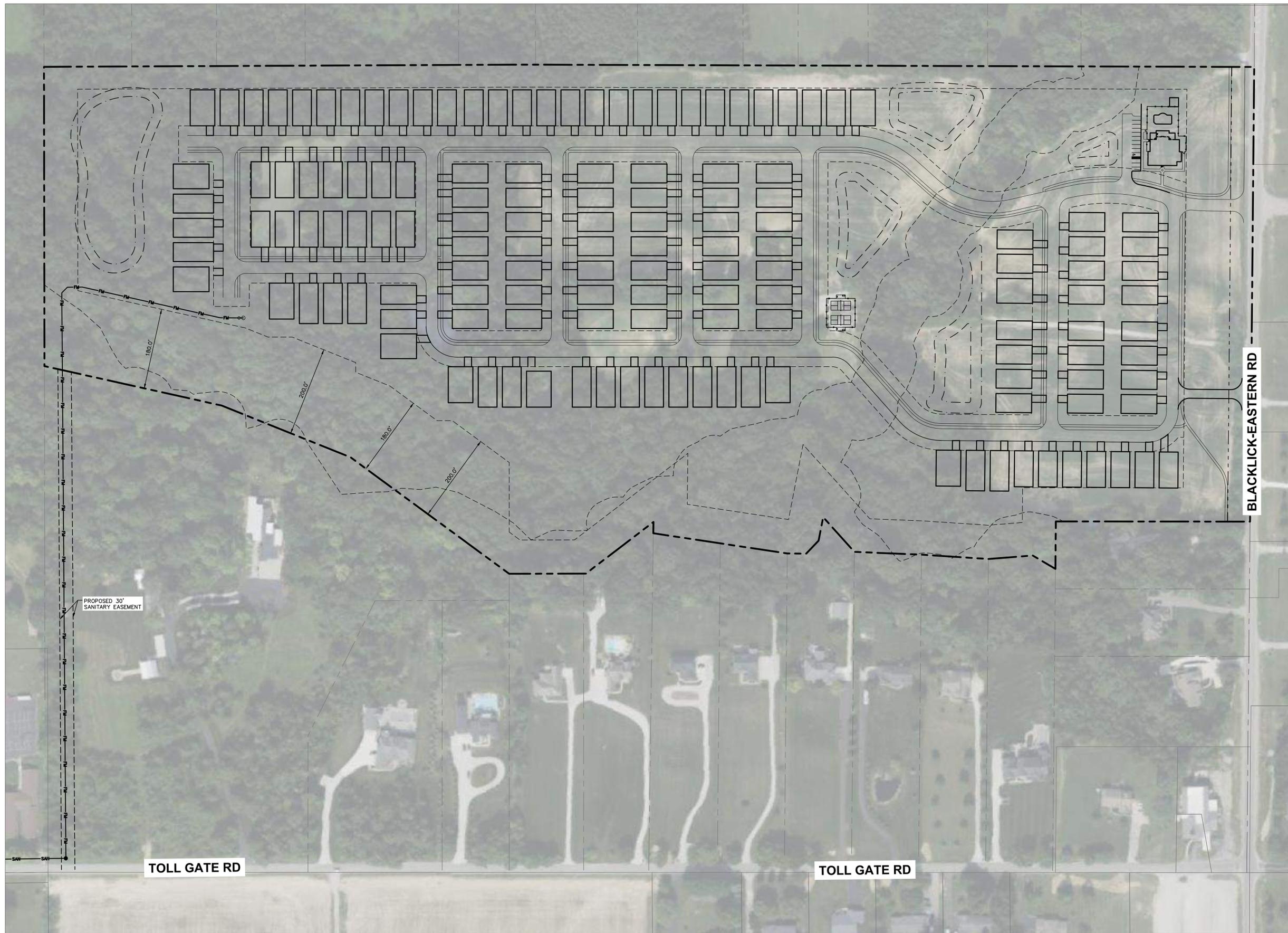
- A - Conceptual Site Plan**
- B – Memorandum of Understanding (MOU)**
- C – MioVision Traffic Count Data**
- D – MORPC Growth Rate**
- E – Data from *ITE Trip Generation, 12th Edition***
- F – Turn Lane Warrant Analysis**
- G – Turn Lane Length Calculations**
- H – 2027 Build HCS Capacity Analysis Outputs**
- I – 2047 Build HCS Capacity Analysis Outputs**

APPENDIX

A.

Conceptual Site Plan

Drawing name: K:\CIB_LDEV\190020005_Epcon_Violet Meadows\2 Design\04\Reference\Bases\190020005.dwg Layout1 Nov 04, 2025 10:06am by: Demetrius.Houses
 This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



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APPENDIX

B. Memorandum of Understanding (MOU)

MEMORANDUM

To: Brian Bosch, Ohio Department of Transportation (ODOT District 5)
From: Jacob Campbell, PE, Kimley-Horn
Mike Reeves, PE, Kimley-Horn
Date: July 11, 2025
Subject: Courtyards at Violet Meadows Development Memorandum of Understanding (MOU)

The purpose of this memo is to formalize the requirements of the Traffic Access Study for the proposed Courtyards at Violet Meadows development in Violet Township, Ohio. As illustrated in **Figure 1** below, the residential site is proposed to be constructed south of Blacklick Eastern Road NW, between Toll Gate Road and Pickerington Road NW. The 60.6-acre site is anticipated to include single-family detached housing. A copy of the conceptual site plan is provided in **Appendix A**. It should be noted that this is preliminary and is subject to changes.

Study Intersections

The following site access intersections will be analyzed as part of this study:

1. Blacklick Eastern Road NW and Access A
2. Blacklick Eastern Road NW and Access B

Access B is no longer a study intersection - it is an emergency access.

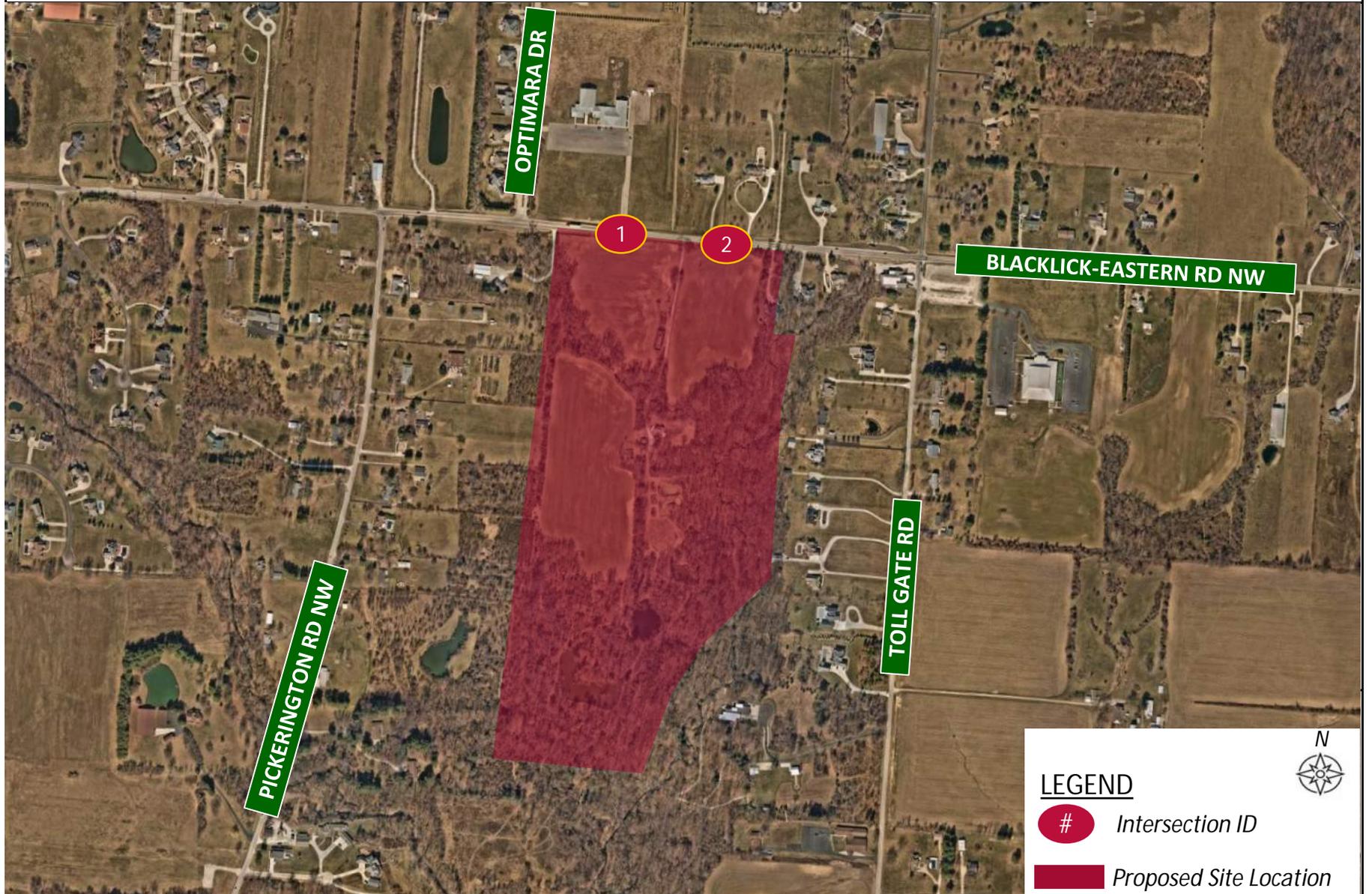
Data Collection

24-hour traffic counts will be collected at the following study intersection:

- Blacklick Eastern Road NW and Church Access

Area background traffic will be developed with consideration for regional growth over time. To estimate the growth in the ambient levels of traffic in the study area, an annual growth rate will be applied to existing traffic volumes in the study area. The growth rate will be requested from the Mid-Ohio Regional Planning Commission (MORPC).

Figure 1: Site Location Map



Courtyards at Violet Meadows - Violet Township, Ohio

Kimley»Horn

Traffic Volumes

To calculate trips generated by the proposed residential development, data was referenced from the Institute of Transportation Engineer’s (ITE) Trip Generation Manual, 11th Edition. The provided site plan shows 140 detached single-family lots. Trip generation rates for the ITE Land Use Code (LUC) corresponding to the proposed residential development are provided in **Table 1**.

Table 1: ITE Trip Generation Data – Residential Units

ITE Land Use	Units	Weekday		
		Daily	AM Peak Hour	PM Peak Hour
Single-Family Detached Housing (210)	140	$\ln(T) = 0.92 \ln(X) + 2.68$ 50% in/50% out	$\ln(T) = 0.91 \ln(X) + 0.12$ 25% in/75% out	$\ln(T) = 0.94 \ln(X) + 0.27$ 63% in/37% out

T – Site-generated trips X – Units

For this study, all site generated trips are expected to be primary trips when traveling to and from the subject site. Primary trips are trips to and from the proposed residential site that would not normally travel on the study roadways and are considered new trips within the study area. Per these assumptions, the proposed site generated traffic projections are illustrated in **Table 2**.

Table 2: Proposed Site Generated Traffic Projections - Residential

ITE Land Use	Units	Vehicle Type	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Single-Family Detached Housing (210)	140 Units	All	1,375	25	76	101	86	50	136

The estimated distribution of site-generated traffic on the surrounding roadway network as it approaches and departs the site is a function of several variables, such as the nature of surrounding land uses, prevailing traffic volumes/patterns, characteristics of the street system, and the ease with which motorists can travel over various sections of that system. To determine the percentage of traffic traveling to/from the proposed site, the study will include a comparison of recent traffic counts and mapped routing for travel times.

Analysis

The site access intersections will be evaluated for level-of-service (LOS) and the need for turn lanes for each study scenario. Analysis will be completed for the following AM and PM peak hour volumes scenarios:

- 2027 No Build
- 2047 No Build
- 2027 Build
- 2047 Build

Turn lane warrants will be completed per the guidance of section 400 of the ODOT Location & Design Manual, Volume 1. Capacity analysis at the site access intersections will be completed using HCS 2025 software.

Table 3 is from section 5.9 of the OATS Manual, which outlines the LOS criteria for intersections. The study area is inside of the MORPC MPO boundary, therefore, intersections exceeding LOS “D” do not meet operational goals as defined by the ODOT OATS Manual.

Table 3: Operational Goals of Intersections

Result	Inside an MPO	Outside of an MPO
Intersection LOS	D or better	C of better
Approach LOS	E or better	
Control LOS	E or better	
v/c	All movements < 1.0 with < 0.93 preferred.	
QSR	All movements < 1.0 from HCS analysis, otherwise TransModeler may be needed to determine if queuing impacts upstream intersections.	

v/c = Volume-to-capacity ratio, QSR = Queue-Storage ratio

The analysis results and recommendations will be documented in a summary report.

If you have any questions, need additional information, or would like to modify these study requirements, please contact me (Jacob.Campbell@kimley-horn.com). If you concur with the information provided in this memorandum of understanding, please sign and forward a copy for our records, or provide an email indicating your acceptance.



 Jacob Campbell, PE
 Kimley-Horn

 Brian Bosch, PE
 ODOT District 5

Cc: Mike Reeves, PE – Kimley-Horn
 Cc: Deja King, EIT – Kimley-Horn

APPENDIX

C.

MioVision Traffic Count Data

6789 Blacklick-Eastern Rd NW - TMC

Wed Oct 1, 2025

Full Length (12 AM-12 AM (+1))

All Classes (Lights and Motorcycles, Heavy)

All Movements

ID: 1342434, Location: 39.928636, -82.712548

Provided by: Kimley-Horn and Associates, Inc.
767 Eustis Street, Suite 100, Saint Paul, MN, 55114, US

Leg Direction	EB Blacklick-Eastern Rd NW Eastbound				WB Blacklick-Eastern Rd NW Westbound				SB Private Dr Southbound				Int
	L	T	U	App	T	R	U	App	L	R	U	App	
2025-10-01 12:00AM	0	3	0	3	2	0	0	2	0	0	0	0	5
12:15AM	0	3	0	3	0	0	0	0	0	0	0	0	3
12:30AM	0	1	0	1	0	0	0	0	0	0	0	0	1
12:45AM	0	1	0	1	0	0	0	0	0	0	0	0	1
Hourly Total	0	8	0	8	2	0	0	2	0	0	0	0	10
1:00AM	0	1	0	1	1	0	0	1	0	0	0	0	2
1:15AM	0	1	0	1	0	0	0	0	0	0	0	0	1
1:30AM	0	1	0	1	1	0	0	1	0	0	0	0	2
1:45AM	0	0	0	0	1	0	0	1	0	0	0	0	1
Hourly Total	0	3	0	3	3	0	0	3	0	0	0	0	6
2:00AM	0	1	0	1	1	0	0	1	0	0	0	0	2
2:15AM	0	2	0	2	1	0	0	1	0	0	0	0	3
2:30AM	0	1	0	1	3	0	0	3	0	0	0	0	4
2:45AM	0	0	0	0	1	0	0	1	0	0	0	0	1
Hourly Total	0	4	0	4	6	0	0	6	0	0	0	0	10
3:00AM	0	1	0	1	1	0	0	1	0	0	0	0	2
3:15AM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30AM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45AM	0	2	0	2	0	0	0	0	0	0	0	0	2
Hourly Total	0	3	0	3	1	0	0	1	0	0	0	0	4
4:00AM	0	2	0	2	2	0	0	2	0	0	0	0	4
4:15AM	0	3	0	3	2	0	0	2	0	0	0	0	5
4:30AM	0	2	0	2	2	0	0	2	0	0	0	0	4
4:45AM	0	4	0	4	1	0	0	1	0	0	0	0	5
Hourly Total	0	11	0	11	7	0	0	7	0	0	0	0	18
5:00AM	0	8	0	8	5	0	0	5	0	0	0	0	13
5:15AM	0	9	0	9	3	0	0	3	0	0	0	0	12
5:30AM	1	16	0	17	1	0	0	1	0	0	0	0	18
5:45AM	0	11	0	11	4	0	0	4	0	0	0	0	15
Hourly Total	1	44	0	45	13	0	0	13	0	0	0	0	58
6:00AM	0	21	0	21	7	0	0	7	0	0	0	0	28
6:15AM	0	32	0	32	12	0	0	12	0	0	0	0	44
6:30AM	0	45	0	45	21	0	0	21	1	0	0	1	67
6:45AM	0	61	0	61	39	0	0	39	0	0	0	0	100
Hourly Total	0	159	0	159	79	0	0	79	1	0	0	1	239
7:00AM	0	53	0	53	57	0	0	57	0	0	0	0	110
7:15AM	1	57	0	58	78	0	0	78	0	1	0	1	137
7:30AM	0	70	0	70	120	0	0	120	0	0	0	0	190
7:45AM	0	72	0	72	75	0	0	75	0	0	0	0	147
Hourly Total	1	252	0	253	330	0	0	330	0	1	0	1	584
8:00AM	0	64	0	64	44	0	0	44	0	0	0	0	108
8:15AM	0	62	0	62	59	0	0	59	0	0	0	0	121
8:30AM	0	73	0	73	55	0	0	55	1	0	0	1	129
8:45AM	0	75	0	75	68	1	0	69	0	0	0	0	144
Hourly Total	0	274	0	274	226	1	0	227	1	0	0	1	502
9:00AM	1	54	0	55	52	0	0	52	0	1	0	1	108
9:15AM	0	34	0	34	40	0	0	40	0	0	0	0	74
9:30AM	0	36	0	36	34	1	0	35	0	0	0	0	71
9:45AM	0	33	0	33	31	0	0	31	0	0	0	0	64
Hourly Total	1	157	0	158	157	1	0	158	0	1	0	1	317
10:00AM	0	28	0	28	25	0	0	25	0	0	0	0	53
10:15AM	0	36	0	36	20	1	0	21	0	0	0	0	57
10:30AM	0	29	0	29	23	0	0	23	1	0	0	1	53
10:45AM	0	36	0	36	25	0	0	25	0	0	0	0	61

Leg Direction	EB Blacklick-Eastern Rd NW				WB Blacklick-Eastern Rd NW				SB Private Dr				Int
	Eastbound				Westbound				Southbound				
Time	L	T	U	App	T	R	U	App	L	R	U	App	
Hourly Total	0	129	0	129	93	1	0	94	1	0	0	1	224
11:00AM	0	35	0	35	32	0	0	32	0	0	0	0	67
11:15AM	0	44	0	44	29	1	0	30	0	0	0	0	74
11:30AM	0	27	0	27	40	0	0	40	0	0	0	0	67
11:45AM	0	32	0	32	44	1	0	45	0	0	0	0	77
Hourly Total	0	138	0	138	145	2	0	147	0	0	0	0	285
12:00PM	0	49	0	49	41	0	0	41	0	0	0	0	90
12:15PM	0	43	0	43	41	0	0	41	0	1	0	1	85
12:30PM	1	29	0	30	35	0	0	35	0	1	0	1	66
12:45PM	0	46	0	46	44	0	0	44	1	0	0	1	91
Hourly Total	1	167	0	168	161	0	0	161	1	2	0	3	332
1:00PM	0	33	0	33	35	0	0	35	0	0	0	0	68
1:15PM	0	33	0	33	26	0	0	26	0	0	0	0	59
1:30PM	0	36	0	36	41	0	0	41	0	0	0	0	77
1:45PM	1	41	1	43	40	0	0	40	0	1	0	1	84
Hourly Total	1	143	1	145	142	0	0	142	0	1	0	1	288
2:00PM	2	51	0	53	27	0	0	27	0	0	0	0	80
2:15PM	1	30	0	31	30	0	0	30	1	1	0	2	63
2:30PM	0	39	0	39	41	0	0	41	0	0	0	0	80
2:45PM	3	62	0	65	44	1	0	45	0	2	0	2	112
Hourly Total	6	182	0	188	142	1	0	143	1	3	0	4	335
3:00PM	1	86	0	87	48	0	0	48	2	0	0	2	137
3:15PM	1	75	0	76	82	1	0	83	0	2	0	2	161
3:30PM	0	55	0	55	79	0	0	79	0	0	0	0	134
3:45PM	0	64	0	64	70	0	0	70	1	0	0	1	135
Hourly Total	2	280	0	282	279	1	0	280	3	2	0	5	567
4:00PM	2	62	0	64	76	1	0	77	1	0	0	1	142
4:15PM	1	57	0	58	71	1	0	72	1	1	0	2	132
4:30PM	2	59	0	61	84	0	0	84	1	1	0	2	147
4:45PM	1	60	0	61	88	1	0	89	0	2	0	2	152
Hourly Total	6	238	0	244	319	3	0	322	3	4	0	7	573
5:00PM	1	51	0	52	76	0	0	76	0	0	0	0	128
5:15PM	1	68	0	69	97	2	0	99	3	2	0	5	173
5:30PM	0	61	0	61	94	0	0	94	0	0	0	0	155
5:45PM	1	90	0	91	84	2	0	86	0	1	0	1	178
Hourly Total	3	270	0	273	351	4	0	355	3	3	0	6	634
6:00PM	0	60	0	60	54	1	0	55	0	1	0	1	116
6:15PM	1	63	0	64	45	0	0	45	1	0	0	1	110
6:30PM	0	53	0	53	55	0	0	55	0	0	0	0	108
6:45PM	0	44	0	44	31	1	0	32	0	0	0	0	76
Hourly Total	1	220	0	221	185	2	0	187	1	1	0	2	410
7:00PM	0	20	0	20	52	0	0	52	0	0	0	0	72
7:15PM	0	42	0	42	31	0	0	31	0	0	0	0	73
7:30PM	1	45	0	46	49	0	0	49	0	1	0	1	96
7:45PM	0	34	0	34	43	1	0	44	0	0	0	0	78
Hourly Total	1	141	0	142	175	1	0	176	0	1	0	1	319
8:00PM	0	23	0	23	33	0	0	33	0	0	0	0	56
8:15PM	0	20	0	20	27	0	0	27	1	0	0	1	48
8:30PM	0	25	0	25	20	0	0	20	1	0	0	1	46
8:45PM	0	23	0	23	17	0	0	17	0	0	0	0	40
Hourly Total	0	91	0	91	97	0	0	97	2	0	0	2	190
9:00PM	0	34	0	34	14	0	0	14	1	0	0	1	49
9:15PM	0	15	0	15	21	0	0	21	0	1	0	1	37
9:30PM	0	15	0	15	15	0	0	15	0	0	0	0	30
9:45PM	0	16	0	16	13	0	0	13	0	0	0	0	29
Hourly Total	0	80	0	80	63	0	0	63	1	1	0	2	145
10:00PM	0	9	0	9	9	0	0	9	0	0	0	0	18
10:15PM	0	12	0	12	8	0	0	8	0	0	0	0	20
10:30PM	0	6	0	6	5	0	0	5	0	0	0	0	11
10:45PM	0	8	0	8	2	0	0	2	0	0	0	0	10

Leg Direction	EB Blacklick-Eastern Rd NW Eastbound				WB Blacklick-Eastern Rd NW Westbound				SB Private Dr Southbound				
Time	L	T	U	App	T	R	U	App	L	R	U	App	Int
Hourly Total	0	35	0	35	24	0	0	24	0	0	0	0	59
11:00PM	0	3	0	3	5	0	0	5	0	0	0	0	8
11:15PM	0	2	0	2	4	0	0	4	0	0	0	0	6
11:30PM	0	1	0	1	2	0	0	2	0	0	0	0	3
11:45PM	0	4	0	4	3	0	1	4	0	0	0	0	8
Hourly Total	0	10	0	10	14	0	1	15	0	0	0	0	25
Total	24	3039	1	3064	3014	17	1	3032	18	20	0	38	6134
% Approach	0.8%	99.2%	0%	-	99.4%	0.6%	0%	-	47.4%	52.6%	0%	-	-
% Total	0.4%	49.5%	0%	50.0%	49.1%	0.3%	0%	49.4%	0.3%	0.3%	0%	0.6%	-
Lights and Motorcycles	22	2947	1	2970	2926	16	1	2943	18	17	0	35	5948
% Lights and Motorcycles	91.7%	97.0%	100%	96.9%	97.1%	94.1%	100%	97.1%	100%	85.0%	0%	92.1%	97.0%
Heavy	2	92	0	94	88	1	0	89	0	3	0	3	186
% Heavy	8.3%	3.0%	0%	3.1%	2.9%	5.9%	0%	2.9%	0%	15.0%	0%	7.9%	3.0%

*L: Left, R: Right, T: Thru, U: U-Turn

6789 Blacklick-Eastern Rd NW - TMC
 Wed Oct 1, 2025
 Full Length (12 AM-12 AM (+1))
 All Classes (Lights and Motorcycles, Heavy)
 All Movements
 ID: 1342434, Location: 39.928636, -82.712548

Provided by: Kimley-Horn and Associates, Inc.
 767 Eustis Street, Suite 100, Saint Paul, MN, 55114, US

[N] SB Private Dr

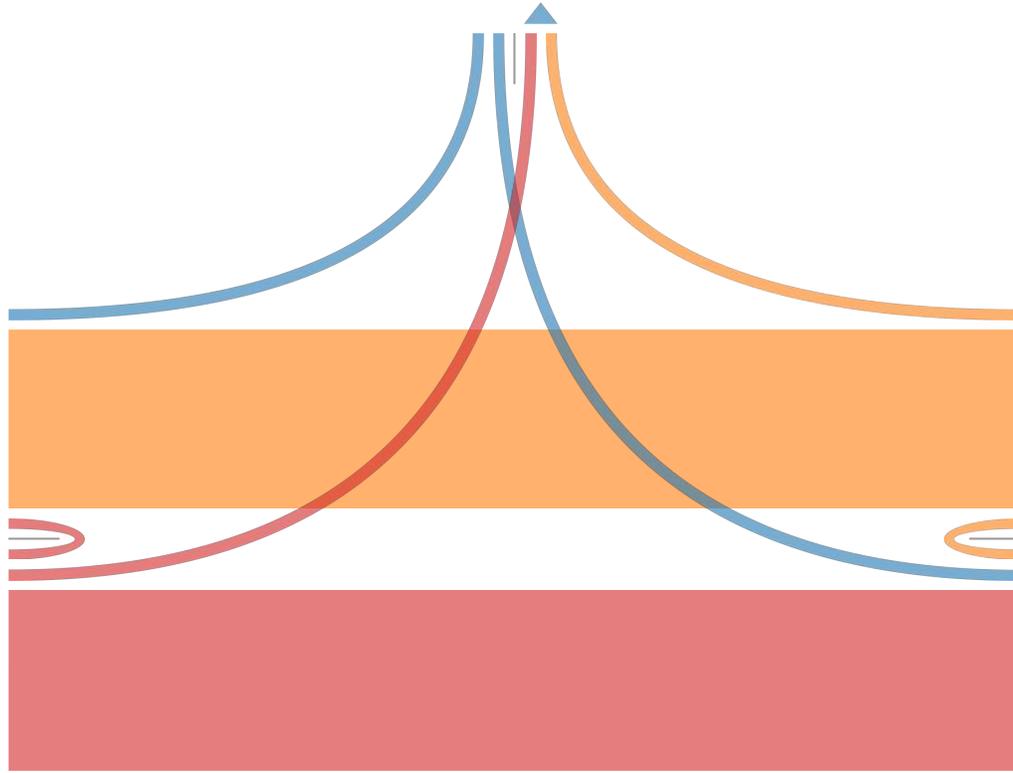
Total: 79
 In: 38 Out: 41

20
 18

[W] EB Blacklick-Eastern Rd NW

Total: 6099
 In: 3064 Out: 3035

1
 24
 3039



17
 3014
 1

[E] WB Blacklick-Eastern Rd NW

Out: 3058 In: 3032
 Total: 6090

6789 Blacklick-Eastern Rd NW - TMC

Wed Oct 1, 2025

AM Peak (7 AM - 8 AM)

All Classes (Lights and Motorcycles, Heavy)

All Movements

ID: 1342434, Location: 39.928636, -82.712548

Provided by: Kimley-Horn and Associates, Inc.
767 Eustis Street, Suite 100, Saint Paul, MN, 55114, US

Leg Direction	EB Blacklick-Eastern Rd NW Eastbound				WB Blacklick-Eastern Rd NW Westbound				SB Private Dr Southbound				
Time	L	T	U	App	T	R	U	App	L	R	U	App	Int
2025-10-01 7:00AM	0	53	0	53	57	0	0	57	0	0	0	0	110
7:15AM	1	57	0	58	78	0	0	78	0	1	0	1	137
7:30AM	0	70	0	70	120	0	0	120	0	0	0	0	190
7:45AM	0	72	0	72	75	0	0	75	0	0	0	0	147
Total	1	252	0	253	330	0	0	330	0	1	0	1	584
% Approach	0.4%	99.6%	0%	-	100%	0%	0%	-	0%	100%	0%	-	-
% Total	0.2%	43.2%	0%	43.3%	56.5%	0%	0%	56.5%	0%	0.2%	0%	0.2%	-
PHF	0.250	0.875	-	0.878	0.688	-	-	0.688	-	0.250	-	0.250	0.768
Lights and Motorcycles	1	250	0	251	319	0	0	319	0	1	0	1	571
% Lights and Motorcycles	100%	99.2%	0%	99.2%	96.7%	0%	0%	96.7%	0%	100%	0%	100%	97.8%
Heavy	0	2	0	2	11	0	0	11	0	0	0	0	13
% Heavy	0%	0.8%	0%	0.8%	3.3%	0%	0%	3.3%	0%	0%	0%	0%	2.2%

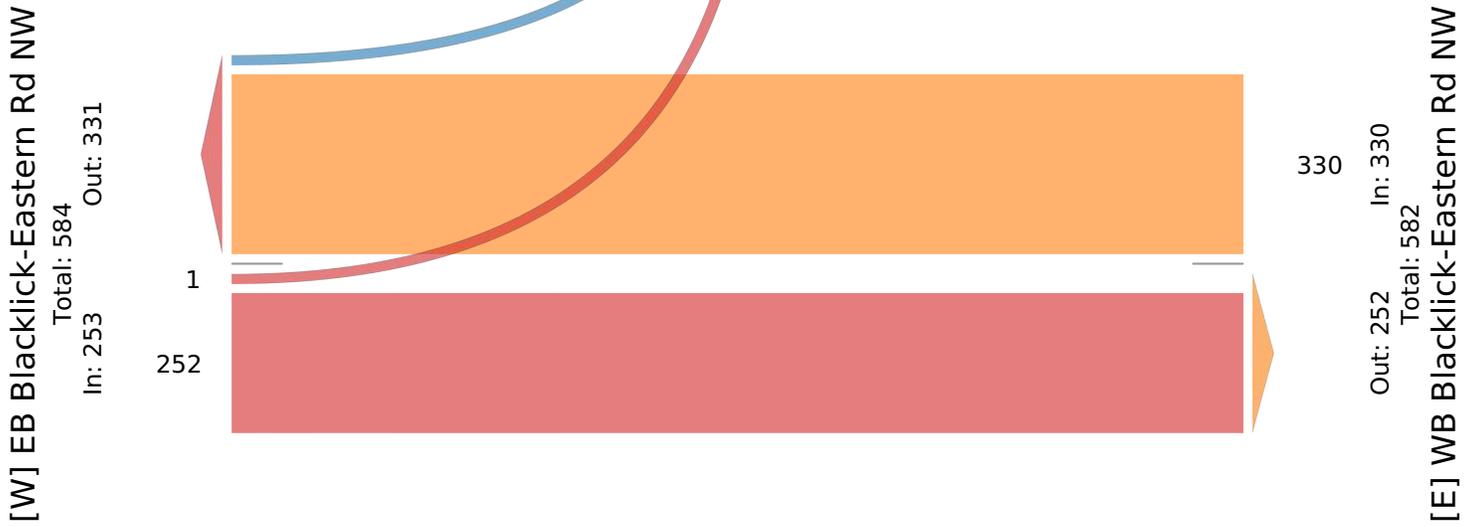
*L: Left, R: Right, T: Thru, U: U-Turn

6789 Blacklick-Eastern Rd NW - TMC
Wed Oct 1, 2025
AM Peak (7 AM - 8 AM)
All Classes (Lights and Motorcycles, Heavy)
All Movements
ID: 1342434, Location: 39.928636, -82.712548

Provided by: Kimley-Horn and Associates, Inc.
767 Eustis Street, Suite 100, Saint Paul, MN, 55114, US

[N] SB Private Dr

Total: 2
In: 1 Out: 1



6789 Blacklick-Eastern Rd NW - TMC

Wed Oct 1, 2025

Midday Peak (12 PM - 1 PM)

All Classes (Lights and Motorcycles, Heavy)

All Movements

ID: 1342434, Location: 39.928636, -82.712548

Provided by: Kimley-Horn and Associates, Inc.
767 Eustis Street, Suite 100, Saint Paul, MN, 55114, US

Leg Direction	EB Blacklick-Eastern Rd NW Eastbound				WB Blacklick-Eastern Rd NW Westbound				SB Private Dr Southbound				
Time	L	T	U	App	T	R	U	App	L	R	U	App	Int
2025-10-01 12:00PM	0	49	0	49	41	0	0	41	0	0	0	0	90
12:15PM	0	43	0	43	41	0	0	41	0	1	0	1	85
12:30PM	1	29	0	30	35	0	0	35	0	1	0	1	66
12:45PM	0	46	0	46	44	0	0	44	1	0	0	1	91
Total	1	167	0	168	161	0	0	161	1	2	0	3	332
% Approach	0.6%	99.4%	0%	-	100%	0%	0%	-	33.3%	66.7%	0%	-	-
% Total	0.3%	50.3%	0%	50.6%	48.5%	0%	0%	48.5%	0.3%	0.6%	0%	0.9%	-
PHF	0.250	0.852	-	0.857	0.915	-	-	0.915	0.250	0.500	-	0.750	0.912
Lights and Motorcycles	1	156	0	157	150	0	0	150	1	2	0	3	310
% Lights and Motorcycles	100%	93.4%	0%	93.5%	93.2%	0%	0%	93.2%	100%	100%	0%	100%	93.4%
Heavy	0	11	0	11	11	0	0	11	0	0	0	0	22
% Heavy	0%	6.6%	0%	6.5%	6.8%	0%	0%	6.8%	0%	0%	0%	0%	6.6%

*L: Left, R: Right, T: Thru, U: U-Turn

6789 Blacklick-Eastern Rd NW - TMC

Wed Oct 1, 2025

PM Peak (5 PM - 6 PM) - Overall Peak Hour

All Classes (Lights and Motorcycles, Heavy)

All Movements

ID: 1342434, Location: 39.928636, -82.712548

Provided by: Kimley-Horn and Associates, Inc.
767 Eustis Street, Suite 100, Saint Paul, MN, 55114, US

Leg Direction	EB Blacklick-Eastern Rd NW Eastbound				WB Blacklick-Eastern Rd NW Westbound				SB Private Dr Southbound				Int
	L	T	U	App	T	R	U	App	L	R	U	App	
2025-10-01 5:00PM	1	51	0	52	76	0	0	76	0	0	0	0	128
5:15PM	1	68	0	69	97	2	0	99	3	2	0	5	173
5:30PM	0	61	0	61	94	0	0	94	0	0	0	0	155
5:45PM	1	90	0	91	84	2	0	86	0	1	0	1	178
Total	3	270	0	273	351	4	0	355	3	3	0	6	634
% Approach	1.1%	98.9%	0%	-	98.9%	1.1%	0%	-	50.0%	50.0%	0%	-	-
% Total	0.5%	42.6%	0%	43.1%	55.4%	0.6%	0%	56.0%	0.5%	0.5%	0%	0.9%	-
PHF	0.750	0.750	-	0.750	0.905	0.500	-	0.896	0.250	0.375	-	0.300	0.890
Lights and Motorcycles	2	258	0	260	347	4	0	351	3	2	0	5	616
% Lights and Motorcycles	66.7%	95.6%	0%	95.2%	98.9%	100%	0%	98.9%	100%	66.7%	0%	83.3%	97.2%
Heavy	1	12	0	13	4	0	0	4	0	1	0	1	18
% Heavy	33.3%	4.4%	0%	4.8%	1.1%	0%	0%	1.1%	0%	33.3%	0%	16.7%	2.8%

*L: Left, R: Right, T: Thru, U: U-Turn

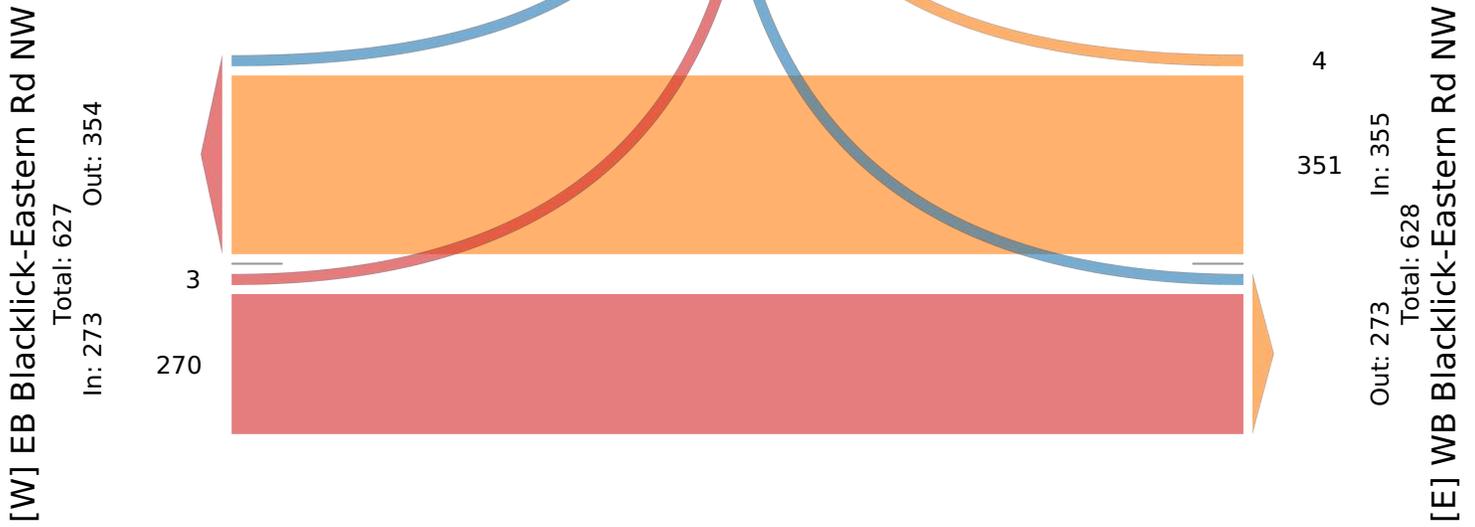
6789 Blacklick-Eastern Rd NW - TMC
 Wed Oct 1, 2025
 PM Peak (5 PM - 6 PM) - Overall Peak Hour
 All Classes (Lights and Motorcycles, Heavy)
 All Movements
 ID: 1342434, Location: 39.928636, -82.712548

Provided by: Kimley-Horn and Associates, Inc.
 767 Eustis Street, Suite 100, Saint Paul, MN, 55114, US

[N] SB Private Dr

Total: 13
 In: 6 Out: 7

mm



APPENDIX

D. MORPC Growth Rate Correspondence

From: Hwashik Jang <hjang@morpc.org>
Sent: Thursday, November 6, 2025 3:53 PM
To: Agbemabiase, Sena
Cc: Campbell, Jacob; King, Deja; Raj Roy; Traffic
Subject: Re: Violet Meadows Growth Request

Sena,

We have completed processing growth rates for your traffic study intersection.

Please use linear annual growth rates as summarized below.

<u>Location</u>	<u>Linear Annual Growth Rate</u>
SR 204 e/o Private Dr	2.00%
Private Dr n/o SR 204	1.20%
SR 204 w/o Private Dr	2.00%

Note: The above rate was derived based on planning level analysis by using MORPC's regional travel demand model.

If you have any questions, please let me know.

Thanks,

HWASHIK JANG

Senior Planner, Data & Mapping | Mid-Ohio Regional Planning Commission

T: 614.233.4145

111 Liberty Street, Suite 100 | Columbus, OH 43215



APPENDIX

E.

Data from ITE Trip Generation, 12th Edition

Land Use: 210

Single-Family Detached Housing

Description

A single-family detached housing site includes any single-family detached home on an individual lot. A typical site surveyed is a suburban subdivision.

Specialized Land Use

Data have been submitted for several single-family detached housing developments with homes that are commonly referred to as patio homes. A patio home is a detached housing unit that is located on a small lot with little (or no) front or back yard. In some subdivisions, communal maintenance of outside grounds is provided for the patio homes. The three patio home sites total 299 dwelling units with overall weighted average trip generation rates of 5.35 vehicle trips per dwelling unit for weekday, 0.26 for the AM adjacent street peak hour, and 0.47 for the PM adjacent street peak hour. These patio home rates, based on a small sample of sites, are lower than those for single-family detached housing (Land Use 210), lower than those for single-family attached housing (Land Use 215), and higher than those for senior adult housing—single-family (Land Use 251). (Source 1008)

Additional Data

The sites were surveyed in the 1990s, the 2000s, the 2010s, and the 2020s in Alabama, Arizona, British Columbia (CAN), California, Delaware, Illinois, Kentucky, Massachusetts, Minnesota, Montana, New Jersey, New York, North Carolina, Ontario (CAN), Oregon, Pennsylvania, South Carolina, South Dakota, Vermont, and West Virginia.

Source Numbers

356, 357, 367, 384, 387, 407, 435, 522, 550, 552, 579, 598, 601, 603, 614, 637, 711, 716, 720, 728, 735, 868, 869, 903, 925, 936, 1005, 1007, 1008, 1010, 1033, 1066, 1077, 1078, 1079, 1204, 1221, 1225, 1236, 1251, 1265, 1267

Single-Family Detached Housing (210)

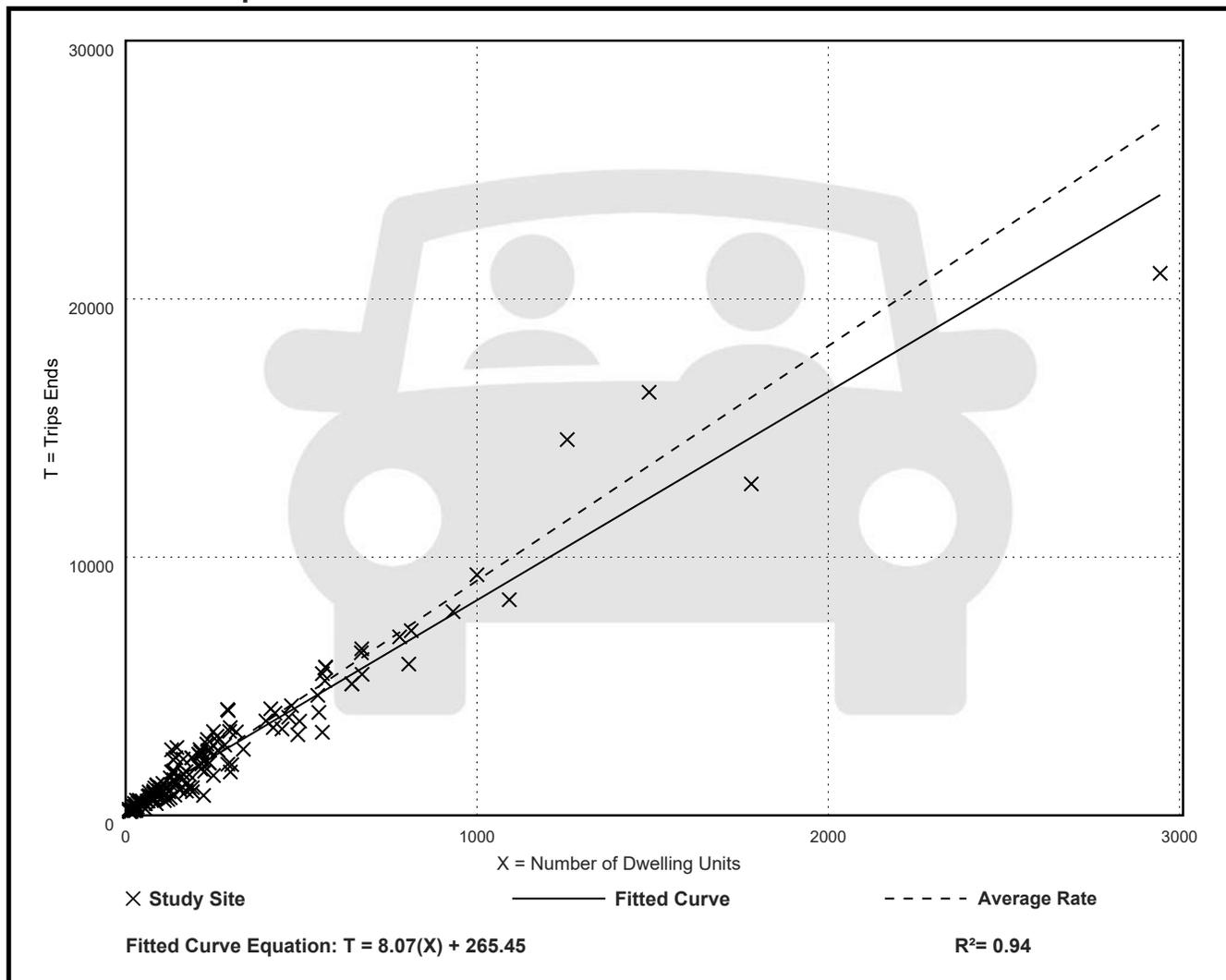
Vehicle Trip Ends vs: Dwelling Units
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 155
Avg. Num. of Dwelling Units: 261
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
9.09	3.47 - 23.80	2.29

Data Plot and Equation



Single-Family Detached Housing (210)

Vehicle Trip Ends vs: Dwelling Units

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: 153

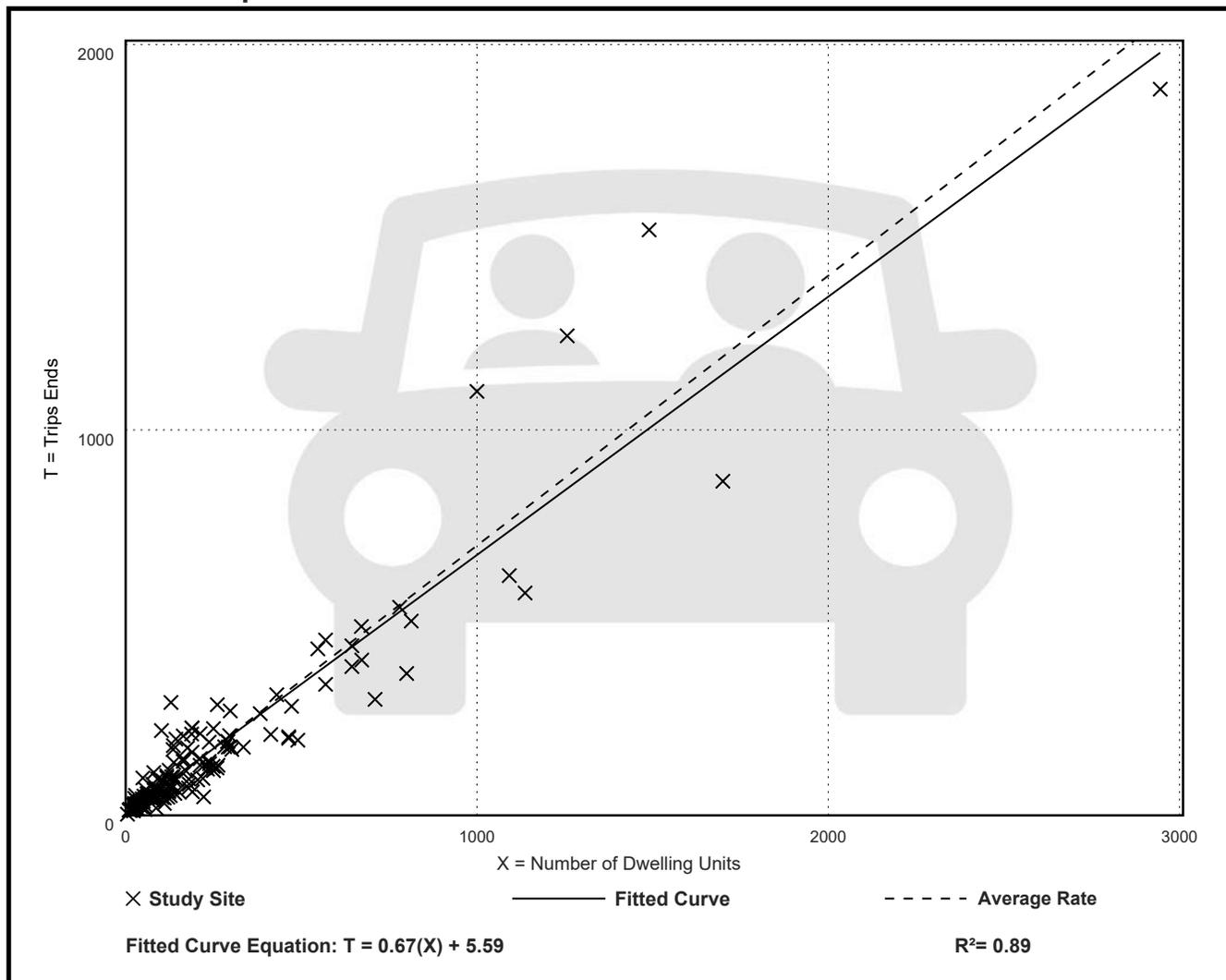
Avg. Num. of Dwelling Units: 239

Directional Distribution: 27% entering, 73% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.70	0.22 - 2.27	0.26

Data Plot and Equation



Single-Family Detached Housing (210)

Vehicle Trip Ends vs: Dwelling Units

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: 166

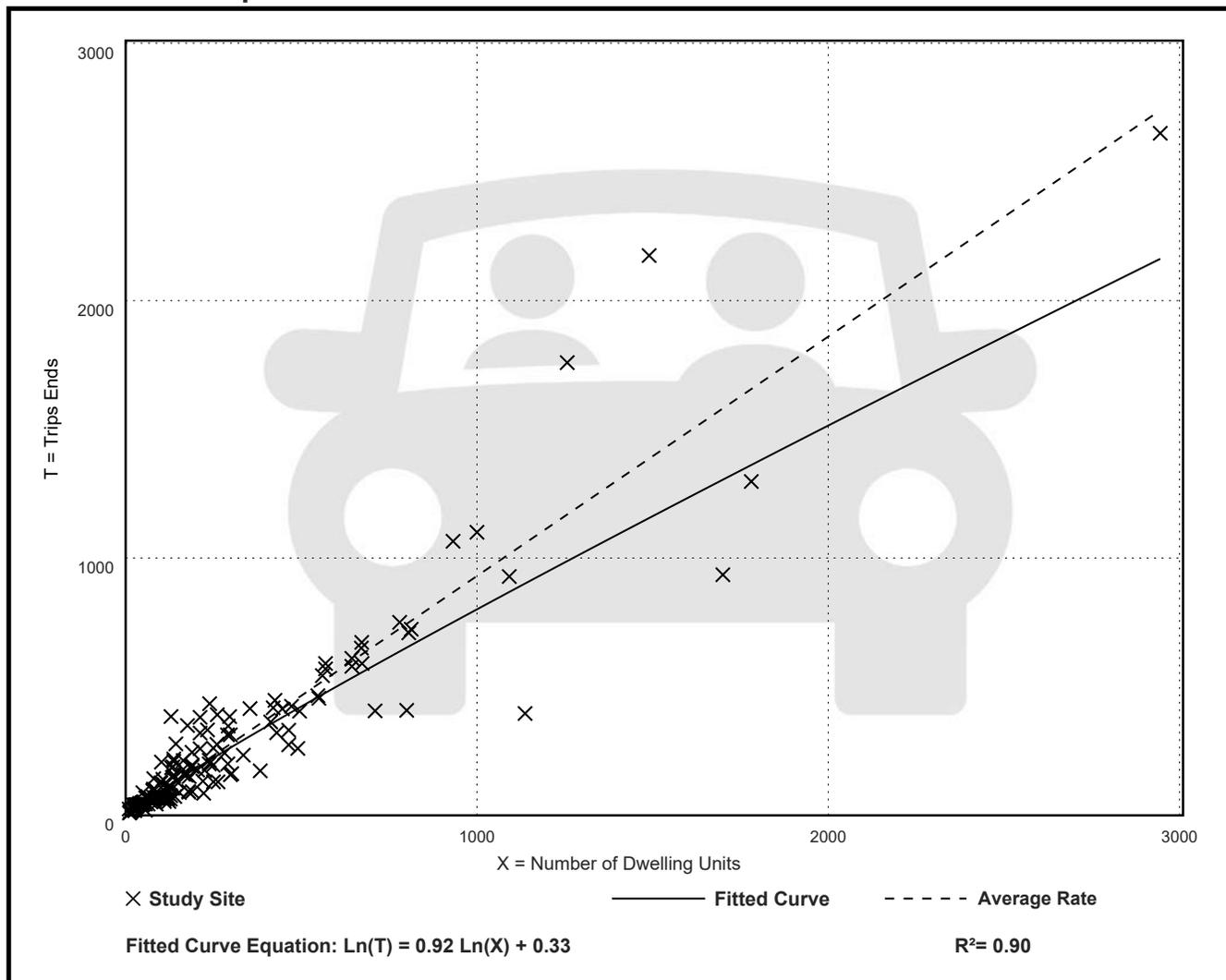
Avg. Num. of Dwelling Units: 266

Directional Distribution: 62% entering, 38% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.93	0.35 - 2.98	0.33

Data Plot and Equation

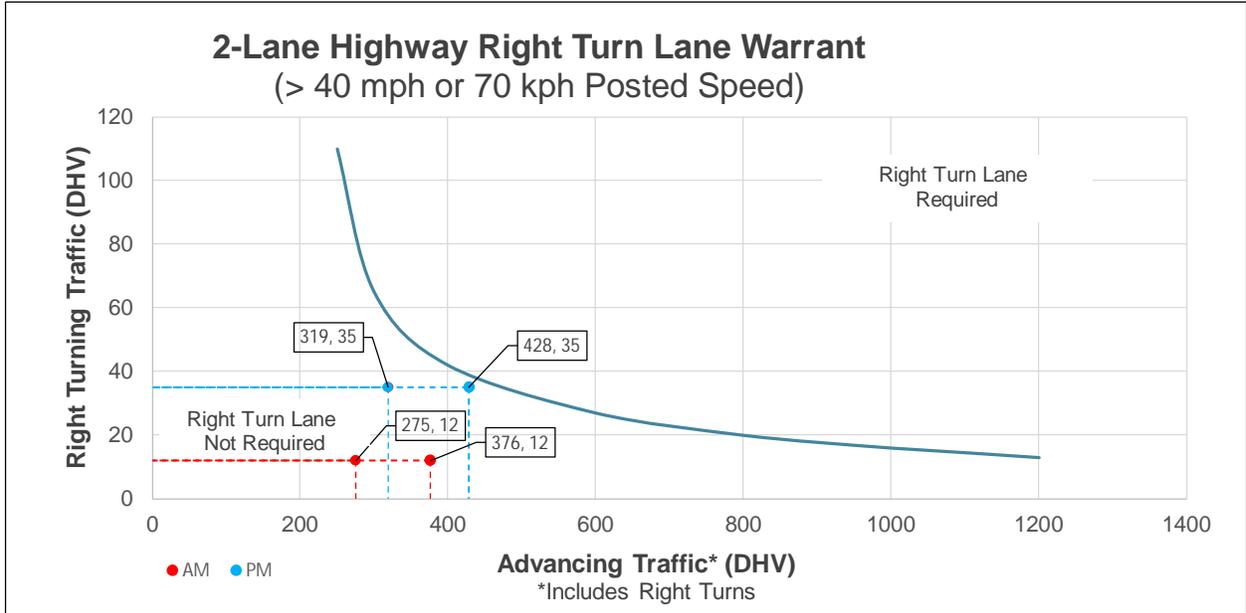


APPENDIX

F.

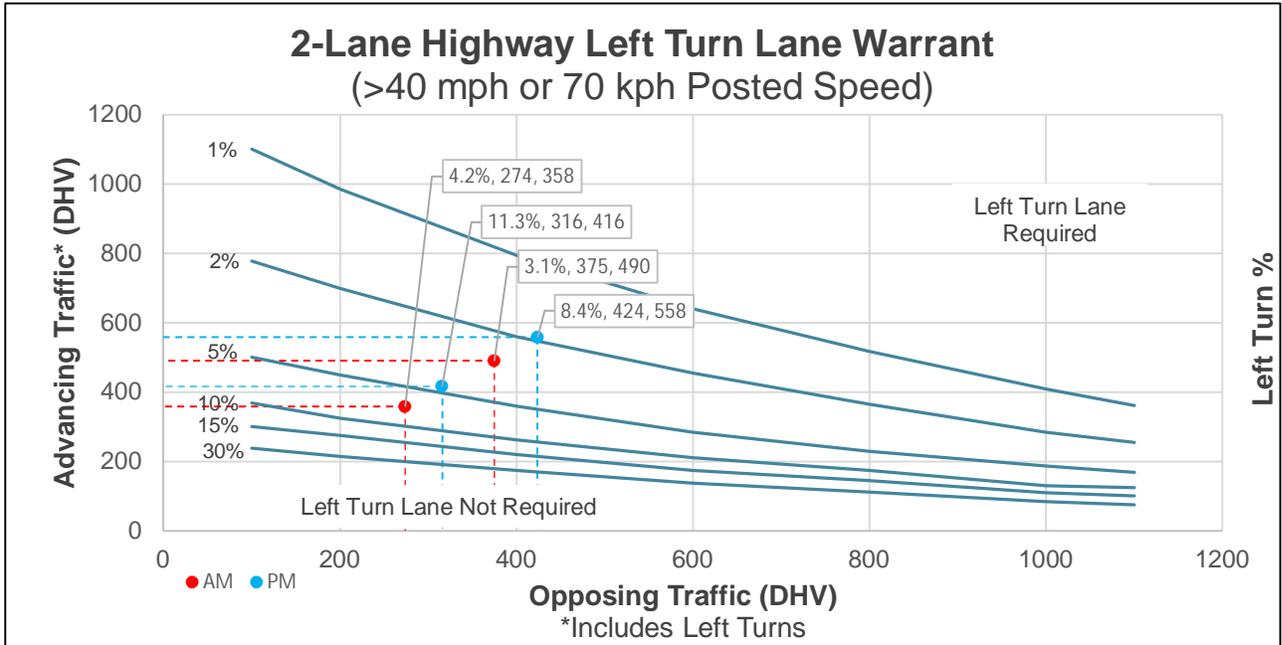
Turn Lane Warrant Analysis

Project: Courtyards at Violet Meadows
 Intersection: Blacklick Eastern Rd & Site Access
 Turning Movement: EBRT



	2027 AM Peak	2027 PM Peak	2047 AM Peak	2047 PM Peak
Design Speed (mph)	45	45	45	45
Right Turning Traffic (dhv)	12	35	12	35
Advancing Traffic (VPH)	275	319	376	428
Is Right Turn Warrant Met?	No	No	No	No

Project: Courtyards at Violet Meadows
 Intersection: Blacklick Eastern Rd & Site Access
 Turning Movement: WBLT



	2027 AM Peak	2027 PM Peak	2047 AM Peak	2047 PM Peak
Design Speed (mph)	45	45	45	45
Left Turn Volume (VPH)	15	47	15	47
Advancing Traffic (DHV)	358	416	490	558
Opposing Volume (VPH)	274	316	375	424
Left Turn Percentage	4.2%	11.3%	3.1%	8.4%
Is Left Turn Warrant Met?	No	Yes	Yes	Yes

APPENDIX

G.

Turn Lane Length Calculations

2027 Build		Blacklick Eastern Rd & Site Access								
Movement	Design Speed (mph)	# of Lanes		Peak	Thru Lane DHV	Turn Lane DHV	Calculated Turn Lane (FT)	Thru Movement Backup (FT)	Blocked	Recommended Turn Lane (FT)
		Thru	Turn							
EBL	45	0	0	AM	274	1	N/A	N/A	N/A	N/A
				PM	316	3	N/A	N/A	N/A	
EBR		0	0	AM	263	12	N/A	N/A	N/A	N/A
				PM	284	35	N/A	N/A	N/A	
WBL	45	1	1	AM	343	15	175	300	N/A	175
				PM	365	47	175	325	N/A	
WBR		1	0	AM	343	0	N/A	N/A	N/A	N/A
				PM	365	4	N/A	N/A	N/A	
NBL	25	1	0	AM	42	32	N/A	N/A	N/A	N/A
				PM	28	22	N/A	N/A	N/A	
NBR		1	0	AM	32	42	N/A	N/A	N/A	N/A
				PM	22	28	N/A	N/A	N/A	
SBL	25	1	0	AM	1	0	N/A	N/A	N/A	N/A
				PM	3	3	N/A	N/A	N/A	
SBR		1	0	AM	0	1	N/A	N/A	N/A	N/A
				PM	0	3	N/A	N/A	N/A	

2047 Build		Blacklick Eastern Rd & Site Access								
Movement	Design Speed (mph)	# of Lanes		Peak	Thru Lane DHV	Turn Lane DHV	Calculated Turn Lane (FT)	Thru Movement Backup (FT)	Blocked	Recommended Turn Lane (FT)
		Thru	Turn							
EBL	45	0	0	AM	375	1	N/A	N/A	N/A	N/A
				PM	424	4	N/A	N/A	N/A	
EBR		0	0	AM	364	12	N/A	N/A	N/A	N/A
				PM	393	35	N/A	N/A	N/A	
WBL	45	1	1	AM	475	15	175	375	N/A	175
				PM	505	47	175	400	N/A	
WBR		1	0	AM	475	0	N/A	N/A	N/A	N/A
				PM	505	6	N/A	N/A	N/A	
NBL	25	1	0	AM	42	32	N/A	N/A	N/A	N/A
				PM	28	22	N/A	N/A	N/A	
NBR		1	0	AM	32	42	N/A	N/A	N/A	N/A
				PM	22	28	N/A	N/A	N/A	
SBL	25	1	0	AM	1	0	N/A	N/A	N/A	N/A
				PM	4	4	N/A	N/A	N/A	
SBR		1	0	AM	0	1	N/A	N/A	N/A	N/A
				PM	0	4	N/A	N/A	N/A	

APPENDIX

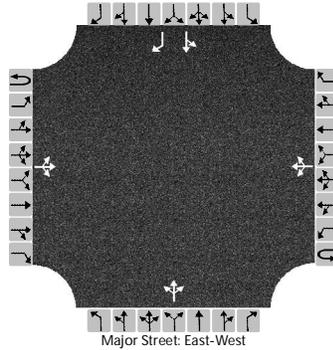
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HCS 2025 Build Capacity Analysis Outputs

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	Kimley-Horn			Intersection	Blacklick-Eastern Road NW and Access A		
Agency/Co.				Jurisdiction	ODOT District 5		
Date Performed	11/10/2025			East/West Street	Blacklick-Eastern Road NW		
Analysis Year	2027			North/South Street	Site Access		
Time Analyzed	AM Peak			Peak Hour Factor	0.77		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	Courtyards at Violet Meadows						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	1
Configuration			LTR				LTR				LTR			LT		R
Volume (veh/h)		1	262	12		15	343	0		32	0	42		0	0	1
Percent Heavy Vehicles (%)		1				3				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized													No			
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.11				4.13				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.21				2.23				3.50	4.00	3.30		3.50	4.00	3.30

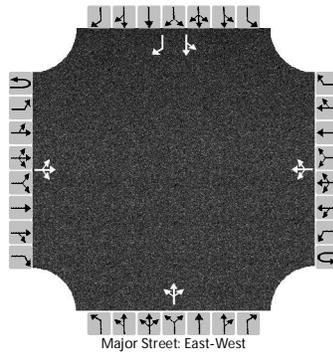
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		1				19					96				0		1
Capacity, c (veh/h)		1120				1197					426				0		617
v/c Ratio		0.00				0.02					0.23						0.00
95% Queue Length, Q ₉₅ (veh)		0.0				0.0					0.9						0.0
95% Queue Length, Q ₉₅ (ft)		0.0				0.0					22.5						0.0
Control Delay (s/veh)		8.2	0.0	0.0		8.1	0.2	0.2			15.9						10.8
Level of Service (LOS)		A	A	A		A	A	A			C						B
Approach Delay (s/veh)		0.0			0.5			15.9									
Approach LOS		A			A			C									

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	Kimley-Horn			Intersection	Blacklick-Eastern Road NW and Access A		
Agency/Co.				Jurisdiction	ODOT District 5		
Date Performed	11/10/2025			East/West Street	Blacklick-Eastern Road NW		
Analysis Year	2027			North/South Street	Site Access		
Time Analyzed	PM Peak			Peak Hour Factor	0.89		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	Courtyards at Violet Meadows						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	1
Configuration			LTR				LTR				LTR			LT		R
Volume (veh/h)		3	281	35		47	365	4		22	0	28		3	0	3
Percent Heavy Vehicles (%)		5				1				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized													No			
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.15				4.11				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.25				2.21				3.50	4.00	3.30		3.50	4.00	3.30

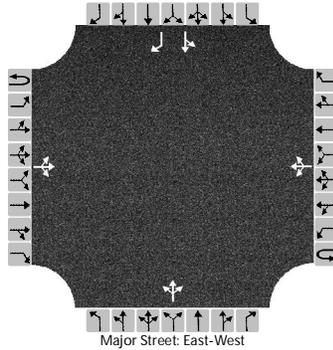
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		3				53					56				3		3
Capacity, c (veh/h)		1128				1209					403				244		644
v/c Ratio		0.00				0.04					0.14				0.01		0.01
95% Queue Length, Q ₉₅ (veh)		0.0				0.1					0.5				0.0		0.0
95% Queue Length, Q ₉₅ (ft)		0.0				2.5					12.5				0.0		0.0
Control Delay (s/veh)		8.2	0.0	0.0		8.1	0.5	0.5			15.4				20.0		10.6
Level of Service (LOS)		A	A	A		A	A	A			C				C		B
Approach Delay (s/veh)		0.1				1.3				15.4				15.3			
Approach LOS		A				A				C				C			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	Kimley-Horn			Intersection	Blacklick-Eastern Road NW and Access A		
Agency/Co.				Jurisdiction	ODOT District 5		
Date Performed	11/10/2025			East/West Street	Blacklick-Eastern Road NW		
Analysis Year	2047			North/South Street	Site Access		
Time Analyzed	AM Peak			Peak Hour Factor	0.77		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	Courtyards at Violet Meadows						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	1
Configuration			LTR				LTR				LTR			LT		R
Volume (veh/h)		1	363	12		15	475	0		32	0	42		0	0	1
Percent Heavy Vehicles (%)		1				3				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized													No			
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.11				4.13				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.21				2.23				3.50	4.00	3.30		3.50	4.00	3.30

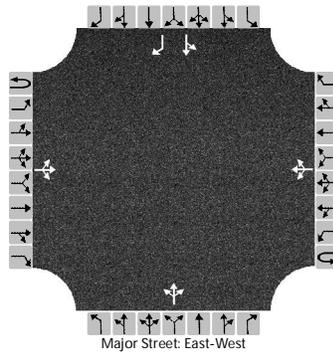
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		1				19					96				0		1
Capacity, c (veh/h)		968				1071					291				0		494
v/c Ratio		0.00				0.02					0.33						0.00
95% Queue Length, Q ₉₅ (veh)		0.0				0.1					1.4						0.0
95% Queue Length, Q ₉₅ (ft)		0.0				2.5					35.0						0.0
Control Delay (s/veh)		8.7	0.0	0.0		8.4	0.2	0.2			23.4						12.3
Level of Service (LOS)		A	A	A		A	A	A			C						B
Approach Delay (s/veh)		0.0				0.5				23.4							
Approach LOS		A				A				C							

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	Kimley-Horn			Intersection	Blacklick-Eastern Road NW and Access A		
Agency/Co.				Jurisdiction	ODOT District 5		
Date Performed	11/10/2025			East/West Street	Blacklick-Eastern Road NW		
Analysis Year	2047			North/South Street	Site Access		
Time Analyzed	PM Peak			Peak Hour Factor	0.89		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	Courtyards at Violet Meadows						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	1
Configuration			LTR				LTR				LTR			LT		R
Volume (veh/h)		4	389	35		47	505	6		22	0	28		3	0	3
Percent Heavy Vehicles (%)		5				1				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized													No			
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.15				4.11				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.25				2.21				3.50	4.00	3.30		3.50	4.00	3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		4				53					56				3		3
Capacity, c (veh/h)		984				1091					277				153		524
v/c Ratio		0.00				0.05					0.20				0.02		0.01
95% Queue Length, Q ₉₅ (veh)		0.0				0.2					0.7				0.1		0.0
95% Queue Length, Q ₉₅ (ft)		0.0				5.0					17.5				2.5		0.0
Control Delay (s/veh)		8.7	0.1	0.1		8.5	0.6	0.6			21.3				29.1		11.9
Level of Service (LOS)		A	A	A		A	A	A			C				D		B
Approach Delay (s/veh)		0.1				1.3				21.3				20.5			
Approach LOS		A				A				C				C			

APPENDIX

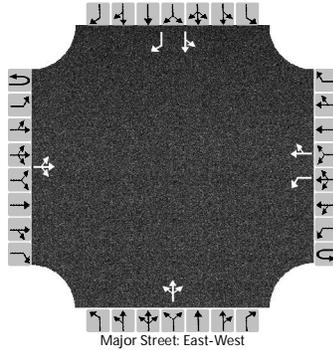
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HCS 2025 Build Mitigated Capacity Analysis Outputs

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	Kimley-Horn			Intersection	Blacklick-Eastern Road NW and Access A		
Agency/Co.				Jurisdiction	ODOT District 5		
Date Performed	11/10/2025			East/West Street	Blacklick-Eastern Road NW		
Analysis Year	2027			North/South Street	Site Access		
Time Analyzed	AM Build Mitigated			Peak Hour Factor	0.77		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	Courtyards at Violet Meadows						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	1	1	0		0	1	0		0	1	1
Configuration			LTR			L		TR			LTR			LT		R
Volume (veh/h)		1	262	12		15	343	0		32	0	42		0	0	1
Percent Heavy Vehicles (%)		1				3				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized													No			
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.11				4.13				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.21				2.23				3.50	4.00	3.30		3.50	4.00	3.30

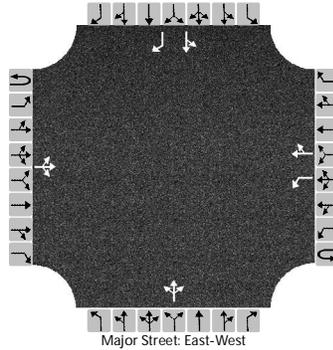
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		1				19					96				0		1
Capacity, c (veh/h)		1120				1197					428				0		617
v/c Ratio		0.00				0.02					0.22						0.00
95% Queue Length, Q ₉₅ (veh)		0.0				0.0					0.9						0.0
95% Queue Length, Q ₉₅ (ft)		0.0				0.0					22.5						0.0
Control Delay (s/veh)		8.2	0.0	0.0		8.1					15.8						10.8
Level of Service (LOS)		A	A	A		A					C						B
Approach Delay (s/veh)		0.0				0.3				15.8							
Approach LOS		A				A				C							

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	Kimley-Horn			Intersection	Blacklick-Eastern Road NW and Access A		
Agency/Co.				Jurisdiction	ODOT District 5		
Date Performed	11/10/2025			East/West Street	Blacklick-Eastern Road NW		
Analysis Year	2027			North/South Street	Site Access		
Time Analyzed	PM Build Mitigated			Peak Hour Factor	0.89		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	Courtyards at Violet Meadows						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	1	1	0		0	1	0		0	1	1
Configuration			LTR			L		TR			LTR			LT		R
Volume (veh/h)		3	281	35		47	365	4		22	0	28		3	0	3
Percent Heavy Vehicles (%)		5				1				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized													No			
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.15				4.11				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.25				2.21				3.50	4.00	3.30		3.50	4.00	3.30

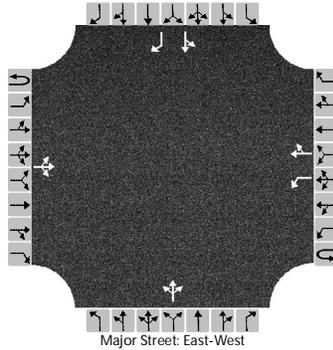
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		3				53					56				3		3
Capacity, c (veh/h)		1128				1209					407				247		644
v/c Ratio		0.00				0.04					0.14				0.01		0.01
95% Queue Length, Q ₉₅ (veh)		0.0				0.1					0.5				0.0		0.0
95% Queue Length, Q ₉₅ (ft)		0.0				2.5					12.5				0.0		0.0
Control Delay (s/veh)		8.2	0.0	0.0		8.1					15.3				19.8		10.6
Level of Service (LOS)		A	A	A		A					C				C		B
Approach Delay (s/veh)		0.1				0.9				15.3				15.2			
Approach LOS		A				A				C				C			

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	Kimley-Horn			Intersection	Blacklick-Eastern Road NW and Access A		
Agency/Co.				Jurisdiction	ODOT District 5		
Date Performed	11/10/2025			East/West Street	Blacklick-Eastern Road NW		
Analysis Year	2047			North/South Street	Site Access		
Time Analyzed	AM Build Mitigated			Peak Hour Factor	0.77		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	Courtyards at Violet Meadows						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	1	1	0		0	1	0		0	1	1
Configuration			LTR			L		TR			LTR			LT		R
Volume (veh/h)		1	363	12		15	475	0		32	0	42		0	0	1
Percent Heavy Vehicles (%)		1				3				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized													No			
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.11				4.13				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.21				2.23				3.50	4.00	3.30		3.50	4.00	3.30

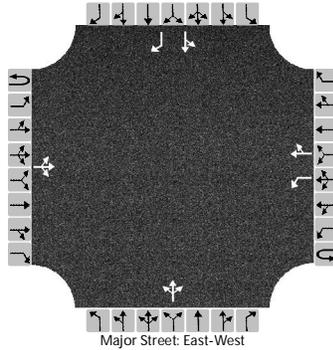
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		1				19					96				0		1
Capacity, c (veh/h)		968				1071					293				0		494
v/c Ratio		0.00				0.02					0.33						0.00
95% Queue Length, Q ₉₅ (veh)		0.0				0.1					1.4						0.0
95% Queue Length, Q ₉₅ (ft)		0.0				2.6					35.0						0.0
Control Delay (s/veh)		8.7	0.0	0.0		8.4					23.2						12.3
Level of Service (LOS)		A	A	A		A					C						B
Approach Delay (s/veh)		0.0			0.3			23.2									
Approach LOS		A			A			C									

HCS Two-Way Stop-Control Report

General Information				Site Information			
Analyst	Kimley-Horn			Intersection	Blacklick-Eastern Road NW and Access A		
Agency/Co.				Jurisdiction	ODOT District 5		
Date Performed	11/10/2025			East/West Street	Blacklick-Eastern Road NW		
Analysis Year	2047			North/South Street	Site Access		
Time Analyzed	PM Build Mitigated			Peak Hour Factor	0.89		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	Courtyards at Violet Meadows						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	1	1	0		0	1	0		0	1	1
Configuration			LTR			L		TR			LTR			LT		R
Volume (veh/h)		4	389	35		47	505	6		22	0	28		3	0	3
Percent Heavy Vehicles (%)		5				1				0	0	0		0	0	0
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized													No			
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.15				4.11				7.10	6.50	6.20		7.10	6.50	6.20
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.25				2.21				3.50	4.00	3.30		3.50	4.00	3.30

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		4				53					56				3		3
Capacity, c (veh/h)		984				1091					282				157		524
v/c Ratio		0.00				0.05					0.20				0.02		0.01
95% Queue Length, Q ₉₅ (veh)		0.0				0.2					0.7				0.1		0.0
95% Queue Length, Q ₉₅ (ft)		0.0				5.0					17.5				2.5		0.0
Control Delay (s/veh)		8.7	0.1	0.1		8.5					20.9				28.5		11.9
Level of Service (LOS)		A	A	A		A					C				D		B
Approach Delay (s/veh)		0.1				0.7				20.9				20.2			
Approach LOS		A				A				C				C			



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