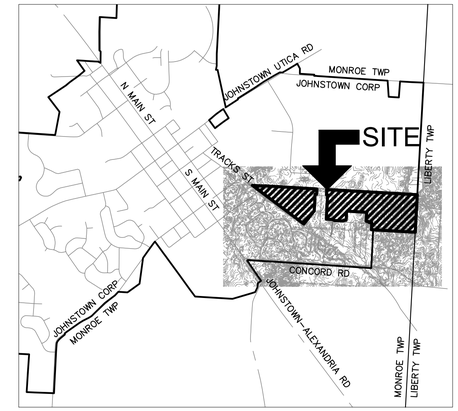
Planning & Zoning Commission Meeting
Tuesday, May 24, 2022 - 6:30 PM
AGENDA

1. Call to Order
2. Roll Call
3. Pledge of Allegiance
4. Public Comment
5. Concord Crossing East Preliminary Plat
   a. Application
6. Draft Ordinance Review and Recommendation to Council
   a. Ordinance 12-2022 PUD amendments
7. Other Business
8. Adjourn

LEGEND

EXISTING PROPERTY LINE	PROPOSED RIGHT-OF-WAY
EXISTING PROPERTY BOUNDARY	PROPOSED PROPERTY LINE
EXISTING STORM SEWER	PROPOSED EASEMENT
EXISTING CURB INLET	PROPOSED STORM SEWER
EXISTING CATCH BASIN	PROPOSED CURB INLET
EXISTING HEADWALL	PROPOSED CATCH BASIN
EXISTING STORM MANHOLE	PROPOSED HEADWALL
EXISTING WATERLINE	PROPOSED STORM MANHOLE
EXISTING FIRE HYDRANT	PROPOSED WATERLINE
EXISTING SANITARY SEWER	PROPOSED FIRE HYDRANT
EXISTING SANITARY MANHOLE	PROPOSED SANITARY SEWER
EXISTING WATER BODY	PROPOSED SANITARY MANHOLE
EXISTING WETLAND	PROPOSED CENTERLINE



VICINITY MAP
SCALE: 1"=2000'

NOTES

THIS DRAWING REPRESENTS A PRELIMINARY PLAT OF 64.76 ACRES LOCATED IN THE VILLAGE OF JOHNSTOWN CURRENTLY OWNED BY JOHNSTOWN LAND HOLDINGS LLC, CONTAINING 157 LOTS AND ROAD RIGHT-OF-WAY.

INFORMATION COMPILED ON THIS PLAN IS BASED ON LICKING COUNTY GIS AND DEEDS AND NOT FROM A FIELD SURVEY.

CURRENT VILLAGE OF JOHNSTOWN ZONING: PLANNED UNIT DEVELOPMENT (PUD)

PLANNED UNIT DEVELOPMENT ZONING SUMMARY:

MINIMUM FRONT SETBACK: 20'
MINIMUM REAR SETBACK: 25'
MINIMUM SIDE SETBACK: 5'

OPEN SPACE: 18.62± AC

PROPERTY OWNER:
JOHNSTOWN LAND HOLDINGS LLC
POTTER HOMES CO
PO BOX 312
LEWIS CENTER, OH 43035

DEVELOPER:
JOE CIMINELLO
567 LAZELLE RD
WESTERVILLE, OH 43081
TEL: (614) 207-7607
EMAIL: CIMINELLOJ@AOL.COM

PLAT PREPARED BY:
KIMLEY-HORN AND ASSOCIATES, INC.
7965 N HIGH ST, STE 200
COLUMBUS, OH 43235
TEL: 614-454-6699

CURRENT SITE LAYOUT – 157 PROPOSED LOTS MEETING PUD ZONING REQUIREMENTS.

PROPOSED ROADWAY – 28' WIDE PAVEMENT WITH CURB & GUTTER. 5' SIDEWALK ACROSS ALL LOT FRONTAGES. 60' RIGHT-OF-WAY SHOWN.

RESERVES A, B, C, D AND E SHALL BE RESERVED AS OPEN SPACE.

* DENOTES FRONTAGE AT SETBACK

OHIO LICENSED PROFESSIONAL ENGINEER E-75300 DATE

No.	REVISIONS	DATE	BY	APR DATE	APR BY

Kimley»Horn

7965 NORTH HIGH STREET, SUITE 200
COLUMBUS, OH 43235
PHONE: 614-454-6699
WWW.KIMLEY-HORN.COM

SCALE: AS NOTED | DESIGNED BY: MCR | DRAWN BY: TJH | CHECKED BY: MCR

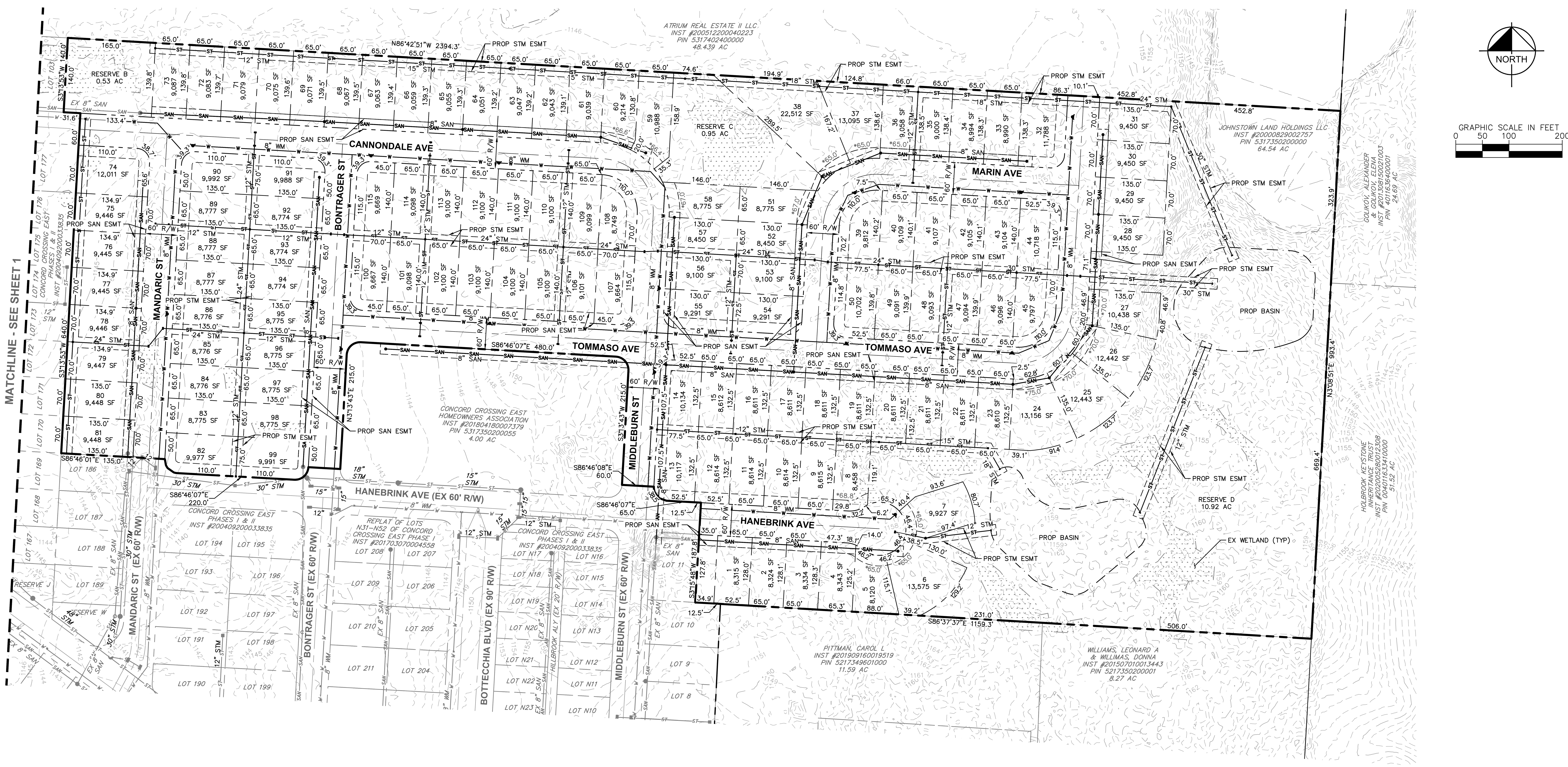
PRELIMINARY PLAT

CONCORD CROSSING EAST
JOHNSTOWN, OHIO

ORIGINAL ISSUE: 02/01/2022
KHA PROJECT NO. 190017003

SHEET NUMBER
1
OF 2

Drawing name: \\Kimley-Horn.com\MW_CLB\CLB_LDEV\190017003_Ciminello_Concord_Crossing_East\2 Design\CAD\PlanSheets\Preliminary Plat\Preliminary Plat.dwg Layout2 Feb 01, 2022 3:35pm by: Todd.Hootman



NOTE

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LEGEND

	EXISTING PROPERTY LINE		PROPOSED RIGHT-OF-WAY
	EXISTING PROPERTY BOUNDARY		PROPOSED PROPERTY LINE
—ST—	EXISTING STORM SEWER		PROPOSED EASEMENT
	EXISTING CURB INLET	—ST—	PROPOSED STORM SEWER
	EXISTING CATCH BASIN		PROPOSED CURB INLET
	EXISTING HEADWALL		PROPOSED CATCH BASIN
	EXISTING STORM MANHOLE		PROPOSED HEADWALL
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	EXISTING FIRE HYDRANT	—W—	PROPOSED WATERLINE
—SAN—	EXISTING SANITARY SEWER		PROPOSED FIRE HYDRANT
	EXISTING SANITARY MANHOLE	—SAN—	PROPOSED SANITARY SEWER
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PRELIMINARY PLAT

CONCORD CROSSING EAST

JOHNSTOWN, OHIO

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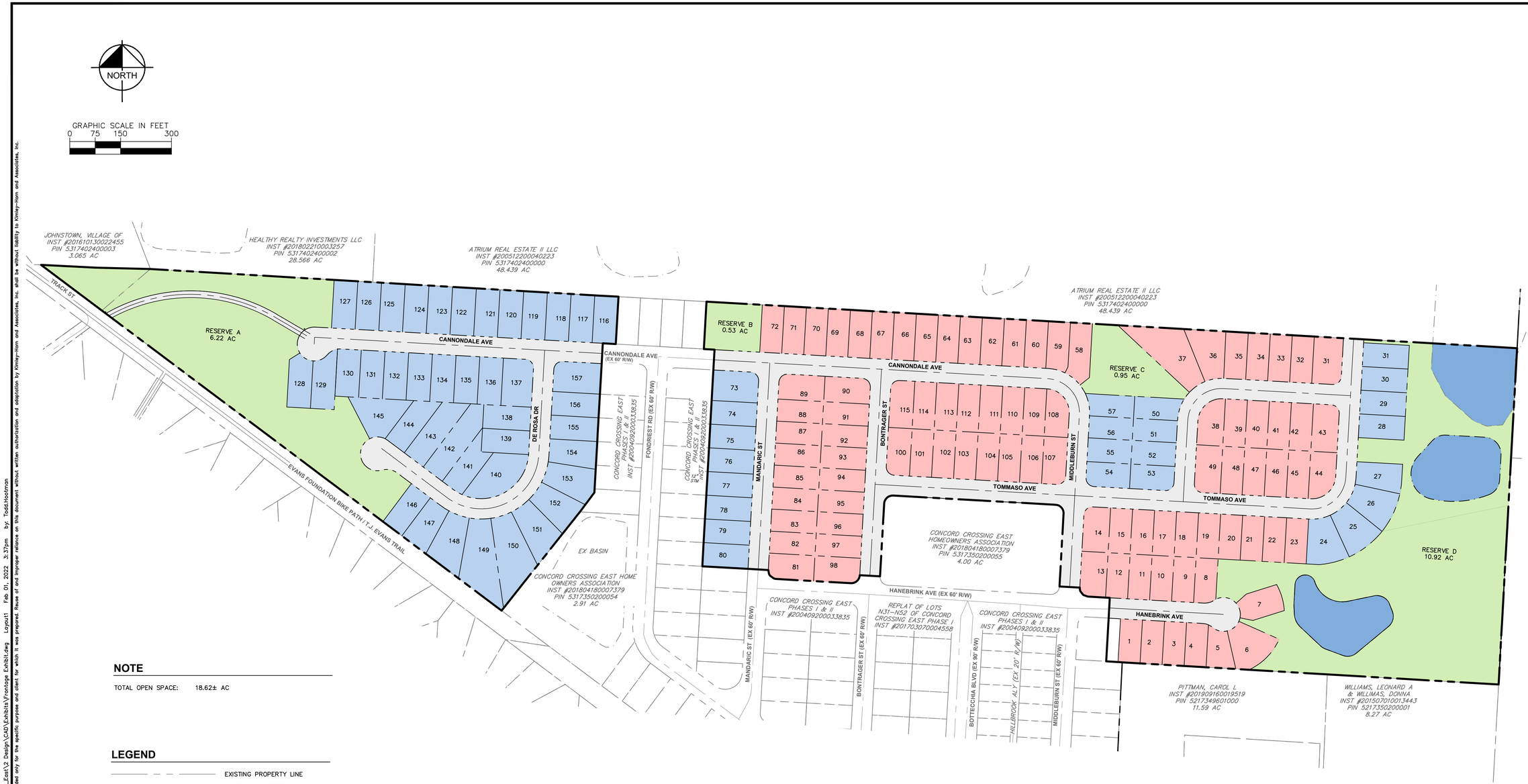

NOTE

TOTAL OPEN SPACE: 18.62± AC

LEGEND

- EXISTING PROPERTY LINE
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- EXISTING RIGHT-OF-WAY
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- EXISTING CATCH BASIN
- EXISTING HEADWALL
- EXISTING STORM MANHOLE
- EXISTING WATERLINE
- EXISTING FIRE HYDRANT
- EXISTING SANITARY SEWER
- EXISTING SANITARY MANHOLE
- EXISTING WATER BODY
- EXISTING WETLAND
- PROPOSED RIGHT-OF-WAY
- PROPOSED PROPERTY LINE
- PROPOSED EASEMENT
- PROPOSED WATER BODY
- 65' FRONTAGE
- 70' FRONTAGE

No.	REVISIONS	DATE	BY	APR. DATE	APR. BY

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COLUMBUS, OH 43235
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SCALE: AS NOTED
DESIGNED BY: MCR
DRAWN BY: TJH
CHECKED BY: MCR

LOT FRONTAGE EXHIBIT

CONCORD CROSSING EAST
JOHNSTOWN, OHIO

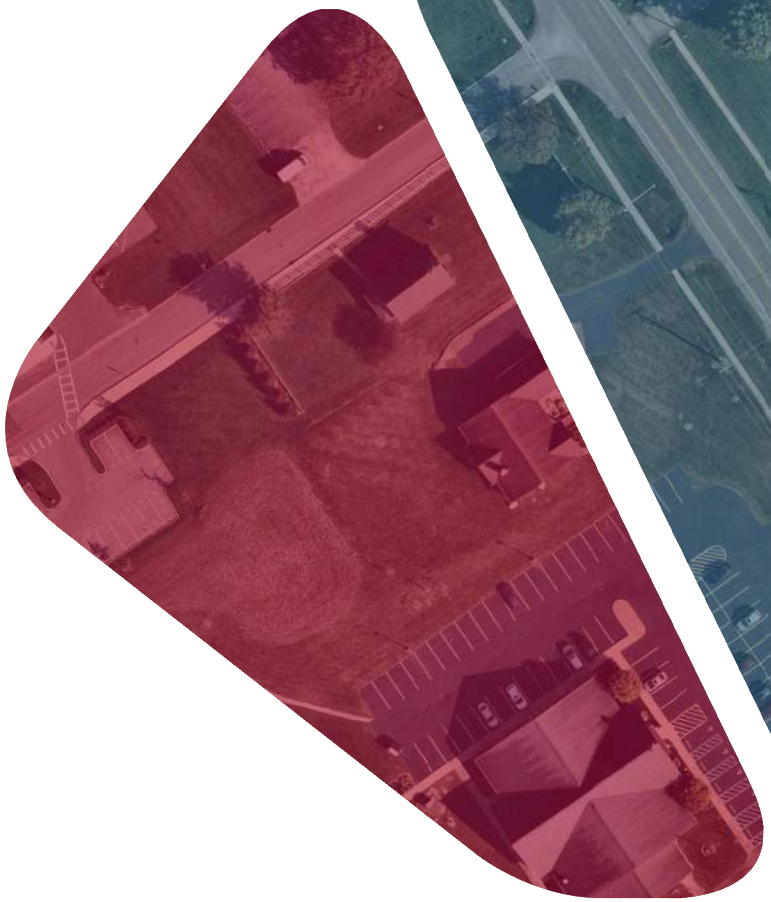
ORIGINAL ISSUE: 02/01/2022

KHA PROJECT NO. 190017003

SHEET NUMBER
1

OH-37 AND CONCORD ROAD TRAFFIC STUDY

Johnstown, Ohio

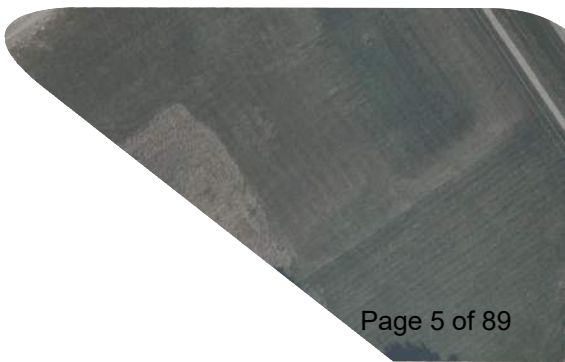


March, 2022

Prepared for:

Joe Ciminello

Kimley»Horn



INTRODUCTION

The purpose of this report is to summarize our evaluation of the OH-37 and Main Street intersection, as was requested by the City of Johnstown. This analysis is related to the construction of 157 homes that will be part of Phase 2 of the Concord Crossing subdivision. This evaluation included the collection of traffic counts, the projection of future traffic volumes at this intersection, and the evaluation of those future traffic volumes. Kimley-Horn previously completed an analysis of the Concord Road and Bottecchia Boulevard intersection in a Traffic Memo, dated November 19, 2021. A copy of that analysis is provided in the **Appendix**.

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 & Existing Roadway Characteristics

The land-uses in the project area are agricultural and residential. The study includes evaluation of the primary access to the subdivision, the intersection of Concord Road and Bottecchia Boulevard.

Concord Road is a 2-lane rural collector generally running east-west in the site vicinity and provides one travel lane in each direction. This roadway has a posted speed limit of 35 miles per hour. A sidewalk is present on the north side of Concord Road, and the Evans Foundation Bike path crosses Concord Road west of the Bottecchia Boulevard intersection.

OH-37 (S. Main Street) is a 2-lane rural principal arterial running northwest-southeast in the site vicinity and provides one travel lane in each direction. This roadway has a posted speed limit of 35 miles per hour. A sidewalk is present on both sides of OH-37, north of Concord Road.

Existing Traffic Volumes

Base traffic volumes and turning movement counts for the study intersections were obtained via MioVision traffic cameras. The traffic cameras were placed on February 23rd-24th at the OH-37 and Concord Road intersection. The traffic counts were performed for 24-hours and included the weekday morning and evening peak periods, coinciding with the peak hours of traffic activity on the adjacent street. Raw MioVision traffic counts are provided in the **Appendix**. The peak hours which were analyzed in this study are as follows:

- AM Peak Hour- 7:00-8:00 AM
- PM Peak Hour - 4:30-5:30 PM

Traffic Volume Adjustment

Due to circumstances associated with the COVID-19 public health crisis, traffic volumes have been atypically low since mid-March 2020 and slowly increasing toward normal volumes over the past several months. To estimate typical traffic conditions, a COVID adjustment factor was obtained from ODOT traffic count data using the study location date and time. Traffic counts collected on February 23rd-24th were less than 5 percent lower than “pre-COVID conditions” therefore a COVID-19 adjustment factor was not applied as part of this study. COVID-19 adjustment factor calculations are provided in the **Appendix**. The 2022 No Build traffic volumes are presented in **Exhibit 1**.

Expected Growth Traffic Assignment

As development of the Central-Ohio region increases, the expected vehicular volume is anticipated to increase as well. ODOT Traffic Forecast Modeling System (TFMS) was used to derive a 2.5% yearly linear growth factor along OH-37. ODOT TFMS outputs are provided in the **Appendix.**

The calculated 2032 No Build traffic volumes are illustrated in **Exhibit 2.**

Exhibit 1: 2022 No Build AM & PM Peak Hour Vehicle Volumes

Exhibit 2: 2032 No Build AM & PM Peak Hour Vehicle Volumes

BUILD CONDITIONS

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

Development Characteristics

The proposed development would include 157 single-family homes. Access to the residential development is provided at the existing Concord Road and Bottechia Boulevard intersection. The site access configuration is illustrated on the conceptual site plan included in the **Appendix**.

Trip Generation

To calculate trips generated by the proposed residential development, data was referenced from the Institute of Transportation Engineers (ITE) manual titled Trip Generation, Tenth Edition. Trip generation equations for the ITE Land Use Code (LUC) corresponding to the proposed use are shown in **Table 1**. Copies of the ITE data are provided in the **Appendix**.

Table 1: ITE Trip Generation Data - Average Rate per Single-Family Housing Unit

ITE Land Use	*Unit*	*Weekday*		
		Daily	*AM Peak Hour*	*PM Peak Hour*
Single-Family Housing (LUC 210)	*Per Number of Dwelling Units*	$ln(T) = 0.92\,ln(X) + 2.71$ 50% in/50% out	$T = 0.71(X) + 4.80$ 25% in/75% out	$ln(T) = 0.96\,ln(X) + 0.20$ 63% in/37% out

T – Site-generated trips X – Number of Dwelling Units

For the purpose of this study, all site generated trips are expected to be “Primary Trips” traveling to and from the subject site. Primary trips are trips to the proposed residential site which would not normally travel on the study roadways and are considered new trips within the study area.

Per these assumptions, site-generated traffic projections for 274 dwelling units are presented in **Table 2.**

Table 2: Site Generated Traffic Projections

Lot #	*Land Use*	*Units*	*Daily*	*AM Peak Hour*			*PM Peak Hour*		
				In	*Out*	*Total*	*In*	*Out*	*Total*
1	Single-Family Housing (LUC 210)	*157*	1575	28	87	116	99	58	157

Directional Distribution

The existing traffic volumes at the OH-37 and Concord Road Intersection were analyzed to determine the distribution of trips entering/exiting the proposed site. The anticipated directional distributions estimated for site related trips are outlined in **Table 3.** The total site generated trips are provided in **Exhibit 3.**

Table 3: Estimated Trip Distribution

Traveling to/from:	*Estimated Trip Distribution*
Northwest on OH-37	78%
Southeast on OH-37	17%
East on Concord Road	5%

Build Traffic Assignment

The build traffic assignment represents traffic volumes at the study intersections upon construction of the proposed development. The Build traffic volumes represent the sum of the No Build trips and the total site generated trips. The 2022 and 2032 Build traffic volumes are illustrated in **Exhibit 4 and 5**.

Exhibit 3: Site Trips AM & PM Peak Hour Vehicle Volumes

Exhibit 4: 2022 Build AM & PM Peak Hour Vehicle Volumes

Exhibit 5: 2032 Build AM & PM Peak Hour Vehicle Volumes

ANALYSIS

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

Turn-Lane Warrant Analysis

The ODOT Location and Design Manual was used to determine if turn-lanes are warranted at the study intersection. **Table 4** provides a summary of the turn-lane warrant analysis and calculated storage length per ODOT location and Design Manual Standards.

A 225-foot southbound left turn-lane (including a 50-foot diverging taper) is warranted during the 2022 No Build Condition

A copy of the turn-lane analysis and turn-lane length calculations are provided in the **Appendix**.

Table 4: Turn Lane Warrant Analysis Summary

Intersection	Movement	Warranted Turn-Lane?							
		2022 No Build		2022 Build		2032 No Build		2032 Build	
		AM	PM	AM	PM	AM	PM	AM	PM
OH-37 and Concord Road	NBRT	-	-	-	-	-	-	-	-
	SBLT	-	Yes	-	Yes	-	Yes	Yes	Yes

Capacity Analysis

Capacity analysis was conducted to assess the projected future operating conditions of the study intersection during the weekday peak hours. 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 5.**

Table 5: Level of Service Grading Descriptions

Level of Service	*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 2010

The range of control delay for each rating (as detailed in the HCM) is shown in **Table 6**. Because signalized intersections are expected to carry a larger volume of vehicles and stopping is required during red time, note that higher delays are tolerated for the corresponding LOS ratings.

Table 6: 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 2010

[2]All movements with a Volume to Capacity (v/C) ratio greater than 1 receive a rating of LOS F.

Table 7 is from section 5.9 of the OATS Manual, which outlines the LOS criteria for intersections. The study area is inside of the Licking County Area Transportation Study (LCATS) MPO boundary.

Table 7: 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

Synchro 11 software was utilized to evaluate capacity of the proposed study intersection (reported overall and by approach) for the peak hour of site generated traffic. The capacity of each intersection is reported overall and by approach, during the peak hour of site generated traffic**.**

EXISTING CONDITION CAPACITY ANALYSIS

Tables 8-9 summarize the capacity analysis results for the study intersections at the peak hours during the 2022 and 2032 No Build and Build conditions. The capacity analysis results reflect existing roadway geometry at the study intersection.

All approaches meet ODOT (OATS) operational goals during the 2022 and 2032 No Build and Build peak hour conditions. The Synchro capacity analysis reports are included in the **Appendix**.

Table 5: AM Weekday Peak Hour - Study Intersections Capacity Analysis

Intersection	2022 No Build			2022 Build			2032 No Build			2032 Build		
	V/C	Delay (s/veh)	LOS	V/C	Delay (s/veh)	LOS	V/C	Delay (s/veh)	LOS	V/C	Delay (s/veh)	LOS
▲ OH-37 and Concord Road												
Westbound	0.24	12.3	B	0.36	13.7	B	0.34	14.5	B	0.48	16.9	C
Southbound (l)	0.04	8.2	A	0.06	8.3	A	0.05	8.5	A	0.08	8.6	A

▲ – Minor-Leg Stop-Controlled Intersection

Table 9: PM Weekday Peak Hour - Study Intersections Capacity Analysis

Intersection	2022 No Build			2022 Build			2032 No Build			2032 Build		
	V/C	Delay (s/veh)	LOS	V/C	Delay (s/veh)	LOS	V/C	Delay (s/veh)	LOS	V/C	Delay (s/veh)	LOS
▲ OH-37 and Concord Road												
Westbound	0.10	11.5	B	0.17	13.1	B	0.14	13.0	B	0.22	15.5	C
Southbound (l)	0.08	8.2	A	0.16	8.6	A	0.11	8.6	A	0.19	9.0	A

▲ – Minor-Leg Stop-Controlled Intersection

MITIGATED CONDITION CAPACITY ANALYSIS

As outlined in the turn-lane analysis, the existing traffic volumes at this intersection meet the warrants for a southbound left turn-lane on OH-37. As this is not an existing condition, the addition of this turn-lane is considered a mitigation measure for this study. The recommended length of this turn-lane is 225 feet. Additional capacity analysis were completed to outline the LOS for this intersection with the addition of this southbound left turn-lane. The results are outlined in **Tables 10-11**. All approaches meet ODOT (OATS) operational goals during the 2022 and 2032 No Build and Build Mitigated peak hour conditions. The Synchro capacity analysis reports are included in the **Appendix**.

Table 10: AM Mitigated Weekday Peak Hour - Study Intersections Capacity Analysis

Intersection	Mitigated 2022 No Build			Mitigated 2022 Build			Mitigated 2032 No Build			Mitigated 2032 Build		
	V/C	Delay (s/veh)	LOS	V/C	Delay (s/veh)	LOS	V/C	Delay (s/veh)	LOS	V/C	Delay (s/veh)	LOS
▲ OH-37 and Concord Road												
Westbound	0.24	12.3	B	0.36	13.7	B	0.34	14.5	B	0.48	16.8	C
Southbound (l)	0.04	8.2	A	0.06	8.3	A	0.05	8.5	A	0.08	8.6	A

▲ – Minor-Leg Stop-Controlled Intersection

Table 11: PM Mitigated Weekday Peak Hour - Study Intersections Capacity Analysis

Intersection	Mitigated 2022 No Build			Mitigated 2022 Build			Mitigated 2032 No Build			Mitigated 2032 Build		
	V/C	Delay (s/veh)	LOS	V/C	Delay (s/veh)	LOS	V/C	Delay (s/veh)	LOS	V/C	Delay (s/veh)	LOS
▲OH-37 and Concord Road												
Westbound	0.10	11.4	B	0.17	12.9	B	0.14	12.9	B	0.22	15.2	C
Southbound (l)	0.08	8.2	A	0.16	8.6	A	0.11	8.6	A	0.19	9.0	A

▲ – Minor-Leg Stop-Controlled Intersection

CONCLUSION

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 OH-37 and Concord Road intersection. All approaches operate at a LOS of C or better during the peak hours of the 2032 Build condition.

The existing traffic volumes warrant the installation of a southbound left turn-lane on OH-37 at the Concord Road intersection.

APPENDIX

A - Conceptual Site Plan

B – Referenced Traffic Memo

C - COVID-19 Adjustment Data

D - Traffic Count Data

E – TFMS Segment Forecast Report

F - Data from ITE Trip Generation, 11th Edition

G - Turn-Lane Warrant Analysis

H - Turn-Lane Length Calculations

I - Synchro 11 Capacity Analysis Reports

APPENDIX

A. Conceptual Site Plan

NORTH

GRAPHIC SCALE IN FEET
0 50 100 200

LEGEND

EXISTING PROPERTY LINE	PROPOSED RIGHT-OF-WAY
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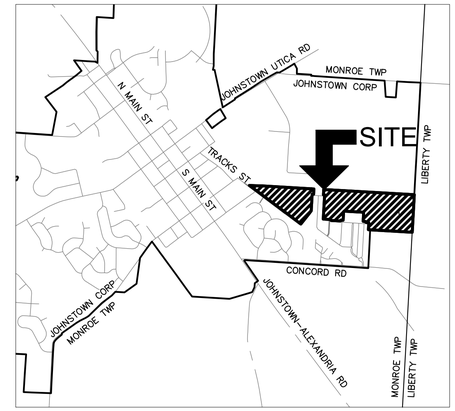

VICINITY MAP
SCALE: 1"=2000'

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OPEN SPACE: 18.11± AC

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DEVELOPER:
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TEL: (614) 207-7607
EMAIL: CIMINELLOJ@AOL.COM

PLAT PREPARED BY:
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OHIO LICENSED PROFESSIONAL ENGINEER E-75300 DATE
MY LICENSE EXPIRES ON 12/31/2021

No.	REVISIONS	DATE	BY	APR DATE	APR BY

Kimley»Horn

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PRELIMINARY PLAT

CONCORD CROSSING EAST
JOHNSTOWN, OHIO

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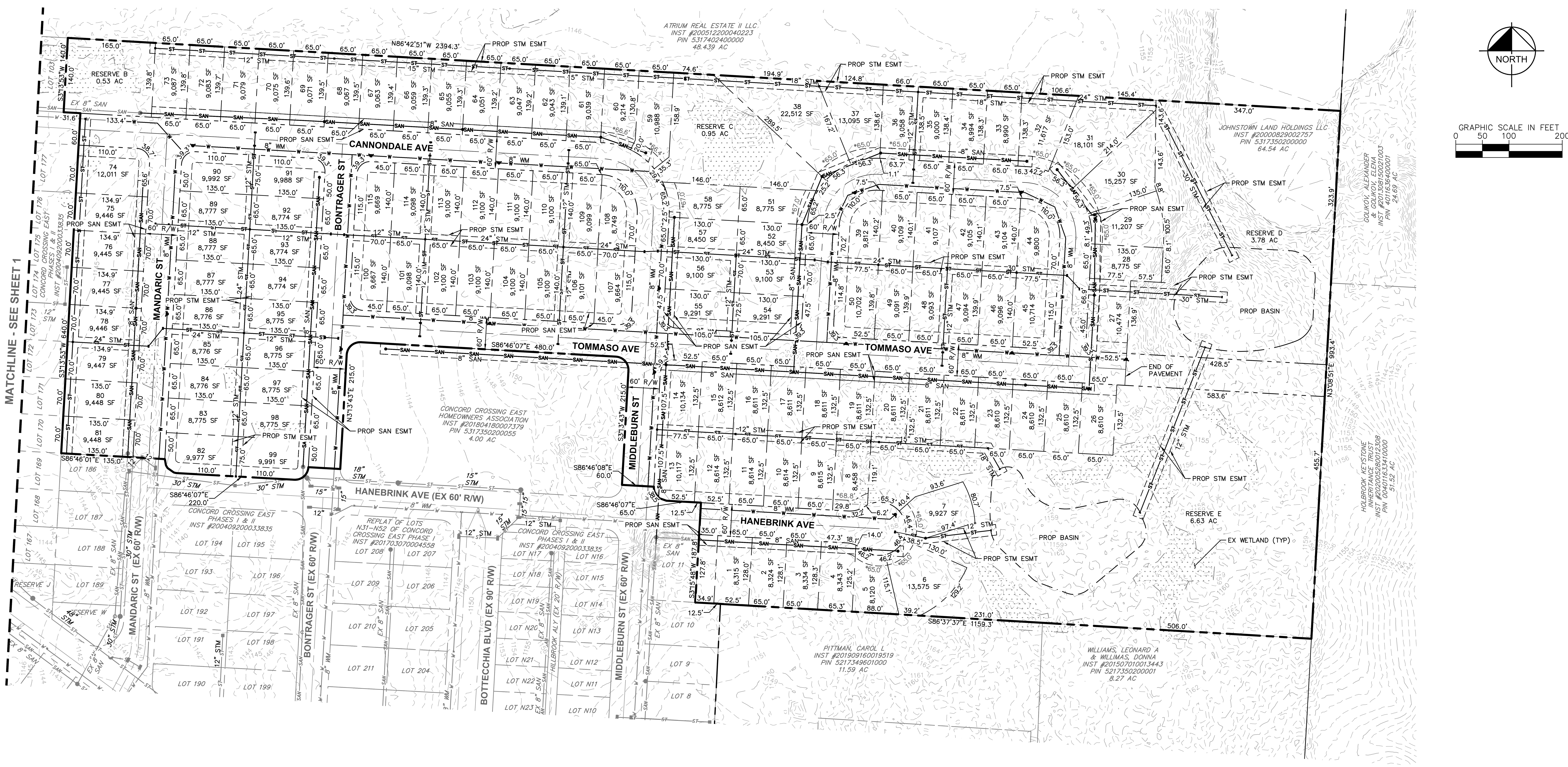

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* DENOTES FRONTAGE AT SETBACK

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- PROPOSED CENTERLINE

Kimley»Horn

7965 NORTH HIGH STREET, SUITE 200
COLUMBUS, OH 43235
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SCALE: AS NOTED
DESIGNED BY: MCR
DRAWN BY: TJH
CHECKED BY: MCR

PRELIMINARY PLAT

CONCORD CROSSING EAST
JOHNSTOWN, OHIO

ORIGINAL ISSUE: 11/22/2021
KHA PROJECT NO. 190017003
SHEET NUMBER
2
OF 2

Drawing name: K:\CLB_LDEV\190017003_Cimlinello_Concord_Crossing_East\2 Design\CAD\Exhibits\Frontage Exhibit.dwg Layout1 Nov 22, 2021 9:43am by Todd.Hootman

NORTH

GRAPHIC SCALE IN FEET
0 75 150 300

NOTE

TOTAL OPEN SPACE: 18.11± AC

LEGEND

- EXISTING PROPERTY LINE
- EXISTING PROPERTY BOUNDARY
- EXISTING RIGHT-OF-WAY
- EXISTING STORM SEWER
- EXISTING CURB INLET
- EXISTING CATCH BASIN
- EXISTING HEADWALL
- EXISTING STORM MANHOLE
- EXISTING WATERLINE
- EXISTING FIRE HYDRANT
- EXISTING SANITARY SEWER
- EXISTING SANITARY MANHOLE
- EXISTING WATER BODY
- EXISTING WETLAND
- PROPOSED RIGHT-OF-WAY
- PROPOSED PROPERTY LINE
- PROPOSED EASEMENT
- PROPOSED WATER BODY
- 65' FRONTAGE
- 70' FRONTAGE

No.	REVISIONS	DATE	BY	APR DATE	APR BY

Kimley»Horn
© 2021 KIMLEY-HORN AND ASSOCIATES, INC.
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SCALE: AS NOTED
DESIGNED BY: MCR
DRAWN BY: TJH
CHECKED BY: MCR

LOT FRONTAGE EXHIBIT

CONCORD CROSSING EAST
JOHNSTOWN, OHIO

ORIGINAL ISSUE: 11/11/2021
KHA PROJECT NO. 190017003
SHEET NUMBER 1

APPENDIX

B. Referenced Traffic Memo

MEMORANDUM

To:	Joe Ciminello
From:	Perry Morgan, PE, Kimley-Horn
Date:	November 19, 2021
Subject:	Concord Crossing – Traffic Access Study

The purpose of this memo is to formalize the results of a traffic access study for a proposed single-family housing development in Johnstown, Ohio. The development would include a total of 274 single-family residential housing units and is split into two separate design phases. Phase 1 is complete and includes 110 single-family homes. Phase 2 is planned to include 164 single-family homes. Access to the residential subdivision includes a full access drive at the existing Concord Road and Bottecchia Boulevard intersection, south of the proposed housing.

Area Land Uses & Existing Roadway Characteristics

The land-uses in the project area are agricultural and residential. The study includes evaluation of the primary access to the subdivision, the intersection of Concord Road and Bottecchia Boulevard.

Concord Road is a 2-lane rural collector generally running east-west in the site vicinity and provides one travel lane in each direction. This roadway has a posted speed limit of 35 miles per hour. A sidewalk is present on the north side of Concord Road, and the Evans Foundation Bike path crosses Concord Road west of the Bottecchia Boulevard intersection.

Bottecchia Boulevard is a 2-lane rural collector generally running north-south in the site vicinity and provides one travel lane in each direction. This roadway has a posted speed limit of 25 miles per hour. A sidewalk is present on the west side of Bottecchia Boulevard.

Existing Traffic Volumes

Kimley-Horn and Associates, Inc. (Kimley-Horn) collected turning movement counts at the Concord Road and Bottecchia Boulevard intersection on April 20, 2021. A copy of the collected count data is attached.

Trip Generation

To project traffic volumes associated with the Concord Crossing residential subdivision, data was referenced from the Institute of Transportation Engineers (ITE) manual titled Trip Generation, Tenth Edition. Trip generation rates for the ITE Land Use Code (LUC) corresponding to the proposed use are shown in **Table 1.**

Table 1: ITE Trip Generation Data - Average Rater per Single Family Housing Unit

ITE Land Use	Unit	Weekday		
		Daily	AM Peak Hour	PM Peak Hour
Single-Family Detached Housing (LUC 210)	Per Number of Dwelling Units	$ln(T) = 0.92\,ln(X) + 2.71$ 50% in/50% out	$T = 0.71(X) + 4.80$ 25% in/75% out	$ln(T) = 0.96\,ln(X) + 0.20$ 63% in/37% out

T – Site-generated trips X – Number of Dwelling Units

Per these assumptions, site-generated traffic projections for 274 dwelling units are presented in **Table 2.**

Table 2: Site Generated Traffic Projections

Phase	Units	Weekday								
		Daily			AM Peak Hour			PM Peak Hour		
		Total	*In*	*Out*	Total	*In*	*Out*	Total	*In*	*Out*
1	110	1135	*568*	*568*	83	*20*	*63*	111	*70*	*41*
2	164	1639	*820*	*820*	121	*30*	*91*	163	*103*	*60*
Total	**274**	**2628**	***1314***	***1314***	**177**	***44***	***132***	**237**	***150***	***88***

The Weekday AM Peak and PM Peak traffic volumes were calculated for a 2032 Build year. “Phase 1 Site Trips” represent ITE Trip Generation Calculations for 110 Residential single-family homes, and “Phase 2 Site Trips” represent ITE Trip Generation Calculations for 164 Residential single-family homes. The “Total Site Trips” represents the site generated trips of the completed (274 homes) residential development site. To project the counted background (through) traffic volumes on Concord Road to the Build Year of 2032, a 2% annual growth rate was applied to the counted volumes. **Tables 3 and 4** provide overall summaries of the traffic volume projections.

Table 3: Weekday AM Peak – Traffic Volume Projection Summary

Weekday AM Peak	Eastbound		Westbound		Southbound	
	L	T	T	R	L	R
Existing Count	11	25	35	0	0	15
2021 Background		25	35			
2032 Background	0	30	42	0	0	0
Phase 1 Site Trips	21			0	0	63
Phase 2 Site Trips	30			0	0	91
Total Site Trips	50			0	5	145
2032 Build	**50**	**30**	**42**	**0**	**5**	**145**

Table 4: Weekday PM Peak – Traffic Volume Projection Summary

Weekday PM Peak	Eastbound		Westbound		Southbound	
	L	T	T	R	L	R
Existing Count	20	43	36	0	1	15
2021 Background		43	36			
2032 Background	0	52	43	0	0	0
Phase 1 Site Trips	70			0	0	41
Phase 2 Site Trips	98			5		60
Total Site Trips	163			5	0	99
2032 Build	**163**	**52**	**43**	**5**	**0**	**99**

Turn-Lane Warrant Analysis

The ODOT Location and Design Manual was used to determine if turn-lanes were warranted at the study intersection. A turn-lane analysis was performed at the Concord Road and Bottecchia Boulevard intersection. **Table 5** provides a summary of the turn-lane warrant analysis.

A copy of the turn-lane analysis and turn-lane length calculations are provided in the appendix.

Table 5: Turn Lane Warrant Analysis Summary

Intersection	Movement	Warranted Turn Lane?				Turn Lane Length (ft)	
		2032 No Build		2032 Build		Recommended	Existing
		AM	PM	AM	PM		
Concord Road & Bottecchia Boulevard	WBRT	No	No	No	No	-	-
	EBLT	No	No	No	No	-	-

Capacity Analysis

Capacity analysis was conducted to assess the projected future operating conditions of the study intersection during the weekday peak hours. 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.**

Table 6: Level of Service Grading Descriptions

Level of Service	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 2010

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, note that higher delays are tolerated for the corresponding LOS ratings.

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 2010
[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. The study area is inside of the Licking County Area Transportation Study (LCATS) MPO boundary.

Table 8: 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

Synchro 11 software was utilized to evaluate capacity of the proposed study intersection (reported overall and by approach) for the peak hour of site generated traffic. **Table 9** summarizes the capacity analysis results for the study intersections at the peak hours during the design year (2032) Build

condition. The intersection and all approaches operated at an acceptable LOS. Copies of the capacity analysis results are attached.

Table 9: 2032 Build - Study Intersection Capacity Analysis

Intersection	Weekday AM Peak		Weekday PM Peak	
	Delay (s/veh)	LOS	Delay (s/veh)	LOS
▲ Concord Road & Bottecchia Boulevard				
Eastbound	*2.9*	*A*	*6.0*	*A*
Westbound	*0.0*	*A*	*0.0*	*A*
Southbound	*9.2*	*A*	*8.7*	*A*
Intersection	**5.9**	**A**	**5.4**	**A**

▲ – Minor-Leg Stop-Controlled Intersection

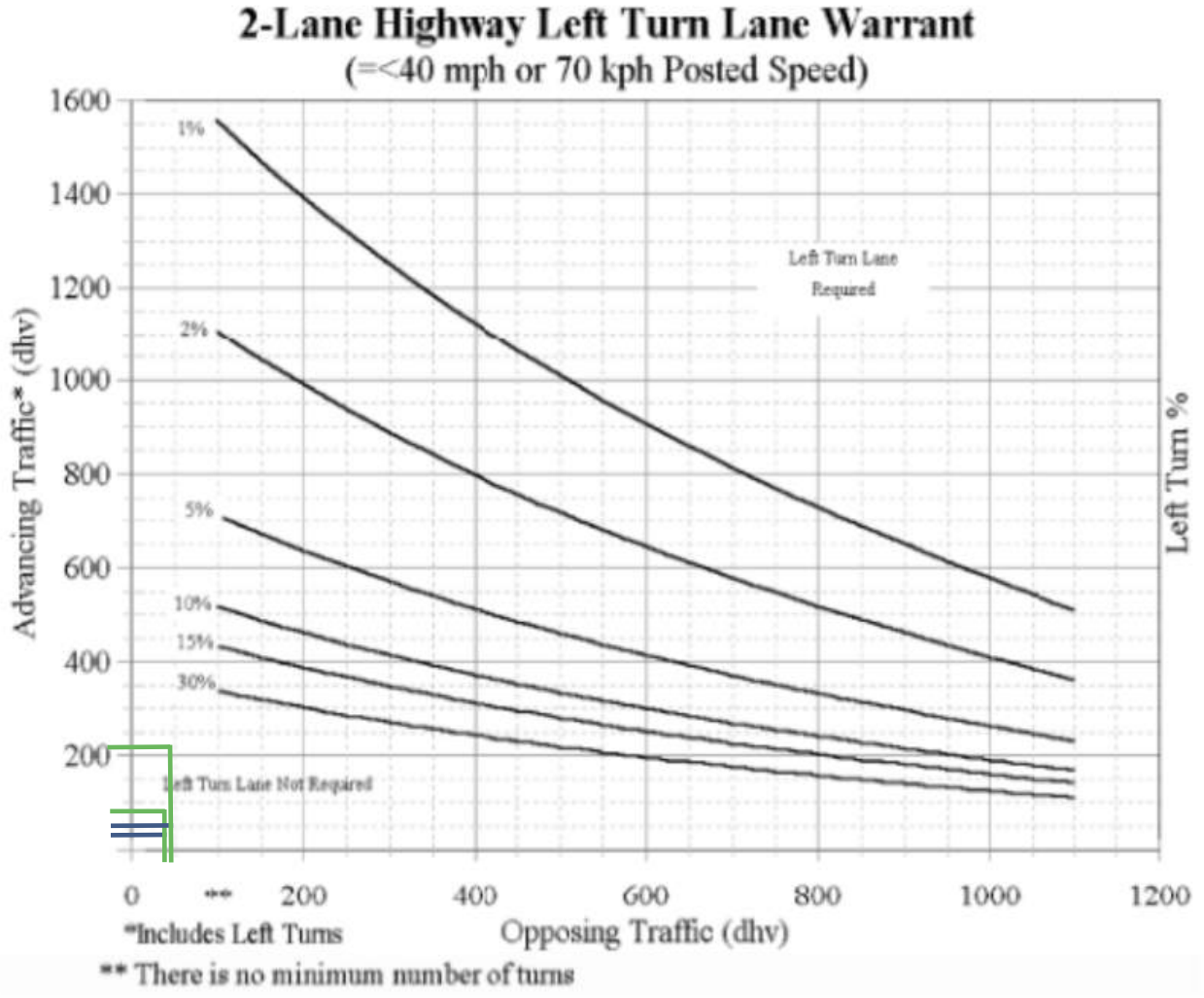
Conclusion

Based on an evaluation of traffic conditions at the study intersection, the projected traffic volumes are expected to operate at a LOS of A.

Based on the analysis of the study intersection, no improvements were warranted based on the addition of site generated trips.

2-LANE LEFT TURN LANE WARRANT (LOW SPEED)	401-5a REFERENCE SECTION 401.6.1

Concord Road & Bottecchia Boulevard - EBLT



EBLT	Advancing	Opposing	LT%	Warranted?
2032 Background AM	30	42	0%	No
2032 Background PM	52	48	0%	No
2032 Build AM	80	42	63%	No
2032 Build PM	215	48	76%	No

2-LANE RIGHT TURN LANE WARRANT (LOW SPEED)	401-6a
	REFERENCE SECTION 401.6.3

Concord Road & Bottecchia Boulevard - WBRT

WBRT	Advancing	Right Turning	Warranted?
2032 Background AM	42	0	No
2032 Background PM	43	0	No
2032 Build AM	42	0	No
2032 Build PM	48	5	No

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	30	50	42	0	5	145
Future Volume (Veh/h)	30	50	42	0	5	145
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	54	46	0	5	158
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	46				166	46
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	46				166	46
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				99	85
cM capacity (veh/h)	1562				807	1023

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	87	46	163
Volume Left	33	0	5
Volume Right	0	0	158
cSH	1562	1700	1015
Volume to Capacity	0.02	0.03	0.16
Queue Length 95th (ft)	2	0	14
Control Delay (s)	2.9	0.0	9.2
Lane LOS	A		A
Approach Delay (s)	2.9	0.0	9.2
Approach LOS			A

Intersection Summary			
Average Delay	5.9		
Intersection Capacity Utilization	26.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	163	52	43	5	0	41
Future Volume (Veh/h)	163	52	43	5	0	41
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	177	57	47	5	0	45
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	52				460	50
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	52				460	50
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	89				100	96
cM capacity (veh/h)	1554				495	1019

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	234	52	45
Volume Left	177	0	0
Volume Right	0	5	45
cSH	1554	1700	1019
Volume to Capacity	0.11	0.03	0.04
Queue Length 95th (ft)	10	0	3
Control Delay (s)	6.0	0.0	8.7
Lane LOS	A		A
Approach Delay (s)	6.0	0.0	8.7
Approach LOS			A

Intersection Summary			
Average Delay	5.4		
Intersection Capacity Utilization	28.4%	ICU Level of Service	A
Analysis Period (min)	15		

APPENDIX

C. COVID-19 Adjustment Data

Statewide Traffic Analysis

The analysis in this report is from permanent traffic counters at ODOT and compares average day of the week by month in 2019 to specific days in 2020

Data refreshes daily at 5:00 AM

Total Percent Change

1%
Total

-2%
Passenger

11%
Truck

District
- [ ] Select all
- [x] 5

Date
2/23/2022 2/24/2022

Functional Class
- [ ] Select all
- [ ] 1
- [ ] 2

County
- [ ] Select all
- [ ] Coshocton
- [ ] Fairfield
- [ ] Guernsey
- [ ] Knox
- [ ] Licking
- [ ] Perry

MS2 ID	Station Alias	County	ODOT District	Month	Day	DAY_OF_THE_WEEK	2020 Total	2019 Total Average	Total % Change	2020 Passenger	2019 Passenger Average	PA % Change	2020 Truck	2019 Truck Average	Truck % Change
44345	628	Licking	5	February	24	Thursday	38227	41296	-7%	34287	39636	-13%	3940	1660	137%
29245	531	Licking	5	February	24	Thursday	40039	42293	-5%	27117	27309	-1%	12922	14984	-14%
30645	707	Licking	5	February	24	Thursday	57692	60912	-5%	42127	46431	-9%	15565	14482	7%
44345	628	Licking	5	February	23	Wednesday	39941	37574	6%	35527	36063	-1%	4414	1511	192%
30645	707	Licking	5	February	23	Wednesday	60275	55764	8%	43383	41854	4%	16892	13910	21%
29245	531	Licking	5	February	23	Wednesday	41999	38200	10%	28164	23779	18%	13835	14421	-4%

APPENDIX

D. Traffic Count Data

Leg	WB Concord Rd				NWB S. Main St				SEB S. Main St				
Direction	Westbound				Northwestbound				Southeastbound				
Start Time	Bear right	Hard left	U-Turn	**App Total**	Hard right	Thru	U-Turn	**App Total**	Thru	Bear left	U-Turn	**App Total**	**Int Total**
2022-02-23 15:00:00	23	7	0	**30**	6	48	0	**54**	69	29	0	**98**	**182**
2022-02-23 15:15:00	12	3	0	**15**	0	66	0	**66**	58	25	0	**83**	**164**
2022-02-23 15:30:00	17	3	0	**20**	8	46	0	**54**	67	32	0	**99**	**173**
2022-02-23 15:45:00	12	5	0	**17**	6	70	0	**76**	75	30	0	**105**	**198**
2022-02-23 16:00:00	13	4	0	**17**	4	64	0	**68**	85	16	0	**101**	**186**
2022-02-23 16:15:00	15	3	0	**18**	5	65	0	**70**	62	14	0	**76**	**164**
2022-02-23 16:30:00	9	0	0	**9**	6	67	0	**73**	70	20	0	**90**	**172**
2022-02-23 16:45:00	16	4	0	**20**	7	70	0	**77**	58	27	0	**85**	**182**
2022-02-23 17:00:00	19	4	0	**23**	6	47	0	**53**	86	22	0	**108**	**184**
2022-02-23 17:15:00	24	4	0	**28**	9	92	0	**101**	52	23	0	**75**	**204**
2022-02-23 17:30:00	16	5	0	**21**	8	59	0	**67**	49	29	0	**78**	**166**
2022-02-23 17:45:00	21	5	0	**26**	5	67	0	**72**	43	19	0	**62**	**160**
2022-02-23 18:00:00	20	4	0	**24**	3	73	0	**76**	41	24	0	**65**	**165**
2022-02-23 18:15:00	17	1	0	**18**	2	55	0	**57**	54	26	0	**80**	**155**
2022-02-23 18:30:00	18	4	0	**22**	4	55	0	**59**	44	24	0	**68**	**149**
2022-02-23 18:45:00	16	0	0	**16**	2	32	0	**34**	45	11	0	**56**	**106**
2022-02-23 19:00:00	9	1	0	**10**	3	33	0	**36**	33	16	0	**49**	**95**
2022-02-23 19:15:00	7	0	0	**7**	4	22	0	**26**	23	18	0	**41**	**74**
2022-02-23 19:30:00	5	2	0	**7**	0	24	0	**24**	13	13	0	**26**	**57**
2022-02-23 19:45:00	4	0	0	**4**	3	24	0	**27**	18	17	0	**35**	**66**
2022-02-23 20:00:00	9	1	0	**10**	2	23	0	**25**	12	4	0	**16**	**51**
2022-02-23 20:15:00	8	1	0	**9**	6	26	0	**32**	52	29	0	**81**	**122**
2022-02-23 20:30:00	11	0	0	**11**	4	12	0	**16**	68	14	0	**82**	**109**
2022-02-23 20:45:00	2	1	0	**3**	1	19	0	**20**	35	9	0	**44**	**67**
2022-02-23 21:00:00	2	0	0	**2**	2	9	0	**11**	24	2	0	**26**	**39**
2022-02-23 21:15:00	4	1	0	**5**	0	13	0	**13**	13	9	0	**22**	**40**
2022-02-23 21:30:00	5	0	0	**5**	1	13	0	**14**	14	10	0	**24**	**43**
2022-02-23 21:45:00	0	0	0	**0**	0	9	0	**9**	12	3	0	**15**	**24**
2022-02-23 22:00:00	1	0	0	**1**	0	7	0	**7**	8	4	0	**12**	**20**
2022-02-23 22:15:00	1	0	0	**1**	2	7	0	**9**	3	3	0	**6**	**16**
2022-02-23 22:30:00	3	0	0	**3**	0	8	0	**8**	4	2	0	**6**	**17**
2022-02-23 22:45:00	0	0	0	**0**	1	4	0	**5**	2	3	0	**5**	**10**
2022-02-23 23:00:00	1	0	0	**1**	0	7	0	**7**	4	3	0	**7**	**15**
2022-02-23 23:15:00	0	0	0	**0**	0	1	0	**1**	5	0	0	**5**	**6**
2022-02-23 23:30:00	0	0	0	**0**	0	5	0	**5**	2	1	0	**3**	**8**
2022-02-23 23:45:00	1	0	0	**1**	0	4	0	**4**	3	0	0	**3**	**8**
2022-02-24 00:00:00	0	0	0	**0**	0	3	0	**3**	3	1	0	**4**	**7**
2022-02-24 00:15:00	1	0	0	**1**	0	4	0	**4**	1	0	0	**1**	**6**
2022-02-24 00:30:00	0	1	0	**1**	1	1	0	**2**	3	1	0	**4**	**7**
2022-02-24 00:45:00	1	0	0	**1**	0	3	0	**3**	2	0	0	**2**	**6**
2022-02-24 01:00:00	1	0	0	**1**	1	2	0	**3**	1	1	0	**2**	**6**
2022-02-24 01:15:00	0	0	0	**0**	0	2	0	**2**	0	0	0	**0**	**2**
2022-02-24 01:30:00	0	0	0	**0**	1	1	0	**2**	1	0	0	**1**	**3**
2022-02-24 01:45:00	0	0	0	**0**	1	1	0	**2**	1	1	0	**2**	**4**
2022-02-24 02:00:00	0	0	0	**0**	1	1	0	**2**	0	0	0	**0**	**2**
2022-02-24 02:15:00	0	0	0	**0**	0	1	0	**1**	6	1	0	**7**	**8**
2022-02-24 02:30:00	1	0	0	**1**	0	0	0	**0**	0	0	0	**0**	**1**
2022-02-24 02:45:00	0	0	0	**0**	0	1	0	**1**	2	1	0	**3**	**4**
2022-02-24 03:00:00	1	0	0	**1**	0	1	0	**1**	0	1	0	**1**	**3**
2022-02-24 03:15:00	0	0	0	**0**	0	3	0	**3**	2	0	0	**2**	**5**
2022-02-24 03:30:00	0	0	0	**0**	0	1	0	**1**	1	0	0	**1**	**2**
2022-02-24 03:45:00	0	0	0	**0**	0	3	0	**3**	2	0	0	**2**	**5**
2022-02-24 04:00:00	1	0	0	**1**	0	3	0	**3**	6	0	0	**6**	**10**
2022-02-24 04:15:00	1	0	0	**1**	0	8	0	**8**	1	0	0	**1**	**10**
2022-02-24 04:30:00	1	0	0	**1**	0	8	0	**8**	1	0	0	**1**	**10**
2022-02-24 04:45:00	3	0	0	**3**	0	11	0	**11**	7	0	0	**7**	**21**
2022-02-24 05:00:00	2	0	0	**2**	0	12	0	**12**	12	0	0	**12**	**26**
2022-02-24 05:15:00	3	0	0	**3**	0	13	0	**13**	19	0	0	**19**	**35**
2022-02-24 05:30:00	7	2	0	**9**	0	24	0	**24**	17	0	0	**17**	**50**
2022-02-24 05:45:00	7	2	0	**9**	0	33	0	**33**	26	0	0	**26**	**68**
2022-02-24 06:00:00	9	1	0	**10**	0	23	0	**23**	29	1	0	**30**	**63**
2022-02-24 06:15:00	13	1	0	**14**	0	38	0	**38**	30	1	0	**31**	**83**
2022-02-24 06:30:00	12	4	0	**16**	0	47	0	**47**	38	2	0	**40**	**103**
2022-02-24 06:45:00	13	8	0	**21**	0	48	0	**48**	34	5	0	**39**	**108**
2022-02-24 07:00:00	59	7	0	**66**	6	65	0	**71**	43	4	0	**47**	**184**
2022-02-24 07:15:00	36	5	0	**41**	12	101	0	**113**	56	13	0	**69**	**223**
2022-02-24 07:30:00	26	8	0	**34**	2	50	0	**52**	41	6	0	**47**	**133**
2022-02-24 07:45:00	14	8	0	**22**	0	50	0	**50**	55	11	0	**66**	**138**
2022-02-24 08:00:00	18	6	0	**24**	3	31	0	**34**	43	5	0	**48**	**106**
2022-02-24 08:15:00	18	2	0	**20**	1	42	0	**43**	57	7	0	**64**	**127**
2022-02-24 08:30:00	17	4	0	**21**	1	40	0	**41**	56	10	0	**66**	**128**
2022-02-24 08:45:00	10	2	0	**12**	5	39	0	**44**	44	6	0	**50**	**106**
2022-02-24 09:00:00	8	6	0	**14**	1	40	0	**41**	51	12	0	**63**	**118**
2022-02-24 09:15:00	15	2	0	**17**	3	47	0	**50**	28	10	0	**38**	**105**
2022-02-24 09:30:00	8	2	0	**10**	0	35	0	**35**	43	11	0	**54**	**99**
2022-02-24 09:45:00	12	2	0	**14**	0	38	0	**38**	36	9	0	**45**	**97**
2022-02-24 10:00:00	13	4	0	**17**	1	40	0	**41**	26	7	0	**33**	**91**
2022-02-24 10:15:00	15	1	0	**16**	0	33	0	**33**	27	15	0	**42**	**91**
2022-02-24 10:30:00	14	1	0	**15**	3	41	0	**44**	32	10	0	**42**	**101**
2022-02-24 10:45:00	11	3	0	**14**	3	38	0	**41**	26	11	0	**37**	**92**
2022-02-24 11:00:00	13	2	0	**15**	1	37	0	**38**	37	14	0	**51**	**104**
2022-02-24 11:15:00	15	1	0	**16**	3	43	0	**46**	37	21	0	**58**	**120**
2022-02-24 11:30:00	8	4	0	**12**	1	35	0	**36**	50	13	0	**63**	**111**
2022-02-24 11:45:00	14	1	0	**15**	0	33	0	**33**	37	11	0	**48**	**96**
2022-02-24 12:00:00	16	2	0	**18**	2	44	0	**46**	34	20	0	**54**	**118**
2022-02-24 12:15:00	13	3	0	**16**	3	41	0	**44**	39	9	0	**48**	**108**
2022-02-24 12:30:00	10	3	0	**13**	3	35	0	**38**	34	15	0	**49**	**100**
2022-02-24 12:45:00	13	2	0	**15**	3	33	0	**36**	33	13	0	**46**	**97**
2022-02-24 13:00:00	12	4	0	**16**	4	46	0	**50**	46	22	0	**68**	**134**
2022-02-24 13:15:00	9	4	0	**13**	3	38	0	**41**	46	17	0	**63**	**117**
2022-02-24 13:30:00	5	0	0	**5**	2	33	0	**35**	38	14	0	**52**	**92**
2022-02-24 13:45:00	9	4	0	**13**	4	43	0	**47**	36	9	0	**45**	**105**
2022-02-24 14:00:00	14	2	0	**16**	4	49	0	**53**	56	6	0	**62**	**131**
2022-02-24 14:15:00	20	2	0	**22**	5	37	0	**42**	49	12	0	**61**	**125**
2022-02-24 14:30:00	16	7	0	**23**	9	97	0	**106**	57	27	0	**84**	**213**
2022-02-24 14:45:00	22	5	0	**27**	6	53	0	**59**	43	12	0	**55**	**141**
Grand Total	921	191	0	**1112**	209	2969	0	**3178**	2887	929	0	**3816**	**8106**
% Approach	82.8%	17.2%	0.0%		6.6%	93.4%	0.0%		75.7%	24.3%	0.0%		
% Total	11.4%	2.4%	0.0%	**13.7%**	2.6%	36.6%	0.0%	**39.2%**	35.6%	11.5%	0.0%	**47.1%**	
Lights and Motorcycles	901	184	0	**1085**	201	2772	0	**2973**	2679	908	0	**3587**	**7645**
% Lights and Motorcycles	97.8%	96.3%	0.0%	**97.6%**	96.2%	93.4%	0.0%	**93.5%**	92.8%	97.7%	0.0%	**94.0%**	**94.3%**
Heavy	20	7	0	**27**	8	197	0	**205**	208	21	0	**229**	**461**
% Heavy	2.2%	3.7%	0.0%	**2.4%**	3.8%	6.6%	0.0%	**6.5%**	7.2%	2.3%	0.0%	**6.0%**	**5.7%**

APPENDIX

E. TFMS Segment Forecast Report

TFMS - Segment Forecast Report

Username	Email	Script Import Date	Script Version	Model Version
Jacob.Campbell	Jacob.Campbell@kimley-horn.com	4/14/2020 5:30:19 PM	2020.001	2021.1900

Forecast Summary

Project ID	Project Name	Opening Year	Design Year
	Concord Crossing Growth	2022	2032

Project Description

Concord Crossing Single-Family Development

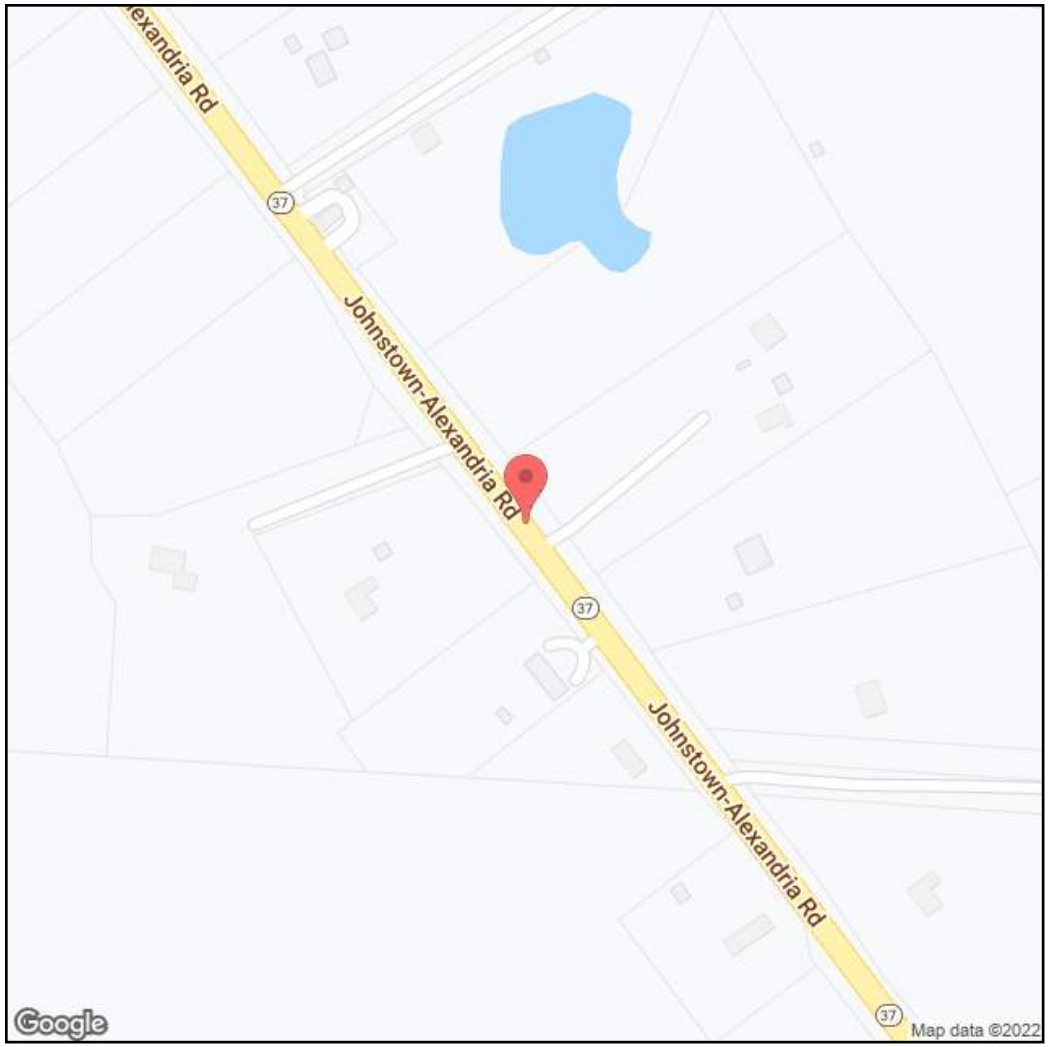
*Users of this data need to be aware that there are limitations to the forecasts generated by this product that make it suitable only for roadway design projects which are low risk.

Segment Information

Segment ID	LRS ID	BMP	EMP	Length	Latitude	Longitude
1467868	SLICSR00037**C	4.860	7.030	2.170	-82.6703834811851	40.1386277581399

Forecast Information

Segment ID	2022 AADT	2032 AADT	DHV-30	K%	D%	T24%	TD%
1467868	5,300	5,900	600	10.0	51.6	10	8



Definitions:

- AADT – Annual Average Daily Traffic
- DHV30 – Design Hour Volume for 30th highest hour of the year
- DHV30 – K * AADT
- K % – Design Hour Factor
- D % – Peak Direction Factor
- T24 % – Percent Daily Trucks
- TD % – Percent Design Hour Trucks

Forecast Segment ID	Route	BMP	EMP
1467868	SLICSR00037**C	4.860	7.030

Forecast

Year	K %	T24 %	PA AADT	PA Method	PA Growth Rate %	PA Calculated Rate %
2050	10.0	12	6,100	Model	0.900	0.900

AADT	D %	TD %	BC AADT	BC Method	BC Growth Rate %	BC Calculated Rate %
6,910	51.6	9	810	Model	2.500	2.500

Regression

Method Number	PA AADT	BC AADT	AADT
2	3,742	280	4,022

95% Confidence Min/Max

PA Min	PA Max	BC Min	BC Max	Year
-2235	11219	-380	1733	2050

Method Number	PA Growth %	BC Growth %	PA Drop Count	BC Drop Count	PA AADT	BC AADT	PA Adjustment	PA Adjustment
1	-0.14	-1.21	0	0	4,956	280	4,544	296
2	-0.71	-1.32	5	3	3,798	281	3,742	280
3	0.44	-0.09	0	0	5,895	456	5,374	451
4	-0.21	-0.97	5	5	4,614	286	4,455	329
5	-0.32	2.90	0	0	4,697	915	4,287	867
6	-0.99	2.00	5	5	3,381	743	3,338	743

Adjustment Info

ID	Adjustment Methods Name	Model vs Count AADT	Adjusted AADT	Model vs Count BC	Adjusted BC	PA Growth Rate %	BC Growth Rate %
1	DIF	-5,676	8,046	-1,005	1,125	1.52	4.75
2	RAT	0.48	6,570	0.32	673	0.80	1.50
3	MRAT	1.26	6,875	1.45	813	0.92	2.51
4	RAF		7,460		969	1.22	3.63

Adjust Method AADT	Adjust Method BC	Selected PA Growth Rate %	Selected BC Growth Rate %
Model Ratio	Model Ratio	0.900	2.500

Method 1 - 4 Volume

PA Min Volume	PA Max Volume	BC Min Volume	BC Max Volume	Total Min Volume	Total Max Volume
5897	6921	673	1125	6570	8046

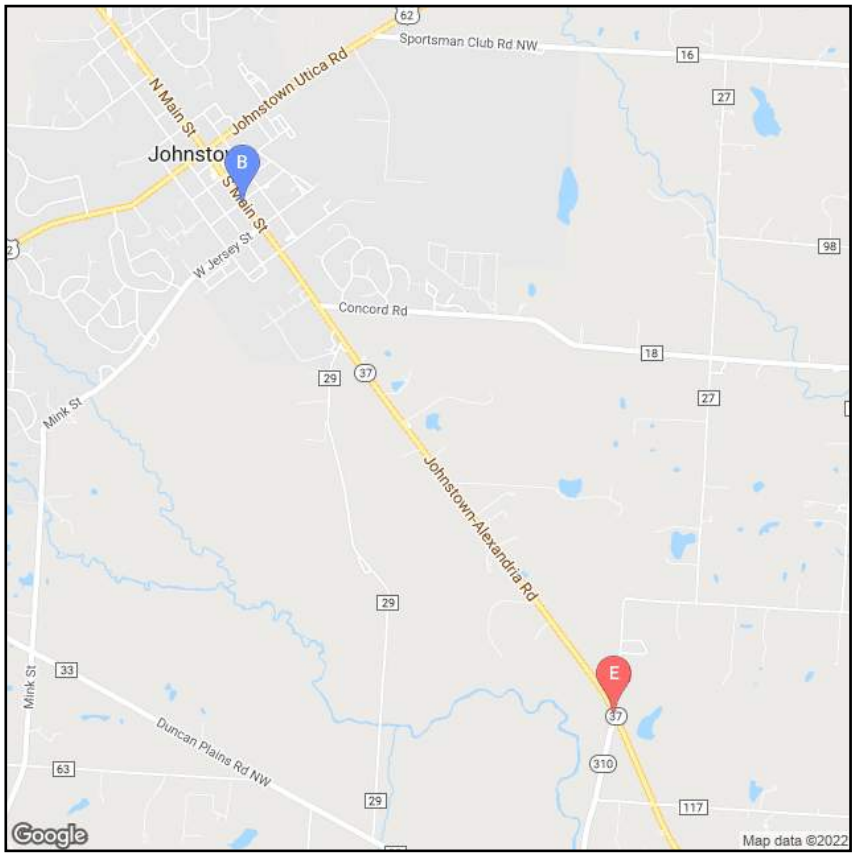
Process Flag: Adjusted model to counts with process per ODOT 255 spreadsheet

Comment: No Comment

Historical Count

Year	All	Cars	Trucks
2005	6,100	5,520	580
2008	5,390	4,850	540
2012	5,430	5,040	390
2014	5,655	5,249	406
2017	6,422	5,865	557
* 2020	5,214	4,750	464

* Pivot Point



Segment ID	LRS ID	BMP	EMP	Length	Yr 2022 AADT	Yr 2032 AADT	DHV30	K %	D %	T24 %	TD %
1467868	SLICSR00037**C	4.860	7.030	2.170	5,300	5,900	600	10.0	51.6	10	8

APPENDIX

F. ITE Trip Generation Data

Land Use: 210
Single-Family Detached Housing

Description

Single-family detached housing includes all single-family detached homes on individual lots. A typical site surveyed is a suburban subdivision.

Additional Data

The number of vehicles and residents had a high correlation with average weekday vehicle trip ends. The use of these variables was limited, however, because the number of vehicles and residents was often difficult to obtain or predict. The number of dwelling units was generally used as the independent variable of choice because it was usually readily available, easy to project, and had a high correlation with average weekday vehicle trip ends.

This land use included data from a wide variety of units with different sizes, price ranges, locations, and ages. Consequently, there was a wide variation in trips generated within this category. Other factors, such as geographic location and type of adjacent and nearby development, may also have had an effect on the site trip generation.

Single-family detached units had the highest trip generation rate per dwelling unit of all residential uses because they were the largest units in size and had more residents and more vehicles per unit than other residential land uses; they were generally located farther away from shopping centers, employment areas, and other trip attractors than other residential land uses; and they generally had fewer alternative modes of transportation available because they were typically not as concentrated as other residential land uses.

Time-of-day distribution data for this land use are presented in Appendix A. For the six general urban/suburban sites with data, the overall highest vehicle volumes during the AM and PM on a weekday were counted between 7:15 and 8:15 a.m. and 4:00 and 5:00 p.m., respectively. For the two sites with Saturday data, the overall highest vehicle volume was counted between 3:00 and 4:00 p.m. For the one site with Sunday data, the overall highest vehicle volume was counted between 10:15 and 11:15 a.m.

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in California, Connecticut, Delaware, Illinois, Indiana, Maryland, Minnesota, Montana, New Jersey, North Carolina, Ohio, Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Vermont, and Virginia.

Source Numbers

100, 105, 114, 126, 157, 167, 177, 197, 207, 211, 217, 267, 275, 293, 300, 319, 320, 356, 357, 367, 384, 387, 407, 435, 522, 550, 552, 579, 598, 601, 603, 614, 637, 711, 716, 720, 728, 735, 868, 903, 925, 936

Single-Family Detached Housing
(210)

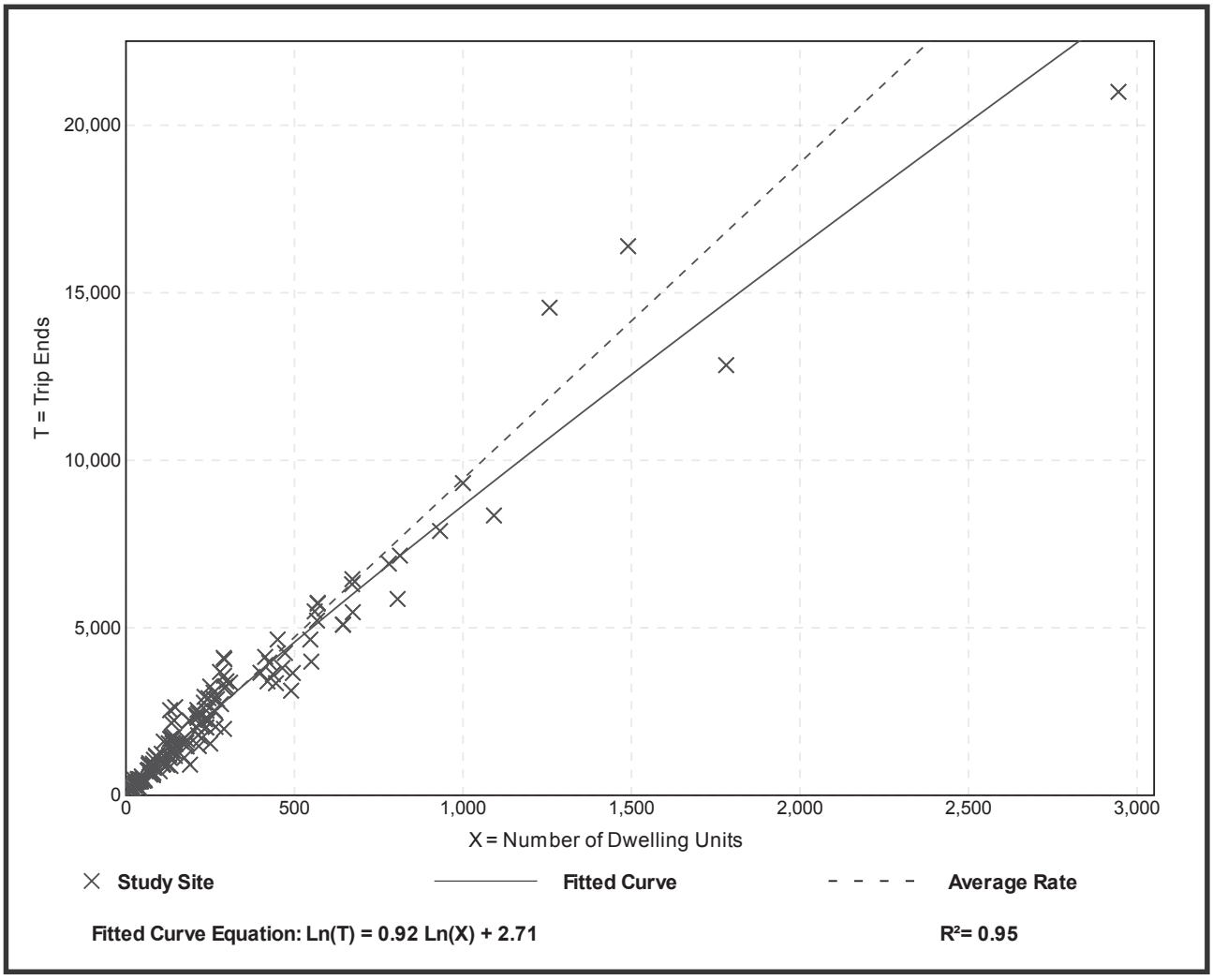
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 159
Avg. Num. of Dwelling Units: 264
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
9.44	4.81 - 19.39	2.10

Data Plot and Equation



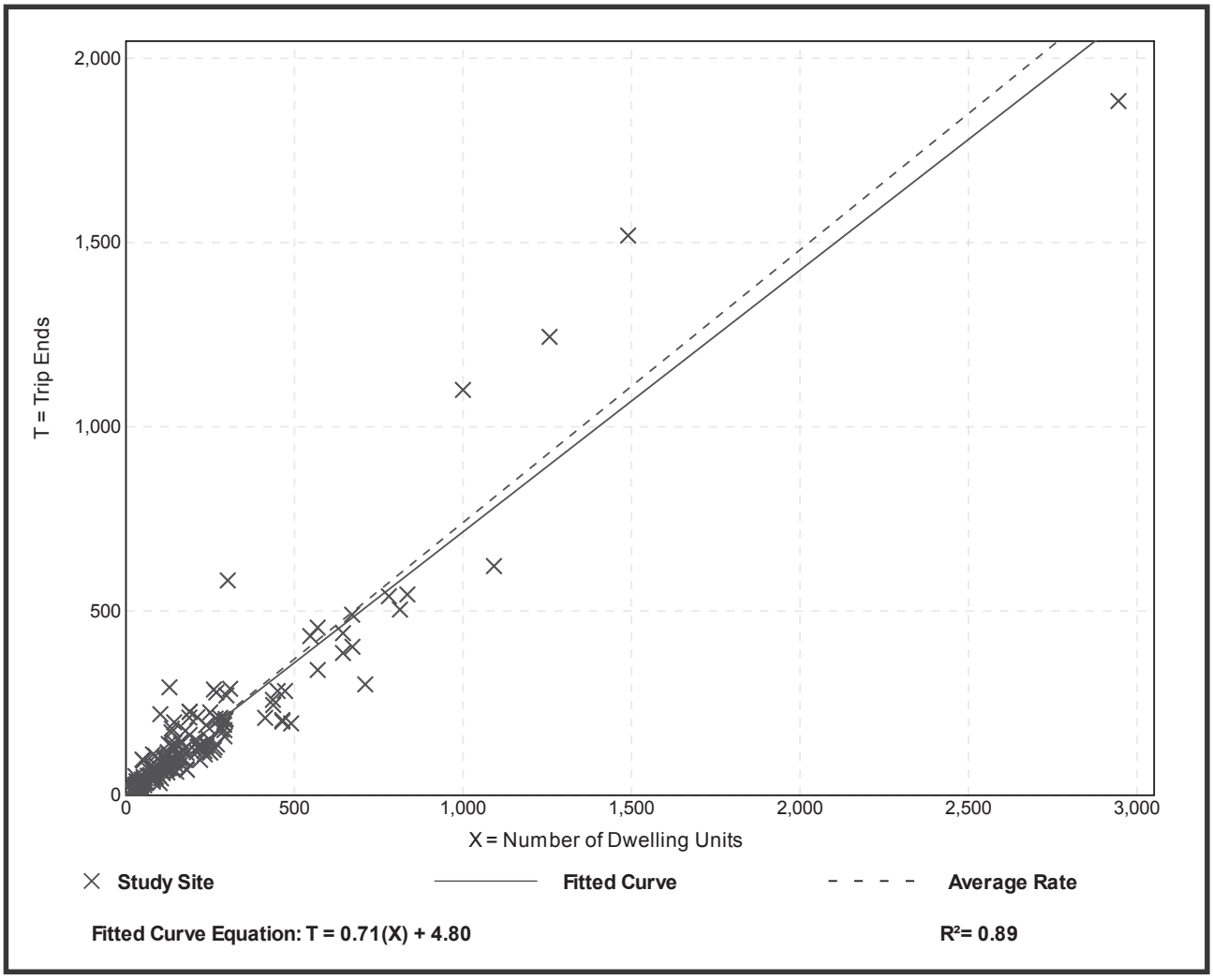
Single-Family Detached Housing
(210)

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:	173
Avg. Num. of Dwelling Units:	219
Directional Distribution:	25% entering, 75% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.74	0.33 - 2.27	0.27

Data Plot and Equation



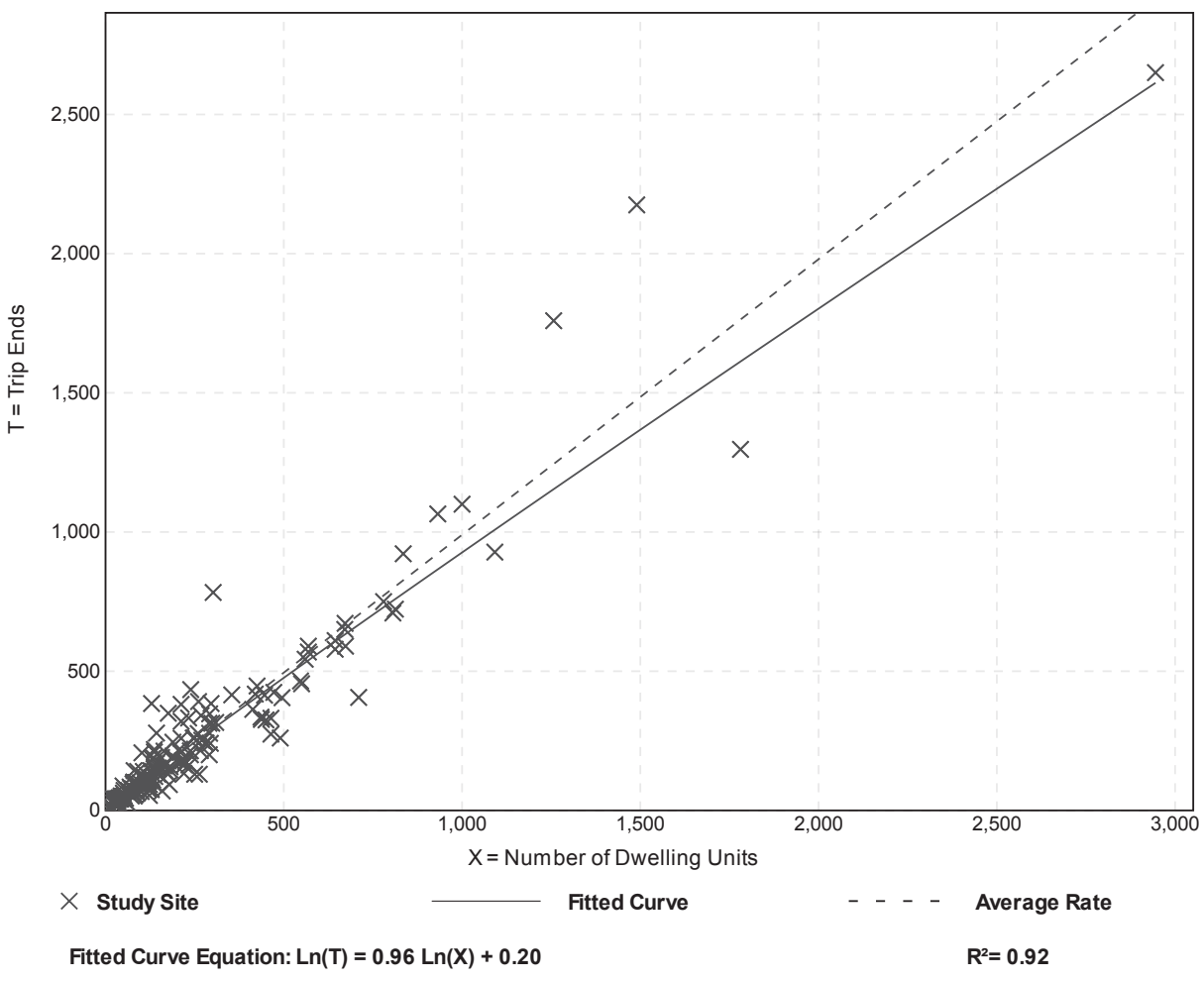
Single-Family Detached Housing
(210)

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:	190
Avg. Num. of Dwelling Units:	242
Directional Distribution:	63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.99	0.44 - 2.98	0.31

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.96 Ln(X) + 0.20

R^2= 0.92

APPENDIX

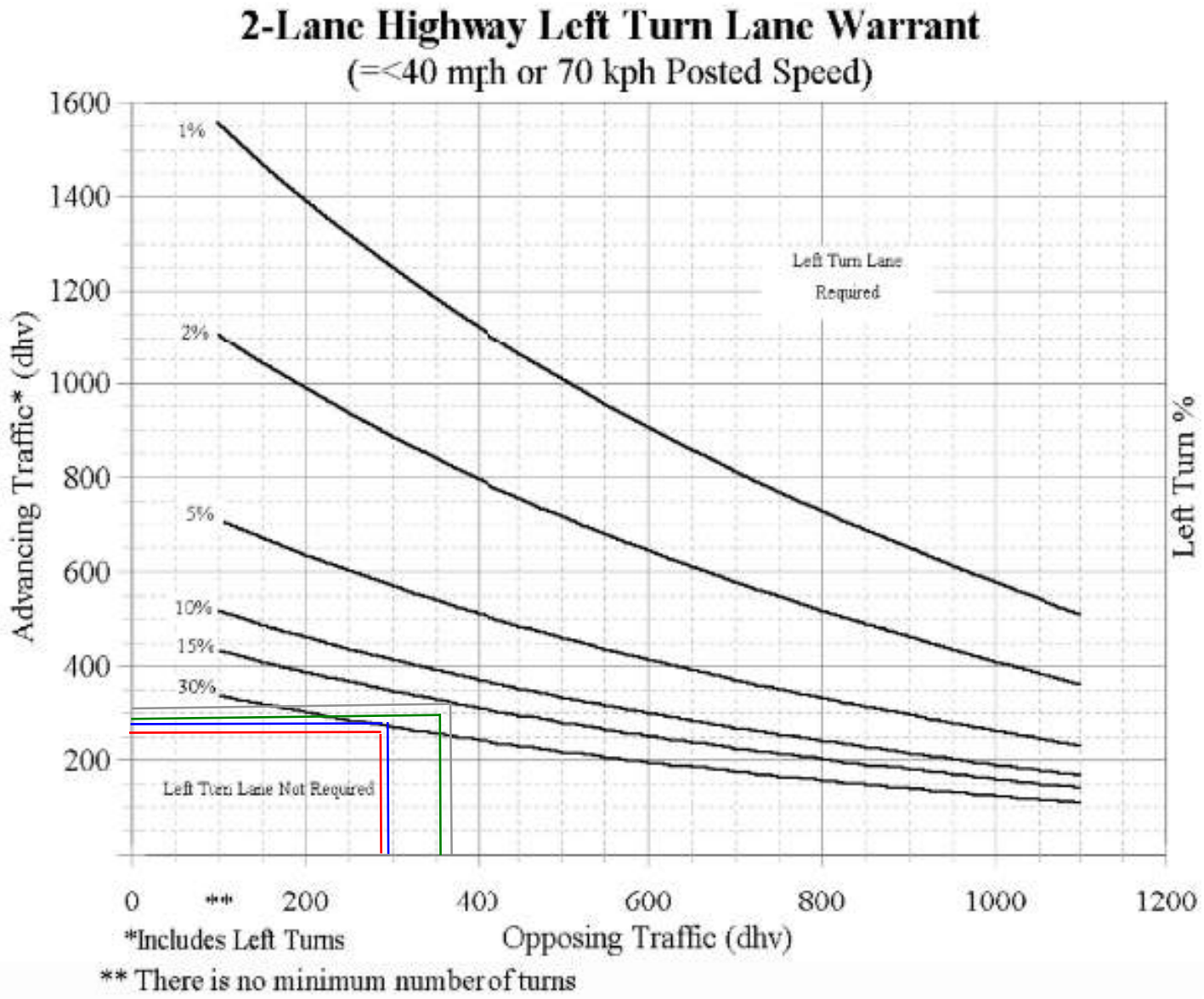
G. Turn-Lane Warrant Analysis

2-LANE LEFT TURN LANE WARRANT (LOW SPEED)

401-5a

REFERENCE SECTION
401.6.1

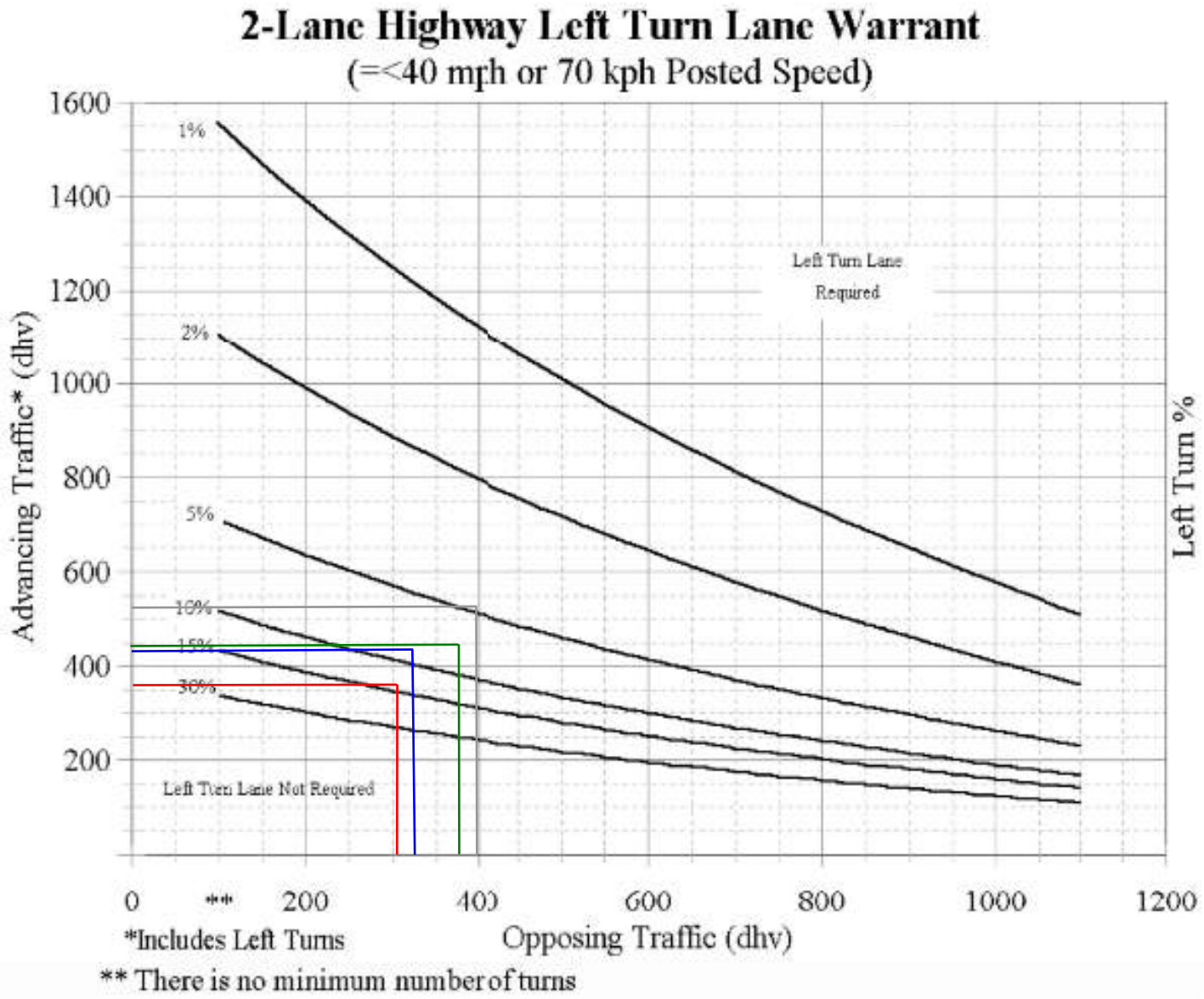
OH-37 and Concord Road - AM Peak Hour



SBLT	Advancing	Opposing	LT%	Warranted?
2022 No Build AM	229	286	15%	No
2022 Build AM	252	291	23%	No
2032 No Build AM	287	358	15%	No
2032 Build AM	310	363	21%	Yes

2-LANE LEFT TURN LANE WARRANT (LOW SPEED)	401-5a
	REFERENCE SECTION 401.6.1

OH-37 and Concord Road - PM Peak Hour



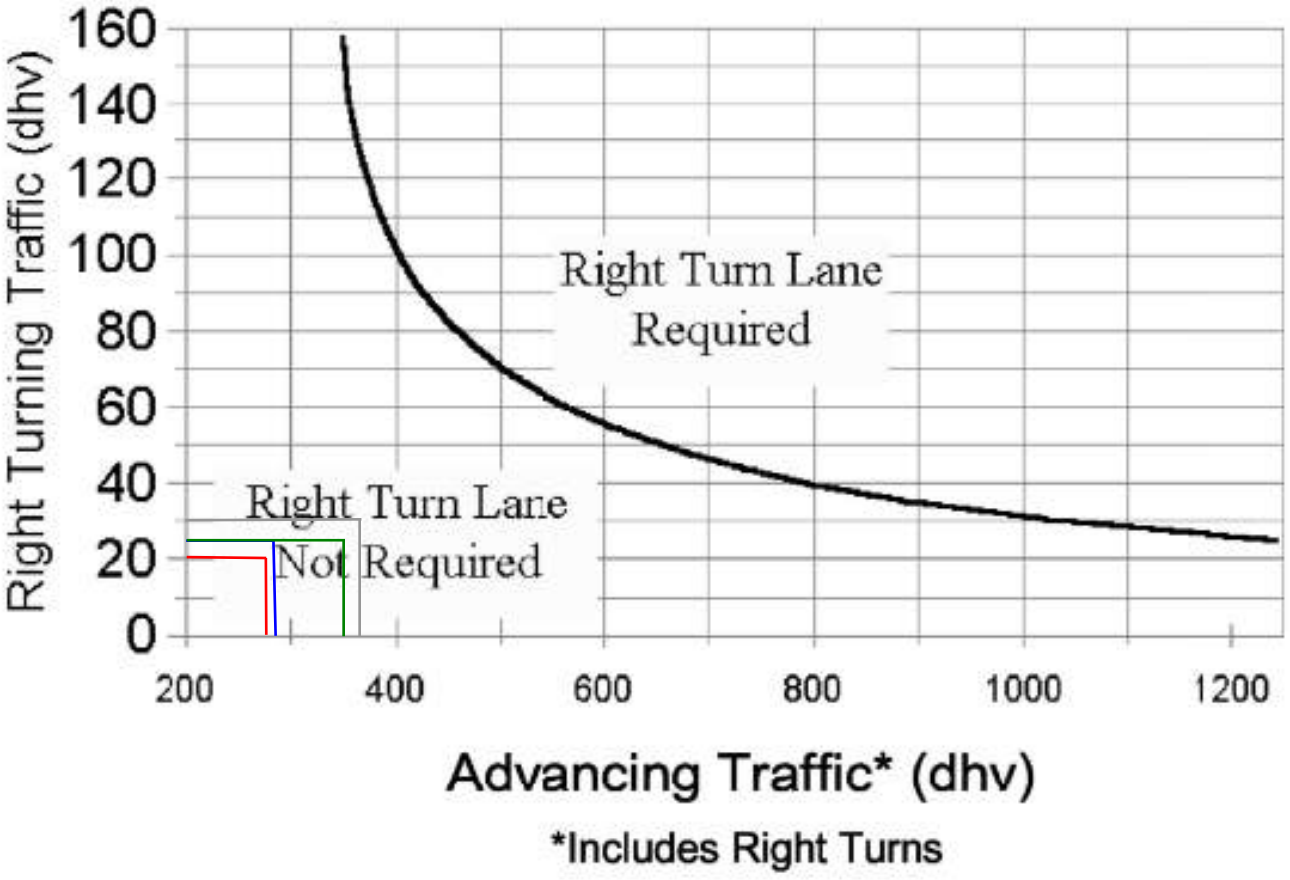
SBLT	Advancing	Opposing	LT%	Warranted?
2022 No Build PM	358	304	26%	Yes
2022 Build PM	435	321	39%	Yes
2032 No Build PM	448	380	26%	Yes
2032 Build PM	525	397	37%	Yes

2-LANE RIGHT TURN LANE WARRANT (LOW SPEED)	401-6a
	REFERENCE SECTION 401.6.3

OH-37 and Concord Road - AM Peak Hour

2-Lane Highway Right Turn Lane Warrant

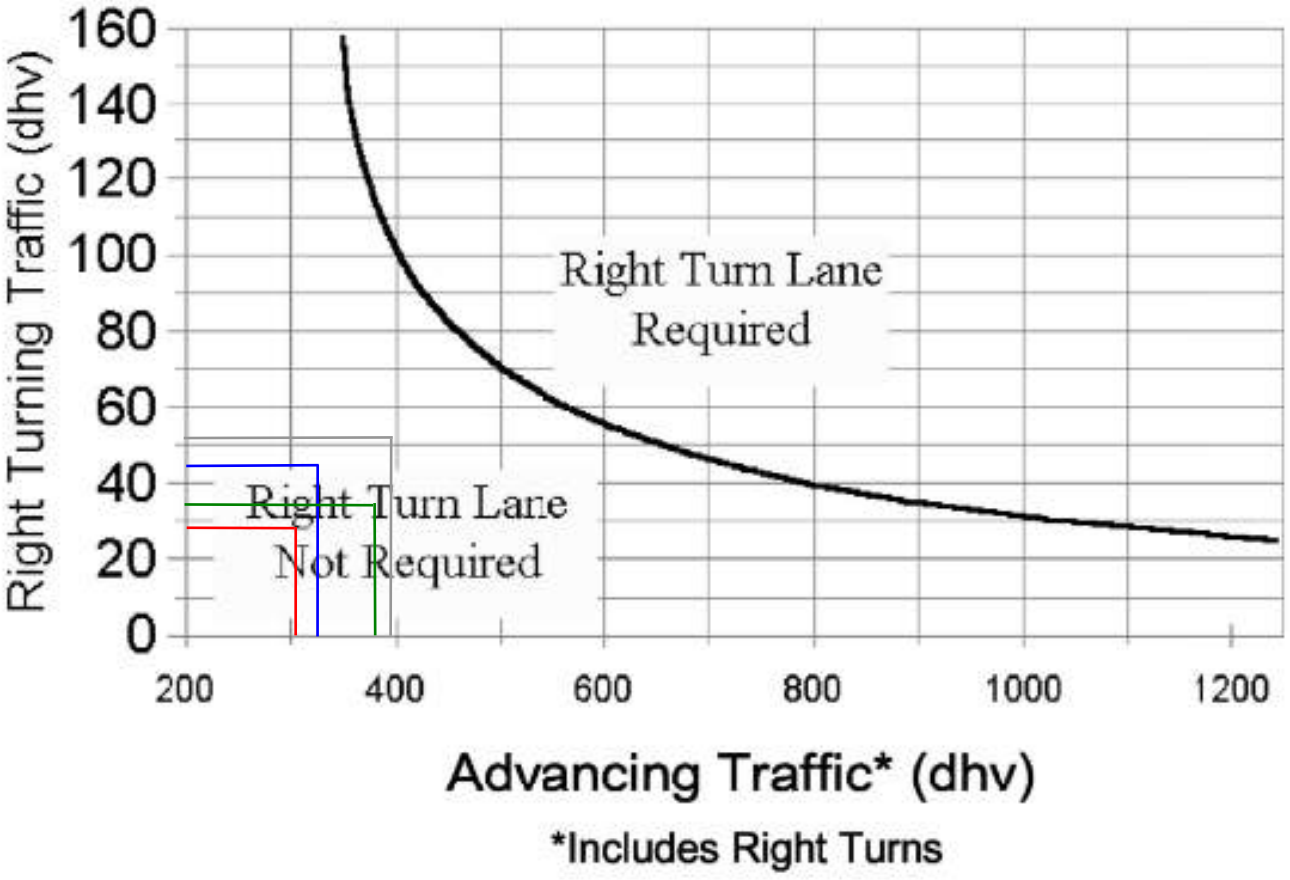
=< 40 mph or 70 kph Posted Speed



NBRT	Advancing	Right Turning	Warranted?
2022 No Build AM	286	20	No
2022 Build AM	291	25	No
2032 No Build AM	358	25	No
2032 Build AM	363	30	No

2-LANE RIGHT TURN LANE WARRANT (LOW SPEED)	401-6a
	REFERENCE SECTION 401.6.3

OH-37 and Concord Road - PM Peak Hour



NBRT	Advancing	Right Turning	Warranted?
2022 No Build PM	304	28	No
2022 Build PM	321	45	No
2032 No Build PM	380	35	No
2032 Build PM	397	52	No

APPENDIX

H. Turn Lane Length Calculations

INTERSECTION -		Concord Rd & OH-37						2032 Build			
Cycle Length (Secs.)	Movement	Design Speed (mph)	# of Lanes		Analysis Peak Period	Thru Lane DHV	Turn Lane DHV	Calculated Turn Lane (FT)	Thru Movement Backup (FT)	Blocked	Required Turn Lane (FT)
			Thru	Turn							
60	EBL	35	0	0	AM	0	0	N/A	N/A	N/A	N/A
					PM	0	0	N/A	N/A	N/A	
	EBR		0	0	AM	0	0	N/A	N/A	N/A	N/A
					PM	0	0	N/A	N/A	N/A	
	WBL	35	0	1	AM	0	50	100	N/A	N/A	150
					PM	0	25	100	N/A	N/A	
	WBR		0	1	AM	0	237	225	N/A	N/A	150
					PM	0	130	200	N/A	N/A	
	NBL	0	1	0	AM	363	0	N/A	N/A	N/A	N/A
					PM	397	0	N/A	N/A	N/A	
	NBR		1	0	AM	333	30	N/A	N/A	N/A	N/A
					PM	345	52	N/A	N/A	N/A	
	SBL	35	1	1	AM	244	66	150	250	N/A	225
					PM	333	192	225	300	N/A	
	SBR		1	0	AM	244	0	N/A	N/A	N/A	N/A
					PM	333	0	N/A	N/A	N/A	

APPENDIX

I.

Synchro 11 Capacity Analysis

Intersection	
Int Delay, s/veh	3.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	28	135	266	20	34	195
Future Vol, veh/h	28	135	266	20	34	195
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	150	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	1	1	5	5	8	8
Mvmt Flow	35	169	333	25	43	244

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	676	346	0	0	358	0
Stage 1	346	-	-	-	-	-
Stage 2	330	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.18	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.272	-
Pot Cap-1 Maneuver	420	699	-	-	1168	-
Stage 1	719	-	-	-	-	-
Stage 2	731	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	402	699	-	-	1168	-
Mov Cap-2 Maneuver	402	-	-	-	-	-
Stage 1	719	-	-	-	-	-
Stage 2	700	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.3	0	1.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	402	699	1168	-
HCM Lane V/C Ratio	-	-	0.087	0.241	0.036	-
HCM Control Delay (s)	-	-	14.8	11.8	8.2	0
HCM Lane LOS	-	-	B	B	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.9	0.1	-

Intersection	
Int Delay, s/veh	2.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	68	276	28	92	266
Future Vol, veh/h	12	68	276	28	92	266
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	150	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	1	1	2	2	4	4
Mvmt Flow	13	75	303	31	101	292

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	813	319	0	0	334	0
Stage 1	319	-	-	-	-	-
Stage 2	494	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.14	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.236	-
Pot Cap-1 Maneuver	349	724	-	-	1214	-
Stage 1	739	-	-	-	-	-
Stage 2	615	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	314	724	-	-	1214	-
Mov Cap-2 Maneuver	314	-	-	-	-	-
Stage 1	739	-	-	-	-	-
Stage 2	554	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.5	0	2.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	314	724	1214	-
HCM Lane V/C Ratio	-	-	0.042	0.103	0.083	-
HCM Control Delay (s)	-	-	17	10.5	8.2	0
HCM Lane LOS	-	-	C	B	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.3	0.3	-

Intersection	
Int Delay, s/veh	4.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	43	203	266	25	57	195
Future Vol, veh/h	43	203	266	25	57	195
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	150	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	1	1	5	5	8	8
Mvmt Flow	54	254	333	31	71	244

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	735	349	0	0	364	0
Stage 1	349	-	-	-	-	-
Stage 2	386	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.18	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.272	-
Pot Cap-1 Maneuver	388	697	-	-	1162	-
Stage 1	716	-	-	-	-	-
Stage 2	689	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	360	697	-	-	1162	-
Mov Cap-2 Maneuver	360	-	-	-	-	-
Stage 1	716	-	-	-	-	-
Stage 2	640	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.7	0	1.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	360	697	1162	-
HCM Lane V/C Ratio	-	-	0.149	0.364	0.061	-
HCM Control Delay (s)	-	-	16.7	13.1	8.3	0
HCM Lane LOS	-	-	C	B	A	A
HCM 95th %tile Q(veh)	-	-	0.5	1.7	0.2	-

Intersection	
Int Delay, s/veh	3.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	22	113	276	45	169	266
Future Vol, veh/h	22	113	276	45	169	266
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	150	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	1	1	2	2	4	4
Mvmt Flow	24	124	303	49	186	292

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	992	328	0	0	352	0
Stage 1	328	-	-	-	-	-
Stage 2	664	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.14	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.236	-
Pot Cap-1 Maneuver	274	716	-	-	1196	-
Stage 1	732	-	-	-	-	-
Stage 2	514	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	223	716	-	-	1196	-
Mov Cap-2 Maneuver	223	-	-	-	-	-
Stage 1	732	-	-	-	-	-
Stage 2	418	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.1	0	3.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	223	716	1196	-
HCM Lane V/C Ratio	-	-	0.108	0.173	0.155	-
HCM Control Delay (s)	-	-	23.1	11.1	8.6	0
HCM Lane LOS	-	-	C	B	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0.6	0.5	-

Intersection	
Int Delay, s/veh	3.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	35	169	333	25	43	244
Future Vol, veh/h	35	169	333	25	43	244
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	150	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	1	1	5	5	8	8
Mvmt Flow	44	211	416	31	54	305

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	845	432	0	0	447	0
Stage 1	432	-	-	-	-	-
Stage 2	413	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.18	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.272	-
Pot Cap-1 Maneuver	334	626	-	-	1082	-
Stage 1	657	-	-	-	-	-
Stage 2	670	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	314	626	-	-	1082	-
Mov Cap-2 Maneuver	314	-	-	-	-	-
Stage 1	657	-	-	-	-	-
Stage 2	630	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.5	0	1.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	314	626	1082	-
HCM Lane V/C Ratio	-	-	0.139	0.337	0.05	-
HCM Control Delay (s)	-	-	18.3	13.7	8.5	0
HCM Lane LOS	-	-	C	B	A	A
HCM 95th %tile Q(veh)	-	-	0.5	1.5	0.2	-

Intersection	
Int Delay, s/veh	2.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	85	345	35	115	333
Future Vol, veh/h	15	85	345	35	115	333
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	150	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	1	1	2	2	4	4
Mvmt Flow	16	93	379	38	126	366

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1016	398	0	0	417	0
Stage 1	398	-	-	-	-	-
Stage 2	618	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.14	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.236	-
Pot Cap-1 Maneuver	265	654	-	-	1131	-
Stage 1	681	-	-	-	-	-
Stage 2	540	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	228	654	-	-	1131	-
Mov Cap-2 Maneuver	228	-	-	-	-	-
Stage 1	681	-	-	-	-	-
Stage 2	464	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13	0	2.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	228	654	1131	-
HCM Lane V/C Ratio	-	-	0.072	0.143	0.112	-
HCM Control Delay (s)	-	-	22	11.4	8.6	0
HCM Lane LOS	-	-	C	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.5	0.4	-

Intersection	
Int Delay, s/veh	5.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	50	237	333	30	66	244
Future Vol, veh/h	50	237	333	30	66	244
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	150	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	1	1	5	5	8	8
Mvmt Flow	63	296	416	38	83	305

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	906	435	0	0	454	0
Stage 1	435	-	-	-	-	-
Stage 2	471	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.18	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.272	-
Pot Cap-1 Maneuver	308	623	-	-	1076	-
Stage 1	655	-	-	-	-	-
Stage 2	630	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	279	623	-	-	1076	-
Mov Cap-2 Maneuver	279	-	-	-	-	-
Stage 1	655	-	-	-	-	-
Stage 2	571	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.9	0	1.8
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	279	623	1076	-
HCM Lane V/C Ratio	-	-	0.224	0.476	0.077	-
HCM Control Delay (s)	-	-	21.6	15.9	8.6	0
HCM Lane LOS	-	-	C	C	A	A
HCM 95th %tile Q(veh)	-	-	0.8	2.6	0.2	-

Intersection	
Int Delay, s/veh	3.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	25	130	345	52	192	333
Future Vol, veh/h	25	130	345	52	192	333
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	150	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	1	1	2	2	4	4
Mvmt Flow	27	143	379	57	211	366

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1196	408	0	0	436	0
Stage 1	408	-	-	-	-	-
Stage 2	788	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.14	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.236	-
Pot Cap-1 Maneuver	207	645	-	-	1113	-
Stage 1	673	-	-	-	-	-
Stage 2	450	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	158	645	-	-	1113	-
Mov Cap-2 Maneuver	158	-	-	-	-	-
Stage 1	673	-	-	-	-	-
Stage 2	343	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.5	0	3.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	158	645	1113	-
HCM Lane V/C Ratio	-	-	0.174	0.221	0.19	-
HCM Control Delay (s)	-	-	32.5	12.2	9	0
HCM Lane LOS	-	-	D	B	A	A
HCM 95th %tile Q(veh)	-	-	0.6	0.8	0.7	-

Intersection	
Int Delay, s/veh	3.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	28	135	266	20	34	195
Future Vol, veh/h	28	135	266	20	34	195
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	150	0	-	-	225	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	1	1	5	5	8	8
Mvmt Flow	35	169	333	25	43	244

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	676	346	0	0	358	0
Stage 1	346	-	-	-	-	-
Stage 2	330	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.18	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.272	-
Pot Cap-1 Maneuver	420	699	-	-	1168	-
Stage 1	719	-	-	-	-	-
Stage 2	731	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	404	699	-	-	1168	-
Mov Cap-2 Maneuver	404	-	-	-	-	-
Stage 1	719	-	-	-	-	-
Stage 2	704	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.3	0	1.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	404	699	1168	-
HCM Lane V/C Ratio	-	-	0.087	0.241	0.036	-
HCM Control Delay (s)	-	-	14.8	11.8	8.2	-
HCM Lane LOS	-	-	B	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.9	0.1	-

Intersection	
Int Delay, s/veh	2.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	68	276	28	92	266
Future Vol, veh/h	12	68	276	28	92	266
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	150	0	-	-	225	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	1	1	2	2	4	4
Mvmt Flow	13	75	303	31	101	292

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	813	319	0	0	334	0
Stage 1	319	-	-	-	-	-
Stage 2	494	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.14	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.236	-
Pot Cap-1 Maneuver	349	724	-	-	1214	-
Stage 1	739	-	-	-	-	-
Stage 2	615	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	320	724	-	-	1214	-
Mov Cap-2 Maneuver	320	-	-	-	-	-
Stage 1	739	-	-	-	-	-
Stage 2	564	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.4	0	2.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	320	724	1214	-
HCM Lane V/C Ratio	-	-	0.041	0.103	0.083	-
HCM Control Delay (s)	-	-	16.7	10.5	8.2	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0.3	0.3	-

Intersection	
Int Delay, s/veh	4.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	43	203	266	25	57	195
Future Vol, veh/h	43	203	266	25	57	195
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	150	0	-	-	225	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	1	1	5	5	8	8
Mvmt Flow	54	254	333	31	71	244

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	735	349	0	0	364	0
Stage 1	349	-	-	-	-	-
Stage 2	386	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.18	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.272	-
Pot Cap-1 Maneuver	388	697	-	-	1162	-
Stage 1	716	-	-	-	-	-
Stage 2	689	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	364	697	-	-	1162	-
Mov Cap-2 Maneuver	364	-	-	-	-	-
Stage 1	716	-	-	-	-	-
Stage 2	647	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.7	0	1.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	364	697	1162	-
HCM Lane V/C Ratio	-	-	0.148	0.364	0.061	-
HCM Control Delay (s)	-	-	16.6	13.1	8.3	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.5	1.7	0.2	-

Intersection	
Int Delay, s/veh	3.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	22	113	276	45	169	266
Future Vol, veh/h	22	113	276	45	169	266
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	150	0	-	-	225	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	1	1	2	2	4	4
Mvmt Flow	24	124	303	49	186	292

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	992	328	0	0	352	0
Stage 1	328	-	-	-	-	-
Stage 2	664	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.14	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.236	-
Pot Cap-1 Maneuver	274	716	-	-	1196	-
Stage 1	732	-	-	-	-	-
Stage 2	514	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	231	716	-	-	1196	-
Mov Cap-2 Maneuver	231	-	-	-	-	-
Stage 1	732	-	-	-	-	-
Stage 2	434	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.9	0	3.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	231	716	1196	-
HCM Lane V/C Ratio	-	-	0.105	0.173	0.155	-
HCM Control Delay (s)	-	-	22.4	11.1	8.6	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.6	0.5	-

Intersection	
Int Delay, s/veh	3.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	35	169	333	25	43	244
Future Vol, veh/h	35	169	333	25	43	244
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	150	0	-	-	225	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	1	1	5	5	8	8
Mvmt Flow	44	211	416	31	54	305

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	845	432	0	0	447	0
Stage 1	432	-	-	-	-	-
Stage 2	413	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.18	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.272	-
Pot Cap-1 Maneuver	334	626	-	-	1082	-
Stage 1	657	-	-	-	-	-
Stage 2	670	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	317	626	-	-	1082	-
Mov Cap-2 Maneuver	317	-	-	-	-	-
Stage 1	657	-	-	-	-	-
Stage 2	637	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.5	0	1.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	317	626	1082	-
HCM Lane V/C Ratio	-	-	0.138	0.337	0.05	-
HCM Control Delay (s)	-	-	18.2	13.7	8.5	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.5	1.5	0.2	-

Intersection	
Int Delay, s/veh	2.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	85	345	35	115	333
Future Vol, veh/h	15	85	345	35	115	333
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	150	0	-	-	225	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	1	1	2	2	4	4
Mvmt Flow	16	93	379	38	126	366

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1016	398	0	0	417	0
Stage 1	398	-	-	-	-	-
Stage 2	618	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.14	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.236	-
Pot Cap-1 Maneuver	265	654	-	-	1131	-
Stage 1	681	-	-	-	-	-
Stage 2	540	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	236	654	-	-	1131	-
Mov Cap-2 Maneuver	236	-	-	-	-	-
Stage 1	681	-	-	-	-	-
Stage 2	480	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.9	0	2.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	236	654	1131	-
HCM Lane V/C Ratio	-	-	0.07	0.143	0.112	-
HCM Control Delay (s)	-	-	21.4	11.4	8.6	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.5	0.4	-

Intersection	
Int Delay, s/veh	5.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	50	237	333	30	66	244
Future Vol, veh/h	50	237	333	30	66	244
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	150	0	-	-	225	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	1	1	5	5	8	8
Mvmt Flow	63	296	416	38	83	305

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	906	435	0	0	454	0
Stage 1	435	-	-	-	-	-
Stage 2	471	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.18	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.272	-
Pot Cap-1 Maneuver	308	623	-	-	1076	-
Stage 1	655	-	-	-	-	-
Stage 2	630	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	284	623	-	-	1076	-
Mov Cap-2 Maneuver	284	-	-	-	-	-
Stage 1	655	-	-	-	-	-
Stage 2	581	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.8	0	1.8
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	284	623	1076	-
HCM Lane V/C Ratio	-	-	0.22	0.476	0.077	-
HCM Control Delay (s)	-	-	21.2	15.9	8.6	-
HCM Lane LOS	-	-	C	C	A	-
HCM 95th %tile Q(veh)	-	-	0.8	2.6	0.2	-

Intersection	
Int Delay, s/veh	3.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	25	130	345	52	192	333
Future Vol, veh/h	25	130	345	52	192	333
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	150	0	-	-	225	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	1	1	2	2	4	4
Mvmt Flow	27	143	379	57	211	366

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1196	408	0	0	436	0
Stage 1	408	-	-	-	-	-
Stage 2	788	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.14	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.236	-
Pot Cap-1 Maneuver	207	645	-	-	1113	-
Stage 1	673	-	-	-	-	-
Stage 2	450	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	168	645	-	-	1113	-
Mov Cap-2 Maneuver	168	-	-	-	-	-
Stage 1	673	-	-	-	-	-
Stage 2	365	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.2	0	3.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	168	645	1113	-
HCM Lane V/C Ratio	-	-	0.164	0.221	0.19	-
HCM Control Delay (s)	-	-	30.6	12.2	9	-
HCM Lane LOS	-	-	D	B	A	-
HCM 95th %tile Q(veh)	-	-	0.6	0.8	0.7	-

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ORDINANCE 12-2022

AN ORDINANCE AMENDING CHAPTER 1179 OF THE CITY OF JOHNSTOWN CODIFIED ORDINANCES

WHEREAS, Chapter 1179 of the City of Johnstown Codified Ordinances (the "Codified Ordinances") governs the Planned Unit Development district (PUD) in the City of Johnstown; and

WHEREAS, The City of Johnstown is growing and requires updates to the district standards to ensure high quality development that upholds the characteristics of the community; and

WHEREAS, On May XX, 2022, by a X-X vote, the Planning and Zoning Commission recommended for City Council consideration amending Chapter 1179 of the Codified Ordinances; and

WHEREAS, after review of all uses, the Council of the City of Johnstown desires to amend Codified Ordinance Chapter 1179 Planned Unit Development (PUD) District.

NOW THEREFORE, be it ordained by the Council of the CITY OF JOHNSTOWN, Licking County, Ohio as follows:

Section 1. That Chapter 1179 is amended; changes and edits as shown attached to this ordinance,

Section 2. It is found and determined that all formal actions of this City Council concerning and relating to the recommendation of adoption of this Ordinance were approved in an open meeting of this City Council and that meetings resulted in such formal action where meetings open to the public, in compliance with all legal requirements including Section 121.22 of the Ohio Revised Code and the Charter for the City OF JOHNSTOWN.

Date of Introduction:
Public Hearing/Vote:
Effective:

By: _____
_____
Chip Dutcher, Mayor

ATTEST TO:

_____
Teresa Monroe, Clerk of Council

APPROVED AS TO FORM:

_____
Yazan S. Ashrawi, Law Director

CHAPTER 1179
Single Family Planned Residential District (SFPRD)

1179.01 PURPOSE.

The City, recognizing that with increased urbanization and population growth comes increased demands for well-organized residential areas which take into account unique natural features, historic preservation, contemporary land use concepts, and a balanced residential environment, hereby provides for the Single Family Planned Residential District to promote the variety and flexibility of land development for single family residential purposes that are necessary to meet these demands while still preserving and enhancing the health, safety and general welfare of the residents of Johnstown.

1179.02 APPLICATION.

The owner of any parcel within the city, regardless of the size, may submit an application for change in the zoning under the provisions of this Article of the Zoning Ordinance.

1179.03 - PERMITTED USES.

Within the Single Family Planned Residential District (SFPRD) the following uses, developed in strict compliance with the approved development plan and standards, shall be permitted:

a) Single family dwelling.
b) Accessory buildings and accessory uses incidental to the principal building or use.
c) Non-residential uses of a religious, cultural, educational, or recreational nature or character to the extent that they are designed and intended to serve the residents of the Single Family Planned Residential District. Said facilities may be designed to serve adjoining neighborhoods or residents if they are located in such proximity to the major thoroughfares as to permit access without burdening residential streets.
d) Temporary non-residential structures such as construction trailers and temporary buildings of a non-residential character may be used incident to construction work on the premises or on adjacent public projects or during the period while a permanent structure is being constructed. The user of said structure shall obtain a permit for such temporary use, which permit shall be valid for six (6) months and may be renewed at the discretion of the zoning inspector on finding of reasonable progress toward completion of the permanent structure or project. The zoning inspector may require provisions for sanitary waste disposal, solid waste disposal and water supply. The fees for such permit and renewals thereof shall be established by the Johnstown City Council. Said temporary structure shall be removed not later than ten (10) days after expiration of said permit, and/or the issuance of the Zoning Certificate of Compliance regarding such permanent structure. In no event shall such temporary structure be utilized for any residential use.
e) Golf course community that includes a public or private golf course with all buildings and club houses incident thereto, integrated with residential uses permitted by this Section 1179.03. The golf course shall be subsidiary to the primary residential use of the property.

1179.04 CONDITIONAL USES.

Within this zoning district the following uses may be permitted, subject to the conditions and restrictions imposed by the Planning & Zoning Commission pursuant to the provisions of Chapter 1131 of this Ordinance. Conditionally permitted uses shall be considered and declared abandoned if said use or uses are not commenced within one (1) year or are discontinued for a period in excess of two (2) years. Unless

the Conditional Use Permit specifically provides that the grant shall be permanent and shall run with the land, the sale or conveyance of the land or structure wherein the same is located or upon which the same is granted shall void the Conditional Use Permit and the subsequent owner(s) or his agent shall be required to re- apply for a continuation and/or modification of such use(s) to the Planning & Zoning Commission. A designation by the Planning & Zoning Commission that a permit is permanent and shall run with the land does not affect the right of authorities to revoke the permit for failure to comply with conditions imposed. No conditional use shall be implemented until a zoning Certificate of Compliance is issued by the zoning inspector.

a) Multi-family development in accordance with Chapter 1151
b) Home occupation in association with a permitted dwelling, and in accordance with Chapter 1173
~~a)~~c) Commercial uses in accordance with Chapter 1169
~~b)~~d) Model Homes, the same being defined as residential-type structures used as sales offices by a builder/developer and to display the builder/developer's product. The same may be furnished within, since its purpose is to display to prospective buyers the builder/developer's features (such as exterior siding treatments, roofing materials, interior trim, moldings, floor coverings, etc.) in the environment of a completed home, and may be staffed by the builder/developer's sales force. Model homes shall be subject to the following restrictions:

1. Lighting: All exterior lighting must be "downlighting", so that absolutely no light shall be cast onto adjoining residential properties. All off-street parking areas must be illuminated. All exterior lighting shall be extinguished at the closing time of the model home, except that which is in character with those found on surrounding homes.
2. Parking: All model homes shall provide off- street paved parking for the public. The driveway of the model home may be utilized for not more than two (2) parking spaces.
3. Termination of Use: The use of model homes within a residential subdivision, or within any single phase of a multi-phase subdivision, shall terminate when zoning certificates of compliance have been issued for ninety percent (90%) of the lots therein. The model home must be returned to its original state of a single family dwelling including, but not limited to, architecture, garage, landscaping, driveway and sidewalks.

~~c)~~e) Borrow Pit, unless included as a designed wet pond or dry basin in the approved development plan and standards. Otherwise, a borrow pit may be permitted subject to the conditions and restrictions imposed by the Planning & Zoning Commission, provided that it is less than 10,000 square feet in size, in accordance with the following regulations, and provided that such excavation and required rehabilitation shall be completed within one (1) year from the date of issuance of a Certificate of Zoning Compliance.

1. The applicant shall clearly state, in the application, their intentions as to rehabilitation of the excavation.
2. No excavation shall be made from the banks or beds of Raccoon Creek or any other such stream or waterway designated as necessary to the Flood Control Program of Licking County and no excavation shall be permitted closer than two hundred (200) feet of either bank of the above named rivers and creeks.
3. Yard Requirements. An excavation shall be located one hundred (100) feet or more and back-filled to one hundred and fifty (150) feet from a street right-of-way line. Excavation shall be no closer than fifty (50) feet to a property boundary line, except with the written consent of said adjacent property owner.
4. No plants or equipment for processing of extracted materials or other ancillary operations shall be permitted.
5. Rehabilitation Plan - Extraction shall be permitted only from areas for which there is a Rehabilitation Plan approved by the Planning & Zoning Commission. All such Rehabilitation Plans shall include the following:

a. A grading plan showing existing contours in the area to be extracted and proposed future contours showing the topography of the area after completion. Such plans shall include the surrounding area within five hundred (500) feet of the property boundary line, drawn to an appropriate scale with contour lines at intervals of five (5) feet or less.
b. Existing and proposed drainage of the area.
c. Details of regrading and revegetation of the site during and at conclusion of the operation.
d. The banks of all extraction, when not back-filled, shall be sloped at a grade of not less than two (2) feet horizontal to one (1) foot vertical. This slope shall be maintained twenty (20) feet beyond the water line if such exists.
e. Spoil banks shall be graded to a level suiting the existing terrain.
f. All banks and extracted areas shall be surfaced with at least six (6) inches of suitable soil, except exposed rock surfaces, and shall be planted or seeded with trees, shrubs, legumes or grasses and maintained until the soil is stabilized.
g. When any extraction has been completed, such area shall either be left as a permanent spring-fed lake or the floor thereof shall be filled and leveled in such manner as to prevent the collection and stagnation of water and to provide proper drainage without excessive soil erosion, and shall otherwise comply with these requirements.
h. An area to be rehabilitated as a permanent spring-fed lake shall be in compliance with the requirements of Section 21.05 and the provisions of this section. In the event of a conflict between the provisions of Section 21.05 and the provisions of this section, the more restrictive provisions shall control.
i. An area to be rehabilitated by refilling and grading shall utilize only clean fill, and the use of scrapped wood, tree stumps or construction debris as fill material is prohibited.
j. All equipment shall be removed within seven (7) days of the completion of the extraction of materials.

~~d)~~f) Multi family structures ancillary to a golf course pursuant to 1179.08 of this chapter.

1179.05 PROHIBITED USES.

Within the Single Family Planned Residential District the following uses shall be prohibited:

a) Any use not specifically authorized by the express terms of this Article of the Zoning Ordinance.
b) Outdoor storage of inoperable, unlicensed or unused motor vehicles for a period exceeding 48 hours is prohibited. Said vehicles if stored on the premises shall be enclosed within a building so as not to be visible from any adjoining property or public road.
c) No trailer of any type, no boats, no motor homes and no equipment of any type shall be parked in front of the front building line on any parcel within this district for more than twenty-four (24) hours in any ten (10) day period. If a dwelling is located on said lot the building line shall be considered to be the front wall of the dwelling even if said dwelling is located behind the minimum building line established by this code or the restrictions on the plat or subdivision.
d) No sales trailers of any type shall be permitted
e) Telecommunications towers.

1179.06 PROCEDURE.

In addition to any other procedures set out in this Ordinance, all applications for amendments to the zoning map to rezone property to this district shall follow the procedures hereinafter set forth:

a) Application - One or more of the owners or authorized representative of property within an area of contiguous property located within the City may request that the zoning map be amended to

include such area in the Single Family Planned Residential District in accordance with the provisions of this Ordinance.

1. The applicant is encouraged to engage in informal consultations with the Planning & Zoning Commission prior to formal submission of a development plan and request for an amendment to the zoning map, it being understood that no statement by officials of the city shall be binding upon either.

b) Development Plan - ~~Fifteen (15) copies of the development plan, together with one (1) electronic version on compact disk in Adobe (.pdf) format.~~One electronic development plan in PDF format or such other format as is acceptable to the zoning inspector, shall be submitted with the application, which plan shall include in the text and map form:

Commented [BM1]: Updated standards

1. The size and location of the property proposed to be rezoned to this Single Family Planned Residential District.
2. The general development character of the property proposed to be rezoned to this Single Family Planned Residential District, including the limitations or controls to be placed on residential and related uses, with probable lot sizes, minimum setback requirements and other development features including landscaping.
3. Architectural design criteria for all structures and criteria for proposed signs with proposed control procedures.
4. A lighting plan conforming to the requirements and standards as set forth below.
    a. A site plan showing location of all exterior light fixtures, controllers and transformers.
    b. Property boundaries, building location(s), parking lot layout, pedestrian paths, adjacent right-of-way, north arrow and scale.
    c. Specifications and drawings or photographs for all exterior light fixture types, poles, conduit and appurtenant construction.
    d. Lamp wattage of all proposed luminaires.
    e. Information that indicates a minimum light level of 0.5 footcandles at grade in all vehicular use areas and connecting pedestrian paths.
    f. Cut sheets for all proposed exterior light fixtures and poles.
    g. Any other information and data reasonably necessary to evaluate the required lighting plan.
    h. General requirements.
        1. All exterior fixtures shall be full cut-off fixtures.
        2. No portion of a lamp, reflector, lens, or refracting system may extend beyond the housing or shield so as to be visible from off-site or cause disabling glare.
        3. All light fixtures shall be directed downward. Uplighting is prohibited, except for accent lighting for buildings or signs, which may be approved as part of a development plan.
        4. Exterior residential lights are exempt from subsections 1), 2) and 3) above when the initial lumen output does not exceed 2850 lumens (equivalent to a 150 watt incandescent lamp).
        5. All outdoor light poles shall be constructed of metal, fiberglass or finished wood.
        6. No exposed neon lighting, exposed neon look-alike lighting, exposed light emitting diode (LED) lighting or other exposed tube or tube-type lighting shall be permitted. This prohibition shall extend to and include, but not be limited to, all exterior signage, and signage or other accents placed in a window.
    i. Maximum height requirements. The total height of exterior lighting fixtures shall not exceed a maximum height of twenty (20) feet measured from the

finished grade established not closer than fifteen (15) feet to the lighting fixture.

j. Light pollution standards.
   1. Lighting required exclusively for the illumination of entrance/exit access drives and pedestrian ways from the public right-of-way shall be permitted to illuminate to the far limit of the right-of-way.
   2. Artificially produced light that strays beyond property boundaries shall be considered a public nuisance when intensity levels exceed the following maximum illumination levels at or beyond five (5) feet into the adjoining property:

MAXIMUM LIGHT POLLUTION ILLUMINANCES		
RECEIVING AREA CLASSIFICATION	**MAXIMUM HORIZONTAL (FOOTCANDLES) AT GRADE BEYOND THE PROPERTY LINE**	**MAXIMUM VERTICAL (FOOTCANDLES) AT THE STRUCTURE HEIGHT**
Residential	0.4	0.8
Office and Business	2.0	2.0
Industrial	2.0	2.0
Note: When two differing area classifications abut, the lower light level value shall take precedence along the common boundary		

k. Measurement.
   1. Light levels shall be measured in footcandles with a direct reading, portable light meter. Readings shall be taken only after the cell has been exposed long enough to take a constant reading.
   2. Measurements shall be taken at a height of three and one-half (3.5) feet above the ground.
   3. Light uniformity ratios.
      a. For any one luminary, the light uniformity ratio shall comply with the following ratio: maximum to minimum: 10:1.
      b. The average light uniformity ratio for all luminaires located on a site shall comply with the following ratio: average to minimum 4:1.

l. Exemptions. The following luminaires are exempt from the provisions of this section:
   1. Luminaires required by the Ohio Building Code that operate only in an emergency mode.
   2. Outdoor light fixtures that produce light directly from fossil fuel, such as kerosene lanterns or gas lamps.
   3. Residential low-voltage lighting in residential zoning districts and holiday lighting.
   4. Illuminated poles for governmental or institutional flags.
   5. Lighting required by federal regulation such as, but not limited to communication towers or airports.

m. In addition to the provisions of this section, all exterior lighting fixtures shall be installed in conformity with all other applicable provisions of this resolution.

5. The proposed provisions for water, sanitary sewer and surface drainage with engineering feasibility studies or other evidence of reasonableness.

6. The proposed traffic patterns showing public and private streets and other transportation facilities, including their relationship to existing conditions, topographically and otherwise.
7. The relationship of the proposed development to existing and probable uses of surrounding areas during the development timetable.
8. Location of schools, parks and other facility sites, if any.
9. The proposed time schedule for development of the site including streets, buildings, utilities and other facilities.
10. If the proposed timetable for development includes developing the property proposed to be rezoned to this Single Family Planned Residential District in phases, all phases to be developed after the first shall be fully described in textual form in a manner calculated to give City officials definitive guidelines for approval of future phases. Each phase, including the first, shall include a minimum of ten (10) acres of property or the whole property, whichever is smaller.
11. The ability of the applicant or applicants to carry forth the development plan by control of the property proposed to be rezoned to this Single Family Planned Residential District and the engineering feasibility of the development plan.
12. Specific statements of divergence from the development standards in Title Seven - Zoning Standards and Special Provisions and/or this Article, or existing city regulations or standards, and the justification therefor. Unless a variation from these development standards is specifically approved the same shall be complied with.
13. Evidence of the applicant's ability to post a bond if the plan is approved assuring completion of public service facilities to be constructed within the project by the developer.
14. A site plan at a scale not smaller than one inch (1") equals one hundred feet. Such site plan shall clearly indicate:
    a. The net density and gross density of the proposed development.
    b. The design concept of the location, shape, size, and height of existing and proposed buildings.
    c. The existing and proposed landscape.
    d. Parking areas.
    e. Floor areas and elevations of typical units.
    f. Location and description of adjacent buildings within two hundred (200) feet from the boundary of the proposed development.
    g. The location and amount and status of required open space.
    h. Such other material data as may be necessary to evaluate the health, safety and welfare and determine compliance with this Article 1179.

c) Criteria for Approval - In approving an application for a Single Family Planned Residential District the reviewing authorities shall determine:
    1. If the proposed development is consistent in all respects with the purpose, intent and general standards of this Zoning Ordinance.
    2. If the proposed development is in conformity with the comprehensive plan or portion thereof as it may apply.
    3. If the proposed development advances the general welfare of the City and the immediate vicinity.
    ~~3.~~4. The existing and proposed utility services are adequate for the proposed population densities and nonresidential uses proposed.

d) Review Procedure - The completed application shall be submitted to the Planning and Zoning Department at least ten (10) working days prior to the Planning and Zoning Commission's next scheduled meeting. Failure to submit a complete application shall result in a refusal of acceptance. The City Planner shall transmit the complete application package to the Planning and

Zoning Commission and other parties as deemed appropriate for review and comment. A public hearing shall be held by the Planning and Zoning Commission not more than sixty (30) days from the date of acceptance of the application package. The notification requirements for such hearing shall be as set forth in Section 6.05 of this Ordinance.

e) Action by Planning and Zoning Commission - The Commission will provide its recommendation to either approve, approve with conditions, or deny the application to Council within thirty (30) days of the public hearing, unless otherwise requested by the Applicant. Council will schedule a public hearing on the development plan on its agenda for consideration in accordance with Council rules. Council may approve the development plan; approve the development plan with modifications or conditions; or disapprove the development plan. Council may adopt the modifications and conditions, if any, recommended by the Planning and Zoning Commission, in whole or in part, and may add its own modifications and conditions.

~~e)~~f) Effect of Approval - The development plan as approved by the Johnstown City Council shall constitute an amendment to the Zoning Ordinance as it applies to the property included in the approved amendment. The approval shall be for a period of three (3) years to allow the preparation of plats required by the City of Johnstown. Where the property is to be developed in phases, plans for phases subsequent to the first phase shall be submitted in accordance with the timetable in the approved development plan. Any required plats shall be properly recorded, and work on the development shall be commenced within the approved time limit or the approval shall be voided and the property shall automatically revert to SR-1 District unless an application for time extension is timely submitted and approved.

~~f)~~g) Extension of Time or Modification - An extension of the time limit or a minor change to the approved development plan may be approved by the Johnstown City Council. Such approval shall be given only upon a finding of the purpose and necessity for such change or extension and evidence of reasonable effort toward the accomplishment of the original development plan, and that such change or extension is not in conflict with the general health, welfare and safety of the public or development standards of the district.

1. No extension of time shall be granted except on application filed with the City not later than ninety (90) days before the expiration of the then current time limit.
2. Unless approved by a unanimous Ordinance of all the members elected to the Johnstown City Council, adopted at a public meeting, the following shall not be considered to be a minor change to the approved development plan:
    a. A change in the use or character of the development;
    b. An increase in overall lot coverage of structures and off-street parking;
    c. An increase in the density;
    d. An increase in the problems of traffic circulation and public utilities;
    e. A reduction in approved open space;
    f. A reduction of off-street parking and loading space;
    g. A reduction in required pavement widths;
    h. A reduction of the acreage in the planned development;
    i. Any other departure from the approved development plan which is deemed not to be in substantial compliance with the approved development plan.

~~g)~~h) Plat Required - In the Single Family Planned Residential District, no use shall be established or changed and no structure shall be constructed or altered until the required subdivision plat has been prepared and recorded in accordance with these regulations. The subdivision plat shall be in accord with the approved development plan and shall include:

1. Site arrangement, including building setback lines and space to be built upon within the site; water, fire hydrants, sewer, all underground public utility installations, including sanitary sewers, surface drainage and waste disposal facilities; easements, access points to public rights-of-way, parking areas and pedestrian ways; and property reserved for non-highway service use with indication of the nature of such use.

2. Deed restrictions, covenants, easements and encumbrances to be used to control the use, development and maintenance of the property, the improvements thereon, and the activities of occupants, including those applicable to areas within the tract to be developed for non-residential uses.
3. In the event that any public service facilities not to be otherwise guaranteed by a public utility have not been constructed prior to recordation of the plat, the owner of the project shall post a performance bond in favor of the appropriate public officers in a satisfactory amount assuring expeditious completion of said facilities within one (1) year after the recording of said plat. In no event, however, shall any zoning permit be issued for any building or use until such time as the facilities, including but not limited to water, sanitary sewer and surface drainage improvements, and public and private streets, for the phase in which the building or use is located are completed.

~~h)~~i) Administrative Review - All plats, construction drawings, restrictive covenants and other necessary documents shall be submitted to the City Manager or their designated technical advisors for administrative review to insure substantial compliance with the development plan as approved.

1179.07 DEVELOPMENT STANDARDS.
In addition to any other provisions of this Ordinance the following standards for arrangement and development of lands and buildings are required in the Single Family Planned Residential District.

a) Intensity of Use - The maximum density shall be one unit per gross acre of area within the area to be developed.
b) Open Space - At least fifty percent (50%) of the total gross acreage of the Single Family Planned Residential District must be devoted to open space. Open space shall be designated upon the development plan as “Maintained Passive Open Space”, “Recreational Open Space” and “Unmaintained Passive Open Space” upon the basis of the definitions, purposes, requirements and conditions set forth in this Ordinance, excepting that, notwithstanding anything to the contrary, public or private golf courses, with all buildings and club houses incident thereto, may be designated as “recreational open space” when integrated into a golf course community as permitted by this chapter. Such open space shall be designed to provide active recreation, passive recreation, the preservation of natural site amenities or any combination thereof. Any buildings, structures and improvements to the open space must be appropriate to the uses which are authorized for the open space, having regard to its topography and unimproved condition. The open space shall be of a size, shape and location which is conducive to use by residents of the property within the Single Family Planned Residential District. Public utility and similar easements, rights-of-way for streets and roads, and right-of-ways for water courses and other similar channels are not acceptable for common open space dedication unless such land or right-of-way is usable as a trail or similar purpose and has been approved by the Zoning Commission. Storm water retention or detention facilities are acceptable for dedication as Maintained Passive Open Space, provided such facilities do not exceed ten percent (10%) of the total open space required. The responsibility for the maintenance of all open spaces shall be specified by the developer in writing before approval of the development plan. The open space reserved in a Single Family Planned Residential District shall be dedicated to, and permanently owned by, a homeowners' association that shall have title to the land for the use of each owner who buys property within the development. Such open space shall be used only for the purposes for which it is designated upon the approved development plan, and in accordance with the approved development plan. The legal articles relating to the organization of the homeowners' association are subject to review and approval by the Zoning Commission and shall provide adequate provisions for the perpetual care and maintenance of all common areas. Such legal articles shall be inserted into the chain of title of the land within the Single Family Planned Residential

District. All open space shall be prohibited from further subdivision or development. This shall be done by placement in a reserve and notation on the final plat or by other declaration or agreement in the chain of title to such property, the same to be in a form acceptable to the city attorney.

c) Lot Width - There shall be a lot width of seventy-five (75) feet or more at the front line of the dwelling, and such lot shall have access to and abut on an adjoining approved street or road for a distance of sixty (60) feet or more.

d) Lot Depth - There shall be a lot depth of one hundred thirty-five (135) feet or more extending from the front line of the lot to the rear line of the lot.

e) Side Yard Setback - No building or structure shall be located closer than twelve and one half (12 1/2) feet to any side lot line, and the total of the side yards shall be twenty-five (25) feet or more.

f) Building Setback - No building or use shall be located closer to the right-of-way line or centerline of the adjacent public or private road than thirty (30) feet and shall have a minimum rear setback of thirty (30) feet.

g) Rear Yard Requirement - No structure shall be located closer than thirty-five (35) feet to the rear line of any lot. Children's play sets shall be exempt from this restriction if located at least five (5) feet from the rear line.

h) Maximum Lot Coverage - On no lot or parcel in this zoning district shall buildings be constructed which cover more than twenty-five percent (25%) of the lot area.

~~h)~~i) Access – A minimum of two forms of ingress and egress are required unless approved by the Planning and Zoning Commission.

~~i)~~j) Landscaping - All yards, front, side and rear, shall be landscaped and all organized open spaces or non-residential use areas shall be landscaped. Such landscape plans shall be submitted with the subdivision plat and shall be subject to approval in the same manner required of the subdivision plat. All such landscaping shall be maintained and kept in accordance with the landscape plan as submitted, and such maintenance and upkeep shall be the responsibility of the owner of such yard, space or area. All vacant lots shall be kept seeded or maintained in such manner as to prevent erosion of the property and excess drainage onto adjoining lands.

~~j)~~k) Parking - Off street parking shall be provided, at the time of construction of the main structure or building, with adequate provisions for ingress and egress according to the development plan. In preparing and approving the parking plan the provisions of Chapter 1175 of this Ordinance shall, when appropriate, be incorporated.

~~k)~~l) Signs - Except as provided under the provisions of this article for home occupations and except as permitted by the Planning & Zoning Commission incident to Conditional Uses, no signs shall be permitted in this district except a "For Sale" or "For Rent or Lease" sign advertising the tract on which the said sign is located. Such sign shall not exceed six (6) square feet in area on each side.

Commented [BM2]: Should we allow neighborhood identifying signs?

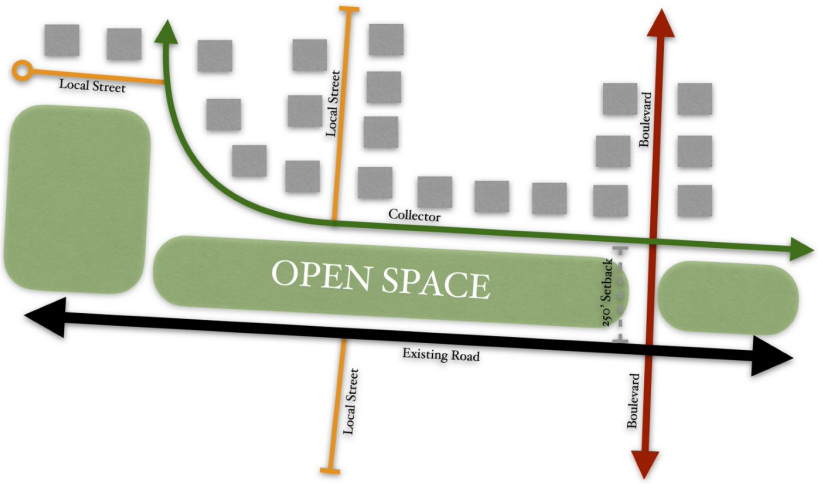
~~l)~~m) Building Height Limits - No building in this district shall exceed thirty-five (35) feet in height measured from finished grade established not closer than fifteen (15) feet to the exterior wall of the structure. Barns, silos, grain handling conveyors, church spires, domes, flag poles and elevator shafts, are exempted from any height regulation and may be erected to any safe height.

~~m)~~n) Building Dimensions - Dwellings shall have a total living area of not less than the minimum set forth below:

a. Single-story dwellings - 1,600 square feet;
b. Two-story dwellings - 1,800 square feet;
c. One and one-half story dwellings - 1,000 square feet ground level, 600 square feet additional level;
d. Bilevel, split-level - 1,750 square feet.

~~n)~~o) Transportation Network - The roadway system within the Single Family Planned Residential District shall follow a hierarchy system of roadway design. Main entrances shall be boulevard style with a landscaped median connected to collector streets and then local streets. There shall be a buffer of 250' from the main entrance for the first single family structure. No

single family structure shall back up to an existing roadway and shall face the boulevard, collector or local street.



~~o~~)p) The Planning & Zoning Commission and/or the Johnstown City Council may impose special additional conditions relating to the development with regard to type and extent of public improvements to be installed; landscaping, development, improvement, and maintenance of common open space; and any other pertinent development characteristics.

1179.08 GOLF COURSE COMMUNITY DEVELOPMENT STANDARDS; CRITERIA FOR APPROVAL.

Except as hereinafter provided, the following development standards for arrangement and development of a Single Family Planned Residential District involving a golf course community shall be in addition to the provisions of Section 1197~~10~~.07 and any other provisions of this Ordinance. The following criteria for approval of a Single Family Planned Residential District involving a golf course community shall be in addition to the provisions of Section 1197.06 and any other provisions of this Ordinance.

a) Development Standards:
   1. Relationship to Section 1197.07**:** The entire golf course community shall be developed in accordance with Sections 1197.07 a) and b), except that, notwithstanding anything contained in Section 1197.07 b) to the contrary:
      a. The golf course, in its' entirety, shall be designated as "recreational open space" on the development plan. The portion of the open space that is intended to be used as a golf course shall be so identified on the development plan and may be leased to a secondary entity for the development of the golf course, but the use shall remain as open space in perpetuity and shall not be conveyed by the homeowner's association to any entity other than the city, if such conveyance is mutually agreed. If the golf course is leased, and the golf course use is abandoned for a continuous period of two (2) years or more, the possession of the golf course, including all buildings, structures and

improvements, shall revert to the homeowner's association. Unless conveyance to the city occurs, the perpetual care and maintenance of the golf course shall be the ultimate responsibility of the homeowner's association.

b. Additional open space, beyond that which must otherwise be provided, shall be required if access to the golf course area by residents of the golf course community is restricted or requires payment of a fee, other than mandatory fees uniformly applied and imposed on all property owners within the golf course community as an incident of their ownership of property within the golf course community (i.e., home owner's association fees, assessments, etc.). This open space shall be in addition to the area of the golf course, provided, however, that such additional open space shall not be required to exceed ten percent (10%) of the total gross acreage of the non-golf course portion of the golf course community.

c. All open space, including the golf course area of the open space, shall be prohibited from further subdivision or development.

d. Sub-sections 1179.08 a)(1)(a) and (c) shall be implemented by a placement of the golf course area of the open space in a reserve and notation on the final plat, or by other declaration or agreement in the chain of title to such property, the same to be in a form acceptable to the village attorney.

2. Single Family Portions: Single family areas of a golf course community shall be developed in compliance with the development standards set forth in Sections 1197.07 c) through p) inclusive.

3. Multi-Family Portions: Multi-family areas of a golf course community shall be developed in compliance with the development standards set forth below.

a. Maximum Units on Any single Acre – The maximum number of dwelling units on any single acre shall not exceed eight (8).

b. Arrangement of Structures

1. Setbacks – The physical relationships of dwelling units, nondwelling structures and their minimum yard spaces shall be developed in strict compliance with the approved plan unless variance therefrom is approved.

2. Building Height Limits - No building in this district shall exceed thirty-five (35) feet in height measured from finished grade established not closer than fifteen (15) feet to the exterior wall of the structure. Barns, silos, grain handling conveyors, church spires, domes, flag poles and elevator shafts, are exempted from any height regulation and may be erected to any safe height.

3. Building Dimensions – Each multi-family dwelling hereafter erected in this district shall contain the following minimum floor space, to-wit:

One (1) bedroom unit	1100~~750~~ square feet above grade
Two (2) bedroom unit	1350~~850~~ square feet above grade
Three (3) bedroom unit	1,7~~0~~00 square feet above grade

Commented [BM3]: Updated with new numbers in AR-1

c. Landscaping – All yards, front, side and rear, shall be landscaped and all organized open spaces or non-residential use areas shall be landscaped. Such landscape plans shall be submitted for administrative review. All such landscaping shall be maintained and kept in accordance with the landscape plan as submitted and such maintenance and upkeep shall be the responsibility of the owner of such yard, space or area. All vacant lots shall be kept seeded or

maintained in such manner as to prevent erosion of the property and excess drainage onto adjoining lands.

d. Parking – Off street parking shall be provided, at the time of construction of the main structure or building, with adequate provisions for ingress and egress according to the development plan. In preparing and approving the parking plan the provisions of Chapter 1175 of this Ordinance shall, when appropriate, be incorporated.

e. Signs – Except as controlled by Chapter 1177 of this Ordinance and except as permitted by the Planning & Zoning Commission incident to Conditional Uses, no signs shall be permitted in this district except a "For Sale" or "For Rent or Lease" sign advertising the tract on which the said sign is located. Such sign shall not exceed six (6) square feet in area on each side.

f. The Planning & Zoning Commission and/or the Johnstown City Council may impose special additional conditions relating to the development with regard to type and extent of public improvements to be installed; landscaping, development, improvement, and maintenance of common open space; and any other pertinent development characteristics.

4. Building and Club House Setback from Residential Lots: All buildings and club houses of the golf course shall be located not less than two hundred (200) feet from any residential lot line.

b) Criteria for Approval: In approving an application for a Single Family Planned Residential District involving a golf course community, the reviewing authority shall determine, in addition to the criteria for approval set forth in Section 1179.06 c):

1. That the proposed development will preserve and enhance the health, safety and general welfare of the inhabitants of Johnstown.
2. That the proposed golf course community will not have an adverse effect upon adjacent property, the character of the neighborhood, traffic conditions, parking or utility facilities.
3. That the proposed golf course community will be constructed, arranged, and operated so as not to interfere with the present use of the neighboring property.
4. That the proposed golf course community will be served adequately by essential public facilities and services, such as highways, streets, parking spaces, drainage structures, water and sewers, or that the persons or agencies responsible for the establishment of the golf course community will provide adequately for such facilities and services.
5. That the proposed golf course community will not result in the destruction, loss, or damage of any natural, scenic or historic feature of significant importance.