



November 27, 2017

Ms. Letty Schamp, PE  
Transportation Engineer  
City of Hilliard  
3800 Municipal Way  
Hilliard, OH 43026

Subject: Hill Tract Traffic Impact Study  
Hilliard, Ohio

Dear Ms. Schamp,

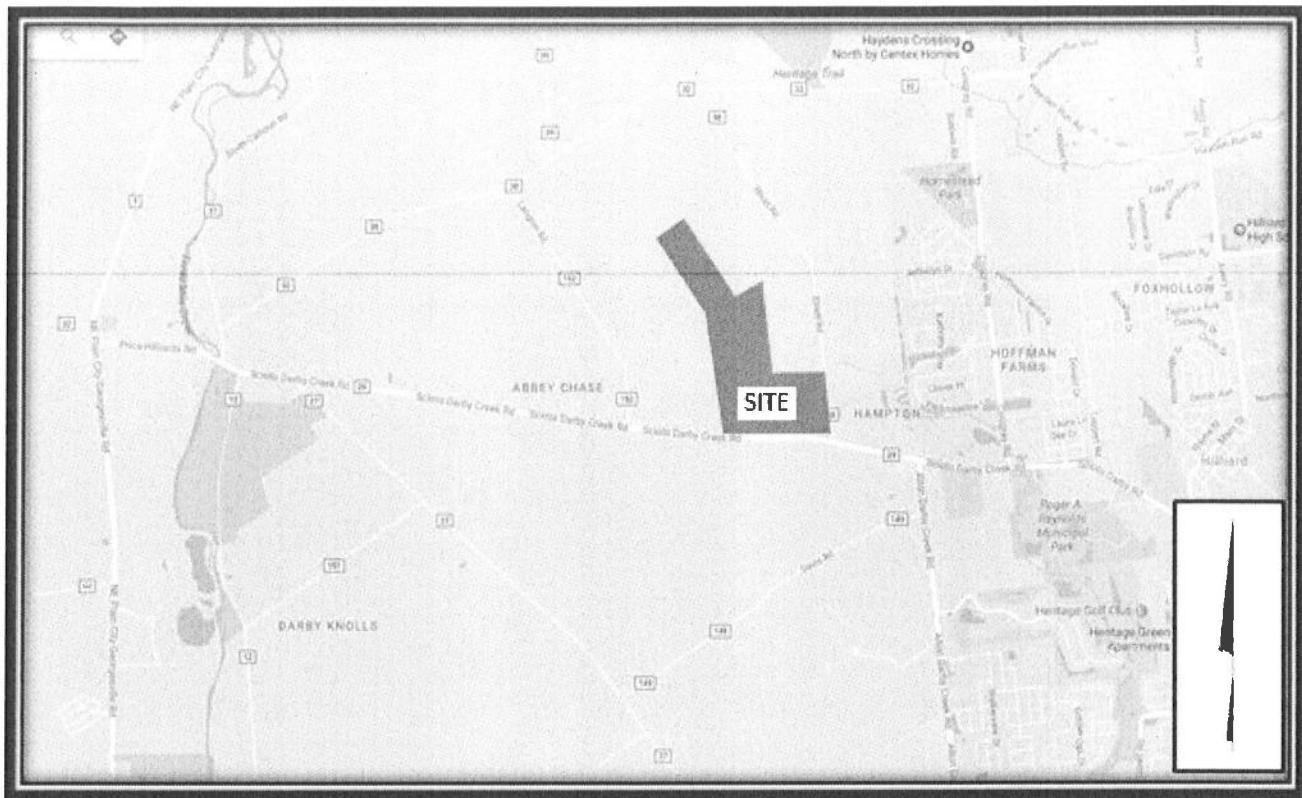
This letter provides a Traffic Impact Study (TIS) for the Hill Tract, located on north side of Scioto & Darby Creek Road west of Elliott Road in Hilliard, Ohio. The site plan was modified several times as the project advanced through planning and reviews and is now smaller than when the scoping discussion began for this study. A current site plan is attached in **Appendix A**. Multiple Memoranda of Understanding have been approved documenting the agreed upon scope of study, and the most recent, dated November 17, 2017, is attached in **Appendix B** for reference.

#### **Proposed Development & Access Plan**

The Hill tract is currently an undeveloped site located on the north side of Scioto & Darby Creek Road between Elliot Road and Langton Road. M/I Homes is in contract to develop the 207 acre Hill Tract site with 229 single family homes. Access to the site will include construction of Audubon Avenue from Scioto & Darby Creek Road north into the site and one new public street to the east accessing Elliott Road.

The northwest portion of the Hill tract could become part of a Metropark and one of several accesses to the park would occur via Audubon Avenue to be developed as part of the project. While the park land is planned as passive space and is not expected to generate significant traffic, Metroparks staff provided trip generation data from a 2014 traffic study for a passive park in the Rocky Fork area in northeast Franklin County. The study identified trip rates for passive park space based on the number of parking spaces as a variable. For this site, we have assumed 150 parking spaces as a reasonable expectation for trip generation purposes. The site is strategically located in the regional trail system and this study will identify important non-vehicular connections to promote walking and bicycling. A site location map is included below as **Figure 1**.

Figure 1: Location Map



### Existing Conditions

Scioto & Darby Creek Road is a two-lane, east-west major collector roadway that provides access from the site to commercial centers, public schools, recreational facilities and other neighborhoods. The speed limit is unsigned near Elliott Road and, as a County road, would be 55 miles per hour. The existing condition of Scioto & Darby Creek Road provides 12-foot wide lanes (one lane per direction) and approximately 4-foot wide shoulders along the site frontage. Elliott Road also provides access to the site and is a two-lane, local roadway that is currently signed at 55 miles per hour. Elliott Road provides less than 10-foot wide lanes (one lane per direction) with minimal shoulders. Hayden Run Road is a two-lane east-west minor collector roadway that is signed at 45 miles per hour. Alton & Darby Creek Road is a two-lane minor arterial with a speed limit of 45 miles per hour.

School attendance boundaries were reviewed on March 1, 2017 with Karen Wright with the Superintendent's Office of the Hilliard City Schools. She confirmed that the district map shows Scioto & Darby Creek Road as a break point (north vs south) between Hilliard Bradley (South) and Hilliard Darby (North) and their respective middle and elementary feeders for planned new developments. The site development will only be to the north of Scioto & Darby Creek Road and so attendance boundaries discussed with the Superintendent's office are as follows:

- Site north of Scioto & Darby Creek Road
  - Hoffman Trails Elementary
  - Hilliard Heritage Middle School
  - Hilliard Darby High School

School attendance boundaries were considered as part of the trip distribution further discussed below.

### **Intersections Analyzed**

Public streets and access points making up the Study Area consist of the following:

- Alton & Darby Creek Road/Scioto & Darby Creek Road (currently signalized)
- Alton & Darby Creek Road/Davis Road (currently EB Stop Controlled)
- Elliott Road/Scioto & Darby Creek Road (currently SB Stop Controlled)
- Elliott Road/Hayden Run Road (currently NB Stop Controlled)
- Audubon Avenue/Scioto & Darby Creek Road (planned with SB Stop Control)
- One site access to Elliott Road approximately 800 feet to 1200 feet north of Scioto & Darby Creek Road (planned with EB Stop Control)

### **Data Collection**

This study used the following record information to establish existing traffic volumes:

- |  |                                     |
|--|-------------------------------------|
| • Scioto & Darby Creek Road/Elliott Road       | Oct 13, 2015 turning movement count |
| • Scioto & Darby Creek Road E. of Elliott Road | Sept 2, 2015 2-way/24-hour count    |
| • Hayden Run Road/Elliott Road                 | Oct 14, 2015 turning movement count |
| • Alton & Darby Creek Road/Davis Road          | May 13, 2014 turning movement count |

EMH&T completed peak turning movement counts at the following intersections from 7-9 AM and 4-6 PM on a weekday in January or February, 2017:

- Scioto & Darby Creek Road/Alton & Darby Creek Road
- Scioto & Darby Creek Road/Cosgray Road
- Alton & Darby Creek Road/Davis Road

A copy of the traffic count data is provided in **Appendix C**.

### **Traffic Projections**

Site generated traffic volumes were combined with background traffic on the surrounding streets to provide design volumes for analysis. Growth rates were provided by the Mid-Ohio Regional Planning Commission (MORPC) for the study area and those were applied to counted volumes to determine opening year (2022) and design year (2032) background traffic levels. Recently completed studies of development in the area were relied upon to incorporate anticipated traffic to be generated by Heritage Preserve, The Campus at Alton Darby, and Tarlton Meadows as background traffic for this study.

The Jerman property is located within the MORPC traffic analysis zone 8315. The socio-economic data for this zone was supplied by MORPC assuming Cosgray Road is extended. The increase of the number of households between 2015 and 2040 is 33. It was concluded that the growth rates supplied by MORPC included the development in this zone.

Traffic volumes generated by the proposed redevelopment were combined with background traffic volumes to establish opening day (2022) and design year (2032) traffic volumes for use in traffic analyses. The Study Area and analysis assumptions for each horizon year are as follows:

**Proposed Development (229 total units)**

- Study Area defined by Intersections Analyzed listed above
- Opening Year: 2022
  - Analyze Study Area without the Cosgray Road Extension (i.e. with Cosgray Road in its existing configuration) and Audubon Avenue not connected south of Scioto & Darby Creek Road
- Design Year: 2032
  - Include access to Metropark
  - Analyze Study Area with Cosgray Road Extension (i.e. with Cosgray Road extended south of Scioto & Darby Creek Road to join with Alton & Darby Creek Road)
  - Analyze Study Area with and without Audubon Avenue connected south of Scioto & Darby Creek Road

**Trip Generation**

Site generated trip ends were forecast using data and methodology contained in Trip Generation, 9<sup>th</sup> Edition (Institute of Transportation Engineers, 2012). Morning and afternoon peak hour traffic volumes were estimated using trip generation rates published for ITE land use code #210 (Single-Family Detached Housing). Trip generation for the Metro Park land was developed from information provided by Columbus and Franklin County Metro Parks for a similar existing site. Trip generation calculations are illustrated below in **Table 1** below:

**Table 1: Projected trip generation**

Land Use	Square Feet or Units	ITE Code	Time Period	ITE Formula	Total Trips	Trips Entering	Trips Exiting
Single Family - Detached	229 units	210	ADT	$\ln(T)=0.92\ln(x)+2.72$	2,252	1,126	1,126
			AM Peak	$T=0.70(x)+9.74$	170	43	127
			PM Peak	$\ln(T)=0.90\ln(x)+0.51$	221	139	82
Park	150 Parking Spaces			Rate per parking space			
			PM Peak	0.2048	31	18	13

**Trip Distribution**

Site generated traffic volumes were assigned to the existing street system based on observed traffic volumes and assessment of area characteristics.

Trip distribution assumptions shown below were used to complete this study:

- 5% to/from the west on Scioto & Darby Creek Road
- 5% to/from the west on Hayden Run Road
- 25% to/from the east on Hayden Run Road
- 40% to/from the east on Scioto & Darby Creek Road

**No Audubon Avenue Extension**

- 25% to/from the south on Alton & Darby Creek Road

With Audubon Avenue Extension

- 15% to/from the south on Alton & Darby Creek Road
- 10% to/from the south on Audubon Avenue

Site traffic assignments and 2022/2032 traffic volume calculation plates are attached as **Appendix D** for reference.

**Traffic Analyses**

Intersection Capacity Analyses

Synchro 10 and Sidra Intersection 7.0 (for roundabout analysis) were used to evaluate operational characteristics of study area intersections. A minimum intersection level of service (LOS) of E for an intersection that includes provisions for non-motorized users is considered acceptable at locations inside the City of Hilliard. If the intersection does not include provisions for non-motorized users, then a minimum overall LOS of D is considered acceptable. Intersections under the jurisdiction of the Franklin County Engineer are required to meet LOS C to be considered acceptable.

The pre-development condition was analyzed to determine whether improvements are needed to reach LOS criteria as a background condition. The necessary pre-development condition was established, then the developed condition was analyzed to determine whether any additional improvements were needed to meet the same criteria with added site traffic. Where poor levels of service were predicted at an unsignalized intersection, roundabout analysis were evaluated as an alternative to signalization. Capacity analysis printouts are attached as **Appendix E** for reference.

Results of the analysis show that all study area intersections are expected to operate at acceptable levels of service with the exception of the Alton & Darby Creek Road intersections with Scioto & Darby Creek Road and Davis Road. The Alton & Darby Creek Road/ Scioto & Darby Creek Road intersection is predicted to operate at an overall LOS D in 2022, but improve to LOS C in 2032. This is due to the planned extension of Cosgray Road south to connect to Alton & Darby Creek Road by the 2032 horizon year. A significant amount of traffic is expected to shift to the Cosgray Road extension when that occurs and therefore, no roadway improvements are recommended at Alton & Darby Creek Road/Scioto Darby Creek Road.

The same effect of the extension is expected to occur at Alton & Darby Creek Road/Davis Road. The eastbound left turn movement is predicted to experience level of service F in 2022. However, this movement is predicted to improve to LOS B or better in 2032 with the Cosgray Road extension. Documentation provided by the City of Hilliard for the Heritage Preserve project indicates that signalization of the Alton & Darby Creek Road/Davis Road intersection is planned in the event that Audubon Avenue is extended to Davis Road prior to the Cosgray Road extension. This study was tasked with investigating modern roundabouts as an alternative to signalization and found that roundabout control would be able to provide satisfactory levels of service in the 2022 condition.

Pedestrian/Trail Connectivity Planning

A scaled drawing is attached illustrating anticipated trail connectivity for non-motorized travel, including off-site trail links. A path connection to the passive park space on the north edge of the site is planned along the west side of Audubon Avenue that could be extended by others into the park space to the north. This connection would ultimately link to the Heritage Trail via improvements committed by others. The Hill project also includes development of a shared-use path on the north side of Scioto & Darby Creek Road along the entire frontage of the site, consistent with the City of Hilliard Comprehensive Plan.

**Table 2: Capacity Analysis Results**

Period	Year	Scenario	Conditions	E8LT	E8TH	E8RT	V8LT	V8TH	V8RT	N8LT	N8TH	N8RT	S8LT	S8TH	S8RT	Total
<b>Scioto &amp; Darby Creek Rd/Audubon Ave</b>																
AM Peak	2022	Build	Add WBRT	A/7.7	-	-	-	-	-	-	-	-	B/12.0	-	B/12.0	-
	2032	Build w/o Audubon Ave Ext	Add WBRT	A/7.7	-	-	-	-	-	-	-	-	B/12.7	-	B/12.7	-
		Build w/ Audubon Ave Ext	Add WBRT	A/7.7	-	-	A/7.9	-	-	B/12.6	B/12.6	B/12.6	B/14.0	B/11.9	B/11.9	-
PM Peak	2022	Build	Add WBRT	A/8.0	-	-	-	-	-	-	-	-	B/12.9	-	B/12.9	-
	2032	Build w/o Audubon Ave Ext	Add WBRT	A/8.2	-	-	-	-	-	-	-	-	B/13.9	-	B/13.9	-
		Build w/ Audubon Ave Ext	Add WBRT	A/8.1	-	-	A/7.8	-	-	B/14.8	B/14.8	B/14.8	C/16.1	B/12.9	B/12.9	-
<b>Elliott Rd &amp; Hayden Run Rd</b>																
AM Peak	2022	No Build	Add WBLT	-	-	-	A/7.9	-	-	B/10.8	-	B/10.8	-	-	-	-
		Build	Add WBLT	-	-	-	A/8.0	-	-	B/11.2	-	B/11.2	-	-	-	-
	2032	No Build	Add WBLT	-	-	-	A/8.4	-	-	B/12.5	-	B/12.5	-	-	-	-
		Build w/o Audubon Ave Ext	Add WBLT	-	-	-	A/8.4	-	-	B/13.3	-	B/13.3	-	-	-	-
PM Peak	2022	No Build	Add WBLT	-	-	-	A/7.7	-	-	B/10	-	B/10	-	-	-	-
		Build	Add WBLT	-	-	-	A/7.8	-	-	B/10.4	-	B/10.4	-	-	-	-
	2032	No Build	Add WBLT	-	-	-	A/7.9	-	-	B/11.0	-	B/11.0	-	-	-	-
		Build w/o Audubon Ave Ext	Add WBLT	-	-	-	A/8.0	-	-	B/11.8	-	B/11.8	-	-	-	-
<b>Elliott Rd &amp; Drive B</b>																
AM Peak	2022	Build	Existing	A/9.4	-	A/9.4	-	-	-	A/7.4	-	-	-	-	-	-
	2032	Build w/o Audubon Ave Ext	Existing	A/9.4	-	A/9.4	-	-	-	A/7.4	-	-	-	-	-	-
		Build w/ Audubon Ave Ext	Existing	A/9.4	-	A/9.4	-	-	-	A/7.4	-	-	-	-	-	-
PM Peak	2022	Build	Existing	A/9.8	-	A/9.8	-	-	-	A/7.6	-	-	-	-	-	-
	2032	Build w/o Audubon Ave Ext	Existing	B/10.1	-	B/10.1	-	-	-	A/7.6	-	-	-	-	-	-
		Build w/ Audubon Ave Ext	Existing	B/10.0	-	B/10.0	-	-	-	A/7.6	-	-	-	-	-	-
<b>Scioto &amp; Darby Creek Rd/Elliott Rd</b>																
AM Peak	2022	No Build	Add WBRT	A/7.7	-	-	-	-	-	-	-	-	B/12.3	-	A/9.3	-
		Build	Add WBRT	A/7.8	-	-	-	-	-	-	-	-	B/14.3	-	A/9.4	-
	2032	No Build	Add WBRT	A/7.8	-	-	-	-	-	-	-	-	B/13.1	-	A/9.4	-
		Build w/o Audubon Ave Ext	Add WBRT	A/7.9	-	-	-	-	-	-	-	-	C/15.5	-	A/9.6	-
PM Peak	2022	No Build	Add WBRT	A/B.1	-	-	-	-	-	-	-	-	B/13.8	-	A/9.9	-
		Build	Add WBRT	A/B.4	-	-	-	-	-	-	-	-	C/16.0	-	B/10.3	-
	2032	No Build	Add WBRT	A/B.2	-	-	-	-	-	-	-	-	C/15.1	-	B/10.2	-
		Build w/o Audubon Ave Ext	Add WBRT	A/B.6	-	-	-	-	-	-	-	-	C/18.4	-	B/10.7	-
<b>Scioto &amp; Darby Creek Rd/Alton &amp; Darby Creek Rd</b>																
AM Peak	2022	No Build	Existing	D/40.8	E/56.8	D/41.2	B/11.4	B/11.7	A/8.2	D/40.5	D/45.4	F/55.6	D/42.7	D/46.5	D/46.5	D/40.2
		Build	Existing	D/40.2	E/64.0	D/41.6	B/11.1	B/10.8	A/8.1	D/42.6	D/45.4	F/51.4	D/50.7	D/49.0	D/49.0	D/39.6
	2032	No Build	Existing	A/7.9	B/10.4	A/6.8	A/8.0	B/10.5	A/9.8	D/40.3	D/36.5	D/44.7	D/53.3	D/48.5	D/48.5	C/26.1
		Build w/o Audubon Ave Ext	Existing	A/B.2	B/11.2	A/7.0	A/8.3	B/10.9	B/10.1	D/40.0	D/35.9	D/43.8	D/53.4	D/48.6	D/48.6	C/25.1
PM Peak	2022	No Build	Existing	D/40.6	E/56.7	D/42.6	F/81.7	B/10.8	A/7.6	D/42.3	D/45.0	B/12.1	D/50.3	D/50.6	D/50.6	D/49.5
		Build	Existing	D/39.8	E/59.2	D/42.8	F/94.9	B/11.3	A/7.6	D/46.0	D/45.0	B/12.7	D/50.3	D/50.6	D/50.6	D/54.3
	2032	No Build	Existing	B/11.9	B/15.5	B/11.3	A/9.7	B/11.5	A/9.8	D/40.1	D/35.9	D/39.1	D/52.6	D/50.0	D/50.0	C/22.8
		Build w/o Audubon Ave Ext	Existing	B/13.3	B/17.7	B/11.8	B/11.1	B/13.4	B/10.8	D/39.4	C/34.1	D/37.0	D/52.8	D/50.1	D/50.1	C/23.3
<b>Alton &amp; Darby Creek Rd/Davis Rd</b>																
AM Peak	2022	No Build	Add SBRT	F/330.3	-	F/330.3	-	-	-	A/8.9	-	-	-	-	-	-
			Roundabout	A/6.5	-	A/6.5	-	-	-	A/3.5	C/23.7	-	-	A/7.1	A/7.1	C/16.5
		Build	Add SBRT	F/373.4	-	F/373.4	-	-	-	A/9.0	-	-	-	-	-	-
			Roundabout	A/6.7	-	A/6.7	-	-	-	A/3.5	C/24.8	-	-	A/7.5	A/7.5	C/17.1
2032		No Build	Add SBRT	C/18.2	-	C/18.2	-	-	-	A/7.9	-	-	-	-	-	-
			Roundabout	A/4.5	-	A/4.5	-	-	-	A/3.7	A/5.1	-	-	A/4.5	A/4.5	A/4.6
		Build w/o Audubon Ave Ext	Add SBRT	C/19.6	-	C/19.6	-	-	-	A/8.0	-	-	-	-	-	-
			Roundabout	A/4.7	-	A/4.7	-	-	-	A/3.7	A/5.2	-	-	A/4.7	A/4.7	A/4.8
2022		No Build	Add SBRT	C/19.0	-	C/19.0	-	-	-	A/8.0	-	-	-	-	-	-
			Roundabout	A/4.6	-	A/4.6	-	-	-	A/3.7	A/5.1	-	-	A/4.6	A/4.6	A/4.7
2032		No Build	Add SBRT	F/93.1	-	F/93.1	-	-	-	B/11.9	-	-	-	-	-	-
			Roundabout	B/10.7	-	B/10.7	-	-	-	A/2.9	A/8.0	-	-	D/31.0	D/31.0	C/22.6
		Build	Add SBRT	F/109.4	-	F/109.4	-	-	-	B/12.0	-	-	-	-	-	-
			Roundabout	B/10.9	-	B/10.9	-	-	-	A/2.9	A/8.4	-	-	D/33.6	D/33.6	C/24.2
2032		No Build	Add SBRT	B/13.4	-	B/13.4	-	-	-	A/8.6	-	-	-	-	-	-
			Roundabout	A/4.5	-	A/4.5	-	-	-	A/2.9	A/4.2	-	-	A/6.4	A/6.4	A/5.6
		Build w/o Audubon Ave Ext	Add SBRT	B/14.2	-	B/14.2	-	-	-	A/8.6	-	-	-	-	-	-
			Roundabout	A/4.6	-	A/4.6	-	-	-	A/2.9	A/4.5	-	-	A/6.6	A/6.6	A/5.7
		Build w/ Audubon Ave Ext	Add SBRT	B/14.2	-	B/14.2	-	-	-	A/8.6	-	-	-	-	-	-
			Roundabout	A/4.6	-	A/4.6	-	-	-	A/2.9	A/4.4	-	-	A/6.5	A/6.5	A/5.7

X/X = Overall LOS / Average Delay Per Vehicle

### Turn Lane Warrants

Left and right turn lane warrants were evaluated at all unsignalized intersections in the Study Area pursuant to the requirements set forth in the Location and Design Manual (Ohio Department of Transportation). Lengths of all recommended turn lanes were determined using storage calculations provided in the Location and Design Manual. Results indicate that turn lanes are warranted for several movements, including some for the No Build condition and some for the Build condition. Turn movements requiring turn lanes are summarized below and the turn lane lengths for No Build and Build conditions are illustrated in **Tables 3** and **4** below for 2022 and 2032 conditions, respectively.

**Table 3: Warranted Turn Lanes in 2022 w/Sizing**

<u>Intersection</u>	<u>Movement</u>	Length (w/50' taper)		
		<u>No Build</u>	<u>Build</u>	<u>Site-related</u>
Scioto & Darby Creek Rd/Audubon Ave	WB Right	n/a	225'	Yes
Hayden Run Rd/Elliott Rd	WB Left	243'	243'	No
Alton & Darby Creek Rd/Davis Rd	SB Right	293'	293'	No
Scioto & Darby Creek RD/Elliott Rd	WB Right	225'	225'	No

**Table 4: Warranted Turn Lanes in 2032 w/Sizing**

<u>Intersection</u>	<u>Movement</u>	Length (w/50' taper)		
		<u>No Build</u>	<u>Build</u>	<u>Site-related</u>
Scioto & Darby Creek Rd/Audubon Ave	WB Right	n/a	<sup>1,2</sup> 225'	Yes
Scioto & Darby Creek RD/Elliott Rd	WB Right	243'	<sup>1</sup> 243', <sup>2</sup> 293'	50' - Yes
Alton & Darby Creek Rd/Davis Rd	SB Right	318'	318'	No
Hayden Run Rd/Elliott Rd	WB Left	243'	293'	50' - Yes

<sup>1</sup> With Audubon Avenue Extension

<sup>2</sup> Without Audubon Avenue Extension

The final length for the westbound left turn lane on Hayden Run Road at Elliott Road is extended by 50 feet with the addition of site traffic. The length increases from 243 feet to 293 feet for projected 2032 Build conditions. Site traffic is responsible for an additional 50 feet at this location. The westbound right turn lane on Scioto & Darby Creek Road at Elliott Road is also extended by 50 feet with added site traffic from 243 feet to 293 feet for projected 2032 Build conditions. At Audubon Avenue, site traffic is solely responsible for the provision of a 225-foot westbound right turn lane. No turn lane warrant criteria were met at the site access point on Elliott Road. Turn lane warrant charts are included in **Appendix F** and lane sizing worksheets are attached in **Appendix G** for reference.

### **Conclusions and Recommendations**

Turn lane warrants indicate that a westbound right turn lane is warranted on Scioto & Darby Creek Road at the Audubon Avenue site driveway as a result of site development. While no turn lanes are warranted as a result of developing a site access on Elliott Road, frontage improvements may be needed to bring lane and shoulder widths up to specifications. Site traffic adds to the length other turn lanes warranted by background conditions as noted in Tables 3 and 4 above. No other off-site improvements are warranted or recommended.

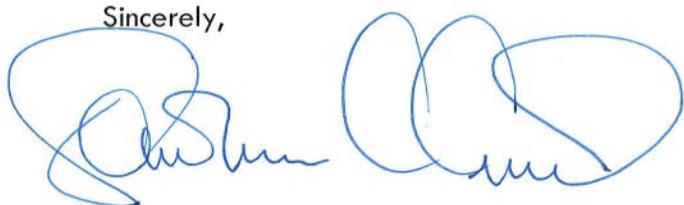
Capacity deficiencies in the background condition are noted in Table 2 above at the Scioto & Darby Creek Road/Alton & Darby Creek Road intersection and at the Alton & Darby Creek Road/Davis Road

intersection. Operational deficiencies at these locations are not related to site development and ultimately will be resolved with the planned extension of Cosgray Road south of Scioto & Darby Creek Road. The Heritage Preserve study noted a need to signalize the Alton & Darby Creek Road/Davis Road intersection if Audubon Avenue is connected to Davis Road prior to completion of the Cosgray Road extension. While this is not a Hill related improvement, this study found that roundabout control is an acceptable alternative to signal control at this location.

The Hill development has been designed with reference to the bicycle network recommended in the Hilliard Comprehensive Plan. In addition to the roadway improvements noted above, the project includes development of a shared-use path on the north side of Scioto & Darby Creek Road along the entire frontage of the site. An additional shared-use path is proposed on the west side of the portion of Audubon Avenue within the site limits, enabling a connection through the proposed Metro Park site that to a previously committed path (unrelated to the Hill development) through the Tarlton Meadows neighborhood to the Heritage Trail. See the attached Park Connectivity Plan for an exhibit showing the future trail network.

If you have questions during your review, please contact me directly at (614) 775-4640 at your convenience.

Sincerely,



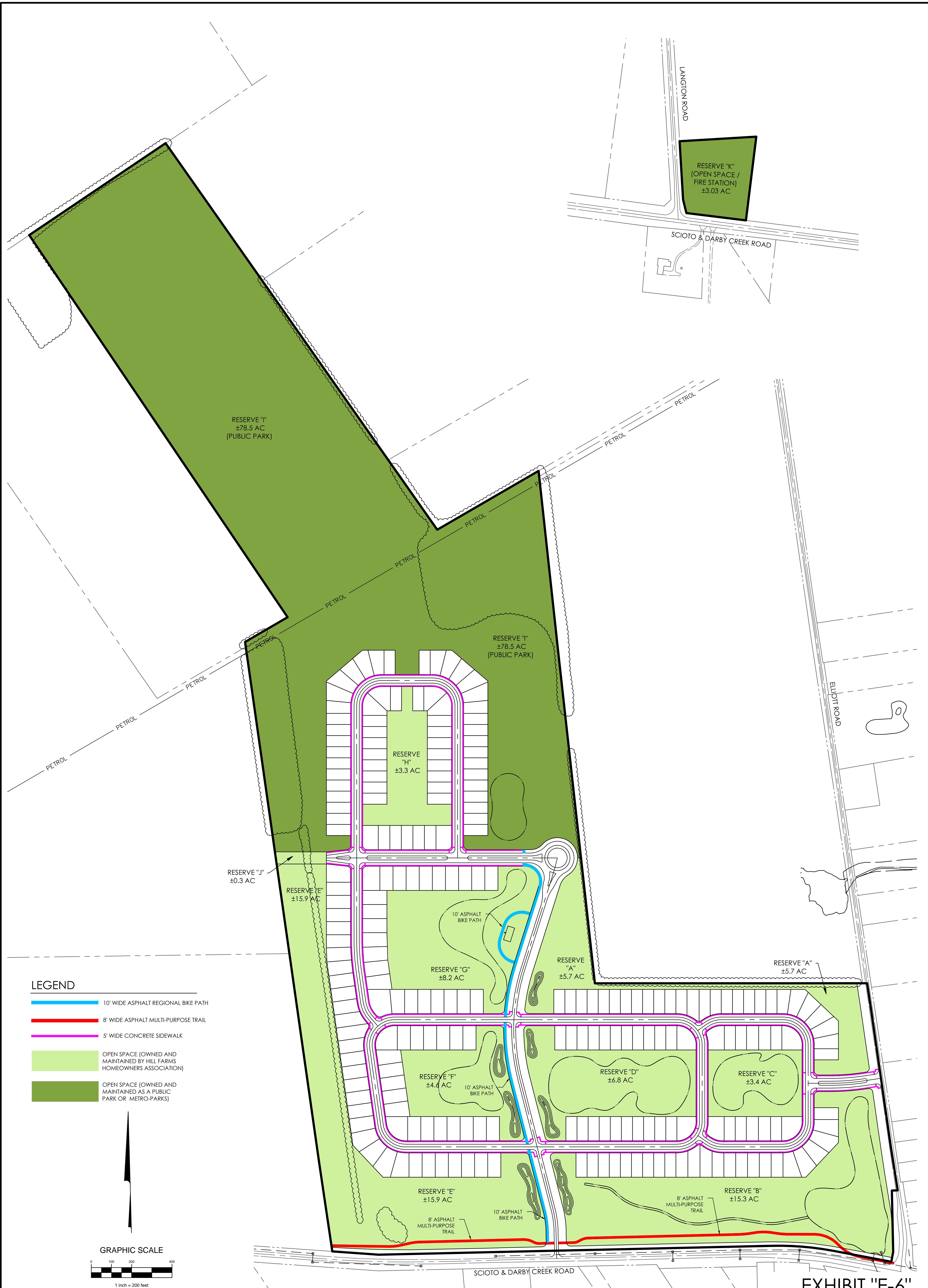
Lawrence C. Creed, Esq., PE  
Principal  
Director of Traffic Engineering Services

Attachments: Appendices A-G; Park Connectivity Concept

Copies: William Hebble, EI, Franklin County Engineers Office (w/att)  
Scott D. Seaman, PE, GPD Group (w/att)

## **Appendix A**

### **Site Plan**



**HILL FARM**  
CITY OF HILLIARD, FRANKLIN COUNTY, OHIO

## OPEN SPACE AND PEDESTRIAN CONNECTIVITY PLAN

PREPARED FOR:

**M/I HOMES**  
Move Up  
[mihomes.com](http://mihomes.com)

PREPARED BY:  
**EMHT**  
Evans, Mechwart, Hambleton & Tilton, Inc.  
Engineers • Surveyors • Planners • Scientists  
5500 New Albany Road, Columbus, OH 43054  
Phone: 614.773.4500 Toll Free: 888.773.3648  
[emht.com](http://emht.com)

DATE:	AUGUST 9, 2017
REVISED:	

**Appendix B**

**Memorandum of Understanding**



November 17, 2017

Ellette R. Schamp, PE  
Transportation Engineer  
City of Hilliard  
3800 Municipal Way  
Hilliard, Ohio 43026

Subject: Hill Tract-Traffic Impact Study  
Memorandum of Understanding

Dear Ms. Schamp,

This revised Memorandum of Understanding (MOU) is submitted to document the scope of the above captioned traffic study as discussed in a meeting held December 18, 2016, and in follow-up discussions and emails including previous Memoranda of Understanding. The initial MOU approved by both the City of Hilliard and the Franklin County Engineer's Office was dated March 6, 2017. As a result of changes to the development plan a second MOU, dated August 15, 2017 was prepared and approved. This MOU replaces the August 15, 2017 document and arises from development plan changes that eliminate condominium units from the plan and focus exclusively on single-family detached residences. Following your concurrence, EMH&T will prepare an updated traffic impact study in accordance with the methodologies and assumptions described below.

**Proposed Development & Access Plan**

The Hill tract is an undeveloped site located on Scioto & Darby Creek Road between Elliott Road and Langton Road. M/I Homes is in contract to develop the 207 acre Hill Tract site with 229 single family homes. Access to the site will include construction of Audubon Avenue from Scioto & Darby Creek Road north into the site and one drive to the east accessing Elliott Road. The previous MOU included additional access points in the future on Scioto Darby Creek Rd and Elliott Road that are no longer proposed.

The MOU signed on March 6, 2017 contemplated a larger development (836 homes on nearly 700 acres known as the "Hill-Bright" tracts) phased over a significant time horizon. The applicant was unable to resolve sewer capacity constraints in the Big Darby Accord area and future development of remaining Hill-Bright acreage is likely to continue to be restricted. If that changes, a future traffic impact study should be required to evaluate any permitted development. For this study of a 207 acre development, the balance of Hill-Bright acreage that was the subject of the March 6, 2017 MOU will not be assumed to develop by others.

The northwest portion of the Hill tract could become part of a Metropark and one of several accesses to the park could occur via Audubon Avenue which is to be developed as part of the project. The park land would be planned as passive space so it would not be expected to generate significant traffic. As part of this study, we have engaged Metroparks staff to identify a reasonable expectation for trip generation. The site is strategically located in the regional trail system and this study will identify important non-vehicular connections to promote walking and bicycling.

### **Intersections to Analyze**

Public streets and access points making up the Study Area consist of the following:

- Alton & Darby Creek Road/Scioto & Darby Creek Road
- Alton & Darby Creek Road/Davis Road
- Elliott Road/Scioto & Darby Creek Road
- Elliott Road/Hayden Run Road
- Audubon Avenue/Scioto & Darby Creek Road
- One site access to Elliott Road approximately 800 feet to 1200 feet north of Scioto & Darby Creek Road

The City of Hilliard reserves the right to add the Scioto & Darby Creek Road/Langton Road intersection to the Study Area depending on the data collected at the locations identified above and the proposed assignment of site traffic.

### **Data Collection**

This study will use the following record information to establish existing traffic volumes:

- |  |                                     |
|--|-------------------------------------|
| • Scioto & Darby Creek Rd/Elliott Rd       | Oct 13, 2015 turning movement count |
| • Scioto & Darby Creek Rd E. of Elliott Rd | Sept 2, 2015 2-way/24 hour count    |
| • Hayden Run Rd/Elliott Rd                 | Oct 14, 2015 turning movement count |
| • Alton & Darby Creek Rd/Davis Rd          | May 13, 2014 turning movement count |
| • Cosgray Rd/Jeffrelyn Drive               | Nov 10, 2015 turning movement count |

EMH&T has previously completed peak turning movement counts at the following intersections from 7-9 AM and 4-6 PM on an average weekday:

- Scioto & Darby Creek Rd/Alton & Darby Creek Rd
- Scioto & Darby Creek Rd/Cosgray Rd
- Alton & Darby Creek Rd/Davis Rd
- Cosgray Rd/Woodsvie Way

### **Trip Generation**

Site generated trip ends will be forecast using data and methodology contained in Trip Generation, 9<sup>th</sup> Edition (Institute of Transportation Engineers, 2012). Morning and afternoon peak hour traffic volumes will be estimated using trip generation rates published for ITE land use code 210 (Single-Family Detached Housing).

### **Trip Distribution**

Site generated traffic volumes will be assigned to the existing street system based on observed traffic volumes and assessment of area characteristics. School attendance boundaries were reviewed on March 1, 2017 with Karen Wright with the Superintendent's Office of the Hilliard City Schools. We discussed the likely distribution of school aged children among area schools in the Hilliard district as things are currently planned. She confirmed that the district map shows Scioto & Darby Creek Road as a break point (north vs south) between Hilliard Bradley (South) and Hilliard Darby (North) and their respective middle and elementary feeders for planned new developments. School attendance boundaries will be considered as part of the trip distribution developed for this study.

The site development will only be to the north of Scioto & Darby Creek Road and so attendance boundaries discussed with the Superintendent's office are as follows:

- Site north of Scioto & Darby Creek Road
  - Hoffman Trails Elementary
  - Hilliard Heritage Middle School
  - Hilliard Darby High School

The trip distribution proposed for this study is attached for review. There are two separate distributions reflecting the presence or absence of Audubon Avenue south of Scioto & Darby Creek Road as described below on Page 4.

### **Traffic Projections**

Site generated traffic volumes will be combined with background traffic on the surrounding streets to provide design volumes for analysis. Growth rates have been provided by the Mid-Ohio Regional Planning Commission (MORPC) for the study area as shown in the table below. The growth rate will be applied to counted volumes to determine opening year and design year background traffic levels.

<u>Location</u>	<u>Linear Annual Growth Rate</u>
Scioto & Darby Creek Rd e/o Alton & Darby Creek Rd	1.75%
Scioto Darby & Creek Rd w/o Alton & Darby Creek Rd	1.50%
Alton & Darby Creek Rd s/o Scioto & Darby Creek Rd	1.65%
Scioto & Darby Creek Rd e/o Cosgray Rd	0.50%
Cosgray Rd n/o Scioto & Darby Creek Rd	2.50%
Scioto & Darby Creek Rd w/o Cosgray Rd	1.65%
Alton & Darby Creek Rd n/o Davis Rd	1.65%
Davis Rd w/o Alton & Darby Creek Rd	1.60%
Alton & Darby Creek Rd s/o Davis Rd	1.55%
Scioto & Darby Creek Rd e/o Elliott Rd	1.50%
Elliott Rd n/o Scioto & Darby Creek Rd	2.00%
Scioto & Darby Creek Rd w/o Elliott Rd	1.50%
Hayden Run Rd e/o Elliott Rd	5.00%
Hayden Run Rd w/o Elliott Rd	5.00%
Elliott Rd s/o Hayden Run Rd	2.00%
Hoffman Farm Dr e/o Cosgray Rd	0.50%
Cosgray Rd n/o Jeffrelyn Dr	3.00%
Jeffrelyn Dr w/o Cosgray Rd	2.00%
Cosgray Rd s/o Jeffrelyn Dr	3.00%
Woodsview Way e/o Cosgray Rd	0.50%
Cosgray Rd n/o Woodsview Way	3.00%
Woodsview Way w/o Cosgray Rd	2.00%
Cosgray Rd s/o Woodsview Way	3.00%

Recently completed studies of development in the area will be relied upon to incorporate anticipated traffic to be generated by Heritage Preserve, The Campus at Alton Darby, and Tarlton Meadows as background traffic for this study. EMH&T will work with MORPC to define the land use currently in the regional travel demand model for the Jerman Property and make appropriate adjustments in consultation with City staff. The Jerman property is currently farmland located in the Cosgray Road Extension corridor and held, at one time, a PUD zoning that has since expired.

Traffic volumes generated by the proposed redevelopment will be combined with background traffic volumes to establish opening day (2022) and design year (2032) full build traffic volumes for use in traffic analyses. The Study Area and analysis assumptions for each horizon year are as follows:

#### Proposed Development (229 total units)

- Study Area defined by Intersections to Analyze listed above
- Opening Year: 2022
  - Analyze Study Area without the Cosgray Road Extension (i.e. with Cosgray Road in its existing configuration) and Audubon Avenue not connected south of Scioto Darby Creek Rd
- Design Year: 2032
  - Include access to Metropark
  - Analyze Study Area with Cosgray Road Extension (i.e. with Cosgray Road extended south of Scioto & Darby Creek Road to join with Alton & Darby Creek Road)
  - Analyze Study Area with and without Audubon Avenue connected south of Scioto & Darby Creek Rd

#### Traffic Analyses

##### Intersection Capacity Analyses

Highway Capacity Software or Synchro 10 will be used to evaluate operational characteristics of study area intersections. A minimum intersection level of service (LOS) of E for an intersection that includes provisions for non-motorized users is considered acceptable at locations inside the City of Hilliard. Provisions for non-motorized users are determined by the City of Hilliard to provide a sufficient level of safety based on vehicle traffic volumes, turning movements, sight distance, and vehicle speed. If the intersection does not include provisions for non-motorized users, then a minimum overall LOS of D is considered acceptable. Intersections under the jurisdiction of the Franklin County Engineer are required to meet LOS C to be considered acceptable. If an intersection is deficient based on these criteria, then reasonable and cost-effective improvements will be explored for both the pre-development and proposed development.

The pre-development condition will be analyzed to determine whether improvements are needed to reach LOS criteria as a background condition. Once the compliant pre-development condition is established, then the developed condition will be analyzed to determine whether any additional improvements are needed to meet the same criteria when site generated traffic is added to the road network. If poor levels of service are noted at an unsignalized intersection, modern roundabout analysis will be evaluated as an alternative to signalization.

November 17, 2017

Traffic Signal Warrants

If necessary to mitigate capacity deficiencies, traffic signal warrants will be projected using thresholds established by the Ohio Manual of Uniform Traffic Control Devices § 4C (Ohio Department of Transportation) (OMUTCD). Existing count data will be used to determine hourly variations in traffic volumes, in relation to the afternoon peak hour. Hourly distributions will be applied to weekday afternoon peak hour traffic volume projections and compared to volume criteria specified in Warrant 1, the Eight-Hour Warrant. Additionally, Warrants 2 (Four-Hour Warrant) and Warrant 3 (Peak Hour Warrant) will be analyzed. The effect of applying a right turn reduction factor will be analyzed and discussed, and any intersection expected to justify signalization will also be assessed as a modern roundabout as an alternative.

Turn Lane Warrants

Left and right turn lane warrants will be evaluated at all proposed stop controlled access driveways pursuant to the requirements set forth in the Location and Design Manual (Ohio Department of Transportation). Lengths of all recommended turn lanes will be determined using storage calculations provided in the Location and Design Manual.

A detailed report including applicable figures and tables will be prepared to summarize study methodologies, analysis, findings and recommendations. A non-technical scaled drawing showing all improvements will be provided. Improvements shown will include those identified as impacts in the traffic study and those required because of the development itself such as frontage widening to achieve minimum lane and shoulder width, overlay of the existing street, ditch improvements and shared use paths in the right of way. A trail connectivity map will be provided showing all non-vehicular trail and sidewalk provisions, special pedestrian crossing treatments, and off-site links that may or may not be related to site development but that are needed to complete the trail network and connect to existing and planned trail infrastructure.

The report will be submitted to the City of Hilliard and Franklin County Engineers Office for review. Please signify your concurrence with the scope of work outlined herein by signing below and returning this MOU to me. Should you have questions or comments during your review of the MOU or if I may be of further assistance, please contact me at (614) 775-4640.

Sincerely,

Lawrence C. Creed, Esq., PE

Principal

Director of Traffic Engineering Services

cc: Michael Meeks (Franklin County Engineers Office)

**ACCEPTANCE AND APPROVAL OF MEMORANDUM OF UNDERSTANDING**

By:

Larry Creed

For the City of Hilliard

11/27/2017

Date

By:

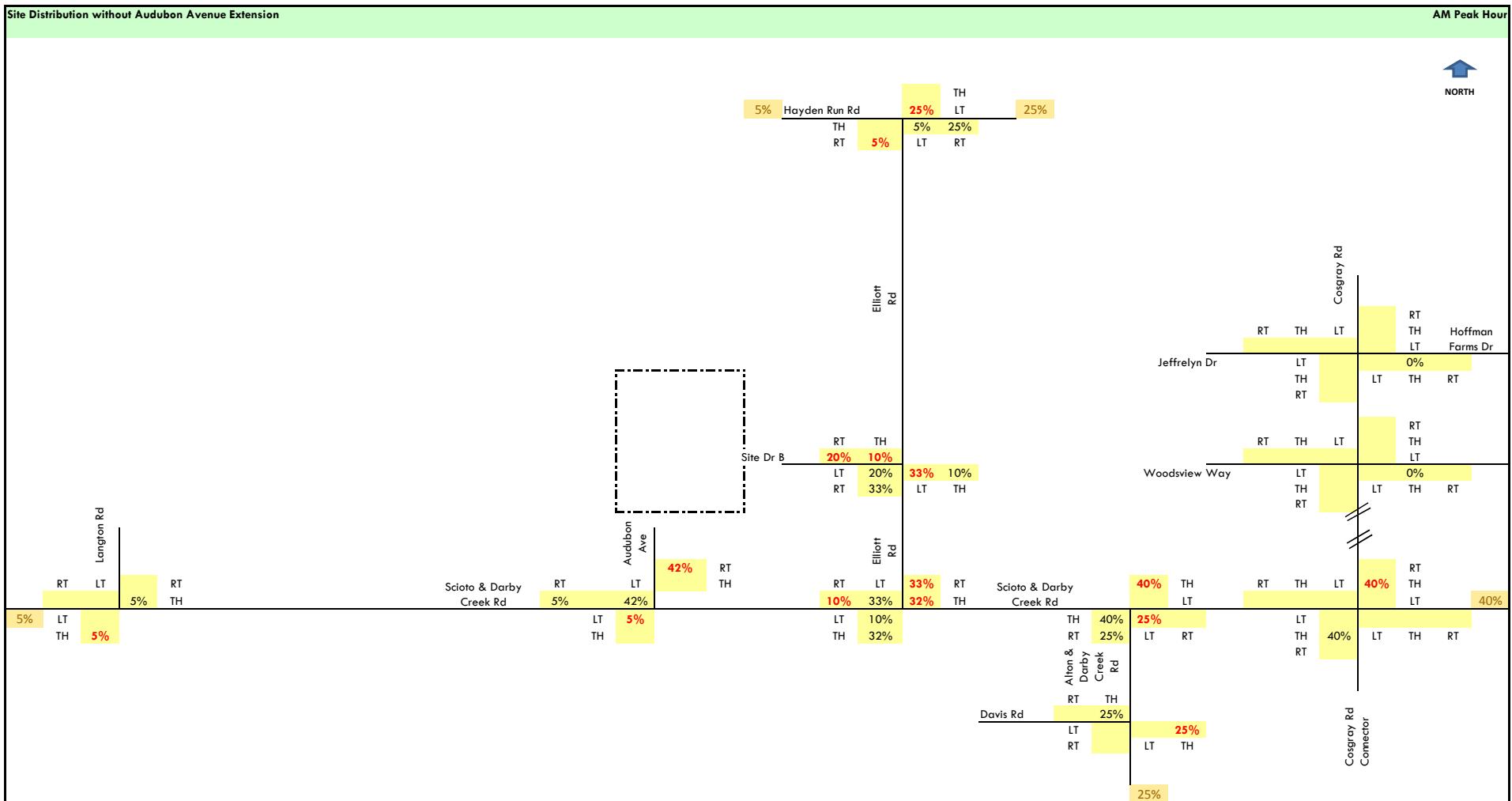
Veteran

For the Franklin County Engineers Office

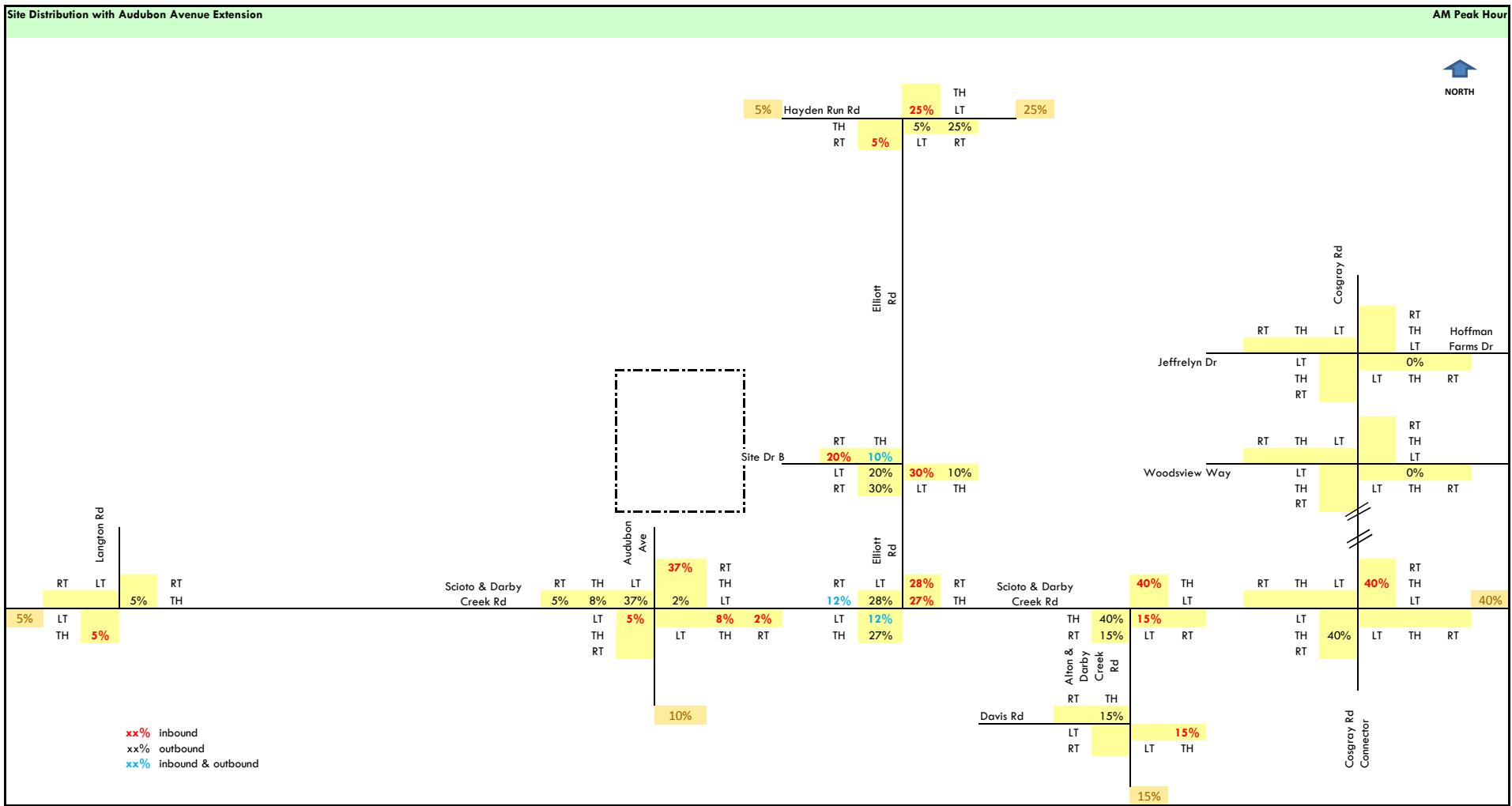
11/22/17

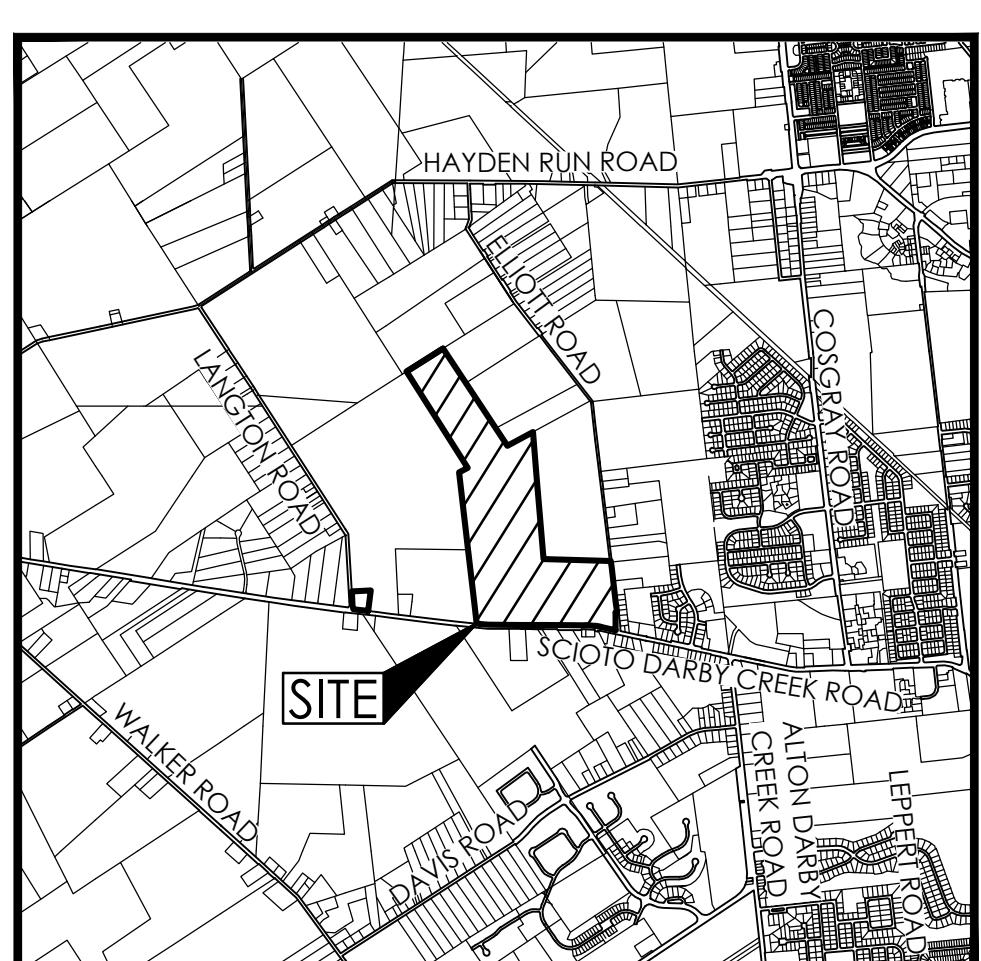
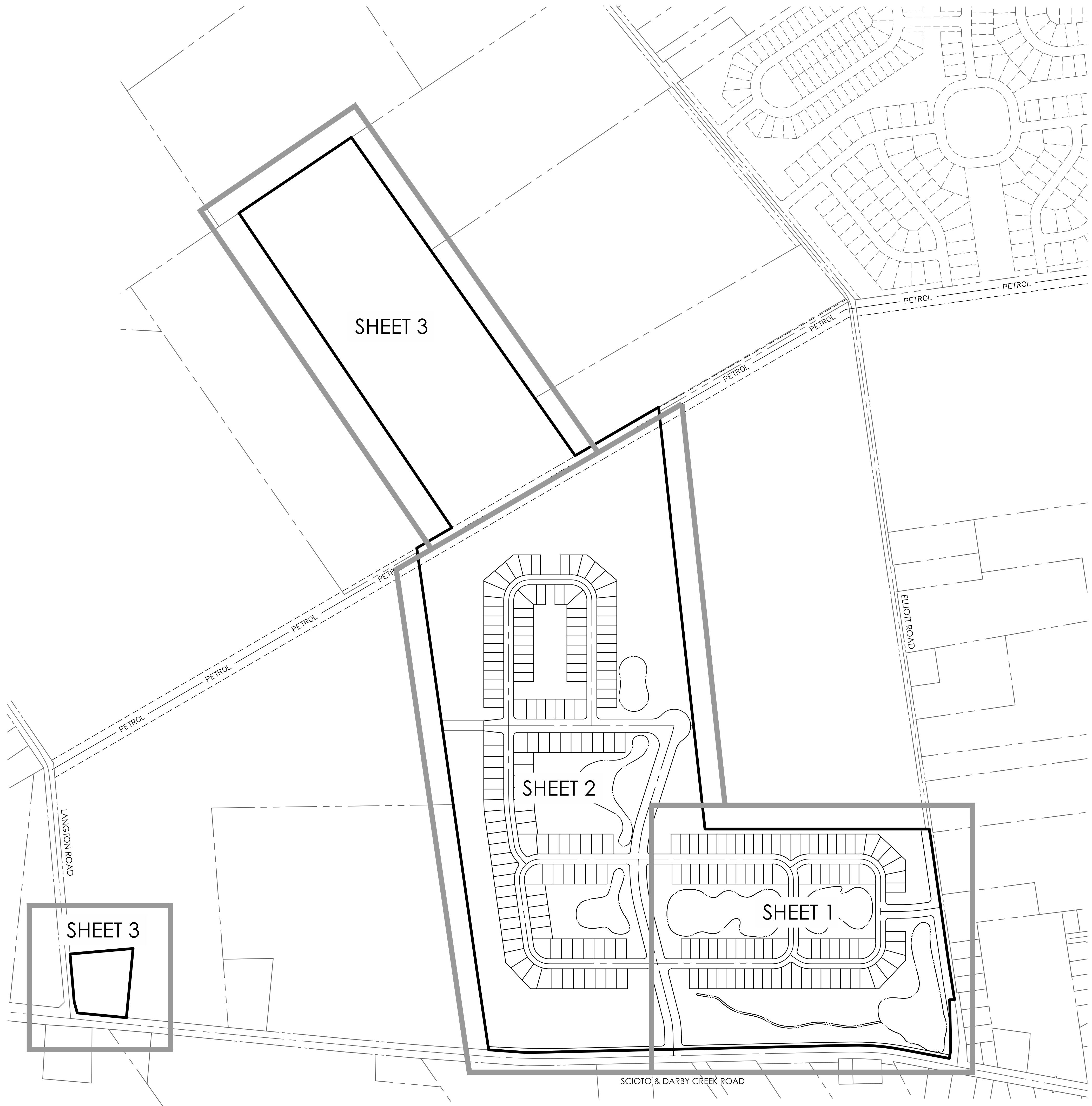
Date

Hill Tract  
 Traffic Impact Study  
**Traffic Volume Calculations**



Hill Tract  
 Traffic Impact Study  
 Traffic Volume Calculations





LOCATION MAP  
NO SCALE

#### SITE STATISTICS:

TOTAL ACREAGE: ±207.102 ACRES  
 NET ACREAGE (EXCLUDING R/W): ±185.202 ACRES  
 TOTAL NUMBER OF LOTS: 229  
 GROSS DENSITY: ±1.11 UNITS/ACRE  
 NET DENSITY (EXCLUDING R/W): ±.24 ACRES  
 NET DENSITY (EXCLUDING R/W AND OPEN SPACE): ±.57 ACRES  
 OPEN SPACE REQUIRED: ±103.6 ACRES (50.0%)  
 OPEN SPACE PROVIDED: ±145.0 ACRES (70.0%)  
 RESERVE "A": ±5.7 ACRES  
 RESERVE "B": ±15.3 ACRES  
 RESERVE "C": ±3.4 ACRES  
 RESERVE "D": ±6.8 ACRES  
 RESERVE "E": (PORTION ACTIVE): ±15.9 ACRES  
 RESERVE "F": ±4.6 ACRES  
 RESERVE "G": (PORTION ACTIVE): ±8.2 ACRES  
 RESERVE "H": ±3.3 ACRES  
 RESERVE "I": ±78.5 ACRES  
 RESERVE "J": ±0.3 ACRES  
 RESERVE "K": (OPEN SPACE / FIRE STATION): ±3.0 ACRES

#### LAND USE:

SUB-AREA "1A" (LEGACY)	±56.3 ACRES
TOTAL ACREAGE:	88
NUMBER OF LOTS (55'X120')	±1.56 LOTS/ACRE
SUB-AREA "1B" (LEGACY)	±18.0 ACRES
TOTAL ACREAGE:	65
NUMBER OF LOTS (55'X120')	±3.61 LOTS/ACRE
SUB-AREA "2" (SIGNATURE)	±51.3 ACRES
TOTAL ACREAGE:	76
NUMBER OF LOTS (65'X120')	±1.48 LOTS/ACRE
SUB-AREA "3" (PUBLIC PARK)	±78.5 ACRES
TOTAL ACREAGE:	
SUB-AREA "4" (OPEN SPACE / FIRE STATION)	±3.0 ACRES
TOTAL ACREAGE:	

GRAPHIC SCALE  
0 150 300 600  
1 inch = 300 feet

EXHIBIT "D-1"

## **Appendix C**

### **Traffic Counts**

# EMH&T

5500 New Albany Road

Columbus, OH 43054

emht.com

File Name : Scioto-Darby Creek - Elliot  
 Site Code : 00000000  
 Start Date : 11/12/2015  
 Page No : 1

Groups Printed- Cars - Trucks																						
Start Time	ELLIOT RD Southbound					SCIOTO-DARBY CREEK Westbound					ELLIOT RD Northbound					SCIOTO-DARBY CREEK Eastbound						
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total	
07:00 AM	2	0	1	0	3	0	19	7	0	26	0	0	0	0	0	0	44	0	0	44	73	
07:15 AM	6	0	2	0	8	0	30	9	0	39	0	0	0	0	0	2	40	0	0	42	89	
07:30 AM	5	0	0	0	5	0	38	2	0	40	0	0	0	0	0	1	60	0	0	61	106	
07:45 AM	3	0	2	0	5	0	42	3	0	45	0	0	0	0	0	1	43	0	0	44	94	
Total	16	0	5	0	21	0	129	21	0	150	0	0	0	0	0	4	187	0	0	191	362	
08:00 AM	7	0	1	0	8	0	24	3	0	27	0	0	0	0	0	3	30	0	0	33	68	
08:15 AM	3	0	1	0	4	0	24	3	0	27	0	0	0	0	0	2	59	0	0	61	92	
08:30 AM	4	0	1	0	5	0	18	4	0	22	0	0	0	0	0	0	39	0	0	39	66	
08:45 AM	2	0	0	0	2	0	20	4	0	24	0	0	0	0	0	0	41	0	0	41	67	
Total	16	0	3	0	19	0	86	14	0	100	0	0	0	0	0	5	169	0	0	174	293	
<b>*** BREAK ***</b>																						
04:00 PM	3	0	2	0	5	0	49	6	0	55	0	0	0	0	0	1	39	0	0	40	100	
04:15 PM	4	0	1	0	5	0	44	3	0	47	0	0	0	0	0	1	44	0	0	45	97	
04:30 PM	4	0	2	0	6	0	59	4	0	63	0	0	0	0	0	2	42	0	0	44	113	
04:45 PM	5	0	0	0	5	0	42	3	0	45	0	0	0	0	0	0	42	0	0	42	92	
Total	16	0	5	0	21	0	194	16	0	210	0	0	0	0	0	4	167	0	0	171	402	
05:00 PM	6	0	3	0	9	0	52	4	0	56	0	0	0	0	0	0	42	0	0	42	107	
05:15 PM	13	0	0	0	13	0	47	3	0	50	0	0	0	0	0	0	39	0	0	39	102	
05:30 PM	1	0	1	0	2	0	44	7	0	51	0	0	0	0	0	0	27	0	0	27	80	
05:45 PM	5	0	1	0	6	0	40	4	0	44	0	0	0	0	0	2	40	0	0	42	92	
Total	25	0	5	0	30	0	183	18	0	201	0	0	0	0	0	0	2	148	0	0	150	381
Grand Total	73	0	18	0	91	0	592	69	0	661	0	0	0	0	0	15	671	0	0	686	1438	
Apprch %	80.2	0	19.8	0	0	0	89.6	10.4	0	0	0	0	0	0	0	2.2	97.8	0	0	0	0	
Total %	5.1	0	1.3	0	6.3	0	41.2	4.8	0	46	0	0	0	0	0	1	46.7	0	0	0	47.7	
Cars	70	0	15	0	85	0	581	67	0	648	0	0	0	0	0	14	657	0	0	671	1404	
% Cars	95.9	0	83.3	0	93.4	0	98.1	97.1	0	98	0	0	0	0	0	93.3	97.9	0	0	97.8	97.6	
Trucks	3	0	3	0	6	0	11	2	0	13	0	0	0	0	0	1	14	0	0	15	34	
% Trucks	4.1	0	16.7	0	6.6	0	1.9	2.9	0	2	0	0	0	0	0	6.7	2.1	0	0	2.2	2.4	

# EMH&T

5500 New Albany Road

Columbus, OH 43054

emht.com

File Name : Scioto-Darby Creek - Elliot

Site Code : 00000000

Start Date : 11/12/2015

Page No : 2

Start Time	ELLIOT RD Southbound					SCIOTO-DARBY CREEK Westbound					ELLIOT RD Northbound					SCIOTO-DARBY CREEK Eastbound						
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total	
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 07:00 AM																						
07:00 AM	2	0	1	0	3	0	19	7	0	26	0	0	0	0	0	0	0	44	0	0	44	73
07:15 AM	6	0	2	0	8	0	30	9	0	39	0	0	0	0	0	0	2	40	0	0	42	89
07:30 AM	5	0	0	0	5	0	38	2	0	40	0	0	0	0	0	0	1	60	0	0	61	106
07:45 AM	3	0	2	0	5	0	42	3	0	45	0	0	0	0	0	0	1	43	0	0	44	94
Total Volume	16	0	5	0	21	0	129	21	0	150	0	0	0	0	0	0	4	187	0	0	191	362
% App. Total	76.2	0	23.8	0	0	0	86	14	0	0	0	0	0	0	0	0	2.1	97.9	0	0		
PHF	.667	.000	.625	.000	.656	.000	.768	.583	.000	.833	.000	.000	.000	.000	.000	.500	.779	.000	.000	.783	.854	

**EMH&T**

5500 New Albany Road

Columbus, OH 43054

emht.com

File Name : Scioto-Darby Creek - Elliot

Site Code : 00000000

Start Date : 11/12/2015

Page No : 3

ELLIOT RD Southbound				SCIOTO-DARBY CREEK Westbound				ELLIOT RD Northbound				SCIOTO-DARBY CREEK Eastbound										
Start Time	Left	Thr u	Rig ht	Ped s	App Total	Left	Thr u	Rig ht	Ped s	App Total	Left	Thr u	Right	Peds	App. Total	Left	Thr u	Right	Peds	App. Total	Int. Total	
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 04:30 PM																						
04:30 PM	4	0	2	0	6	0	59	4	0	63	0	0	0	0	0	0	2	42	0	0	44	113
04:45 PM	5	0	0	0	5	0	42	3	0	45	0	0	0	0	0	0	0	42	0	0	42	92
05:00 PM	6	0	3	0	9	0	52	4	0	56	0	0	0	0	0	0	0	42	0	0	42	107
05:15 PM	13	0	0	0	13	0	47	3	0	50	0	0	0	0	0	0	0	39	0	0	39	102
Total Volume	28	0	5	0	33	0	200	14	0	214	0	0	0	0	0	0	2	165	0	0	167	414
% App. Total	84.8	0	15.2	0		0	93.5	6.5	0		0	0	0	0	0	1.2	98.8	0	0			
PHF	.538	.000	.417	.000	.635	.000	.847	.875	.000	.849	.000	.000	.000	.000	.000	.250	.982	.000	.000	.949	.916	

*Stantec Consulting*

1500 Lakeshore Dr Suite 100  
Columbus, Ohio 43123

*Design With Community In Mind*  
Edinburgh, 30th 43123

Tim Tuesday 10/13/2015

File Name : SDC\_Elliott\_AM  
Site Code : 00001111  
Start Date : 10/13/2015  
Page No : 1

*Stantec Consulting*

1500 Lakeshore Dr Suite 100  
Columbus Ohio 43123

Design With Community In Mind

Tim  
T 10/13/15

File Name : SDC\_Elliott\_PM  
Site Code : 00002222  
Start Date : 10/13/2015  
Page No : 1

# EMH&T

5500 New Albany Road  
Columbus, OH 43054

emht.com

File Name : Alton Darby\_Davis  
Site Code : 00000000  
Start Date : 1/31/2017  
Page No : 1

**Groups Printed- Cars - Trucks**

	ALTON DARBY CREEK Southbound					DAVIS Westbound					ALTON DARBY CREEK Northbound					DAVIS Eastbound					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
07:00 AM	7	75	0	0	82	0	0	0	0	0	0	236	17	0	253	2	0	14	0	16	351
07:15 AM	27	101	0	0	128	0	0	0	0	0	2	240	46	0	288	11	0	25	0	36	452
07:30 AM	8	87	0	0	95	0	0	0	0	0	0	217	9	0	226	6	0	30	0	36	357
07:45 AM	6	73	0	0	79	0	0	0	0	0	0	181	3	0	184	3	0	20	0	23	286
Total	48	336	0	0	384	0	0	0	0	0	2	874	75	0	951	22	0	89	0	111	1446
08:00 AM	11	100	0	0	111	0	0	0	0	0	0	155	2	0	157	4	0	12	0	16	284
08:15 AM	7	93	0	0	100	0	0	0	0	0	0	131	16	0	147	4	0	20	0	24	271
08:30 AM	5	74	0	1	80	0	0	0	0	0	0	161	2	0	163	4	0	16	0	20	263
08:45 AM	10	59	0	0	69	0	0	0	0	0	0	136	3	0	139	4	0	23	0	27	235
Total	33	326	0	1	360	0	0	0	0	0	0	583	23	0	606	16	0	71	0	87	1053

\*\*\* BREAK \*\*\*

04:00 PM	19	151	0	1	171	0	0	0	0	0	0	112	1	0	113	1	0	13	0	14	298
04:15 PM	21	167	0	0	188	0	0	0	0	0	0	108	2	0	110	3	0	12	0	15	313
04:30 PM	20	158	0	0	178	0	0	0	0	0	0	95	3	0	98	2	0	8	0	10	286
04:45 PM	18	197	0	0	215	0	0	0	0	0	0	128	7	0	135	0	0	6	0	6	356
Total	78	673	0	1	752	0	0	0	0	0	0	443	13	0	456	6	0	39	0	45	1253
05:00 PM	20	226	0	0	246	0	0	0	0	0	0	109	4	0	113	8	0	9	0	17	376
05:15 PM	19	268	0	0	287	0	0	0	0	0	0	124	2	0	126	3	0	14	0	17	430
05:30 PM	17	231	0	0	248	0	0	0	0	0	0	134	3	0	137	0	0	9	0	9	394
05:45 PM	16	203	0	0	219	0	0	0	0	0	0	144	6	0	150	1	0	16	0	17	386
Total	72	928	0	0	1000	0	0	0	0	0	0	511	15	0	526	12	0	48	0	60	1586
Grand Total	231	2263	0	2	2496	0	0	0	0	0	2	2411	126	0	2539	56	0	247	0	303	5338
Apprch %	9.3	90.7	0	0.1		0	0	0	0	0	0.1	95	5	0		18.5	0	81.5	0		
Total %	4.3	42.4	0	0	46.8	0	0	0	0	0	0	45.2	2.4	0	47.6	1	0	4.6	0	5.7	
Cars	224	2223	0	2	2449	0	0	0	0	0	2	2361	119	0	2482	55	0	238	0	293	5224
% Cars	97	98.2	0	100	98.1	0	0	0	0	0	100	97.9	94.4	0	97.8	98.2	0	96.4	0	96.7	97.9
Trucks	7	40	0	0	47	0	0	0	0	0	0	50	7	0	57	1	0	9	0	10	114
% Trucks	3	1.8	0	0	1.9	0	0	0	0	0	0	2.1	5.6	0	2.2	1.8	0	3.6	0	3.3	2.1

**EMH&T**

5500 New Albany Road

Columbus, OH 43054

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File Name : Alton Darby\_Davis  
 Site Code : 00000000  
 Start Date : 1/31/2017  
 Page No : 2

	ALTON DARBY CREEK Southbound					DAVIS Westbound					ALTON DARBY CREEK Northbound					DAVIS Eastbound					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	7	75	0	0	82	0	0	0	0	0	0	236	17	0	253	2	0	14	0	16	351
07:15 AM	27	101	0	0	128	0	0	0	0	0	2	240	46	0	288	11	0	25	0	36	452
07:30 AM	8	87	0	0	95	0	0	0	0	0	0	217	9	0	226	6	0	30	0	36	357
07:45 AM	6	73	0	0	79	0	0	0	0	0	0	181	3	0	184	3	0	20	0	23	286
Total Volume	48	336	0	0	384	0	0	0	0	0	2	874	75	0	951	22	0	89	0	111	1446
% App. Total	12.5	87.5	0	0	0	0	0	0	0	0	0.2	91.9	7.9	0	19.8	0	80.2	0	0	0	
PHF	.444	.832	.000	.000	.750	.000	.000	.000	.000	.000	.250	.910	.408	.000	.826	.500	.000	.742	.000	.771	.800

**EMH&T**

5500 New Albany Road

Columbus, OH 43054

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 File Name : Alton Darby\_Davis  
 Site Code : 00000000  
 Start Date : 1/31/2017  
 Page No : 3

	ALTON DARBY CREEK Southbound					DAVIS Westbound					ALTON DARBY CREEK Northbound					DAVIS Eastbound					
Start Time	Rig ht	Thr u	Left	Ped s	App Total	Rig ht	Thr u	Left	Ped s	App. Total	Right	Thr u	Left	Peds	App. Total	Right	Thr u	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	20	226	0	0	246	0	0	0	0	0	0	109	4	0	113	8	0	9	0	17	376
05:15 PM	19	268	0	0	287	0	0	0	0	0	0	124	2	0	126	3	0	14	0	17	430
05:30 PM	17	231	0	0	248	0	0	0	0	0	0	134	3	0	137	0	0	9	0	9	394
05:45 PM	16	203	0	0	219	0	0	0	0	0	0	144	6	0	150	1	0	16	0	17	386
Total Volume	72	928	0	0	1000	0	0	0	0	0	0	511	15	0	526	12	0	48	0	60	1586
% App. Total	7.2	92.8	0	0		0	0	0	0		0	97.1	2.9	0		20	0	80	0		
PHF	.900	.866	.000	.000	.871	.000	.000	.000	.000	.000	.000	.887	.625	.000	.877	.375	.000	.750	.000	.882	.922

## Peak Hour Data for Intersection

Int ID: 3859

Community: -

Road 1: ALTON DARBY CREEK RD

Road 2: DAVIS RD

Corridor: NA

Road 3:

Road 4:

|&lt;&lt;|&lt;|&gt;|&gt;&gt;| 1-4 of 4

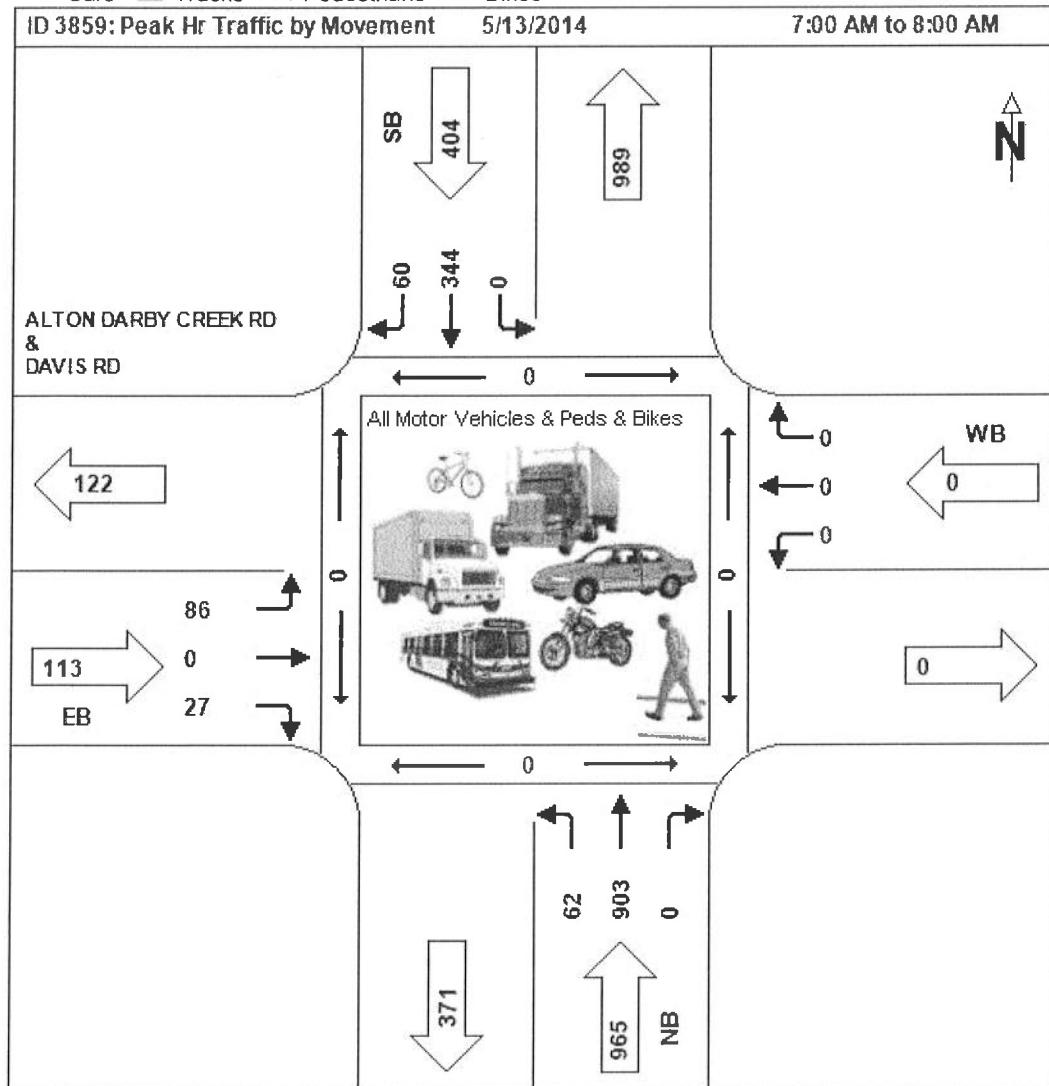
AM Peak Hour  
05/13/2014

Start Time	NB			EB			SB			App Total	Int Total					
	Left	Thru	Right	Ped	Total	Left	Thru	Right	Ped	Total						
7:00 AM	15	202	0	0	217	18	0	5	0	23	0	62	9	0	71	311
7:15 AM	40	266	0	0	306	20	0	5	0	25	0	99	26	0	125	456
7:30 AM	7	237	0	0	244	34	0	14	0	48	0	93	17	0	110	402
7:45 AM	0	198	0	0	198	14	0	3	0	17	0	90	8	0	98	313
Total	62	903	0	0	965	86	0	27	0	113	0	344	60	0	404	1482
PHF	0.39	0.85			0.79	0.63		0.48		0.59		0.87	0.58			0.81
HV %	0	0			0	0				0		0	0			

 Cars    Trucks    Pedestrians    Bikes

## ID 3859: Peak Hr Traffic by Movement 5/13/2014

7:00 AM to 8:00 AM

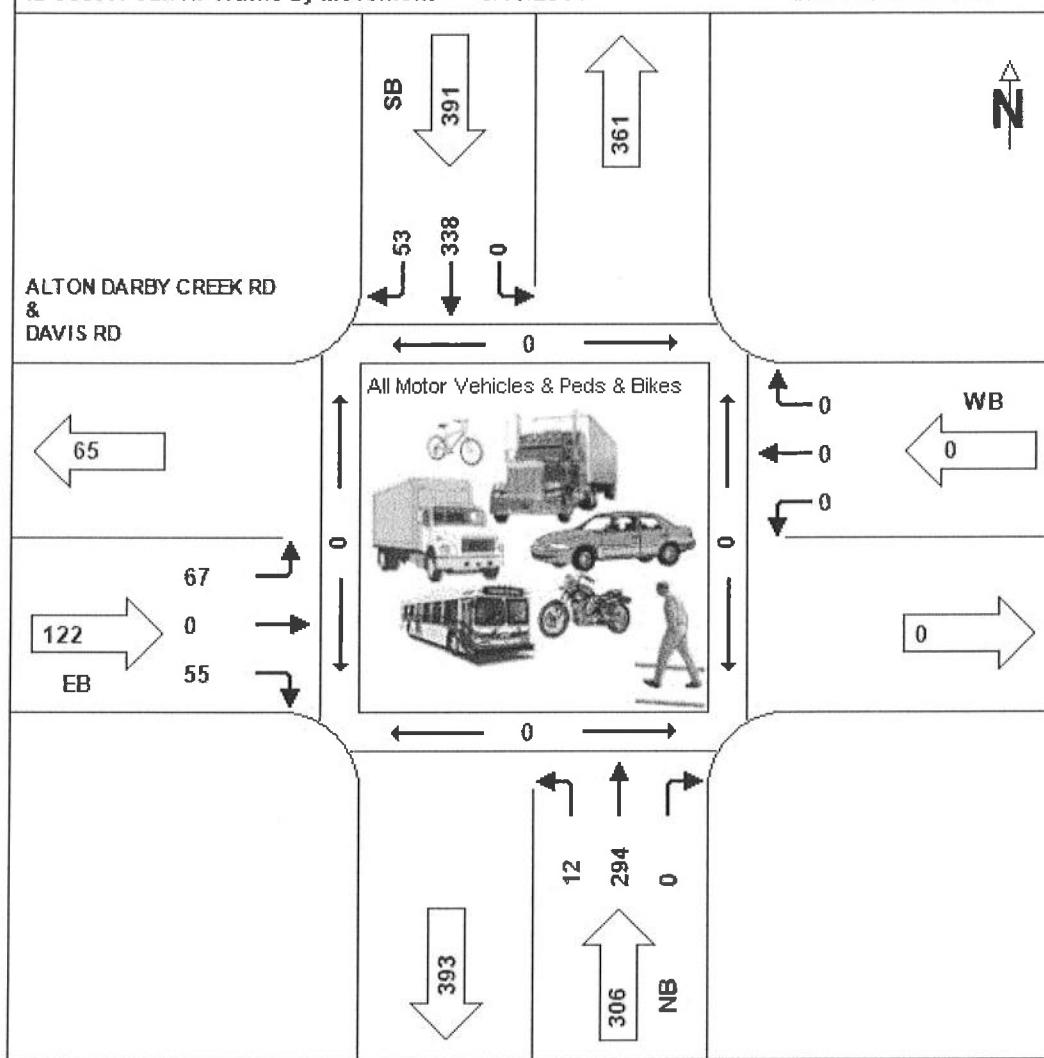


**Midday Peak Hour**  
05/13/2014

Start Time	NB				EB				SB				App Int Total			
	Left	Thru	Right	Ped	Total	Left	Thru	Right	Ped	Total	Left	Thru	Right	Ped		
2:00 PM	2	64	0	0	66	3	0	1	0	4	0	52	9	0	61	131
2:15 PM	1	87	0	0	88	8	0	2	0	10	0	104	11	0	115	213
2:30 PM	3	58	0	0	61	16	0	20	0	36	0	86	23	0	109	206
2:45 PM	6	85	0	0	91	40	0	32	0	72	0	96	10	0	106	269
Total	12	294	0	0	306	67	0	55	0	122	0	338	53	0	391	819
PHF	0.50	0.84				0.84	0.42			0.42		0.81	0.58			0.85
HV %	0	0				0	0			0		0	0			

Cars  Trucks  Pedestrians  Bikes

ID 3859: Peak Hr Traffic by Movement 5/13/2014 2:00 PM to 3:00 PM



## PM Peak Hour

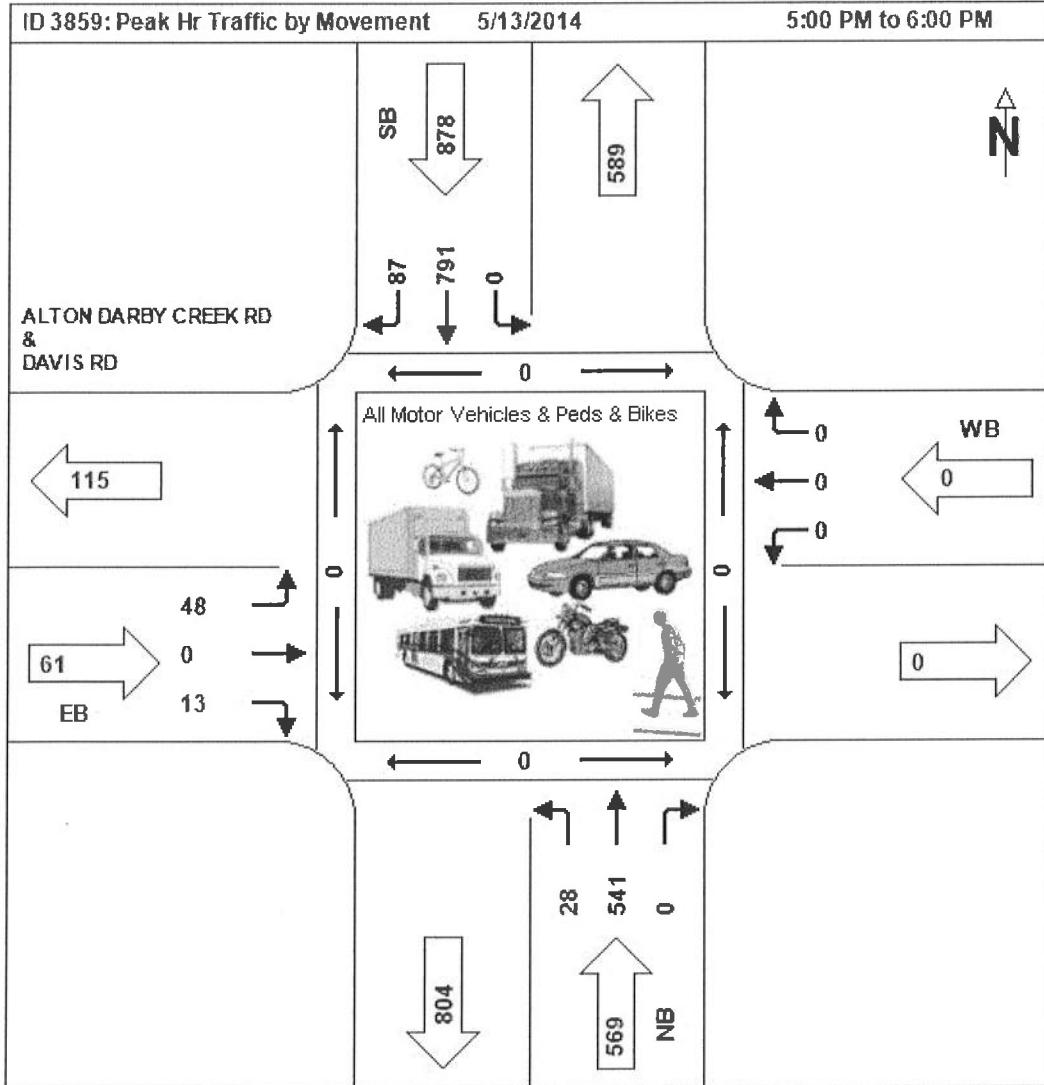
05/13/2014

Start Time	NB				EB				SB				App Int Total			
	Left	Thru	Right	Ped	App Left	Thru	Right	Ped	App Left	Thru	Right	Ped				
5:00 PM	5	116	0	0	121	11	0	3	0	14	0	189	22	0	211	346
5:15 PM	5	145	0	0	150	12	0	4	0	16	0	234	21	0	255	421
5:30 PM	6	134	0	0	140	14	0	1	0	15	0	194	19	0	213	368
5:45 PM	12	146	0	0	158	11	0	5	0	16	0	174	25	0	199	373
Total	28	541	0	0	569	48	0	13	0	61	0	791	87	0	878	1508
PHF	0.58	0.93			0.90	0.86		0.65		0.95		0.85	0.87		0.86	
HV %	0	0			0	0		0		0		0	0			

Cars  Trucks  Pedestrians  Bikes

ID 3859: Peak Hr Traffic by Movement 5/13/2014

5:00 PM to 6:00 PM



# EMH&T

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File Name : Hayden Run - Elliot  
Site Code : 00000000  
Start Date : 11/12/2015  
Page No : 1

Start Time	Groups Printed- Cars - Trucks																				
	ELLIOTT Southbound					HAYDEN RUN Westbound					ELLIOTT Northbound					HAYDEN RUN Eastbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	3	19	0	0	22	1	0	8	0	9	0	32	0	0	32	63
07:15 AM	0	0	0	0	0	1	17	0	0	18	0	0	11	0	11	0	60	3	0	63	92
07:30 AM	0	0	0	0	0	2	20	0	0	22	3	0	8	0	11	0	63	2	0	65	98
07:45 AM	0	0	0	0	0	4	18	0	0	22	0	0	5	0	5	0	48	0	0	48	75
Total	0	0	0	0	0	10	74	0	0	84	4	0	32	0	36	0	203	5	0	208	328
08:00 AM	0	0	0	0	0	6	18	0	0	24	1	0	11	0	12	0	42	3	0	45	81
08:15 AM	0	0	0	0	0	2	9	0	0	11	1	0	5	0	6	0	31	0	0	31	48
08:30 AM	0	0	0	0	0	4	7	0	0	11	1	0	6	0	7	0	42	0	0	42	60
08:45 AM	0	0	0	0	0	6	5	0	0	11	1	0	3	0	4	0	29	0	0	29	44
Total	0	0	0	0	0	18	39	0	0	57	4	0	25	0	29	0	144	3	0	147	233
<b>*** BREAK ***</b>																					
04:00 PM	0	0	0	0	0	6	27	0	0	33	3	0	3	0	6	0	17	1	0	18	57
04:15 PM	0	0	0	0	0	4	43	0	0	47	2	0	4	0	6	0	13	0	0	13	66
04:30 PM	0	0	0	0	0	6	31	0	0	37	2	0	2	0	4	0	15	1	0	16	57
04:45 PM	0	0	0	0	0	4	48	0	0	52	0	0	3	0	3	0	25	0	0	25	80
Total	0	0	0	0	0	20	149	0	0	169	7	0	12	0	19	0	70	2	0	72	260
05:00 PM	0	0	0	0	0	12	43	0	0	55	1	0	5	0	6	0	17	2	0	19	80
05:15 PM	0	0	0	0	0	14	47	0	0	61	0	0	6	0	6	0	19	0	0	19	86
05:30 PM	0	0	0	0	0	3	41	0	0	44	1	0	5	0	6	0	17	0	0	17	67
05:45 PM	0	0	0	0	0	3	36	0	0	39	1	0	5	0	6	0	20	2	0	22	67
Total	0	0	0	0	0	32	167	0	0	199	3	0	21	0	24	0	73	4	0	77	300
Grand Total	0	0	0	0	0	80	429	0	0	509	18	0	90	0	108	0	490	14	0	504	1121
Apprch %	0	0	0	0	0	15.7	84.3	0	0	16.7	0	83.3	0	0	97.2	2.8	0	0	0	0	0
Total %	0	0	0	0	0	7.1	38.3	0	0	45.4	1.6	0	8	0	9.6	0	43.7	1.2	0	0	45
Cars	0	0	0	0	0	78	428	0	0	506	16	0	89	0	105	0	482	14	0	496	1107
% Cars	0	0	0	0	0	97.5	99.8	0	0	99.4	88.9	0	98.9	0	97.2	0	98.4	100	0	98.4	98.8
Trucks	0	0	0	0	0	2	1	0	0	3	2	0	1	0	3	0	8	0	0	8	14
% Trucks	0	0	0	0	0	2.5	0.2	0	0	0.6	11.1	0	1.1	0	2.8	0	1.6	0	0	1.6	1.2

**EMH&T**

5500 New Albany Road  
Columbus, OH 43054

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File Name : Hayden Run - Elliot  
Site Code : 00000000  
Start Date : 11/12/2015  
Page No : 2

ELLIOTT Southbound					HAYDEN RUN Westbound					ELLIOTT Northbound					HAYDEN RUN Eastbound						
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	0	0	0	0	1	17	0	0	18	0	0	11	0	11	0	60	3	0	63	92
07:30 AM	0	0	0	0	0	2	20	0	0	22	3	0	8	0	11	0	63	2	0	65	98
07:45 AM	0	0	0	0	0	4	18	0	0	22	0	0	5	0	5	0	48	0	0	48	75
08:00 AM	0	0	0	0	0	6	18	0	0	24	1	0	11	0	12	0	42	3	0	45	81
Total Volume	0	0	0	0	0	13	73	0	0	86	4	0	35	0	39	0	213	8	0	221	346
% App. Total	0	0	0	0	0	15.1	84.9	0	0	10.3	0	89.7	0	0	0	96.4	3.6	0	0	0	
PHF	.000	.000	.000	.000	.000	.542	.913	.000	.000	.896	.333	.000	.795	.000	.813	.000	.845	.667	.000	.850	.883

**EMH&T**

5500 New Albany Road  
Columbus, OH 43054

emht.com

File Name : Hayden Run - Elliot  
Site Code : 00000000  
Start Date : 11/12/2015  
Page No : 3

ELLIOTT Southbound				HAYDEN RUN Westbound				ELLIOTT Northbound				HAYDEN RUN Eastbound									
Start Time	Left	Thr u	Rig ht	Ped s	App Total	Left	Thr u	Rig ht	Ped s	App Total	Left	Thr u	Right	Peds	App. Total	Left	Thr u	Right	Peds	App. Total	Inl. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	0	0	0	0	0	4	48	0	0	52	0	0	3	0	3	0	25	0	0	25	80
05:00 PM	0	0	0	0	0	12	43	0	0	55	1	0	5	0	6	0	17	2	0	19	80
05:15 PM	0	0	0	0	0	14	47	0	0	61	0	0	6	0	6	0	19	0	0	19	86
05:30 PM	0	0	0	0	0	3	41	0	0	44	1	0	5	0	6	0	17	0	0	17	67
Total Volume	0	0	0	0	0	33	179	0	0	212	2	0	19	0	21	0	78	2	0	80	313
% App. Total	0	0	0	0	0	15.6	84.4	0	0		9.5	0	90.5	0		0	97.5	2.5	0		
PHF	.000	.000	.000	.000	.000	.589	.932	.000	.000	.869	.500	.000	.792	.000	.875	.000	.780	.250	.000	.800	.910

*Stantec Consulting*

1500 Lakeshore Dr Suite 100  
Glenview IL 60025

*Design With Community In Mind*  
Columbus, Ohio 43123

Tim  
W 10/14/15

File Name : HaydenRun\_Elliott\_AM  
Site Code : 00003333  
Start Date : 10/14/2015  
Page No : 1

**Stantec Consulting**  
 1500 Lakeshore Dr Suite 100  
 Columbus, Ohio 43123  
*Design With Community In Mind*

Tim  
 W 10/14/15

File Name : haydenrun\_elliott\_pm  
 Site Code : 00004444  
 Start Date : 10/14/2015  
 Page No : 1

Start Time	Groups Printed-cars - trucks										Hayden Run Rd From West									
	From North					Hayden Run Rd From East					Elliott Rd From South					Hayden Run Rd From West				
Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	0	0	0	1	0	34	9	0	43	2	0	1	0	3	1	17	0	0	18	65
04:15 PM	0	0	0	0	0	30	9	0	39	3	0	0	0	3	4	21	0	0	25	67
04:30 PM	0	0	0	0	0	39	6	0	45	3	0	0	0	3	1	18	0	0	19	67
04:45 PM	0	0	0	0	0	50	10	0	60	5	0	0	0	5	1	23	0	0	24	89
Total	0	0	0	1	0	153	34	0	187	13	0	1	0	14	7	79	0	0	86	288
05:00 PM	0	0	0	0	0	35	7	0	42	2	0	3	0	5	1	20	0	0	21	68
05:15 PM	0	0	0	0	0	53	7	0	60	6	0	2	0	8	1	21	0	0	22	90
05:30 PM	0	0	0	0	0	42	9	0	51	4	0	3	0	7	1	14	0	0	15	73
05:45 PM	0	0	0	0	0	30	6	0	36	3	0	1	0	4	2	16	0	0	18	58
Total	0	0	0	0	0	160	29	0	189	15	0	9	0	24	5	71	0	0	76	289
Grand Total	0	0	0	1	0	313	63	0	376	28	0	10	0	38	12	150	0	0	162	577
Apprich %	0	0	0	100	0	83.2	16.8	0	73.7	0	26.3	0	0	7.4	92.6	0	0	0	0	0
Total %	0	0	0	0.2	0.2	54.2	10.9	0	65.2	4.9	0	1.7	0	6.6	2.1	26	0	0	28.1	551
cars	0	0	0	1	1	297	59	0	356	28	0	10	0	38	9	147	0	0	156	95.5
% cars	0	0	0	100	100	94.9	93.7	0	94.7	100	0	100	0	100	75	98	0	0	96.3	95.5
trucks	0	0	0	0	0	16	4	0	20	0	0	0	0	0	3	3	0	0	6	26
% trucks	0	0	0	0	0	5.1	6.3	0	5.3	0	0	0	0	0	25	2	0	0	3.7	4.5
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																				
Peak Hour for Entire Intersection Begins at 04:45 PM	0	0	0	0	0	50	10	0	60	5	0	0	0	5	1	23	0	0	24	89
04:45 PM	0	0	0	0	0	35	7	0	42	2	0	3	0	5	1	20	0	0	21	68
05:00 PM	0	0	0	0	0	53	7	0	60	6	0	2	0	8	1	21	0	0	22	90
05:15 PM	0	0	0	0	0	42	9	0	51	4	0	3	0	7	1	14	0	0	15	73
05:30 PM	0	0	0	0	0	180	33	0	213	17	0	8	0	25	4	78	0	0	82	320
Total Volume	0	0	0	0	0	84.5	15.5	0	68	0	32	0	0	4.9	95.1	0	0	0	0	0
% App. Total	0	0	0	0	0	.000	.000	0	.888	.825	.000	.000	.000	.781	1.00	.848	.000	.000	.854	.889

# EMH&T

5500 New Albany Road  
Columbus, OH 43054

emht.com

File Name : Scioto Darby\_Cosgray  
Site Code : 00000000  
Start Date : 2/1/2017  
Page No : 1

### Groups Printed- Cars - Trucks

	COSGRAY Southbound					SDC Westbound					COSGRAY Northbound					SDC Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Start Time																					
07:00 AM	43	0	57	0	100	17	33	0	0	50	0	0	0	0	0	0	136	80	0	216	366
07:15 AM	55	0	39	0	94	18	53	0	0	71	0	0	0	0	0	0	148	122	0	270	435
07:30 AM	58	0	37	0	95	44	60	0	0	104	0	0	0	0	0	0	163	135	0	298	497
07:45 AM	70	0	57	0	127	36	85	0	0	121	0	0	0	0	0	0	114	140	0	254	502
Total	226	0	190	0	416	115	231	0	0	346	0	0	0	0	0	0	561	477	0	1038	1800
08:00 AM	42	0	55	0	97	30	63	0	0	93	0	0	0	0	0	0	96	90	0	186	376
08:15 AM	43	0	48	0	91	32	51	0	0	83	0	0	0	0	0	0	116	79	0	195	369
08:30 AM	50	0	49	0	99	29	81	0	0	110	0	0	0	0	0	0	120	79	0	199	408
08:45 AM	23	0	47	0	70	34	62	0	0	96	0	0	0	0	0	0	131	90	0	221	387
Total	158	0	199	0	357	125	257	0	0	382	0	0	0	0	0	0	463	338	0	801	1540

\*\*\* BREAK \*\*\*

04:00 PM	59	0	63	0	122	46	137	0	0	183	0	0	0	0	0	0	83	45	0	128	433
04:15 PM	100	0	56	0	156	61	129	0	0	190	0	0	0	0	0	0	91	45	0	136	482
04:30 PM	92	0	57	0	149	64	118	0	0	182	0	0	0	0	0	0	67	63	0	130	461
04:45 PM	123	0	65	0	188	63	119	0	0	182	0	0	0	0	0	0	75	65	0	140	510
Total	374	0	241	0	615	234	503	0	0	737	0	0	0	0	0	0	316	218	0	534	1886
05:00 PM	114	0	55	0	169	64	118	0	0	182	0	0	0	0	0	0	95	56	0	151	502
05:15 PM	162	0	67	0	229	52	133	0	0	185	0	0	0	0	0	0	91	106	0	197	611
05:30 PM	113	0	72	0	185	79	131	0	0	210	0	0	0	0	0	0	91	70	0	161	556
05:45 PM	126	0	75	0	201	71	102	0	0	173	0	0	0	0	0	0	101	88	0	189	563
Total	515	0	269	0	784	266	484	0	0	750	0	0	0	0	0	0	378	320	0	698	2232
Grand Total	1273	0	899	0	2172	740	1475	0	0	2215	0	0	0	0	0	0	1718	1353	0	3071	7458
Apprch %	58.6	0	41.4	0		33.4	66.6	0	0		0	0	0	0	0	0	55.9	44.1	0		
Total %	17.1	0	12.1	0	29.1	9.9	19.8	0	0	29.7	0	0	0	0	0	0	23	18.1	0	41.2	
Cars	1252	0	876	0	2128	725	1445	0	0	2170	0	0	0	0	0	0	1669	1330	0	2999	7297
% Cars	98.4	0	97.4	0	98	98	98	0	0	98	0	0	0	0	0	0	97.1	98.3	0	97.7	97.8
Trucks	21	0	23	0	44	15	30	0	0	45	0	0	0	0	0	0	49	23	0	72	161
% Trucks	1.6	0	2.6	0	2	2	2	0	0	2	0	0	0	0	0	0	2.9	1.7	0	2.3	2.2

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Columbus, OH 43054

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File Name : Scioto Darby\_Cosgray  
 Site Code : 00000000  
 Start Date : 2/1/2017  
 Page No : 2

	COSGRAY Southbound					SDC Westbound					COSGRAY Northbound					SDC Eastbound					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak I of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	55	0	39	0	94	18	53	0	0	71	0	0	0	0	0	0	148	122	0	270	435
07:30 AM	58	0	37	0	95	44	60	0	0	104	0	0	0	0	0	0	163	135	0	298	497
07:45 AM	70	0	57	0	127	36	85	0	0	121	0	0	0	0	0	0	114	140	0	254	502
08:00 AM	42	0	55	0	97	30	63	0	0	93	0	0	0	0	0	0	96	90	0	186	376
Total Volume	225	0	188	0	413	128	261	0	0	389	0	0	0	0	0	0	521	487	0	1008	1810
% App. Total	54.5	0	45.5	0		32.9	67.1	0	0		0	0	0	0	0	0	51.7	48.3	0		
PHF	.804	.000	.825	.000	.813	.727	.768	.000	.000	.804	.000	.000	.000	.000	.000	.000	.799	.870	.000	.846	.901

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Columbus, OH 43054

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File Name : Scioto Darby\_Cosgray  
 Site Code : 00000000  
 Start Date : 2/1/2017  
 Page No : 3

	COSGRAY Southbound					SDC Westbound					COSGRAY Northbound					SDC Eastbound					
	Rig ht	Thr u	Left	Ped s	App. Total	Rig ht	Thr u	Left	Ped s	App. Total	Right	Thr u	Left	Peds	App. Total	Right	Thr u	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	114	0	55	0	169	64	118	0	0	182	0	0	0	0	0	0	95	56	0	151	502
05:15 PM	<b>162</b>	0	67	0	<b>229</b>	52	<b>133</b>	0	0	185	0	0	0	0	0	0	91	<b>106</b>	0	<b>197</b>	611
05:30 PM	113	0	72	0	185	79	131	0	0	<b>210</b>	0	0	0	0	0	0	91	70	0	161	556
05:45 PM	126	0	<b>75</b>	0	201	71	102	0	0	173	0	0	0	0	0	0	<b>101</b>	88	0	189	563
Total Volume	515	0	269	0	784	266	484	0	0	750	0	0	0	0	0	0	378	320	0	698	2232
% App. Total	65.7	0	34.3	0		35.5	64.5	0	0		0	0	0	0	0	0	54.2	45.8	0		
PHF	.795	.000	.897	.000	.856	.842	.910	.000	.000	.893	.000	.000	.000	.000	.000	.000	.936	.755	.000	.886	.913

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File Name : Scioto Darby\_Alton Darby  
 Site Code : 00000000  
 Start Date : 1/31/2017  
 Page No : 1

### Groups Printed- Cars - Trucks

Start Time	Alton-Darby Southbound					Scioto-Darby Westbound					Alton-Darby Northbound					Scioto-Darby Eastbound					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	22	61	0	83	205	0	9	0	214	11	40	0	0	51	348
07:15 AM	0	0	0	0	0	0	26	95	0	121	247	0	12	0	259	15	39	0	0	54	434
07:30 AM	0	0	0	0	0	0	17	95	0	112	253	0	15	0	268	19	30	0	0	49	429
07:45 AM	0	0	0	0	0	0	44	72	0	116	198	0	21	0	219	11	48	0	0	59	394
Total	0	0	0	0	0	0	109	323	0	432	903	0	57	0	960	56	157	0	0	213	1605
08:00 AM	0	0	0	0	0	0	30	97	0	127	158	0	16	0	174	11	42	0	0	53	354
08:15 AM	0	0	0	0	0	0	16	87	0	103	152	0	7	0	159	14	47	0	0	61	323
08:30 AM	0	0	0	0	0	0	17	63	0	80	147	0	8	0	155	9	45	0	0	54	289
08:45 AM	0	0	0	0	0	0	18	66	0	84	185	0	5	0	190	6	36	0	0	42	316
Total	0	0	0	0	0	0	81	313	0	394	642	0	36	0	678	40	170	0	0	210	1282

\*\*\* BREAK \*\*\*

04:00 PM	0	0	0	0	0	0	33	134	0	167	116	0	18	0	134	25	28	0	0	53	354
04:15 PM	0	0	0	0	0	0	42	184	0	226	116	0	17	0	133	15	36	0	0	51	410
04:30 PM	0	0	0	0	0	0	43	163	0	206	98	0	11	0	109	15	36	0	0	51	366
04:45 PM	0	0	0	0	0	0	44	205	0	249	121	0	16	0	137	22	33	0	0	55	441
Total	0	0	0	0	0	0	162	686	0	848	451	0	62	0	513	77	133	0	0	210	1571
05:00 PM	0	0	0	0	0	0	66	205	0	271	107	0	14	0	121	14	33	0	0	47	439
05:15 PM	0	0	0	0	0	0	57	254	0	311	123	0	18	0	141	15	26	0	0	41	493
05:30 PM	0	0	0	0	0	0	61	224	0	285	112	0	16	0	128	12	27	0	0	39	452
05:45 PM	0	0	0	0	0	0	39	203	0	242	144	0	11	0	155	17	35	0	0	52	449
Total	0	0	0	0	0	0	223	886	0	1109	486	0	59	0	545	58	121	0	0	179	1833
Grand Total	0	0	0	0	0	0	575	2208	0	2783	2482	0	214	0	2696	231	581	0	0	812	6291
Apprch %	0	0	0	0	0	0	20.7	79.3	0	92.1	0	7.9	0	28.4	71.6	0	0	0	0	0	
Total %	0	0	0	0	0	0	9.1	35.1	0	44.2	39.5	0	3.4	0	42.9	3.7	9.2	0	0	12.9	
Cars	0	0	0	0	0	0	567	2175	0	2742	2428	0	207	0	2635	222	569	0	0	791	6168
% Cars	0	0	0	0	0	0	98.6	98.5	0	98.5	97.8	0	96.7	0	97.7	96.1	97.9	0	0	97.4	98
Trucks	0	0	0	0	0	0	8	33	0	41	54	0	7	0	61	9	12	0	0	21	123
% Trucks	0	0	0	0	0	0	1.4	1.5	0	1.5	2.2	0	3.3	0	2.3	3.9	2.1	0	0	2.6	2

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File Name : Scioto Darby\_Alton Darby  
 Site Code : 00000000  
 Start Date : 1/31/2017  
 Page No : 2

	Alton-Darby Southbound					Scioto-Darby Westbound					Alton-Darby Northbound					Scioto-Darby Eastbound						
	Start Time	Right	Thru	Left	Peds	App Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 07:15 AM																						
07:15 AM	0	0	0	0	0	0	0	26	95	0	121	247	0	12	0	259	15	39	0	0	54	434
07:30 AM	0	0	0	0	0	0	0	17	95	0	112	253	0	15	0	268	19	30	0	0	49	429
07:45 AM	0	0	0	0	0	0	0	44	72	0	116	198	0	21	0	219	11	48	0	0	59	394
08:00 AM	0	0	0	0	0	0	0	30	97	0	127	158	0	16	0	174	11	42	0	0	53	354
Total Volume	0	0	0	0	0	0	0	117	359	0	476	856	0	64	0	920	56	159	0	0	215	1611
% App. Total	0	0	0	0	0	0	0	24.6	75.4	0	93	0	7	0	26	74	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.665	.925	.000	.937	.846	.000	.762	.000	.858	.737	.828	.000	.000	.911	.928		

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Columbus, OH 43054

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File Name : Scioto Darby\_Alton Darby  
 Site Code : 00000000  
 Start Date : 1/31/2017  
 Page No : 3

Start Time	Alton-Darby Southbound					Scioto-Darby Westbound					Alton-Darby Northbound					Scioto-Darby Eastbound					
	Rig ht	Thr u	Left	Ped s	App. Total	Rig ht	Thr u	Left	Ped s	App. Total	Right	Thr u	Left	Peds	App. Total	Right	Thr u	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	0	0	0	0	0	66	205	0	271	107	0	14	0	121	14	33	0	0	47	439
05:15 PM	0	0	0	0	0	0	57	254	0	311	123	0	18	0	141	15	26	0	0	41	493
05:30 PM	0	0	0	0	0	0	61	224	0	285	112	0	16	0	128	12	27	0	0	39	452
05:45 PM	0	0	0	0	0	0	39	203	0	242	144	0	11	0	155	17	35	0	0	52	449
Total Volume	0	0	0	0	0	0	223	886	0	1109	486	0	59	0	545	58	121	0	0	179	1833
% App. Total	0	0	0	0	0	0	20.1	79.9	0	89.2	0	10.8	0	32.4	67.6	0	0	0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.845	.872	.000	.891	.844	.000	.819	.000	.879	.853	.864	.000	.000	.861	.930

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Columbus, OH 43054

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File Name : Cosgray\_Woodsview  
 Site Code : 00000000  
 Start Date : 2/1/2017  
 Page No : 1

### Groups Printed- Cars - Trucks

	COSGRAY Southbound					WOODSVIEW Westbound					COSGRAY Northbound					WOODSVIEW Eastbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
07:00 AM	5	67	0	0	72	3	5	4	0	12	8	101	6	0	115	23	20	12	0	55	254
07:15 AM	11	48	2	0	61	6	9	9	0	24	18	104	6	0	128	9	24	14	0	47	260
07:30 AM	8	62	1	0	71	5	5	4	0	14	3	141	11	0	155	16	17	21	0	54	294
07:45 AM	6	79	1	0	86	3	7	5	0	15	2	143	14	0	159	15	9	10	0	34	294
Total	30	256	4	0	290	17	26	22	0	65	31	489	37	0	557	63	70	57	0	190	1102
08:00 AM	8	65	1	0	74	4	6	2	0	12	2	96	8	0	106	12	7	15	0	34	226
08:15 AM	5	53	1	0	59	3	5	2	0	10	3	87	14	0	104	6	7	14	0	27	200
08:30 AM	11	58	2	0	71	3	5	1	0	9	9	93	15	0	117	11	9	7	0	27	224
08:45 AM	10	45	0	0	55	1	9	7	0	17	2	85	34	0	121	21	3	11	0	35	228
Total	34	221	4	0	259	11	25	12	0	48	16	361	71	0	448	50	26	47	0	123	878

\*\*\* BREAK \*\*\*

04:00 PM	12	97	1	0	110	5	7	5	0	17	4	58	22	0	84	14	3	11	0	28	239
04:15 PM	13	120	5	0	138	1	5	7	0	13	1	66	29	0	96	18	3	4	0	25	272
04:30 PM	23	123	10	0	156	7	11	0	0	18	5	80	29	0	114	17	7	10	0	34	322
04:45 PM	22	163	6	0	191	5	6	3	0	14	7	73	31	0	111	21	3	15	1	40	356
Total	70	503	22	0	595	18	29	15	0	62	17	277	111	0	405	70	16	40	1	127	1189
05:00 PM	21	158	3	0	182	5	18	3	0	26	11	64	38	0	113	28	4	17	0	49	370
05:15 PM	29	156	4	0	189	6	11	5	0	22	6	86	34	0	126	30	10	8	0	48	385
05:30 PM	26	147	3	1	177	5	11	2	0	18	7	86	39	0	132	21	7	20	0	48	375
05:45 PM	25	135	4	0	164	7	11	4	0	22	6	106	41	0	153	52	6	23	0	81	420
Total	101	596	14	1	712	23	51	14	0	88	30	342	152	0	524	131	27	68	0	226	1550
Grand Total	235	1576	44	1	1856	69	131	63	0	263	94	1469	371	0	1934	314	139	212	1	666	4719
Apprch %	12.7	84.9	2.4	0.1		26.2	49.8	24	0		4.9	76	19.2	0		47.1	20.9	31.8	0.2		
Total %	5	33.4	0.9	0	39.3	1.5	2.8	1.3	0	5.6	2	31.1	7.9	0	41	6.7	2.9	4.5	0	14.1	
Cars	233	1539	44	1	1817	68	131	61	0	260	92	1436	370	0	1898	311	139	212	1	663	4638
% Cars	99.1	97.7	100	100	97.9	98.6	100	96.8	0	98.9	97.9	97.8	99.7	0	98.1	99	100	100	100	99.5	98.3
Trucks	2	37	0	0	39	1	0	2	0	3	2	33	1	0	36	3	0	0	0	3	81
% Trucks	0.9	2.3	0	0	2.1	1.4	0	3.2	0	1.1	2.1	2.2	0.3	0	1.9	1	0	0	0	0.5	1.7

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Columbus, OH 43054

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File Name : Cosgray\_Woodsvview  
 Site Code : 00000000  
 Start Date : 2/1/2017  
 Page No : 2

	COSGRAY Southbound					WOODSVIEW Westbound					COSGRAY Northbound					WOODSVIEW Eastbound					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	5	67	0	0	72	3	5	4	0	12	8	101	6	0	115	23	20	12	0	55	254
07:15 AM	11	48	2	0	61	6	9	9	0	24	18	104	6	0	128	9	24	14	0	47	260
07:30 AM	8	62	1	0	71	5	5	4	0	14	3	141	11	0	155	16	17	21	0	54	294
07:45 AM	6	79	1	0	86	3	7	5	0	15	2	143	14	0	159	15	9	10	0	34	294
Total Volume	30	256	4	0	290	17	26	22	0	65	31	489	37	0	557	63	70	57	0	190	1102
% App. Total	10.3	88.3	1.4	0		26.2	40	33.8	0		5.6	87.8	6.6	0		33.2	36.8	30	0		
PHF	.682	.810	.500	.000	.843	.708	.722	.611	.000	.677	.431	.855	.661	.000	.876	.685	.729	.679	.000	.864	.937

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Columbus, OH 43054

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File Name : Cosgray\_Woodsview  
 Site Code : 00000000  
 Start Date : 2/1/2017  
 Page No : 3

	COSGRAY Southbound					WOODSVIEW Westbound					COSGRAY Northbound					WOODSVIEW Eastbound					
	Rig ht	Thr u	Left	Ped s	App. Total	Rig ht	Thr u	Left	Ped s	App. Total	Right	Thr u	Left	Peds	App. Total	Right	Thr u	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	21	158	3	0	182	5	18	3	0	26	11	64	38	0	113	28	4	17	0	49	370
05:15 PM	29	156	4	0	189	6	11	5	0	22	6	86	34	0	126	30	10	8	0	48	385
05:30 PM	26	147	3	1	177	5	11	2	0	18	7	86	39	0	132	21	7	20	0	48	375
05:45 PM	25	135	4	0	164	7	11	4	0	22	6	106	41	0	153	52	6	23	0	81	420
Total Volume	101	596	14	1	712	23	51	14	0	88	30	342	152	0	524	131	27	68	0	226	1550
% App. Total	14.2	83.7	2	0.1		26.1	58	15.9	0		5.7	65.3	29	0		58	11.9	30.1	0		
PHF	.871	.943	.875	.250	.942	.821	.708	.700	.000	.846	.682	.807	.927	.000	.856	.630	.675	.739	.000	.698	.923

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**Columbus, OH 43054**  
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File Name : Cosgray - Jeffrelyn  
Site Code : 00000000  
Start Date : 11/10/2015  
Page No : 1

Start Time	Groups Printed- Cars - Trucks																				
	COSGRAY Southbound					JEFFRELYN DR Westbound					COSGRAY Northbound					JEFFRELYN DR Eastbound					
	Left	Thru	Right	Peds	App Total	Left	Thru	Right	Peds	App Total	Left	Thru	Right	Peds	App Total	Left	Thru	Right	Peds	App Total	Int. Total
07:00 AM	0	41	1	0	42	2	3	6	0	11	2	149	1	0	152	15	15	29	0	59	264
07:15 AM	2	60	4	0	66	0	7	20	0	27	6	126	0	0	132	15	11	17	0	43	268
07:30 AM	0	49	1	0	50	0	3	7	0	10	4	170	0	0	174	18	6	18	0	42	276
07:45 AM	3	62	5	0	70	1	4	5	0	10	3	139	0	0	142	12	10	22	0	44	266
Total	5	212	11	0	228	3	17	38	0	58	15	584	1	0	600	60	42	86	0	188	1074
08:00 AM	2	62	7	2	73	0	0	11	0	11	10	99	0	0	109	12	7	26	0	45	238
08:15 AM	3	55	6	1	65	2	1	10	0	13	8	90	0	0	98	9	5	21	0	35	211
08:30 AM	3	48	4	0	55	1	2	9	0	12	6	81	0	0	87	7	4	16	0	27	181
08:45 AM	4	42	3	0	49	2	3	9	0	14	4	72	0	0	76	5	2	11	0	18	157
Total	12	207	20	3	242	5	6	39	0	50	28	342	0	0	370	33	18	74	0	125	787
<b>*** BREAK ***</b>																					
04:00 PM	7	120	4	2	133	0	4	7	0	11	14	65	1	0	80	7	2	6	0	15	239
04:15 PM	7	144	11	1	163	0	3	6	0	9	11	47	1	0	59	6	1	11	0	18	249
04:30 PM	10	136	9	0	155	3	2	5	0	10	16	50	3	0	69	7	1	9	0	17	251
04:45 PM	13	134	19	1	167	0	5	4	0	9	8	71	3	0	82	5	2	8	0	15	273
Total	37	534	43	4	618	3	14	22	0	39	49	233	8	0	290	25	6	34	0	65	1012
05:00 PM	8	203	17	0	228	0	5	10	0	15	15	70	1	0	86	4	3	9	0	16	345
05:15 PM	13	213	15	3	244	0	5	2	0	7	17	62	0	0	79	0	12	17	0	29	359
05:30 PM	5	176	16	0	197	2	4	5	0	11	24	69	1	0	94	6	5	16	0	27	329
05:45 PM	6	164	23	0	193	0	11	3	0	14	21	50	0	0	71	4	5	11	0	20	298
Total	32	756	71	3	862	2	25	20	0	47	77	251	2	0	330	14	25	53	0	92	1331
Grand Total	86	1709	145	10	1950	13	62	119	0	194	169	1410	11	0	1590	132	91	247	0	470	4204
Apprch %	4.4	87.6	7.4	0.5		6.7	32	61.3	0		10.6	88.7	0.7	0		28.1	19.4	52.6	0		
Total %	2	40.7	3.4	0.2	46.4	0.3	1.5	2.8	0	4.6	4	33.5	0.3	0	37.8	3.1	2.2	5.9	0	11.2	
Cars	85	1687	144	10	1926	13	61	117	0	191	165	1391	10	0	1566	128	87	244	0	459	4142
% Cars	98.8	98.7	99.3	100	98.8	100	98.4	98.3	0	98.5	97.6	98.7	90.9	0	98.5	97	95.6	98.8	0	97.7	98.5
Trucks	1	22	1	0	24	0	1	2	0	3	4	19	1	0	24	4	4	3	0	11	62
% Trucks	1.2	1.3	0.7	0	1.2	0	1.6	1.7	0	1.5	2.4	1.3	9.1	0	1.5	3	4.4	1.2	0	2.3	1.5

**EMH&T**

5500 New Albany Road

Columbus, OH 43054

emht.com

File Name : Cosgray - Jeffrelyn  
 Site Code : 00000000  
 Start Date : 11/10/2015  
 Page No : 2

Start Time	COSGRAY Southbound					JEFFRELYN DR Westbound					COSGRAY Northbound					JEFFRELYN DR Eastbound						
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total	
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 07:00 AM																						
07:00 AM	0	41	1	0	42	2	3	6	0	11	2	149	1	0	152	15	15	29	0	59	264	
07:15 AM	2	60	4	0	66	0	7	20	0	27	6	126	0	0	132	15	11	17	0	43	268	
07:30 AM	0	49	1	0	50	0	3	7	0	10	4	170	0	0	174	18	6	18	0	42	276	
07:45 AM	3	62	5	0	70	1	4	5	0	10	3	139	0	0	142	12	10	22	0	44	266	
Total Volume	5	212	11	0	228	3	17	38	0	58	15	584	1	0	600	60	42	86	0	188	1074	
% App. Total	2.2	93	4.8	0		5.2	29.3	65.5	0		2.5	97.3	0.2	0		31.9	22.3	45.7	0			
PHF	.417	.855	.550	.000	.814	.375	.607	.475	.000	.537	.625	.859	.250	.000	.862	.833	.700	.741	.000	.797	.973	

# EMH&T

5500 New Albany Road  
Columbus, OH 43054  
[emht.com](http://emht.com)

File Name : Cosgray - Jeffrelyn  
Site Code : 00000000  
Start Date : 11/10/2015  
Page No : 3

COSGRAY Southbound					JEFFRELYN DR Westbound					COSGRAY Northbound					JEFFRELYN DR Eastbound						
Start Time	Left	Thr u	Rig ht	Ped s	App Total	Left	Thr u	Rig ht	Ped s	App Total	Left	Thr u	Right	Peds	App. Total	Left	Thr u	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	8	203	17	0	228	0	5	10	0	15	15	70	1	0	86	4	3	9	0	16	345
05:15 PM	13	213	15	3	244	0	5	2	0	7	17	62	0	0	79	0	12	17	0	29	359
05:30 PM	5	176	16	0	197	2	4	5	0	11	24	69	1	0	94	6	5	16	0	27	329
05:45 PM	6	164	23	0	193	0	11	3	0	14	21	50	0	0	71	4	5	11	0	20	298
Total Volume	32	756	71	3	862	2	25	20	0	47	77	251	2	0	330	14	25	53	0	92	1331
% App. Total	3.7	87.7	8.2	0.3		4.3	53.2	42.6	0		23.3	76.1	0.6	0		15.2	27.2	57.6	0		
PHF	.615	.887	.772	.250	.883	250	.568	.500	.000	.783	.802	.896	.500	.000	.878	.583	.521	.779	.000	.793	.927

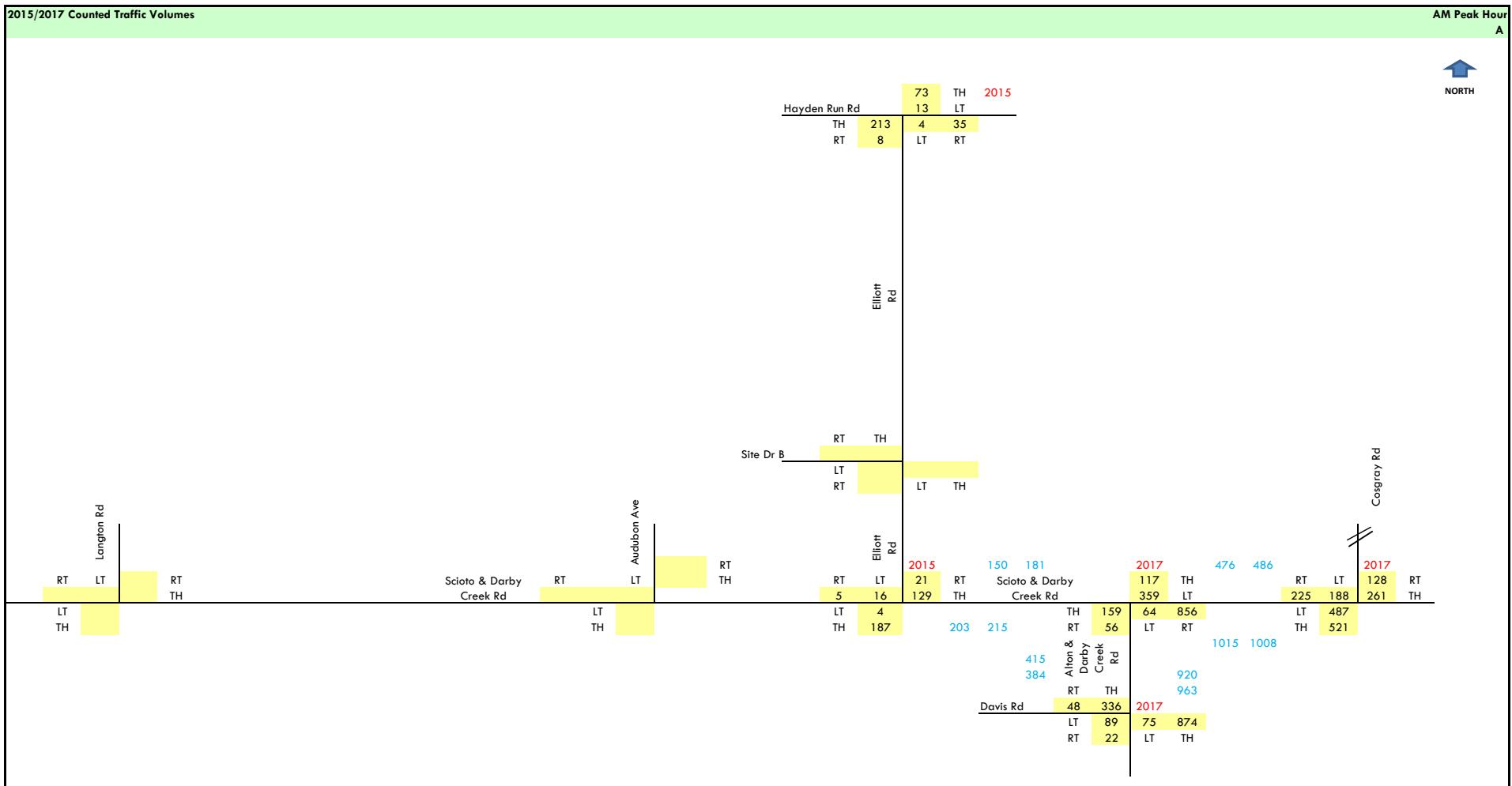
## **Appendix D**

### **Trip Generation and Assignment**

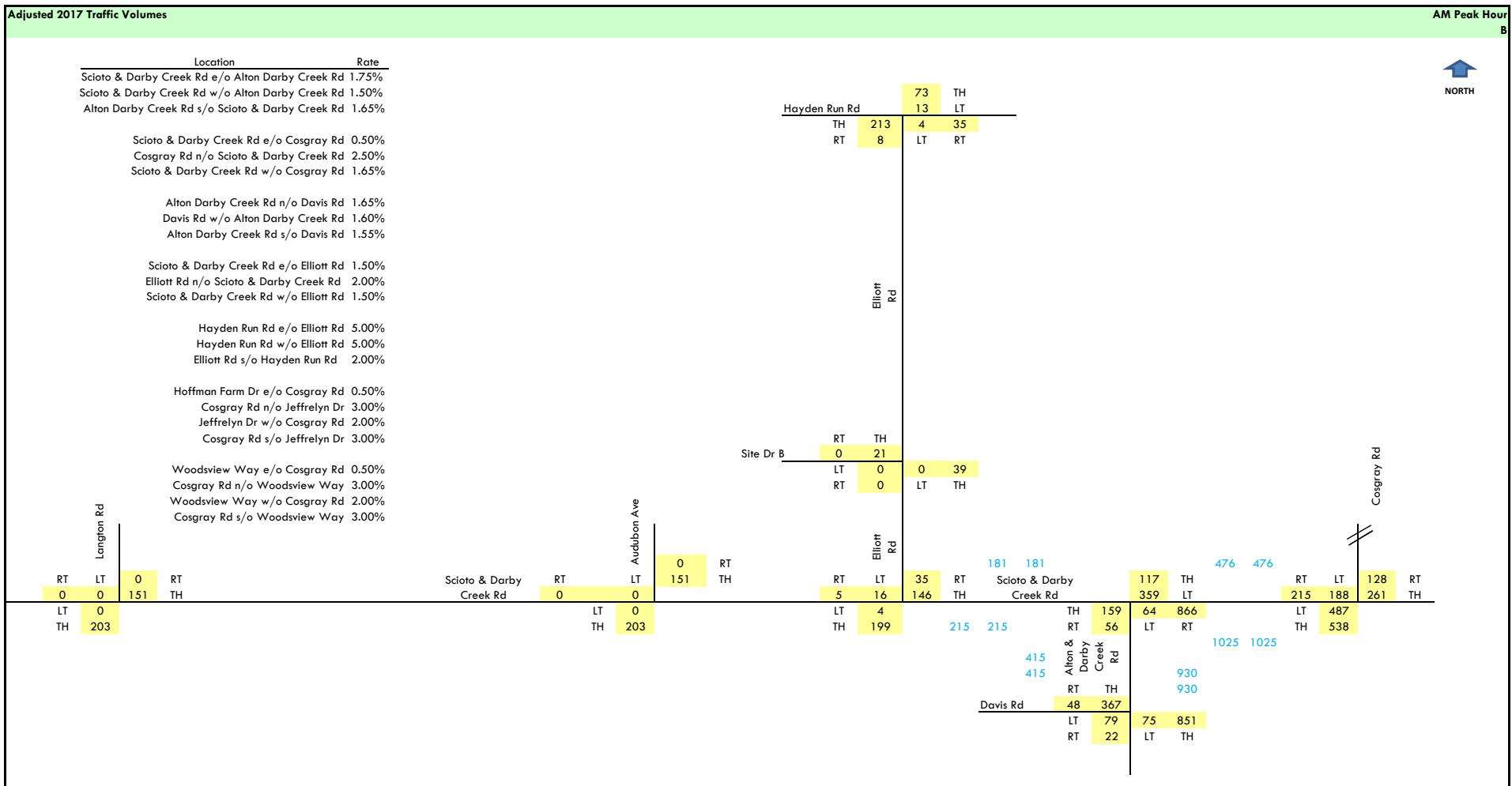
**Hill Tract**  
**Traffic Impact Study**  
**Trip Generation Calculations**  
**Institute of Transportation Engineers, 9th Edition**

Land Use	Square Feet or Units	ITE Code	Time Period	ITE Formula	Total Trips	Trips Entering	Trips Exiting
<u>Single Family - Detached</u>	229 units	210	ADT	$\ln(T)=0.92\ln(x)+2.72$	2,252	1,126	1,126
			AM Peak	$T=0.70(x)+9.74$	170	43	127
			PM Peak	$\ln(T)=0.90\ln(x)+0.51$	221	139	82
<u>Park</u>	150 Parking Spaces			Rate per parking space			
			PM Peak	0.2048	31	18	13

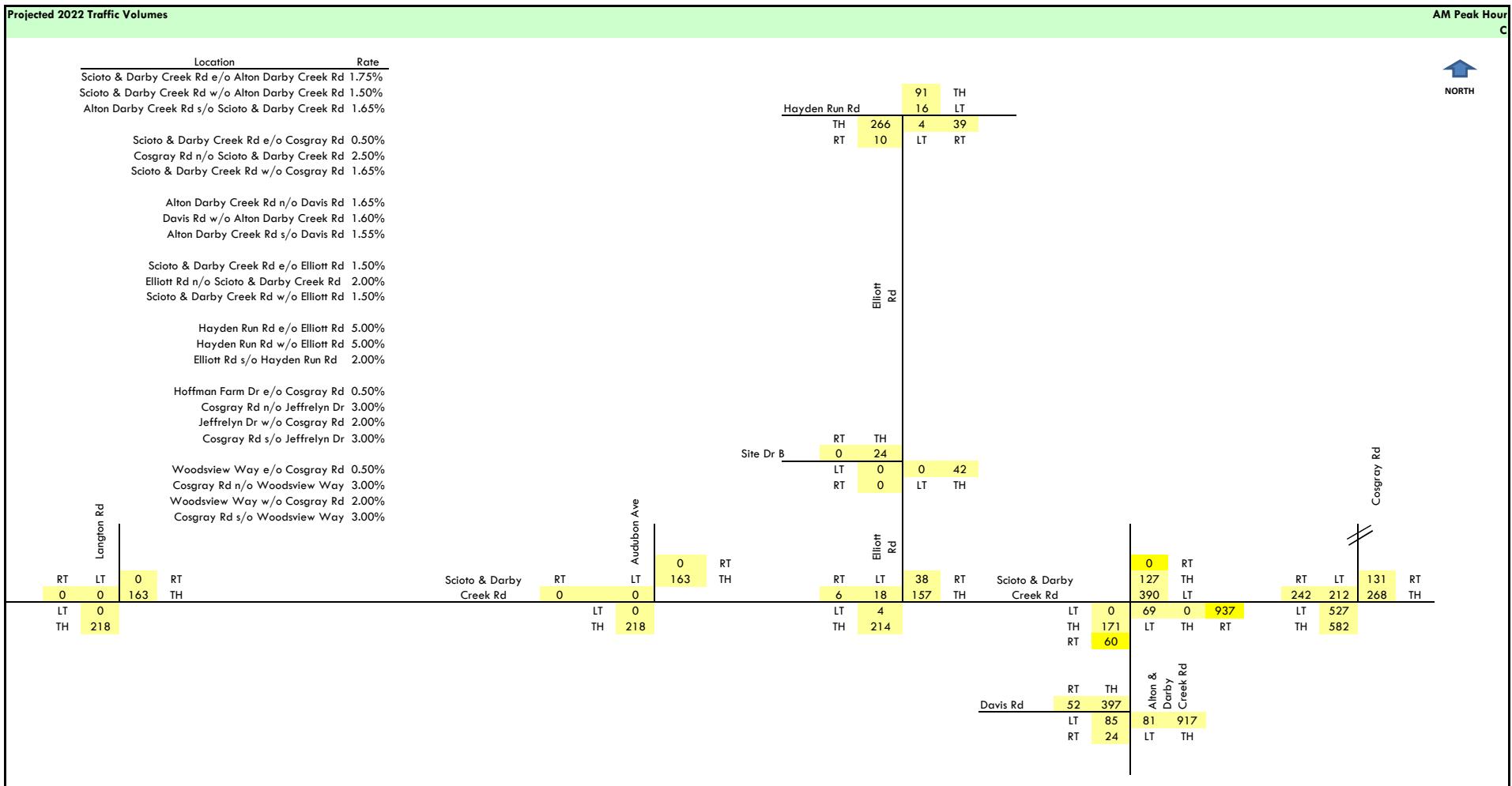
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 Traffic Impact Study  
**Traffic Volume Calculations**



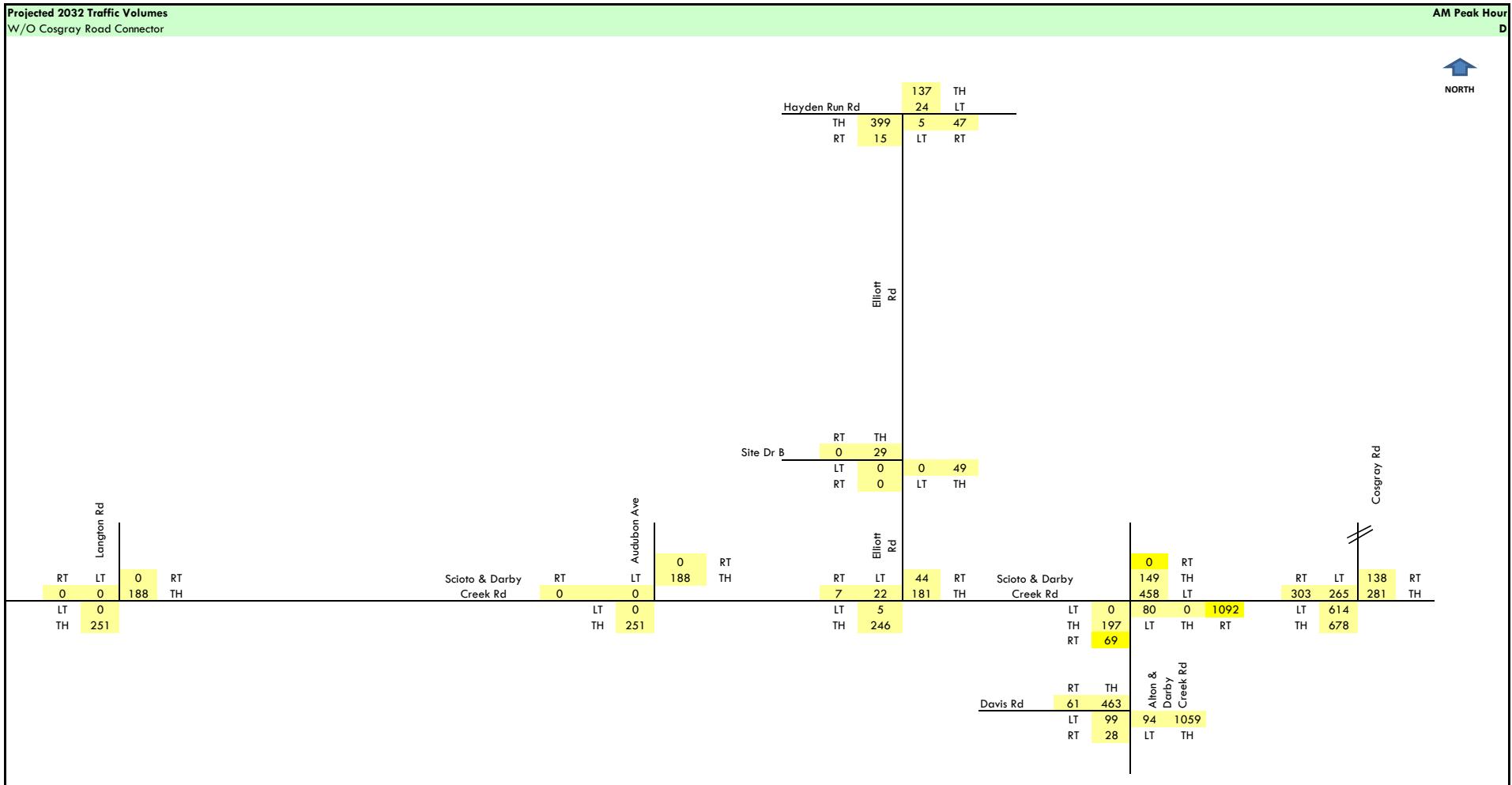
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**Traffic Volume Calculations**



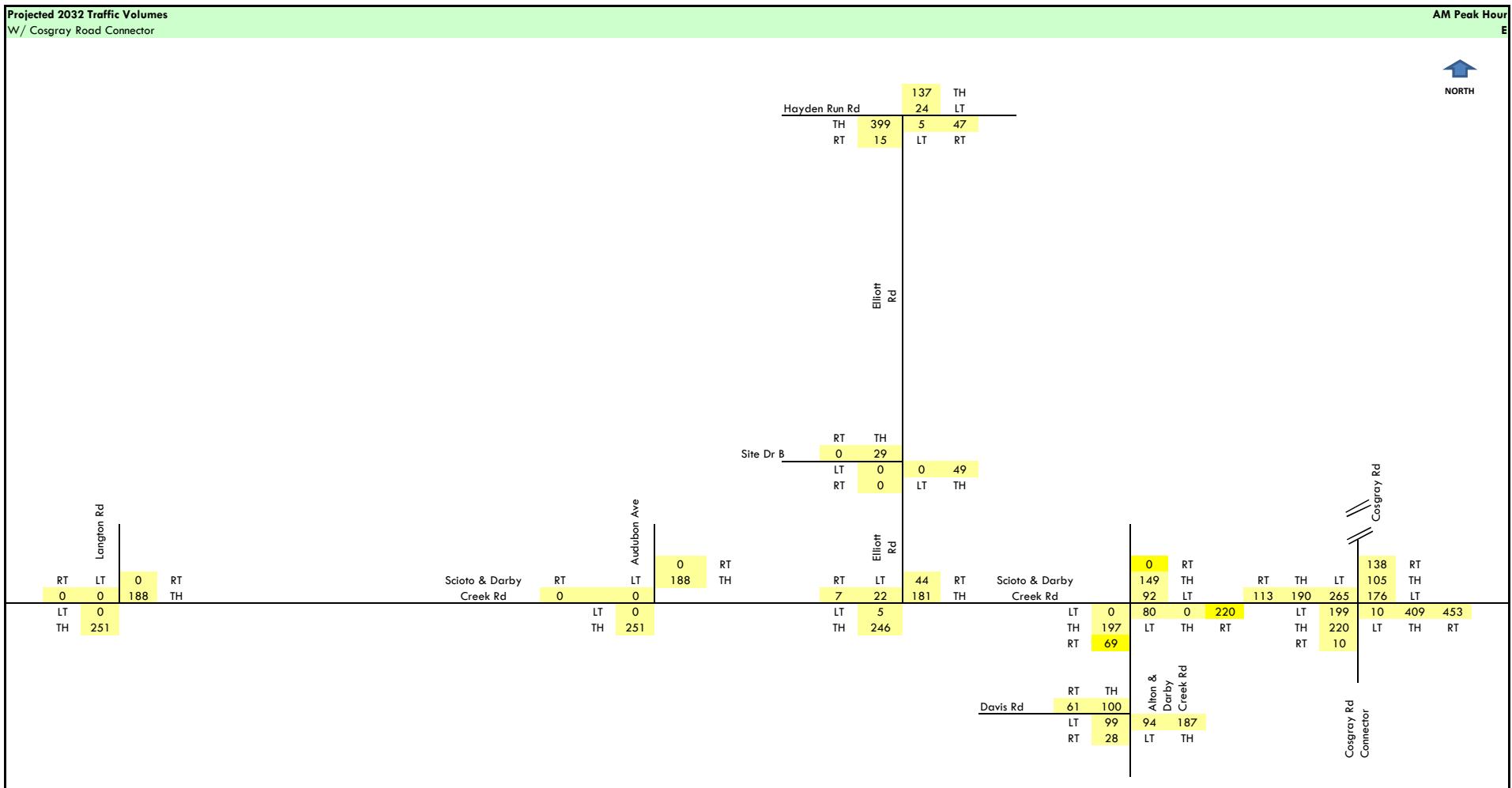
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**Traffic Impact Study**  
**Traffic Volume Calculations**



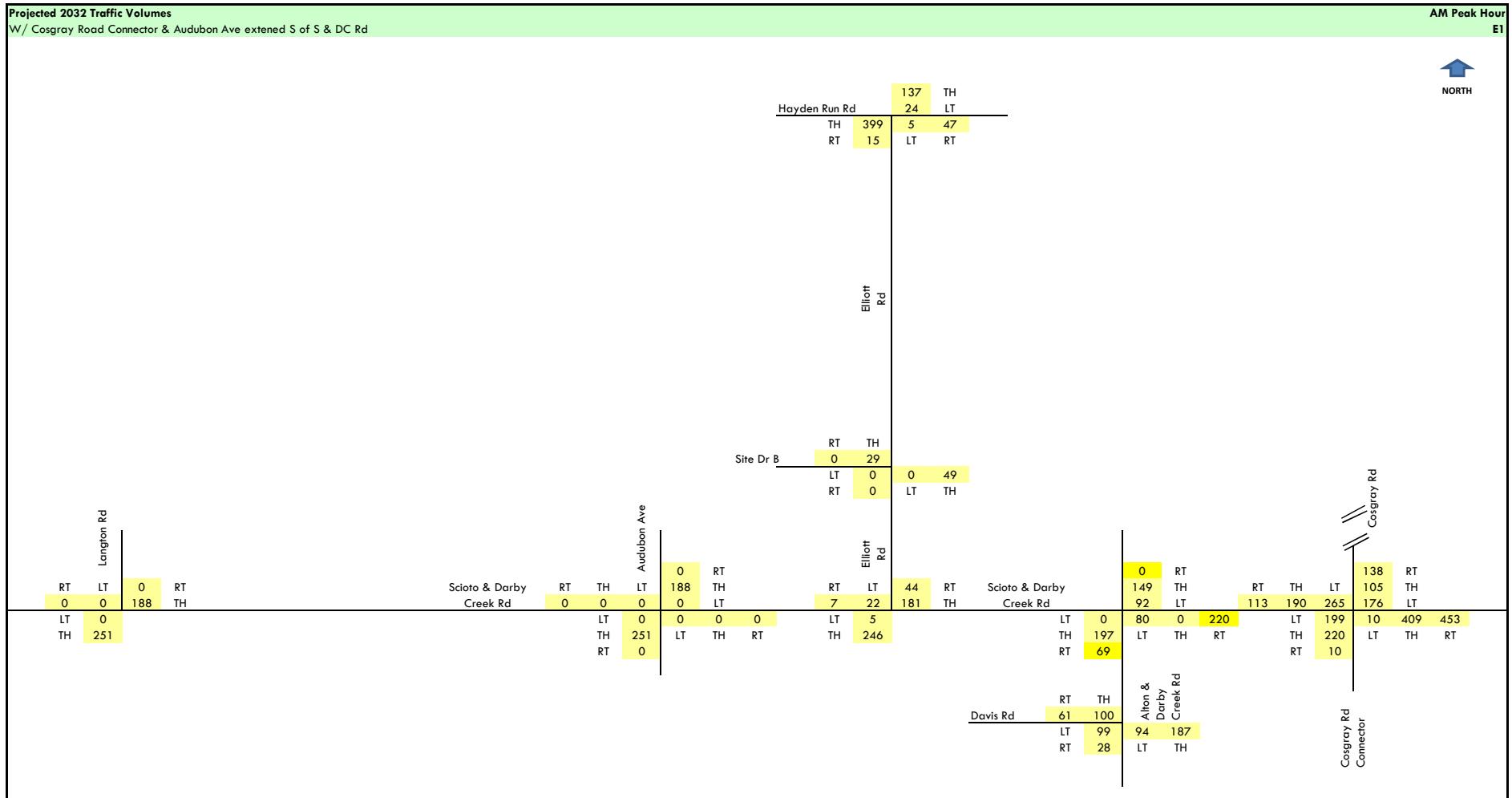
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**Traffic Volume Calculations**



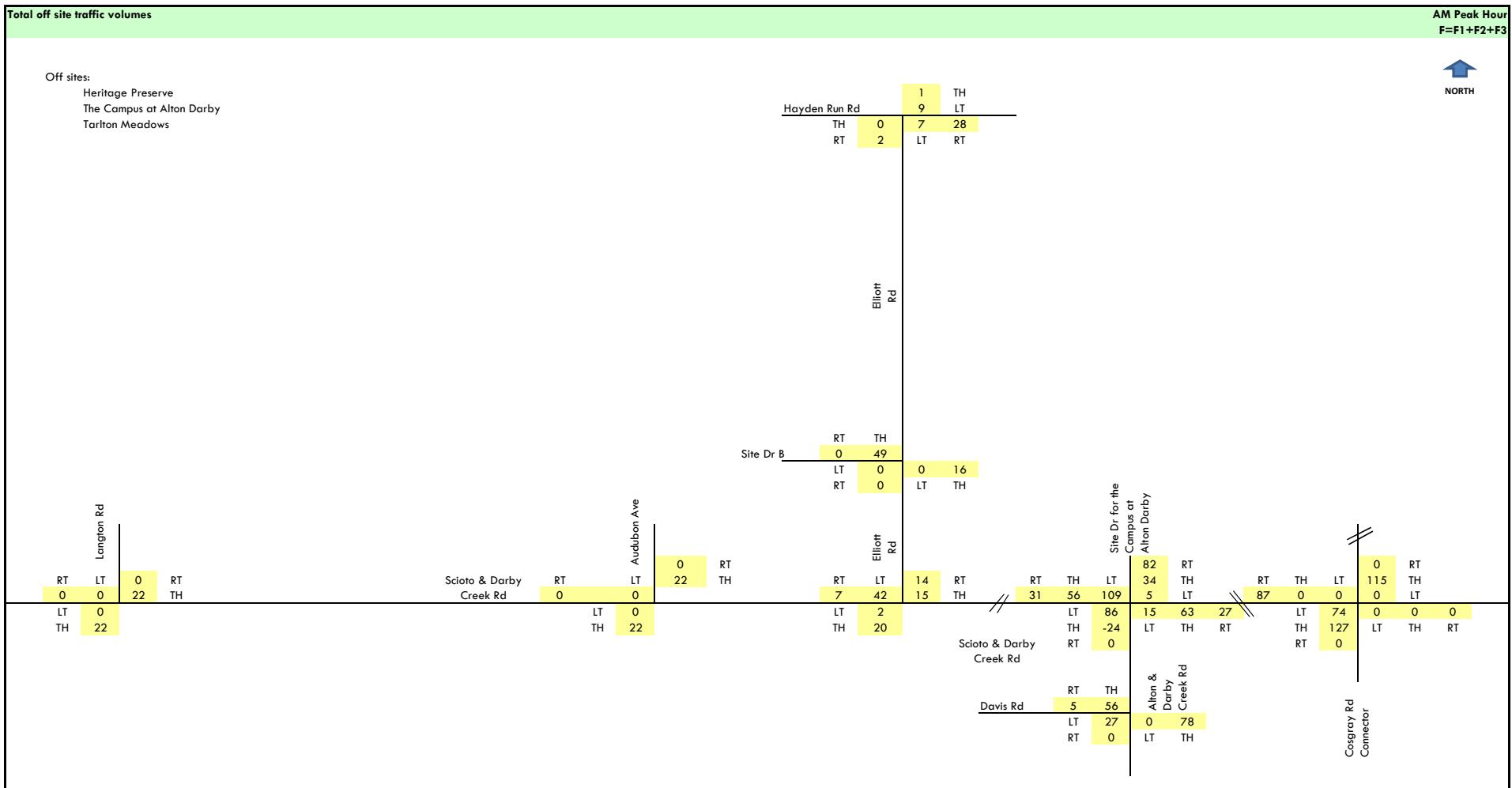
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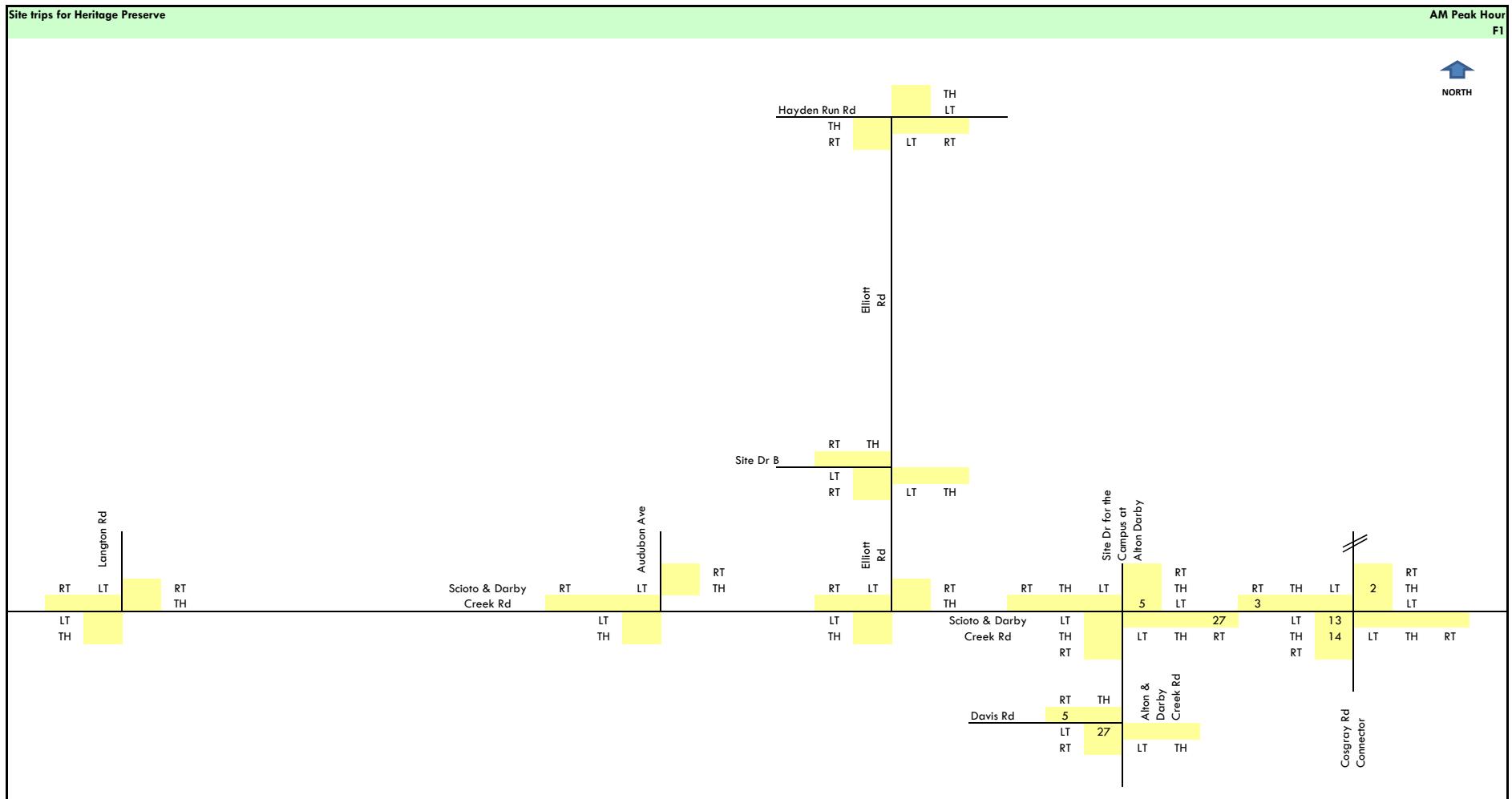
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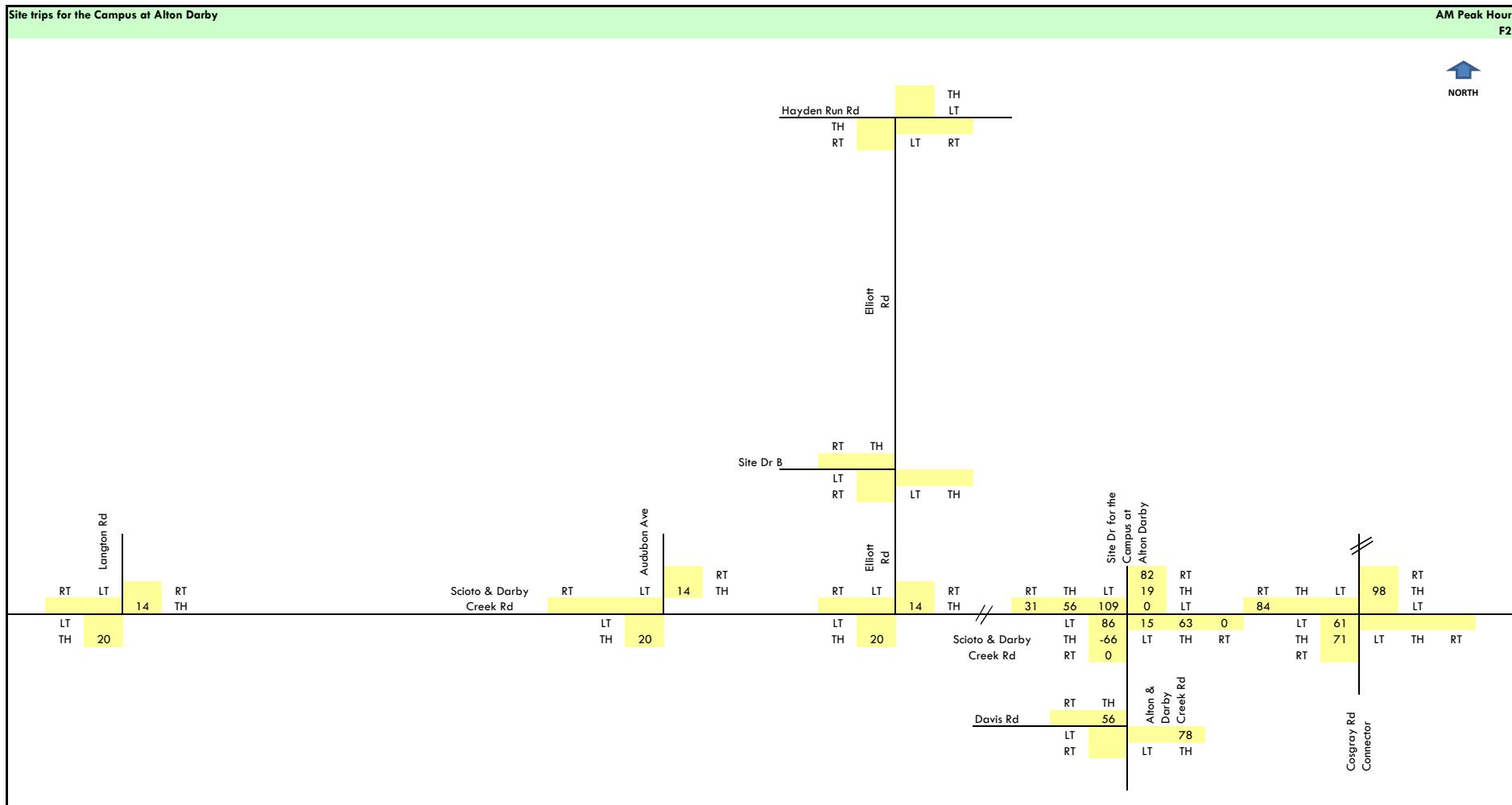
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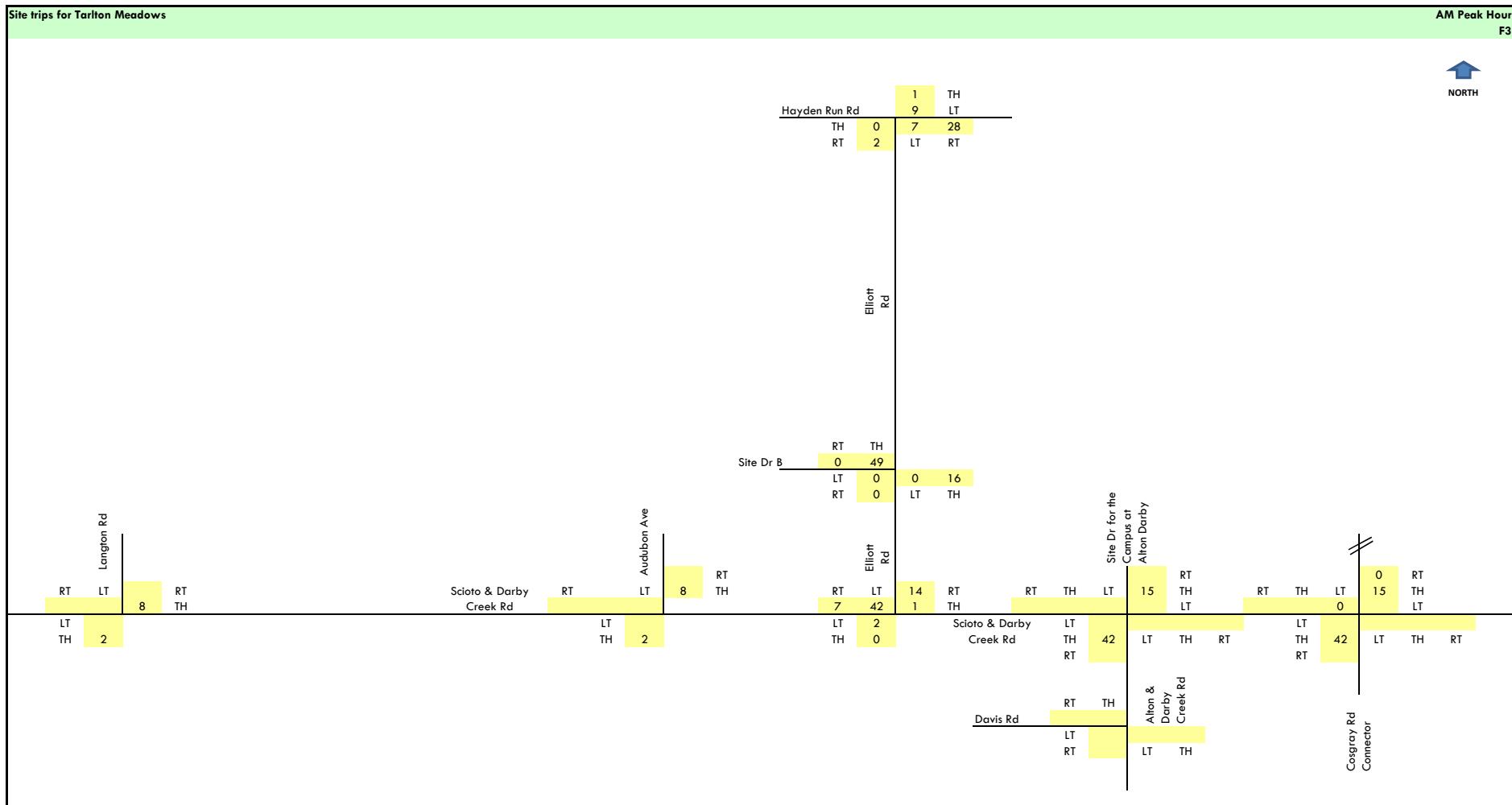
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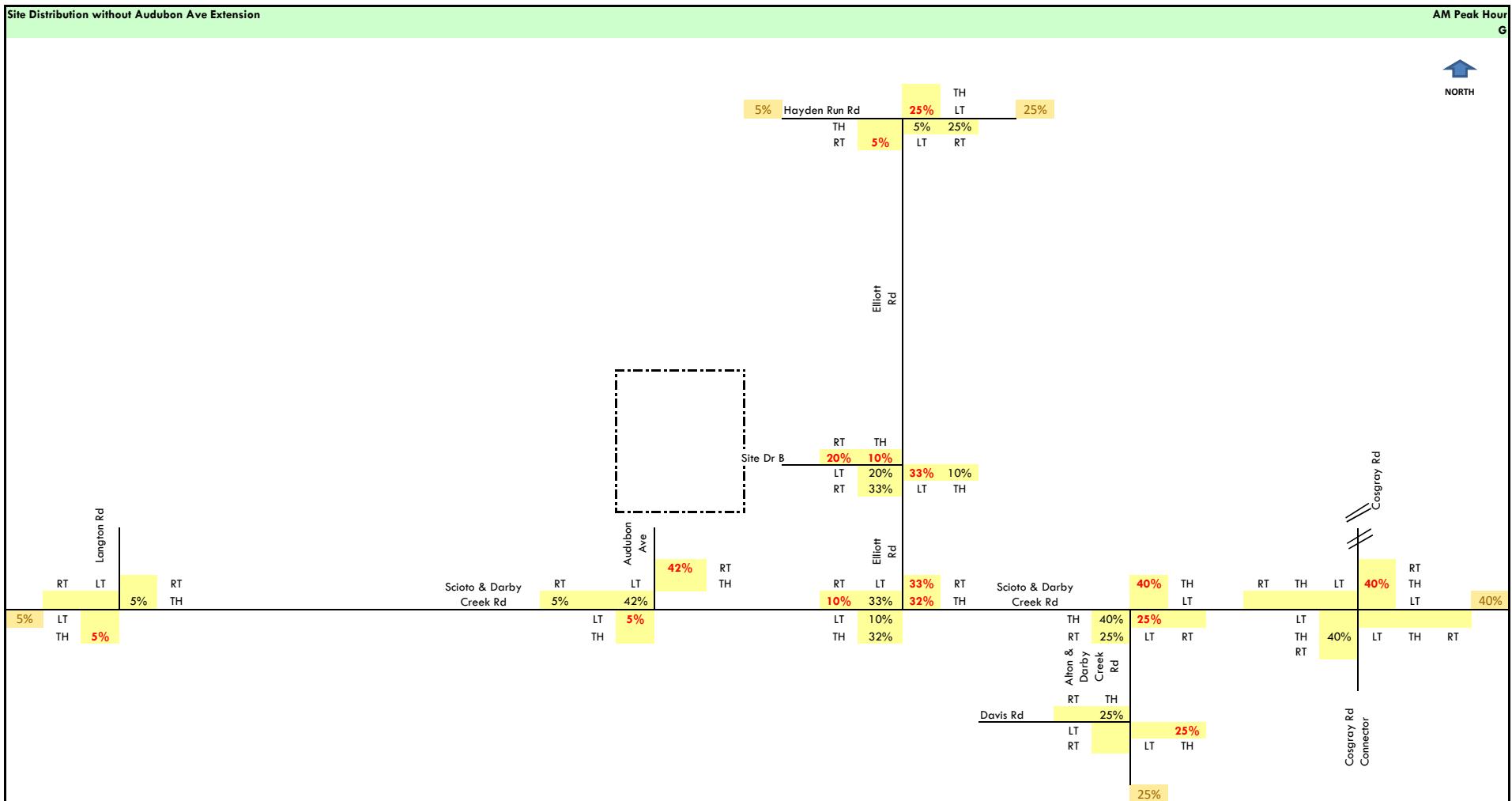
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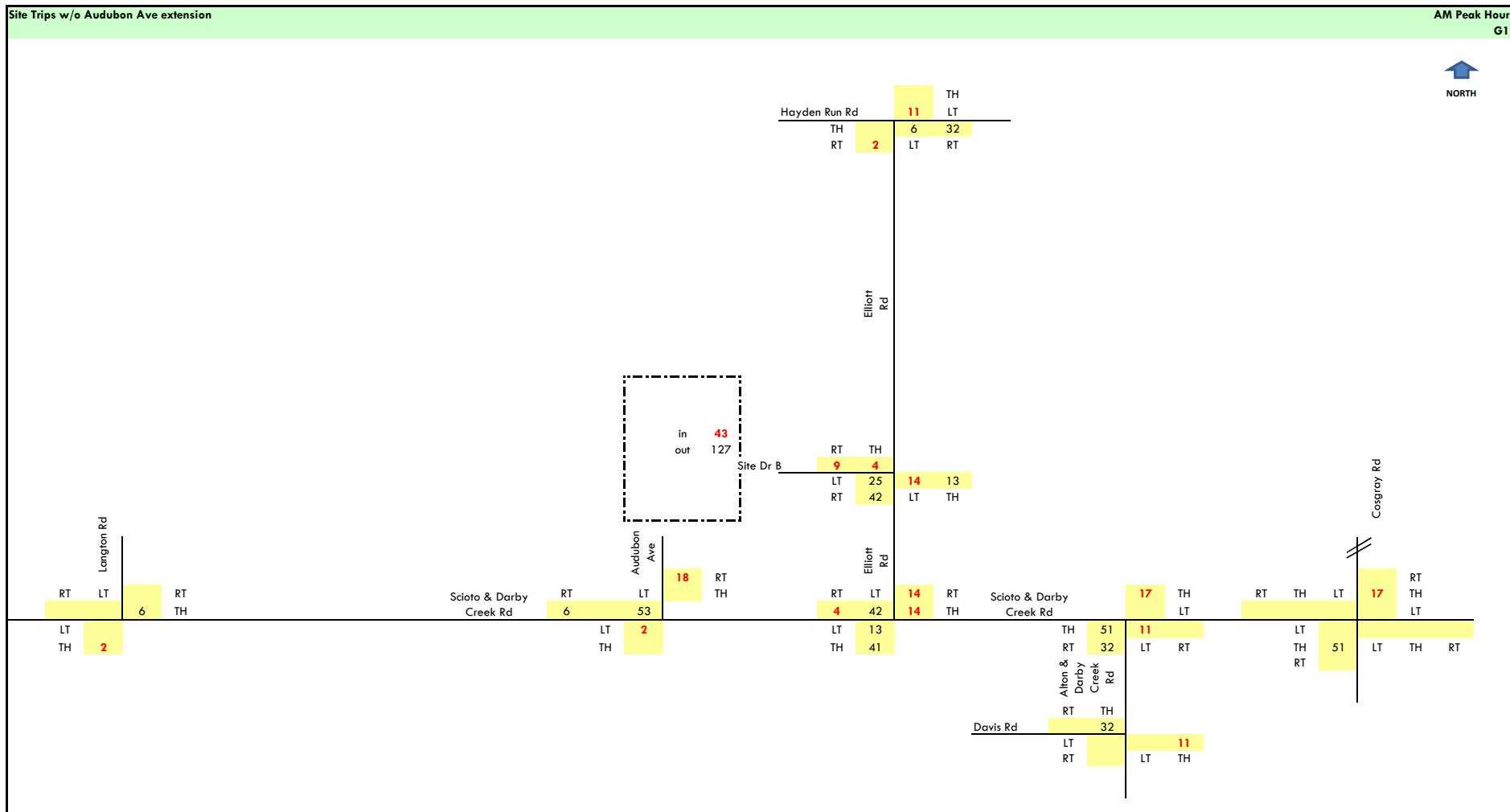
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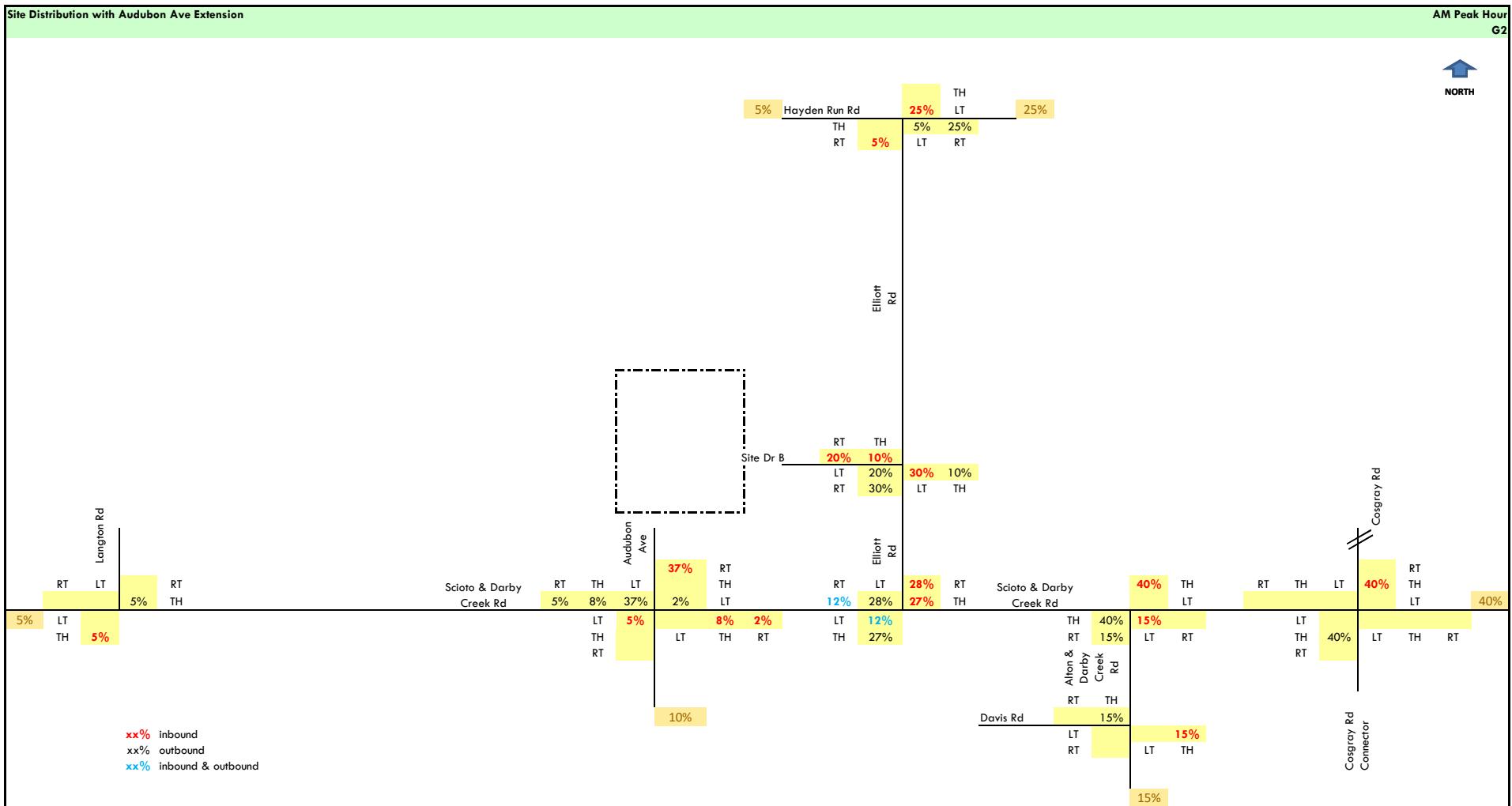
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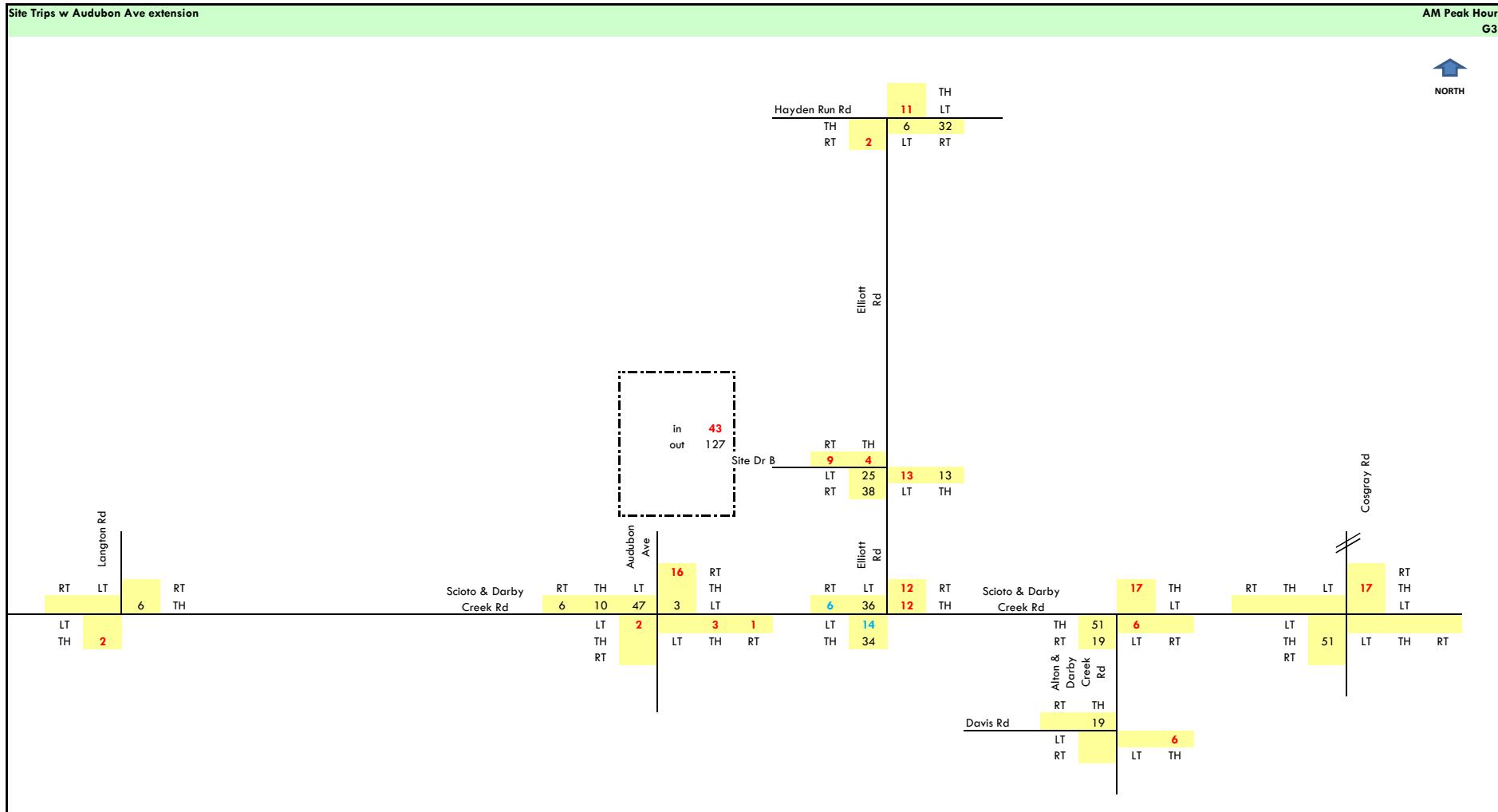
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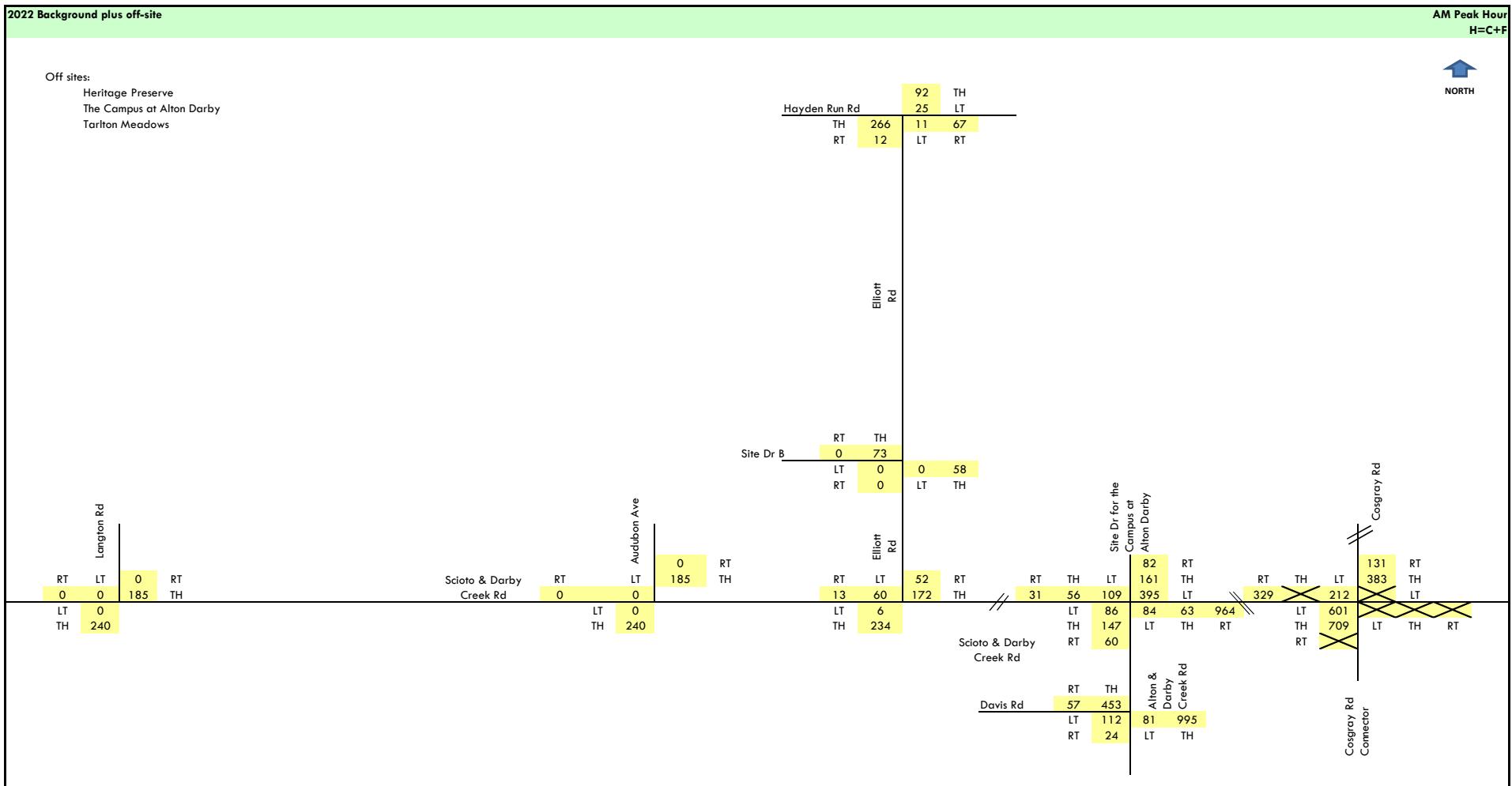
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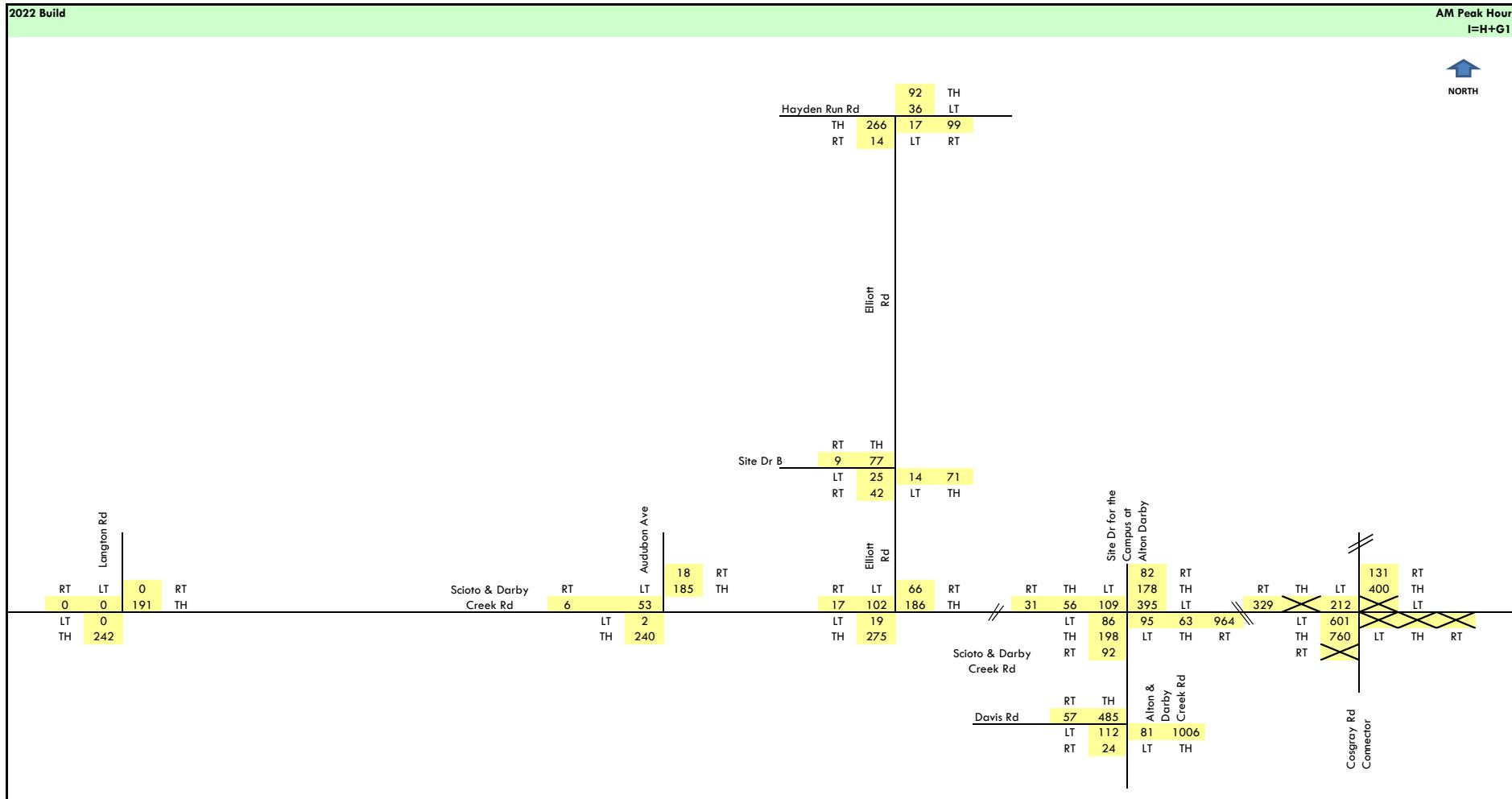
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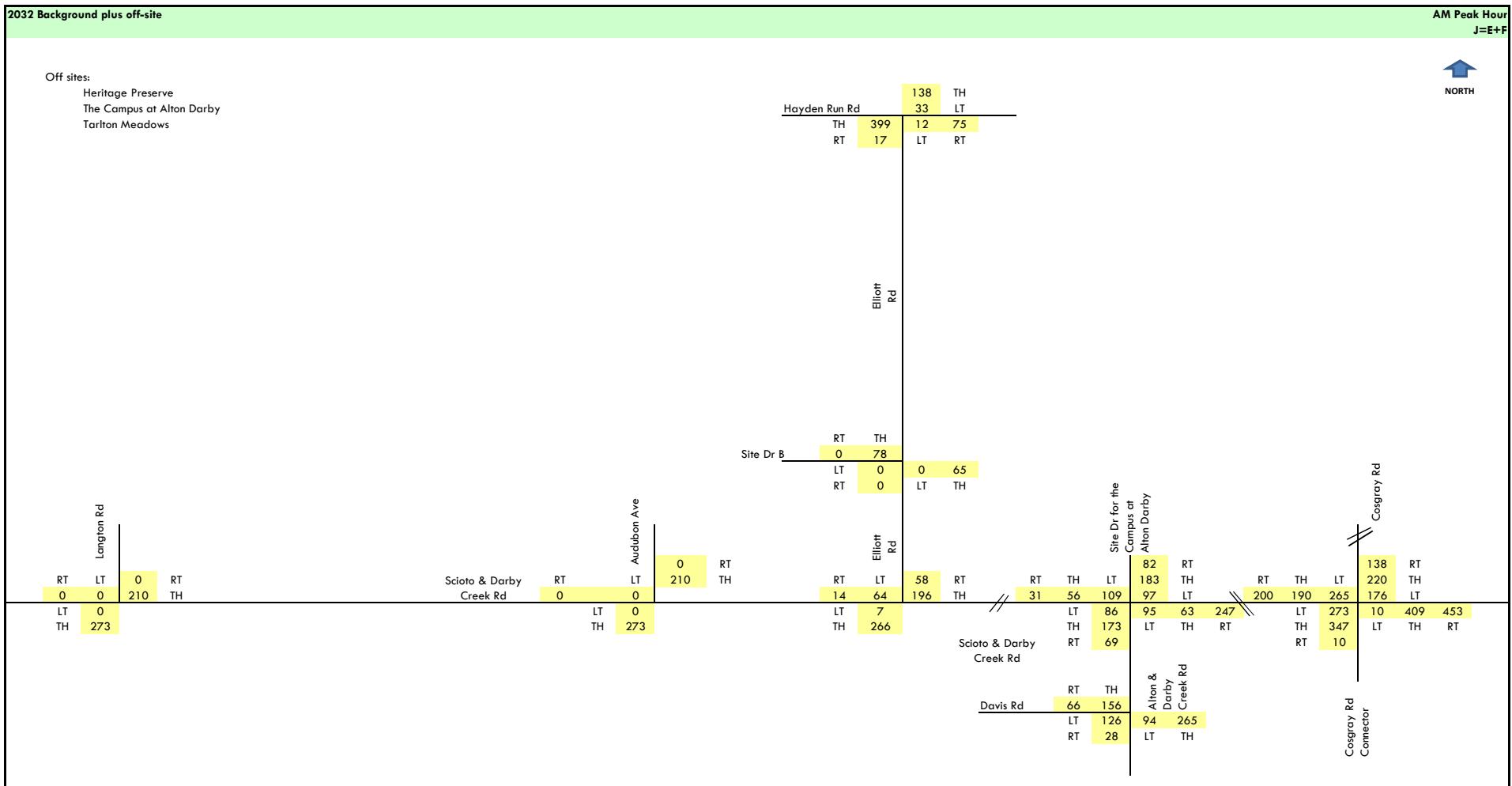
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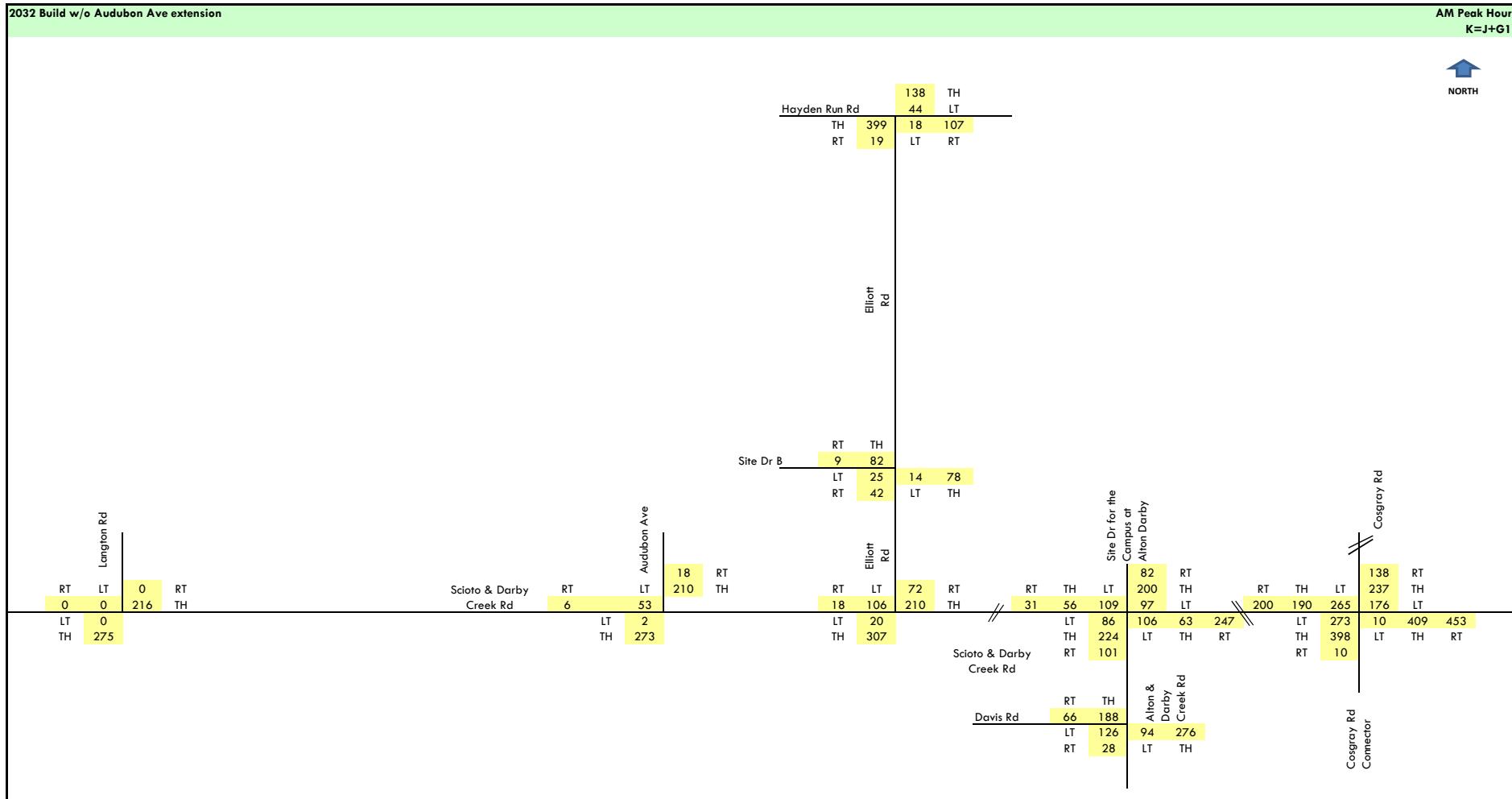
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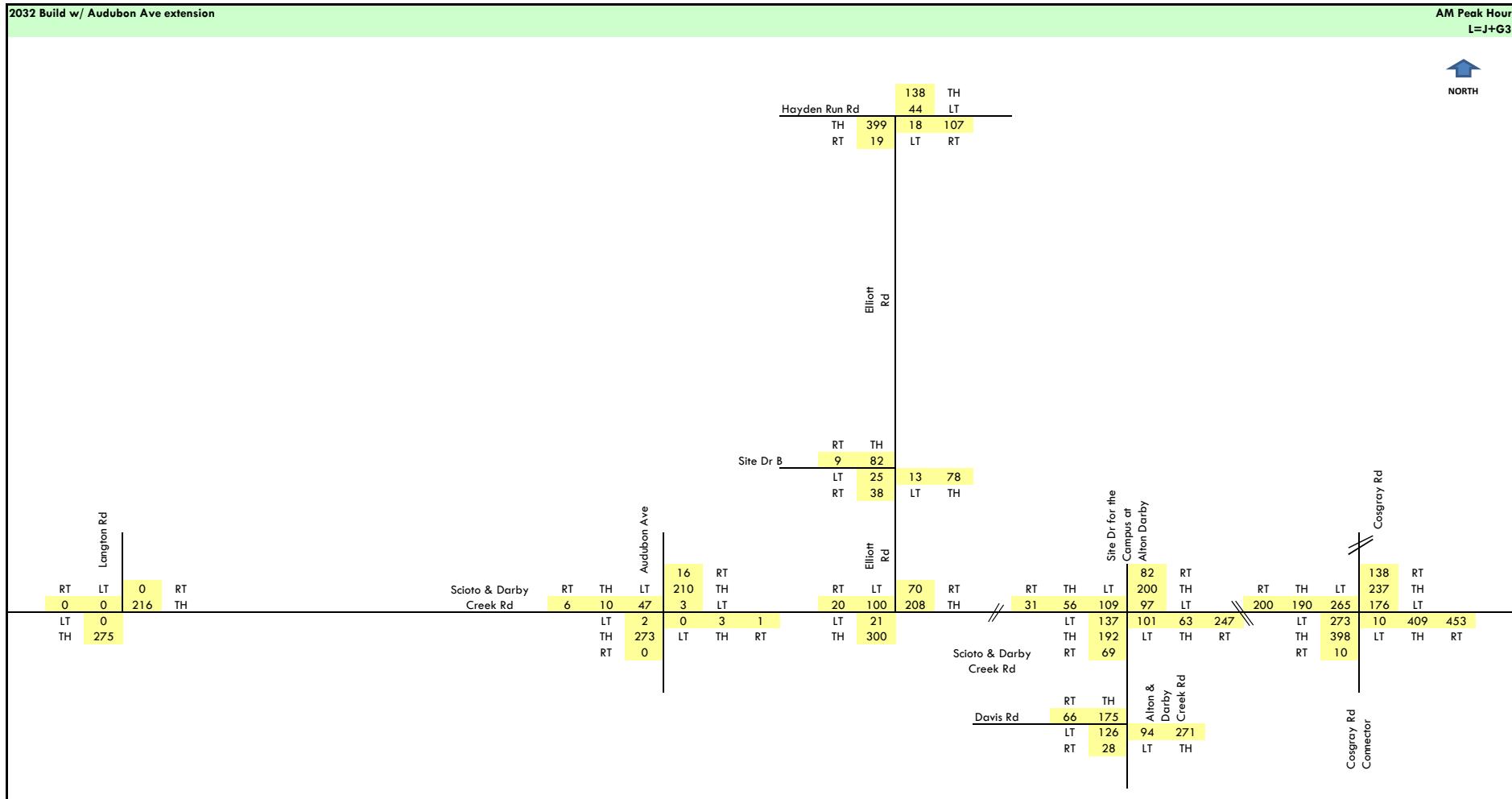
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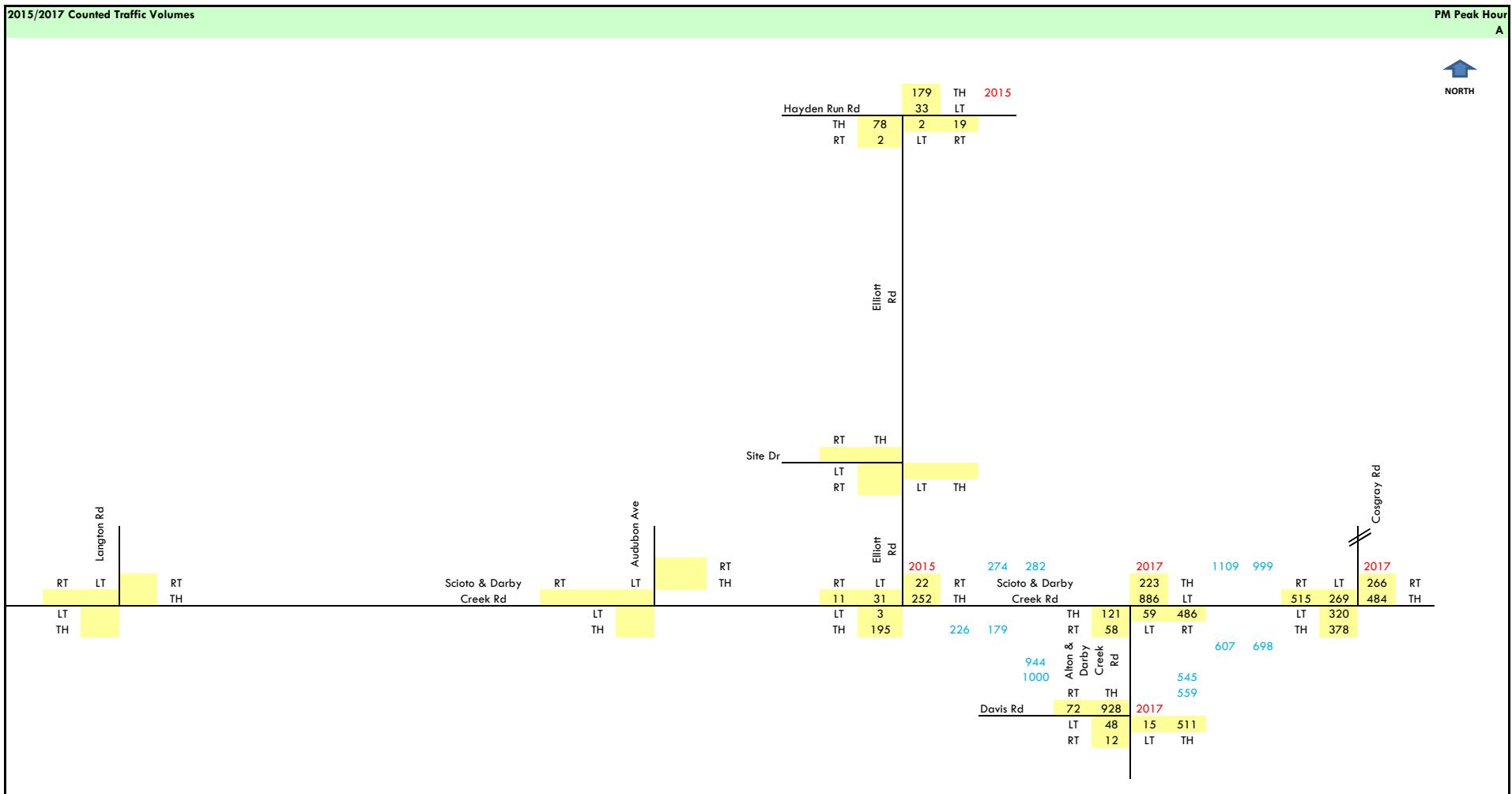
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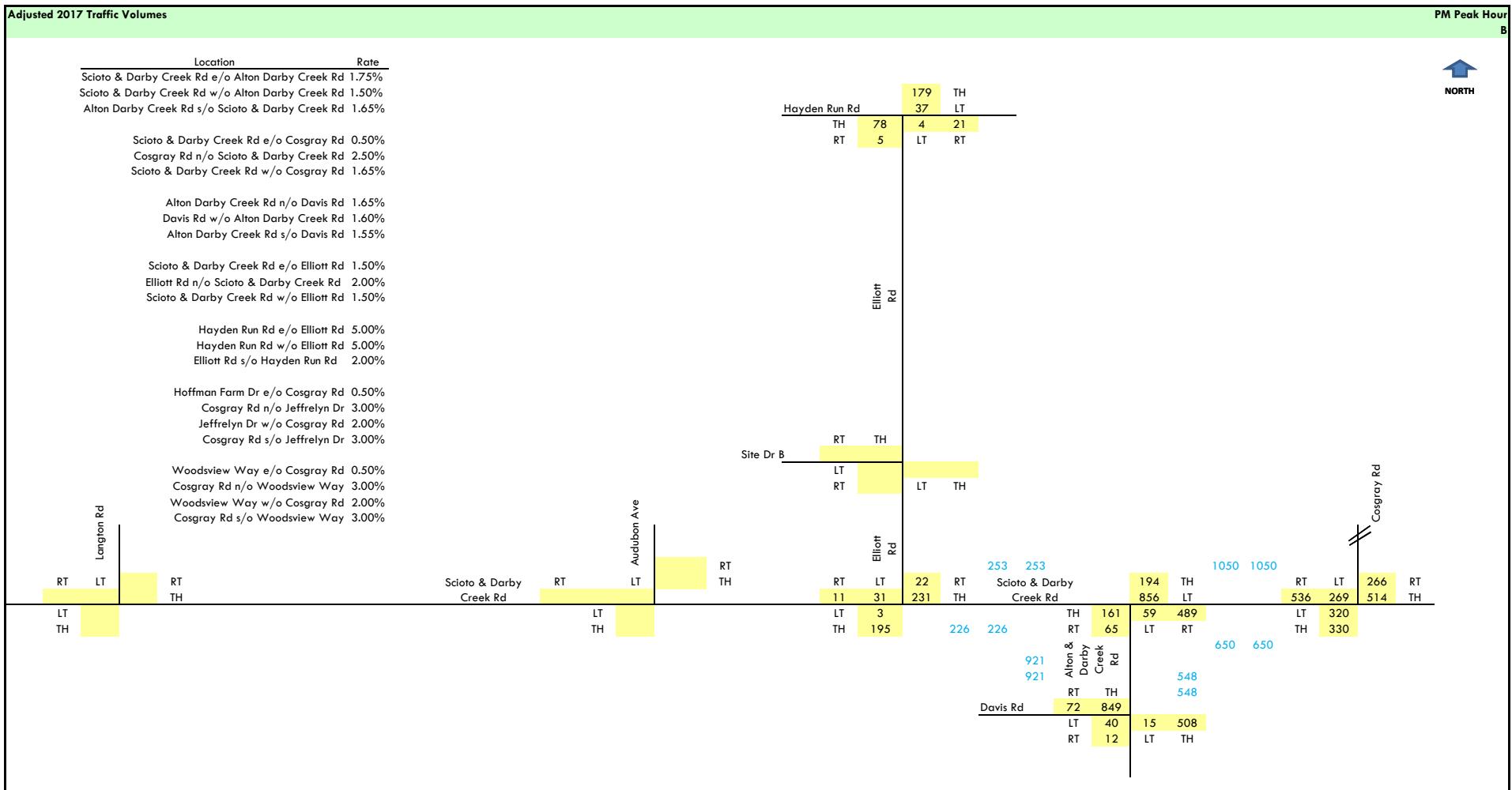
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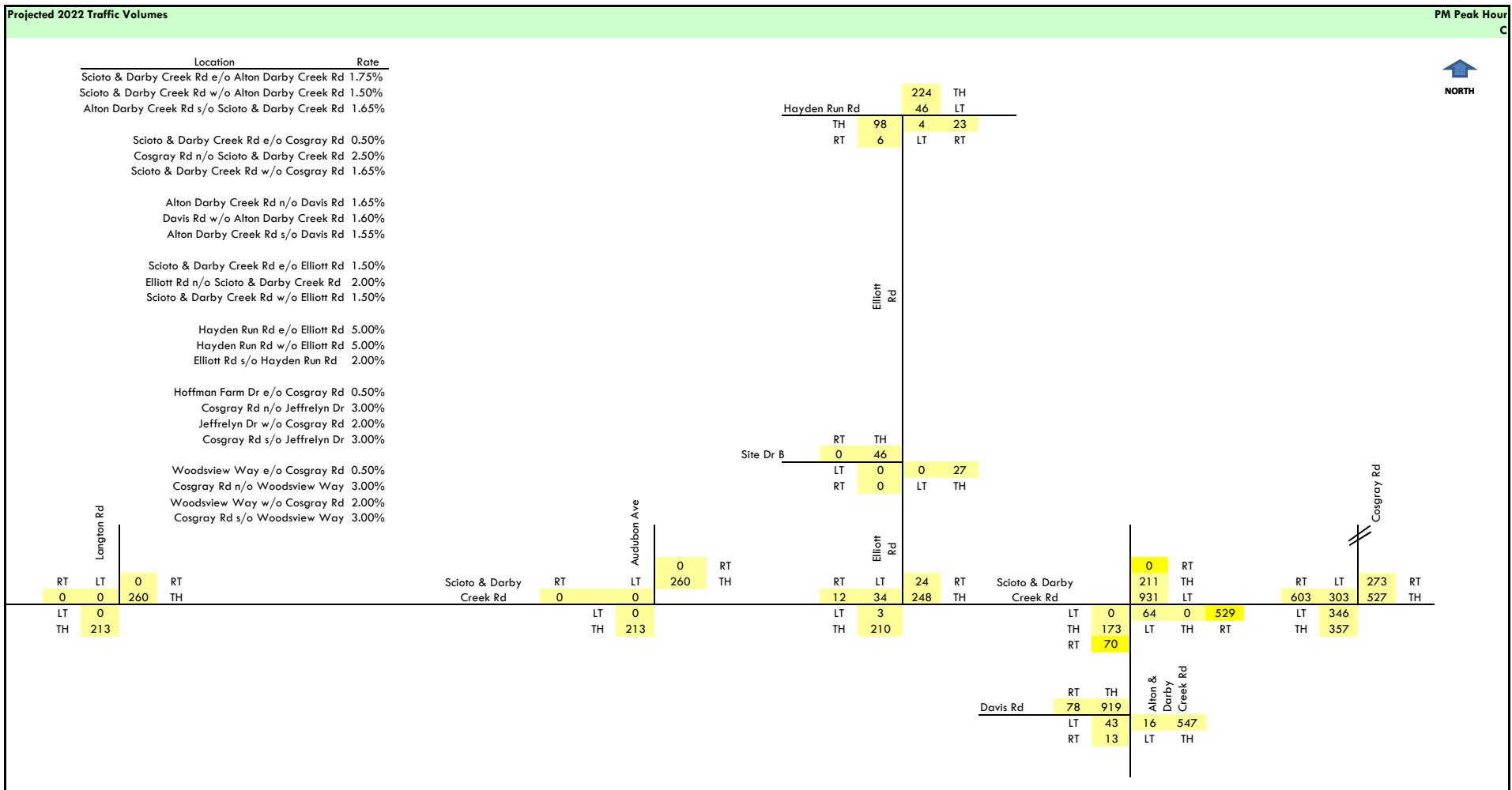
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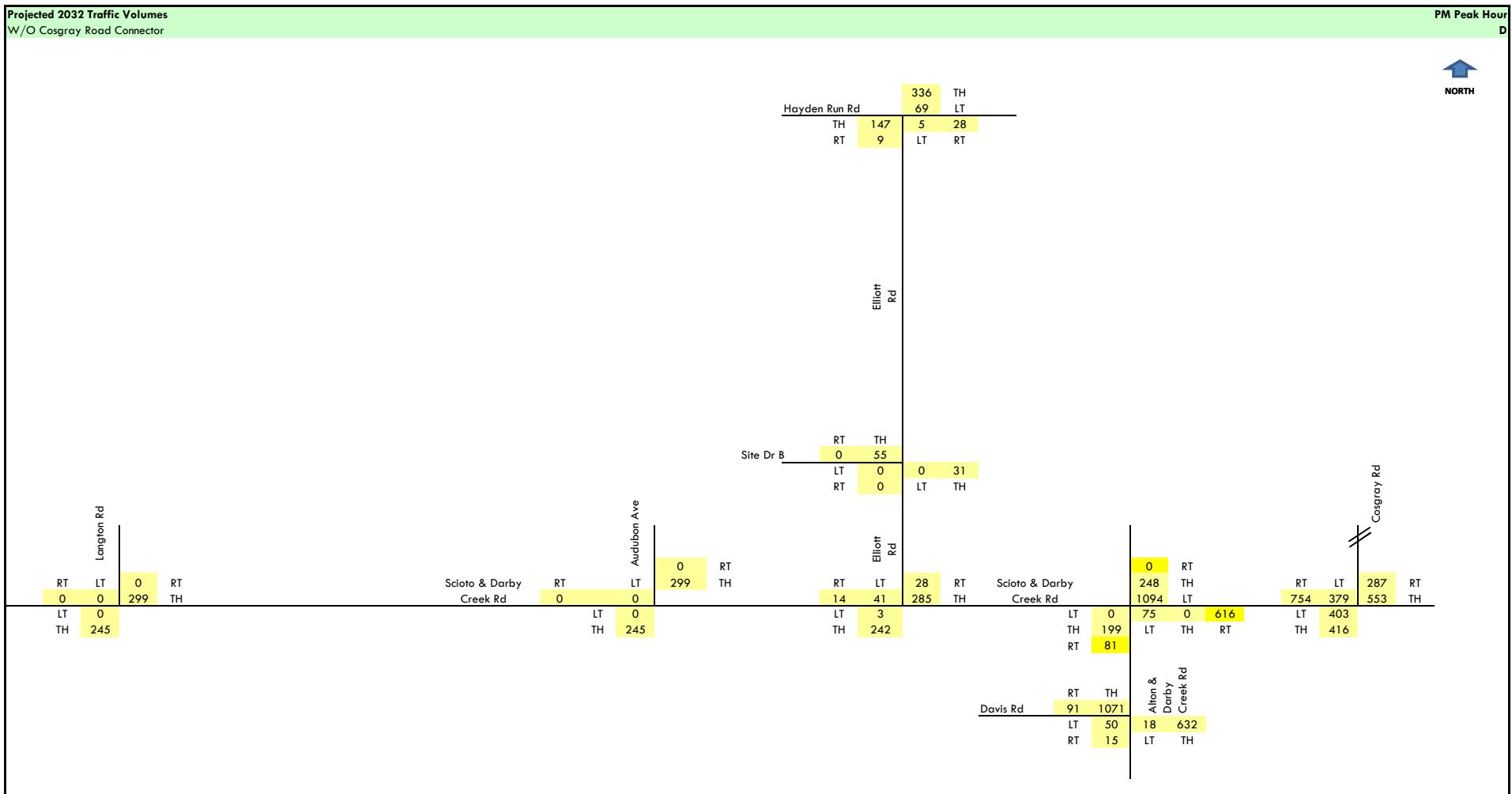
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**Traffic Volume Calculations**



Hill Tract  
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**Traffic Volume Calculations**

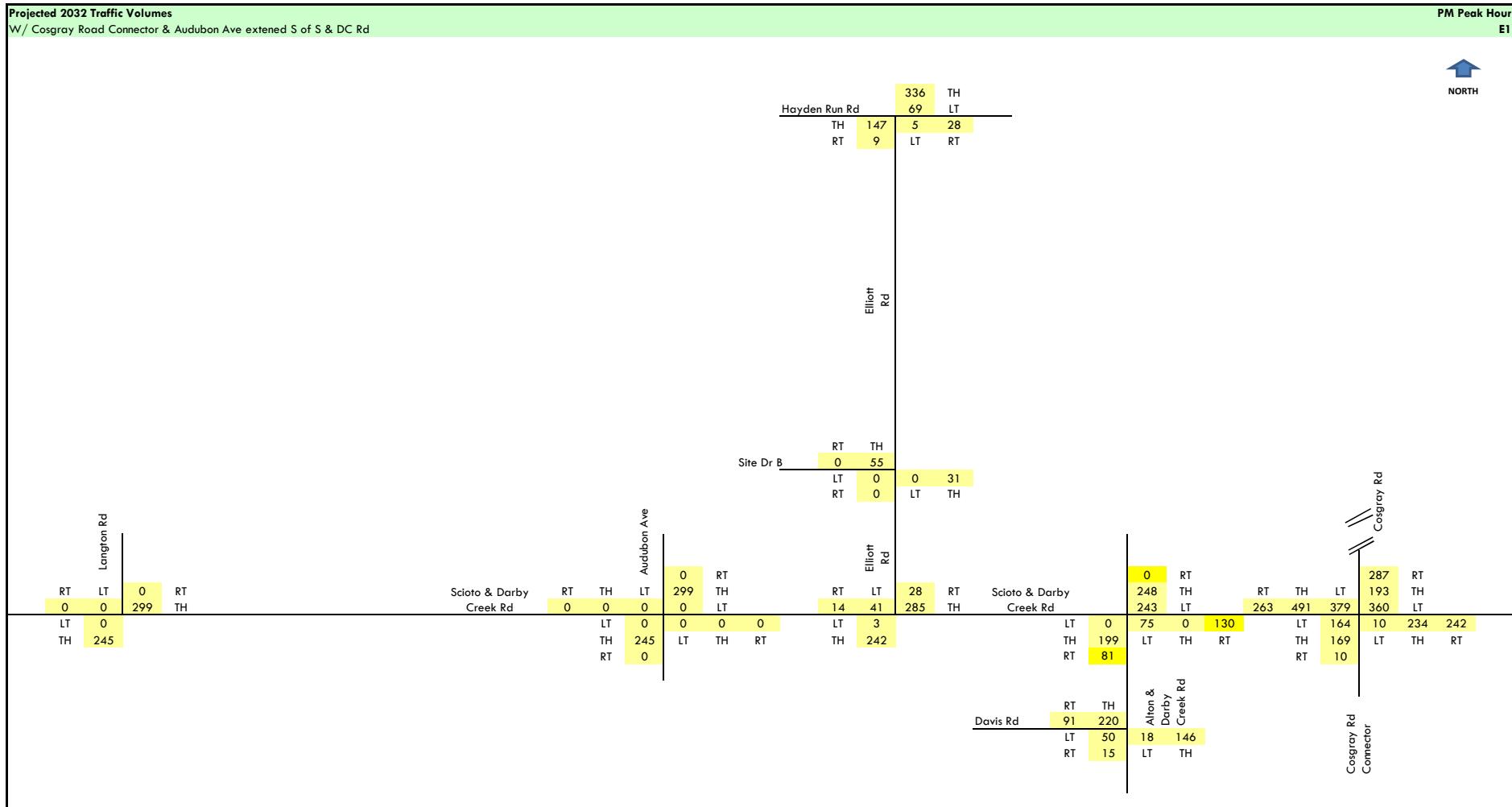
**Projected 2032 Traffic Volumes**  
W/ Cosgray Road Connector, Audubon Ave not extended

PM Peak Hour

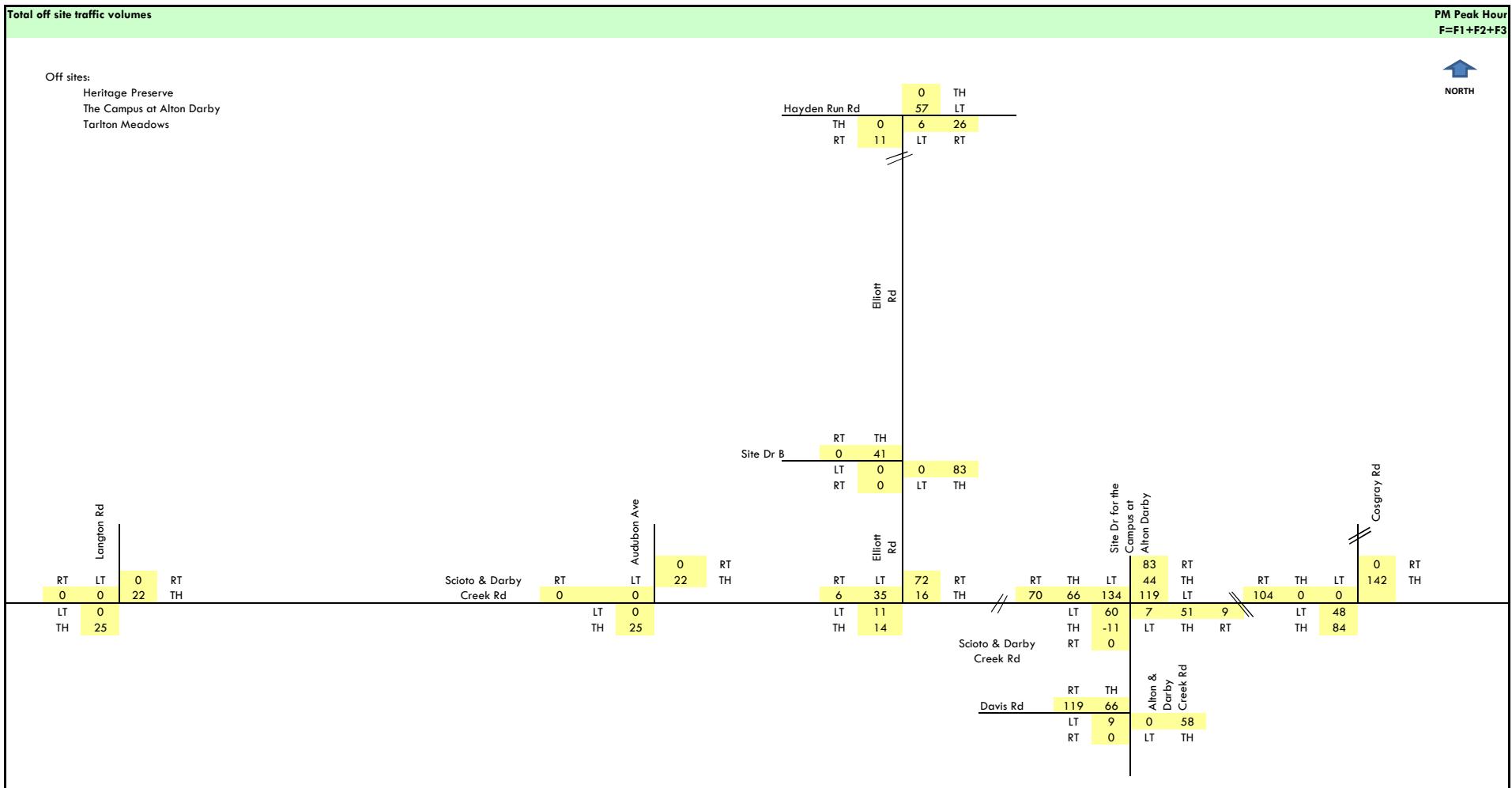
Location	RT	LT	TH
Longton Rd	0	0	0
Scio & Darby Creek Rd	RT 0	LT 0	Audubon Ave RT 299
Site Dr B	RT 0	TH 55	Elliott Rd
	LT 0	0	RT 0
	RT 0	LT 31	Scioto & Darby Creek Rd
	LT 285	TH 28	RT 0
	RT 14	LT 41	TH 248
	LT 285	TH 3	RT 248
	TH 242	LT 0	TH 199
	LT 245	TH 0	RT 81
	TH 245	LT 130	RT 164
	LT 10	TH 169	TH 10
	TH 360	RT 234	RT 242
Davis Rd	RT 91	TH 220	Alton & Darby Creek Rd
	LT 50	RT 146	RT 18
	RT 15	LT 15	TH 15
Cosgray Rd Connector	287	193	10
	RT 263	TH 491	LT 379
	RT 263	TH 164	RT 164
	TH 169	LT 169	TH 169
	RT 10	LT 10	RT 10

NORTH

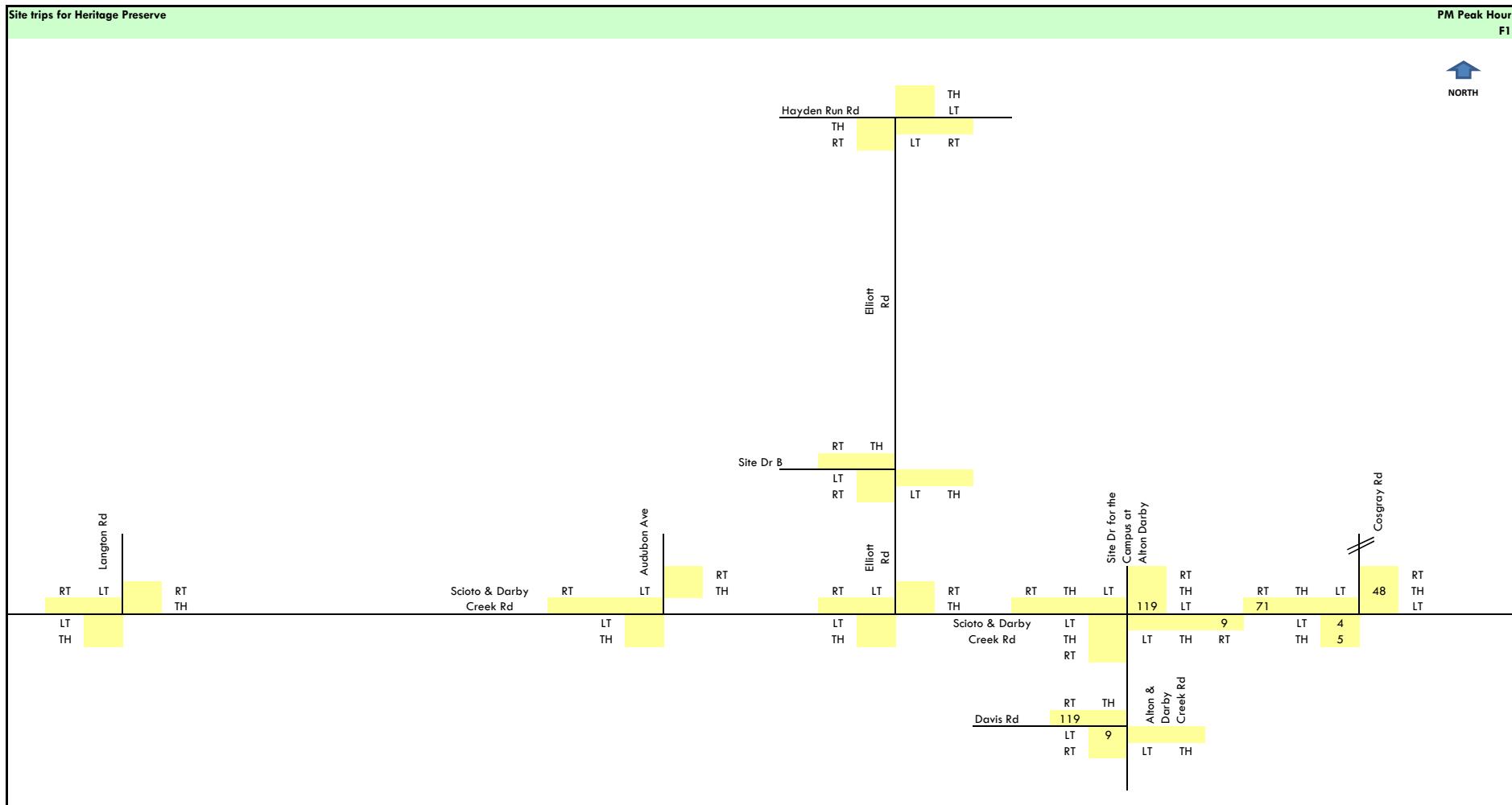
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**Traffic Volume Calculations**



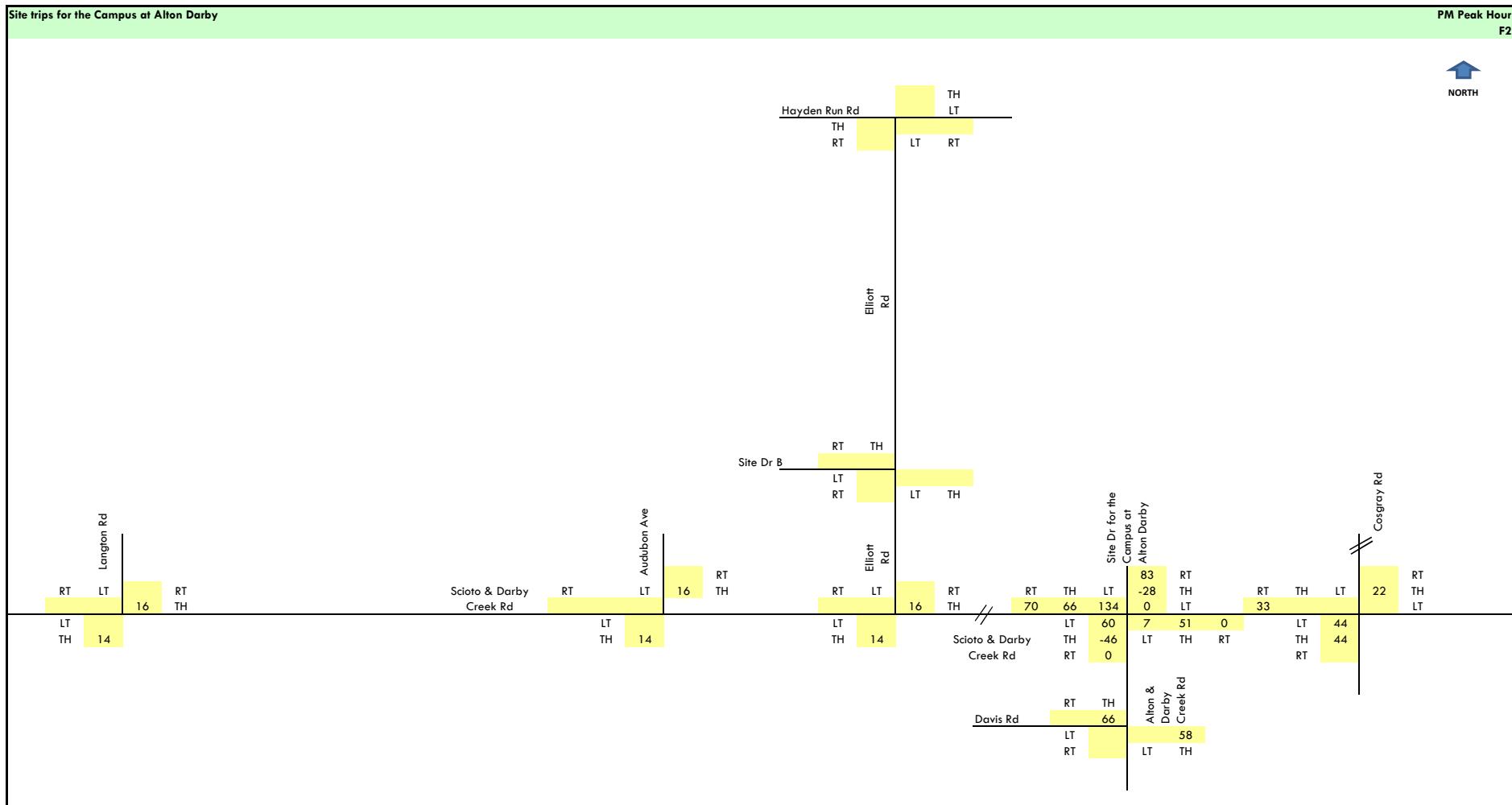
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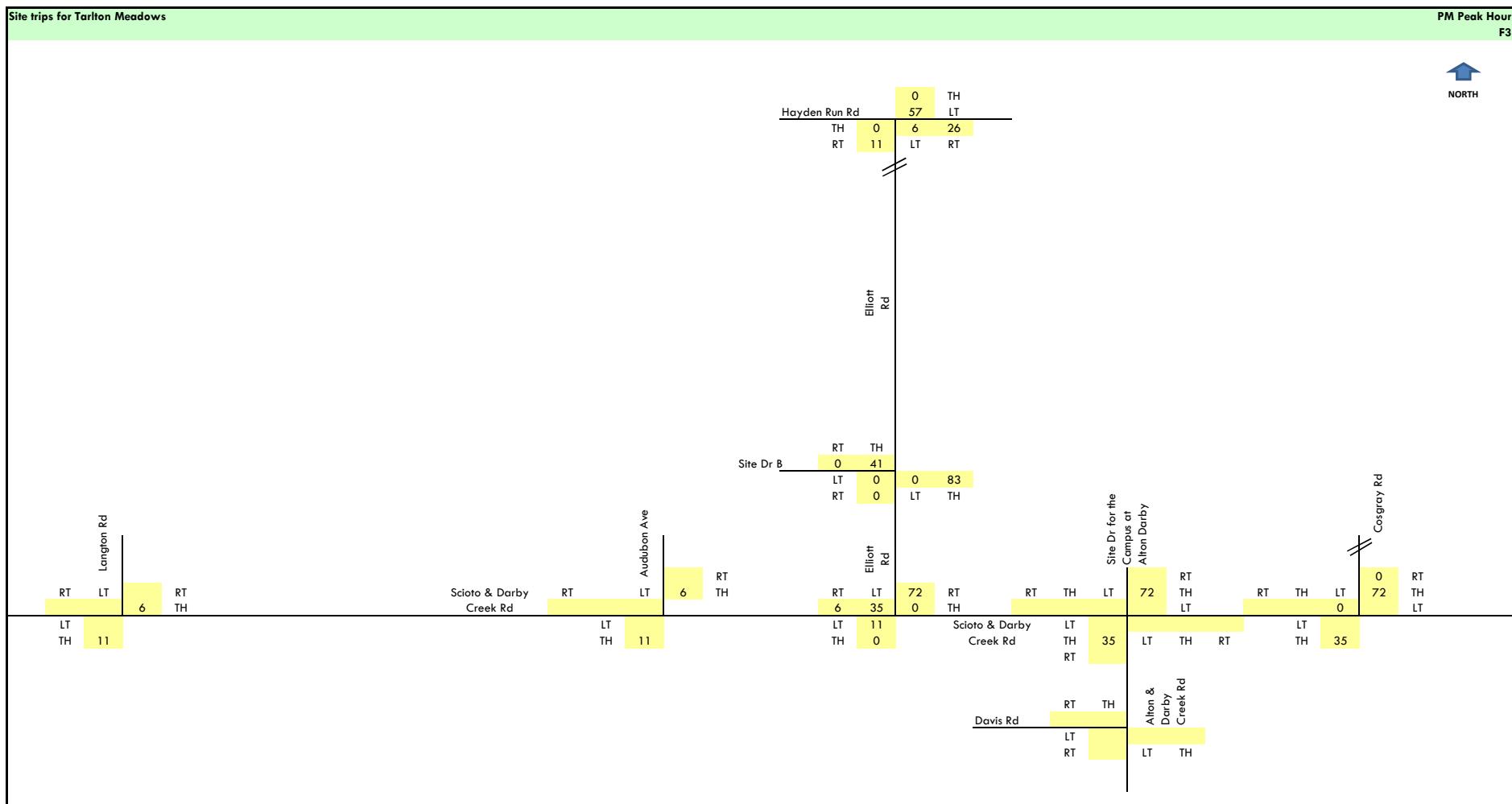
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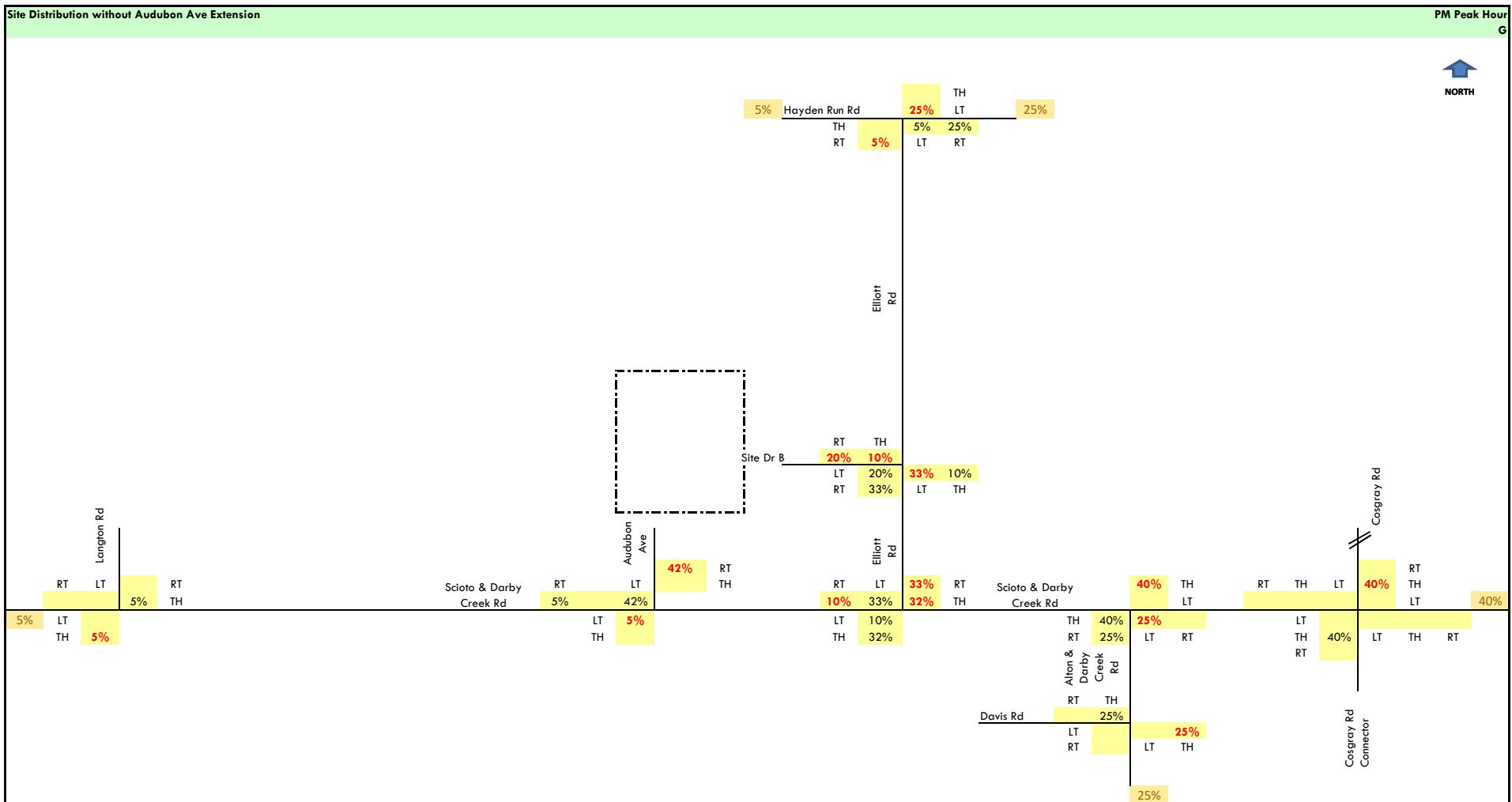
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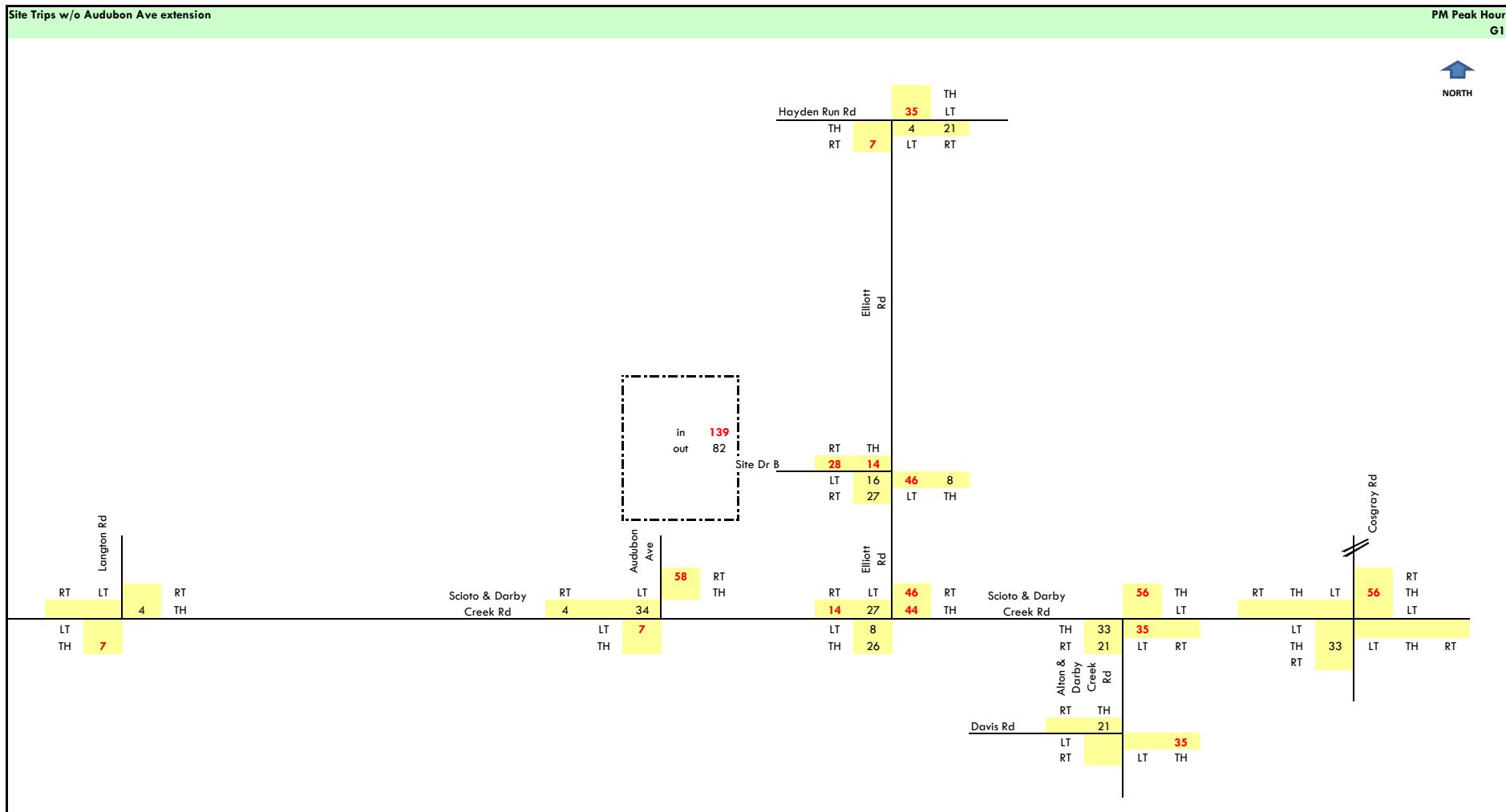
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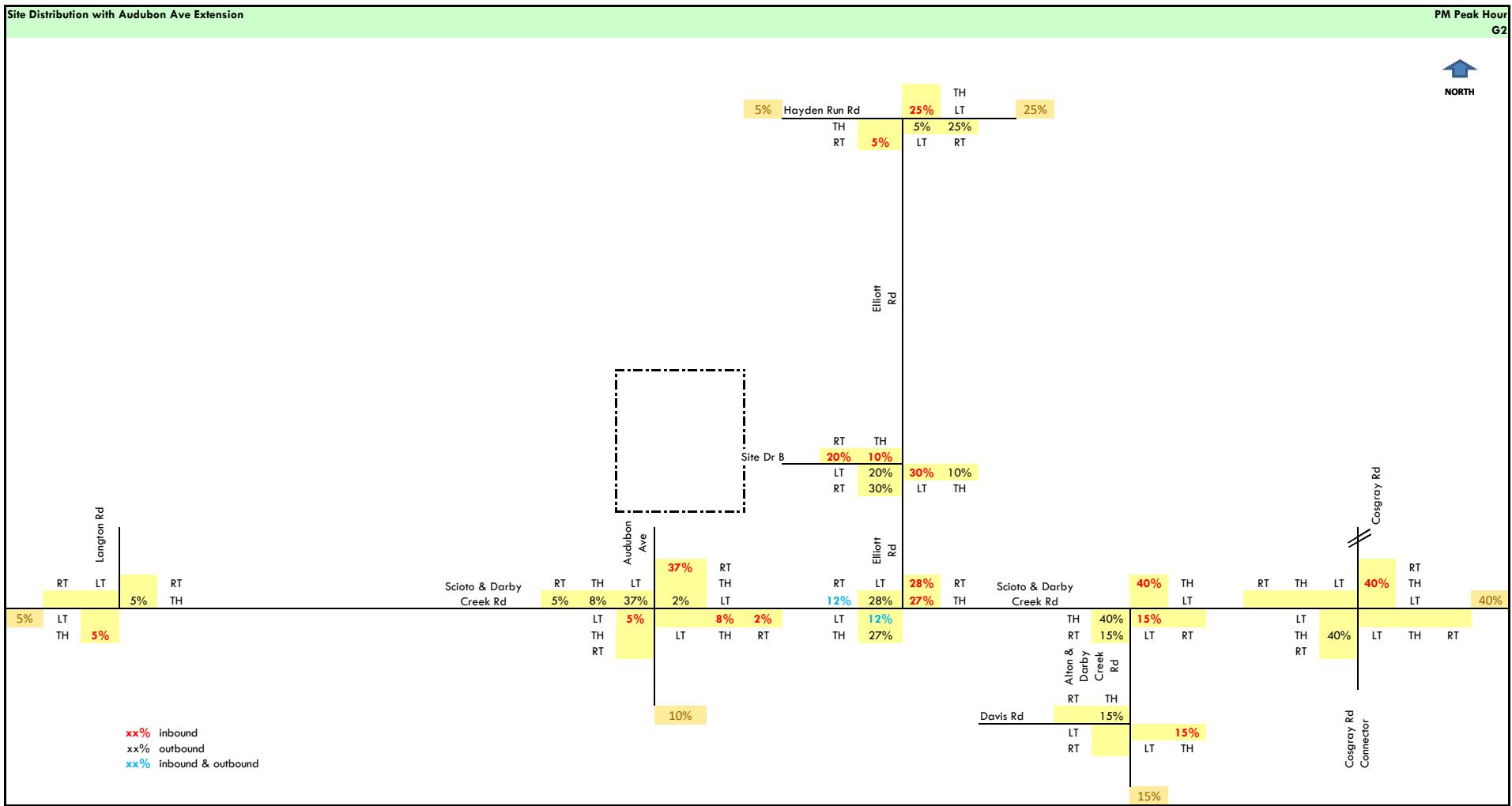
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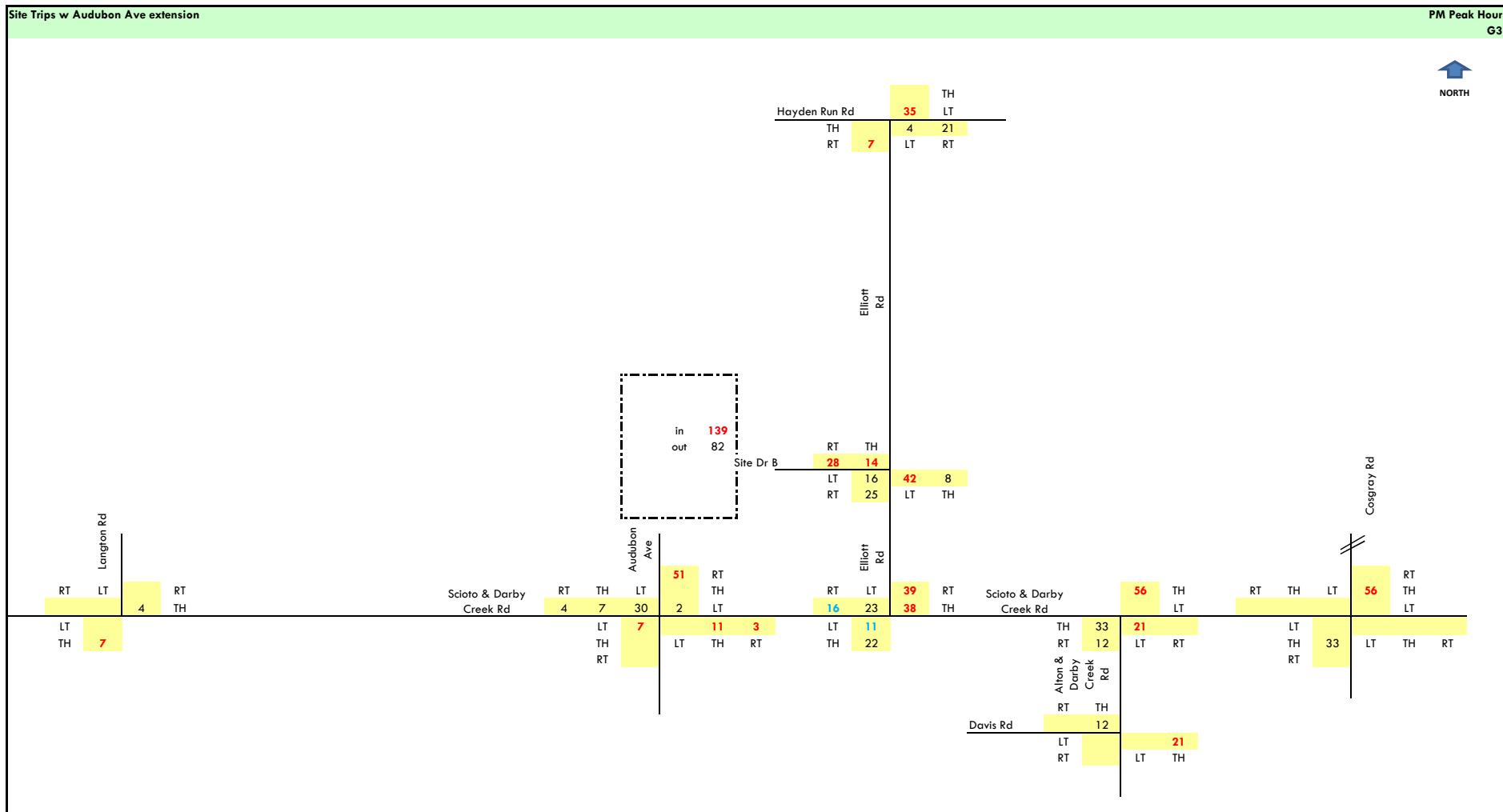
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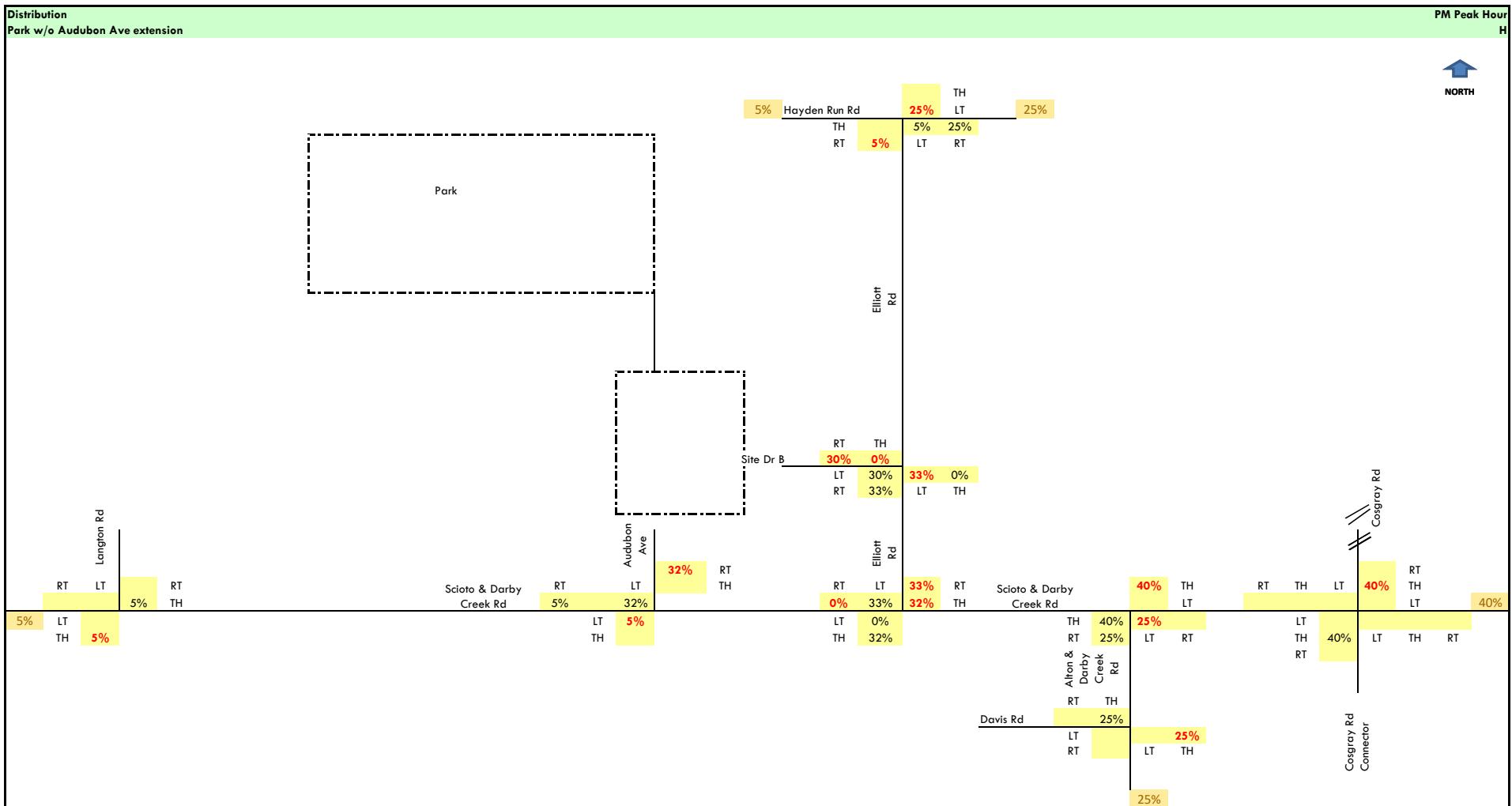
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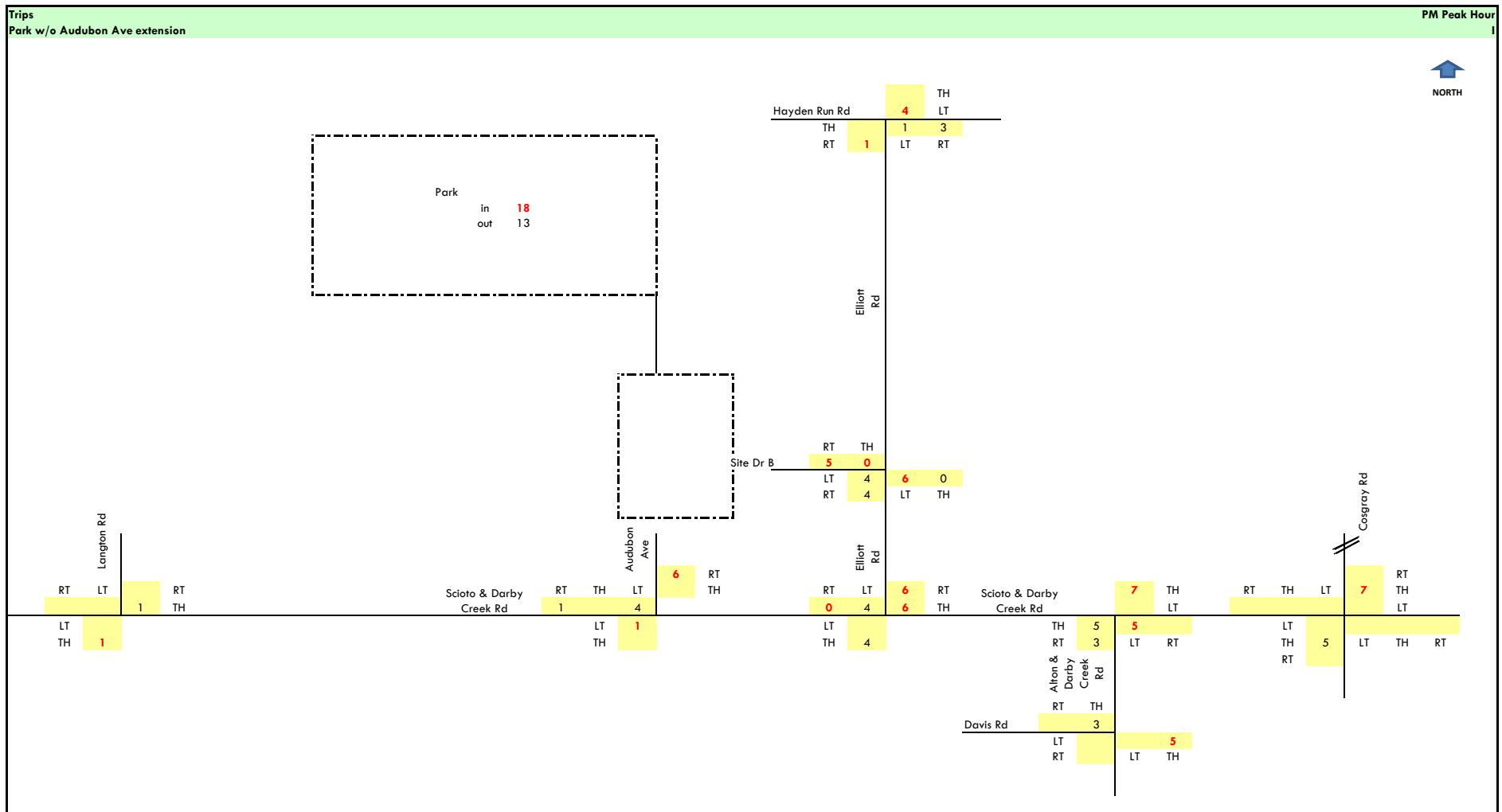
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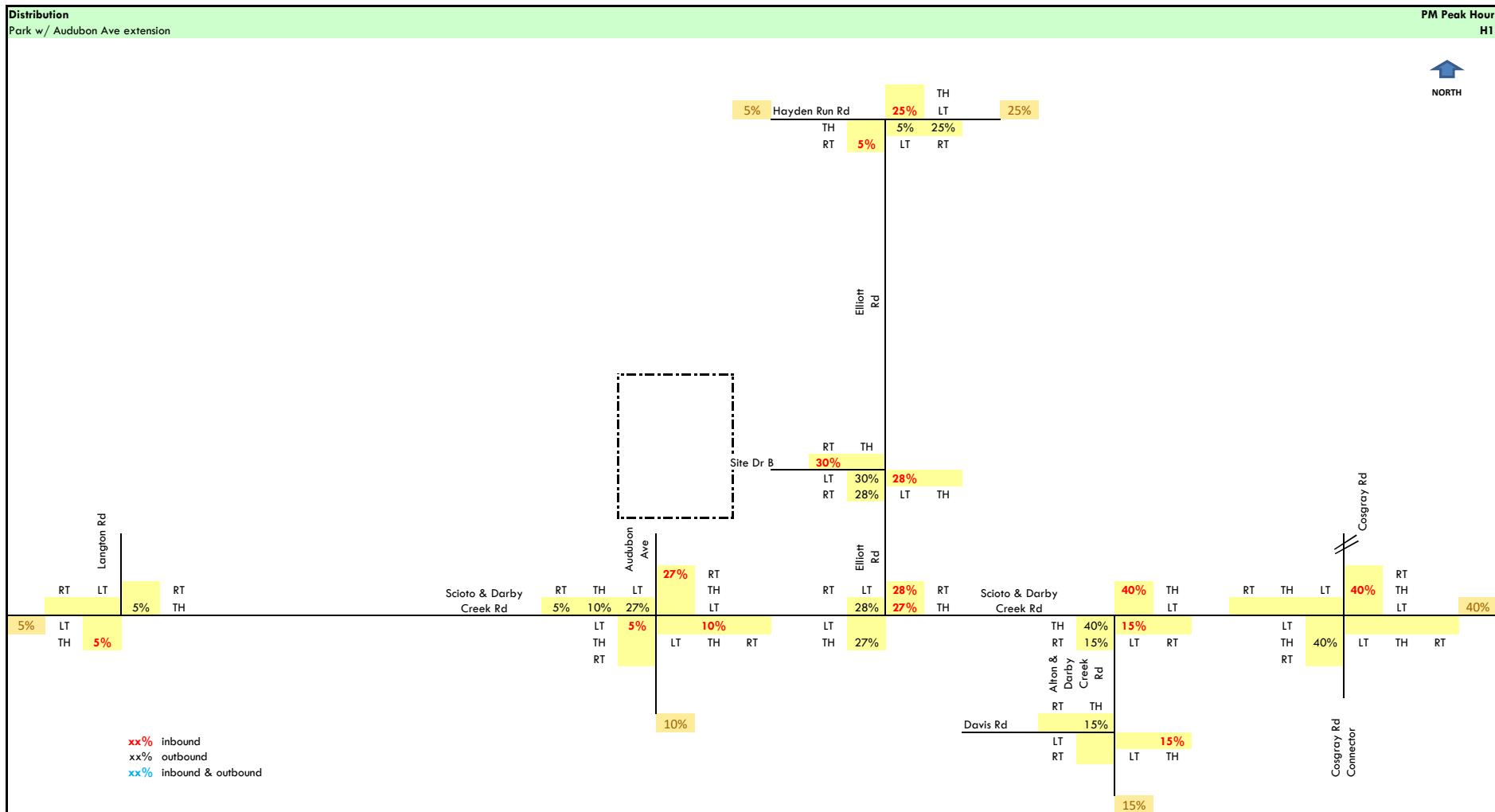
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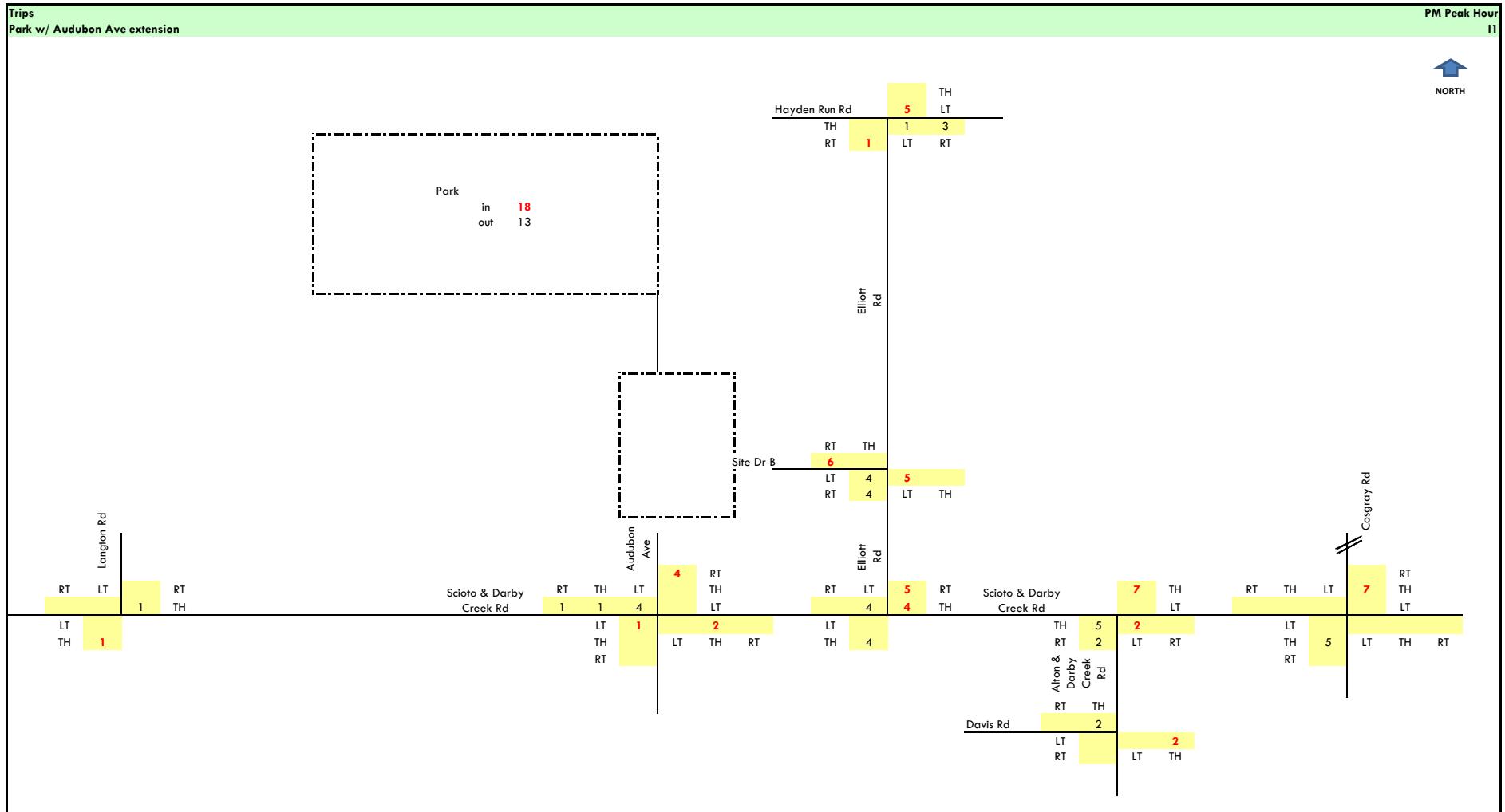
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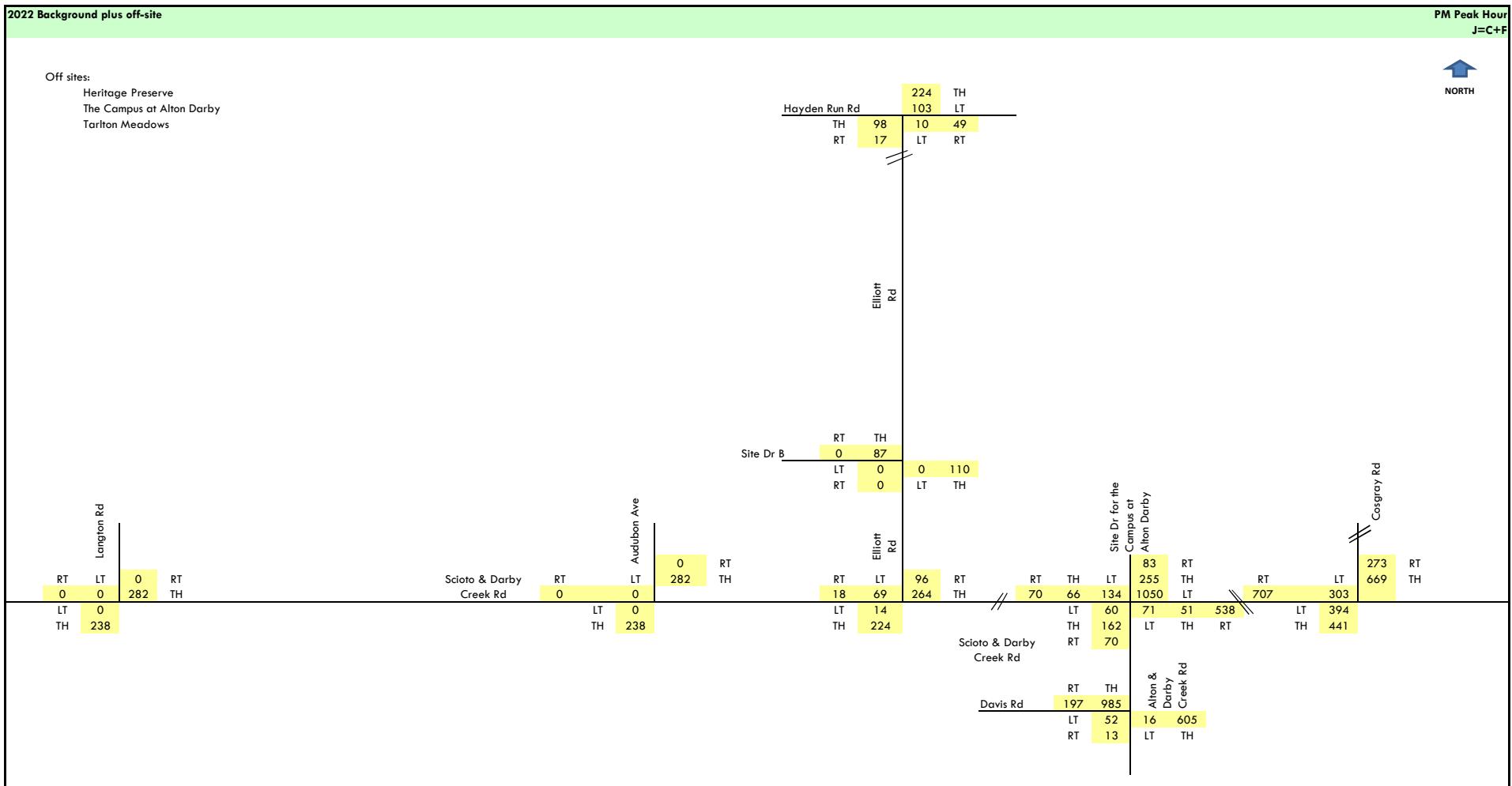
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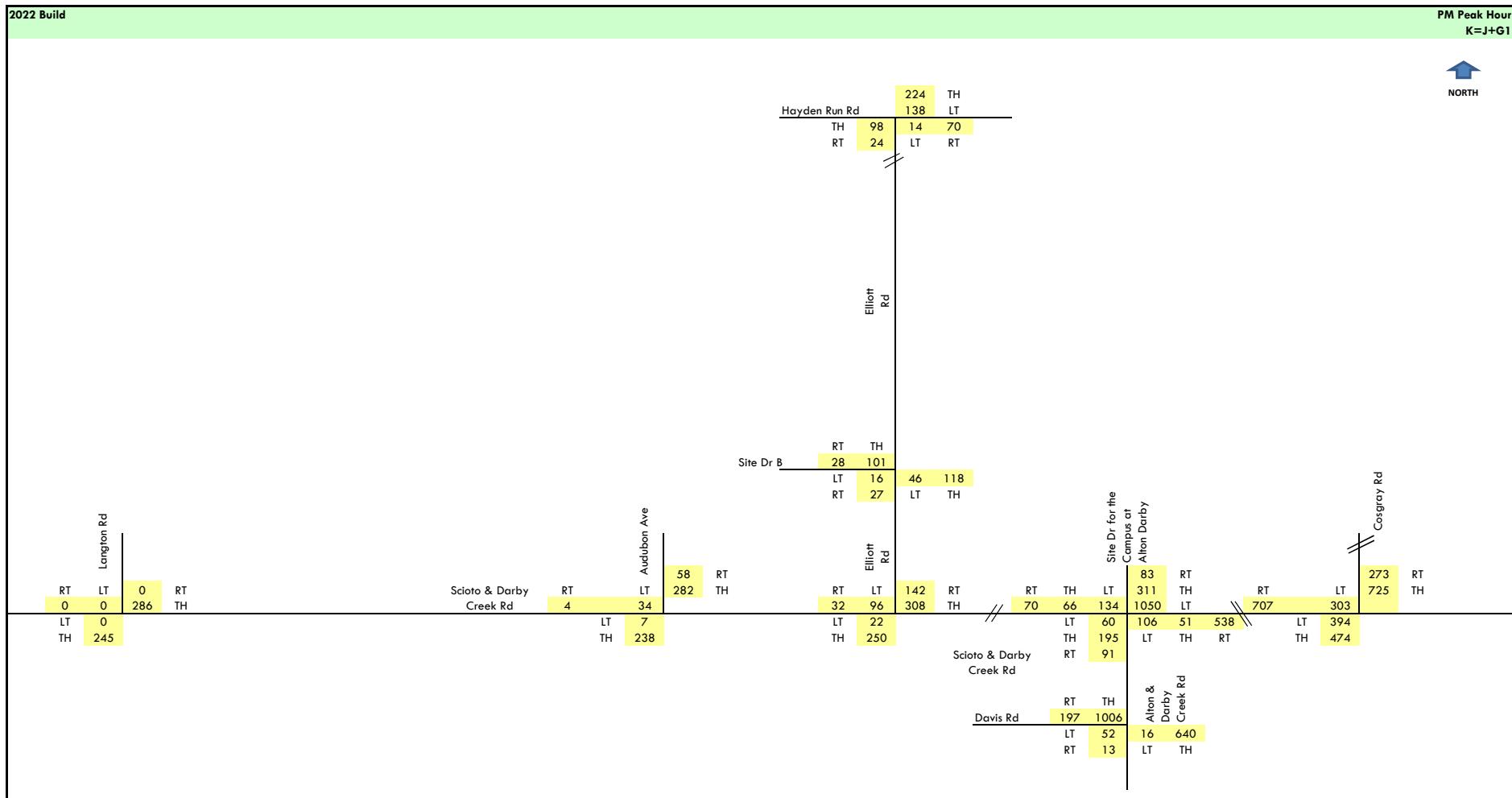
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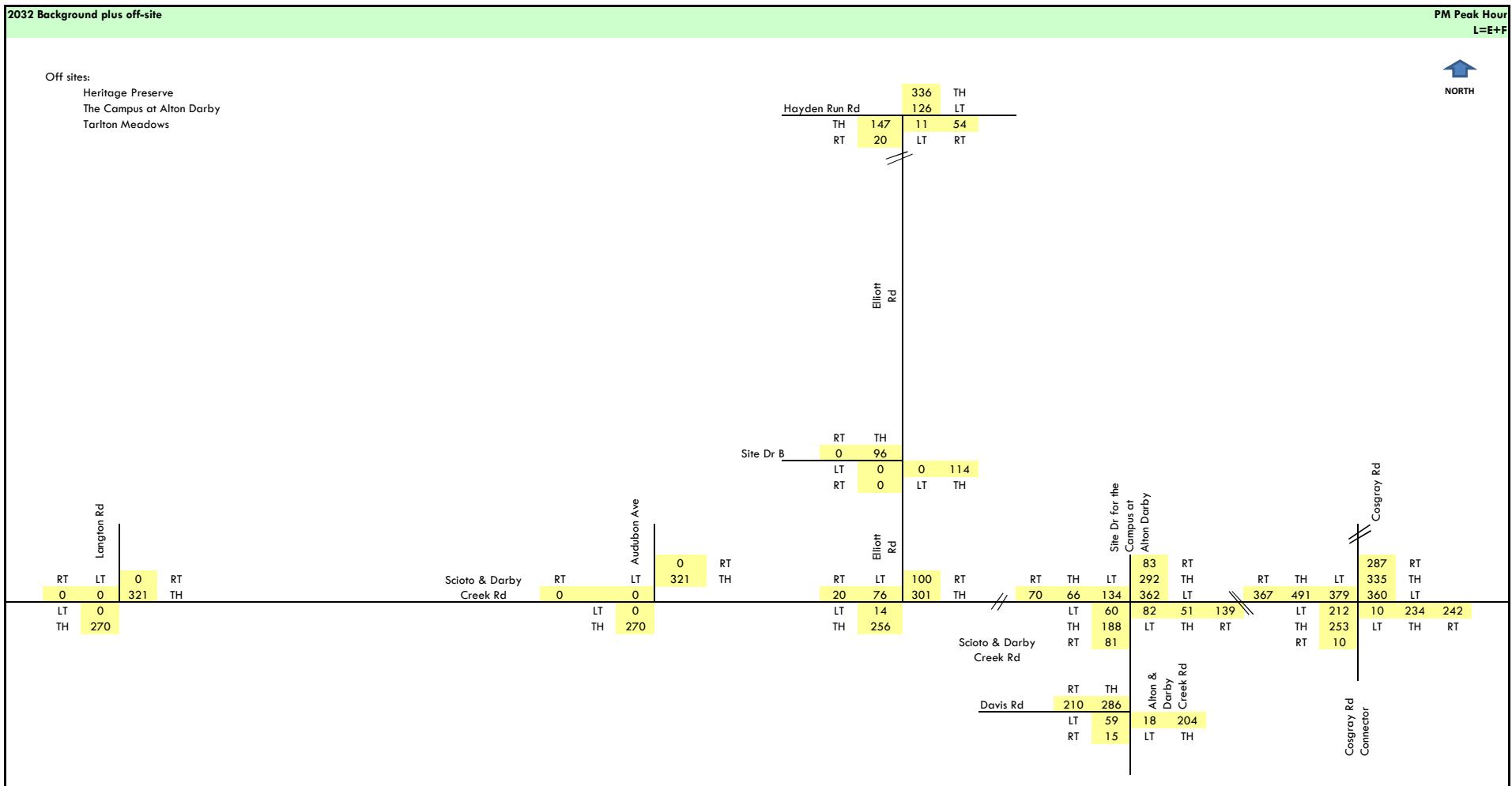
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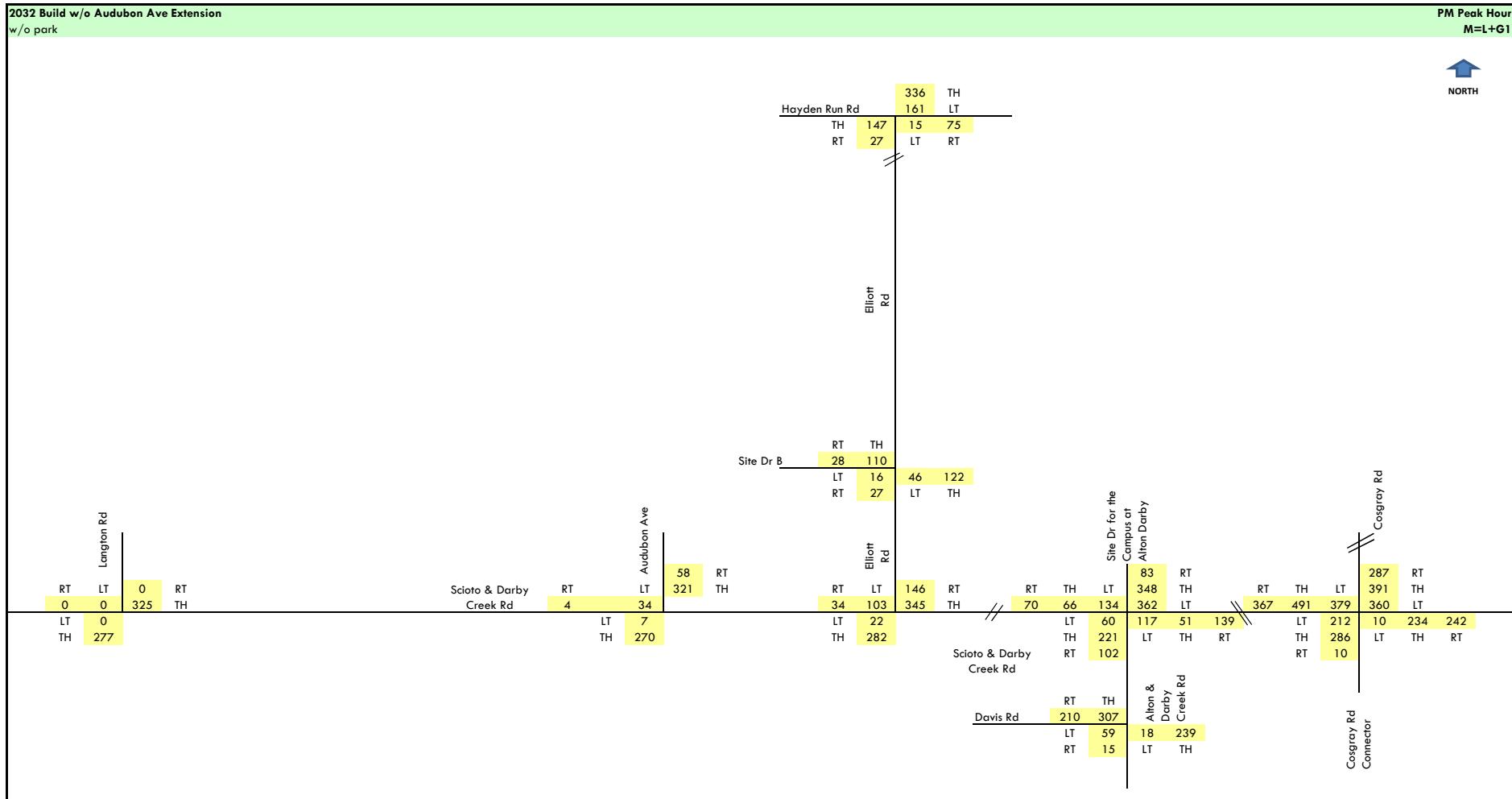
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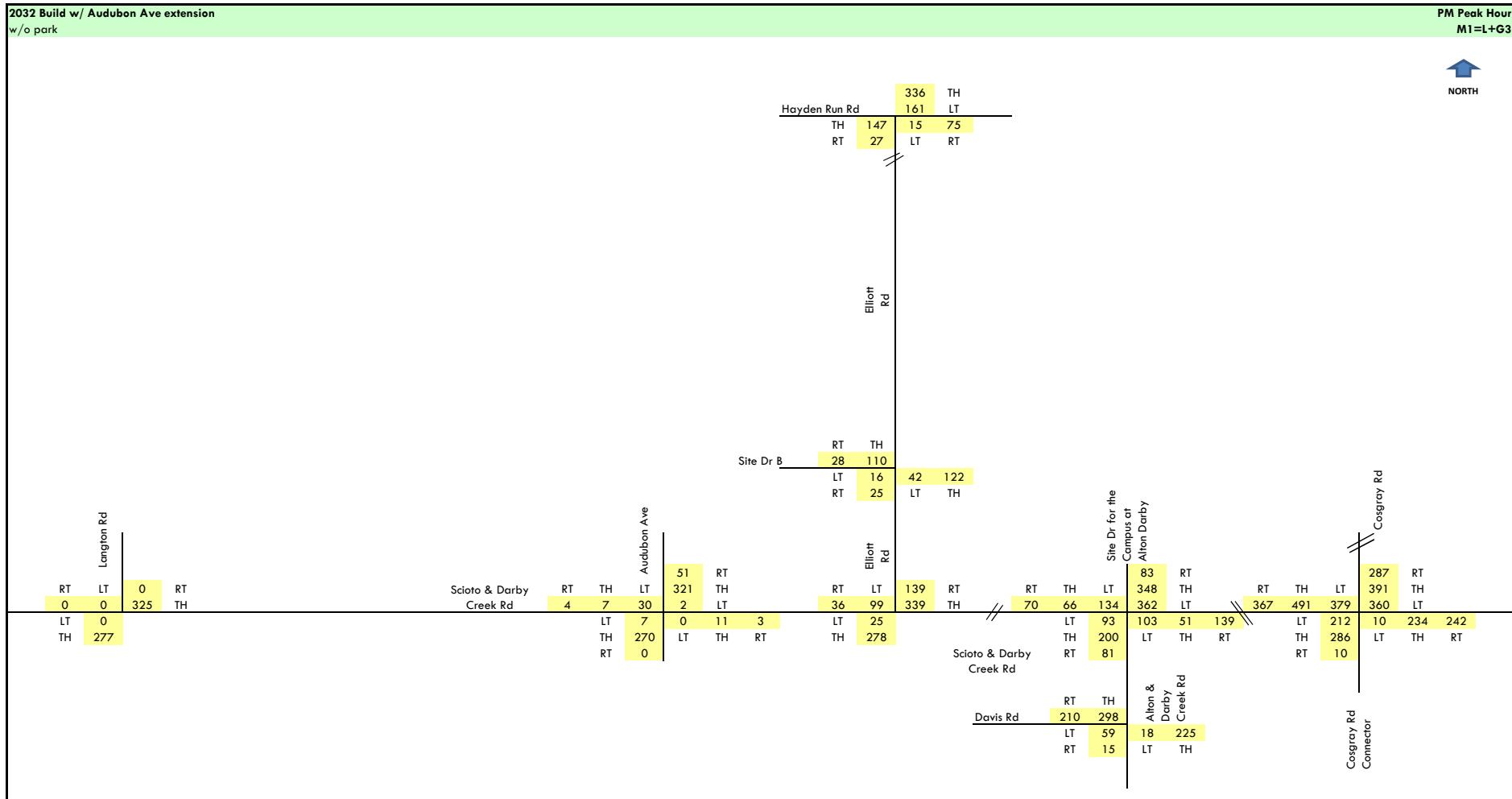
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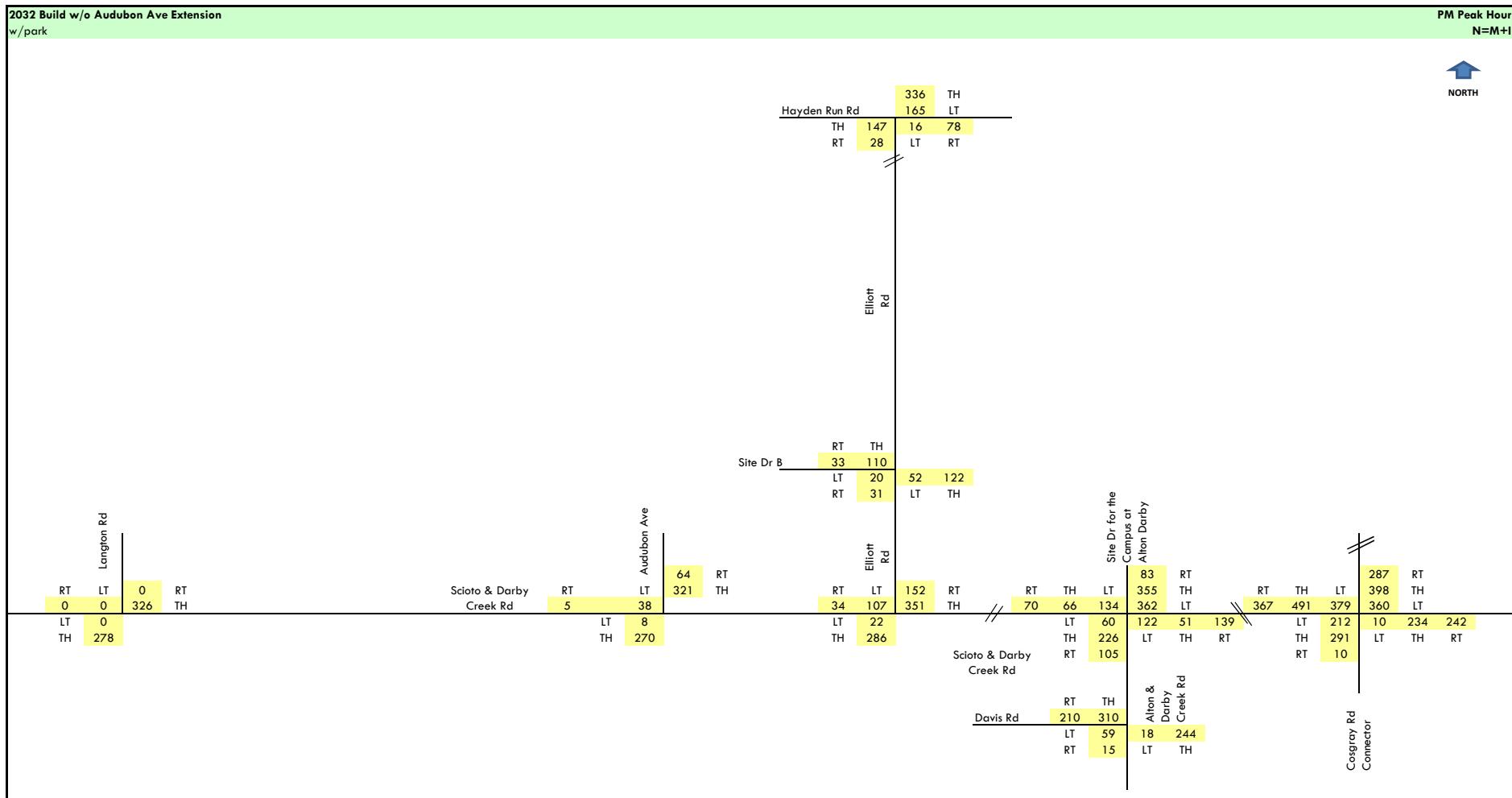
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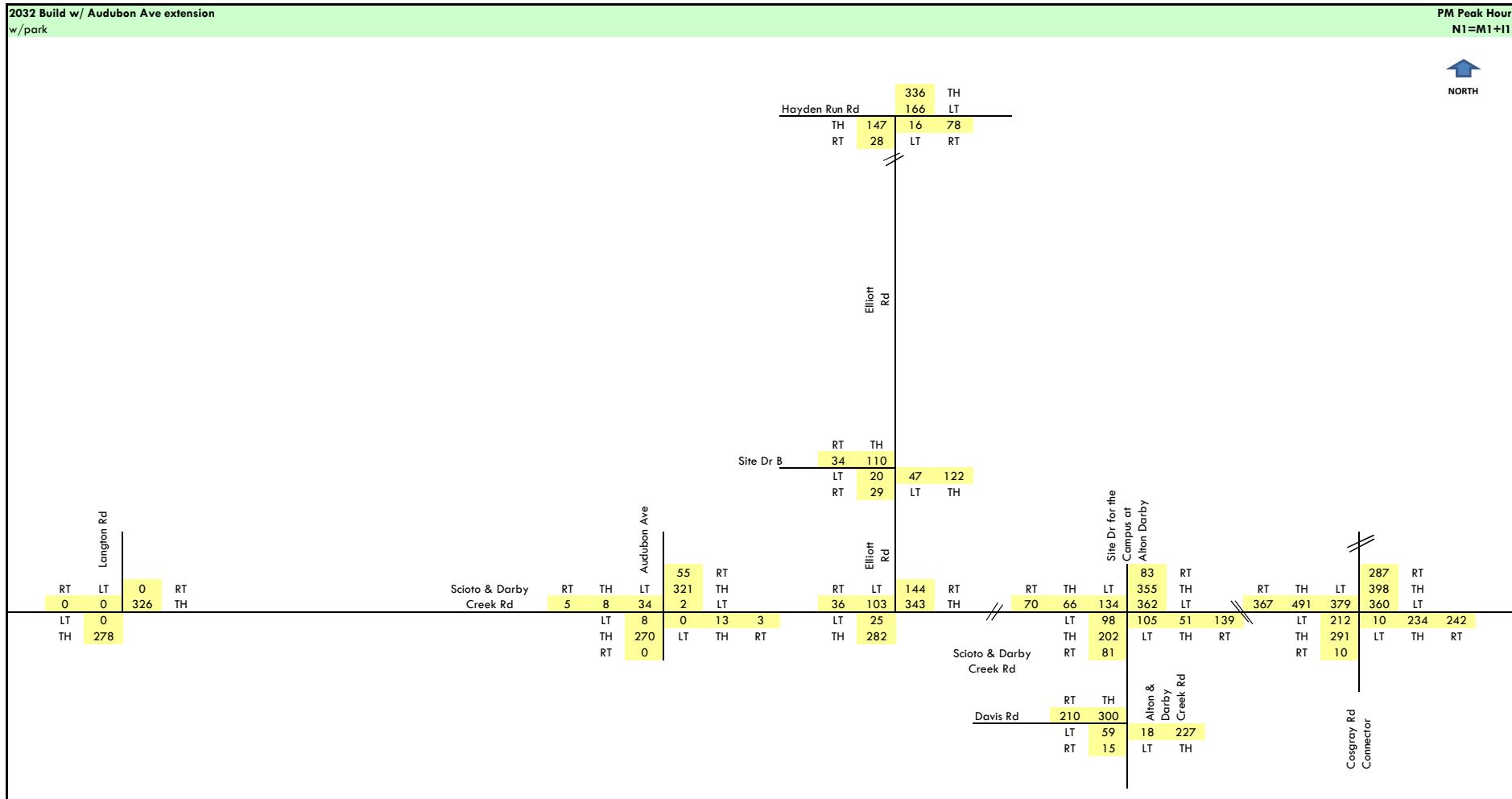
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Hill Tract  
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**Traffic Volume Calculations**



**Traffic Study****Site Traffic:**

Site traffic was calculated using a similar Metro Park, Glacier Ridge, as a model. FCEO collected traffic counts, parking lot occupancy, and vehicle occupancy at Glacier Ridge during weekday and weekend peak periods. Trip generation rates were calculated using number of parking spaces as the independent variable. Since traffic volumes at Glacier Ridge were relatively low and parking lot capacity was not exceeded, parking lot occupancy data was not used and number of vehicular trips were calculated as a direct function of parking space.

Metro Parks has a shared access agreement for the property owner on the northwest corner of Walnut and Bevelhymer to access Site Drive 1. The 73 acre parcel is anticipated to develop as single family homes. The parcel would require City of Columbus annexation and water / sewer design, so site traffic from the parcel is only shown in 2029 traffic. For comparison purposes, year 2029 traffic is also shown without the residential component. The 73 acre parcel was modeled as ITE Lane Use 210, Single Family Detached Housing, and was calculated at a similar density as the Upper Clarenton subdivision to the south. The residential trip generation assumes full build out by 2029.

**Table #2-Glacier Ridge Trip Generation Data**

Peak Hour	Entering Volume	Entering Percentage	Exiting Volume	Exiting Percentage	Total Volume	Parking Spaces	Trips per Parking Space
Weekday 5-6 PM	20	59%	14	41%	34		0.2048
Weekend 1-2 PM	34	54%	23	46%	57	166	0.3433

**Table #3-Rocky Fork Weekday Peak Trip Generation**

Area	Number of Parking Spaces	Number of Trips based on Parking Spaces	Number of Entering Trips	Number of Exiting Trips
Area 1 (Site Drive 1 / Upper Clarenton Drive)	75	15	9	6
Area 2 (Site Drive 3 – Harlem Road Trailhead)	20	4	2	2
<b>Phase 1 Total</b>	<b>95</b>	<b>19</b>	<b>11</b>	<b>8</b>
Area 3 (Site Drive 2)	70	14	8	6
Area 4 (Site Drive 4)	20	4	2	2
<b>Phase 1&amp;2 Total</b>	<b>185</b>	<b>37</b>	<b>21</b>	<b>16</b>

## **Appendix E**

### **Capacity Analysis**

**Intersection**

Int Delay, s/veh 1.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑		↑	↓	
Traffic Vol, veh/h	2	240		185	18	53
Future Vol, veh/h	2	240		185	18	53
Conflicting Peds, #/hr	0	0		0	0	0
Sign Control	Free	Free		Free	Free	Stop
RT Channelized	-	None		-	None	-
Storage Length	-	-		-	-	0
Veh in Median Storage, #	-	0		0	-	0
Grade, %	-	0		0	-	0
Peak Hour Factor	92	92		92	92	92
Heavy Vehicles, %	2	2		2	2	2
Mvmt Flow	2	261		201	20	58
						7

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	221	0	-	0	476	211
Stage 1	-	-	-	-	211	-
Stage 2	-	-	-	-	265	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1348	-	-	-	548	829
Stage 1	-	-	-	-	824	-
Stage 2	-	-	-	-	779	-
Platoon blocked, %	-	-	-	-		
Mov Cap-1 Maneuver	1348	-	-	-	547	829
Mov Cap-2 Maneuver	-	-	-	-	547	-
Stage 1	-	-	-	-	822	-
Stage 2	-	-	-	-	779	-

Approach	EB		WB		SB	
HCM Control Delay, s	0.1		0		12.2	
HCM LOS					B	

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1348	-	-	-	567	
HCM Lane V/C Ratio	0.002	-	-	-	0.113	
HCM Control Delay (s)	7.7	0	-	-	12.2	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.4	

## Intersection

Int Delay, s/veh 1.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑	↑	Y	Y
Traffic Vol, veh/h	2	240		185	18	53
Future Vol, veh/h	2	240		185	18	53
Conflicting Peds, #/hr	0	0		0	0	0
Sign Control	Free	Free		Free	Stop	Stop
RT Channelized	-	None		-	None	-
Storage Length	-	-		-	225	0
Veh in Median Storage, #	-	0		0	-	0
Grade, %	-	0		0	-	0
Peak Hour Factor	92	92		92	92	92
Heavy Vehicles, %	2	2		2	2	2
Mvmt Flow	2	261		201	20	58
						7

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	221	0	-	0	466	201
Stage 1	-	-	-	-	201	-
Stage 2	-	-	-	-	265	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1348	-	-	-	555	840
Stage 1	-	-	-	-	833	-
Stage 2	-	-	-	-	779	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1348	-	-	-	554	840
Mov Cap-2 Maneuver	-	-	-	-	554	-
Stage 1	-	-	-	-	831	-
Stage 2	-	-	-	-	779	-

Approach	EB		WB		SB	
HCM Control Delay, s	0.1		0		12.1	
HCM LOS					B	

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1348	-	-	-	574	
HCM Lane V/C Ratio	0.002	-	-	-	0.112	
HCM Control Delay (s)	7.7	0	-	-	12.1	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.4	

**Intersection**

Int Delay, s/veh 1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑		↑	Y	
Traffic Vol, veh/h	2	273		210	18	53
Future Vol, veh/h	2	273		210	18	53
Conflicting Peds, #/hr	0	0		0	0	0
Sign Control	Free	Free		Free	Free	Stop
RT Channelized	-	None		-	None	-
Storage Length	-	-		-	-	0
Veh in Median Storage, #	-	0		0	-	0
Grade, %	-	0		0	-	0
Peak Hour Factor	92	92		92	92	92
Heavy Vehicles, %	2	2		2	2	2
Mvmt Flow	2	297		228	20	58
						7

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	248	0	-	0	539	238
Stage 1	-	-	-	-	238	-
Stage 2	-	-	-	-	301	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1318	-	-	-	503	801
Stage 1	-	-	-	-	802	-
Stage 2	-	-	-	-	751	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1318	-	-	-	502	801
Mov Cap-2 Maneuver	-	-	-	-	502	-
Stage 1	-	-	-	-	800	-
Stage 2	-	-	-	-	751	-

Approach	EB		WB		SB	
HCM Control Delay, s	0.1		0		12.9	
HCM LOS					B	

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1318	-	-	-	522	
HCM Lane V/C Ratio	0.002	-	-	-	0.123	
HCM Control Delay (s)	7.7	0	-	-	12.9	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.4	

## Intersection

Int Delay, s/veh 1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑	↑	↔	
Traffic Vol, veh/h	2	273		210	18	53
Future Vol, veh/h	2	273		210	18	53
Conflicting Peds, #/hr	0	0		0	0	0
Sign Control	Free	Free		Free	Free	Stop
RT Channelized	-	None		-	None	-
Storage Length	-	-		-	225	0
Veh in Median Storage, #	-	0		0	-	0
Grade, %	-	0		0	-	0
Peak Hour Factor	92	92		92	92	92
Heavy Vehicles, %	2	2		2	2	2
Mvmt Flow	2	297		228	20	58
						7

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	248	0	-	0	529	228
Stage 1	-	-	-	-	228	-
Stage 2	-	-	-	-	301	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1318	-	-	-	510	811
Stage 1	-	-	-	-	810	-
Stage 2	-	-	-	-	751	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1318	-	-	-	509	811
Mov Cap-2 Maneuver	-	-	-	-	509	-
Stage 1	-	-	-	-	808	-
Stage 2	-	-	-	-	751	-

Approach	EB		WB		SB	
HCM Control Delay, s	0.1		0		12.7	
HCM LOS					B	

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1318	-	-	-	529	
HCM Lane V/C Ratio	0.002	-	-	-	0.121	
HCM Control Delay (s)	7.7	0	-	-	12.7	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.4	

## Intersection

Int Delay, s/veh 1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	273	0	3	210	16	0	3	1	47	10	6
Future Vol, veh/h	2	273	0	3	210	16	0	3	1	47	10	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	297	0	3	228	17	0	3	1	51	11	7

Major/Minor	Major1	Major2			Minor1			Minor2				
Conflicting Flow All	245	0	0	297	0	0	553	552	297	546	544	237
Stage 1	-	-	-	-	-	-	301	301	-	243	243	-
Stage 2	-	-	-	-	-	-	252	251	-	303	301	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1321	-	-	1264	-	-	444	442	742	448	446	802
Stage 1	-	-	-	-	-	-	708	665	-	761	705	-
Stage 2	-	-	-	-	-	-	752	699	-	706	665	-
Platoon blocked, %	-	-	-	-	-	-						
Mov Cap-1 Maneuver	1321	-	-	1264	-	-	431	440	742	443	444	802
Mov Cap-2 Maneuver	-	-	-	-	-	-	431	440	-	443	444	-
Stage 1	-	-	-	-	-	-	707	664	-	759	703	-
Stage 2	-	-	-	-	-	-	732	697	-	700	664	-

Approach	EB	WB			NB			SB		
HCM Control Delay, s	0.1	0.1			12.4			13.6		
HCM LOS					B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	490	1321	-	-	1264	-	-	443	533
HCM Lane V/C Ratio	0.009	0.002	-	-	0.003	-	-	0.115	0.033
HCM Control Delay (s)	12.4	7.7	0	-	7.9	0	-	14.2	12
HCM Lane LOS	B	A	A	-	A	A	-	B	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.4	0.1

## Intersection:

Int Delay, s/veh 1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	273	0	3	210	16	0	3	1	47	10	6
Future Vol, veh/h	2	273	0	3	210	16	0	3	1	47	10	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	225	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	297	0	3	228	17	0	3	1	51	11	7

Major/Minor	Major1	Major2			Minor1			Minor2				
Conflicting Flow All	245	0	0	297	0	0	553	552	297	537	535	228
Stage 1	-	-	-	-	-	-	301	301	-	234	234	-
Stage 2	-	-	-	-	-	-	252	251	-	303	301	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1321	-	-	1264	-	-	444	442	742	455	452	811
Stage 1	-	-	-	-	-	-	708	665	-	769	711	-
Stage 2	-	-	-	-	-	-	752	699	-	706	665	-
Platoon blocked, %	-	-	-	-	-	-						
Mov Cap-1 Maneuver	1321	-	-	1264	-	-	431	440	742	450	450	811
Mov Cap-2 Maneuver	-	-	-	-	-	-	431	440	-	450	450	-
Stage 1	-	-	-	-	-	-	707	664	-	767	709	-
Stage 2	-	-	-	-	-	-	732	697	-	700	664	-

Approach	EB	WB			NB			SB		
HCM Control Delay, s	0.1	0.1			12.4			13.5		
HCM LOS					B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	490	1321	-	-	1264	-	-	450	540
HCM Lane V/C Ratio	0.009	0.002	-	-	0.003	-	-	0.114	0.032
HCM Control Delay (s)	12.4	7.7	0	-	7.9	0	-	14	11.9
HCM Lane LOS	B	A	A	-	A	A	-	B	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.4	0.1

## Intersection

Int Delay, s/veh 0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑	↔	↔	
Traffic Vol, veh/h	7	238		282	58	34
Future Vol, veh/h	7	238		282	58	34
Conflicting Peds, #/hr	0	0		0	0	0
Sign Control	Free	Free		Free	Free	Stop
RT Channelized	-	None		-	None	-
Storage Length	-	-		-	-	0
Veh in Median Storage, #	-	0		0	-	0
Grade, %	-	0		0	-	0
Peak Hour Factor	92	92		92	92	92
Heavy Vehicles, %	2	2		2	2	2
Mvmt Flow	8	259		307	63	37

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	370	0	-	0	614	339
Stage 1	-	-	-	-	339	-
Stage 2	-	-	-	-	275	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1189	-	-	-	455	703
Stage 1	-	-	-	-	722	-
Stage 2	-	-	-	-	771	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1189	-	-	-	451	703
Mov Cap-2 Maneuver	-	-	-	-	451	-
Stage 1	-	-	-	-	716	-
Stage 2	-	-	-	-	771	-

Approach	EB		WB		SB	
HCM Control Delay, s	0.2		0		13.4	
HCM LOS					B	

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1189	-	-	-	469	
HCM Lane V/C Ratio	0.006	-	-	-	0.088	
HCM Control Delay (s)	8	0	-	-	13.4	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.3	

Intersection

Int Delay, s/veh 0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	7	238		282	58	34
Future Vol, veh/h	7	238		282	58	34
Conflicting Peds, #/hr	0	0		0	0	0
Sign Control	Free	Free		Free	Free	Stop
RT Channelized	-	None		-	None	-
Storage Length	-	-		-	175	0
Veh in Median Storage, #	-	0		0	-	0
Grade, %	-	0		0	-	0
Peak Hour Factor	92	92		92	92	92
Heavy Vehicles, %	2	2		2	2	2
Mvmt Flow	8	259		307	63	37

Major/Minor	Major1		Major2		Minor2
Conflicting Flow All	370	0	-	0	582
Stage 1	-	-	-	-	307
Stage 2	-	-	-	-	275
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1189	-	-	-	475
Stage 1	-	-	-	-	746
Stage 2	-	-	-	-	771
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1189	-	-	-	471
Mov Cap-2 Maneuver	-	-	-	-	471
Stage 1	-	-	-	-	740
Stage 2	-	-	-	-	771

Approach	EB		WB		SB
HCM Control Delay, s	0.2		0		13
HCM LOS					B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1189	-	-	-	489
HCM Lane V/C Ratio	0.006	-	-	-	0.084
HCM Control Delay (s)	8	0	-	-	13
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.3

## Intersection

Int Delay, s/veh 1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑		↓	↔	
Traffic Vol, veh/h	8	270		321	64	38
Future Vol, veh/h	8	270		321	64	38
Conflicting Peds, #/hr	0	0		0	0	0
Sign Control	Free	Free		Free	Free	Stop
RT Channelized	-	None		-	None	-
Storage Length	-	-		-	-	0
Veh in Median Storage, #	-	0		0	-	0
Grade, %	-	0		0	-	0
Peak Hour Factor	92	92		92	92	92
Heavy Vehicles, %	2	2		2	2	2
Mvmt Flow	9	293		349	70	41

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	419	0	-
Stage 1	-	-	384
Stage 2	-	-	311
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1140	-	-
Stage 1	-	-	688
Stage 2	-	-	743
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1140	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	682
Stage 2	-	-	743

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	14.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBL	n1
Capacity (veh/h)	1140	-	-	-	423	
HCM Lane V/C Ratio	0.008	-	-	-	0.11	
HCM Control Delay (s)	8.2	0	-	-	14.6	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.4	

## Intersection

Int Delay, s/veh 0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑	↑	Y	
Traffic Vol, veh/h	8	270		321	64	38
Future Vol, veh/h	8	270		321	64	38
Conflicting Peds, #/hr	0	0		0	0	0
Sign Control	Free	Free		Free	Free	Stop
RT Channelized	-	None		-	None	-
Storage Length	-	-		-	175	0
Veh in Median Storage, #	-	0		0	-	0
Grade, %	-	0		0	-	0
Peak Hour Factor	92	92		92	92	92
Heavy Vehicles, %	2	2		2	2	2
Mvmt Flow	9	293		349	70	41
						5

Major/Minor	Major1		Major2		Minor2
Conflicting Flow All	419	0	-	0	660
Stage 1	-	-	-	-	349
Stage 2	-	-	-	-	311
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1140	-	-	-	428
Stage 1	-	-	-	-	714
Stage 2	-	-	-	-	743
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1140	-	-	-	424
Mov Cap-2 Maneuver	-	-	-	-	424
Stage 1	-	-	-	-	708
Stage 2	-	-	-	-	743

Approach	EB		WB		SB
HCM Control Delay, s	0.2		0		14.1
HCM LOS					B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1140	-	-	-	444
HCM Lane V/C Ratio	0.008	-	-	-	0.105
HCM Control Delay (s)	8.2	0	-	-	14.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.4

## Intersection

Int Delay, s/veh 1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	270	0	2	321	55	0	13	3	34	8	5
Future Vol, veh/h	8	270	0	2	321	55	0	13	3	34	8	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	-	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	293	0	2	349	60	0	14	3	37	9	5

Major/Minor	Major1	Major2			Minor1			Minor2				
Conflicting Flow All	409	0	0	293	0	0	701	724	293	703	694	379
Stage 1	-	-	-	-	-	-	311	311	-	383	383	-
Stage 2	-	-	-	-	-	-	390	413	-	320	311	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1150	-	-	1269	-	-	353	352	746	352	366	668
Stage 1	-	-	-	-	-	-	699	658	-	640	612	-
Stage 2	-	-	-	-	-	-	634	594	-	692	658	-
Platoon blocked, %	-	-	-	-	-	-						
Mov Cap-1 Maneuver	1150	-	-	1269	-	-	341	348	746	337	362	668
Mov Cap-2 Maneuver	-	-	-	-	-	-	341	348	-	337	362	-
Stage 1	-	-	-	-	-	-	693	652	-	634	611	-
Stage 2	-	-	-	-	-	-	619	593	-	668	652	-

Approach	EB	WB			NB			SB		
HCM Control Delay, s	0.2	0			14.7			16		
HCM LOS					B			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	387	1150	-	-	1269	-	-	337	439
HCM Lane V/C Ratio	0.045	0.008	-	-	0.002	-	-	0.11	0.032
HCM Control Delay (s)	14.7	8.2	0	-	7.8	0	-	17	13.5
HCM Lane LOS	B	A	A	-	A	A	-	C	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.4	0.1

## Intersection

Int Delay, s/veh 1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	270	0	2	321	55	0	13	3	34	8	5
Future Vol, veh/h	8	270	0	2	321	55	0	13	3	34	8	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	-	-	-	-	-	175	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	293	0	2	349	60	0	14	3	37	9	5

Major/Minor	Major1	Major2		Minor1			Minor2		
Conflicting Flow All	409	0	0	293	0	0	701	724	293
Stage 1	-	-	-	-	-	-	311	311	-
Stage 2	-	-	-	-	-	-	390	413	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1150	-	-	1269	-	-	353	352	746
Stage 1	-	-	-	-	-	-	699	658	-
Stage 2	-	-	-	-	-	-	634	594	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1150	-	-	1269	-	-	341	348	746
Mov Cap-2 Maneuver	-	-	-	-	-	-	341	348	-
Stage 1	-	-	-	-	-	-	693	652	-
Stage 2	-	-	-	-	-	-	619	593	-
692	658	-	-	668	652	-	-	-	-

Approach	EB	WB			NB			SB		
HCM Control Delay, s	0.2	0			14.7			15.5		
HCM LOS	-	B			C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	387	1150	-	-	1269	-	-	353	457
HCM Lane V/C Ratio	0.045	0.008	-	-	0.002	-	-	0.105	0.031
HCM Control Delay (s)	14.7	8.2	0	-	7.8	0	-	16.4	13.1
HCM Lane LOS	B	A	A	-	A	A	-	C	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.3	0.1

**Intersection**

Int Delay, s/veh 2.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↓		↔		↔	
Traffic Vol, veh/h	266	12	25	92	11	67
Future Vol, veh/h	266	12	25	92	11	67
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	289	13	27	100	12	73

Major/Minor	Major1	Major2		Minor1	
Conflicting Flow All	0	0	302	0	450
Stage 1	-	-	-	-	296
Stage 2	-	-	-	-	154
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1259	-	567
Stage 1	-	-	-	-	755
Stage 2	-	-	-	-	874
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1259	-	554
Mov Cap-2 Maneuver	-	-	-	-	554
Stage 1	-	-	-	-	738
Stage 2	-	-	-	-	874

Approach	EB	WB	NB
HCM Control Delay, s	0	1.7	10.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	709	-	-	1259	-
HCM Lane V/C Ratio	0.12	-	-	0.022	-
HCM Control Delay (s)	10.8	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-

Intersection

Int Delay, s/veh 2.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↖	↑	↘	
Traffic Vol, veh/h	266	12	25	92	11	67
Future Vol, veh/h	266	12	25	92	11	67
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	193	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	289	13	27	100	12	73

Major/Minor	Major1	Major2		Minor1	
Conflicting Flow All	0	0	302	0	450
Stage 1	-	-	-	-	296
Stage 2	-	-	-	-	154
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1259	-	567
Stage 1	-	-	-	-	755
Stage 2	-	-	-	-	874
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1259	-	555
Mov Cap-2 Maneuver	-	-	-	-	555
Stage 1	-	-	-	-	739
Stage 2	-	-	-	-	874

Approach	EB	WB	NB
HCM Control Delay, s	0	1.7	10.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	709	-	-	1259	-
HCM Lane V/C Ratio	0.12	-	-	0.022	-
HCM Control Delay (s)	10.8	-	-	7.9	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-

Intersection

Int Delay, s/veh 3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↑		↔	
Traffic Vol, veh/h	266	14	36	92	17	99
Future Vol, veh/h	266	14	36	92	17	99
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh-in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	289	15	39	100	18	108

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	304	0
Stage 1	-	-	-	297
Stage 2	-	-	-	178
Critical Hdwy	-	-	4.12	-
Critical Hdwy Stg 1	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-
Pot Cap-1 Maneuver	-	-	1257	-
Stage 1	-	-	-	754
Stage 2	-	-	-	853
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	1257	-
Mov Cap-2 Maneuver	-	-	-	530
Stage 1	-	-	-	729
Stage 2	-	-	-	853

Approach	EB	WB	NB
HCM Control Delay, s	0	2.2	11.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	701	-	-	1257	-
HCM Lane V/C Ratio	0.18	-	-	0.031	-
HCM Control Delay (s)	11.3	-	-	8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.7	-	-	0.1	-

Intersection						
Int Delay, s/veh	3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↑	↑	↑	
Traffic Vol, veh/h	266	14	36	92	17	99
Future Vol, veh/h	266	14	36	92	17	99
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	243	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	289	15	39	100	18	108
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	304	0	475	297
Stage 1	-	-	-	-	297	-
Stage 2	-	-	-	-	178	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1257	-	548	742
Stage 1	-	-	-	-	754	-
Stage 2	-	-	-	-	853	-
Platoon blocked, %	-	-	-	-		
Mov Cap-1 Maneuver	-	-	1257	-	531	742
Mov Cap-2 Maneuver	-	-	-	-	531	-
Stage 1	-	-	-	-	731	-
Stage 2	-	-	-	-	853	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	2.2	11.3			
HCM LOS			B			
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	701	-	-	1257	-	
HCM Lane V/C Ratio	0.18	-	-	0.031	-	
HCM Control Delay (s)	11.3	-	-	8	-	
HCM Lane LOS	B	-	-	A	-	
HCM 95th %tile Q(veh)	0.7	-	-	0.1	-	

Intersection

Int Delay, s/veh 2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↔		↔	
Traffic Vol, veh/h	399	17	33	138	12	75
Future Vol, veh/h	399	17	33	138	12	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	434	18	36	150	13	82

Major/Minor	Major1	Major2		Minor1	
Conflicting Flow All	0	0	452	0	665
Stage 1	-	-	-	-	443
Stage 2	-	-	-	-	222
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1109	-	425
Stage 1	-	-	-	-	647
Stage 2	-	-	-	-	815
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1109	-	410
Mov Cap-2 Maneuver	-	-	-	-	410
Stage 1	-	-	-	-	624
Stage 2	-	-	-	-	815

Approach	EB	WB	NB
HCM Control Delay, s	0	1.6	12.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	575	-	-	1109	-
HCM Lane V/C Ratio	0.164	-	-	0.032	-
HCM Control Delay (s)	12.5	-	-	8.4	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0.1	-

Intersection

Int Delay, s/veh 2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↖	↑	↘	
Traffic Vol, veh/h	399	17	33	138	12	75
Future Vol, veh/h	399	17	33	138	12	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	243	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	434	18	36	150	13	82

Major/Minor	Major1	Major2	Minor1	
Conflicting Flow All	0	0	452	665
Stage 1	-	-	-	443
Stage 2	-	-	-	222
Critical Hdwy	-	-	4.12	6.42
Critical Hdwy Stg 1	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	3.518
Pot Cap-1 Maneuver	-	-	1109	425
Stage 1	-	-	-	647
Stage 2	-	-	-	815
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	1109	411
Mov Cap-2 Maneuver	-	-	-	411
Stage 1	-	-	-	626
Stage 2	-	-	-	815

Approach	EB	WB	NB
HCM Control Delay, s	0	1.6	12.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	576	-	-	1109	-
HCM Lane V/C Ratio	0.164	-	-	0.032	-
HCM Control Delay (s)	12.5	-	-	8.4	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.6	-	-	0.1	-

Intersection

Int Delay, s/veh 2.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↔		↘	
Traffic Vol, veh/h	399	19	44	138	18	107
Future Vol, veh/h	399	19	44	138	18	107
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	434	21	48	150	20	116

Major/Minor	Major1	Major2	Minor1	
Conflicting Flow All	0	0	455	0
Stage 1	-	-	-	445
Stage 2	-	-	-	246
Critical Hdwy	-	-	4.12	-
Critical Hdwy Stg 1	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-
Pot Cap-1 Maneuver	-	-	1106	-
Stage 1	-	-	-	646
Stage 2	-	-	-	795
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	1106	-
Mov Cap-2 Maneuver	-	-	-	391
Stage 1	-	-	-	616
Stage 2	-	-	-	795

Approach	EB	WB	NB
HCM Control Delay, s	0	2	13.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	567	-	-	1106	-
HCM Lane V/C Ratio	0.24	-	-	0.043	-
HCM Control Delay (s)	13.3	-	-	8.4	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.9	-	-	0.1	-

Intersection

Int Delay, s/veh 2.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↑	↑	W	
Traffic Vol, veh/h	399	19	44	138	18	107
Future Vol, veh/h	399	19	44	138	18	107
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	243	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	434	21	48	150	20	116

Major/Minor	Major1	Major2	Minor1	
Conflicting Flow All	0	0	455	445
Stage 1	-	-	-	445
Stage 2	-	-	-	246
Critical Hdwy	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	5.42
Follow-up Hdwy	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	1106	-	410
Stage 1	-	-	-	646
Stage 2	-	-	-	795
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	1106	-	392
Mov Cap-2 Maneuver	-	-	-	392
Stage 1	-	-	-	618
Stage 2	-	-	-	795

Approach	EB	WB	NB
HCM Control Delay, s	0	2	13.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	567	-	-	1106	-
HCM Lane V/C Ratio	0.24	-	-	0.043	-
HCM Control Delay (s)	13.3	-	-	8.4	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.9	-	-	0.1	-

**Intersection**

Int Delay, s/veh 2.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↔		↖ ↗	
Traffic Vol, veh/h	399	19	44	138	18	107
Future Vol, veh/h	399	19	44	138	18	107
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	434	21	48	150	20	116

Major/Minor	Major1	Major2	Minor1	
Conflicting Flow All	0	0	455	691
Stage 1	-	-	-	445
Stage 2	-	-	-	246
Critical Hdwy	-	-	4.12	6.42
Critical Hdwy Stg 1	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	3.518
Pot Cap-1 Maneuver	-	-	1106	410
Stage 1	-	-	-	646
Stage 2	-	-	-	795
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	1106	391
Mov Cap-2 Maneuver	-	-	-	391
Stage 1	-	-	-	616
Stage 2	-	-	-	795

Approach	EB	WB	NB
HCM Control Delay, s	0	2	13.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	567	-	-	1106	-
HCM Lane V/C Ratio	0.24	-	-	0.043	-
HCM Control Delay (s)	13.3	-	-	8.4	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.9	-	-	0.1	-

Intersection

Int Delay, s/veh 2.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↑	↑	↑	
Traffic Vol, veh/h	399	19	44	138	18	107
Future Vol, veh/h	399	19	44	138	18	107
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	243	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	434	21	48	150	20	116

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	455	0
Stage 1	-	-	-	445
Stage 2	-	-	-	246
Critical Hdwy	-	-	4.12	-
Critical Hdwy Stg 1	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-
Pot Cap-1 Maneuver	-	-	1106	-
Stage 1	-	-	-	646
Stage 2	-	-	-	795
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	1106	-
Mov Cap-2 Maneuver	-	-	-	392
Stage 1	-	-	-	618
Stage 2	-	-	-	795

Approach	EB	WB	NB
HCM Control Delay, s	0	2	13.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	567	-	-	1106	-
HCM Lane V/C Ratio	0.24	-	-	0.043	-
HCM Control Delay (s)	13.3	-	-	8.4	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.9	-	-	0.1	-

Intersection

Int Delay, s/veh 2.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↔		▼	
Traffic Vol, veh/h	98	17	103	224	10	49
Future Vol, veh/h	98	17	103	224	10	49
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	107	18	112	243	11	53

Major/Minor	Major1	Major2		Minor1	
Conflicting Flow All	0	0	125	0	583
Stage 1	-	-	-	-	116
Stage 2	-	-	-	-	467
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1462	-	475
Stage 1	-	-	-	-	909
Stage 2	-	-	-	-	631
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1462	-	433
Mov Cap-2 Maneuver	-	-	-	-	433
Stage 1	-	-	-	-	828
Stage 2	-	-	-	-	631

Approach	EB	WB	NB
HCM Control Delay, s	0	2.4	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	782	-	-	1462	-
HCM Lane V/C Ratio	0.082	-	-	0.077	-
HCM Control Delay (s)	10	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0.2	-

Intersection

Int Delay, s/veh 2.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↖	↑	↘	
Traffic Vol, veh/h	98	17	103	224	10	49
Future Vol, veh/h	98	17	103	224	10	49
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	193	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	107	18	112	243	11	53

Major/Minor	Major1	Major2		Minor1	
Conflicting Flow All	0	0	125	0	583 116
Stage 1	-	-	-	-	116 -
Stage 2	-	-	-	-	467 -
Critical Hdwy	-	-	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	-	-	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	-	-	1462	-	475 936
Stage 1	-	-	-	-	909 -
Stage 2	-	-	-	-	631 -
Platoon blocked, %	-	-	-	-	
Mov Cap-1 Maneuver	-	-	1462	-	438 936
Mov Cap-2 Maneuver	-	-	-	-	438 -
Stage 1	-	-	-	-	839 -
Stage 2	-	-	-	-	631 -

Approach	EB	WB	NB
HCM Control Delay, s	0	2.4	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	785	-	-	1462	-
HCM Lane V/C Ratio	0.082	-	-	0.077	-
HCM Control Delay (s)	10	-	-	7.7	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0.2	-

**Intersection**

Int Delay, s/veh 3.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↓			↖	↖	
Traffic Vol, veh/h	98	24	138	224	14	70
Future Vol, veh/h	98	24	138	224	14	70
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	107	26	150	243	15	76

Major/Minor	Major1	Major2		Minor1	
Conflicting Flow All	0	0	133	0	663
Stage 1	-	-	-	-	120
Stage 2	-	-	-	-	543
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1452	-	426
Stage 1	-	-	-	-	905
Stage 2	-	-	-	-	582
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1452	-	375
Mov Cap-2 Maneuver	-	-	-	-	375
Stage 1	-	-	-	-	797
Stage 2	-	-	-	-	582

Approach	EB	WB	NB
HCM Control Delay, s	0	3	10.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	747	-	-	1452	-
HCM Lane V/C Ratio	0.122	-	-	0.103	-
HCM Control Delay (s)	10.5	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0.3	-

Intersection

Int Delay, s/veh 3.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↖	↑	↘	
Traffic Vol, veh/h	98	24	138	224	14	70
Future Vol, veh/h	98	24	138	224	14	70
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	193	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	107	26	150	243	15	76

Major/Minor	Major1	Major2		Minor1	
Conflicting Flow All	0	0	133	0	663
Stage 1	-	-	-	-	120
Stage 2	-	-	-	-	543
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1452	-	426
Stage 1	-	-	-	-	905
Stage 2	-	-	-	-	582
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1452	-	382
Mov Cap-2 Maneuver	-	-	-	-	382
Stage 1	-	-	-	-	812
Stage 2	-	-	-	-	582

Approach	EB	WB	NB
HCM Control Delay, s	0	3	10.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	751	-	-	1452	-
HCM Lane V/C Ratio	0.122	-	-	0.103	-
HCM Control Delay (s)	10.5	-	-	7.8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0.3	-

Intersection

Int Delay, s/veh 2.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↓		Y	
Traffic Vol, veh/h	147	20	126	336	11	54
Future Vol, veh/h	147	20	126	336	11	54
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	160	22	137	365	12	59

Major/Minor	Major1	Major2	Minor1	
Conflicting Flow All	0	0	182	0
Stage 1	-	-	-	171
Stage 2	-	-	-	639
Critical Hdwy	-	-	4.12	-
Critical Hdwy Stg 1	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-
Pot Cap-1 Maneuver	-	-	1393	-
Stage 1	-	-	-	859
Stage 2	-	-	-	526
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	1393	-
Mov Cap-2 Maneuver	-	-	-	306
Stage 1	-	-	-	753
Stage 2	-	-	-	526

Approach	EB	WB	NB
HCM Control Delay, s	0	2.1	11.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	665	-	-	1393	-
HCM Lane V/C Ratio	0.106	-	-	0.098	-
HCM Control Delay (s)	11.1	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0.3	-

Intersection

Int Delay, s/veh 2.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↓		↑	↑	↖	↖
Traffic Vol, veh/h	147	20	126	336	11	54
Future Vol, veh/h	147	20	126	336	11	54
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	243	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	160	22	137	365	12	59

Major/Minor	Major1	Major2	Minor1	
Conflicting Flow All	0	0	182	0
Stage 1	-	-	-	171
Stage 2	-	-	-	639
Critical Hdwy	-	-	4.12	-
Critical Hdwy Stg 1	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-
Pot Cap-1 Maneuver	-	-	1393	-
Stage 1	-	-	-	859
Stage 2	-	-	-	526
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	1393	-
Mov Cap-2 Maneuver	-	-	-	315
Stage 1	-	-	-	775
Stage 2	-	-	-	526

Approach	EB	WB	NB
HCM Control Delay, s	0	2.1	11
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	672	-	-	1393	-
HCM Lane V/C Ratio	0.105	-	-	0.098	-
HCM Control Delay (s)	11	-	-	7.9	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0.3	-

Intersection

Int Delay, s/veh 3.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↑		Y	
Traffic Vol, veh/h	147	28	165	336	16	78
Future Vol, veh/h	147	28	165	336	16	78
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	160	30	179	365	17	85

Major/Minor	Major1	Major2	Minor1	
Conflicting Flow All	0	0	190	0
Stage 1	-	-	-	175
Stage 2	-	-	-	723
Critical Hdwy	-	-	4.12	-
Critical Hdwy Stg 1	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-
Pot Cap-1 Maneuver	-	-	1384	-
Stage 1	-	-	-	855
Stage 2	-	-	-	481
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	1384	-
Mov Cap-2 Maneuver	-	-	-	260
Stage 1	-	-	-	716
Stage 2	-	-	-	481

Approach	EB	WB	NB
HCM Control Delay, s	0	2.6	11.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	621	-	-	1384	-
HCM Lane V/C Ratio	0.165	-	-	0.13	-
HCM Control Delay (s)	11.9	-	-	8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0.4	-

Intersection

Int Delay, s/veh 3.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↑	↑	Y	
Traffic Vol, veh/h	147	28	165	336	16	78
Future Vol, veh/h	147	28	165	336	16	78
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	243	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	160	30	179	365	17	85

Major/Minor	Major1	Major2		Minor1	
Conflicting Flow All	0	0	190	0	898
Stage 1	-	-	-	-	175
Stage 2	-	-	-	-	723
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1384	-	310
Stage 1	-	-	-	-	855
Stage 2	-	-	-	-	481
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1384	-	270
Mov Cap-2 Maneuver	-	-	-	-	270
Stage 1	-	-	-	-	745
Stage 2	-	-	-	-	481

Approach	EB	WB	NB
HCM Control Delay, s	0	2.6	11.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	630	-	-	1384	-
HCM Lane V/C Ratio	0.162	-	-	0.13	-
HCM Control Delay (s)	11.8	-	-	8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.6	-	-	0.4	-

Intersection

Int Delay, s/veh 3.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↔	↔	Y	
Traffic Vol, veh/h	147	28	166	336	16	78
Future Vol, veh/h	147	28	166	336	16	78
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	160	30	180	365	17	85

Major/Minor	Major1	Major2		Minor1	
Conflicting Flow All	0	0	190	0	900
Stage 1	-	-	-	-	175
Stage 2	-	-	-	-	725
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1384	-	309
Stage 1	-	-	-	-	855
Stage 2	-	-	-	-	479
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1384	-	259
Mov Cap-2 Maneuver	-	-	-	-	259
Stage 1	-	-	-	-	716
Stage 2	-	-	-	-	479

Approach	EB	WB	NB
HCM Control Delay, s	0	2.6	11.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	620	-	-	1384	-
HCM Lane V/C Ratio	0.165	-	-	0.13	-
HCM Control Delay (s)	11.9	-	-	8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0.4	-

Intersection

Int Delay, s/veh 3.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↑	↑	Y	
Traffic Vol, veh/h	147	28	166	336	16	78
Future Vol, veh/h	147	28	166	336	16	78
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	243	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	160	30	180	365	17	85

Major/Minor	Major1	Major2	Minor1	
Conflicting Flow All	0	0	190	0
Stage 1	-	-	-	175
Stage 2	-	-	-	725
Critical Hdwy	-	-	4.12	-
Critical Hdwy Stg 1	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-
Pot Cap-1 Maneuver	-	-	1384	-
Stage 1	-	-	-	855
Stage 2	-	-	-	479
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	1384	-
Mov Cap-2 Maneuver	-	-	-	269
Stage 1	-	-	-	744
Stage 2	-	-	-	479

Approach	EB	WB	NB
HCM Control Delay, s	0	2.6	11.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	629	-	-	1384	-
HCM Lane V/C Ratio	0.162	-	-	0.13	-
HCM Control Delay (s)	11.8	-	-	8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.6	-	-	0.4	-

Intersection

Int Delay, s/veh 3.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			↑		↑
Traffic Vol, veh/h	25	42	14	71	77	9
Future Vol, veh/h	25	42	14	71	77	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	46	15	77	84	10

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	196	89	94
Stage 1	89	-	-
Stage 2	107	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	793	969	1500
Stage 1	934	-	-
Stage 2	917	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	785	969	1500
Mov Cap-2 Maneuver	785	-	-
Stage 1	925	-	-
Stage 2	917	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.4	1.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1500	-	891	-	-
HCM Lane V/C Ratio	0.01	-	0.082	-	-
HCM Control Delay (s)	7.4	0	9.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Intersection

Int Delay, s/veh 3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			↑		↑
Traffic Vol, veh/h	25	42	14	78	82	9
Future Vol, veh/h	25	42	14	78	82	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	46	15	85	89	10

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	209	94	99
Stage 1	94	-	-
Stage 2	115	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	779	963	1494
Stage 1	930	-	-
Stage 2	910	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	770	963	1494
Mov Cap-2 Maneuver	770	-	-
Stage 1	920	-	-
Stage 2	910	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.5	1.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1494	-	881	-	-
HCM Lane V/C Ratio	0.01	-	0.083	-	-
HCM Control Delay (s)	7.4	0	9.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Intersection

Int Delay, s/veh 2.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			↑	↑	
Traffic Vol, veh/h	25	38	13	78	82	9
Future Vol, veh/h	25	38	13	78	82	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	41	14	85	89	10

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	207	94	99
Stage 1	94	-	-
Stage 2	113	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	781	963	1494
Stage 1	930	-	-
Stage 2	912	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	773	963	1494
Mov Cap-2 Maneuver	773	-	-
Stage 1	921	-	-
Stage 2	912	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.5	1.1	0
HCM LOS	A	-	-

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1494	-	877	-	-
HCM Lane V/C Ratio	0.009	-	0.078	-	-
HCM Control Delay (s)	7.4	0	9.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

**Intersection**

Int Delay, s/veh 2.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			↑		↑
Traffic Vol, veh/h	16	27	46	118	101	28
Future Vol, veh/h	16	27	46	118	101	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	29	50	128	110	30

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	353	125	140	0	- 0
Stage 1	125	-	-	-	- -
Stage 2	228	-	-	-	- -
Critical Hdwy	6.42	6.22	4.12	-	- -
Critical Hdwy Stg 1	5.42	-	-	-	- -
Critical Hdwy Stg 2	5.42	-	-	-	- -
Follow-up Hdwy	3.518	3.318	2.218	-	- -
Pot Cap-1 Maneuver	645	926	1443	-	- -
Stage 1	901	-	-	-	- -
Stage 2	810	-	-	-	- -
Platoon blocked, %			-	-	- -
Mov Cap-1 Maneuver	621	926	1443	-	- -
Mov Cap-2 Maneuver	621	-	-	-	- -
Stage 1	868	-	-	-	- -
Stage 2	810	-	-	-	- -

Approach	EB	NB	SB
HCM Control Delay, s	9.9	2.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1443	-	783	-	-
HCM Lane V/C Ratio	0.035	-	0.06	-	-
HCM Control Delay (s)	7.6	0	9.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection

Int Delay, s/veh 2.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			↑		↑
Traffic Vol, veh/h	20	31	52	122	110	33
Future Vol, veh/h	20	31	52	122	110	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	34	57	133	120	36

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	385	138	156
Stage 1	138	-	-
Stage 2	247	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	618	910	1424
Stage 1	889	-	-
Stage 2	794	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	591	910	1424
Mov Cap-2 Maneuver	591	-	-
Stage 1	851	-	-
Stage 2	794	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.2	2.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1424	-	751	-	-
HCM Lane V/C Ratio	0.04	-	0.074	-	-
HCM Control Delay (s)	7.6	0	10.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection

Int Delay, s/veh 2.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			Y		Y
Traffic Vol, veh/h	20	29	47	122	110	34
Future Vol, veh/h	20	29	47	122	110	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	32	51	133	120	37

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	374	139	157
Stage 1	139	-	-
Stage 2	235	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	627	909	1423
Stage 1	888	-	-
Stage 2	804	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	603	909	1423
Mov Cap-2 Maneuver	603	-	-
Stage 1	853	-	-
Stage 2	804	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.1	2.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1423	-	753	-	-
HCM Lane V/C Ratio	0.036	-	0.071	-	-
HCM Control Delay (s)	7.6	0	10.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection

Int Delay, s/veh 1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑	↗		↖	↗
Traffic Vol, veh/h	6	234		172 52	60	13
Future Vol, veh/h	6	234		172 52	60	13
Conflicting Peds, #/hr	0	0		0 0	0	0
Sign Control	Free	Free		Free Free	Stop	Stop
RT Channelized	-	None		- None	-	None
Storage Length	420	-		- -	200	0
Veh in Median Storage, #	-	0		0 -	0	-
Grade, %	-	0		0 -	0	-
Peak Hour Factor	92	92		92 92	92	92
Heavy Vehicles, %	2	2		2 2	2	2
Mvmt Flow	7	254		187 57	65	14

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	244	0	-	0	484	216
Stage 1	-	-	-	-	216	-
Stage 2	-	-	-	-	268	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1322	-	-	-	542	824
Stage 1	-	-	-	-	820	-
Stage 2	-	-	-	-	777	-
Platoon blocked, %	-	-	-	-		
Mov Cap-1 Maneuver	1322	-	-	-	539	824
Mov Cap-2 Maneuver	-	-	-	-	539	-
Stage 1	-	-	-	-	816	-
Stage 2	-	-	-	-	777	-

Approach	EB		WB		SB	
HCM Control Delay, s	0.2		0		12	
HCM LOS					B	

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1322	-	-	-	539	824
HCM Lane V/C Ratio	0.005	-	-	-	0.121	0.017
HCM Control Delay (s)	7.7	-	-	-	12.6	9.4
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.4	0.1

Intersection

Int Delay, s/veh 1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↑	↑	↑	↑	↑	↑
Traffic Vol, veh/h	6	234		172	52	60
Future Vol, veh/h	6	234		172	52	60
Conflicting Peds, #/hr	0	0		0	0	0
Sign Control	Free	Free		Free	Free	Stop
RT Channelized	-	None		-	None	-
Storage Length	420	-		-	175	200
Veh in Median Storage, #	-	0		0	-	0
Grade, %	-	0		0	-	0
Peak Hour Factor	-	92		92	92	92
Heavy Vehicles, %	2	2		2	2	2
Mvmt Flow	7	254		187	57	65
						14

Major/Minor	Major1		Major2		Minor2
Conflicting Flow All	244	0	-	0	455
Stage 1	-	-	-	-	187
Stage 2	-	-	-	-	268
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1322	-	-	-	563
Stage 1	-	-	-	-	845
Stage 2	-	-	-	-	777
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1322	-	-	-	560
Mov Cap-2 Maneuver	-	-	-	-	560
Stage 1	-	-	-	-	841
Stage 2	-	-	-	-	777

Approach	EB		WB		SB
HCM Control Delay, s	0.2		0		11.8
HCM LOS					B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1322	-	-	-	560	855
HCM Lane V/C Ratio	0.005	-	-	-	0.116	0.017
HCM Control Delay (s)	7.7	-	-	-	12.3	9.3
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.4	0.1

Intersection

Int Delay, s/veh 2.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations	↑	↑	↑		↑	↑	
Traffic Vol, veh/h	19	275		186	66	102	17
Future Vol, veh/h	19	275		186	66	102	17
Conflicting Peds, #/hr	0	0		0	0	0	0
Sign Control	Free	Free		Free	Free	Stop	Stop
RT Channelized	-	None		-	None	-	None
Storage Length	420	-		-	-	195	0
Veh in Median Storage, #	-	0		0	-	0	-
Grade, %	-	0		0	-	0	-
Peak Hour Factor	92	92		92	92	92	92
Heavy Vehicles, %	2	2		2	2	2	2
Mvmt Flow	21	299		202	72	111	18

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	274	0	-	0	579	238
Stage 1	-	-	-	-	238	-
Stage 2	-	-	-	-	341	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1289	-	-	-	477	801
Stage 1	-	-	-	-	802	-
Stage 2	-	-	-	-	720	-
Platoon blocked, %	-	-	-	-		
Mov Cap-1 Maneuver	1289	-	-	-	469	801
Mov Cap-2 Maneuver	-	-	-	-	469	-
Stage 1	-	-	-	-	789	-
Stage 2	-	-	-	-	720	-

Approach	EB		WB		SB	
HCM Control Delay, s	0.5		0		14.2	
HCM LOS					B	

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1289	-	-	-	469	801
HCM Lane V/C Ratio	0.016	-	-	-	0.236	0.023
HCM Control Delay (s)	7.8	-	-	-	15	9.6
HCM Lane LOS	A	-	-	-	C	A
HCM 95th %tile Q(veh)	0	-	-	-	0.9	0.1

## Intersection

Int Delay, s/veh 2.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations	↑	↑	↑	↑	↑	↑	
Traffic Vol, veh/h	19	275		186	66	102	17
Future Vol, veh/h	19	275		186	66	102	17
Conflicting Peds, #/hr	0	0		0	0	0	0
Sign Control	Free	Free		Free	Free	Stop	Stop
RT Channelized	-	None		-	None	-	None
Storage Length	420	-		-	225	195	0
Veh in Median Storage, #	-	0		0	-	0	-
Grade, %	-	0		0	-	0	-
Peak Hour Factor	92	92		92	92	92	92
Heavy Vehicles, %	2	2		2	2	2	2
Mvmt Flow	21	299		202	72	111	18

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	274	0	-	0	543	202
Stage 1	-	-	-	-	202	-
Stage 2	-	-	-	-	341	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1289	-	-	-	501	839
Stage 1	-	-	-	-	832	-
Stage 2	-	-	-	-	720	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1289	-	-	-	493	839
Mov Cap-2 Maneuver	-	-	-	-	493	-
Stage 1	-	-	-	-	819	-
Stage 2	-	-	-	-	720	-

Approach	EB		WB		SB	
HCM Control Delay, s	0.5		0		13.7	
HCM LOS					B	

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1289	-	-	-	493	839
HCM Lane V/C Ratio	0.016	-	-	-	0.225	0.022
HCM Control Delay (s)	7.8	-	-	-	14.4	9.4
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.9	0.1

Intersection

Int Delay, s/veh 1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↑	↑	↑		↑	↑
Traffic Vol, veh/h	7	266		196	58	64
Future Vol, veh/h	7	266		196	58	64
Conflicting Peds, #/hr	0	0		0	0	0
Sign Control	Free	Free		Free	Free	Stop
RT Channelized	-	None		-	None	None
Storage Length	420	-		-	-	0
Veh in Median Storage, #	-	0		0	-	0
Grade, %	-	0		0	-	0
Peak Hour Factor	92	92		92	92	92
Heavy Vehicles, %	2	2		2	2	2
Mvmt Flow	8	289		213	63	70
						15

Major/Minor	Major1		Major2		Minor2
Conflicting Flow All	276	0	-	0	550
Stage 1	-	-	-	-	245
Stage 2	-	-	-	-	305
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1287	-	-	-	496
Stage 1	-	-	-	-	796
Stage 2	-	-	-	-	748
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1287	-	-	-	493
Mov Cap-2 Maneuver	-	-	-	-	493
Stage 1	-	-	-	-	791
Stage 2	-	-	-	-	748

Approach	EB		WB		SB
HCM Control Delay, s	0.2		0		12.8
HCM LOS					B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1287	-	-	-	493	794
HCM Lane V/C Ratio	0.006	-	-	-	0.141	0.019
HCM Control Delay (s)	7.8	-	-	-	13.5	9.6
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.5	0.1

Intersection

Int Delay, s/veh 1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↑	↑	↑	↑	↑	↑
Traffic Vol, veh/h	7	266		196	58	64
Future Vol, veh/h	7	266		196	58	64
Conflicting Peds, #/hr	0	0		0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	420	-	-	243	0	200
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	289	213	63	70	15

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	276	0	-
Stage 1	-	-	213
Stage 2	-	-	305
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1287	-	-
Stage 1	-	-	823
Stage 2	-	-	748
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1287	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	818
Stage 2	-	-	748

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	12.4
HCM LOS		B	

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1287	-	-	-	515	827
HCM Lane V/C Ratio	0.006	-	-	-	0.135	0.018
HCM Control Delay (s)	7.8	-	-	-	13.1	9.4
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.5	0.1

Intersection

Int Delay, s/veh 2.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↑	↑	↑		↑	↑
Traffic Vol, veh/h	20	307	210	72	106	18
Future Vol, veh/h	20	307	210	72	106	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	420	-	-	-	200	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	334	228	78	115	20

Major/Minor	Major1		Major2		Minor2
Conflicting Flow All	306	0	-	0	645 267
Stage 1	-	-	-	-	267 -
Stage 2	-	-	-	-	378 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1255	-	-	-	437 772
Stage 1	-	-	-	-	778 -
Stage 2	-	-	-	-	693 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1255	-	-	-	429 772
Mov Cap-2 Maneuver	-	-	-	-	429 -
Stage 1	-	-	-	-	764 -
Stage 2	-	-	-	-	693 -

Approach	EB		WB		SB
HCM Control Delay, s	0.5		0		15.4
HCM LOS					C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1255	-	-	-	429	772
HCM Lane V/C Ratio	0.017	-	-	-	0.269	0.025
HCM Control Delay (s)	7.9	-	-	-	16.4	9.8
HCM Lane LOS	A	-	-	-	C	A
HCM 95th %tile Q(veh)	0.1	-	-	-	1.1	0.1

## Intersection

Int Delay, s/veh 2.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑	↑	↖	↖	↖
Traffic Vol, veh/h	20	307		210	72	106
Future Vol, veh/h	20	307		210	72	106
Conflicting Peds, #/hr	0	0		0	0	0
Sign Control	Free	Free		Free	Stop	Stop
RT Channelized	-	None		-	None	None
Storage Length	420	-		-	243	200
Veh in Median Storage, #	-	0		0	0	-
Grade, %	-	0		0	0	-
Peak Hour Factor	92	92		92	92	92
Heavy Vehicles, %	2	2		2	2	2
Mvmt Flow	22	334		228	78	115
						20

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	306	0	-	0	606	228
Stage 1	-	-	-	-	228	-
Stage 2	-	-	-	-	378	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1255	-	-	-	460	811
Stage 1	-	-	-	-	810	-
Stage 2	-	-	-	-	693	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1255	-	-	-	452	811
Mov Cap-2 Maneuver	-	-	-	-	452	-
Stage 1	-	-	-	-	795	-
Stage 2	-	-	-	-	693	-

Approach	EB		WB		SB	
HCM Control Delay, s	0.5		0		14.8	
HCM LOS					B	

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1255	-	-	-	452	811
HCM Lane V/C Ratio	0.017	-	-	-	0.255	0.024
HCM Control Delay (s)	7.9	-	-	-	15.7	9.5
HCM Lane LOS	A	-	-	-	C	A
HCM 95th %tile Q(veh)	0.1	-	-	-	1	0.1

Intersection:

Int Delay, s/veh 2.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↑	↑	↑	↑	↑	↑
Traffic Vol, veh/h	21	300	208	70	100	20
Future Vol, veh/h	21	300	208	70	100	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	420	-	-	-	200	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	326	226	76	109	22

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	302	0	-
Stage 1	-	-	264
Stage 2	-	-	372
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1259	-	-
Stage 1	-	-	780
Stage 2	-	-	697
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1259	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	766
Stage 2	-	-	697

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	15
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1259	-	-	-	434	775
HCM Lane V/C Ratio	0.018	-	-	-	0.25	0.028
HCM Control Delay (s)	7.9	-	-	-	16	9.8
HCM Lane LOS	A	-	-	-	C	A
HCM 95th %tile Q(veh)	0.1	-	-	-	1	0.1

Intersection

Int Delay, s/veh 2.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑	↑	↖	↖	↖
Traffic Vol, veh/h	21	300	208	70	100	20
Future Vol, veh/h	21	300	208	70	100	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	420	-	-	243	200	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	326	226	76	109	22

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	302	0	-
Stage 1	-	-	226
Stage 2	-	-	372
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1259	-	-
Stage 1	-	-	812
Stage 2	-	-	697
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1259	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	797
Stage 2	-	-	697

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	14.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1259	-	-	-	457	813
HCM Lane V/C Ratio	0.018	-	-	-	0.238	0.027
HCM Control Delay (s)	7.9	-	-	-	15.3	9.6
HCM Lane LOS	A	-	-	-	C	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.9	0.1

Intersection

Int Delay, s/veh 1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations	↑	↑	↑	↑	↑	↑	
Traffic Vol, veh/h	14	224		264	96	69	18
Future Vol, veh/h	14	224		264	96	69	18
Conflicting Peds, #/hr	0	0		0	0	0	0
Sign Control	Free	Free		Free	Free	Stop	Stop
RT Channelized	-	None		-	None	-	None
Storage Length	420	-		-	-	200	0
Veh in Median Storage, #	-	0		0	-	0	-
Grade, %	-	0		0	-	0	-
Peak Hour Factor	92	92		92	92	92	92
Heavy Vehicles, %	2	2		2	2	2	2
Mvmt Flow	15	243		287	104	75	20

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	391	0	
Stage 1	-	-	339
Stage 2	-	-	273
Critical Hdwy	4.12	-	
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	
Pot Cap-1 Maneuver	1168	-	
Stage 1	-	-	722
Stage 2	-	-	773
Platoon blocked, %	-	-	
Mov Cap-1 Maneuver	1168	-	
Mov Cap-2 Maneuver	-	-	
Stage 1	-	-	713
Stage 2	-	-	773

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	13.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1168	-	-	-	450	703
HCM Lane V/C Ratio	0.013	-	-	-	0.167	0.028
HCM Control Delay (s)	8.1	-	-	-	14.6	10.3
HCM Lane LOS	A	-	-	-	B	B
HCM 95th %tile Q(veh)	0	-	-	-	0.6	0.1

**Intersection**

Int Delay, s/veh 1.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↑ ↗	↑ ↗	↑ ↗	↑ ↗	↑ ↗	↑ ↗
Traffic Vol, veh/h	14	224		264	96	69
Future Vol, veh/h	14	224		264	96	69
Conflicting Peds, #/hr	0	0		0	0	0
Sign Control	Free	Free		Free	Free	Stop
RT Channelized	-	None		-	None	-
Storage Length	420	-		-	175	200
Veh in Median Storage, #	-	0		0	-	0
Grade, %	-	0		0	-	0
Peak Hour Factor	92	92		92	92	92
Heavy Vehicles, %	2	2		2	2	2
Mvmt Flow	15	243		287	104	75
						20

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	391	0	-	0	560	287
Stage 1	-	-	-	-	287	-
Stage 2	-	-	-	-	273	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1168	-	-	-	489	752
Stage 1	-	-	-	-	762	-
Stage 2	-	-	-	-	773	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1168	-	-	-	483	752
Mov Cap-2 Maneuver	-	-	-	-	483	-
Stage 1	-	-	-	-	752	-
Stage 2	-	-	-	-	773	-

Approach	EB		WB		SB	
HCM Control Delay, s	0.5		0		13	
HCM LOS					B	

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1168	-	-	-	483	752
HCM Lane V/C Ratio	0.013	-	-	-	0.155	0.026
HCM Control Delay(s)	8.1	-	-	-	13.8	9.9
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.5	0.1

Intersection

Int Delay, s/veh 2.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↑	↑	↑		↑	↑
Traffic Vol, veh/h	22	250	308	142	96	32
Future Vol, veh/h	22	250	308	142	96	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	420	-	-	-	200	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	272	335	154	104	35

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	489	0	-
Stage 1	-	-	412
Stage 2	-	-	320
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1074	-	-
Stage 1	-	-	669
Stage 2	-	-	736
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1074	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	654
Stage 2	-	-	736

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	16.3
HCM LOS		C	

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1074	-	-	379	640	
HCM Lane V/C Ratio	0.022	-	-	0.275	0.054	
HCM Control Delay (s)	8.4	-	-	18.1	10.9	
HCM Lane LOS	A	-	-	C	B	
HCM 95th %tile Q(veh)	0.1	-	-	1.1	0.2	

Intersection

Int Delay, s/veh 2.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↑	↑	↑	↑	↑	↑
Traffic Vol, veh/h	22	250		308	142	96
Future Vol, veh/h	22	250		308	142	96
Conflicting Peds, #/hr	0	0		0	0	0
Sign Control	Free	Free		Free	Free	Stop
RT Channelized	-	None		-	None	-
Storage Length	420	-		-	175	200
Veh in Median Storage, #	-	0		0	-	0
Grade, %	-	0		0	-	0
Peak Hour Factor	92	92		92	92	92
Heavy Vehicles, %	2	2		2	2	2
Mvmt Flow	24	272		335	154	104
						35

Major/Minor	Major1		Major2		Minor2
Conflicting Flow All	489	0	-	0	655
Stage 1	-	-	-	-	335
Stage 2	-	-	-	-	320
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1074	-	-	-	431
Stage 1	-	-	-	-	725
Stage 2	-	-	-	-	736
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1074	-	-	-	422
Mov Cap-2 Maneuver	-	-	-	-	422
Stage 1	-	-	-	-	709
Stage 2	-	-	-	-	736

Approach	EB		WB		SB
HCM Control Delay, s	0.7		0		14.8
HCM LOS					B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1074	-	-	-	422	707
HCM Lane V/C Ratio	0.022	-	-	-	0.247	0.049
HCM Control Delay (s)	8.4	-	-	-	16.3	10.4
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.1	-	-	-	1	0.2

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↑	↑	↓		↑	↑
Traffic Vol, veh/h	14	256		301 100	76	20
Future Vol, veh/h	14	256		301 100	76	20
Conflicting Peds, #/hr	-	0		0 0	0	0
Sign Control	Free	Free		Free Free	Stop	Stop
RT Channelized	-	None		- None	-	None
Storage Length	420	-		- -	0	200
Veh in Median Storage, #	-	0		0 -	0	-
Grade, %	-	0		0 -	0	-
Peak Hour Factor	92	92		92 92	92	92
Heavy Vehicles, %	2	2		2 2	2	2
Mvmt Flow	15	278		327 109	83	22

Major/Minor	Major1		Major2		Minor2
Conflicting Flow All	436	0	-	0	690 382
Stage 1	-	-	-	-	382 -
Stage 2	-	-	-	-	308 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1124	-	-	-	411 665
Stage 1	-	-	-	-	690 -
Stage 2	-	-	-	-	745 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1124	-	-	-	406 665
Mov Cap-2 Maneuver	-	-	-	-	406 -
Stage 1	-	-	-	-	681 -
Stage 2	-	-	-	-	745 -

Approach	EB		WB		SB
HCM Control Delay, s	0.4		0		15
HCM LOS					C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1124	-	-	-	406	665
HCM Lane V/C Ratio	0.014	-	-	-	0.203	0.033
HCM Control Delay (s)	8.2	-	-	-	16.1	10.6
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0	-	-	-	0.8	0.1

Intersection

Int Delay, s/veh 1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations	↑	↑	↑	↑	↑	↑	
Traffic Vol, veh/h	14	256		301	100	76	20
Future Vol, veh/h	14	256		301	100	76	20
Conflicting Peds, #/hr	0	0		0	0	0	0
Sign Control	Free	Free		Free	Free	Stop	Stop
RT Channelized	-	None		-	None	-	None
Storage Length	420	-		-	193	0	200
Veh in Median Storage, #	-	0		0	-	0	-
Grade, %	-	0		0	-	0	-
Peak Hour Factor	92	92		92	92	92	92
Heavy Vehicles, %	2	2		2	2	2	2
Mvmt Flow	15	278		327	109	83	22

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	436	0	-	0	635	327
Stage 1	-	-	-	-	327	-
Stage 2	-	-	-	-	308	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1124	-	-	-	443	714
Stage 1	-	-	-	-	731	-
Stage 2	-	-	-	-	745	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1124	-	-	-	437	714
Mov Cap-2 Maneuver	-	-	-	-	437	-
Stage 1	-	-	-	-	721	-
Stage 2	-	-	-	-	745	-

Approach	EB		WB		SB
HCM Control Delay, s	0.4		0		14.1
HCM LOS					B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1124	-	-	-	437	714
HCM Lane V/C Ratio	0.014	-	-	-	0.189	0.03
HCM Control Delay (s)	8.2	-	-	-	15.1	10.2
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0	-	-	-	0.7	0.1

**Intersection**

Int Delay, s/veh 3

Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations	↑	↑	↑	↑	↑	↑	
Traffic Vol, veh/h	22	286		351	152	107	34
Future Vol, veh/h	22	286		351	152	107	34
Conflicting Peds, #/hr	0	0		0	0	0	0
Sign Control	Free	Free		Free	Free	Stop	Stop
RT Channelized	-	None		-	None	-	None
Storage Length	420	-		-	-	200	0
Veh in Median Storage, #	-	0		0	-	0	-
Grade, %	-	0		0	-	0	-
Peak Hour Factor	92	92		92	92	92	92
Heavy Vehicles, %	2	2		2	2	2	2
Mvmt Flow	24	311		382	165	116	37

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	547	0	-	0	824	465
Stage 1	-	-	-	-	465	-
Stage 2	-	-	-	-	359	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1022	-	-	-	343	597
Stage 1	-	-	-	-	632	-
Stage 2	-	-	-	-	707	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1022	-	-	-	335	597
Mov Cap-2 Maneuver	-	-	-	-	335	-
Stage 1	-	-	-	-	617	-
Stage 2	-	-	-	-	707	-

Approach	EB		WB		SB	
HCM Control Delay, s	0.6		0		19	
HCM LOS					C	

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1022	-	-	-	335	597
HCM Lane V/C Ratio	0.023	-	-	-	0.347	0.062
HCM Control Delay (s)	8.6	-	-	-	21.4	11.4
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.1	-	-	-	1.5	0.2

Intersection

Int Delay, s/veh 2.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↑ ↗	↑	↑	↗	↖	↗
Traffic Vol, veh/h	22	286		351	152	107
Future Vol, veh/h	22	286		351	152	107
Conflicting Peds, #/hr	0	0		0	0	0
Sign Control	Free	Free		Free	Free	Stop
RT Channelized	-	None		-	None	-
Storage Length	420	-		-	243	200
Veh in Median Storage, #	-	0		0	-	0
Grade, %	-	0		0	-	0
Peak Hour Factor	92	92		92	92	92
Heavy Vehicles, %	2	2		2	2	2
Mvmt Flow	24	311		382	165	116
						37

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	547	0	-	0	741	382
Stage 1	-	-	-	-	382	-
Stage 2	-	-	-	-	359	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1022	-	-	-	384	665
Stage 1	-	-	-	-	690	-
Stage 2	-	-	-	-	707	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1022	-	-	-	375	665
Mov Cap-2 Maneuver	-	-	-	-	375	-
Stage 1	-	-	-	-	674	-
Stage 2	-	-	-	-	707	-

Approach	EB		WB		SB	
HCM Control Delay, s	0.6		0		16.9	
HCM LOS					C	

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1022	-	-	-	375	665
HCM Lane V/C Ratio	0.023	-	-	-	0.31	0.056
HCM Control Delay (s)	8.6	-	-	-	18.9	10.7
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.1	-	-	-	1.3	0.2

Intersection

Int Delay, s/veh 3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↑	↑	↓		↑	↑
Traffic Vol, veh/h	25	282		343	144	103
Future Vol, veh/h	25	282		343	144	103
Conflicting Peds, #/hr	0	0		0	0	0
Sign Control	Free	Free		Free	Free	Stop
RT Channelized	-	None		-	None	-
Storage Length	420	-		-	200	0
Veh in Median Storage, #	-	0		0	-	0
Grade, %	-	0		0	-	0
Peak Hour Factor	92	92		92	92	92
Heavy Vehicles, %	2	2		2	2	2
Mvmt Flow	27	307		373	157	112
						39

Major/Minor	Major1		Major2		Minor2
Conflicting Flow All	530	0	-	0	813
Stage 1	-	-	-	-	452
Stage 2	-	-	-	-	361
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1037	-	-	-	348
Stage 1	-	-	-	-	641
Stage 2	-	-	-	-	705
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1037	-	-	-	339
Mov Cap-2 Maneuver	-	-	-	-	339
Stage 1	-	-	-	-	624
Stage 2	-	-	-	-	705

Approach	EB		WB		SB
HCM Control Delay, s	0.7		0		18.3
HCM LOS					C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1037	-	-	-	339	608
HCM Lane V/C Ratio	0.026	-	-	-	0.33	0.064
HCM Control Delay (s)	8.6	-	-	-	20.8	11.3
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.1	-	-	-	1.4	0.2

## Intersection

Int Delay, s/veh 2.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations	↖	↑	↑	↖	↖	↖	
Traffic Vol, veh/h	25	282		343	144	103	36
Future Vol, veh/h	25	282		343	144	103	36
Conflicting Peds, #/hr	0	0		0	0	0	0
Sign Control	Free	Free		Free	Free	Stop	Stop
RT Channelized	-	None		-	None	-	None
Storage Length	420	-		-	193	200	0
Veh in Median Storage, #	-	0		0	-	0	-
Grade, %	-	0		0	-	0	-
Peak Hour Factor	92	92		92	92	92	92
Heavy Vehicles, %	2	2		2	2	2	2
Mvmt Flow	27	307		373	157	112	39

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	530	0	-	0	734	373
Stage 1	-	-	-	-	373	-
Stage 2	-	-	-	-	361	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1037	-	-	-	387	673
Stage 1	-	-	-	-	696	-
Stage 2	-	-	-	-	705	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1037	-	-	-	377	673
Mov Cap-2 Maneuver	-	-	-	-	377	-
Stage 1	-	-	-	-	678	-
Stage 2	-	-	-	-	705	-

Approach	EB		WB		SB	
HCM Control Delay, s	0.7		0		16.5	
HCM LOS					C	

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1037	-	-	377	673	
HCM Lane V/C Ratio	0.026	-	-	0.297	0.058	
HCM Control Delay (s)	8.6	-	-	18.5	10.7	
HCM Lane LOS	A	-	-	C	B	
HCM 95th %tile Q(veh)	0.1	-	-	1.2	0.2	

HCM 6th Signalized Intersection Summary  
5: Alton & Darby Creek & Scioto Darby Creek

20161176

11/27/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗			↖	↗	↖	↑	
Traffic Volume (veh/h)	86	147	60	395	161	82	84	63	964	109	56	31
Future Volume (veh/h)	86	147	60	395	161	82	84	63	964	109	56	31
Initial Q (Q <sub>b</sub> ), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00		1.00	1.00		1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	93	160	65	429	175	89	91	68	1048	118	61	34
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	316	257	218	1024	683	347	175	105	1043	184	277	155
Arrive On Green	0.06	0.14	0.14	0.67	0.78	0.78	0.15	0.15	0.15	0.05	0.25	0.25
Sat Flow, veh/h	1781	1870	1585	1781	1169	594	827	681	1585	1781	1128	629
Grp Volume(v), veh/h	93	160	65	429	0	264	159	0	1048	118	0	95
Grp Sat Flow(s), veh/h/ln	1781	1870	1585	1781	0	1763	1508	0	1585	1781	0	1757
Q Serve(g_s), s	5.3	9.7	4.4	9.7	0.0	5.0	11.3	0.0	18.5	6.5	0.0	5.2
Cycle Q Clear(g_c), s	5.3	9.7	4.4	9.7	0.0	5.0	11.9	0.0	18.5	6.5	0.0	5.2
Prop In Lane	1.00		1.00	1.00		0.34	0.57		1.00	1.00		0.36
Lane Grp Cap(c), veh/h	316	257	218	1024	0	1030	280	0	1043	184	0	432
V/C Ratio(X)	0.29	0.62	0.30	0.42	0.00	0.26	0.57	0.00	1.00	0.64	0.00	0.22
Avail Cap(c_a), veh/h	316	257	218	1024	0	1030	280	0	1043	184	0	432
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.0	48.8	46.5	6.3	0.0	6.1	47.9	0.0	20.5	39.9	0.0	36.1
Incr Delay (d2), s/veh	0.5	10.8	3.5	1.3	0.0	0.6	2.7	0.0	28.9	7.3	0.0	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	2.4	5.3	1.9	3.2	0.0	1.8	4.6	0.0	32.3	3.3	0.0	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	41.5	59.6	50.0	7.5	0.0	6.7	50.6	0.0	49.4	47.1	0.0	36.3
LnGrp LOS	D	E	D	A	A	A	D	A	F	D	A	D
Approach Vol, veh/h		318			693			1207			213	
Approach Delay, s/veh		52.4			7.2			49.6			42.3	
Approach LOS		D			A			D			D	
Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+R <sub>c</sub> ), s	65.0	21.0		34.0	11.4	74.6	11.0	23.0				
Change Period (Y+R <sub>c</sub> ), s	4.5	4.5		4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	60.5	16.5		29.5	6.9	70.1	6.5	18.5				
Max Q Clear Time (g_c+l1), s	11.7	11.7		7.2	7.3	7.0	8.5	20.5				
Green Ext Time (p_c), s	1.4	0.4		0.5	0.0	1.7	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay 37.2  
HCM 6th LOS D

Timings  
5: Alton & Darby Creek & Scioto Darby Creek

20161176  
11/27/2017



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑
Traffic Volume (vph)	86	147	60	395	161	84	63	964	109	56
Future Volume (vph)	86	147	60	395	161	84	63	964	109	56
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	NA	pm+ov	pm+pt	NA
Protected Phases	5	2		1	6		8	1	7	4
Permitted Phases	2		2	6		8		8	4	
Detector Phase	5	2	2	1	6	8	8	1	7	4
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	19.0	19.0	9.5	22.5	22.5	22.5	9.5	9.5	19.5
Total Split (s)	11.4	21.0	21.0	65.0	74.6	23.0	23.0	65.0	11.0	34.0
Total Split (%)	9.5%	17.5%	17.5%	54.2%	62.2%	19.2%	19.2%	54.2%	9.2%	28.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lead	Lead	
Lead-Lag-Optimize?	Yes									
Recall Mode	None	C-Max	C-Max	Max	C-Max	None	None	Max	None	None

Intersection Summary

Cycle Length: 120

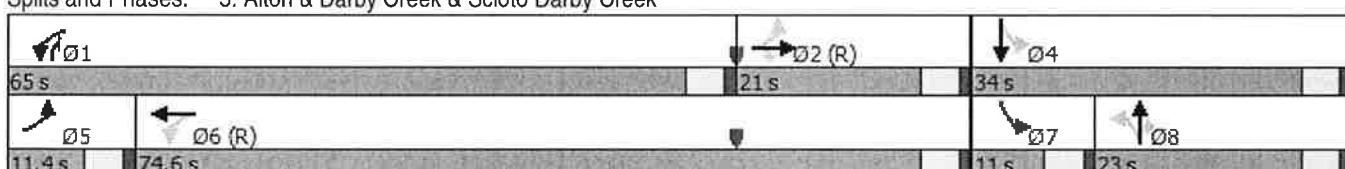
Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Splits and Phases: 5: Alton & Darby Creek & Scioto Darby Creek



HCM 6th Signalized Intersection Summary  
5: Alton & Darby Creek & Scioto Darby Creek

20161176

11/27/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑	↑	↑	↑			↑	↑	↑	↑	
Traffic Volume (veh/h)	86	198	92	395	178	82	95	63	964	109	56	31
Future Volume (veh/h)	86	198	92	395	178	82	95	63	964	109	56	31
Initial Q (Q <sub>b</sub> ), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00		1.00	1.00	1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	93	215	100	429	193	89	103	68	1048	118	61	34
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	330	290	246	993	722	333	189	98	1042	153	266	148
Arrive On Green	0.06	0.16	0.16	0.66	0.79	0.79	0.16	0.16	0.16	0.04	0.24	0.24
Sat Flow, veh/h	1781	1870	1585	1781	1211	559	879	607	1585	1781	1128	629
Grp Volume(v), veh/h	93	215	100	429	0	282	171	0	1048	118	0	95
Grp Sat Flow(s), veh/h/ln	1781	1870	1585	1781	0	1770	1486	0	1585	1781	0	1757
Q Serve(g_s), s	5.2	13.2	6.8	9.5	0.0	5.0	12.8	0.0	19.3	4.5	0.0	5.2
Cycle Q Clear(g_c), s	5.2	13.2	6.8	9.5	0.0	5.0	13.1	0.0	19.3	4.5	0.0	5.2
Prop In Lane	1.00		1.00	1.00		0.32	0.60		1.00	1.00		0.36
Lane Grp Cap(c), veh/h	330	290	246	993	0	1055	287	0	1042	153	0	414
V/C Ratio(X)	0.28	0.74	0.41	0.43	0.00	0.27	0.60	0.00	1.01	0.77	0.00	0.23
Avail Cap(c_a), veh/h	330	290	246	993	0	1055	287	0	1042	153	0	414
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.4	48.4	45.7	6.4	0.0	5.6	47.7	0.0	20.6	46.0	0.0	37.0
Incr Delay (d2), s/veh	0.5	15.7	4.9	1.4	0.0	0.6	3.3	0.0	29.2	21.1	0.0	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	2.3	7.4	3.0	3.1	0.0	1.8	5.0	0.0	32.4	2.3	0.0	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	39.9	64.1	50.7	7.8	0.0	6.2	51.0	0.0	49.8	67.1	0.0	37.3
LnGrp LOS	D	E	D	A	A	A	D	A	F	E	A	D
Approach Vol, veh/h		408			711			1219			213	
Approach Delay, s/veh		55.3			7.1			50.0			53.8	
Approach LOS		E			A			D			D	
Timer - Assigned Phs	1	2	4	5	6	7	8					
Phs Duration (G+Y+R <sub>c</sub> ), s	64.1	23.1	32.8	11.2	76.0	9.0	23.8					
Change Period (Y+R <sub>c</sub> ), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5					
Max Green Setting (Gmax), s	59.6	18.6	28.3	6.7	71.5	4.5	19.3					
Max Q Clear Time (g_c+l1), s	11.5	15.2	7.2	7.2	7.0	6.5	21.3					
Green Ext Time (p_c), s	1.4	0.5	0.4	0.0	1.8	0.0	0.0					

Intersection Summary

HCM 6th Ctrl Delay 39.2  
HCM 6th LOS D

Timings  
5: Alton & Darby Creek & Scioto Darby Creek

20161176  
11/27/2017



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑
Traffic Volume (vph)	86	198	92	395	178	95	63	964	109	56
Future Volume (vph)	86	198	92	395	178	95	63	964	109	56
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	NA	pm+ov	pm+pt	NA
Protected Phases	5	2		1	6		8	1	7	4
Permitted Phases		2		6		8		8	4	
Detector Phase	5	2	2	1	6	8	8	1	7	4
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	3.5	5.0
Minimum Split (s)	9.5	19.0	19.0	9.5	22.5	22.5	22.5	9.5	8.0	19.5
Total Split (s)	11.2	23.1	23.1	64.1	76.0	23.8	23.8	64.1	9.0	32.8
Total Split (%)	9.3%	19.3%	19.3%	53.4%	63.3%	19.8%	19.8%	53.4%	7.5%	27.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lead	Lead	
Lead-Lag Optimize?	Yes									
Recall Mode	None	C-Max	C-Max	Max	C-Max	None	None	Max	None	None

#### Intersection Summary

Cycle Length: 120

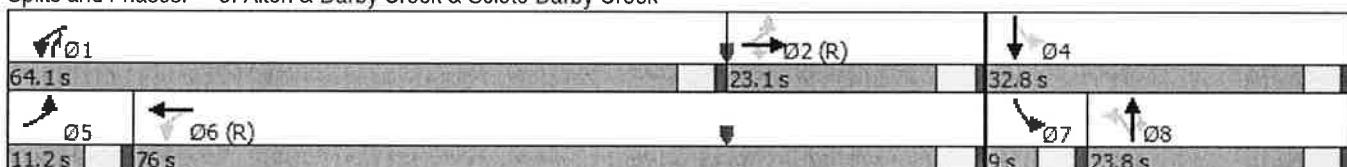
Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Splits and Phases: 5: Alton & Darby Creek & Scioto Darby Creek



HCM 6th Signalized Intersection Summary  
5: Alton & Darby Creek & Scioto Darby Creek

20161176

11/27/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑		↖	↑		↖	↑	
Traffic Volume (veh/h)	86	173	69	97	183	82	95	63	247	109	56	31
Future Volume (veh/h)	86	173	69	97	183	82	95	63	247	109	56	31
Initial Q (Q <sub>b</sub> ), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No		No		No		No	No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	93	188	75	105	199	89	103	68	268	118	61	34
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	652	998	939	674	657	294	386	103	406	199	242	135
Arrive On Green	0.04	0.53	0.53	0.06	0.71	0.71	0.06	0.31	0.31	0.21	0.21	0.21
Sat Flow, veh/h	1781	1870	1585	1781	1224	548	1781	331	1305	1044	1128	629
Grp Volume(v), veh/h	93	188	75	105	0	288	103	0	336	118	0	95
Grp Sat Flow(s), veh/h/ln	1781	1870	1585	1781	0	1772	1781	0	1636	1044	0	1757
Q Serve(g_s), s	2.8	6.3	2.4	3.2	0.0	7.1	5.2	0.0	21.4	13.3	0.0	5.4
Cycle Q Clear(g_c), s	2.8	6.3	2.4	3.2	0.0	7.1	5.2	0.0	21.4	23.0	0.0	5.4
Prop In Lane	1.00		1.00	1.00		0.31	1.00		0.80	1.00		0.36
Lane Grp Cap(c), veh/h	652	998	939	674	0	951	386	0	509	199	0	377
V/C Ratio(X)	0.14	0.19	0.08	0.16	0.00	0.30	0.27	0.00	0.66	0.59	0.00	0.25
Avail Cap(c_a), veh/h	781	998	939	798	0	951	481	0	716	275	0	505
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.7	14.5	10.5	11.4	0.0	9.0	32.3	0.0	35.9	50.9	0.0	39.2
Incr Delay (d2), s/veh	0.1	0.4	0.2	0.1	0.0	0.8	0.4	0.0	1.5	2.8	0.0	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	1.1	2.7	0.8	1.2	0.0	2.7	2.2	0.0	8.4	3.6	0.0	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	11.8	14.9	10.6	11.5	0.0	9.8	32.7	0.0	37.3	53.7	0.0	39.5
LnGrp LOS	B	B	B	B	A	A	C	A	D	D	A	D
Approach Vol, veh/h		356				393			439		213	
Approach Delay, s/veh		13.2				10.3			36.2		47.4	
Approach LOS		B				B			D		D	
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+R <sub>c</sub> ), s	9.7	68.5	11.6	30.2	9.3	68.9		41.8				
Change Period (Y+R <sub>c</sub> ), s	4.5	4.5	4.5	4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	13.5	40.5	13.5	34.5	13.5	40.5		52.5				
Max Q Clear Time (g_c+l1), s	5.2	8.3	7.2	25.0	4.8	9.1		23.4				
Green Ext Time (p_c), s	0.1	1.3	0.1	0.7	0.1	1.8		2.1				
Intersection Summary												
HCM 6th Ctrl Delay		24.8										
HCM 6th LOS		C										

## Timings

20161176

## 5: Alton &amp; Darby Creek &amp; Scioto Darby Creek

11/27/2017



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↑ ↗	↑ ↘	↗ ↙	↗ ↖	↑ ↖	↖ ↙	↖ ↘	↖ ↖	↖ ↖
Traffic Volume (vph)	86	173	69	97	183	95	63	109	56
Future Volume (vph)	86	173	69	97	183	95	63	109	56
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+pt	NA	Perm	NA
Protected Phases	5	2	3	1	6	3	8		4
Permitted Phases	2		2	6		8		4	
Detector Phase	5	2	3	1	6	3	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	9.5	9.5	22.5	9.5	22.5	22.5	22.5
Total Split (s)	18.0	45.0	18.0	18.0	45.0	18.0	57.0	39.0	39.0
Total Split (%)	15.0%	37.5%	15.0%	15.0%	37.5%	15.0%	47.5%	32.5%	32.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead		Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Recall Mode	None	C-Max	None	None	C-Max	None	None	None	None

Intersection Summary

Cycle Length: 120

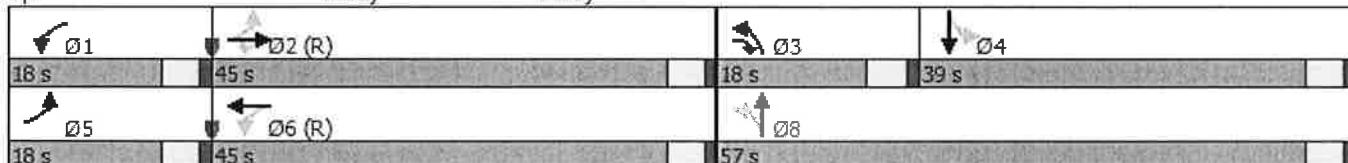
Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Splits and Phases: 5: Alton &amp; Darby Creek &amp; Scioto Darby Creek



HCM 6th Signalized Intersection Summary  
5: Alton & Darby Creek & Scioto Darby Creek

20161176

11/27/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑ ↗	↑ ↘	↗ ↙	↑ ↗	↑ ↘	↗ ↙	↑ ↗	↑ ↘	↗ ↙	↑ ↗	↑ ↘	↗ ↙
Traffic Volume (veh/h)	86	224	101	97	200	82	106	63	247	109	56	31
Future Volume (veh/h)	86	224	101	97	200	82	106	63	247	109	56	31
Initial Q (Q <sub>b</sub> ), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No		No		No
Adj Sat Flow, veh/h/in	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	93	243	110	105	217	89	115	68	268	118	61	34
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	639	999	951	614	677	278	387	103	405	198	234	130
Arrive On Green	0.04	0.53	0.53	0.06	0.71	0.71	0.07	0.31	0.31	0.21	0.21	0.21
Sat Flow, veh/h	1781	1870	1585	1781	1260	517	1781	331	1305	1044	1128	629
Grp Volume(v), veh/h	93	243	110	105	0	306	115	0	336	118	0	95
Grp Sat Flow(s), veh/h/in	1781	1870	1585	1781	0	1777	1781	0	1636	1044	0	1757
Q Serve(g_s), s	2.8	8.3	3.6	3.2	0.0	7.6	5.9	0.0	21.4	13.3	0.0	5.4
Cycle Q Clear(g_c), s	2.8	8.3	3.6	3.2	0.0	7.6	5.9	0.0	21.4	22.3	0.0	5.4
Prop In Lane	1.00		1.00	1.00		0.29	1.00		0.80	1.00		0.36
Lane Grp Cap(c), veh/h	639	999	951	614	0	955	387	0	507	198	0	364
V/C Ratio(X)	0.15	0.24	0.12	0.17	0.00	0.32	0.30	0.00	0.66	0.60	0.00	0.26
Avail Cap(c_a), veh/h	739	999	951	723	0	955	501	0	702	255	0	461
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.7	15.0	10.3	11.5	0.0	9.0	32.6	0.0	35.9	51.0	0.0	39.9
Incr Delay (d2), s/veh	0.1	0.6	0.2	0.1	0.0	0.9	0.4	0.0	1.5	2.9	0.0	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/in	1.1	3.6	1.2	1.2	0.0	2.8	2.5	0.0	8.4	3.7	0.0	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	11.8	15.5	10.6	11.7	0.0	9.9	33.1	0.0	37.4	53.8	0.0	40.2
LnGrp LOS	B	B	B	B	A	A	C	A	D	D	A	D
Approach Vol, veh/h		446			411			451			213	
Approach Delay, s/veh		13.5			10.3			36.3			47.8	
Approach LOS		B			B			D			D	
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+R <sub>c</sub> ), s	9.7	68.6	12.3	29.4	9.3	69.0		41.7				
Change Period (Y+R <sub>c</sub> ), s	4.5	4.5	4.5	4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	12.5	42.5	15.5	31.5	11.5	43.5		51.5				
Max Q Clear Time (g_c+l1), s	5.2	10.3	7.9	24.3	4.8	9.6		23.4				
Green Ext Time (p_c), s	0.1	1.8	0.1	0.6	0.1	1.9		2.1				
Intersection Summary												
HCM 6th Ctrl Delay		24.2										
HCM 6th LOS		C										

Timings  
5: Alton & Darby Creek & Scioto Darby Creek

20161176  
11/27/2017



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↑ ↗	↑ ↘	↗ ↙	↖ ↗	↖ ↘	↗ ↙	↖ ↘	↗ ↙	↖ ↘
Traffic Volume (vph)	86	224	101	97	200	106	63	109	56
Future Volume (vph)	86	224	101	97	200	106	63	109	56
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+pt	NA	Perm	NA
Protected Phases	5	2	3	1	6	3	8		4
Permitted Phases	2			6		8		4	
Detector Phase	5	2	3	1	6	3	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	9.5	9.5	22.5	9.5	22.5	22.5	22.5
Total Split (s)	16.0	47.0	20.0	17.0	48.0	20.0	56.0	36.0	36.0
Total Split (%)	13.3%	39.2%	16.7%	14.2%	40.0%	16.7%	46.7%	30.0%	30.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead		Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Recall Mode	None	C-Max	None	None	C-Max	None	None	None	None

#### Intersection Summary

Cycle Length: 120

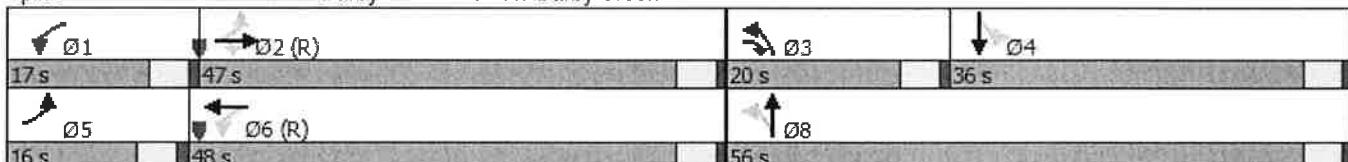
Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Splits and Phases: 5: Alton & Darby Creek & Scioto Darby Creek



HCM 6th Signalized Intersection Summary  
5: Alton & Darby Creek & Scioto Darby Creek

20161176

11/27/2017

Movement	EBL ↗	EBT ↑	EBR ↘	WBL ↗	WBT ↑	WBR ↘	NBL ↗	NBT ↑	NBR ↘	SBL ↗	SBT ↑	SBR ↘
Lane Configurations	↗	↑	↘	↗	↑	↘	↗	↑	↘	↗	↑	↘
Traffic Volume (veh/h)	137	192	69	97	200	82	101	63	247	109	56	31
Future Volume (veh/h)	137	192	69	97	200	82	101	63	247	109	56	31
Initial Q (Q <sub>b</sub> ), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00		1.00	1.00		1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	149	209	75	105	217	89	110	68	268	118	61	34
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	646	998	946	658	657	269	386	103	405	198	237	132
Arrive On Green	0.06	0.53	0.53	0.06	0.69	0.69	0.06	0.31	0.31	0.21	0.21	0.21
Sat Flow, veh/h	1781	1870	1585	1781	1260	517	1781	331	1305	1044	1128	629
Grp Volume(v), veh/h	149	209	75	105	0	306	110	0	336	118	0	95
Grp Sat Flow(s), veh/h/ln	1781	1870	1585	1781	0	1777	1781	0	1636	1044	0	1757
Q Serve(g_s), s	4.6	7.0	2.4	3.3	0.0	8.2	5.6	0.0	21.4	13.3	0.0	5.4
Cycle Q Clear(g_c), s	4.6	7.0	2.4	3.3	0.0	8.2	5.6	0.0	21.4	22.6	0.0	5.4
Prop In Lane	1.00		1.00	1.00		0.29	1.00		0.80	1.00		0.36
Lane Grp Cap(c), veh/h	646	998	946	658	0	926	386	0	507	198	0	369
V/C Ratio(X)	0.23	0.21	0.08	0.16	0.00	0.33	0.28	0.00	0.66	0.60	0.00	0.26
Avail Cap(c_a), veh/h	717	998	946	766	0	926	504	0	702	253	0	461
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.0	14.7	10.3	12.0	0.0	10.1	32.5	0.0	35.9	51.0	0.0	39.6
Incr Delay (d2), s/veh	0.2	0.5	0.2	0.1	0.0	1.0	0.4	0.0	1.5	2.9	0.0	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	1.8	3.1	0.8	1.3	0.0	3.1	2.4	0.0	8.4	3.7	0.0	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	12.2	15.2	10.4	12.1	0.0	11.0	32.9	0.0	37.4	53.9	0.0	40.0
LnGrp LOS	B	B	B	B	A	B	C	A	D	D	A	D
Approach Vol, veh/h		433			411			446			213	
Approach Delay, s/veh		13.3			11.3			36.3			47.7	
Approach LOS		B			B			D			D	
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	9.7	68.5	12.0	29.7	11.2	67.1		41.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	12.5	42.5	15.5	31.5	11.5	43.5		51.5				
Max Q Clear Time (g_c+l1), s	5.3	9.0	7.6	24.6	6.6	10.2		23.4				
Green Ext Time (p_c), s	0.1	1.4	0.1	0.5	0.1	1.9		2.1				

Intersection Summary

HCM 6th Ctrl Delay                            24.5  
HCM 6th LOS                                    C



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↑	↑	↑	↑	↑	↑	↑	↑	↑
Traffic Volume (vph)	137	192	69	97	200	101	63	109	56
Future Volume (vph)	137	192	69	97	200	101	63	109	56
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+pt	NA	Perm	NA
Protected Phases	5	2	3	1	6	3	8		4
Permitted Phases	2		2	6		8		4	
Detector Phase	5	2	3	1	6	3	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	9.5	9.5	22.5	9.5	22.5	22.5	22.5
Total Split (s)	16.0	47.0	20.0	17.0	48.0	20.0	56.0	36.0	36.0
Total Split (%)	13.3%	39.2%	16.7%	14.2%	40.0%	16.7%	46.7%	30.0%	30.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead		Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Recall Mode	None	C-Max	None	None	C-Max	None	None	None	None

**Intersection Summary**

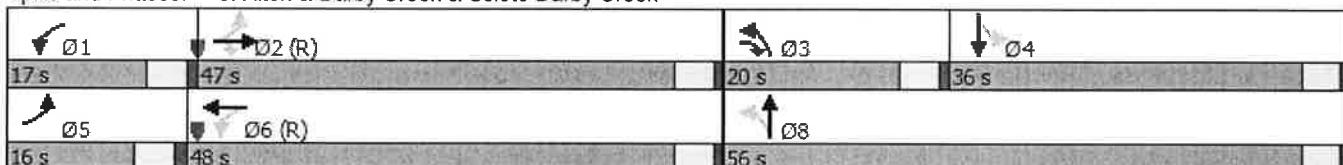
Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

**Splits and Phases:** 5: Alton & Darby Creek & Scioto Darby Creek

HCM 6th Signalized Intersection Summary  
5: Alton & Darby Creek & Scioto Darby Creek

20161176

11/27/2017



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑	↗	↖	↑	↗
Traffic Volume (veh/h)	60	162	70	1050	255	83	71	51	538	134	66	70
Future Volume (veh/h)	60	162	70	1050	255	83	71	51	538	134	66	70
Initial Q (Q <sub>b</sub> ), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00		1.00	1.00		1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	65	176	76	1141	277	90	77	55	585	146	72	76
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	299	304	258	1028	834	271	165	103	1024	188	191	201
Arrive On Green	0.04	0.16	0.16	0.66	0.82	0.82	0.15	0.15	0.15	0.04	0.23	0.23
Sat Flow, veh/h	1781	1870	1585	1781	1352	439	786	684	1585	1781	833	879
Grp Volume(v), veh/h	65	176	76	1141	0	367	132	0	585	146	0	148
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1791	1470	0	1585	1781	0	1712
Q Serve(g_s), s	3.6	10.4	5.1	59.5	0.0	6.1	8.7	0.0	18.0	5.0	0.0	8.8
Cycle Q Clear(g_c), s	3.6	10.4	5.1	59.5	0.0	6.1	9.9	0.0	18.0	5.0	0.0	8.8
Prop In Lane	1.00		1.00	1.00		0.25	0.58		1.00	1.00		0.51
Lane Grp Cap(c), veh/h	299	304	258	1028	0	1105	268	0	1024	188	0	392
V/C Ratio(X)	0.22	0.58	0.30	1.11	0.00	0.33	0.49	0.00	0.57	0.78	0.00	0.38
Avail Cap(c_a), veh/h	310	304	258	1028	0	1105	268	0	1024	188	0	392
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.5	46.5	44.2	12.8	0.0	4.7	47.4	0.0	11.9	47.1	0.0	39.0
Incr Delay (d2), s/veh	0.4	7.8	2.9	63.1	0.0	0.8	1.4	0.0	0.8	18.6	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	5.5	2.2	32.0	0.0	2.1	3.7	0.0	7.9	3.0	0.0	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.8	54.3	47.1	75.9	0.0	5.5	48.8	0.0	12.7	65.6	0.0	39.6
LnGrp LOS	D	D	D	F	A	A	D	A	B	E	A	D
Approach Vol, veh/h		317			1508				717		294	
Approach Delay, s/veh		49.6			58.8				19.3		52.5	
Approach LOS		D			E				B		D	
Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+R <sub>c</sub> ), s	64.0	24.0		32.0	9.5	78.5	9.5	22.5				
Change Period (Y+R <sub>c</sub> ), s	4.5	4.5		4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	59.5	19.5		27.5	5.7	73.3	5.0	18.0				
Max Q Clear Time (g_c+l1), s	61.5	12.4		10.8	5.6	8.1	7.0	20.0				
Green Ext Time (p_c), s	0.0	0.6		0.7	0.0	2.5	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay 47.1  
HCM 6th LOS D

Timings

20161176

5: Alton &amp; Darby Creek &amp; Scioto Darby Creek

11/27/2017



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑
Traffic Volume (vph)	60	162	70	1050	255	71	51	538	134	66
Future Volume (vph)	60	162	70	1050	255	71	51	538	134	66
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	NA	pm+ov	pm+pt	NA
Protected Phases	5	2		1	6		8	1	7	4
Permitted Phases	2		2	6		8		8	4	
Detector Phase	5	2	2	1	6	8	8	1	7	4
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	9.5	9.5	22.5
Total Split (s)	10.2	24.0	24.0	64.0	77.8	22.5	22.5	64.0	9.5	32.0
Total Split (%)	8.5%	20.0%	20.0%	53.3%	64.8%	18.8%	18.8%	53.3%	7.9%	26.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lead	Lead	
Lead-Lag Optimize?	Yes									
Recall Mode	None	C-Max	C-Max	Max	C-Max	None	None	Max	None	None

**Intersection Summary**

Cycle Length: 120

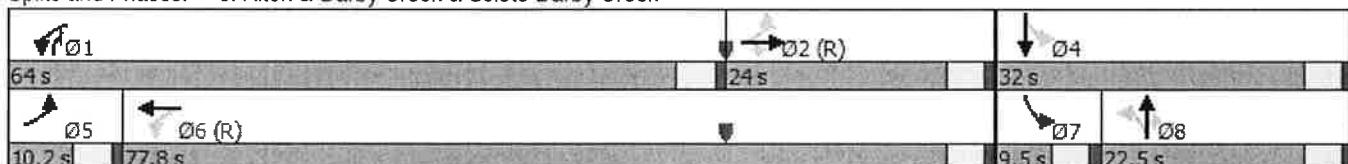
Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Splits and Phases: 5: Alton &amp; Darby Creek &amp; Scioto Darby Creek



## HCM 6th Signalized Intersection Summary 5: Alton & Darby Creek & Scioto Darby Creek

2022 PM Build

11/27/2017



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑					↖	↗	↖
Traffic Volume (veh/h)	60	195	91	1050	311	83	106	51	538	134	66	70
Future Volume (veh/h)	60	195	91	1050	311	83	106	51	538	134	66	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	65	212	99	1141	338	90	115	55	585	146	72	76
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	282	288	244	992	866	231	191	68	1024	174	198	209
Arrive On Green	0.04	0.15	0.15	0.66	0.81	0.81	0.15	0.15	0.15	0.05	0.24	0.24
Sat Flow, veh/h	1781	1870	1585	1781	1423	379	941	450	1585	1781	833	879
Grp Volume(v), veh/h	65	212	99	1141	0	428	170	0	585	146	0	148
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1802	1391	0	1585	1781	0	1712
Q Serve(g_s), s	3.7	13.0	6.8	59.5	0.0	8.0	14.2	0.0	18.0	6.0	0.0	8.7
Cycle Q Clear(g_c), s	3.7	13.0	6.8	59.5	0.0	8.0	14.2	0.0	18.0	6.0	0.0	8.7
Prop In Lane	1.00		1.00	1.00		0.21	0.68		1.00	1.00		0.51
Lane Grp Cap(c), veh/h	282	288	244	992	0	1096	259	0	1024	174	0	407
V/C Ratio(X)	0.23	0.74	0.41	1.15	0.00	0.39	0.66	0.00	0.57	0.84	0.00	0.36
Avail Cap(c_a), veh/h	293	288	244	992	0	1096	259	0	1024	174	0	407
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	40.3	48.4	45.8	12.6	0.0	5.2	49.4	0.0	11.9	45.6	0.0	38.2
Incr Delay (d2), s/veh	0.4	15.4	4.9	79.2	0.0	1.0	5.9	0.0	0.8	28.8	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	7.2	3.0	35.3	0.0	2.7	5.2	0.0	7.9	2.9	0.0	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.7	63.8	50.7	91.8	0.0	6.3	55.3	0.0	12.7	74.4	0.0	38.7
LnGrp LOS	D	E	D	F	A	A	E	A	B	E	A	D
Approach Vol, veh/h		376			1569			755			294	
Approach Delay, s/veh		56.3			68.5			22.3			56.5	
Approach LOS		E			E			C			E	
Timer - Assigned Phs	1	2	4	5	6	7	8					
Phs Duration (G+Y+Rc), s	64.0	23.0		33.0	9.5	77.5	10.5	22.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	59.5	18.5		28.5	5.7	72.3	6.0	18.0				
Max Q Clear Time (g_c+l1), s	61.5	15.0		10.7	5.7	10.0	8.0	20.0				
Green Ext Time (p_c), s	0.0	0.5		0.7	0.0	3.0	0.0	0.0				

## Intersection Summary

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HCM 6th Ctrl Delay

54.1

HCM 6th LOS

D

## Notes

User approved pedestrian interval to be less than phase max green.

## 5: Alton &amp; Darby Creek &amp; Scioto Darby Creek



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↑ ↗	↑ ↘	↗ ↙	↑ ↗	↑ ↘	↖ ↙	↖ ↘	↗ ↙	↖ ↗	↑ ↘
Traffic Volume (vph)	60	195	91	1050	311	106	51	538	134	66
Future Volume (vph)	60	195	91	1050	311	106	51	538	134	66
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	NA	pm+ov	pm+pt	NA
Protected Phases	5	2		1	6		8	1	7	4
Permitted Phases	2		2	6		8		8	4	
Detector Phase	5	2	2	1	6	8	8	1	7	4
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	9.5	9.5	22.5
Total Split (s)	10.2	23.0	23.0	64.0	76.8	22.5	22.5	64.0	10.5	33.0
Total Split (%)	8.5%	19.2%	19.2%	53.3%	64.0%	18.8%	18.8%	53.3%	8.8%	27.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lead	Lead	
Lead-Lag Optimize?	Yes									
Recall Mode	None	C-Max	C-Max	Max	C-Max	None	None	Max	None	None

## Intersection Summary

Cycle Length: 120

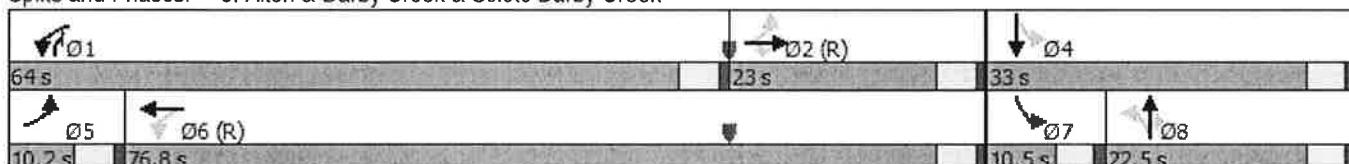
Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 140

Control Type: Actuated-Coordinated

Splits and Phases: 5: Alton &amp; Darby Creek &amp; Scioto Darby Creek



HCM 6th Signalized Intersection Summary  
5: Alton & Darby Creek & Scioto Darby Creek

20161176

11/27/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↖	↖	↑	↑	↖	↑	↖	↖	↑	↑
Traffic Volume (veh/h)	60	188	81	362	292	83	82	51	139	134	66	70
Future Volume (veh/h)	60	188	81	362	292	83	82	51	139	134	66	70
Initial Q (Q <sub>b</sub> ), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	65	204	88	393	317	90	89	55	151	146	72	76
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	620	945	887	774	838	238	258	111	306	232	134	142
Arrive On Green	0.04	0.51	0.51	0.17	0.80	0.80	0.05	0.25	0.25	0.16	0.16	0.16
Sat Flow, veh/h	1781	1870	1585	1781	1401	398	1781	441	1211	1176	833	879
Grp Volume(v), veh/h	65	204	88	393	0	407	89	0	206	146	0	148
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1799	1781	0	1652	1176	0	1712
Q Serve(g_s), s	2.1	7.3	3.1	12.4	0.0	8.0	4.8	0.0	12.8	14.5	0.0	9.5
Cycle Q Clear(g_c), s	2.1	7.3	3.1	12.4	0.0	8.0	4.8	0.0	12.8	16.3	0.0	9.5
Prop In Lane	1.00		1.00	1.00		0.22	1.00		0.73	1.00		0.51
Lane Grp Cap(c), veh/h	620	945	887	774	0	1076	258	0	417	232	0	276
V/C Ratio(X)	0.10	0.22	0.10	0.51	0.00	0.38	0.35	0.00	0.49	0.63	0.00	0.54
Avail Cap(c_a), veh/h	666	945	887	1055	0	1076	272	0	558	322	0	407
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.1	16.5	12.3	9.5	0.0	5.8	37.9	0.0	38.3	49.9	0.0	46.2
Incr Delay (d2), s/veh	0.1	0.5	0.2	0.5	0.0	1.0	0.8	0.0	0.9	2.8	0.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	3.2	1.1	4.1	0.0	2.7	2.1	0.0	5.1	4.5	0.0	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.1	17.0	12.6	10.0	0.0	6.8	38.7	0.0	39.2	52.7	0.0	47.9
LnGrp LOS	B	B	B	B	A	A	D	A	D	D	A	D
Approach Vol, veh/h		357			800			295			294	
Approach Delay, s/veh		15.2			8.4			39.0			50.3	
Approach LOS		B			A			D			D	
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	20.1	65.1	11.0	23.8	8.9	76.3		34.8				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	34.5	31.5	7.5	28.5	7.5	58.5		40.5				
Max Q Clear Time (g_c+l1), s	14.4	9.3	6.8	18.3	4.1	10.0		14.8				
Green Ext Time (p_c), s	1.2	1.3	0.0	1.0	0.0	2.8		1.1				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			22.0									
HCM 6th LOS			C									

## Timings

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## 5: Alton &amp; Darby Creek &amp; Scioto Darby Creek

11/27/2017



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	1	↑	↗	↖	↑	↖	↑	↖	↑
Traffic Volume (vph)	60	188	81	362	292	82	51	134	66
Future Volume (vph)	60	188	81	362	292	82	51	134	66
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+pt	NA	Perm	NA
Protected Phases	5	2	3	1	6	3	8	4	4
Permitted Phases	2		2	6		8		4	
Detector Phase	5	2	3	1	6	3	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	9.5	9.5	22.5	9.5	22.5	22.5	22.5
Total Split (s)	12.0	36.0	12.0	39.0	63.0	12.0	45.0	33.0	33.0
Total Split (%)	10.0%	30.0%	10.0%	32.5%	52.5%	10.0%	37.5%	27.5%	27.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead		Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Recall Mode	None	C-Max	None	None	C-Max	None	None	None	None

## Intersection Summary

Cycle Length: 120

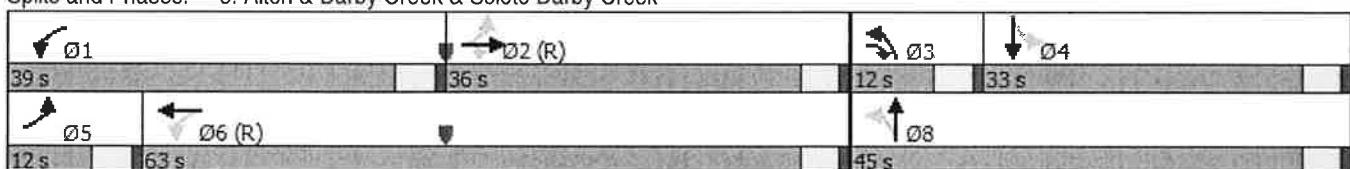
Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Splits and Phases: 5: Alton &amp; Darby Creek &amp; Scioto Darby Creek



HCM 6th Signalized Intersection Summary  
5: Alton & Darby Creek & Scioto Darby Creek

20161176  
11/27/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑
Traffic Volume (veh/h)	60	226	105	362	355	83	122	51	139	134	66	70
Future Volume (veh/h)	60	226	105	362	355	83	122	51	139	134	66	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No				No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	65	246	114	393	386	90	133	55	151	146	72	76
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	580	925	907	722	865	202	279	115	316	232	122	128
Arrive On Green	0.04	0.49	0.49	0.18	0.78	0.78	0.08	0.26	0.26	0.15	0.15	0.15
Sat Flow, veh/h	1781	1870	1585	1781	1467	342	1781	441	1211	1176	833	879
Grp Volume(v), veh/h	65	246	114	393	0	476	133	0	206	146	0	148
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1809	1781	0	1652	1176	0	1712
Q Serve(g_s), s	2.1	9.2	4.0	12.7	0.0	10.5	7.4	0.0	12.6	14.5	0.0	9.7
Cycle Q Clear(g_c), s	2.1	9.2	4.0	12.7	0.0	10.5	7.4	0.0	12.6	14.5	0.0	9.7
Prop In Lane	1.00		1.00	1.00		0.19	1.00		0.73	1.00		0.51
Lane Grp Cap(c), veh/h	580	925	907	722	0	1067	279	0	431	232	0	250
V/C Ratio(X)	0.11	0.27	0.13	0.54	0.00	0.45	0.48	0.00	0.48	0.63	0.00	0.59
Avail Cap(c_a), veh/h	611	925	907	970	0	1067	297	0	571	320	0	378
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.7	17.6	11.8	10.2	0.0	6.4	38.1	0.0	37.4	49.9	0.0	47.9
Incr Delay (d2), s/veh	0.1	0.7	0.3	0.6	0.0	1.4	1.3	0.0	0.8	2.8	0.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	4.1	1.4	4.3	0.0	3.5	3.2	0.0	5.1	4.5	0.0	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.7	18.3	12.1	10.8	0.0	7.8	39.3	0.0	38.3	52.8	0.0	50.1
LnGrp LOS	B	B	B	B	A	A	D	A	D	D	A	D
Approach Vol, veh/h		425			869			339			294	
Approach Delay, s/veh		16.0			9.2			38.7			51.4	
Approach LOS		B			A			D			D	
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	20.3	63.9	13.8	22.0	8.9	75.3		35.8				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	32.5	32.5	10.5	26.5	6.5	58.5		41.5				
Max Q Clear Time (g_c+l1), s	14.7	11.2	9.4	16.5	4.1	12.5		14.6				
Green Ext Time (p_c), s	1.1	1.7	0.0	1.0	0.0	3.4		1.1				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			22.3									
HCM 6th LOS			C									



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	↑ ↗	↑ ↘	↗ ↗	↑ ↗	↑ ↘	↗ ↗	↑ ↘	↗ ↗	↑ ↘
Traffic Volume (vph)	60	226	105	362	355	122	51	134	66
Future Volume (vph)	60	226	105	362	355	122	51	134	66
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+pt	NA	Perm	NA
Protected Phases	5	2	3	1	6	3	8	4	
Permitted Phases	2		2	6		8		4	
Detector Phase	5	2	3	1	6	3	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	9.5	9.5	22.5	9.5	22.5	22.5	22.5
Total Split (s)	11.0	37.0	15.0	37.0	63.0	15.0	46.0	31.0	31.0
Total Split (%)	9.2%	30.8%	12.5%	30.8%	52.5%	12.5%	38.3%	25.8%	25.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead		Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Recall Mode	None	C-Max	None	None	C-Max	None	None	None	None

**Intersection Summary**

Cycle Length: 120

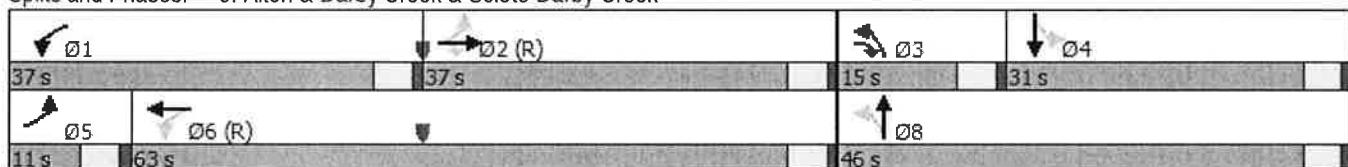
Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Splits and Phases: 5: Alton &amp; Darby Creek &amp; Scioto Darby Creek



HCM 6th Signalized Intersection Summary  
5: Alton & Darby Creek & Scioto Darby Creek

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑	↗	↖	↑	↗
Traffic Volume (veh/h)	98	202	81	362	355	83	105	51	139	134	66	70
Future Volume (veh/h)	98	202	81	362	355	83	105	51	139	134	66	70
Initial Q (Q <sub>b</sub> ), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	107	220	88	393	386	90	114	55	151	146	72	76
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	602	945	909	762	866	202	263	111	306	232	122	129
Arrive On Green	0.04	0.51	0.51	0.17	0.79	0.79	0.07	0.25	0.25	0.15	0.15	0.15
Sat Flow, veh/h	1781	1870	1585	1781	1467	342	1781	441	1211	1176	833	879
Grp Volume(v), veh/h	107	220	88	393	0	476	114	0	206	146	0	148
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1809	1781	0	1652	1176	0	1712
Q Serve(g_s), s	3.5	7.9	3.0	12.4	0.0	10.4	6.3	0.0	12.8	14.5	0.0	9.7
Cycle Q Clear(g_c), s	3.5	7.9	3.0	12.4	0.0	10.4	6.3	0.0	12.8	14.6	0.0	9.7
Prop In Lane	1.00		1.00	1.00		0.19	1.00		0.73	1.00		0.51
Lane Grp Cap(c), veh/h	602	945	909	762	0	1068	263	0	417	232	0	252
V/C Ratio(X)	0.18	0.23	0.10	0.52	0.00	0.45	0.43	0.00	0.49	0.63	0.00	0.59
Avail Cap(c_a), veh/h	619	945	909	1013	0	1068	298	0	571	319	0	378
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.9	16.6	11.6	9.6	0.0	6.4	38.5	0.0	38.3	50.0	0.0	47.8
Incr Delay (d2), s/veh	0.1	0.6	0.2	0.5	0.0	1.3	1.1	0.0	0.9	2.8	0.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	3.5	1.0	4.1	0.0	3.4	2.8	0.0	5.1	4.5	0.0	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.1	17.2	11.8	10.1	0.0	7.7	39.6	0.0	39.2	52.8	0.0	50.0
LnGrp LOS	B	B	B	B	A	A	D	A	D	D	A	D
Approach Vol, veh/h		415			869			320			294	
Approach Delay, s/veh		15.0			8.8			39.3			51.4	
Approach LOS		B			A			D			D	
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+R <sub>c</sub> ), s	20.0	65.2	12.7	22.1	9.8	75.4		34.8				
Change Period (Y+R <sub>c</sub> ), s	4.5	4.5	4.5	4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	32.5	32.5	10.5	26.5	6.5	58.5		41.5				
Max Q Clear Time (g_c+l1), s	14.4	9.9	8.3	16.6	5.5	12.4		14.8				
Green Ext Time (p_c), s	1.1	1.4	0.0	1.0	0.0	3.4		1.1				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay			21.9									
HCM 6th LOS			C									



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	1	↑	1	1	1	1	1	1	1
Traffic Volume (vph)	98	202	81	362	355	105	51	134	66
Future Volume (vph)	98	202	81	362	355	105	51	134	66
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	pm+pt	NA	Perm	NA
Protected Phases	5	2	3	1	6	3	8	4	4
Permitted Phases	2		2	6		8		4	
Detector Phase	5	2	3	1	6	3	8	4	4
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	9.5	9.5	22.5	9.5	22.5	22.5	22.5
Total Split (s)	11.0	37.0	15.0	37.0	63.0	15.0	46.0	31.0	31.0
Total Split (%)	9.2%	30.8%	12.5%	30.8%	52.5%	12.5%	38.3%	25.8%	25.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead		Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes
Recall Mode	None	C-Max	None	None	C-Max	None	None	None	None

**Intersection Summary**

Cycle Length: 120

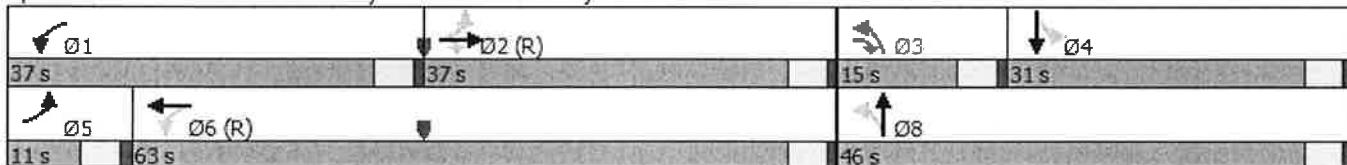
Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Splits and Phases: 5: Alton &amp; Darby Creek &amp; Scioto Darby Creek



Intersection

Int Delay, s/veh 28.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑	↑	
Traffic Vol, veh/h	112	24	81	995	453	57
Future Vol, veh/h	112	24	81	995	453	57
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	140	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	122	26	88	1082	492	62

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	1781	523	554	0	- 0
Stage 1	523	-	-	-	-
Stage 2	1258	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	~ 90	554	1016	-	-
Stage 1	595	-	-	-	-
Stage 2	268	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	~ 82	554	1016	-	-
Mov Cap-2 Maneuver	~ 82	-	-	-	-
Stage 1	543	-	-	-	-
Stage 2	268	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	\$ 358.4	0.7	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1016	-	97	-	-
HCM Lane V/C Ratio	0.087	-	1.524	-	-
HCM Control Delay (s)	8.9	\$ 358.4	-	-	-
HCM Lane LOS	A	-	F	-	-
HCM 95th %tile Q(veh)	0.3	-	11.3	-	-

Notes

~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

Intersection

Int Delay, s/veh 26.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑	↑	↑
Traffic Vol, veh/h	112	24	81	995	453	57
Future Vol, veh/h	112	24	81	995	453	57
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	140	-	-	243
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	122	26	88	1082	492	62

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	1750	492	554
Stage 1	492	-	-
Stage 2	1258	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	~ 94	577	1016
Stage 1	615	-	-
Stage 2	268	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	~ 86	577	1016
Mov Cap-2 Maneuver	~ 86	-	-
Stage 1	561	-	-
Stage 2	268	-	-

Approach	EB	NB	SB
HCM Control Delay, s	\$ 330.3	0.7	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1016	-	101	-	-
HCM Lane V/C Ratio	0.087	-	1.464	-	-
HCM Control Delay (s)	8.9	\$ 330.3	-	-	
HCM Lane LOS	A	-	F	-	-
HCM 95th %tile Q(veh)	0.3	-	10.9	-	-

Notes

-: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

## MOVEMENT SUMMARY

 Site: 101 [2022 AM No Build]

20161176

Alton & Darby Creek Road/Davis Road

2022 AM No Build

Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Vehicles veh	Back of Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
<b>South: Alton &amp; Darby Creek Rd</b>											
3	L2	88	3.0	0.072	3.5	LOS A	0.3	7.2	0.24	0.12	34.1
8	T1	1082	3.0	0.879	23.7	LOS C	15.9	407.7	0.95	0.64	28.3
Approach		1170	3.0	0.879	22.2	LOS C	15.9	407.7	0.89	0.60	28.7
<b>North: Alton &amp; Darby Creek Rd</b>											
4	T1	492	3.0	0.388	6.6	LOS A	2.2	56.3	0.29	0.15	35.8
14	R2	62	3.0	0.049	3.2	LOS A	0.2	4.8	0.20	0.08	35.7
Approach		554	3.0	0.388	6.2	LOS A	2.2	56.3	0.28	0.14	35.8
<b>West: Davis Rd</b>											
5	L2	122	3.0	0.185	6.5	LOS A	0.8	20.0	0.56	0.51	33.2
12	R2	26	3.0	0.185	6.5	LOS A	0.8	20.0	0.56	0.51	31.7
Approach		148	3.0	0.185	6.5	LOS A	0.8	20.0	0.56	0.51	32.9
All Vehicles		1872	3.0	0.879	16.2	LOS C	15.9	407.7	0.69	0.45	30.8

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# LANE LEVEL OF SERVICE

## Lane Level of Service

Site: 101 [2022 AM No Build]

20161176

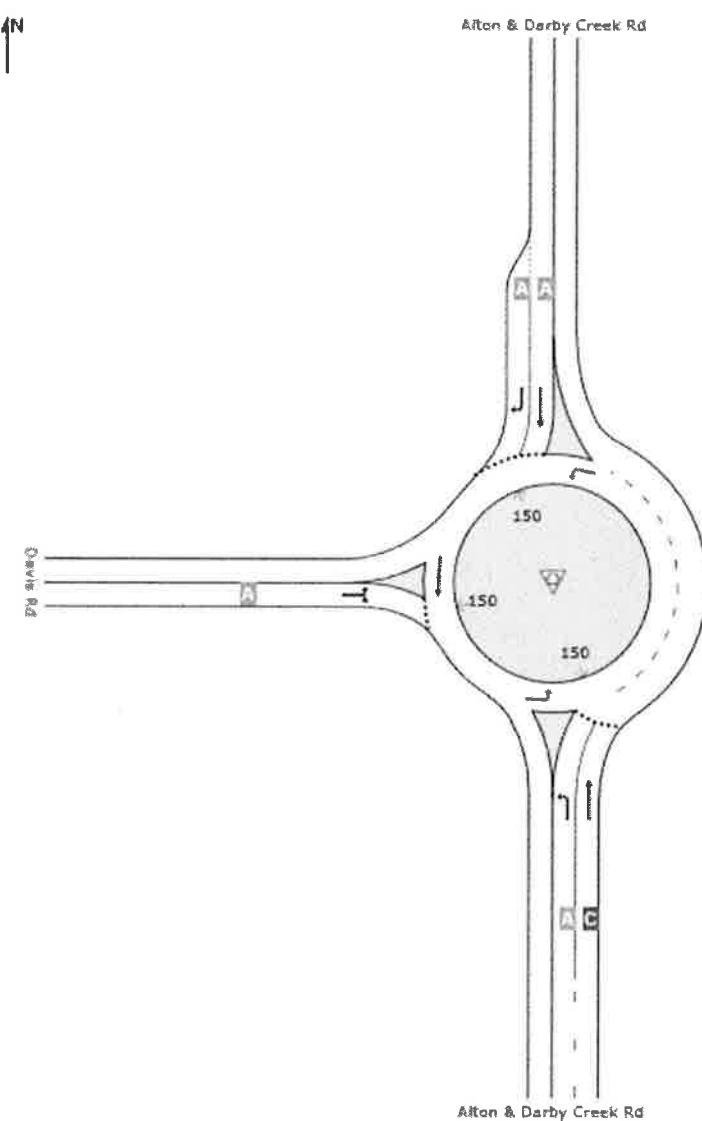
Alton & Darby Creek Road/Davis Road

2022 AM No Build

Roundabout

### All Movement Classes

	South	North	West	Intersection
LOS	C	A	A	C



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection

Int Delay, s/veh 31.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑		Y
Traffic Vol, veh/h	112	24	81	1006	485	57
Future Vol, veh/h	112	24	81	1006	485	57
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	140	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	122	26	88	1093	527	62

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	1827	558	589 0 - 0
Stage 1	558	-	-
Stage 2	1269	-	-
Critical Hdwy	6.42	6.22 4.12 -	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318 2.218 -	-
Pot Cap-1 Maneuver	~ 84	529 986 -	-
Stage 1	573	-	-
Stage 2	264	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	~ 77	529 986 -	-
Mov Cap-2 Maneuver	~ 77	-	-
Stage 1	522	-	-
Stage 2	264	-	-

Approach	EB	NB	SB
HCM Control Delay, s	\$ 405.7	0.7	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	986	-	91	-	-
HCM Lane V/C Ratio	0.089	-	1.624	-	-
HCM Control Delay (s)	9	\$ 405.7	-	-	
HCM Lane LOS	A	-	F	-	-
HCM 95th %tile Q(veh)	0.3	-	11.8	-	-

Notes

~- Volume exceeds capacity    \$: Delay exceeds 300s    -: Computation Not Defined    \*: All major volume in platoon

Intersection

Int Delay, s/veh 29.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		W	↑	↑	↑
Traffic Vol, veh/h	112	24	81	1006	485	57
Future Vol, veh/h	112	24	81	1006	485	57
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	140	-	-	243
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	122	26	88	1093	527	62

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	1796	527	589	0	- 0
Stage 1	527	-	-	-	-
Stage 2	1269	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	~ 88	551	986	-	-
Stage 1	592	-	-	-	-
Stage 2	264	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	~ 80	551	986	-	-
Mov Cap-2 Maneuver	~ 80	-	-	-	-
Stage 1	539	-	-	-	-
Stage 2	264	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	\$ 381.2	0.7	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	986	-	94	-	-
HCM Lane V/C Ratio	0.089	-	1.573	-	-
HCM Control Delay (s)	9	\$ 381.2	-	-	
HCM Lane LOS	A	-	F	-	-
HCM 95th %ile Q(veh)	0.3	-	11.5	-	-

Notes

-: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

## MOVEMENT SUMMARY

### Site: 101 [2022 AM Build]

20161176

Alton & Darby Creek Road/Davis Road

2022 AM Build

Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
<b>South: Alton &amp; Darby Creek Rd</b>											
3	L2	88	3.0	0.072	3.5	LOS A	0.3	7.2	0.24	0.12	34.1
8	T1	1093	3.0	0.889	24.8	LOS C	17.0	436.1	0.98	0.66	27.9
Approach		1182	3.0	0.889	23.2	LOS C	17.0	436.1	0.93	0.62	28.3
<b>North: Alton &amp; Darby Creek Rd</b>											
4	T1	527	3.0	0.415	6.9	LOS A	2.4	62.7	0.30	0.15	35.6
14	R2	62	3.0	0.049	3.2	LOS A	0.2	4.8	0.20	0.08	35.7
Approach		589	3.0	0.415	6.5	LOS A	2.4	62.7	0.29	0.15	35.6
<b>West: Davis Rd</b>											
5	L2	122	3.0	0.192	6.7	LOS A	0.8	20.6	0.58	0.54	33.1
12	R2	26	3.0	0.192	6.7	LOS A	0.8	20.6	0.58	0.54	31.6
Approach		148	3.0	0.192	6.7	LOS A	0.8	20.6	0.58	0.54	32.8
All Vehicles		1918	3.0	0.889	16.8	LOS C	17.0	436.1	0.70	0.47	30.6

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# LANE LEVEL OF SERVICE

Lane Level of Service

▼ Site: 101 [2022 AM Build]

20161176

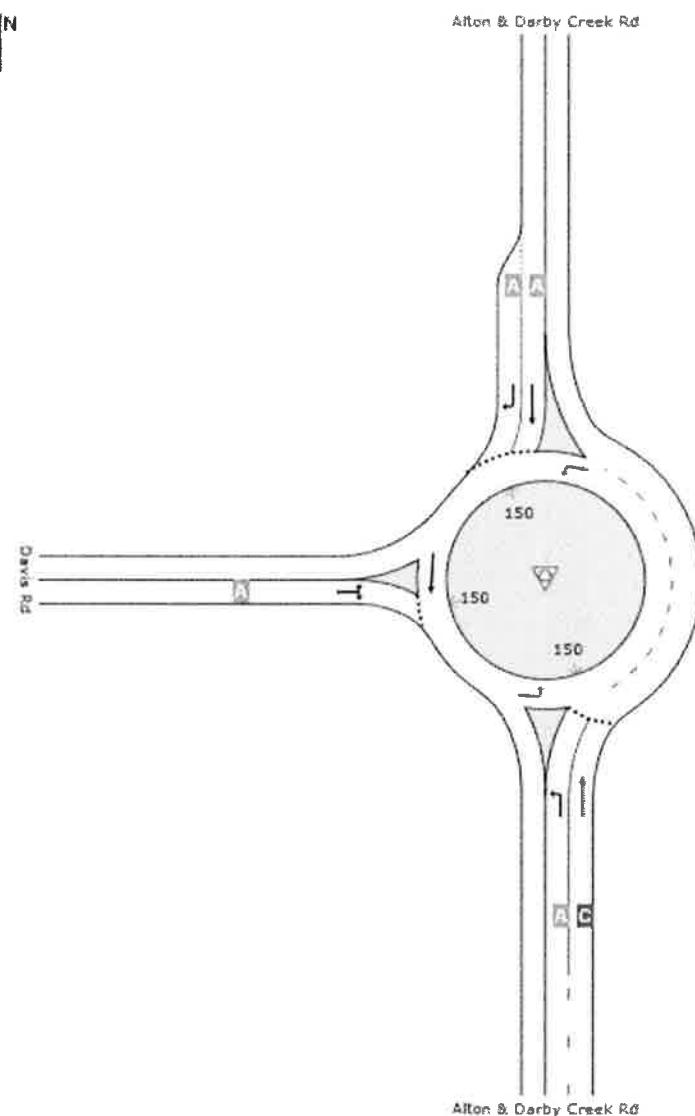
Alton & Darby Creek Road/Davis Road

2022 AM Build

Roundabout

All Movement Classes

	South	North	West	Intersection
LOS	C	A	A	C



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).  
Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

**Intersection**

Int Delay, s/veh 5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		X	↑		↑
Traffic Vol, veh/h	126	28	94	265	156	66
Future Vol, veh/h	126	28	94	265	156	66
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	140	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	137	30	102	288	170	72

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	698	206	242	0	- 0
Stage 1	206	-	-	-	-
Stage 2	492	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	407	835	1324	-	-
Stage 1	829	-	-	-	-
Stage 2	615	-	-	-	-
Platoon blocked, %		-	-	-	-
Mov Cap-1 Maneuver	376	835	1324	-	-
Mov Cap-2 Maneuver	376	-	-	-	-
Stage 1	765	-	-	-	-
Stage 2	615	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	19.2	2.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1324	-	418	-	-
HCM Lane V/C Ratio	0.077	-	0.4	-	-
HCM Control Delay (s)	7.9	-	19.2	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.2	-	1.9	-	-

**Intersection**

Int Delay, s/veh 4.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑	↑	Y
Traffic Vol, veh/h	126	28	94	265	156	66
Future Vol, veh/h	126	28	94	265	156	66
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	140	-	-	318
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	137	30	102	288	170	72

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	662	170	242
Stage 1	170	-	-
Stage 2	492	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	427	874	1324
Stage 1	860	-	-
Stage 2	615	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	394	874	1324
Mov Cap-2 Maneuver	394	-	-
Stage 1	794	-	-
Stage 2	615	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.2	2.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1324	-	438	-	-
HCM Lane V/C Ratio	0.077	-	0.382	-	-
HCM Control Delay (s)	7.9	-	18.2	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.2	-	1.8	-	-

Intersection

Int Delay, s/veh 5.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		X	↑		Y
Traffic Vol, veh/h	126	28	94	276	188	66
Future Vol, veh/h	126	28	94	276	188	66
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	140	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	137	30	102	300	204	72

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	744	240	276
Stage 1	240	-	-
Stage 2	504	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	382	799	1287
Stage 1	800	-	-
Stage 2	607	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	352	799	1287
Mov Cap-2 Maneuver	352	-	-
Stage 1	737	-	-
Stage 2	607	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.9	2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1287	-	392	-	-
HCM Lane V/C Ratio	0.079	-	0.427	-	-
HCM Control Delay (s)	8	-	20.9	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.3	-	2.1	-	-

HCM 6th TWSC  
6: Davis Rd & Alton & Darby Creek

20161176

11/22/2017

Intersection

Int Delay, s/veh 4.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑	↑	↗
Traffic Vol, veh/h	126	28	94	276	188	66
Future Vol, veh/h	126	28	94	276	188	66
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	140	-	-	318
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	137	30	102	300	204	72

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	708	204	276	0	- 0
Stage 1	204	-	-	-	- -
Stage 2	504	-	-	-	- -
Critical Hdwy	6.42	6.22	4.12	-	- -
Critical Hdwy Stg 1	5.42	-	-	-	- -
Critical Hdwy Stg 2	5.42	-	-	-	- -
Follow-up Hdwy	3.518	3.318	2.218	-	- -
Pot Cap-1 Maneuver	401	837	1287	-	- -
Stage 1	830	-	-	-	- -
Stage 2	607	-	-	-	- -
Platoon blocked, %			-	-	- -
Mov Cap-1 Maneuver	369	837	1287	-	- -
Mov Cap-2 Maneuver	369	-	-	-	- -
Stage 1	764	-	-	-	- -
Stage 2	607	-	-	-	- -

Approach	EB	NB		SB
HCM Control Delay, s	19.6		2	0
HCM LOS	C			

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1287	-	411	-	-
HCM Lane V/C Ratio	0.079	-	0.407	-	-
HCM Control Delay (s)	8	-	19.6	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.3	-	1.9	-	-

HCM 6th TWSC  
6: Davis Rd & Alton & Darby Creek

20161176

11/22/2017

Intersection

Int Delay, s/veh 5.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		↑	↑	↑	
Traffic Vol, veh/h	126	28	94	271	175	66
Future Vol, veh/h	126	28	94	271	175	66
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	140	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	137	30	102	295	190	72

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	725	226	262
Stage 1	226	-	-
Stage 2	499	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	392	813	1302
Stage 1	812	-	-
Stage 2	610	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	361	813	1302
Mov Cap-2 Maneuver	361	-	-
Stage 1	749	-	-
Stage 2	610	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.2	2.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1302	-	402	-	-
HCM Lane V/C Ratio	0.078	-	0.416	-	-
HCM Control Delay (s)	8	-	20.2	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.3	-	2	-	-

**Intersection**

Int Delay, s/veh 4.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑	↑	Y
Traffic Vol, veh/h	126	28	94	271	175	66
Future Vol, veh/h	126	28	94	271	175	66
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	140	-	-	318
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	137	30	102	295	190	72

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	689	190	262
Stage 1	190	-	-
Stage 2	499	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	412	852	1302
Stage 1	842	-	-
Stage 2	610	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	380	852	1302
Mov Cap-2 Maneuver	380	-	-
Stage 1	776	-	-
Stage 2	610	-	-

Approach	EB	NB	SB
HCM Control Delay, s	19	2.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1302	-	423	-	-
HCM Lane V/C Ratio	0.078	-	0.396	-	-
HCM Control Delay (s)	8	-	19	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.3	-	1.9	-	-

Intersection

Int Delay, s/veh 4.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		W	↑		W
Traffic Vol, veh/h	52	13	16	605	985	197
Future Vol, veh/h	52	13	16	605	985	197
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	140	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	57	14	17	658	1071	214

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	1870	1178	1285	0	- 0
Stage 1	<b>1178</b>	-	-	-	-
Stage 2	692	-	-	-	-
Critical Hdwy	<b>6.42</b>	<b>6.22</b>	<b>4.12</b>	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	<b>5.42</b>	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	<b>79</b>	232	540	-	-
Stage 1	292	-	-	-	-
Stage 2	497	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	77	232	540	-	-
Mov Cap-2 Maneuver	77	-	-	-	-
Stage 1	283	-	-	-	-
Stage 2	497	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	127.9	0.3	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	540	-	89	-	-
HCM Lane V/C Ratio	0.032	-	0.794	-	-
HCM Control Delay (s)	11.9	-	127.9	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q(veh)	0.1	-	4.1	-	-

Intersection

Int Delay, s/veh 3.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		N	↑	↑	↖
Traffic Vol, veh/h	52	13	16	605	985	197
Future Vol, veh/h	52	13	16	605	985	197
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	140	-	-	243
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	57	14	17	658	1071	214

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	1763	1071	1285	0	- 0
Stage 1	1071	-	-	-	-
Stage 2	692	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	93	268	540	-	-
Stage 1	329	-	-	-	-
Stage 2	497	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	90	268	540	-	-
Mov Cap-2 Maneuver	90	-	-	-	-
Stage 1	319	-	-	-	-
Stage 2	497	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	93.1	0.3	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	540	-	104	-	-
HCM Lane V/C Ratio	0.032	-	0.679	-	-
HCM Control Delay (s)	11.9	-	93.1	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q(veh)	0.1	-	3.5	-	-

## MOVEMENT SUMMARY

 Site: 101 [2022 PM No Build]

20161176

Alton & Darby Creek Road/Davis Road

2022 PM No Build

Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
<b>South: Alton &amp; Darby Creek Rd</b>											
3	L2	17	3.0	0.013	2.9	LOS A	0.1	1.3	0.15	0.05	34.4
8	T1	658	3.0	0.503	8.0	LOS A	3.5	89.2	0.27	0.12	35.0
Approach		675	3.0	0.503	7.9	LOS A	3.5	89.2	0.27	0.12	35.0
<b>North: Alton &amp; Darby Creek Rd</b>											
4	T1	1071	3.0	0.789	15.7	LOS C	12.0	306.8	0.30	0.09	31.4
14	R2	214	3.0	0.158	3.9	LOS A	0.7	17.8	0.09	0.02	35.3
Approach		1285	3.0	0.789	13.7	LOS B	12.0	306.8	0.26	0.08	32.0
<b>West: Davis Rd</b>											
5	L2	57	3.0	0.162	10.7	LOS B	0.6	15.0	0.71	0.71	31.4
12	R2	14	3.0	0.162	10.7	LOS B	0.6	15.0	0.71	0.71	30.1
Approach		71	3.0	0.162	10.7	LOS B	0.6	15.0	0.71	0.71	31.1
All Vehicles		2030	3.0	0.789	11.7	LOS B	12.0	306.8	0.28	0.11	32.9

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# LANE LEVEL OF SERVICE

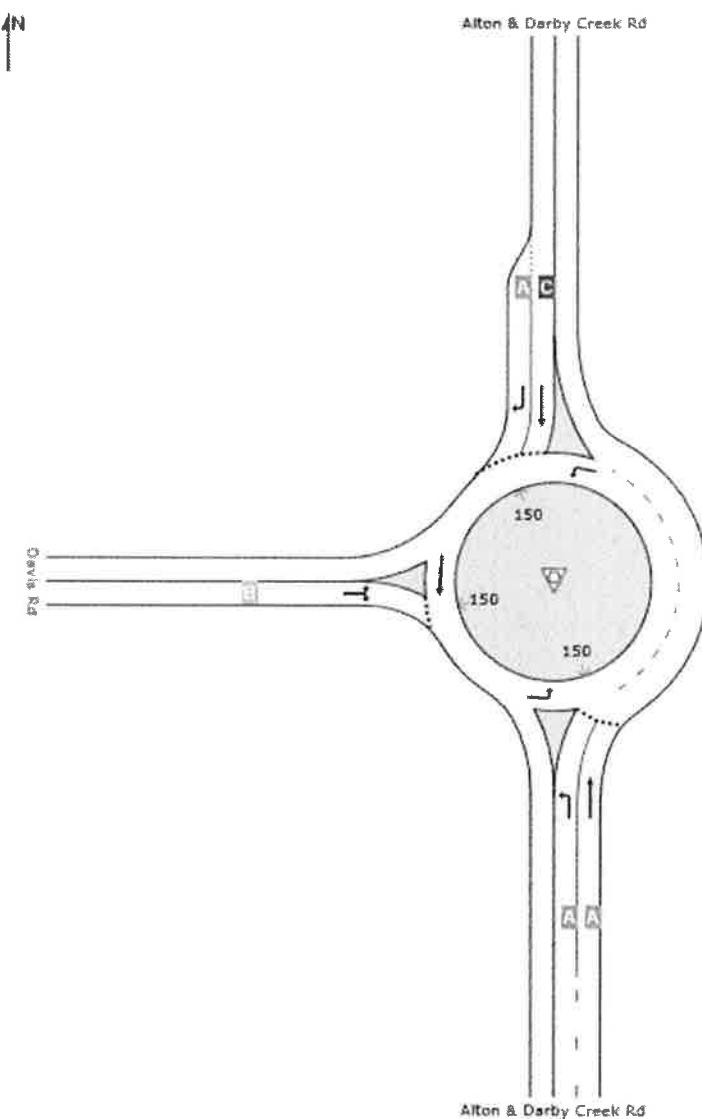
## Lane Level of Service

Site: 101 [2022 PM No Build]

20161176  
Alton & Darby Creek Road/Davis Road  
2022 PM No Build  
Roundabout

All Movement Classes

	South	North	West	Intersection
LOS	A	B	B	B



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab). Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

**Intersection**

Int Delay, s/veh 5.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		N	↑		→
Traffic Vol, veh/h	52	13	16	640	1006	197
Future Vol, veh/h	52	13	16	640	1006	197
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	140	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	57	14	17	696	1093	214

Major/Minor	Minor2	Major1	Major2	
Conflicting Flow All	1930	1200	1307	0
Stage 1	1200	-	-	-
Stage 2	730	-	-	-
Critical Hdwy	6.42	6.22	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-
Pot Cap-1 Maneuver	73	226	530	-
Stage 1	285	-	-	-
Stage 2	477	-	-	-
Platoon blocked, %		-	-	-
Mov Cap-1 Maneuver	71	226	530	-
Mov Cap-2 Maneuver	71	-	-	-
Stage 1	276	-	-	-
Stage 2	477	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	151.9	0.3	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	530	-	82	-	-
HCM Lane V/C Ratio	0.033	-	0.862	-	-
HCM Control Delay (s)	12	-	151.9	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q(veh)	0.1	-	4.5	-	-

Intersection

Int Delay, s/veh 3.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		X	↑	↑	X
Traffic Vol, veh/h	52	13	16	640	1006	197
Future Vol, veh/h	52	13	16	640	1006	197
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	140	-	-	243
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	57	14	17	696	1093	214

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	1823	1093	1307
Stage 1	1093	-	-
Stage 2	730	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	85	261	530
Stage 1	321	-	-
Stage 2	477	-	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	82	261	530
Mov Cap-2 Maneuver	82	-	-
Stage 1	311	-	-
Stage 2	477	-	-

Approach	EB	NB	SB
HCM Control Delay, s	111.8	0.3	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	530	-	95	-	-
HCM Lane V/C Ratio	0.033	-	0.744	-	-
HCM Control Delay (s)	12	-	111.8	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q(veh)	0.1	-	3.8	-	-

## MOVEMENT SUMMARY

 Site: 101 [2022 PM Build]

20161176

Alton & Darby Creek Road/Davis Road

2022 PM Build

Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Queue Distance ft	Prop. Queued	Effective Stop Rate per veh	Average Speed mph
<b>South: Alton &amp; Darby Creek Rd</b>											
3	L2	17	3.0	0.013	2.9	LOS A	0.1	1.3	0.15	0.05	34.4
8	T1	696	3.0	0.532	8.5	LOS A	3.9	99.3	0.29	0.13	34.8
Approach		713	3.0	0.532	8.4	LOS A	3.9	99.3	0.28	0.13	34.8
<b>North: Alton &amp; Darby Creek Rd</b>											
4	T1	1093	3.0	0.806	16.6	LOS C	13.1	335.2	0.32	0.09	31.0
14	R2	214	3.0	0.158	3.9	LOS A	0.7	17.8	0.09	0.02	35.3
Approach		1308	3.0	0.806	14.5	LOS B	13.1	335.2	0.28	0.08	31.6
<b>West: Davis Rd</b>											
5	L2	57	3.0	0.166	11.0	LOS B	0.6	15.3	0.72	0.72	31.3
12	R2	14	3.0	0.166	11.0	LOS B	0.6	15.3	0.72	0.72	30.0
Approach		71	3.0	0.166	11.0	LOS B	0.6	15.3	0.72	0.72	31.0
All Vehicles		2091	3.0	0.806	12.3	LOS B	13.1	335.2	0.29	0.12	32.6

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).  
 Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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# LANE LEVEL OF SERVICE

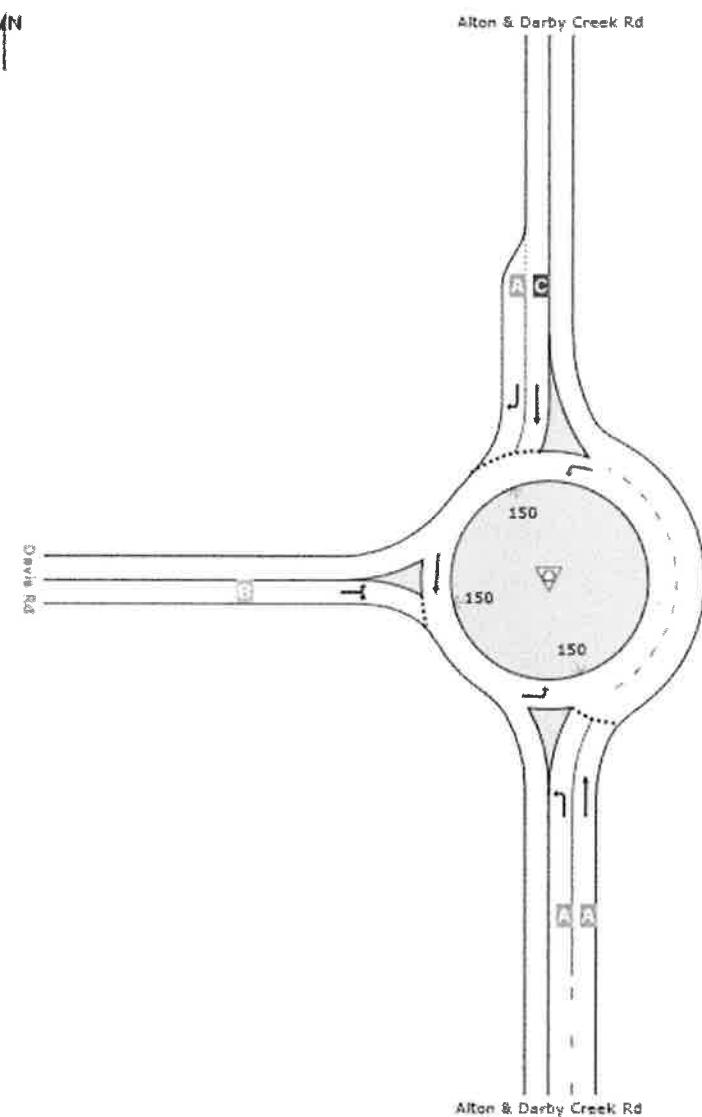
## Lane Level of Service

▼ Site: 101 [2022 PM Build]

20161176  
Alton & Darby Creek Road/Davis Road  
2022 PM Build  
Roundabout

### All Movement Classes

LOS	South	North	West	Intersection
LOS	A	B	B	B



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).  
Roundabout LOS Method: Same as Sign Control.

Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.

LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		1	↑		↑
Traffic Vol, veh/h	59	15	18	204	286	210
Future Vol, veh/h	59	15	18	204	286	210
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	140	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	64	16	20	222	311	228

Major/Minor	Minor2	Major1	Major2	
Conflicting Flow All	687	425	539	0
Stage 1	425	-	-	-
Stage 2	262	-	-	-
Critical Hdwy	6.42	6.22	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-
Pot Cap-1 Maneuver	413	629	1029	-
Stage 1	659	-	-	-
Stage 2	782	-	-	-
Platoon blocked, %		-	-	-
Mov Cap-1 Maneuver	405	629	1029	-
Mov Cap-2 Maneuver	405	-	-	-
Stage 1	646	-	-	-
Stage 2	782	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.1	0.7	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1029	-	437	-	-
HCM Lane V/C Ratio	0.019	-	0.184	-	-
HCM Control Delay (s)	8.6	-	15.1	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.7	-	-

**Intersection**

Int Delay, s/veh 1.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		X	↑	↑	X
Traffic Vol, veh/h	59	15	18	204	286	210
Future Vol, veh/h	59	15	18	204	286	210
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	140	-	-	268
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	64	16	20	222	311	228

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	573	311	539
Stage 1	311	-	-
Stage 2	262	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	481	729	1029
Stage 1	743	-	-
Stage 2	782	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	472	729	1029
Mov Cap-2 Maneuver	472	-	-
Stage 1	729	-	-
Stage 2	782	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.4	0.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1029	-	508	-	-
HCM Lane V/C Ratio	0.019	-	0.158	-	-
HCM Control Delay (s)	8.6	-	13.4	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.6	-	-

Intersection						
Int Delay, s/veh	1.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		1	↑		↑
Traffic Vol, veh/h	59	15	18	244	310	210
Future Vol, veh/h	59	15	18	244	310	210
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	140	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	64	16	20	265	337	228
Major/Minor	Minor2	Major1			Major2	
Conflicting Flow All	756	451	565	0	-	0
Stage 1	451	-	-	-	-	-
Stage 2	305	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	376	608	1007	-	-	-
Stage 1	642	-	-	-	-	-
Stage 2	748	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	368	608	1007	-	-	-
Mov Cap-2 Maneuver	368	-	-	-	-	-
Stage 1	629	-	-	-	-	-
Stage 2	748	-	-	-	-	-
Approach	EB	NB			SB	
HCM Control Delay, s	16.3	0.6			0	
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1007	-	400	-	-	
HCM Lane V/C Ratio	0.019	-	0.201	-	-	
HCM Control Delay (s)	8.6	-	16.3	-	-	
HCM Lane LOS	A	-	C	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.7	-	-	

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		Y	↑	↑	↗
Traffic Vol, veh/h	59	15	18	244	310	210
Future Vol, veh/h	59	15	18	244	310	210
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	140	-	-	268
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	64	16	20	265	337	228
Major/Minor	Minor2	Major1			Major2	
Conflicting Flow All	642	337	565	0	-	0
Stage 1	337	-	-	-	-	-
Stage 2	305	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	438	705	1007	-	-	-
Stage 1	723	-	-	-	-	-
Stage 2	748	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	429	705	1007	-	-	-
Mov Cap-2 Maneuver	429	-	-	-	-	-
Stage 1	709	-	-	-	-	-
Stage 2	748	-	-	-	-	-
Approach	EB	NB			SB	
HCM Control Delay, s	14.3	0.6			0	
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1007	-	466	-	-	
HCM Lane V/C Ratio	0.019	-	0.173	-	-	
HCM Control Delay (s)	8.6	-	14.3	-	-	
HCM Lane LOS	A	-	B	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.6	-	-	

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		↑	↑	↑	
Traffic Vol, veh/h	59	15	18	227	300	210
Future Vol, veh/h	59	15	18	227	300	210
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	140	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	64	16	20	247	326	228

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	727	440	554
Stage 1	440	-	-
Stage 2	287	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	391	617	1016
Stage 1	649	-	-
Stage 2	762	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	383	617	1016
Mov Cap-2 Maneuver	383	-	-
Stage 1	636	-	-
Stage 2	762	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.7	0.6	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1016	-	415	-	-
HCM Lane V/C Ratio	0.019	-	0.194	-	-
HCM Control Delay (s)	8.6	-	15.7	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.7	-	-

Intersection

Int Delay, s/veh 1.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑	↑	↗
Traffic Vol, veh/h	59	15	18	227	300	210
Future Vol, veh/h	59	15	18	227	300	210
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	140	-	-	268
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	64	16	20	247	326	228

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	613	326	554	0	- 0
Stage 1	326	-	-	-	-
Stage 2	287	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-
Pot Cap-1 Maneuver	456	715	1016	-	-
Stage 1	731	-	-	-	-
Stage 2	762	-	-	-	-
Platoon blocked, %		-	-	-	-
Mov Cap-1 Maneuver	447	715	1016	-	-
Mov Cap-2 Maneuver	447	-	-	-	-
Stage 1	716	-	-	-	-
Stage 2	762	-	-	-	-

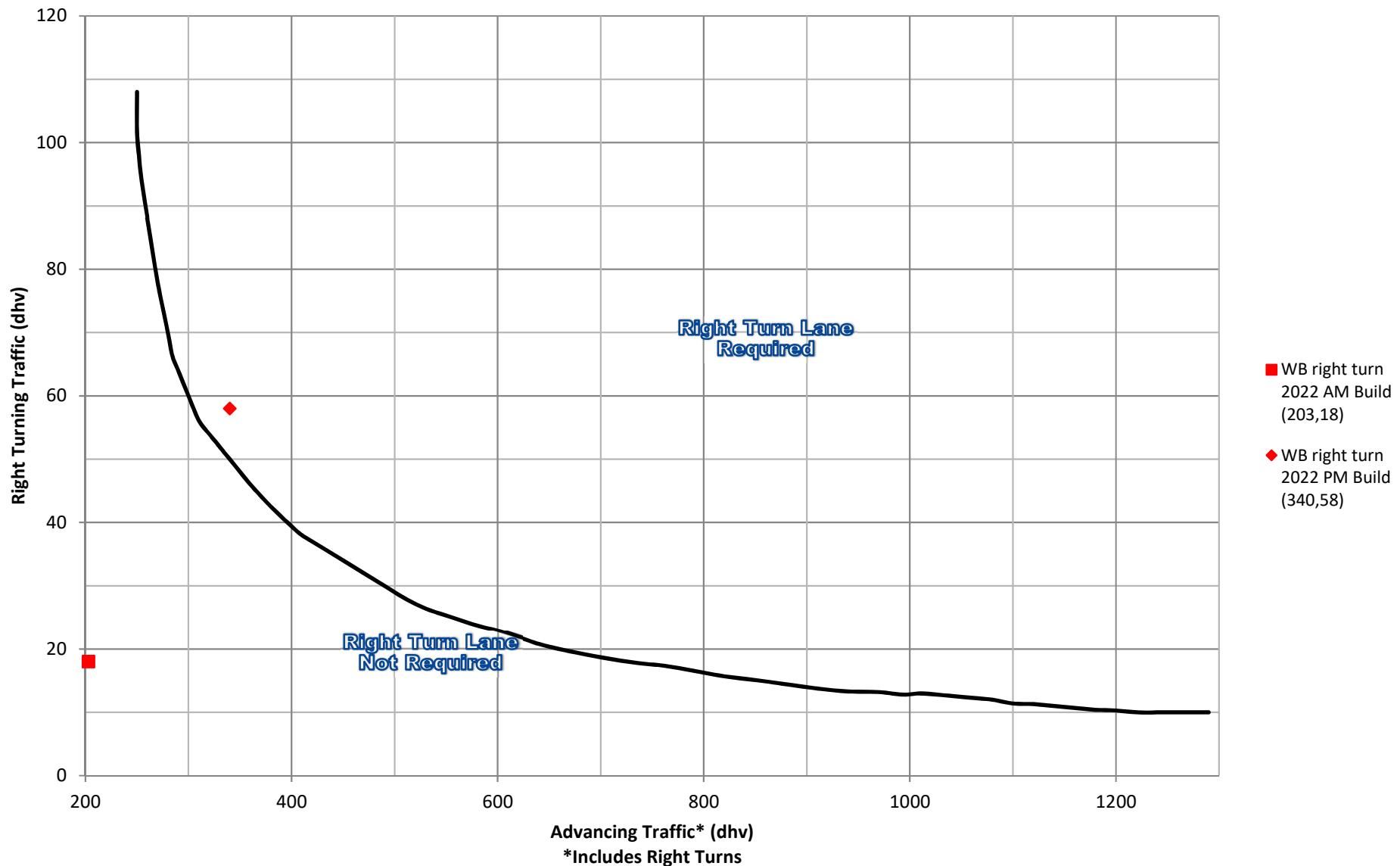
Approach	EB	NB		SB
HCM Control Delay, s	13.9	0.6		0
HCM LOS	B			

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1016	-	484	-	-
HCM Lane V/C Ratio	0.019	-	0.166	-	-
HCM Control Delay (s)	8.6	-	13.9	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.6	-	-

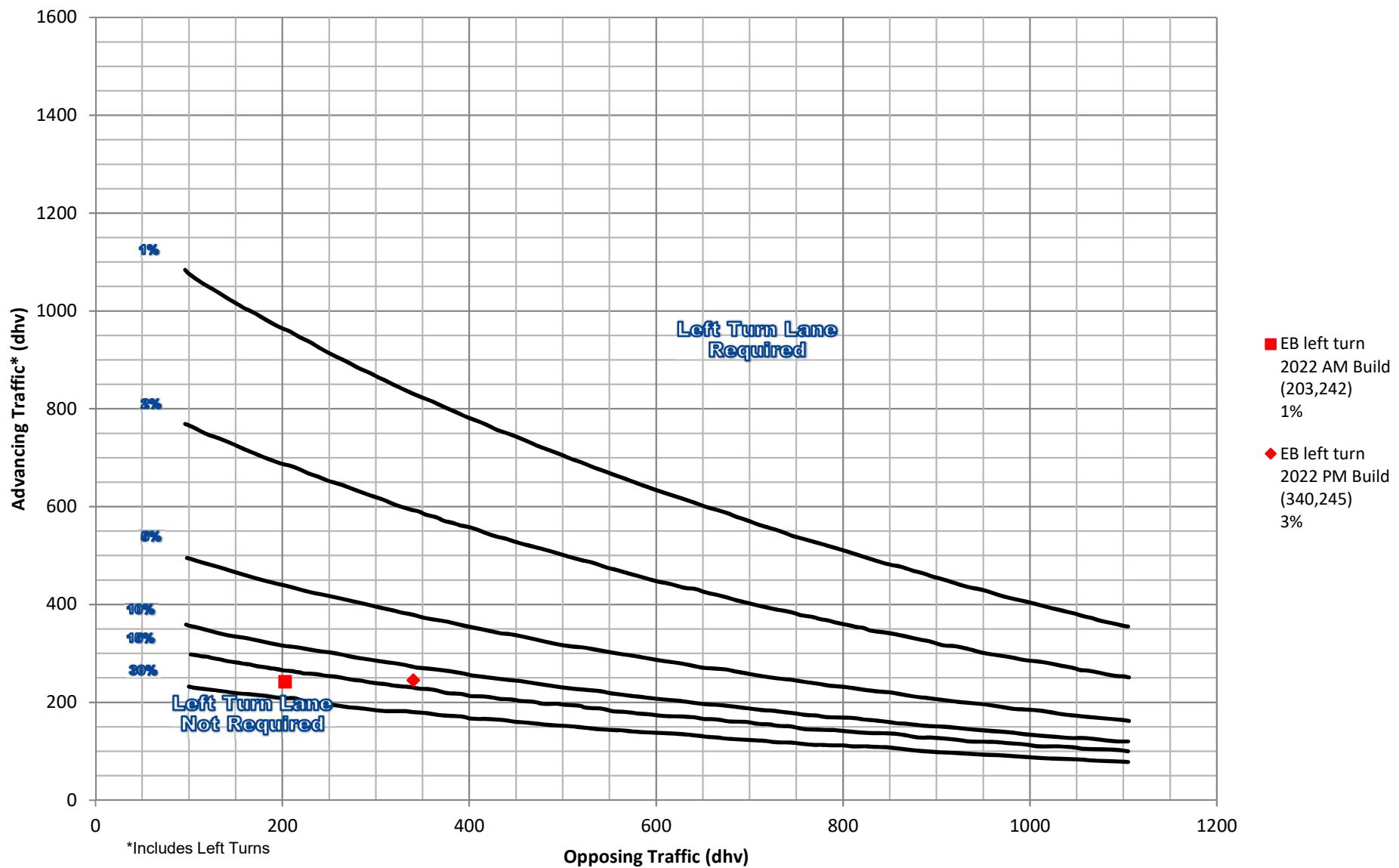
## **Appendix F**

### **Turn Lane Warrants**

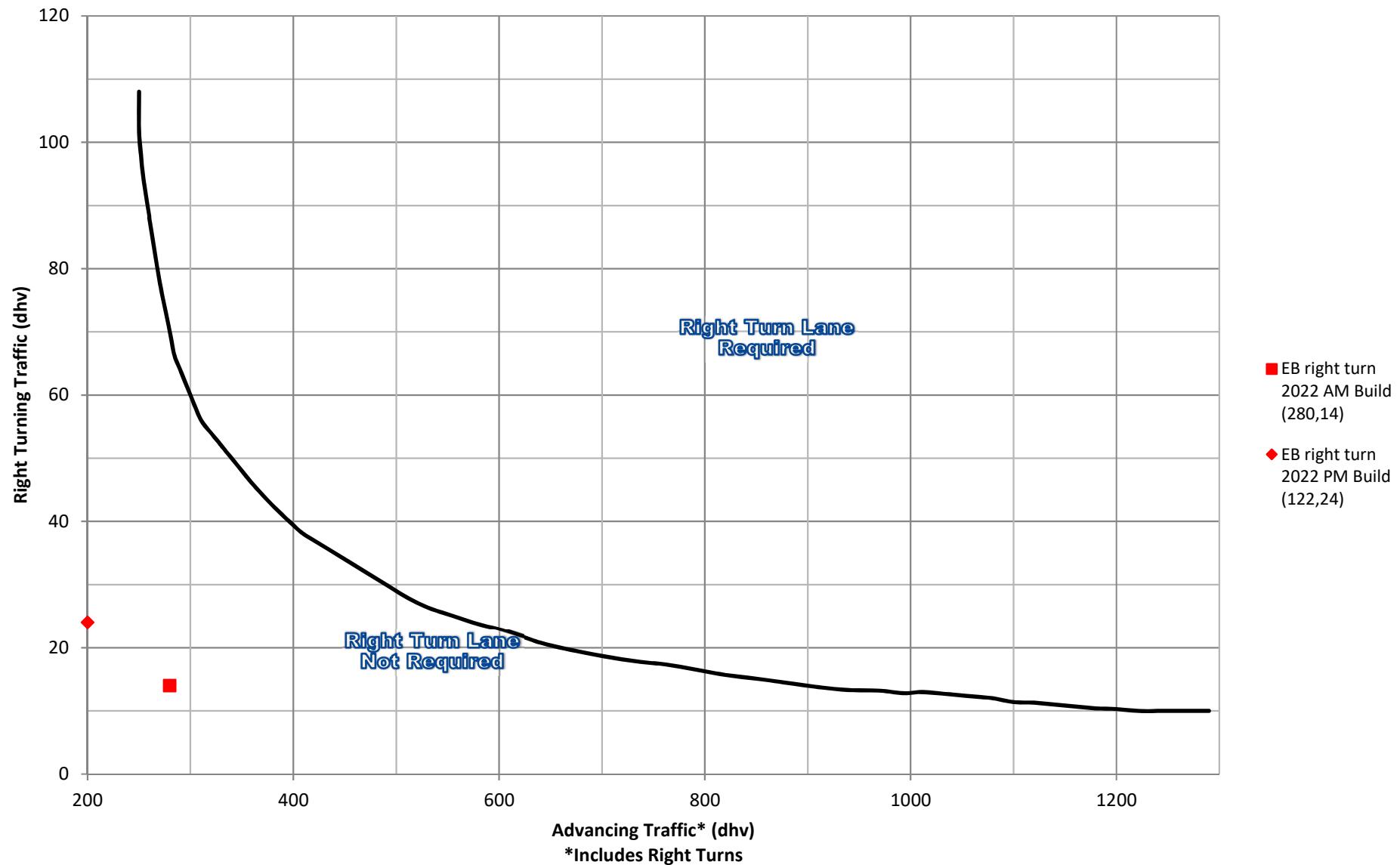
**Scioto & Darby Creek Rd @ Audubon Ave**  
**2-Lane Highway Right Turn Lane Warrant**  
>>40 mph or 70 kph Posted Speed



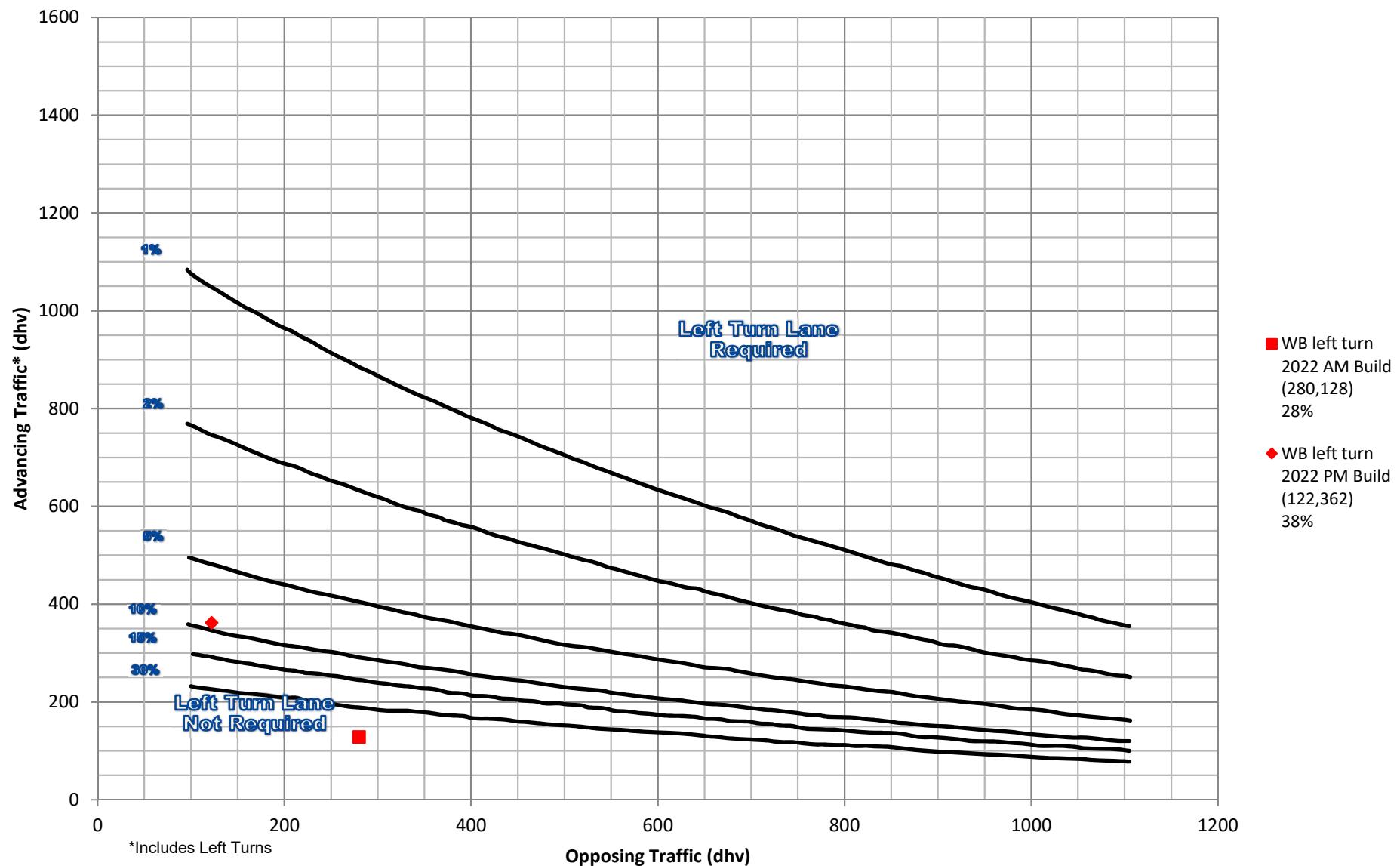
**Scioto & Darby Creek Rd @ Audubon Ave**  
**2-Lane Highway Left Turn Lane Warrant**  
>40 mph or 70 kph Posted Speed



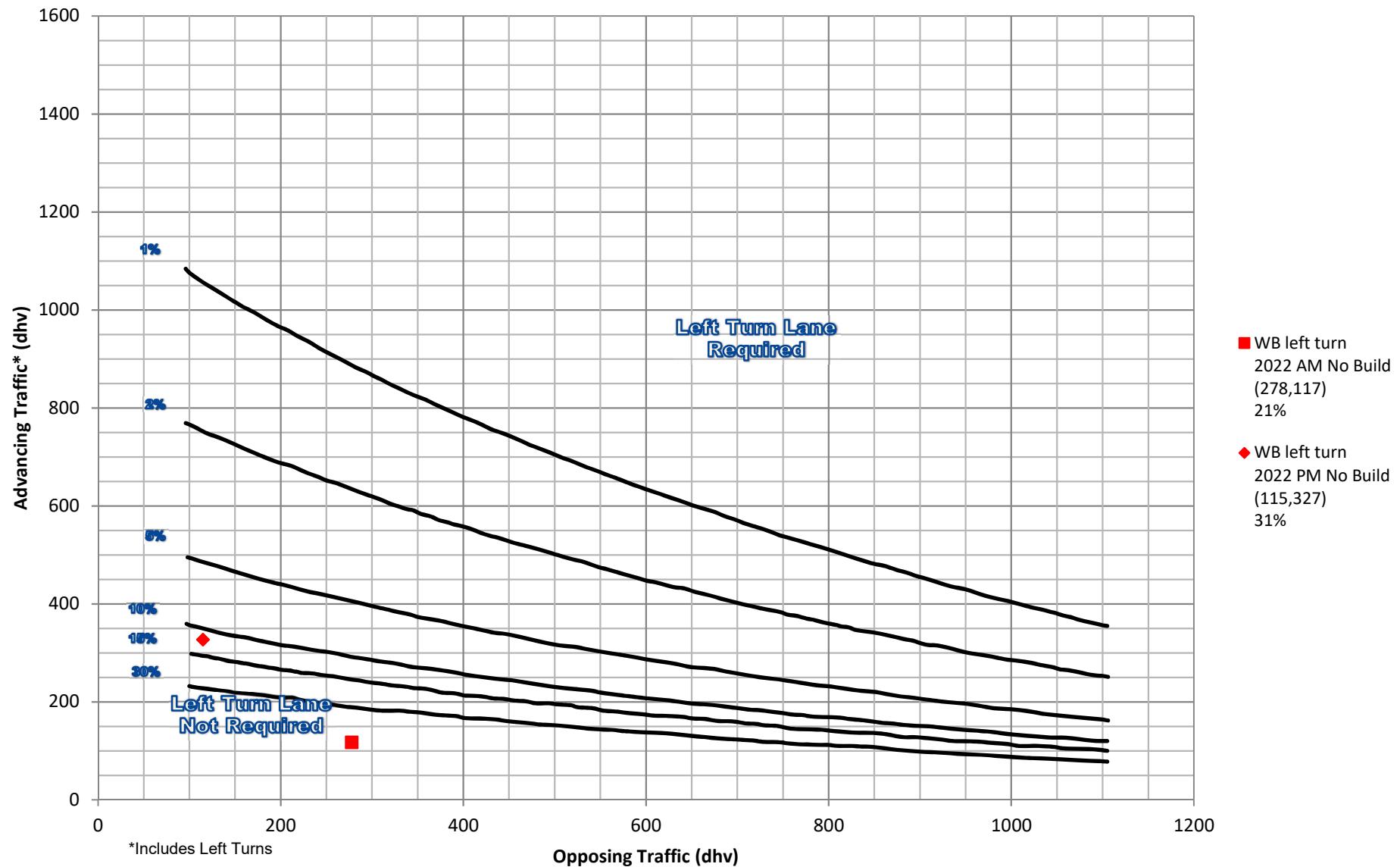
**Hayden Run Rd @ Elliott Rd**  
**2-Lane Highway Right Turn Lane Warrant**  
>>40 mph or 70 kph Posted Speed



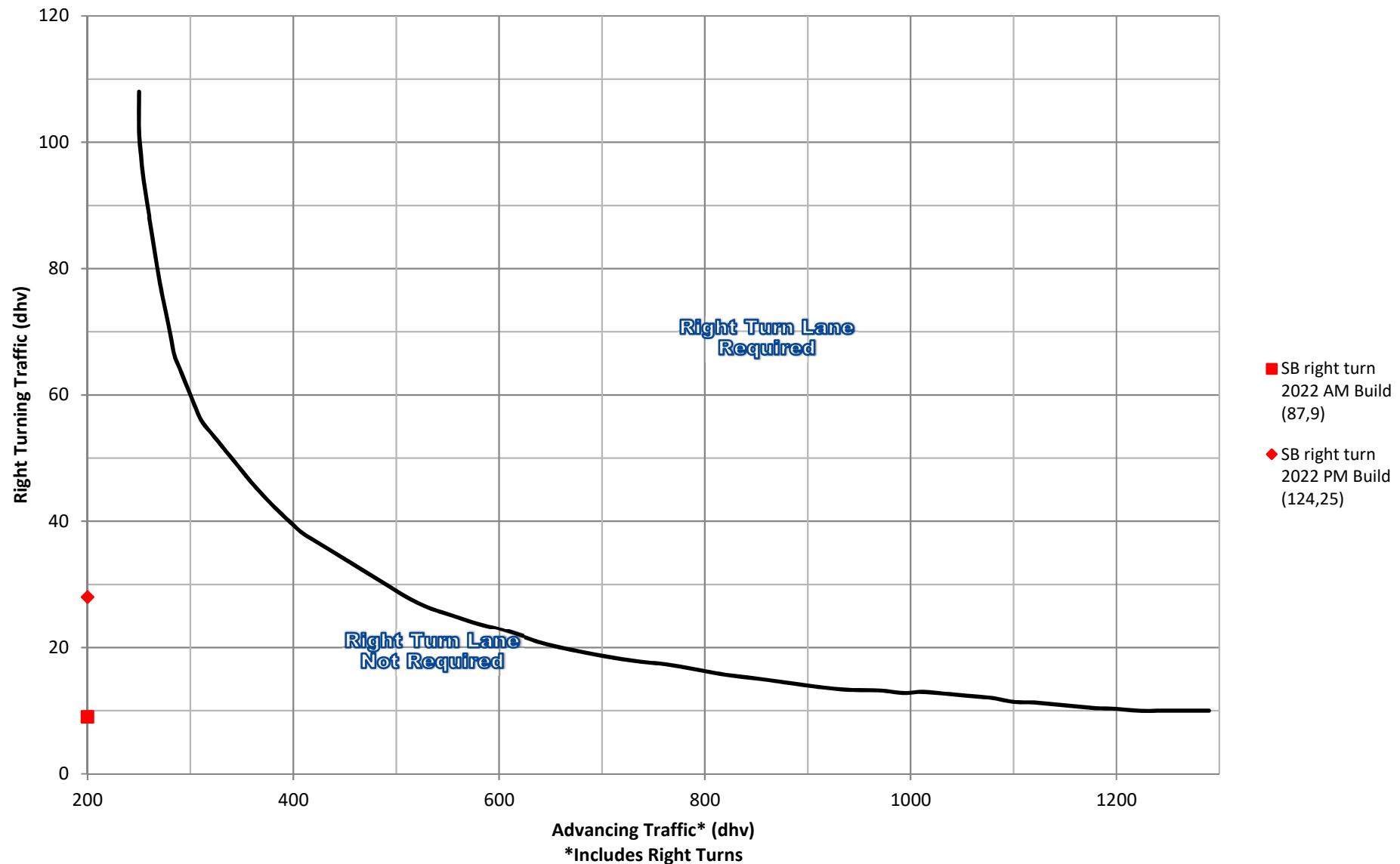
**Hayden Run Rd @ Elliott Rd**  
**2-Lane Highway Left Turn Lane Warrant**  
>40 mph or 70 kph Posted Speed



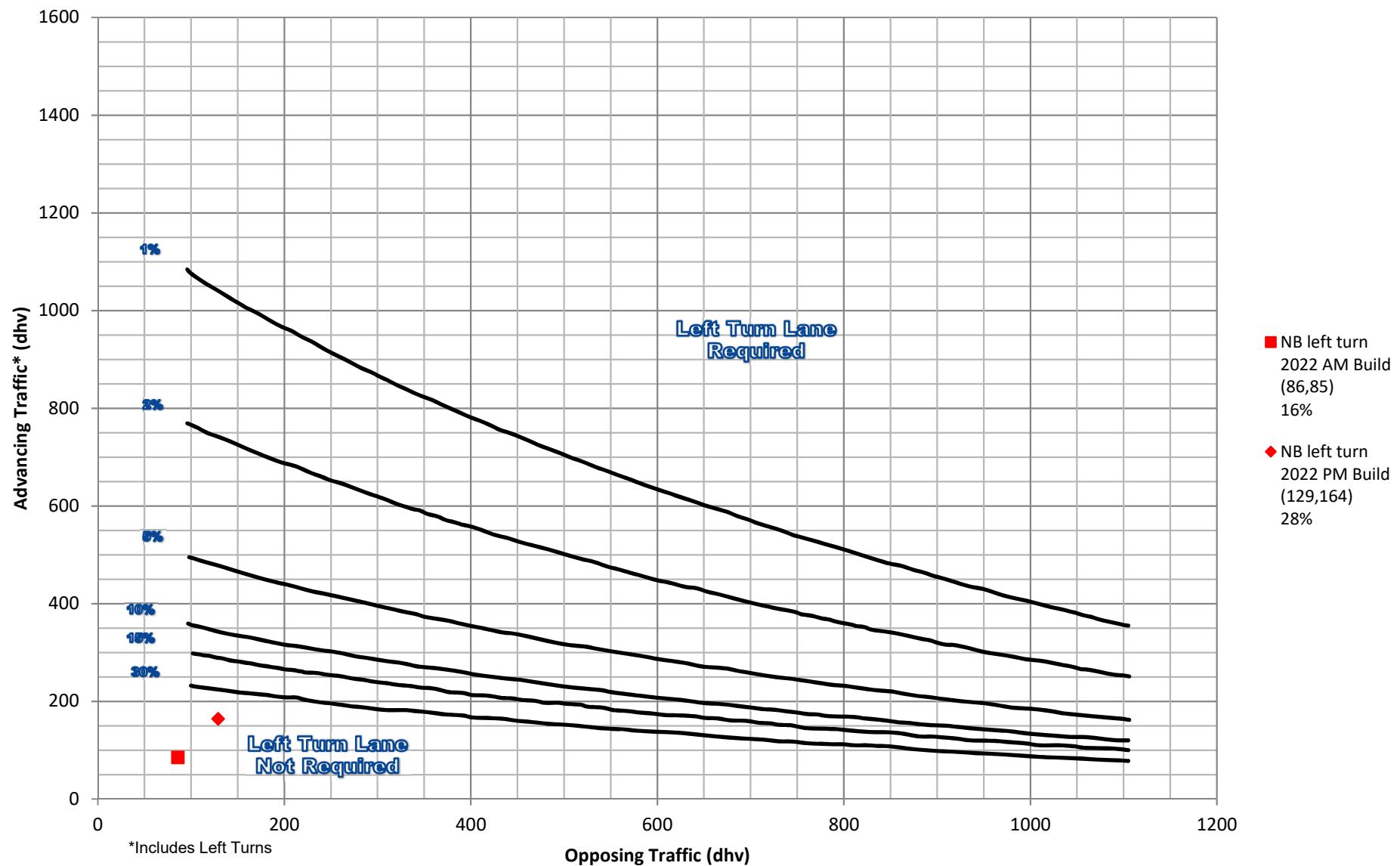
**Hayden Run Rd @ Elliott Rd**  
**2-Lane Highway Left Turn Lane Warrant**  
>40 mph or 70 kph Posted Speed



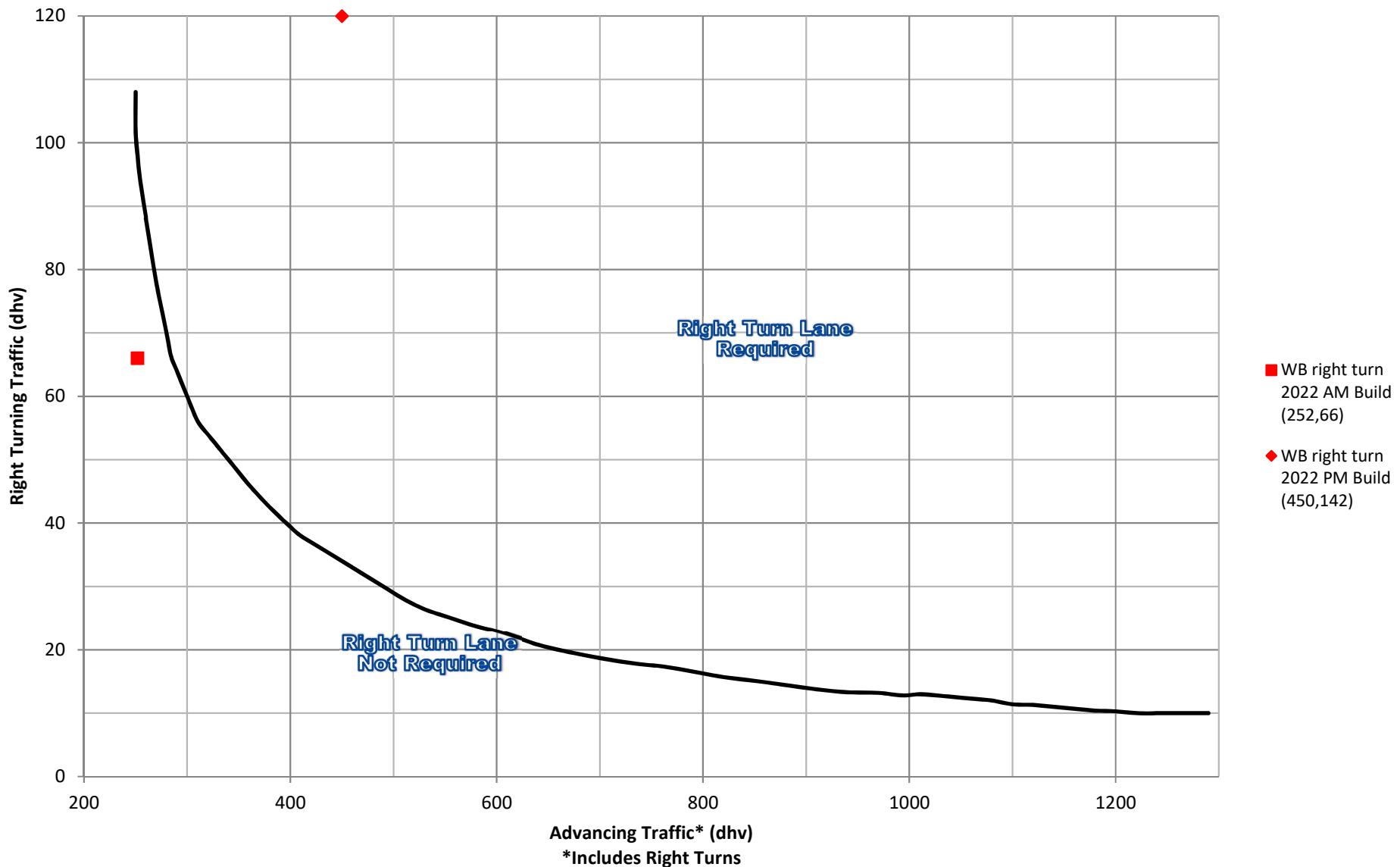
**Elliott Rd @ Dr B**  
**2-Lane Highway Right Turn Lane Warrant**  
>>40 mph or 70 kph Posted Speed



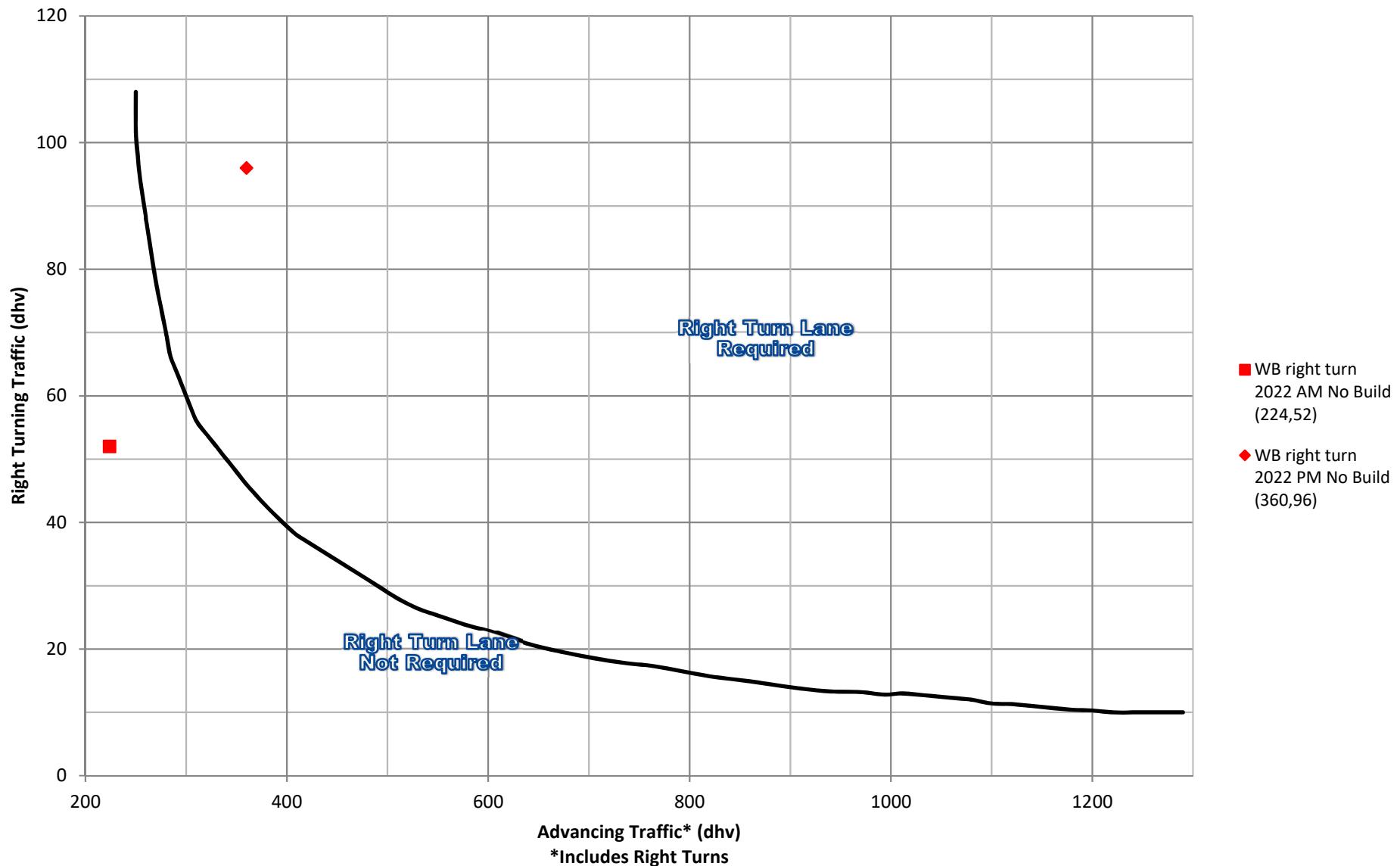
**Elliott Rd @ Dr B**  
**2-Lane Highway Left Turn Lane Warrant**  
>40 mph or 70 kph Posted Speed



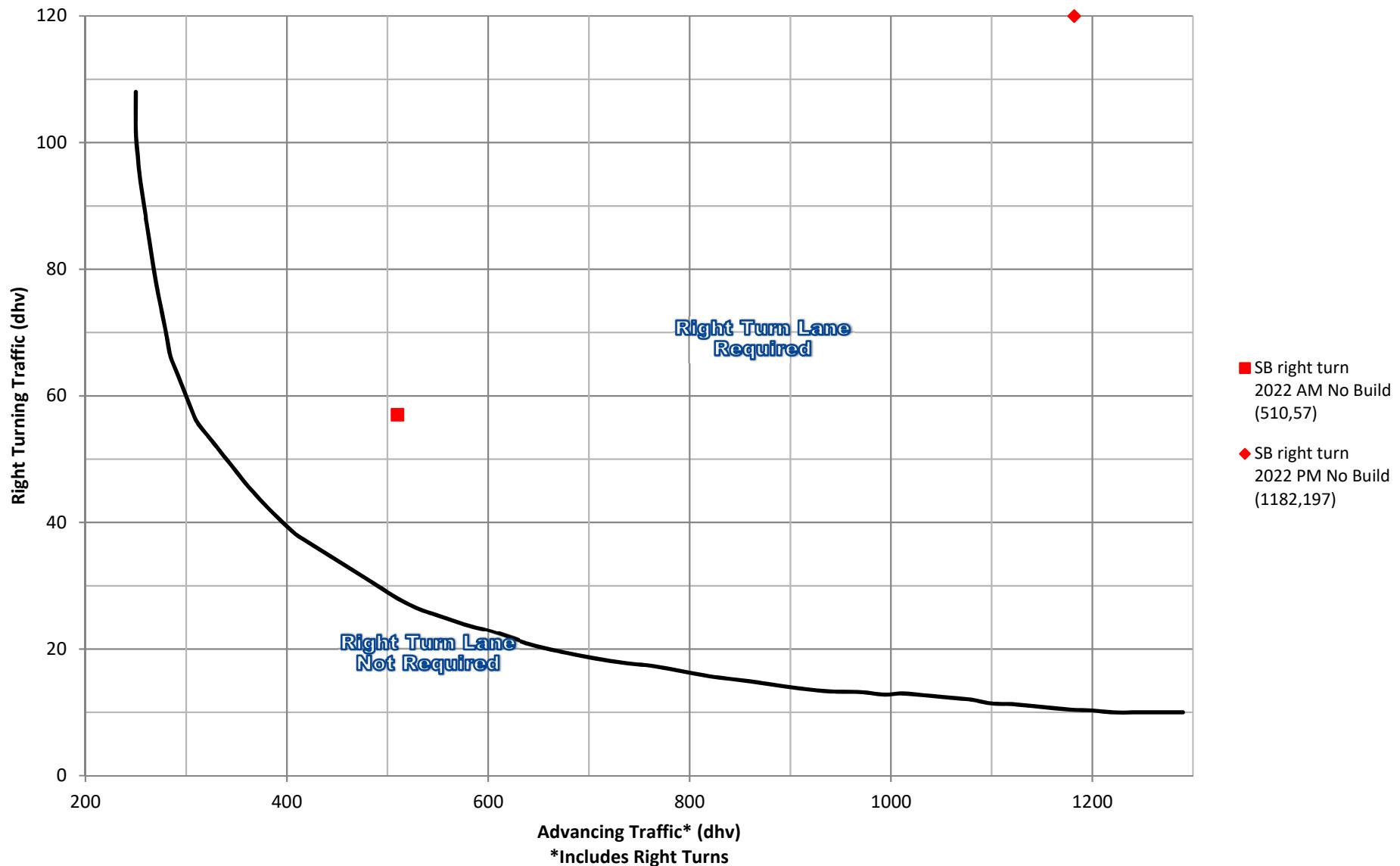
**Scioto & Darby Creek Rd @ Elliott Rd**  
**2-Lane Highway Right Turn Lane Warrant**  
>>40 mph or 70 kph Posted Speed



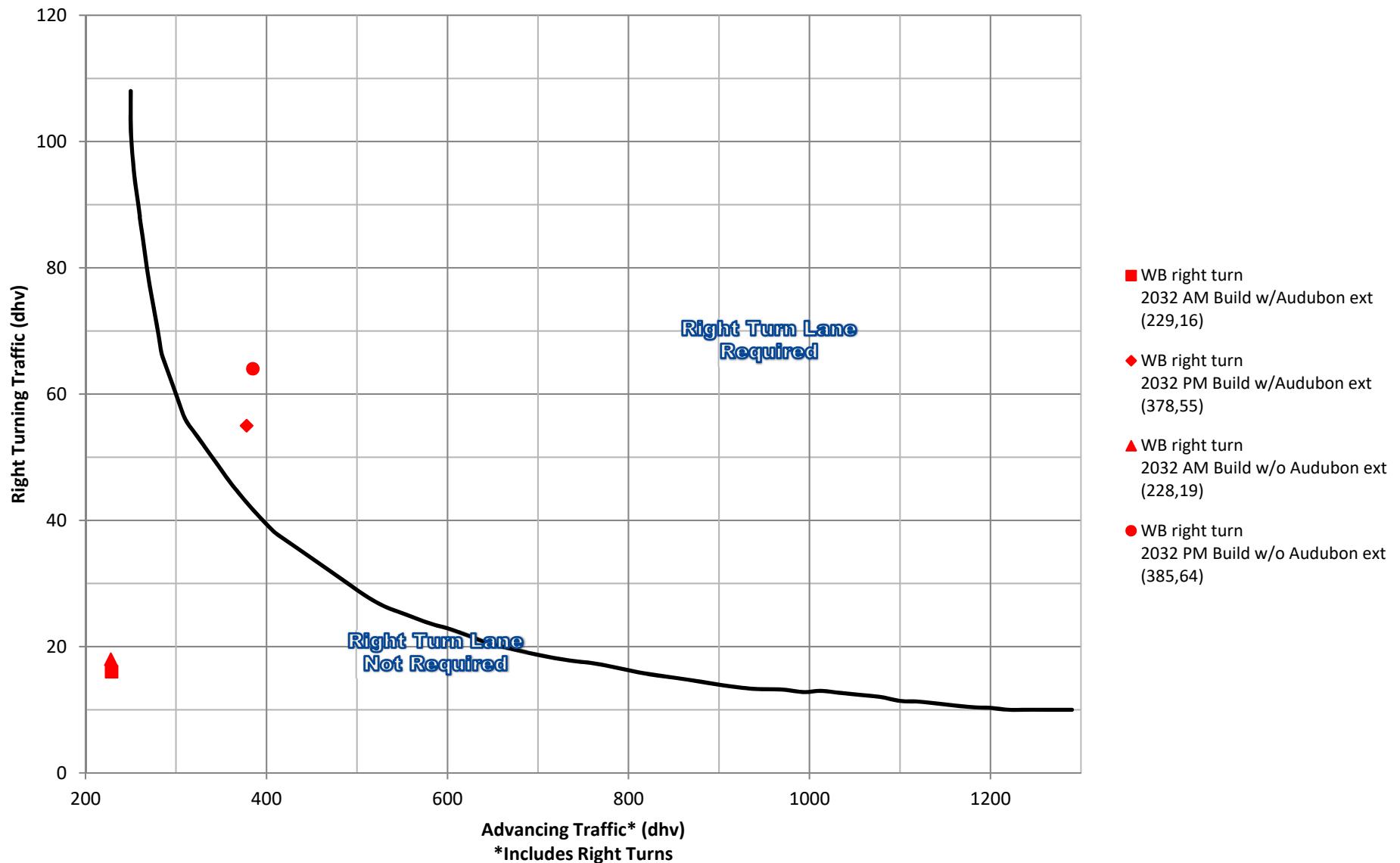
**Scioto & Darby Creek Rd @ Elliott Rd**  
**2-Lane Highway Right Turn Lane Warrant**  
>>40 mph or 70 kph Posted Speed



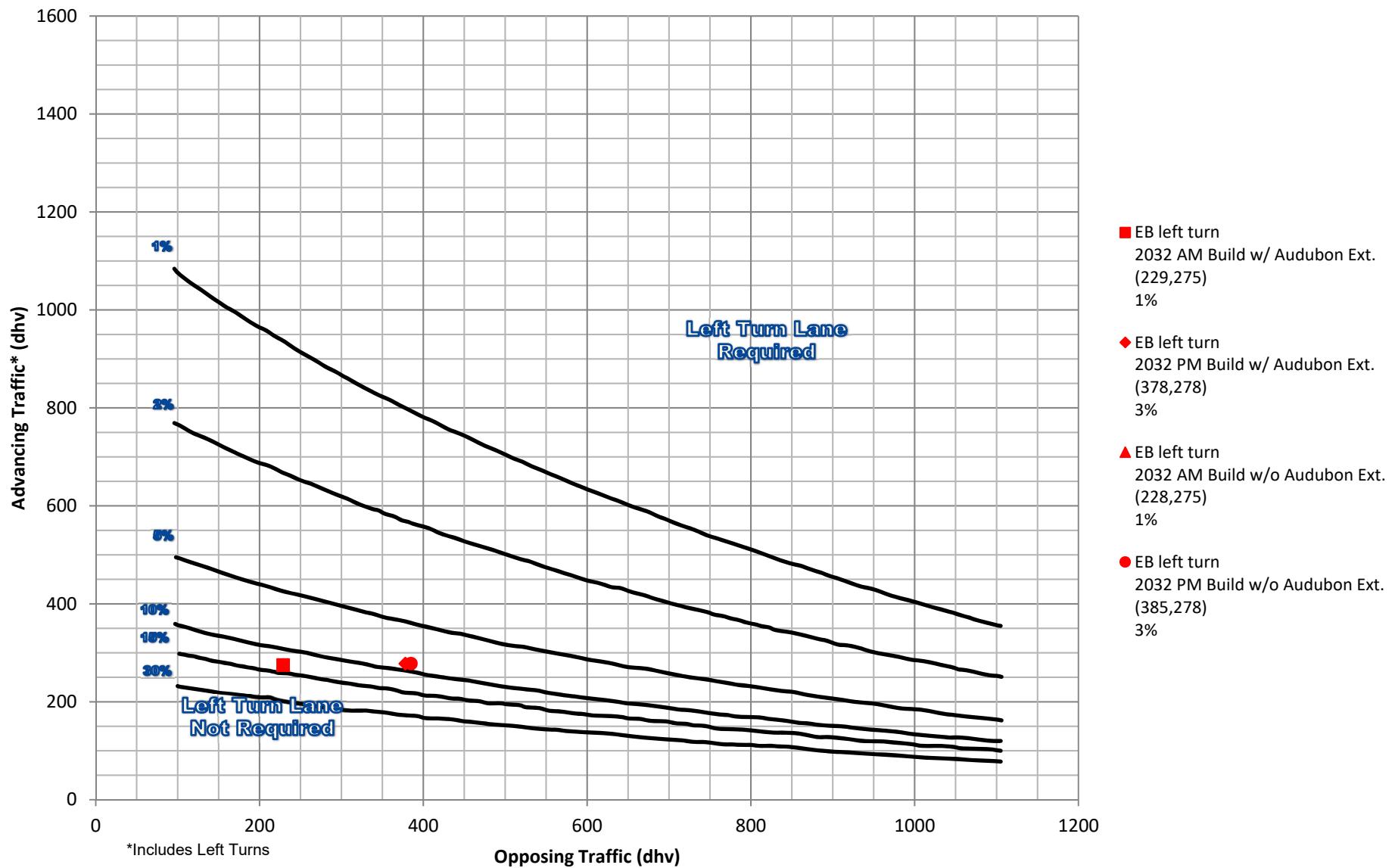
**Alton & Darby Creek Rd @ Davis Rd**  
**2-Lane Highway Right Turn Lane Warrant**  
>>40 mph or 70 kph Posted Speed



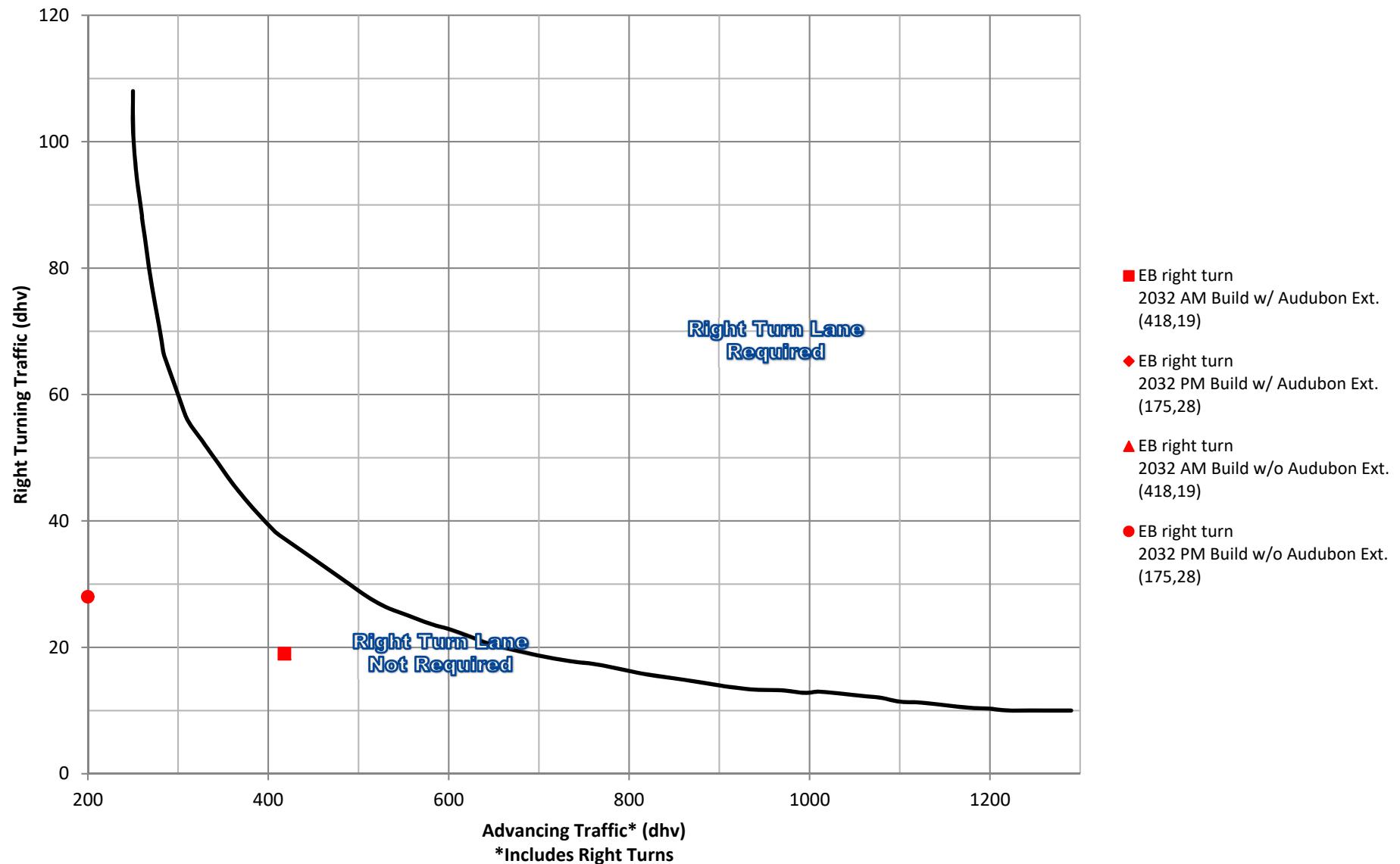
**Scioto & Darby Creek Rd @ Audubon Ave**  
**2-Lane Highway Right Turn Lane Warrant**  
>40 mph or 70 kph Posted Speed



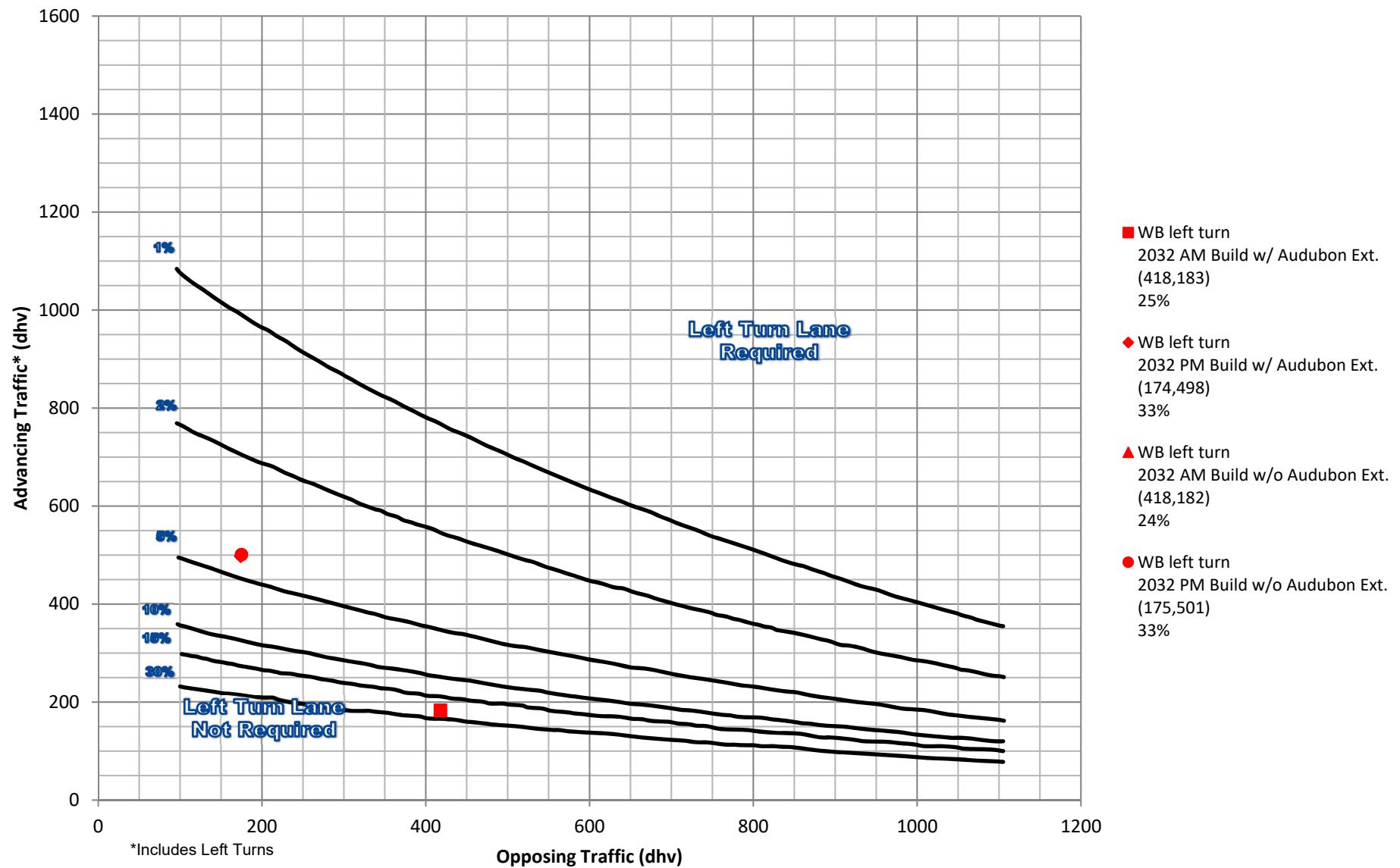
**Scioto & Darby Creek Rd @ Audubon Ave**  
**2-Lane Highway Left Turn Lane Warrant**  
>40 mph or 70 kph Posted Speed



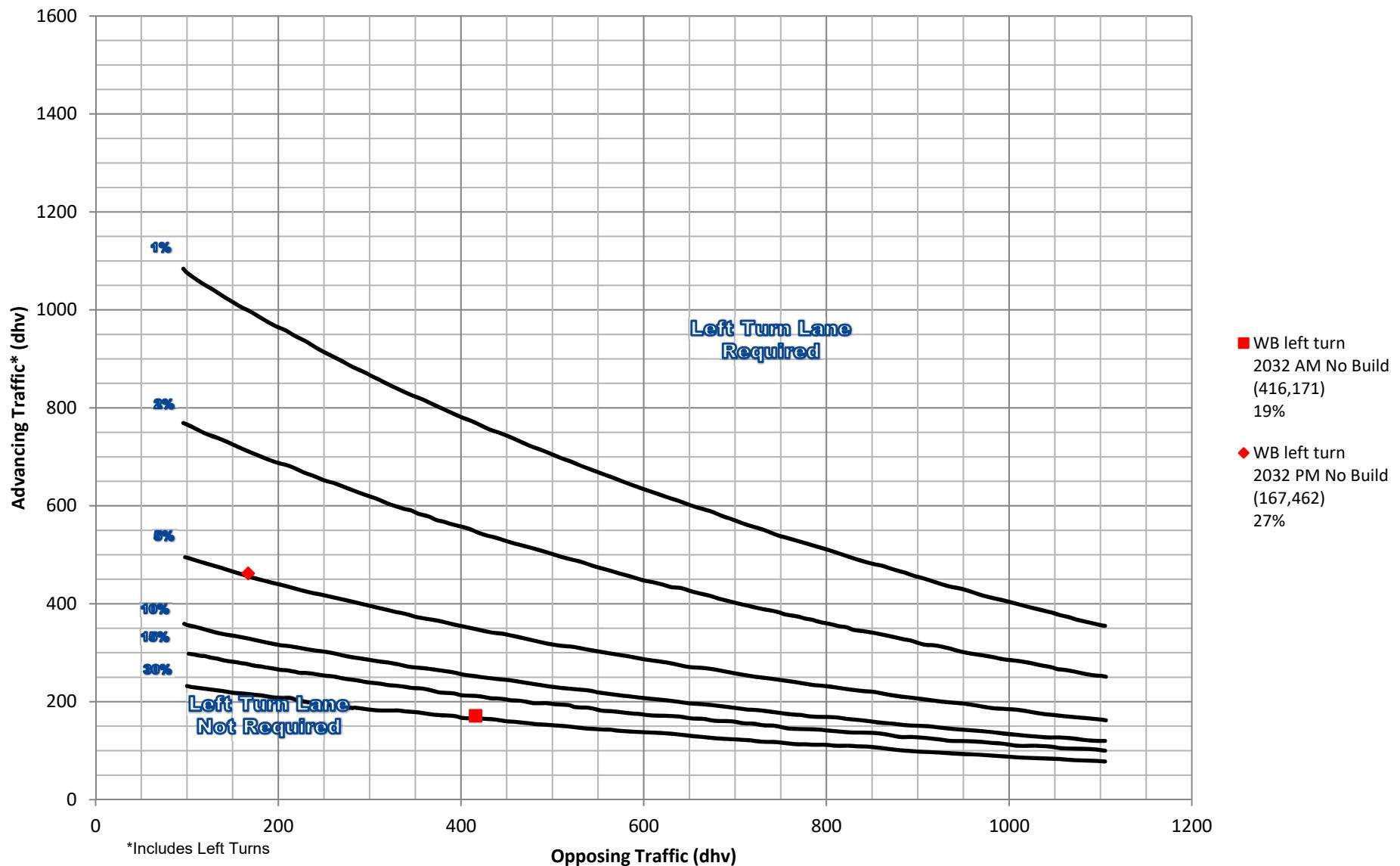
**Hayden Run Rd @ Elliott Rd**  
**2-Lane Highway Right Turn Lane Warrant**  
>>40 mph or 70 kph Posted Speed



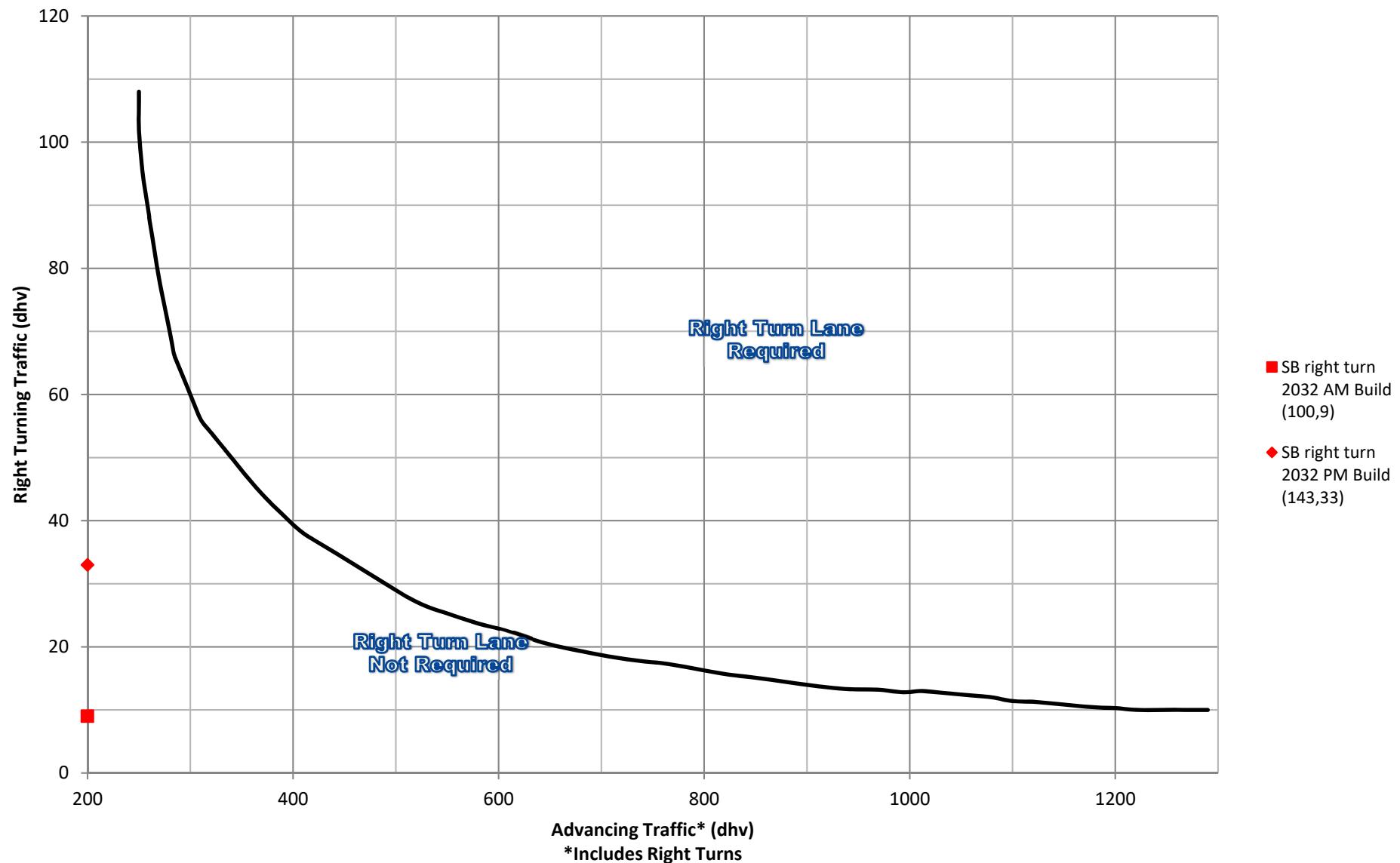
**Hayden Run Rd @ Elliott Rd**  
**2-Lane Highway Left Turn Lane Warrant**  
>40 mph or 70 kph Posted Speed



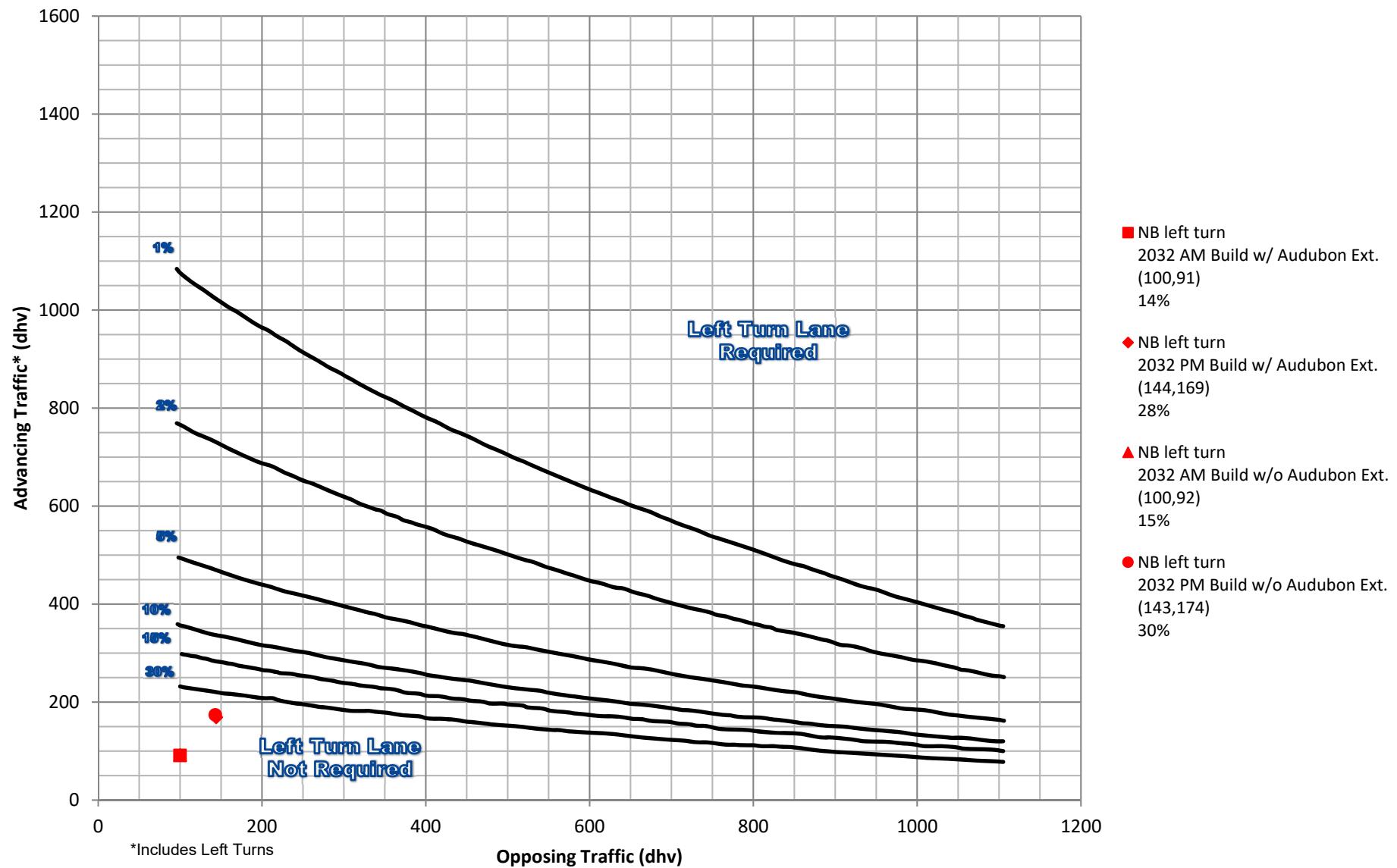
**Hayden Run Rd @ Elliott Rd**  
**2-Lane Highway Left Turn Lane Warrant**  
>40 mph or 70 kph Posted Speed



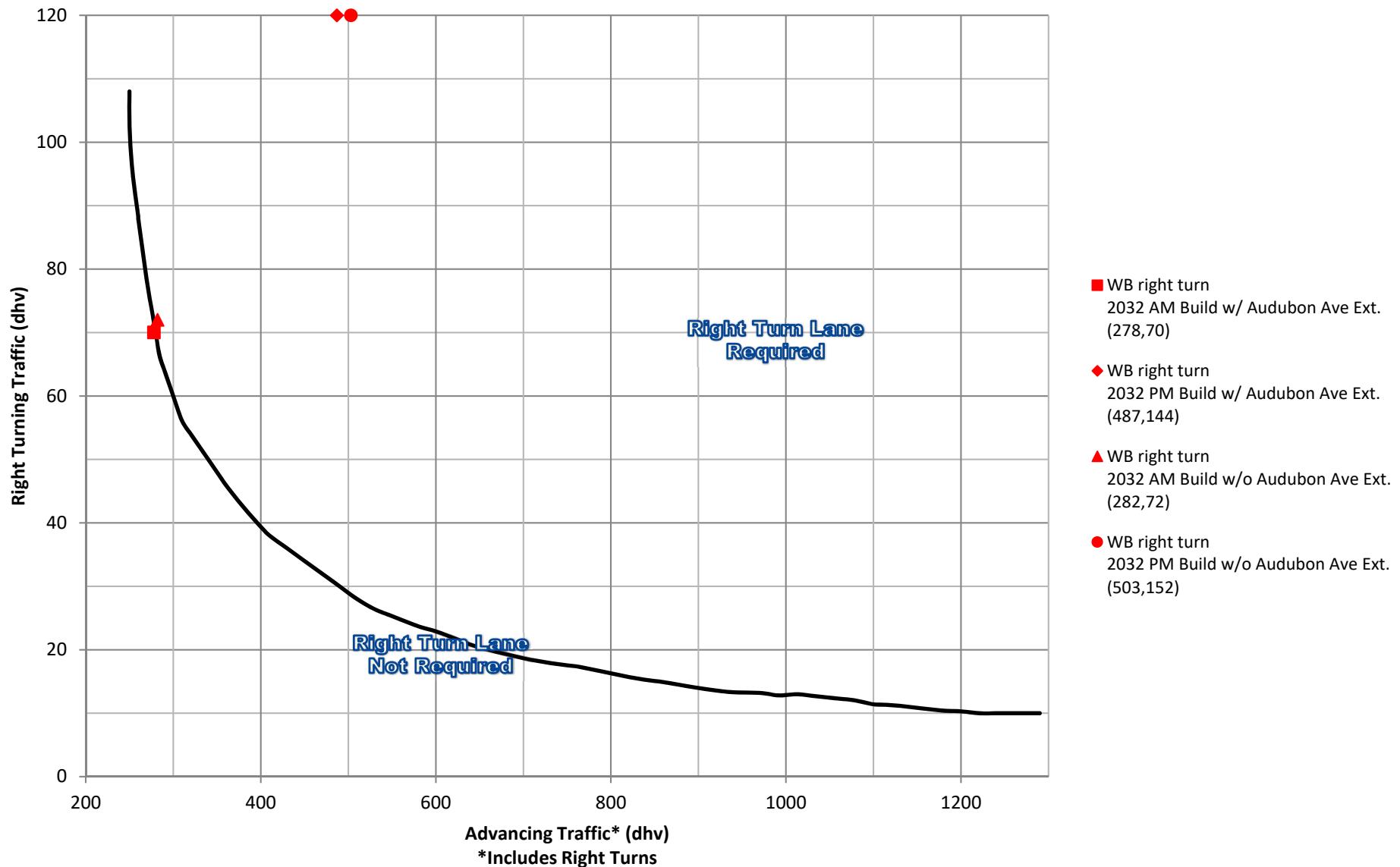
Elliott Rd @ Dr B  
2-Lane Highway Right Turn Lane Warrant  
>40 mph or 70 kph Posted Speed



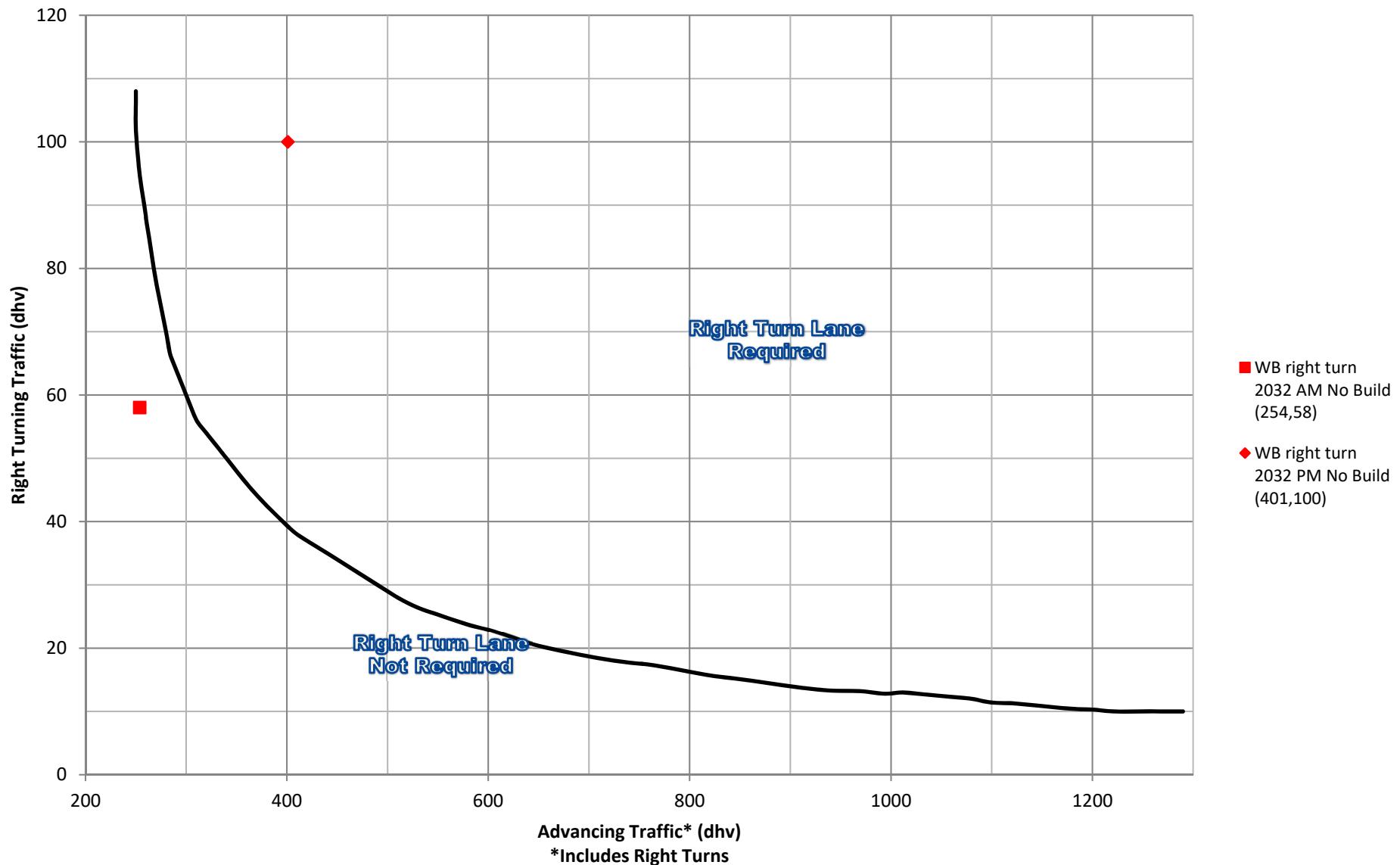
**Elliott Rd @ Dr B**  
**2-Lane Highway Left Turn Lane Warrant**  
>40 mph or 70 kph Posted Speed



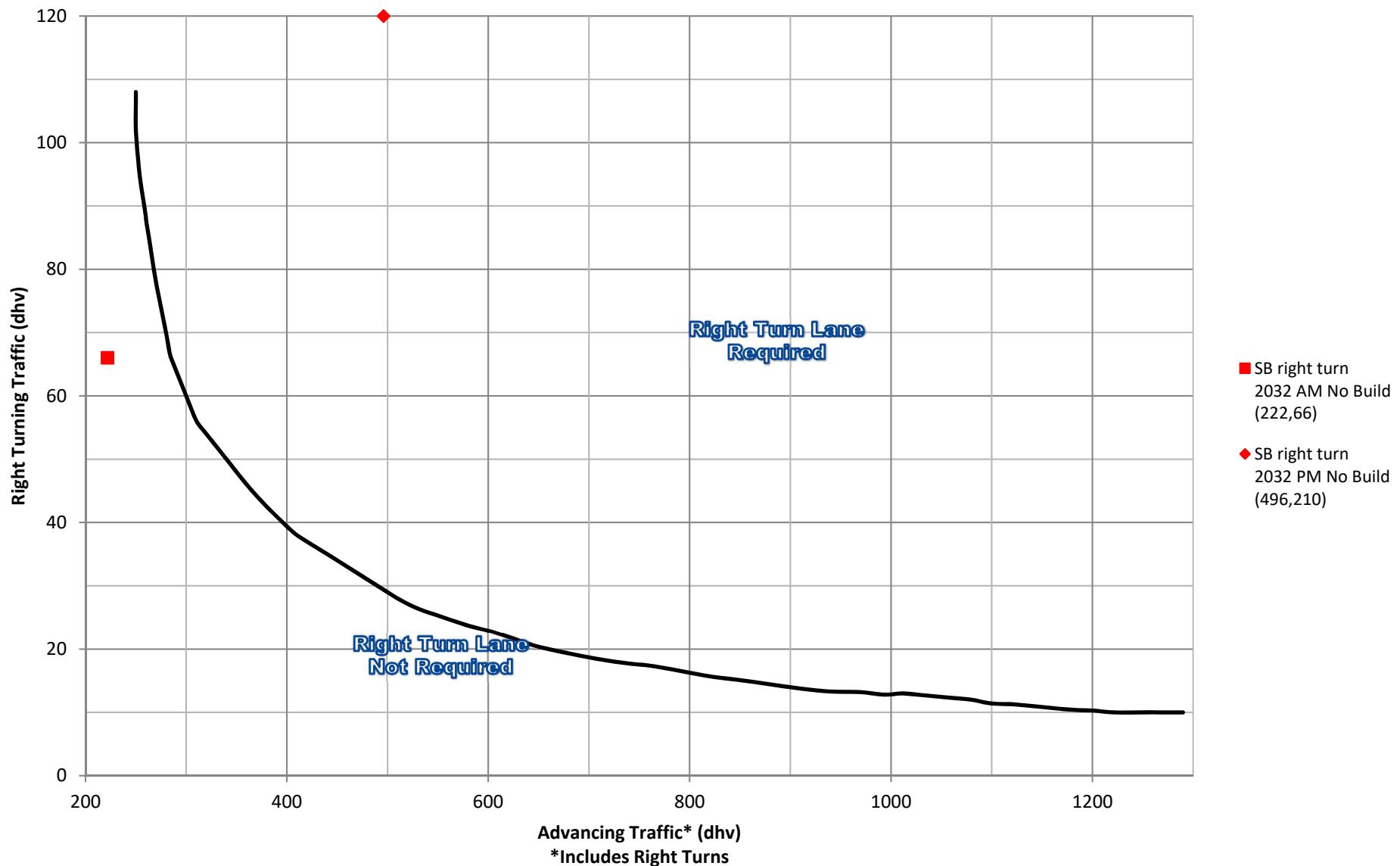
**Scioto & Darby Creek Rd @ Elliott Rd**  
**2-Lane Highway Right Turn Lane Warrant**  
>40 mph or 70 kph Posted Speed



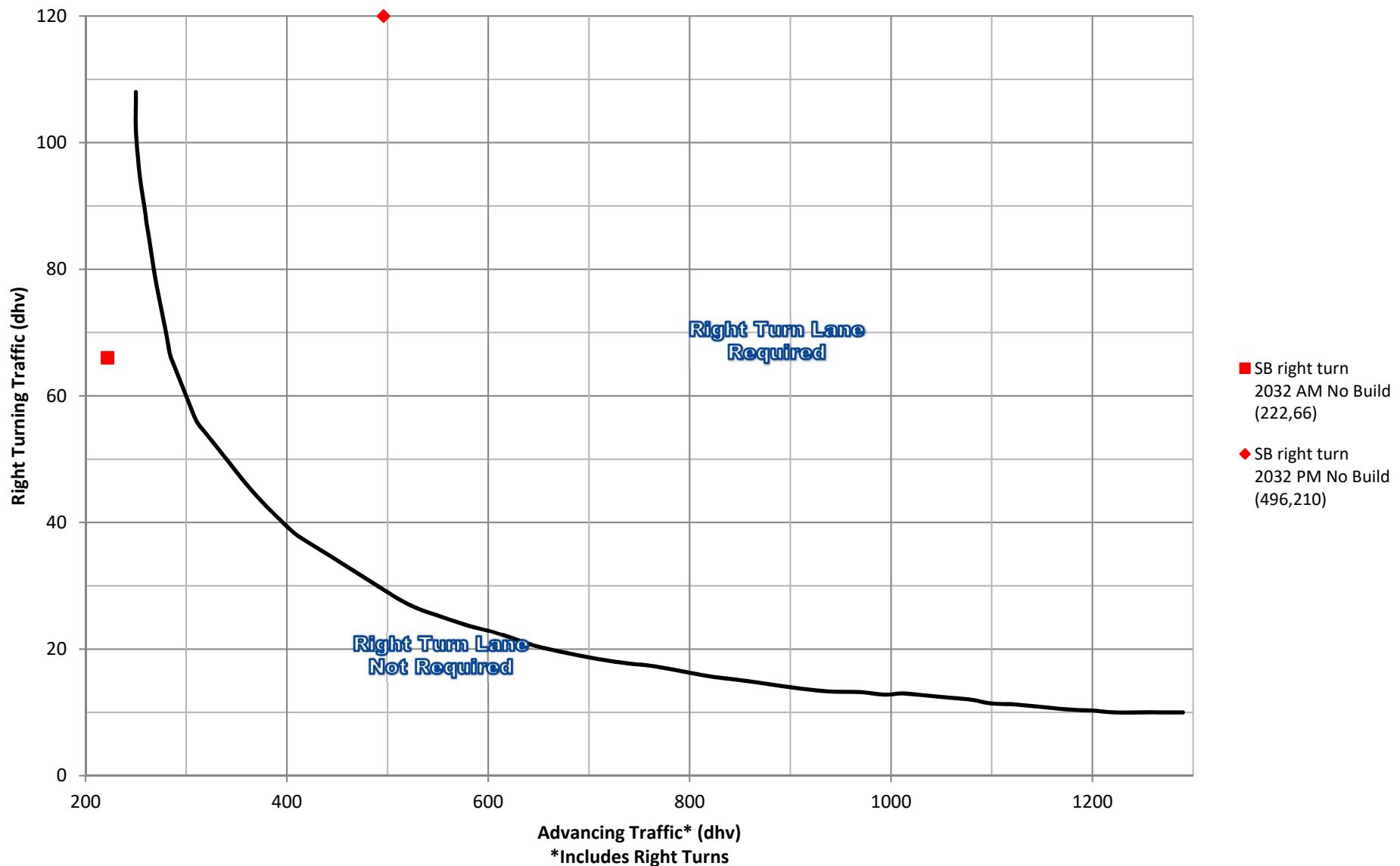
**Scioto & Darby Creek Rd @ Elliott Rd**  
**2-Lane Highway Right Turn Lane Warrant**  
>>40 mph or 70 kph Posted Speed



**Alton & Darby Creek Rd @ Davis Rd**  
**2-Lane Highway Right Turn Lane Warrant**  
>>40 mph or 70 kph Posted Speed



**Alton & Darby Creek Rd @ Davis Rd**  
**2-Lane Highway Right Turn Lane Warrant**  
>>40 mph or 70 kph Posted Speed



## **Appendix G**

### **Turn Lane Length**

**Hill Tract**  
**Turn Lane Length Calculations**

AM Peak Hour		PM Peak Hour	
2022 Build		2022 Build	
Scioto Darby Creek Rd/ Audubon Ave			
Movement	WBRT	Movement	WBRT
Design Speed	50 mph	Design Speed	50 mph
Cycle Length	60 seconds	Cycle Length	60 seconds
Control (Stop or Signal)	Stop	Control (Stop or Signal)	Stop
Through Volume	185 vph	Through Volume	282 vph
Number of Through Lanes	1	Number of Through Lanes	1
Turning Volume	18 vph	Turning Volume	58 vph
Number of Turning Lanes	1	Number of Turning Lanes	1
Design Condition	B A, B, or C	Design Condition	B A, B, or C
Turning Percentage	9%	Turning Percentage	17%
Vehicles Per Cycle	0.3	Vehicles Per Cycle	1.0
Storage Length	50 feet	Storage Length	50 feet
Deceleration/Taper	225 feet	Deceleration/Taper	225 feet
<b>Calculated Turn Lane Length</b>	<b>225 feet</b>	<b>Calculated Turn Lane Length</b>	<b>225 feet</b>
No Block Distance	N.A. feet	No Block Distance	N.A. feet
No Block Turn Lane Length	N.A. feet	No Block Turn Lane Length	N.A. feet

AM Peak Hour		PM Peak Hour	
2022 No Build		2022 No Build	
Alton & Darby Creek Rd/Davis Rd			
Movement	SBRT	Movement	SBRT
Design Speed	50 mph	Design Speed	50 mph
Cycle Length	60 seconds	Cycle Length	60 seconds
Control (Stop or Signal)	Stop	Control (Stop or Signal)	Stop
Through Volume	453 vph	Through Volume	985 vph
Number of Through Lanes	1	Number of Through Lanes	1
Turning Volume	57 vph	Turning Volume	197 vph
Number of Turning Lanes	1	Number of Turning Lanes	1
Design Condition	B A, B, or C	Design Condition	C A, B, or C
Turning Percentage	11%	Turning Percentage	17%
Vehicles Per Cycle	1.0	Vehicles Per Cycle	3.3
Storage Length	50 feet	Storage Length	150 feet
Deceleration/Taper	225 feet	Deceleration/Taper	143 feet
<b>Calculated Turn Lane Length</b>	<b>225 feet</b>	<b>Calculated Turn Lane Length</b>	<b>293 feet</b>
No Block Distance	N.A. feet	No Block Distance	N.A. feet
No Block Turn Lane Length	N.A. feet	No Block Turn Lane Length	N.A. feet

AM Peak Hour		
2022 Build		
Alton & Darby Creek Rd/Davis Rd		
Movement	<b>SBRT</b>	
Design Speed	50	mph
Cycle Length	60	seconds
Control (Stop or Signal)	Stop	
Through Volume	485	vph
Number of Through Lanes	1	
Turning Volume	57	vph
Number of Turning Lanes	1	
Design Condition	B	A, B, or C
Turning Percentage	11%	
Vehicles Per Cycle	1.0	
Storage Length	50	feet
Deceleration/Taper	225	feet
<b>Calculated Turn Lane Length</b>	<b>225</b>	<b>feet</b>
No Block Distance	N.A.	feet
No Block Turn Lane Length	N.A.	feet

PM Peak Hour		
2022 Build		
Alton & Darby Creek Rd/Davis Rd		
Movement	<b>SBRT</b>	
Design Speed	50	mph
Cycle Length	60	seconds
Control (Stop or Signal)	Stop	
Through Volume	1006	vph
Number of Through Lanes	1	
Turning Volume	197	vph
Number of Turning Lanes	1	
Design Condition	C	A, B, or C
Turning Percentage	16%	
Vehicles Per Cycle	3.3	
Storage Length	150	feet
Deceleration/Taper	143	feet
<b>Calculated Turn Lane Length</b>	<b>293</b>	<b>feet</b>
No Block Distance	N.A.	feet
No Block Turn Lane Length	N.A.	feet

AM Peak Hour		
2022 No Build		
Scioto & Darby Creek Rd/Elliott Rd		
Movement	<b>WBRT</b>	
Design Speed	50	mph
Cycle Length	60	seconds
Control (Stop or Signal)	Stop	
Through Volume	172	vph
Number of Through Lanes	1	
Turning Volume	52	vph
Number of Turning Lanes	1	
Design Condition	B	A, B, or C
Turning Percentage	23%	
Vehicles Per Cycle	0.9	
Storage Length	50	feet
Deceleration/Taper	225	feet
<b>Calculated Turn Lane Length</b>	<b>225</b>	<b>feet</b>
No Block Distance	N.A.	feet
No Block Turn Lane Length	N.A.	feet

PM Peak Hour		
2022 No Build		
Scioto & Darby Creek Rd/Elliott Rd		
Movement	<b>WBRT</b>	
Design Speed	50	mph
Cycle Length	60	seconds
Control (Stop or Signal)	Stop	
Through Volume	264	vph
Number of Through Lanes	1	
Turning Volume	96	vph
Number of Turning Lanes	1	
Design Condition	B	A, B, or C
Turning Percentage	27%	
Vehicles Per Cycle	1.6	
Storage Length	100	feet
Deceleration/Taper	225	feet
<b>Calculated Turn Lane Length</b>	<b>225</b>	<b>feet</b>
No Block Distance	N.A.	feet
No Block Turn Lane Length	N.A.	feet

AM Peak Hour		
2022 Build		
Scioto & Darby Creek Rd/Elliott Rd		
Movement	<b>WBRT</b>	
Design Speed	50	mph
Cycle Length	60	seconds
Control (Stop or Signal)	Stop	
Through Volume	186	vph
Number of Through Lanes	1	
Turning Volume	66	vph
Number of Turning Lanes	1	
Design Condition	B	A, B, or C
Turning Percentage	26%	
Vehicles Per Cycle	1.1	
Storage Length	50	feet
Deceleration/Taper	225	feet
<b>Calculated Turn Lane Length</b>	<b>225</b>	<b>feet</b>
No Block Distance	N.A.	feet
No Block Turn Lane Length	N.A.	feet

PM Peak Hour		
2022 Build		
Scioto & Darby Creek Rd/Elliott Rd		
Movement	<b>WBRT</b>	
Design Speed	50	mph
Cycle Length	60	seconds
Control (Stop or Signal)	Stop	
Through Volume	308	vph
Number of Through Lanes	1	
Turning Volume	142	vph
Number of Turning Lanes	1	
Design Condition	B	A, B, or C
Turning Percentage	32%	
Vehicles Per Cycle	2.4	
Storage Length	100	feet
Deceleration/Taper	225	feet
<b>Calculated Turn Lane Length</b>	<b>225</b>	<b>feet</b>
No Block Distance	N.A.	feet
No Block Turn Lane Length	N.A.	feet

AM Peak Hour	
2022 No Build	

Hayden Run Rd/ Elliott Rd	
Movement	<b>WBLT</b>
Design Speed	50 mph
Cycle Length	60 seconds
Control (Stop or Signal)	Stop
Through Volume	92 vph
Number of Through Lanes	1
Turning Volume	25 vph
Number of Turning Lanes	1
Design Condition	B A, B, or C
Turning Percentage	21%
Vehicles Per Cycle	0.4
Storage Length	50 feet
Deceleration/Taper	225 feet
<b>Calculated Turn Lane Length</b>	<b>225 feet</b>
No Block Distance	N.A. feet
No Block Turn Lane Length	N.A. feet

PM Peak Hour	
2022 No Build	

Hayden Run Rd/ Elliott Rd	
Movement	<b>WBLT</b>
Design Speed	50 mph
Cycle Length	60 seconds
Control (Stop or Signal)	Stop
Through Volume	224 vph
Number of Through Lanes	1
Turning Volume	103 vph
Number of Turning Lanes	1
Design Condition	C A, B, or C
Turning Percentage	31%
Vehicles Per Cycle	1.7
Storage Length	100 feet
Deceleration/Taper	143 feet
<b>Calculated Turn Lane Length</b>	<b>243 feet</b>
No Block Distance	N.A. feet
No Block Turn Lane Length	N.A. feet

AM Peak Hour	
2022 Build	

Hayden Run Rd/ Elliott Rd	
Movement	<b>WBLT</b>
Design Speed	50 mph
Cycle Length	60 seconds
Control (Stop or Signal)	Stop
Through Volume	92 vph
Number of Through Lanes	1
Turning Volume	36 vph
Number of Turning Lanes	1
Design Condition	B A, B, or C
Turning Percentage	28%
Vehicles Per Cycle	0.6
Storage Length	50 feet
Deceleration/Taper	225 feet
<b>Calculated Turn Lane Length</b>	<b>225 feet</b>
No Block Distance	N.A. feet
No Block Turn Lane Length	N.A. feet

PM Peak Hour	
2022 Build	

Hayden Run Rd/ Elliott Rd	
Movement	<b>WBLT</b>
Design Speed	50 mph
Cycle Length	60 seconds
Control (Stop or Signal)	Stop
Through Volume	224 vph
Number of Through Lanes	1
Turning Volume	138 vph
Number of Turning Lanes	1
Design Condition	C A, B, or C
Turning Percentage	38%
Vehicles Per Cycle	2.3
Storage Length	100 feet
Deceleration/Taper	143 feet
<b>Calculated Turn Lane Length</b>	<b>243 feet</b>
No Block Distance	N.A. feet
No Block Turn Lane Length	N.A. feet

**Hill Tract**  
**Turn Lane Length Calculations**

<b>AM Peak Hour</b>	
2032 Build w/ Audubon Ave Ext.	
<b>Scioto Darby Creek Rd/ Audubon Ave</b>	
Movement	<b>WBRT</b>
Design Speed	50 mph
Cycle Length	60 seconds
Control (Stop or Signal)	Stop
Through Volume	210 vph
Number of Through Lanes	1
Turning Volume	16 vph
Number of Turning Lanes	1
Design Condition	B A, B, or C
Turning Percentage	7%
Vehicles Per Cycle	0.3
Storage Length	50 feet
Deceleration/Taper	225 feet
<b>Calculated Turn Lane Length</b>	<b>225 feet</b>
No Block Distance	N.A. feet
No Block Turn Lane Length	N.A. feet

<b>PM Peak Hour</b>	
2032 Build	
<b>Scioto Darby Creek Rd/ Audubon Ave</b>	
Movement	<b>WBRT</b>
Design Speed	50 mph
Cycle Length	60 seconds
Control (Stop or Signal)	Stop
Through Volume	321 vph
Number of Through Lanes	1
Turning Volume	55 vph
Number of Turning Lanes	1
Design Condition	B A, B, or C
Turning Percentage	15%
Vehicles Per Cycle	0.9
Storage Length	50 feet
Deceleration/Taper	225 feet
<b>Calculated Turn Lane Length</b>	<b>225 feet</b>
No Block Distance	N.A. feet
No Block Turn Lane Length	N.A. feet

<b>AM Peak Hour</b>	
2032 Build w/o Audubon Ave Ext.	
<b>Scioto Darby Creek Rd/ Audubon Ave</b>	
Movement	<b>WBRT</b>
Design Speed	50 mph
Cycle Length	60 seconds
Control (Stop or Signal)	Stop
Through Volume	210 vph
Number of Through Lanes	1
Turning Volume	18 vph
Number of Turning Lanes	1
Design Condition	B A, B, or C
Turning Percentage	8%
Vehicles Per Cycle	0.3
Storage Length	50 feet
Deceleration/Taper	225 feet
<b>Calculated Turn Lane Length</b>	<b>225 feet</b>
No Block Distance	N.A. feet
No Block Turn Lane Length	N.A. feet

<b>PM Peak Hour</b>	
2032 Build w/o Audubon Ave Ext.	
<b>Scioto Darby Creek Rd/ Audubon Ave</b>	
Movement	<b>WBRT</b>
Design Speed	50 mph
Cycle Length	60 seconds
Control (Stop or Signal)	Stop
Through Volume	321 vph
Number of Through Lanes	1
Turning Volume	64 vph
Number of Turning Lanes	1
Design Condition	B A, B, or C
Turning Percentage	17%
Vehicles Per Cycle	1.1
Storage Length	50 feet
Deceleration/Taper	225 feet
<b>Calculated Turn Lane Length</b>	<b>225 feet</b>
No Block Distance	N.A. feet
No Block Turn Lane Length	N.A. feet

<b>AM Peak Hour</b>
---------------------

2032 No Build

<b>Scioto Darby Creek Rd/ Elliott Rd</b>		
Movement		<b>WBRT</b>
Design Speed	50	mph
Cycle Length	60	seconds
Control (Stop or Signal)	Stop	
Through Volume	196	vph
Number of Through Lanes	1	
Turning Volume	58	vph
Number of Turning Lanes	1	
Design Condition	B	A, B, or C
Turning Percentage	23%	
Vehicles Per Cycle	1.0	
Storage Length	50	feet
Deceleration/Taper	225	feet
<b>Calculated Turn Lane Length</b>	<b>225</b>	<b>feet</b>
No Block Distance	N.A.	feet
No Block Turn Lane Length	N.A.	feet

<b>PM Peak Hour</b>
---------------------

2032 No Build

<b>Scioto Darby Creek Rd/ Elliott Rd</b>		
Movement		<b>WBRT</b>
Design Speed	50	mph
Cycle Length	60	seconds
Control (Stop or Signal)	Stop	
Through Volume	301	vph
Number of Through Lanes	1	
Turning Volume	100	vph
Number of Turning Lanes	1	
Design Condition	C	A, B, or C
Turning Percentage	25%	
Vehicles Per Cycle	1.7	
Storage Length	100	feet
Deceleration/Taper	143	feet
<b>Calculated Turn Lane Length</b>	<b>243</b>	<b>feet</b>
No Block Distance	N.A.	feet
No Block Turn Lane Length	N.A.	feet

<b>AM Peak Hour</b>
---------------------

2032 Build w/ Audubon Ave Ext.

<b>Scioto Darby Creek Rd/ Elliott Rd</b>		
Movement		<b>WBRT</b>
Design Speed	50	mph
Cycle Length	60	seconds
Control (Stop or Signal)	Stop	
Through Volume	208	vph
Number of Through Lanes	1	
Turning Volume	70	vph
Number of Turning Lanes	1	
Design Condition	B	A, B, or C
Turning Percentage	25%	
Vehicles Per Cycle	1.2	
Storage Length	50	feet
Deceleration/Taper	225	feet
<b>Calculated Turn Lane Length</b>	<b>225</b>	<b>feet</b>
No Block Distance	N.A.	feet
No Block Turn Lane Length	N.A.	feet

<b>PM Peak Hour</b>
---------------------

2032 Build w/ Audubon Ave Ext.

<b>Scioto Darby Creek Rd/ Elliott Rd</b>		
Movement		<b>WBRT</b>
Design Speed	50	mph
Cycle Length	60	seconds
Control (Stop or Signal)	Stop	
Through Volume	343	vph
Number of Through Lanes	1	
Turning Volume	144	vph
Number of Turning Lanes	1	
Design Condition	C	A, B, or C
Turning Percentage	30%	
Vehicles Per Cycle	2.4	
Storage Length	100	feet
Deceleration/Taper	143	feet
<b>Calculated Turn Lane Length</b>	<b>243</b>	<b>feet</b>
No Block Distance	N.A.	feet
No Block Turn Lane Length	N.A.	feet

AM Peak Hour		
2032 Build w/o Audubon Ave Ext.		
Scioto Darby Creek Rd/ Elliott Rd		
Movement	WBRT	
Design Speed	50	mph
Cycle Length	60	seconds
Control (Stop or Signal)	Stop	
Through Volume	210	vph
Number of Through Lanes	1	
Turning Volume	72	vph
Number of Turning Lanes	1	
Design Condition	B	A, B, or C
Turning Percentage	26%	
Vehicles Per Cycle	1.2	
Storage Length	50	feet
Deceleration/Taper	225	feet
<b>Calculated Turn Lane Length</b>	<b>225</b>	<b>feet</b>
No Block Distance	N.A.	feet
No Block Turn Lane Length	N.A.	feet

PM Peak Hour		
2032 Build w/o Audubon Ave Ext.		
Scioto Darby Creek Rd/ Elliott Rd		
Movement	WBRT	
Design Speed	50	mph
Cycle Length	60	seconds
Control (Stop or Signal)	Stop	
Through Volume	351	vph
Number of Through Lanes	1	
Turning Volume	152	vph
Number of Turning Lanes	1	
Design Condition	C	A, B, or C
Turning Percentage	30%	
Vehicles Per Cycle	2.5	
Storage Length	150	feet
Deceleration/Taper	143	feet
<b>Calculated Turn Lane Length</b>	<b>293</b>	<b>feet</b>
No Block Distance	N.A.	feet
No Block Turn Lane Length	N.A.	feet

AM Peak Hour		
2032 No Build		
Hayden Run Rd/ Elliott Rd		
Movement	WBLT	
Design Speed	50	mph
Cycle Length	60	seconds
Control (Stop or Signal)	Stop	
Through Volume	138	vph
Number of Through Lanes	1	
Turning Volume	33	vph
Number of Turning Lanes	1	
Design Condition	B	A, B, or C
Turning Percentage	19%	
Vehicles Per Cycle	0.6	
Storage Length	50	feet
Deceleration/Taper	225	feet
<b>Calculated Turn Lane Length</b>	<b>225</b>	<b>feet</b>
No Block Distance	N.A.	feet
No Block Turn Lane Length	N.A.	feet

PM Peak Hour		
2032 No Build		
Hayden Run Rd/ Elliott Rd		
Movement	WBLT	
Design Speed	50	mph
Cycle Length	60	seconds
Control (Stop or Signal)	Stop	
Through Volume	336	vph
Number of Through Lanes	1	
Turning Volume	126	vph
Number of Turning Lanes	1	
Design Condition	C	A, B, or C
Turning Percentage	27%	
Vehicles Per Cycle	2.1	
Storage Length	100	feet
Deceleration/Taper	143	feet
<b>Calculated Turn Lane Length</b>	<b>243</b>	<b>feet</b>
No Block Distance	N.A.	feet
No Block Turn Lane Length	N.A.	feet

AM Peak Hour		
2032 Build		
Hayden Run Rd/ Elliott Rd		
Movement	<b>WBLT</b>	
Design Speed	50	mph
Cycle Length	60	seconds
Control (Stop or Signal)	Stop	
Through Volume	138	vph
Number of Through Lanes	1	
Turning Volume	44	vph
Number of Turning Lanes	1	
Design Condition	B	A, B, or C
Turning Percentage	24%	
Vehicles Per Cycle	0.7	
Storage Length	50	feet
Deceleration/Taper	225	feet
<b>Calculated Turn Lane Length</b>	<b>225</b>	<b>feet</b>
No Block Distance	N.A.	feet
No Block Turn Lane Length	N.A.	feet

PM Peak Hour		
2032 Build		
Hayden Run Rd/ Elliott Rd		
Movement	<b>WBLT</b>	
Design Speed	50	mph
Cycle Length	60	seconds
Control (Stop or Signal)	Stop	
Through Volume	336	vph
Number of Through Lanes	1	
Turning Volume	165	vph
Number of Turning Lanes	1	
Design Condition	C	A, B, or C
Turning Percentage	33%	
Vehicles Per Cycle	2.8	
Storage Length	150	feet
Deceleration/Taper	143	feet
<b>Calculated Turn Lane Length</b>	<b>293</b>	<b>feet</b>
No Block Distance	N.A.	feet
No Block Turn Lane Length	N.A.	feet

AM Peak Hour		
2032 No Build		
Alton & Darby Creek Rd/ Davis Rd		
Movement	<b>SBRT</b>	
Design Speed	50	mph
Cycle Length	60	seconds
Control (Stop or Signal)	Stop	
Through Volume	156	vph
Number of Through Lanes	1	
Turning Volume	66	vph
Number of Turning Lanes	1	
Design Condition	B	A, B, or C
Turning Percentage	30%	
Vehicles Per Cycle	1.1	
Storage Length	50	feet
Deceleration/Taper	225	feet
<b>Calculated Turn Lane Length</b>	<b>225</b>	<b>feet</b>
No Block Distance	N.A.	feet
No Block Turn Lane Length	N.A.	feet

PM Peak Hour		
2032 No Build		
Alton & Darby Creek Rd/ Davis Rd		
Movement	<b>SBRT</b>	
Design Speed	50	mph
Cycle Length	60	seconds
Control (Stop or Signal)	Stop	
Through Volume	286	vph
Number of Through Lanes	1	
Turning Volume	210	vph
Number of Turning Lanes	1	
Design Condition	C	A, B, or C
Turning Percentage	42%	
Vehicles Per Cycle	3.5	
Storage Length	175	feet
Deceleration/Taper	143	feet
<b>Calculated Turn Lane Length</b>	<b>318</b>	<b>feet</b>
No Block Distance	N.A.	feet
No Block Turn Lane Length	N.A.	feet

AM Peak Hour	
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2032 Build w/ Audubon Ave Ext.

Alton & Darby Creek Rd/ Davis Rd	
Movement	<b>SBRT</b>
Design Speed	50 mph
Cycle Length	60 seconds
Control (Stop or Signal)	Stop
Through Volume	175 vph
Number of Through Lanes	1
Turning Volume	66 vph
Number of Turning Lanes	1
Design Condition	B A, B, or C
Turning Percentage	27%
Vehicles Per Cycle	1.1
Storage Length	50 feet
Deceleration/Taper	225 feet
<b>Calculated Turn Lane Length</b>	<b>225 feet</b>
No Block Distance	N.A. feet
No Block Turn Lane Length	N.A. feet

PM Peak Hour	
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2032 Build w/ Audubon Ave Ext.

Alton & Darby Creek Rd/ Davis Rd	
Movement	<b>SBRT</b>
Design Speed	50 mph
Cycle Length	60 seconds
Control (Stop or Signal)	Stop
Through Volume	300 vph
Number of Through Lanes	1
Turning Volume	210 vph
Number of Turning Lanes	1
Design Condition	C A, B, or C
Turning Percentage	41%
Vehicles Per Cycle	3.5
Storage Length	175 feet
Deceleration/Taper	143 feet
<b>Calculated Turn Lane Length</b>	<b>318 feet</b>
No Block Distance	N.A. feet
No Block Turn Lane Length	N.A. feet

AM Peak Hour	
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2032 Build w/o Audubon Ave Ext.

Alton & Darby Creek Rd/ Davis Rd	
Movement	<b>SBRT</b>
Design Speed	50 mph
Cycle Length	60 seconds
Control (Stop or Signal)	Stop
Through Volume	188 vph
Number of Through Lanes	1
Turning Volume	66 vph
Number of Turning Lanes	1
Design Condition	B A, B, or C
Turning Percentage	26%
Vehicles Per Cycle	1.1
Storage Length	50 feet
Deceleration/Taper	225 feet
<b>Calculated Turn Lane Length</b>	<b>225 feet</b>
No Block Distance	N.A. feet
No Block Turn Lane Length	N.A. feet

PM Peak Hour	
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2032 Build w/o Audubon Ave Ext.

Alton & Darby Creek Rd/ Davis Rd	
Movement	<b>SBRT</b>
Design Speed	50 mph
Cycle Length	60 seconds
Control (Stop or Signal)	Stop
Through Volume	310 vph
Number of Through Lanes	1
Turning Volume	210 vph
Number of Turning Lanes	1
Design Condition	C A, B, or C
Turning Percentage	40%
Vehicles Per Cycle	3.5
Storage Length	175 feet
Deceleration/Taper	143 feet
<b>Calculated Turn Lane Length</b>	<b>318 feet</b>
No Block Distance	N.A. feet
No Block Turn Lane Length	N.A. feet

## LEGEND

- HERITAGE TRAIL
- PROPOSED TRAIL
- PROPOSED FUTURE TRAIL  
BY OTHERS, ALIGNMENT TO  
BE DETERMINED
- PRIVATE GREEN SPACE
- PUBLIC GREEN SPACE



