

Traffic Impact Study

608 Lovell Road

February 2026

Updated: March 2026

FOR SUBMITTAL TO:

City of Knoxville

PREPARED FOR:

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PREPARED BY:

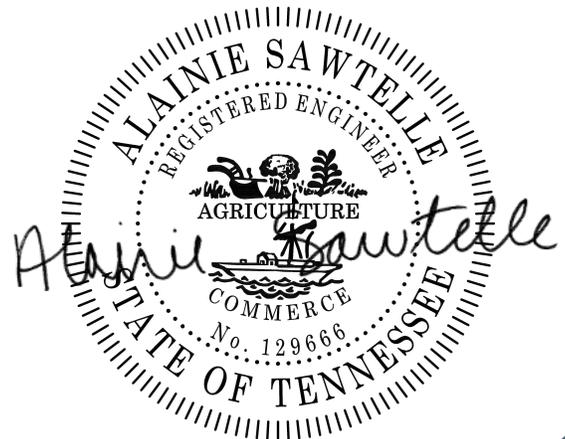
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03/20/2026

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1.0 EXECUTIVE SUMMARY

This traffic study evaluates the anticipated traffic impacts associated with the *608 Lovell Road* development. The site is approximately 15.75 acres and is located south of Murdock Drive and east of Lovell Road in Knoxville, TN.

The proposed development is planned to consist of 324 multi-family units and generate 1,945 daily trips, 126 AM peak hour trips and 163 PM peak hour trips.

The results of the analyses show that all study intersections currently operate at an acceptable overall LOS during the AM and PM peak hours. Under the projected No-Build and Build conditions, all study intersections are projected to continue to operate at an acceptable overall LOS during the AM and PM peak hours. It should be noted that it is not uncommon for individual movements to experience higher delay while the intersection as a whole operates acceptably.

1.1 DEVELOPMENT IMPROVEMENT RECOMMENDATIONS

The following improvements are recommended to be completed by the *608 Lovell Road* development.

- Intersection 2 – Lovell Road at Outlet Drive/Site Driveway A
 - Restripe southbound approach to include an exclusive left-turn lane with a storage lane of 75 feet and a 165-foot taper, which may require pavement overlay to remove existing pavement markings.
 - Construct the east leg of the intersection to include one (1) ingress lane and two (2) egress lanes.
 - Provide protective-permissive phasing for all approaches.
 - Construct an exclusive northbound right-turn lane with a storage lane of 50 feet and a 160-foot taper.
- Intersection 4 – Lovell Road at Site Driveway B
 - Construct one (1) ingress lane and one (1) egress lane with stop control to serve as a RIRO (right-in/right-out) for entering/exiting the site.

2.0 INTRODUCTION

This traffic study evaluates the anticipated traffic impacts associated with the *608 Lovell Road* development. The following scenarios are analyzed in this study:

- Existing 2026 Conditions
 - Existing traffic counts and lane configurations
- Projected 2028 No-Build Conditions
 - Existing traffic counts grown to the build-out year at a standard growth rate and existing lane configurations
- Projected 2028 Build Conditions
 - Existing traffic counts grown to the build-out year at a standard growth rate plus traffic associated with the proposed development and existing lane configurations

In addition to the build-out year analyses, horizon year analyses were completed for TDOT reference only and are detailed in Appendix G.

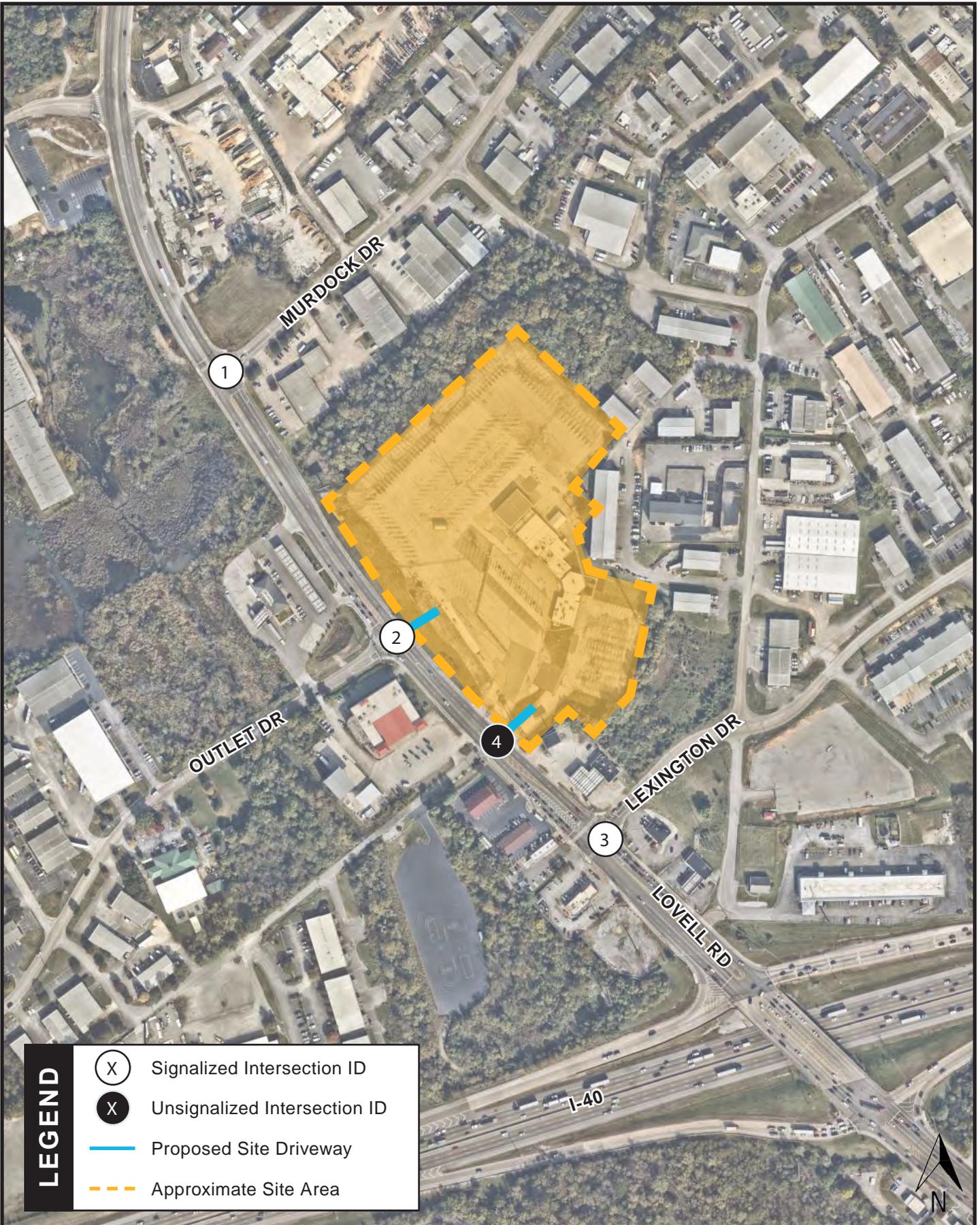
The study network analyzed in this study consists of the intersections listed in Table 1. For the purposes of this traffic impact study, the roadways within the study network are assumed to have the following orientations listed in Table 2. The study area and project site are shown in Figure 1. A site plan for the proposed development is included in Appendix A.

Table 1: Study Intersections

#	Intersection	Existing Control
1	Lovell Road at Murdock Drive	Signal
2	Lovell Road at Outlet Drive	Signal
3	Lovell Road at Commercial Driveway/Lexington Drive	Signal

Table 2: Roadway Orientations

Roadway	Orientation
Lovell Road	North-South
Murdock Drive	East-West
Outlet Drive	East-West
Lexington Drive	East-West



3.0 METHODOLOGY

3.1 SCOPING MEETING

The scope of this study was determined via email exchange with Knoxville-Knox County Planning that was finalized on 1/16/2026. The final scoping documents incorporating assumptions from the meeting are included in Appendix F.

3.2 DATA COLLECTION

Volume peak hour turning movement counts (TMCs) were performed at each study intersection. The TMCs were collected from 7:00 AM – 9:00 AM for the AM peak period and 4:00 PM – 6:00 PM for the PM peak period.

3.3 TRIP GENERATION

Traffic for the proposed development was calculated using equations contained in the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 12th Edition*, using equations where available. Internal capture (or mixed-use) reductions represent the concept that trips generated by individual land uses within a site may remain internal to the site. Mixed-use vehicle trip reductions are calculated using guidance from the *ITE Trip Generation Handbook, 3rd Edition*. Alternative modes of transportation include pedestrians, bicyclists, and transit users. Alternate mode reductions account for the notion that some site-generated trips will occur by a means other than automobile. A pass-by trip occurs when a proposed development diverts traffic that is already traveling on a street adjacent to the site. Pass-by reductions are calculated using guidance from the *(ITE) Trip Generation Manual, 12th Edition*.

3.4 CAPACITY ANALYSES

Level-of-service (LOS) determinations were made for the weekday AM and PM peak hours for the study network intersections using *Synchro, Version 12.0*. *Synchro* software uses methodologies contained in the *Highway Capacity Manual, 7th Edition* to determine the operating characteristics of an intersection. Capacity is defined as the maximum number of vehicles that can pass over a particular road segment or through a particular intersection within a specified period under prevailing roadway, traffic, and control conditions.

LOS is used to describe the operating characteristics of a road segment or intersection in relation to its capacity. LOS is defined as a qualitative measure that describes operational conditions and motorists' perceptions of a traffic stream. The *Highway Capacity Manual* defines six levels of service, LOS A through LOS F, with A being the best and F the worst.

LOS for unsignalized intersections, with stop control on the minor street only, are reported for the side-street approaches and major street left-turns. Low levels-of-service for side street approaches are not uncommon, as vehicles may experience significant delay turning onto a major roadway.

LOS for signalized and all-way stop controlled (AWSC) intersections are reported for the intersection as a whole. One or more movements at an intersection may experience a low level-of-service, while the intersection as a whole may operate acceptably. The LOS criteria for signalized and unsignalized intersections is shown in Table 3.

Table 3: LOS Criteria for Intersections

LOS	Signalized Delay	Unsignalized Delay	Description
A	≤10.0	≤10.0	Operations with very low delay and most vehicles do not stop.
B	>10.0 and ≤20.0	>10.0 and ≤15.0	Operations with good progression but with some restricted movement.
C	>20.0 and ≤35.0	>15.0 and ≤25.0	Operations where a significant number of vehicles are stopping with some backup and light congestion.
D	>35.0 and ≤55.0	>25.0 and ≤35.0	Operations where congestion is noticeable, longer delays occur, and many vehicles stop. The proportion of vehicles not stopping declines
E	>55.0 and ≤80.0	>35.0 and ≤50.0	Operations where there is significant delay, extensive queuing, and poor progression.
F	>80.0	>50.0	Operations that is unacceptable to most drivers, when the arrival rates exceed the capacity of the intersection.

3.5 TURN LANE WARRANTS

TDOT HSAM Vol 3 Geometric Design Criteria was used to evaluate if turn lanes should be implemented along state routes at unsignalized site driveways. From the TDOT HSAM, the following methodologies were applied to perform these evaluations:

- Figure 3-17 (“Left-Turn Warrant Along Four-Lane Rural Roadways (Unsignalized)”)
- Figure 3-18 (“Right-Turn Lane Warrant Along Four-Lane Roadway (Unsignalized Intersection with Two-Way Stop-Control”)
- “Exclusive left-turn lanes at signalized intersections should be considered where left-turn volumes exceed 100 vehicles per hour (veh/h)”.
- “Exclusive right-turn lanes at signalized intersections should be considered when the right-turn lane volumes exceeds 300 veh/h and the adjacent through-lane volume also exceeds 300 vehicle per lane per hour”.

Per the TDOT HSAM, “The volume-based warrants indicate situations where turn lanes would help to mitigate traffic conflicts, not necessarily situations where a turn lane is required or must be constructed. Turn lanes can have an adverse safety and operational effect for pedestrians and bicyclists. All existing and future users of the roadway should be considered when determining turn lane needs.”

The Knox County Access Control and Driveway Design Policy (Section 1.30.04) was used to evaluate if turn lanes should be implemented at the site driveways. Tables 5A and 5B were referenced.

3.6 SIGHT DISTANCE

Intersection sight distance measurements and calculations were performed using methodology provided in *A Policy on Geometric Design of Highways and Streets, 7th Edition (2018)*, published by the American Association of State Highways and Transportation Officials (AASHTO).

3.7 SAFETY REVIEW

The safety review includes 5-years of crash history at all study segments and intersections. Crash data was collected from AASHTOWare Safety. Crashes were summarized by manner of collision and by injury type. Crash rates were calculated for each intersection and segment using consistent methodology with TDOT's Yellow Sheets. The calculated crash rates were then compared to TDOT's statewide average crash rates from 2021-2023 for similar facility types.

4.0 EXISTING CONDITIONS

4.1 VEHICULAR NETWORK

Characteristics for the roadways within the study are summarized in Table 4. The existing road geometry is illustrated in Figure 2.

Table 4: Roadway Network

Roadway	Lanes	Posted Speed (MPH)	Classification	AADT
Lovell Road	4 + TWTL ¹	40	Minor Arterial	19,776
Murdock Drive	2 + TWTL	40	Major Collector	9,220
Outlet Drive	2 + TWTL	30	Major Collector	8,275
Lexington Drive	2 + TWTL	30	Local	N/A

¹TWTL – Two-Way Turn Lane

4.2 VEHICULAR VOLUMES

Vehicle peak hour turning movement counts (TMCs) were performed at each study intersection. Peak hours for the study intersections are shown in Table 5. The existing peak hour traffic volumes are shown in Figure 3. The complete traffic count data is provided in Appendix B.

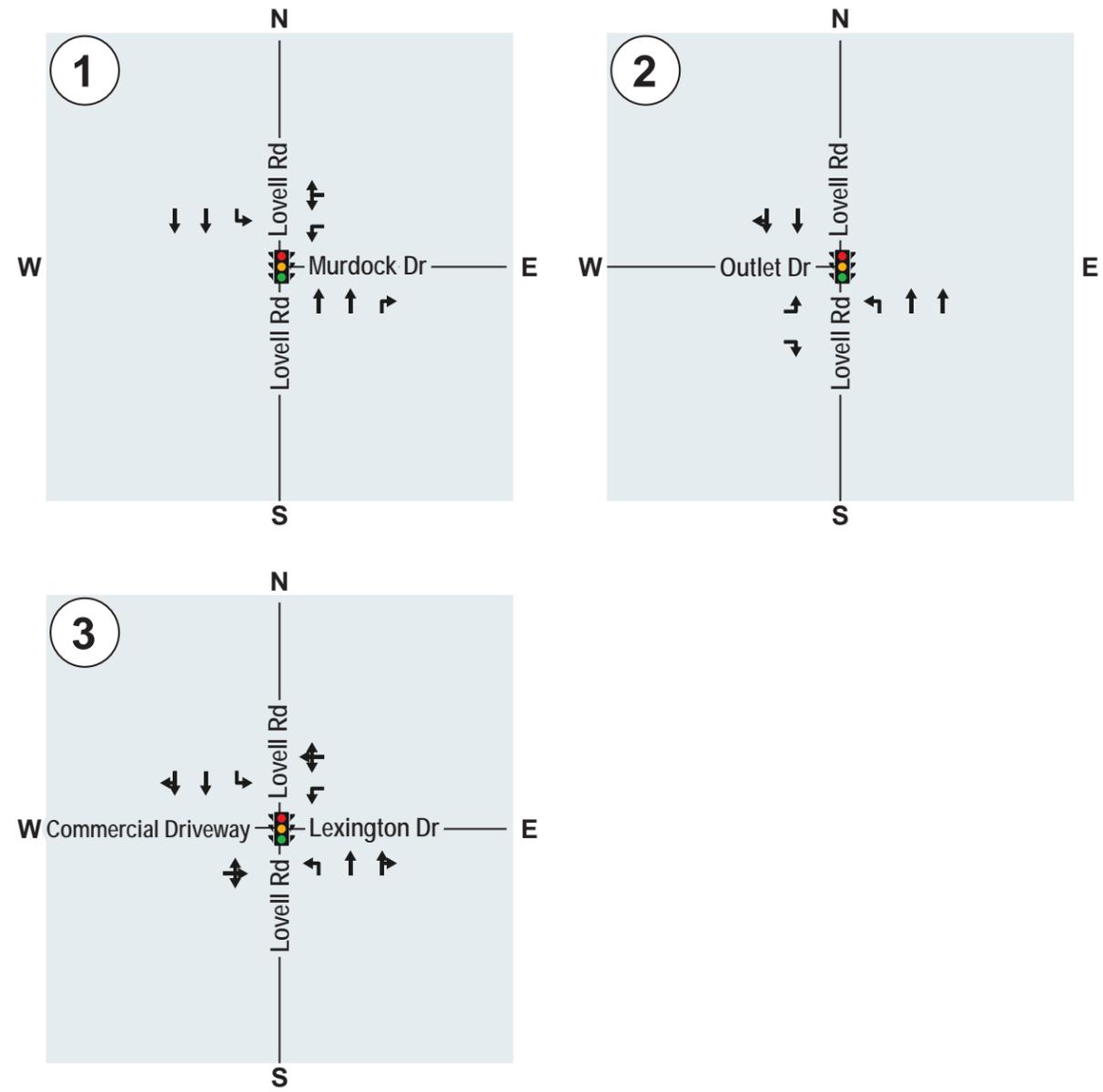
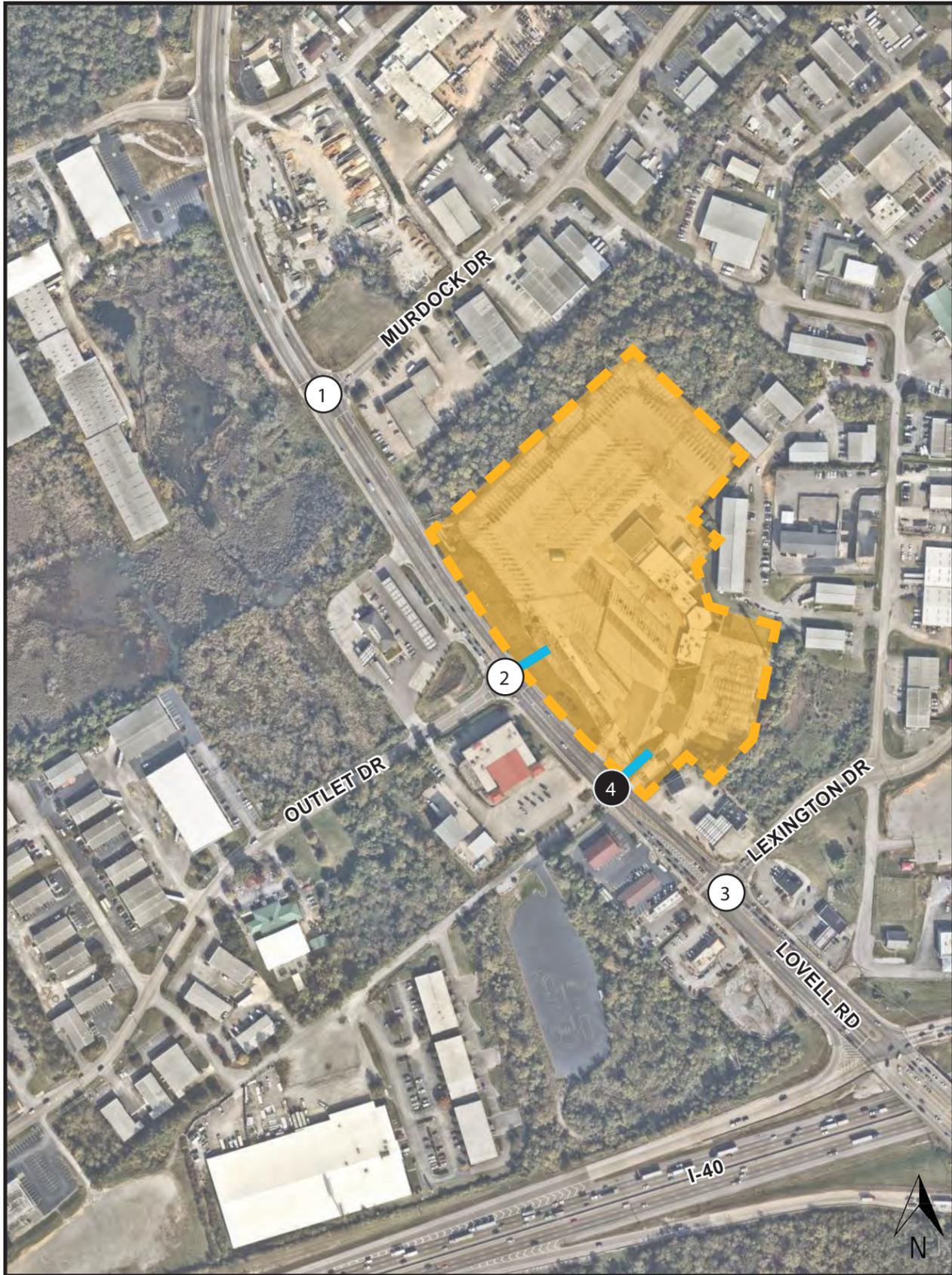
Table 5: Intersection Peak Hours

#	Intersection	Date Collected	AM	PM
1	Lovell Road at Murdock Drive	02/10/2026	7:30 – 8:30	4:45 – 5:45
2	Lovell Road at Outlet Drive	02/10/2026	7:30 – 8:30	4:30 – 5:30
3	Lovell Road at Commercial Driveway/Lexington Drive	02/10/2026	7:30 – 8:30	4:30 – 5:30

In addition to the TMCs, 24-hour average daily traffic (ADT) counts were also collected and are summarized in Table 6 below.

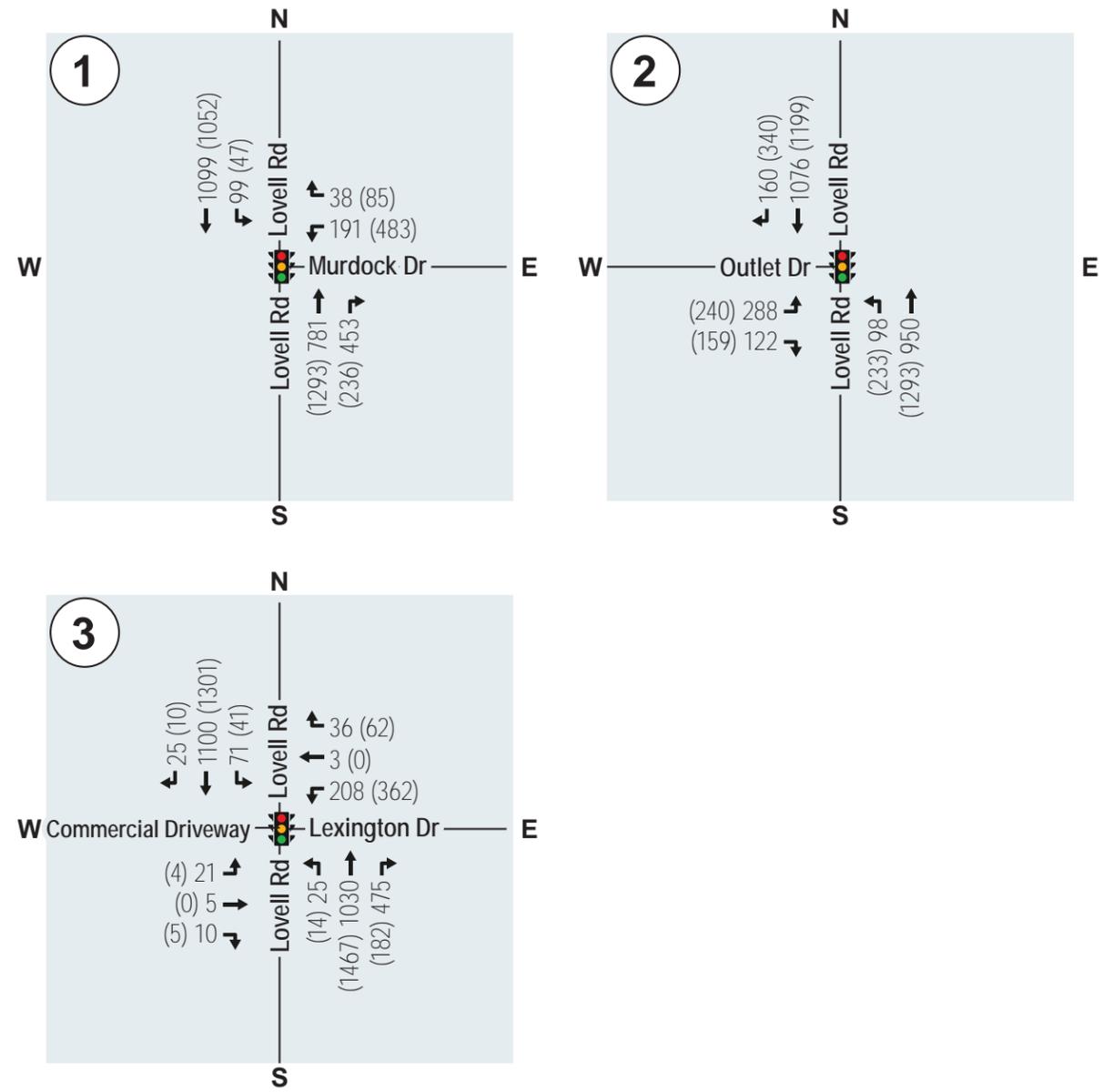
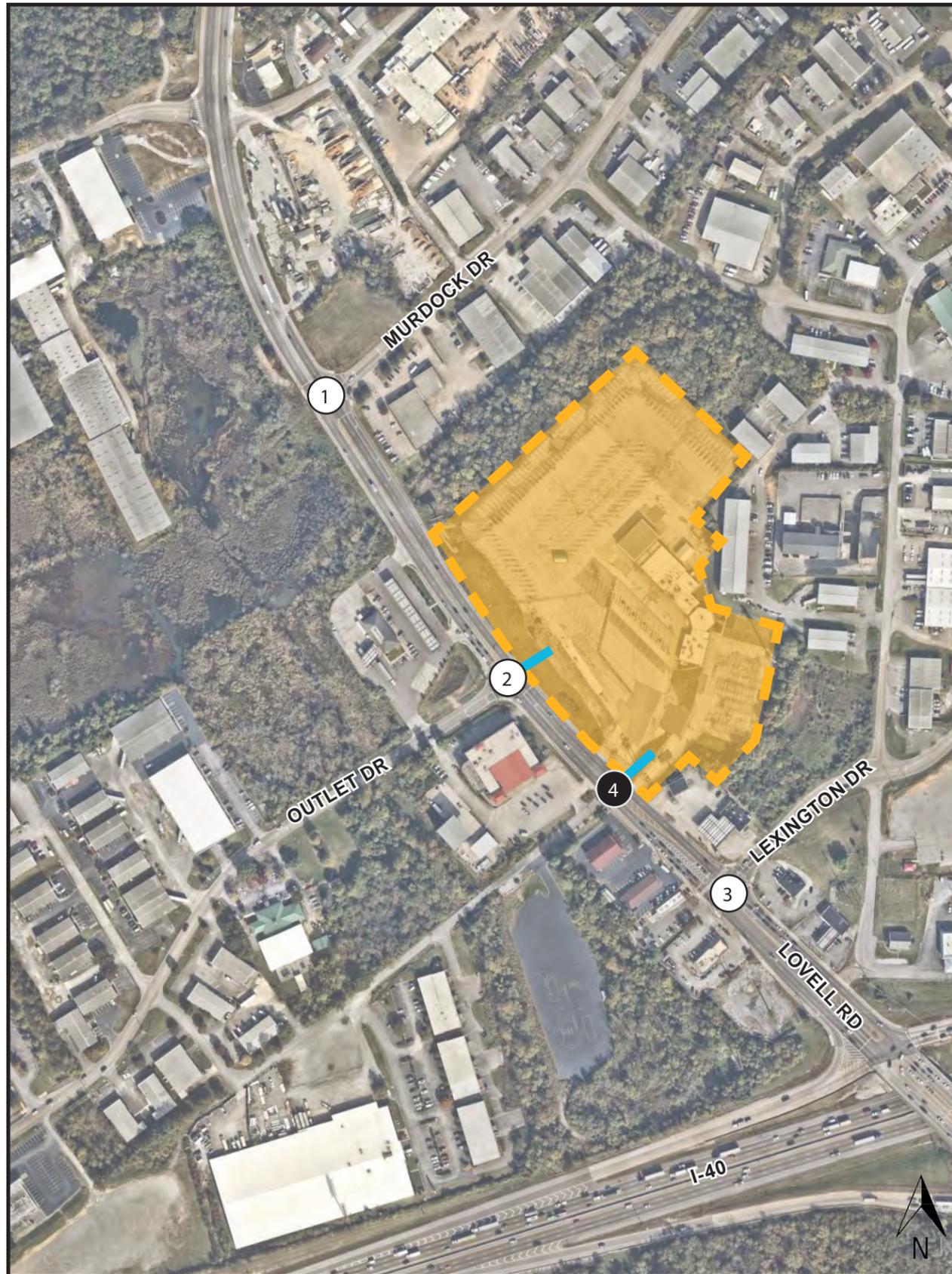
Table 6: ADT Counts

#	Roadway	Location	NB	SB
1	Lovell Road	North of Lexington Drive	14,189	13,813



LEGEND

(X)	Signalized Intersection ID		Existing Traffic Signal	→	Existing Lane Configuration
(X)	Unsignalized Intersection ID		Existing Stop Sign		



LEGEND	Signalized Intersection ID	Existing Traffic Signal	XX	AM Peak Hour Traffic Volumes
	Unsignalized Intersection ID	Existing Stop Sign	(XX)	PM Peak Hour Traffic Volumes
	Turning Movement			

5.0 NO-BUILD CONDITIONS

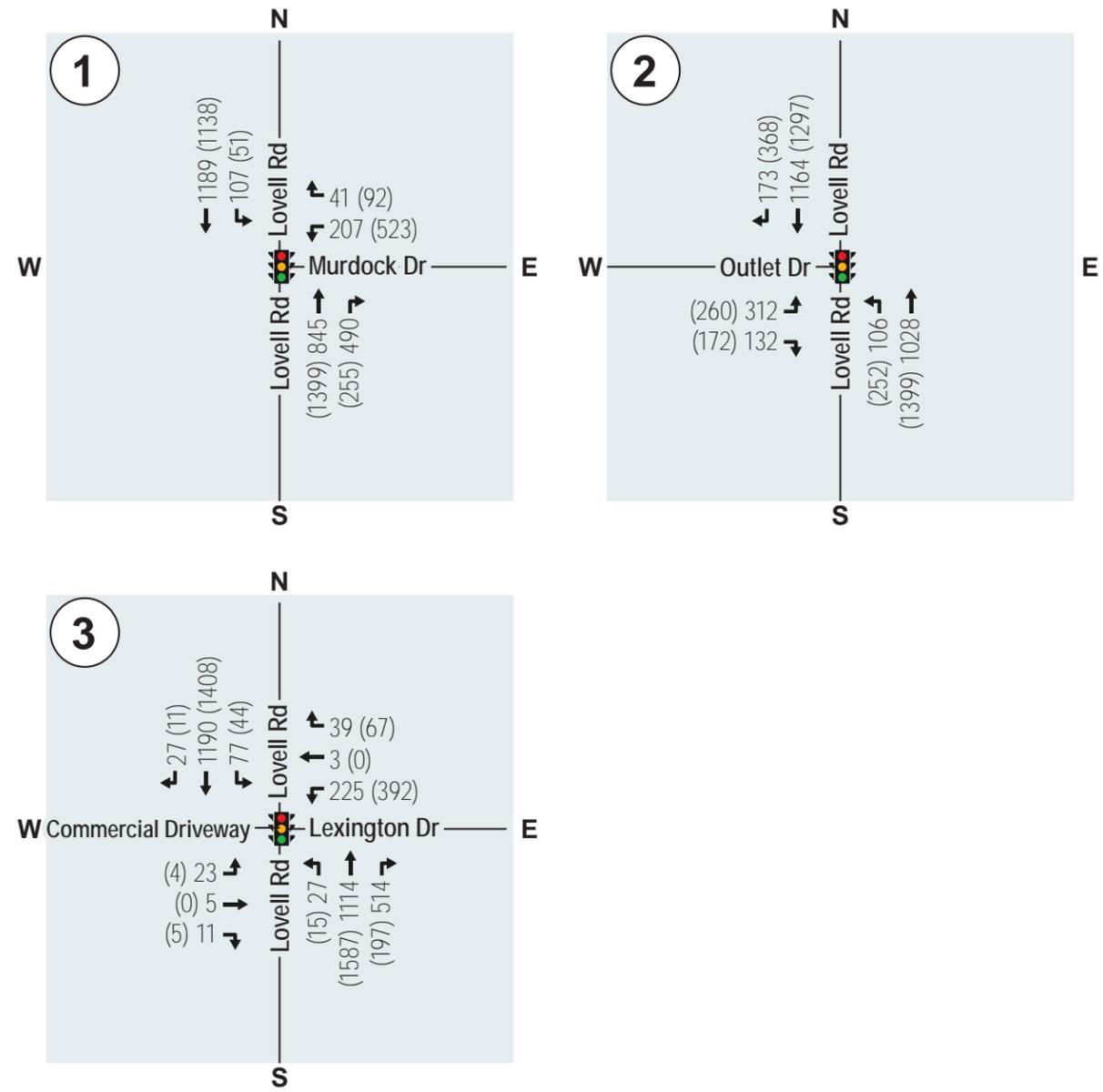
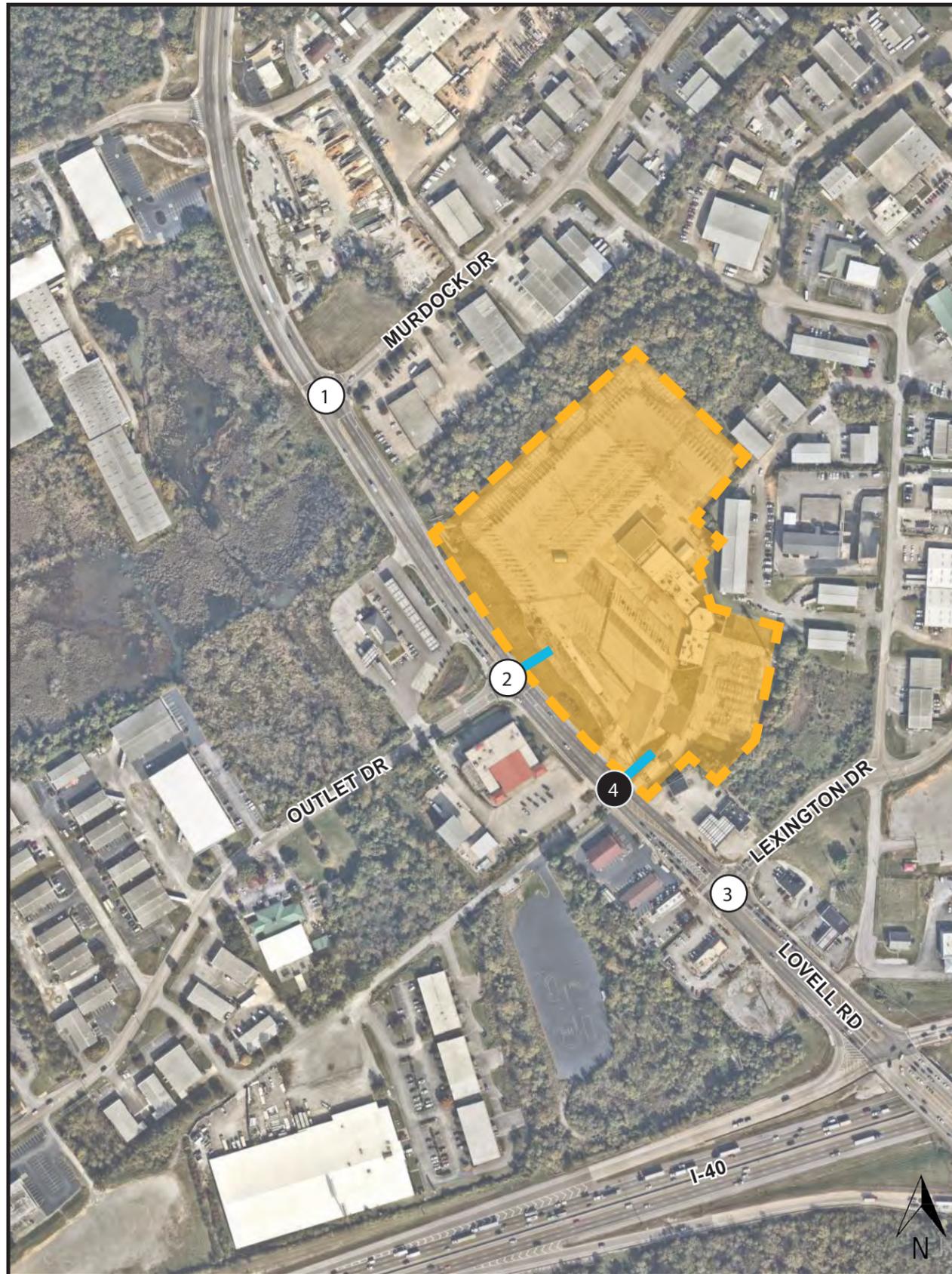
5.1 NO-BUILD VOLUMES

Background traffic is defined as expected traffic on the roadway in future year(s) absent the construction and opening of the proposed project. Background traffic can include a base growth rate based on historical count data as well as population growth data and estimates.

To account for background traffic, the existing traffic volumes were increased by 4.00% per year to account for the expected background growth through the build-out year.

5.2 FUTURE TRANSPORTATION INFRASTRUCTURE IMPROVEMENTS

No improvements were identified to be incorporated into the capacity analyses. There may be other improvements planned. However, they will not impact the number or characteristics of intersection lanes.



LEGEND	Signalized Intersection ID	Existing Traffic Signal	XX	AM Peak Hour Traffic Volumes
	Unsignalized Intersection ID	Existing Stop Sign	(XX)	PM Peak Hour Traffic Volumes
	Turning Movement			

6.0 BUILD CONDITIONS

6.1 SITE ACCESS

A brief description of each site access point is listed in Table 7.

Table 7: Site Access Details

#	Intersection	Control/ Movement	Location
2	Lovell Road at Outlet Drive/Site Driveway A	Signalized/Full-Movement	Aligned with existing intersection as the east leg
4	Lovell Road at Site Driveway B	TWSC/RIRO	~350' north of Lexington Drive

The required Intersection Sight Distance (ISD) is for left-turning vehicles is 475' and 385' for right-turning vehicles at Site Driveway A and Site Driveway B. Based on the analysis, both site driveways meet the required ISD. Sight distance exhibits are included in Appendix A.

6.2 PROJECT TRAFFIC

6.2.1 PROJECT TRIPS

Trip generation for the proposed development was calculated based on the methodology outlined in Section 3.3. Due to the location and proposed land uses, the trip generation was performed with no reductions to gross trips. Table 8 summarizes the project trip generation. A detailed trip generation worksheet for the proposed development is provided in Appendix C.

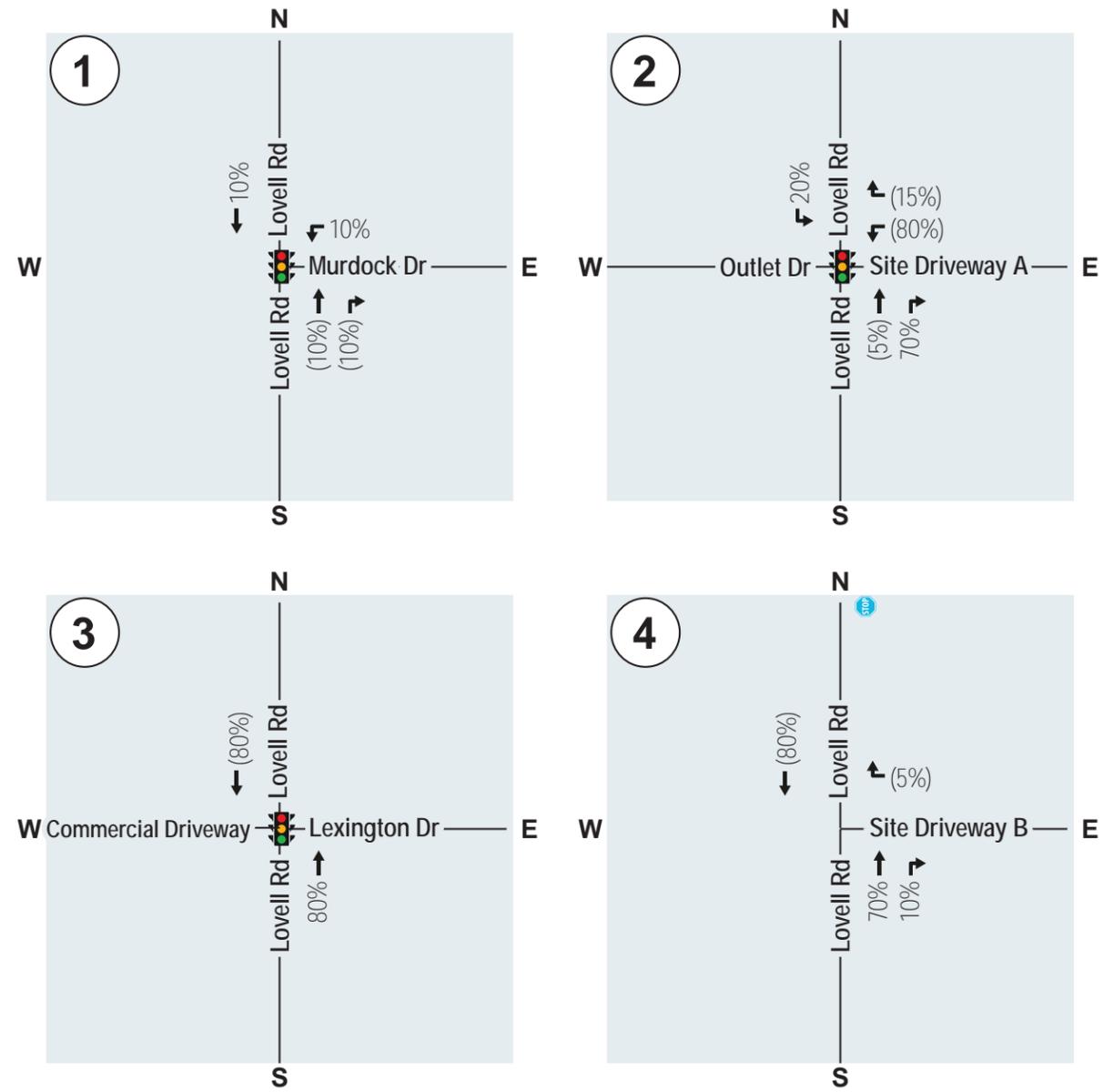
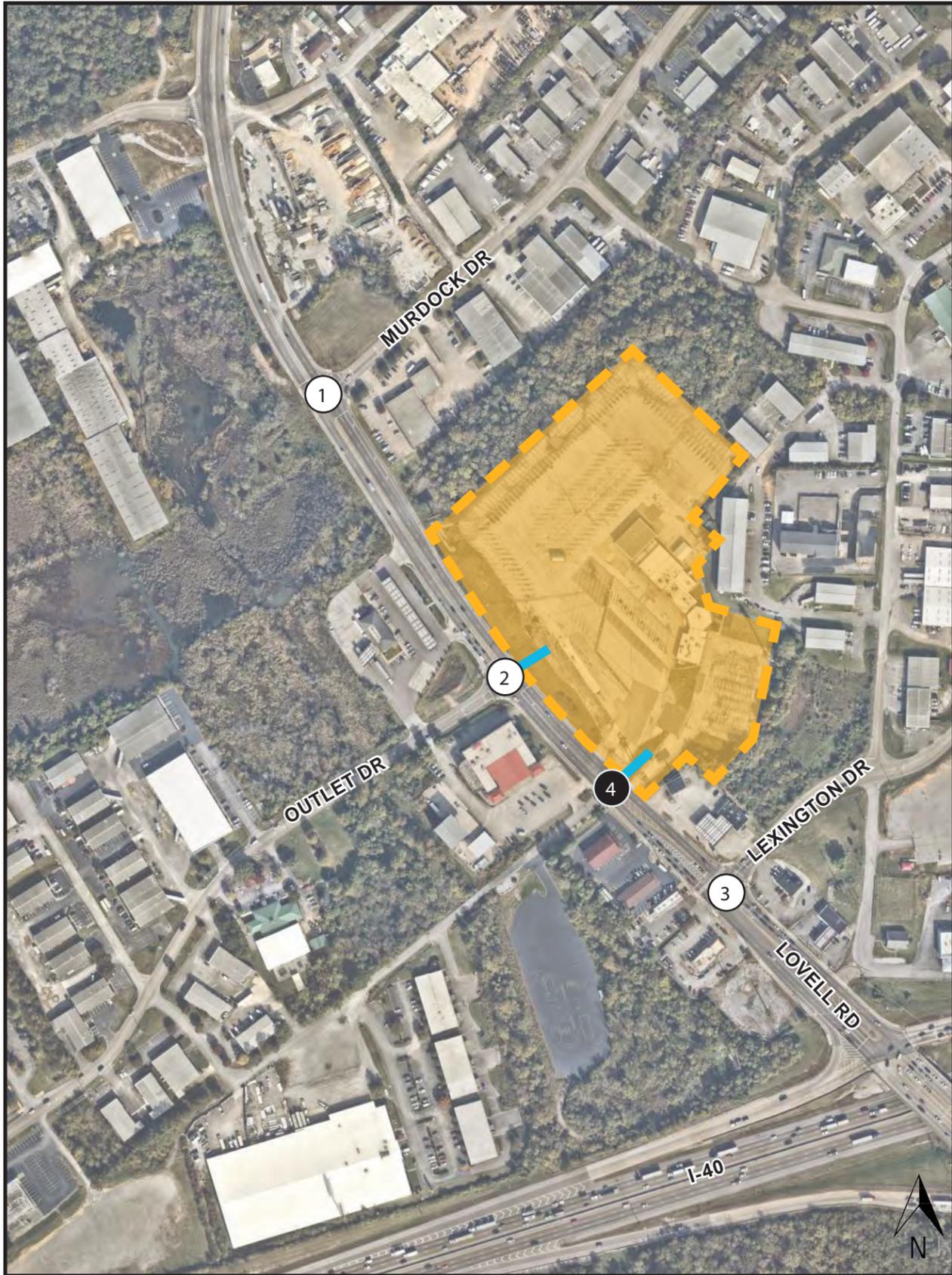
6.2.2 TRIP DISTRIBUTION AND ASSIGNMENT

The directional distribution and assignment of new project trips was based on a review of land uses and population densities in the area as well as the existing peak hour turning movement counts. Figure 5 provides the directional distribution and assignment of new project trips. Figure 6 illustrates the assignment of project trips to the study network. The projected build peak hour volumes are shown in Figure 7. Intersection volume worksheets for all intersections and driveways within the study network are provided in Appendix C.

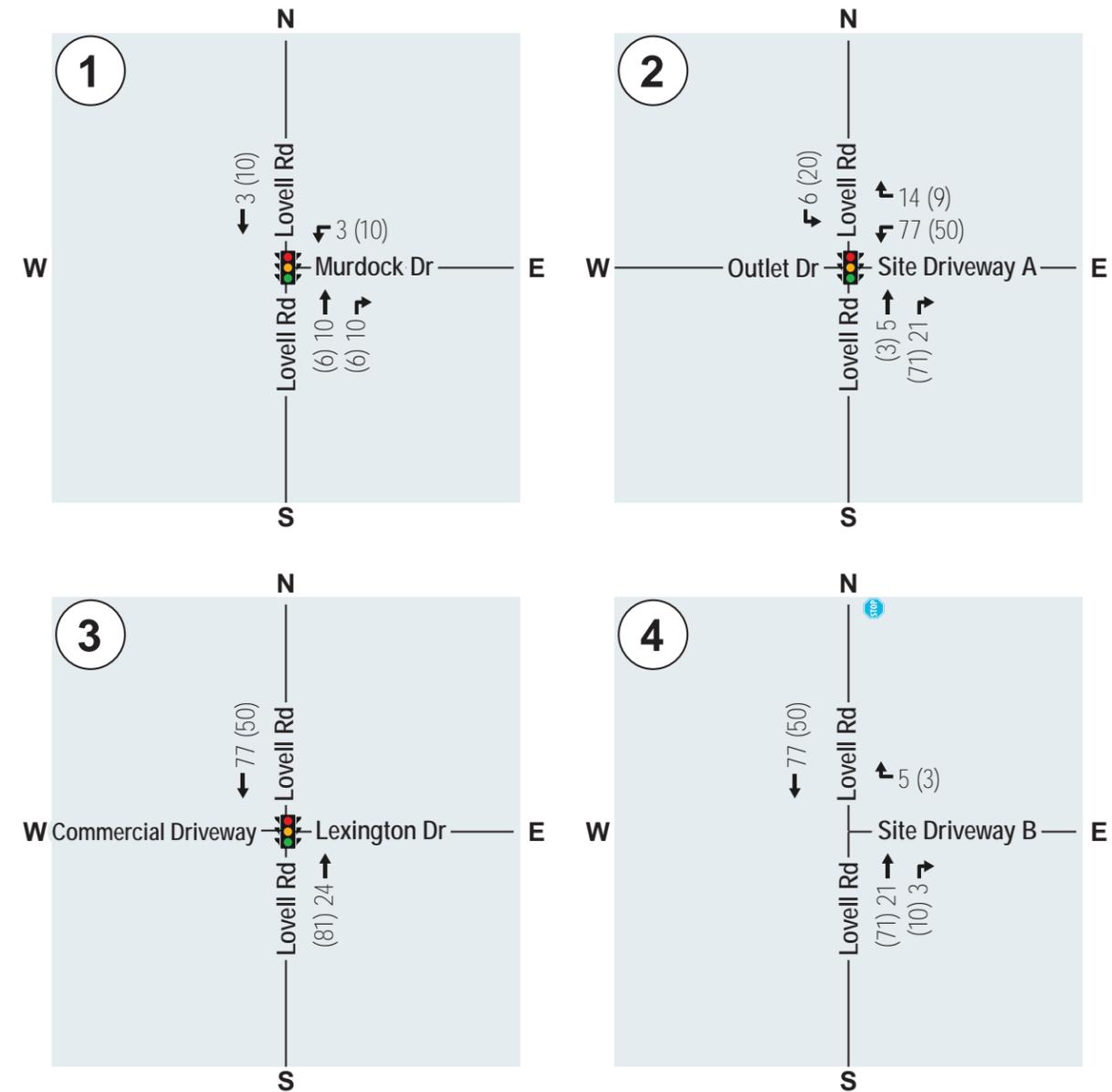
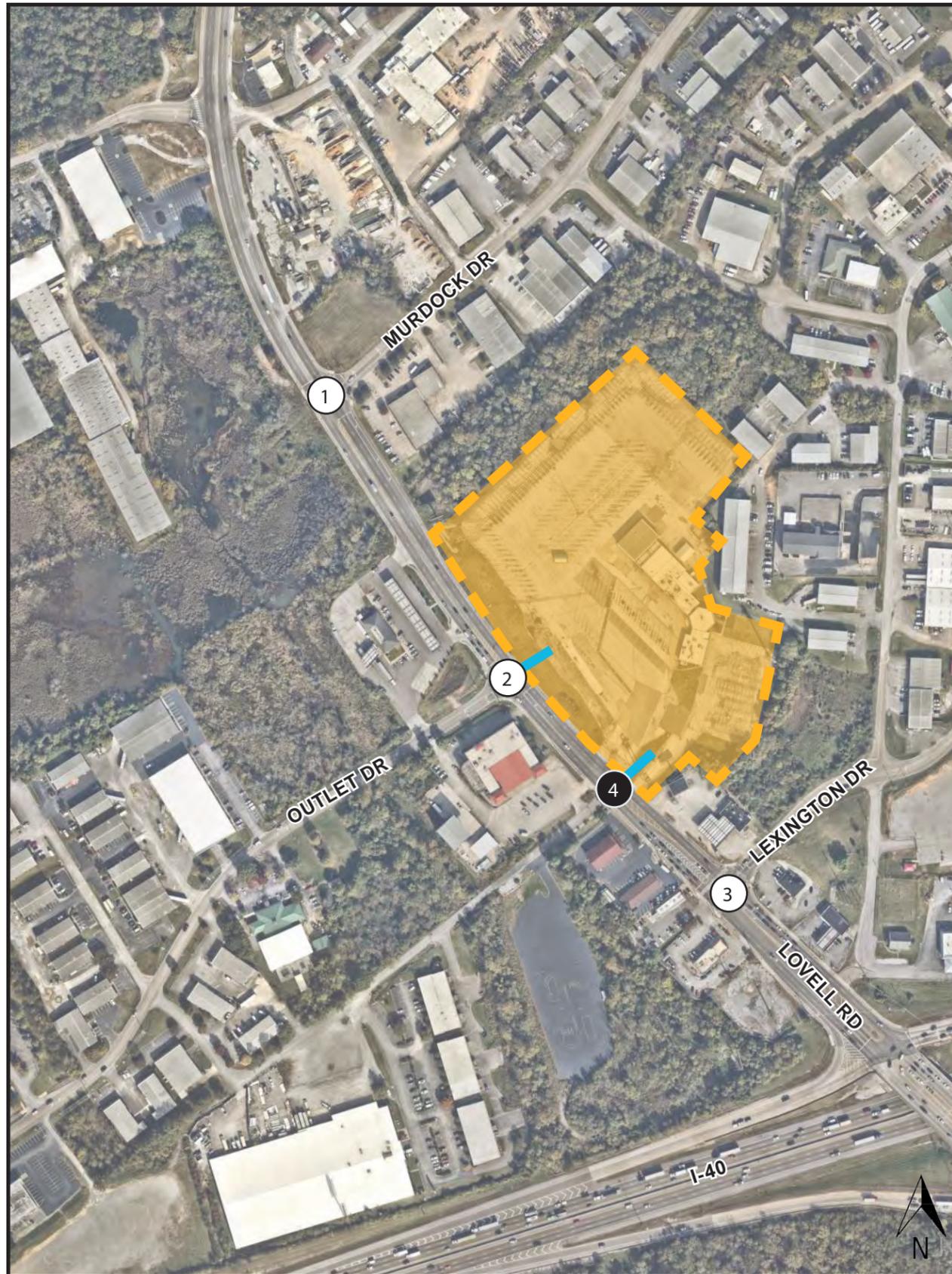
Table 8: Trip Generation

Proposed Trip Generation - 608 Lovell Road													
ITE Code	Land Use	Setting/Location	Density		Daily			AM Peak Hour			PM Peak Hour		
					Total	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit
220	Multifamily Housing (Low-Rise)	General Urban/Suburban	324	d.u.	1,945	973	972	126	30	96	163	101	62
NET PROPOSED TRIPS					1,945	973	972	126	30	96	163	101	62

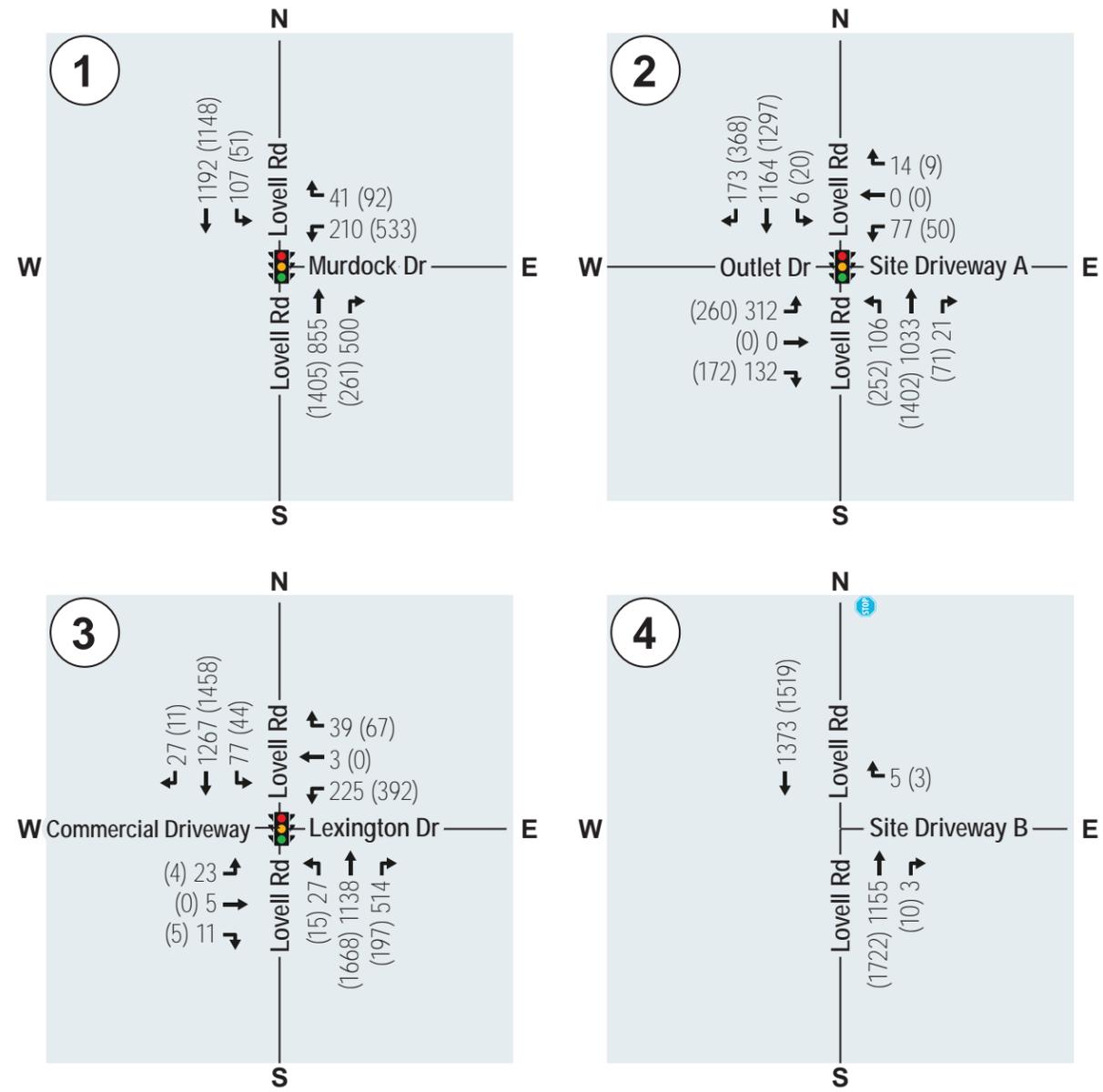
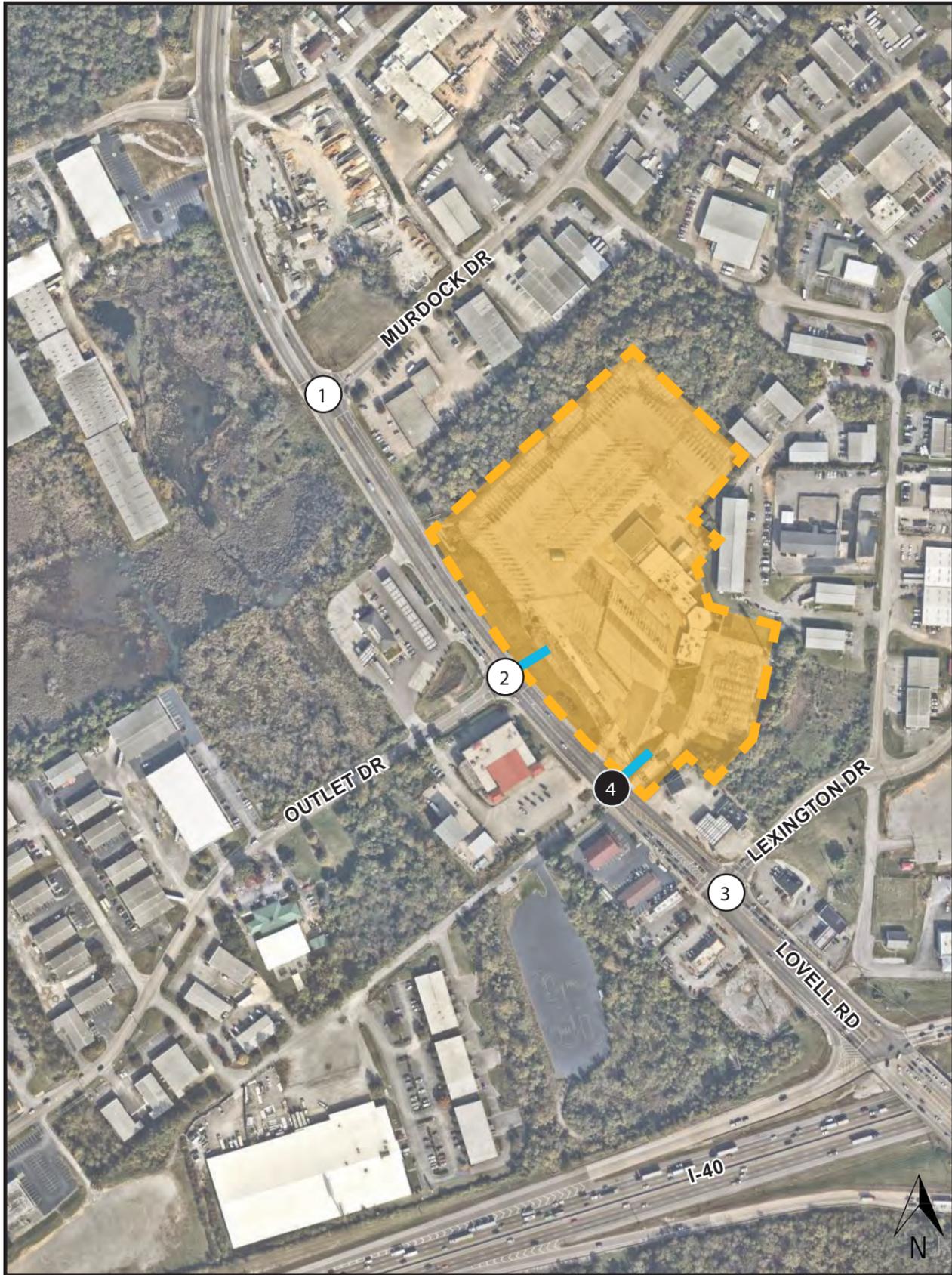
Notes:
ITE 12th Methodology/Rates



LEGEND	Signalized Intersection ID	Existing Traffic Signal	XX%	% Entering Distribution
	Unsignalized Intersection ID	Existing Stop Sign	(XX%)	% Exiting Distribution
	Turning Movement	Proposed Stop Sign		



LEGEND	Signalized Intersection ID	Existing Traffic Signal	XX AM Peak Hour Traffic Volumes
	Unsignalized Intersection ID	Existing Stop Sign	(XX) PM Peak Hour Traffic Volumes
	Turning Movement	Proposed Stop Sign	



LEGEND	Signalized Intersection ID	Existing Traffic Signal	XX AM Peak Hour Traffic Volumes
	Unsignalized Intersection ID	Existing Stop Sign	(XX) PM Peak Hour Traffic Volumes
	Turning Movement	Proposed Stop Sign	

6.3 TURN LANE EVALUATION

The turn lane evaluations were calculated based on the methodology outlined in Section 3.5. The results of the turn lane warrants are summarized in Table 9. Detailed turn lane calculations are provided in Appendix E.

Table 9: Turn Lane Warrants

#	Intersection	Movement	Scenario	HSAM		Knox County	
				AM	PM	AM	PM
2	Lovell Road at Outlet Drive/Site Driveway A	SBL	Build	✗	✗	✗	✓
		NBR		✗	✗	✗	✓
4	Lovell Road at Site Driveway B	NBR		✗	✗	✗	✗

Per TDOT HSAM, no turn lanes are warranted.

Per Knox County guidelines, a northbound right-turn lane and a southbound left-turn lane is warranted during the PM peak hour at the intersection of Lovell Road at Outlet Drive/Site Driveway A. Therefore, a northbound right-turn and a southbound left-turn lane were analyzed in the Build scenario.

7.0 CAPACITY ANALYSIS

The capacity analyses were calculated based on methodology outlined in Section 3.4. The results of the capacity analyses are summarized in Table 10 and Table 11. Detailed capacity reports are provided in Appendix D.

The results of the analyses show that all study intersections currently operate at an acceptable overall LOS during the AM and PM peak hours. Under the projected No-Build and Build conditions, all study intersections are projected to continue to operate at an acceptable overall LOS during the AM and PM peak hours. It should be noted that it is not uncommon for individual movements to experience higher delay while the intersection as a whole operates acceptably.

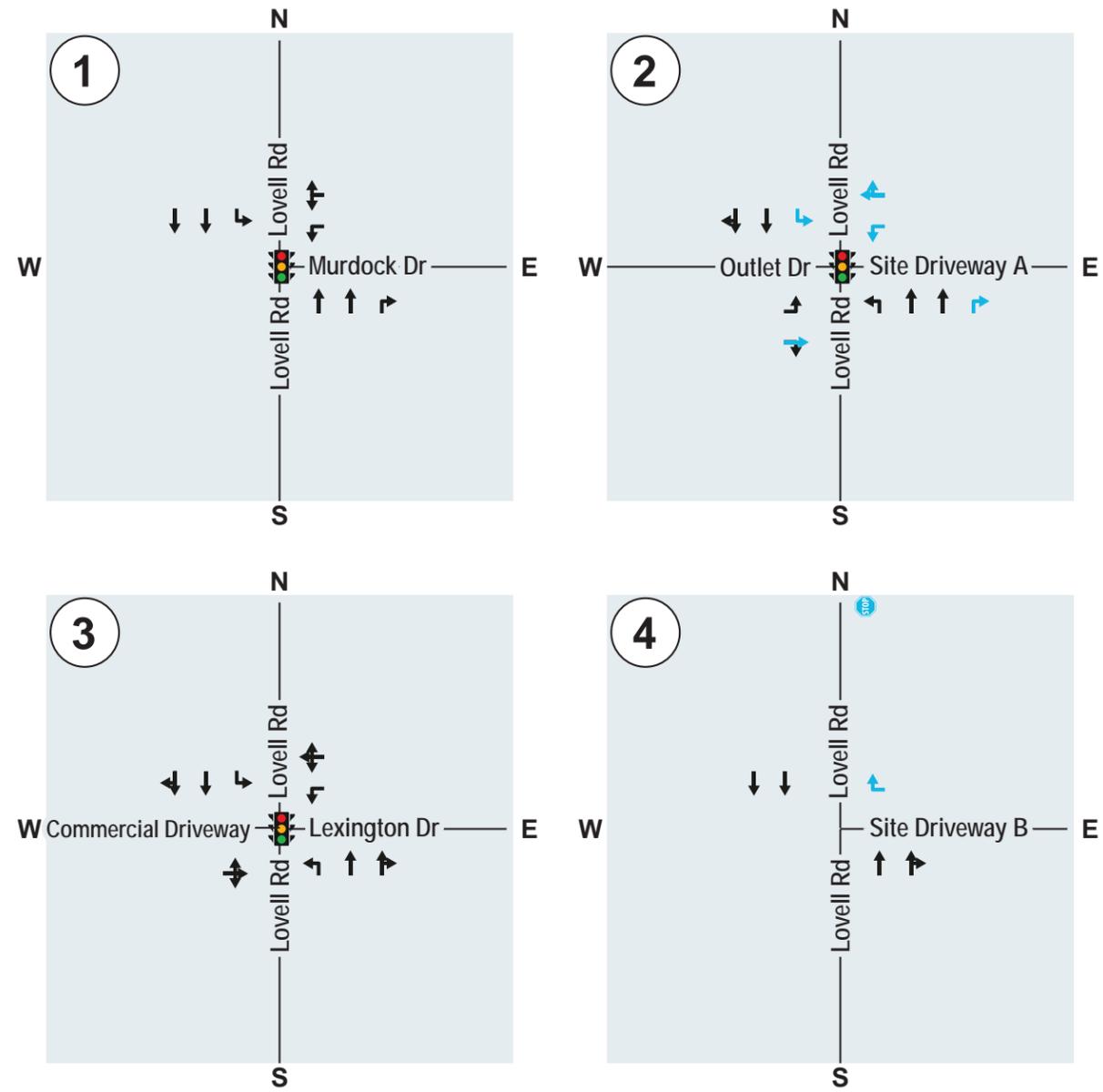
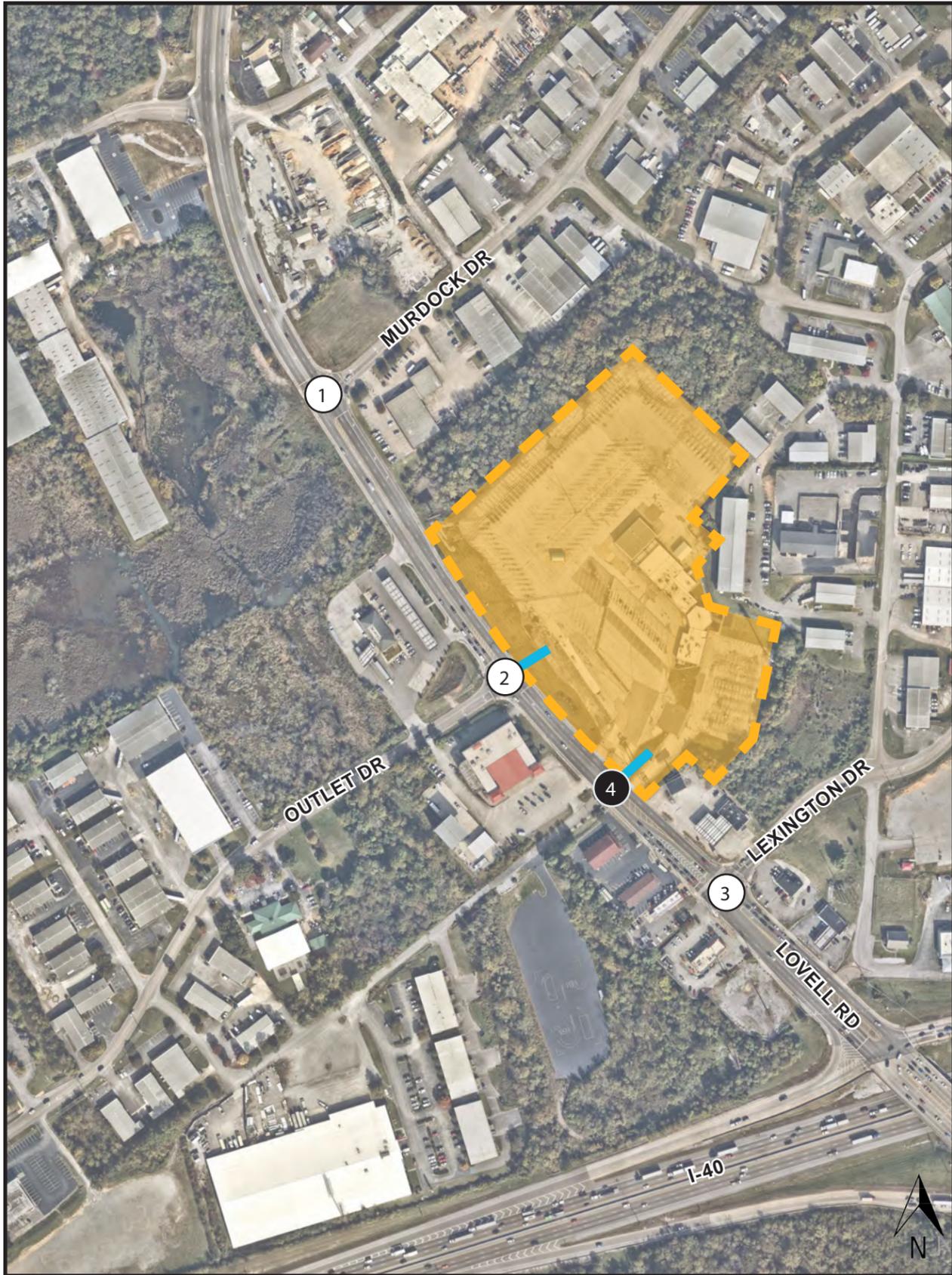
The build lane configuration is shown in Figure 8.

Table 10: LOS Summary

#	Name	Movement	Existing AM		Existing PM		No-Build AM		No-Build PM		Build AM		Build PM	
			LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
1	Lovell Rd & Murdock Dr	NB	A	0.4	A	1	A	0.5	A	1.3	A	8.6	B	17.7
		SB	A	3.9	A	7.8	A	4.4	A	9	A	4.6	A	9.5
		WB	D	54.1	D	53	D	53.7	D	53.3	D	53.6	D	53.4
		Intersection	A	6.7	B	12.6	A	7	B	13.2	B	10.5	C	21.2
2	Lovell Rd & Outlet Dr/Site Driveway A	NB	A	7.8	A	6.8	A	8.7	A	7.9	B	13.1	C	22
		SB	A	2.8	A	3.2	A	3.8	A	4.9	B	19.9	C	27.9
		EB	D	54	E	60.9	D	54.6	E	61.6	E	66.6	E	64.5
		WB	-	-	-	-	-	-	-	-	E	69.9	E	71.5
		Intersection	B	12.3	B	11.2	B	13.3	B	12.6	C	23.6	C	28.4
3	Lovell Rd & Commercial Driveway/Lexington Dr	NB	C	33.1	C	29.8	E	57	D	42.1	E	62	D	52.5
		SB	B	18.1	B	18.9	C	21.9	C	22.4	C	24.1	C	22.7
		EB	E	58.1	E	61.6	E	55.5	E	61.6	E	55.5	E	61.6
		WB	D	54	D	50.8	D	54.9	D	50.6	D	54.9	D	50.6
		Intersection	C	29.1	C	28.2	D	42.8	D	35.5	D	45.9	D	40.6
4	Lovell Rd & Site Driveway B	WB	-	-	-	-	-	-	-	-	B	13.87	C	18.37

Table 11: Queue Summary

#	Name	Movement	Existing AM		Existing PM		No-Build AM		No-Build PM		Build AM		Build PM	
			Queue	Storage	Queue	Storage	Queue	Storage	Queue	Storage	Queue	Storage	Queue	Storage
1	Lovell Rd & Murdock Dr	WBL	131	-	288	-	141	-	308	-	142	-	313	-
		NBT	158	-	234	-	181	-	304	-	247	-	632	-
		NBR	13	200	m39	200	13	200	m67	200	39	200	104	200
		SBL	34	-	29	-	38	-	32	-	38	-	33	-
		SBT	204	-	287	-	240	-	337	-	241	-	346	-
2	Lovell Rd & Outlet Dr/Site Driveway A	EBL	321	-	#312	-	350	-	#356	-	401	-	311	-
		EBT	-	-	-	-	-	-	-	-	0	-	0	-
		EBR	109	-	129	-	120	-	144	-	-	-	-	-
		WBL	-	-	-	-	-	-	-	-	104	-	71	-
		WBT	-	-	-	-	-	-	-	-	0	-	0	-
		NBL	m46	-	m233	-	m60	-	m231	-	120	-	#342	-
		NBT	35	-	28	-	m33	-	57	-	472	-	700	-
		NBR	-	-	-	-	-	-	-	-	1	50	26	50
		SBL	-	-	-	-	-	-	-	-	9	75	19	75
		SBT	456	-	#882	-	#557	-	#1002	-	#885	-	#1266	-
3	Lovell Rd & Commercial Driveway/Lexington Dr	EBT	56	-	0	-	60	-	0	-	60	-	0	-
		WBL	195	-	258	-	209	-	275	-	209	-	275	-
		WBT	154	-	127	-	166	-	143	-	166	-	143	-
		NBL	22	65	15	65	24	65	16	65	24	65	16	65
		NBT	#921	-	#999	-	#1037	-	#1149	-	#1062	-	#1225	-
		SBL	m71	280	m22	280	m70	280	m22	280	78	280	36	280
		SBT	347	-	360	-	377	-	m369	-	#695	-	#804	-
4	Lovell Rd & Site Driveway B	WB	-	-	-	-	-	-	-	0	-	0	-	



LEGEND

(X)	Signalized Intersection ID		Existing Traffic Signal	→	Existing Lane Configuration
(X)	Unsignalized Intersection ID		Existing Stop Sign	→	Build Lane Configuration
			Proposed Stop Sign		

8.0 MULTIMODAL AND SAFETY REVIEW

8.1 TRANSIT STOPS

There are no transit facilities located within the study network.

8.2 BICYCLE AND PEDESTRIAN FACILITIES

There are approximately 6' sidewalks with no planting strip along the east and west sides of Segment A and Segment B. There are no bicycle lanes or bicycle facilities present within the study network. Pedestrian facilities are provided at each intersection within the network.

8.3 SAFETY REVIEW

Crash data for the study network was collected based on methodology outlined in Section 3.7. Five years of crash data was collected from January 1, 2021 to December 31, 2025. The crash data is provided in Appendix H.

Table 12 provides the crash rate for each intersection and segment compared to the TDOT crash rates for their respective configuration. Intersection 1 and Intersection 3 are slightly above the TDOT state crash rate.

Of the 176 crashes in the 5-year history, there was 1 fatal crash and 3 serious injury crashes reported. According to the crash report, the fatal injury occurred due to distracted driving, and the driver fled the scene after the crash occurred.

Based on a review of the crashes, the primary crash types are rear end and angle crashes. A brief overview of the narratives for these crash types indicate a pattern of following improperly and running red lights.

The following safety mitigations should be considered to reduce crashes within the study network.

- Consider the installation of retroreflective backplates at signalized intersections.
- Evaluate clearance intervals.

Table 12: Crash Rates

#	Reference Name	Crash Type					Manner of Collision						Total	Rates	
		Fatal	Serious Injury	Possible Injury	Minor Injury	PDO	Angle	No Vehicle Collision	Rear End	Sideswipe	Head On	Other		Crash Rate	TDOT Crash Rate
Intersections															
1	Lovell Rd at Murdock Dr	0	0	2	2	34	7	2	21	2	2	4	38	0.651	0.620
2	Lovell Rd at Outlet Dr	1	1	2	3	27	9	3	13	6	2	1	34	0.538	0.620
3	Lovell Rd at Lexington Dr	0	1	2	5	47	23	3	20	5	0	4	55	0.874	0.620
Segments															
A	From Murdock Dr to Outlet Dr	0	1	1	2	21	9	1	10	2	1	2	25	2.773	3.192
B	From Outlet Dr to Lexington Dr	0	0	1	3	20	8	2	6	5	1	2	24	3.037	3.192

9.0 RECOMMENDATIONS

9.1 DEVELOPMENT IMPROVEMENT RECOMMENDATIONS

The following improvements are recommended to serve the traffic associated with the *608 Lovell Road* development.

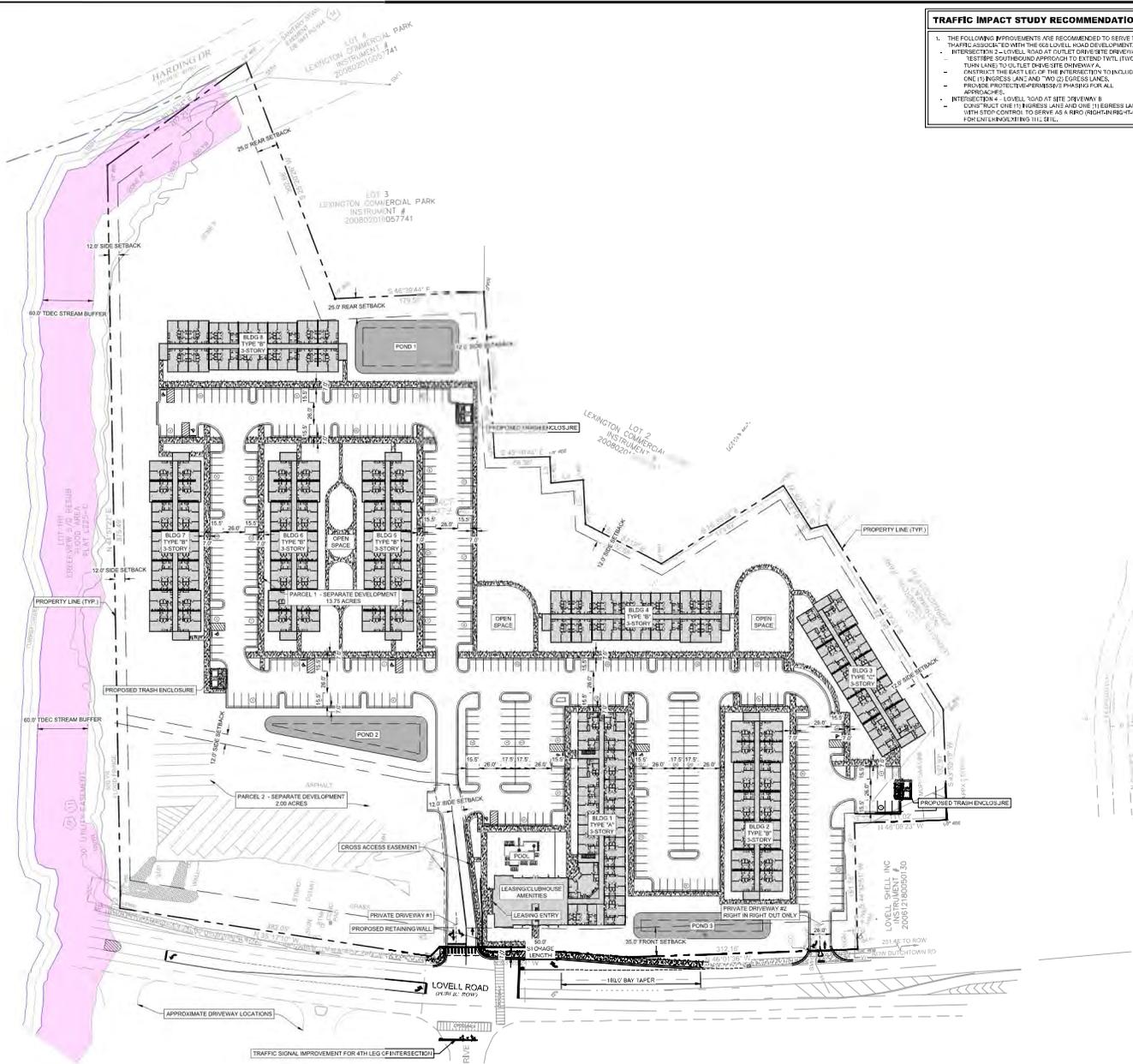
- Intersection 2 – Lovell Road at Outlet Drive/Site Driveway A
 - Restripe southbound approach to include an exclusive left-turn lane with a storage lane of 75 feet and a 165-foot taper, which may require pavement overlay to remove existing pavement markings.
 - Construct the east leg of the intersection to include one (1) ingress lane and two (2) egress lanes.
 - Provide protective-permissive phasing for all approaches.
 - Construct an exclusive northbound right-turn lane with a storage lane of 50 feet and a 160-foot taper.

- Intersection 4 – Lovell Road at Site Driveway B
 - Construct one (1) ingress lane and one (1) egress lane with stop control to serve as a RIRO (right-in/right-out) for entering/exiting the site.

Site Plan



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- TRAFFIC IMPACT STUDY RECOMMENDATIONS**
- THE FOLLOWING IMPROVEMENTS ARE RECOMMENDED TO SERVE THE TRAFFIC ASSOCIATED WITH THE 608 LOVELL ROAD DEVELOPMENT:
 - INTERSECTION 2 - LOVELL ROAD AT OUTLET DRIVE SITE DRIVEWAY A
 - RESTRICT THE EAST LEG OF THE INTERSECTION TO INCLUDE TURN LANE TO OUTLET DRIVE SITE DRIVEWAY A.
 - RESTRICT THE EAST LEG OF THE INTERSECTION TO INCLUDE ONE (1) INGRESS LANE AND TWO (2) EGRESS LANES.
 - PROVIDE PROTECTIVE PAVEMENT BARRIERS FOR ALL APPROACHES.
 - INTERSECTION 4 - LOVELL ROAD AT SITE DRIVEWAY B
 - CONSTRUCT ONE (1) INGRESS LANE AND ONE (1) EGRESS LANE WITH STOP CONTROL TO SERVE AS A BAY (RIGHT-OF-WAY) FOR LANE LENGTHS 111.0 FT.

SITE DATA TABLE

SITE ADDRESS	608 LOVELL RD	KNOXVILLE, TENNESSEE
TAX MAP #	MAP 131 PARCEL 6624	
OVERALL A-REA	UNSERVED	UNSERVED
TOTAL PARCEL AREA	16.72 AC	16.72 AC
DEVELOPMENT AREA #1 (SUBJECT LOT)	N/A	13.73 AC
BUILDING FOOTPRINTS	REQUIRED	PROVIDED
FRONT WIDTH	35 FT	35 FT
REAR EIGHTH	35 FT	35 FT
SIDE EAST	12 FT	12 FT
SIDE WEST	12 FT	12 FT
BUILDING DATA		
SIGNALS	3 STREET (MAX)	3 STREET
MAX. ALLOWED BUILDING HEIGHT	N/A	42' 0"
OPEN SPACE & RECREATION AREAS	598 SQR. 1.28 ACRES	155 SQR. 3.21 ACRES
MAX. BUILDING COVERAGE PERCENTAGE	30% (MAX)	20%
UNIT DENSITY		21 UNITS / ACRE
TOTAL UNITS		324 UNITS
ONE BEDROOM UNITS		144 UNITS
TWO BEDROOM UNITS		156 UNITS
THREE BEDROOM UNITS		24 UNITS
PARKING		
STANDARD SPACES	414 SPACES	414 SPACES
ACCESSIBLE (H/V/L VEH ACCESSIBLE)	9 (2 VAN)	9 (2 VAN)
TOTAL VEHICULAR PARKING	423 SPACES	423 SPACES

KNOXVILLE PERMITTING REFERENCE

BUILDING PERMIT:	TBD
GRADING PERMIT:	TBD
WATER PERMIT:	TBD
SEWER PERMIT:	TBD

HATCH LEGEND

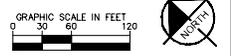
	LIGHT DUTY CONCRETE
	EXISTING CONCRETE
	BIORETENTION AREA

* REFERENCE C-400 FOR TYPICAL PAVEMENT SECTIONS

STREAM BUFFERS LEGEND

	TEDEC 60' STREAM BUFFER
	500 YEAR FLOOD FRINGE

COORDINATES ARE NAD83.
 ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.



Kimley-Horn
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608 LOVELL ROAD APARTMENTS
 KNOXVILLE, TENNESSEE

DRAFT PRELIMINARY PLANS
 FOR REVIEW ONLY

DATE:	11/15/2024
DESIGNER:	RNS
DRAWN BY:	RDS
CHECKED BY:	JRP
DATE:	10/09/2024
KIMLEY-HORN PROJECT NO.:	1515941

DESIGNER: RNS
 DRAWN BY: RDS
 CHECKED BY: JRP
 DATE: 10/09/2024
 KIMLEY-HORN PROJECT NO.: 1515941

SITE LAYOUT - OVERALL
 SHEET NUMBER
C2-00

Traffic Counts



Peak Hour Turning Movement Count

Knoxville, TN



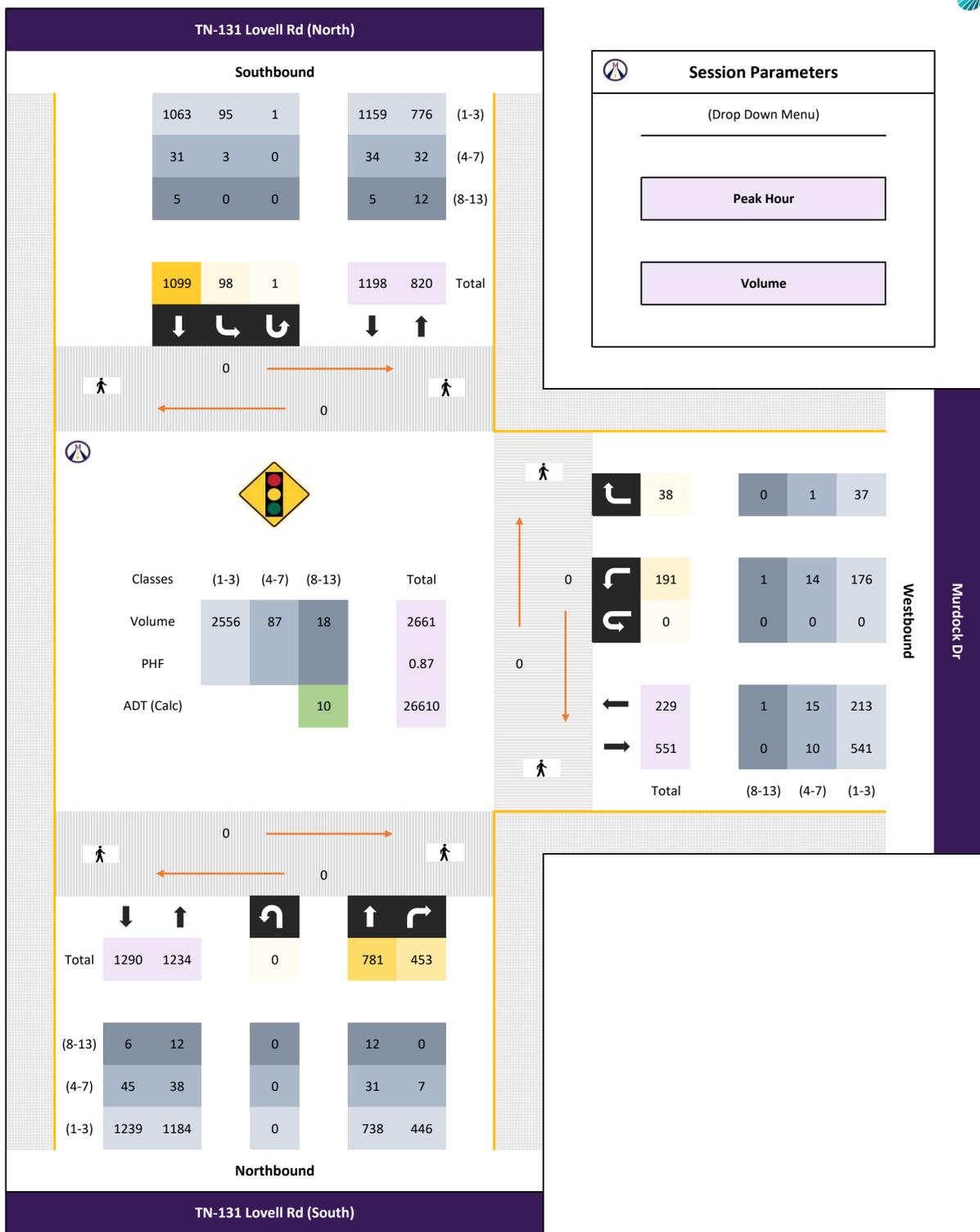
[Click here for Map](#)

Tuesday, February 10, 2026		
	Cloudy	56°F
Period	0700 - 0900	APPLY
Peak Hour	0730 - 0830	APPLY
Global PH	0730 - 0830	APPLY

* the Peak Hour Diagram does not include bicycles

Session Parameters

(Drop Down Menu)



All vehicles

Time	Northbound						Southbound						Westbound						Int Total				
	TN-131 Lovell Rd (South)						TN-131 Lovell Rd (North)						Murdock Dr										
	Thru 1.1	Right 1.2		U-Turn 1.3	App Total	Left 1.4	Thru 1.5			U-Turn 1.6	App Total				App Total	Left 1.7		Right 1.8			U-Turn 1.9	App Total	
0730 - 0745	-	206	111	-	0	317	16	252	-	-	1	269	-	-	-	-	38	-	10	-	0	48	634
0745 - 0800	-	212	126	-	0	338	42	325	-	-	0	367	-	-	-	-	51	-	10	-	0	61	766
0800 - 0815	-	190	116	-	0	306	25	276	-	-	0	301	-	-	-	-	52	-	7	-	0	59	666
0815 - 0830	-	173	100	-	0	273	15	246	-	-	0	261	-	-	-	-	50	-	11	-	0	61	595
Total	0	781	453	0	0	1234	98	1099	0	0	1	1198	0	0	0	0	191	0	38	0	0	229	2661
Approach %	0.00	63.29	36.71	0.00	0.00	-	8.18	91.74	0.00	0.00	0.08	-	0.00	0.00	0.00	0.00	83.41	0.00	16.59	0.00	0.00	-	-
PHF	0.00	0.92	0.90	0.00	0.00	0.91	0.58	0.85	0.00	0.00	0.25	0.82	0.00	0.00	0.00	0.00	0.92	0.00	0.86	0.00	0.00	0.94	0.87

Bicycles

Time	Northbound						Southbound						Westbound						Int Total				
	TN-131 Lovell Rd (South)						TN-131 Lovell Rd (North)						Murdock Dr										
	Thru 1.1	Right 1.2		U-Turn 1.3	App Total	Left 1.4	Thru 1.5			U-Turn 1.6	App Total				App Total	Left 1.7		Right 1.8			U-Turn 1.9	App Total	
0730 - 0745	-	0	0	-	0	0	0	0	-	-	0	0	-	-	-	-	0	-	0	-	0	0	0
0745 - 0800	-	0	0	-	0	0	0	0	-	-	0	0	-	-	-	-	0	-	0	-	0	0	0
0800 - 0815	-	0	0	-	0	0	0	0	-	-	0	0	-	-	-	-	0	-	0	-	0	0	0
0815 - 0830	-	0	0	-	0	0	0	0	-	-	0	0	-	-	-	-	0	-	0	-	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Passenger Vehicles (1-3)

Time	Northbound						Southbound						Westbound						Int Total				
	TN-131 Lovell Rd (South)						TN-131 Lovell Rd (North)						Murdock Dr										
	Thru 1.1	Right 1.2		U-Turn 1.3	App Total	Left 1.4	Thru 1.5			U-Turn 1.6	App Total				App Total	Left 1.7		Right 1.8			U-Turn 1.9	App Total	
0730 - 0745	-	202	109	-	0	311	15	247	-	-	1	263	-	-	-	-	35	-	10	-	0	45	619
0745 - 0800	-	202	126	-	0	328	41	314	-	-	0	355	-	-	-	-	49	-	10	-	0	59	742
0800 - 0815	-	175	114	-	0	289	24	263	-	-	0	287	-	-	-	-	48	-	7	-	0	55	631
0815 - 0830	-	159	97	-	0	256	15	239	-	-	0	254	-	-	-	-	44	-	10	-	0	54	564
Total	0	738	446	0	0	1184	95	1063	0	0	1	1159	0	0	0	0	176	0	37	0	0	213	2556
Approach %	0.00	62.33	37.67	0.00	0.00	-	8.20	91.72	0.00	0.00	0.09	-	0.00	0.00	0.00	0.00	82.63	0.00	17.37	0.00	0.00	-	-
PHF	0.00	0.91	0.88	0.00	0.00	0.90	0.58	0.85	0.00	0.00	0.25	0.82	0.00	0.00	0.00	0.00	0.90	0.00	0.93	0.00	0.00	0.90	0.86

Single Unit Trucks (4-7)

Time	Northbound						Southbound						Westbound						Int Total				
	TN-131 Lovell Rd (South)						TN-131 Lovell Rd (North)						Murdock Dr										
	Thru 1.1	Right 1.2		U-Turn 1.3	App Total	Left 1.4	Thru 1.5			U-Turn 1.6	App Total				App Total	Left 1.7		Right 1.8			U-Turn 1.9	App Total	
0730 - 0745	-	2	2	-	0	4	1	4	-	-	0	5	-	-	-	-	3	-	0	-	0	3	12
0745 - 0800	-	9	0	-	0	9	1	11	-	-	0	12	-	-	-	-	2	-	0	-	0	2	23
0800 - 0815	-	11	2	-	0	13	1	10	-	-	0	11	-	-	-	-	4	-	0	-	0	4	28
0815 - 0830	-	9	3	-	0	12	0	6	-	-	0	6	-	-	-	-	5	-	1	-	0	6	24
Total	0	31	7	0	0	38	3	31	0	0	0	34	0	0	0	0	14	0	1	0	0	15	87
Approach %	0.00	81.58	18.42	0.00	0.00	-	8.82	91.18	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	93.33	0.00	6.67	0.00	0.00	-	-
PHF	0.00	0.70	0.58	0.00	0.00	0.73	0.75	0.70	0.00	0.00	0.00	0.71	0.00	0.00	0.00	0.00	0.70	0.00	0.25	0.00	0.00	0.63	0.78

Combination Trucks (8-13)

Time	Northbound						Southbound						Westbound						Int Total				
	TN-131 Lovell Rd (South)						TN-131 Lovell Rd (North)						Murdock Dr										
	Thru 1.1	Right 1.2		U-Turn 1.3	App Total	Left 1.4	Thru 1.5			U-Turn 1.6	App Total				App Total	Left 1.7		Right 1.8			U-Turn 1.9	App Total	
0730 - 0745	-	2	0	-	0	2	0	1	-	-	0	1	-	-	-	-	0	-	0	-	0	0	3
0745 - 0800	-	1	0	-	0	1	0	0	-	-	0	0	-	-	-	-	0	-	0	-	0	0	1
0800 - 0815	-	4	0	-	0	4	0	3	-	-	0	3	-	-	-	-	0	-	0	-	0	0	7
0815 - 0830	-	5	0	-	0	5	0	1	-	-	0	1	-	-	-	-	1	-	0	-	0	1	7
Total	0	12	0	0	0	12	0	5	0	0	0	5	0	0	0	0	1	0	0	0	0	1	18
Approach %	0.00	100.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	-	-
PHF	0.00	0.60	0.00	0.00	0.00	0.60	0.00	0.42	0.00	0.00	0.00	0.42	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.25	0.64

Peak Hour Turning Movement Count

Knoxville, TN



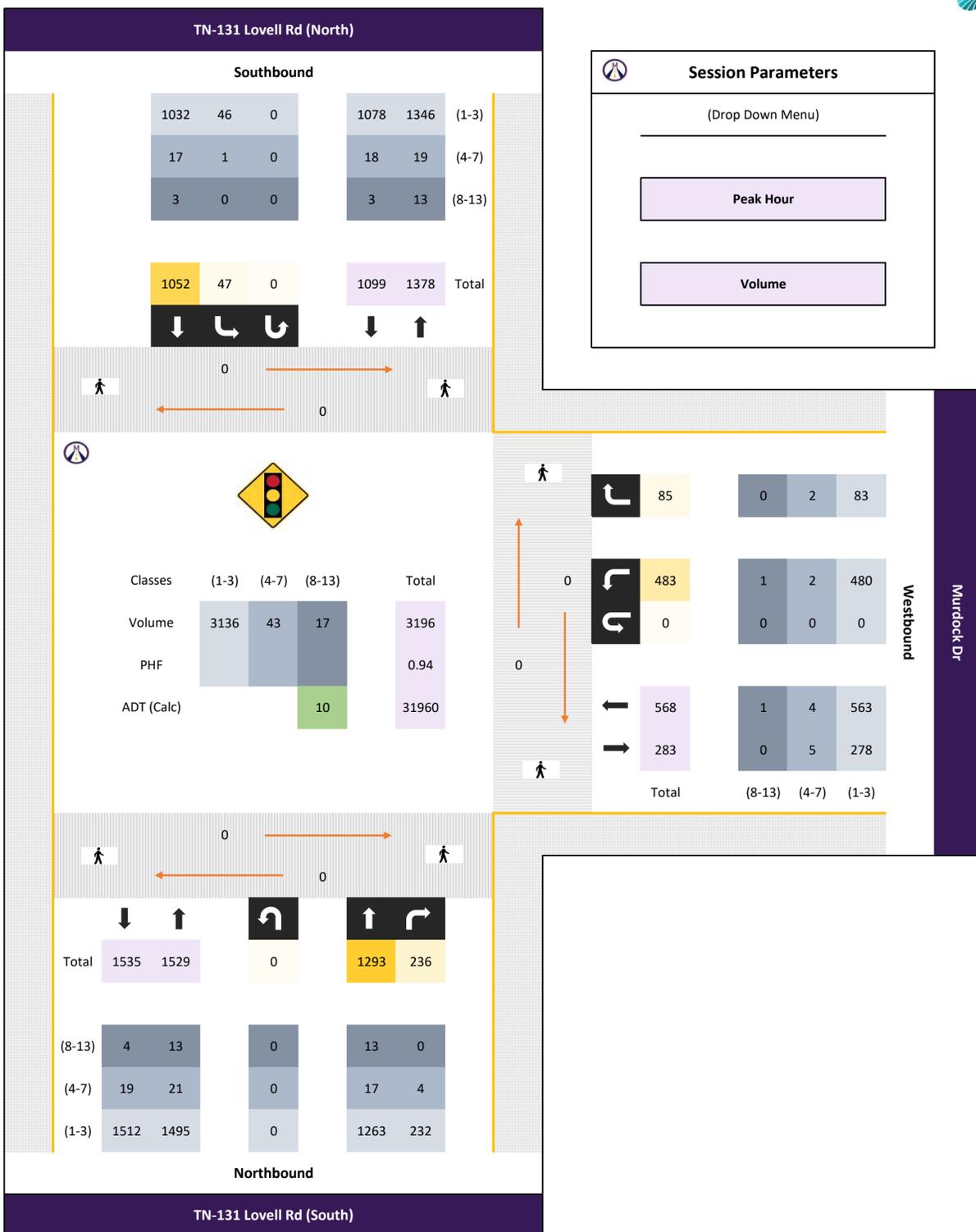
[Click here for Map](#)

Tuesday, February 10, 2026		
	Cloudy	56°F
Period	1600 - 1800	APPLY
Peak Hour	1645 - 1745	APPLY
Global PH	1630 - 1730	APPLY

* the Peak Hour Diagram does not include bicycles

Session Parameters

(Drop Down Menu)



All vehicles

Time	Northbound						Southbound						Westbound						Int Total					
	TN-131 Lovell Rd (South)						TN-131 Lovell Rd (North)						Murdock Dr											
	Thru 1.1	Right 1.2		U-Turn 1.3	App Total		Left 1.4	Thru 1.5			U-Turn 1.6	App Total					App Total	Left 1.7			Right 1.8		U-Turn 1.9	App Total
1645 - 1700	-	300	58	-	0	358	17	283	-	-	0	300	-	-	-	-	0	99	-	20	-	0	119	777
1700 - 1715	-	351	63	-	0	414	12	275	-	-	0	287	-	-	-	-	0	129	-	23	-	0	152	853
1715 - 1730	-	330	72	-	0	402	6	240	-	-	0	246	-	-	-	-	0	145	-	25	-	0	170	818
1730 - 1745	-	312	43	-	0	355	12	254	-	-	0	266	-	-	-	-	0	112	-	17	-	0	129	750
Total	0	1293	236	0	0	1529	47	1052	0	0	0	1099	0	0	0	0	0	485	0	85	0	0	570	3198
Approach %	0.00	84.57	15.43	0.00	0.00	-	4.28	95.72	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	85.09	0.00	14.91	0.00	0.00	-	-
PHF	0.00	0.92	0.82	0.00	0.00	0.92	0.69	0.93	0.00	0.00	0.00	0.92	0.00	0.00	0.00	0.00	0.00	0.84	0.00	0.85	0.00	0.00	0.84	0.94

Bicycles

Time	Northbound						Southbound						Westbound						Int Total					
	TN-131 Lovell Rd (South)						TN-131 Lovell Rd (North)						Murdock Dr											
	Thru 1.1	Right 1.2		U-Turn 1.3	App Total		Left 1.4	Thru 1.5			U-Turn 1.6	App Total					App Total	Left 1.7			Right 1.8		U-Turn 1.9	App Total
1645 - 1700	-	0	0	-	0	0	0	0	-	-	0	0	-	-	-	-	0	2	-	0	-	0	2	2
1700 - 1715	-	0	0	-	0	0	0	0	-	-	0	0	-	-	-	-	0	0	-	0	-	0	0	0
1715 - 1730	-	0	0	-	0	0	0	0	-	-	0	0	-	-	-	-	0	0	-	0	-	0	0	0
1730 - 1745	-	0	0	-	0	0	0	0	-	-	0	0	-	-	-	-	0	0	-	0	-	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2
Approach %	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	-	-
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.25	0.25

Passenger Vehicles (1-3)

Time	Northbound						Southbound						Westbound						Int Total					
	TN-131 Lovell Rd (South)						TN-131 Lovell Rd (North)						Murdock Dr											
	Thru 1.1	Right 1.2		U-Turn 1.3	App Total		Left 1.4	Thru 1.5			U-Turn 1.6	App Total					App Total	Left 1.7			Right 1.8		U-Turn 1.9	App Total
1645 - 1700	-	293	57	-	0	350	17	274	-	-	0	291	-	-	-	-	0	96	-	19	-	0	115	756
1700 - 1715	-	342	62	-	0	404	11	273	-	-	0	284	-	-	-	-	0	128	-	23	-	0	151	839
1715 - 1730	-	325	72	-	0	397	6	236	-	-	0	242	-	-	-	-	0	144	-	25	-	0	169	808
1730 - 1745	-	303	41	-	0	344	12	249	-	-	0	261	-	-	-	-	0	112	-	16	-	0	128	733
Total	0	1263	232	0	0	1495	46	1032	0	0	0	1078	0	0	0	0	0	480	0	83	0	0	563	3136
Approach %	0.00	84.48	15.52	0.00	0.00	-	4.27	95.73	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	85.26	0.00	14.74	0.00	0.00	-	-
PHF	0.00	0.92	0.81	0.00	0.00	0.93	0.68	0.94	0.00	0.00	0.00	0.93	0.00	0.00	0.00	0.00	0.00	0.83	0.00	0.83	0.00	0.00	0.83	0.93

Single Unit Trucks (4-7)

Time	Northbound						Southbound						Westbound						Int Total					
	TN-131 Lovell Rd (South)						TN-131 Lovell Rd (North)						Murdock Dr											
	Thru 1.1	Right 1.2		U-Turn 1.3	App Total		Left 1.4	Thru 1.5			U-Turn 1.6	App Total					App Total	Left 1.7			Right 1.8		U-Turn 1.9	App Total
1645 - 1700	-	5	1	-	0	6	0	8	-	-	0	8	-	-	-	-	0	1	-	1	-	0	2	16
1700 - 1715	-	3	1	-	0	4	1	2	-	-	0	3	-	-	-	-	0	1	-	0	-	0	1	8
1715 - 1730	-	3	0	-	0	3	0	3	-	-	0	3	-	-	-	-	0	0	-	0	-	0	0	6
1730 - 1745	-	6	2	-	0	8	0	4	-	-	0	4	-	-	-	-	0	0	-	1	-	0	1	13
Total	0	17	4	0	0	21	1	17	0	0	0	18	0	0	0	0	0	2	0	2	0	0	4	43
Approach %	0.00	80.95	19.05	0.00	0.00	-	5.56	94.44	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	50.00	0.00	50.00	0.00	0.00	-	-
PHF	0.00	0.71	0.50	0.00	0.00	0.66	0.25	0.53	0.00	0.00	0.00	0.56	0.00	0.00	0.00	0.00	0.00	0.50	0.00	0.50	0.00	0.00	0.50	0.67

Combination Trucks (8-13)

Time	Northbound						Southbound						Westbound						Int Total					
	TN-131 Lovell Rd (South)						TN-131 Lovell Rd (North)						Murdock Dr											
	Thru 1.1	Right 1.2		U-Turn 1.3	App Total		Left 1.4	Thru 1.5			U-Turn 1.6	App Total					App Total	Left 1.7			Right 1.8		U-Turn 1.9	App Total
1645 - 1700	-	2	0	-	0	2	0	1	-	-	0	1	-	-	-	-	0	0	-	0	-	0	0	3
1700 - 1715	-	6	0	-	0	6	0	0	-	-	0	0	-	-	-	-	0	0	-	0	-	0	0	6
1715 - 1730	-	2	0	-	0	2	0	1	-	-	0	1	-	-	-	-	0	1	-	0	-	0	1	4
1730 - 1745	-	3	0	-	0	3	0	1	-	-	0	1	-	-	-	-	0	0	-	0	-	0	0	4
Total	0	13	0	0	0	13	0	3	0	0	0	3	0	0	0	0	0	1	0	0	0	0	1	17
Approach %	0.00	100.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	-	-
PHF	0.00	0.54	0.00	0.00	0.00	0.54	0.00	0.75	0.00	0.00	0.00	0.75	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.25	0.71

Peak Hour Turning Movement Count

Knoxville, TN



[Click here for Map](#)

Tuesday, February 10, 2026		
	Cloudy	56°F
Period	0700 - 0900	APPLY
Peak Hour	0730 - 0830	APPLY
Global PH	0730 - 0830	APPLY

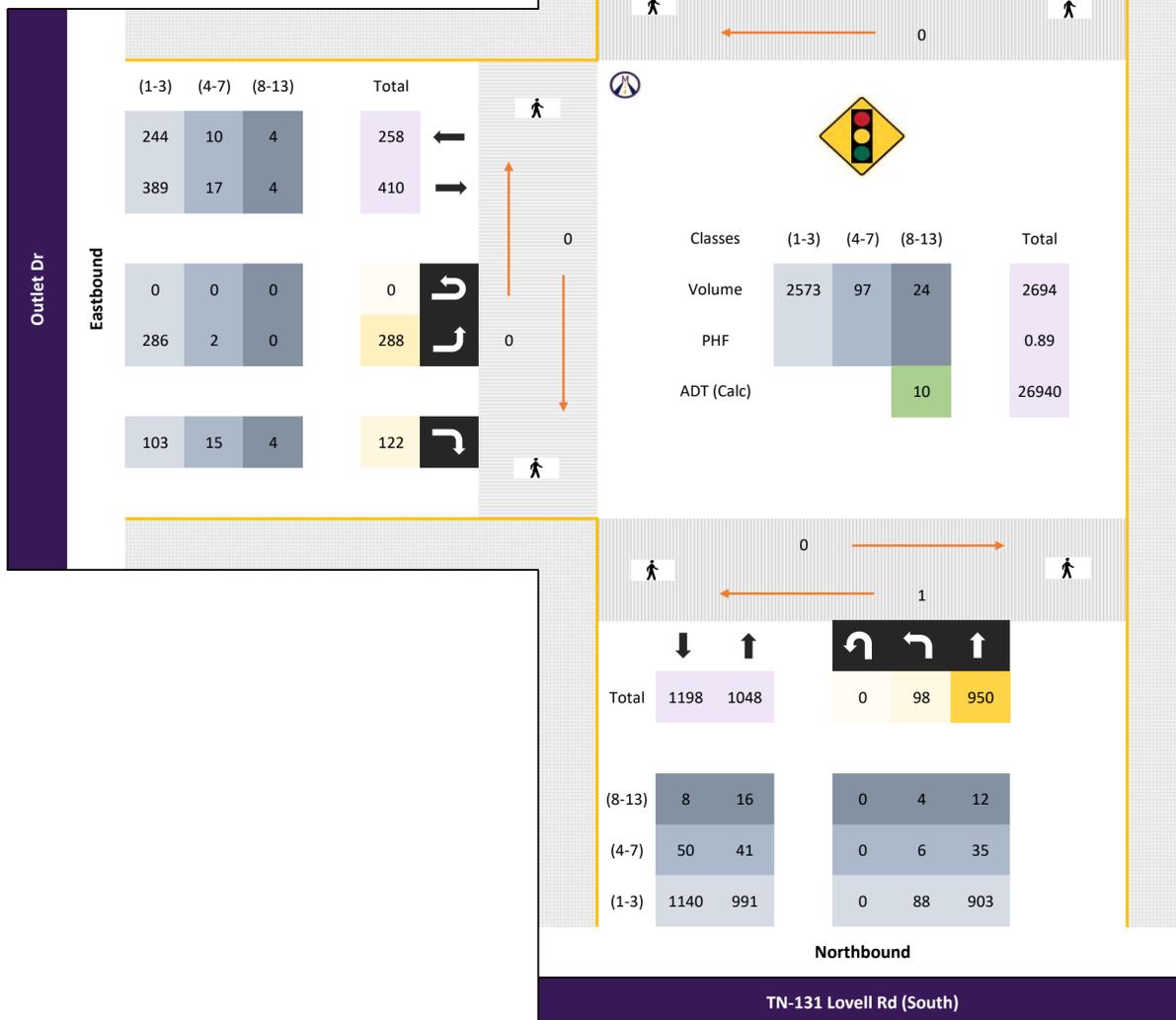
* the Peak Hour Diagram does not include bicycles

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



Peak Hour Turning Movement Count

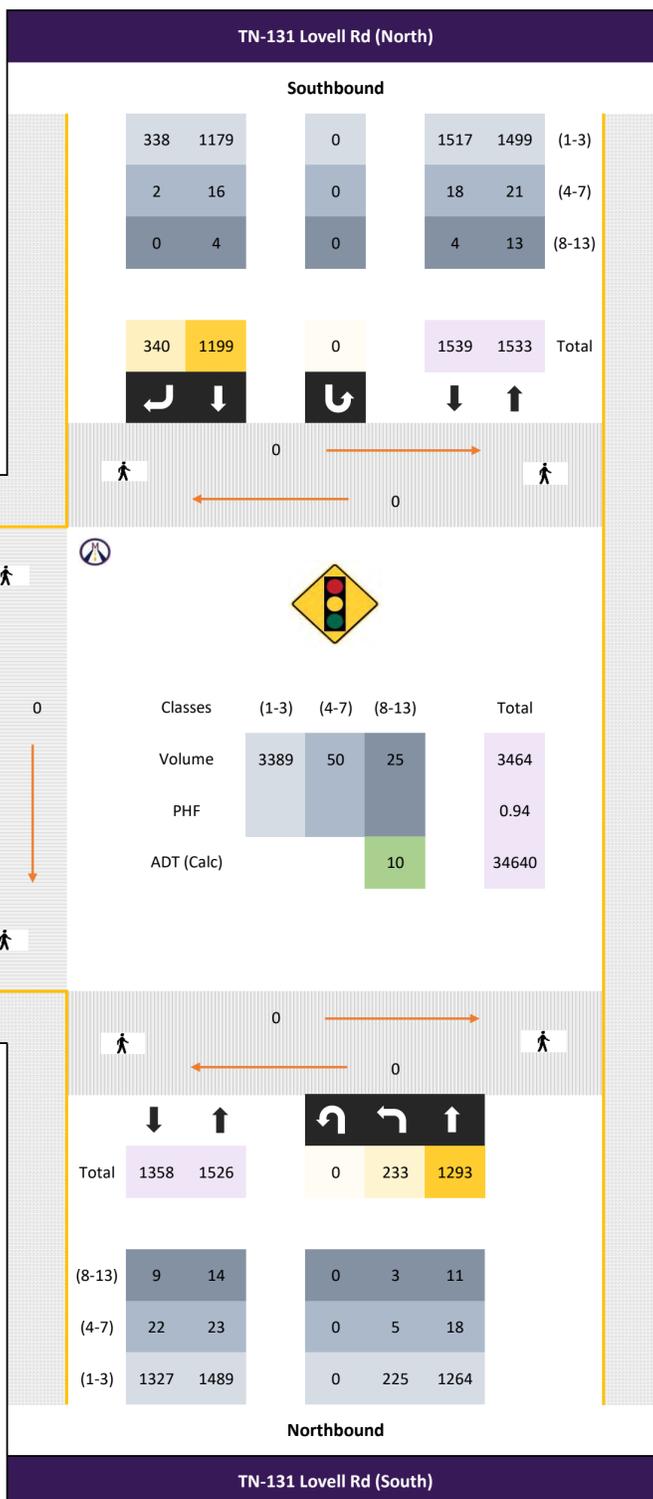
Knoxville, TN



[Click here for Map](#)

Tuesday, February 10, 2026		
	Cloudy	56°F
Period	1600 - 1800	APPLY
Peak Hour	1630 - 1730	APPLY
Global PH	1630 - 1730	APPLY

* the Peak Hour Diagram does not include bicycles



Session Parameters

(Drop Down Menu)

Peak Hour

Volume

Outlet Dr

Eastbound

Time	Volume	PHF	ADT (Calc)
(1-3)	563	0	0
(4-7)	383	0	0
(8-13)	235	0	0
Total	1181	0	0

Classes	(1-3)	(4-7)	(8-13)	Total
Volume	3389	50	25	3464
PHF				0.94
ADT (Calc)			10	34640

Peak Hour Turning Movement Count

Knoxville, TN



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Tuesday, February 10, 2026		
	Cloudy	56°F
Period	0700 - 0900	APPLY
Peak Hour	0730 - 0830	APPLY
Global PH	0730 - 0830	APPLY

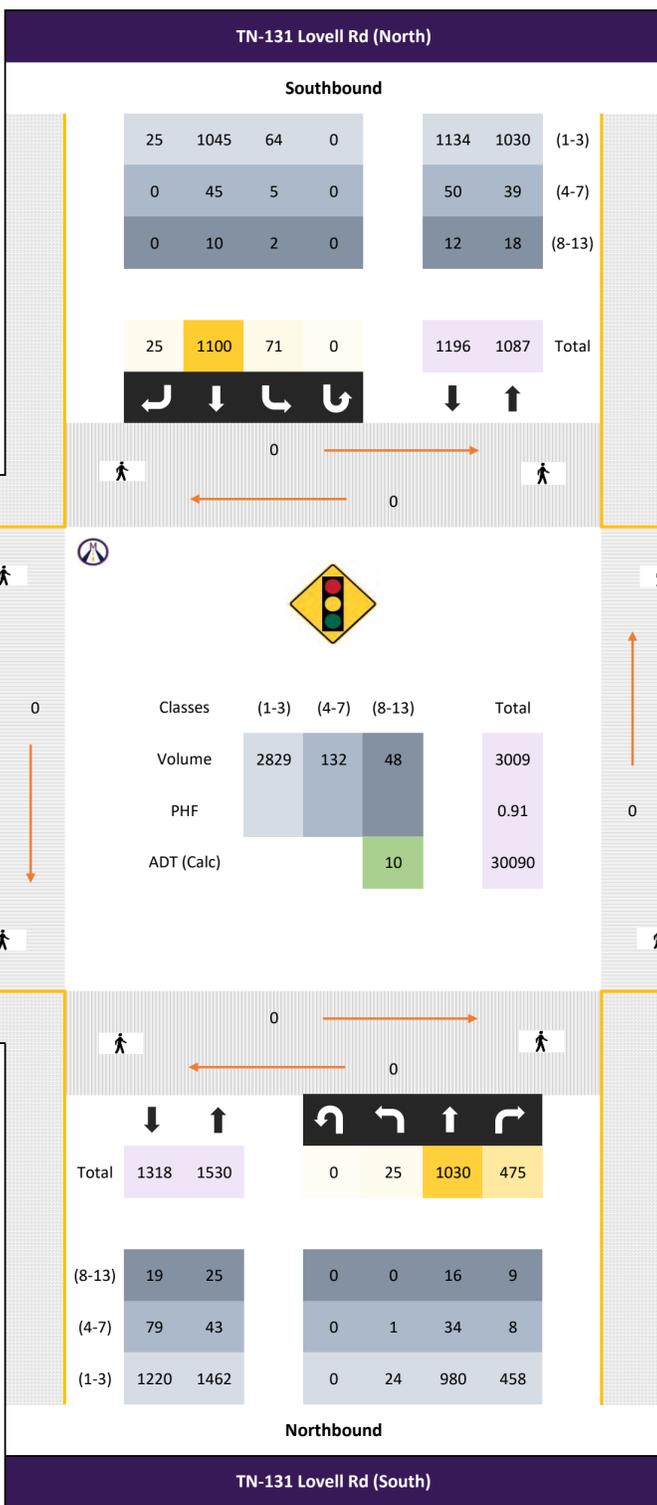
* the Peak Hour Diagram does not include bicycles

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



Classes	(1-3)	(4-7)	(8-13)	Total
Volume	2829	132	48	3009
PHF				0.91
ADT (Calc)			10	30090

Driveway

Lexington Dr

All vehicles

Time	Northbound						Southbound						Eastbound						Westbound						Int Total
	TN-131 Lovell Rd (South)						TN-131 Lovell Rd (North)						Driveway						Lexington Dr						
	Left 3.1	Thru 3.2	Right 3.3		U-Turn 3.4	App Total	Left 3.5	Thru 3.6	Right 3.7		U-Turn 3.8	App Total	Left 3.9	Thru 3.10	Right 3.11		U-Turn 3.12	App Total	Left 3.13	Thru 3.14	Right 3.15		U-Turn 3.16	App Total	
0730 - 0745	4	278	109	-	0	391	15	236	4	-	0	255	6	2	4	-	0	12	42	1	3	-	0	46	704
0745 - 0800	2	274	121	-	0	397	28	313	3	-	0	344	4	1	1	-	0	6	62	0	14	-	0	76	823
0800 - 0815	10	235	119	-	0	364	20	296	10	-	0	326	4	1	2	-	0	7	55	2	12	-	0	69	766
0815 - 0830	9	243	126	-	0	378	8	255	8	-	0	271	7	1	3	-	0	11	49	0	7	-	0	56	716
Total	25	1030	475	0	0	1530	71	1100	25	0	0	1196	21	5	10	0	0	36	208	3	36	0	0	247	3009
Approach %	1.63	67.32	31.05	0.00	0.00	-	5.94	91.97	2.09	0.00	0.00	-	58.33	13.89	27.78	0.00	0.00	-	84.21	1.21	14.57	0.00	0.00	-	-
PHF	0.63	0.93	0.94	0.00	0.00	0.96	0.63	0.88	0.63	0.00	0.00	0.87	0.75	0.63	0.63	0.00	0.00	0.75	0.84	0.38	0.64	0.00	0.00	0.81	0.91

Bicycles

Time	Northbound						Southbound						Eastbound						Westbound						Int Total
	TN-131 Lovell Rd (South)						TN-131 Lovell Rd (North)						Driveway						Lexington Dr						
	Left 3.1	Thru 3.2	Right 3.3		U-Turn 3.4	App Total	Left 3.5	Thru 3.6	Right 3.7		U-Turn 3.8	App Total	Left 3.9	Thru 3.10	Right 3.11		U-Turn 3.12	App Total	Left 3.13	Thru 3.14	Right 3.15		U-Turn 3.16	App Total	
0730 - 0745	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
0745 - 0800	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
0800 - 0815	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
0815 - 0830	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	-
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Passenger Vehicles (1-3)

Time	Northbound						Southbound						Eastbound						Westbound						Int Total
	TN-131 Lovell Rd (South)						TN-131 Lovell Rd (North)						Driveway						Lexington Dr						
	Left 3.1	Thru 3.2	Right 3.3		U-Turn 3.4	App Total	Left 3.5	Thru 3.6	Right 3.7		U-Turn 3.8	App Total	Left 3.9	Thru 3.10	Right 3.11		U-Turn 3.12	App Total	Left 3.13	Thru 3.14	Right 3.15		U-Turn 3.16	App Total	
0730 - 0745	4	272	107	-	0	383	12	228	4	-	0	244	6	2	4	-	0	12	30	1	3	-	0	34	673
0745 - 0800	2	266	117	-	0	385	26	299	3	-	0	328	4	1	1	-	0	6	50	0	9	-	0	59	778
0800 - 0815	10	222	114	-	0	346	18	278	10	-	0	306	4	1	2	-	0	7	47	2	11	-	0	60	719
0815 - 0830	8	220	120	-	0	348	8	240	8	-	0	256	7	1	3	-	0	11	38	0	6	-	0	44	659
Total	24	980	458	0	0	1462	64	1045	25	0	0	1134	21	5	10	0	0	36	165	3	29	0	0	197	2829
Approach %	1.64	67.03	31.33	0.00	0.00	-	5.64	92.15	2.20	0.00	0.00	-	58.33	13.89	27.78	0.00	0.00	-	83.76	1.52	14.72	0.00	0.00	-	-
PHF	0.60	0.90	0.95	0.00	0.00	0.95	0.62	0.87	0.63	0.00	0.00	0.86	0.75	0.63	0.63	0.00	0.00	0.75	0.83	0.38	0.66	0.00	0.00	0.82	0.91

Single Unit Trucks (4-7)

Time	Northbound						Southbound						Eastbound						Westbound						Int Total
	TN-131 Lovell Rd (South)						TN-131 Lovell Rd (North)						Driveway						Lexington Dr						
	Left 3.1	Thru 3.2	Right 3.3		U-Turn 3.4	App Total	Left 3.5	Thru 3.6	Right 3.7		U-Turn 3.8	App Total	Left 3.9	Thru 3.10	Right 3.11		U-Turn 3.12	App Total	Left 3.13	Thru 3.14	Right 3.15		U-Turn 3.16	App Total	
0730 - 0745	0	4	1	-	0	5	2	6	0	-	0	8	0	0	0	-	0	0	10	0	0	-	0	10	23
0745 - 0800	0	6	1	-	0	7	2	12	0	-	0	14	0	0	0	-	0	0	9	0	3	-	0	12	33
0800 - 0815	0	9	2	-	0	11	1	15	0	-	0	16	0	0	0	-	0	0	8	0	1	-	0	9	36
0815 - 0830	1	15	4	-	0	20	0	12	0	-	0	12	0	0	0	-	0	0	7	0	1	-	0	8	40
Total	1	34	8	0	0	43	5	45	0	0	0	50	0	0	0	0	0	0	34	0	5	0	0	39	132
Approach %	2.33	79.07	18.60	0.00	0.00	-	10.00	90.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	87.18	0.00	12.82	0.00	0.00	-	-
PHF	0.25	0.57	0.50	0.00	0.00	0.54	0.63	0.75	0.00	0.00	0.00	0.78	0.00	0.00	0.00	0.00	0.00	0.00	0.85	0.00	0.42	0.00	0.00	0.81	0.83

Combination Trucks (8-13)

Time	Northbound						Southbound						Eastbound						Westbound						Int Total
	TN-131 Lovell Rd (South)						TN-131 Lovell Rd (North)						Driveway						Lexington Dr						
	Left 3.1	Thru 3.2	Right 3.3		U-Turn 3.4	App Total	Left 3.5	Thru 3.6	Right 3.7		U-Turn 3.8	App Total	Left 3.9	Thru 3.10	Right 3.11		U-Turn 3.12	App Total	Left 3.13	Thru 3.14	Right 3.15		U-Turn 3.16	App Total	
0730 - 0745	0	2	1	-	0	3	1	2	0	-	0	3	0	0	0	-	0	0	2	0	0	-	0	2	8
0745 - 0800	0	2	3	-	0	5	0	2	0	-	0	2	0	0	0	-	0	0	3	0	2	-	0	5	12
0800 - 0815	0	4	3	-	0	7	1	3	0	-	0	4	0	0	0	-	0	0	0	0	0	-	0	0	11
0815 - 0830	0	8	2	-	0	10	0	3	0	-	0	3	0	0	0	-	0	0	4	0	0	-	0	4	17
Total	0	16	9	0	0	25	2	10	0	0	0	12	0	0	0	0	0	0	9	0	2	0	0	11	48
Approach %	0.00	64.00	36.00	0.00	0.00	-	16.67	83.33	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	81.82	0.00	18.18	0.00	0.00	-	-
PHF	0.00	0.50	0.75	0.00	0.00	0.63	0.50	0.83	0.00	0.00	0.00	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.56	0.00	0.25	0.00	0.00	0.55	0.71

Peak Hour Turning Movement Count

Knoxville, TN



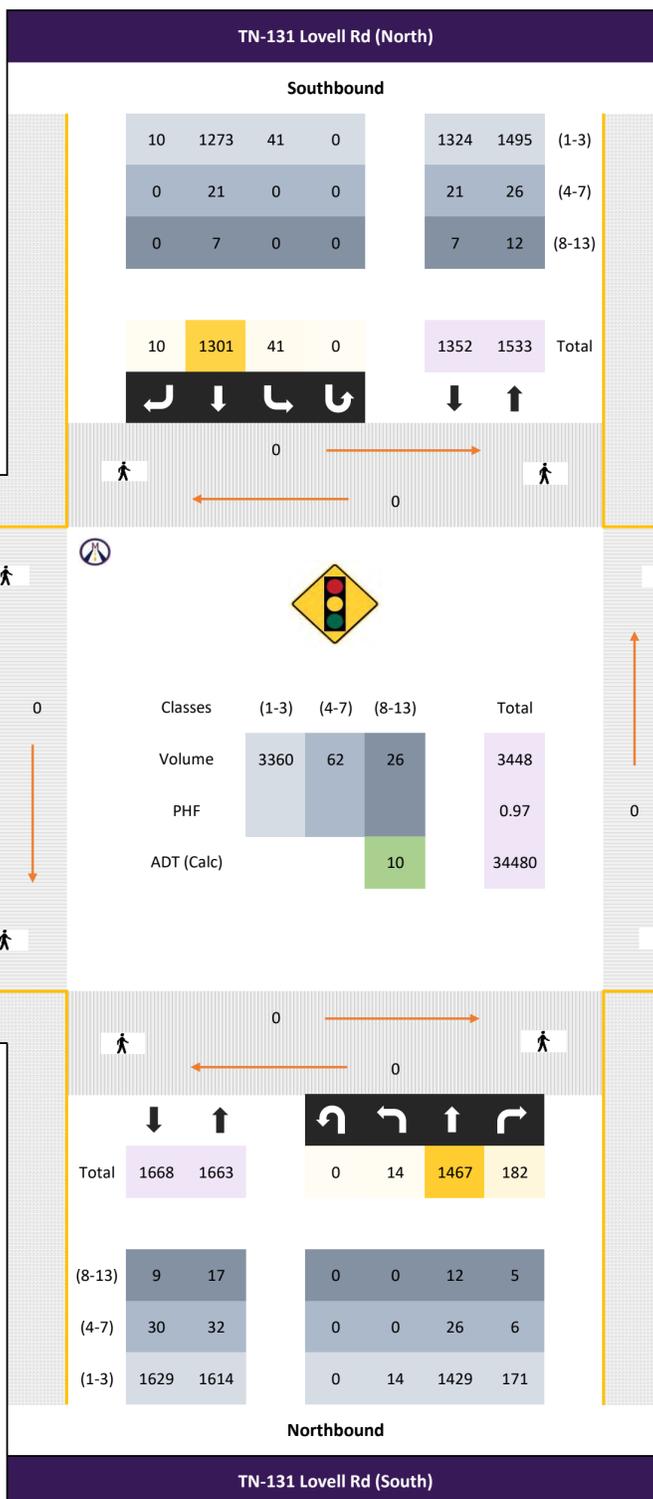
[Click here for Map](#)

Tuesday, February 10, 2026		
	Cloudy	56°F
Period	1600 - 1800	APPLY
Peak Hour	1630 - 1730	APPLY
Global PH	1630 - 1730	APPLY

* the Peak Hour Diagram does not include bicycles

Session Parameters

(Drop Down Menu)



	(1-3)	(4-7)	(8-13)	Total
Eastbound	24	0	0	24
	9	0	0	9
	0	0	0	0
	4	0	0	4
	0	0	0	0
	5	0	0	5

Classes	(1-3)	(4-7)	(8-13)	Total
Volume	3360	62	26	3448
PHF				0.97
ADT (Calc)			10	34480

	(1-3)	(4-7)	(8-13)	Total
Westbound	62	0	0	62
	0	0	0	0
	2	9	351	362
	0	0	0	0
	424	2	9	435
	223	5	6	234

	(1-3)	(4-7)	(8-13)	Total
Total	1668	1663	1467	4800
	0	14	182	196
(8-13)	9	17	12	38
(4-7)	30	32	26	88
(1-3)	1629	1614	1429	4672

Driveway

Lexington Dr

Westbound

TN-131 Lovell Rd (South)

All vehicles

Time	Northbound						Southbound						Eastbound						Westbound						Int Total
	TN-131 Lovell Rd (South)						TN-131 Lovell Rd (North)						Driveway						Lexington Dr						
	Left 3.1	Thru 3.2	Right 3.3		U-Turn 3.4	App Total	Left 3.5	Thru 3.6	Right 3.7		U-Turn 3.8	App Total	Left 3.9	Thru 3.10	Right 3.11		U-Turn 3.12	App Total	Left 3.13	Thru 3.14	Right 3.15		U-Turn 3.16	App Total	
1630 - 1645	3	342	53	-	0	398	14	332	2	-	0	348	2	0	1	-	0	3	90	0	15	-	0	105	854
1645 - 1700	4	372	51	-	0	427	7	325	3	-	0	335	0	0	1	-	0	1	71	0	11	-	0	82	845
1700 - 1715	3	372	33	-	0	408	7	337	2	-	0	346	2	0	2	-	0	4	113	0	21	-	0	134	892
1715 - 1730	4	381	45	-	0	430	13	307	3	-	0	323	0	0	1	-	0	1	89	0	15	-	0	104	858
Total	14	1467	182	0	0	1663	41	1301	10	0	0	1352	4	0	5	0	0	9	363	0	62	0	0	425	3449
Approach %	0.84	88.21	10.94	0.00	0.00	-	3.03	96.23	0.74	0.00	0.00	-	44.44	0.00	55.56	0.00	0.00	-	85.41	0.00	14.59	0.00	0.00	-	-
PHF	0.88	0.96	0.86	0.00	0.00	0.97	0.73	0.97	0.83	0.00	0.00	0.97	0.50	0.00	0.63	0.00	0.00	0.56	0.80	0.00	0.74	0.00	0.00	0.79	0.97

Bicycles

Time	Northbound						Southbound						Eastbound						Westbound						Int Total
	TN-131 Lovell Rd (South)						TN-131 Lovell Rd (North)						Driveway						Lexington Dr						
	Left 3.1	Thru 3.2	Right 3.3		U-Turn 3.4	App Total	Left 3.5	Thru 3.6	Right 3.7		U-Turn 3.8	App Total	Left 3.9	Thru 3.10	Right 3.11		U-Turn 3.12	App Total	Left 3.13	Thru 3.14	Right 3.15		U-Turn 3.16	App Total	
1630 - 1645	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
1645 - 1700	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
1700 - 1715	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	1	0	0	-	0	1	1
1715 - 1730	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
Approach %	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	100.00	0.00	0.00	0.00	0.00	-	-
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.25	0.25

Passenger Vehicles (1-3)

Time	Northbound						Southbound						Eastbound						Westbound						Int Total
	TN-131 Lovell Rd (South)						TN-131 Lovell Rd (North)						Driveway						Lexington Dr						
	Left 3.1	Thru 3.2	Right 3.3		U-Turn 3.4	App Total	Left 3.5	Thru 3.6	Right 3.7		U-Turn 3.8	App Total	Left 3.9	Thru 3.10	Right 3.11		U-Turn 3.12	App Total	Left 3.13	Thru 3.14	Right 3.15		U-Turn 3.16	App Total	
1630 - 1645	3	331	48	-	0	382	14	327	2	-	0	343	2	0	1	-	0	3	87	0	15	-	0	102	830
1645 - 1700	4	363	50	-	0	417	7	312	3	-	0	322	0	0	1	-	0	1	67	0	11	-	0	78	818
1700 - 1715	3	362	32	-	0	397	7	332	2	-	0	341	2	0	2	-	0	4	111	0	21	-	0	132	874
1715 - 1730	4	373	41	-	0	418	13	302	3	-	0	318	0	0	1	-	0	1	86	0	15	-	0	101	838
Total	14	1429	171	0	0	1614	41	1273	10	0	0	1324	4	0	5	0	0	9	351	0	62	0	0	413	3360
Approach %	0.87	88.54	10.59	0.00	0.00	-	3.10	96.15	0.76	0.00	0.00	-	44.44	0.00	55.56	0.00	0.00	-	84.99	0.00	15.01	0.00	0.00	-	-
PHF	0.88	0.96	0.86	0.00	0.00	0.97	0.73	0.96	0.83	0.00	0.00	0.97	0.50	0.00	0.63	0.00	0.00	0.56	0.79	0.00	0.74	0.00	0.00	0.78	0.96

Single Unit Trucks (4-7)

Time	Northbound						Southbound						Eastbound						Westbound						Int Total
	TN-131 Lovell Rd (South)						TN-131 Lovell Rd (North)						Driveway						Lexington Dr						
	Left 3.1	Thru 3.2	Right 3.3		U-Turn 3.4	App Total	Left 3.5	Thru 3.6	Right 3.7		U-Turn 3.8	App Total	Left 3.9	Thru 3.10	Right 3.11		U-Turn 3.12	App Total	Left 3.13	Thru 3.14	Right 3.15		U-Turn 3.16	App Total	
1630 - 1645	0	9	4	-	0	13	0	4	0	-	0	4	0	0	0	-	0	0	3	0	0	-	0	3	20
1645 - 1700	0	7	0	-	0	7	0	10	0	-	0	10	0	0	0	-	0	0	2	0	0	-	0	2	19
1700 - 1715	0	4	1	-	0	5	0	3	0	-	0	3	0	0	0	-	0	0	1	0	0	-	0	1	9
1715 - 1730	0	6	1	-	0	7	0	4	0	-	0	4	0	0	0	-	0	0	3	0	0	-	0	3	14
Total	0	26	6	0	0	32	0	21	0	0	0	21	0	0	0	0	0	0	9	0	0	0	0	9	62
Approach %	0.00	81.25	18.75	0.00	0.00	-	0.00	100.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	100.00	0.00	0.00	0.00	0.00	-	-
PHF	0.00	0.72	0.38	0.00	0.00	0.62	0.00	0.53	0.00	0.00	0.00	0.53	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.00	0.00	0.75	0.78

Combination Trucks (8-13)

Time	Northbound						Southbound						Eastbound						Westbound						Int Total
	TN-131 Lovell Rd (South)						TN-131 Lovell Rd (North)						Driveway						Lexington Dr						
	Left 3.1	Thru 3.2	Right 3.3		U-Turn 3.4	App Total	Left 3.5	Thru 3.6	Right 3.7		U-Turn 3.8	App Total	Left 3.9	Thru 3.10	Right 3.11		U-Turn 3.12	App Total	Left 3.13	Thru 3.14	Right 3.15		U-Turn 3.16	App Total	
1630 - 1645	0	2	1	-	0	3	0	1	0	-	0	1	0	0	0	-	0	0	0	0	0	-	0	0	4
1645 - 1700	0	2	1	-	0	3	0	3	0	-	0	3	0	0	0	-	0	0	2	0	0	-	0	2	8
1700 - 1715	0	6	0	-	0	6	0	2	0	-	0	2	0	0	0	-	0	0	0	0	0	-	0	0	8
1715 - 1730	0	2	3	-	0	5	0	1	0	-	0	1	0	0	0	-	0	0	0	0	0	-	0	0	6
Total	0	12	5	0	0	17	0	7	0	0	0	7	0	0	0	0	0	0	2	0	0	0	0	2	26
Approach %	0.00	70.59	29.41	0.00	0.00	-	0.00	100.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	100.00	0.00	0.00	0.00	0.00	-	-
PHF	0.00	0.50	0.42	0.00	0.00	0.71	0.00	0.58	0.00	0.00	0.00	0.58	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.25	0.81

Bi-Directional Class Count || NB EB 60min



Knoxville, TN

Site 1
TN-131 Lovell Rd,
south of Outlet Dr

Date
Tuesday, February 10, 2026

Lat/Long
35.908285°, -84.147983°

Weather
Cloudy
56°F



[Click here for Detailed Weather](#)

0000 - 2400 (Weekday 24h Session) (02-10-2026)
NB EB 60min

Northbound (Movement 1.1)					
TIME	Bicycles	1-3	4-7	8-13	Total
0000 - 0100	0	47	0	5	52
0100 - 0200	0	39	1	3	43
0200 - 0300	0	31	1	4	36
0300 - 0400	0	43	2	5	50
0400 - 0500	0	39	2	4	45
0500 - 0600	0	146	4	6	156
0600 - 0700	0	395	16	9	420
0700 - 0800	0	926	30	12	968
0800 - 0900	0	821	41	21	883
0900 - 1000	0	575	30	11	616
1000 - 1100	0	553	22	15	590
1100 - 1200	0	704	18	17	739
1200 - 1300	0	813	28	10	851
1300 - 1400	0	828	33	14	875
1400 - 1500	0	907	25	4	936
1500 - 1600	0	1082	26	6	1114
1600 - 1700	0	1379	36	9	1424
1700 - 1800	0	1503	26	6	1535
1800 - 1900	0	922	12	1	935
1900 - 2000	0	742	1	1	744
2000 - 2100	0	580	3	3	586
2100 - 2200	0	329	1	1	331
2200 - 2300	0	155	2	2	159
2300 - 2400	0	95	3	3	101
Session Total	0	13654	363	172	14189
Session Average	0.00	568.92	15.13	7.17	591.21
Session Percentage	0.00	96.23	2.56	1.21	
AM Peak Hour	-	0700 - 0800	0800 - 0900	0800 - 0900	0700 - 0800
AM Peak Volume	0	926	41	21	968
AM Peak %age	0.00	95.66	4.24	2.17	
Noon Peak Hour	-	1400 - 1500	1300 - 1400	1100 - 1200	1400 - 1500
Noon Peak Volume	0	907	33	17	936
Noon Peak %age	0.00	96.90	3.53	1.82	
PM Peak Hour	-	1700 - 1800	1600 - 1700	1600 - 1700	1700 - 1800
PM Peak Volume	0	1503	36	9	1535
PM Peak %age	0.00	97.92	2.35	0.59	

Bi-Directional Class Count || SB WB 60min

Knoxville, TN

Site 1
TN-131 Lovell Rd,
south of Outlet Dr

Date
Tuesday, February 10, 2026

Lat/Long
35.908285°, -84.147983°

Weather
Cloudy
56°F



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0000 - 2400 (Weekday 24h Session) (02-10-2026)
SB WB 60min

Southbound (Movement 1.2)					
TIME	Bicycles	1-3	4-7	8-13	Total
0000 - 0100	0	42	2	2	46
0100 - 0200	0	20	2	4	26
0200 - 0300	0	19	2	1	22
0300 - 0400	0	44	2	5	51
0400 - 0500	0	63	4	2	69
0500 - 0600	0	194	5	4	203
0600 - 0700	0	442	13	5	460
0700 - 0800	0	955	32	12	999
0800 - 0900	0	1013	62	15	1090
0900 - 1000	0	801	28	19	848
1000 - 1100	0	665	23	13	701
1100 - 1200	0	856	23	23	902
1200 - 1300	0	865	21	12	898
1300 - 1400	0	792	23	9	824
1400 - 1500	0	738	14	10	762
1500 - 1600	0	1033	15	5	1053
1600 - 1700	0	1245	18	7	1270
1700 - 1800	0	1230	10	5	1245
1800 - 1900	0	854	3	4	861
1900 - 2000	0	574	4	2	580
2000 - 2100	0	406	4	2	412
2100 - 2200	0	273	3	3	279
2200 - 2300	0	127	2	3	132
2300 - 2400	0	73	2	5	80
Session Total	0	13324	317	172	13813
Session Average	0.00	555.17	13.21	7.17	575.54
Session Percentage	0.00	96.46	2.29	1.25	
AM Peak Hour	-	0800 - 0900	0800 - 0900	0900 - 1000	0800 - 0900
AM Peak Volume	0	1013	62	19	1090
AM Peak %age	0.00	92.94	5.69	1.74	
Noon Peak Hour	-	1200 - 1300	1000 - 1100	1100 - 1200	1100 - 1200
Noon Peak Volume	0	865	23	23	902
Noon Peak %age	0.00	95.90	2.55	2.55	
PM Peak Hour	-	1600 - 1700	1600 - 1700	1600 - 1700	1600 - 1700
PM Peak Volume	0	1245	18	7	1270
PM Peak %age	0.00	98.03	1.42	0.55	

Bi-Directional Class Count || Bi-Directional 60min



Knoxville, TN

Site 1
TN-131 Lovell Rd,
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Weather
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0000 - 2400 (Weekday 24h Session) (02-10-2026)
Bi-Directional 60min

Bi-Directional 60min					
TIME	Bicycles	1-3	4-7	8-13	Total
0000 - 0100	0	89	2	7	98
0100 - 0200	0	59	3	7	69
0200 - 0300	0	50	3	5	58
0300 - 0400	0	87	4	10	101
0400 - 0500	0	102	6	6	114
0500 - 0600	0	340	9	10	359
0600 - 0700	0	837	29	14	880
0700 - 0800	0	1881	62	24	1967
0800 - 0900	0	1834	103	36	1973
0900 - 1000	0	1376	58	30	1464
1000 - 1100	0	1218	45	28	1291
1100 - 1200	0	1560	41	40	1641
1200 - 1300	0	1678	49	22	1749
1300 - 1400	0	1620	56	23	1699
1400 - 1500	0	1645	39	14	1698
1500 - 1600	0	2115	41	11	2167
1600 - 1700	0	2624	54	16	2694
1700 - 1800	0	2733	36	11	2780
1800 - 1900	0	1776	15	5	1796
1900 - 2000	0	1316	5	3	1324
2000 - 2100	0	986	7	5	998
2100 - 2200	0	602	4	4	610
2200 - 2300	0	282	4	5	291
2300 - 2400	0	168	5	8	181
Session Total	0	26978	680	344	28002
Session Average	0.00	1124.08	28.33	14.33	1166.75
Session Percentage	0.00	96.34	2.43	1.23	
AM Peak Hour	-	0700 - 0800	0800 - 0900	0800 - 0900	0800 - 0900
AM Peak Volume	0	1881	103	36	1973
AM Peak %age	0.00	95.34	5.22	1.82	
Noon Peak Hour	-	1200 - 1300	1300 - 1400	1100 - 1200	1200 - 1300
Noon Peak Volume	0	1678	56	40	1749
Noon Peak %age	0.00	95.94	3.20	2.29	
PM Peak Hour	-	1700 - 1800	1600 - 1700	1600 - 1700	1700 - 1800
PM Peak Volume	0	2733	54	16	2780
PM Peak %age	0.00	98.31	1.94	0.58	

Bi-Directional Class Count || Volume Summary 60min

Knoxville, TN



Site 1
TN-131 Lovell Rd,
south of Outlet Dr

Date
Tuesday, February 10, 2026

Weather
Cloudy
56°F

Lat/Long
35.908285°, -84.147983°

[Click here for Detailed Weather](#)

0000 - 2400 (Weekday 24h Session) (02-10-2026)

Volume Summary 60min

Volume Summary 60min			
TIME	NB	SB	Total
0000 - 0100	52	46	98
0100 - 0200	43	26	69
0200 - 0300	36	22	58
0300 - 0400	50	51	101
0400 - 0500	45	69	114
0500 - 0600	156	203	359
0600 - 0700	420	460	880
0700 - 0800	968	999	1967
0800 - 0900	883	1090	1973
0900 - 1000	616	848	1464
1000 - 1100	590	701	1291
1100 - 1200	739	902	1641

Volume Summary 60min			
Time	NB	SB	Total
1200 - 1300	851	898	1749
1300 - 1400	875	824	1699
1400 - 1500	936	762	1698
1500 - 1600	1114	1053	2167
1600 - 1700	1424	1270	2694
1700 - 1800	1535	1245	2780
1800 - 1900	935	861	1796
1900 - 2000	744	580	1324
2000 - 2100	586	412	998
2100 - 2200	331	279	610
2200 - 2300	159	132	291
2300 - 2400	101	80	181

Session Total	14189	13813	28002
Session Average	591.21	575.54	1166.75
Session Percentage	50.67	49.33	

Volume Development



Proposed Trip Generation - 608 Lovell Road													
ITE Code	Land Use	Setting/Location	Density		Daily			AM Peak Hour			PM Peak Hour		
					Total	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit
220	Multifamily Housing (Low-Rise)	General Urban/Suburban	324	d.u.	1,945	973	972	126	30	96	163	101	62
NET PROPOSED TRIPS					1,945	973	972	126	30	96	163	101	62

Notes:
 ITE 12th Methodology/Rates

INTERSECTION VOLUME WORKSHEET

INTERSECTION 1

Murdock Dr at TN-131 Lovell Rd

AM PEAK HOUR

	Eastbound				Murdock Dr Westbound				TN-131 Lovell Rd Northbound				TN-131 Lovell Rd Southbound				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2026 AM Volumes	0	0	0	0	0	191	0	38	0	0	781	453	1	98	1099	0	2661
Existing Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	
Conflicting Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicles	0	0	0	0	0	15	0	1	0	0	43	7	0	3	36	0	
Heavy Vehicle %	2	2	2	2	2	8	2	3	2	2	6	2	2	3	3	2	
Background Traffic																	
Annual Growth Rate (Build-Out)	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	
Growth Factor (Build-Out)	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	
Growth Trips (Build-Out)	0	0	0	0	0	16	0	3	0	0	64	37	0	8	90	0	218
Annual Growth Rate (Horizon)	4.0%	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	
Growth Factor (Horizon)	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	
Growth Trips (Horizon)	0	0	0	0	0	60	0	12	0	0	247	143	0	31	347	0	840
No-Build 2028 AM Volumes	0	0	0	0	0	207	0	41	0	0	845	490	1	106	1189	0	2879
No-Build 2033 AM Volumes	0	0	0	0	0	251	0	50	0	0	1028	596	1	129	1446	0	3501
Project Traffic																	
Trip Distribution IN						10%										10%	
Trip Distribution OUT											(10%)	(10%)					
Project Trips	0	0	0	0	0	3	0	0	0	0	10	10	0	0	3	0	26
Build 2028 AM Volumes	0	0	0	0	0	210	0	41	0	0	855	500	1	106	1192	0	2905
Build 2033 AM Volumes	0	0	0	0	0	254	0	50	0	0	1038	606	1	129	1449	0	3527
% from Existing (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	91.0%	0.0%	92.7%	0.0%	0.0%	91.3%	90.6%	100.0%	92.5%	92.2%	0.0%	91.6%
% from Background Growth (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	7.6%	0.0%	7.3%	0.0%	0.0%	7.5%	7.4%	0.0%	7.5%	7.6%	0.0%	7.5%
% from Project Trips (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	1.4%	0.0%	0.0%	0.0%	0.0%	1.2%	2.0%	0.0%	0.0%	0.3%	0.0%	0.9%

INTERSECTION VOLUME WORKSHEET

INTERSECTION 1

Murdock Dr at TN-131 Lovell Rd

PM PEAK HOUR

	Eastbound				Murdock Dr Westbound				TN-131 Lovell Rd Northbound				TN-131 Lovell Rd Southbound				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2026 PM Volumes	0	0	0	0	0	483	0	85	0	0	1293	236	0	47	1052	0	3196
Existing Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Conflicting Pedestrians		0		0		0		0		0		0		0		0	
Heavy Vehicles	0	0	0	0	0	3	0	2	0	0	30	4	0	1	20	0	
Heavy Vehicle %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Background Traffic																	
Annual Growth Rate	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	
Growth Factor	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	
Growth Trips	0	0	0	0	0	40	0	7	0	0	106	19	0	4	86	0	262
Annual Growth Rate (Horizon)	4.0%	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	
Growth Factor (Horizon)	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	
Growth Trips (Horizon)	0	0	0	0	0	153	0	27	0	0	409	75	0	15	332	0	1011
No-Build 2028 PM Volumes	0	0	0	0	0	523	0	92	0	0	1399	255	0	51	1138	0	3458
No-Build 2033 PM Volumes	0	0	0	0	0	636	0	112	0	0	1702	311	0	62	1384	0	4207
Project Traffic																	
Trip Distribution IN						10%										10%	
Trip Distribution OUT											(10%)	(10%)					
Project Trips	0	0	0	0	0	10	0	0	0	0	6	6	0	0	10	0	32
Build 2028 PM Volumes	0	0	0	0	0	533	0	92	0	0	1405	261	0	51	1148	0	3490
Build 2033 PM Volumes	0	0	0	0	0	646	0	112	0	0	1708	317	0	62	1394	0	4239
% from Existing (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	90.6%	0.0%	92.4%	0.0%	0.0%	92.0%	90.4%	0.0%	92.2%	91.6%	0.0%	91.6%
% from Background Growth (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	7.5%	0.0%	7.6%	0.0%	0.0%	7.5%	7.3%	0.0%	7.8%	7.5%	0.0%	7.5%
% from Project Trips (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	1.9%	0.0%	0.0%	0.0%	0.0%	0.4%	2.3%	0.0%	0.0%	0.9%	0.0%	0.9%

INTERSECTION VOLUME WORKSHEET
INTERSECTION 2
Outlet Dr/Site Driveway A at TN-131 Lovell Rd
AM PEAK HOUR

	Outlet Dr Eastbound				Site Driveway A Westbound				TN-131 Lovell Rd Northbound				TN-131 Lovell Rd Southbound				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2026 AM Volumes	0	288	0	122	0	0	0	0	0	98	950	0	0	0	1076	160	2694
Existing Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	
Conflicting Pedestrians		0		1		1		0		0		0		0		0	
Heavy Vehicles	0	2	0	19	0	0	0	0	0	10	47	0	0	0	39	4	
Heavy Vehicle %	2	2	2	16	2	2	2	2	2	10	5	2	2	2	4	3	
Background Traffic																	
Annual Growth Rate (Build-Out)	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	
Growth Factor (Build-Out)	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	
Growth Trips (Build-Out)	0	24	0	10	0	0	0	0	0	8	78	0	0	0	88	13	221
Annual Growth Rate (Horizon)	4.0%	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	
Growth Factor (Horizon)	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	
Growth Trips (Horizon)	0	91	0	39	0	0	0	0	0	31	300	0	0	0	340	51	852
No-Build 2028 AM Volumes	0	312	0	132	0	0	0	0	0	106	1028	0	0	0	1164	173	2915
No-Build 2033 AM Volumes	0	379	0	161	0	0	0	0	0	129	1250	0	0	0	1416	211	3546
Project Traffic																	
Trip Distribution IN													70%		20%		
Trip Distribution OUT						(80%)		(15%)				(5%)					
Project Trips	0	0	0	0	0	77	0	14	0	0	5	21	0	6	0	0	123
Build 2028 AM Volumes	0	312	0	132	0	77	0	14	0	106	1033	21	0	6	1164	173	3038
Build 2033 AM Volumes	0	379	0	161	0	77	0	14	0	129	1255	21	0	6	1416	211	3669
% from Existing (Build-Out)	0.0%	92.3%	0.0%	92.4%	0.0%	0.0%	0.0%	0.0%	0.0%	92.5%	92.0%	0.0%	0.0%	0.0%	92.4%	92.5%	88.7%
% from Background Growth (Build-Out)	0.0%	7.7%	0.0%	7.6%	0.0%	0.0%	0.0%	0.0%	0.0%	7.5%	7.6%	0.0%	0.0%	0.0%	7.6%	7.5%	7.3%
% from Project Trips (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%	0.0%	0.0%	0.5%	100.0%	0.0%	100.0%	0.0%	0.0%	4.0%

INTERSECTION VOLUME WORKSHEET
INTERSECTION 2
Outlet Dr/Site Driveway A at TN-131 Lovell Rd
PM PEAK HOUR

	Outlet Dr <u>Eastbound</u>				Site Driveway A <u>Westbound</u>				TN-131 Lovell Rd <u>Northbound</u>				TN-131 Lovell Rd <u>Southbound</u>				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2026 PM Volumes	0	240	0	159	0	0	0	0	0	233	1293	0	0	0	1199	340	3464
Existing Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Conflicting Pedestrians		0		0		0		0		0		0		0		0	
Heavy Vehicles	0	5	0	11	0	0	0	0	0	8	29	0	0	0	20	2	
Heavy Vehicle %	2	2	2	7	2	2	2	2	2	3	2	2	2	2	2	2	
Background Traffic																	
Annual Growth Rate	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	
Growth Factor	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	
Growth Trips	0	20	0	13	0	0	0	0	0	19	106	0	0	0	98	28	284
Annual Growth Rate (Horizon)	4.0%	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	
Growth Factor (Horizon)	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	
Growth Trips (Horizon)	0	76	0	50	0	0	0	0	0	74	409	0	0	0	379	107	1095
No-Build 2028 PM Volumes	0	260	0	172	0	0	0	0	0	252	1399	0	0	0	1297	368	3748
No-Build 2033 PM Volumes	0	316	0	209	0	0	0	0	0	307	1702	0	0	0	1578	447	4559
Project Traffic																	
Trip Distribution IN													70%		20%		
Trip Distribution OUT						(80%)		(15%)				(5%)					
Project Trips	0	0	0	0	0	50	0	9	0	0	3	71	0	20	0	0	153
Build 2028 PM Volumes	0	260	0	172	0	50	0	9	0	252	1402	71	0	20	1297	368	3901
Build 2033 PM Volumes	0	316	0	209	0	50	0	9	0	307	1705	71	0	20	1578	447	4712
% from Existing (Build-Out)	0.0%	92.3%	0.0%	92.4%	0.0%	0.0%	0.0%	0.0%	0.0%	92.5%	92.2%	0.0%	0.0%	0.0%	92.4%	92.4%	88.8%
% from Background Growth (Build-Out)	0.0%	7.7%	0.0%	7.6%	0.0%	0.0%	0.0%	0.0%	0.0%	7.5%	7.6%	0.0%	0.0%	0.0%	7.6%	7.6%	7.3%
% from Project Trips (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%	0.0%	0.0%	0.2%	100.0%	0.0%	100.0%	0.0%	0.0%	3.9%

INTERSECTION VOLUME WORKSHEET
INTERSECTION 3
Driveway/Lexington Dr at TN-131 Lovell Rd
AM PEAK HOUR

	Driveway <u>Eastbound</u>				Lexington Dr <u>Westbound</u>				TN-131 Lovell Rd <u>Northbound</u>				TN-131 Lovell Rd <u>Southbound</u>				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2026 AM Volumes	0	21	5	10	0	208	3	36	0	25	1030	475	0	71	1100	25	3009
Existing Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	
Conflicting Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicles	0	0	0	0	0	43	0	7	0	1	50	17	0	7	55	0	
Heavy Vehicle %	2	2	2	2	2	21	2	19	2	4	5	4	2	10	5	2	
Background Traffic																	
Annual Growth Rate (Build-Out)	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	
Growth Factor (Build-Out)	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	
Growth Trips (Build-Out)	0	2	0	1	0	17	0	3	0	2	84	39	0	6	90	2	246
Annual Growth Rate (Horizon)	4.0%	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	
Growth Factor (Horizon)	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	
Growth Trips (Horizon)	0	7	2	3	0	66	1	11	0	8	325	150	0	22	348	8	951
No-Build 2028 AM Volumes	0	23	5	11	0	225	3	39	0	27	1114	514	0	77	1190	27	3255
No-Build 2033 AM Volumes	0	28	7	13	0	274	4	47	0	33	1355	625	0	93	1448	33	3960
Project Traffic																	
Trip Distribution IN											80%						
Trip Distribution OUT														(80%)			
Project Trips	0	0	0	0	0	0	0	0	0	0	24	0	0	0	77	0	101
Build 2028 AM Volumes	0	23	5	11	0	225	3	39	0	27	1138	514	0	77	1267	27	3356
Build 2033 AM Volumes	0	28	7	13	0	274	4	47	0	33	1379	625	0	93	1525	33	4061
% from Existing (Build-Out)	0.0%	91.3%	100.0%	90.9%	0.0%	92.4%	100.0%	92.3%	0.0%	92.6%	90.5%	92.4%	0.0%	92.2%	86.8%	92.6%	89.7%
% from Background Growth (Build-Out)	0.0%	8.7%	0.0%	9.1%	0.0%	7.6%	0.0%	7.7%	0.0%	7.4%	7.4%	7.6%	0.0%	7.8%	7.1%	7.4%	7.3%
% from Project Trips (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.1%	0.0%	0.0%	0.0%	6.1%	0.0%	3.0%

INTERSECTION VOLUME WORKSHEET
INTERSECTION 3
Driveway/Lexington Dr at TN-131 Lovell Rd
PM PEAK HOUR

	Driveway <u>Eastbound</u>				Lexington Dr <u>Westbound</u>				TN-131 Lovell Rd <u>Northbound</u>				TN-131 Lovell Rd <u>Southbound</u>				Total Intersection
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	
Existing Traffic																	
Existing 2026 PM Volumes	0	4	0	5	0	362	0	62	0	14	1467	182	0	41	1301	10	3448
Existing Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	
Conflicting Pedestrians		0		0		0		0		0		1		1		0	
Heavy Vehicles	0	0	0	0	0	11	0	0	0	0	38	11	0	0	28	0	
Heavy Vehicle %	2	2	2	2	2	3	2	2	2	2	3	6	2	2	2	2	
Background Traffic																	
Annual Growth Rate	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	
Growth Factor	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	
Growth Trips	0	0	0	0	0	30	0	5	0	1	120	15	0	3	107	1	282
Annual Growth Rate (Horizon)	4.0%	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	
Growth Factor (Horizon)	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	
Growth Trips (Horizon)	0	1	0	2	0	114	0	20	0	4	464	58	0	13	411	3	1090
No-Build 2028 PM Volumes	0	4	0	5	0	392	0	67	0	15	1587	197	0	44	1408	11	3730
No-Build 2033 PM Volumes	0	5	0	7	0	476	0	82	0	18	1931	240	0	54	1712	13	4538
Project Traffic																	
Trip Distribution IN											80%						
Trip Distribution OUT														(80%)			
Project Trips	0	0	0	0	0	0	0	0	0	0	81	0	0	0	50	0	131
Build 2028 PM Volumes	0	4	0	5	0	392	0	67	0	15	1668	197	0	44	1458	11	3861
Build 2033 PM Volumes	0	5	0	7	0	476	0	82	0	18	2012	240	0	54	1762	13	4669
% from Existing (Build-Out)	0.0%	100.0%	0.0%	100.0%	0.0%	92.3%	0.0%	92.5%	0.0%	93.3%	87.9%	92.4%	0.0%	93.2%	89.2%	90.9%	89.3%
% from Background Growth (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	7.7%	0.0%	7.5%	0.0%	6.7%	7.2%	7.6%	0.0%	6.8%	7.3%	9.1%	7.3%
% from Project Trips (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.9%	0.0%	0.0%	0.0%	3.4%	0.0%	3.4%

INTERSECTION VOLUME WORKSHEET

INTERSECTION 4

Site Driveway B at Lovell Rd

AM PEAK HOUR

	Eastbound				Site Driveway B Westbound				Lovell Rd Northbound				Lovell Rd Southbound				Total Intersection	
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right		
Existing Traffic																		
Existing 2026 AM Volumes	0	0	0	0	0	0	0	0	0	0	1048	0	0	0	0	1198	0	2246
Existing Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	
Conflicting Pedestrians		0		0		0		0		0	0	0		0		2	0	
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	57	0	0	0	0	58	0	
Heavy Vehicle %	2	2	2	2	2	2	2	2	2	2	5	2	2	2	2	5	2	
Background Traffic																		
Annual Growth Rate (Build-Out)	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	
Growth Factor (Build-Out)	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	
Growth Trips (Build-Out)	0	0	0	0	0	0	0	0	0	0	86	0	0	0	0	98	0	184
Annual Growth Rate (Horizon)	4.0%	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	
Growth Factor (Horizon)	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	
Growth Trips (Horizon)	0	0	0	0	0	0	0	0	0	0	331	0	0	0	0	379	0	710
No-Build 2028 AM Volumes	0	0	0	0	0	0	0	0	0	0	1134	0	0	0	0	1296	0	2430
No-Build 2033 AM Volumes	0	0	0	0	0	0	0	0	0	0	1379	0	0	0	0	1577	0	2956
Project Traffic																		
Trip Distribution IN											70%	10%						
Trip Distribution OUT								(5%)								(80%)		
Project Trips	0	0	0	0	0	0	0	5	0	0	21	3	0	0	0	77	0	106
Build 2028 AM Volumes	0	0	0	0	0	0	0	5	0	0	1155	3	0	0	0	1373	0	2536
Build 2033 AM Volumes	0	0	0	0	0	0	0	5	0	0	1400	3	0	0	0	1654	0	3062
% from Existing (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	90.7%	0.0%	0.0%	0.0%	0.0%	87.3%	0.0%	88.6%
% from Background Growth (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.4%	0.0%	0.0%	0.0%	0.0%	7.1%	0.0%	7.3%
% from Project Trips (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	1.8%	100.0%	0.0%	0.0%	0.0%	5.6%	0.0%	4.2%

INTERSECTION VOLUME WORKSHEET

INTERSECTION 4

Site Driveway B at Lovell Rd

PM PEAK HOUR

	Eastbound				Site Driveway B Westbound				Lovell Rd Northbound				Lovell Rd Southbound				Total Intersection	
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right		
Existing Traffic																		
Existing 2026 PM Volumes	0	0	0	0	0	0	0	0	0	0	1526	0	0	0	0	1358	0	2884
Existing Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Conflicting Pedestrians		0		0		0		0		0	0	0		0		0	0	
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	37	0	0	0	0	31	0	
Heavy Vehicle %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Background Traffic																		
Annual Growth Rate	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	
Growth Factor	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	1.082	
Growth Trips	0	0	0	0	0	0	0	0	0	0	125	0	0	0	0	111	0	236
Annual Growth Rate (Horizon)	4.0%	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	
Growth Factor (Horizon)	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	1.316	
Growth Trips (Horizon)	0	0	0	0	0	0	0	0	0	0	482	0	0	0	0	429	0	911
No-Build 2028 PM Volumes	0	0	0	0	0	0	0	0	0	0	1651	0	0	0	0	1469	0	3120
No-Build 2033 PM Volumes	0	0	0	0	0	0	0	0	0	0	2008	0	0	0	0	1787	0	3795
Project Traffic																		
Trip Distribution IN											70%	10%						
Trip Distribution OUT								(5%)							(80%)			
Project Trips	0	0	0	0	0	0	0	3	0	0	71	10	0	0	50	0	0	134
Build 2028 PM Volumes	0	0	0	0	0	0	0	3	0	0	1722	10	0	0	1519	0	0	3254
Build 2033 PM Volumes	0	0	0	0	0	0	0	3	0	0	2079	10	0	0	1837	0	0	3929
% from Existing (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	88.6%	0.0%	0.0%	0.0%	89.4%	0.0%	0.0%	88.6%
% from Background Growth (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.3%	0.0%	0.0%	0.0%	7.3%	0.0%	0.0%	7.3%
% from Project Trips (Build-Out)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	4.1%	100.0%	0.0%	0.0%	3.3%	0.0%	0.0%	4.1%

Capacity Reports



Queues
1: Lovell Rd & Murdock Dr

608 Lovell Road
Existing AM



Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	264	898	521	114	1263
v/c Ratio	0.66	0.40	0.43	0.24	0.46
Control Delay (s/veh)	52.3	8.5	1.9	4.6	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	52.3	8.5	1.9	4.6	5.4
Queue Length 50th (ft)	95	124	15	17	144
Queue Length 95th (ft)	131	158	13	34	204
Internal Link Dist (ft)	1082	783			890
Turn Bay Length (ft)	220		200	100	
Base Capacity (vph)	910	2243	1220	541	2723
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.29	0.40	0.43	0.21	0.46
Intersection Summary					

HCM 7th Signalized Intersection Summary
 1: Lovell Rd & Murdock Dr

608 Lovell Road
 Existing AM



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↙↘		↑↑	↗	↘	↑↑
Traffic Volume (veh/h)	191	38	781	453	99	1099
Future Volume (veh/h)	191	38	781	453	99	1099
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1781	1856	1811	1870	1856	1856
Adj Flow Rate, veh/h	241	0	898	316	114	1263
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	8	3	6	2	3	3
Cap, veh/h	311	144	2369	1091	496	2834
Arrive On Green	0.09	0.00	1.00	1.00	0.07	0.80
Sat Flow, veh/h	3393	1572	3532	1585	1767	3618
Grp Volume(v), veh/h	241	0	898	316	114	1263
Grp Sat Flow(s),veh/h/ln	1697	1572	1721	1585	1767	1763
Q Serve(g_s), s	8.0	0.0	0.0	0.0	1.8	12.6
Cycle Q Clear(g_c), s	8.0	0.0	0.0	0.0	1.8	12.6
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	311	144	2369	1091	496	2834
V/C Ratio(X)	0.77	0.00	0.38	0.29	0.23	0.45
Avail Cap(c_a), veh/h	944	438	2369	1091	600	2834
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.82	0.82	1.00	1.00
Uniform Delay (d), s/veh	51.1	0.0	0.0	0.0	3.2	3.4
Incr Delay (d2), s/veh	3.1	0.0	0.4	0.6	0.2	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	0.0	0.1	0.2	0.5	3.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	54.1	0.0	0.4	0.6	3.4	4.0
LnGrp LOS	D		A	A	A	A
Approach Vol, veh/h	241		1214			1377
Approach Delay, s/veh	54.1		0.4			3.9
Approach LOS	D		A			A
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	13.3	85.2		16.6		98.4
Change Period (Y+Rc), s	5.5	6.0		6.0		6.0
Max Green Setting (Gmax), s	14.5	51.0		32.0		71.0
Max Q Clear Time (g_c+I1), s	3.8	2.0		10.0		14.6
Green Ext Time (p_c), s	0.1	14.0		0.6		19.0

Intersection Summary

HCM 7th Control Delay, s/veh			6.7			
HCM 7th LOS			A			

Notes

User approved volume balancing among the lanes for turning movement.

Queues
2: Lovell Rd & Outlet Dr

608 Lovell Road
Existing AM



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	324	137	110	1067	1389
v/c Ratio	0.83	0.33	0.49	0.46	0.73
Control Delay (s/veh)	60.4	23.8	26.3	1.9	21.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	60.4	23.8	26.3	1.9	21.7
Queue Length 50th (ft)	232	69	16	27	355
Queue Length 95th (ft)	321	109	m46	35	456
Internal Link Dist (ft)	1150			707	783
Turn Bay Length (ft)	115		90		
Base Capacity (vph)	469	552	366	2334	1910
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.69	0.25	0.30	0.46	0.73

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM 7th Signalized Intersection Summary
 2: Lovell Rd & Outlet Dr

608 Lovell Road
 Existing AM



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	288	122	98	950	1076	160
Future Volume (veh/h)	288	122	98	950	1076	160
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1663	1752	1826	1841	1856
Adj Flow Rate, veh/h	324	120	110	1067	1209	171
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	16	10	5	4	3
Cap, veh/h	362	357	367	2418	1842	259
Arrive On Green	0.20	0.20	0.05	0.70	1.00	1.00
Sat Flow, veh/h	1781	1409	1668	3561	3170	433
Grp Volume(v), veh/h	324	120	110	1067	685	695
Grp Sat Flow(s),veh/h/ln	1781	1409	1668	1735	1749	1763
Q Serve(g_s), s	20.4	8.0	2.7	15.5	0.0	0.0
Cycle Q Clear(g_c), s	20.4	8.0	2.7	15.5	0.0	0.0
Prop In Lane	1.00	1.00	1.00			0.25
Lane Grp Cap(c), veh/h	362	357	367	2418	1047	1055
V/C Ratio(X)	0.90	0.34	0.30	0.44	0.65	0.66
Avail Cap(c_a), veh/h	472	445	566	2418	1047	1055
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.38	0.38	0.86	0.86
Uniform Delay (d), s/veh	44.7	35.0	6.9	7.6	0.0	0.0
Incr Delay (d2), s/veh	16.2	0.5	0.1	0.2	2.7	2.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.6	6.7	0.9	5.0	0.8	0.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	60.9	35.6	7.0	7.8	2.7	2.8
LnGrp LOS	E	D	A	A	A	A
Approach Vol, veh/h	444			1177	1380	
Approach Delay, s/veh	54.0			7.8	2.8	
Approach LOS	D			A	A	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	11.3	74.8		28.8		86.2
Change Period (Y+Rc), s	5.5	6.0		5.5		6.0
Max Green Setting (Gmax), s	19.5	48.0		30.5		73.0
Max Q Clear Time (g_c+I1), s	4.7	2.0		22.4		17.5
Green Ext Time (p_c), s	0.2	26.2		1.0		20.2
Intersection Summary						
HCM 7th Control Delay, s/veh			12.3			
HCM 7th LOS			B			

Queues
 3: Lovell Rd & Commercial Driveway/Lexington Dr

608 Lovell Road
 Existing AM



Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	39	137	135	27	1654	78	1236
v/c Ratio	0.41	0.68	0.64	0.11	0.87	0.47	0.60
Control Delay (s/veh)	52.8	63.0	53.9	10.9	29.9	34.3	17.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	52.8	63.0	53.9	10.9	29.9	34.3	17.1
Queue Length 50th (ft)	21	120	89	7	608	35	158
Queue Length 95th (ft)	56	195	154	22	#921	m71	347
Internal Link Dist (ft)	448		1312		849		707
Turn Bay Length (ft)		150		65		280	
Base Capacity (vph)	119	264	273	307	1907	203	2065
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.52	0.49	0.09	0.87	0.38	0.60

Intersection Summary

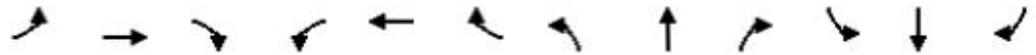
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
 3: Lovell Rd & Commercial Driveway/Lexington Dr

608 Lovell Road
 Existing AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕	↕		↕	↕	
Traffic Volume (vph)	21	5	10	208	3	36	25	1030	475	71	1100	25
Future Volume (vph)	21	5	10	208	3	36	25	1030	475	71	1100	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5		6.5	6.5		6.0	6.5		6.0	6.5	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95		1.00	0.95	
Frt		0.96		1.00	0.96		1.00	0.95		1.00	1.00	
Flt Protected		0.97		0.95	0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1740		1417	1390		1736	3285		1641	3429	
Flt Permitted		0.74		0.95	0.97		0.15	1.00		0.06	1.00	
Satd. Flow (perm)		1324		1417	1390		281	3285		108	3429	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	23	5	11	229	3	40	27	1132	522	78	1209	27
RTOR Reduction (vph)	0	11	0	0	14	0	0	38	0	0	1	0
Lane Group Flow (vph)	0	28	0	137	121	0	27	1616	0	78	1235	0
Heavy Vehicles (%)	2%	2%	2%	21%	2%	19%	4%	5%	4%	10%	5%	2%
Turn Type	Perm	NA		Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4		3	3		1	6		5	2	
Permitted Phases	4						6			2		
Actuated Green, G (s)		5.2		16.4	16.4		65.4	61.7		70.4	64.2	
Effective Green, g (s)		5.2		16.4	16.4		65.4	61.7		70.4	64.2	
Actuated g/C Ratio		0.05		0.14	0.14		0.57	0.54		0.61	0.56	
Clearance Time (s)		6.5		6.5	6.5		6.0	6.5		6.0	6.5	
Vehicle Extension (s)		2.5		3.5	3.5		2.5	5.0		2.5	5.0	
Lane Grp Cap (vph)		59		202	198		206	1762		148	1914	
v/s Ratio Prot				c0.10	0.09		0.00	c0.49		c0.03	0.36	
v/s Ratio Perm		c0.02					0.07			0.29		
v/c Ratio		0.48		0.68	0.61		0.13	0.92		0.53	0.65	
Uniform Delay, d1		53.6		46.8	46.3		12.7	24.3		20.6	17.5	
Progression Factor		1.00		1.00	1.00		1.00	1.00		1.93	0.87	
Incremental Delay, d2		4.5		9.1	5.8		0.2	9.1		1.9	1.2	
Delay (s)		58.1		55.8	52.1		12.9	33.4		41.7	16.6	
Level of Service		E		E	D		B	C		D	B	
Approach Delay (s/veh)		58.1			54.0			33.1			18.1	
Approach LOS		E			D			C			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			29.1									C
HCM 2000 Volume to Capacity ratio			0.82									
Actuated Cycle Length (s)			115.0						25.5			
Intersection Capacity Utilization			73.5%									D
Analysis Period (min)			15									
c	Critical Lane Group											

Queues
1: Lovell Rd & Murdock Dr

608 Lovell Road
Existing PM



Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	604	1376	251	50	1119
v/c Ratio	0.82	0.64	0.25	0.20	0.46
Control Delay (s/veh)	54.6	11.7	3.2	9.0	10.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	54.6	11.7	3.2	9.0	10.1
Queue Length 50th (ft)	239	181	10	12	199
Queue Length 95th (ft)	288	234	m39	29	287
Internal Link Dist (ft)	1082	783			890
Turn Bay Length (ft)	220		200	100	
Base Capacity (vph)	1069	2134	1017	327	2440
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.57	0.64	0.25	0.15	0.46

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM 7th Signalized Intersection Summary
 1: Lovell Rd & Murdock Dr

608 Lovell Road
 Existing PM



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↶↷		↶↷	↶	↶	↶↷
Traffic Volume (veh/h)	483	85	1293	236	47	1052
Future Volume (veh/h)	483	85	1293	236	47	1052
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	585	0	1376	183	50	1119
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	668	297	2203	982	356	2546
Arrive On Green	0.19	0.00	1.00	1.00	0.05	0.72
Sat Flow, veh/h	3563	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	585	0	1376	183	50	1119
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1781	1777
Q Serve(g_s), s	20.0	0.0	0.0	0.0	1.1	16.3
Cycle Q Clear(g_c), s	20.0	0.0	0.0	0.0	1.1	16.3
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	668	297	2203	982	356	2546
V/C Ratio(X)	0.88	0.00	0.62	0.19	0.14	0.44
Avail Cap(c_a), veh/h	1112	495	2203	982	469	2546
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.79	0.79	1.00	1.00
Uniform Delay (d), s/veh	49.4	0.0	0.0	0.0	6.3	7.3
Incr Delay (d2), s/veh	3.7	0.0	1.1	0.3	0.1	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.0	0.0	0.3	0.1	0.4	5.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	53.0	0.0	1.1	0.3	6.4	7.9
LnGrp LOS	D		A	A	A	A
Approach Vol, veh/h	585		1559			1169
Approach Delay, s/veh	53.0		1.0			7.8
Approach LOS	D		A			A
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	12.1	83.5		29.4		95.6
Change Period (Y+Rc), s	5.5	6.0		6.0		6.0
Max Green Setting (Gmax), s	14.5	54.0		39.0		74.0
Max Q Clear Time (g_c+I1), s	3.1	2.0		22.0		18.3
Green Ext Time (p_c), s	0.0	23.4		1.5		15.5

Intersection Summary

HCM 7th Control Delay, s/veh	12.6
HCM 7th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Queues
2: Lovell Rd & Outlet Dr

608 Lovell Road
Existing PM



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	255	169	248	1376	1638
v/c Ratio	0.83	0.31	0.83	0.53	0.86
Control Delay (s/veh)	72.0	23.8	70.5	1.2	30.3
Queue Delay	0.0	0.0	0.0	0.1	0.0
Total Delay (s/veh)	72.0	23.8	70.5	1.3	30.3
Queue Length 50th (ft)	201	83	155	20	637
Queue Length 95th (ft)	#312	129	m233	28	#882
Internal Link Dist (ft)	1150			707	783
Turn Bay Length (ft)	115		90		
Base Capacity (vph)	346	640	397	2598	1910
Starvation Cap Reductn	0	0	0	230	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.74	0.26	0.62	0.58	0.86

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM 7th Signalized Intersection Summary
 2: Lovell Rd & Outlet Dr

608 Lovell Road
 Existing PM



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	240	159	233	1293	1199	340
Future Volume (veh/h)	240	159	233	1293	1199	340
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1796	1856	1870	1870	1870
Adj Flow Rate, veh/h	255	149	248	1376	1276	344
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	7	3	2	2	2
Cap, veh/h	287	345	370	2654	1772	468
Arrive On Green	0.16	0.16	0.07	0.75	1.00	1.00
Sat Flow, veh/h	1781	1522	1767	3647	2874	735
Grp Volume(v), veh/h	255	149	248	1376	806	814
Grp Sat Flow(s),veh/h/ln	1781	1522	1767	1777	1777	1738
Q Serve(g_s), s	17.5	10.5	5.7	20.0	0.0	0.0
Cycle Q Clear(g_c), s	17.5	10.5	5.7	20.0	0.0	0.0
Prop In Lane	1.00	1.00	1.00			0.42
Lane Grp Cap(c), veh/h	287	345	370	2654	1133	1108
V/C Ratio(X)	0.89	0.43	0.67	0.52	0.71	0.73
Avail Cap(c_a), veh/h	349	398	601	2654	1133	1108
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.49	0.49	0.78	0.78
Uniform Delay (d), s/veh	51.3	41.4	5.8	6.5	0.0	0.0
Incr Delay (d2), s/veh	20.5	0.9	0.8	0.4	3.0	3.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.4	9.3	1.9	6.3	0.9	1.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	71.8	42.3	6.6	6.9	3.0	3.4
LnGrp LOS	E	D	A	A	A	A
Approach Vol, veh/h	404			1624	1620	
Approach Delay, s/veh	60.9			6.8	3.2	
Approach LOS	E			A	A	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	13.7	85.7		25.6		99.4
Change Period (Y+Rc), s	5.5	6.0		5.5		6.0
Max Green Setting (Gmax), s	24.5	59.0		24.5		89.0
Max Q Clear Time (g_c+I1), s	7.7	2.0		19.5		22.0
Green Ext Time (p_c), s	0.4	37.7		0.6		32.2

Intersection Summary

HCM 7th Control Delay, s/veh	11.2
HCM 7th LOS	B

Notes

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

Queues
 3: Lovell Rd & Commercial Driveway/Lexington Dr

608 Lovell Road
 Existing PM



Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	9	224	213	14	1700	42	1351
v/c Ratio	0.04	0.72	0.51	0.06	0.81	0.28	0.58
Control Delay (s/veh)	0.4	60.7	19.7	9.9	25.0	20.9	15.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	0.4	60.7	19.7	9.9	25.0	20.9	15.9
Queue Length 50th (ft)	0	185	54	3	530	10	222
Queue Length 95th (ft)	0	258	127	15	#999	m22	360
Internal Link Dist (ft)	448		1312		849		707
Turn Bay Length (ft)		150		65		280	
Base Capacity (vph)	247	472	560	274	2104	190	2311
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.47	0.38	0.05	0.81	0.22	0.58

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
 3: Lovell Rd & Commercial Driveway/Lexington Dr

608 Lovell Road
 Existing PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕	↕		↕	↕	
Traffic Volume (vph)	4	0	5	362	0	62	14	1467	182	41	1301	10
Future Volume (vph)	4	0	5	362	0	62	14	1467	182	41	1301	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5		6.5	6.5		6.0	6.5		6.0	6.5	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95		1.00	0.95	
Frbp, ped/bikes		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt		0.93		1.00	0.95		1.00	0.98		1.00	1.00	
Flt Protected		0.98		0.95	0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1686		1665	1622		1770	3427		1770	3535	
Flt Permitted		1.00		0.95	0.97		0.13	1.00		0.05	1.00	
Satd. Flow (perm)		1723		1665	1622		244	3427		102	3535	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	4	0	5	373	0	64	14	1512	188	42	1341	10
RTOR Reduction (vph)	0	9	0	0	114	0	0	5	0	0	0	0
Lane Group Flow (vph)	0	0	0	224	99	0	14	1695	0	42	1351	0
Confl. Peds. (#/hr)									1	1		
Heavy Vehicles (%)	2%	2%	2%	3%	2%	2%	2%	3%	6%	2%	2%	2%
Turn Type	Perm	NA		Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4		3	3		1	6		5	2	
Permitted Phases	4						6			2		
Actuated Green, G (s)		1.0		23.2	23.2		72.5	70.2		78.1	73.0	
Effective Green, g (s)		1.0		23.2	23.2		72.5	70.2		78.1	73.0	
Actuated g/C Ratio		0.01		0.19	0.19		0.58	0.56		0.62	0.58	
Clearance Time (s)		6.5		6.5	6.5		6.0	6.5		6.0	6.5	
Vehicle Extension (s)		2.5		3.5	3.5		2.5	5.0		2.5	5.0	
Lane Grp Cap (vph)		13		309	301		169	1924		131	2064	
v/s Ratio Prot				c0.13	0.06		0.00	c0.49		c0.01	c0.38	
v/s Ratio Perm		c0.00					0.05			0.19		
v/c Ratio		0.01		0.72	0.33		0.08	0.88		0.32	0.65	
Uniform Delay, d1		61.5		47.9	44.1		13.6	23.8		20.7	17.5	
Progression Factor		1.00		1.00	1.00		1.00	1.00		2.03	0.98	
Incremental Delay, d2		0.1		8.4	0.8		0.2	6.2		0.6	1.0	
Delay (s)		61.6		56.3	44.9		13.8	30.0		42.7	18.1	
Level of Service		E		E	D		B	C		D	B	
Approach Delay (s/veh)		61.6			50.8			29.8			18.9	
Approach LOS		E			D			C			B	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			28.2									C
HCM 2000 Volume to Capacity ratio			0.81									
Actuated Cycle Length (s)			125.0							25.5		
Intersection Capacity Utilization			75.8%									D
Analysis Period (min)			15									

c Critical Lane Group

Queues
1: Lovell Rd & Murdock Dr

608 Lovell Road
No-Build AM



Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	285	971	563	123	1367
v/c Ratio	0.68	0.44	0.46	0.28	0.51
Control Delay (s/veh)	52.6	9.0	1.9	5.2	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	52.6	9.0	1.9	5.2	6.1
Queue Length 50th (ft)	104	144	12	19	171
Queue Length 95th (ft)	141	181	13	38	240
Internal Link Dist (ft)	1082	783			890
Turn Bay Length (ft)	220		200	100	
Base Capacity (vph)	910	2218	1225	505	2699
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.31	0.44	0.46	0.24	0.51

Intersection Summary

HCM 7th Signalized Intersection Summary
 1: Lovell Rd & Murdock Dr

608 Lovell Road
 No-Build AM



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↶↶		↕↕	↷	↶	↕↕
Traffic Volume (veh/h)	207	41	845	490	107	1189
Future Volume (veh/h)	207	41	845	490	107	1189
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1781	1856	1811	1870	1856	1856
Adj Flow Rate, veh/h	264	0	971	339	123	1367
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	8	3	6	2	3	3
Cap, veh/h	336	155	2342	1079	467	2809
Arrive On Green	0.10	0.00	1.00	1.00	0.07	0.80
Sat Flow, veh/h	3393	1572	3532	1585	1767	3618
Grp Volume(v), veh/h	264	0	971	339	123	1367
Grp Sat Flow(s),veh/h/ln	1697	1572	1721	1585	1767	1763
Q Serve(g_s), s	8.7	0.0	0.0	0.0	2.0	14.8
Cycle Q Clear(g_c), s	8.7	0.0	0.0	0.0	2.0	14.8
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	336	155	2342	1079	467	2809
V/C Ratio(X)	0.79	0.00	0.41	0.31	0.26	0.49
Avail Cap(c_a), veh/h	944	438	2342	1079	569	2809
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.78	0.78	1.00	1.00
Uniform Delay (d), s/veh	50.6	0.0	0.0	0.0	3.4	3.9
Incr Delay (d2), s/veh	3.1	0.0	0.4	0.6	0.2	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	0.0	0.1	0.2	0.6	3.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	53.7	0.0	0.4	0.6	3.6	4.5
LnGrp LOS	D		A	A	A	A
Approach Vol, veh/h	264		1310			1490
Approach Delay, s/veh	53.7		0.5			4.4
Approach LOS	D		A			A
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	13.3	84.3		17.4		97.6
Change Period (Y+Rc), s	5.5	6.0		6.0		6.0
Max Green Setting (Gmax), s	14.5	51.0		32.0		71.0
Max Q Clear Time (g_c+I1), s	4.0	2.0		10.7		16.8
Green Ext Time (p_c), s	0.1	15.8		0.6		21.4

Intersection Summary

HCM 7th Control Delay, s/veh			7.0			
HCM 7th LOS			A			

Notes

User approved volume balancing among the lanes for turning movement.

Queues
2: Lovell Rd & Outlet Dr

608 Lovell Road
No-Build AM



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	351	148	119	1155	1502
v/c Ratio	0.85	0.34	0.60	0.50	0.81
Control Delay (s/veh)	61.9	24.6	40.3	2.0	25.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	61.9	24.6	40.3	2.0	25.4
Queue Length 50th (ft)	250	78	49	30	410
Queue Length 95th (ft)	350	120	m60	m33	#557
Internal Link Dist (ft)	1150			707	783
Turn Bay Length (ft)	115		90		
Base Capacity (vph)	469	563	338	2296	1857
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.75	0.26	0.35	0.50	0.81

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM 7th Signalized Intersection Summary
 2: Lovell Rd & Outlet Dr

608 Lovell Road
 No-Build AM



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	312	132	106	1028	1164	173
Future Volume (veh/h)	312	132	106	1028	1164	173
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1663	1752	1826	1841	1856
Adj Flow Rate, veh/h	351	137	119	1155	1308	185
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	16	10	5	4	3
Cap, veh/h	388	378	340	2368	1797	252
Arrive On Green	0.22	0.22	0.05	0.68	1.00	1.00
Sat Flow, veh/h	1781	1409	1668	3561	3171	433
Grp Volume(v), veh/h	351	137	119	1155	739	754
Grp Sat Flow(s),veh/h/ln	1781	1409	1668	1735	1749	1763
Q Serve(g_s), s	22.1	9.1	3.1	18.2	0.0	0.0
Cycle Q Clear(g_c), s	22.1	9.1	3.1	18.2	0.0	0.0
Prop In Lane	1.00	1.00	1.00			0.25
Lane Grp Cap(c), veh/h	388	378	340	2368	1021	1029
V/C Ratio(X)	0.91	0.36	0.35	0.49	0.72	0.73
Avail Cap(c_a), veh/h	472	446	538	2368	1021	1029
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.12	0.12	0.83	0.83
Uniform Delay (d), s/veh	43.8	34.1	7.5	8.7	0.0	0.0
Incr Delay (d2), s/veh	18.5	0.6	0.1	0.1	3.7	3.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.7	7.6	1.0	5.9	1.1	1.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	62.4	34.7	7.6	8.8	3.7	3.9
LnGrp LOS	E	C	A	A	A	A
Approach Vol, veh/h	488			1274	1493	
Approach Delay, s/veh	54.6			8.7	3.8	
Approach LOS	D			A	A	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	11.4	73.1		30.5		84.5
Change Period (Y+Rc), s	5.5	6.0		5.5		6.0
Max Green Setting (Gmax), s	19.5	48.0		30.5		73.0
Max Q Clear Time (g_c+I1), s	5.1	2.0		24.1		20.2
Green Ext Time (p_c), s	0.2	29.2		0.9		22.3
Intersection Summary						
HCM 7th Control Delay, s/veh			13.3			
HCM 7th LOS			B			

Queues
 3: Lovell Rd & Commercial Driveway/Lexington Dr

608 Lovell Road
 No-Build AM



Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	42	148	145	30	1789	85	1338
v/c Ratio	0.44	0.70	0.66	0.15	0.99	0.51	0.68
Control Delay (s/veh)	53.8	64.1	55.0	12.1	46.8	35.2	21.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	53.8	64.1	55.0	12.1	46.8	35.2	21.1
Queue Length 50th (ft)	22	128	96	8	-792	43	228
Queue Length 95th (ft)	60	209	166	24	#1037	m70	377
Internal Link Dist (ft)	448		1312		849		707
Turn Bay Length (ft)		150		65		280	
Base Capacity (vph)	119	264	272	265	1809	202	1966
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.56	0.53	0.11	0.99	0.42	0.68

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
 3: Lovell Rd & Commercial Driveway/Lexington Dr

608 Lovell Road
 No-Build AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕	↕		↕	↕	
Traffic Volume (vph)	23	5	11	225	3	39	27	1114	514	77	1190	27
Future Volume (vph)	23	5	11	225	3	39	27	1114	514	77	1190	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5		6.5	6.5		6.0	6.5		6.0	6.5	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95		1.00	0.95	
Flt		0.96		1.00	0.96		1.00	0.95		1.00	1.00	
Flt Protected		0.97		0.95	0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1739		1417	1390		1736	3285		1641	3429	
Flt Permitted		0.73		0.95	0.97		0.12	1.00		0.06	1.00	
Satd. Flow (perm)		1310		1417	1390		218	3285		111	3429	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	25	5	12	247	3	43	30	1224	565	85	1308	30
RTOR Reduction (vph)	0	11	0	0	14	0	0	39	0	0	1	0
Lane Group Flow (vph)	0	31	0	148	131	0	30	1750	0	85	1337	0
Heavy Vehicles (%)	2%	2%	2%	21%	2%	19%	4%	5%	4%	10%	5%	2%
Turn Type	Perm	NA		Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4		3	3		1	6		5	2	
Permitted Phases	4						6			2		
Actuated Green, G (s)		6.4		17.1	17.1		63.3	59.5		68.7	62.2	
Effective Green, g (s)		6.4		17.1	17.1		63.3	59.5		68.7	62.2	
Actuated g/C Ratio		0.06		0.15	0.15		0.55	0.52		0.60	0.54	
Clearance Time (s)		6.5		6.5	6.5		6.0	6.5		6.0	6.5	
Vehicle Extension (s)		2.5		3.5	3.5		2.5	5.0		2.5	5.0	
Lane Grp Cap (vph)		72		210	206		170	1699		152	1854	
v/s Ratio Prot				c0.10	0.09		0.01	c0.53		c0.03	c0.39	
v/s Ratio Perm		c0.02					0.09			0.30		
v/c Ratio		0.43		0.70	0.64		0.18	1.03		0.56	0.72	
Uniform Delay, d1		52.5		46.5	46.0		14.7	27.8		24.9	19.9	
Progression Factor		1.00		1.00	1.00		1.00	1.00		1.82	0.94	
Incremental Delay, d2		2.9		10.6	6.6		0.4	29.9		2.3	1.6	
Delay (s)		55.5		57.2	52.7		15.1	57.7		47.7	20.2	
Level of Service		E		E	D		B	E		D	C	
Approach Delay (s/veh)		55.5			54.9			57.0			21.9	
Approach LOS		E			D			E			C	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			42.8								HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.89									
Actuated Cycle Length (s)			115.0							25.5		
Intersection Capacity Utilization			77.8%								ICU Level of Service	D
Analysis Period (min)			15									
c	Critical Lane Group											

Queues
1: Lovell Rd & Murdock Dr

608 Lovell Road
No-Build PM



Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	654	1488	271	54	1211
v/c Ratio	0.83	0.71	0.27	0.26	0.51
Control Delay (s/veh)	54.1	14.3	4.2	10.7	11.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	54.1	14.3	4.2	10.7	11.5
Queue Length 50th (ft)	258	231	11	13	237
Queue Length 95th (ft)	308	304	m67	32	337
Internal Link Dist (ft)	1082	783			890
Turn Bay Length (ft)	220		200	100	
Base Capacity (vph)	1069	2083	997	295	2389
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.61	0.71	0.27	0.18	0.51

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM 7th Signalized Intersection Summary
 1: Lovell Rd & Murdock Dr

608 Lovell Road
 No-Build PM



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	YY		↑↑	↑	↑	↑↑
Traffic Volume (veh/h)	523	92	1399	255	51	1138
Future Volume (veh/h)	523	92	1399	255	51	1138
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	635	0	1488	201	54	1211
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	719	320	2146	957	330	2495
Arrive On Green	0.20	0.00	1.00	1.00	0.05	0.70
Sat Flow, veh/h	3563	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	635	0	1488	201	54	1211
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1781	1777
Q Serve(g_s), s	21.6	0.0	0.0	0.0	1.3	19.2
Cycle Q Clear(g_c), s	21.6	0.0	0.0	0.0	1.3	19.2
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	719	320	2146	957	330	2495
V/C Ratio(X)	0.88	0.00	0.69	0.21	0.16	0.49
Avail Cap(c_a), veh/h	1112	495	2146	957	440	2495
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.74	0.74	1.00	1.00
Uniform Delay (d), s/veh	48.5	0.0	0.0	0.0	6.9	8.4
Incr Delay (d2), s/veh	4.9	0.0	1.4	0.4	0.2	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.9	0.0	0.4	0.1	0.5	6.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	53.3	0.0	1.4	0.4	7.0	9.1
LnGrp LOS	D		A	A	A	A
Approach Vol, veh/h	635		1689			1265
Approach Delay, s/veh	53.3		1.3			9.0
Approach LOS	D		A			A
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	12.3	81.5		31.2		93.8
Change Period (Y+Rc), s	5.5	6.0		6.0		6.0
Max Green Setting (Gmax), s	14.5	54.0		39.0		74.0
Max Q Clear Time (g_c+I1), s	3.3	2.0		23.6		21.2
Green Ext Time (p_c), s	0.0	26.6		1.6		17.4

Intersection Summary

HCM 7th Control Delay, s/veh	13.2
HCM 7th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Queues
2: Lovell Rd & Outlet Dr

608 Lovell Road
No-Build PM



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	277	183	268	1488	1771
v/c Ratio	0.87	0.32	0.85	0.58	0.96
Control Delay (s/veh)	75.3	24.9	69.3	2.7	39.4
Queue Delay	0.0	0.0	0.0	0.1	0.0
Total Delay (s/veh)	75.3	24.9	69.3	2.8	39.4
Queue Length 50th (ft)	219	94	170	23	732
Queue Length 95th (ft)	#356	144	m231	57	#1002
Internal Link Dist (ft)	1150			707	783
Turn Bay Length (ft)	115		90		
Base Capacity (vph)	346	647	397	2572	1854
Starvation Cap Reductn	0	0	0	224	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.80	0.28	0.68	0.63	0.96

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM 7th Signalized Intersection Summary
 2: Lovell Rd & Outlet Dr

608 Lovell Road
 No-Build PM



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	260	172	252	1399	1297	368
Future Volume (veh/h)	260	172	252	1399	1297	368
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1796	1856	1870	1870	1870
Adj Flow Rate, veh/h	277	169	268	1488	1380	372
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	7	3	2	2	2
Cap, veh/h	308	373	354	2613	1725	452
Arrive On Green	0.17	0.17	0.07	0.74	1.00	1.00
Sat Flow, veh/h	1781	1522	1767	3647	2880	730
Grp Volume(v), veh/h	277	169	268	1488	865	887
Grp Sat Flow(s),veh/h/ln	1781	1522	1767	1777	1777	1739
Q Serve(g_s), s	19.0	11.8	6.5	23.8	0.0	0.0
Cycle Q Clear(g_c), s	19.0	11.8	6.5	23.8	0.0	0.0
Prop In Lane	1.00	1.00	1.00			0.42
Lane Grp Cap(c), veh/h	308	373	354	2613	1100	1077
V/C Ratio(X)	0.90	0.45	0.76	0.57	0.79	0.82
Avail Cap(c_a), veh/h	349	408	572	2613	1100	1077
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.33	0.33	0.75	0.75
Uniform Delay (d), s/veh	50.7	40.1	7.2	7.5	0.0	0.0
Incr Delay (d2), s/veh	23.5	0.9	0.8	0.3	4.3	5.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.5	10.4	2.2	7.6	1.3	1.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	74.2	41.0	8.0	7.8	4.3	5.5
LnGrp LOS	E	D	A	A	A	A
Approach Vol, veh/h	446			1756	1752	
Approach Delay, s/veh	61.6			7.9	4.9	
Approach LOS	E			A	A	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	14.5	83.4		27.1		97.9
Change Period (Y+Rc), s	5.5	6.0		5.5		6.0
Max Green Setting (Gmax), s	24.5	59.0		24.5		89.0
Max Q Clear Time (g_c+I1), s	8.5	2.0		21.0		25.8
Green Ext Time (p_c), s	0.5	41.8		0.5		35.4

Intersection Summary						
HCM 7th Control Delay, s/veh			12.6			
HCM 7th LOS			B			

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

Queues
 3: Lovell Rd & Commercial Driveway/Lexington Dr

608 Lovell Road
 No-Build PM



Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	9	242	231	15	1839	45	1463
v/c Ratio	0.04	0.74	0.54	0.08	0.89	0.30	0.64
Control Delay (s/veh)	0.4	60.4	21.4	10.7	30.2	22.3	18.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	0.4	60.4	21.4	10.7	30.2	22.3	18.6
Queue Length 50th (ft)	0	200	67	3	645	14	302
Queue Length 95th (ft)	0	275	143	16	#1149	m22	m369
Internal Link Dist (ft)	448		1312		849		707
Turn Bay Length (ft)		150		65		280	
Base Capacity (vph)	247	472	560	237	2065	190	2274
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.51	0.41	0.06	0.89	0.24	0.64

Intersection Summary

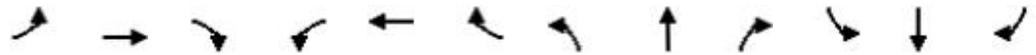
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
 3: Lovell Rd & Commercial Driveway/Lexington Dr

608 Lovell Road
 No-Build PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+		+	+		+	+		+	+	
Traffic Volume (vph)	4	0	5	392	0	67	15	1587	197	44	1408	11
Future Volume (vph)	4	0	5	392	0	67	15	1587	197	44	1408	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5		6.5	6.5		6.0	6.5		6.0	6.5	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95		1.00	0.95	
Frbp, ped/bikes		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt		0.93		1.00	0.96		1.00	0.98		1.00	1.00	
Flt Protected		0.98		0.95	0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1686		1665	1622		1770	3427		1770	3535	
Flt Permitted		1.00		0.95	0.97		0.10	1.00		0.06	1.00	
Satd. Flow (perm)		1723		1665	1622		186	3427		104	3535	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	4	0	5	404	0	69	15	1636	203	45	1452	11
RTOR Reduction (vph)	0	9	0	0	113	0	0	5	0	0	0	0
Lane Group Flow (vph)	0	0	0	242	118	0	15	1834	0	45	1463	0
Confl. Peds. (#/hr)									1	1		
Heavy Vehicles (%)	2%	2%	2%	3%	2%	2%	2%	3%	6%	2%	2%	2%
Turn Type	Perm	NA		Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4		3	3		1	6		5	2	
Permitted Phases	4						6			2		
Actuated Green, G (s)		1.0		24.5	24.5		71.2	68.8		76.8	71.6	
Effective Green, g (s)		1.0		24.5	24.5		71.2	68.8		76.8	71.6	
Actuated g/C Ratio		0.01		0.20	0.20		0.57	0.55		0.61	0.57	
Clearance Time (s)		6.5		6.5	6.5		6.0	6.5		6.0	6.5	
Vehicle Extension (s)		2.5		3.5	3.5		2.5	5.0		2.5	5.0	
Lane Grp Cap (vph)		13		326	317		136	1886		133	2024	
v/s Ratio Prot				c0.15	0.07		0.00	c0.54		c0.01	c0.41	
v/s Ratio Perm		c0.00					0.06			0.19		
v/c Ratio		0.01		0.74	0.37		0.11	0.97		0.34	0.72	
Uniform Delay, d1		61.5		47.3	43.6		15.6	27.2		25.7	19.5	
Progression Factor		1.00		1.00	1.00		1.00	1.00		2.13	1.05	
Incremental Delay, d2		0.1		9.1	0.9		0.3	15.1		0.5	1.0	
Delay (s)		61.6		56.4	44.5		15.9	42.3		55.2	21.4	
Level of Service		E		E	D		B	D		E	C	
Approach Delay (s/veh)		61.6			50.6			42.1			22.4	
Approach LOS		E			D			D			C	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			35.5									D
HCM 2000 Volume to Capacity ratio			0.87									
Actuated Cycle Length (s)			125.0							25.5		
Intersection Capacity Utilization			80.6%									D
Analysis Period (min)			15									

c Critical Lane Group



Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	288	983	575	123	1370
v/c Ratio	0.68	0.44	0.47	0.29	0.51
Control Delay (s/veh)	52.7	11.1	2.2	5.3	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	52.7	11.1	2.2	5.3	6.1
Queue Length 50th (ft)	105	180	3	19	173
Queue Length 95th (ft)	142	247	39	38	241
Internal Link Dist (ft)	1082	783			890
Turn Bay Length (ft)	220		200	100	
Base Capacity (vph)	910	2215	1226	500	2697
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.32	0.44	0.47	0.25	0.51

Intersection Summary

HCM 7th Signalized Intersection Summary
 1: Lovell Rd & Murdock Dr

608 Lovell Road
 Build AM



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	YY		↑↑	↑	↑	↑↑
Traffic Volume (veh/h)	210	41	855	500	107	1192
Future Volume (veh/h)	210	41	855	500	107	1192
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1781	1856	1811	1870	1856	1856
Adj Flow Rate, veh/h	267	0	983	349	123	1370
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	8	3	6	2	3	3
Cap, veh/h	339	157	2339	1078	408	2806
Arrive On Green	0.10	0.00	0.68	0.68	0.07	0.80
Sat Flow, veh/h	3393	1572	3532	1585	1767	3618
Grp Volume(v), veh/h	267	0	983	349	123	1370
Grp Sat Flow(s),veh/h/ln	1697	1572	1721	1585	1767	1763
Q Serve(g_s), s	8.8	0.0	14.7	10.4	2.0	14.9
Cycle Q Clear(g_c), s	8.8	0.0	14.7	10.4	2.0	14.9
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	339	157	2339	1078	408	2806
V/C Ratio(X)	0.79	0.00	0.42	0.32	0.30	0.49
Avail Cap(c_a), veh/h	944	438	2339	1078	510	2806
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.78	0.78	1.00	1.00
Uniform Delay (d), s/veh	50.6	0.0	8.3	7.6	5.1	3.9
Incr Delay (d2), s/veh	3.1	0.0	0.4	0.6	0.3	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	0.0	4.9	3.3	0.6	3.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	53.6	0.0	8.7	8.2	5.4	4.5
LnGrp LOS	D		A	A	A	A
Approach Vol, veh/h	267		1332			1493
Approach Delay, s/veh	53.6		8.6			4.6
Approach LOS	D		A			A
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	13.3	84.2		17.5		97.5
Change Period (Y+Rc), s	5.5	6.0		6.0		6.0
Max Green Setting (Gmax), s	14.5	51.0		32.0		71.0
Max Q Clear Time (g_c+I1), s	4.0	16.7		10.8		16.9
Green Ext Time (p_c), s	0.1	14.3		0.6		21.4

Intersection Summary

HCM 7th Control Delay, s/veh	10.5
HCM 7th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Queues
2: Lovell Rd & Outlet Dr/Site Driveway A

608 Lovell Road
Build AM



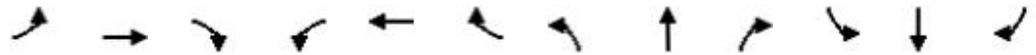
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	351	148	87	16	119	1161	24	7	1502
v/c Ratio	0.84	0.30	0.51	0.07	0.60	0.51	0.02	0.02	0.79
Control Delay (s/veh)	68.9	1.6	60.3	0.5	31.9	15.4	0.0	10.8	30.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.8
Total Delay (s/veh)	68.9	1.6	60.3	0.5	31.9	15.8	0.0	10.8	31.6
Queue Length 50th (ft)	323	0	82	0	40	266	0	2	567
Queue Length 95th (ft)	401	0	104	0	120	472	0	9	#885
Internal Link Dist (ft)		1150		562		354			783
Turn Bay Length (ft)	115		50		90		100	90	
Base Capacity (vph)	451	492	461	293	222	2269	1076	348	1913
Starvation Cap Reductn	0	0	0	0	0	542	0	0	169
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.78	0.30	0.19	0.05	0.54	0.67	0.02	0.02	0.86

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 7th Signalized Intersection Summary
 2: Lovell Rd & Outlet Dr/Site Driveway A

608 Lovell Road
 Build AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↘		↗	↘		↗	↑↑	↗	↗	↑↘	
Traffic Volume (veh/h)	312	0	132	77	0	14	106	1033	21	6	1164	173
Future Volume (veh/h)	312	0	132	77	0	14	106	1033	21	6	1164	173
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1663	1870	1870	1870	1752	1826	1870	1870	1841	1856
Adj Flow Rate, veh/h	351	0	4	87	0	0	119	1161	16	7	1308	186
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	16	2	2	2	10	5	2	2	4	3
Cap, veh/h	425	0	187	159	1	0	235	2326	1063	305	1942	274
Arrive On Green	0.21	0.00	0.12	0.06	0.00	0.00	0.04	0.67	0.67	0.01	0.63	0.63
Sat Flow, veh/h	1781	0	1581	1781	1870	0	1668	3469	1585	1781	3077	434
Grp Volume(v), veh/h	351	0	4	87	0	0	119	1161	16	7	739	755
Grp Sat Flow(s),veh/h/ln	1781	0	1581	1781	1870	0	1668	1735	1585	1781	1749	1763
Q Serve(g_s), s	28.1	0.0	0.3	7.0	0.0	0.0	3.5	24.0	0.5	0.2	39.2	40.0
Cycle Q Clear(g_c), s	28.1	0.0	0.3	7.0	0.0	0.0	3.5	24.0	0.5	0.2	39.2	40.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		0.25
Lane Grp Cap(c), veh/h	425	0	187	159	1	0	235	2326	1063	305	1104	1112
V/C Ratio(X)	0.83	0.00	0.02	0.55	0.00	0.00	0.51	0.50	0.02	0.02	0.67	0.68
Avail Cap(c_a), veh/h	473	0	187	486	135	0	310	2326	1063	419	1104	1112
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.83	0.83	0.83
Uniform Delay (d), s/veh	56.2	0.0	56.5	67.0	0.0	0.0	17.2	11.8	7.9	10.6	17.1	17.3
Incr Delay (d2), s/veh	10.6	0.0	0.0	2.9	0.0	0.0	1.3	0.8	0.0	0.0	2.7	2.8
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	13.9	0.0	0.1	3.3	0.0	0.0	1.6	8.9	0.2	0.1	15.6	16.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	66.7	0.0	56.6	69.9	0.0	0.0	18.5	12.6	8.0	10.7	19.8	20.0
LnGrp LOS	E		E	E			B	B	A	B	B	C
Approach Vol, veh/h		355			87			1296			1501	
Approach Delay, s/veh		66.6			69.9			13.1			19.9	
Approach LOS		E			E			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.5	97.5	13.4	22.6	5.7	103.2	36.0	0.0				
Change Period (Y+Rc), s	5.5	6.0	4.5	5.5	4.5	6.0	5.5	* 5.5				
Max Green Setting (Gmax), s	12.5	66.0	35.5	9.5	10.5	69.0	34.5	* 11				
Max Q Clear Time (g_c+I1), s	5.5	42.0	9.0	2.3	2.2	26.0	30.1	0.0				
Green Ext Time (p_c), s	0.1	18.2	0.2	0.0	0.0	20.8	0.5	0.0				

Intersection Summary												
HCM 7th Control Delay, s/veh			23.6									
HCM 7th LOS			C									

Notes
 User approved pedestrian interval to be less than phase max green.
 * HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Queues
 3: Lovell Rd & Commercial Driveway/Lexington Dr

608 Lovell Road
 Build AM



Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	42	148	145	30	1816	85	1422
v/c Ratio	0.44	0.70	0.66	0.16	1.00	0.51	0.72
Control Delay (s/veh)	53.8	64.1	55.0	12.6	50.6	26.1	24.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	53.8	64.1	55.0	12.6	50.6	26.1	24.3
Queue Length 50th (ft)	22	128	96	8	-816	26	465
Queue Length 95th (ft)	60	209	166	24	#1062	78	#695
Internal Link Dist (ft)	448		1312		849		272
Turn Bay Length (ft)		150		65		280	
Base Capacity (vph)	119	264	272	245	1808	202	1966
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.56	0.53	0.12	1.00	0.42	0.72

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
 3: Lovell Rd & Commercial Driveway/Lexington Dr

608 Lovell Road
 Build AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕	↕		↕	↕	
Traffic Volume (vph)	23	5	11	225	3	39	27	1138	514	77	1267	27
Future Volume (vph)	23	5	11	225	3	39	27	1138	514	77	1267	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5		6.5	6.5		6.0	6.5		6.0	6.5	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95		1.00	0.95	
Flt		0.96		1.00	0.96		1.00	0.95		1.00	1.00	
Flt Protected		0.97		0.95	0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1739		1417	1390		1736	3287		1641	3429	
Flt Permitted		0.73		0.95	0.97		0.10	1.00		0.06	1.00	
Satd. Flow (perm)		1310		1417	1390		179	3287		111	3429	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	25	5	12	247	3	43	30	1251	565	85	1392	30
RTOR Reduction (vph)	0	11	0	0	14	0	0	38	0	0	1	0
Lane Group Flow (vph)	0	31	0	148	131	0	30	1778	0	85	1421	0
Heavy Vehicles (%)	2%	2%	2%	21%	2%	19%	4%	5%	4%	10%	5%	2%
Turn Type	Perm	NA		Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4		3	3		1	6		5	2	
Permitted Phases	4						6			2		
Actuated Green, G (s)		6.4		17.1	17.1		63.3	59.5		68.7	62.2	
Effective Green, g (s)		6.4		17.1	17.1		63.3	59.5		68.7	62.2	
Actuated g/C Ratio		0.06		0.15	0.15		0.55	0.52		0.60	0.54	
Clearance Time (s)		6.5		6.5	6.5		6.0	6.5		6.0	6.5	
Vehicle Extension (s)		2.5		3.5	3.5		2.5	5.0		2.5	5.0	
Lane Grp Cap (vph)		72		210	206		149	1700		152	1854	
v/s Ratio Prot				c0.10	0.09		0.01	c0.54		c0.03	c0.41	
v/s Ratio Perm		c0.02					0.10			0.30		
v/c Ratio		0.43		0.70	0.64		0.20	1.05		0.56	0.77	
Uniform Delay, d1		52.5		46.5	46.0		15.7	27.8		25.3	20.7	
Progression Factor		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.9		10.6	6.6		0.5	35.0		3.5	3.1	
Delay (s)		55.5		57.2	52.7		16.1	62.7		28.9	23.8	
Level of Service		E		E	D		B	E		C	C	
Approach Delay (s/veh)		55.5			54.9			62.0			24.1	
Approach LOS		E			D			E			C	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			45.9									D
HCM 2000 Volume to Capacity ratio			0.90									
Actuated Cycle Length (s)			115.0						25.5			
Intersection Capacity Utilization			78.5%									D
ICU Level of Service												
Analysis Period (min)			15									
c	Critical Lane Group											

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕			↕
Traffic Vol, veh/h	0	5	1155	3	0	1373
Future Vol, veh/h	0	5	1155	3	0	1373
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, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	5	2	2	5
Mvmt Flow	0	6	1298	3	0	1543

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	-	651	0	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-
Pot Cap-1 Maneuver	0	411	-	-	0
Stage 1	0	-	-	-	0
Stage 2	0	-	-	-	0
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	-	411	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	13.87	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	411
HCM Lane V/C Ratio	-	-	0.014
HCM Ctrl Dly (s/v)	-	-	13.9
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0

Queues
1: Lovell Rd & Murdock Dr

608 Lovell Road
Build PM



Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	665	1495	278	54	1221
v/c Ratio	0.83	0.72	0.28	0.26	0.51
Control Delay (s/veh)	53.9	22.9	7.1	10.9	11.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	53.9	22.9	7.1	10.9	11.8
Queue Length 50th (ft)	263	467	43	14	243
Queue Length 95th (ft)	313	632	104	33	346
Internal Link Dist (ft)	1082	783			890
Turn Bay Length (ft)	220		200	100	
Base Capacity (vph)	1069	2071	993	292	2377
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.62	0.72	0.28	0.18	0.51

Intersection Summary

HCM 7th Signalized Intersection Summary
 1: Lovell Rd & Murdock Dr

608 Lovell Road
 Build PM



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	YY		↑↑	↑	↑	↑↑
Traffic Volume (veh/h)	533	92	1405	261	51	1148
Future Volume (veh/h)	533	92	1405	261	51	1148
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	646	0	1495	206	54	1221
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	730	325	2135	952	244	2484
Arrive On Green	0.20	0.00	0.60	0.60	0.05	0.70
Sat Flow, veh/h	3563	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	646	0	1495	206	54	1221
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1781	1777
Q Serve(g_s), s	22.0	0.0	36.2	7.5	1.3	19.7
Cycle Q Clear(g_c), s	22.0	0.0	36.2	7.5	1.3	19.7
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	730	325	2135	952	244	2484
V/C Ratio(X)	0.88	0.00	0.70	0.22	0.22	0.49
Avail Cap(c_a), veh/h	1112	495	2135	952	354	2484
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.70	0.70	1.00	1.00
Uniform Delay (d), s/veh	48.3	0.0	17.2	11.4	14.2	8.6
Incr Delay (d2), s/veh	5.1	0.0	1.4	0.4	0.3	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.1	0.0	14.0	2.6	0.5	6.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	53.4	0.0	18.6	11.8	14.5	9.3
LnGrp LOS	D		B	B	B	A
Approach Vol, veh/h	646		1701			1275
Approach Delay, s/veh	53.4		17.7			9.5
Approach LOS	D		B			A
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	12.3	81.1		31.6		93.4
Change Period (Y+Rc), s	5.5	6.0		6.0		6.0
Max Green Setting (Gmax), s	14.5	54.0		39.0		74.0
Max Q Clear Time (g_c+I1), s	3.3	38.2		24.0		21.7
Green Ext Time (p_c), s	0.0	12.0		1.6		17.6

Intersection Summary						
HCM 7th Control Delay, s/veh			21.2			
HCM 7th LOS			C			

Notes
 User approved volume balancing among the lanes for turning movement.

Queues
2: Lovell Rd & Outlet Dr/Site Driveway A

608 Lovell Road
Build PM



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	277	183	53	10	268	1491	76	21	1771
v/c Ratio	0.74	0.31	0.37	0.04	0.80	0.64	0.07	0.10	1.02
Control Delay (s/veh)	63.4	1.3	55.7	0.2	57.9	19.6	2.0	12.3	63.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0
Total Delay (s/veh)	63.4	1.3	55.7	0.2	57.9	20.3	2.0	12.3	63.3
Queue Length 50th (ft)	257	0	50	0	190	422	0	5	860
Queue Length 95th (ft)	311	0	71	0	#342	700	17	19	#1266
Internal Link Dist (ft)		1150		562		354			783
Turn Bay Length (ft)	115		50		90		100	90	
Base Capacity (vph)	459	594	473	314	340	2317	1068	257	1728
Starvation Cap Reductn	0	0	0	0	0	444	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.31	0.11	0.03	0.79	0.80	0.07	0.08	1.02

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 7th Signalized Intersection Summary
 2: Lovell Rd & Outlet Dr/Site Driveway A

608 Lovell Road
 Build PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↘		↗	↘		↗	↑↑	↗	↗	↑↘	
Traffic Volume (veh/h)	260	0	172	50	0	9	252	1402	71	20	1297	368
Future Volume (veh/h)	260	0	172	50	0	9	252	1402	71	20	1297	368
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1796	1870	1870	1870	1856	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	277	0	5	53	0	0	268	1491	61	21	1380	373
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	7	2	2	2	3	2	2	2	2	2
Cap, veh/h	354	0	160	119	1	0	291	2485	1108	245	1686	442
Arrive On Green	0.17	0.00	0.10	0.04	0.00	0.00	0.11	0.70	0.70	0.02	0.61	0.61
Sat Flow, veh/h	1781	0	1585	1781	1870	0	1767	3554	1585	1781	2785	731
Grp Volume(v), veh/h	277	0	5	53	0	0	268	1491	61	21	866	887
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	1870	0	1767	1777	1585	1781	1777	1739
Q Serve(g_s), s	22.1	0.0	0.4	4.3	0.0	0.0	13.3	31.5	1.7	0.6	54.4	59.6
Cycle Q Clear(g_c), s	22.1	0.0	0.4	4.3	0.0	0.0	13.3	31.5	1.7	0.6	54.4	59.6
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		0.42
Lane Grp Cap(c), veh/h	354	0	160	119	1	0	291	2485	1108	245	1076	1052
V/C Ratio(X)	0.78	0.00	0.03	0.45	0.00	0.00	0.92	0.60	0.06	0.09	0.80	0.84
Avail Cap(c_a), veh/h	486	0	160	498	135	0	340	2485	1108	339	1076	1052
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.74	0.74	0.74
Uniform Delay (d), s/veh	58.9	0.0	58.8	68.9	0.0	0.0	43.3	11.3	6.8	11.5	22.0	23.1
Incr Delay (d2), s/veh	5.7	0.0	0.1	2.6	0.0	0.0	26.5	1.1	0.1	0.1	4.8	6.2
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	10.5	0.0	0.2	2.1	0.0	0.0	11.7	11.7	0.6	0.3	22.7	24.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	64.6	0.0	58.9	71.5	0.0	0.0	69.8	12.4	6.9	11.6	26.9	29.3
LnGrp LOS	E		E	E			E	B	A	B	C	C
Approach Vol, veh/h		282			53			1820			1774	
Approach Delay, s/veh		64.5			71.5			20.7			27.9	
Approach LOS		E			E			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.0	93.8	10.1	20.1	7.4	107.4	30.3	0.0				
Change Period (Y+Rc), s	5.5	6.0	4.5	5.5	4.5	6.0	5.5	* 5.5				
Max Green Setting (Gmax), s	19.5	58.0	36.5	9.5	10.5	68.0	35.5	* 11				
Max Q Clear Time (g_c+I1), s	15.3	61.6	6.3	2.4	2.6	33.5	24.1	0.0				
Green Ext Time (p_c), s	0.2	0.0	0.1	0.0	0.0	24.6	0.6	0.0				

Intersection Summary												
HCM 7th Control Delay, s/veh				27.8								
HCM 7th LOS				C								

Notes
 User approved pedestrian interval to be less than phase max green.
 * HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Queues
 3: Lovell Rd & Commercial Driveway/Lexington Dr

608 Lovell Road
 Build PM



Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	9	242	231	15	1923	45	1514
v/c Ratio	0.04	0.74	0.54	0.09	0.93	0.30	0.67
Control Delay (s/veh)	0.4	60.4	21.4	10.9	33.8	14.4	19.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	0.4	60.4	21.4	10.9	33.8	14.4	19.2
Queue Length 50th (ft)	0	200	67	3	711	10	312
Queue Length 95th (ft)	0	275	143	16	#1225	36	#804
Internal Link Dist (ft)	448		1312		849		272
Turn Bay Length (ft)		150		65		280	
Base Capacity (vph)	247	472	560	225	2067	190	2274
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.51	0.41	0.07	0.93	0.24	0.67

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
 3: Lovell Rd & Commercial Driveway/Lexington Dr

608 Lovell Road
 Build PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕	↕↕		↕	↕↕	
Traffic Volume (vph)	4	0	5	392	0	67	15	1668	197	44	1458	11
Future Volume (vph)	4	0	5	392	0	67	15	1668	197	44	1458	11
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5		6.5	6.5		6.0	6.5		6.0	6.5	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95		1.00	0.95	
Frbp, ped/bikes		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt		0.93		1.00	0.96		1.00	0.98		1.00	1.00	
Flt Protected		0.98		0.95	0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1686		1665	1622		1770	3431		1770	3535	
Flt Permitted		1.00		0.95	0.97		0.09	1.00		0.06	1.00	
Satd. Flow (perm)		1723		1665	1622		165	3431		104	3535	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	4	0	5	404	0	69	15	1720	203	45	1503	11
RTOR Reduction (vph)	0	9	0	0	113	0	0	5	0	0	0	0
Lane Group Flow (vph)	0	0	0	242	118	0	15	1918	0	45	1514	0
Confl. Peds. (#/hr)									1	1		
Heavy Vehicles (%)	2%	2%	2%	3%	2%	2%	2%	3%	6%	2%	2%	2%
Turn Type	Perm	NA		Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4		3	3		1	6		5	2	
Permitted Phases	4						6			2		
Actuated Green, G (s)		1.0		24.5	24.5		71.2	68.8		76.8	71.6	
Effective Green, g (s)		1.0		24.5	24.5		71.2	68.8		76.8	71.6	
Actuated g/C Ratio		0.01		0.20	0.20		0.57	0.55		0.61	0.57	
Clearance Time (s)		6.5		6.5	6.5		6.0	6.5		6.0	6.5	
Vehicle Extension (s)		2.5		3.5	3.5		2.5	5.0		2.5	5.0	
Lane Grp Cap (vph)		13		326	317		124	1888		133	2024	
v/s Ratio Prot				c0.15	0.07		0.00	c0.56		c0.01	c0.43	
v/s Ratio Perm		c0.00					0.07			0.19		
v/c Ratio		0.01		0.74	0.37		0.12	1.02		0.34	0.75	
Uniform Delay, d1		61.5		47.3	43.6		16.3	28.1		28.3	20.0	
Progression Factor		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.1		9.1	0.9		0.3	24.7		1.1	2.6	
Delay (s)		61.6		56.4	44.5		16.6	52.8		29.4	22.5	
Level of Service		E		E	D		B	D		C	C	
Approach Delay (s/veh)		61.6			50.6			52.5			22.7	
Approach LOS		E			D			D			C	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			40.6									D
HCM 2000 Volume to Capacity ratio			0.90									
Actuated Cycle Length (s)			125.0						25.5			
Intersection Capacity Utilization			82.8%									E
Analysis Period (min)			15									

c Critical Lane Group

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕			↕
Traffic Vol, veh/h	0	3	1722	10	0	1519
Future Vol, veh/h	0	3	1722	10	0	1519
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, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	3	1832	11	0	1616

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	921	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.94	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.32	-
Pot Cap-1 Maneuver	0	272	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	272	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	18.37	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	272
HCM Lane V/C Ratio	-	-	0.012
HCM Ctrl Dly (s/v)	-	-	18.4
HCM Lane LOS	-	-	C
HCM 95th %tile Q(veh)	-	-	0

Turn Lane Warrants



HSAM Turn Lane Warrants

#	Movement	Scenario	TOD	Facility Type	Speed	Laneage/Site Properties	Three or Four Leg	Major Road Volume (veh/hr)	Major Road Volume (veh/hr/ln)	Left-Turn Volume	Limiting Major-Road Volume	Left-Turn Warranted	Advancing Volume	Right-Turn Volume	Limiting Right-Turn Volume	Right-Turn Warranted
4	NBR	Build	AM	4-lane roadway	40	On Arterials in Urban Area	Three	#N/A	#N/A		100	-	1158	3	31	No
4	NBR	Build	PM	4-lane roadway	40	On Arterials in Urban Area	Three	#N/A	#N/A		100	-	1732	10	13	No

Scoping Documents



DEVELOPMENT INFORMATION	
Project name:	
Project Description:	
Project Location	
Existing Zoning:	
Development Name:	
Developer name & address:	
Telephone number:	
Email:	
Tax Map & Parcel #:	
CHECKLIST (All items should be available at the time of discussion)	
Complete description of the development that includes:	
	Site Map details (this should be <u>attached</u>):
<input type="checkbox"/>	Building footprints
<input type="checkbox"/>	Number of units/unit size
<input type="checkbox"/>	Access points
<input type="checkbox"/>	Internal roadways (if any)
<input type="checkbox"/>	Adjacent streets
<input type="checkbox"/>	Proposed sidewalks and bicycle facilities, and
<input type="checkbox"/>	Location and number of proposed parking spaces (if applicable)
	Phasing plan (if applicable) that includes:
<input type="checkbox"/>	Phase size, location, & timing

BELOW TO BE FILLED OUT BY KNOXVILLE-KNOX COUNTY PLANNING STAFF

- Pre-study scope meeting **needed**
- Pre-study scope meeting **not needed**

Intersection(s) to study:

Level of Analysis:

Notes:

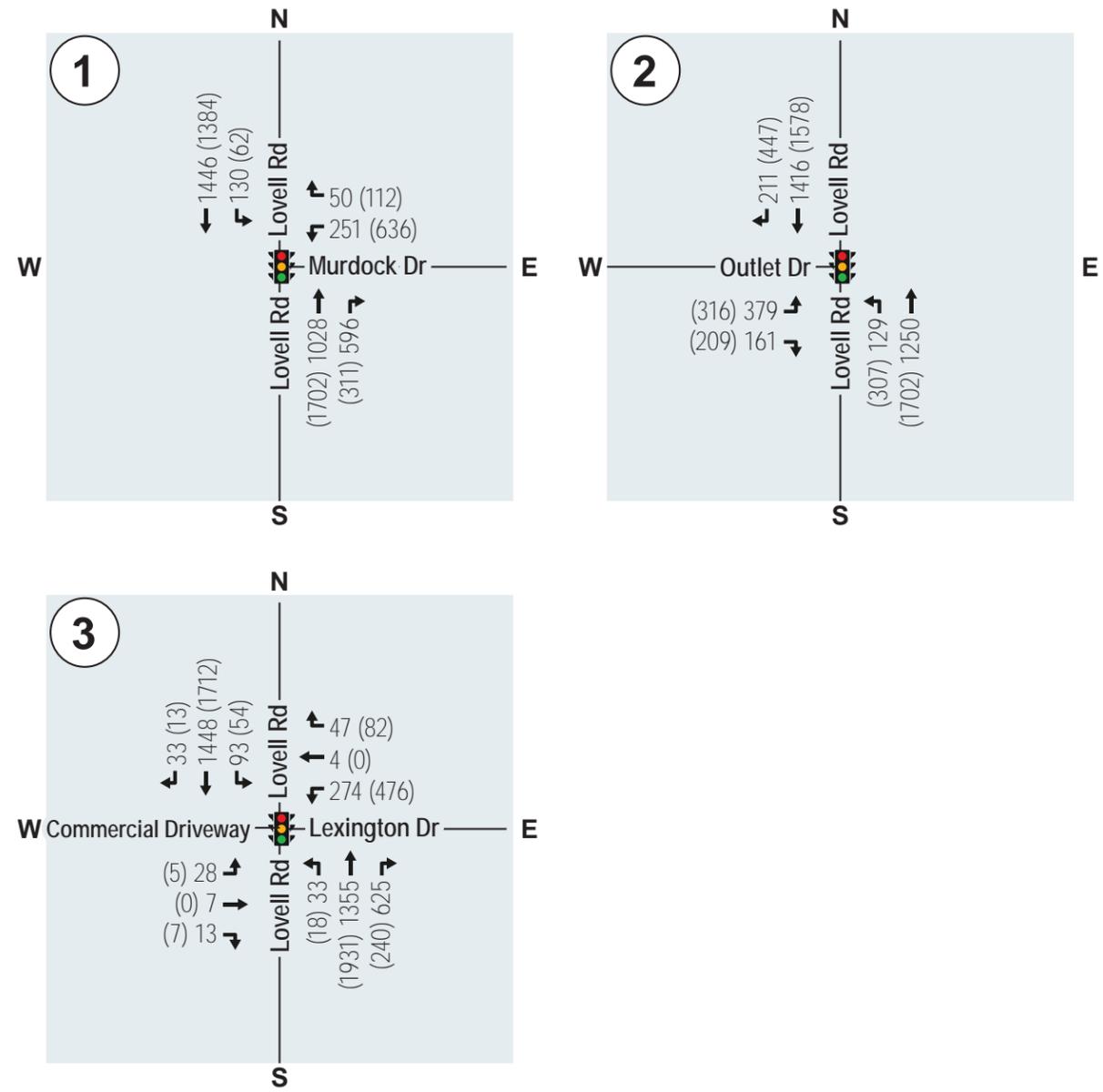
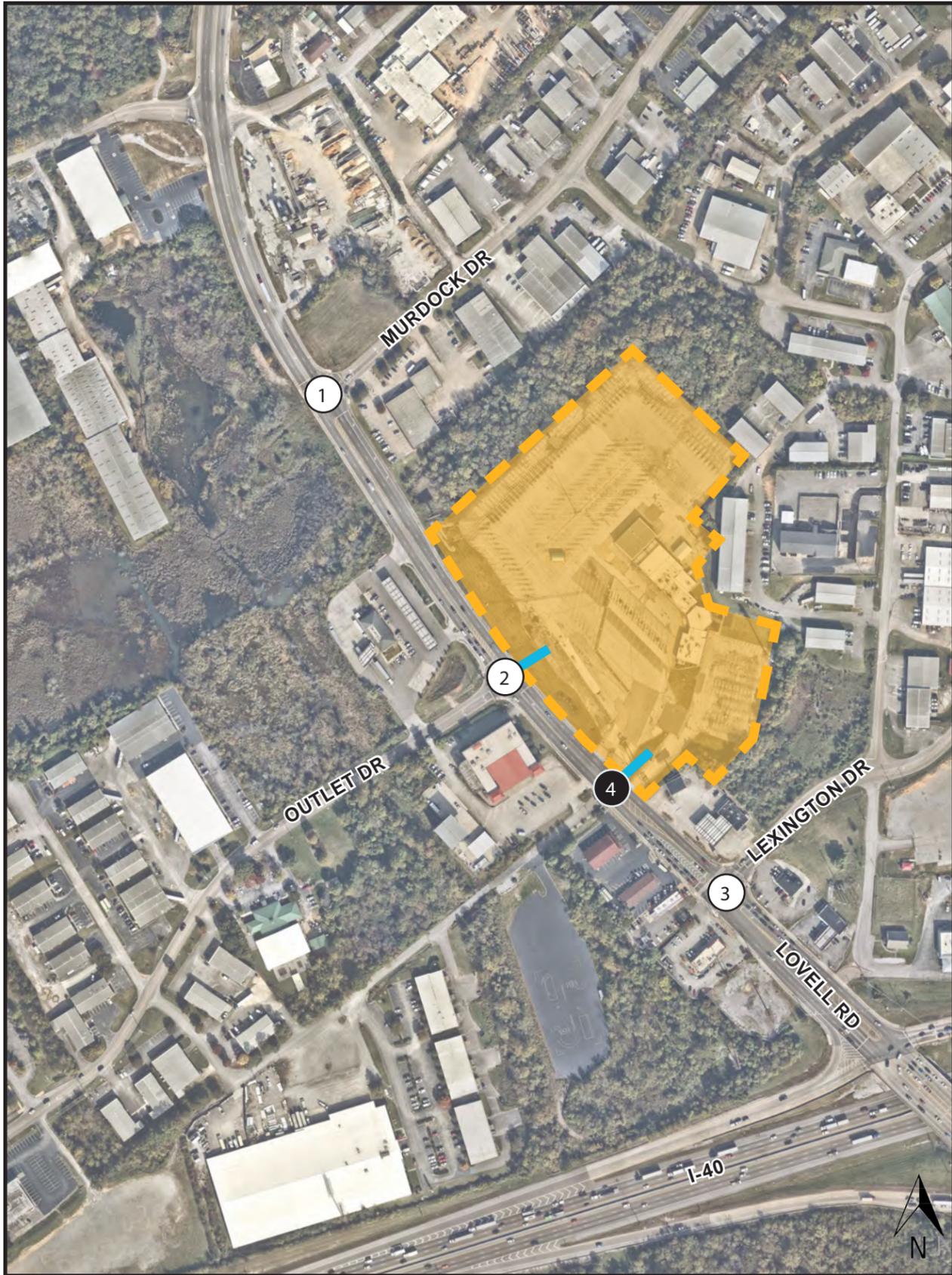


Signature

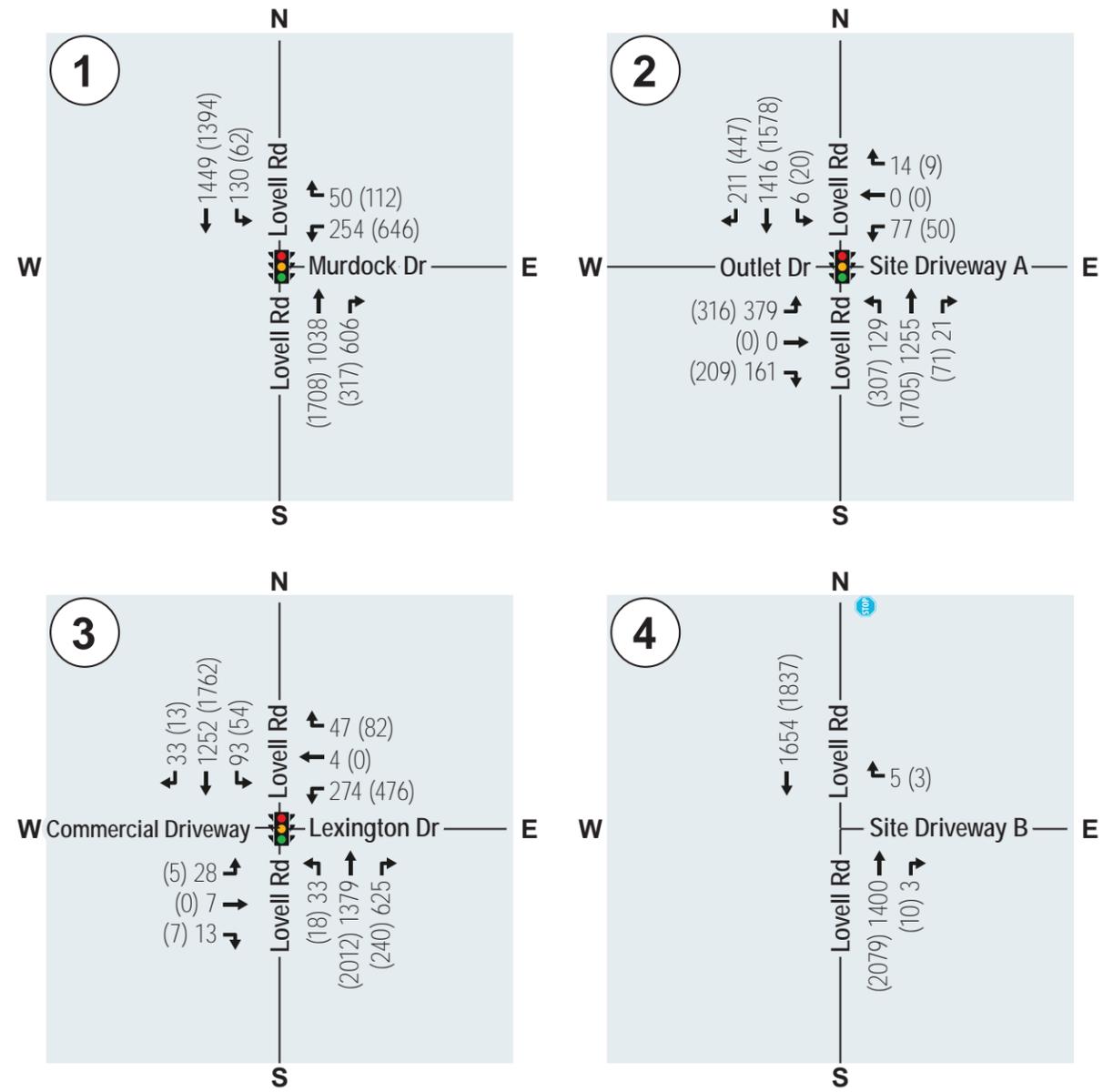
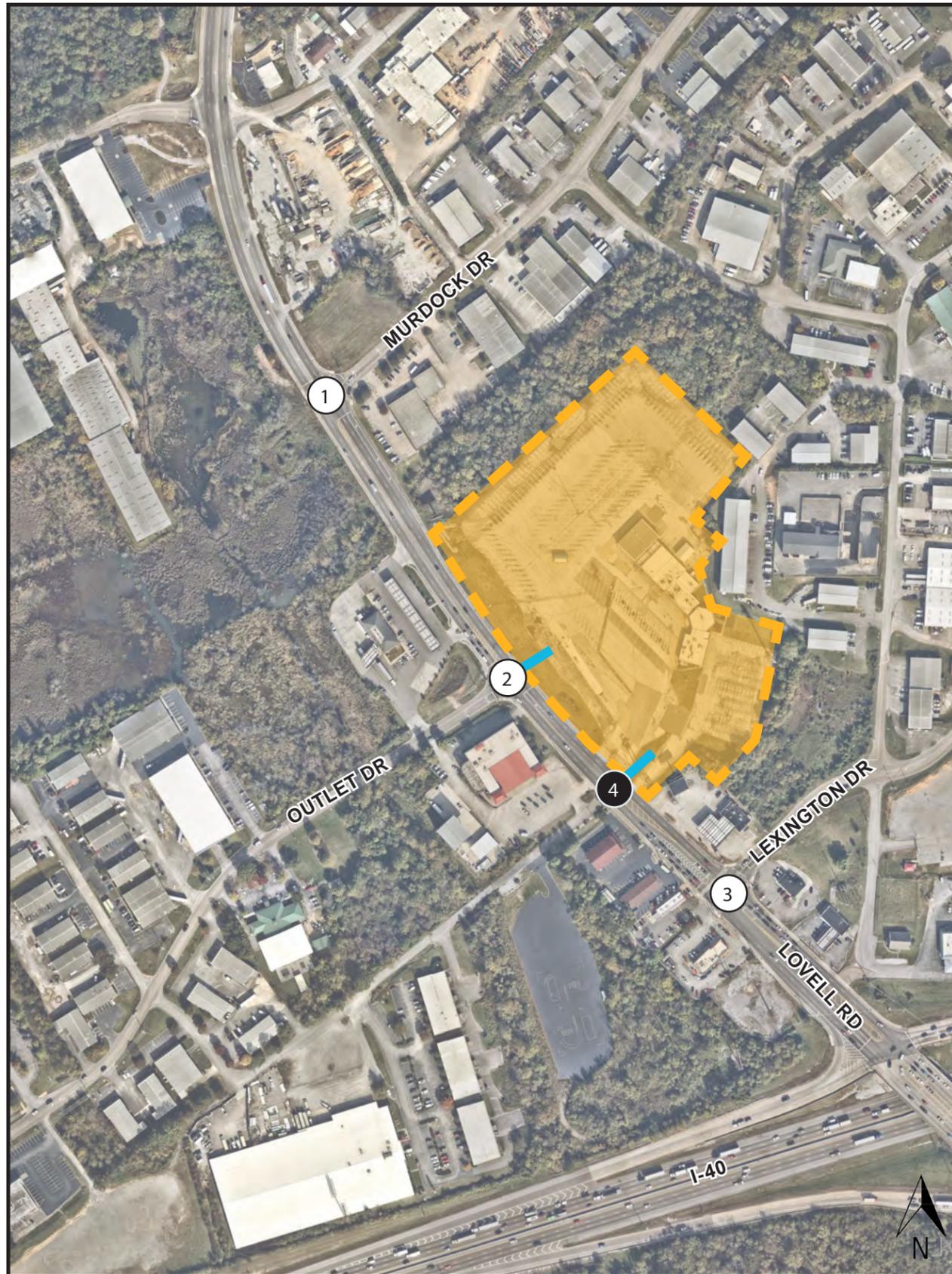
Date

Horizon Year Analyses





LEGEND	Signalized Intersection ID	Existing Traffic Signal	XX	AM Peak Hour Traffic Volumes
	Unsignalized Intersection ID	Existing Stop Sign	(XX)	PM Peak Hour Traffic Volumes
	Turning Movement			



LEGEND	Signalized Intersection ID	Existing Traffic Signal	XX AM Peak Hour Traffic Volumes
	Unsignalized Intersection ID	Existing Stop Sign	(XX) PM Peak Hour Traffic Volumes
	Turning Movement	Proposed Stop Sign	

LOS Summary - Horizon Year

#	Name	Movement	No-Build AM - Horizon		No-Build PM - Horizon		Build AM - Horizon		Build PM - Horizon	
			LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
1	Lovell Rd & Murdock Dr	NB	A	0.6	A	4.1	B	10.5	C	27.6
		SB	A	6.2	B	13.2	A	6.6	B	14.4
		WB	D	52.6	D	54	D	52.5	D	54.1
		Intersection	A	7.8	B	16.1	B	12.3	C	27.7
2	Lovell Rd & Outlet Dr/Site Driveway A	NB	B	12	B	16.1	C	21.9	C	33.3
		SB	B	16.4	F	102.4	D	35.9	D	54.3
		EB	E	57.4	E	65.2	E	67.5	F	132.8
		WB	-	-	-	-	E	69.9	E	71.6
		Intersection	C	20.9	E	59.9	C	35	D	51.3
3	Lovell Rd & Commercial Driveway/Lexington Dr	NB	F	184.2	F	162.1	F	191.2	F	182.7
		SB	C	30.8	C	32.3	D	39.5	D	42.8
		EB	E	58.5	E	60.6	E	58.5	E	60.6
		WB	E	59.3	D	49.4	E	59.3	D	49.4
		Intersection	F	111.4	F	97.1	F	117.4	F	111.6
4	Lovell Rd & Site Driveway B	WB	-	-	-	-	C	15.97	C	22.97

Table 11: Queue Summary

#	Name	Movement	Existing AM		Existing PM		No-Build AM		No-Build PM		Build AM		Build PM	
			Queue	Storage	Queue	Storage	Queue	Storage	Queue	Storage	Queue	Storage	Queue	Storage
1	Lovell Rd & Murdock Dr	WBL	131	-	288	-	141	-	308	-	142	-	313	-
		NBT	158	-	234	-	181	-	304	-	247	-	632	-
		NBR	13	200	m39	200	13	200	m67	200	39	200	104	200
		SBL	34	-	29	-	38	-	32	-	38	-	33	-
		SBT	204	-	287	-	240	-	337	-	241	-	346	-
2	Lovell Rd & Outlet Dr/Site Driveway A	EBL	321	-	#312	-	350	-	#356	-	401	-	311	-
		EBT	-	-	-	-	-	-	-	-	0	-	0	-
		EBR	109	-	129	-	120	-	144	-	-	-	-	-
		WBL	-	-	-	-	-	-	-	-	104	-	71	-
		WBT	-	-	-	-	-	-	-	-	0	-	0	-
		NBL	m46	-	m233	-	m60	-	m231	-	120	-	#342	-
		NBT	35	-	28	-	m33	-	57	-	472	-	700	-
		NBR	-	-	-	-	-	-	-	-	1	50	26	50
		SBL	-	-	-	-	-	-	-	-	9	75	19	75
SBT	456	-	#882	-	#557	-	#1002	-	#885	-	#1266	-		
3	Lovell Rd & Commercial Driveway/Lexington Dr	EBT	56	-	0	-	60	-	0	-	60	-	0	-
		WBL	195	-	258	-	209	-	275	-	209	-	275	-
		WBT	154	-	127	-	166	-	143	-	166	-	143	-
		NBL	22	65	15	65	24	65	16	65	24	65	16	65
		NBT	#921	-	#999	-	#1037	-	#1149	-	#1062	-	#1225	-
		SBL	m71	280	m22	280	m70	280	m22	280	78	280	36	280
SBT	347	-	360	-	377	-	m369	-	#695	-	#804	-		
4	Lovell Rd & Site Driveway B	WB	-	-	-	-	-	-	-	0	-	0	-	



Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	346	1182	685	149	1662
v/c Ratio	0.72	0.56	0.57	0.42	0.63
Control Delay (s/veh)	52.6	11.5	3.3	8.0	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	52.6	11.5	3.3	8.0	8.5
Queue Length 50th (ft)	127	179	17	26	267
Queue Length 95th (ft)	166	m255	m52	50	368
Internal Link Dist (ft)	1082	783			890
Turn Bay Length (ft)	220		200	100	
Base Capacity (vph)	910	2121	1196	417	2633
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.38	0.56	0.57	0.36	0.63

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

HCM 7th Signalized Intersection Summary
 1: Lovell Rd & Murdock Dr

608 Lovell Road
 No-Build AM_Horizon



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↑↑	↗	↖	↑↑
Traffic Volume (veh/h)	251	50	1028	596	130	1446
Future Volume (veh/h)	251	50	1028	596	130	1446
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1781	1856	1811	1870	1856	1856
Adj Flow Rate, veh/h	324	0	1182	442	149	1662
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	8	3	6	2	3	3
Cap, veh/h	398	185	2276	1049	388	2744
Arrive On Green	0.12	0.00	1.00	1.00	0.07	0.78
Sat Flow, veh/h	3393	1572	3532	1585	1767	3618
Grp Volume(v), veh/h	324	0	1182	442	149	1662
Grp Sat Flow(s),veh/h/ln	1697	1572	1721	1585	1767	1763
Q Serve(g_s), s	10.7	0.0	0.0	0.0	2.7	22.7
Cycle Q Clear(g_c), s	10.7	0.0	0.0	0.0	2.7	22.7
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	398	185	2276	1049	388	2744
V/C Ratio(X)	0.81	0.00	0.52	0.42	0.38	0.61
Avail Cap(c_a), veh/h	944	438	2276	1049	489	2744
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.64	0.64	1.00	1.00
Uniform Delay (d), s/veh	49.5	0.0	0.0	0.0	4.0	5.3
Incr Delay (d2), s/veh	3.1	0.0	0.5	0.8	0.5	1.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	0.0	0.2	0.2	0.8	6.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	52.6	0.0	0.5	0.8	4.5	6.3
LnGrp LOS	D		A	A	A	A
Approach Vol, veh/h	324		1624			1811
Approach Delay, s/veh	52.6		0.6			6.2
Approach LOS	D		A			A
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	13.4	82.1		19.5		95.5
Change Period (Y+Rc), s	5.5	6.0		6.0		6.0
Max Green Setting (Gmax), s	14.5	51.0		32.0		71.0
Max Q Clear Time (g_c+I1), s	4.7	2.0		12.7		24.7
Green Ext Time (p_c), s	0.2	21.9		0.8		26.9

Intersection Summary

HCM 7th Control Delay, s/veh			7.8			
HCM 7th LOS			A			

Notes

User approved volume balancing among the lanes for turning movement.



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	426	181	145	1404	1828
v/c Ratio	0.94	0.37	0.69	0.64	1.06
Control Delay (s/veh)	71.3	24.9	45.4	2.2	63.9
Queue Delay	0.0	0.0	0.0	0.2	0.0
Total Delay (s/veh)	71.3	24.9	45.4	2.5	63.9
Queue Length 50th (ft)	311	100	79	40	-684
Queue Length 95th (ft)	#491	146	m58	m30	#1022
Internal Link Dist (ft)	1150			707	783
Turn Bay Length (ft)	115		90		
Base Capacity (vph)	469	592	330	2209	1727
Starvation Cap Reductn	0	0	0	223	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.91	0.31	0.44	0.71	1.06

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

HCM 7th Signalized Intersection Summary
 2: Lovell Rd & Outlet Dr

608 Lovell Road
 No-Build AM_Horizon



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	379	161	129	1250	1416	211
Future Volume (veh/h)	379	161	129	1250	1416	211
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1663	1752	1826	1841	1856
Adj Flow Rate, veh/h	426	177	145	1404	1591	227
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	16	10	5	4	3
Cap, veh/h	454	437	285	2237	1669	234
Arrive On Green	0.26	0.26	0.06	0.64	1.00	1.00
Sat Flow, veh/h	1781	1409	1668	3561	3172	432
Grp Volume(v), veh/h	426	177	145	1404	891	927
Grp Sat Flow(s),veh/h/ln	1781	1409	1668	1735	1749	1763
Q Serve(g_s), s	26.9	11.4	4.2	27.8	0.0	0.0
Cycle Q Clear(g_c), s	26.9	11.4	4.2	27.8	0.0	0.0
Prop In Lane	1.00	1.00	1.00			0.24
Lane Grp Cap(c), veh/h	454	437	285	2237	947	955
V/C Ratio(X)	0.94	0.40	0.51	0.63	0.94	0.97
Avail Cap(c_a), veh/h	472	452	476	2237	947	955
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.09	0.09	0.72	0.72
Uniform Delay (d), s/veh	41.9	31.3	9.4	12.2	0.0	0.0
Incr Delay (d2), s/veh	26.1	0.6	0.1	0.1	14.1	18.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.0	9.6	1.4	9.5	3.7	5.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	68.0	31.9	9.5	12.3	14.1	18.7
LnGrp LOS	E	C	A	B	B	B
Approach Vol, veh/h	603			1549	1818	
Approach Delay, s/veh	57.4			12.0	16.4	
Approach LOS	E			B	B	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	11.9	68.3		34.8		80.2
Change Period (Y+Rc), s	5.5	6.0		5.5		6.0
Max Green Setting (Gmax), s	19.5	48.0		30.5		73.0
Max Q Clear Time (g_c+I1), s	6.2	2.0		28.9		29.8
Green Ext Time (p_c), s	0.2	36.8		0.4		26.4
Intersection Summary						
HCM 7th Control Delay, s/veh			20.9			
HCM 7th LOS			C			

Queues
3: Lovell Rd & Commercial Driveway/Lexington Dr

608 Lovell Road
No-Build AM_Horizon



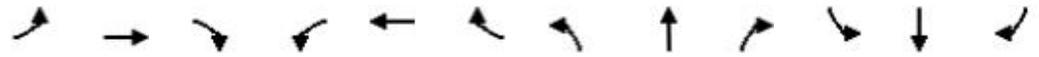
Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	53	181	176	36	2176	102	1627
v/c Ratio	0.54	0.79	0.73	0.23	1.30	0.58	0.86
Control Delay (s/veh)	61.3	69.2	59.2	14.8	165.9	34.2	29.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	61.3	69.2	59.2	14.8	165.9	34.2	29.2
Queue Length 50th (ft)	30	156	120	11	~1177	59	~388
Queue Length 95th (ft)	73	#270	202	27	#1368	m67	m#426
Internal Link Dist (ft)	448		1312		849		707
Turn Bay Length (ft)		150		65		280	
Base Capacity (vph)	117	264	273	217	1675	203	1897
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.69	0.64	0.17	1.30	0.50	0.86

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
 3: Lovell Rd & Commercial Driveway/Lexington Dr

608 Lovell Road
 No-Build AM_Horizon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕	↕↕		↕	↕↕	
Traffic Volume (vph)	28	7	13	274	4	47	33	1355	625	93	1448	33
Future Volume (vph)	28	7	13	274	4	47	33	1355	625	93	1448	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5		6.5	6.5		6.0	6.5		6.0	6.5	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95		1.00	0.95	
Flt		0.96		1.00	0.96		1.00	0.95		1.00	1.00	
Flt Protected		0.97		0.95	0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1745		1417	1390		1736	3285		1641	3429	
Flt Permitted		0.72		0.95	0.97		0.07	1.00		0.07	1.00	
Satd. Flow (perm)		1289		1417	1390		131	3285		116	3429	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	31	8	14	301	4	52	36	1489	687	102	1591	36
RTOR Reduction (vph)	0	11	0	0	13	0	0	42	0	0	1	0
Lane Group Flow (vph)	0	42	0	181	163	0	36	2134	0	102	1626	0
Heavy Vehicles (%)	2%	2%	2%	21%	2%	19%	4%	5%	4%	10%	5%	2%
Turn Type	Perm	NA		Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4		3	3		1	6		5	2	
Permitted Phases	4						6			2		
Actuated Green, G (s)		6.9		18.8	18.8		59.8	55.8		67.8	59.8	
Effective Green, g (s)		6.9		18.8	18.8		59.8	55.8		67.8	59.8	
Actuated g/C Ratio		0.06		0.16	0.16		0.52	0.49		0.59	0.52	
Clearance Time (s)		6.5		6.5	6.5		6.0	6.5		6.0	6.5	
Vehicle Extension (s)		2.5		3.5	3.5		2.5	5.0		2.5	5.0	
Lane Grp Cap (vph)		77		231	227		123	1593		174	1783	
v/s Ratio Prot				c0.13	0.12		0.01	c0.65		c0.04	c0.47	
v/s Ratio Perm		c0.03					0.14			0.31		
v/c Ratio		0.54		0.78	0.72		0.29	1.34		0.59	0.91	
Uniform Delay, d1		52.5		46.1	45.6		20.9	29.6		24.7	25.2	
Progression Factor		1.00		1.00	1.00		1.00	1.00		1.69	1.09	
Incremental Delay, d2		6.0		16.2	10.6		1.0	157.2		1.1	2.6	
Delay (s)		58.5		62.4	56.2		21.9	186.8		42.8	30.0	
Level of Service		E		E	E		C	F		D	C	
Approach Delay (s/veh)		58.5			59.3			184.2			30.8	
Approach LOS		E			E			F			C	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			111.4									F
HCM 2000 Volume to Capacity ratio			1.10									
Actuated Cycle Length (s)			115.0						25.5			
Intersection Capacity Utilization			91.3%									F
ICU Level of Service												
Analysis Period (min)			15									
c	Critical Lane Group											



Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	796	1811	331	66	1472
v/c Ratio	0.87	0.93	0.35	0.38	0.65
Control Delay (s/veh)	53.2	27.4	6.9	18.5	16.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	53.2	27.4	6.9	18.5	16.6
Queue Length 50th (ft)	314	562	27	19	373
Queue Length 95th (ft)	371	m#987	m127	53	505
Internal Link Dist (ft)	1082	783			890
Turn Bay Length (ft)	220		200	100	
Base Capacity (vph)	1069	1943	940	258	2253
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.74	0.93	0.35	0.26	0.65

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

HCM 7th Signalized Intersection Summary
 1: Lovell Rd & Murdock Dr

608 Lovell Road
 No-Build PM_Horizon



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↶↶		↕↕	↷	↶	↕↕
Traffic Volume (veh/h)	636	112	1702	311	62	1384
Future Volume (veh/h)	636	112	1702	311	62	1384
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	776	0	1811	253	66	1472
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	860	383	1994	889	273	2354
Arrive On Green	0.24	0.00	1.00	1.00	0.06	0.66
Sat Flow, veh/h	3563	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	776	0	1811	253	66	1472
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1781	1777
Q Serve(g_s), s	26.4	0.0	0.0	0.0	1.8	29.8
Cycle Q Clear(g_c), s	26.4	0.0	0.0	0.0	1.8	29.8
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	860	383	1994	889	273	2354
V/C Ratio(X)	0.90	0.00	0.91	0.28	0.24	0.63
Avail Cap(c_a), veh/h	1112	495	1994	889	378	2354
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.57	0.57	1.00	1.00
Uniform Delay (d), s/veh	46.0	0.0	0.0	0.0	8.7	12.2
Incr Delay (d2), s/veh	8.0	0.0	4.6	0.5	0.3	1.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.4	0.0	1.3	0.1	0.7	10.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	54.0	0.0	4.6	0.5	9.0	13.4
LnGrp LOS	D		A	A	A	B
Approach Vol, veh/h	776		2064			1538
Approach Delay, s/veh	54.0		4.1			13.2
Approach LOS	D		A			B
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	12.7	76.1		36.2		88.8
Change Period (Y+Rc), s	5.5	6.0		6.0		6.0
Max Green Setting (Gmax), s	14.5	54.0		39.0		74.0
Max Q Clear Time (g_c+I1), s	3.8	2.0		28.4		31.8
Green Ext Time (p_c), s	0.1	35.4		1.8		21.5

Intersection Summary

HCM 7th Control Delay, s/veh			16.1			
HCM 7th LOS			B			

Notes

User approved volume balancing among the lanes for turning movement.



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	336	222	327	1811	2155
v/c Ratio	0.97	0.35	0.90	0.72	1.26
Control Delay (s/veh)	91.8	25.4	59.3	8.2	148.1
Queue Delay	0.0	0.0	0.0	0.3	0.0
Total Delay (s/veh)	91.8	25.4	59.3	8.5	148.1
Queue Length 50th (ft)	277	119	218	32	~1111
Queue Length 95th (ft)	#469	186	m211	m54	#1357
Internal Link Dist (ft)	1150			707	783
Turn Bay Length (ft)	115		90		
Base Capacity (vph)	346	662	401	2519	1709
Starvation Cap Reductn	0	0	0	221	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.97	0.34	0.82	0.79	1.26

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

HCM 7th Signalized Intersection Summary
 2: Lovell Rd & Outlet Dr

608 Lovell Road
 No-Build PM_Horizon



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	316	209	307	1702	1578	447
Future Volume (veh/h)	316	209	307	1702	1578	447
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1796	1856	1870	1870	1870
Adj Flow Rate, veh/h	336	217	327	1811	1679	455
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	7	3	2	2	2
Cap, veh/h	349	552	353	2530	1400	363
Arrive On Green	0.20	0.20	0.17	0.71	1.00	1.00
Sat Flow, veh/h	1781	1522	1767	3647	2887	723
Grp Volume(v), veh/h	336	217	327	1811	1040	1094
Grp Sat Flow(s),veh/h/ln	1781	1522	1767	1777	1777	1740
Q Serve(g_s), s	23.4	13.2	18.6	37.4	62.6	60.6
Cycle Q Clear(g_c), s	23.4	13.2	18.6	37.4	62.6	60.6
Prop In Lane	1.00	1.00	1.00			0.42
Lane Grp Cap(c), veh/h	349	552	353	2530	890	872
V/C Ratio(X)	0.96	0.39	0.93	0.72	1.17	1.25
Avail Cap(c_a), veh/h	349	552	404	2530	890	872
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.09	0.09	0.61	0.61
Uniform Delay (d), s/veh	49.8	29.6	42.5	10.6	0.0	0.0
Incr Delay (d2), s/veh	38.1	0.5	3.6	0.2	83.2	120.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.1	12.4	10.2	12.3	20.6	29.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	87.9	30.0	46.1	10.7	83.2	120.6
LnGrp LOS	F	C	D	B	F	F
Approach Vol, veh/h	553			2138	2134	
Approach Delay, s/veh	65.2			16.1	102.4	
Approach LOS	E			B	F	
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	26.4	68.6		30.0		95.0
Change Period (Y+Rc), s	5.5	6.0		5.5		6.0
Max Green Setting (Gmax), s	24.5	59.0		24.5		89.0
Max Q Clear Time (g_c+I1), s	20.6	64.6		25.4		39.4
Green Ext Time (p_c), s	0.3	0.0		0.0		38.5

Intersection Summary

HCM 7th Control Delay, s/veh	59.9
HCM 7th LOS	E

Notes

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



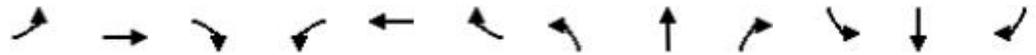
Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	12	295	281	19	2238	56	1778
v/c Ratio	0.06	0.78	0.59	0.13	1.19	0.35	0.85
Control Delay (s/veh)	0.6	59.4	25.3	14.5	118.0	26.2	26.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	0.6	59.4	25.3	14.5	118.0	26.2	26.7
Queue Length 50th (ft)	0	240	106	5	~1154	21	407
Queue Length 95th (ft)	0	331	192	20	#1550	m22	m404
Internal Link Dist (ft)	448		1312		849		707
Turn Bay Length (ft)		150		65		280	
Base Capacity (vph)	247	472	560	190	1884	189	2095
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.63	0.50	0.10	1.19	0.30	0.85

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

HCM Signalized Intersection Capacity Analysis
 3: Lovell Rd & Commercial Driveway/Lexington Dr

608 Lovell Road
 No-Build PM_Horizon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		+		+	+		+	+		+	+	
Traffic Volume (vph)	5	0	7	476	0	82	18	1931	240	54	1712	13
Future Volume (vph)	5	0	7	476	0	82	18	1931	240	54	1712	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5		6.5	6.5		6.0	6.5		6.0	6.5	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95		1.00	0.95	
Frbp, ped/bikes		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt		0.92		1.00	0.95		1.00	0.98		1.00	1.00	
Flt Protected		0.98		0.95	0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1681		1665	1621		1770	3427		1770	3535	
Flt Permitted		1.00		0.95	0.97		0.06	1.00		0.06	1.00	
Satd. Flow (perm)		1716		1665	1621		118	3427		112	3535	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	5	0	7	491	0	85	19	1991	247	56	1765	13
RTOR Reduction (vph)	0	12	0	0	108	0	0	6	0	0	0	0
Lane Group Flow (vph)	0	0	0	295	173	0	19	2232	0	56	1778	0
Confl. Peds. (#/hr)									1	1		
Heavy Vehicles (%)	2%	2%	2%	3%	2%	2%	2%	3%	6%	2%	2%	2%
Turn Type	Perm	NA		Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4		3	3		1	6		5	2	
Permitted Phases	4						6			2		
Actuated Green, G (s)		2.0		28.4	28.4		65.9	63.4		72.3	66.6	
Effective Green, g (s)		2.0		28.4	28.4		65.9	63.4		72.3	66.6	
Actuated g/C Ratio		0.02		0.23	0.23		0.53	0.51		0.58	0.53	
Clearance Time (s)		6.5		6.5	6.5		6.0	6.5		6.0	6.5	
Vehicle Extension (s)		2.5		3.5	3.5		2.5	5.0		2.5	5.0	
Lane Grp Cap (vph)		27		378	368		95	1738		140	1883	
v/s Ratio Prot				c0.18	0.11		0.00	c0.65		c0.02	c0.50	
v/s Ratio Perm		c0.00					0.10			0.21		
v/c Ratio		0.01		0.78	0.47		0.20	1.28		0.40	0.94	
Uniform Delay, d1		60.5		45.4	41.8		25.9	30.8		27.6	27.4	
Progression Factor		1.00		1.00	1.00		1.00	1.00		2.06	1.10	
Incremental Delay, d2		0.1		10.3	1.1		0.8	132.4		0.1	1.4	
Delay (s)		60.6		55.7	42.9		26.6	163.2		57.0	31.5	
Level of Service		E		E	D		C	F		E	C	
Approach Delay (s/veh)		60.6			49.4			162.1			32.3	
Approach LOS		E			D			F			C	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			97.1									F
HCM 2000 Volume to Capacity ratio			1.07									
Actuated Cycle Length (s)			125.0							25.5		
Intersection Capacity Utilization			94.2%									F
Analysis Period (min)			15									

c Critical Lane Group



Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	349	1193	697	149	1666
v/c Ratio	0.72	0.56	0.58	0.43	0.63
Control Delay (s/veh)	52.6	14.9	4.9	8.1	8.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	52.6	14.9	4.9	8.1	8.6
Queue Length 50th (ft)	129	254	38	26	270
Queue Length 95th (ft)	167	377	124	50	371
Internal Link Dist (ft)	1082	783			890
Turn Bay Length (ft)	220		200	100	
Base Capacity (vph)	910	2115	1196	413	2630
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.38	0.56	0.58	0.36	0.63

Intersection Summary

HCM 7th Signalized Intersection Summary
 1: Lovell Rd & Murdock Dr

608 Lovell Road
 Build AM_Horizon

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 		 			 
Traffic Volume (veh/h)	254	50	1038	606	130	1449
Future Volume (veh/h)	254	50	1038	606	130	1449
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1781	1856	1811	1870	1856	1856
Adj Flow Rate, veh/h	327	0	1193	452	149	1666
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	8	3	6	2	3	3
Cap, veh/h	401	186	2273	1047	330	2741
Arrive On Green	0.12	0.00	0.66	0.66	0.07	0.78
Sat Flow, veh/h	3393	1572	3532	1585	1767	3618
Grp Volume(v), veh/h	327	0	1193	452	149	1666
Grp Sat Flow(s),veh/h/ln	1697	1572	1721	1585	1767	1763
Q Serve(g_s), s	10.8	0.0	20.7	15.6	2.7	22.9
Cycle Q Clear(g_c), s	10.8	0.0	20.7	15.6	2.7	22.9
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	401	186	2273	1047	330	2741
V/C Ratio(X)	0.81	0.00	0.52	0.43	0.45	0.61
Avail Cap(c_a), veh/h	944	438	2273	1047	430	2741
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.64	0.64	1.00	1.00
Uniform Delay (d), s/veh	49.5	0.0	10.1	9.3	8.5	5.4
Incr Delay (d2), s/veh	3.1	0.0	0.6	0.8	0.7	1.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	0.0	7.0	5.0	0.9	6.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	52.5	0.0	10.7	10.1	9.2	6.4
LnGrp LOS	D		B	B	A	A
Approach Vol, veh/h	327		1645			1815
Approach Delay, s/veh	52.5		10.5			6.6
Approach LOS	D		B			A
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	13.4	82.0		19.6		95.4
Change Period (Y+Rc), s	5.5	6.0		6.0		6.0
Max Green Setting (Gmax), s	14.5	51.0		32.0		71.0
Max Q Clear Time (g_c+I1), s	4.7	22.7		12.8		24.9
Green Ext Time (p_c), s	0.2	16.8		0.8		26.9
Intersection Summary						
HCM 7th Control Delay, s/veh			12.3			
HCM 7th LOS			B			
Notes						
User approved volume balancing among the lanes for turning movement.						

Queues
2: Lovell Rd & Outlet Dr/Site Driveway A

608 Lovell Road
Build AM_Horizon



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	426	181	87	16	145	1410	24	7	1828
v/c Ratio	0.92	0.34	0.51	0.07	0.73	0.65	0.02	0.04	1.03
Control Delay (s/veh)	76.8	1.8	59.6	0.6	52.7	19.8	0.0	11.8	63.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	23.5
Total Delay (s/veh)	76.8	1.8	59.6	0.6	52.7	20.7	0.0	11.8	86.6
Queue Length 50th (ft)	406	0	82	0	89	382	0	2	906
Queue Length 95th (ft)	#505	0	102	0	175	656	0	9	#1258
Internal Link Dist (ft)		1150		562		354			783
Turn Bay Length (ft)	115		50		90		100	90	
Base Capacity (vph)	476	526	485	268	214	2182	1039	258	1778
Starvation Cap Reductn	0	0	0	0	0	453	0	0	98
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.89	0.34	0.18	0.06	0.68	0.82	0.02	0.03	1.09

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 7th Signalized Intersection Summary
 2: Lovell Rd & Outlet Dr/Site Driveway A

608 Lovell Road
 Build AM_Horizon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷		↶	↶↷	↷	↶	↶↷	
Traffic Volume (veh/h)	379	0	161	77	0	14	129	1255	21	6	1416	211
Future Volume (veh/h)	379	0	161	77	0	14	129	1255	21	6	1416	211
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1663	1870	1870	1870	1752	1826	1870	1870	1841	1856
Adj Flow Rate, veh/h	426	0	7	87	0	0	145	1410	16	7	1591	229
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	16	2	2	2	10	5	2	2	4	3
Cap, veh/h	495	0	249	159	1	0	167	2190	1001	207	1780	251
Arrive On Green	0.25	0.00	0.16	0.06	0.00	0.00	0.05	0.63	0.63	0.01	0.58	0.58
Sat Flow, veh/h	1781	0	1582	1781	1870	0	1668	3469	1585	1781	3076	435
Grp Volume(v), veh/h	426	0	7	87	0	0	145	1410	16	7	892	928
Grp Sat Flow(s),veh/h/ln	1781	0	1582	1781	1870	0	1668	1735	1585	1781	1749	1762
Q Serve(g_s), s	34.2	0.0	0.5	7.0	0.0	0.0	5.8	36.6	0.5	0.2	63.6	68.1
Cycle Q Clear(g_c), s	34.2	0.0	0.5	7.0	0.0	0.0	5.8	36.6	0.5	0.2	63.6	68.1
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		0.25
Lane Grp Cap(c), veh/h	495	0	249	159	1	0	167	2190	1001	207	1012	1019
V/C Ratio(X)	0.86	0.00	0.03	0.55	0.00	0.00	0.87	0.64	0.02	0.03	0.88	0.91
Avail Cap(c_a), veh/h	498	0	249	510	135	0	220	2190	1001	321	1012	1019
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.71	0.71	0.71
Uniform Delay (d), s/veh	53.5	0.0	51.7	67.0	0.0	0.0	37.8	16.6	10.0	15.4	26.3	27.2
Incr Delay (d2), s/veh	14.2	0.0	0.0	2.9	0.0	0.0	22.3	1.5	0.0	0.0	8.1	10.2
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	17.2	0.0	0.2	3.3	0.0	0.0	4.0	14.1	0.2	0.1	27.1	29.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	67.8	0.0	51.8	69.9	0.0	0.0	60.1	18.1	10.0	15.4	34.4	37.4
LnGrp LOS	E		D	E			E	B	A	B	C	D
Approach Vol, veh/h		433			87			1571			1827	
Approach Delay, s/veh		67.5			69.9			21.9			35.9	
Approach LOS		E			E			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.4	89.9	13.4	28.3	5.7	97.6	41.7	0.0				
Change Period (Y+Rc), s	5.5	6.0	4.5	5.5	4.5	6.0	5.5	* 5.5				
Max Green Setting (Gmax), s	12.5	64.0	37.5	9.5	10.5	67.0	36.5	* 11				
Max Q Clear Time (g_c+I1), s	7.8	70.1	9.0	2.5	2.2	38.6	36.2	0.0				
Green Ext Time (p_c), s	0.1	0.0	0.2	0.0	0.0	20.0	0.1	0.0				

Intersection Summary												
HCM 7th Control Delay, s/veh			34.5									
HCM 7th LOS			C									

Notes
 User approved pedestrian interval to be less than phase max green.
 * HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	53	181	176	36	2202	102	1712
v/c Ratio	0.54	0.79	0.73	0.23	1.32	0.58	0.90
Control Delay (s/veh)	61.3	69.2	59.2	14.8	173.0	31.5	34.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	61.3	69.2	59.2	14.8	173.0	31.5	34.3
Queue Length 50th (ft)	30	156	120	11	~1201	34	~761
Queue Length 95th (ft)	73	#270	202	27	#1391	96	#950
Internal Link Dist (ft)	448		1312		849		272
Turn Bay Length (ft)		150		65		280	
Base Capacity (vph)	117	264	273	217	1674	203	1897
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.69	0.64	0.17	1.32	0.50	0.90

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
 3: Lovell Rd & Commercial Driveway/Lexington Dr

608 Lovell Road
 Build AM_Horizon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕	↕		↕	↕	
Traffic Volume (vph)	28	7	13	274	4	47	33	1379	625	93	1525	33
Future Volume (vph)	28	7	13	274	4	47	33	1379	625	93	1525	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5		6.5	6.5		6.0	6.5		6.0	6.5	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95		1.00	0.95	
Flt		0.96		1.00	0.96		1.00	0.95		1.00	1.00	
Flt Protected		0.97		0.95	0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1745		1417	1390		1736	3287		1641	3429	
Flt Permitted		0.72		0.95	0.97		0.07	1.00		0.07	1.00	
Satd. Flow (perm)		1289		1417	1390		131	3287		116	3429	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	31	8	14	301	4	52	36	1515	687	102	1676	36
RTOR Reduction (vph)	0	11	0	0	13	0	0	41	0	0	1	0
Lane Group Flow (vph)	0	42	0	181	163	0	36	2161	0	102	1711	0
Heavy Vehicles (%)	2%	2%	2%	21%	2%	19%	4%	5%	4%	10%	5%	2%
Turn Type	Perm	NA		Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4		3	3		1	6		5	2	
Permitted Phases	4						6			2		
Actuated Green, G (s)		6.9		18.8	18.8		59.8	55.8		67.8	59.8	
Effective Green, g (s)		6.9		18.8	18.8		59.8	55.8		67.8	59.8	
Actuated g/C Ratio		0.06		0.16	0.16		0.52	0.49		0.59	0.52	
Clearance Time (s)		6.5		6.5	6.5		6.0	6.5		6.0	6.5	
Vehicle Extension (s)		2.5		3.5	3.5		2.5	5.0		2.5	5.0	
Lane Grp Cap (vph)		77		231	227		123	1594		174	1783	
v/s Ratio Prot				c0.13	0.12		0.01	c0.66		c0.04	c0.50	
v/s Ratio Perm		c0.03					0.14			0.31		
v/c Ratio		0.54		0.78	0.72		0.29	1.36		0.59	0.96	
Uniform Delay, d1		52.5		46.1	45.6		22.8	29.6		24.7	26.4	
Progression Factor		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		6.0		16.2	10.6		1.0	164.4		4.1	13.7	
Delay (s)		58.5		62.4	56.2		23.7	194.0		28.8	40.1	
Level of Service		E		E	E		C	F		C	D	
Approach Delay (s/veh)		58.5			59.3			191.2			39.5	
Approach LOS		E			E			F			D	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			117.4									F
HCM 2000 Volume to Capacity ratio			1.12									
Actuated Cycle Length (s)			115.0						25.5			
Intersection Capacity Utilization			92.0%									F
Analysis Period (min)			15									
c Critical Lane Group												

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕			↕
Traffic Vol, veh/h	0	5	1400	3	0	1654
Future Vol, veh/h	0	5	1400	3	0	1654
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, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	5	2	2	5
Mvmt Flow	0	6	1573	3	0	1858

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	-	788	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	334	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	334	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	15.97	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	334
HCM Lane V/C Ratio	-	-	0.017
HCM Ctrl Dly (s/v)	-	-	16
HCM Lane LOS	-	-	C
HCM 95th %tile Q(veh)	-	-	0.1



Lane Group	WBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	806	1817	337	66	1483
v/c Ratio	0.87	0.94	0.36	0.38	0.66
Control Delay (s/veh)	53.5	38.6	10.4	18.6	16.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	53.5	38.6	10.4	18.6	16.8
Queue Length 50th (ft)	319	743	76	19	380
Queue Length 95th (ft)	377	#1013	159	53	511
Internal Link Dist (ft)	1082	783			890
Turn Bay Length (ft)	220		200	100	
Base Capacity (vph)	1069	1936	939	258	2246
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.75	0.94	0.36	0.26	0.66

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 7th Signalized Intersection Summary
 1: Lovell Rd & Murdock Dr

608 Lovell Road
 Build PM_Horizon



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	YY		↑↑	↑	↑	↑↑
Traffic Volume (veh/h)	646	112	1708	317	62	1394
Future Volume (veh/h)	646	112	1708	317	62	1394
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	786	0	1817	258	66	1483
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	870	387	1984	885	179	2345
Arrive On Green	0.24	0.00	0.56	0.56	0.06	0.66
Sat Flow, veh/h	3563	1585	3647	1585	1781	3647
Grp Volume(v), veh/h	786	0	1817	258	66	1483
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1585	1781	1777
Q Serve(g_s), s	26.7	0.0	57.8	10.7	1.8	30.5
Cycle Q Clear(g_c), s	26.7	0.0	57.8	10.7	1.8	30.5
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	870	387	1984	885	179	2345
V/C Ratio(X)	0.90	0.00	0.92	0.29	0.37	0.63
Avail Cap(c_a), veh/h	1112	495	1984	885	283	2345
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.50	0.50	1.00	1.00
Uniform Delay (d), s/veh	45.8	0.0	25.0	14.6	27.7	12.4
Incr Delay (d2), s/veh	8.3	0.0	4.4	0.4	0.9	1.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.5	0.0	23.6	3.8	1.1	11.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	54.1	0.0	29.4	15.0	28.6	13.7
LnGrp LOS	D		C	B	C	B
Approach Vol, veh/h	786		2075			1549
Approach Delay, s/veh	54.1		27.6			14.4
Approach LOS	D		C			B
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	12.7	75.8		36.5		88.5
Change Period (Y+Rc), s	5.5	6.0		6.0		6.0
Max Green Setting (Gmax), s	14.5	54.0		39.0		74.0
Max Q Clear Time (g_c+I1), s	3.8	59.8		28.7		32.5
Green Ext Time (p_c), s	0.1	0.0		1.8		21.6
Intersection Summary						
HCM 7th Control Delay, s/veh			27.7			
HCM 7th LOS			C			

Notes

User approved volume balancing among the lanes for turning movement.

Queues
2: Lovell Rd & Outlet Dr/Site Driveway A

608 Lovell Road
Build PM_Horizon



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	336	222	53	10	327	1814	76	21	2155
v/c Ratio	1.14	0.52	0.37	0.05	0.78	0.73	0.07	0.14	1.26
Control Delay (s/veh)	147.6	4.3	60.5	0.6	54.1	17.5	1.3	10.3	152.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.1
Total Delay (s/veh)	147.6	4.3	60.5	0.6	54.1	19.3	1.3	10.3	152.1
Queue Length 50th (ft)	~399	0	50	0	234	525	0	4	~1353
Queue Length 95th (ft)	#455	0	81	0	#457	775	13	14	#1489
Internal Link Dist (ft)		1150		562		354			783
Turn Bay Length (ft)	115		50		90		100	90	
Base Capacity (vph)	294	435	302	243	419	2475	1135	211	1717
Starvation Cap Reductn	0	0	0	0	0	468	0	0	57
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.14	0.51	0.18	0.04	0.78	0.90	0.07	0.10	1.30

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 7th Signalized Intersection Summary
 2: Lovell Rd & Outlet Dr/Site Driveway A

608 Lovell Road
 Build PM_Horizon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↘		↗	↘		↗	↑↑	↗	↗	↑↘	
Traffic Volume (veh/h)	316	0	209	50	0	9	307	1705	71	20	1578	447
Future Volume (veh/h)	316	0	209	50	0	9	307	1705	71	20	1578	447
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1796	1870	1870	1870	1856	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	336	0	7	53	0	0	327	1814	61	21	1679	456
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	7	2	2	2	3	2	2	2	2	2
Cap, veh/h	314	0	125	118	1	0	287	2565	1144	190	1675	435
Arrive On Green	0.15	0.00	0.08	0.04	0.00	0.00	0.13	0.72	0.72	0.02	0.60	0.60
Sat Flow, veh/h	1781	0	1585	1781	1870	0	1767	3554	1585	1781	2792	725
Grp Volume(v), veh/h	336	0	7	53	0	0	327	1814	61	21	1040	1095
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	1870	0	1767	1777	1585	1781	1777	1740
Q Serve(g_s), s	21.5	0.0	0.6	4.3	0.0	0.0	19.5	42.1	1.6	0.7	81.9	87.0
Cycle Q Clear(g_c), s	21.5	0.0	0.6	4.3	0.0	0.0	19.5	42.1	1.6	0.7	81.9	87.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		1.00	1.00		0.42
Lane Grp Cap(c), veh/h	314	0	125	118	1	0	287	2565	1144	190	1066	1044
V/C Ratio(X)	1.07	0.00	0.06	0.45	0.00	0.00	1.14	0.71	0.05	0.11	0.98	1.05
Avail Cap(c_a), veh/h	314	0	125	326	135	0	287	2565	1144	284	1066	1044
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.60	0.60	0.60
Uniform Delay (d), s/veh	63.4	0.0	61.8	69.0	0.0	0.0	54.8	11.5	5.8	12.9	28.0	29.0
Incr Delay (d2), s/veh	70.9	0.0	0.2	2.6	0.0	0.0	95.7	1.7	0.1	0.2	16.3	35.6
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	17.9	0.0	0.2	2.1	0.0	0.0	17.7	15.2	0.6	0.3	36.9	43.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	134.2	0.0	62.0	71.6	0.0	0.0	150.5	13.1	5.9	13.0	44.3	64.6
LnGrp LOS	F		E	E			F	B	A	B	D	F
Approach Vol, veh/h		343			53			2202			2156	
Approach Delay, s/veh		132.8			71.6			33.3			54.3	
Approach LOS		F			E			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	25.0	93.0	10.1	16.9	7.4	110.6	27.0	0.0				
Change Period (Y+Rc), s	5.5	6.0	4.5	5.5	4.5	6.0	5.5	* 5.5				
Max Green Setting (Gmax), s	19.5	72.0	22.5	9.5	10.5	82.0	21.5	* 11				
Max Q Clear Time (g_c+I1), s	21.5	89.0	6.3	2.6	2.7	44.1	23.5	0.0				
Green Ext Time (p_c), s	0.0	0.0	0.1	0.0	0.0	31.4	0.0	0.0				

Intersection Summary												
HCM 7th Control Delay, s/veh			50.5									
HCM 7th LOS			D									

Notes
 User approved pedestrian interval to be less than phase max green.
 * HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	12	295	281	19	2321	56	1829
v/c Ratio	0.06	0.78	0.59	0.13	1.23	0.35	0.87
Control Delay (s/veh)	0.6	59.4	25.3	14.5	136.1	18.6	30.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	0.6	59.4	25.3	14.5	136.1	18.6	30.2
Queue Length 50th (ft)	0	240	106	5	~1230	15	513
Queue Length 95th (ft)	0	331	192	20	#1624	46	#1125
Internal Link Dist (ft)	448		1312		849		272
Turn Bay Length (ft)		150		65		280	
Base Capacity (vph)	247	472	560	190	1886	189	2095
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.63	0.50	0.10	1.23	0.30	0.87

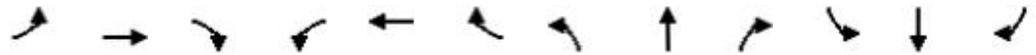
Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis
 3: Lovell Rd & Commercial Driveway/Lexington Dr

608 Lovell Road
 Build PM_Horizon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↕	↕		↕	↕		↕	↕	
Traffic Volume (vph)	5	0	7	476	0	82	18	2012	240	54	1762	13
Future Volume (vph)	5	0	7	476	0	82	18	2012	240	54	1762	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.5		6.5	6.5		6.0	6.5		6.0	6.5	
Lane Util. Factor		1.00		0.95	0.95		1.00	0.95		1.00	0.95	
Frbp, ped/bikes		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt		0.92		1.00	0.95		1.00	0.98		1.00	1.00	
Flt Protected		0.98		0.95	0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1681		1665	1621		1770	3430		1770	3535	
Flt Permitted		1.00		0.95	0.97		0.06	1.00		0.06	1.00	
Satd. Flow (perm)		1716		1665	1621		118	3430		112	3535	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	5	0	7	491	0	85	19	2074	247	56	1816	13
RTOR Reduction (vph)	0	12	0	0	108	0	0	6	0	0	0	0
Lane Group Flow (vph)	0	0	0	295	173	0	19	2315	0	56	1829	0
Confl. Peds. (#/hr)									1	1		
Heavy Vehicles (%)	2%	2%	2%	3%	2%	2%	2%	3%	6%	2%	2%	2%
Turn Type	Perm	NA		Split	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4		3	3		1	6		5	2	
Permitted Phases	4						6			2		
Actuated Green, G (s)		2.0		28.4	28.4		65.9	63.4		72.3	66.6	
Effective Green, g (s)		2.0		28.4	28.4		65.9	63.4		72.3	66.6	
Actuated g/C Ratio		0.02		0.23	0.23		0.53	0.51		0.58	0.53	
Clearance Time (s)		6.5		6.5	6.5		6.0	6.5		6.0	6.5	
Vehicle Extension (s)		2.5		3.5	3.5		2.5	5.0		2.5	5.0	
Lane Grp Cap (vph)		27		378	368		95	1739		140	1883	
v/s Ratio Prot				c0.18	0.11		0.00	c0.67		c0.02	c0.52	
v/s Ratio Perm		c0.00					0.10			0.21		
v/c Ratio		0.01		0.78	0.47		0.20	1.33		0.40	0.97	
Uniform Delay, d1		60.5		45.4	41.8		27.5	30.8		27.6	28.3	
Progression Factor		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.1		10.3	1.1		0.8	153.1		1.4	14.9	
Delay (s)		60.6		55.7	42.9		28.3	183.9		29.0	43.2	
Level of Service		E		E	D		C	F		C	D	
Approach Delay (s/veh)		60.6			49.4			182.7			42.8	
Approach LOS		E			D			F			D	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			111.6									F
HCM 2000 Volume to Capacity ratio			1.10									
Actuated Cycle Length (s)			125.0						25.5			
Intersection Capacity Utilization			96.5%									F
ICU Level of Service												
Analysis Period (min)			15									

c Critical Lane Group

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕			↕
Traffic Vol, veh/h	0	3	2079	10	0	1837
Future Vol, veh/h	0	3	2079	10	0	1837
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, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	3	2212	11	0	1954

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	-	1111	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.94	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.32	-
Pot Cap-1 Maneuver	0	203	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	-	203	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	22.97	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	203
HCM Lane V/C Ratio	-	-	0.016
HCM Ctrl Dly (s/v)	-	-	23
HCM Lane LOS	-	-	C
HCM 95th %tile Q(veh)	-	-	0

Crash Data



Route	Log Mile	Date of Crash	Crash Location	Type of Crash	Total Fatalities	Total Suspected Serious Injuries	Total Other Injuries	Total Vehicles	Vehicle Most Harmful Event	Driver Actions	Vehicle Going on Direction	Relation to First Roadway	Weather Conditions	Light Conditions	Case Number2	Gps Coordinate Latitude	Gps Coordinate Longitude
05618	0.023	8/20/2021 15:21	Along Roadway	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport", "Vehicle in Transport"	[Failure to Yield Right of Way], "No Contributing Actions"	["East", "East"]		Clear	Daylight	103067684	35.91133	-84.15023
05618	0.013	10/4/2022 17:28	Along Roadway	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport", "Vehicle in Transport"	[Following Improperly], "No Contributing Actions"	["West", "West"]		Clear	Daylight	103438048	35.91126	-84.15037
05618	0.001	4/8/2024 13:41	Along Roadway	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport", "Vehicle in Transport"	[Following Improperly], "No Contributing Actions"				Daylight	400074162	35.91117	-84.15056
05618	0.005	#####	Along Roadway	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport", "Vehicle in Transport"	[Lane Departure], "No Contributing Actions"				Daylight	400415802	35.9112	-84.15051
SR131	1.324	10/6/2022 9:24	Along Roadway	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport", "Vehicle in Transport"	[Improper Lane Changing], "No Contributing Actions"	["South", "South"]	On Roadway	Cloudy	Daylight	103439594	35.91081	-84.15031
SR131	1.321	7/26/2022 7:19	Along Roadway	(B) Suspected Minor Injury	0	0	1	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport", "Vehicle in Transport"	[Inattentive (Eating, Reading, Talking, Etc.)], "No Contributing Actions"	["North", "North"]	On Roadway	Cloudy	Daylight	103368357	35.91077	-84.15028
SR131	1.339	#####	Along Roadway	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport", "Vehicle in Transport"	[Following Improperly], "No Contributing Actions"				Daylight	103175811	35.91099	-84.15045
SR131	1.348	11/29/2022 9:48	At an Intersection	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport", "Vehicle in Transport"	[No Contributing Actions], "Following Actions"	["North", "North"]	On Roadway	Clear	Daylight	103494969	35.91113	-84.15056
SR131	1.342	1/14/2022 14:24	Along Roadway	(O) Property-Damage Only	0	0	0	3	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport", "Vehicle in Transport"	[No Contributing Actions], "Following Actions"	["South", "South", "South"]	On Roadway	Clear	Daylight	103192795	35.91103	-84.15048
SR131	1.348	5/23/2021 14:39	At an Intersection	(C) Possible Injury	0	0	1	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport", "Vehicle in Transport"	[Driving Left of Center], "No Contributing Actions"	["North", "South"]	On Roadway	Clear	Daylight	300709923	35.911088	-84.150608
SR131	1.38	#####	Along Roadway	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport", "Vehicle in Transport"	[Following Improperly], "No Contributing Actions"	["South", "South"]	On Roadway	Rain	Daylight	103127152	35.9115	-84.15084
SR131	1.348	2/2/2021 17:14	At an Intersection	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport", "Vehicle in Transport"	[Following Improperly], "No Contributing Actions"	["South", "South"]		Clear	Daylight	102890476	35.91113	-84.15056
SR131	1.348	#####	At an Intersection	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport", "Vehicle in Transport"	[Failure to Yield Right of Way], "No Contributing Actions"	["North", "North"]	On Roadway	Rain	Dark-Not Lighted	103495336	35.91113	-84.15056
SR131	1.348	5/19/2021 21:10	At an Intersection	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport", "Vehicle in Transport"	[Unknown Action], "No Contributing Actions"	["South", "South"]		Clear	Dark-Not Lighted	102982841	35.91113	-84.15056
SR131	1.337	4/21/2021 15:16	Along Roadway	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport", "Vehicle in Transport"	[No Contributing Actions], "Following Actions"	["South", "South"]	On Roadway	Clear	Daylight	102964900	35.91097	-84.15043
SR131	1.331	3/9/2021 8:07	Along Roadway	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport", "Vehicle in Transport"	No Contributing Actions	["North", "North"]	On Roadway	Clear	Daylight	102921498	35.9109	-84.15038
SR131	1.348	8/11/2022 16:04	At an Intersection	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport", "Vehicle in Transport"	[Inattentive (Eating, Reading, Talking, Etc.)], "No Contributing Actions"	["South", "South"]	On Roadway	Cloudy	Daylight	103384111	35.91113	-84.15056
SR131	1.348	12/7/2021 18:28	At an Intersection	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport", "Vehicle in Transport"	[No Contributing Actions], "Careless Erratic Actions"	["North", "North"]	On Roadway	Clear	Dark-Lighted	103162471	35.91107	-84.15051
SR131	1.348	#####	At an Intersection	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport", "Vehicle in Transport"	[Unknown Action], "Unknown Action"	["South", "South"]		Clear	Daylight	103181243	35.91113	-84.15056
SR131	1.348	3/1/2021 10:54	At an Intersection	(B) Suspected Minor Injury	0	0	1	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport", "Vehicle in Transport"	No Contributing Actions	["East", "South"]	On Roadway	Cloudy	Daylight	102912633	35.91113	-84.15056
SR131	1.304	2/12/2025 15:59	Along Roadway	(C) Possible Injury	0	0	2	3	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport", "Vehicle in Transport"	[Failure to Observe Warnings or]	["North", "North", "North"]	On Roadway	Rain	Daylight	400219526	35.91056	-84.15012
SR131	1.363	3/3/2025 7:49	Along Roadway	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport", "Vehicle in Transport"	[Following Improperly], "No Contributing Actions"	["East", "East"]		Clear	Daylight	400229034	35.91126	-84.15075
SR131	1.308	7/28/2023 17:00	Along Roadway	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport", "Vehicle in Transport"	[Following Improperly], "No Contributing Actions"				Daylight	40002063	35.91058	-84.15021
SR131	1.348	9/7/2023 15:34	At an Intersection	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport", "Vehicle in Transport"	[Following Improperly], "No Contributing Actions"	["West", "West"]		Clear	Daylight	103765355	35.91113	-84.15056
SR131	1.348	3/24/2021 7:55	At an Intersection	(O) Property-Damage Only	0	0	0	3	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport", "Vehicle in Transport"	[Failure to Yield Right of Way], "Swerved or]	["South", "North", "West"]	On Roadway	Clear	Daylight	102933216	35.91113	-84.15056
SR131	1.343	4/10/2024 15:32	Along Roadway	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport", "Vehicle in Transport"	[Following Improperly], "No Contributing Actions"	["South", "South"]		Clear	Daylight	400075544	35.91101	-84.15055
SR131	1.307	11/9/2024 1:42	Along Roadway	(O) Property-Damage Only	0	0	0	1	Curb	Over Correcting	South		Clear	Dark-Lighted	400176016	35.9105	-84.15035
SR131	1.348	#####	At an Intersection	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport", "Vehicle in Transport"	[Following Improperly], "No Contributing Actions"	["South", "South"]		Clear	Daylight	400180710	35.9111	-84.15062
SR131	1.348	1/4/2025 23:52	At an Intersection	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport", "Vehicle in Transport"	[No Contributing Actions], "Following Actions"	["North", "North"]	On Roadway	Clear	Dark-Lighted	400203649	35.91109	-84.15062
SR131	1.348	5/30/2023 9:52	At an Intersection	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport", "Vehicle in Transport"	[Inattentive (Eating, Reading, Talking, Etc.)], "No Contributing Actions"	["North", "North"]	On Roadway	Clear	Daylight	400000148	35.91122	-84.15072
SR131	1.343	7/7/2023 18:51	Along Roadway	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport", "Vehicle in Transport"	No Contributing Actions	["South", "South"]		Clear	Daylight	400001198	35.91101	-84.15055
SR131	1.348	10/11/2023 12:10	At an Intersection	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport", "Vehicle in Transport"	[Failure to Obey Traffic Controls], "No Contributing Actions"	["North", "South"]	On Roadway	Cloudy	Daylight	400011318	35.91108	-84.15061
SR131	1.349	#####	Along Roadway	(O) Property-Damage Only	0	0	0	3	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport", "Vehicle in Transport"	[Failure to Obey Traffic Controls], "No Contributing Actions"	["South", "South", "South"]		Clear	Daylight	400015949	35.91108	-84.15061
SR131	1.348	4/10/2021 18:38	At an Intersection	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport", "Vehicle in Transport"	[Following Improperly], "Inattentive"	["North", "North"]	On Roadway	Clear	Daylight	102950534	35.91113	-84.15056
SR131	1.348	11/28/2023 7:11	At an Intersection	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport", "Vehicle in Transport"	No Contributing Actions	["North", "South"]		Clear	Daylight	400029328	35.91113	-84.15063
SR131	1.348	7/28/2025 15:13	At an Intersection	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport", "Vehicle in Transport"	[Failure to Yield Right of Way], "No Contributing Actions"	["West", "North"]	Roadside -- Right	Clear	Daylight	400308987	35.91122	-84.15064
SR131	1.348	9/19/2025 3:25	At an Intersection	(O) Property-Damage Only	0	0	0	1	Curb	Failure to Obey Traffic Controls	West	Other	Clear	Dark-Lighted	400363509	35.91126	-84.15071
SR131	1.319	#####	Along Roadway	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport", "Vehicle in Transport"	[Following Improperly], "No Contributing Actions"	["South", "South"]		Clear	Dark-Not Lighted	400403654	35.9107	-84.15035
05899	0.027	4/16/2021 14:12	Along Roadway	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport", "Vehicle in Transport"	[Improper Lane Changing], "No Contributing Actions"	["East", "East"]		Clear	Daylight	102952996	35.90895	-84.14931
05899	0.01	#####	Along Roadway	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport", "Vehicle in Transport"	[Following Improperly], "No Contributing Actions"	["North", "North"]		Cloudy	Dark-Lighted	103171577	35.90908	-84.14906
05899	0.015	7/20/2022 18:25	Along Roadway	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport", "Vehicle in Transport"	[Following Improperly], "No Contributing Actions"	["East", "East"]		Clear	Daylight	103363142	35.90904	-84.14914
05899	0.023	11/8/2025 4:06	Along Roadway	(B) Suspected Minor Injury	0	0	1	1	Shrubbery	Improper Lane Changing	South	Outside Trafficway	Fog	Dark-Lighted	400392223	35.90889	-84.14919
SR131	1.206	7/7/2021 16:51	Along Roadway	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport", "Vehicle in Transport"	[Following Improperly], "No Contributing Actions"	["South", "South"]		Cloudy	Daylight	103027817	35.90937	-84.14915

Route	Log Mile	Date of Crash	Crash Location	Type of Crash	Total Fatalities	Total Suspected Serious Injuries	Total Other Injuries	Total Vehicles	Vehicle Most Harmful Event	Driver Actions	Vehicle Going on Direction	Relation to First Roadway	Weather Conditions	Light Conditions	Case Number	Gps Coordinate Latitude
SR131	1.185	9/24/2022 15:03	At an Intersection	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport"	No Contributing Actions	["North", "North"]		Cloudy	Daylight	103427620	35.90915
SR131	1.216	5/12/2021 15:59	Along Roadway	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport"	["Following Improperly", "No Contributing Actions"]	["South", "South"]		Clear	Daylight	102977037	35.90948
SR131	1.217	4/27/2022 8:07	Along Roadway	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport"	["Improper Lane Changing", "No Contributing Actions"]	["North", "North"]	On Roadway	Clear	Daylight	103287851	35.9095
SR131	1.205	#####	Along Roadway	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport"	["No Contributing Actions", "No Contributing Actions"]	["North", "North"]		Clear	Dark-Not Lighted	103175749	35.90935
SR131	1.215	12/4/2022 18:31	Along Roadway	(C) Possible Injury	0	0	1	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport"	["Failure to Yield Right of Way", "No Contributing Actions"]	["North", "South"]	On Roadway	Clear	Dark-Not Lighted	103500543	35.90948
SR131	1.185	10/6/2021 7:48	At an Intersection	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport"	["Failure to Obey Traffic Controls", "No Contributing Actions"]	["South", "North"]	On Roadway	Cloudy	Daylight	103108332	35.90915
SR131	1.185	2/24/2022 18:15	At an Intersection	(C) Possible Injury	0	0	1	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport"	["No Contributing Actions", "Following Actions"]	["North", "North"]	On Roadway	Cloudy	Daylight	103226501	35.90915
SR131	1.185	12/2/2022 12:42	At an Intersection	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport"	["Unknown Action", "Unknown Action"]	["North", "North"]		Cloudy	Daylight	103498122	35.90915
SR131	1.185	#####	At an Intersection	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport"	["Inattentive (Eating, Reading, Talking, Etc.)", "No Contributing Actions"]	["North", "North"]		Clear	Dark-Lighted	103152514	35.90915
SR131	1.199	7/17/2022 20:04	Along Roadway	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport"	["Improper Lane Changing", "No Contributing Actions"]	["North", "North"]		Cloudy	Daylight	103360213	35.90929
SR131	1.185	1/1/2022 23:34	At an Intersection	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport"	["No Contributing Actions", "Driver Distracted"]	["South", "South"]	On Roadway	Rain	Dark-Unknown	103183976	35.90915
SR131	1.185	5/13/2021 12:40	Along Roadway	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport"	["Operator Inexperience", "No Contributing Actions"]	["South", "South"]		Clear	Daylight	103006409	35.90915
SR131	1.185	4/1/2023 13:14	At an Intersection	(B) Suspected Minor Injury	0	0	1	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport"	["Following Improperly", "No Contributing Actions"]	["South", "South"]	On Roadway	Clear	Daylight	103614055	35.90915
SR131	1.185	11/30/2023 0:23	At an Intersection	(B) Suspected Minor Injury	0	0	1	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport"	["Other (Narrative)", "Other (Narrative)"]	["East", "South"]	On Roadway	Clear	Dark-Not Lighted	400029995	35.90911
SR131	1.171	6/6/2023 2:22	Along Roadway	(O) Property-Damage Only	0	0	0	1	Curb	Unknown Action	East	Shoulder	Clear	Dark-Lighted	103677737	35.90898
SR131	1.185	8/24/2023 15:30	At an Intersection	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport"	["Failure to Yield Right of Way", "No Contributing Actions"]	["South", "South"]		Clear	Daylight	40004707	35.9091
SR131	1.188	9/25/2023 20:04	Along Roadway	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport"	["Lane Departure", "No Contributing Actions"]	["North", "East"]	On Roadway	Clear	Dark-Lighted	400011978	35.90914
SR131	1.185	1/30/2025 8:18	At an Intersection	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport"	["Failure to Obey Traffic Controls", "No Contributing Actions"]	["North", "East"]	On Roadway	Cloudy	Daylight	400213891	35.90918
SR131	1.185	4/10/2025 22:46	At an Intersection	(A) Suspected Serious Injury	0	1	0	1	Pedestrian	Unknown Action	West	On Roadway	Rain	Dark-Lighted	400244316	35.90908
SR131	1.157	8/29/2024 20:47	Along Roadway	(O) Property-Damage Only	0	0	0	3	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport"	["Improper Lane Changing", "No Contributing Actions"]	["North", "North", "North"]	On Roadway	Clear	Dark-Lighted	400139341	35.90883
SR131	1.219	3/28/2024 8:50	Along Roadway	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport"	["Failure to Yield Right of Way", "No Contributing Actions"]	["East", "South"]		Clear	Daylight	400070043	35.9095
SR131	1.185	5/9/2024 19:35	At an Intersection	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport"	["Failure to Yield Right of Way", "No Contributing Actions"]	["West", "East"]		Clear	Daylight	400087844	35.90913
SR131	1.163	11/3/2023 23:35	Along Roadway	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport"	["Lane Departure", "No Contributing Actions"]	["South", "North"]	On Roadway	Clear	Dark-Lighted	400023569	35.90888
SR131	1.185	5/16/2024 17:15	At an Intersection	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport"	["Reckless Negligent Driving", "No Contributing Actions"]	["North", "North"]		Clear	Daylight	400091057	35.90912
SR131	1.185	6/24/2024 15:00	At an Intersection	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport"	["Lane Departure", "No Contributing Actions"]	["North", "North"]		Clear	Daylight	400110273	35.90916
SR131	1.185	11/27/2023 2:04	At an Intersection	(K) Fatal Injury	1	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport"	["Following Improperly", "Not Comply with License"]	["North", "North"]	On Roadway	Clear	Dark-Lighted	400029357	35.90909
SR131	1.18	11/7/2024 9:58	Along Roadway	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport"	["Following Improperly", "No Contributing Actions"]				400175082	35.90908	
SR131	1.185	8/13/2025 20:36	At an Intersection	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport"	["Operating Without Required Equipment", "No Contributing Actions"]	["North", "South"]		Cloudy	Dusk	400332389	35.90912
SR131	1.196	#####	Along Roadway	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport"	["Failure to Yield Right of Way", "No Contributing Actions"]	["East", "South"]	On Roadway	Rain	Daylight	400385614	35.90924
OC088	0.981	8/20/2021 9:35	Along Roadway	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport"	["Following Improperly", "No Contributing Actions"]	["West", "West"]		Clear	Daylight	103067475	35.90771
OC088	0.97	1/2/2023 14:43	Along Roadway	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport"	["Lane Departure", "No Contributing Actions"]	["North", "West"]		Clear	Daylight	103528298	35.90782
OC088	0.973	5/13/2021 11:46	Along Roadway	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport"	["Failure to Yield Right of Way", "No Contributing Actions"]	["West", "West"]		Clear	Daylight	102980306	35.9078
OC088	0.962	4/30/2024 14:00	Along Roadway	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport"	No Contributing Actions	["West", "West"]	On Roadway	Cloudy	Daylight	400083336	35.90791
OC088	0.985	5/25/2024 21:00	Along Roadway	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport"	["Following Improperly", "No Contributing Actions"]	["North", "North"]		Clear	Dark-Not Lighted	400095737	35.90768
OC088	0.963	3/27/2024 20:53	Along Roadway	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport"	["Failure to Yield Right of Way", "No Contributing Actions"]	["South", "West"]		Clear	Dark-Lighted	400069921	35.90791
OC088	0.962	7/17/2025 17:54	Along Roadway	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport"	["Improper Turn", "No Contributing Actions"]	["East", "West"]		Clear	Daylight	400287757	35.90793
OC088	0.985	9/24/2025 12:10	Along Roadway	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport"	["No Contributing Actions", "No Contributing Actions"]	["North", "West"]	On Roadway	Cloudy	Daylight	400366240	35.90764
SR131	1.04	7/15/2021 12:26	At an Intersection	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport"	["Unknown Action", "No Contributing Actions"]	["North", "North"]		Clear	Daylight	103034549	35.90765
SR131	1.05	2/17/2021 11:54	Along Roadway	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport"	["Following Improperly", "No Contributing Actions"]				102903013	35.90776	
SR131	1.005	5/20/2021 12:18	Along Roadway	(B) Suspected Minor Injury	0	0	1	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport"	["Failure to Yield Right of Way", "No Contributing Actions"]	["South", "North"]	On Roadway	Clear	Daylight	102983419	35.90731
SR131	1.015	2/24/2022 14:42	Along Roadway	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport"	["Failure to Yield Right of Way", "No Contributing Actions"]	["South", "South"]		Cloudy	Daylight	103230121	35.90741
SR131	1.04	5/17/2022 18:33	At an Intersection	(B) Suspected Minor Injury	0	0	1	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport"	["Failure to Yield Right of Way", "No Contributing Actions"]	["South", "North"]	On Roadway	Clear	Daylight	103305735	35.90765
SR131	1.031	6/7/2021 17:23	Along Roadway	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport"	["Following Improperly", "No Contributing Actions"]	["South", "South"]	On Roadway	Clear	Daylight	103000859	35.90757
SR131	1.016	10/7/2021 18:38	Along Roadway	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport"	["Following Improperly", "No Contributing Actions"]	["South", "South"]		Rain	Daylight	103108857	35.90742
SR131	1.063	1/28/2021 15:44	Along Roadway	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport"	["Following Improperly", "No Contributing Actions"]	["South", "South"]		Clear	Daylight	102886449	35.90789
SR131	1.012	6/2/2021 20:37	Along Roadway	(O) Property-Damage Only	0	0	0	2	[Vehicle in Transport], "Vehicle in Transport", "Vehicle in Transport"	No Contributing Actions	["East", "North"]		Clear	Dusk	102996628	35.90738

Route	Log Mile	Date of Crash	Crash Location	Type of Crash	Total Fatalities	Total Suspected Serious Injuries	Total Other Injuries	Total Vehicles	Vehicle Most Harmful Event	Driver Actions	Vehicle Going on Direction	Relation to First Roadway	Weather Conditions	Light Conditions	Case Number2	Gps Coordinate Latitude	Gps Coordinate Longitude
SR131	1.05	7/12/2022 16:56	Along Roadway	(O) Property-Damage Only	0	0	0	0	1 Building	Other (Narrative)	North		Clear	Daylight	103355619	35.90776	-84.14721
SR131	1.04	10/1/2022 10:35	At an Intersection	(B) Suspected Minor Injury	0	0	1	2	["Vehicle in Transport", "Vehicle in Transport"]	No Contributing Actions	["North", "North"]	On Roadway	Cloudy	Daylight	103434844	35.90765	-84.14708
SR131	1.048	1/1/2021 0:00	Along Roadway	(O) Property-Damage Only	0	0	0	2	["Parked Motor Vehicle", "Parked Motor Vehicle"]	["Unknown Action", "Unknown Action"]	["South", "South"]		Clear	Dark-Lighted	102868721	35.90773	-84.1472
SR131	1.04	#####	At an Intersection	(O) Property-Damage Only	0	0	0	3	["Vehicle in Transport", "Vehicle in Transport", "Vehicle in Transport"]	["Following Improperly", "No Contributing Actions", "No Contributing Actions"]	["South", "South", "South"]	On Roadway	Rain	Daylight	103126154	35.90765	-84.14708
SR131	1.04	8/17/2022 19:33	At an Intersection	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	["Improper Lane Changing", "No Contributing"]	["South", "South"]		Clear	Daylight	103389851	35.90765	-84.14708
SR131	1.034	2/8/2022 8:38	Along Roadway	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	["Following Improperly", "No Contributing Actions"]	["North", "North"]		Clear	Daylight	103211579	35.9076	-84.14702
SR131	1.04	#####	At an Intersection	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	["Failure to Obey Traffic Controls", "No Contributing"]	["North", "West"]	On Roadway	Clear	Daylight	103115324	35.90765	-84.14708
SR131	1.04	2/15/2021 17:17	At an Intersection	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	["Improper Backing", "No Contributing Actions"]	["South", "South"]		Rain	Daylight	102902029	35.90765	-84.14708
SR131	1.064	10/1/2022 10:47	Along Roadway	(O) Property-Damage Only	0	0	0	3	["Vehicle in Transport", "Vehicle in Transport", "Vehicle in Transport"]	["Inattentive (Eating Reading Talking Etc.)", "No Contributing"]	["North", "North", "North"]	On Roadway	Clear	Daylight	103434718	35.9079	-84.1474
SR131	1.04	9/19/2021 17:24	At an Intersection	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	["Other (Narrative)", "No Contributing Actions"]	["North", "South"]	On Roadway	Cloudy	Daylight	103099461	35.90765	-84.14708
SR131	1.04	1/14/2023 18:48	At an Intersection	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	No Contributing Actions	["North", "North"]	On Roadway	Clear	Dark-Lighted	103541031	35.90765	-84.14708
SR131	1.008	4/4/2025 17:21	Along Roadway	(O) Property-Damage Only	0	0	0	2	["Failure to Observe Warnings or"]						400242909	35.90719	-84.14686
SR131	1.04	4/15/2025 22:36	At an Intersection	(A) Suspected Serious Injury	0	1	0	1	Utility Pole		North		Clear	Dark-Lighted	400246171	35.90764	-84.14704
SR131	1.04	5/4/2024 9:23	At an Intersection	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	["Failure to Obey Traffic Controls", "No Contributing"]	["North", "West"]	On Roadway	Cloudy	Daylight	400085247	35.90765	-84.1471
SR131	1.008	8/8/2023 12:10	Along Roadway	(B) Suspected Minor Injury	0	0	1	2	["Vehicle in Transport", "Vehicle in Transport"]	["Following Improperly", "No Contributing Actions"]	["South", "South"]	On Roadway	Cloudy	Daylight	40003145	35.9073	-84.14672
SR131	1.052	9/12/2023 17:11	Along Roadway	(B) Suspected Minor Injury	0	0	1	3	["Vehicle in Transport", "Vehicle in Transport", "Vehicle in Transport"]	["Following Improperly", "No Contributing"]	["South", "South", "South"]	On Roadway	Clear	Daylight	40007393	35.90775	-84.14728
SR131	1.04	#####	At an Intersection	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	["Following Improperly", "No Contributing Actions"]	["South", "South"]	On Roadway	Clear	Daylight	400024562	35.90778	-84.14732
SR131	1.04	2/3/2024 10:11	At an Intersection	(O) Property-Damage Only	0	0	0	3	["Vehicle in Transport", "Vehicle in Transport", "Vehicle in Transport"]	["Following Improperly", "No Contributing Actions", "No Contributing Actions"]	["South", "South", "South"]	On Roadway	Clear	Daylight	400051662	35.90771	-84.14723
SR131	1.036	8/4/2024 17:31	Along Roadway	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	["No Contributing Actions", "Following"]	["North", "North"]		Clear	Daylight	400127031	35.90759	-84.14708
SR131	1.008	9/25/2024 16:34	Along Roadway	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	["Following Improperly", "No Contributing Actions"]	["East", "East"]		Rain	Daylight	400152782	35.9074	-84.14659
SR131	1.008	#####	Along Roadway	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	["Failure to Observe Warnings or"]	["South", "West"]		Clear	Daylight	400174615	35.9074	-84.14659
SR131	1.039	#####	Along Roadway	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	["Failure to Obey Traffic Controls", "No Contributing"]	["North", "West"]	On Roadway	Clear	Daylight	400177257	35.90762	-84.14712
SR131	1.04	11/27/2024 9:41	At an Intersection	(C) Possible Injury	0	0	2	2	["Vehicle in Transport", "Vehicle in Transport"]	["Failure to Obey Traffic Controls", "No Contributing"]	["North", "West"]	On Roadway	Clear	Daylight	400186089	35.9076	-84.14709
SR131	1.05	2/17/2023 14:25	Along Roadway	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	No Contributing Actions	["South", "South"]		Clear	Daylight	103571240	35.90776	-84.14722
SR131	1.04	2/19/2023 19:20	Along Roadway	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	["Failure to Yield Right of Way", "No Contributing"]	["North", "North"]		Clear	Dark-Lighted	103573133	35.90766	-84.1471
SR131	1.043	3/13/2023 10:13	Along Roadway	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	No Contributing Actions	["North", "West"]		Cloudy	Daylight	103594853	35.90769	-84.14713
SR131	1.04	3/16/2023 9:33	At an Intersection	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	No Contributing Actions	["South", "South"]	On Roadway	Clear	Daylight	103597292	35.90765	-84.14708
SR131	1.04	4/26/2023 9:20	At an Intersection	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	["No Contributing Actions", "No Contributing Actions"]	["South", "South"]	On Roadway	Rain	Daylight	103636286	35.90765	-84.14708
SR131	1.068	6/26/2023 14:36	Along Roadway	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	["No Contributing Actions", "Lane Departure"]	["South", "South"]		Clear	Daylight	400000784	35.90791	-84.14748
SR131	1.04	#####	At an Intersection	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	["Failure to Obey Traffic Controls", "No Contributing"]	["North", "South"]		Rain	Daylight	400019662	35.9076	-84.14709
SR131	1.037	#####	Along Roadway	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport in other Roadway", "Vehicle in Transport"]	["Failure to Yield Right of Way", "No Contributing"]	["South", "West"]		Clear	Dark-Lighted	400028368	35.9076	-84.1471
SR131	1.01	#####	Along Roadway	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	No Contributing Actions	["North", "South"]	On Roadway	Clear	Dark-Lighted	400038280	35.90732	-84.14674
SR131	1.04	1/5/2024 19:48	At an Intersection	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	["Improper Backing", "No Contributing Actions"]	["West", "West"]		Clear	Dark-Lighted	400042116	35.90786	-84.14679
SR131	1.008	6/19/2025 17:41	Along Roadway	(O) Property-Damage Only	0	0	0	2	["Failure to Observe Warnings or"]						400276230	35.9074	-84.14659
SR131	1.008	7/7/2025 9:07	Along Roadway	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	["Failure to Signal Intentions", "No Contributing"]	["North", "North"]		Clear	Daylight	400283500	35.90719	-84.14686
SR131	1.04	7/5/2025 10:24	At an Intersection	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	["Following Improperly", "No Contributing Actions"]	["South", "South"]	On Roadway	Clear	Daylight	400282458	35.9076	-84.14709
SR131	1.008	8/4/2025 13:01	Along Roadway	(O) Property-Damage Only	0	0	0	2	["Other (Narrative)", "No Contributing Actions"]						400321351	35.90719	-84.14686
SR131	1.04	10/21/2025 6:57	At an Intersection	(C) Possible Injury	0	0	1	1	Pedalcycle	No Contributing Actions	East	On Roadway	Cloudy	Dark-Unknown	400380934	35.90761	-84.14708
SR131	1.262	2/24/2022 12:25	Along Roadway	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	["Failure to Yield Right of Way", "No Contributing"]	["East", "South"]		Cloudy	Daylight	103226147	35.91005	-84.14971
SR131	1.258	6/12/2021 20:22	Along Roadway	(B) Suspected Minor Injury	0	0	1	2	["Vehicle in Transport", "Vehicle in Transport"]	["Following Improperly", "No Contributing Actions"]	["North", "North"]	On Roadway	Cloudy	Dark-Unknown	103006218	35.91	-84.14967
SR131	1.251	4/7/2022 13:05	Along Roadway	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	["Following Improperly", "No Contributing Actions"]	["South", "South"]		Clear	Daylight	103267339	35.90991	-84.1496
SR131	1.251	8/28/2021 17:17	Along Roadway	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	["Failure to Yield Right of Way", "No Contributing"]	South	On Roadway	Clear	Daylight	103075379	35.90991	-84.1496
SR131	1.231	5/3/2022 11:39	Along Roadway	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	["Following Improperly", "No Contributing Actions"]	["South", "South"]		Clear	Daylight	103291090	35.90967	-84.1494
SR131	1.265	10/8/2022 13:21	Along Roadway	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	["Failure to Yield Right of Way", "No Contributing"]	["West", "East"]	On Roadway	Clear	Daylight	103441933	35.91009	-84.14974
SR131	1.232	5/17/2022 3:25	Along Roadway	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	["Unknown Action", "No Contributing Actions"]	["East", "East"]		Clear	Dark-Unknown	103304026	35.90968	-84.14941

Route	Log Mile	Date of Crash	Crash Location	Type of Crash	Total Fatalities	Total Suspected Serious Injuries	Total Other Injuries	Total Vehicles	Vehicle Most Harmful Event	Driver Actions	Vehicle Going on Direction	Relation to First Roadway	Weather Conditions	Light Conditions	Case Number2	Gps Coordinate Latitude	Gps Coordinate Longitude	
SR131	1.275	#####	Along Roadway	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	["Speed Too Fast for Conditions", "No Contributing Actions"]	["South", "South"]		Rain	Daylight	103479756	35.91021	-84.14983	
SR131	1.242	8/15/2021 10:53	Along Roadway	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	["Following Improperly", "No Contributing Actions"]	["South", "South"]		Clear	Daylight	103062241	35.90981	-84.14952	
SR131	1.296	8/23/2022 15:31	Along Roadway	(O) Property-Damage Only	0	0	0	3	["Vehicle in Transport", "Vehicle in Transport"]	["Driver Distracted", "No Contributing Actions", "No Contributing Actions"]	["South", "South", "South"]	On Roadway	Clear	Daylight	103395757	35.91047	-84.15004	
SR131	1.284	3/16/2022 20:13	Along Roadway	(O) Property-Damage Only	0	0	0	1	Ditch	Lane Departure	South	Roadside - Right	Clear	Dark-Lighted	103249878	35.91032	-84.14993	
SR131	1.265	11/15/2022 8:24	Along Roadway	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	["Failure to Yield Right of Way", "No Contributing Actions"]	["East", "South"]	On Roadway	Rain	Daylight	103479530	35.91008	-84.14974	
SR131	1.265	5/6/2022 17:31	Along Roadway	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	["Following Improperly", "No Contributing Actions"]				Daylight	103301715	35.91008	-84.14975	
SR131	1.273	1/16/2025 18:05	Along Roadway	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	["Failure to Observe Warnings or"]	["East", "North"]		Clear	Dusk	400210961	35.91015	-84.14988	
SR131	1.229	5/21/2024 15:31	Along Roadway	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	["Following Improperly", "No Contributing Actions"]	["South", "South"]		Clear	Daylight	400093518	35.90962	-84.14942	
SR131	1.268	6/24/2024 7:57	Along Roadway	(A) Suspected Serious Injury	0	2	1	3	["Vehicle in Transport", "Vehicle in Transport"]	["Failure to Yield Right of Way", "No Contributing Actions"]	["North", "South", "North"]	On Roadway	Clear	Daylight	400108486	35.91012	-84.14979	
SR131	1.262	7/24/2023 16:10	Along Roadway	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	Failure to Yield Right of Way					Daylight	400020242	35.91002	-84.14977
SR131	1.241	10/30/2023 7:25	Along Roadway	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	No Contributing Actions	["North", "North"]		Cloudy	Daylight	400019916	35.90976	-84.14955	
SR131	1.266	3/12/2024 12:24	Along Roadway	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	["Failure to Yield Right of Way", "No Contributing Actions"]	["North", "South"]	On Roadway	Clear	Daylight	400065541	35.91007	-84.14981	
SR131	1.293	11/2/2023 8:53	Along Roadway	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	["Following Improperly", "No Contributing Actions"]	["South", "South"]	On Roadway	Clear	Daylight	400020688	35.9104	-84.15007	
SR131	1.272	11/6/2023 11:25	Along Roadway	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	["Lane Departure", "No Contributing Actions"]	["South", "South"]		Clear	Daylight	400022046	35.91014	-84.14987	
SR131	1.264	1/9/2024 7:58	Along Roadway	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	["Operating Without Required Equipment", "No Contributing Actions"]	["South", "South"]		Rain	Dark-Lighted	400043079	35.91005	-84.14979	
SR131	1.263	1/11/2024 20:15	Along Roadway	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	["Lane Departure", "No Contributing Actions"]	["South", "South"]		Clear	Dark-Not Lighted	400044105	35.91003	-84.14978	
SR131	1.275	6/19/2025 18:35	Along Roadway	(C) Possible Injury	0	0	1	2	["Vehicle in Transport", "Vehicle in Transport"]	["No Contributing Actions", "Following"]	["North", "North"]	On Roadway	Clear	Daylight	400277363	35.91018	-84.1499	
SR131	1.261	8/3/2024 0:41	Along Roadway	(B) Suspected Minor Injury	0	0	1	2	["Vehicle in Transport", "Vehicle in Transport"]	["Failure to Yield Right of Way", "No Contributing Actions"]	["South", "North"]	On Roadway	Clear	Dark-Lighted	400126386	35.91005	-84.14968	
SR131	1.119	5/11/2022 4:56	Along Roadway	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	["Improper Turn", "No Contributing Actions"]	["East", "East"]	On Roadway	Clear	Dark-Unknown	103289975	35.90845	-84.1481	
SR131	1.133	10/13/2021 9:07	Along Roadway	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	["No Contributing Actions", "Careless Erratic"]	["North", "North"]		Cloudy	Daylight	103113945	35.90859	-84.14827	
SR131	1.128	#####	Along Roadway	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	["Failure to Yield Right of Way", "No Contributing Actions"]	["South", "North"]	On Roadway	Clear	Daylight	103493411	35.90854	-84.14821	
SR131	1.127	1/31/2021 19:07	Along Roadway	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	["Failure to Yield Right of Way", "No Contributing Actions"]	["South", "North"]	On Roadway	Cloudy	Dark-Not Lighted	102891121	35.90853	-84.1482	
SR131	1.079	5/27/2022 7:46	Along Roadway	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	["Other (Narrative)", "No Contributing Actions"]	["North", "North"]	On Roadway	Clear	Daylight	103312829	35.90805	-84.14759	
SR131	1.121	1/25/2021 19:26	Along Roadway	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	["Failure to Yield Right of Way", "No Contributing Actions"]	["West", "North"]	On Roadway	Cloudy	Dark-Not Lighted	102886005	35.90847	-84.14812	
SR131	1.094	#####	Along Roadway	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	No Contributing Actions	["South", "South"]	On Roadway	Clear	Daylight	103515631	35.9082	-84.14778	
SR131	1.116	10/9/2021 11:00	Along Roadway	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	["Failure to Yield Right of Way", "No Contributing Actions"]	["South", "South"]		Cloudy	Daylight	103111576	35.90842	-84.14806	
SR131	1.078	#####	Along Roadway	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	["No Contributing Actions", "No Contributing Actions"]	["North", "North"]	On Roadway	Clear	Daylight	103521106	35.90804	-84.14758	
SR131	1.133	6/18/2024 12:14	At an Intersection	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	["Failure to Yield Right of Way", "Operating Without"]	["East", "West"]	On Roadway	Clear	Daylight	400105882	35.90856	-84.14831	
SR131	1.113	6/24/2024 19:57	Along Roadway	(B) Suspected Minor Injury	0	0	1	2	["Vehicle in Transport", "Vehicle in Transport"]	No Contributing Actions	["North", "North"]	On Roadway	Clear	Daylight	400108714	35.90838	-84.14804	
SR131	1.108	7/25/2023 16:09	At an Intersection	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	["No Contributing Actions", "No Contributing Actions"]	["South", "North"]	On Roadway	Cloudy	Daylight	400002196	35.90831	-84.14799	
SR131	1.123	1/26/2024 18:34	Along Roadway	(O) Property-Damage Only	0	0	0	1	Fence	West	West		Clear	Dusk	400049244	35.90846	-84.14818	
SR131	1.143	2/5/2024 14:23	Along Roadway	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	["Following Improperly", "No Contributing Actions"]	["South", "South"]		Clear	Daylight	400053915	35.90866	-84.14843	
SR131	1.139	3/28/2024 12:45	Along Roadway	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	["Improper Backing", "No Contributing Actions"]	["South", "South"]		Clear	Daylight	400071334	35.90856	-84.14846	
SR131	1.082	3/29/2024 13:15	Along Roadway	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	["Failure to Yield Right of Way", "No Contributing Actions"]	["South", "South"]		Clear	Daylight	400070581	35.908	-84.14772	
SR131	1.139	3/28/2024 12:41	Along Roadway	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	["No Contributing Actions", "Unknown Action"]				Daylight	400071329	35.90856	-84.14846	
SR131	1.087	8/28/2024 8:05	Along Roadway	(C) Possible Injury	0	0	1	2	["Vehicle in Transport", "Vehicle in Transport"]	["Lane Departure", "No Contributing Actions"]	["South", "South"]	On Roadway	Clear	Daylight	400138425	35.90812	-84.14769	
SR131	1.122	5/13/2023 21:00	Along Roadway	(B) Suspected Minor Injury	0	0	1	2	["Vehicle in Transport", "Vehicle in Transport"]	["Failure to Yield Right of Way", "No Contributing Actions"]	["South", "North"]	On Roadway	Cloudy	Dark-Lighted	103655245	35.90848	-84.14813	
SR131	1.117	#####	Along Roadway	(B) Suspected Minor Injury	0	0	1	2	["Vehicle in Transport", "Vehicle in Transport"]	["Failure to Yield Right of Way", "No Contributing Actions"]	["West", "South"]	On Roadway	Clear	Dark-Lighted	400016304	35.9084	-84.14811	
SR131	1.147	#####	Along Roadway	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	["Improper Lane Changing", "No Contributing Actions"]	["South", "South"]		Clear	Dusk	400038242	35.9087	-84.14849	
SR131	1.134	12/6/2023 17:49	Along Roadway	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	No Contributing Actions	["North", "North"]		Clear	Dark-Not Lighted	400032650	35.90857	-84.14832	
SR131	1.103	8/5/2025 5:57	Along Roadway	(O) Property-Damage Only	0	0	0	1	Other Object (not fixed)	No Contributing Actions	South	2-Way Lt Trn Ln	Clear	Dark-Lighted	400315398	35.90824	-84.14794	
SR131	1.122	#####	Along Roadway	(O) Property-Damage Only	0	0	0	2	["Vehicle in Transport", "Vehicle in Transport"]	["Following Improperly", "No Contributing Actions"]	["North", "North"]		Clear	Dark-Lighted	400008077	35.90845	-84.14817	



MEMORANDUM

To: Mike Conger, P.E, *Knoxville-Knox County Planning*
Whitney Warner, AICP, *Knoxville-Knox County Planning*

From: Alainie Sawtelle, P.E., *Kimley-Horn and Associates, Inc.*

Date: March 20, 2026

RE: **608 Lovell Road – Review Comments – Comment Response**

This memorandum provides the comment response to the Review Comments received on 03/18/2026 that are associated with the 608 Lovell Road Traffic Impact Study, submitted on 02/23/2026.

Comment 1: Modify the traffic study to include an evaluation of the Knox County right-turn lane requirements presented in the Knox County Access Control and Driveway Design Policy (see section 1.30.04 Auxiliary Lanes).

Response 1: The study was updated to include the turn lane warrant requirements included in the Knox County Access Control and Driveway Design Policy in the turn lane evaluation on page 22.

Comment 2: The above evaluation will result in a right-turn lane into the site being warranted. Add this lane to the improvement recommendations including the recommended storage and taper length based on the operational/capacity analysis of this signalized intersection.

Response 2: The turn lane is warranted and was included in the Build analysis. The exclusive right-turn lane is recommended to include 50 feet of storage with a 160-foot taper. The capacity results show that the anticipated maximum 95th percentile queue is 26 feet. The recommendation is included on pages 6 and 29.

Comment 3: Please modify the recommendation for Intersection 2 in Section 9.1 regarding the southbound approach to instead be striped as a dedicated southbound left turn lane (with recommended storage and taper lengths) rather than a continuation of the TWLTL, i.e. to match the northbound left turn lane. Furthermore, this needs to include a recommendation that a full pavement overlay will be needed where any new pavement markings will be applied to ensure existing hatching/conflicting markings are completely removed.

Response 3: The recommendation was modified to include the following text “Restripe southbound approach to include an exclusive left-turn lane with a storage lane of 75 feet and a 165-foot taper, which may require pavement overlay to remove existing pavement markings” on pages 6 and 29. The maximum 95th percentile queue for the southbound left-turn lane is 20 feet.

Comment 4: The preliminary site plan does not appear to reflect the TIS recommendation that the secondary access (referred to as Intersection 4 in the TIS) be restricted to right-in/right-out operations. Please coordinate with the site plan preparer to ensure the TIS recommendations are reflected as appropriate understanding that the specific design details of the entrance and “pork chop” island will need to be worked out with TDOT Region 1 staff.

Response 4: The site plan has been updated to reflect the right-in/right-out operations.

We hope this information is helpful. Please contact us at 615-564-2701 if you have any questions.

Sincerely,

KIMLEY-HORN AND ASSOCIATES, INC.



Alainie Sawtelle, P.E.
Project Manager