



Traffic Impact Study

AHS Tucker Exchange

DeKalb County, Georgia

Report Prepared:

January 2022

Prepared for:

AHS Residential, LLC

Prepared by:

Kimley»»Horn

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3930 East Jones Bridge Road, Suite 350
Peachtree Corners, Georgia 30092
KHA Project #013504019

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PLANNING & ZONING
DEPARTMENT

Traffic Impact Study

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1/31/2022

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1.0 INTRODUCTION

This report presents the analysis of the anticipated traffic impacts associated with the *AHS Tucker Exchange* development, which is expected to be completed in 2024 (referred to herein as “build-out year”). As currently envisioned, the existing office building of approximately 259,000 SF will be repurposed, and the site will be redeveloped to consist of 507 residential units (378 multifamily and 129 live work) and approximately 59,000 SF office. The project site is currently zoned NL-2 (Northlake Office Park). The 13-acre site is located southeast of the intersection of Northlake Parkway and East Exchange Place located in DeKalb County, Georgia.

The proposed development will be served by three (3) existing full-movement driveways: one (1) along Northlake Parkway and two (2) along East Exchange Place.

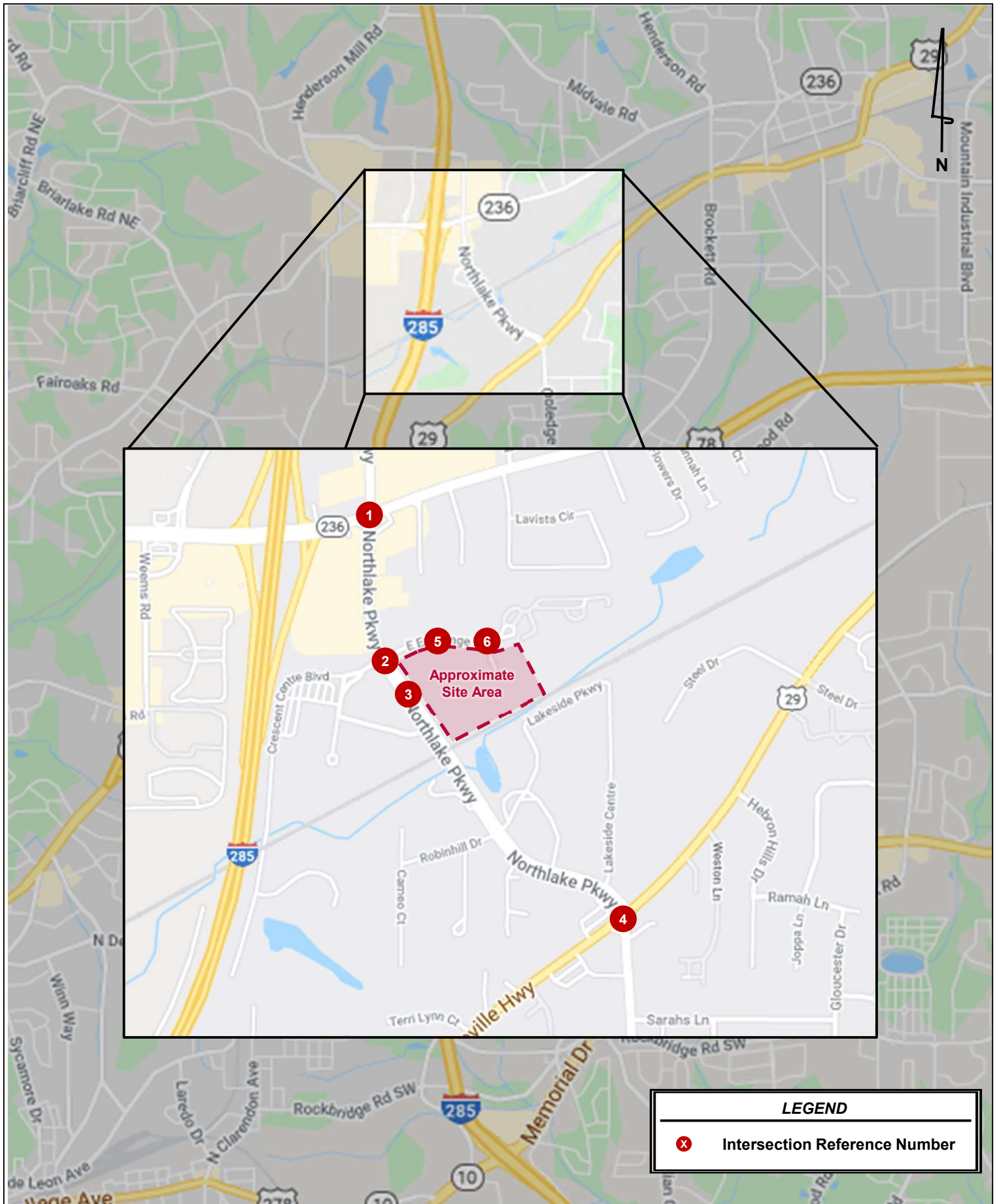
Figure 1 provides a location map of the project site. **Figure 2** provides an aerial image that captures the project site and the study roadway network. A site plan is also included in **Appendix A**.

2.0 STUDY AREA DETERMINATION

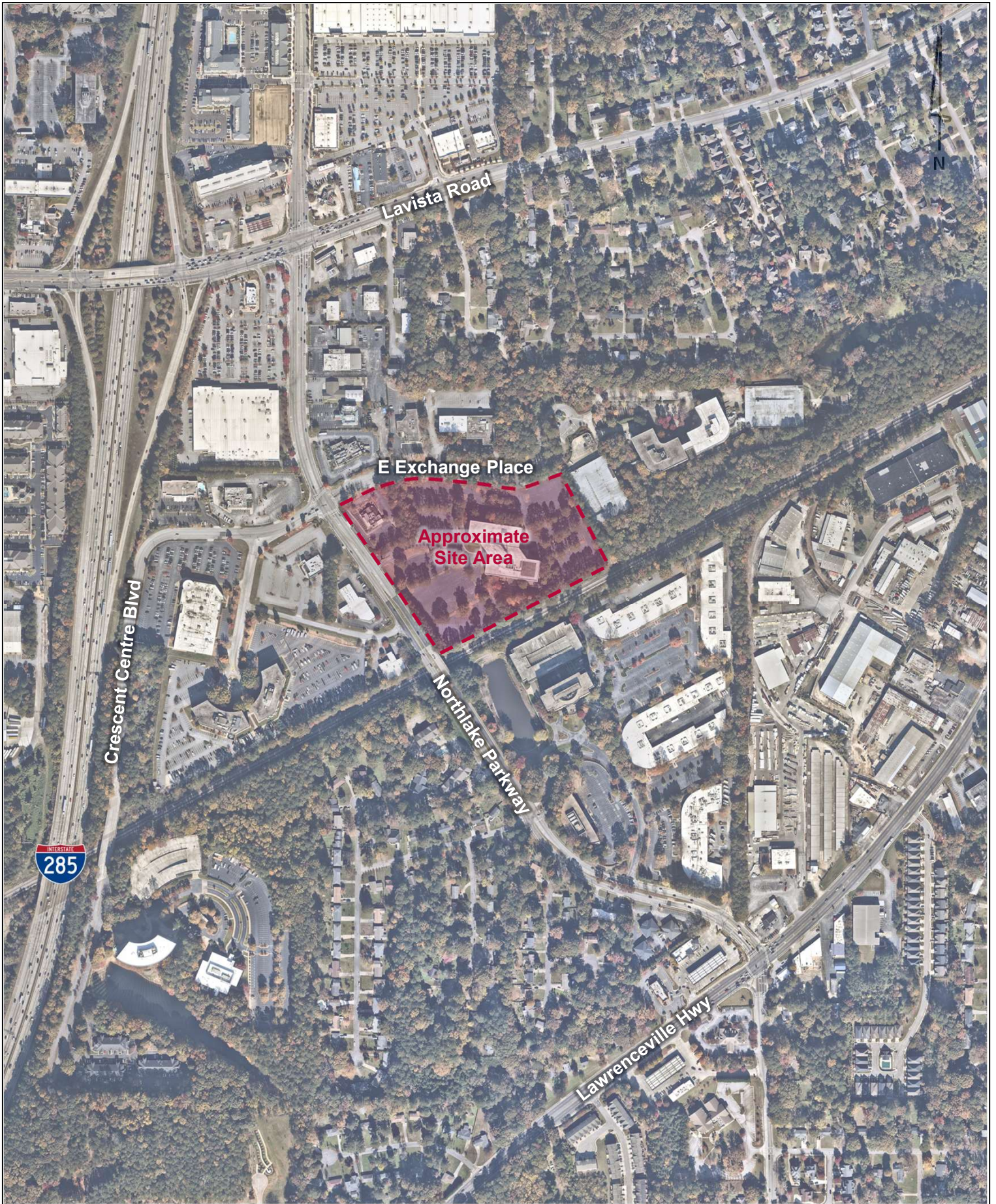
The study area consists of the following existing intersections:

1. SR 236 (Lavista Road) at Northlake Parkway (Signalized)
2. Northlake Parkway at East Exchange Place / Crescent Centre Boulevard (Signalized)
3. Northlake Parkway at Site Driveway A (Unsignalized)
4. SR 8 (Lawrenceville Highway) at Northlake Parkway / Cooledge Road

For purposes of the traffic impact study, Northlake Parkway is considered to have north-south orientation. SR 236 (Lavista Road), East Exchange Place, and SR 8 (Lawrenceville Highway) are considered to have east-west orientations.



LEGEND	
x	Intersection Reference Number



3.0 EXISTING TRAFFIC CONDITIONS

3.1 ROADWAY CONDITIONS

The roadways within the study network have the following characteristics:

SR 236 (Lavista Road) is a four-lane, minor arterial with a posted speed limit of 45 MPH in the vicinity of the study network. GDOT counts taken along SR 236 (Lavista Road) east of Northlake Parkway indicate an annual average daily traffic (AADT) of approximately 23,500 vehicles per day in 2020.

SR 8 (Lawrenceville Highway) is a four-lane, principal arterial with a center two-way left-turn lane (TWLTL) and a posted speed limit of 45 MPH in the vicinity of the study network. GDOT counts taken along SR 8 (Lawrenceville Highway) west of Northlake Parkway indicate an annual average daily traffic (AADT) of approximately 20,900 vehicles per day in 2020.

Northlake Parkway is a four-lane, major collector with a center two-way left-turn lane (TWLTL) and a posted speed limit of 30 MPH in the vicinity of the study network. GDOT counts taken along Northlake Parkway south of SR 236 (Lavista Road) indicate an annual average daily traffic (AADT) of approximately 17,500 vehicles per day in 2020.

East Exchange Place is a two-lane, local road with a posted speed limit of 25 MPH in the vicinity of the study network.

Crescent Centre Boulevard is a four-lane, local road with a posted speed limit of 30 MPH in the vicinity of the study network.

3.2 VEHICULAR VOLUMES

Vehicle peak hour turning movement counts were performed at all four (4) existing study intersections.

The vehicle peak turning movement counts were collected on Wednesday, November 10, 2021. The AM peak period was collected from 7:00 AM to 9:00 AM, and the PM peak period was collected from 4:00 PM to 6:00 PM. The AM and PM peak hours for each intersection are listed below in **Table 1**. The peak hour traffic counts were used to perform the analysis presented in this report. The complete traffic count data is provided in **Appendix B**.

Table 1: Intersection Peak Hours		
Intersection	AM Peak Hour	PM Peak Hour
1. SR 236 (Lavista Road) @ Northlake Parkway (Signalized)	7:45 AM – 8:45 AM	4:45 PM – 5:45 PM
2. Northlake Parkway @ East Exchange Place / Crescent Centre Boulevard (Signalized)	8:00 AM – 9:00 AM	4:30 PM – 5:30 PM
3. Northlake Parkway @ Site Driveway A (Unsignalized)	8:00 AM – 9:00 AM	4:30 PM – 5:30 PM
4. SR 8 (Lawrenceville Highway) @ Northlake Parkway / Cooledge Road (Signalized)	7:45 AM – 8:45 AM	4:30 PM – 5:30 PM

3.3 EXISTING VOLUME ADJUSTMENT

Due to COVID-19's impact on traffic, historical data was used to develop the Estimated 2021 traffic conditions. Average Daily Traffic (ADT) volumes collected in 2021 and Annual Average Daily Traffic (AADT) volumes from GDOT's Traffic Analysis & Data Application (TADA) were used to compare typical traffic volumes in the vicinity of the project site.

Table 2: Traffic Count Comparison and Adjustment Calculations										
Count Station	Location	GDOT					Collected			
		2018 AADT	ADT Date	ADT	AM Peak	PM Peak	2021 ADT	AM Peak	PM Peak	
089-3021	SR 8 (Lawrenceville Highway) (s/o Northlake Parkway)	26,600	October 2018	28,893	1,897	2,744	27,800	1,836	2,360	
Plus 2.0% per year background growth between 2018 and 2021				30,661	2,013	2,912				
Difference Calculations										
Count Station	Location	ADT			AM Peak			PM Peak		
		Vol	Percent	Factor	Vol	Percent	Factor	Vol	Percent	Factor
089-3021	SR 8 (Lawrenceville Highway) (s/o Northlake Parkway)	-2,861	-9%	1.1	-177	-9%	1.1	-552	-19%	1.2

The volume comparison is shown in a tabular format in **Table 2**. **Figure 3** illustrates the comparison between the October 2018 GDOT AADT grown at 2.0% to year 2021 (3 years) and the November 2021 collected ADT. As a result of the volume comparison, an adjustment factor of 1.1 and 1.2 will be used for the existing AM and PM peak hours, respectively. The adjustment factors take into account the potential impacts of COVID-19 to typical traffic patterns.

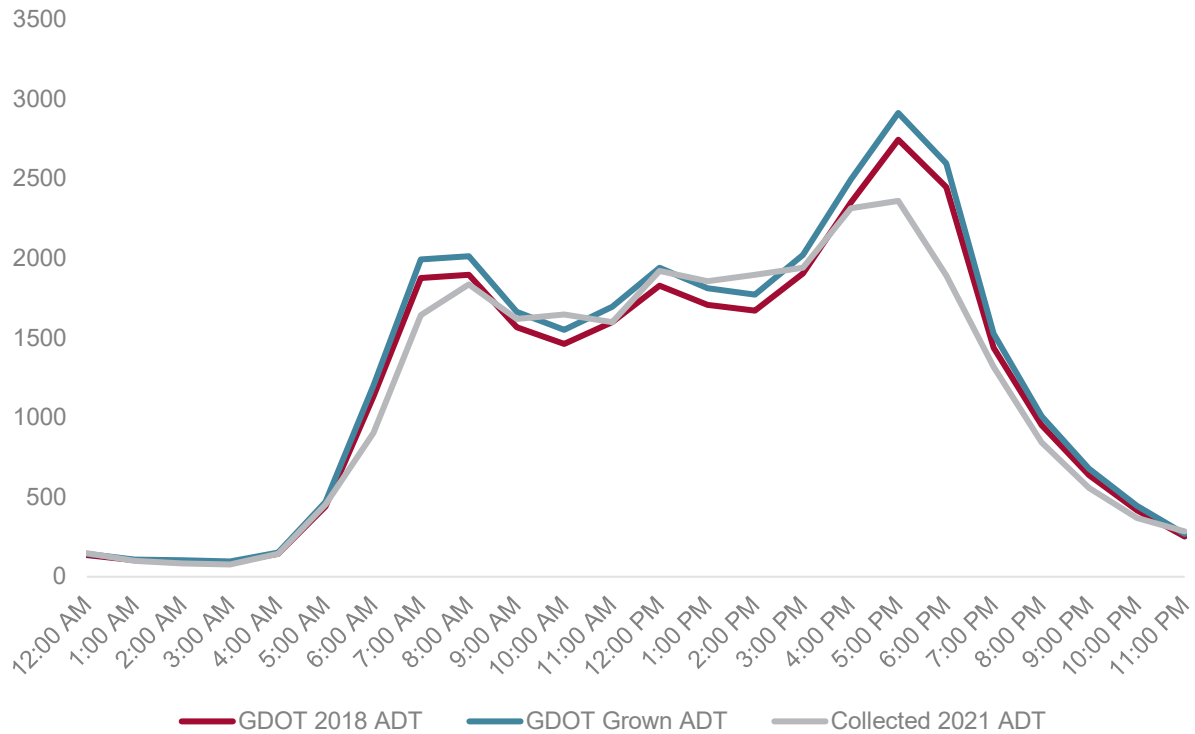
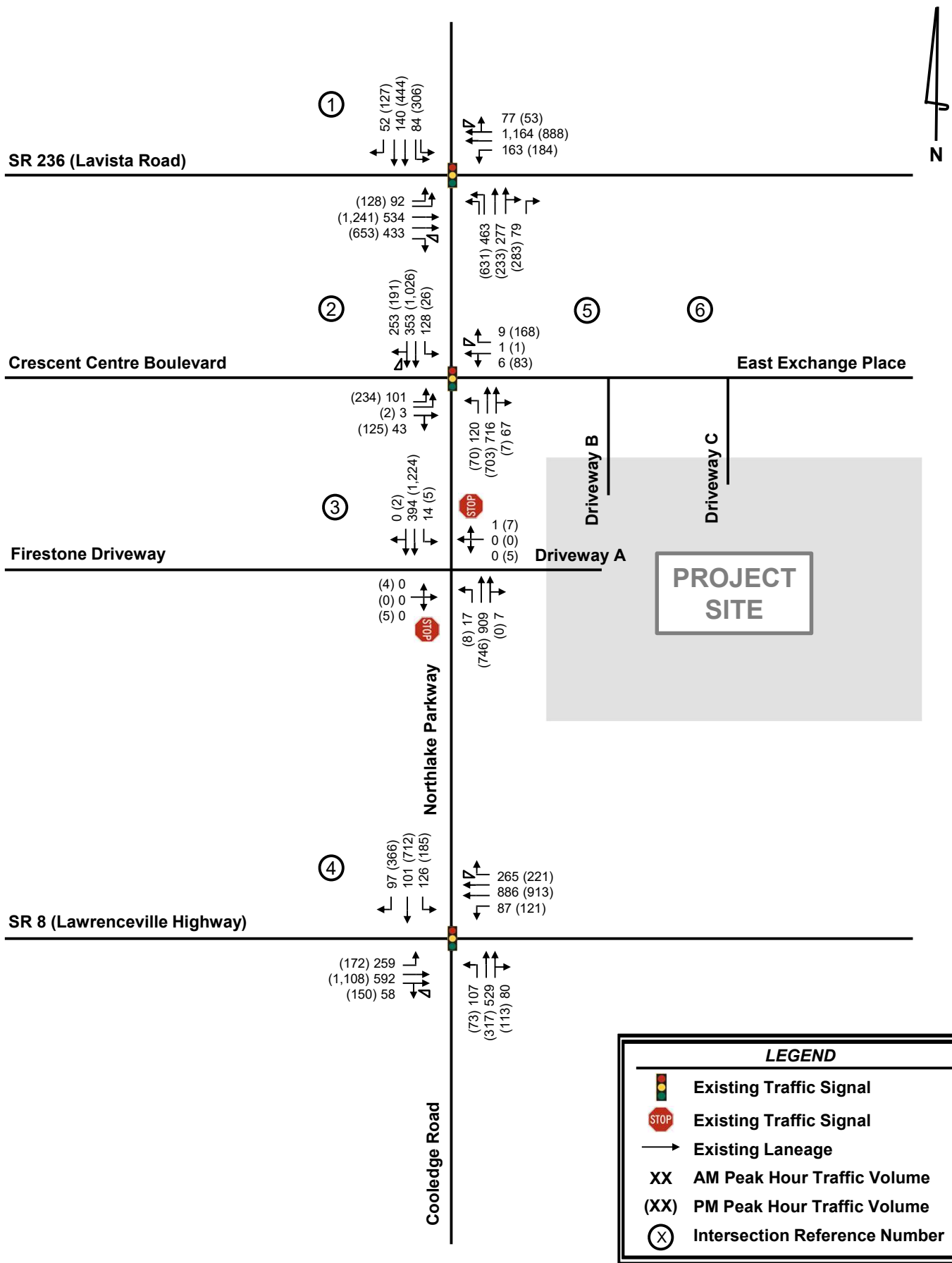


Figure 3: ADT Comparison

Figure 4 illustrates the Estimated 2021 peak hour traffic volumes at the study intersections and the existing roadway geometry (intersection layout). The complete traffic count data is provided in **Appendix C**.

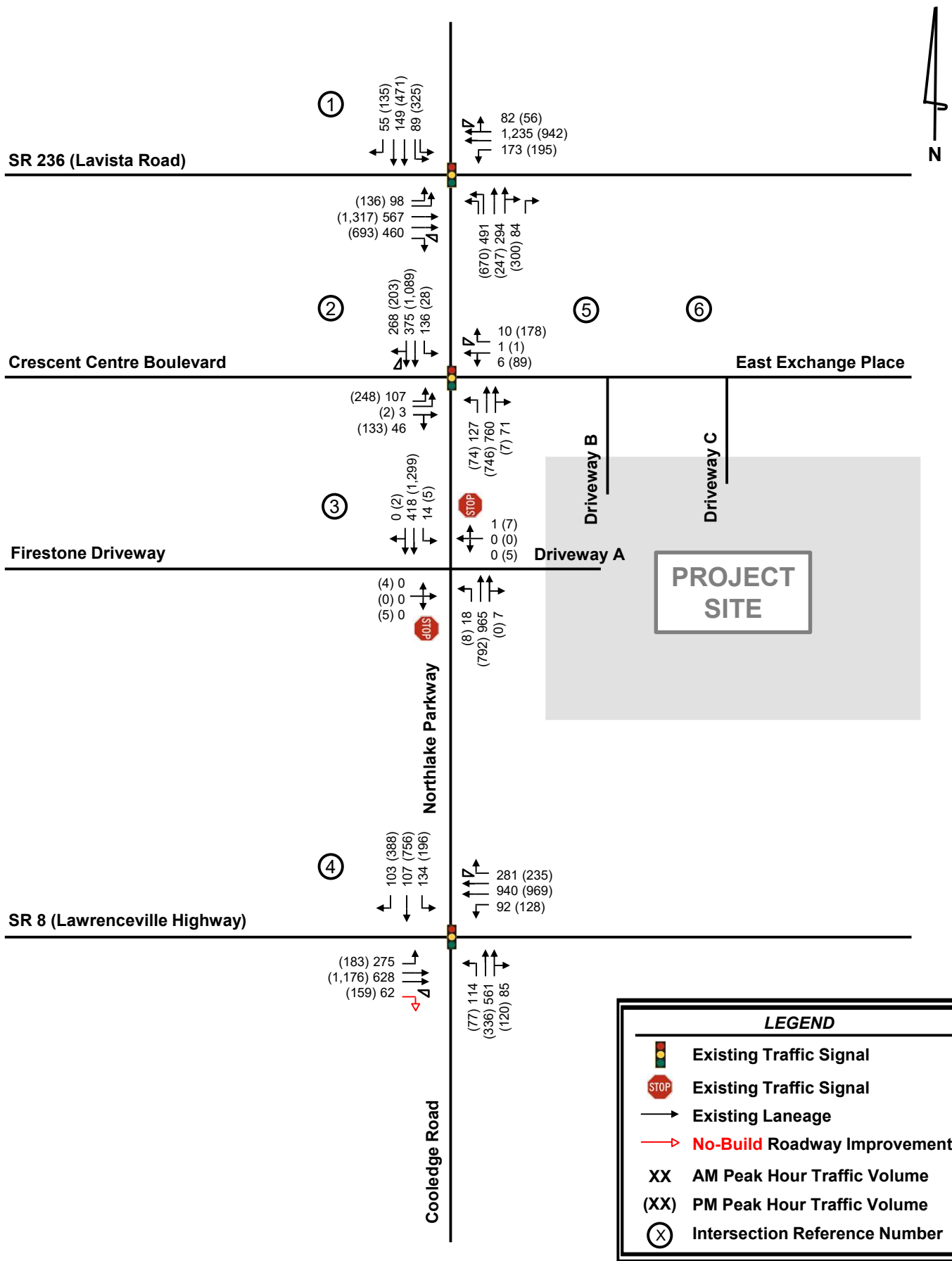


4.0 PROJECTED BACKGROUND (NON-PROJECT) TRAFFIC

Projected background (non-project) traffic is defined as the expected traffic on the roadway network in the future year(s) absent the *AHS Tucker Exchange* development. The Estimated 2021 peak hour traffic volumes were increased by 2.0% per year for three (3) years to account for the expected background growth in traffic through year 2024 build-out of the project. **Figure 5** illustrates the Projected 2024 No-Build traffic volumes for the AM and PM peak hours.

4.1 FUTURE ROADWAY / INTERSECTION PROJECTS

ARC's Atlanta Region's Plan, GDOT Statewide TIP (STIP), and DeKalb County transportation projects were researched to identify any currently programmed transportation projects within the vicinity of the proposed development that may impact the study network during the analysis period. There are currently no programmed projects identified within the vicinity of the proposed development that may impact the study network during the analysis period.



5.0 PROJECT TRAFFIC

Project traffic used in this analysis is defined as the vehicle trips expected to be generated by the proposed development and the distribution and assignment of that traffic through the study roadway network. This traffic impact study evaluated the impacts of adding the new trips generated by the proposed *AHS Tucker Exchange* development.

5.1 PROJECT SITE ACCESS

Access to the site will be provided via three (3) existing site driveways, which are shown on the site plan in **Appendix A**. Brief description of the site driveways are as follows:

- Site Driveway A – existing full-movement driveway, located along Northlake Parkway, approximately 280 feet south of East Exchange Place.
- Site Driveway B – existing full movement, located along East Exchange Place, approximately 580 feet east of Northlake Parkway.
- Site Driveway C – existing full movement, located along East Exchange Place, approximately 850 feet east of Northlake Parkway.

The site driveways provide vehicular access to the entire development. Internal, private roadways throughout the site provide access to all buildings. It should be noted that Site Driveway A is proposed to remain as an existing full-movement driveway to maintain existing access to the proposed development and site across from the development. Refer to the site plan in **Appendix A** for a visual representation of vehicular access and circulation throughout the proposed development.

5.2 TRIP GENERATION

Gross trips associated with the proposed development were estimated using the *Institute of Transportation Engineers' (ITE) Trip Generation Manual, 10th Edition, 2017*, using equations where available. Trip generation for the proposed development was calculated based upon the following land uses:

- Land Use 221: Multi-Family Housing (Mid-Rise)
- Land Use 710: General Office Building

Table 3 summarizes the anticipated trip generation for the proposed development upon full build-out (2024). **Appendix C** provides the detailed trip generation worksheet for the proposed development.

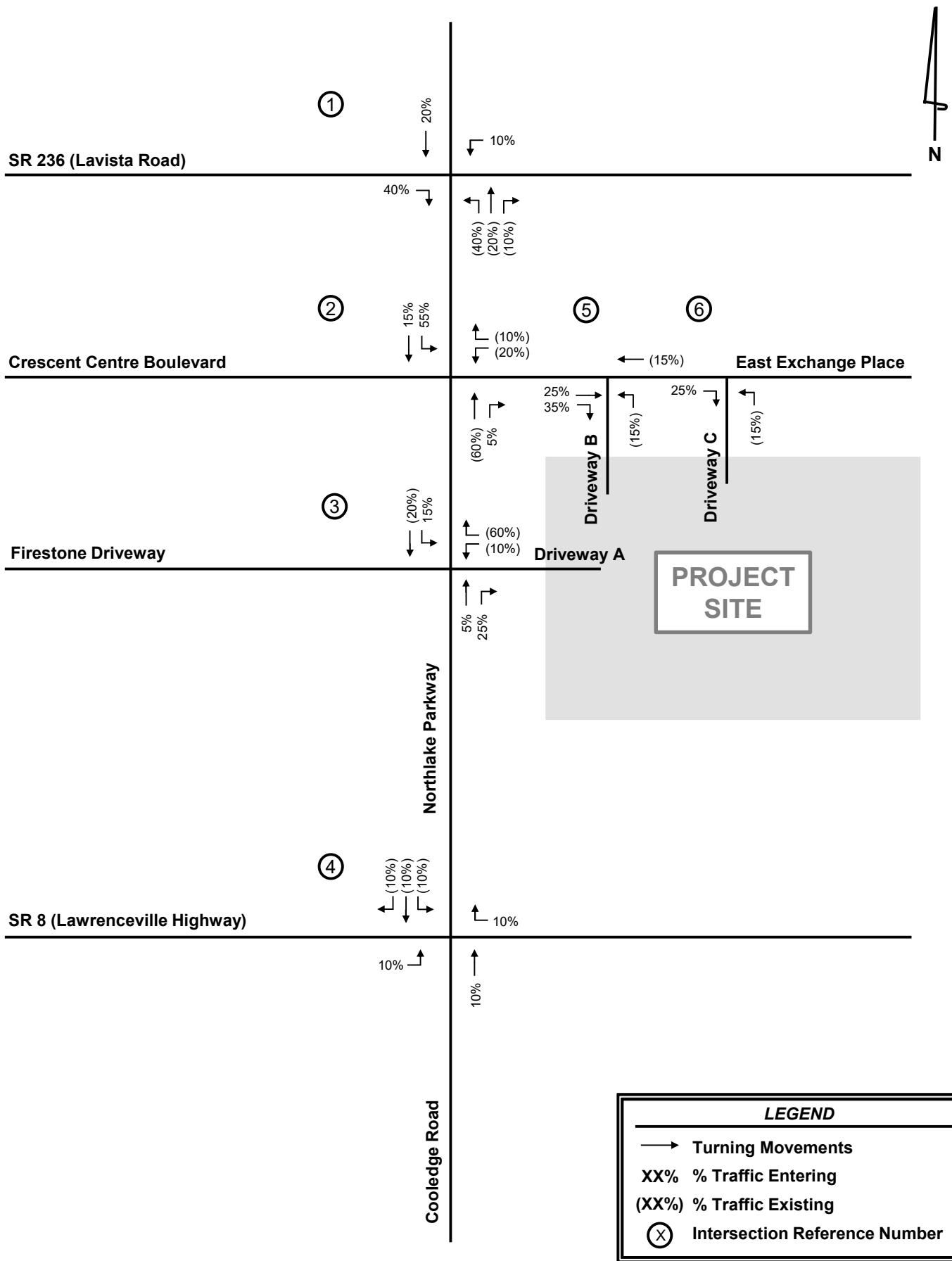
It should be noted that no reductions to gross trips from repurposing the existing office were considered in the analysis.

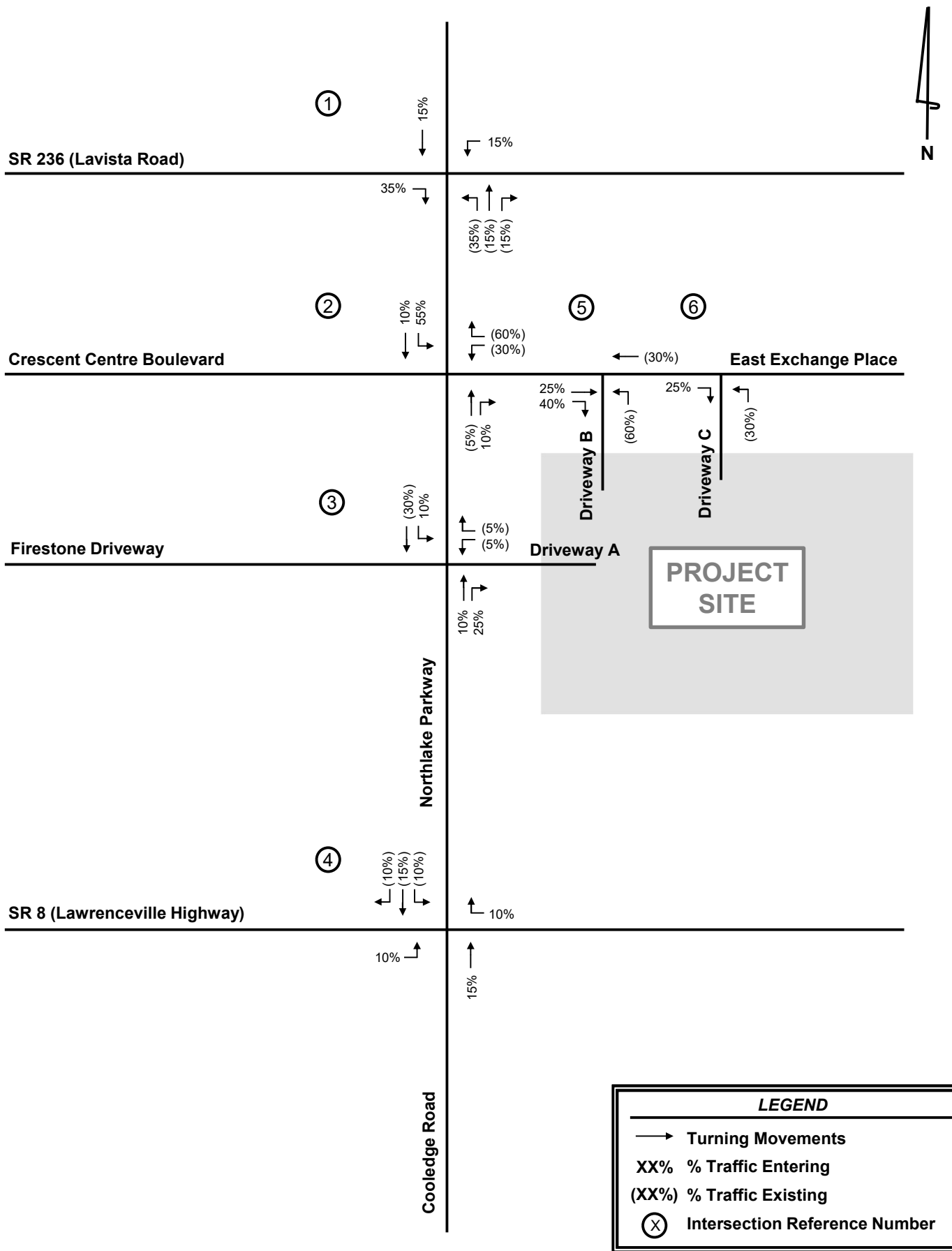
Table 3: Trip Generation Summary

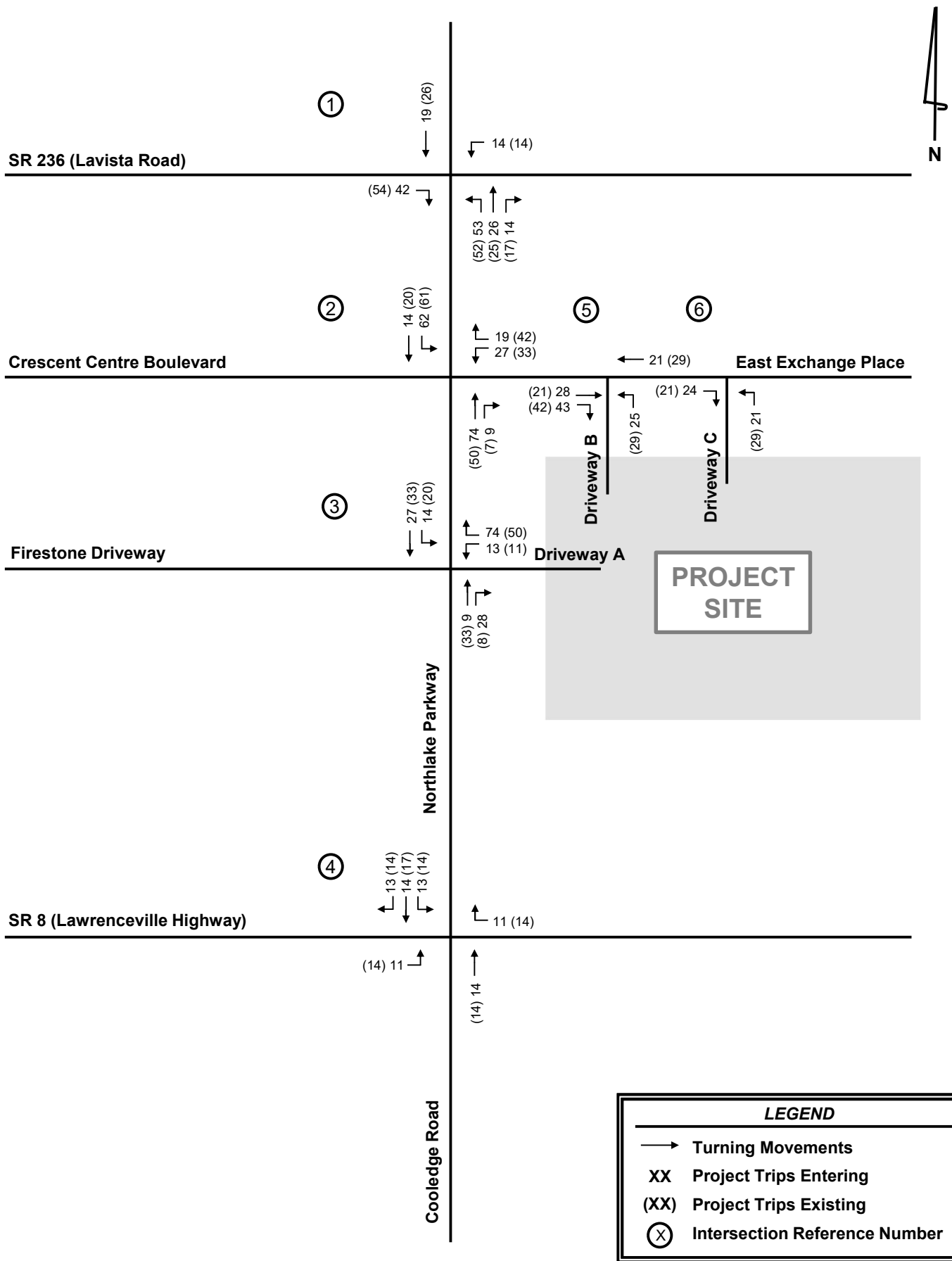
ITE Code	Land Use	Density	Daily Traffic			AM Peak Hour			PM Peak Hour		
			Total	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit
221	Multi-Family Housing (Mid-Rise)	507 units	2,762	1,381	1,381	168	44	124	210	128	82
710	General Office Building	59,315 SF	640	320	320	82	71	11	69	11	58
Gross Project Trips			3,402	1,701	1,701	250	115	135	279	139	140
<i>Mixed-Use Reduction</i>			-12	-6	-6	-4	-2	-2	-8	-4	-4
Net New Trips			3,390	1,695	1,695	246	113	113	271	135	136

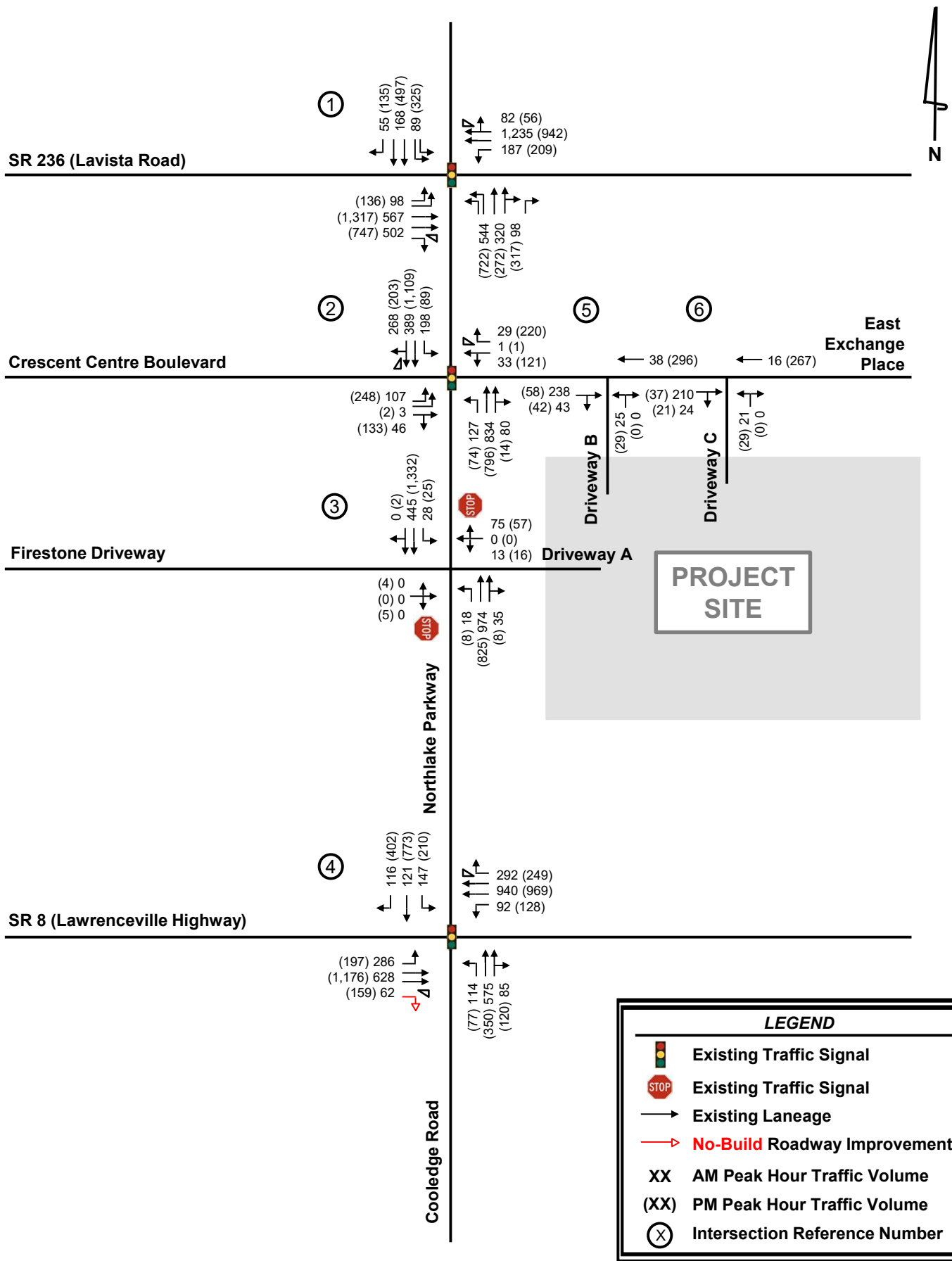
5.3 TRIP DISTRIBUTION AND ASSIGNMENT

The directional distribution and assignment of new trips (project trips) related to the proposed development was based on a review of land uses and population densities in the area, existing travel patterns in the area, and engineering judgement. A detailed trip distribution and assignment are shown in **Figure 6** and **Figure 7**. Based on trip generation from **Table 3** and the anticipated trip distribution, new project trips were assigned to the study roadway network. **Figure 8** illustrates the new project trips distributed throughout the study network. **Figure 9** illustrates the Projected 2024 Build traffic volumes for the AM and PM peak hours. **Appendix D** provides intersection volume worksheets for all study intersections.









6.0 LEVEL-OF-SERVICE ANALYSIS

Level-of-service (LOS) determinations were made for the weekday AM and PM peak hours for the study network intersections using *Synchro, Version 11*. The program uses methodologies contained in the 6th Edition *Highway Capacity Manual* 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 signalized intersections are reported for the intersection as a whole. One or more movements at an intersection experience a low LOS, while the intersection as a whole may operate acceptably. LOS for unsignalized intersections with stop control on the minor streets 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 often experience significant delay turning onto a major roadway.

LOS analyses were performed for the AM and PM peak hours under the Estimated 2021 conditions, Projected 2024 No-Build conditions, and Projected 2024 Build conditions. The results of each analysis are summarized in **Table 4**. *Synchro* analysis reports are included in **Appendix E**.

Table 4: Level-of-Service Summary LOS (Delay in Seconds)							
Intersection	Approach/ Movement	Estimated 2021		Projected 2024 No-Build		Projected 2024 Build	
		AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
1. SR 236 (Lavista Road) @ Northlake Parkway	Overall	D (41.3)	E (62.5)	D (43.4)	E (68.8)	D (45.8)	E (74.8)
2. Northlake Parkway @ E Exchange Place / Crescent Centre Blvd	Overall	B (14.2)	D (35.8)	B (14.5)	D (38.6)	C (28.7)	D (48.4)
3. Northlake Parkway @ Site Driveway A	SBL	B (10.1)	A (9.6)	B (10.4)	A (9.8)	B (10.7)	B (10.2)
	EB	A (0.0)	F (51.8)	A (0.0)	F (61.3)	A (0.0)	F (84.8)
	WB	B (11.8)	D (32.4)	B (12.0)	E (36.7)	C (21.0)	E (45.3)
4. SR 8 (Lawrenceville Hwy) @ Northlake Pkwy / Cooledge Rd	Overall	D (40.0)	E (69.1)	D (43.1)	F (82.0)	D (45.7)	F (84.6)
5. East Exchange Place @ Site Driveway B	NB	-	-	-	-	B (10.5)	B (10.1)
6. East Exchange Place @ Site Driveway C	NB	-	-	-	-	B (10.1)	A (9.8)

As shown in **Table 4**, all but one (1) intersection are projected to operate at acceptable LOS under all conditions. The signalized intersection of SR 8 (Lawrenceville Highway) at Northlake Parkway / Cooledge Road (Intersection 4) is projected to operate at LOS F during the PM peak hour under the Projected 2024 No-Build and Projected 2024 Build conditions. It should be noted that while the southbound approach of the intersection of SR 8 (Lawrenceville Highway) at Northlake Parkway / Cooledge Road (Intersection 4) currently operates at LOS F during the PM peak hour under Estimated 2021 conditions, the intersection overall is projected to operate at an acceptable LOS.

For the above intersection to operate at acceptable LOS, the following system (no-build) improvement should be considered:

- Intersection 4: SR 8 (Lawrenceville Highway) at Northlake Parkway / Cooledge Road
 - Provide a separate eastbound right-turn lane along SR 8 (Lawrenceville Highway) turning onto Cooledge Road.

Table 5 provides results for the No-Build Improved and the Build Improved traffic conditions.

Table 5: Improved Level-of-Service Summary					
LOS (Delay in Seconds)					
Intersection	Approach/ Movement	Projected 2024 No-Build Improved		Projected 2024 Build Improved	
		AM Peak	PM Peak	AM Peak	PM Peak
4. SR 8 (Lawrenceville Hwy) @ Northlake Pkwy / Cooledge Rd	Overall	D (42.9)	E (68.8)	D (45.4)	E (71.7)

As shown in **Table 5**, the intersection of SR 8 (Lawrenceville Highway) at Northlake Parkway / Cooledge Road (Intersection 4) is projected to operate at acceptable LOS after the system (no-build) improvements under all scenarios.

7.0 CONCLUSION

This traffic study evaluated the traffic impacts associated with the *AHS Tucker Exchange* development. The approximate 13-acre site is located southeast of the intersection of Northlake Parkway and East Exchange Place located in DeKalb County, Georgia. As currently envisioned, the existing office building of approximately 259,000 SF will be repurposed, and the site will be redeveloped to consist of 507 residential units (378 multifamily and 129 live work) and approximately 59,000 SF office. The project site is currently zoned Northlake Overlay (Tier 2).

The proposed development will be served by three (3) existing full-movement driveways: one (1) along Northlake Parkway and two (2) along East Exchange Place.

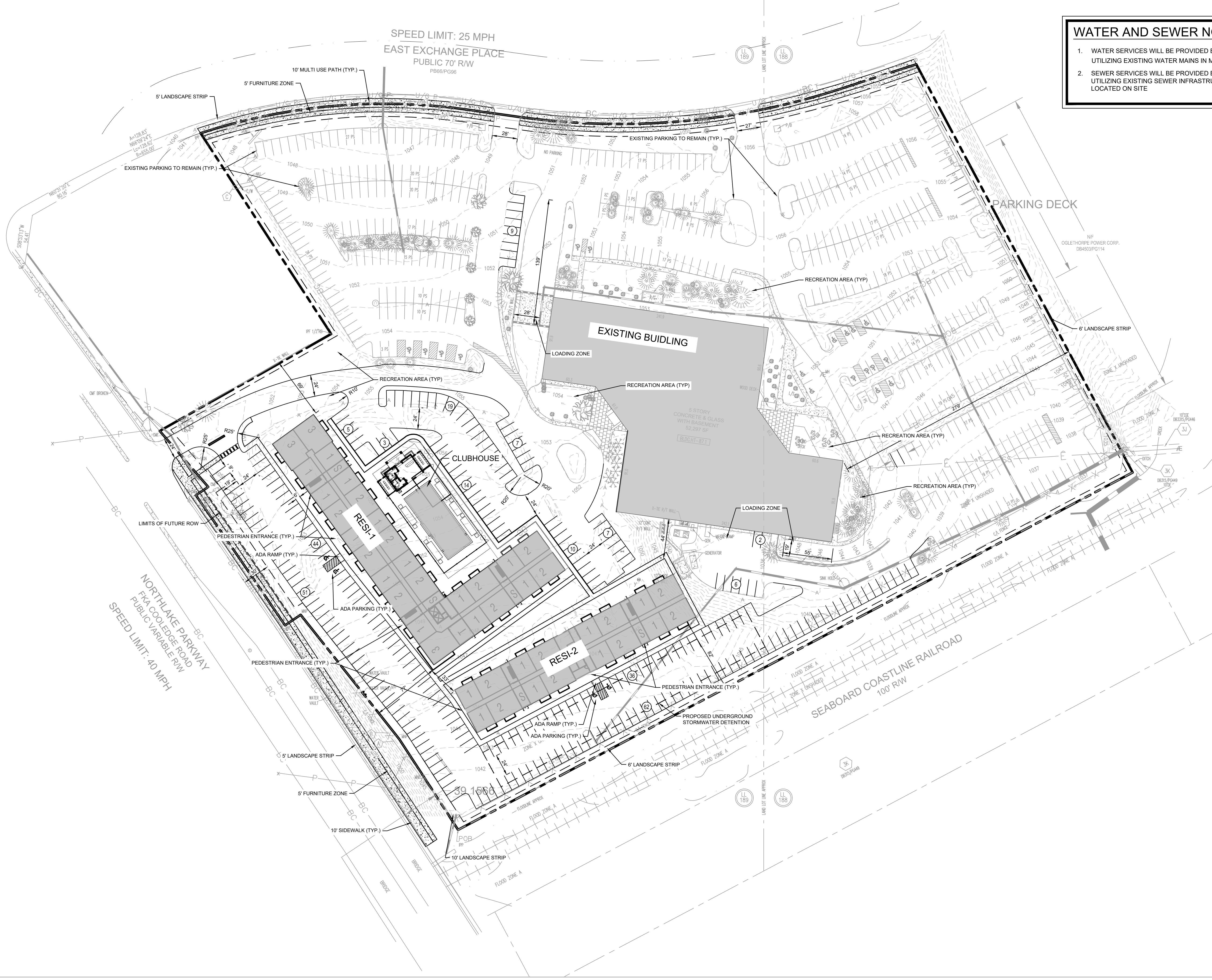
The analyses indicate that all but one (1) intersection are projected to operate at acceptable LOS under all conditions. SR 8 (Lawrenceville Highway) at Northlake Parkway / Cooledge Road (Intersection 4) is projected to operate at LOS F during the PM peak hour under the Projected 2024 No-Build and Projected 2024 Build conditions.

7.1 SYSTEM IMPROVEMENT RECOMMENDATIONS

Based on the results of this traffic impact study, the following improvement is recommended to serve the No-Build traffic conditions (note: this would be the improvement needed to serve the traffic based on the existing conditions plus background growth).

- Intersection 4: SR 8 (Lawrenceville Highway) at Northlake Parkway / Cooledge Road
 - Provide a separate eastbound right-turn lane along SR 8 (Lawrenceville Highway) turning onto Cooledge Road.

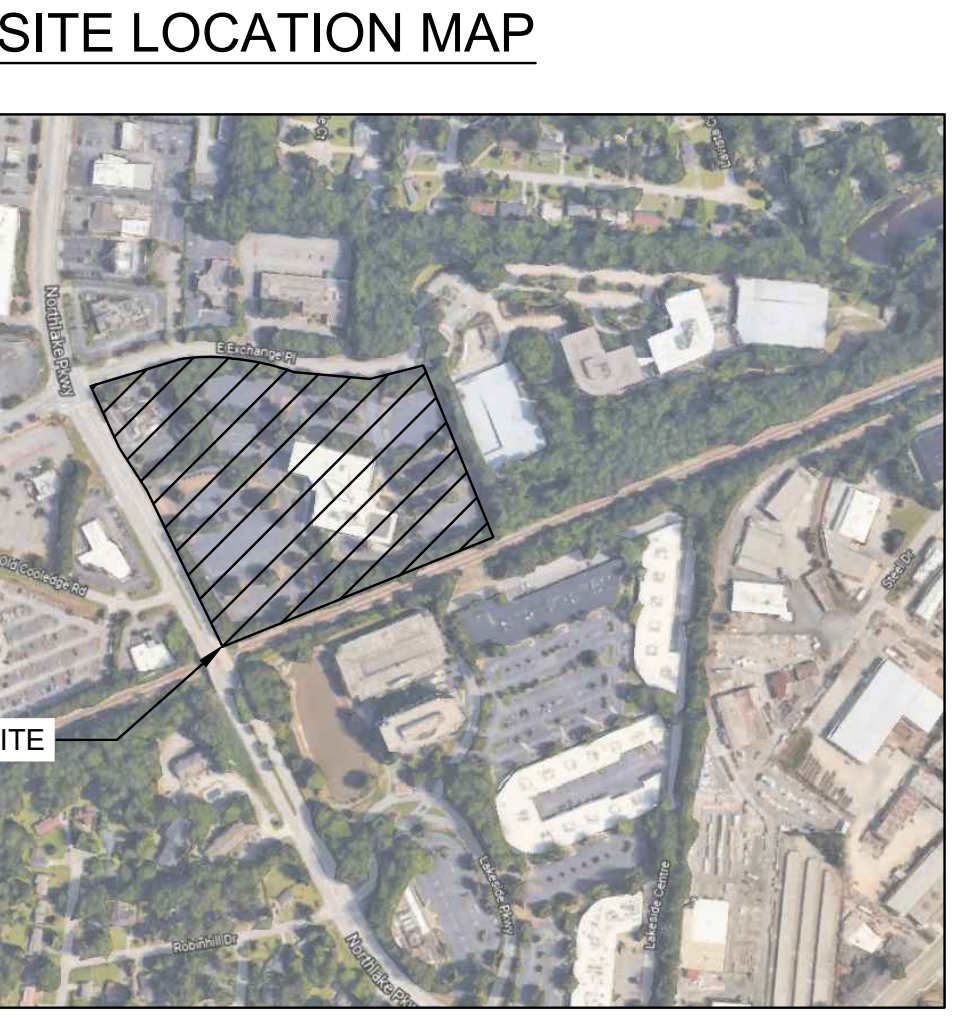
Site Plan



WATER AND SEWER NOTES:

1. WATER SERVICES WILL BE PROVIDED BY DEKALB COUNTY UTILIZING EXISTING WATER MAINS IN MAIN ROAD
2. SEWER SERVICES WILL BE PROVIDED BY DEKALB COUNTY UTILIZING EXISTING SEWER INFRASTRUCTURE CURRENTLY LOCATED ON SITE

DEVELOPMENT SUMMARY:	
SITE SUMMARY:	
CURRENT ZONING:	NORTHLAKE OVERLAY (TIER 2)
PROPOSED ZONING:	NORTHLAKE OVERLAY (TIER 2)
SITE AREA:	13.00 ACRES
LOT COVERAGE:	10.1 ACRES (77.7%)
OPEN SPACE:	2.9 ACRES (22.3%)
REQUIRED BUILDING HEIGHT :	135 FT 9 STORIES
PROPOSED BUILDING HEIGHT:	89' FT 9 STORIES
EXISTING BUILDING HEIGHT:	87.1' FT 5 STORIES
BUILDING SETBACK REQUIREMENTS:	
FRONT (MIN)	0 FT
FRONT (MAX)	30 FT
SIDE (MIN)	20 FT
BACK (MIN)	20 FT
LANDSCAPE SETBACK:	
FRONT (MIN)	6 FT
SIDE (MIN)	6 FT
BACK (MIN)	6 FT
PROPOSED LAND USES & DENSITIES:	
MULTIFAMILY RESIDENTIAL	378 UNITS
LIVE WORK	129 UNITS
OFFICE/COWORKING SPACE:	59,315 SF
TOTAL FLOOR SPACE: 570,332 SF	
RESIDENTIAL: 511,197 SF	
OFFICE: 59,315	
PROPOSED DENSITY: 39 UNITS/ACRE	
PARKING SUMMARY:	
REQUIRED PARKING (MINIMUM):	
MULTIFAMILY (378 UNITS):	378 SPACES (1.00/UNIT)
LIVE WORK (129 UNITS):	129 SPACES (1.00/UNIT)
OFFICE/COWORKING (59,315 SF):	119 SPACES (1.0/500 SF)
REQUIRED PARKING (MAXIMUM):	
MULTIFAMILY (378 UNITS):	1,134 SPACES (3.00/UNIT)
LIVE WORK (129 UNITS):	387 SPACES (3.00/UNIT)
OFFICE/COWORKING (59,315 SF):	236 SPACES (1.0/500 SF)
PROPOSED PARKING:	
STANDARD:	753 SPACES (TOTAL)
HANDICAP:	16 SPACES
ALTERNATIVE VEHICLE:	16 SPACES
BIKE/MOPED SPACES	40 SPACES
LOADING/UNLOADING	4 SPACES
PARKING LOT LANDSCAPING:	
REQUIRED:	10% MIN.
PROPOSED:	10%



Traffic Count Data



[Click here for Map](#)

Peak Hour Turning Movement Count

Tucker, GA



www.marrtraffic.com

Wednesday, November 10, 2021	
Period	0700 - 0900
Peak Hour	0745 - 0845

Session Parameters

(Drop Down Menu)

Peak Hour

Volume





[Click here for Map](#)

Peak Hour Turning Movement Count

Tucker, GA



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Wednesday, November 10, 2021	
Period	1600 - 1800
Peak Hour	1645 - 1745

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



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Peak Hour Turning Movement Count

Tucker, GA



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Wednesday, November 10, 2021	
Period	0700 - 0900
Peak Hour	0800 - 0900

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



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02/11/2022

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Peak Hour Turning Movement Count

Tucker, GA



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Wednesday, November 10, 2021	
Period	1600 - 1800
Peak Hour	1630 - 1730

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



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Session Parameters

(Drop Down Menu)

Peak Hour

Volume



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Peak Hour Turning Movement Count

Tucker, GA



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Wednesday, November 10, 2021	
Period	1600 - 1800
Peak Hour	1630 - 1730

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



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Peak Hour Turning Movement Count

Tucker, GA



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Wednesday, November 10, 2021	
Period	0700 - 0900
Peak Hour	0745 - 0845

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



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Peak Hour Turning Movement Count

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Wednesday, November 10, 2021	
Period	1600 - 1800
Peak Hour	1630 - 1730

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



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02/11/2022

PLANNING & ZONING
DEPARTMENT

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

Tucker, GA



www.marrtraffic.com

Site 5

GA-8 Lawrenceville Hwy,
east of Lovely Ln

Date

Wednesday, November 10, 2021

Weather

Mostly Cloudy
61°F

Lat/Long

33.831965°, -84.245692°

0000 - 2400 (24h Session) (11-10-2021)

Bi-Directional 60min

Bi-Directional 60min														
TIME	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Total
0000 - 0100	0	129	11	3	3	0	0	1	0	0	0	0	0	147
0100 - 0200	0	86	11	0	0	1	0	0	1	0	0	0	0	99
0200 - 0300	0	75	4	0	2	0	0	0	3	0	0	0	0	84
0300 - 0400	0	69	4	0	0	1	2	0	1	0	0	0	0	77
0400 - 0500	1	125	12	1	2	1	0	0	3	0	0	0	0	145
0500 - 0600	0	399	31	5	11	4	0	1	3	0	0	0	0	454
0600 - 0700	0	672	143	14	52	7	0	1	12	1	0	0	0	902
0700 - 0800	2	1171	359	30	44	16	0	8	11	2	0	0	0	1643
0800 - 0900	2	1406	322	26	49	8	0	3	20	0	0	0	0	1836
0900 - 1000	2	1212	296	22	39	11	3	15	18	0	0	1	0	1619
1000 - 1100	1	1249	273	11	48	27	0	5	31	0	0	0	0	1645
1100 - 1200	4	1206	278	9	43	23	0	9	26	0	0	0	0	1598
1200 - 1300	6	1542	263	8	52	12	0	19	16	0	0	0	0	1918
1300 - 1400	4	1520	218	11	44	14	3	11	29	3	0	0	0	1857
1400 - 1500	0	1566	215	13	51	19	1	9	18	2	0	0	0	1894
1500 - 1600	6	1630	211	19	43	9	0	10	13	1	0	0	0	1942
1600 - 1700	6	1969	235	19	48	11	0	11	16	0	0	0	0	2315
1700 - 1800	2	2061	211	10	28	17	0	13	18	0	0	0	0	2360
1800 - 1900	0	1623	223	8	17	2	1	0	16	0	0	0	0	1890
1900 - 2000	1	1122	160	7	14	4	0	1	8	0	0	0	0	1317
2000 - 2100	2	756	64	5	8	1	0	2	6	0	0	0	0	844
2100 - 2200	1	478	73	5	0	0	0	0	2	0	0	0	0	559
2200 - 2300	1	326	37	3	3	0	0	0	0	0	0	0	0	370
2300 - 2400	2	250	24	5	0	1	0	0	3	0	0	0	0	285

Session Total	43	22642	3678	234	601	189	10	119	274	9	0	1	0	27800
Session Average	1.79	943.42	153.25	9.75	25.04	7.88	0.42	4.96	11.42	0.38	0.00	0.04	0.00	1158.33
Session Percentage	0.15	81.45	13.23	0.84	2.16	0.68	0.04	0.43	0.99	0.03	0.00	0.00	0.00	

AM Peak Hour	0700 - 0800	0800 - 0900	0700 - 0800	0700 - 0800	0600 - 0700	0700 - 0800	0900 - 1000	0900 - 1000	0800 - 0900	0700 - 0800	-	0900 - 1000	-	0800 - 0900
AM Peak Volume	2	1406	359	30	52	16	3	15	20	2	0	1	0	1836

Noon Peak Hour	1200 - 1300	1400 - 1500	1100 - 1200	1400 - 1500	1200 - 1300	1000 - 1100	1300 - 1400	1200 - 1300	1000 - 1100	1300 - 1400	-	-	-	1200 - 1300
Noon Peak Volume	6	1566	278	13	52	27	3	19	31	3	0	0	0	1918

PM Peak Hour	1500 - 1600	1700 - 1800	1600 - 1700	1500 - 1600	1600 - 1700	1700 - 1800	1800 - 1900	1700 - 1800	1700 - 1800	1500 - 1600	-	-	-	1700 - 1800
PM Peak Volume	6	2061	235	19	48	17	1	13	18	1	0	0	0	2360

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Volume Development (Trip Generation and Growth Rate Calculations)

Trip Generation Analysis (10th Ed. With 2nd Edition Handbook Daily IC & 3rd Edition AM/PM IC) AHS Tucker Exchange DeKalb County, GA											
Land Use	Density		Daily Trips			AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out	Total	In	Out
Proposed Project Trips											
221 Multifamily Housing (Mid-Rise)	507 dwelling units		2,762	1,381	1,381	168	44	124	210	128	82
710 General Office Building	59,315 Sq. Ft. GFA		640	320	320	82	71	11	69	11	58
Gross Project Trips			3,402	1,701	1,701	250	115	135	279	139	140
Residential Trips			2,762	1,381	1,381	168	44	124	210	128	82
Mixed-Use Reductions			-6	-3	-3	-2	0	-2	-4	-1	-3
Alternative Mode Reductions			0	0	0	0	0	0	0	0	0
Adjusted Residential Trips			2,756	1,378	1,378	166	44	122	206	127	79
Office Trips			640	320	320	82	71	11	69	11	58
Mixed-Use Reductions			-6	-3	-3	-2	-2	0	-4	-3	-1
Alternative Mode Reductions			0	0	0	0	0	0	0	0	0
Adjusted Office Trips			634	317	317	80	69	11	65	8	57
Mixed-Use Reductions - TOTAL			-12	-6	-6	-4	-2	-2	-8	-4	-4
Alternative Mode Reductions - TOTAL			0	0	0	0	0	0	0	0	0
Pass-By Reductions - TOTAL			0	0	0	0	0	0	0	0	0
New Trips			3,390	1,695	1,695	246	113	133	271	135	136
Driveway Volumes											

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Growth Rate Considerations

Chosen Growth Rate	2.0%
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Population Data

County (ARC) Population Annual Growth Projection (2015-2050)	0.94%
County (Census) Population Annual Growth (2010-2019)	1.04%
City (Census) Population Annual Growth (2010-2019)	3.13%

Nearby Developments

No nearby developments with known growth rates were identified.

Historical ADT Count Data

Source:	GDOT
Location:	Northlake Parkway
	s/o East Exchange Place
Route #:	00515300
Route Type:	Minor Collector (Urban)
Station:	089-3685

Count Type	Count Year	Volume	Growth Rate
EST	2014	16,700	
EST	2015	17,400	4.19%
EST	2016	17,800	2.30%
ACT	2017	18,200	2.25%
EST	2018	18,500	1.65%
EST	2019	18,900	2.16%

5 Year Growth Rate	2.51%
Avg. 1 Year Growth Rate	2.51%
Actual Count Growth Rate	1.90%

Source:	GDOT
Location:	Lawrenceville Highway
	w/o Northlake Parkway
Route #:	00000800
Route Type:	Principal Arterial - Other (Urban)
Station:	089-3021

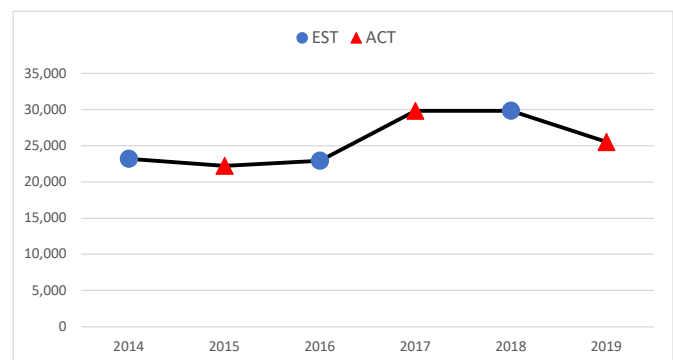
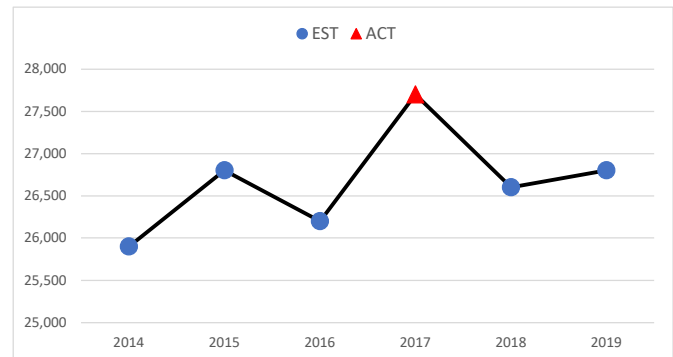
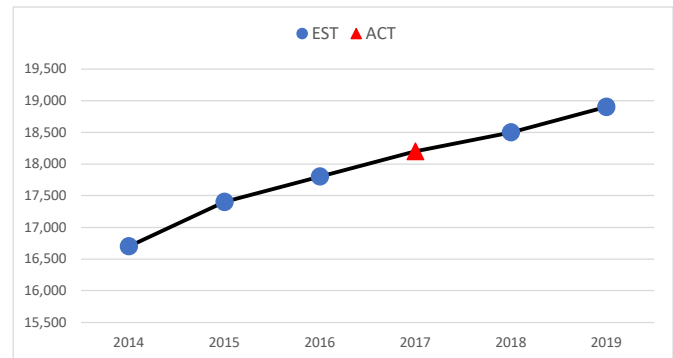
Count Type	Count Year	Volume	Growth Rate
EST	2014	25,900	
EST	2015	26,800	3.47%
EST	2016	26,200	-2.24%
ACT	2017	27,700	5.73%
EST	2018	26,600	-3.97%
EST	2019	26,800	0.75%

5 Year Growth Rate	0.69%
Avg. 1 Year Growth Rate	0.75%
Actual Count Growth Rate	-1.64%

Source:	GDOT
Location:	Lavista Road
	e/o Northlake Parkway
Route #:	00023600
Route Type:	Minor Arterial (Urban)
Station:	089-3269

Count Type	Count Year	Volume	Growth Rate
EST	2014	23,200	
ACT	2015	22,200	-4.31%
EST	2016	22,900	3.15%
ACT	2017	29,800	30.13%
EST	2018	29,800	0.00%
ACT	2019	25,500	-14.43%

5 Year Growth Rate	1.91%
Avg. 1 Year Growth Rate	2.91%
Actual Count Growth Rate	-7.50%



Intersection Volume Worksheets

INTERSECTION VOLUME DEVELOPMENT

INTERSECTION #1
Northlake Pkwy at Lavista Rd

AM PEAK HOUR																
	Northlake Pkwy Northbound				Northlake Pkwy Southbound				Lavista Rd Eastbound				Lavista Rd Westbound			
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2021 Traffic Volumes	0	421	252	72	0	76	127	47	1	83	485	394	1	147	1,058	70
Count Balancing																
Pedestrians	0				0				0				0			
Conflicting Pedestrians	0			0	0			0	0			0	0			0
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Conflicting Bicycles				0				0				0				0
Heavy Vehicles	0	16	5	3	0	1	2	3	0	1	9	13	0	2	50	1
Heavy Vehicle %	2%	4%	2%	4%	2%	2%	2%	6%	2%	2%	2%	3%	2%	2%	5%	2%
Peak Hour Factor	0.94				0.94				0.94				0.94			
Adjustment Factor	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Adjusted 2021 Volumes	0	463	277	79	0	84	140	52	1	91	534	433	1	162	1,164	77
Annual Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Growth Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Annual Growth Rate (Design Year)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Growth Factor (Design Year)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Background Growth Trips	0	491	294	84	0	89	149	55	1	97	567	460	1	172	1235	82
Background Growth Trips (Design Year)	0	463	277	79	0	84	140	52	1	91	534	433	1	162	1164	77
New Road Adjustment																
Approved Development Trips 1																
Approved Development Trips 2																
Approved Development Trips 3																
Total Approved Development Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2024 No-Build Traffic	0	491	294	84	0	89	149	55	1	97	567	460	1	172	1,235	82
Trip Distribution IN							20%					40%		10%		
Trip Distribution OUT		(40%)	(20%)	(10%)												
Residential Trips	0	49	24	12	0	0	9	0	0	0	0	18	0	4	0	0
Trip Distribution IN							15%					35%		15%		
Trip Distribution OUT		(35%)	(15%)	(15%)												
Office Trips	0	4	2	2	0	0	10	0	0	0	0	24	0	10	0	0
Project Trips (Unbalanced)	0	53	26	14	0	0	19	0	0	0	0	42	0	14	0	0
Balancing Adjustment																
Total Vehicular Project Trips	0	53	26	14	0	0	19	0	0	0	0	42	0	14	0	0
2024 Build Traffic	0	544	320	98	0	89	168	55	1	97	567	502	1	186	1,235	82

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INTERSECTION VOLUME DEVELOPMENT

INTERSECTION #1
Northlake Pkwy at Lavista Rd

PM PEAK HOUR																
	Northlake Pkwy Northbound				Northlake Pkwy Southbound				Lavista Rd Eastbound				Lavista Rd Westbound			
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2021 Traffic Volumes	0	526	194	236	0	255	370	106	0	107	1,034	544	0	153	740	44
Count Balancing																
Pedestrians	0				0				0				0			
Conflicting Pedestrians	0			0	0			0	0			0	0			0
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Conflicting Bicycles				0				0				0				0
Heavy Vehicles	0	7	3	6	0	7	7	0	0	1	23	14	0	4	12	1
Heavy Vehicle %	2%	2%	2%	3%	2%	3%	2%	2%	2%	2%	2%	3%	2%	3%	2%	2%
Peak Hour Factor	0.964				0.96				0.96				0.96			
Adjustment Factor	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Adjusted 2021 Volumes	0	631	233	283	0	306	444	127	0	128	1,241	653	0	184	888	53
Annual Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Growth Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Annual Growth Rate (Design Year)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Growth Factor (Design Year)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Background Growth Trips	0	670	247	300	0	325	471	135	0	136	1317	693	0	195	942	56
Background Growth Trips (Design Year)	0	631	233	283	0	306	444	127	0	128	1241	653	0	184	888	53
New Road Adjustment																
Approved Development Trips 1																
Approved Development Trips 2																
Approved Development Trips 3																
Total Approved Development Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2024 No-Build Traffic	0	670	247	300	0	325	471	135	0	136	1,317	693	0	195	942	56
Trip Distribution IN							20%					40%		10%		
Trip Distribution OUT		(40%)	(20%)	(10%)												
Residential Trips	0	32	16	8	0	0	25	0	0	0	0	51	0	13	0	0
Trip Distribution IN							15%					35%		15%		
Trip Distribution OUT		(35%)	(15%)	(15%)												
Office Trips	0	20	9	9	0	0	1	0	0	0	0	3	0	1	0	0
Project Trips (Unbalanced)	0	52	25	17	0	0	26	0	0	0	0	54	0	14	0	0
Balancing Adjustment																
Total Vehicular Project Trips	0	52	25	17	0	0	26	0	0	0	0	54	0	14	0	0
2024 Build Traffic	0	722	272	317	0	325	497	135	0	136	1,317	747	0	209	942	56

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INTERSECTION VOLUME DEVELOPMENT

INTERSECTION #2
Northlake Pkwy at Crescent Centre Blvd/E Exchange Pl

AM PEAK HOUR																
	Northlake Pkwy Northbound				Northlake Pkwy Southbound				Crescent Centre Blvd Eastbound				E Exchange Pl Westbound			
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2021 Traffic Volumes	0	109	651	61	0	116	321	230	0	92	3	39	0	5	1	8
Count Balancing																
Pedestrians	0				0				0				0			
Conflicting Pedestrians	0			0	0			0	0			0	0			0
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Conflicting Bicycles				0				0				0				0
Heavy Vehicles	0	1	16	1	0	1	16	0	0	8	0	1	0	0	1	1
Heavy Vehicle %	2%	2%	2%	2%	2%	2%	5%	2%	2%	9%	2%	3%	2%	2%	100%	13%
Peak Hour Factor	0.98				0.98				0.98				0.98			
Adjustment Factor	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Adjusted 2021 Volumes	0	120	716	67	0	128	353	253	0	101	3	43	0	6	1	9
Annual Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Growth Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Annual Growth Rate (Design Year)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Growth Factor (Design Year)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Background Growth Trips	0	127	760	71	0	136	375	268	0	107	3	46	0	6	1	10
Background Growth Trips (Design Year)	0	120	716	67	0	128	353	253	0	101	3	43	0	6	1	9
New Road Adjustment																
Approved Development Trips 1																
Approved Development Trips 2																
Approved Development Trips 3																
Total Approved Development Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2024 No-Build Traffic	0	127	760	71	0	136	375	268	0	107	3	46	0	6	1	10
Trip Distribution IN				5%		55%	15%									
Trip Distribution OUT			(60%)											(20%)		(10%)
Residential Trips	0	0	73	2	0	24	7	0	0	0	0	0	0	24	0	12
Trip Distribution IN				10%		55%	10%									
Trip Distribution OUT			(5%)											(30%)		(60%)
Office Trips	0	0	1	7	0	38	7	0	0	0	0	0	0	3	0	7
Project Trips (Unbalanced)	0	0	74	9	0	62	14	0	0	0	0	0	0	27	0	19
Balancing Adjustment																
Total Vehicular Project Trips	0	0	74	9	0	62	14	0	0	0	0	0	0	27	0	19
2024 Build Traffic	0	127	834	80	0	198	389	268	0	107	3	46	0	33	1	29

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INTERSECTION VOLUME DEVELOPMENT

INTERSECTION #2
Northlake Pkwy at Crescent Centre Blvd/E Exchange PI

PM PEAK HOUR																
	Northlake Pkwy Northbound				Northlake Pkwy Southbound				Crescent Centre Blvd Eastbound				E Exchange PI Westbound			
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2021 Traffic Volumes	0	58	586	6	1	21	855	159	0	195	2	104	0	69	1	140
Count Balancing																
Pedestrians	0				0				0				0			
Conflicting Pedestrians	0			0	0			0	0			0	0			0
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Conflicting Bicycles				0				0				0				0
Heavy Vehicles	0	1	5	0	0	1	17	3	0	4	1	2	0	0	0	1
Heavy Vehicle %	2%	2%	2%	2%	2%	5%	2%	2%	2%	2%	50%	2%	2%	2%	2%	2%
Peak Hour Factor	0.877				0.88				0.88				0.88			
Adjustment Factor	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Adjusted 2021 Volumes	0	70	703	7	1	25	1,026	191	0	234	2	125	0	83	1	168
Annual Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Growth Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Annual Growth Rate (Design Year)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Growth Factor (Design Year)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Background Growth Trips	0	74	746	7	1	27	1089	203	0	248	2	133	0	88	1	178
Background Growth Trips (Design Year)	0	70	703	7	1	25	1026	191	0	234	2	125	0	83	1	168
New Road Adjustment																
Approved Development Trips 1																
Approved Development Trips 2																
Approved Development Trips 3																
Total Approved Development Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2024 No-Build Traffic	0	74	746	7	1	27	1,089	203	0	248	2	133	0	88	1	178
Trip Distribution IN				5%		45%	15%									
Trip Distribution OUT			(60%)											(20%)		(10%)
Residential Trips	0	0	47	6	0	57	19	0	0	0	0	0	0	16	0	8
Trip Distribution IN				10%		55%	10%									
Trip Distribution OUT			(5%)											(30%)		(60%)
Office Trips	0	0	3	1	0	4	1	0	0	0	0	0	0	17	0	34
Project Trips (Unbalanced)	0	0	50	7	0	61	20	0	0	0	0	0	0	33	0	42
Balancing Adjustment																
Total Vehicular Project Trips	0	0	50	7	0	61	20	0	0	0	0	0	0	33	0	42
2024 Build Traffic	0	74	796	14	1	88	1,109	203	0	248	2	133	0	121	1	220

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INTERSECTION VOLUME DEVELOPMENT

INTERSECTION #3
Northlake Pkwy at Firestone Driveway/Driveway A

AM PEAK HOUR																
	Northlake Pkwy Northbound				Northlake Pkwy Southbound				Firestone Driveway Eastbound				Driveway A Westbound			
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2021 Traffic Volumes	15	0	826	6	5	7	358	0	0	0	0	0	0	0	0	1
Count Balancing																
Pedestrians	0				0				0				0			
Conflicting Pedestrians	0			0	0			0	0			0	0			0
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Conflicting Bicycles				0				0				0				0
Heavy Vehicles	0	0	18	0	0	0	17	0	0	0	0	0	0	0	0	0
Heavy Vehicle %	2%	2%	2%	2%	2%	2%	5%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Peak Hour Factor	0.96				0.96				0.96				0.96			
Adjustment Factor	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Adjusted 2021 Volumes	17	0	909	7	6	8	394	0	0	0	0	0	0	0	0	1
Annual Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Growth Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Annual Growth Rate (Design Year)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Growth Factor (Design Year)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Background Growth Trips	18	0	965	7	6	8	418	0	0	0	0	0	0	0	0	1
Background Growth Trips (Design Year)	17	0	909	7	6	8	394	0	0	0	0	0	0	0	0	1
New Road Adjustment																
Approved Development Trips 1																
Approved Development Trips 2																
Approved Development Trips 3																
Total Approved Development Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2024 No-Build Traffic	18	0	965	7	6	8	418	0	0	0	0	0	0	0	0	1
Trip Distribution IN			5%	25%		15%										
Trip Distribution OUT							(20%)							(10%)		(60%)
Residential Trips	0	0	2	11	0	7	24	0	0	0	0	0	0	12	0	73
Trip Distribution IN			10%	25%		10%										
Trip Distribution OUT							(30%)							(5%)		(5%)
Office Trips	0	0	7	17	0	7	3	0	0	0	0	0	0	1	0	1
Project Trips (Unbalanced)	0	0	9	28	0	14	27	0	0	0	0	0	0	13	0	74
Balancing Adjustment																
Total Vehicular Project Trips	0	0	9	28	0	14	27	0	0	0	0	0	0	13	0	74
2024 Build Traffic	18	0	974	35	6	22	445	0	0	0	0	0	0	13	0	75

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INTERSECTION VOLUME DEVELOPMENT

INTERSECTION #3
Northlake Pkwy at Firestone Driveway/Driveway A

PM PEAK HOUR																
	Northlake Pkwy Northbound				Northlake Pkwy Southbound				Firestone Driveway Eastbound				Driveway A Westbound			
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2021 Traffic Volumes	7	0	622	0	4	0	1,020	2	0	3	0	4	0	4	0	6
Count Balancing																
Pedestrians	0				0				0				0			
Conflicting Pedestrians	0			0	0			0	0			0	0			0
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Conflicting Bicycles				0				0				0				0
Heavy Vehicles	0	0	7	0	0	0	20	0	0	0	0	0	0	0	0	0
Heavy Vehicle %	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Peak Hour Factor	0.882				0.88				0.88				0.88			
Adjustment Factor	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Adjusted 2021 Volumes	8	0	746	0	5	0	1,224	2	0	4	0	5	0	5	0	7
Annual Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Growth Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Annual Growth Rate (Design Year)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Growth Factor (Design Year)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Background Growth Trips	8	0	792	0	5	0	1299	2	0	4	0	5	0	5	0	7
Background Growth Trips (Design Year)	8	0	746	0	5	0	1224	2	0	4	0	5	0	5	0	7
New Road Adjustment																
Approved Development Trips 1																
Approved Development Trips 2																
Approved Development Trips 3																
Total Approved Development Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2024 No-Build Traffic	8	0	792	0	5	0	1,299	2	0	4	0	5	0	5	0	7
Trip Distribution IN			25%	5%		15%										
Trip Distribution OUT							(20%)							(10%)		(60%)
Residential Trips	0	0	32	6	0	19	16	0	0	0	0	0	0	8	0	47
Trip Distribution IN			10%	25%		10%										
Trip Distribution OUT							(30%)							(5%)		(5%)
Office Trips	0	0	1	2	0	1	17	0	0	0	0	0	0	3	0	3
Project Trips (Unbalanced)	0	0	33	8	0	20	33	0	0	0	0	0	0	11	0	50
Balancing Adjustment																
Total Vehicular Project Trips	0	0	33	8	0	20	33	0	0	0	0	0	0	11	0	50
2024 Build Traffic	8	0	825	8	5	20	1,332	2	0	4	0	5	0	16	0	57

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INTERSECTION VOLUME DEVELOPMENT

INTERSECTION #4
Lawrenceville Hwy at Cooledge Rd/Northlake Pkwy

AM PEAK HOUR																
	Cooledge Rd Northbound				Northlake Pkwy Southbound				Lawrenceville Hwy Eastbound				Lawrenceville Hwy Westbound			
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2021 Traffic Volumes	0	97	481	73	1	114	92	88	0	235	538	53	0	79	805	241
Count Balancing																
Pedestrians	0				0				0				0			
Conflicting Pedestrians	0			0	0			0	0			0	0			0
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Conflicting Bicycles				0				0				0				0
Heavy Vehicles	0	5	6	4	0	9	2	5	0	5	40	4	0	3	50	10
Heavy Vehicle %	2%	5%	2%	5%	2%	8%	2%	6%	2%	2%	7%	8%	2%	4%	6%	4%
Peak Hour Factor	0.91				0.91				0.91				0.91			
Adjustment Factor	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Adjusted 2021 Volumes	0	107	529	80	1	125	101	97	0	259	592	58	0	87	886	265
Annual Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Growth Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Annual Growth Rate (Design Year)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Growth Factor (Design Year)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Background Growth Trips	0	114	561	85	1	133	107	103	0	275	628	62	0	92	940	281
Background Growth Trips (Design Year)	0	107	529	80	1	125	101	97	0	259	592	58	0	87	886	265
New Road Adjustment																
Approved Development Trips 1																
Approved Development Trips 2																
Approved Development Trips 3																
Total Approved Development Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2024 No-Build Traffic	0	114	561	85	1	133	107	103	0	275	628	62	0	92	940	281
Trip Distribution IN			10%							10%						10%
Trip Distribution OUT						(10%)	(10%)	(10%)								
Residential Trips	0	0	4	0	0	12	12	12	0	4	0	0	0	0	0	4
Trip Distribution IN			15%							10%						10%
Trip Distribution OUT						(10%)	(15%)	(10%)								
Office Trips	0	0	10	0	0	1	2	1	0	7	0	0	0	0	0	7
Project Trips (Unbalanced)	0	0	14	0	0	13	14	13	0	11	0	0	0	0	0	11
Balancing Adjustment																
Total Vehicular Project Trips	0	0	14	0	0	13	14	13	0	11	0	0	0	0	0	11
2024 Build Traffic	0	114	575	85	1	146	121	116	0	286	628	62	0	92	940	292

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INTERSECTION VOLUME DEVELOPMENT

INTERSECTION #4
Lawrenceville Hwy at Cooledge Rd/Northlake Pkwy

PM PEAK HOUR																
	Cooledge Rd Northbound				Northlake Pkwy Southbound				Lawrenceville Hwy Eastbound				Lawrenceville Hwy Westbound			
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2021 Traffic Volumes	0	61	264	94	0	154	593	305	0	143	923	125	0	101	761	184
Count Balancing																
Pedestrians	0				0				0				0			
Conflicting Pedestrians	0			0	0			0	0			0	0			0
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Conflicting Bicycles				0				0				0				0
Heavy Vehicles	0	0	1	10	0	9	11	4	0	1	38	1	0	1	49	4
Heavy Vehicle %	2%	2%	2%	11%	2%	6%	2%	2%	2%	2%	4%	2%	2%	2%	6%	2%
Peak Hour Factor	0.932				0.93				0.93				0.93			
Adjustment Factor	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Adjusted 2021 Volumes	0	73	317	113	0	185	712	366	0	172	1,108	150	0	121	913	221
Annual Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Growth Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Annual Growth Rate (Design Year)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Growth Factor (Design Year)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Background Growth Trips	0	77	336	120	0	196	756	388	0	183	1176	159	0	128	969	235
Background Growth Trips (Design Year)	0	73	317	113	0	185	712	366	0	172	1108	150	0	121	913	221
New Road Adjustment																
Approved Development Trips 1																
Approved Development Trips 2																
Approved Development Trips 3																
Total Approved Development Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2024 No-Build Traffic	0	77	336	120	0	196	756	388	0	183	1,176	159	0	128	969	235
Trip Distribution IN			10%							10%						10%
Trip Distribution OUT						(10%)	(10%)	(10%)								
Residential Trips	0	0	13	0	0	8	8	8	0	13	0	0	0	0	0	13
Trip Distribution IN			15%							10%						10%
Trip Distribution OUT						(10%)	(15%)	(10%)								
Office Trips	0	0	1	0	0	6	9	6	0	1	0	0	0	0	0	1
Project Trips (Unbalanced)	0	0	14	0	0	14	17	14	0	14	0	0	0	0	0	14
Balancing Adjustment																
Total Vehicular Project Trips	0	0	14	0	0	14	17	14	0	14	0	0	0	0	0	14
2024 Build Traffic	0	77	350	120	0	210	773	402	0	197	1,176	159	0	128	969	249

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INTERSECTION VOLUME DEVELOPMENT

INTERSECTION #5
E Exchange PI @ Driveway B

AM PEAK HOUR

	Northbound				Southbound				Eastbound				Westbound			
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2021 Traffic Volumes											180				14	
Count Balancing																
Pedestrians																
Conflicting Pedestrians																
Bicycles																
Conflicting Bicycles																
Heavy Vehicles																
Heavy Vehicle %	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Peak Hour Factor																
Adjustment Factor	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Adjusted 2021 Volumes											198				15	
Annual Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Growth Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Annual Growth Rate (Design Year)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Growth Factor (Design Year)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Background Growth Trips	0	0	0	0	0	0	0	0	0	0	210	0	0	0	16	0
Background Growth Trips (Design Year)	0	0	0	0	0	0	0	0	0	0	198	0	0	0	15	0
New Road Adjustment																
Approved Development Trips 1																
Approved Development Trips 2																
Approved Development Trips 3																
Total Approved Development Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2024 No-Build Traffic	0	0	0	0	0	0	0	0	0	0	210	0	0	0	16	0
Trip Distribution IN											25%	35%				
Trip Distribution OUT		(15%)													(15%)	
Residential Trips	0	18	0	0	0	0	0	0	0	0	11	15	0	0	18	0
Trip Distribution IN											25%	40%				
Trip Distribution OUT		(60%)													(30%)	
Office Trips	0	7	0	0	0	0	0	0	0	0	17	28	0	0	3	0
Project Trips (Unbalanced)	0	25	0	0	0	0	0	0	0	0	28	43	0	0	21	0
Balancing Adjustment																
Total Vehicular Project Trips	0	25	0	0	0	0	0	0	0	0	28	43	0	0	21	0
2024 Build Traffic	0	25	0	0	0	0	0	0	0	0	238	43	0	0	37	0

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INTERSECTION VOLUME DEVELOPMENT

INTERSECTION #5
E Exchange PI @ Driveway B

PM PEAK HOUR																
	Northbound				Southbound				Eastbound				Westbound			
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2021 Traffic Volumes											29				210	
Count Balancing																
Pedestrians																
Conflicting Pedestrians																
Bicycles																
Conflicting Bicycles																
Heavy Vehicles																
Heavy Vehicle %	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Peak Hour Factor																
Adjustment Factor	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Adjusted 2021 Volumes											35				252	
Annual Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Growth Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Annual Growth Rate (Design Year)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Growth Factor (Design Year)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Background Growth Trips	0	0	0	0	0	0	0	0	0	0	37	0	0	0	267	0
Background Growth Trips (Design Year)	0	0	0	0	0	0	0	0	0	0	35	0	0	0	252	0
New Road Adjustment																
Approved Development Trips 1																
Approved Development Trips 2																
Approved Development Trips 3																
Total Approved Development Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2024 No-Build Traffic	0	0	0	0	0	0	0	0	0	0	37	0	0	0	267	0
Trip Distribution IN											15%	30%				
Trip Distribution OUT		(15%)													(15%)	
Residential Trips	0	12	0	0	0	0	0	0	0	0	19	38	0	0	12	0
Trip Distribution IN											25%	45%				
Trip Distribution OUT		(30%)													(30%)	
Office Trips	0	17	0	0	0	0	0	0	0	0	2	4	0	0	17	0
Project Trips (Unbalanced)	0	29	0	0	0	0	0	0	0	0	21	42	0	0	29	0
Balancing Adjustment																
Total Vehicular Project Trips	0	29	0	0	0	0	0	0	0	0	21	42	0	0	29	0
2024 Build Traffic	0	29	0	0	0	0	0	0	0	0	58	42	0	0	296	0

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INTERSECTION VOLUME DEVELOPMENT

INTERSECTION #6
E Exchange PI @ Driveway C

AM PEAK HOUR

	Northbound				Southbound				Eastbound				Westbound			
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2021 Traffic Volumes											180				14	
Count Balancing																
Pedestrians																
Conflicting Pedestrians																
Bicycles																
Conflicting Bicycles																
Heavy Vehicles																
Heavy Vehicle %	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Peak Hour Factor																
Adjustment Factor	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Adjusted 2021 Volumes											198				15	
Annual Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Growth Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Annual Growth Rate (Design Year)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Growth Factor (Design Year)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Background Growth Trips	0	0	0	0	0	0	0	0	0	0	210	0	0	0	16	0
Background Growth Trips (Design Year)	0	0	0	0	0	0	0	0	0	0	198	0	0	0	15	0
New Road Adjustment																
Approved Development Trips 1																
Approved Development Trips 2																
Approved Development Trips 3																
Total Approved Development Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2024 No-Build Traffic	0	0	0	0	0	0	0	0	0	0	210	0	0	0	16	0
Trip Distribution IN												15%				
Trip Distribution OUT		(15%)														
Residential Trips	0	18	0	0	0	0	0	0	0	0	0	7	0	0	0	0
Trip Distribution IN												25%				
Trip Distribution OUT		(30%)														
Office Trips	0	3	0	0	0	0	0	0	0	0	0	17	0	0	0	0
Project Trips (Unbalanced)	0	21	0	0	0	0	0	0	0	0	0	24	0	0	0	0
Balancing Adjustment																
Total Vehicular Project Trips	0	21	0	0	0	0	0	0	0	0	0	24	0	0	0	0
2024 Build Traffic	0	21	0	0	0	0	0	0	0	0	210	24	0	0	16	0

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INTERSECTION VOLUME DEVELOPMENT

INTERSECTION #6
E Exchange PI @ Driveway C

PM PEAK HOUR																
	Northbound				Southbound				Eastbound				Westbound			
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2021 Traffic Volumes											29				210	
Count Balancing																
Pedestrians																
Conflicting Pedestrians																
Bicycles																
Conflicting Bicycles																
Heavy Vehicles																
Heavy Vehicle %	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Peak Hour Factor																
Adjustment Factor	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Adjusted 2021 Volumes											35				252	
Annual Growth Rate	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Growth Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Annual Growth Rate (Design Year)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Growth Factor (Design Year)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Background Growth Trips	0	0	0	0	0	0	0	0	0	0	37	0	0	0	267	0
Background Growth Trips (Design Year)	0	0	0	0	0	0	0	0	0	0	35	0	0	0	252	0
New Road Adjustment																
Approved Development Trips 1																
Approved Development Trips 2																
Approved Development Trips 3																
Total Approved Development Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2024 No-Build Traffic	0	0	0	0	0	0	0	0	0	0	37	0	0	0	267	0
Trip Distribution IN												15%				
Trip Distribution OUT		(15%)														
Residential Trips	0	12	0	0	0	0	0	0	0	0	0	19	0	0	0	0
Trip Distribution IN												25%				
Trip Distribution OUT		(30%)														
Office Trips	0	17	0	0	0	0	0	0	0	0	0	2	0	0	0	0
Project Trips (Unbalanced)	0	29	0	0	0	0	0	0	0	0	0	21	0	0	0	0
Balancing Adjustment																
Total Vehicular Project Trips	0	29	0	0	0	0	0	0	0	0	0	21	0	0	0	0
2024 Build Traffic	0	29	0	0	0	0	0	0	0	0	37	21	0	0	267	0

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Synchro Analysis Reports

HCM 6th Signalized Intersection Summary

1: Northlake Pkwy & Lavista Rd

Tucker Exchange TIA
AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	92	534	433	163	1164	77	463	277	79	84	140	52
Future Volume (veh/h)	92	534	433	163	1164	77	463	277	79	84	140	52
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1856	1870	1826	1870	1841	1870	1841	1870	1870	1811
Adj Flow Rate, veh/h	98	568	296	173	1238	81	493	295	19	89	149	2
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	3	2	5	2	4	2	4	2	2	6
Cap, veh/h	144	1821	806	198	1923	126	552	664	277	135	210	91
Arrive On Green	0.04	0.51	0.51	0.11	0.58	0.58	0.16	0.18	0.18	0.04	0.06	0.06
Sat Flow, veh/h	3456	3554	1572	1781	3306	216	3506	3741	1560	3456	3554	1535
Grp Volume(v), veh/h	98	568	296	173	649	670	493	295	19	89	149	2
Grp Sat Flow(s),veh/h/ln	1728	1777	1572	1781	1735	1787	1753	1870	1560	1728	1777	1535
Q Serve(g_s), s	4.2	13.9	17.0	14.3	37.5	37.7	20.7	10.6	1.5	3.8	6.2	0.2
Cycle Q Clear(g_c), s	4.2	13.9	17.0	14.3	37.5	37.7	20.7	10.6	1.5	3.8	6.2	0.2
Prop In Lane	1.00		1.00	1.00		0.12	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	144	1821	806	198	1009	1040	552	664	277	135	210	91
V/C Ratio(X)	0.68	0.31	0.37	0.88	0.64	0.64	0.89	0.44	0.07	0.66	0.71	0.02
Avail Cap(c_a), veh/h	207	1821	806	309	1009	1040	654	1097	458	207	592	256
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	1.00	1.00	1.00	1.00	1.00	0.93	0.93	0.93	1.00	1.00	1.00
Uniform Delay (d), s/veh	70.9	21.2	22.0	65.7	21.0	21.0	62.0	55.1	51.4	71.1	69.3	66.5
Incr Delay (d2), s/veh	5.5	0.4	1.3	15.6	3.2	3.1	12.4	0.4	0.1	5.4	4.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	5.9	6.6	7.3	15.3	15.8	10.2	5.1	0.6	1.8	2.9	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.4	21.7	23.2	81.3	24.1	24.1	74.3	55.5	51.4	76.5	73.6	66.6
LnGrp LOS	E	C	C	F	C	C	E	E	D	E	E	E
Approach Vol, veh/h	962				1492				807		240	
Approach Delay, s/veh	27.7				30.7				66.9		74.6	
Approach LOS	C				C				E		E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.3	93.3	29.6	14.9	22.6	82.9	11.9	32.6				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	9.0	64.0	28.0	25.0	26.0	47.0	9.0	44.0				
Max Q Clear Time (g_c+I1), s	6.2	39.7	22.7	8.2	16.3	19.0	5.8	12.6				
Green Ext Time (p_c), s	0.1	9.2	0.9	0.7	0.3	5.1	0.1	2.1				
Intersection Summary												
HCM 6th Ctrl Delay	41.3											
HCM 6th LOS	D											
Notes												
User approved pedestrian interval to be less than phase max green.												
User approved volume balancing among the lanes for turning movement.												

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HCM 6th Signalized Intersection Summary

2: Northlake Pkwy & Crescent Centre Blvd/E Exchange Pl

Tucker Exchange TIA
AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	101	3	43	6	1	9	120	716	67	128	353	253	
Future Volume (veh/h)	101	3	43	6	1	9	120	716	67	128	353	253	
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach	No				No				No				
Adj Sat Flow, veh/h/ln	1767	1870	1856	1870	418	1707	1870	1870	1870	1870	1826	1870	
Adj Flow Rate, veh/h	103	3	44	6	1	9	122	731	68	131	360	0	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	
Percent Heavy Veh, %	9	2	3	2	100	13	2	2	2	2	5	2	
Cap, veh/h	265	8	122	10	2	42	727	1910	178	496	2010		
Arrive On Green	0.08	0.08	0.08	0.03	0.03	0.03	0.06	0.58	0.58	0.06	0.58	0.00	
Sat Flow, veh/h	3264	102	1498	344	57	1447	1781	3287	306	1781	3561	0	
Grp Volume(v), veh/h	103	0	47	7	0	9	122	395	404	131	360	0	
Grp Sat Flow(s),veh/h/ln	1632	0	1601	401	0	1447	1781	1777	1815	1781	1735	0	
Q Serve(g_s), s	2.9	0.0	2.7	1.7	0.0	0.6	2.5	11.6	11.6	2.8	4.7	0.0	
Cycle Q Clear(g_c), s	2.9	0.0	2.7	1.7	0.0	0.6	2.5	11.6	11.6	2.8	4.7	0.0	
Prop In Lane	1.00		0.94	0.86		1.00	1.00		0.17	1.00		0.00	
Lane Grp Cap(c), veh/h	265	0	130	12	0	42	727	1033	1055	496	2010		
V/C Ratio(X)	0.39	0.00	0.36	0.60	0.00	0.22	0.17	0.38	0.38	0.26	0.18		
Avail Cap(c_a), veh/h	1013	0	497	124	0	449	801	1033	1055	665	2010		
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	1.00	1.00	1.00	1.00	1.00	1.00	0.00	
Uniform Delay (d), s/veh	42.1	0.0	42.0	46.4	0.0	45.9	6.8	10.9	10.9	7.6	9.5	0.0	
Incr Delay (d2), s/veh	0.9	0.0	1.7	41.5	0.0	2.5	0.1	1.1	1.1	0.3	0.2	0.0	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	1.2	0.0	1.1	0.3	0.0	0.2	0.8	4.3	4.4	1.0	1.7	0.0	
Unsig. Movement Delay, s/veh													
LnGrp Delay(d),s/veh	43.0	0.0	43.7	87.9	0.0	48.4	6.9	12.0	12.0	7.9	9.7	0.0	
LnGrp LOS	D	A	D	F	A	D	A	B	B	A	A		
Approach Vol, veh/h	150				16		921				491		A
Approach Delay, s/veh	43.2				65.7		11.3				9.2		
Approach LOS	D				E		B				A		
Timer - Assigned Phs	1	2	4		5	6	8						
Phs Duration (G+Y+Rc), \$2.0	62.0		8.8		11.8	62.2	13.9						
Change Period (Y+Rc), s	6.0		6.0		6.0	6.0	6.0						
Max Green Setting (Gmax), s	10.0		30.0		15.0	51.0	30.0						
Max Q Clear Time (g_c+14.5), s	14.5		6.7		3.7	4.8	4.9						
Green Ext Time (p_c), s	0.1		2.7		0.0	0.2	0.6						

Intersection Summary

HCM 6th Ctrl Delay 14.2
HCM 6th LOS B

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

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HCM 6th TWSC
3: Northlake Pkwy & Firestone Dwy

Tucker Exchange TIA
AM Peak

Intersection												
Int Delay, s/veh	0.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	0	0	0	0	0	1	17	909	7	14	394	0
Future Vol, veh/h	0	0	0	0	0	1	17	909	7	14	394	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	80	-	-	90	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	5	2
Mvmt Flow	0	0	0	0	0	1	18	947	7	15	410	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	950	1430	205	1222	1427	477	410	0	0	954	0	0
Stage 1	440	440	-	987	987	-	-	-	-	-	-	-
Stage 2	510	990	-	235	440	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	215	133	802	136	134	534	1145	-	-	716	-	-
Stage 1	566	576	-	265	324	-	-	-	-	-	-	-
Stage 2	514	323	-	747	576	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	209	128	802	132	129	534	1145	-	-	716	-	-
Mov Cap-2 Maneuver	209	128	-	132	129	-	-	-	-	-	-	-
Stage 1	557	564	-	261	319	-	-	-	-	-	-	-
Stage 2	505	318	-	731	564	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	0		11.8		0.1		0.3	
HCM LOS	A		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1145	-	-	-	534	716	-
HCM Lane V/C Ratio	0.015	-	-	-	0.002	0.02	-
HCM Control Delay (s)	8.2	-	-	0	11.8	10.1	-
HCM Lane LOS	A	-	-	A	B	B	-
HCM 95th %tile Q(veh)	0	-	-	-	0	0.1	-

HCM 6th Signalized Intersection Summary

4: Cooledge Rd/Northlake Pkwy & Lawrenceville Hwy

Tucker Exchange TIA
AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	259	592	58	87	886	265	107	529	80	126	101	97
Future Volume (veh/h)	259	592	58	87	886	265	107	529	80	126	101	97
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1796	1781	1841	1811	1841	1826	1870	1826	1781	1870	1811
Adj Flow Rate, veh/h	285	651	62	96	974	220	118	581	84	138	111	19
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
Percent Heavy Veh, %	2	7	8	4	6	4	5	2	5	8	2	6
Cap, veh/h	338	1635	156	398	1572	713	377	676	97	200	427	350
Arrive On Green	0.10	0.52	0.52	0.04	0.46	0.46	0.06	0.22	0.22	0.08	0.23	0.23
Sat Flow, veh/h	1781	3149	300	1753	3441	1560	1739	3117	450	1697	1870	1535
Grp Volume(v), veh/h	285	352	361	96	974	220	118	331	334	138	111	19
Grp Sat Flow(s),veh/h/ln	1781	1706	1742	1753	1721	1560	1739	1777	1789	1697	1870	1535
Q Serve(g_s), s	13.5	20.0	20.1	4.1	34.3	14.3	8.2	28.6	28.8	10.0	7.8	1.5
Cycle Q Clear(g_c), s	13.5	20.0	20.1	4.1	34.3	14.3	8.2	28.6	28.8	10.0	7.8	1.5
Prop In Lane	1.00		0.17	1.00		1.00	1.00		0.25	1.00		1.00
Lane Grp Cap(c), veh/h	338	886	904	398	1572	713	377	385	388	200	427	350
V/C Ratio(X)	0.84	0.40	0.40	0.24	0.62	0.31	0.31	0.86	0.86	0.69	0.26	0.05
Avail Cap(c_a), veh/h	482	886	904	462	1572	713	418	600	604	221	631	518
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.6	23.3	23.3	18.0	32.9	27.5	43.2	60.3	60.3	46.8	50.7	48.3
Incr Delay (d2), s/veh	9.1	0.3	0.3	0.3	1.8	1.1	0.5	7.5	7.7	7.8	0.3	0.1
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	6.3	8.0	8.2	1.7	14.4	5.5	3.6	13.6	13.8	4.7	3.7	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.7	23.6	23.6	18.3	34.8	28.6	43.7	67.8	68.1	54.6	51.0	48.3
LnGrp LOS	D	C	C	B	C	C	D	E	E	D	D	D
Approach Vol, veh/h		998			1290			783			268	
Approach Delay, s/veh		27.3			32.5			64.3			52.7	
Approach LOS		C			C			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	22.1	79.1	16.3	42.5	12.2	89.1	18.1	40.7				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	29.0	39.0	14.0	54.0	12.0	56.0	14.0	54.0				
Max Q Clear Time (g_c+I1), s	15.5	36.3	10.2	9.8	6.1	22.1	12.0	30.8				
Green Ext Time (p_c), s	0.7	1.7	0.1	0.6	0.1	4.4	0.1	3.9				
Intersection Summary												
HCM 6th Ctrl Delay			40.0									
HCM 6th LOS			D									

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DEPARTMENT

Synchro 11 Report
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HCM 6th Signalized Intersection Summary

1: Northlake Pkwy & Lavista Rd

Tucker Exchange TIA
PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	128	1241	653	184	888	53	631	233	283	306	444	127
Future Volume (veh/h)	128	1241	653	184	888	53	631	233	283	306	444	127
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1856	1856	1870	1870	1870	1870	1856	1856	1870	1870
Adj Flow Rate, veh/h	133	1293	423	192	925	52	657	254	125	319	462	13
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	3	3	2	2	2	2	3	3	2	2
Cap, veh/h	177	1466	649	188	1599	90	690	836	351	370	489	218
Arrive On Green	0.05	0.41	0.41	0.11	0.47	0.47	0.19	0.22	0.22	0.11	0.14	0.14
Sat Flow, veh/h	3456	3554	1572	1767	3420	192	3563	3741	1572	3428	3554	1585
Grp Volume(v), veh/h	133	1293	423	192	481	496	657	254	125	319	462	13
Grp Sat Flow(s),veh/h/ln	1728	1777	1572	1767	1777	1836	1781	1870	1572	1714	1777	1585
Q Serve(g_s), s	6.1	53.8	34.6	17.0	31.6	31.6	29.2	9.1	10.7	14.6	20.6	1.1
Cycle Q Clear(g_c), s	6.1	53.8	34.6	17.0	31.6	31.6	29.2	9.1	10.7	14.6	20.6	1.1
Prop In Lane	1.00		1.00	1.00		0.10	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	177	1466	649	188	831	858	690	836	351	370	489	218
V/C Ratio(X)	0.75	0.88	0.65	1.02	0.58	0.58	0.95	0.30	0.36	0.86	0.95	0.06
Avail Cap(c_a), veh/h	259	1466	649	188	831	858	690	836	351	493	489	218
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	1.00	1.00	1.00	1.00	1.00	0.87	0.87	0.87	1.00	1.00	1.00
Uniform Delay (d), s/veh	74.9	43.4	37.8	71.5	31.1	31.1	63.8	51.8	52.4	70.2	68.4	60.0
Incr Delay (d2), s/veh	6.8	8.0	5.0	71.7	2.9	2.8	21.0	0.2	0.5	11.6	27.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	25.0	14.3	11.3	13.9	14.3	15.3	4.3	4.3	7.0	11.2	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.7	51.4	42.8	143.2	34.0	33.9	84.8	51.9	52.9	81.8	95.9	60.1
LnGrp LOS	F	D	D	F	C	C	F	D	D	F	F	E
Approach Vol, veh/h	1849				1169				1036			
Approach Delay, s/veh	51.6				51.9				72.9			
Approach LOS	D				D				E			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.2	80.8	37.0	28.0	23.0	72.0	23.2	41.8				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	12.0	71.0	31.0	22.0	17.0	66.0	23.0	30.0				
Max Q Clear Time (g_c+I1), s	8.1	33.6	31.2	22.6	19.0	55.8	16.6	12.7				
Green Ext Time (p_c), s	0.1	6.6	0.0	0.0	0.0	7.0	0.6	1.8				
Intersection Summary												
HCM 6th Ctrl Delay	62.5											
HCM 6th LOS	E											
Notes												
User approved pedestrian interval to be less than phase max green.												
User approved volume balancing among the lanes for turning movement.												

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HCM 6th Signalized Intersection Summary

2: Northlake Pkwy & Crescent Centre Blvd/E Exchange Pl

Tucker Exchange TIA
PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	234	2	125	83	1	168	70	703	7	26	1026	191	
Future Volume (veh/h)	234	2	125	83	1	168	70	703	7	26	1026	191	
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach	No				No				No				
Adj Sat Flow, veh/h/ln	1870	1159	1870	1870	1870	1870	1870	1870	1870	1826	1870	1870	
Adj Flow Rate, veh/h	266	2	142	94	1	191	80	799	8	30	1166	0	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	
Percent Heavy Veh, %	2	50	2	2	2	2	2	2	2	5	2	2	
Cap, veh/h	581	2	163	247	3	222	233	1718	17	324	1639		
Arrive On Green	0.17	0.17	0.17	0.14	0.14	0.14	0.05	0.48	0.48	0.03	0.46	0.00	
Sat Flow, veh/h	3456	14	971	1763	19	1585	1781	3605	36	1739	3647	0	
Grp Volume(v), veh/h	266	0	144	95	0	191	80	394	413	30	1166	0	
Grp Sat Flow(s),veh/h/ln	1728	0	984	1782	0	1585	1781	1777	1864	1739	1777	0	
Q Serve(g_s), s	9.0	0.0	18.6	6.3	0.0	15.3	3.0	19.4	19.4	1.2	34.2	0.0	
Cycle Q Clear(g_c), s	9.0	0.0	18.6	6.3	0.0	15.3	3.0	19.4	19.4	1.2	34.2	0.0	
Prop In Lane	1.00		0.99	0.99		1.00	1.00		0.02	1.00		0.00	
Lane Grp Cap(c), veh/h	581	0	165	250	0	222	233	847	888	324	1639		
V/C Ratio(X)	0.46	0.00	0.87	0.38	0.00	0.86	0.34	0.46	0.47	0.09	0.71		
Avail Cap(c_a), veh/h	797	0	227	411	0	365	233	847	888	351	1639		
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	1.00	1.00	1.00	1.00	1.00	1.00	0.00	
Uniform Delay (d), s/veh	48.8	0.0	52.7	50.8	0.0	54.7	21.9	22.9	22.9	18.3	28.1	0.0	
Incr Delay (d2), s/veh	0.6	0.0	22.5	1.0	0.0	10.6	0.9	1.8	1.7	0.1	2.7	0.0	
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	4.0	0.0	5.6	2.9	0.0	6.8	1.3	8.3	8.7	0.5	15.0	0.0	
Unsig. Movement Delay, s/veh													
LnGrp Delay(d),s/veh	49.3	0.0	75.2	51.8	0.0	65.3	22.8	24.7	24.6	18.4	30.8	0.0	
LnGrp LOS	D	A	E	D	A	E	C	C	C	B	C		
Approach Vol, veh/h	410				286		887				1196		A
Approach Delay, s/veh	58.4				60.8		24.5				30.5		
Approach LOS	E				E		C				C		
Timer - Assigned Phs	1	2	4		5	6	8						
Phs Duration (G+Y+Rc), s	2.0	66.0	24.2		10.0	68.0	27.9						
Change Period (Y+Rc), s	6.0	6.0	6.0		6.0	6.0	6.0						
Max Green Setting (Gmax), s	6.0	60.0	30.0		6.0	60.0	30.0						
Max Q Clear Time (g_c+15.0), s	36.2	36.2	17.3		3.2	21.4	20.6						
Green Ext Time (p_c), s	0.0	9.5	0.9		0.0	5.3	1.3						

Intersection Summary

HCM 6th Ctrl Delay 35.8

HCM 6th LOS D

Notes

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

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

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HCM 6th TWSC
3: Northlake Pkwy & Firestone Dwy

Tucker Exchange TIA
PM Peak

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	4	0	5	5	0	7	8	746	0	5	1224	2
Future Vol, veh/h	4	0	5	5	0	7	8	746	0	5	1224	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	80	-	-	90	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	0	6	6	0	8	9	848	0	6	1391	2

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1846	2270	697	1574	2271	424	1393	0	0	848	0	0
Stage 1	1404	1404	-	866	866	-	-	-	-	-	-	-
Stage 2	442	866	-	708	1405	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	46	40	383	74	40	579	487	-	-	785	-	-
Stage 1	147	204	-	314	369	-	-	-	-	-	-	-
Stage 2	564	369	-	392	204	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	44	39	383	71	39	579	487	-	-	785	-	-
Mov Cap-2 Maneuver	44	39	-	71	39	-	-	-	-	-	-	-
Stage 1	144	202	-	308	362	-	-	-	-	-	-	-
Stage 2	546	362	-	383	202	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	51.8		32.4		0.1		0	
HCM LOS	F		D					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	487	-	-	87	145	785	-
HCM Lane V/C Ratio	0.019	-	-	0.118	0.094	0.007	-
HCM Control Delay (s)	12.5	-	-	51.8	32.4	9.6	-
HCM Lane LOS	B	-	-	F	D	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.4	0.3	0	-

HCM 6th Signalized Intersection Summary

4: Cooledge Rd/Northlake Pkwy & Lawrenceville Hwy

Tucker Exchange TIA
PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	172	1108	150	121	913	221	73	317	113	185	712	366
Future Volume (veh/h)	172	1108	150	121	913	221	73	317	113	185	712	366
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1841	1870	1870	1811	1870	1870	1870	1737	1811	1870	1870
Adj Flow Rate, veh/h	185	1191	156	130	982	134	78	341	105	199	766	294
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	4	2	2	6	2	2	2	11	6	2	2
Cap, veh/h	217	1202	157	147	1330	612	114	849	258	399	690	584
Arrive On Green	0.06	0.39	0.39	0.06	0.39	0.39	0.04	0.32	0.32	0.09	0.37	0.37
Sat Flow, veh/h	1781	3110	406	1781	3441	1585	1781	2686	815	1725	1870	1585
Grp Volume(v), veh/h	185	668	679	130	982	134	78	224	222	199	766	294
Grp Sat Flow(s),veh/h/ln	1781	1749	1768	1781	1721	1585	1781	1777	1724	1725	1870	1585
Q Serve(g_s), s	9.0	60.7	61.2	7.4	39.2	9.1	4.3	15.8	16.2	12.4	59.0	23.0
Cycle Q Clear(g_c), s	9.0	60.7	61.2	7.4	39.2	9.1	4.3	15.8	16.2	12.4	59.0	23.0
Prop In Lane	1.00		0.23	1.00		1.00	1.00		0.47	1.00		1.00
Lane Grp Cap(c), veh/h	217	676	683	147	1330	612	114	562	545	399	690	584
V/C Ratio(X)	0.85	0.99	0.99	0.89	0.74	0.22	0.69	0.40	0.41	0.50	1.11	0.50
Avail Cap(c_a), veh/h	217	676	683	147	1330	612	145	562	545	446	690	584
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.7	48.7	48.9	41.5	42.1	32.9	40.3	42.8	42.9	32.8	50.5	39.1
Incr Delay (d2), s/veh	26.7	31.6	32.9	42.8	3.7	0.8	8.9	0.5	0.5	1.0	68.8	0.7
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	6.0	31.6	32.4	4.9	17.0	3.6	2.2	7.0	7.0	5.3	40.1	9.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.4	80.3	81.8	84.4	45.9	33.7	49.2	43.3	43.4	33.8	119.3	39.8
LnGrp LOS	E	F	F	F	D	C	D	D	D	C	F	D
Approach Vol, veh/h	1532			1246			524			1259		
Approach Delay, s/veh	79.3			48.6			44.2			87.2		
Approach LOS	E			D			D			F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.0	67.8	12.2	65.0	15.0	67.8	20.6	56.6				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	9.0	59.0	9.0	59.0	9.0	59.0	19.0	49.0				
Max Q Clear Time (g_c+I1), s	11.0	41.2	6.3	61.0	9.4	63.2	14.4	18.2				
Green Ext Time (p_c), s	0.0	6.5	0.0	0.0	0.0	0.0	0.2	2.6				
Intersection Summary												
HCM 6th Ctrl Delay	69.1											
HCM 6th LOS	E											

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HCM 6th Signalized Intersection Summary

1: Northlake Pkwy & Lavista Rd

Tucker Exchange TIA
AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	98	567	460	173	1235	82	491	294	84	89	149	55
Future Volume (veh/h)	98	567	460	173	1235	82	491	294	84	89	149	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1856	1870	1826	1870	1841	1870	1841	1870	1870	1811
Adj Flow Rate, veh/h	104	603	200	184	1314	84	522	313	19	95	159	2
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	3	2	5	2	4	2	4	2	2	6
Cap, veh/h	150	1762	780	208	1886	120	578	700	292	138	221	96
Arrive On Green	0.04	0.50	0.50	0.12	0.57	0.57	0.16	0.19	0.19	0.04	0.06	0.06
Sat Flow, veh/h	3456	3554	1572	1781	3311	211	3506	3741	1560	3456	3554	1535
Grp Volume(v), veh/h	104	603	200	184	687	711	522	313	19	95	159	2
Grp Sat Flow(s),veh/h/ln	1728	1777	1572	1781	1735	1788	1753	1870	1560	1728	1777	1535
Q Serve(g_s), s	4.5	15.5	11.0	15.3	42.4	42.6	21.9	11.1	1.5	4.1	6.6	0.2
Cycle Q Clear(g_c), s	4.5	15.5	11.0	15.3	42.4	42.6	21.9	11.1	1.5	4.1	6.6	0.2
Prop In Lane	1.00		1.00	1.00		0.12	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	150	1762	780	208	988	1018	578	700	292	138	221	96
V/C Ratio(X)	0.69	0.34	0.26	0.88	0.70	0.70	0.90	0.45	0.07	0.69	0.72	0.02
Avail Cap(c_a), veh/h	207	1762	780	309	988	1018	654	1097	458	207	592	256
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	1.00	1.00	1.00	1.00	1.00	0.92	0.92	0.92	1.00	1.00	1.00
Uniform Delay (d), s/veh	70.8	23.0	21.8	65.2	23.0	23.1	61.5	54.1	50.2	71.1	69.0	66.0
Incr Delay (d2), s/veh	5.7	0.5	0.8	17.8	4.0	4.0	13.8	0.4	0.1	5.9	4.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	6.6	4.3	7.8	17.5	18.1	10.9	5.3	0.6	1.9	3.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.5	23.5	22.6	83.0	27.1	27.1	75.3	54.5	50.3	77.0	73.4	66.1
LnGrp LOS	E	C	C	F	C	C	E	D	D	E	E	E
Approach Vol, veh/h	907				1582				854			
Approach Delay, s/veh	29.4				33.6				67.1			
Approach LOS	C				C				E			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.5	91.4	30.7	15.3	23.6	80.4	12.0	34.1				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	9.0	64.0	28.0	25.0	26.0	47.0	9.0	44.0				
Max Q Clear Time (g_c+I1), s	6.5	44.6	23.9	8.6	17.3	17.5	6.1	13.1				
Green Ext Time (p_c), s	0.1	9.0	0.8	0.8	0.3	5.1	0.1	2.2				
Intersection Summary												
HCM 6th Ctrl Delay	43.4											
HCM 6th LOS	D											
Notes												
User approved pedestrian interval to be less than phase max green.												
User approved volume balancing among the lanes for turning movement.												

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HCM 6th Signalized Intersection Summary

2: Northlake Pkwy & Crescent Centre Blvd/E Exchange Pl

Tucker Exchange TIA
AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	RT	LT			LT	RT	RT	LT		RT	LT	
Traffic Volume (veh/h)	107	3	46	6	1	10	127	760	71	136	375	268
Future Volume (veh/h)	107	3	46	6	1	10	127	760	71	136	375	268
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1767	1870	1856	1870	418	1707	1870	1870	1870	1870	1826	1870
Adj Flow Rate, veh/h	109	3	47	6	1	10	130	776	72	139	383	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	9	2	3	2	100	13	2	2	2	2	5	2
Cap, veh/h	266	8	123	10	2	44	711	1906	177	475	2006	
Arrive On Green	0.08	0.08	0.08	0.03	0.03	0.03	0.06	0.58	0.58	0.06	0.58	0.00
Sat Flow, veh/h	3264	96	1504	344	57	1447	1781	3287	305	1781	3561	0
Grp Volume(v), veh/h	109	0	50	7	0	10	130	419	429	139	383	0
Grp Sat Flow(s), veh/h/ln	1632	0	1600	401	0	1447	1781	1777	1815	1781	1735	0
Q Serve(g_s), s	3.1	0.0	2.9	1.7	0.0	0.7	2.7	12.6	12.6	3.0	5.1	0.0
Cycle Q Clear(g_c), s	3.1	0.0	2.9	1.7	0.0	0.7	2.7	12.6	12.6	3.0	5.1	0.0
Prop In Lane	1.00		0.94	0.86		1.00	1.00		0.17	1.00		0.00
Lane Grp Cap(c), veh/h	266	0	130	12	0	44	711	1030	1053	475	2006	
V/C Ratio(X)	0.41	0.00	0.38	0.58	0.00	0.23	0.18	0.41	0.41	0.29	0.19	
Avail Cap(c_a), veh/h	1011	0	496	124	0	448	784	1030	1053	643	2006	
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	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	42.3	0.0	42.2	46.3	0.0	45.8	6.9	11.2	11.2	7.9	9.7	0.0
Incr Delay (d2), s/veh	1.0	0.0	1.8	36.5	0.0	2.6	0.1	1.2	1.2	0.3	0.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	1.3	0.0	1.2	0.3	0.0	0.3	0.9	4.7	4.8	1.1	1.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	43.3	0.0	44.0	82.8	0.0	48.4	7.0	12.4	12.4	8.2	9.9	0.0
LnGrp LOS	D	A	D	F	A	D	A	B	B	A	A	
Approach Vol, veh/h	159			17			978			522		
Approach Delay, s/veh	43.5			62.6			11.7			9.4		
Approach LOS	D			E			B			A		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	62.0			8.9	11.9	62.1		13.9				
Change Period (Y+Rc), s	6.0			6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	56.0			30.0	15.0	51.0		30.0				
Max Q Clear Time (g_c+14), s	7.1			3.7	5.0	14.6		5.1				
Green Ext Time (p_c), s	0.1	2.8		0.0	0.2	5.7		0.6				

Intersection Summary

HCM 6th Ctrl Delay 14.5
HCM 6th LOS B

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

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HCM 6th TWSC
3: Northlake Pkwy & Firestone Dwy

Tucker Exchange TIA
AM Peak

Intersection												
Int Delay, s/veh	0.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↔	↔		↔	↔	
Traffic Vol, veh/h	0	0	0	0	0	1	18	965	7	14	418	0
Future Vol, veh/h	0	0	0	0	0	1	18	965	7	14	418	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	80	-	-	90	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	5	2
Mvmt Flow	0	0	0	0	0	1	19	1005	7	15	435	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1006	1515	218	1295	1512	506	435	0	0	1012	0	0
Stage 1	465	465	-	1047	1047	-	-	-	-	-	-	-
Stage 2	541	1050	-	248	465	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	195	118	786	120	119	512	1121	-	-	681	-	-
Stage 1	547	561	-	244	303	-	-	-	-	-	-	-
Stage 2	493	302	-	734	561	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	189	113	786	117	114	512	1121	-	-	681	-	-
Mov Cap-2 Maneuver	189	113	-	117	114	-	-	-	-	-	-	-
Stage 1	538	549	-	240	298	-	-	-	-	-	-	-
Stage 2	484	297	-	718	549	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	0		12		0.2		0.3	
HCM LOS	A		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1121	-	-	-	512	681	-
HCM Lane V/C Ratio	0.017	-	-	-	0.002	0.021	-
HCM Control Delay (s)	8.3	-	-	0	12	10.4	-
HCM Lane LOS	A	-	-	A	B	B	-
HCM 95th %tile Q(veh)	0.1	-	-	-	0	0.1	-

HCM 6th Signalized Intersection Summary

4: Cooledge Rd/Northlake Pkwy & Lawrenceville Hwy

Tucker Exchange TIA
AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	275	628	62	92	940	281	114	561	85	134	107	103
Future Volume (veh/h)	275	628	62	92	940	281	114	561	85	134	107	103
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1796	1781	1841	1811	1841	1826	1870	1826	1781	1870	1811
Adj Flow Rate, veh/h	302	690	65	101	1033	174	125	616	86	147	118	18
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
Percent Heavy Veh, %	2	7	8	4	6	4	5	2	5	8	2	6
Cap, veh/h	329	1586	149	370	1494	677	391	713	99	205	448	368
Arrive On Green	0.11	0.50	0.50	0.04	0.43	0.43	0.07	0.23	0.23	0.08	0.24	0.24
Sat Flow, veh/h	1781	3153	297	1753	3441	1560	1739	3132	436	1697	1870	1535
Grp Volume(v), veh/h	302	373	382	101	1033	174	125	349	353	147	118	18
Grp Sat Flow(s),veh/h/ln	1781	1706	1743	1753	1721	1560	1739	1777	1792	1697	1870	1535
Q Serve(g_s), s	14.9	22.3	22.3	4.5	38.8	11.4	8.6	30.2	30.3	10.5	8.2	1.4
Cycle Q Clear(g_c), s	14.9	22.3	22.3	4.5	38.8	11.4	8.6	30.2	30.3	10.5	8.2	1.4
Prop In Lane	1.00		0.17	1.00		1.00	1.00		0.24	1.00		1.00
Lane Grp Cap(c), veh/h	329	858	877	370	1494	677	391	404	408	205	448	368
V/C Ratio(X)	0.92	0.43	0.44	0.27	0.69	0.26	0.32	0.86	0.87	0.72	0.26	0.05
Avail Cap(c_a), veh/h	456	858	877	430	1494	677	428	600	605	220	631	518
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.6	25.3	25.3	19.5	36.6	28.8	41.7	59.4	59.4	45.8	49.4	46.8
Incr Delay (d2), s/veh	18.9	0.3	0.3	0.4	2.7	0.9	0.5	8.5	8.6	9.8	0.3	0.1
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	7.8	8.9	9.1	1.8	16.5	4.4	3.7	14.4	14.6	5.0	3.9	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.5	25.6	25.7	19.9	39.3	29.8	42.2	67.9	68.1	55.6	49.7	46.9
LnGrp LOS	D	C	C	B	D	C	D	E	E	E	D	D
Approach Vol, veh/h	1057		1308				827		283			
Approach Delay, s/veh	32.5		36.5				64.1		52.6			
Approach LOS	C		D				E		D			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	23.6	75.4	16.6	44.3	12.6	86.5	18.6	42.4				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	29.0	39.0	14.0	54.0	12.0	56.0	14.0	54.0				
Max Q Clear Time (g_c+I1), s	16.9	40.8	10.6	10.2	6.5	24.3	12.5	32.3				
Green Ext Time (p_c), s	0.7	0.0	0.1	0.7	0.1	4.6	0.0	4.1				
Intersection Summary												
HCM 6th Ctrl Delay	43.1											
HCM 6th LOS	D											

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HCM 6th Signalized Intersection Summary

1: Northlake Pkwy & Lavista Rd

Tucker Exchange TIA
PM Peak

																
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Lane Configurations																
Traffic Volume (veh/h)	136	1317	693	195	942	56	670	247	300	325	471	135				
Future Volume (veh/h)	136	1317	693	195	942	56	670	247	300	325	471	135				
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0				
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00				
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Work Zone On Approach	No			No			No			No						
Adj Sat Flow, veh/h/ln	1870	1870	1856	1856	1870	1870	1870	1870	1856	1856	1870	1870				
Adj Flow Rate, veh/h	142	1372	465	203	981	55	698	280	136	339	491	14				
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96				
Percent Heavy Veh, %	2	2	3	3	2	2	2	2	3	3	2	2				
Cap, veh/h	186	1466	649	188	1591	89	690	815	343	389	489	218				
Arrive On Green	0.05	0.41	0.41	0.11	0.46	0.46	0.19	0.22	0.22	0.11	0.14	0.14				
Sat Flow, veh/h	3456	3554	1572	1767	3421	192	3563	3741	1572	3428	3554	1585				
Grp Volume(v), veh/h	142	1372	465	203	510	526	698	280	136	339	491	14				
Grp Sat Flow(s),veh/h/ln	1728	1777	1572	1767	1777	1836	1781	1870	1572	1714	1777	1585				
Q Serve(g_s), s	6.5	59.1	39.5	17.0	34.4	34.4	31.0	10.1	11.8	15.6	22.0	1.2				
Cycle Q Clear(g_c), s	6.5	59.1	39.5	17.0	34.4	34.4	31.0	10.1	11.8	15.6	22.0	1.2				
Prop In Lane	1.00		1.00	1.00		0.10	1.00		1.00	1.00		1.00				
Lane Grp Cap(c), veh/h	186	1466	649	188	826	854	690	815	343	389	489	218				
V/C Ratio(X)	0.76	0.94	0.72	1.08	0.62	0.62	1.01	0.34	0.40	0.87	1.00	0.06				
Avail Cap(c_a), veh/h	259	1466	649	188	826	854	690	815	343	493	489	218				
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	1.00	1.00	1.00	1.00	1.00	0.85	0.85	0.85	1.00	1.00	1.00				
Uniform Delay (d), s/veh	74.7	45.0	39.2	71.5	32.1	32.1	64.5	52.9	53.6	69.8	69.0	60.0				
Incr Delay (d2), s/veh	8.4	12.5	6.7	89.0	3.4	3.3	34.4	0.2	0.6	13.1	41.9	0.1				
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(95%),veh/ln	5.6	36.9	23.2	18.6	21.6	22.2	23.9	8.2	8.1	12.0	18.7	0.9				
Unsig. Movement Delay, s/veh																
LnGrp Delay(d),s/veh	83.1	57.5	45.9	160.5	35.5	35.4	98.9	53.1	54.2	82.9	110.9	60.2				
LnGrp LOS	F	E	D	F	D	D	F	D	D	F	F	E				
Approach Vol, veh/h	1979				1239				1114							
Approach Delay, s/veh	56.6				56.0				81.9							
Approach LOS	E				E				F							
Timer - Assigned Phs	1	2	3	4	5	6	7	8								
Phs Duration (G+Y+Rc), s	14.6	80.4	37.0	28.0	23.0	72.0	24.1	40.9								
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0								
Max Green Setting (Gmax), s	12.0	71.0	31.0	22.0	17.0	66.0	23.0	30.0								
Max Q Clear Time (g_c+I1), s	8.5	36.4	33.0	24.0	19.0	61.1	17.6	13.8								
Green Ext Time (p_c), s	0.1	7.1	0.0	0.0	0.0	3.9	0.6	2.0								
Intersection Summary																
HCM 6th Ctrl Delay	68.8															
HCM 6th LOS	E															
Notes																
User approved pedestrian interval to be less than phase max green.																
User approved volume balancing among the lanes for turning movement.																

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HCM 6th Signalized Intersection Summary

2: Northlake Pkwy & Crescent Centre Blvd/E Exchange Pl

Tucker Exchange TIA
PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	RT	LT			LT	RT	RT	LT		RT	LT	
Traffic Volume (veh/h)	248	2	133	88	1	178	74	746	7	28	1089	203
Future Volume (veh/h)	248	2	133	88	1	178	74	746	7	28	1089	203
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1159	1870	1870	1870	1870	1870	1870	1870	1826	1870	1870
Adj Flow Rate, veh/h	282	2	151	100	1	202	84	848	8	32	1238	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	50	2	2	2	2	2	2	2	5	2	2
Cap, veh/h	609	2	171	259	3	233	206	1678	16	298	1604	
Arrive On Green	0.18	0.18	0.18	0.15	0.15	0.15	0.05	0.47	0.47	0.03	0.45	0.00
Sat Flow, veh/h	3456	13	971	1764	18	1585	1781	3607	34	1739	3647	0
Grp Volume(v), veh/h	282	0	153	101	0	202	84	418	438	32	1238	0
Grp Sat Flow(s), veh/h/ln	1728	0	984	1782	0	1585	1781	1777	1864	1739	1777	0
Q Serve(g_s), s	9.7	0.0	20.2	6.8	0.0	16.6	3.3	21.9	21.9	1.3	39.0	0.0
Cycle Q Clear(g_c), s	9.7	0.0	20.2	6.8	0.0	16.6	3.3	21.9	21.9	1.3	39.0	0.0
Prop In Lane	1.00		0.99	0.99		1.00	1.00		0.02	1.00		0.00
Lane Grp Cap(c), veh/h	609	0	173	262	0	233	206	827	867	298	1604	
V/C Ratio(X)	0.46	0.00	0.88	0.39	0.00	0.87	0.41	0.51	0.51	0.11	0.77	
Avail Cap(c_a), veh/h	780	0	222	402	0	358	206	827	867	322	1604	
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	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	49.1	0.0	53.4	51.3	0.0	55.5	24.7	24.9	24.9	19.7	30.7	0.0
Incr Delay (d2), s/veh	0.5	0.0	26.5	0.9	0.0	13.3	1.3	2.2	2.1	0.2	3.7	0.0
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(95%), veh/ln	7.7	0.0	10.4	5.6	0.0	12.0	2.5	14.5	15.1	1.0	24.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	49.7	0.0	79.9	52.2	0.0	68.7	26.0	27.1	27.0	19.9	34.4	0.0
LnGrp LOS	D	A	E	D	A	E	C	C	C	B	C	
Approach Vol, veh/h	435			303			940			1270		
Approach Delay, s/veh	60.3			63.2			26.9			34.0		
Approach LOS	E			E			C			C		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	2.0	66.0		25.5	10.2	67.8		29.4				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	6.0	60.0		30.0	6.0	60.0		30.0				
Max Q Clear Time (g_c+1/3), s	41.0	41.0		18.6	3.3	23.9		22.2				
Green Ext Time (p_c), s	0.0	9.1		0.9	0.0	5.7		1.3				

Intersection Summary

HCM 6th Ctrl Delay 38.6

HCM 6th LOS D

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

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HCM 6th TWSC
3: Northlake Pkwy & Firestone Dwy

Tucker Exchange TIA
PM Peak

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↔	↔		↔	↔	
Traffic Vol, veh/h	4	0	5	5	0	7	8	792	0	5	1299	2
Future Vol, veh/h	4	0	5	5	0	7	8	792	0	5	1299	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	80	-	-	90	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	0	6	6	0	8	9	900	0	6	1476	2

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1957	2407	739	1668	2408	450	1478	0	0	900	0	0
Stage 1	1489	1489	-	918	918	-	-	-	-	-	-	-
Stage 2	468	918	-	750	1490	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	38	33	360	63	33	556	452	-	-	751	-	-
Stage 1	130	186	-	292	349	-	-	-	-	-	-	-
Stage 2	545	349	-	369	186	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	37	32	360	61	32	556	452	-	-	751	-	-
Mov Cap-2 Maneuver	37	32	-	61	32	-	-	-	-	-	-	-
Stage 1	127	185	-	286	342	-	-	-	-	-	-	-
Stage 2	527	342	-	360	185	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	61.3		36.7		0.1		0	
HCM LOS	F		E					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	452	-	-	74	127	751	-
HCM Lane V/C Ratio	0.02	-	-	0.138	0.107	0.008	-
HCM Control Delay (s)	13.1	-	-	61.3	36.7	9.8	-
HCM Lane LOS	B	-	-	F	E	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.5	0.4	0	-

HCM 6th Signalized Intersection Summary

4: Cooledge Rd/Northlake Pkwy & Lawrenceville Hwy

Tucker Exchange TIA
PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	183	1176	159	128	969	235	77	336	120	196	756	388
Future Volume (veh/h)	183	1176	159	128	969	235	77	336	120	196	756	388
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1841	1870	1870	1811	1870	1870	1870	1737	1811	1870	1870
Adj Flow Rate, veh/h	197	1265	165	138	1042	116	83	361	112	211	813	317
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	4	2	2	6	2	2	2	11	6	2	2
Cap, veh/h	202	1197	155	145	1323	609	117	839	257	393	690	584
Arrive On Green	0.06	0.38	0.38	0.06	0.38	0.38	0.04	0.31	0.31	0.10	0.37	0.37
Sat Flow, veh/h	1781	3113	404	1781	3441	1585	1781	2680	820	1725	1870	1585
Grp Volume(v), veh/h	197	708	722	138	1042	116	83	238	235	211	813	317
Grp Sat Flow(s),veh/h/ln	1781	1749	1768	1781	1721	1585	1781	1777	1723	1725	1870	1585
Q Serve(g_s), s	9.0	61.5	61.5	8.3	42.8	7.8	4.6	17.0	17.4	13.2	59.0	25.2
Cycle Q Clear(g_c), s	9.0	61.5	61.5	8.3	42.8	7.8	4.6	17.0	17.4	13.2	59.0	25.2
Prop In Lane	1.00		0.23	1.00		1.00	1.00		0.48	1.00		1.00
Lane Grp Cap(c), veh/h	202	672	680	145	1323	609	117	557	540	393	690	584
V/C Ratio(X)	0.98	1.05	1.06	0.95	0.79	0.19	0.71	0.43	0.44	0.54	1.18	0.54
Avail Cap(c_a), veh/h	202	672	680	145	1323	609	145	557	540	432	690	584
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.7	49.2	49.2	44.6	43.5	32.7	40.2	43.6	43.7	33.0	50.5	39.8
Incr Delay (d2), s/veh	56.0	49.5	52.2	59.7	4.8	0.7	11.3	0.5	0.6	1.1	95.0	1.0
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(95%),veh/ln	11.0	46.7	48.1	10.0	25.8	5.6	4.2	12.0	12.0	9.5	62.8	15.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	99.7	98.7	101.5	104.3	48.3	33.4	51.4	44.1	44.3	34.2	145.5	40.9
LnGrp LOS	F	F	F	F	D	C	D	D	D	C	F	D
Approach Vol, veh/h	1627			1296			556			1341		
Approach Delay, s/veh	100.1			52.9			45.3			103.3		
Approach LOS	F			D			D			F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.0	67.5	12.5	65.0	15.0	67.5	21.4	56.1				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	9.0	59.0	9.0	59.0	9.0	59.0	19.0	49.0				
Max Q Clear Time (g_c+I1), s	11.0	44.8	6.6	61.0	10.3	63.5	15.2	19.4				
Green Ext Time (p_c), s	0.0	6.2	0.0	0.0	0.0	0.0	0.2	2.8				
Intersection Summary												
HCM 6th Ctrl Delay	82.0											
HCM 6th LOS	F											

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HCM 6th Signalized Intersection Summary

4: Cooledge Rd/Northlake Pkwy & Lawrenceville Hwy

AHS Tucker Exchange TIA
AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	275	628	62	92	940	281	114	561	85	134	107	103
Future Volume (veh/h)	275	628	62	92	940	281	114	561	85	134	107	103
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1796	1781	1841	1811	1841	1826	1870	1826	1781	1870	1811
Adj Flow Rate, veh/h	302	690	65	101	1033	174	125	616	86	147	118	18
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
Percent Heavy Veh, %	2	7	8	4	6	4	5	2	5	8	2	6
Cap, veh/h	329	1717	759	380	1494	677	391	713	99	205	448	368
Arrive On Green	0.11	0.50	0.50	0.04	0.43	0.43	0.07	0.23	0.23	0.08	0.24	0.24
Sat Flow, veh/h	1781	3413	1510	1753	3441	1560	1739	3132	436	1697	1870	1535
Grp Volume(v), veh/h	302	690	65	101	1033	174	125	349	353	147	118	18
Grp Sat Flow(s),veh/h/ln	1781	1706	1510	1753	1721	1560	1739	1777	1792	1697	1870	1535
Q Serve(g_s), s	14.9	20.2	3.6	4.5	38.8	11.4	8.6	30.2	30.3	10.5	8.2	1.4
Cycle Q Clear(g_c), s	14.9	20.2	3.6	4.5	38.8	11.4	8.6	30.2	30.3	10.5	8.2	1.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.24	1.00		1.00
Lane Grp Cap(c), veh/h	329	1717	759	380	1494	677	391	404	408	205	448	368
V/C Ratio(X)	0.92	0.40	0.09	0.27	0.69	0.26	0.32	0.86	0.87	0.72	0.26	0.05
Avail Cap(c_a), veh/h	456	1717	759	439	1494	677	428	600	605	220	631	518
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.6	24.8	20.7	19.1	36.6	28.8	41.7	59.4	59.4	45.8	49.4	46.8
Incr Delay (d2), s/veh	18.9	0.2	0.0	0.4	2.7	0.9	0.5	8.5	8.6	9.8	0.3	0.1
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	7.8	8.1	1.3	1.8	16.5	4.4	3.7	14.4	14.6	5.0	3.9	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.5	24.9	20.7	19.5	39.3	29.8	42.2	67.9	68.1	55.6	49.7	46.9
LnGrp LOS	D	C	C	B	D	C	D	E	E	E	D	D
Approach Vol, veh/h	1057			1308			827			283		
Approach Delay, s/veh	31.7			36.5			64.1			52.6		
Approach LOS	C			D			E			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	23.6	75.4	16.6	44.3	12.6	86.5	18.6	42.4				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	29.0	39.0	14.0	54.0	12.0	56.0	14.0	54.0				
Max Q Clear Time (g_c+I1), s	16.9	40.8	10.6	10.2	6.5	22.2	12.5	32.3				
Green Ext Time (p_c), s	0.7	0.0	0.1	0.7	0.1	5.0	0.0	4.1				
Intersection Summary												
HCM 6th Ctrl Delay	42.9											
HCM 6th LOS	D											

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HCM 6th Signalized Intersection Summary

4: Cooledge Rd/Northlake Pkwy & Lawrenceville Hwy

Tucker Exchange TIA
PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	183	1176	159	128	969	235	77	336	120	196	756	388
Future Volume (veh/h)	183	1176	159	128	969	235	77	336	120	196	756	388
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1841	1870	1870	1811	1870	1870	1870	1737	1811	1870	1870
Adj Flow Rate, veh/h	197	1265	165	138	1042	116	83	361	112	211	813	317
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	4	2	2	6	2	2	2	11	6	2	2
Cap, veh/h	202	1345	609	159	1323	609	117	839	257	393	690	584
Arrive On Green	0.06	0.38	0.38	0.06	0.38	0.38	0.04	0.31	0.31	0.10	0.37	0.37
Sat Flow, veh/h	1781	3497	1585	1781	3441	1585	1781	2680	820	1725	1870	1585
Grp Volume(v), veh/h	197	1265	165	138	1042	116	83	238	235	211	813	317
Grp Sat Flow(s),veh/h/ln	1781	1749	1585	1781	1721	1585	1781	1777	1723	1725	1870	1585
Q Serve(g_s), s	9.0	55.8	11.4	7.5	42.8	7.8	4.6	17.0	17.4	13.2	59.0	25.2
Cycle Q Clear(g_c), s	9.0	55.8	11.4	7.5	42.8	7.8	4.6	17.0	17.4	13.2	59.0	25.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.48	1.00		1.00
Lane Grp Cap(c), veh/h	202	1345	609	159	1323	609	117	557	540	393	690	584
V/C Ratio(X)	0.98	0.94	0.27	0.87	0.79	0.19	0.71	0.43	0.44	0.54	1.18	0.54
Avail Cap(c_a), veh/h	202	1345	609	159	1323	609	145	557	540	432	690	584
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.7	47.5	33.8	38.7	43.5	32.7	40.2	43.6	43.7	33.0	50.5	39.8
Incr Delay (d2), s/veh	56.0	14.0	1.1	37.1	4.8	0.7	11.3	0.5	0.6	1.1	95.0	1.0
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(95%),veh/ln	11.0	34.6	8.1	8.4	25.8	5.6	4.2	12.0	12.0	9.5	62.8	15.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	99.7	61.4	34.9	75.8	48.3	33.4	51.4	44.1	44.3	34.2	145.5	40.9
LnGrp LOS	F	E	C	E	D	C	D	D	D	C	F	D
Approach Vol, veh/h	1627			1296			556			1341		
Approach Delay, s/veh	63.4			49.9			45.3			103.3		
Approach LOS	E			D			D			F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.0	67.5	12.5	65.0	15.0	67.5	21.4	56.1				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	9.0	59.0	9.0	59.0	9.0	59.0	19.0	49.0				
Max Q Clear Time (g_c+I1), s	11.0	44.8	6.6	61.0	9.5	57.8	15.2	19.4				
Green Ext Time (p_c), s	0.0	6.2	0.0	0.0	0.0	0.9	0.2	2.8				
Intersection Summary												
HCM 6th Ctrl Delay	68.8											
HCM 6th LOS	E											

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PLANNING & ZONING
DEPARTMENT

HCM 6th Signalized Intersection Summary

1: Northlake Pkwy & Lavista Rd

AHS Tucker Exchange TIA
AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	98	567	502	187	1235	82	544	320	98	89	168	55
Future Volume (veh/h)	98	567	502	187	1235	82	544	320	98	89	168	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1856	1870	1826	1870	1856	1870	1841	1870	1870	1811
Adj Flow Rate, veh/h	104	603	208	199	1314	84	579	340	23	95	179	2
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	3	2	5	2	3	2	4	2	2	6
Cap, veh/h	150	1665	737	223	1823	116	628	770	321	138	243	105
Arrive On Green	0.04	0.47	0.47	0.13	0.55	0.55	0.18	0.21	0.21	0.04	0.07	0.07
Sat Flow, veh/h	3456	3554	1572	1781	3311	211	3534	3741	1560	3456	3554	1535
Grp Volume(v), veh/h	104	603	208	199	687	711	579	340	23	95	179	2
Grp Sat Flow(s),veh/h/ln	1728	1777	1572	1781	1735	1788	1767	1870	1560	1728	1777	1535
Q Serve(g_s), s	4.5	16.3	12.1	16.5	44.2	44.5	24.2	11.9	1.8	4.1	7.4	0.2
Cycle Q Clear(g_c), s	4.5	16.3	12.1	16.5	44.2	44.5	24.2	11.9	1.8	4.1	7.4	0.2
Prop In Lane	1.00		1.00	1.00		0.12	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	150	1665	737	223	955	984	628	770	321	138	243	105
V/C Ratio(X)	0.69	0.36	0.28	0.89	0.72	0.72	0.92	0.44	0.07	0.69	0.74	0.02
Avail Cap(c_a), veh/h	207	1665	737	309	955	984	660	1097	458	207	592	256
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	1.00	1.00	1.00	1.00	1.00	0.86	0.86	0.86	1.00	1.00	1.00
Uniform Delay (d), s/veh	70.8	25.5	24.4	64.6	25.1	25.2	60.7	52.0	48.0	71.1	68.5	65.2
Incr Delay (d2), s/veh	5.7	0.1	0.2	20.6	4.7	4.6	16.2	0.3	0.1	5.9	4.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	6.9	4.7	8.7	18.5	19.2	12.3	5.7	0.7	1.9	3.5	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.5	25.6	24.6	85.2	29.7	29.7	76.8	52.4	48.1	77.0	72.9	65.2
LnGrp LOS	E	C	C	F	C	C	E	D	D	E	E	E
Approach Vol, veh/h	915		1597				942		276			
Approach Delay, s/veh	31.2		36.7				67.3		74.2			
Approach LOS	C		D				E		E			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.5	88.6	32.6	16.3	24.8	76.3	12.0	36.9				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	9.0	64.0	28.0	25.0	26.0	47.0	9.0	44.0				
Max Q Clear Time (g_c+I1), s	6.5	46.5	26.2	9.4	18.5	18.3	6.1	13.9				
Green Ext Time (p_c), s	0.1	8.5	0.5	0.8	0.3	5.1	0.1	2.4				
Intersection Summary												
HCM 6th Ctrl Delay	45.8											
HCM 6th LOS	D											
Notes												
User approved pedestrian interval to be less than phase max green.												
User approved volume balancing among the lanes for turning movement.												

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HCM 6th Signalized Intersection Summary

2: Northlake Pkwy & Crescent Centre Blvd/E Exchange Pl

AHS Tucker Exchange TIA
AM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	RT	LT			LT	RT	RT	LT		RT	LT	
Traffic Volume (veh/h)	107	3	46	33	1	29	127	834	80	198	389	268
Future Volume (veh/h)	107	3	46	33	1	29	127	834	80	198	389	268
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1767	1870	1856	1870	166	1841	1870	1870	1870	1870	1826	1870
Adj Flow Rate, veh/h	109	3	47	34	1	30	130	851	82	202	397	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	9	2	3	2	117	4	2	2	2	2	5	2
Cap, veh/h	235	7	108	23	1	231	601	1590	153	385	1760	
Arrive On Green	0.07	0.07	0.07	0.15	0.15	0.15	0.06	0.49	0.49	0.08	0.51	0.00
Sat Flow, veh/h	3264	96	1504	154	5	1560	1781	3275	316	1781	3561	0
Grp Volume(v), veh/h	109	0	50	35	0	30	130	462	471	202	397	0
Grp Sat Flow(s), veh/h/ln	1632	0	1600	158	0	1560	1781	1777	1814	1781	1735	0
Q Serve(g_s), s	3.5	0.0	3.3	16.3	0.0	1.8	4.0	19.9	19.9	6.2	7.0	0.0
Cycle Q Clear(g_c), s	3.5	0.0	3.3	16.3	0.0	1.8	4.0	19.9	19.9	6.2	7.0	0.0
Prop In Lane	1.00		0.94	0.97		1.00	1.00		0.17	1.00		0.00
Lane Grp Cap(c), veh/h	235	0	115	23	0	231	601	863	881	385	1760	
V/C Ratio(X)	0.46	0.00	0.43	1.49	0.00	0.13	0.22	0.54	0.54	0.53	0.23	
Avail Cap(c_a), veh/h	887	0	435	43	0	424	664	863	881	489	1760	
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	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	49.2	0.0	49.1	47.0	0.0	40.9	12.7	19.7	19.7	14.7	15.1	0.0
Incr Delay (d2), s/veh	1.4	0.0	2.6	331.8	0.0	0.3	0.2	2.4	2.3	1.1	0.3	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	1.4	2.8	0.0	0.7	1.5	8.3	8.5	2.5	2.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	50.6	0.0	51.7	378.8	0.0	41.1	12.8	22.1	22.1	15.8	15.4	0.0
LnGrp LOS	D	A	D	F	A	D	B	C	C	B	B	
Approach Vol, veh/h	159			65			1063			599		
Approach Delay, s/veh	50.9			222.9			21.0			15.6		
Approach LOS	D			F			C			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	2.1	62.0		22.2	14.5	59.6		13.9				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	60.0	56.0		30.0	15.0	51.0		30.0				
Max Q Clear Time (g_c+10), s	9.0	9.0		18.3	8.2	21.9		5.5				
Green Ext Time (p_c), s	0.1	3.0		0.1	0.3	6.3		0.6				

Intersection Summary

HCM 6th Ctrl Delay	28.7
HCM 6th LOS	C

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

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HCM 6th TWSC
3: Northlake Pkwy & Firestone Dwy

AHS Tucker Exchange TIA
AM Peak

Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕		↕		↕	
Traffic Vol, veh/h	0	0	0	13	0	75	18	974	35	28	445	0
Future Vol, veh/h	0	0	0	13	0	75	18	974	35	28	445	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	80	-	-	90	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	4	2
Mvmt Flow	0	0	0	14	0	78	19	1015	36	29	464	0
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	1068	1611	232	1361	1593	526	464	0	0	1051	0	0
Stage 1	522	522	-	1071	1071	-	-	-	-	-	-	-
Stage 2	546	1089	-	290	522	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	176	103	770	107	106	496	1094	-	-	658	-	-
Stage 1	506	529	-	236	295	-	-	-	-	-	-	-
Stage 2	490	290	-	694	529	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	141	97	770	102	100	496	1094	-	-	658	-	-
Mov Cap-2 Maneuver	141	97	-	102	100	-	-	-	-	-	-	-
Stage 1	497	506	-	232	290	-	-	-	-	-	-	-
Stage 2	406	285	-	663	506	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	0		21			0.1			0.6			
HCM LOS	A		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1094	-	-	-	316	658	-	-				
HCM Lane V/C Ratio	0.017	-	-	-	0.29	0.044	-	-				
HCM Control Delay (s)	8.3	-	-	0	21	10.7	-	-				
HCM Lane LOS	A	-	-	A	C	B	-	-				
HCM 95th %tile Q(veh)	0.1	-	-	-	1.2	0.1	-	-				

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HCM 6th Signalized Intersection Summary

4: Cooledge Rd/Northlake Pkwy & Lawrenceville Hwy

AHS Tucker Exchange TIA

AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	286	628	62	92	940	292	114	575	85	147	121	116
Future Volume (veh/h)	286	628	62	92	940	292	114	575	85	147	121	116
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1796	1781	1841	1811	1841	1826	1870	1826	1796	1870	1826
Adj Flow Rate, veh/h	314	690	65	101	1033	181	125	632	86	162	133	22
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
Percent Heavy Veh, %	2	7	8	4	6	4	5	2	5	7	2	5
Cap, veh/h	338	1552	146	362	1409	639	392	730	99	216	469	388
Arrive On Green	0.12	0.49	0.49	0.04	0.41	0.41	0.07	0.23	0.23	0.08	0.25	0.25
Sat Flow, veh/h	1781	3153	297	1753	3441	1560	1739	3143	427	1711	1870	1547
Grp Volume(v), veh/h	314	373	382	101	1033	181	125	357	361	162	133	22
Grp Sat Flow(s),veh/h/ln	1781	1706	1743	1753	1721	1560	1739	1777	1793	1711	1870	1547
Q Serve(g_s), s	17.2	22.7	22.8	4.6	40.5	12.4	8.5	30.9	31.0	11.4	9.2	1.7
Cycle Q Clear(g_c), s	17.2	22.7	22.8	4.6	40.5	12.4	8.5	30.9	31.0	11.4	9.2	1.7
Prop In Lane	1.00		0.17	1.00		1.00	1.00		0.24	1.00		1.00
Lane Grp Cap(c), veh/h	338	840	858	362	1409	639	392	412	416	216	469	388
V/C Ratio(X)	0.93	0.44	0.45	0.28	0.73	0.28	0.32	0.87	0.87	0.75	0.28	0.06
Avail Cap(c_a), veh/h	440	840	858	420	1409	639	429	600	605	222	631	522
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.1	26.4	26.4	20.4	39.9	31.6	40.6	59.0	59.1	45.1	48.4	45.6
Incr Delay (d2), s/veh	22.4	0.4	0.4	0.4	3.4	1.1	0.5	8.9	9.0	12.9	0.3	0.1
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	9.3	9.2	9.4	1.9	17.4	4.9	3.7	14.8	15.0	5.6	4.3	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.5	26.8	26.8	20.8	43.3	32.7	41.1	67.9	68.1	58.0	48.7	45.6
LnGrp LOS	E	C	C	C	D	C	D	E	E	E	D	D
Approach Vol, veh/h		1069			1315			843			317	
Approach Delay, s/veh		35.8			40.1			64.0			53.3	
Approach LOS		D			D			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	25.9	71.5	16.5	46.1	12.6	84.8	19.5	43.1				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	29.0	39.0	14.0	54.0	12.0	56.0	14.0	54.0				
Max Q Clear Time (g_c+I1), s	19.2	42.5	10.5	11.2	6.6	24.8	13.4	33.0				
Green Ext Time (p_c), s	0.6	0.0	0.1	0.8	0.1	4.6	0.0	4.2				
Intersection Summary												
HCM 6th Ctrl Delay			45.7									
HCM 6th LOS			D									

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Intersection						
Int Delay, s/veh	0.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	238	43	0	38	25	0
Future Vol, veh/h	238	43	0	38	25	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	2	0	0	2
Mvmt Flow	259	47	0	41	27	0
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	304	283
Stage 1	-	-	-	-	283	-
Stage 2	-	-	-	-	21	-
Critical Hdwy	-	-	-	-	6.6	6.23
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	-	-	3.5	3.319
Pot Cap-1 Maneuver	-	-	0	-	680	755
Stage 1	-	-	0	-	770	-
Stage 2	-	-	0	-	1005	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	680	755
Mov Cap-2 Maneuver	-	-	-	-	680	-
Stage 1	-	-	-	-	770	-
Stage 2	-	-	-	-	1005	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		10.5	
HCM LOS					B	
Minor Lane/Major Mvmt	NBLn1		EBT	EBR	WBT	
Capacity (veh/h)	680		-	-	-	
HCM Lane V/C Ratio	0.04		-	-	-	
HCM Control Delay (s)	10.5		-	-	-	
HCM Lane LOS	B		-	-	-	
HCM 95th %tile Q(veh)	0.1		-	-	-	

Intersection						
Int Delay, s/veh	0.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	210	24	0	17	21	0
Future Vol, veh/h	210	24	0	17	21	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	2	0	0	2
Mvmt Flow	228	26	0	18	23	0
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	250	241
Stage 1	-	-	-	-	241	-
Stage 2	-	-	-	-	9	-
Critical Hdwy	-	-	-	-	6.6	6.23
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	-	-	3.5	3.319
Pot Cap-1 Maneuver	-	-	0	-	733	797
Stage 1	-	-	0	-	804	-
Stage 2	-	-	0	-	1018	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	733	797
Mov Cap-2 Maneuver	-	-	-	-	733	-
Stage 1	-	-	-	-	804	-
Stage 2	-	-	-	-	1018	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		10.1	
HCM LOS					B	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT		
Capacity (veh/h)	733	-	-	-		
HCM Lane V/C Ratio	0.031	-	-	-		
HCM Control Delay (s)	10.1	-	-	-		
HCM Lane LOS	B	-	-	-		
HCM 95th %tile Q(veh)	0.1	-	-	-		

HCM 6th Signalized Intersection Summary

1: Northlake Pkwy & Lavista Rd

AHS Tucker Exchange TIA
PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	136	1317	747	209	942	56	722	272	317	325	497	135
Future Volume (veh/h)	136	1317	747	209	942	56	722	272	317	325	497	135
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1856	1870	1870
Adj Flow Rate, veh/h	142	1372	500	218	981	55	752	315	152	339	518	14
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	3	2	2
Cap, veh/h	186	1466	654	189	1591	89	690	815	345	389	489	218
Arrive On Green	0.05	0.41	0.41	0.11	0.46	0.46	0.19	0.22	0.22	0.11	0.14	0.14
Sat Flow, veh/h	3456	3554	1585	1781	3421	192	3563	3741	1585	3428	3554	1585
Grp Volume(v), veh/h	142	1372	500	218	510	526	752	315	152	339	518	14
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1836	1781	1870	1585	1714	1777	1585
Q Serve(g_s), s	6.5	59.1	43.3	17.0	34.4	34.4	31.0	11.5	13.3	15.6	22.0	1.2
Cycle Q Clear(g_c), s	6.5	59.1	43.3	17.0	34.4	34.4	31.0	11.5	13.3	15.6	22.0	1.2
Prop In Lane	1.00		1.00	1.00		0.10	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	186	1466	654	189	826	854	690	815	345	389	489	218
V/C Ratio(X)	0.76	0.94	0.76	1.15	0.62	0.62	1.09	0.39	0.44	0.87	1.06	0.06
Avail Cap(c_a), veh/h	259	1466	654	189	826	854	690	815	345	493	489	218
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	1.00	1.00	1.00	1.00	1.00	0.78	0.78	0.78	1.00	1.00	1.00
Uniform Delay (d), s/veh	74.7	45.0	40.3	71.5	32.1	32.1	64.5	53.4	54.1	69.8	69.0	60.0
Incr Delay (d2), s/veh	8.4	11.5	5.4	112.2	3.4	3.3	57.6	0.2	0.7	13.1	57.6	0.1
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	3.1	28.0	17.9	13.6	15.2	15.7	19.6	5.5	5.4	7.5	13.9	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.1	56.5	45.7	183.7	35.5	35.4	122.1	53.7	54.8	82.9	126.6	60.2
LnGrp LOS	F	E	D	F	D	D	F	D	D	F	F	E
Approach Vol, veh/h	2014				1254				1219			
Approach Delay, s/veh	55.7				61.3				96.0			
Approach LOS	E				E				F			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.6	80.4	37.0	28.0	23.0	72.0	24.1	40.9				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	12.0	71.0	31.0	22.0	17.0	66.0	23.0	30.0				
Max Q Clear Time (g_c+I1), s	8.5	36.4	33.0	24.0	19.0	61.1	17.6	15.3				
Green Ext Time (p_c), s	0.1	7.1	0.0	0.0	0.0	3.9	0.6	2.2				
Intersection Summary												
HCM 6th Ctrl Delay	74.8											
HCM 6th LOS	E											
Notes												
User approved pedestrian interval to be less than phase max green.												
User approved volume balancing among the lanes for turning movement.												

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HCM 6th Signalized Intersection Summary

2: Northlake Pkwy & Crescent Centre Blvd/E Exchange Pl

AHS Tucker Exchange TIA
PM Peak



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	248	2	133	121	1	220	74	796	14	89	1109	203	
Future Volume (veh/h)	248	2	133	121	1	220	74	796	14	89	1109	203	
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach	No				No				No				
Adj Sat Flow, veh/h/ln	1870	952	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	
Adj Flow Rate, veh/h	282	2	151	138	1	250	84	905	16	101	1260	0	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	
Percent Heavy Veh, %	2	64	2	2	2	2	2	2	2	2	2	2	
Cap, veh/h	698	2	161	308	2	276	166	1485	26	256	1478		
Arrive On Green	0.20	0.20	0.20	0.17	0.17	0.17	0.04	0.42	0.42	0.04	0.42	0.00	
Sat Flow, veh/h	3456	11	797	1769	13	1585	1781	3573	63	1781	3647	0	
Grp Volume(v), veh/h	282	0	153	139	0	250	84	450	471	101	1260	0	
Grp Sat Flow(s),veh/h/ln	1728	0	808	1782	0	1585	1781	1777	1859	1781	1777	0	
Q Serve(g_s), s	10.2	0.0	26.9	10.1	0.0	22.3	3.9	28.6	28.6	4.7	46.3	0.0	
Cycle Q Clear(g_c), s	10.2	0.0	26.9	10.1	0.0	22.3	3.9	28.6	28.6	4.7	46.3	0.0	
Prop In Lane	1.00		0.99	0.99		1.00	1.00		0.03	1.00		0.00	
Lane Grp Cap(c), veh/h	698	0	163	311	0	276	166	739	773	256	1478		
V/C Ratio(X)	0.40	0.00	0.94	0.45	0.00	0.90	0.51	0.61	0.61	0.39	0.85		
Avail Cap(c_a), veh/h	718	0	168	370	0	330	166	739	773	256	1478		
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	1.00	1.00	1.00	1.00	1.00	1.00	0.00	
Uniform Delay (d), s/veh	50.0	0.0	56.7	53.4	0.0	58.4	31.5	33.0	33.0	25.9	38.2	0.0	
Incr Delay (d2), s/veh	0.4	0.0	50.7	1.0	0.0	24.5	2.5	3.7	3.6	1.0	6.4	0.0	
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	4.5	0.0	7.8	4.6	0.0	10.8	1.7	12.9	13.4	2.1	21.4	0.0	
Unsig. Movement Delay, s/veh													
LnGrp Delay(d),s/veh	50.4	0.0	107.4	54.4	0.0	82.9	34.0	36.7	36.5	26.9	44.6	0.0	
LnGrp LOS	D	A	F	D	A	F	C	D	D	C	D		
Approach Vol, veh/h	435				389		1005				1361		A
Approach Delay, s/veh	70.4				72.7		36.4				43.3		
Approach LOS	E				E		D				D		
Timer - Assigned Phs	1	2	4		5	6	8						
Phs Duration (G+Y+Rc), s	2.0	66.0	31.2		12.0	66.0	35.2						
Change Period (Y+Rc), s	6.0	6.0	6.0		6.0	6.0	6.0						
Max Green Setting (Gmax), s	6.0	60.0	30.0		6.0	60.0	30.0						
Max Q Clear Time (g_c+15), s	48.3	48.3	24.3		6.7	30.6	28.9						
Green Ext Time (p_c), s	0.0	6.8	0.8		0.0	6.1	0.3						

Intersection Summary

HCM 6th Ctrl Delay 48.4
HCM 6th LOS D

Notes

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

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

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HCM 6th TWSC
3: Northlake Pkwy & Firestone Dwy

AHS Tucker Exchange TIA
PM Peak

Intersection												
Int Delay, s/veh	1.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	4	0	5	16	0	57	8	825	8	25	1332	2
Future Vol, veh/h	4	0	5	16	0	57	8	825	8	25	1332	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	80	-	-	90	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	0	6	18	0	65	9	938	9	28	1514	2

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2058	2536	758	1774	2533	474	1516	0	0	947	0	0
Stage 1	1571	1571	-	961	961	-	-	-	-	-	-	-
Stage 2	487	965	-	813	1572	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	32	27	350	52	27	537	437	-	-	721	-	-
Stage 1	115	169	-	275	333	-	-	-	-	-	-	-
Stage 2	531	331	-	339	169	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	27	25	350	49	25	537	437	-	-	721	-	-
Mov Cap-2 Maneuver	27	25	-	49	25	-	-	-	-	-	-	-
Stage 1	113	162	-	269	326	-	-	-	-	-	-	-
Stage 2	457	324	-	321	162	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	84.8		45.3		0.1		0.2	
HCM LOS	F		E					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	437	-	-	55 169	721	-	-
HCM Lane V/C Ratio	0.021	-	-	0.186 0.491	0.039	-	-
HCM Control Delay (s)	13.4	-	-	84.8 45.3	10.2	-	-
HCM Lane LOS	B	-	-	F E	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.6 2.4	0.1	-	-

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HCM 6th Signalized Intersection Summary 4: Cooledge Rd/Northlake Pkwy & Lawrenceville Hwy

AHS Tucker Exchange TIA
PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	197	1176	159	128	969	249	77	350	120	210	773	402
Future Volume (veh/h)	197	1176	159	128	969	249	77	350	120	210	773	402
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1841	1870	1870	1811	1870	1870	1870	1737	1826	1870	1870
Adj Flow Rate, veh/h	212	1265	166	138	1042	156	83	376	113	226	831	331
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	4	2	2	6	2	2	2	11	5	2	2
Cap, veh/h	200	1196	156	145	1323	609	117	831	246	394	690	584
Arrive On Green	0.06	0.38	0.38	0.06	0.38	0.38	0.04	0.31	0.31	0.10	0.37	0.37
Sat Flow, veh/h	1781	3110	406	1781	3441	1585	1781	2701	802	1739	1870	1585
Grp Volume(v), veh/h	212	708	723	138	1042	156	83	246	243	226	831	331
Grp Sat Flow(s),veh/h/ln	1781	1749	1768	1781	1721	1585	1781	1777	1726	1739	1870	1585
Q Serve(g_s), s	9.0	61.5	61.5	8.3	42.8	10.8	4.6	17.8	18.2	14.1	59.0	26.7
Cycle Q Clear(g_c), s	9.0	61.5	61.5	8.3	42.8	10.8	4.6	17.8	18.2	14.1	59.0	26.7
Prop In Lane	1.00		0.23	1.00		1.00	1.00		0.46	1.00		1.00
Lane Grp Cap(c), veh/h	200	672	680	145	1323	609	117	546	531	394	690	584
V/C Ratio(X)	1.06	1.05	1.06	0.95	0.79	0.26	0.71	0.45	0.46	0.57	1.20	0.57
Avail Cap(c_a), veh/h	200	672	680	145	1323	609	145	546	531	423	690	584
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.3	49.2	49.2	44.6	43.5	33.6	40.2	44.5	44.7	33.5	50.5	40.3
Incr Delay (d2), s/veh	80.6	49.7	52.5	59.7	4.8	1.0	11.3	0.6	0.6	1.6	105.6	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.2	35.3	36.2	6.0	18.7	4.3	2.4	7.9	7.9	6.1	47.2	10.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	124.9	99.0	101.8	104.3	48.3	34.6	51.4	45.1	45.3	35.1	156.1	41.6
LnGrp LOS	F	F	F	F	D	C	D	D	D	D	F	D
Approach Vol, veh/h	1643			1336			572			1388		
Approach Delay, s/veh	103.6			52.5			46.1			109.1		
Approach LOS	F			D			D			F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.0	67.5	12.5	65.0	15.0	67.5	22.3	55.2				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	9.0	59.0	9.0	59.0	9.0	59.0	19.0	49.0				
Max Q Clear Time (g_c+I1), s	11.0	44.8	6.6	61.0	10.3	63.5	16.1	20.2				
Green Ext Time (p_c), s	0.0	6.3	0.0	0.0	0.0	0.0	0.2	2.9				
Intersection Summary												
HCM 6th Ctrl Delay	84.6											
HCM 6th LOS	F											

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Intersection						
Int Delay, s/veh	0.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑↑	↑	
Traffic Vol, veh/h	57	42	0	296	29	0
Future Vol, veh/h	57	42	0	296	29	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	2	0	0	2
Mvmt Flow	62	46	0	322	32	0
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	246	85
Stage 1	-	-	-	-	85	-
Stage 2	-	-	-	-	161	-
Critical Hdwy	-	-	-	-	6.6	6.23
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	-	-	3.5	3.319
Pot Cap-1 Maneuver	-	-	0	-	737	973
Stage 1	-	-	0	-	943	-
Stage 2	-	-	0	-	857	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	737	973
Mov Cap-2 Maneuver	-	-	-	-	737	-
Stage 1	-	-	-	-	943	-
Stage 2	-	-	-	-	857	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		10.1	
HCM LOS					B	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT		
Capacity (veh/h)	737	-	-	-		
HCM Lane V/C Ratio	0.043	-	-	-		
HCM Control Delay (s)	10.1	-	-	-		
HCM Lane LOS	B	-	-	-		
HCM 95th %tile Q(veh)	0.1	-	-	-		

Intersection						
Int Delay, s/veh	0.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑↑	↑	
Traffic Vol, veh/h	36	21	0	267	29	0
Future Vol, veh/h	36	21	0	267	29	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	2	0	0	2
Mvmt Flow	39	23	0	290	32	0
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	196	51
Stage 1	-	-	-	-	51	-
Stage 2	-	-	-	-	145	-
Critical Hdwy	-	-	-	-	6.6	6.23
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	-	-	3.5	3.319
Pot Cap-1 Maneuver	-	-	0	-	789	1017
Stage 1	-	-	0	-	977	-
Stage 2	-	-	0	-	873	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	789	1017
Mov Cap-2 Maneuver	-	-	-	-	789	-
Stage 1	-	-	-	-	977	-
Stage 2	-	-	-	-	873	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		9.8	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT		
Capacity (veh/h)	789	-	-	-		
HCM Lane V/C Ratio	0.04	-	-	-		
HCM Control Delay (s)	9.8	-	-	-		
HCM Lane LOS	A	-	-	-		
HCM 95th %tile Q(veh)	0.1	-	-	-		

HCM 6th Signalized Intersection Summary

4: Cooledge Rd/Northlake Pkwy & Lawrenceville Hwy

AHS Tucker Exchange TIA

AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	286	628	62	92	940	292	114	575	85	147	121	116
Future Volume (veh/h)	286	628	62	92	940	292	114	575	85	147	121	116
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1796	1781	1841	1811	1841	1826	1870	1826	1796	1870	1826
Adj Flow Rate, veh/h	314	690	65	101	1033	186	125	632	86	162	133	32
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
Percent Heavy Veh, %	2	7	8	4	6	4	5	2	5	7	2	5
Cap, veh/h	338	1680	743	371	1408	638	389	730	99	216	469	388
Arrive On Green	0.12	0.49	0.49	0.04	0.41	0.41	0.07	0.23	0.23	0.08	0.25	0.25
Sat Flow, veh/h	1781	3413	1510	1753	3441	1560	1739	3143	427	1711	1870	1547
Grp Volume(v), veh/h	314	690	65	101	1033	186	125	357	361	162	133	32
Grp Sat Flow(s),veh/h/ln	1781	1706	1510	1753	1721	1560	1739	1777	1793	1711	1870	1547
Q Serve(g_s), s	17.3	20.6	3.7	4.6	40.6	12.8	8.5	30.9	31.0	11.4	9.2	2.5
Cycle Q Clear(g_c), s	17.3	20.6	3.7	4.6	40.6	12.8	8.5	30.9	31.0	11.4	9.2	2.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.24	1.00		1.00
Lane Grp Cap(c), veh/h	338	1680	743	371	1408	638	389	412	416	216	469	388
V/C Ratio(X)	0.93	0.41	0.09	0.27	0.73	0.29	0.32	0.87	0.87	0.75	0.28	0.08
Avail Cap(c_a), veh/h	439	1680	743	430	1408	638	427	600	605	222	631	522
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.2	25.9	21.6	20.0	39.9	31.7	40.6	59.0	59.1	45.1	48.4	45.9
Incr Delay (d2), s/veh	22.5	0.2	0.1	0.4	3.4	1.2	0.5	8.9	9.0	12.9	0.3	0.1
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	9.3	8.3	1.3	1.9	17.4	5.0	3.7	14.8	15.0	5.6	4.3	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.7	26.0	21.6	20.4	43.3	32.9	41.1	67.9	68.1	58.0	48.7	46.0
LnGrp LOS	E	C	C	C	D	C	D	E	E	E	D	D
Approach Vol, veh/h	1069				1320				843			
Approach Delay, s/veh	35.1				40.1				64.0			
Approach LOS	D				D				E			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	25.9	71.5	16.5	46.1	12.6	84.8	19.5	43.1				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	29.0	39.0	14.0	54.0	12.0	56.0	14.0	54.0				
Max Q Clear Time (g_c+I1), s	19.3	42.6	10.5	11.2	6.6	22.6	13.4	33.0				
Green Ext Time (p_c), s	0.6	0.0	0.1	0.8	0.1	5.0	0.0	4.2				
Intersection Summary												
HCM 6th Ctrl Delay	45.4											
HCM 6th LOS	D											

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HCM 6th Signalized Intersection Summary

4: Cooledge Rd/Northlake Pkwy & Lawrenceville Hwy

AHS Tucker Exchange TIA

PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	197	1176	159	128	969	249	77	350	120	210	773	402
Future Volume (veh/h)	197	1176	159	128	969	249	77	350	120	210	773	402
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1841	1870	1870	1811	1870	1870	1870	1737	1826	1870	1870
Adj Flow Rate, veh/h	212	1265	165	138	1042	131	83	376	112	226	831	332
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	4	2	2	6	2	2	2	11	5	2	2
Cap, veh/h	201	1345	609	159	1323	609	117	832	245	394	690	584
Arrive On Green	0.06	0.38	0.38	0.06	0.38	0.38	0.04	0.31	0.31	0.10	0.37	0.37
Sat Flow, veh/h	1781	3497	1585	1781	3441	1585	1781	2707	796	1739	1870	1585
Grp Volume(v), veh/h	212	1265	165	138	1042	131	83	245	243	226	831	332
Grp Sat Flow(s),veh/h/ln	1781	1749	1585	1781	1721	1585	1781	1777	1727	1739	1870	1585
Q Serve(g_s), s	9.0	55.8	11.4	7.5	42.8	8.9	4.6	17.7	18.1	14.1	59.0	26.8
Cycle Q Clear(g_c), s	9.0	55.8	11.4	7.5	42.8	8.9	4.6	17.7	18.1	14.1	59.0	26.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.46	1.00		1.00
Lane Grp Cap(c), veh/h	201	1345	609	159	1323	609	117	546	531	394	690	584
V/C Ratio(X)	1.05	0.94	0.27	0.87	0.79	0.21	0.71	0.45	0.46	0.57	1.20	0.57
Avail Cap(c_a), veh/h	201	1345	609	159	1323	609	145	546	531	424	690	584
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.5	47.5	33.8	38.7	43.5	33.0	40.2	44.5	44.6	33.5	50.5	40.3
Incr Delay (d2), s/veh	78.3	14.0	1.1	37.1	4.8	0.8	11.3	0.6	0.6	1.6	105.6	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	13.1	34.6	8.1	8.4	25.8	6.4	4.2	12.5	12.4	10.2	66.2	15.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	122.8	61.4	34.9	75.8	48.3	33.8	51.4	45.1	45.3	35.1	156.1	41.6
LnGrp LOS	F	E	C	E	D	C	D	D	D	D	F	D
Approach Vol, veh/h	1642			1311			571			1389		
Approach Delay, s/veh	66.7			49.7			46.1			109.0		
Approach LOS	E			D			D			F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.0	67.5	12.5	65.0	15.0	67.5	22.3	55.2				
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0				
Max Green Setting (Gmax), s	9.0	59.0	9.0	59.0	9.0	59.0	19.0	49.0				
Max Q Clear Time (g_c+I1), s	11.0	44.8	6.6	61.0	9.5	57.8	16.1	20.1				
Green Ext Time (p_c), s	0.0	6.2	0.0	0.0	0.0	0.9	0.2	2.9				
Intersection Summary												
HCM 6th Ctrl Delay	71.7											
HCM 6th LOS	E											

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