4411 East Jones Bridge Road
DRI Traffic Study

Prepared for:

East Jones Bridge, LCC

Prepared by:
Michael Baker International, Inc.

Michael Baker
INTERNATIONAL

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Michael Baker
INTERNATIONAL

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Michael Baker
INTERNATIONAL

1.0 PURPOSE AND INTENTION

The purpose of this document is to document that traffic analysis of the subject development for the Development of Regional Impact (DRI) submittal. A DRI Pre-Review meeting was held on Feb 5, 2018 to begin the Georgia Regional Transportation Authority (GRTA) and Atlanta Regional Commission (ARC) DRI process. The pre-review methodology report, and the letter of understanding that came from the meeting are contained in Appendix G and Appendix H.

2.0 INTRODUCTION

East Jones Bridge, LLC intends to improve the property at 4411 East Jones Bridge Road in Peachtree Corners, GA. The property currently houses multiple office building structures totaling approximately 276,000 square feet and was most recently occupied by Fiserv for their corporate campus. When operational, Fiserv housed roughly 1,200 employees per day and an additional 100 visitors daily. The campus amenities included dining, a 34-room boutique hotel, fitness center, pool, basketball court, and additional programming space. In 1992, an special use permit was approved for a daycare on-site as well. There is an additional 100,000 square feet approved for the O-I parcel on the Checkfree side that was never built. There are walking trails throughout the property and roughly 390 surface parking. The property became vacant when Fiserv consolidated their operations in Alpharetta a few years ago.

2.1 Proposed Development

2.1.1 Description

The proposed development will construct age-restricted housing intended to provide senior living for adults in a variety of contexts from active living to assisted care. The proposed development will retain the existing buildings fronting the Chattahoochee River to house amenities. The site will comprise 916 dwelling units (DU). The anticipated open year of the development is 2023.

2.1.2 Zoning

The zoning for the parcel in question is O-I, bordered by R-100 and RA-200 parcels. The zoning of the area is shown in Figure 2.

2.1.3 Other Plans or Projects

No corridor plans are in place or planned for East Jones Bridge Road. The City of Peachtree Corners Comprehensive Transportation Plan (CTP) identifies several short, medium, and long-term projects near the study area. Those projects include a bicycle project planned for mid-term (2022-3031) with no specific concept to date, an intersection safety improvement project at the Forum/Ingles driveways on East Jones Bridge Road north of SR 141/Peachtree Parkway, and a major capacity improvement to SR 141/Peachtree Parkway. The relevant CTP excerpts are

contained in the methodology report contained in Appendix G. Table 1 lists the projects and their relevance to the traffic study.

Table 1: Relevant Future Projects

Relevant TIP/STIP/RTP/CWP/Local Projects					
Number	Source	Name	Construction Period	Description	Study Disposition
CTP 11	CTP	East Jones Bridge Road Bike Improvements	Mid Term	Add bike facilities, type to be determined	Not included in analysis
LCI 27	CTP	Align Forum/Ingles Driveways	Short Term	Safety Improvemetn to commercial driveways on East Jones Bridge Road 500 feet north of SR 141/Peachtree Parkway	Included in Required Improvements
CTP 01	CTP	SR 141/Peachtree Parkway Major Capacity Improvement	Long Term	SR 141 widening to 6 lanes continuous	Not included in analysis

CTP 11 was not included in the future build or no-build analysis as no specific improvements have been identified.

LCI 27 is not included in the future build or no-build analysis as these driveways are not included in the analysis area. The location of the driveway is used as a method of dropping an additional northbound through lane in the Required Improvements, further detailed in Section 5.2

CTP 01 is not included in the analysis as the projected build timeframe is too far in the future.

2.2 Map of the Development Area

A map of the study area is presented in Figure 1 and a proposed site plan in Figure 5.

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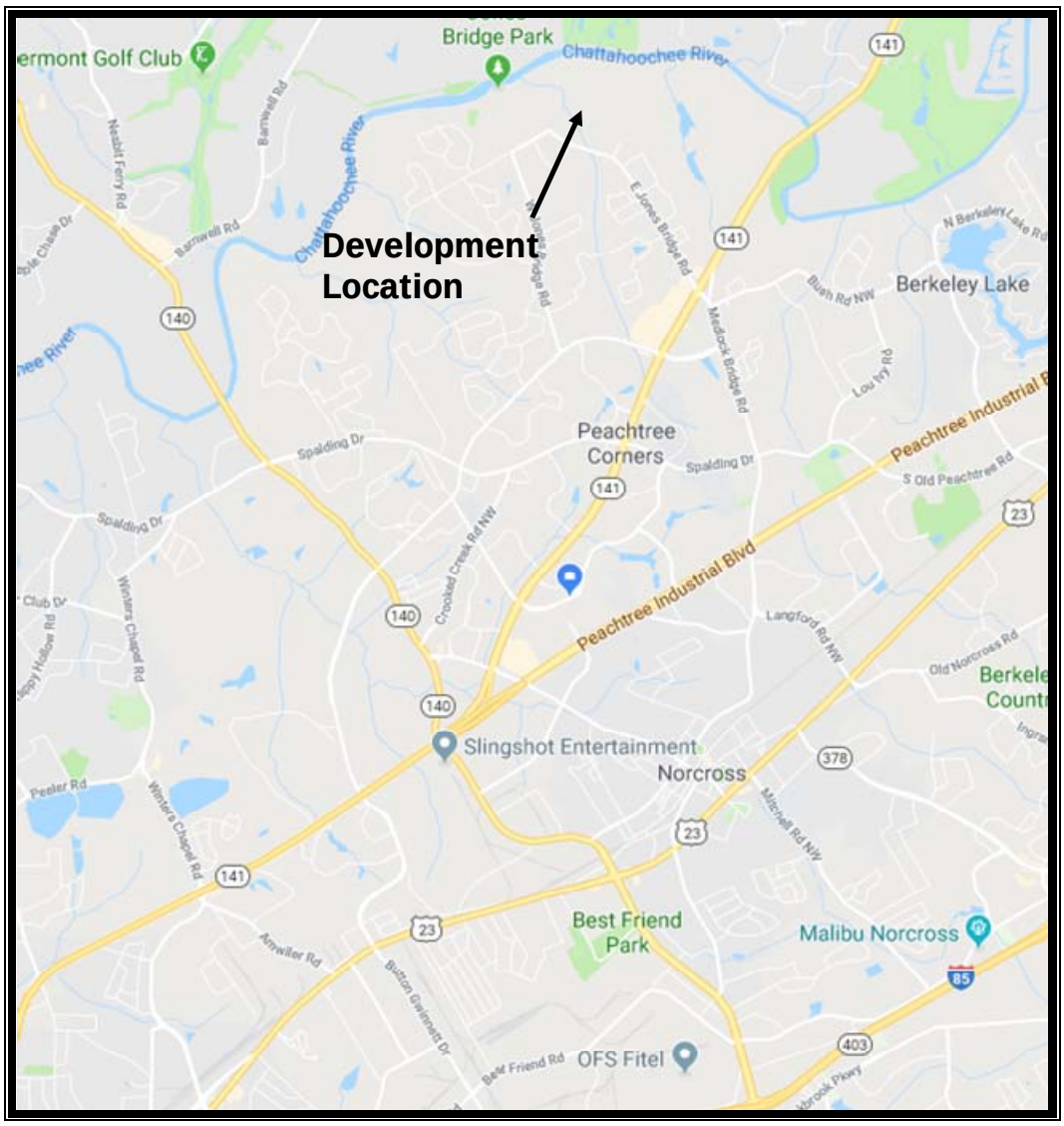
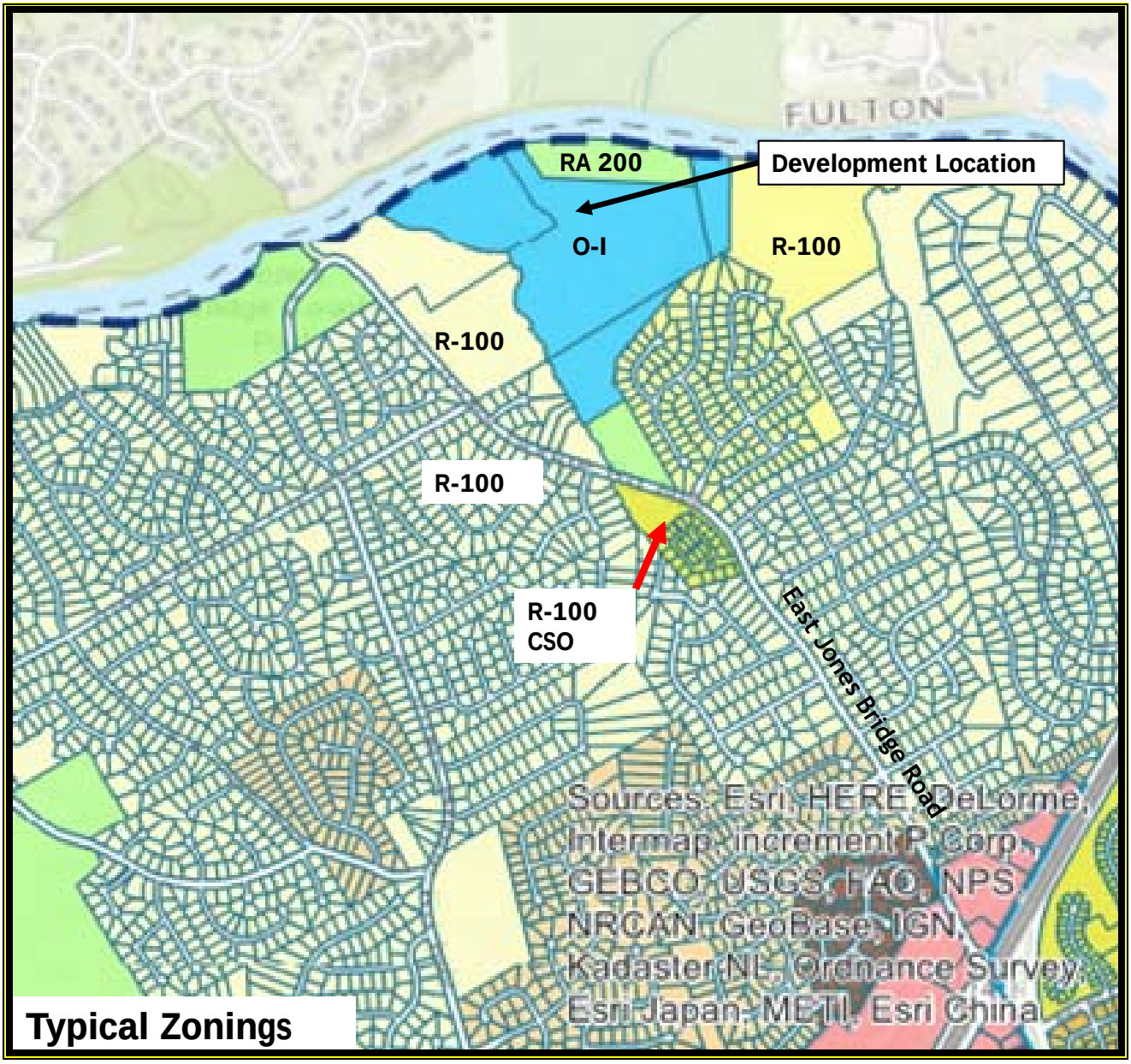
Figure 1: Study Area MAp



Source: Google, Inc.

Figure 2: Zoning in Area



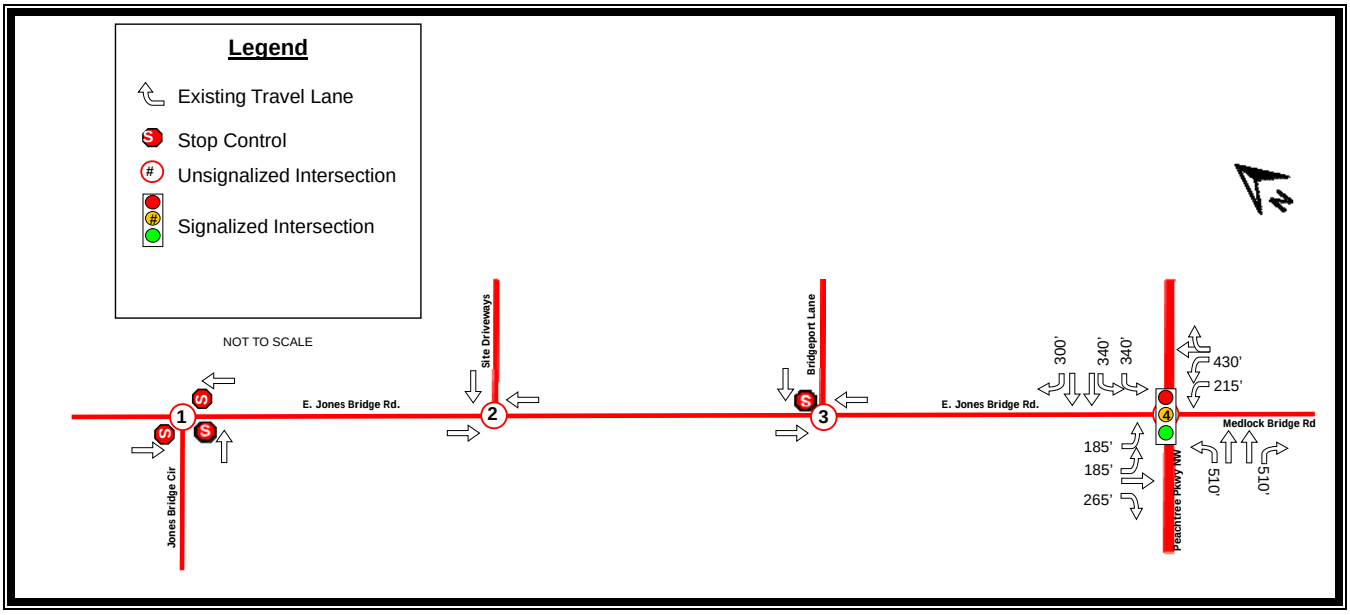
Source: City of Peachtree Corners

3.0 EXISTING CONDITIONS

3.1 Geometry and Traffic Control

A map of the study area intersections and existing geometry is shown in Figure 3. Intersections were numbered from north to south for convenience. For purposes of this study, East Jones Bridge Road is considered to be north/south and all other cross streets are considered east/west.

Figure 3: Existing Geometry and Traffic Control



East Jones Bridge Road is a two-lane road classified as urban local. It has a posted speed limit of 40 MPH. The roadway has curb, gutter, and sidewalk throughout the study area. At its intersection with Jones Bridge Circle, it is controlled by an all-way stop. At the site driveway and Bridgeport Lane, the traffic control is one-way stop controlled with East Jones Bridge Road operating freely. At SR 141/Peachtree Parkway there is actuated/coordinated signal controlled by up- and down-stream signal operations.

Jones Bridge Road is a two-lane road classified as urban local. It has a posted speed limit of 30 MPH. The roadway has curb, gutter, and sidewalk inside the study area.

The site driveways are existing accesses to the development site consisting of separated single-lane driveways.

Bridgeport Lane is a two-lane road classified as urban local. It has a posted speed limit of 25 MPH. The roadway is a subdivision access street with no curb, but including gutter, inside the study area. Bridgeport Lane was selected as a part of the study network to represent the subdivision streets along East Jones Bridge Road inside the study area.

SR 141/Peachtree Parkway is a four-lane, depressed-median-divided roadway classified as urban principal arterial. It has a posted speed limit of 55 MPH. It is part of the Regional Traffic Operations Program for signal timing and maintenance.

4.0 TRAFFIC VOLUMES

4.1 Traffic Counts

Traffic counts, including peak period turning movement counts, were collected in the study area on 2/20/18. The raw traffic count volumes are included in Appendix A.

4.2 Pedestrians and Trucks

The peak hour turning movement counts included heavy vehicles and pedestrians. The volume of heavy vehicles during the peak times was low, in all cases less than 1%. For purposes of analysis, a 1% heavy vehicle factor was used.

Pedestrians were measured for all crossings and those values are included in the peak hour traffic counts and used in the capacity analysis.

4.3 Traffic Volumes

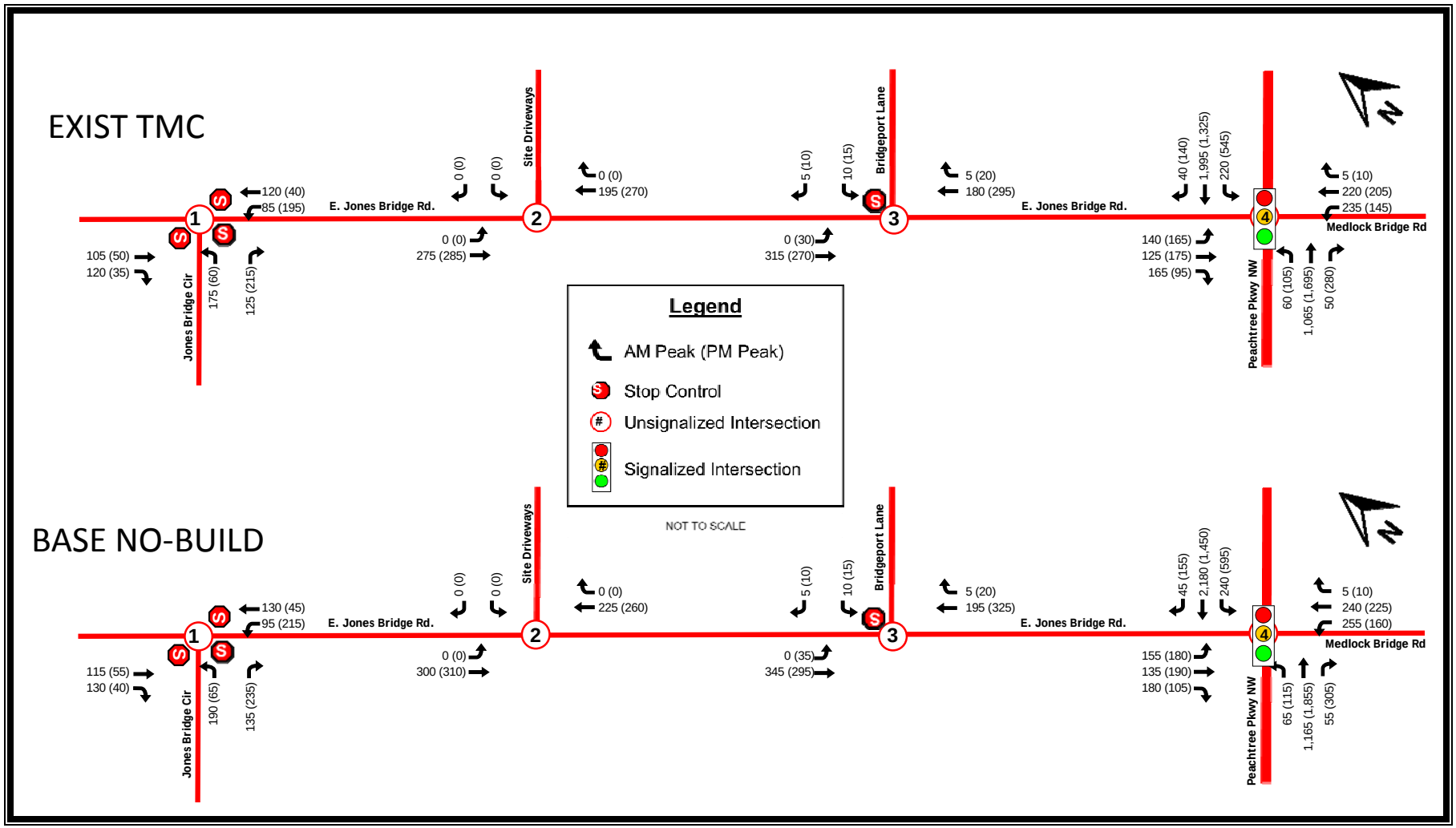
The peak hours of the intersections on the project were determined on a per-intersection basis. The capacity analysis reflects the individual intersection peak times, not the peak time of the corridor on average.

4.3.1 No Build Traffic Volumes

The anticipated build year for this project is 2023. The 1.5% annual growth rate was applied to the measured turning movements to grow the traffic volumes from 2018 to 2023.

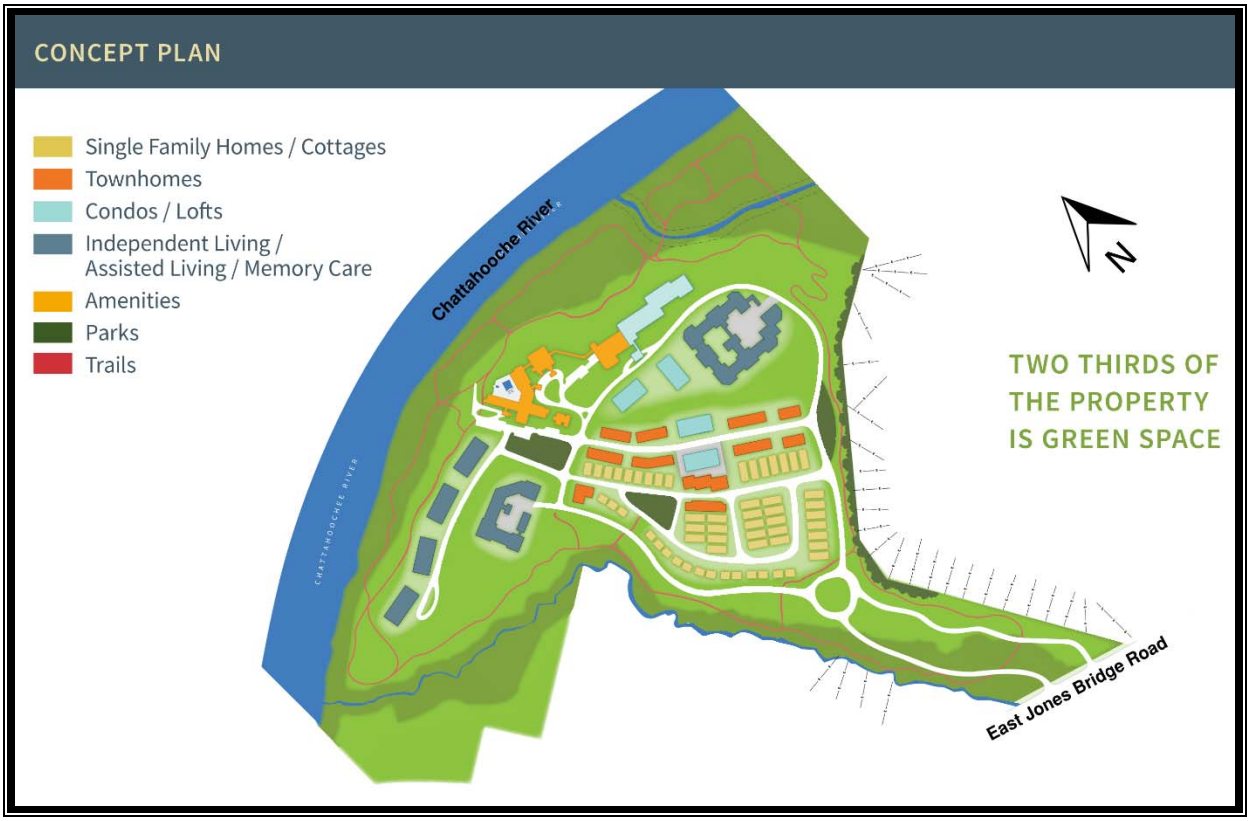
Figure 4 shows the existing condition and future no-build traffic volumes for the project. Volumes were rounded to the nearest five.

Figure 4: Existing and No-Build Turning Movements



4.4 DRI Plan of Development (Site Plan)

Figure 5: Development Concept Plan



Source: East Jones Bridge, LLC

4.5 Trip Generation & Distribution

The total additional daily trips projected for this development is 2,301 vehicles per day (vpd).

Projected trips were generated per the *Institute of Transportation Engineers (ITE) Trip Generation Handbook*, 3rd Edition and the *ITE Trip Generation Manual,* 10th Edition. The land use of Continuing Care Retirement Community was chosen as the best fit for the development. This land use was used to generate daily and peak hour projections of new trips based on the fitted-curve equations within the land use code and the dependent variable of Dwelling Units (DU). The projected number of DUs for the 4411 East Jones Bridge development is 916. No internal capture is used in this analysis and the development is not considered a multi-use or multi-modal site for purposes of the trip generation. The projected trips are shown in Table 2 and the land use trip generation worksheets are shown in Appendix G.

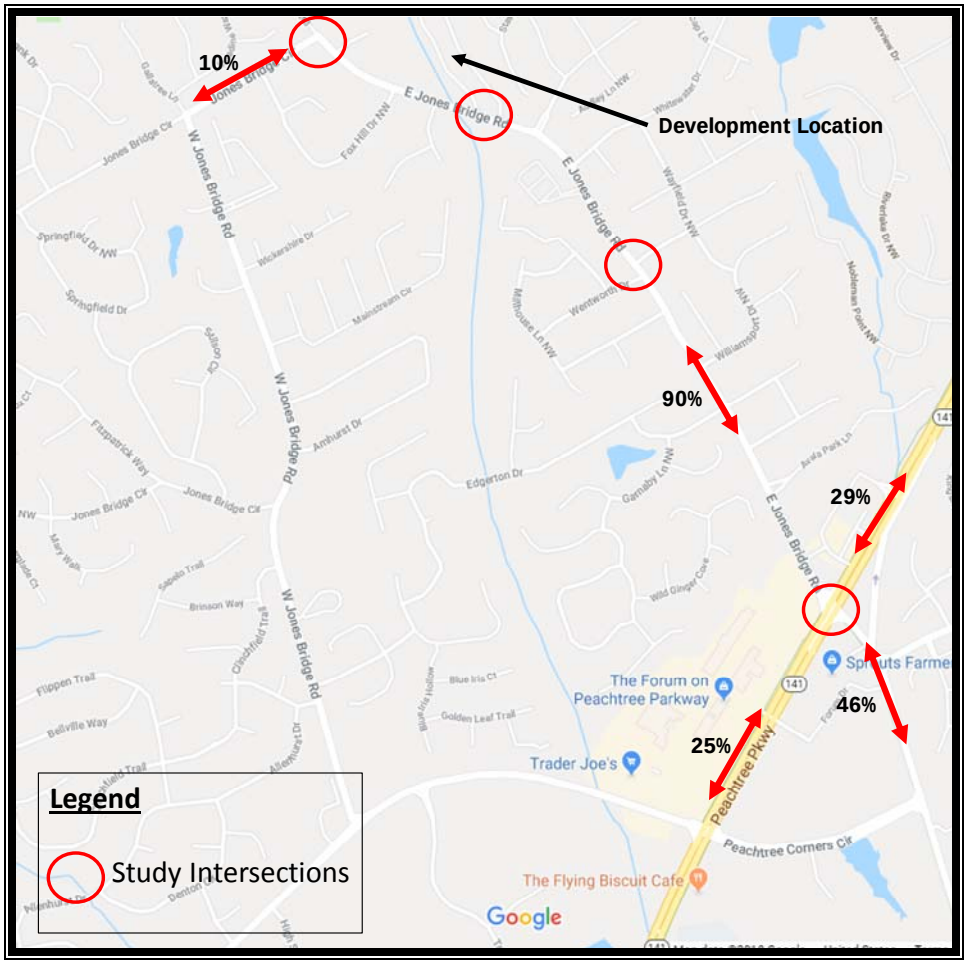
Table 2: Projected Trip Generation

ITE Description	ITE Code	Unit	No. of Units	Daily Trip Generation		AM Peak Hour Trip Generation				PM Peak Hour Trip Generation			
				Rate	Trips	Rate	Trips			Rate	Trips		
							Total	Enter	Exit		Total	Enter	Exit
Continuing Care Retirement Community	255	DU	916	Eq = (2.32x +176.28) R^2=.98	2301	Eq= (0.13x+21 .28) R^2=.95	140	91	49	Eq= (0.13x+5 9.19) R^2=.95	178	71	107

Source: ITE Trip Generation Manual, 10th Edition

The trip distributions use the values shown in Figure 6. The turning percentages at SR 141/Peachtree Parkway were derived directly from the traffic counts.

Figure 6: Trip Distribution

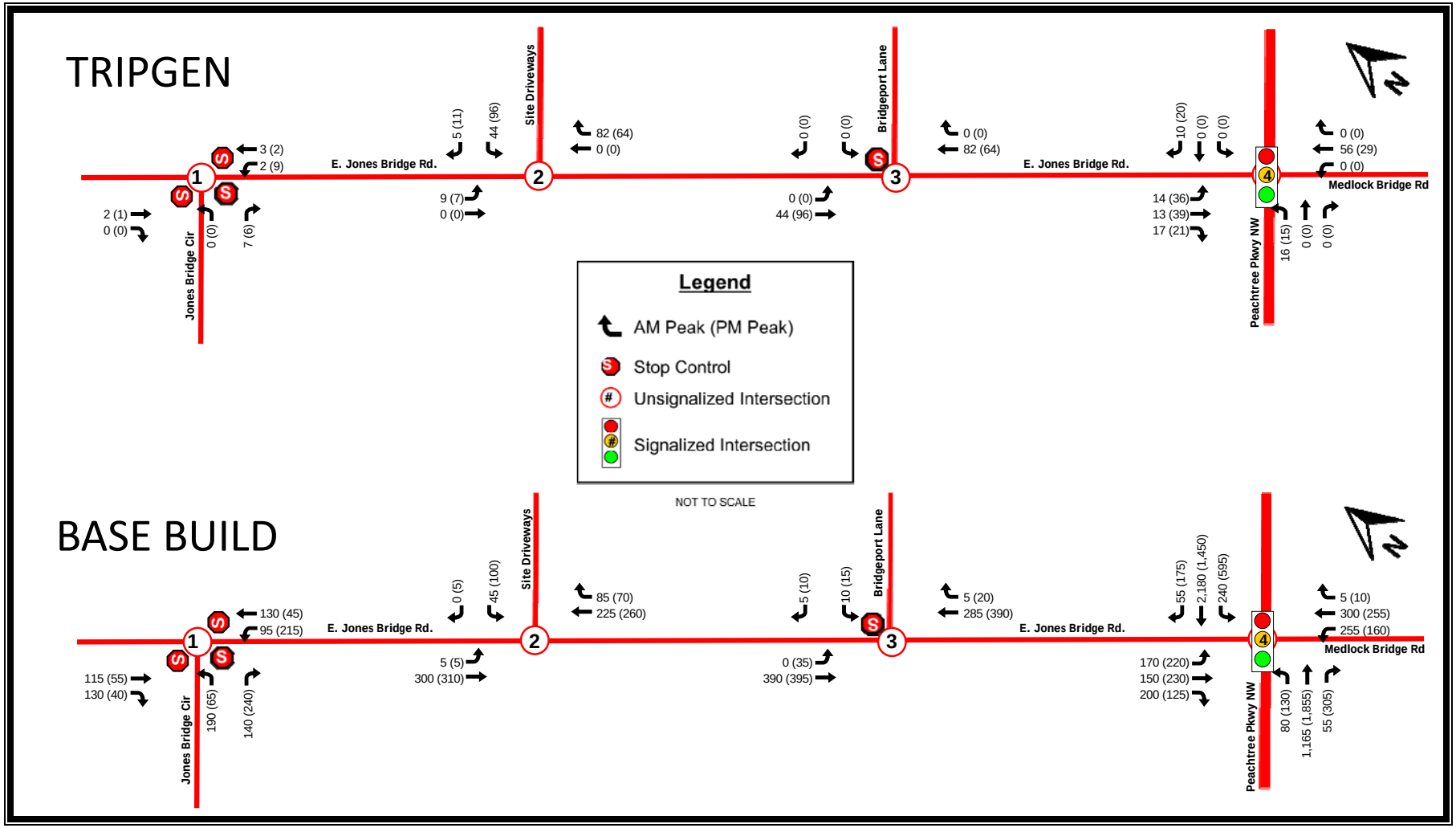


Source: Google, Inc.

4.5.1 Build Traffic Volumes

The distribution of existing and entering volumes for the site are as well as the projected build condition total volumes for the study network are shown in Figure 7.

Figure 7: Trip Generation and Build Turning Movements



5.0 OPERATIONAL ANALYSIS

The traffic analysis software Synchro and the Georgia Department of Transportation Roundabout Analysis Tool were used to perform operational analysis for the study area intersections. Using the methods described in the Highway Capacity Manual (HCM), Synchro and the GDOT Roundabout Analysis Tool evaluate the performance of an intersection. They determine the average delay experienced by each vehicle as a result of traffic control devices, which then provides a Level of Service (LOS). Definitions of LOS for Signalized and Stop Controlled/Roundabout Controlled intersections are shown in Table 3.

Table 3: Level of Service Definitions

Level of Service	Control Delay Per Vehicle (sec)	
	Stop Controlled Intersection	Signalized Intersection
A	≤ 10	≤ 10
B	> 10 and ≤ 15	> 10 and ≤ 20
C	> 15 and ≤ 25	> 20 and ≤ 35
D	> 25 and ≤ 35	> 35 and ≤ 55
E	> 35 and ≤50	> 55 and ≤ 80
F	>50	> 80

5.1 Capacity Analyses

Operational analyses for the study intersection were completed for the 2018 existing, 2023 No Build, and 2023 Build conditions in both the AM and PM peak hours. The analyses used the existing lane configurations. Peak hour factors were derived from the actual traffic counts, ranging from 0.72 at Jones Bridge Circle to 0.98 at SR 141/Peachtree Parkway. Each individual intersection used the same PHF for all approaches. Default saturation flow rates and other factors were used.

The resulting LOS results are shown in Table 4 and the capacity analysis reports are provided in Appendix C, Appendix D, and Appendix E.

Table 4: Capacity Analysis Results

Intersection			2018 Existing LOS (Delay† in sec/veh)		2023 No Build LOS (Delay† in sec/veh)		2023 Build LOS (Delay† in sec/veh)	
Number	Name	Approach	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
1	East Jones Bridge Road at East Jones Bridge Circle	EB	C (16.9)	B (12.7)	C (20.4)	B (13.9)	C (21.8)	B (14.2)
		NB	B (13.3)	B (12.0)	B (15.0)	B (14.5)	C (15.5)	B (14.9)
		SB	B (12.7)	A (9.1)	B (14.3)	A (9.6)	B (14.6)	A (9.7)
		Total	B (14.6)	B (11.9)	C (17.0)	B (13.5)	C (17.8)	B (13.8)
2	East Jones Bridge Road at Site Driveway	WB	n/a	n/a	n/a	n/a	C (15.9)	C (19.8)
3	East Jones Bridge Road at Bridgeport Lane	WB	B (11.9)	B (13.9)	B (12.4)	B (14.9)	B (14.1)	C (17.7)
4	East Jones Bridge Road at SR 141/Peachtree Parkway	EB	D (41.5)	E (62.4)	D (42.5)	F (84.5)	D (50.6)	F (85.0)
		WB	D (54.5)	E (59.0)	E (68.5)	E (70.6)	E (70.8)	E (71.5)
		NB	F (105.4)	F (124.8)	F (115.7)	F (142.4)	F (125.8)	F (176.7)
		SB	F (82.1)	F (95.1)	F (82.6)	F (101.6)	F (122.2)	F (129.4)
		Total	E (58.5)	E (68.7)	E (67.5)	F (84.7)	E (75.5)	F (91.4)

†The average number of seconds a vehicle is delayed due to the traffic control device
Highlighted elements exceed LOS standard of "D"

As the capacity analysis shows, in the existing condition, the study area intersections are operating acceptable with the exception of East Jones Bridge Road at SR 141/Peachtree Parkway. That intersection operates at LOS E in 2018 for both AM and PM peak hours. In the 2023 no-build condition, every study intersection continues to operate well at LOS C or better except for East Jones Bridge Road at SR 141/Peachtree Parkway. That intersection will worsen to LOS F in the PM peak hour.

Under the build conditions, each study area intersection will remain at the same LOS as in the no-build condition, with East Jones Bridge Road at SR 141/Peachtree Parkway operating at LOS E/F.

5.2 Required Improvement Capacity Analyses

The intersection of East Jones Bridge Road and SR 141/Peachtree Parkway is measured at LOS E in the existing year, and will degrade to LOS F in 2023 No-Build PM peak. Per DRI policy, a proposal to adjust the intersection to improve it to LOS E is included in this analysis.

If a second northbound through lane were added to Medlock Bridge Road, terminating at the driveway intersection with Ingles/Forum on East Jones Bridge Road, coupled with signal timing changes, the intersection will improve from LOS F in the 2023 PM peak hour to LOS E. As this improvement scenario is not required by the additional traffic of the development, it is not included in the mitigation measures section of this document.

Table 5: Required Improvements to Address Non-Development LOS F Conditions

Required Improvements	Funding Source	Sponsor	Cost/Schedule
Additional Northbound through lane on Medlock Bridge Road/East Jones Bridge Road, dropping at Ingles Driveway in coordination with LCI 27	Unknown	Unknown	Unknown
Signal timing adjustments to maximize use of new northbound lane	Unknown	Unknown	Unknown

If the improvements as described in Table 5 are implemented, the results will be as shown in Table 6. The base year no-build PM conditions of East Jones Bridge Road at SR 141/Peachtree Parkway will improve to LOS E. Likewise, the build condition will be at LOS E.

Table 6: Build Capacity Analysis Results

Intersection			2018 Existing LOS (Delay† in sec/veh)		2023 No Build LOS (Delay† in sec/veh)		2023 No Build LOS w/ Improvements (Delay† in sec/veh)		2023 Build LOS (Delay† in sec/veh)		2023 Build LOS w/ Improvements (Delay† in sec/veh)	
	Name	Approach	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
4	East Jones Bridge Road at SR 141/Peachtree Parkway	EB	D (41.5)	E (62.4)	D (42.5)	F (84.5)	D (39.7)	E (74.8)	D (50.6)	F (85.0)	D (35.4)	E (77.9)
		WB	D (54.5)	E (59.0)	E (68.5)	E (70.6)	E (58.0)	E (60.1)	E (70.8)	E (71.5)	E (55.6)	E (65.7)
		NB	F (105.4)	F (124.8)	F (115.7)	F (142.4)	F (93.5)	F (91.9)	F (125.8)	F (176.7)	F (107.5)	F (113.5)
		SB	F (82.1)	F (95.1)	F (82.6)	F (101.6)	F (89.9)	F (126.2)	F (122.2)	F (129.4)	F (110.6)	F (120.7)
		Total	E (58.5)	E (68.7)	E (67.5)	F (84.7)	E (59.0)	E (73.9)	E (75.5)	F (91.4)	E (60.2)	E (79.8)

†The average number of seconds a vehicle is delayed due to the traffic control device

6.0 CRASH ANALYSIS

Five years of crash data were pulled from the GEARS Portal to determine if any specific crash hot spots were occurring along the study network that would be exacerbated by the addition of development traffic. Full tables and locations of data are contained in the Appendix B.

6.1 Crashes at East Jones Bridge Road and Jones Bridge Circle

There has been approximately 1 crash per year for the last five years at this intersection. The addition of development traffic will not greatly increase the severity or frequency of collisions.

6.2 Crashes at East Jones Bridge Road and Site Driveways

There have been no recorded crashes at this location in the past five years.

6.3 Crashes at East Jones Bridge Road and Bridgeport Lane

There have been two crashes at this location in the past five years. The addition of development traffic will not greatly increase the severity or frequency of collisions.

6.4 Crashes at East Jones Bridge Road and SR 141/Peachtree Parkway

There have been 238 recorded crashes at this location in the past five years. The majority of those collisions have occurred on SR 141/Peachtree Parkway. When limiting the statistics to East Jones Bridge Road only, there have been 45 crashes over five year, an average of 9 per year. Of those 45, 33 were rear-end collisions. The site traffic is adding less than 20% of peak hour traffic to the approach, which would equate to approximately 1 additional crash per year.

6.5 Conclusion of Crash Analysis

There are no specific crash hot spots that require mitigation due to the addition of site traffic.

7.0 CONCLUSIONS & REQUIRED MITIGATION

The 4411 East Jones Bridge Road development will add approximately 2,301 vehicles per day onto the roadway network. The majority (90%) is projected to arrive and depart via East Jones Bridge Road toward SR 141/Peachtree Parkway. The remainder will use East Jones Bridge Road toward Jones Bridge Circle.

A Synchro analysis was conducted using existing, future (2023) no-build, and future (2023) build volumes. The analysis concluded that the site would have no detrimental operational effect on the roadway network and would not require mitigation measures per Development of Regional Impact guidelines.

The intersection of East Jones Bridge Road at SR 141/Peachtree Parkway will be rated LOS F in 2023 in the no-build condition. An potential construction alternative was analyzed that proposes an additional northbound through lane along Medlock Bridge Road/East Jones Bridge Road from south of SR 141/Peachtree Parkway to the driveway into the Ingles shopping plaza. This additional through lane, combined with signal timing, would maintain the intersection at LOS E both in the no-build as well as in the build condition.

Michael Baker
INTERNATIONAL

APPENDIX A: RAW TRAFFIC COUNTS

Prepared by National Data & Surveying Services

Peachtree Pkwy NW & E Jones Bridge Rd/Medlock Bridge Rd

Peak Hour Turning Movement Count

ID: 18-09079-001
City: Norcross

Day: Tuesday
Date: 02/20/2018

PEAK HOURS	COUNT PERIODS
07:30 AM - 08:30 AM	07:00 AM - 09:00 AM
NONE	NONE
05:00 PM - 06:00 PM	04:00 PM - 06:00 PM

Peachtree Pkwy NW – Westbound

AM	41	1997	218	1	1212
NOON	0	0	0	0	0
PM	141	1324	543	5	1875
Lanes	1	2	2	0	

E Jones Bridge Rd/Medlock Bridge Rd – Southbound

	AM	NOON	PM	Lanes
	321	0	453	
U-turn	0	0	0	0
Left	138	0	165	2
Through	127	0	177	1
Right	165	0	96	1

CONTROL

Signalized

	AM	NOON	PM
TEV	4324	0	4899
PHF	0.98		0.98

E Jones Bridge Rd/Medlock Bridge Rd – Northbound

Lanes		PM	NOON	AM
0	Right	8	0	7
1	Through	206	0	221
2	Left	147	0	235
0	U-turn	0	0	0
		1000	0	393

Peachtree Pkwy NW – Eastbound

Lanes		0	1	2	1
PM	1571	4	106	1697	280
NOON	0	0	0	0	0
AM	2398	1	59	1066	48

Cars (AM)

Top: 41, 1987, 217
Left: 137, 127, 165
Right: 7, 220, 235
Bottom: 59, 1051, 47

HT (AM)

Top: 0, 10, 1
Left: 1, 0, 0
Right: 0, 1, 0
Bottom: 0, 15, 1

Cars (NOON)

Top: N/A, N/A, N/A
Left: N/A, N/A, N/A
Right: N/A, N/A, N/A
Bottom: N/A, N/A, N/A

HT (NOON)

Top: N/A, N/A, N/A
Left: N/A, N/A, N/A
Right: N/A, N/A, N/A
Bottom: N/A, N/A, N/A

Cars (PM)

Top: 141, 1322, 542
Left: 165, 176, 96
Right: 8, 204, 147
Bottom: 105, 169, 280

HT (PM)

Top: 0, 2, 1
Left: 0, 1, 0
Right: 0, 2, 0
Bottom: 1, 3, 0

Pedestrians (Crosswalks)

Top crosswalk: PM 0, NOON 0, AM 0 | AM 0, NOON 0, PM 0
Top-left diagonal: PM 0, NOON 0, AM 0
Top-right diagonal: PM 0, NOON 0, AM 0
Left crosswalk: PM 0, NOON 0, AM 0 | AM 0, NOON 0, PM 2
Right crosswalk: PM 0, NOON 0, AM 0 | AM 0, NOON 0, PM 0
Bottom crosswalk: PM 1, NOON 0, AM 0 | AM 1, NOON 0, PM 3
Bottom-left diagonal: AM 0, NOON 0, PM 0
Bottom-right diagonal: AM 0, NOON 0, PM 0

Prepared by National Data & Surveying Services

Bridgeport Ln NW & E Jones Bridge Rd

Peak Hour Turning Movement Count

ID: 18-09079-002
City: Norcross

Day: Tuesday
Date: 02/20/2018

	PEAK HOURS	COUNT PERIODS
AM	07:45 AM - 08:45 AM	07:00 AM - 09:00 AM
NOON	NONE	NONE
PM	05:00 PM - 06:00 PM	04:00 PM - 06:00 PM

Bridgeport Ln NW — Westound

	Right	Thru	Left	U-Turn	Exit
AM	4	0	12	0	5
NOON	0	0	0	0	0
PM	12	0	13	0	49
(red)	0	1	0	0	

E Jones Bridge Rd — Southbound

	AM	NOON	PM	(red)
Exit	184	0	308	
U-Turn	0	0	0	0
Left	1	0	30	0
Thru	317	0	269	1
Right	0	0	0	0

E Jones Bridge Rd — Northbound

	(red)	PM	NOON	AM
Right	0	19	0	4
Thru	1	296	0	180
Left	0	0	0	0
U-Turn	0	0	0	0
Exit		282	0	329

South Approach

	Exit	U-Turn	Left	Thru	Right
(red)		0	0	0	0
PM	0	0	0	0	0
NOON	0	0	0	0	0
AM	0	0	0	0	0

CONTROL

1-Way Stop(SB)

	AM	NOON	PM
TEV	518	0	639
PHF	0.82		0.89

Cars (AM)

Approach	Left	Thru	Right
Southbound	12	0	4
Eastbound	1	316	0
Westbound	0	180	4
Northbound	0	0	0

HT (AM)

Approach	Left	Thru	Right
Southbound	0	0	0
Eastbound	0	1	0
Westbound	0	0	0
Northbound	0	0	0

Cars (NOON)

Approach	Left	Thru	Right
Southbound	N/A	N/A	N/A
Eastbound	N/A	N/A	N/A
Westbound	N/A	N/A	N/A
Northbound	N/A	N/A	N/A

HT (NOON)

Approach	Left	Thru	Right
Southbound	N/A	N/A	N/A
Eastbound	N/A	N/A	N/A
Westbound	N/A	N/A	N/A
Northbound	N/A	N/A	N/A

Cars (PM)

Approach	Left	Thru	Right
Southbound	13	0	12
Eastbound	30	269	0
Westbound	0	294	19
Northbound	0	0	0

HT (PM)

Approach	Left	Thru	Right
Southbound	0	0	0
Eastbound	0	0	0
Westbound	0	2	0
Northbound	0	0	0

Pedestrians (Crosswalks)

Crosswalk	Direction	AM	NOON	PM
North	Eastbound	2	0	5
North	Westbound	0	0	2
West	Southbound	1	0	0
West	Northbound	0	0	0
East	Southbound	0	0	0
East	Northbound	0	0	0
South	Eastbound	0	0	0
South	Westbound	0	0	0
NW diagonal		0	0	0
NE diagonal		0	0	0
SW diagonal		0	0	0
SE diagonal		0	0	0

Prepared by National Data & Surveying Services

Jones Bridge Cir & E Jones Bridge Rd

Peak Hour Turning Movement Count

ID: 18-09079-003
City: Norcross

Day: Tuesday
Date: 02/20/2018

PEAK HOURS	
AM	07:45 AM - 08:45 AM
NOON	NONE
PM	04:45 PM - 05:45 PM

COUNT PERIODS	
AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

Jones Bridge Cir — Westbound

AM	0	0	2	0	0	AM
NOON	0	0	0	0	0	NOON
PM	0	0	0	0	0	PM

E Jones Bridge Rd — Southbound

AM	NOON	PM		
295	0	101	⇦	
0	0	0	↰	0
0	0	0	↱	0
105	0	49	→	1
118	0	34	↴	0
AM	NOON	PM		

E Jones Bridge Rd — Northbound

PM	NOON	AM		
0	0	0	↰	0
42	0	122	←	1
194	0	84	↱	0
0	0	0	↴	0
266	0	234	⇨	
PM	NOON	AM		

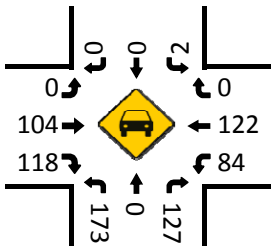
CONTROL: 3-Way Stop(NB/EB/WB)

TEV	731 AM	0 NOON	595 PM
PHF	0.72		0.93

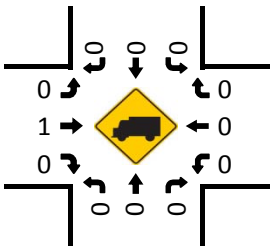
Jones Bridge Cir — Eastbound

PM	228	0	59	0	217	PM
NOON	0	0	0	0	0	NOON
AM	202	0	173	0	127	AM

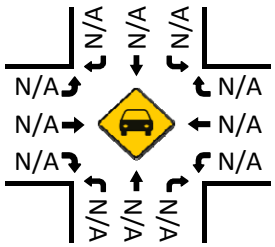
Cars (AM)



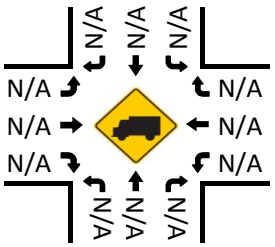
HT (AM)



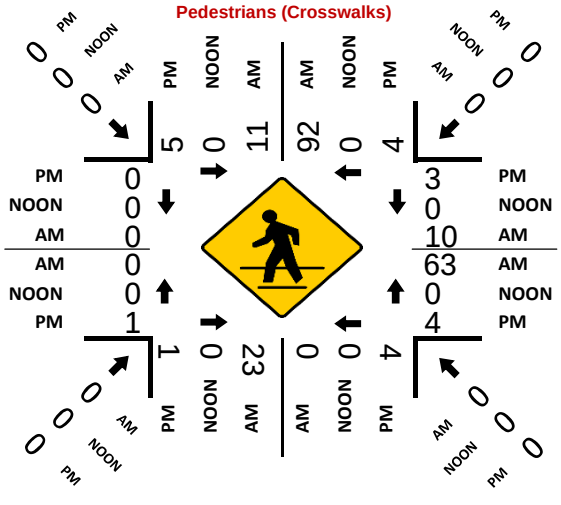
Cars (NOON)



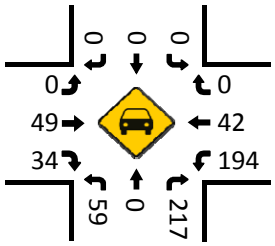
HT (NOON)



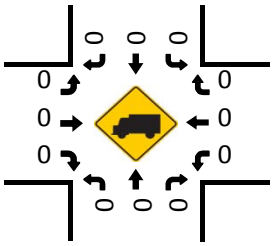
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by NDS/ATD

VOLUME

E Jones Bridge Rd Bet. Hallbrook Dr NW & Riverfield Dr NW

Day: Tuesday
Date: 2/20/2018

City: Norcross
Project #: GA18_9080_001

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,516	2,310	4,826

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			1		1		2		12:00			32		31		63	
00:15			1		1		2		12:15			31		33		64	
00:30			0		4		4		12:30			37		33		70	
00:45			0	2	0	6	0	8	12:45			24	124	42	139	66	263
01:00			1		1		2		13:00			28		27		55	
01:15			0		0		0		13:15			34		27		61	
01:30			0		0		0		13:30			29		25		54	
01:45			0	1	0	1	0	2	13:45			22	113	38	117	60	230
02:00			0		0		0		14:00			46		26		72	
02:15			0		0		0		14:15			30		30		60	
02:30			0		0		0		14:30			26		37		63	
02:45			0		0		0		14:45			37	139	42	135	79	274
03:00			0		0		0		15:00			31		64		95	
03:15			0		0		0		15:15			36		65		101	
03:30			0		0		0		15:30			86		55		141	
03:45			1	1	1	1	2	2	15:45			82	235	45	229	127	464
04:00			0		0		0		16:00			55		47		102	
04:15			0		0		0		16:15			60		44		104	
04:30			1		0		1		16:30			42		48		90	
04:45			1	2	2	2	3	4	16:45			61	218	53	192	114	410
05:00			5		3		8		17:00			79		61		140	
05:15			3		1		4		17:15			54		68		122	
05:30			4		2		6		17:30			73		68		141	
05:45			9	21	3	9	12	30	17:45			72	278	64	261	136	539
06:00			13		6		19		18:00			67		46		113	
06:15			19		7		26		18:15			53		45		98	
06:30			32		10		42		18:30			56		44		100	
06:45			30	94	14	37	44	131	18:45			60	236	42	177	102	413
07:00			31		29		60		19:00			55		43		98	
07:15			30		42		72		19:15			32		36		68	
07:30			35		50		85		19:30			15		34		49	
07:45			47	143	44	165	91	308	19:45			18	120	25	138	43	258
08:00			44		47		91		20:00			17		34		51	
08:15			85		57		142		20:15			18		28		46	
08:30			90		65		155		20:30			12		19		31	
08:45			64	283	33	202	97	485	20:45			13	60	23	104	36	164
09:00			51		29		80		21:00			12		22		34	
09:15			30		33		63		21:15			12		14		26	
09:30			45		20		65		21:30			8		12		20	
09:45			22	148	15	97	37	245	21:45			10	42	18	66	28	108
10:00			31		24		55		22:00			8		13		21	
10:15			32		22		54		22:15			12		9		21	
10:30			25		27		52		22:30			7		5		12	
10:45			21	109	27	100	48	209	22:45			3	30	6	33	9	63
11:00			16		19		35		23:00			1		3		4	
11:15			28		24		52		23:15			2		1		3	
11:30			38		25		63		23:30			1		4		5	
11:45			31	113	22	90	53	203	23:45			0	4	1	9	1	13
TOTALS				917		710		**1627**	**TOTALS**				1599		1600		**3199**
SPLIT %				56.4%		43.6%		**33.7%**	**SPLIT %**				50.0%		50.0%		**66.3%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,516	2,310	4,826

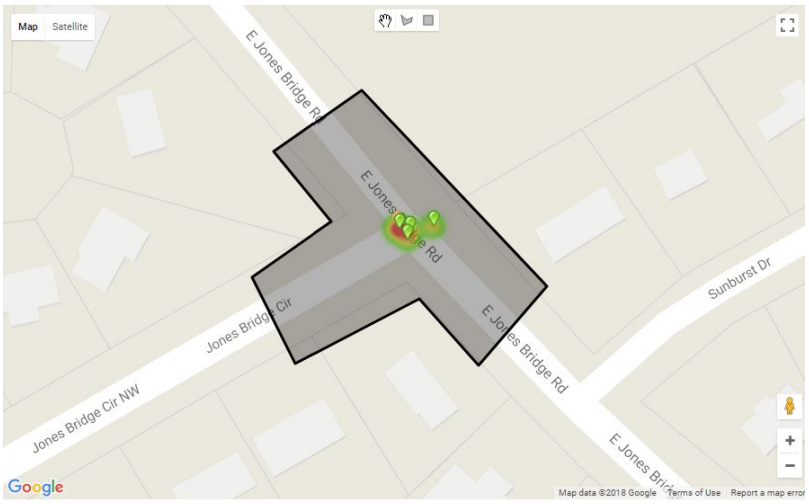
AM Peak Hour			08:15	07:45	**08:00**	**PM Peak Hour**			15:30	17:00	**17:00**
AM Pk Volume			290	213	**485**	**PM Pk Volume**			283	261	**539**
Pk Hr Factor			0.806	0.819	**0.782**	**Pk Hr Factor**			0.823	0.960	**0.956**
7 - 9 Volume	0	0	426	367	**793**	**4 - 6 Volume**	0	0	496	453	**949**
7 - 9 Peak Hour			08:00	07:45	**08:00**	**4 - 6 Peak Hour**			17:00	17:00	**17:00**
7 - 9 Pk Volume	0	0	283	213	**485**	**4 - 6 Pk Volume**	0	0	278	261	**539**
Pk Hr Factor	0.000	0.000	0.786	0.819	**0.782**	**Pk Hr Factor**	0.000	0.000	0.880	0.960	**0.956**

Michael Baker
INTERNATIONAL

APPENDIX B: CRASH DATA

Jones Bridge Circle Intersection Crash Data

Crash Query Area



Injury Crash Statistics

Injuries Per Collision			
	0	1	Grand Total
2013	2		2
2014	2	1	3
2016	1		1
Grand Total	5	1	6

Crashes by Manner of Collision

Manner of Collision					
	Angle	Rear End	Sideswipe-Opposite Direction	Not a Collision with a Motor Vehicle	Grand Total
2013		1		1	2
2014	2	1			3
2016			1		1
Grand Total	2	2	1	1	6

Crashes by First Harmful Event

First Harmful Event			
	Culvert	Motor Vehicle In Motion	Grand Total
2013	1	1	2
2014		3	3
2016		1	1
Grand Total	1	5	6

Crashes by First Vehicle Maneuver

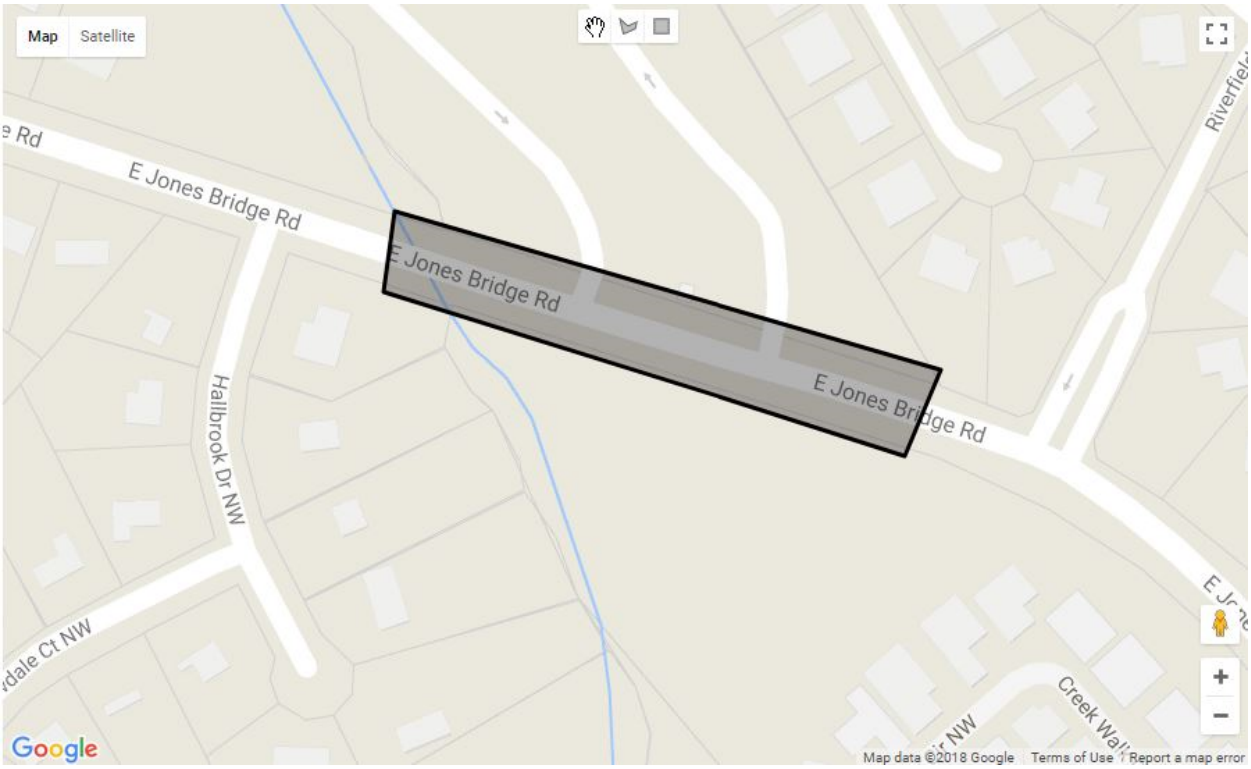
First Vehicle Maneuver					
	Backing	Straight	Turning Left	Turning Right	Grand Total
2013	1	1			2
2014		1		2	3
2016			1		1
Grand Total	1	2	1	2	6

Crashes by Contributing Factor

Crashes by Contributing Factor						
	Exceeding Speed Limit	Failed to Yield	Improper Backing	Improper Turn	Weather Conditions	Grand Total
2013	1		1			2
2014		1		1	1	3
2016		1				1
Grand Total	1	2	1	1	1	6

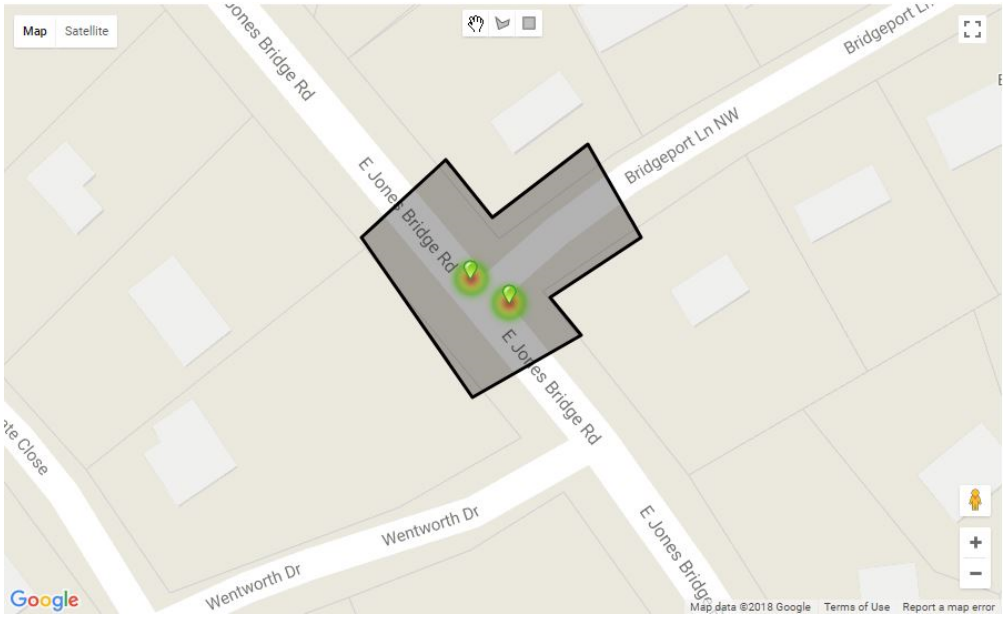
Site Driveways Intersection Crash Data

Crash Query Area



Bridgeport Ln NW Intersection Crash Data

Crash Query Area



SR141 and E Jones Bridge Road Intersection Crash Data

Crash Query Area

Injury Crash Statistics

Injuries per Collision					
	0	1	2	3	Grand Total
2013	35	4			39
2014	26	6		1	33
2015	46	9	2		57
2016	49	11	2	1	63
2017	38	5	3		46
Grand Total	194	35	7	2	238

Crashes by Manner of Collision

Manner of Collision						
	Angle	Head On	Not A Collision with Motor Vehicle	Rear End	Sideswipe-Same Direction	Grand Total
2013	2			32	5	39
2014	7		2	24		33
2015	6		1	44	6	57
2016	8	2	2	46	5	63
2017	15	1	1	28	1	46
Grand Total	38	3	6	174	17	238

Crashes by First Harmful Event

First Harmful Event						
	Curb	Deer	Motor Vehicle In Motion	Motor Vehicle	Tree	Grand Total
2013			39			39
2014		2	30		1	33
2015			54	2	1	57
2016	1		60	1	1	63
2017		1	43	2		46
Grand Total	1	3	226	5	3	238

Crashes by First Vehicle Maneuver

First Vehicle Maneuver										
	Backing	Changing Lanes	Entering/Leaving Driveway	Making U-turn	Negotiating A Curve	Stopped	Straight	Turning Left	Turning Right	Grand Total
2013		4		1		1	24	1	8	39
2014		1					23	2	7	33
2015	1	7	1	1			40	2	5	57
2016		4	2		1	2	44	6	4	63
2017		4	1			1	32	4	4	46
Grand Total	1	20	4	2	1	4	163	15	28	238

Crashes by First Vehicle Maneuver: East Jones Bridge Only

First Vehicle Maneuver from East Jones Bridge							
	Backing	Changing Lanes	Entering/ Leaving Driveway	Straight	Turning Left	Turning Right	Grand Total
2013				3		6	9
2014				2	1	6	9
2015	1		1	5		2	9
2016			2	2	1	3	8
2017		1		6	3		10
Grand Total	1	1	3	18	5	17	45

Manner of Collision: East Jones Bridge Only

Manner of Collision: East Jones Bridge Road Only					
	Angle	Head On	Rear End	Sideswipe-Same Direction	Grand Total
2013			9		9
2014	2		7		9
2015	2		7		9
2016	1	1	5	1	8
2017	5		5		10
Grand Total	10	1	33	1	45

Crashes by Contributing Factor

Crashes By Contributing Factor													
	Changed Lanes Improperly	Disregard Stop Sign/ Signal	Distracted	Failed to Yield	Following too Close	Improper Backing	Mechanical Or Vehicle Failure	Misjudged Clearance, Other	No Contributing Factors	Reaction to Object or Animal	Under the Influence (U.I.)	Weather Conditions, Driver Lost Control	Grand Total
2013	6				30	1	1		1				39
2014	1	3		2	24				1	1		1	33
2015	7		1	2	42	2			1		2		57
2016	3	3	1	4	44	2		1	3		2		63
2017	4		3	6	29	1				1		2	46
Grand Total	21	6	5	14	169	6	1	1	6	2	4	3	238

Michael Baker
INTERNATIONAL

APPENDIX C: EXISTING CONDITION SYNCHRO REPORTS

Intersection	
Intersection Delay, s/veh	14.6
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	175	125	85	120	105	120
Future Vol, veh/h	175	125	85	120	105	120
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	243	174	118	167	146	167
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	16.9	13.3	12.7
HCM LOS	C	B	B

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	41%	58%	0%
Vol Thru, %	59%	0%	47%
Vol Right, %	0%	42%	53%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	205	300	225
LT Vol	85	175	0
Through Vol	120	0	105
RT Vol	0	125	120
Lane Flow Rate	285	417	312
Geometry Grp	1	1	1
Degree of Util (X)	0.449	0.621	0.457
Departure Headway (Hd)	5.678	5.367	5.261
Convergence, Y/N	Yes	Yes	Yes
Cap	632	671	681
Service Time	3.728	3.411	3.309
HCM Lane V/C Ratio	0.451	0.621	0.458
HCM Control Delay	13.3	16.9	12.7
HCM Lane LOS	B	C	B
HCM 95th-tile Q	2.3	4.3	2.4

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	195	0	0	275
Future Vol, veh/h	0	0	195	0	0	275
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	0	0	250	0	0	353

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	603	250	0	0	250	0
Stage 1	250	-	-	-	-	-
Stage 2	353	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.11	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.209	-
Pot Cap-1 Maneuver	464	791	-	-	1321	-
Stage 1	794	-	-	-	-	-
Stage 2	713	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	464	791	-	-	1321	-
Mov Cap-2 Maneuver	464	-	-	-	-	-
Stage 1	794	-	-	-	-	-
Stage 2	713	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1321	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	5	180	5	0	315
Future Vol, veh/h	10	5	180	5	0	315
Conflicting Peds, #/hr	2	2	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	12	6	220	6	0	384

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	609	225	0	0	226	0
Stage 1	223	-	-	-	-	-
Stage 2	386	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.11	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.209	-
Pot Cap-1 Maneuver	460	817	-	-	1348	-
Stage 1	816	-	-	-	-	-
Stage 2	689	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	459	815	-	-	1345	-
Mov Cap-2 Maneuver	459	-	-	-	-	-
Stage 1	816	-	-	-	-	-
Stage 2	688	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	537	1345	-
HCM Lane V/C Ratio	-	-	0.034	-	-
HCM Control Delay (s)	-	-	11.9	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	1065	50	220	1995	40	235	220	5	140	125	165
Future Volume (veh/h)	60	1065	50	220	1995	40	235	220	5	140	125	165
Number	1	6	16	5	2	12	7	4	14	3	8	18
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
Adj Sat Flow, veh/h/ln	1881	1881	1881	1881	1881	1881	1881	1881	1900	1881	1881	1881
Adj Flow Rate, veh/h	61	1087	0	224	2036	0	240	224	5	143	128	0
Adj No. of Lanes	1	2	1	2	2	1	2	1	0	2	1	1
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, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	64	1875	839	355	2112	945	355	241	5	355	249	212
Arrive On Green	0.04	0.52	0.00	0.10	0.59	0.00	0.10	0.13	0.13	0.10	0.13	0.00
Sat Flow, veh/h	1792	3574	1599	3476	3574	1599	3476	1833	41	3476	1881	1599
Grp Volume(v), veh/h	61	1087	0	224	2036	0	240	0	229	143	128	0
Grp Sat Flow(s),veh/h/ln	1792	1787	1599	1738	1787	1599	1738	0	1874	1738	1881	1599
Q Serve(g_s), s	6.7	40.7	0.0	12.1	106.1	0.0	13.1	0.0	23.7	7.6	12.4	0.0
Cycle Q Clear(g_c), s	6.7	40.7	0.0	12.1	106.1	0.0	13.1	0.0	23.7	7.6	12.4	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	64	1875	839	355	2112	945	355	0	246	355	249	212
V/C Ratio(X)	0.95	0.58	0.00	0.63	0.96	0.00	0.68	0.00	0.93	0.40	0.51	0.00
Avail Cap(c_a), veh/h	64	1875	839	355	2112	945	365	0	251	355	249	212
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	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	94.3	31.8	0.0	84.5	38.1	0.0	84.9	0.0	84.2	82.4	79.1	0.0
Incr Delay (d2), s/veh	95.8	1.3	0.0	3.6	12.7	0.0	4.8	0.0	37.7	0.7	1.8	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	5.0	20.4	0.0	6.0	56.1	0.0	6.5	0.0	14.9	3.7	6.6	0.0
LnGrp Delay(d),s/veh	190.1	33.1	0.0	88.1	50.8	0.0	89.6	0.0	122.0	83.2	80.9	0.0
LnGrp LOS	F	C		F	D		F		F	F	F	
Approach Vol, veh/h		1148			2260			469			271	
Approach Delay, s/veh		41.5			54.5			105.4			82.1	
Approach LOS		D			D			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	122.8	26.5	32.7	27.0	109.8	26.3	32.9
Change Period (Y+Rc), s	7.0	7.0	6.5	* 6.9	7.0	7.0	* 6.3	6.9
Max Green Setting (Gmax), s	7.0	115.4	20.0	* 26	20.0	102.4	* 21	25.7
Max Q Clear Time (g_c+I1), s	8.7	108.1	9.6	25.7	14.1	42.7	15.1	14.4
Green Ext Time (p_c), s	0.0	6.9	0.3	0.1	0.3	44.6	0.4	1.4

Intersection Summary	
HCM 2010 Ctrl Delay	58.5
HCM 2010 LOS	E

Notes

Intersection	
Intersection Delay, s/veh	11.9
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	60	215	195	40	50	35
Future Vol, veh/h	60	215	195	40	50	35
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	83	299	271	56	69	49
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	12	12.7	9.1
HCM LOS	B	B	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	83%	22%	0%
Vol Thru, %	17%	0%	59%
Vol Right, %	0%	78%	41%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	235	275	85
LT Vol	195	60	0
Through Vol	40	0	50
RT Vol	0	215	35
Lane Flow Rate	326	382	118
Geometry Grp	1	1	1
Degree of Util (X)	0.465	0.488	0.168
Departure Headway (Hd)	5.128	4.598	5.113
Convergence, Y/N	Yes	Yes	Yes
Cap	695	775	706
Service Time	3.222	2.67	3.113
HCM Lane V/C Ratio	0.469	0.493	0.167
HCM Control Delay	12.7	12	9.1
HCM Lane LOS	B	B	A
HCM 95th-tile Q	2.5	2.7	0.6

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	270	0	0	285
Future Vol, veh/h	0	0	270	0	0	285
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	0	0	346	0	0	365

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	711	346	0	0	346	0
Stage 1	346	-	-	-	-	-
Stage 2	365	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.11	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.209	-
Pot Cap-1 Maneuver	401	699	-	-	1219	-
Stage 1	719	-	-	-	-	-
Stage 2	704	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	401	699	-	-	1219	-
Mov Cap-2 Maneuver	401	-	-	-	-	-
Stage 1	719	-	-	-	-	-
Stage 2	704	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1219	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	10	295	20	30	270
Future Vol, veh/h	15	10	295	20	30	270
Conflicting Peds, #/hr	2	2	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	18	12	360	24	37	329

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	776	374	0	0	384	0
Stage 1	372	-	-	-	-	-
Stage 2	404	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.11	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.209	-
Pot Cap-1 Maneuver	367	674	-	-	1180	-
Stage 1	699	-	-	-	-	-
Stage 2	676	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	352	673	-	-	1178	-
Mov Cap-2 Maneuver	352	-	-	-	-	-
Stage 1	699	-	-	-	-	-
Stage 2	649	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.9	0	0.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	435	1178	-
HCM Lane V/C Ratio	-	-	0.07	0.031	-
HCM Control Delay (s)	-	-	13.9	8.2	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	105	1695	280	545	1325	140	145	205	10	165	175	95
Future Volume (veh/h)	105	1695	280	545	1325	140	145	205	10	165	175	95
Number	1	6	16	5	2	12	7	4	14	3	8	18
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
Adj Sat Flow, veh/h/ln	1881	1881	1881	1881	1881	1881	1881	1881	1900	1881	1881	1881
Adj Flow Rate, veh/h	107	1730	0	556	1352	0	148	209	10	168	179	0
Adj No. of Lanes	1	2	1	2	2	1	2	1	0	2	1	1
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, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	125	1810	810	532	2108	943	355	205	10	355	219	186
Arrive On Green	0.07	0.51	0.00	0.15	0.59	0.00	0.10	0.12	0.12	0.10	0.12	0.00
Sat Flow, veh/h	1792	3574	1599	3476	3574	1599	3476	1781	85	3476	1881	1599
Grp Volume(v), veh/h	107	1730	0	556	1352	0	148	0	219	168	179	0
Grp Sat Flow(s),veh/h/ln	1792	1787	1599	1738	1787	1599	1738	0	1866	1738	1881	1599
Q Serve(g_s), s	11.6	90.8	0.0	30.0	48.9	0.0	7.8	0.0	22.6	8.9	18.2	0.0
Cycle Q Clear(g_c), s	11.6	90.8	0.0	30.0	48.9	0.0	7.8	0.0	22.6	8.9	18.2	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	125	1810	810	532	2108	943	355	0	215	355	219	186
V/C Ratio(X)	0.86	0.96	0.00	1.05	0.64	0.00	0.42	0.00	1.02	0.47	0.82	0.00
Avail Cap(c_a), veh/h	183	1810	810	532	2108	943	355	0	215	355	219	186
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	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	90.2	46.3	0.0	83.0	26.5	0.0	82.5	0.0	86.7	83.0	84.6	0.0
Incr Delay (d2), s/veh	22.5	13.0	0.0	51.3	1.5	0.0	0.8	0.0	66.1	1.0	21.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.5	48.0	0.0	18.2	24.5	0.0	3.8	0.0	15.6	4.3	10.8	0.0
LnGrp Delay(d),s/veh	112.7	59.3	0.0	134.3	28.0	0.0	83.3	0.0	152.9	84.0	105.6	0.0
LnGrp LOS	F	E		F	C		F		F	F	F	
Approach Vol, veh/h		1837			1908			367			347	
Approach Delay, s/veh		62.4			59.0			124.8			95.1	
Approach LOS		E			E			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.6	122.7	26.5	29.5	37.0	106.3	26.3	29.7
Change Period (Y+Rc), s	7.0	7.0	6.5	* 6.9	7.0	7.0	* 6.3	6.9
Max Green Setting (Gmax), s	20.0	106.1	20.0	* 23	30.0	96.1	* 20	22.6
Max Q Clear Time (g_c+I1), s	13.6	50.9	10.9	24.6	32.0	92.8	9.8	20.2
Green Ext Time (p_c), s	0.1	40.6	0.3	0.0	0.0	3.2	0.3	0.5

Intersection Summary	
HCM 2010 Ctrl Delay	68.7
HCM 2010 LOS	E

Notes

Michael Baker
INTERNATIONAL

APPENDIX D: BASE YEAR NO BUILD SYNCHRO REPORTS

Intersection	
Intersection Delay, s/veh	17
Intersection LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	190	135	95	130	115	130
Future Vol, veh/h	190	135	95	130	115	130
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	264	188	132	181	160	181
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	20.4	15	14.3
HCM LOS	C	B	B

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	42%	58%	0%
Vol Thru, %	58%	0%	47%
Vol Right, %	0%	42%	53%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	225	325	245
LT Vol	95	190	0
Through Vol	130	0	115
RT Vol	0	135	130
Lane Flow Rate	312	451	340
Geometry Grp	1	1	1
Degree of Util (X)	0.511	0.696	0.518
Departure Headway (Hd)	5.892	5.554	5.476
Convergence, Y/N	Yes	Yes	Yes
Cap	609	650	653
Service Time	3.961	3.612	3.543
HCM Lane V/C Ratio	0.512	0.694	0.521
HCM Control Delay	15	20.4	14.3
HCM Lane LOS	B	C	B
HCM 95th-tile Q	2.9	5.6	3

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	225	0	0	300
Future Vol, veh/h	0	0	225	0	0	300
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	0	0	288	0	0	385

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	673	288	0	0	288	0
Stage 1	288	-	-	-	-	-
Stage 2	385	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.11	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.209	-
Pot Cap-1 Maneuver	422	753	-	-	1280	-
Stage 1	763	-	-	-	-	-
Stage 2	690	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	422	753	-	-	1280	-
Mov Cap-2 Maneuver	422	-	-	-	-	-
Stage 1	763	-	-	-	-	-
Stage 2	690	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1280	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	5	195	5	0	345
Future Vol, veh/h	10	5	195	5	0	345
Conflicting Peds, #/hr	2	2	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	12	6	238	6	0	421

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	664	243	0	0	244	0
Stage 1	241	-	-	-	-	-
Stage 2	423	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.11	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.209	-
Pot Cap-1 Maneuver	427	798	-	-	1328	-
Stage 1	801	-	-	-	-	-
Stage 2	663	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	426	796	-	-	1325	-
Mov Cap-2 Maneuver	426	-	-	-	-	-
Stage 1	801	-	-	-	-	-
Stage 2	662	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	504	1325	-
HCM Lane V/C Ratio	-	-	0.036	-	-
HCM Control Delay (s)	-	-	12.4	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	1165	55	240	2180	45	255	240	5	155	135	180
Future Volume (veh/h)	65	1165	55	240	2180	45	255	240	5	155	135	180
Number	1	6	16	5	2	12	7	4	14	3	8	18
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
Adj Sat Flow, veh/h/ln	1881	1881	1881	1881	1881	1881	1881	1881	1900	1881	1881	1881
Adj Flow Rate, veh/h	66	1189	0	245	2224	0	260	245	5	158	138	0
Adj No. of Lanes	1	2	1	2	2	1	2	1	0	2	1	1
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, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	64	1924	861	355	2161	967	355	246	5	355	254	216
Arrive On Green	0.04	0.54	0.00	0.10	0.60	0.00	0.10	0.13	0.13	0.10	0.14	0.00
Sat Flow, veh/h	1792	3574	1599	3476	3574	1599	3476	1837	37	3476	1881	1599
Grp Volume(v), veh/h	66	1189	0	245	2224	0	260	0	250	158	138	0
Grp Sat Flow(s),veh/h/ln	1792	1787	1599	1738	1787	1599	1738	0	1874	1738	1881	1599
Q Serve(g_s), s	7.0	45.1	0.0	13.3	118.5	0.0	14.2	0.0	26.1	8.4	13.4	0.0
Cycle Q Clear(g_c), s	7.0	45.1	0.0	13.3	118.5	0.0	14.2	0.0	26.1	8.4	13.4	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	64	1924	861	355	2161	967	355	0	252	355	254	216
V/C Ratio(X)	1.03	0.62	0.00	0.69	1.03	0.00	0.73	0.00	0.99	0.45	0.54	0.00
Avail Cap(c_a), veh/h	64	1924	861	355	2161	967	365	0	252	355	254	216
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	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	94.5	31.3	0.0	85.0	38.8	0.0	85.4	0.0	84.8	82.8	79.1	0.0
Incr Delay (d2), s/veh	121.6	1.5	0.0	5.6	27.3	0.0	7.2	0.0	55.0	0.9	2.3	0.0
Initial Q Delay(d3),s/veh	0.5	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	5.6	22.7	0.0	6.7	66.4	0.0	7.2	0.0	17.4	4.1	7.1	0.0
LnGrp Delay(d),s/veh	216.6	32.8	0.0	90.6	66.1	0.0	92.6	0.0	139.7	83.7	81.4	0.0
LnGrp LOS	F	C		F	F		F		F	F	F	
Approach Vol, veh/h		1255			2469			510			296	
Approach Delay, s/veh		42.5			68.5			115.7			82.6	
Approach LOS		D			E			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	125.6	26.5	33.2	27.0	112.6	26.3	33.4
Change Period (Y+Rc), s	7.0	7.0	6.5	* 6.9	7.0	7.0	* 6.3	6.9
Max Green Setting (Gmax), s	7.0	115.4	20.0	* 26	20.0	102.4	* 21	25.7
Max Q Clear Time (g_c+I1), s	9.0	120.5	10.4	28.1	15.3	47.1	16.2	15.4
Green Ext Time (p_c), s	0.0	0.0	0.3	0.0	0.3	46.2	0.3	1.5

Intersection Summary	
HCM 2010 Ctrl Delay	67.5
HCM 2010 LOS	E

Notes

Intersection	
Intersection Delay, s/veh	13.5
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	65	235	215	45	55	40
Future Vol, veh/h	65	235	215	45	55	40
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	90	326	299	63	76	56
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	13.9	14.5	9.6
HCM LOS	B	B	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	83%	22%	0%
Vol Thru, %	17%	0%	58%
Vol Right, %	0%	78%	42%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	260	300	95
LT Vol	215	65	0
Through Vol	45	0	55
RT Vol	0	235	40
Lane Flow Rate	361	417	132
Geometry Grp	1	1	1
Degree of Util (X)	0.538	0.561	0.194
Departure Headway (Hd)	5.367	4.844	5.303
Convergence, Y/N	Yes	Yes	Yes
Cap	672	750	676
Service Time	3.399	2.844	3.343
HCM Lane V/C Ratio	0.537	0.556	0.195
HCM Control Delay	14.5	13.9	9.6
HCM Lane LOS	B	B	A
HCM 95th-tile Q	3.2	3.5	0.7

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	260	0	0	310
Future Vol, veh/h	0	0	260	0	0	310
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	0	0	333	0	0	397

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	730	333	0	0	333	0
Stage 1	333	-	-	-	-	-
Stage 2	397	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.11	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.209	-
Pot Cap-1 Maneuver	391	711	-	-	1232	-
Stage 1	728	-	-	-	-	-
Stage 2	681	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	391	711	-	-	1232	-
Mov Cap-2 Maneuver	391	-	-	-	-	-
Stage 1	728	-	-	-	-	-
Stage 2	681	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1232	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	10	325	20	35	295
Future Vol, veh/h	15	10	325	20	35	295
Conflicting Peds, #/hr	2	2	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	18	12	396	24	43	360

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	856	411	0	0	421	0
Stage 1	409	-	-	-	-	-
Stage 2	447	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.11	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.209	-
Pot Cap-1 Maneuver	329	643	-	-	1144	-
Stage 1	673	-	-	-	-	-
Stage 2	646	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	313	642	-	-	1142	-
Mov Cap-2 Maneuver	313	-	-	-	-	-
Stage 1	673	-	-	-	-	-
Stage 2	614	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.9	0	0.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	394	1142	-
HCM Lane V/C Ratio	-	-	0.077	0.037	-
HCM Control Delay (s)	-	-	14.9	8.3	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	1855	305	595	1450	155	160	225	10	180	190	105
Future Volume (veh/h)	115	1855	305	595	1450	155	160	225	10	180	190	105
Number	1	6	16	5	2	12	7	4	14	3	8	18
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
Adj Sat Flow, veh/h/ln	1881	1881	1881	1881	1881	1881	1881	1881	1900	1881	1881	1881
Adj Flow Rate, veh/h	117	1893	0	607	1480	0	163	230	10	184	194	0
Adj No. of Lanes	1	2	1	2	2	1	2	1	0	2	1	1
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, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	135	1810	810	532	2089	934	355	206	9	355	219	186
Arrive On Green	0.08	0.51	0.00	0.15	0.58	0.00	0.10	0.12	0.12	0.10	0.12	0.00
Sat Flow, veh/h	1792	3574	1599	3476	3574	1599	3476	1789	78	3476	1881	1599
Grp Volume(v), veh/h	117	1893	0	607	1480	0	163	0	240	184	194	0
Grp Sat Flow(s),veh/h/ln	1792	1787	1599	1738	1787	1599	1738	0	1867	1738	1881	1599
Q Serve(g_s), s	12.7	99.3	0.0	30.0	57.6	0.0	8.7	0.0	22.6	9.8	19.9	0.0
Cycle Q Clear(g_c), s	12.7	99.3	0.0	30.0	57.6	0.0	8.7	0.0	22.6	9.8	19.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.04	1.00		1.00
Lane Grp Cap(c), veh/h	135	1810	810	532	2089	934	355	0	215	355	219	186
V/C Ratio(X)	0.87	1.05	0.00	1.14	0.71	0.00	0.46	0.00	1.11	0.52	0.89	0.00
Avail Cap(c_a), veh/h	183	1810	810	532	2089	934	355	0	215	355	219	186
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	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	89.7	48.4	0.0	83.0	28.9	0.0	82.9	0.0	86.7	83.4	85.3	0.0
Incr Delay (d2), s/veh	26.5	34.2	0.0	84.1	2.1	0.0	0.9	0.0	95.5	1.3	32.3	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	7.3	57.6	0.0	20.6	29.0	0.0	4.2	0.0	17.4	4.8	12.4	0.0
LnGrp Delay(d),s/veh	116.2	82.6	0.0	167.1	31.0	0.0	83.8	0.0	182.2	84.8	117.6	0.0
LnGrp LOS	F	F		F	C		F		F	F	F	
Approach Vol, veh/h		2010			2087			403			378	
Approach Delay, s/veh		84.5			70.6			142.4			101.6	
Approach LOS		F			E			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.7	121.6	26.5	29.5	37.0	106.4	26.3	29.7
Change Period (Y+Rc), s	7.0	7.0	6.5	* 6.9	7.0	7.0	* 6.3	6.9
Max Green Setting (Gmax), s	20.0	106.1	20.0	* 23	30.0	96.1	* 20	22.6
Max Q Clear Time (g_c+I1), s	14.7	59.6	11.8	24.6	32.0	101.3	10.7	21.9
Green Ext Time (p_c), s	0.1	38.9	0.3	0.0	0.0	0.0	0.3	0.2

Intersection Summary	
HCM 2010 Ctrl Delay	84.7
HCM 2010 LOS	F

Notes

Michael Baker
INTERNATIONAL

APPENDIX E: BASE YEAR BUILD SYNCHRO REPORTS

Intersection	
Intersection Delay, s/veh	17.8
Intersection LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	190	145	95	135	115	130
Future Vol, veh/h	190	145	95	135	115	130
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	264	201	132	188	160	181
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	21.8	15.5	14.6
HCM LOS	C	C	B

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	41%	57%	0%
Vol Thru, %	59%	0%	47%
Vol Right, %	0%	43%	53%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	230	335	245
LT Vol	95	190	0
Through Vol	135	0	115
RT Vol	0	145	130
Lane Flow Rate	319	465	340
Geometry Grp	1	1	1
Degree of Util (X)	0.527	0.72	0.524
Departure Headway (Hd)	5.944	5.57	5.539
Convergence, Y/N	Yes	Yes	Yes
Cap	604	647	647
Service Time	4.019	3.633	3.613
HCM Lane V/C Ratio	0.528	0.719	0.526
HCM Control Delay	15.5	21.8	14.6
HCM Lane LOS	C	C	B
HCM 95th-tile Q	3.1	6.1	3.1

Intersection	
Int Delay, s/veh	1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	45	5	225	80	10	300
Future Vol, veh/h	45	5	225	80	10	300
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	58	6	288	103	13	385

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	750	340	0	0	391	0
Stage 1	340	-	-	-	-	-
Stage 2	410	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.11	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.209	-
Pot Cap-1 Maneuver	380	705	-	-	1173	-
Stage 1	723	-	-	-	-	-
Stage 2	672	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	375	705	-	-	1173	-
Mov Cap-2 Maneuver	375	-	-	-	-	-
Stage 1	723	-	-	-	-	-
Stage 2	663	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.9	0	0.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	393	1173	-
HCM Lane V/C Ratio	-	-	0.163	0.011	-
HCM Control Delay (s)	-	-	15.9	8.1	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.6	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	5	280	5	0	390
Future Vol, veh/h	10	5	280	5	0	390
Conflicting Peds, #/hr	2	2	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	12	6	341	6	0	476

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	823	347	0	0	348	0
Stage 1	345	-	-	-	-	-
Stage 2	478	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.11	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.209	-
Pot Cap-1 Maneuver	345	698	-	-	1216	-
Stage 1	719	-	-	-	-	-
Stage 2	626	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	344	697	-	-	1214	-
Mov Cap-2 Maneuver	344	-	-	-	-	-
Stage 1	719	-	-	-	-	-
Stage 2	625	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	414	1214	-
HCM Lane V/C Ratio	-	-	0.044	-	-
HCM Control Delay (s)	-	-	14.1	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	1165	55	240	2180	55	255	295	5	165	150	195
Future Volume (veh/h)	80	1165	55	240	2180	55	255	295	5	165	150	195
Number	1	6	16	5	2	12	7	4	14	3	8	18
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
Adj Sat Flow, veh/h/ln	1881	1881	1881	1881	1881	1881	1881	1881	1900	1881	1881	1881
Adj Flow Rate, veh/h	82	1189	0	245	2224	0	260	301	5	168	153	0
Adj No. of Lanes	1	2	1	2	2	1	2	1	0	2	1	1
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, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	64	1910	854	355	2147	960	261	324	5	168	282	240
Arrive On Green	0.04	0.53	0.00	0.10	0.60	0.00	0.07	0.18	0.18	0.05	0.15	0.00
Sat Flow, veh/h	1792	3574	1599	3476	3574	1599	3476	1845	31	3476	1881	1599
Grp Volume(v), veh/h	82	1189	0	245	2224	0	260	0	306	168	153	0
Grp Sat Flow(s),veh/h/ln	1792	1787	1599	1738	1787	1599	1738	0	1876	1738	1881	1599
Q Serve(g_s), s	7.0	45.5	0.0	13.3	117.7	0.0	14.7	0.0	31.5	9.5	14.8	0.0
Cycle Q Clear(g_c), s	7.0	45.5	0.0	13.3	117.7	0.0	14.7	0.0	31.5	9.5	14.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	64	1910	854	355	2147	960	261	0	329	168	282	240
V/C Ratio(X)	1.28	0.62	0.00	0.69	1.04	0.00	1.00	0.00	0.93	1.00	0.54	0.00
Avail Cap(c_a), veh/h	64	1910	854	355	2147	960	261	0	356	168	307	261
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	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	94.5	31.9	0.0	85.0	39.1	0.0	90.6	0.0	79.6	93.2	77.1	0.0
Incr Delay (d2), s/veh	205.6	1.5	0.0	5.6	29.5	0.0	55.0	0.0	29.3	68.5	1.6	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	7.1	22.9	0.0	6.7	66.6	0.0	9.0	0.0	19.1	6.2	7.8	0.0
LnGrp Delay(d),s/veh	300.1	33.4	0.0	90.6	68.6	0.0	145.6	0.0	109.0	161.7	78.7	0.0
LnGrp LOS	F	C		F	F		F		F	F	E	
Approach Vol, veh/h		1271			2469			566			321	
Approach Delay, s/veh		50.6			70.8			125.8			122.2	
Approach LOS		D			E			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	124.7	16.0	41.3	27.0	111.7	21.0	36.3
Change Period (Y+Rc), s	7.0	7.0	6.5	* 6.9	7.0	7.0	* 6.3	6.9
Max Green Setting (Gmax), s	7.0	115.0	9.5	* 37	20.0	102.0	* 15	32.0
Max Q Clear Time (g_c+I1), s	9.0	119.7	11.5	33.5	15.3	47.5	16.7	16.8
Green Ext Time (p_c), s	0.0	0.0	0.0	0.9	0.3	45.6	0.0	2.2

Intersection Summary	
HCM 2010 Ctrl Delay	75.5
HCM 2010 LOS	E

Notes

Intersection	
Intersection Delay, s/veh	13.8
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	65	240	220	45	55	40
Future Vol, veh/h	65	240	220	45	55	40
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	90	333	306	63	76	56
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	14.2	14.9	9.7
HCM LOS	B	B	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	83%	21%	0%
Vol Thru, %	17%	0%	58%
Vol Right, %	0%	79%	42%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	265	305	95
LT Vol	220	65	0
Through Vol	45	0	55
RT Vol	0	240	40
Lane Flow Rate	368	424	132
Geometry Grp	1	1	1
Degree of Util (X)	0.551	0.573	0.196
Departure Headway (Hd)	5.391	4.868	5.34
Convergence, Y/N	Yes	Yes	Yes
Cap	670	746	670
Service Time	3.427	2.868	3.384
HCM Lane V/C Ratio	0.549	0.568	0.197
HCM Control Delay	14.9	14.2	9.7
HCM Lane LOS	B	B	A
HCM 95th-tile Q	3.4	3.7	0.7

Intersection	
Int Delay, s/veh	2.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	95	10	260	65	5	310
Future Vol, veh/h	95	10	260	65	5	310
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	122	13	333	83	6	397

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	785	375	0	0	417	0
Stage 1	375	-	-	-	-	-
Stage 2	410	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.11	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.209	-
Pot Cap-1 Maneuver	363	674	-	-	1147	-
Stage 1	697	-	-	-	-	-
Stage 2	672	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	360	674	-	-	1147	-
Mov Cap-2 Maneuver	360	-	-	-	-	-
Stage 1	697	-	-	-	-	-
Stage 2	667	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.8	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	377	1147	-
HCM Lane V/C Ratio	-	-	0.357	0.006	-
HCM Control Delay (s)	-	-	19.8	8.2	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	1.6	0	-

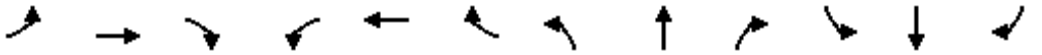
Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	10	385	20	35	390
Future Vol, veh/h	15	10	385	20	35	390
Conflicting Peds, #/hr	2	2	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	18	12	470	24	43	476

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1045	484	0	0	494	0
Stage 1	482	-	-	-	-	-
Stage 2	563	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.11	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.209	-
Pot Cap-1 Maneuver	254	585	-	-	1075	-
Stage 1	623	-	-	-	-	-
Stage 2	572	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	240	584	-	-	1073	-
Mov Cap-2 Maneuver	240	-	-	-	-	-
Stage 1	623	-	-	-	-	-
Stage 2	540	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.7	0	0.7
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	314	1073	-
HCM Lane V/C Ratio	-	-	0.097	0.04	-
HCM Control Delay (s)	-	-	17.7	8.5	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	1855	305	595	1450	175	160	255	10	215	230	125
Future Volume (veh/h)	130	1855	305	595	1450	175	160	255	10	215	230	125
Number	1	6	16	5	2	12	7	4	14	3	8	18
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
Adj Sat Flow, veh/h/ln	1881	1881	1881	1881	1881	1881	1881	1881	1900	1881	1881	1881
Adj Flow Rate, veh/h	133	1893	0	607	1480	0	163	260	10	219	235	0
Adj No. of Lanes	1	2	1	2	2	1	2	1	0	2	1	1
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, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	151	1811	810	532	2057	920	355	207	8	355	219	186
Arrive On Green	0.08	0.51	0.00	0.15	0.58	0.00	0.10	0.12	0.12	0.10	0.12	0.00
Sat Flow, veh/h	1792	3574	1599	3476	3574	1599	3476	1800	69	3476	1881	1599
Grp Volume(v), veh/h	133	1893	0	607	1480	0	163	0	270	219	235	0
Grp Sat Flow(s),veh/h/ln	1792	1787	1599	1738	1787	1599	1738	0	1869	1738	1881	1599
Q Serve(g_s), s	14.4	99.3	0.0	30.0	58.8	0.0	8.7	0.0	22.6	11.8	22.8	0.0
Cycle Q Clear(g_c), s	14.4	99.3	0.0	30.0	58.8	0.0	8.7	0.0	22.6	11.8	22.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.04	1.00		1.00
Lane Grp Cap(c), veh/h	151	1811	810	532	2057	920	355	0	215	355	219	186
V/C Ratio(X)	0.88	1.05	0.00	1.14	0.72	0.00	0.46	0.00	1.25	0.62	1.07	0.00
Avail Cap(c_a), veh/h	183	1811	810	532	2057	920	355	0	215	355	219	186
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	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	88.8	48.4	0.0	83.0	30.1	0.0	82.9	0.0	86.7	84.3	86.6	0.0
Incr Delay (d2), s/veh	32.1	34.1	0.0	84.1	2.2	0.0	0.9	0.0	146.1	3.2	81.8	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	8.5	57.6	0.0	20.6	29.6	0.0	4.2	0.0	20.4	5.8	16.8	0.0
LnGrp Delay(d),s/veh	120.9	82.5	0.0	167.1	32.3	0.0	83.8	0.0	232.8	87.6	168.4	0.0
LnGrp LOS	F	F		F	C		F		F	F	F	
Approach Vol, veh/h		2026			2087			433			454	
Approach Delay, s/veh		85.0			71.5			176.7			129.4	
Approach LOS		F			E			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.5	119.9	26.5	29.5	37.0	106.4	26.3	29.7
Change Period (Y+Rc), s	7.0	7.0	6.5	* 6.9	7.0	7.0	* 6.3	6.9
Max Green Setting (Gmax), s	20.0	106.1	20.0	* 23	30.0	96.1	* 20	22.6
Max Q Clear Time (g_c+I1), s	16.4	60.8	13.8	24.6	32.0	101.3	10.7	24.8
Green Ext Time (p_c), s	0.1	38.1	0.4	0.0	0.0	0.0	0.3	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	91.4
HCM 2010 LOS	F

Notes

Michael Baker
INTERNATIONAL

APPENDIX F: REQUIRED MITIGATION SYNCHRO REPORTS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	1165	55	240	2180	45	255	240	5	155	135	180
Future Volume (veh/h)	65	1165	55	240	2180	45	255	240	5	155	135	180
Number	1	6	16	5	2	12	7	4	14	3	8	18
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
Adj Sat Flow, veh/h/ln	1881	1881	1881	1881	1881	1881	1881	1881	1900	1881	1881	1881
Adj Flow Rate, veh/h	66	1189	0	245	2224	0	260	245	5	158	138	0
Adj No. of Lanes	1	2	1	2	2	1	2	2	0	2	1	1
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, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	64	1998	894	355	2235	1000	355	364	7	355	193	164
Arrive On Green	0.04	0.56	0.00	0.10	0.63	0.00	0.10	0.10	0.10	0.10	0.10	0.00
Sat Flow, veh/h	1792	3574	1599	3476	3574	1599	3476	3582	73	3476	1881	1599
Grp Volume(v), veh/h	66	1189	0	245	2224	0	260	122	128	158	138	0
Grp Sat Flow(s),veh/h/ln	1792	1787	1599	1738	1787	1599	1738	1787	1868	1738	1881	1599
Q Serve(g_s), s	7.0	43.1	0.0	13.3	121.0	0.0	14.2	12.9	13.0	8.4	13.9	0.0
Cycle Q Clear(g_c), s	7.0	43.1	0.0	13.3	121.0	0.0	14.2	12.9	13.0	8.4	13.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.04	1.00		1.00
Lane Grp Cap(c), veh/h	64	1998	894	355	2235	1000	355	182	190	355	193	164
V/C Ratio(X)	1.03	0.60	0.00	0.69	1.00	0.00	0.73	0.67	0.67	0.45	0.71	0.00
Avail Cap(c_a), veh/h	64	1998	894	355	2235	1000	355	182	191	355	193	164
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	94.5	28.6	0.0	85.0	36.4	0.0	85.4	84.9	84.9	82.8	85.2	0.0
Incr Delay (d2), s/veh	121.6	1.3	0.0	5.6	17.9	0.0	7.6	9.2	9.0	0.9	11.8	0.0
Initial Q Delay(d3),s/veh	0.5	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	5.6	21.7	0.0	6.7	64.9	0.0	7.2	6.8	7.2	4.1	7.9	0.0
LnGrp Delay(d),s/veh	216.6	29.9	0.0	90.6	54.4	0.0	93.0	94.0	93.9	83.7	96.9	0.0
LnGrp LOS	F	C		F	D		F	F	F	F	F	
Approach Vol, veh/h		1255			2469			510			296	
Approach Delay, s/veh		39.7			58.0			93.5			89.9	
Approach LOS		D			E			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	129.6	26.5	26.8	27.0	116.6	26.3	27.0
Change Period (Y+Rc), s	7.0	7.0	6.5	* 6.9	7.0	7.0	* 6.3	6.9
Max Green Setting (Gmax), s	7.0	121.7	20.0	* 20	20.0	108.7	* 20	20.0
Max Q Clear Time (g_c+I1), s	9.0	123.0	10.4	15.0	15.3	45.1	16.2	15.9
Green Ext Time (p_c), s	0.0	0.0	0.3	0.8	0.3	51.8	0.3	0.8

Intersection Summary	
HCM 2010 Ctrl Delay	59.0
HCM 2010 LOS	E

Notes

HCM 2010 Signalized Intersection Summary
4: East Jones Bridge Rd & SR 141/Peachtree Pkwy

03/08/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	1855	305	595	1450	155	160	225	10	180	190	105
Future Volume (veh/h)	115	1855	305	595	1450	155	160	225	10	180	190	105
Number	1	6	16	5	2	12	7	4	14	3	8	18
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
Adj Sat Flow, veh/h/ln	1881	1881	1881	1881	1881	1881	1881	1881	1900	1881	1881	1881
Adj Flow Rate, veh/h	117	1893	0	607	1480	0	163	230	10	184	194	0
Adj No. of Lanes	1	2	1	2	2	1	2	2	0	2	1	1
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, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	135	1860	832	567	2175	973	261	358	15	257	193	164
Arrive On Green	0.08	0.52	0.00	0.16	0.61	0.00	0.07	0.10	0.10	0.07	0.10	0.00
Sat Flow, veh/h	1792	3574	1599	3476	3574	1599	3476	3490	151	3476	1881	1599
Grp Volume(v), veh/h	117	1893	0	607	1480	0	163	117	123	184	194	0
Grp Sat Flow(s),veh/h/ln	1792	1787	1599	1738	1787	1599	1738	1787	1854	1738	1881	1599
Q Serve(g_s), s	12.7	102.0	0.0	32.0	54.2	0.0	8.9	12.4	12.5	10.1	20.1	0.0
Cycle Q Clear(g_c), s	12.7	102.0	0.0	32.0	54.2	0.0	8.9	12.4	12.5	10.1	20.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.08	1.00		1.00
Lane Grp Cap(c), veh/h	135	1860	832	567	2175	973	261	183	190	257	193	164
V/C Ratio(X)	0.87	1.02	0.00	1.07	0.68	0.00	0.63	0.64	0.65	0.72	1.01	0.00
Avail Cap(c_a), veh/h	192	1860	832	567	2175	973	277	183	190	277	193	164
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	89.7	47.0	0.0	82.0	25.6	0.0	88.0	84.5	84.5	88.7	87.9	0.0
Incr Delay (d2), s/veh	24.1	25.4	0.0	57.8	1.7	0.0	4.0	7.3	7.3	7.9	66.3	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	7.2	56.7	0.0	19.9	27.2	0.0	4.4	6.5	6.8	5.2	14.0	0.0
LnGrp Delay(d),s/veh	113.8	72.4	0.0	139.8	27.4	0.0	92.0	91.8	91.8	96.6	154.2	0.0
LnGrp LOS	F	F		F	C		F	F	F	F	F	
Approach Vol, veh/h		2010			2087			403			378	
Approach Delay, s/veh		74.8			60.1			91.9			126.2	
Approach LOS		E			E			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.8	126.2	21.0	27.0	39.0	109.0	21.0	27.0
Change Period (Y+Rc), s	7.0	7.0	6.5	* 6.9	7.0	7.0	* 6.3	6.9
Max Green Setting (Gmax), s	21.0	112.0	15.6	* 20	32.0	101.0	* 16	20.1
Max Q Clear Time (g_c+I1), s	14.7	56.2	12.1	14.5	34.0	104.0	10.9	22.1
Green Ext Time (p_c), s	0.1	45.2	0.2	1.1	0.0	0.0	0.2	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	73.9
HCM 2010 LOS	E

Notes

HCM 2010 Signalized Intersection Summary
4: East Jones Bridge Rd & SR 141/Peachtree Pkwy

03/08/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	1165	55	240	2180	55	255	295	5	165	150	195
Future Volume (veh/h)	80	1165	55	240	2180	55	255	295	5	165	150	195
Number	1	6	16	5	2	12	7	4	14	3	8	18
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
Adj Sat Flow, veh/h/ln	1881	1881	1881	1881	1881	1881	1881	1881	1900	1881	1881	1881
Adj Flow Rate, veh/h	82	1189	0	245	2224	0	260	301	5	168	153	0
Adj No. of Lanes	1	2	1	2	2	1	2	2	0	2	1	1
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, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	91	2070	926	355	2252	1007	278	435	7	203	188	160
Arrive On Green	0.05	0.58	0.00	0.10	0.63	0.00	0.08	0.12	0.12	0.06	0.10	0.00
Sat Flow, veh/h	1792	3574	1599	3476	3574	1599	3476	3598	60	3476	1881	1599
Grp Volume(v), veh/h	82	1189	0	245	2224	0	260	149	157	168	153	0
Grp Sat Flow(s),veh/h/ln	1792	1787	1599	1738	1787	1599	1738	1787	1870	1738	1881	1599
Q Serve(g_s), s	8.9	41.1	0.0	13.3	119.4	0.0	14.6	15.7	15.8	9.4	15.6	0.0
Cycle Q Clear(g_c), s	8.9	41.1	0.0	13.3	119.4	0.0	14.6	15.7	15.8	9.4	15.6	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	91	2070	926	355	2252	1007	278	216	226	203	188	160
V/C Ratio(X)	0.90	0.57	0.00	0.69	0.99	0.00	0.93	0.69	0.69	0.83	0.81	0.00
Avail Cap(c_a), veh/h	91	2070	926	355	2252	1007	278	216	226	222	192	163
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	92.5	26.0	0.0	85.0	35.5	0.0	89.6	82.7	82.7	91.3	86.4	0.0
Incr Delay (d2), s/veh	61.7	1.2	0.0	5.6	16.3	0.0	36.7	9.1	8.8	21.0	22.4	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	6.0	20.6	0.0	6.7	63.8	0.0	8.4	8.3	8.7	5.1	9.3	0.0
LnGrp Delay(d),s/veh	154.2	27.2	0.0	90.6	51.8	0.0	126.3	91.7	91.5	112.3	108.8	0.0
LnGrp LOS	F	C		F	D		F	F	F	F	F	
Approach Vol, veh/h		1271			2469			566			321	
Approach Delay, s/veh		35.4			55.6			107.5			110.6	
Approach LOS		D			E			F			F	

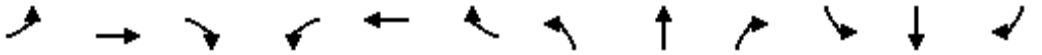
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	130.5	17.9	30.6	27.0	120.5	22.0	26.5
Change Period (Y+Rc), s	7.0	7.0	6.5	* 6.9	7.0	7.0	* 6.3	6.9
Max Green Setting (Gmax), s	10.0	123.0	12.5	* 23	20.0	113.0	* 16	20.0
Max Q Clear Time (g_c+I1), s	10.9	121.4	11.4	17.8	15.3	43.1	16.6	17.6
Green Ext Time (p_c), s	0.0	1.6	0.1	1.2	0.3	55.9	0.0	0.2

Intersection Summary	
HCM 2010 Ctrl Delay	60.2
HCM 2010 LOS	E

Notes

HCM 2010 Signalized Intersection Summary
4: East Jones Bridge Rd & SR 141/Peachtree Pkwy

03/08/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	1855	305	595	1450	175	160	255	10	215	230	125
Future Volume (veh/h)	130	1855	305	595	1450	175	160	255	10	215	230	125
Number	1	6	16	5	2	12	7	4	14	3	8	18
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
Adj Sat Flow, veh/h/ln	1881	1881	1881	1881	1881	1881	1881	1881	1900	1881	1881	1881
Adj Flow Rate, veh/h	133	1893	0	607	1480	0	163	260	10	219	235	0
Adj No. of Lanes	1	2	1	2	2	1	2	2	0	2	1	1
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, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	151	1844	825	550	2108	943	165	418	16	232	263	223
Arrive On Green	0.08	0.52	0.00	0.16	0.59	0.00	0.05	0.12	0.12	0.07	0.14	0.00
Sat Flow, veh/h	1792	3574	1599	3476	3574	1599	3476	3510	135	3476	1881	1599
Grp Volume(v), veh/h	133	1893	0	607	1480	0	163	132	138	219	235	0
Grp Sat Flow(s),veh/h/ln	1792	1787	1599	1738	1787	1599	1738	1787	1857	1738	1881	1599
Q Serve(g_s), s	14.4	101.1	0.0	31.0	56.8	0.0	9.2	13.8	13.9	12.3	24.1	0.0
Cycle Q Clear(g_c), s	14.4	101.1	0.0	31.0	56.8	0.0	9.2	13.8	13.9	12.3	24.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.07	1.00		1.00
Lane Grp Cap(c), veh/h	151	1844	825	550	2108	943	165	213	221	232	263	223
V/C Ratio(X)	0.88	1.03	0.00	1.10	0.70	0.00	0.99	0.62	0.62	0.94	0.90	0.00
Avail Cap(c_a), veh/h	210	1844	825	550	2108	943	165	252	262	232	301	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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	88.8	47.4	0.0	82.5	28.1	0.0	93.3	82.1	82.1	91.1	82.9	0.0
Incr Delay (d2), s/veh	25.3	28.0	0.0	70.1	2.0	0.0	66.5	3.4	3.4	43.3	25.0	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	8.2	57.1	0.0	20.2	28.5	0.0	5.9	7.0	7.3	7.3	14.4	0.0
LnGrp Delay(d),s/veh	114.0	75.4	0.0	152.6	30.1	0.0	159.8	85.5	85.6	134.4	107.9	0.0
LnGrp LOS	F	F		F	C		F	F	F	F	F	
Approach Vol, veh/h		2026			2087			433			454	
Approach Delay, s/veh		77.9			65.7			113.5			120.7	
Approach LOS		E			E			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.5	122.6	19.6	30.3	38.0	108.1	15.6	34.3
Change Period (Y+Rc), s	7.0	7.0	6.5	* 6.9	7.0	7.0	* 6.3	6.9
Max Green Setting (Gmax), s	23.0	105.0	13.1	* 28	31.0	97.0	* 9.3	31.4
Max Q Clear Time (g_c+I1), s	16.4	58.8	14.3	15.9	33.0	103.1	11.2	26.1
Green Ext Time (p_c), s	0.1	38.7	0.0	2.1	0.0	0.0	0.0	1.3

Intersection Summary	
HCM 2010 Ctrl Delay	79.8
HCM 2010 LOS	E

Notes

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APPENDIX G: METHODOLOGY REPORT

4411 East Jones Bridge Road
Methodology for Expedited DRI Review

Prepared for:

East Jones Bridge, LLC

Prepared by:
Michael Baker International, Inc.

Michael Baker
INTERNATIONAL

Revised February 15, 2018

Michael Baker
INTERNATIONAL

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SUMMARY OF STUDY NETWORK

Proposed Project
916 Dwelling Units for Continuing Care Retirement Community

Trip Generation per ITE
2,301 trip ends per day

Study Area Road Assumptions

East Jones Bridge Road	2L-0	2 Lane, undivided, unsignalized non-state roaday with no left turn bays
Jones Bridge Circle	2L-0	2 Lane, undivided, unsignalized non-state roaday with no left turn bays
West Jones Bridge Road	2L-1	2 Lane, undivided, signalized non-state roaday with no left turn bays
Peachtree Parkway	4LD-1	4 lane, divided, state signalized arterial, 2 signals per mile
Peachtree Corners Circle	2L-1	2 Lane, undivided, signalized non-state roaday with left turn bays

Level of Service Standard
City of Peachtree Corners has no established standard therefore LOS D is used

Traffic Distribution
Shown in Table and Report

Presumptive Impact/Signficance Threshold

Roadway Segment	Facility Type*	LOS Standard	Service Volume (vpd)*	Adjusted Service Volumes (vpd)*	Project Traffic Distribution**	Project Trips Assigned (vpd)	% Adjusted Service Volume Consumed	Presumptive Impact (>7%)?
East Jones Bridge Road	2L-0	D	14,600	11,680	90%	2,080	18%	Yes
Jones Bridge Circle	2L-0	D	14,600	11,680	10%	240	2%	No
West Jones Bridge Road	2L-1	D	10,900	8,720	10%	240	3%	No
Peachtree Parkway N. of East Jones Bridge	4LD-1	D	35,000	35,000	55%	1,270	4%	No
Peachtree Parkway btw. East Jones Bridge & Peachtree Corners Cir.	4LD-1	D	35,000	35,000	35%	810	2%	No
Peachtree Parkway S. of Peachtree Corners Cir.	4LD-1	D	35,000	35,000	30%	700	2%	No
Peachtree Corners Circle E. of West Jones Bridge	2L-1	D	10,900	10,900	5%	120	1%	No
Peachtree Corners Circle W. of West Jones Bridge	2L-1	D	10,900	10,900	15%	350	3%	No

**Callouts and volumes derived from GRTA DRI Review Guidelines Table 5*

Base Trip Generation 2,301

***Distributed volumes rounded up to nearest 10*

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1.0 PURPOSE AND INTENTION

The purpose of this document is to present necessary information concerning the subject development for the Development of Regional Impact (DRI) pre-review meeting.

It is our contention that this development should be considered for expedited review through the Georgia Regional Transportation Authority (GRTA) and Atlanta Regional Commission (ARC) DRI process.

2.0 INTRODUCTION

East Jones Bridge, LLC intends to improve the property at 4411 East Jones Bridge Road in Peachtree Corners, GA. The property currently houses multiple office building structures totaling approximately 276,000 square feet and was most recently occupied by Fiserv for their corporate campus. When operational, Fiserv housed roughly 1,200 employees per day and an additional 100 visitors daily. The campus amenities included dining, a 34-room boutique hotel, fitness center, pool, basketball court, and additional programming space. In 1992, an special use permit was approved for a daycare on-site as well. There is an additional 100,000 square feet approved for the O-I parcel on the Checkfree side that was never built. There are walking trails throughout the property and roughly 390 surface parking. The property became vacant when Fiserv consolidated their operations in Alpharetta a few years ago.

3.0 REQUIRED INFORMATION FOR EXPEDITED REVIEW

3.1 Proposed Development

3.1.1 Description

The proposed development will construct age-restricted housing intended to provide senior living for adults in a variety of contexts from active living to assisted care. The proposed development will retain the existing buildings fronting the Chattahoochee River to house amenities. The site will comprise 916 dwelling units (DU). The anticipated open year of the development is 2023.

3.1.2 Future Lane Use

The future land use (FLU) plan for the City of Peachtree Corners does not anticipate significant changes in the area. The FLU map is contained in Appendix B.

3.1.3 Zoning

The zoning for the parcel in question is O-I, bordered by R-100 and RA-200 parcels. The zoning of the area is shown in Figure 2.

3.1.4 Other Plans or Projects

No corridor plans are in place or planned for East Jones Bridge Road. The City of Peachtree Corners Comprehensive Transportation Plan (CTP) identifies several short, medium, and long-term projects near the study area, however only one of them affects the traffic analysis pertinent to this DRI. That project is a bicycle project planned for mid-term (2022-3031) with no specific concept to date. The relevant CTP excerpts are contained in Appendix C.

3.2 Map of the Development Area

A map of the study area is presented in Figure 1 and a proposed site plan in Figure 3.

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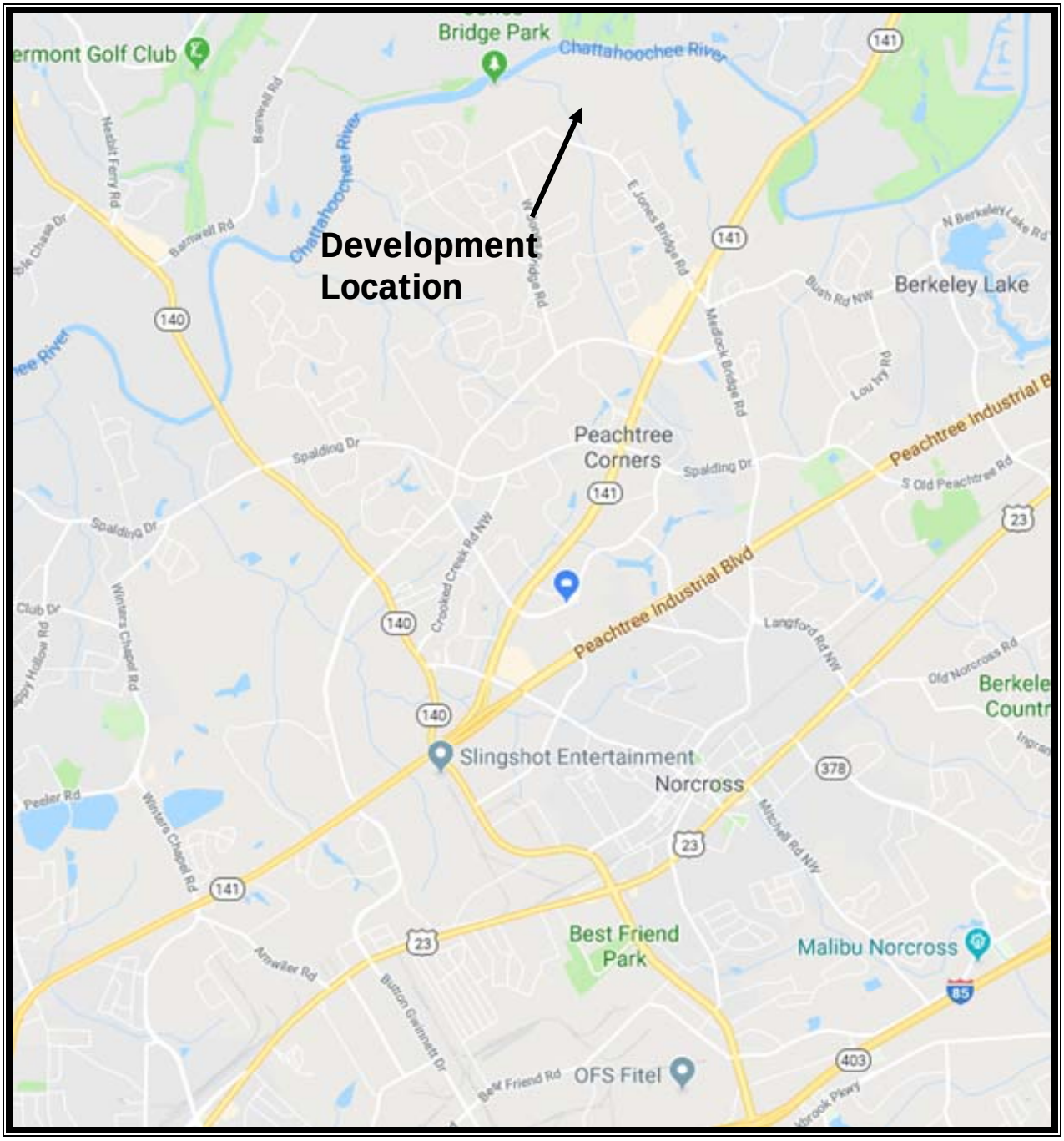
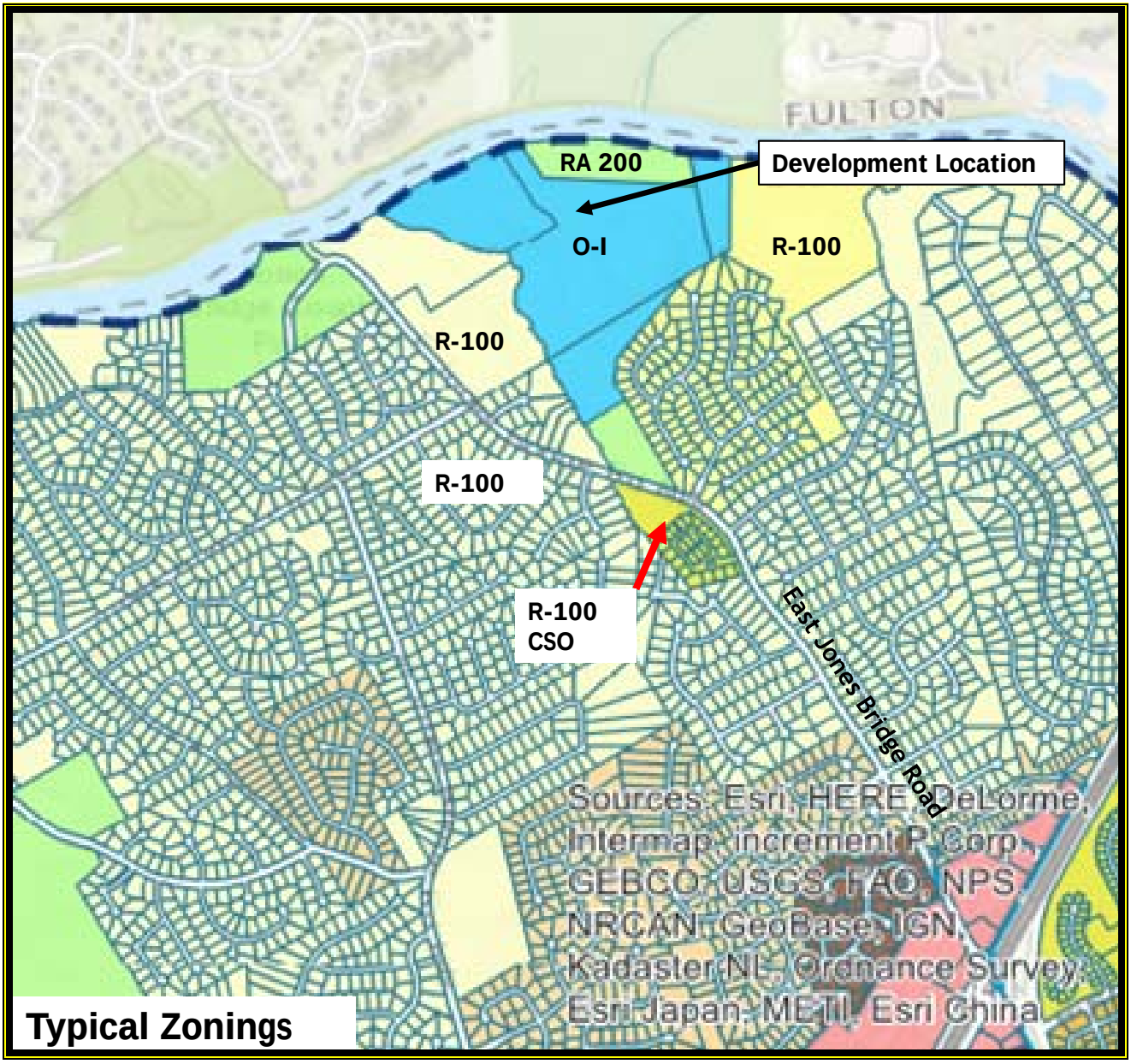
Figure 1: Study Area Map



Source: Google, Inc.

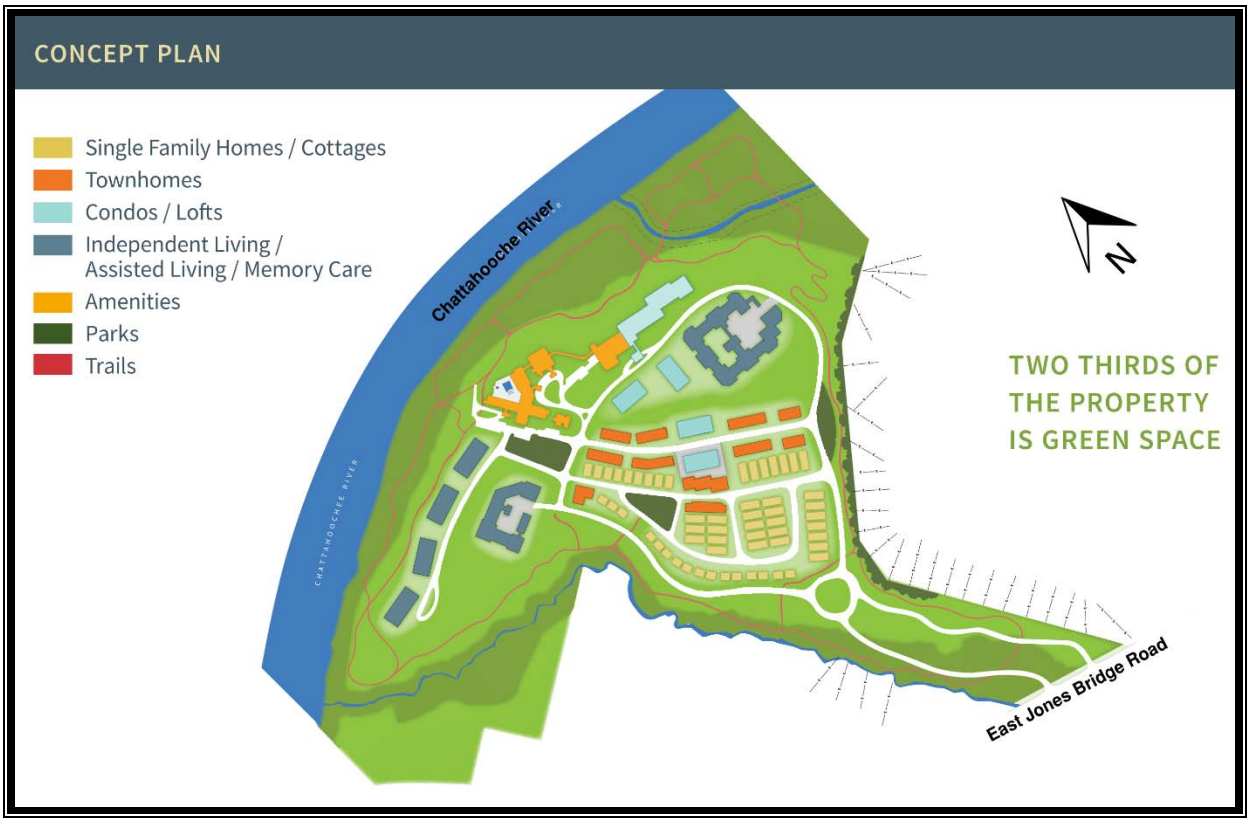
Figure 2: Zoning in Area



Source: City of Peachtree Corners

3.3 DRI Plan of Development (Site Plan)

Figure 3: Development Concept Plan



Source: East Jones Bridge, LLC

3.4 Conformance with Expedited Review Criteria

The development will generate less than 3,000 vehicular trips ends per day, all of which will be confined to a narrow set of roadways in the study area. As shown in Section 3.6.1, Seven Percent Evaluation, only one roadway will exceed a 7% threshold for added trips compared to service volumes. All other roadways are at 4% or less.

3.5 Trip Generation & Distribution

The total additional daily trips projected for this development is 2,301 vehicles per day (vpd).

Projected trips were generated per the *Institute of Transportation Engineers (ITE) Trip Generation Handbook*, 3rd Edition and the *ITE Trip Generation Manual,* 10th Edition. The land use of Continuing Care Retirement Community was chosen as the best fit for the development. This land use was used to generate daily and peak hour projections of new trips based on the fitted-curve equations within the land use code and the dependent variable of Dwelling Units (DU). The projected number of DUs for the 4411 East Jones Bridge

development is 916. No internal capture is used in this analysis and the development is not considered a multi-use or multi-modal site for purposes of the trip generation.

The projected trips are shown in Table 1 and the land use trip generation worksheets are shown in Appendix A.

Table 1: Projected Trip Generation

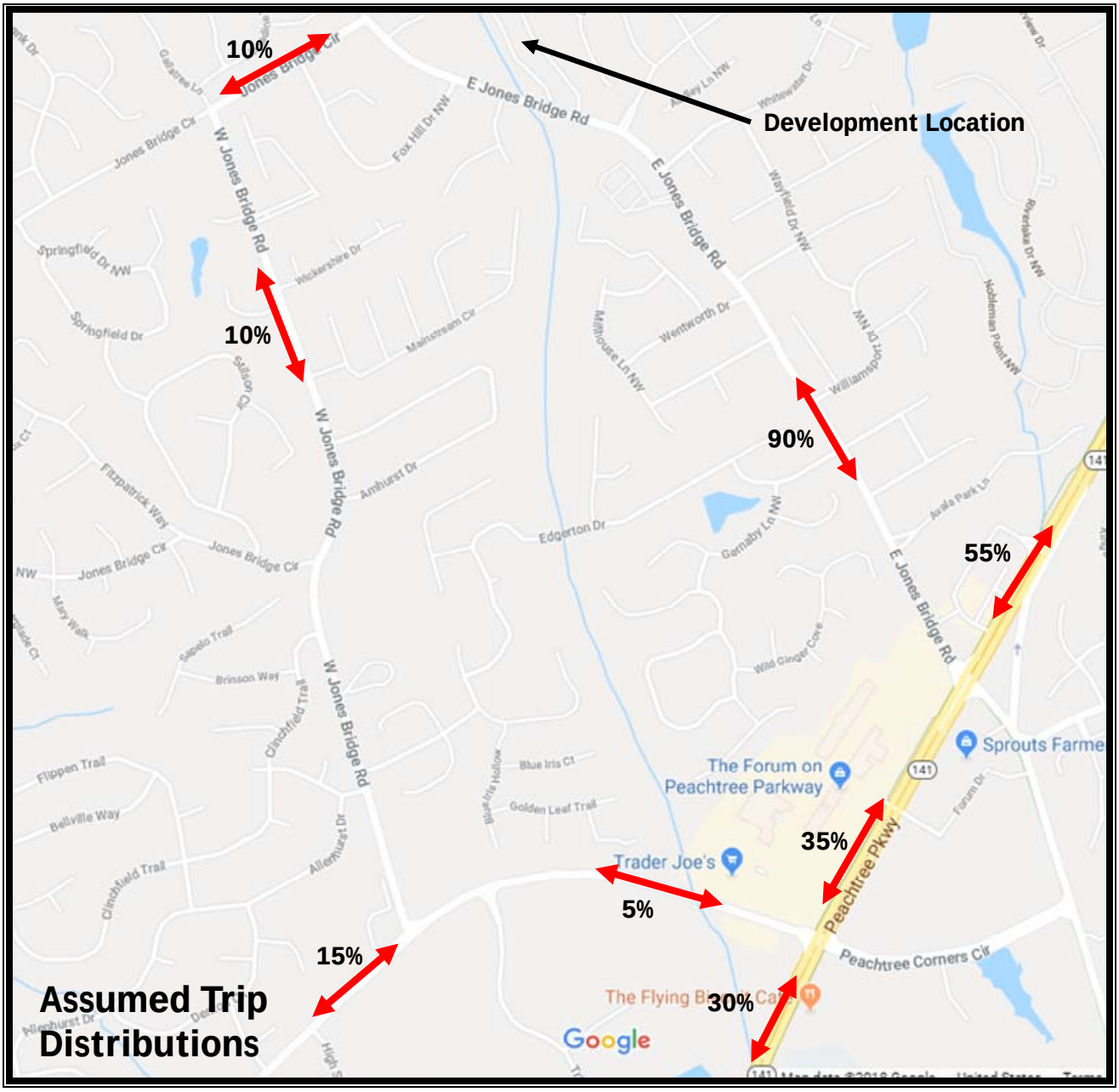
ITE Description	ITE Code	Unit	No. of Units	Daily Trip Generation		AM Peak Hour Trip Generation				PM Peak Hour Trip Generation			
				Rate	Trips	Rate	Trips			Rate	Trips		
							Total	Enter	Exit		Total	Enter	Exit
Continuing Care Retirement Community	255	DU	916	Eq = (2.32x +176.28) R^2=.98	2301	Eq= (0.13x+21 .28) R^2=.95	140	91	49	Eq= (0.13x+5 9.19) R^2=.95	178	71	107

Source: ITE Trip Generation Manual, 10th Edition

Trip Distribution for this report uses assumed percentages based on location of residential areas and higher volume areas. These percentages are shown in Figure 4. Some circulating traffic assumptions are represented in the percentages shown in the figure.

For the final DRI analysis trip distribution, we will use a combination of census tract analysis and existing volume distribution.

Figure 4: Assumed Trip Distribution



Source: Google, Inc.

3.6 Proposed Analysis Methodology

3.6.1 Seven Percent Evaluation

To determine what roadway segments should be included in the DRI analysis, a Seven Percent analysis was conducted on the existing roadway network, based on the assumed trip distribution shown in Figure 4 and the trip generation shown in Table 1. The results are shown

in Table 2. The City of Peachtree Corners has not established goal Levels of Service (LOS) ratings, therefore LOS D is used in the table.

As shown in Table 2, only East Jones Bridge Road exceeds 7% of service capacity of additional trips.

Table 2: Study Network Determination

Roadway Segment	Facility Type*	LOS Standard	Service Volume (vpd)*	Adjusted Service Volumes (vpd)*	Project Traffic Distribution**	Project Trips Assigned (vpd)	% Adjusted Service Volume Consumed	Presumptive Impact (>7%)?
East Jones Bridge Road	2L-0	D	14,600	11,680	90%	2,080	18%	Yes
Jones Bridge Circle	2L-0	D	14,600	11,680	10%	240	2%	No
West Jones Bridge Road	2L-1	D	10,900	8,720	10%	240	3%	No
Peachtree Parkway N. of East Jones Bridge	4LD-1	D	35,000	35,000	55%	1,270	4%	No
Peachtree Parkway btw. East Jones Bridge & Peachtree Corners Cir.	4LD-1	D	35,000	35,000	35%	810	2%	No
Peachtree Parkway S. of Peachtree Corners Cir.	4LD-1	D	35,000	35,000	30%	580	2%	No
Peachtree Corners Circle E. of West Jones Bridge	2L-1	D	10,900	10,900	5%	350	3%	No
Peachtree Corners Circle W. of West Jones Bridge	2L-1	D	10,900	10,900	15%	350	3%	No
						Base Trip Generation		2,301

**Callouts and volumes derived from GRTA DRI Review Guidelines Table 5*

***Distributed volumes rounded up to nearest 10*

3.6.2 Background Growth

We propose to calculate background growth with a combination of ARC travel demand model projections and local GDOT count station historical growth. ARC Model volumes have been requested but were not received at the time of this document's publication.

Current background growth values for selected GDOT count stations is shown in Table 3.

Table 3: GDOT Count Station Historical Growth

	Traffic Count Station	135-0232	135-6717	135-0432	135-0341
	Roadway	Peachtree Parkway Near Everett Court	Peachtree Corners Circle Near West Jones Bridge Road	Spalding Drive Between Peachtree Parkway and Medlock Bridge Road	Medlock Bridge Road Near Spalding Drive
Growth Rate Using Actual Counts	Years				
	5-Year	1.4%	1.6%	n/a	2.8%
	10-Year	-0.6%	0.9%	3.6%	0.7%
	15-Year	0.1%	0.7%	0.0%	2.2%

3.6.3 Relevant Other Projects

Two transportation projects in the vicinity are relevant for the DRI traffic analysis: Project CTP 11, an East Jones Bridge Road Bike Improvement and LCI 27, aligning the driveways of Ingles at the Forum near the intersection of East Jones Bridge Road and Peachtree Parkway. Project CTP 11 is a mid-term (2022-2031) improvement with an undefined scope at this time and LCI 27 is identified as short-term (2018-2021).

All CTP projects within the study area are shown in Appendix C.

3.6.4 Analysis Tools

The traffic analysis software Synchro and its internal Highway Capacity Manual (HCM) module will be used to perform operational analysis for the study area intersections. Using the methods described in the HCM, Synchro evaluates the performance of an intersection or group of intersections. It determines the average delay experienced by each vehicle due to traffic control devices, which then provides a Level of Service (LOS). Definitions of LOS for Stop Controlled and Signalized intersections are shown in Table 4 and will be used for this DRI analysis.

Peak hour factors will be evaluated after traffic counts are gathered. Default saturation flow rates (1900 vphpl) will be used. A volume to capacity ratio of 1.2 or greater will be regarded as failing per the DRI guidelines.

Table 4: Level of Service Definitions

Level of Service	Control Delay Per Vehicle (sec)	
	Stop Controlled Intersection	Signalized Intersection
A	≤ 10	≤ 10
B	> 10 and ≤ 15	> 10 and ≤ 20
C	> 15 and ≤ 25	> 20 and ≤ 35
D	> 25 and ≤ 35	> 35 and ≤ 55
E	> 35 and ≤50	> 55 and ≤ 80
F	>50	> 80

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APPENDIX A: TRIP GENERATION WORKSHEETS

Continuing Care Retirement Community
(255)

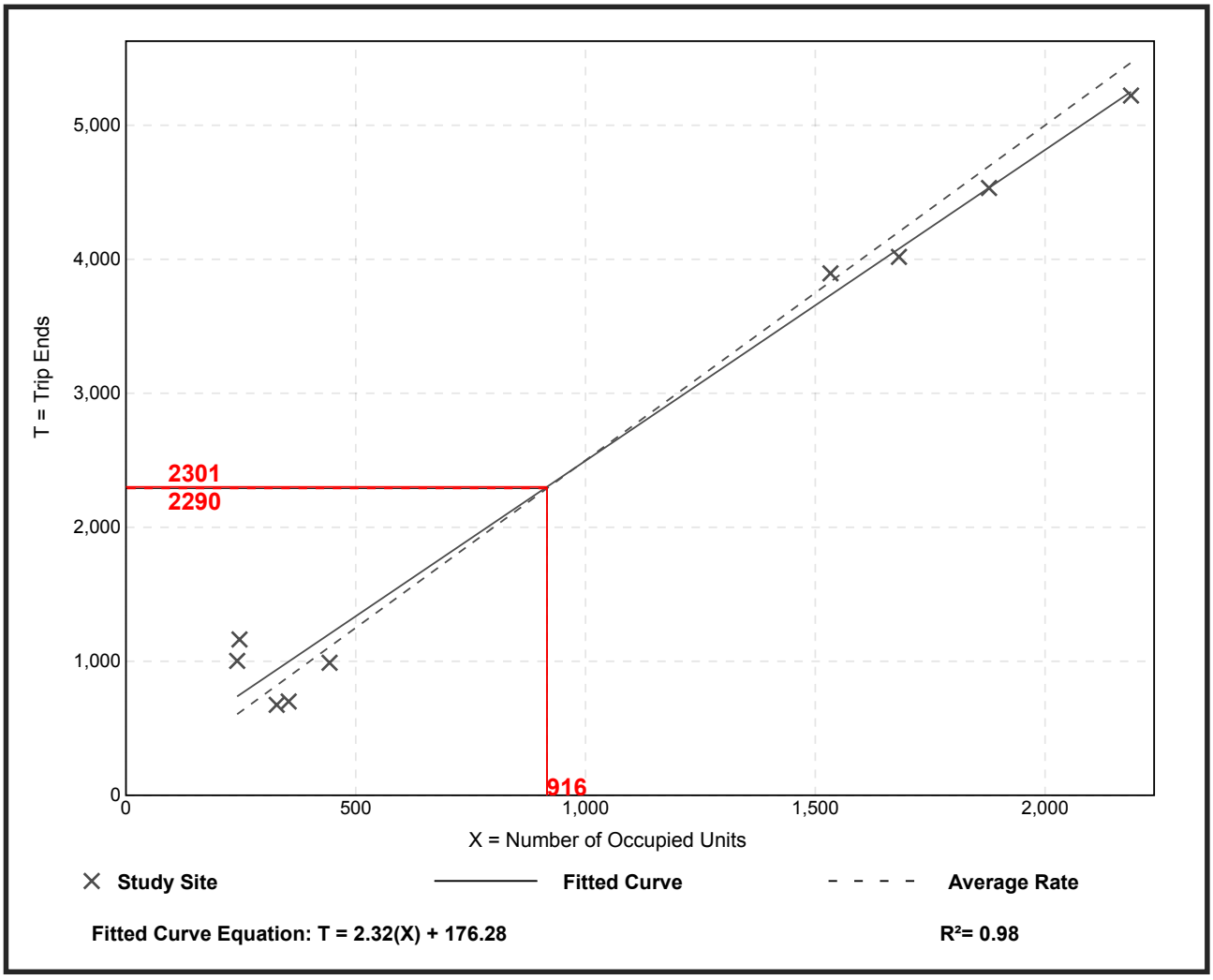
Vehicle Trip Ends vs: **Occupied Units**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 9
Avg. Num. of Occupied Units: 988
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Occupied Unit

Average Rate	Range of Rates	Standard Deviation
2.50	1.98 - 4.71	0.52

Data Plot and Equation



Trip Generation Manual, 10th Edition ● Institute of Transportation Engineers

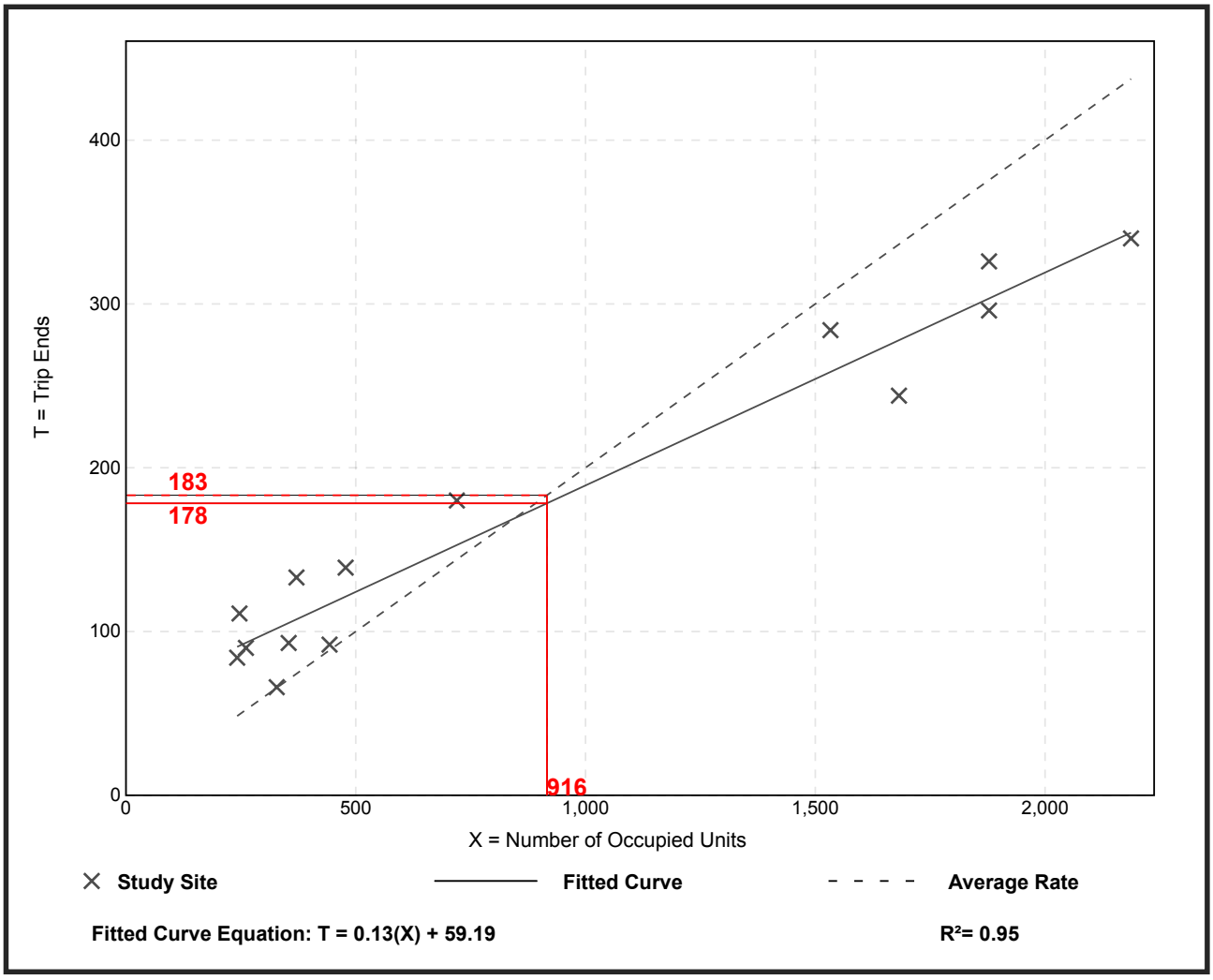
Continuing Care Retirement Community
(255)

Vehicle Trip Ends vs: **Occupied Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 14
Avg. Num. of Occupied Units: 900
Directional Distribution: 40% entering, 60% exiting

Vehicle Trip Generation per Occupied Unit

Average Rate	Range of Rates	Standard Deviation
0.20	0.15 - 0.45	0.07

Data Plot and Equation



Trip Generation Manual, 10th Edition ● Institute of Transportation Engineers

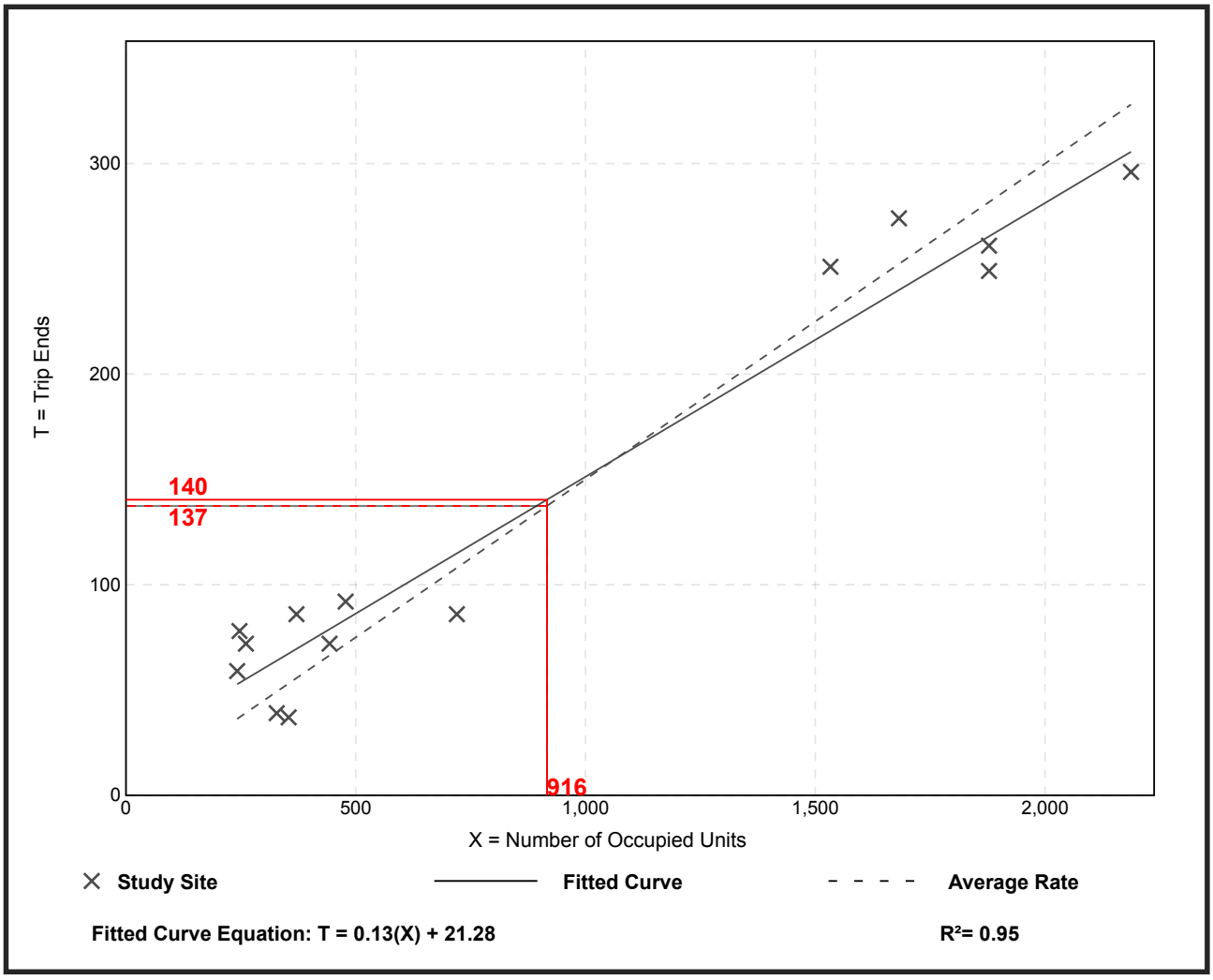
Continuing Care Retirement Community
(255)

Vehicle Trip Ends vs: **Occupied Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 14
Avg. Num. of Occupied Units: 900
Directional Distribution: 65% entering, 35% exiting

Vehicle Trip Generation per Occupied Unit

Average Rate	Range of Rates	Standard Deviation
0.15	0.10 - 0.32	0.04

Data Plot and Equation



Trip Generation Manual, 10th Edition ● Institute of Transportation Engineers

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APPENDIX B: FUTURE LAND USE MAP

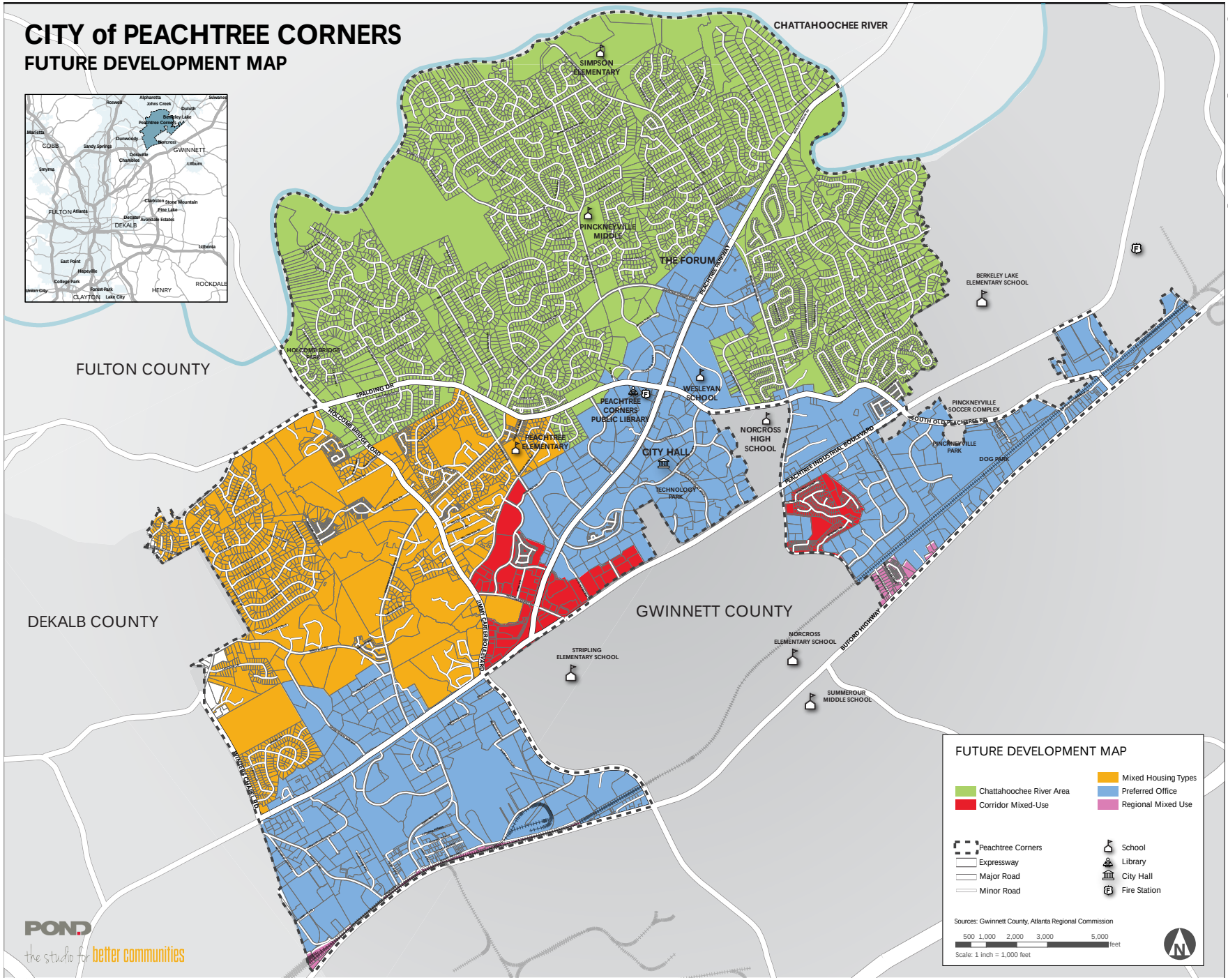

Figure 8. Map: Future Development

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APPENDIX C: COMPREHENSIVE TRANSPORTATION PLAN

EXCERPT

Figure 27 - Short Term Improvements

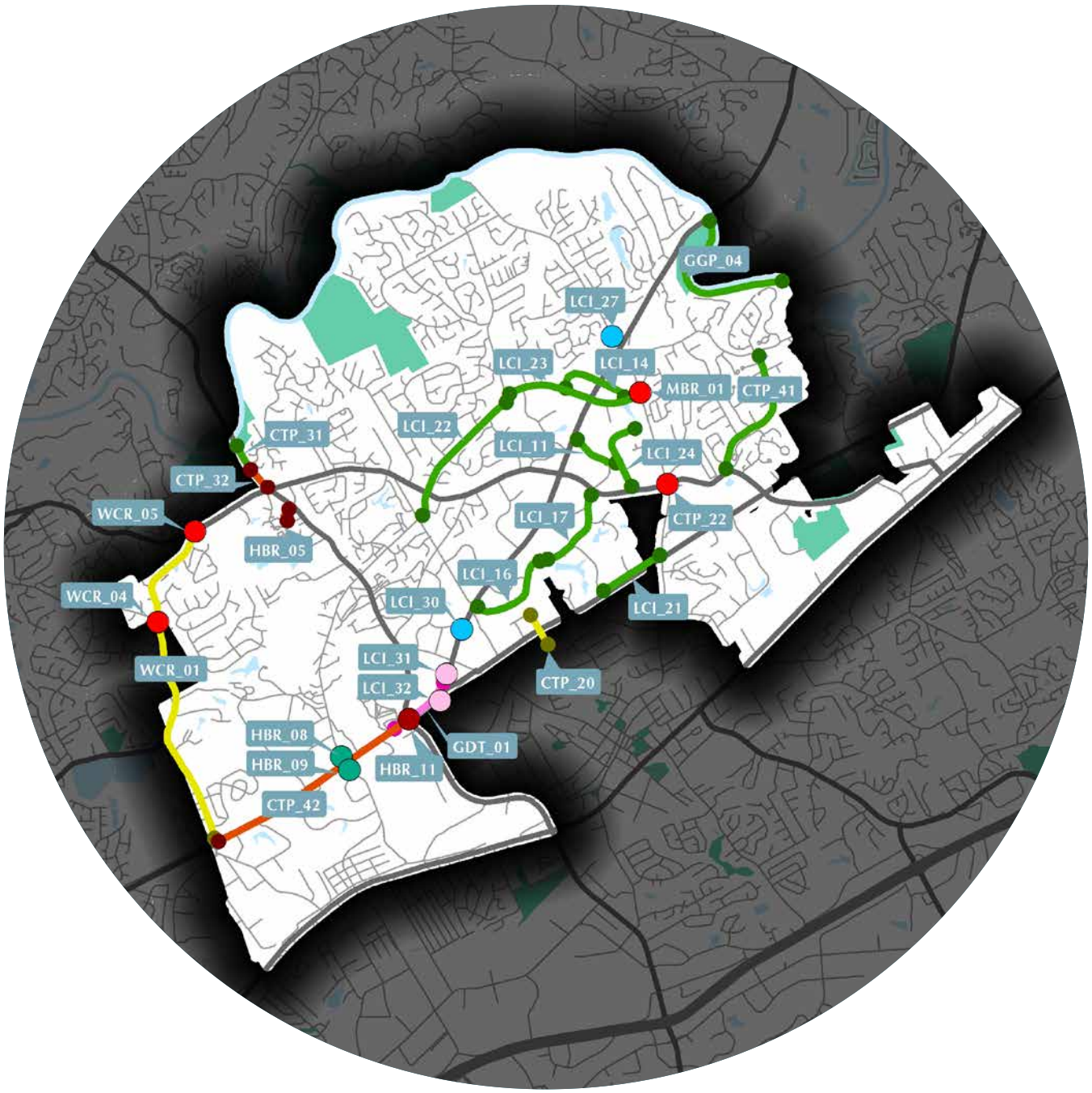


Table 12 - Short Term Improvements

Project ID	Name	Category	Total Prioritization Score
GDT_01*	SR 141 SB Ramp Widening	Major Corridor Improvement	69.38
WCR_05*	Winters Chapel Road and Spalding Drive Intersection Improvement	Operational Intersection Improvement	62.33
MBR_01*	Medlock Bridge Road and Peachtree Corners Circle Roundabout	Operational Intersection Improvement	59.50
WCR_04	Dunwoody Club Drive and Winters Chapel Road Intersection Improvement (NBL Turn Lane)	Operational Intersection Improvement	57.58
LCI_14	Multi-Use Trail near the Forum and Town Center, including a grade-separated crossing of Peachtree Parkway	Multi-Use Trail	57.50
HBR_09	Peachtree Corners Circle at PIB NB Intersection Improvements	Pedestrian Improvement/ Operational Improvement	56.63
HBR_08	Peachtree Corners Circle at PIB SB Intersection Improvements	Pedestrian Improvement/ Operational Improvement	55.88
LCI_21	Trail along Peachtree Industrial Boulevard from Technology Parkway South to Medlock Bridge Road	Multi-Use Trail	53.88
LCI_22	Multi-use trail along Peachtree Corners Circle from Jay Bird Alley to West Jones Bridge Road	Multi-Use Trail	52.13
HBR_11	Jimmy Carter Blvd at PIB Intersection Improvements	Additional Study	51.00
CTP_31	Chattahoochee River Greenway - Holcomb Bridge Road Connector	Multi-Use Trail	50.75
CTP_22	Medlock Bridge Road at Spalding Drive/S. Old Peachtree Road Intersection Improvement	Operational Intersection Improvement	48.92
CTP_32	Holcomb Bridge Road at Spalding Drive and River Exchange Drive/Station Mill Drive Improvements	Additional Study	48.00
LCI_30	Woodhill Drive on Peachtree Parkway Left Turn Guides	Intersection Safety Improvement	45.67
LCI_27	Align Forum/Ingles Driveways	Intersection Safety Improvement	44.50
LCI_31	Peachtree Parkway SB Directional Signage	Other	43.50
LCI_32	Peachtree Parkway NB Advance Warning Signage	Other	42.75
CTP_42	Peachtree Industrial Boulevard Access Study	Additional Study	42.50
LCI_17	Technology Parkway multi-use trail east	Multi-Use Trail	41.50
CTP_41	Lou Ivy Road Trail	Multi-Use Trail	41.25
LCI_11	Wesleyan Campus Trail	Multi-Use Trail	41.00
CTP_20	Norcross Bike and Pedestrian Connectivity	Other	38.50
LCI_24	Spalding Terrace Trail	Multi-Use Trail	38.50
LCI_16	Technology Parkway multi-use trail west	Multi-Use Trail	34.50
GGP_04	Chattahoochee River Greenway - Medlock Bridge to Berkley Lake	Multi-Use Trail	32.25
WCR_01	Winters Chapel Road Reflective Pavement Markers	Other	31.50

An askterisk (*) denotes a project that is underway (or comtains some component that is undersay)

Figure 28 - Mid-Term Improvements

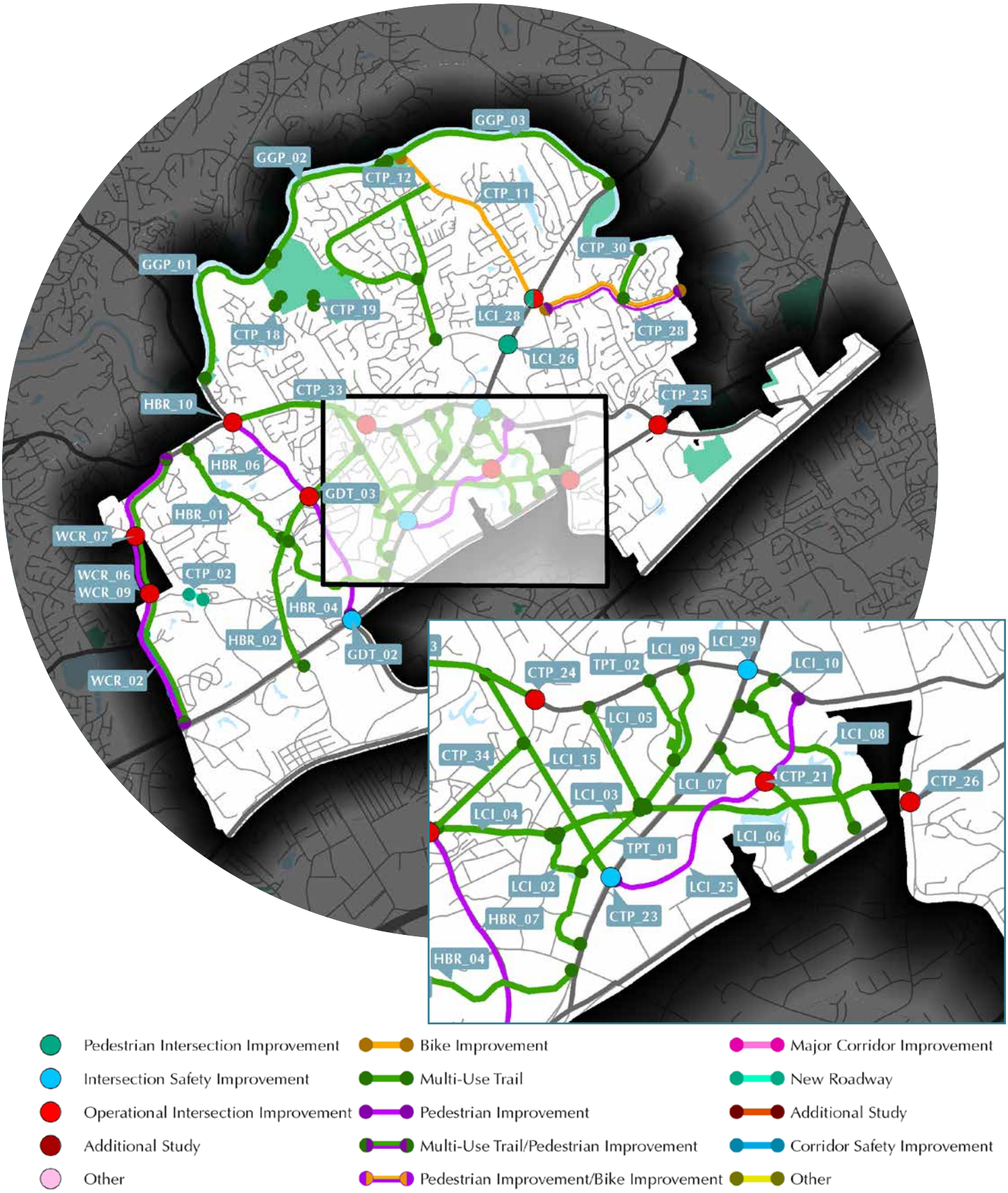


Table 13 - Mid-Term Improvements

Project ID	Name	Category	Total Prioritization Score
GDT_02	Jimmy Carter Blvd at PIB Intersection Improvements	Intersection Safety Improvement	73.08
HBR_04	Crooked Creek Trail South	Multi-Use Trail	64.63
GDT_03*	Holcomb Bridge Road at Peachtree Corners Circle Intersection Improvement	Operational Intersection Improvement	60.58
HBR_07*	Holcomb Bridge Road Pedestrian Improvements, Peachtree Corners Circle to SR 141/Peachtree Industrial Boulevard	Pedestrian Improvement	60.38
HBR_10	Spalding Drive at Holcomb Bridge Rd Intersection Improvements	Operational Intersection Improvement	60.33
CTP_11	East Jones Bridge Road Bike Improvement	Bike Improvement	59.00
HBR_06	Holcomb Bridge Road Pedestrian Improvements, Spalding Drive to Peachtree Corners Circle	Pedestrian Improvement	58.88
LCI_28	Medlock Bridge Road at East Jones Bridge Road Pedestrian Retiming	Pedestrian Improvement/ Operational Improvement	58.13
LCI_02	Multi-Use Trail connecting Peachtree Parkway to the Corners Parkway via alleys, easements, and creekbeds	Multi-Use Trail	55.50
CTP_33	Spalding Drive Multi-Use Trail from Peachtree Corners Circle to Holcomb Bridge Road	Multi-Use Trail	54.75
WCR_07	Dunwoody Club Drive and Winters Chapel Road Intersection Improvement (Roundabout)	Operational Intersection Improvement	53.00
HBR_01	Crooked Creek Trail from Spalding Drive to Peachtree Corners Circle	Multi-Use Trail	52.75
CTP_02	Reconnect Jones Mill Road	New Roadway	52.38
CTP_19	Simpsonwood Park - River Valley Connector	Multi-Use Trail	51.88
LCI_04	Gas Easement Trail - Holcomb Bridge Road to The Corners Parkway	Multi-Use Trail	51.63
LCI_23	Multi-use trail along north side of Peachtree Corners Circle from West Jones Bridge Road to Medlock Bridge Road	Multi-Use Trail	51.63
CTP_34	Peachtree Corners Circle Multi-Use Trail	Multi-Use Trail	51.38
LCI_26	Peachtree Parkway at Peachtree Corners Circle Signal Retiming and Pedestrian Refuge	Pedestrian Improvement	50.75
CTP_12	West Jones Bridge Road/Jones Bridge Circle - Simpsonwood Park Connecting Trail	Multi-Use Trail	49.75
LCI_25*	Technology Parkway "Innovation District" Streetscape	Pedestrian Improvement	49.63
GGP_01	Chattahoochee River Greenway - Holcomb Bridge to Simpsonwood	Multi-Use Trail	49.50
WCR_02	Restripe Winters Chapel Road with Two-Way Left Turn Lane	Corridor Safety Improvement	49.50
CTP_23	Jay Bird Alley/Technology Parkway Lane Alignment	Intersection Safety Improvement	49.25

An askterisk (*) denotes a project that is underway (or comtains some component that is undersay)

Table 13 continued- Mid-Term Improvements

Project ID	Name	Category	Total Prioritization Score
CTP_28	Bush Road Bike/Ped Improvements	Pedestrian Improvement/Bike Improvement	48.63
LCI_06	Gas Easement Trail - Peachtree parkway to Medlock Bridge Road	Multi-Use Trail	47.25
CTP_26	Medlock Bridge Road at Peachtree Industrial Boulevard Intersection Improvement	Operational Intersection Improvement	46.25
HBR_02	Peachtree Corners Circle Trail from Holcomb Bridge Road to Peachtree Industrial Boulevard	Multi-Use Trail	45.63
LCI_29	Spalding Drive at Peachtree Parkway Left Turn Lane Extension	Intersection Safety Improvement	45.50
LCI_03	Gas Easement Trail - The Corners Parkway to east of Parkway Lane	Multi-Use Trail	44.50
CTP_25	S. Old Peachtree Road at Peachtree Industrial Boulevard Intersection Improvement	Operational Intersection Improvement	44.08
LCI_10	Connecting trail between Spalding Drive and LCI_08	Multi-Use Trail	43.50
LCI_09	Trail connecting Spalding Drive to gas easement trail north of Peachtree Parkway via waterways and Sun Court	Multi-Use Trail	41.13
LCI_15	Jay Bird Alley multi-use trail	Multi-Use Trail	41.13
CTP_24	Peachtree Corners Circle at Spalding Drive Intersection Improvement	Operational Intersection Improvement	40.75
GGP_02	Chattahoochee River Greenway - Simpsonwood to Jones Bridge	Multi-Use Trail	40.63
TPT_01	Creekbed multi-use trail from LCI_02 to gas easement trails	Multi-Use Trail	39.50
CTP_18	Simpsonwood Park - Neely Farm Connector	Multi-Use Trail	39.25
TPT_02	Trail in buffer areas around buildings from LCI_09 just north of Engineering Drive to Spalding Drive	Multi-Use Trail	37.63
WCR_06	Winters Chapel Road and Sumac Drive Intersection Improvement	Operational Intersection Improvement	36.25
LCI_08	Trail from Peachtree Parkway to Peachtree Industrial Boulevard along Saturn Court, private roadways, and buffer areas between buildings	Multi-Use Trail	36.13
LCI_07	Trail from Peachtree Parkway to Peachtree Industrial Boulevard along Technology Parkway South and buffer areas between buildings	Multi-Use Trail	35.88
LCI_05	Trail connecting Spalding Drive to gas easement trail north of Peachtree Parkway	Multi-Use Trail	35.25

An askterisk (*) denotes a project that is underway (or comtains some component that is undersay)

Table 13 continued- Mid-Term Improvements

Project ID	Name	Category	Total Prioritization Score
GGP_03	Chattahoochee River Greenway - Jones Bridge to Medlock Bridge	Multi-Use Trail	33.13
CTP_30	Chattahoochee River Greenway - Bush Road Connector	Multi-Use Trail	33.00
CTP_21	Technology Parkway at Technology Parkway South Roundabout	Operational Intersection Improvement	32.25
WCR_09*	Winters Chapel Trail and Sidewalk Improvements	Multi-Use Trail/Pedestrian Improvement	30.50

An askterisk (*) denotes a project that is underway (or comtains some component that is undersay)

Figure 29 - Long Term Improvements

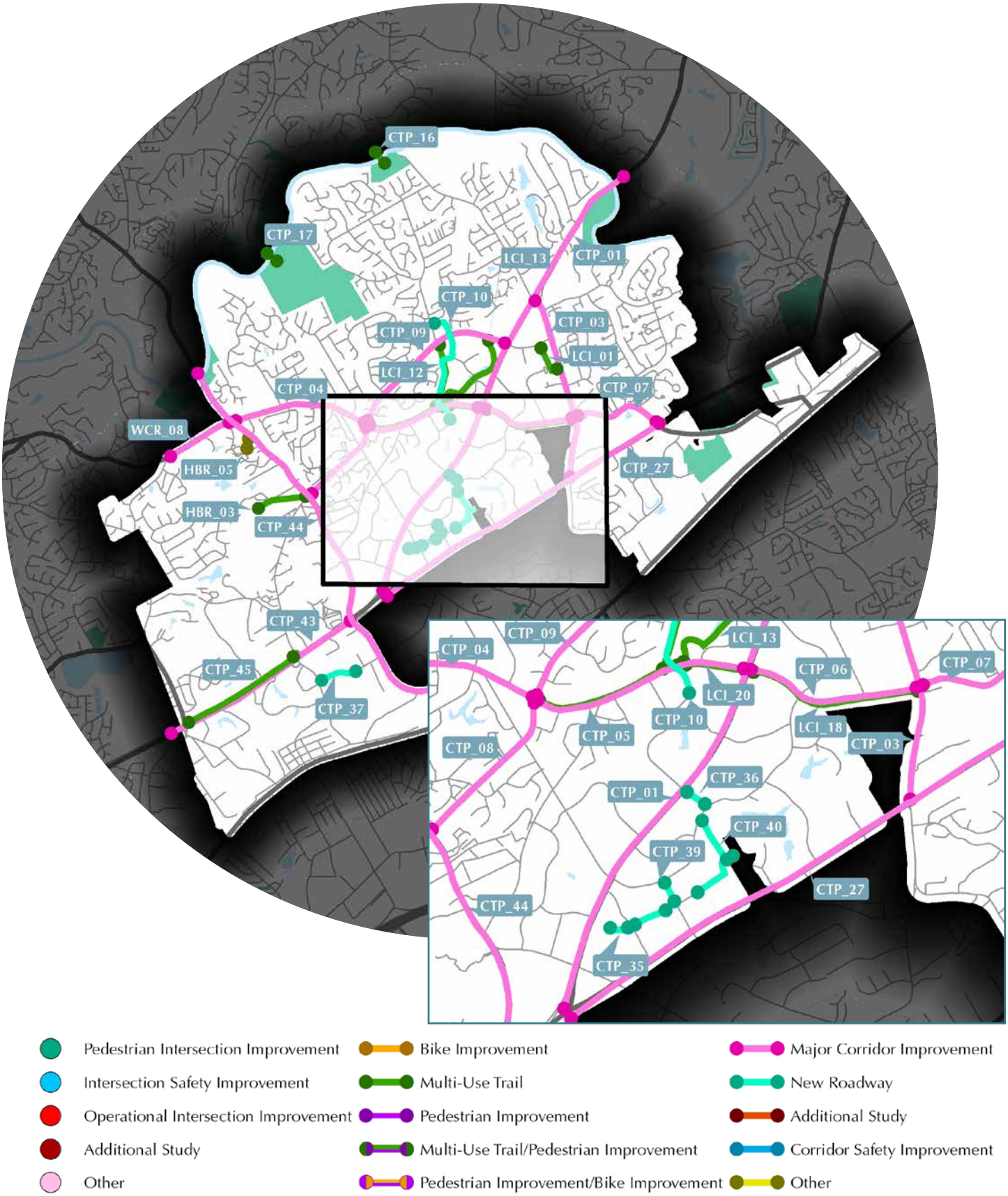


Table 14 - Long Term Improvements

Project ID	Name	Category	Total Prioritization Score
CTP_04	Widen Spalding Drive/S. Old Peachtree Road - Western Segment	Major Corridor Improvement	70.88
CTP_01	SR 141/Peachtree Parkway Major Capacity Improvement	Major Corridor Improvement	69.13
CTP_03	Widen Medlock Bridge Road	Major Corridor Improvement	68.63
CTP_27	Peachtree Industrial Boulevard Capacity Improvement	Major Corridor Improvement	65.75
WCR_08*	Spalding Drive Improvements - Winters Chapel Road to SR 140/Holcomb Bridge Road	Major Corridor Improvement/ Intersection/Operational Improvement	61.75
CTP_06	Widen Spalding Drive/S. Old Peachtree Road - East Central Segment	Major Corridor Improvement	61.63
CTP_05	Widen Spalding Drive/S. Old Peachtree Road - West Central Segment	Major Corridor Improvement	59.13
CTP_44	SR 140/Jimmy Carter Boulevard/Holcomb Bridge Road Major Capacity Improvement	Major Corridor Improvement	59.00
CTP_08	Peachtree Corners Circle Capacity and Safety Improvements - Southwestern Segment	Major Corridor Improvement	56.13
LCI_13	Trail along buffer space and local waterways connecting Spalding Drive near Post Office with Forum	Multi-Use Trail	55.25
HBR_03	Gas Easement Trail - Crooked Creek to Holcomb Bridge Road	Multi-Use Trail	53.50
LCI_18	Spalding Drive Trail East	Multi-Use Trail	52.50
CTP_43	SR 141/Peachtree Industrial Boulevard Major Capacity Improvement	Major Corridor Improvement	51.75
CTP_10	West Jones Bridge Road Extension	New Roadway	51.63
CTP_09	Peachtree Corners Circle Capacity and Safety Improvements - Northeastern Segment	Major Corridor Improvement	51.13
CTP_35	Woodhill Drive Extension	New Roadway	48.75
LCI_19	Spalding Drive Trail Center	Multi-Use Trail	48.63
CTP_39	Peachtree Corners East Extension North	New Roadway	48.50
CTP_40	Peachtree Corners East Extension East	New Roadway	46.75
CTP_36	Engineering Drive Extension	New Roadway	45.63
CTP_07	Widen Spalding Drive/S. Old Peachtree Road - Eastern Segment	Major Corridor Improvement	44.25
LCI_20	Spalding Drive Trail from east of Engineering Drive to Peachtree Parkway	Multi-Use Trail	42.50
LCI_01	Town Center Southeast Connector	Multi-Use Trail	42.00
LCI_12	West Jones Bridge extension trail	Multi-Use Trail	40.25
CTP_17	Simpsonwood - Chattahoochee River Environmental Education Center Connector	Multi-Use Trail	39.25
CTP_38	Peachtree Corners East Extension West	New Roadway	36.25

An askterisk (*) denotes a project that is underway (or comtains some component that is undersay)

Table 14 continued- Long Term Improvements

Project ID	Name	Category	Total Prioritization Score
CTP_37	Atlantic Boulevard Extension	New Roadway	35.75
CTP_45	Peachtree Industrial Boulevard Northside Trail	Multi-Use Trail	35.00
CTP_16	Jones Bridge Park Connector	Multi-Use Trail	28.50
HBR_05	Deerings Lane Access	Other	26.25

An askterisk (*) denotes a project that is underway (or comtains some component that is undersay)

CTP_11 East Jones Bridge Road Bike Improvement

Project Source: Peachtree Corners CTP

Project Category: Bike Improvement

Corridor: East Jones Bridge Road

Length (feet): 9,184

From: Medlock Bridge Road

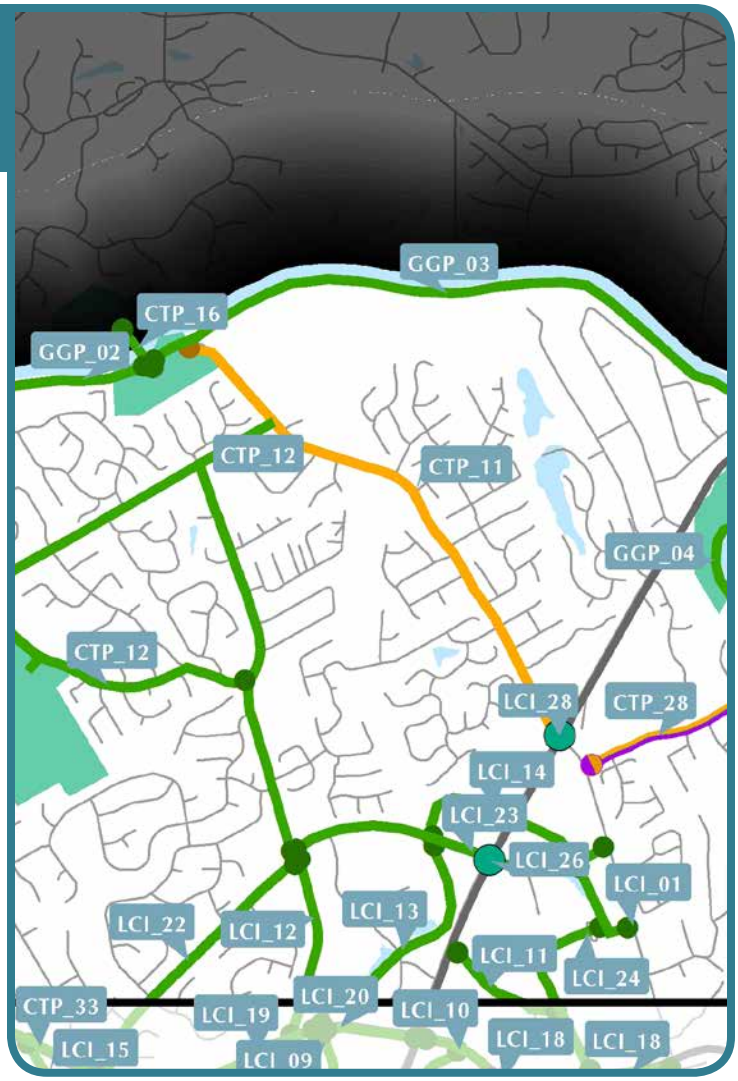
To: Jones Bridge Circle

Existing Condition: No bike facilities

Proposed Condition: Addition of bike facilities, specific type yet to be determined

Implementation Phase: Mid-Term (2022-2031)

Additional Notes:



Prioritization Scores

Technical Score (35%)	4.00
Feasibility Score (15%)	9.00
Project Type Score (10%)	0.00
CTP Goals Score (10%)	6.00
Public Support Score (30%)	8.50
Total Prioritization Score (out of 100)	59.00

Planning Level Cost Estimate

Preliminary Engineering	$1,123,000
Right of Way	$369,000
Construction	$7,155,000
Contingency	$2,147,000
Total Cost	$10,794,000

GGP_03 Chattahoochee River Greenway - Jones Bridge to Medlock Bridge

Project Source: Gwinnett Greenways Plan

Project Category: Multi-Use Trail

Corridor: Chattahoochee River

Length (feet): 11,296

From: Jones Bridge Park

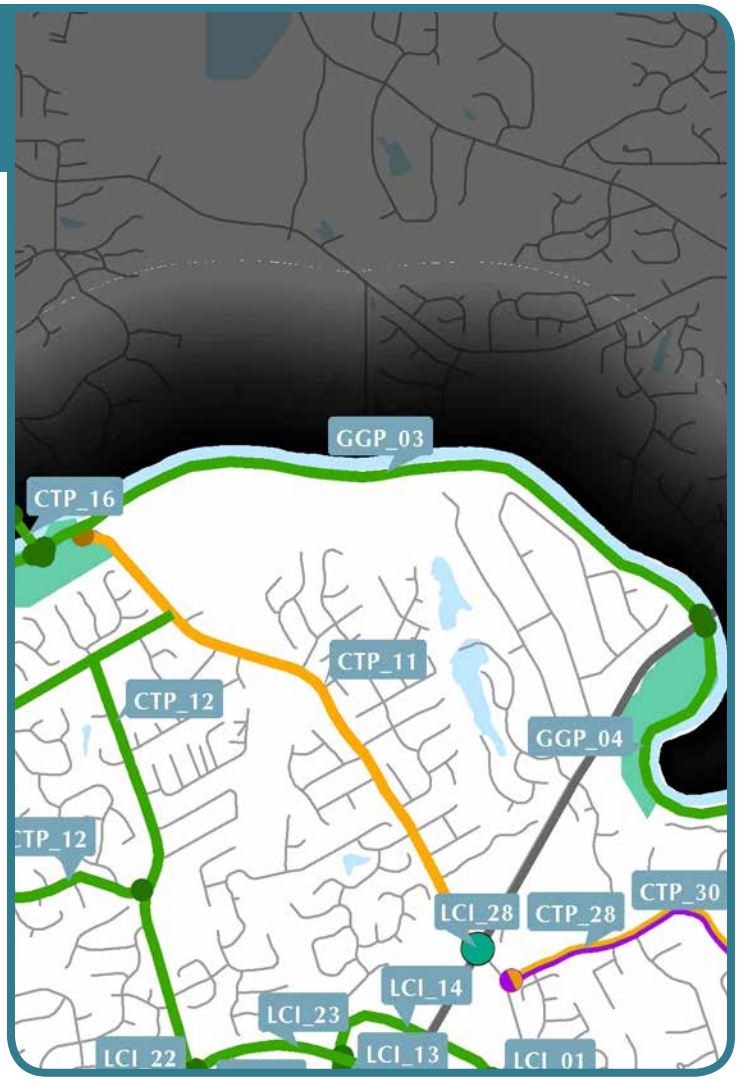
To: SR 141/Medlock Bridge Road

Existing Condition: Riverbed

Proposed Condition: Multi-use trail

Implementation Phase: Mid-Term (2022-2031)

Additional Notes:



Prioritization Scores

Technical Score (35%)	1.75
Feasibility Score (15%)	7.00
Project Type Score (10%)	3.00
CTP Goals Score (10%)	9.00
Public Support Score (30%)	1.50
Total Prioritization Score (out of 100)	33.13

Planning Level Cost Estimate

Preliminary Engineering	$131,000
Right of Way	$778,000
Construction	$656,000
Contingency	$197,000
Total Cost	$1,762,000

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APPENDIX H: GRTA LETTER OF UNDERSTANDING

LETTER OF UNDERSTANDING

February 12, 2018

Ty White
East Jones Bridge, LLC
2494 Jett Ferry Rd # 202
Dunwoody, GA 30338

RE: **DRI 2783 Fiserv Property Redevelopment**

Dear Mr. White:

The purpose of this letter is to inform you of the GRTA staff recommendation regarding your request for expedited review of DRI **2783 Fiserv Property Redevelopment** Development of Regional Impact (DRI). Based on the information presented during the Pre-Review Meeting at Atlanta Regional Commission held on February 5, 2018, the DRI meets the criteria for expedited review under the DRI *Procedures and Principles for GRTA Development of Regional Impact Review* Section 3-102.B.2., Limited Trip Generation, which the development is estimated to generate more than one thousand (1,000) but no more than three thousand (3,000) gross daily trips. A Trip Generation Memo and Access Analysis are required as part of the review under this criteria. Some of the following items were discussed in the meeting and should assist you and your consultant team in preparing the DRI Review Package.

Project Overview

- This proposed development is located in the City of Peachtree Corners at 4411 East Jones Bridge Road, approximately one-mile northwest of Peachtree Parkway/SR 141.
- The DRI trigger for this development is a Special Use Permit.
- The proposed development consists of 916 age-restricted residential units.
- The development currently proposes access via one entrance and one exit to the site along East Jones Bridge Road.
- Trip generation is estimated at 2,301 gross daily trips based on the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition, 2012.
- The project will be built in one phase, to be completed by 2023.

Methodology for Analysis

- All intersections identified as within the study network shall be analyzed during the AM and PM peak period for (1) existing conditions, (2) future “no-build” conditions and (3) future “build” conditions. This DRI shall be reviewed in one phase completed by 2023.
- A 1.5% annual background traffic rate shall be used for all roadways. Trip generation information for any other major developments currently underway in the study area shall be taken into consideration.
- Capacity analysis shall be based on turning movement counts collected not more than 12-months prior to the date of the actual DRI submittal to GRTA. As appropriate, pedestrian counts and heavy vehicle counts shall

be collected with vehicle counts and considered within the capacity analysis. Turning movement counts shall be collected while local schools are in session and ordinarily not between the week of Thanksgiving and the second week of January or any week of a major holiday.

- The Level of Service (LOS) standard for all analyses shall be LOS D.
- Default values should not be assumed in the traffic modeling. Existing conditions shall be taken into account.
- The applicant shall research TIP, STIP, RTP, and GDOT's construction work program, as well as any local government plans (SPLOST, CIP, etc.), to determine the open-to-traffic date, sponsor, cost of the project, funding source(s), for future roadway projects in the project vicinity. This information shall be included within the traffic analysis.

STUDY NETWORK

1. E. Jones Bridge Road at Jones Bridge Circle
2. E. Jones Bride Road at Bridgeport Lane NW
3. E. Jones Bridge Road at Peachtree Parkway
4. All Site Accesses

ADDITIONAL INFORMATION

Every roadway segment and intersection listed above will be analyzed for "required improvements." If the existing LOS for the segment or intersection is below the applicable level of service for a particular time period (e.g., A.M. peak period, P.M. peak period, etc.), then the measured LOS service for that segment and time periods is the standard by which the "base" and "future" traffic conditions will be designed. For example, if the City's LOS standard is LOS D, but an intersection or segment currently operates at LOS E for a certain peak period, then the LOS standard for that intersection or segment for "base" and "future" conditions becomes LOS E (only for that intersection and only for that peak period). The "base" is the phase year traffic without the development traffic (also called future "no-build" conditions) and the "future" is the phase year with the development traffic (also called future "build" conditions). As required in the technical guidelines, specific "required improvements" will be identified to bring the "base" LOS and "future" LOS for every roadway segment and intersection up to the applicable LOS standard. If the existing LOS for the segment or intersection is LOS F, then the future "no-build' and future "build" LOS standard will be LOS E. The improvements required to achieve the desired LOS standard will be provided in a table and graphic within the study. The traffic study should indicate the existing roadway laneage at each studied intersection as well as the laneage required (to meet the LOS standard) for future "no-build" and future "build" conditions. The improvements may include both programmed improvements and improvements identified in the study.

The planned and programmed improvement should indicate the project sponsor, the anticipated funding by source (federal, state, city/county, developer, CID, etc.), the year open-to-traffic, and estimate of the total project cost. All other required improvements identified in the study should, to the extent known, identify the cost, sponsor, funding, and timing. If any of these elements are not known, please state as "unknown."

The future "no-build" and the future "build" analyses should NOT automatically include/assume the additional lanes/capacity associated with planned and programmed improvement projects unless those roadway projects are currently under construction. Instead, the traffic consultant should recommend the additional laneage required to satisfy the level of service standard.

DRI REVIEW PACKAGE CHECKLIST

Please use the DRI Review Package Checklist to help you prepare your GRTA DRI Review Package for expedited review of your application. The Checklist reflects the understandings set forth in this letter, and is incorporated into this letter by reference.

The site plan shall be prepared in accordance with Section 4-104 of the DRI Review Package Technical Guidelines and it shall be dated, and shall be at a scale of 1"= 200' or larger (showing more detail). The site plan shall be consistent with GRTA's Site Plan Information Guidelines, which represents the minimum required information on site plans.

The applicant shall indicate on the site plans all adjacent land uses, current zoning, and future land use as indicated on the future land use map. Additionally, all existing and proposed sidewalks, existing and proposed pedestrian trails, and existing and proposed roadway laneage should be indicated on the site plan.

DRI REVIEW PACKAGE SUBMITTAL

At the time you are ready to submit your DRI Review Package to GRTA, please note the following:

- Provide one (1) paper copy of all materials – of the Transportation analysis and of the Site Plan
- Provide one (1) CD-ROM with electronic versions of all submittal documents:
  - Provide a PDF of each document
  - Provide the native format for each document
    - .dwg is the preferred CAD format (AutoCAD)
    - .doc is the preferred word processing format (Word)
    - .xls is the preferred spreadsheet format (Excel)
    - .sy7, .sy8, sy9 are the preferred capacity analysis format (Synchro)

As part of the completeness certification process, please have your consultant forward one copy of the completed GRTA DRI Review Package (traffic analysis, site plan, CD) to the GDOT District Office, Regional Commission and local government Planning & Development and Transportation group (contact information provided below). GRTA shall be copied on each of the transmittal letters

Expedited Review Recommendation

Once the DRI Review Package, along with the DCA Additional Information Form, has been submitted and determined complete, GRTA staff will make a recommendation regarding your request for expedited review under Section 2-202.B of the *Procedures and Principles for GRTA Development of Regional Impact Review*.

DRI Review Package should be copied to the following in addition to GRTA:

GRTA	ATLANTA REGIONAL COMMISSION	CITY OF PEACHTREE CORNERS	GWINNETT COUNTY DOT	GDOT DISTRICT 1
Emily Estes 245 Peachtree Center Ave. Suite 2200 Atlanta, GA 30303	Andrew Smith International Tower 229 Peachtree St. NE Suite 100 Atlanta, GA 30303	Diana Wheeler City of Peachtree Corners 310 Technology Parkway Peachtree Corners, GA 30092	Michael Johnson 75 Langley Drive Lawrenceville, GA 30046	William Hunter 2505 Athens Hwy SE Gainesville, GA 30507

If you have any questions, please feel free to contact me (404) 893-6171 or by email at eestes@srta.ga.gov.

Sincerely,

Emily Estes
Planner

cc: Jon West, DCA
Andrew Smith, ARC
Marquitrice Mangham, ARC
Katie Perumbeti, ARC
William Hunter, GDOT
Diana Wheeler, City of Peachtree Corners
Jeff Conkle, City of Peachtree Corners
Todd Hargrave, Gwinnett County
Michael Johnson, Gwinnett County DOT
Shaun Adams, Anderson, Tae and Carr
Bill Ruhsam, Michael Baker International

Michael Baker
INTERNATIONAL

FIELD DATA SHEETS

MICHAEL BAKER INTERNATIONAL

CAPACITY INFORMATION FIELD DATA SHEET

Project Name	East Jones Bridge DRI		
Project No.	n/a	Field Visit Date:	3/4/2018
Intersection	East Jones Bridge Road at Jones Bridge Circle	Field Visit Time:	1:30 PM

Road Name (Northbound) East Jones Bridge Road		Road Name (Southbound) East Jones Bridge Road		Road Name (Eastbound) Jones Bridge Circle		Road Name (Westbound) n/a	
Functional Class	Local	Functional Class	Local	Functional Class	Local	Functional Class	
Speed Limit (MPH)	40	Speed Limit (MPH)	40	Speed Limit (MPH)	30	Speed Limit (MPH)	
Signalized (Y/N)	N	Signalized (Y/N)	N	Signalized (Y/N)	N	Signalized (Y/N)	
Lane Width (FT)	12	Lane Width (FT)	12	Lane Width (FT)	11	Lane Width (FT)	
Rural Shoulder Width (FT)	-	Rural Shoulder Width (FT)	-	Rural Shoulder Width (FT)	-	Rural Shoulder Width (FT)	
Sidewalk Width (FT)	5	Sidewalk Width (FT)	5	Sidewalk Width (FT)	5	Sidewalk Width (FT)	
Curbed (Y/N)	Y	Curbed (Y/N)	Y	Curbed (Y/N)	Y	Curbed (Y/N)	
Stripe Cond.	Fair	Stripe Cond.	Fair	Stripe Cond.	Fair	Stripe Cond.	
Grades (%)	0	Grades (%)	0	Grades (%)	0	Grades (%)	
Median Type	N	Median Type	N	Median Type	N	Median Type	
Right Turn Lane (FT)	0	Right Turn Lane (FT)	0	Right Turn Lane (FT)	0	Right Turn Lane (FT)	
Left Turn Lane (FT)	0	Left Turn Lane (FT)	0	Left Turn Lane (FT)	0	Left Turn Lane (FT)	

ADDITIONAL COMMENTS:

All way stop control

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CAPACITY INFORMATION FIELD DATA SHEET

Project Name	East Jones Bridge DRI		
Project No.	n/a	Field Visit Date:	3/4/2018
Intersection	East Jones Bridge Road at Site Driveways	Field Visit Time:	1:30 PM

Road Name (Northbound) East Jones Bridge Road		Road Name (Southbound) East Jones Bridge Road		Road Name (Eastbound) n/a		Road Name (Westbound) Site Driveways	
Functional Class	Local	Functional Class	Local	Functional Class		Functional Class	Local
Speed Limit (MPH)	40	Speed Limit (MPH)	40	Speed Limit (MPH)		Speed Limit (MPH)	25
Signalized (Y/N)	N	Signalized (Y/N)	N	Signalized (Y/N)		Signalized (Y/N)	N
Lane Width (FT)	12	Lane Width (FT)	12	Lane Width (FT)		Lane Width (FT)	12
Rural Shoulder Width (FT)	-	Rural Shoulder Width (FT)	-	Rural Shoulder Width (FT)		Rural Shoulder Width (FT)	-
Sidewalk Width (FT)	5	Sidewalk Width (FT)	5	Sidewalk Width (FT)		Sidewalk Width (FT)	-
Curbed (Y/N)	Y	Curbed (Y/N)	Y	Curbed (Y/N)		Curbed (Y/N)	N
Stripe Cond.	Fair	Stripe Cond.	Fair	Stripe Cond.		Stripe Cond.	n/a
Grades (%)	0	Grades (%)	0	Grades (%)		Grades (%)	0
Median Type	-	Median Type	-	Median Type		Median Type	-
Right Turn Lane (FT)	0	Right Turn Lane (FT)	0	Right Turn Lane (FT)		Right Turn Lane (FT)	0
Left Turn Lane (FT)	0	Left Turn Lane (FT)	0	Left Turn Lane (FT)		Left Turn Lane (FT)	0

ADDITIONAL COMMENTS:

MICHAEL BAKER INTERNATIONAL

CAPACITY INFORMATION FIELD DATA SHEET

Project Name	East Jones Bridge DRI		
Project No.	n/a	Field Visit Date:	3/4/2018
Intersection	East Jones Bridge Road at Bridgeport Lane	Field Visit Time:	1:30 PM

Road Name (Northbound) East Jones Bridge Road		Road Name (Southbound) East Jones Bridge Road		Road Name (Eastbound) n/a		Road Name (Westbound) Bridgeport Lane	
Functional Class	Local	Functional Class	Local	Functional Class		Functional Class	Local
Speed Limit (MPH)	40	Speed Limit (MPH)	40	Speed Limit (MPH)		Speed Limit (MPH)	25
Signalized (Y/N)	N	Signalized (Y/N)	N	Signalized (Y/N)		Signalized (Y/N)	N
Lane Width (FT)	12	Lane Width (FT)	12	Lane Width (FT)		Lane Width (FT)	11
Rural Shoulder Width (FT)	-	Rural Shoulder Width (FT)	-	Rural Shoulder Width (FT)		Rural Shoulder Width (FT)	-
Sidewalk Width (FT)	5	Sidewalk Width (FT)	5	Sidewalk Width (FT)		Sidewalk Width (FT)	-
Curbed (Y/N)	Y	Curbed (Y/N)	Y	Curbed (Y/N)		Curbed (Y/N)	N
Stripe Cond.	Fair	Stripe Cond.	Fair	Stripe Cond.		Stripe Cond.	n/a
Grades (%)	0	Grades (%)	0	Grades (%)		Grades (%)	-1%
Median Type	-	Median Type	-	Median Type		Median Type	-
Right Turn Lane (FT)	0	Right Turn Lane (FT)	0	Right Turn Lane (FT)		Right Turn Lane (FT)	0
Left Turn Lane (FT)	0	Left Turn Lane (FT)	0	Left Turn Lane (FT)		Left Turn Lane (FT)	0

ADDITIONAL COMMENTS:

Two way stop control, free on E. Jones Bridge Rd.

MICHAEL BAKER INTERNATIONAL

CAPACITY INFORMATION FIELD DATA SHEET

Project Name	East Jones Bridge DRI		
Project No.	n/a	Field Visit Date:	3/4/2018
Intersection	East Jones Bridge Road at Peachtree Parkway	Field Visit Time:	1:30 PM

Road Name (Northbound) Medlock Bridge Road		Road Name (Southbound) East Jones Bridge Road		Road Name (Eastbound) SR 141/Peachtree Parkway		Road Name (Westbound) SR 141/Peachtree Parkway	
Functional Class	Min. Arterial	Functional Class	Local	Functional Class	P. Arterial	Functional Class	P. Arterial
Speed Limit (MPH)	40	Speed Limit (MPH)	40	Speed Limit (MPH)	55	Speed Limit (MPH)	55
Signalized (Y/N)	Y	Signalized (Y/N)	Y	Signalized (Y/N)	Y	Signalized (Y/N)	Y
Lane Width (FT)	12	Lane Width (FT)	12	Lane Width (FT)	12	Lane Width (FT)	12
Rural Shoulder Width (FT)	10'/Curb	Rural Shoulder Width (FT)	-	Rural Shoulder Width (FT)	10	Rural Shoulder Width (FT)	-/10
Sidewalk Width (FT)	10'/0	Sidewalk Width (FT)	5	Sidewalk Width (FT)	-	Sidewalk Width (FT)	10/0
Curbed (Y/N)	Y/N	Curbed (Y/N)	Y	Curbed (Y/N)	N	Curbed (Y/N)	Y/N
Stripe Cond.	Poor	Stripe Cond.	Good	Stripe Cond.	Good	Stripe Cond.	Good
Grades (%)	-1%	Grades (%)	0	Grades (%)	0	Grades (%)	0%
Median Type	-	Median Type	-	Median Type	depressed	Median Type	depressed
Right Turn Lane (FT)	0	Right Turn Lane (FT)	265	Right Turn Lane (FT)	510	Right Turn Lane (FT)	300
Left Turn Lane (FT)	215/215	Left Turn Lane (FT)	185 dual	Left Turn Lane (FT)	510	Left Turn Lane (FT)	340

ADDITIONAL COMMENTS:

RTOP Corridor.

Medlock bridge dual lefts: 215 feet of dual and another 215 feet of single.