TRANSPORTATION ANALYSIS

Prepared For

RICHARD BOWERS & CO. REAL ESTATE

BAKER STREET CONVERSION

ATLANTA, GA

April 24, 2019

ENGINEERING WILBURN

Design • Install • Maintain

Report Submitted: April 24, 2019

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EXECUTIVE SUMMARY

Baker Street, from Piedmont Avenue to Centennial Olympic Park (COP) Drive, has operated as a westbound one-way facility for nearly sixty (60) years. This one-way street is proposed to convert from one-way to two-way operation. The Baker Street study corridor, from Marietta Street to Piedmont Avenue, was evaluated to determine the operational and safety-related impacts anticipated from the conversion.

The following results were concluded from this evaluation:

1. Baker Street currently operates, and will operate, more effectively and efficiently as a one-way facility than the proposed two-way.
2. Crash rates along Baker Street are expected to increase by over 50% if converted to two-way operation[A].
3. Parking garage access along Baker Street houses to over 6,500 covered parking spaces. The entrances and exits will be adversely affected by the proposed two-way conversion.
4. Baker Street serves nineteen (19) bus routes that will need to be accommodated for in the proposed two-way conversion where proper bus turning maneuvers can be achieved in other Central Business District (CBD) zones.
5. Rather than solely analyzing the Baker Street corridor for its proposed conversion from one-way to two-way operation, the City of Atlanta should expand the scope of work to include the entire Downtown Atlanta grid network.
6. The cost associated with converting Baker Street from one-way to two-way operation will not justify the means needed to benefit Downtown efforts to keep a vibrant, safe, and smart community.

A = See Appendix L, Footnote 5 for the detailed report: "Convert frontage road from two-way operation to one-way operation (CMFID 4010)" by the Crash Modification Factors Clearinghouse (n.d.)

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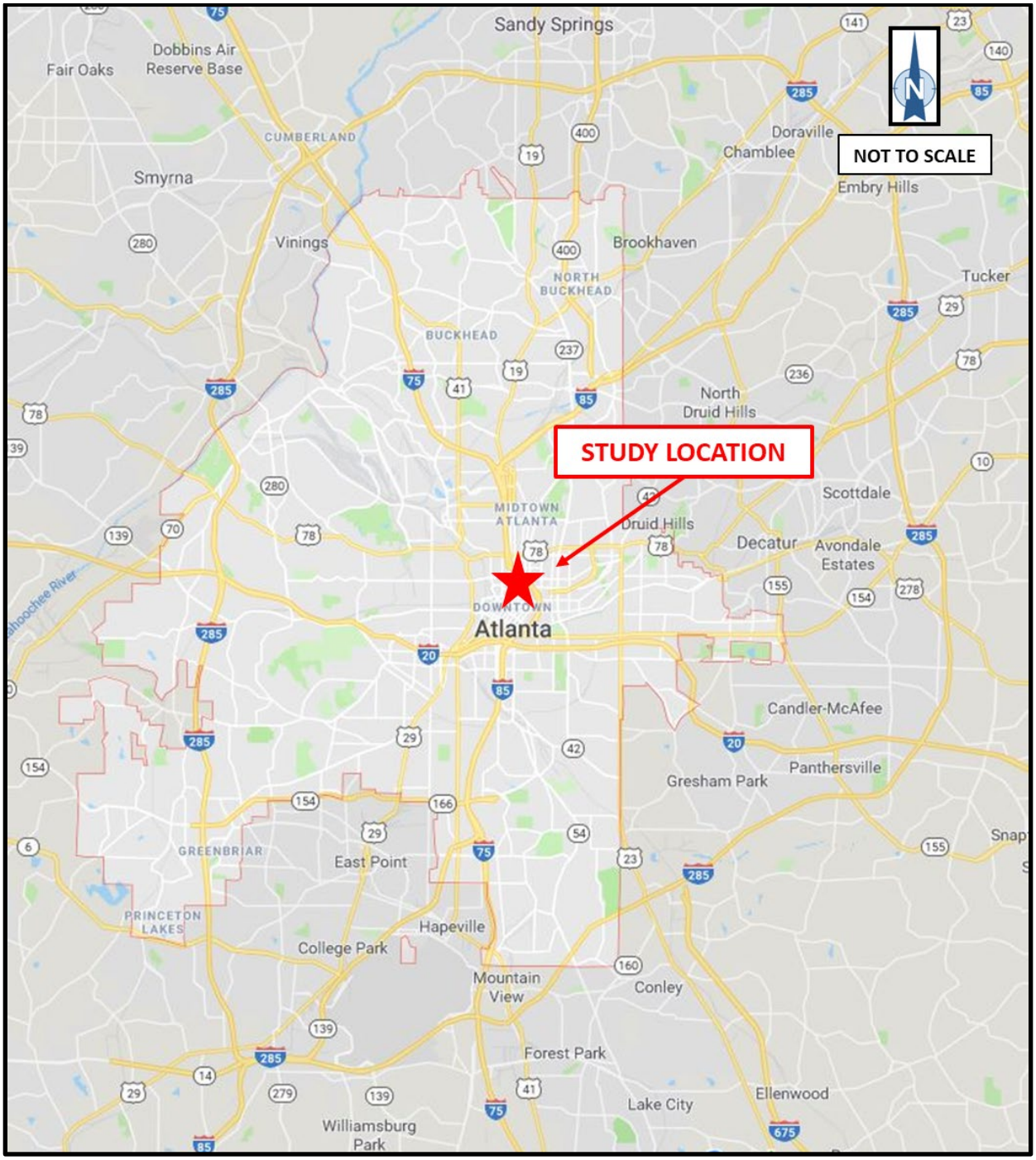
INTRODUCTION

This study includes an analysis of the traffic and safety-related impacts associated with Baker Street in Downtown Atlanta, Georgia. Baker Street, from Piedmont Avenue to Centennial Olympic Park (COP) Drive, is proposed to be converted from one-way to two-way operation. The project location is shown in Figure 1.

Figure 1: PROJECT LOCATION MAP



PREVIOUSLY CONDUCTED STUDIES

The proposed conversion of Baker Street was studied by the Jacobs Engineering Group in 2017. Their study, dated August 29, 2017, evaluated existing and future roadway conditions/operations under alternative concept plan designs. This study was expanded upon to evaluate the proposed roadway conversion of Baker Street using new methodologies and evaluation processes.

The report from the Jacobs Engineering Group is provided in Appendix A.

STUDY AREA

Baker Street, from Piedmont Avenue to COP Drive, is an approximately 0.55 mile-long one-way major collector street in the westbound direction. At COP Drive, Baker Street becomes a two-way that ends at Marietta Street. The existing intersections included in this study are shown in Figure 2.

Figure 2: STUDY INTERSECTION MAP

EXISTING CONDITIONS

An inventory of current conditions was conducted on the study corridor.

INVENTORY OF EXISTING GEOMETRY AND TRAFFIC CONTROLS

The segments of the Baker Street corridor, analyzed between the study intersections, are shown below in Figure 3 and are labeled by letters (i.e. A, B, C). The existing roadway geometry and traffic controls for these segments are shown on the next pages in Figures 4 through 11.

Existing roadway conditions evaluated along Baker Street in Figures 4 through 11 for these segments include:

- parking facilities/garages
- loading docks/garages for freight
- dedicated taxi lanes, bus drop-off zones, and on street parking

Figure 3: SEGMENT ANALYSIS MAP

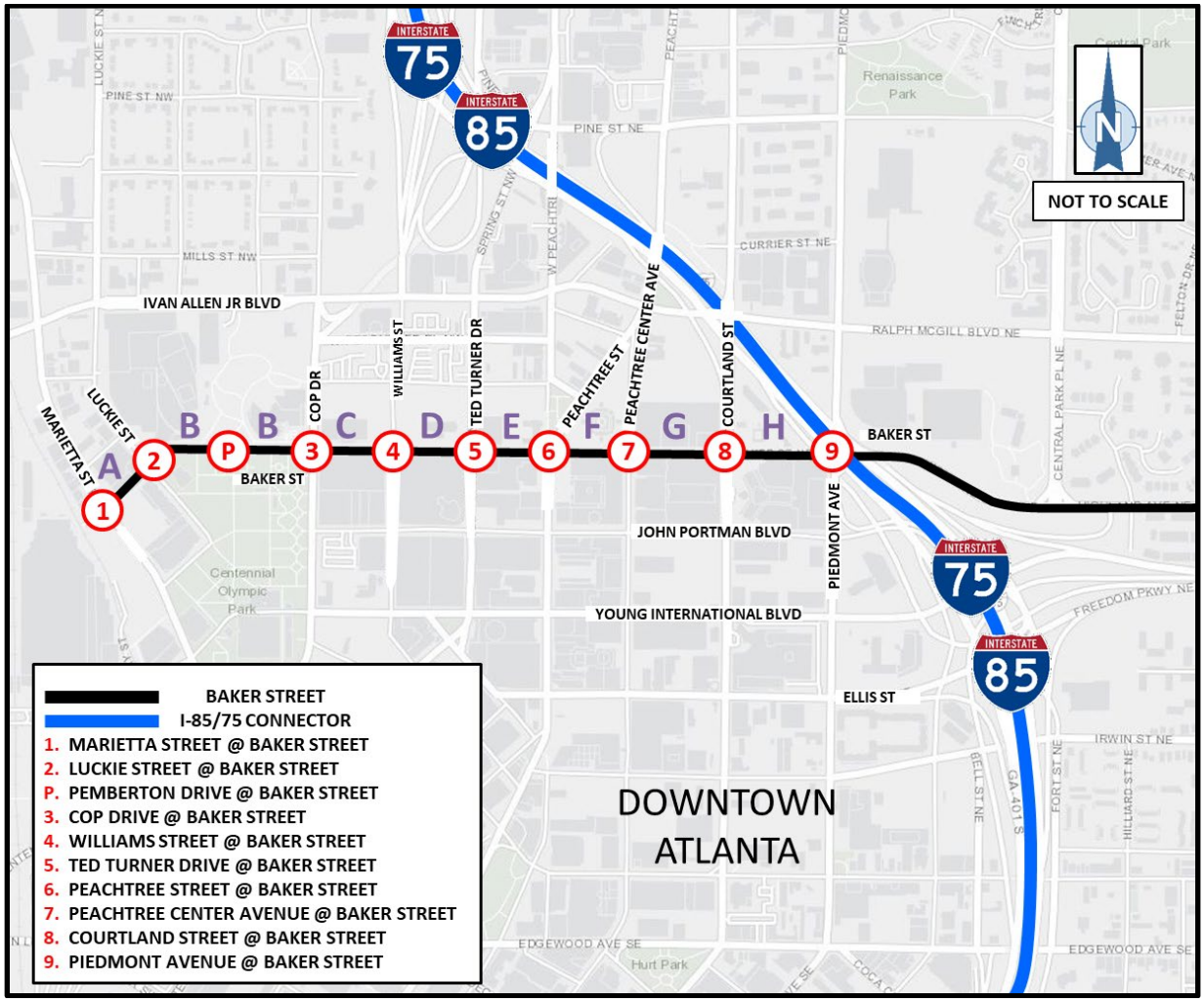


Figure 4: EXISTING CONDITIONS (SEGMENT A)

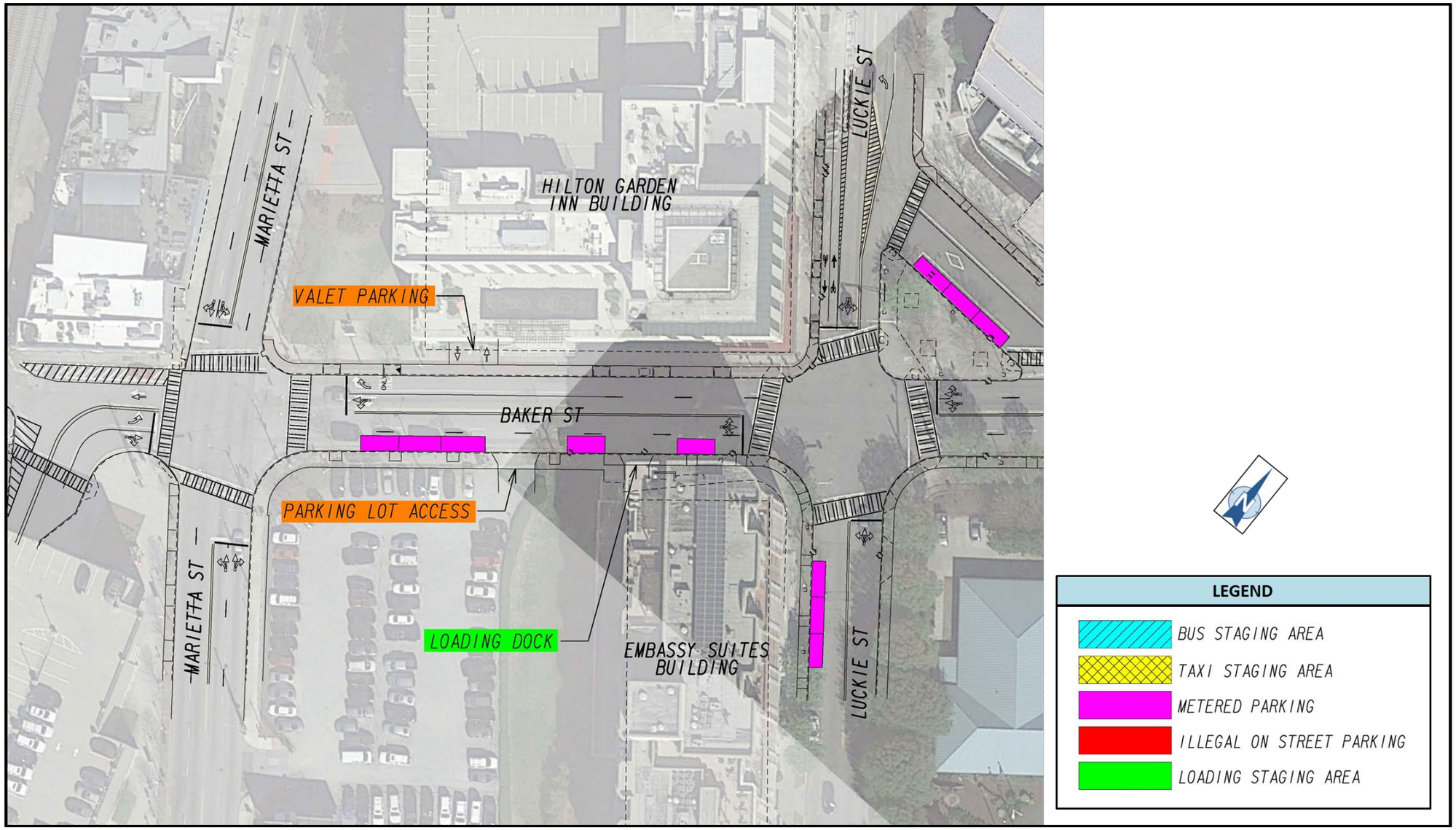


Figure 5: EXISTING CONDITIONS (SEGMENT B)

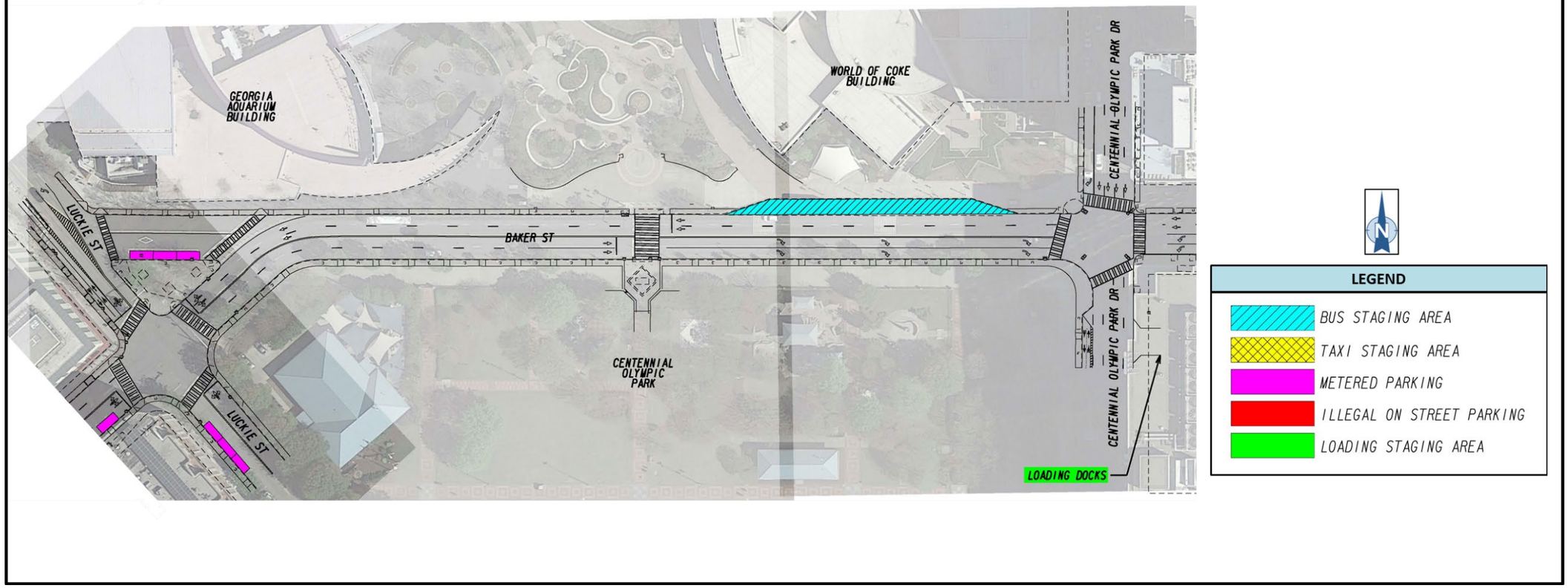


Figure 6: EXISTING CONDITIONS (SEGMENT C)

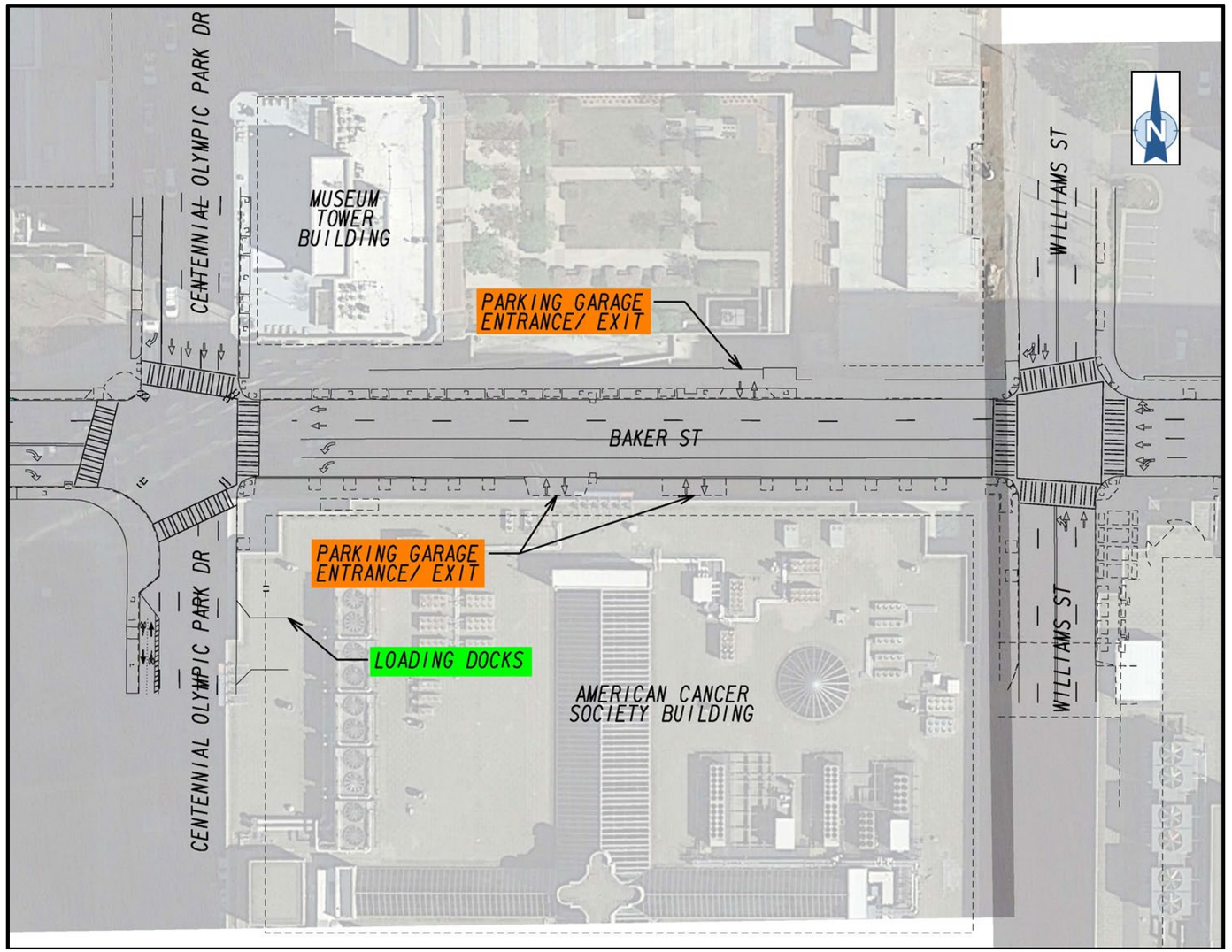


Figure 7: EXISTING CONDITIONS (SEGMENT D)

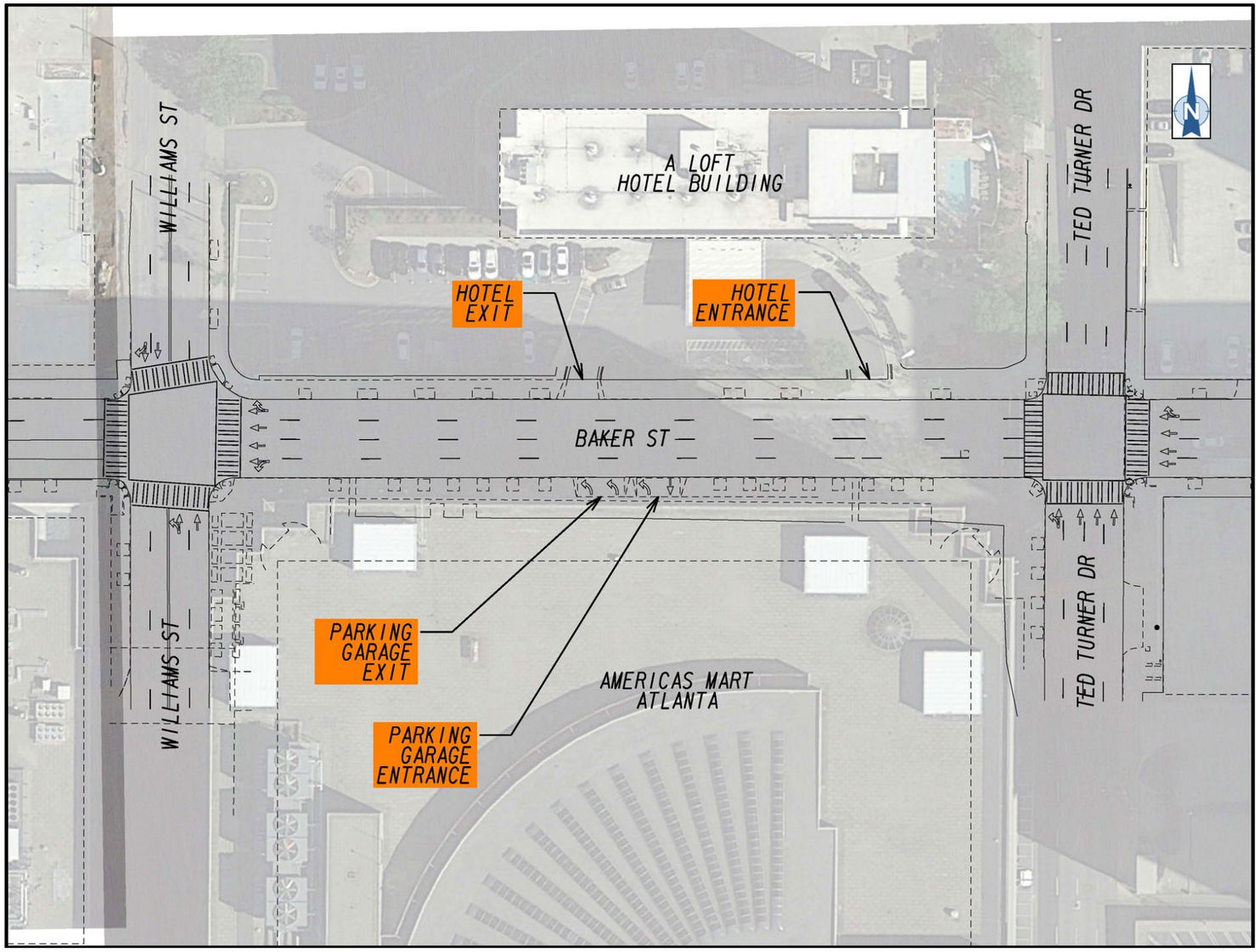


Figure 8: EXISTING CONDITIONS (SEGMENT E)

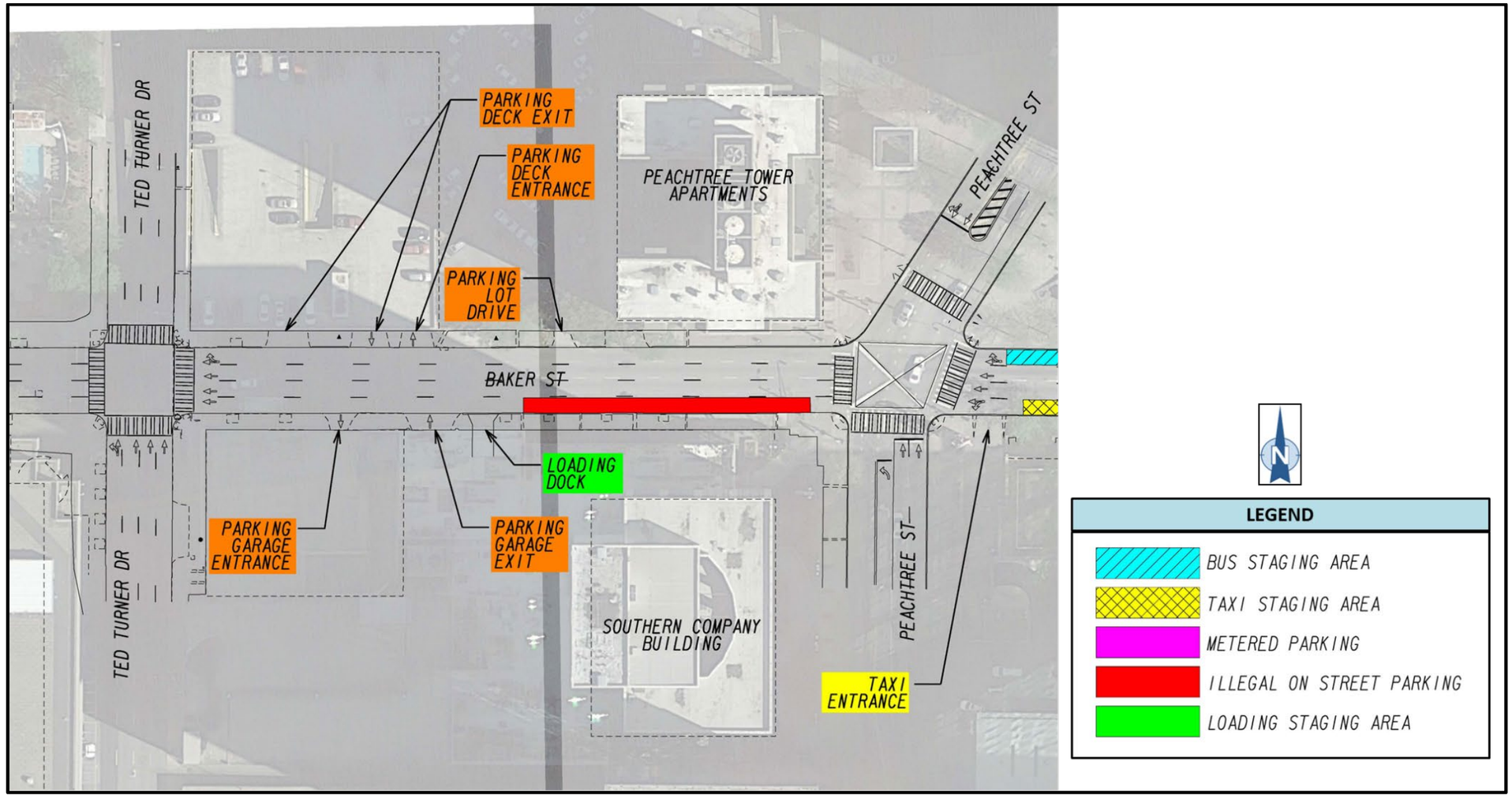


Figure 9: EXISTING CONDITIONS (SEGMENT F)

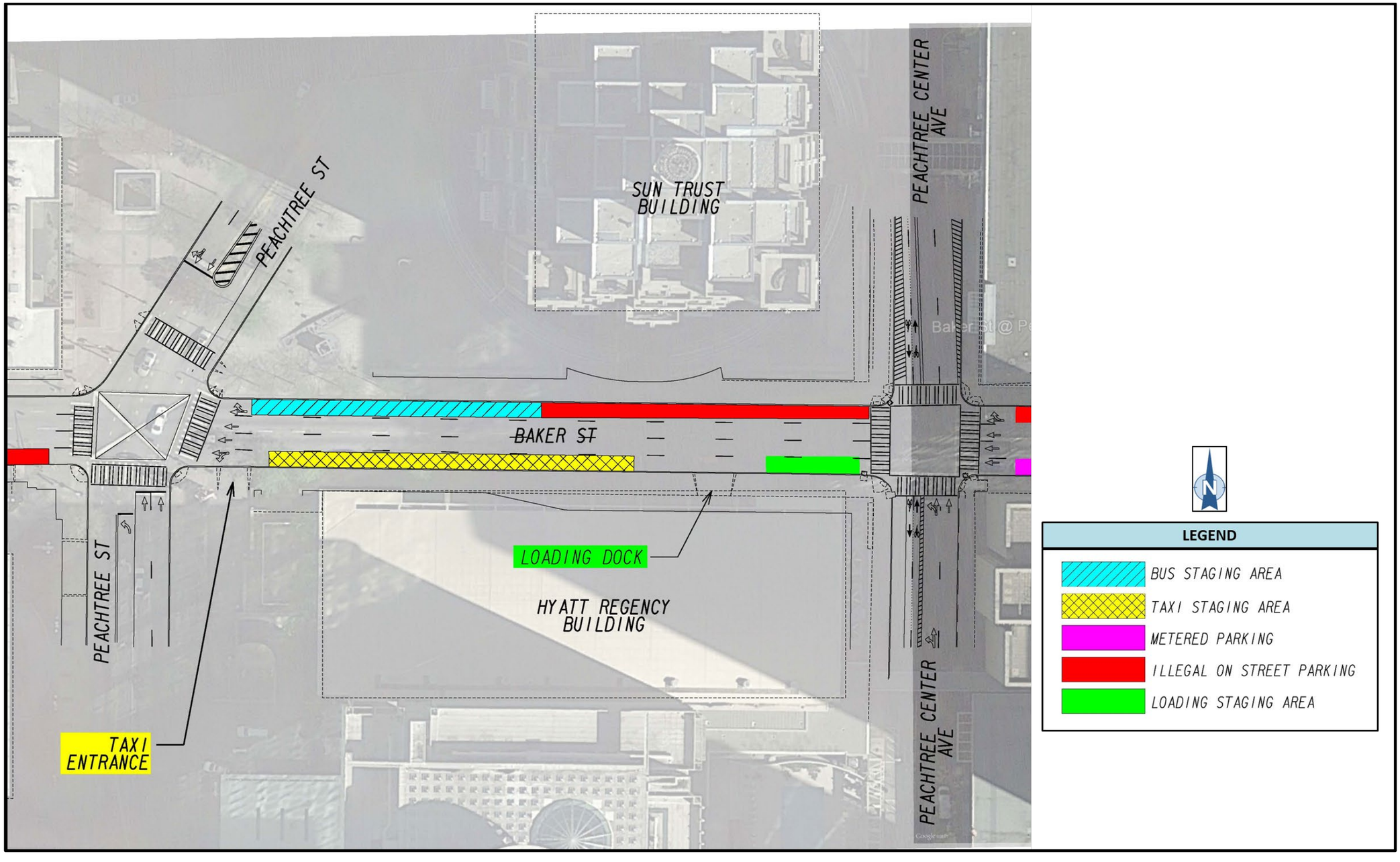


Figure 10: EXISTING CONDITIONS (SEGMENT G)

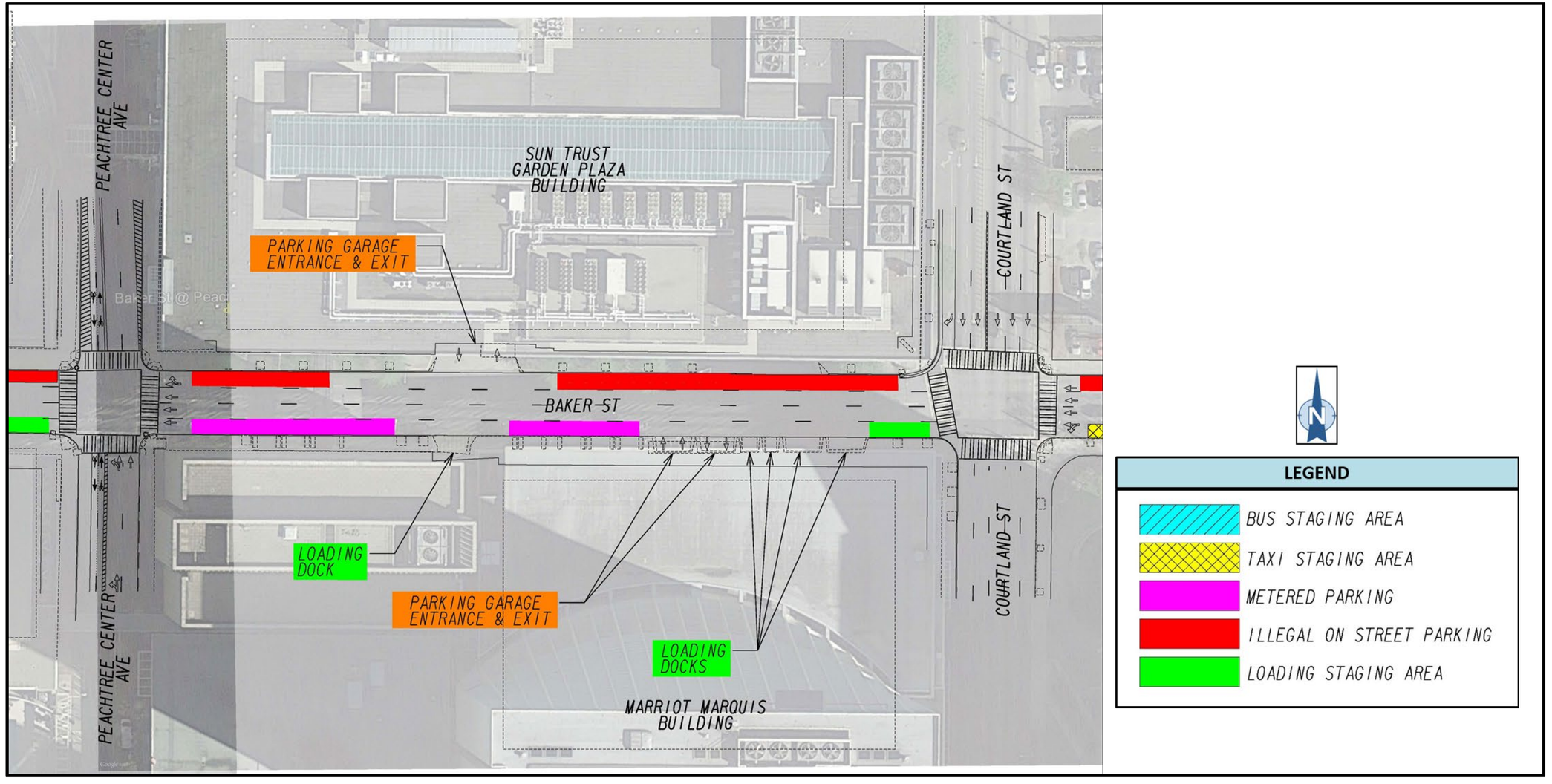
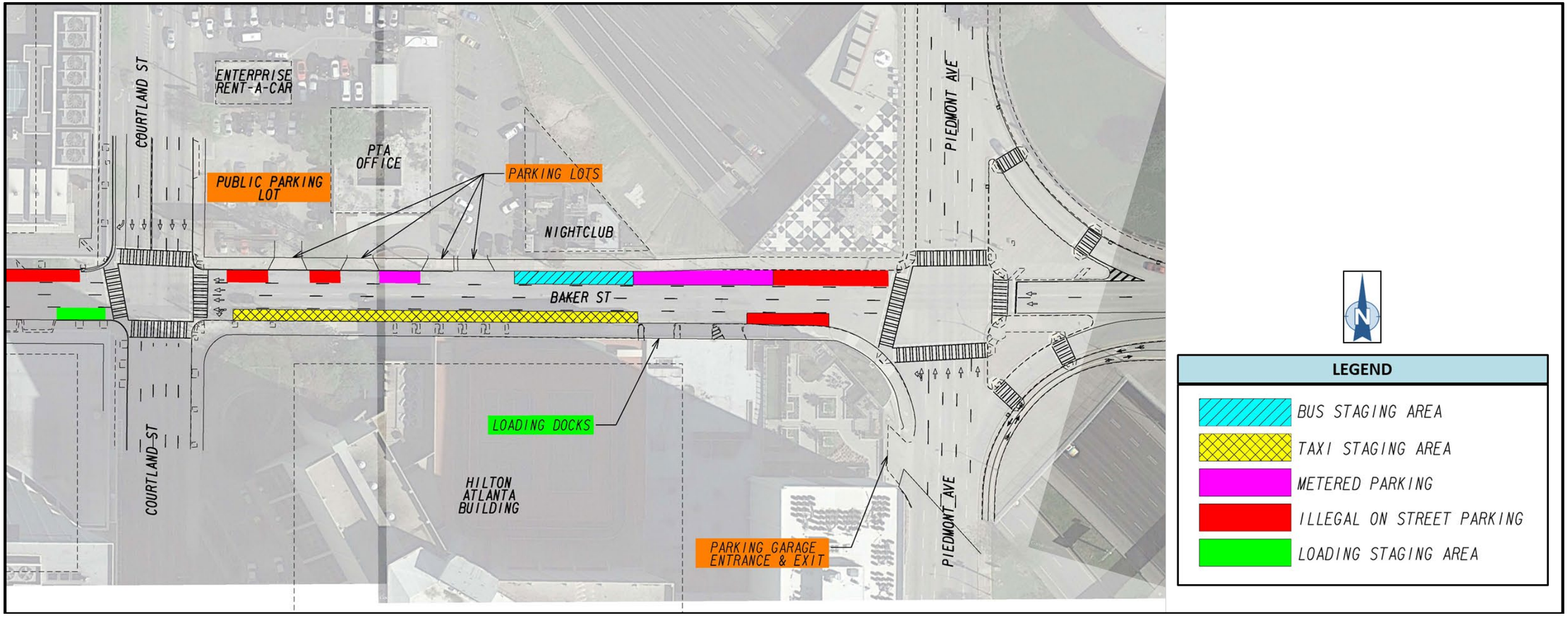


Figure 11: EXISTING CONDITIONS (SEGMENT H)

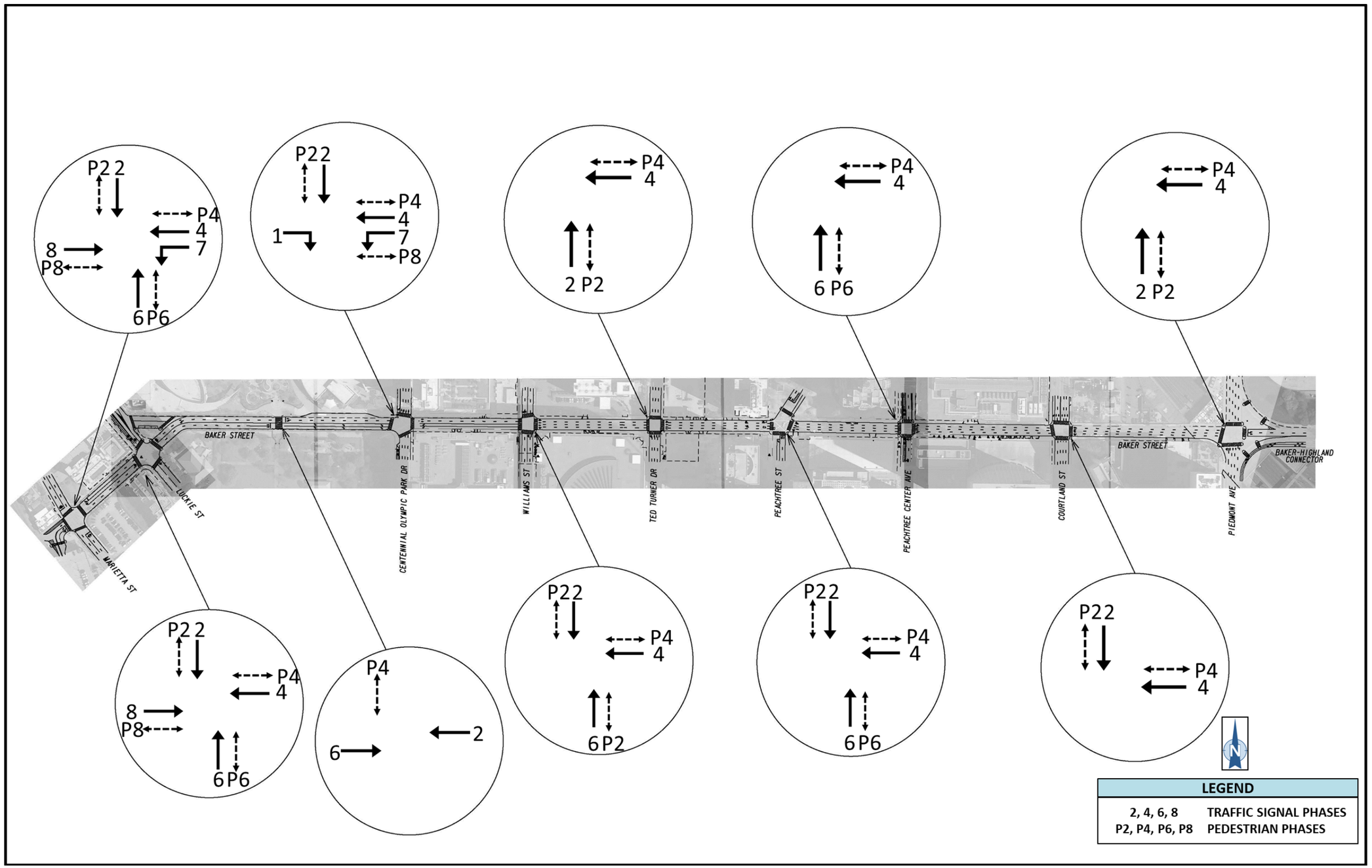


INVENTORY OF EXISTING TRAFFIC SIGNAL PHASING

Existing traffic signal phasing was determined along Baker Street using MaxView and the timing plan databases provided by the City of Atlanta.

Existing traffic signal phasing evaluated along Baker Street is shown on the next page in Figure 12.

Figure 12: EXISTING TRAFFIC SIGNAL PHASING



TURNING MOVEMENT VOLUMES

Turning Movement Counts (TMCs) were taken from the Jacobs study. The TMCs were conducted at the study intersections on Wednesday, November 15th, 2017 from 7:00 to 10:00 AM and 4:00 to 7:00 PM. Turning movement data is provided in Appendix B.

The evaluated peak hours include:

- AM Peak Hour – 8:00 AM to 9:00 AM
- PM Peak Hour – 5:00 PM to 6:00 PM

Peak hours were determined for the study corridor from the highest total entering volumes along Baker Street based on the highest rolling hour volumes.

Peak Hour volumes were then balanced in to and out of parking facilities along Baker or applied to a weighted distribution of turning movement volumes when parking facilities were not present along segments between intersections.

Truck percentages and pedestrian volumes used for analysis purposes were based on volumes provided in the collected TMCs.

Peak Hour traffic volumes evaluated along Baker Street are shown on the next page in Figure 13.

PEDESTRIAN VOLUMES

From the study area boundary, the following top-ranked intersections had a combined total of over 500 pedestrian crossings during both Peak Hours:

1. Peachtree Street and Baker Street (1557 total pedestrians)
2. Marietta Street and Baker Street (645 total pedestrians)
3. Peachtree Center Avenue and Baker Street (569 total pedestrians)

PUBLIC TRANSIT BUS ROUTES

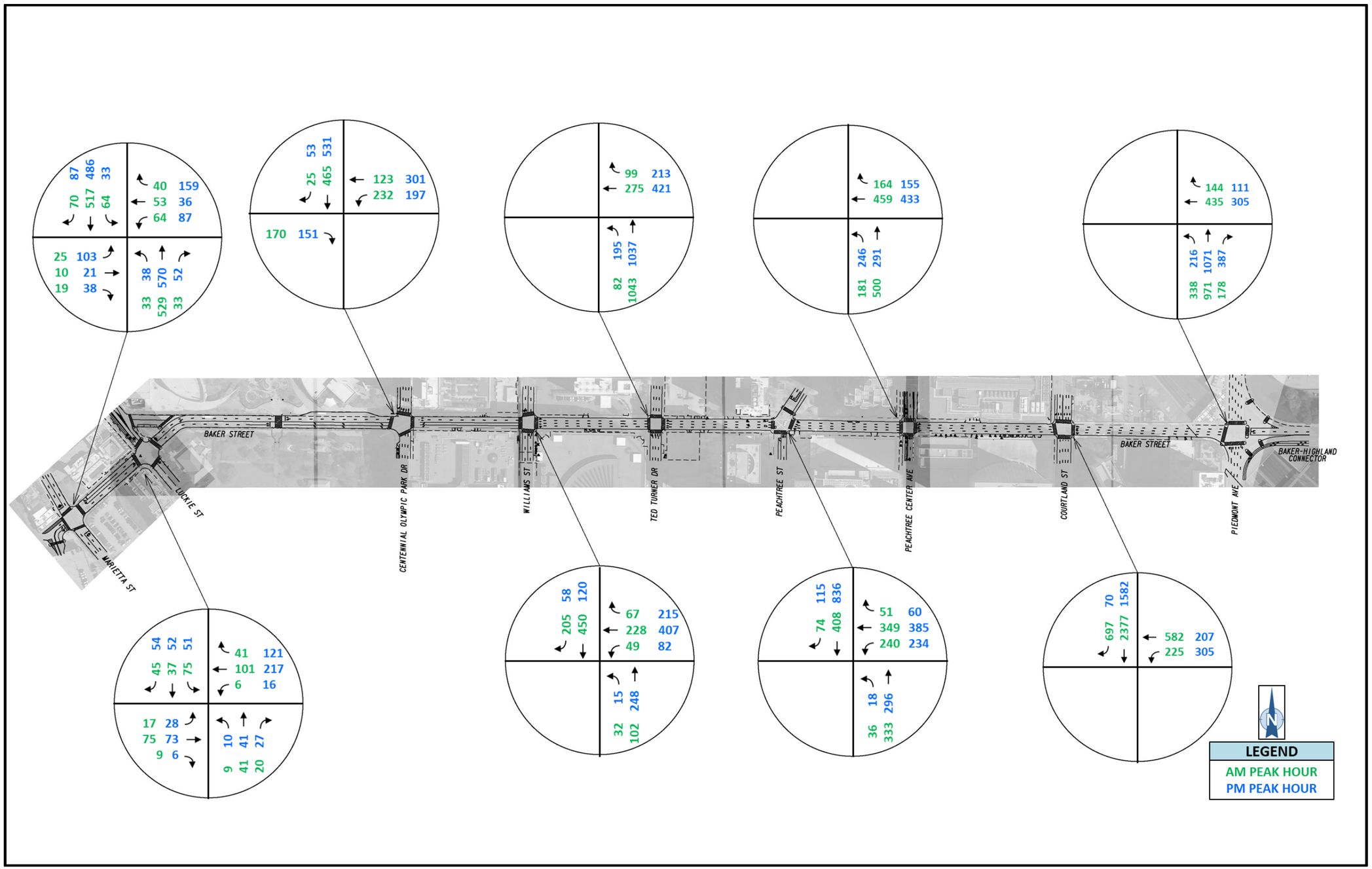
Baker Street is a facility utilized by Cobb County, Gwinnett County, and MARTA Xpress public transit services. The roadway segments along Baker Street, between Ted Turner Drive and Peachtree Center Avenue, are actively being used by these public transit services. The services incorporated into this study are shown below in Table 1.

A detailed inventory of existing bus routes that utilize Baker Street is provided in Appendix C.

Table 1: EXISITNG PUBLIC TRANSIT BUS ROUTES ALONG BAKER STREET

PUBLIC TRANSIT SERVICE	TOTAL NUMBER OF BUS ROUTES USING BAKER STREET
Cobb County	3
Gwinnett County	3
MARTA Xpress	13

Figure 13: EXISTING TRAFFIC VOLUMES



ACCESS CONTROL

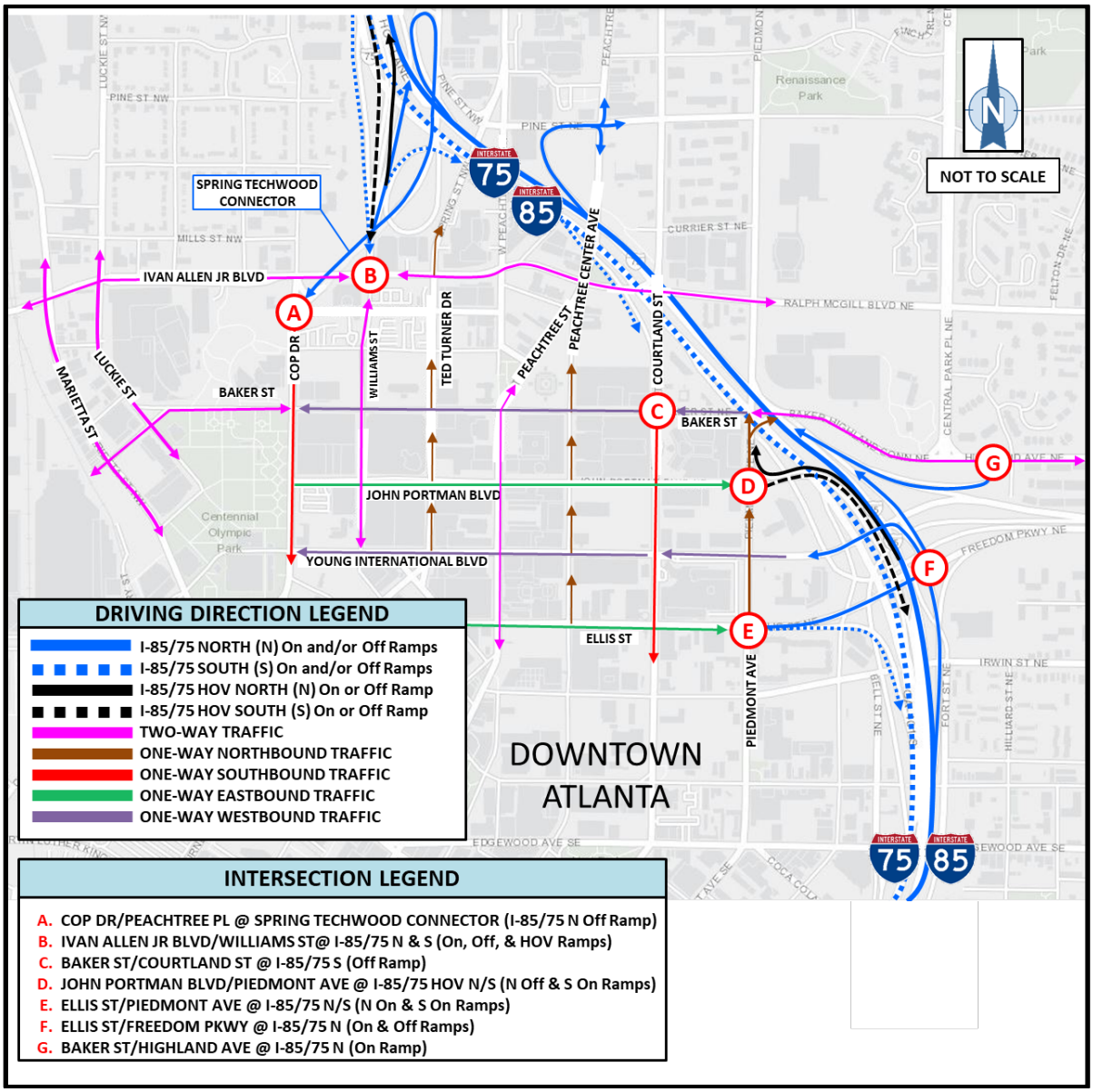
An evaluation of existing and projected access control parameters was conducted at and around the study area to determine which surrounding intersections are impacted from the Business District (BD) and the Entertainment District (ED) in Downtown Atlanta.

EXISTING INTERSTATE CONNECTOR ACCESS

Intersections that provide existing access to and from the I-85/75 Connector outside of the bounds of the study area are shown in Figure 14.

The interconnectivity between these intersections that feed into and out of the on/off ramps to the Connector are shown in detail below.

Figure 14: INTERSTATE CONNECTOR ACCESS



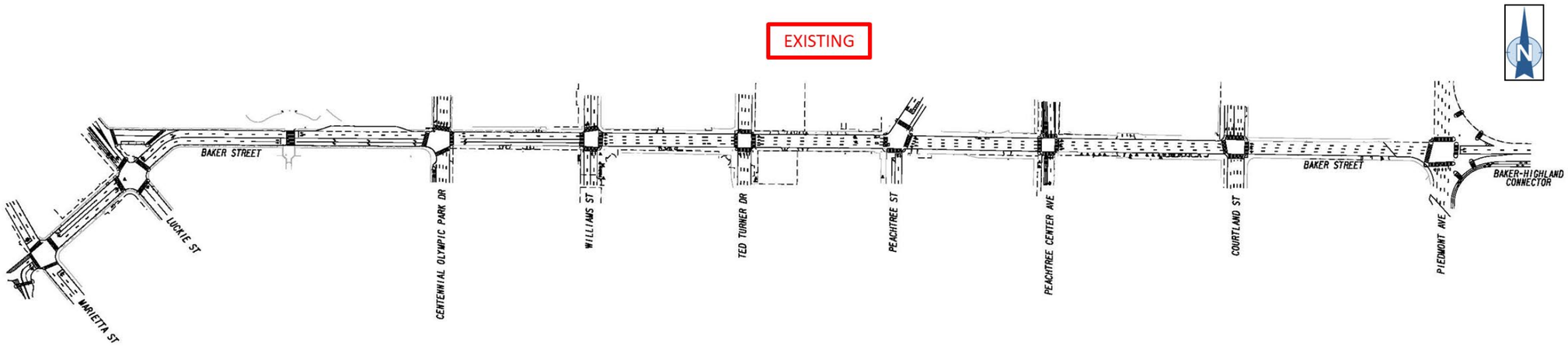
CONCEPT PLAN

The concept plan for the proposed roadway conditions on Baker Street is provided in Appendix D.

This concept plan, provided by the Jacobs Engineering Group, is compared to the existing roadway geometries and lane utilizations studied along Baker Street on the next page in Figure 15.

Figure 15: CONCEPT PLAN (EXISTING VERSUS PROPOSED)

EXISTING



PROPOSED CONCEPT

Jacobs Engineering Group

PROJECTED INTERSTATE CONNECTOR ACCESS

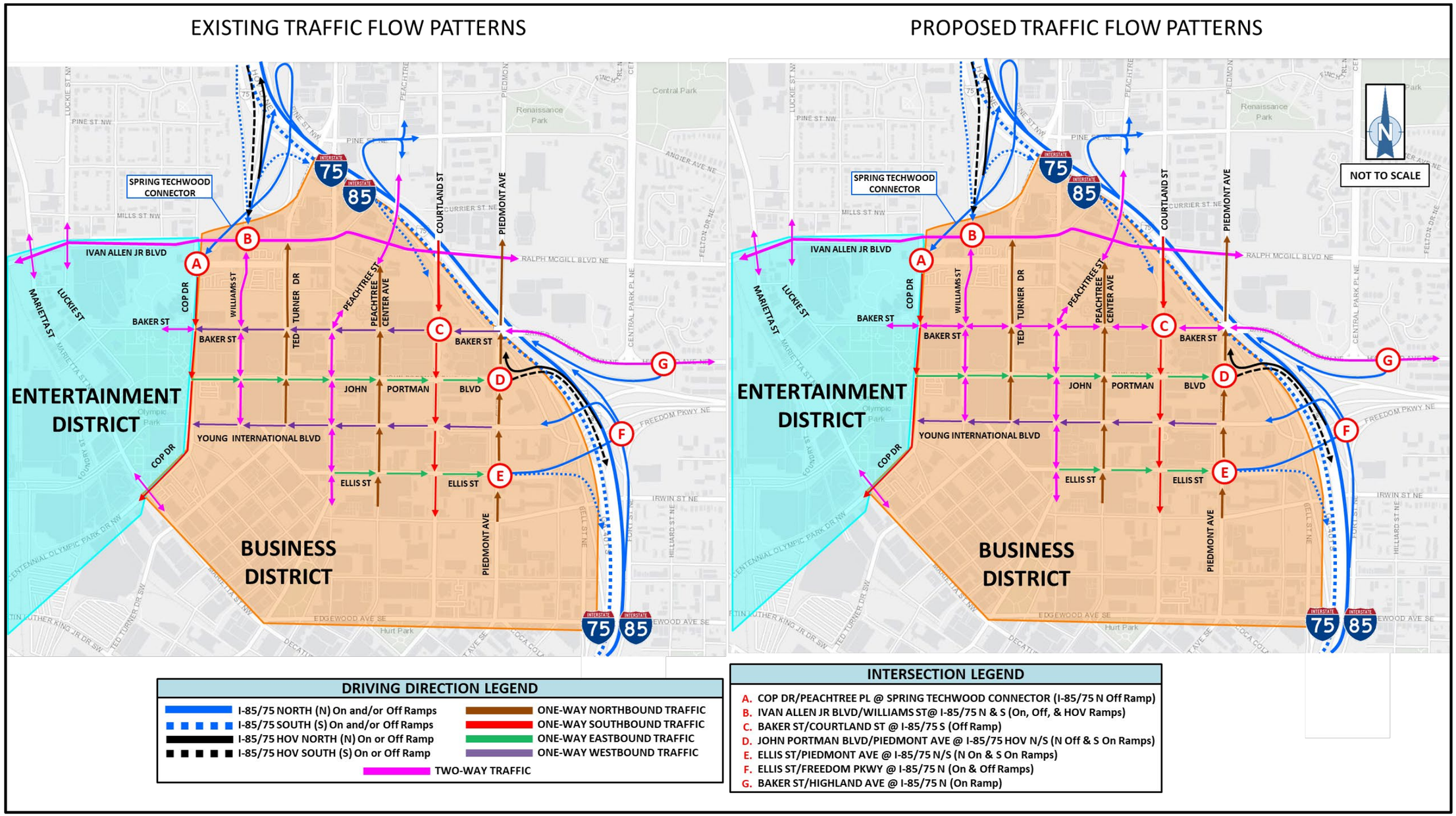
The Downtown Atlanta BD and the ED boundaries that surround the study corridor are shown below in Figure 16.

Vehicular traffic patterns to and from these districts, via Intersections A through G, were evaluated for the existing one-way configuration of Baker Street as well as the proposed two-way configuration of Baker Street.

Figure 17 on the next page compares the circulation of traffic flows between the two districts with Baker Street as a one-way road and a two-way road.

Figure 16: BUSINESS AND ENTERTAINMENT DISTRICTS NEAR BAKER ST IN DOWNTOWN ATLANTA

Figure 17: ENTERTAINMENT AND BUSINESS DISTRICT TRAFFIC FLOW DISTRIBUTION PATTERNS



OBSERVED CHARACTERISTICS ALONG BAKER STREET

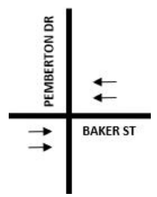
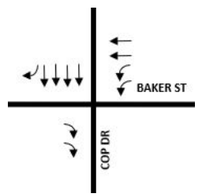
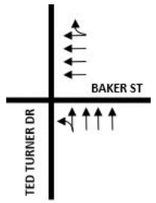
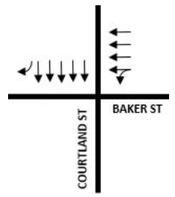
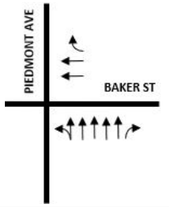
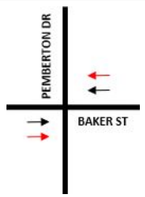
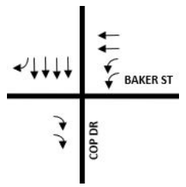
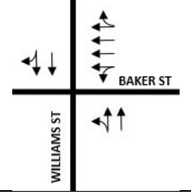
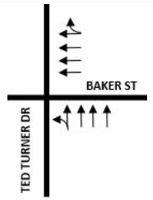
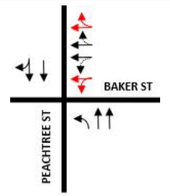
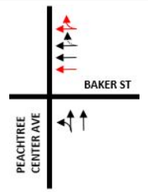
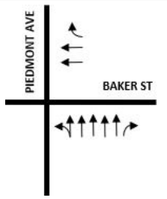
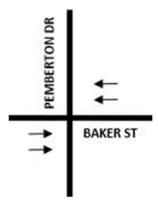
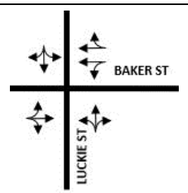
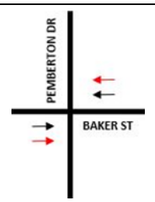
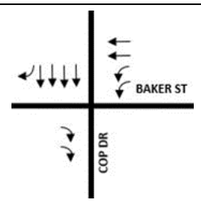
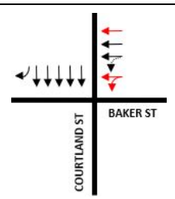
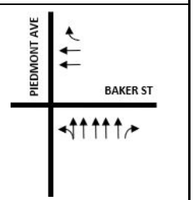
A site visit to Baker Street was conducted on Wednesday, March 27th, 2019. Existing traffic operations, vehicular behaviors, and pedestrian behaviors were observed along the study corridor and study intersections.

Observations were evaluated between 7:00 AM to 11:00 AM and between 12:00 PM to 6:30 PM. Table 2 on the next page provides a summary of the observations and behaviors that occurred during the AM Peak Hour (8:00 to 9:00 AM) and the PM Peak Hour (5:00 to 6:00 PM).

A brief summary of each study intersection and the segments between these intersections is described in detail in Appendix E. This collection of summarized data evaluates the traffic operations of the system during the entire timespan of on-site evaluation during the AM and the PM hours.

The photographic inventory of these findings can also be reviewed in Appendix F.

Table 2: OBSERVED ROADWAY CHARACTERISTICS ON BAKER ST (MARIETTA ST TO PIEDMONT AVE)

DETAILS		TWO-WAY STREET SECTIONS ALONG BAKER STREET			ONE-WAY STREET SECTIONS ALONG BAKER STREET						
		Marietta St	Luckie St	Pemberton Dr	COP Dr	Williams St	Ted Turner Dr	Peachtree St	Ptree Center Ave	Courtland St	Piedmont Ave
AM PEAK HOUR (8:00 to 9:00 AM)	LANE GEOMETRY										
	LANE UTILIZATION										
	LONGEST OBSERVED QUEUES	None	None	None	SB-R: 8 cars SB-T: 6 cars WB-L (inside): 3 cars WB-L (outside): 1 car	SB-R: 11 cars Residual; successful platooning every cycle.	Residual; successful platooning every cycle.	SB-T: 16 cars WB-T/R: 6 cars WB-L/T: 3 cars	NB-L/T: 2 cars NB-T: 3 cars WB-T/R: 4 cars WB-L/T: 3 cars	SB: Queued to I-85/75 S Off Ramp WB-T/R: 15 cars WB-T: 7 cars WB-L/T: 2 cars	None
	MORE INFO	See Appendix E, Paragraph 1	See Appendix E, Paragraph 2	See Appendix E, Paragraph P	See Appendix E, Paragraph 3	See Appendix E, Paragraph 4	See Appendix E, Paragraph 5	See Appendix E, Paragraph 6	See Appendix E, Paragraph 7	See Appendix E, Paragraph 8	See Appendix E, Paragraph 9
PM PEAK HOUR (5:00 to 6:00 PM)	LANE GEOMETRY										
	LANE UTILIZATION										
	LONGEST OBSERVED QUEUES	None	EB-T: blocked at receiving lane	EB-T: to Luckie Street	EB-R: to Luckie Street SB-R: 6 cars WB-L (inside): 3 cars WB-L (outside): 1 car	NB-T: 11 cars WB-R: 13 cars WB-T/R: 8 cars	Residual; successful platooning every cycle.	NB-L/T: 13 cars WB-T/R: 14 cars WB-L/T: 11 cars	NB-L/T: 6 cars NB-T: 1 car WB-T/R: 5 cars WB-L/T: 4 cars	SB: Queued to I-85/75 S Off Ramp WB-T/R: 9 cars WB-L/T: 12 cars	None
	MORE INFO	See Appendix E, Paragraph 1	See Appendix E, Paragraph 2	See Appendix E, Paragraph P	See Appendix E, Paragraph 3	See Appendix E, Paragraph 4	See Appendix E, Paragraph 5	See Appendix E, Paragraph 6	See Appendix E, Paragraph 7	See Appendix E, Paragraph 8	See Appendix E, Paragraph 9

= AVAILABLE MOVEMENT = UNAVAILABLE MOVEMENT/BLOCKED LANE = RELOCATED MOVEMENT

SAFETY ANALYSIS

The study area was analyzed to identify any recurring patterns in collisions that could be mitigated. Historic crash data was collected for the roadway segments associated to the study area. Historic crash data was also analyzed at intersections within the study area to identify recurring trends and unique trends in types of collisions.

CRASH HISTORY

Crash data for the study corridor was obtained from the Georgia Electronic Accident Reporting System (GEARS). The most recent five-year period of available data is shown below. The complete crash data is provided in Appendix G.

Table 3 summarizes the crash data for the entire segment of Baker Street, from Marietta Street to Piedmont Avenue.

Tables 4 to 12 summarize the crash data for each study intersection along Baker Street, from Marietta Street to Piedmont Avenue.

Table 3: CRASH DATA SUMMARY (MARIETTA ST TO PIEDMONT AVE)

YEAR	TOTAL CRASHES	INJURY CRASHES /INJURIES	FATALITIES	COLLISION w/ OTHER VEHICLE				COLLISION w/ ANIMAL OR STRUCTURE
				RIGHT ANGLE	HEAD ON	REAR END	SIDE-SWIPE	
2014	163	24/34	0	86	2	17	56	1
2015	226	31/41	0	118	5	34	68	1
2016	211	34/52	0	106	3	32	65	4
2017	217	22/29	0	102	7	25	78	4
2018	201	19/26	0	75	5	25	85	5
TOTAL	**1009**	**130/182**	**0**	**487**	**22**	**133**	**352**	**15**

Side-swipe and right-angle collisions are the most common types of collision on this segment, together accounting for 83% of total collisions.

Table 4: CRASH DATA SUMMARY (BAKER ST/MARIETTA ST INTERSECTION)

YEAR	TOTAL CRASHES	INJURY CRASHES /INJURIES	FATALITIES	COLLISION w/ OTHER VEHICLE				COLLISION w/ ANIMAL OR STRUCTURE
				RIGHT ANGLE	HEAD ON	REAR END	SIDE-SWIPE	
2014	18	2/2	0	5	0	3	9	1
2015	10	1/1	0	5	1	2	2	0
2016	21	4/5	0	5	0	7	9	0
2017	27	3/8	0	6	1	10	10	0
2018	12	2/2	0	4	0	0	8	0
TOTAL	**88**	**12/18**	**0**	**25**	**2**	**22**	**38**	**1**

Table 5: CRASH DATA SUMMARY (BAKER ST/LUCKIE ST INTERSECTION)

YEAR	TOTAL CRASHES	INJURY CRASHES /INJURIES	FATALITIES	COLLISION w/ OTHER VEHICLE				COLLISION w/ ANIMAL OR STRUCTURE
				RIGHT ANGLE	HEAD ON	REAR END	SIDE-SWIPE	
2014	7	0/0	0	1	0	0	6	0
2015	6	0/0	0	2	1	3	0	0
2016	6	1/1	0	1	1	1	3	0
2017	7	0/0	0	2	0	2	3	0
2018	10	1/1	0	6	0	2	2	0
TOTAL	**36**	**2/2**	**0**	**12**	**2**	**8**	**14**	**0**

Table 6: CRASH DATA SUMMARY (BAKER ST/COP DR INTERSECTION)

YEAR	TOTAL CRASHES	INJURY CRASHES /INJURIES	FATALITIES	COLLISION w/ OTHER VEHICLE				COLLISION w/ ANIMAL OR STRUCTURE
				RIGHT ANGLE	HEAD ON	REAR END	SIDE-SWIPE	
2014	15	3/3	0	10	0	2	3	0
2015	16	1/1	0	7	0	3	6	0
2016	7	2/2	0	2	0	0	5	0
2017	13	0/0	0	2	1	3	6	1
2018	11	0/0	0	4	0	0	7	0
TOTAL	**62**	**6/6**	**0**	**25**	**1**	**8**	**27**	**1**

Table 7: CRASH DATA SUMMARY (BAKER ST/WILLIAMS ST INTERSECTION)

YEAR	TOTAL CRASHES	INJURY CRASHES /INJURIES	FATALITIES	COLLISION w/ OTHER VEHICLE				COLLISION w/ ANIMAL OR STRUCTURE
				RIGHT ANGLE	HEAD ON	REAR END	SIDE-SWIPE	
2014	17	0/0	0	9	0	0	8	0
2015	8	0/0	0	5	0	1	2	0
2016	7	1/1	0	2	0	2	2	1
2017	14	1/1	0	8	1	1	3	1
2018	15	1/1	0	3	1	3	7	1
TOTAL	**61**	**3/3**	**0**	**27**	**2**	**7**	**22**	**3**

Table 8: CRASH DATA SUMMARY (BAKER ST/PEACHTREE ST INTERSECTION)

YEAR	TOTAL CRASHES	INJURY CRASHES /INJURIES	FATALITIES	COLLISION w/ OTHER VEHICLE				COLLISION w/ ANIMAL OR STRUCTURE
				RIGHT ANGLE	HEAD ON	REAR END	SIDE-SWIPE	
2014	19	5/7	0	8	0	5	6	0
2015	16	2/2	0	5	0	4	6	1
2016	12	1/1	0	3	1	3	5	0
2017	11	0/0	0	2	0	0	9	0
2018	24	2/3	0	5	0	8	11	0
TOTAL	**82**	**10/13**	**0**	**23**	**1**	**20**	**37**	**1**

Table 9: CRASH DATA SUMMARY (BAKER ST/TED TURNER DRIVE INTERSECTION)

YEAR	TOTAL CRASHES	INJURY CRASHES /INJURIES	FATALITIES	COLLISION w/ OTHER VEHICLE				COLLISION w/ ANIMAL OR STRUCTURE
				RIGHT ANGLE	HEAD ON	REAR END	SIDE-SWIPE	
2014	10	1/1	0	6	0	0	4	0
2015	16	1/3	0	5	0	2	9	0
2016	19	3/4	0	9	1	2	6	1
2017	24	5/6	0	12	0	1	10	1
2018	15	2/4	0	4	1	2	8	0
TOTAL	**84**	**12/18**	**0**	**36**	**2**	**7**	**37**	**2**

Table 10: CRASH DATA SUMMARY (BAKER ST/PEACHTREE CENTER AVE INTERSECTION)

YEAR	TOTAL CRASHES	INJURY CRASHES /INJURIES	FATALITIES	COLLISION w/ OTHER VEHICLE				COLLISION w/ ANIMAL OR STRUCTURE
				RIGHT ANGLE	HEAD ON	REAR END	SIDE-SWIPE	
2014	11	2/3	0	4	1	2	4	0
2015	11	1/1	0	4	0	3	4	0
2016	12	2/9	0	6	0	3	3	0
2017	12	2/2	0	5	1	1	5	0
2018	17	1/1	0	6	1	1	7	2
TOTAL	**63**	**8/16**	**0**	**25**	**3**	**10**	**23**	**2**

Table 11: CRASH DATA SUMMARY (BAKER ST/COURTLAND ST INTERSECTION)

YEAR	TOTAL CRASHES	INJURY CRASHES /INJURIES	FATALITIES	COLLISION w/ OTHER VEHICLE				COLLISION w/ ANIMAL OR STRUCTURE
				RIGHT ANGLE	HEAD ON	REAR END	SIDE-SWIPE	
2014	51	10/13	0	33	1	3	13	1
2015	133	22/30	0	84	4	10	35	0
2016	102	18/26	0	66	0	10	25	1
2017	97	10/11	0	57	2	5	32	1
2018	94	13/21	0	44	1	13	34	2
TOTAL	**477**	**73/101**	**0**	**284**	**8**	**41**	**139**	**5**

Table 12: CRASH DATA SUMMARY (BAKER ST/PIEDMONT AVE INTERSECTION)

YEAR	TOTAL CRASHES	INJURY CRASHES /INJURIES	FATALITIES	COLLISION w/ OTHER VEHICLE				COLLISION w/ ANIMAL OR STRUCTURE
				RIGHT ANGLE	HEAD ON	REAR END	SIDE-SWIPE	
2014	20	3/7	0	13	0	4	6	0
2015	13	3/4	0	7	0	6	6	0
2016	20	2/2	0	10	0	11	8	0
2017	21	1/1	0	8	2	3	8	0
2018	14	1/1	0	3	1	3	10	0
TOTAL	**110**	**10/15**	**0**	**41**	**3**	**27**	**38**	**0**

The intersection of Courtland Street and Baker Street accounts for over 58% of the total right angle collisions along the Baker Street corridor. Additionally, this intersection accounts for approximately 40% of the total side-swipe collisions along the Baker Street corridor. These crash frequencies are likely due to the vehicular demand Courtland Street provides as an major arterial into the Downtown Business District from the Connector.

CRASH RATE CALCULATIONS

Crash rates were calculated for both segments of the Baker Street study corridor using the following equation:

$$Crash\ Rate\ = \#\ crashes/(\frac{L * ADT * 365}{100{,}000{,}000})$$

Where;
L = length of section in miles
ADT = Average daily volume

Table 13 summarizes the crash rates along the two-way corridor of Baker Street from Marietta Street to COP Drive. Table 14 summarizes the crash rates along the one-way corridor of Baker Street from COP Drive to Piedmont Avenue. The tables show the rates for all crashes, injuries, and fatalities, and compares each to the statewide averages (SWA) for like facilities.

ADTs along these corridors were developed by averaging the Peak Hour entering and exiting volumes on the one-way and two-way corridor boundaries and dividing them by the K-factor associated to the Baker Street segment. For Baker Street:

- a K-factor of 9.4% was used to produce an ADT of 2375 for the two-way segment
- a K-factor of 8.9% was used to produce an ADT of 6350 for the one-way segment

These ADTs were then adjusted in volume by a growth rate of 1.0% per year to identify annual crash rates shown below.

Table 13: TWO-WAY BAKER ST CRASH RATE SUMMARY (MARIETTA ST TO COP DR)

YEAR	ADT	ALL CRASHES			INJURIES			FATALITIES		
		FREQ	PROJECT[1]	SWA	FREQ	PROJECT[1]	SWA	FREQ	PROJECT[1]	SWA
2014	2300	41	19,524	404	5	2,381	99	0	0	1.23
2015	2325	34	16,190	568	2	952	139	0	0	1.34
2016	2350	43	20,476	599	7	3,333	142	0	0	1.49
2017	2375[2]	45	20,455	576	3	1,364	141	0	0	1.43
2018	2400	38	17,273	N/A	3	1,364	N/A	0	0	N/A

SWA=Statewide Average Crash Rate for like facility
[1] Crash rates calculated based on the number of crashes per 100 million vehicle miles traveled
[2] K-Factor used to determine ADT was taken from GDOT Count Station 121-5613

Table 14: ONE-WAY BAKER ST CRASH RATE SUMMARY (COP DR TO PIEDMONT AVE)

YEAR	ADT	ALL CRASHES			INJURIES			FATALITIES		
		FREQ	PROJECT[1]	SWA	FREQ	PROJECT[1]	SWA	FREQ	PROJECT[1]	SWA
2014	6125	132	9,850	404	21	1,567	99	0	0	1.23
2015	6200	200	14,706	568	28	2,059	139	0	0	1.34
2016	6275	178	12,993	599	26	1,898	142	0	0	1.49
2017	6350[2]	191	13,741	576	20	1,439	141	0	0	1.43
2018	6425	187	13,262	N/A	20	1,418	N/A	0	0	N/A

SWA=Statewide Average Crash Rate for like facility
[1] Crash rates calculated based on the number of crashes per 100 million vehicle miles traveled
[2] K-Factor used to determine ADT was taken from GDOT Count Station 121-5628

All of the annual crash rates for each section of the Baker Street corridor are above statewide averages for total crashes and injury crashes. There were no fatalities reported for the section of the corridor during the most recent five-year period.

PROJECTED CONDITIONS

Baker Street was evaluated under two future scenarios:

- No-Build (remaining as one-way operation)
- Build (converting to two-way operation)

No-Build Scenarios evaluated Baker Street with no changes to the existing one-way operation, based on projected volumes for the year 2028.

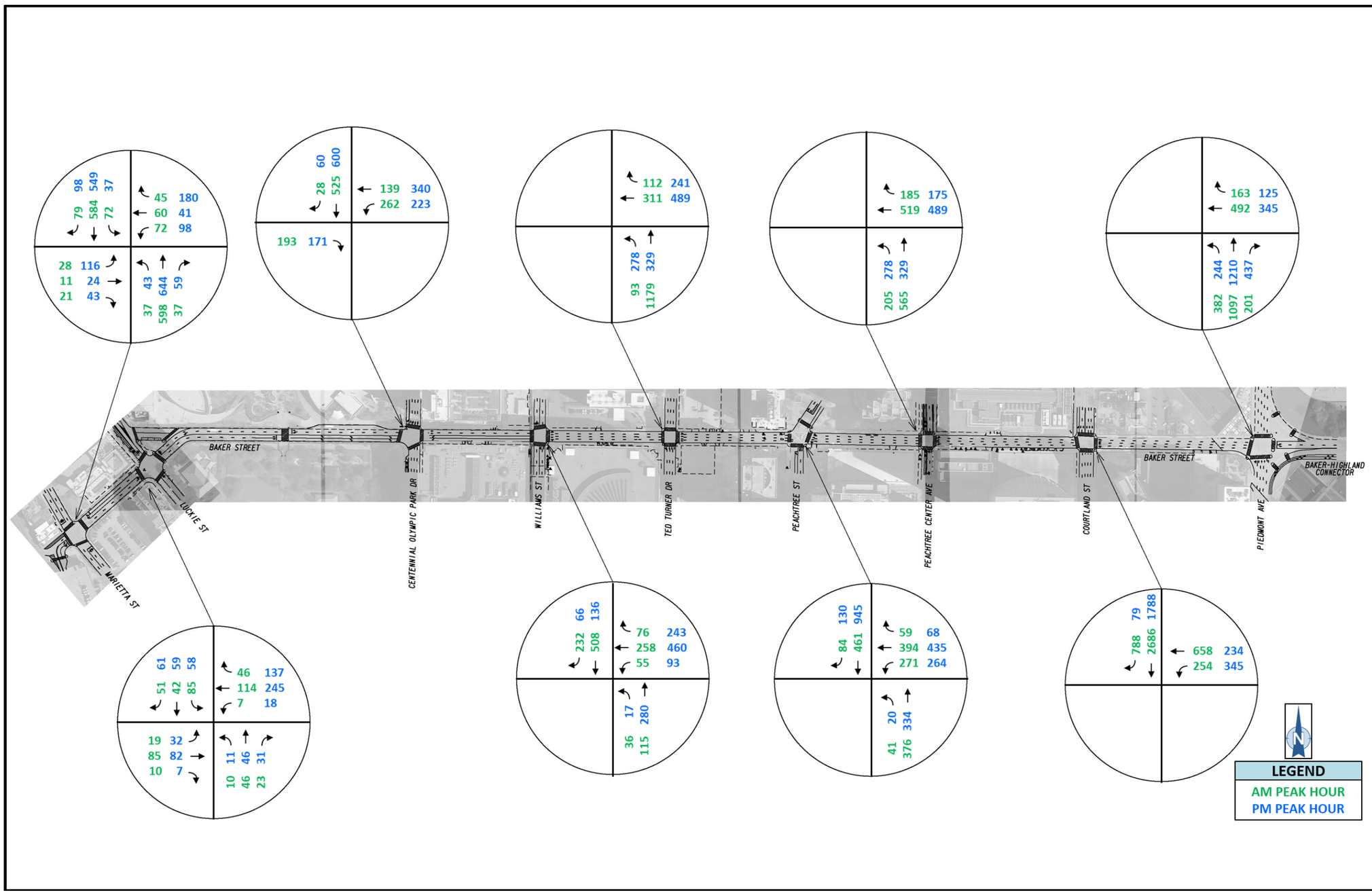
Build Scenarios evaluated Baker Street with the proposed two-way operation, based on projected volumes for the year 2028.

2028 NO-BUILD SCENARIO

2028 No-Build Traffic Volumes were determined based on grown traffic volumes previously determined from the Jacobs Engineering Group Report. A growth rate of 1% was used in the Jacobs Engineering Group Report. This growth rate was used to determine the 2028 No-Build Traffic Volumes for this study.

Figure 18 on the next page shows the 2028 No-Build Traffic Volumes for the study area. 2028 No-Build Traffic Volume diagrams from the Jacobs Report used to determine the growth rate are provided in Appendix H.

Figure 18: 2028 NO-BUILD TRAFFIC VOLUMES



2028 BUILD SCENARIO

2028 Build Traffic Volumes used in this study were similar to those identified in the Jacobs Engineering Group Report.

Figure 19 on the next page shows the 2028 Build Traffic Volume Diagram used in this study. The 2028 Build traffic volumes used by the Jacobs Engineering Group is provided in Appendix H.

Turning movement volume discrepancies were noted between the evaluated volumes in Figure 19 and the volumes evaluated by the Jacobs Engineering Group at the following intersections:

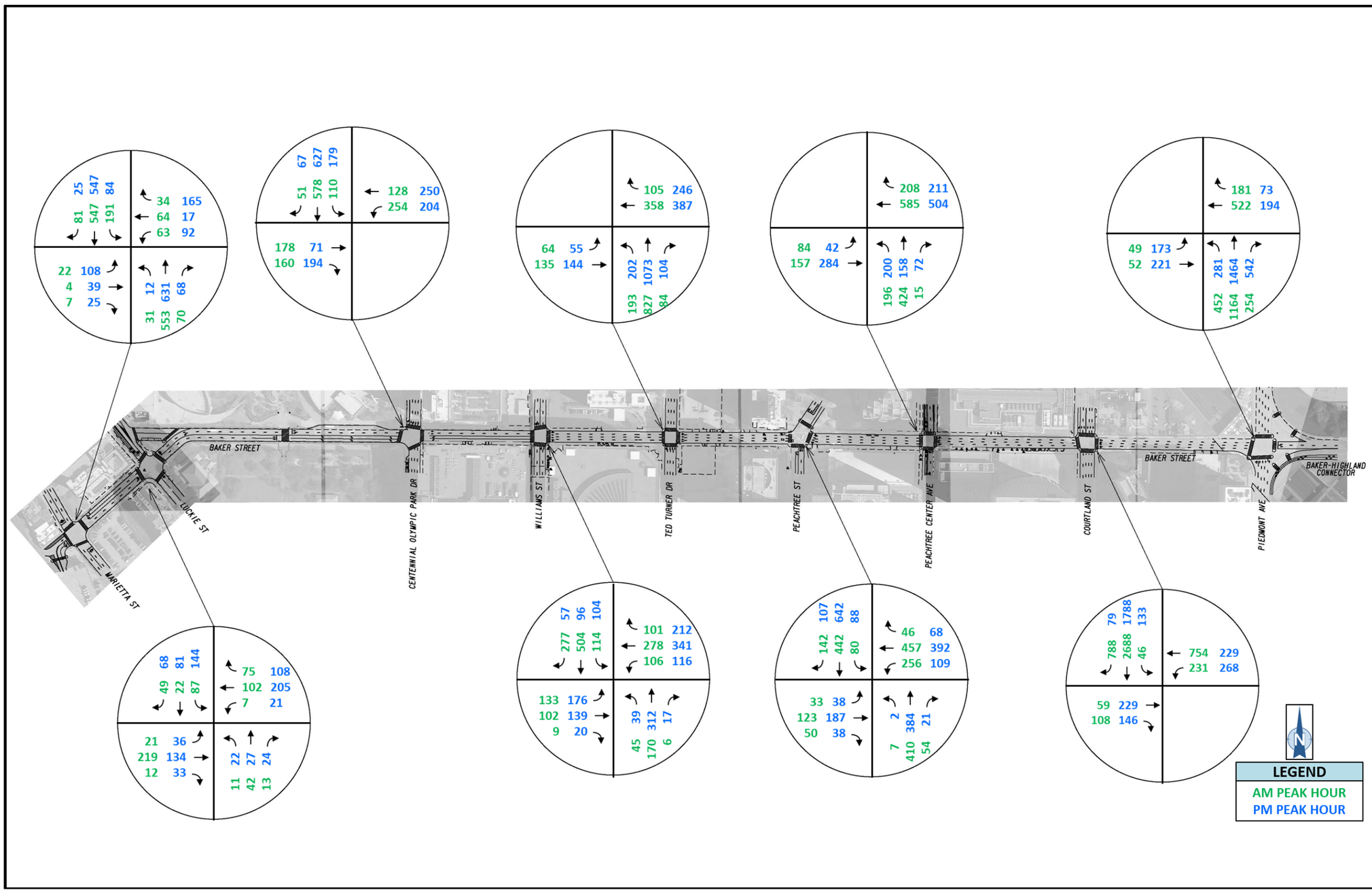
- Peachtree Center Avenue and Baker Street
- Courtland Avenue and Baker Street

Volumes from the Jacobs Engineering Group show southbound through volumes on Peachtree Center Avenue in the 2028 Build conditions. Peachtree Center Avenue is a one-way, northbound, minor arterial street. Therefore, these volumes were excluded in the analysis of this corridor study.

Volumes from the Jacobs Engineering Group show lower southbound through volumes on Peachtree Center Avenue in the 2028 Build conditions than there currently are in the Existing and 2028 No-Build conditions. Therefore, southbound volumes determined for this intersection in the 2028 No-Build were used, and only the southbound left turn volumes identified in the Jacobs Engineering study were added to the 2028 Build conditions traffic volumes.

These volumes will yield more conservative results when evaluating the operational efficiency of Baker Street in build conditions.

Figure 19: 2028 BUILD TRAFFIC VOLUMES



CAPACITY ANALYSIS

Existing and projected conditions were evaluated using capacity analysis techniques described in the *Highway Capacity Manual, Special Report 209*, published by the Transportation Research Board, 2010, and with the use of *Synchro 10* from Trafficware. HCM Level of Service (LOS) definitions are shown in Table 15.

Table 15: LEVEL OF SERVICE CRITERIA

LEVEL OF SERVICE	DELAY PER VEHICLE (SECONDS)	
	SIGNALIZED INTERSECTIONS	UNSIGNALIZED INTERSECTIONS
A	≤10.0	≤10.0
B	10.1 to 20.0	10.1 to 15.0
C	20.1 to 35.0	15.1 to 25.0
D	35.1 to 55.0	25.1 to 35.0
E	55.1 to 80.0	35.1 to 50.0
F	>80.0	>50.0

Source: Highway Capacity Manual, Special Report 209, Transportation Research Board, 2010

METHODOLOGY

Under existing conditions, the following parameters were implemented at the study intersections:

- One-way traffic operation from Piedmont Avenue to COP Drive
- Two-way traffic operation from COP Drive to Marietta Street
- Lane utilizations that provide adequate public transit and taxi accessibility between study intersections and proper curbside management of on-street parking
- Pedestrian phasing and Peak Hour pedestrian volumes
- Public Transit bus routes and bus-stop activity along segments of the study corridor between the study intersections
- Actuated-Coordinated MaxTime Timing Plans and Traffic Signal Phasing provided by the City of Atlanta

Under projected conditions, the study area was evaluated under No-Build and Build Scenarios for the future year 2028. The parameters used to evaluate these projected conditions are described in detail on the next page.

In the 2028 No-Build Scenario, the study area was evaluated with projected traffic volumes and:

- One-way traffic operation from Piedmont Avenue to COP Drive
    - From Piedmont Avenue to Peachtree Street, Baker Street was evaluated with only two lanes as fully operational since the outside lanes are utilized for service areas and metered on street parking. Additionally, unenforced and illegal on street parking was accommodated for this analysis since curbside management is not present along these Baker Street segments.
    - From Peachtree Street to COP Drive, Baker Street was evaluated with four lanes as fully operational since the outside lanes are solely utilized for vehicular traffic.
- Two-way traffic operation from COP Drive to Marietta Street, as is shown in existing conditions
- Lane utilizations that provide adequate public transit and taxi accessibility between study intersections
- Public Transit bus routes and bus-stop activity along segments of the study corridor between the study intersections
- Pedestrian Scramble phasing at all intersections with existing Peak Hour pedestrian volumes
- Actuated-Coordinated Timing Plans provided by the City of Atlanta and MaxView

In the 2028 Build Scenario, the study area was evaluated with projected traffic volumes and:

- Two-way traffic operation
    - From Piedmont Avenue to Peachtree Street, Baker Street was evaluated as a two-way road with only one lane in each direction. This geometry was evaluated to accommodate for the space needed to service the needs for pre-existing bus, taxi, and metered on street parking areas. Additionally, unenforced and illegal on street parking was accommodated for this analysis since curbside management is not present along these Baker Street segments.
    - From Peachtree Street to COP Drive, Baker Street was evaluated as a two-way road with two lanes in both directions since these segments of Baker Street are solely utilized for vehicular traffic.
    - From COP Drive to Marietta Street, Baker Street was also evaluated with its existing two-way road conditions.
- Lane utilizations that provide adequate public transit and taxi accessibility between study intersections
- Public Transit bus routes and bus-stop activity along segments of the study corridor between the study intersections
- Pedestrian Scramble phasing at all intersections with existing Peak Hour pedestrian volumes
- Actuated-Coordinated Timing Plans provided by the City of Atlanta and MaxView

EXISTING CONDITIONS

The signalized intersections of Baker Street were first evaluated using the existing geometry and volumes.

The results of the capacity analysis for the intersections are summarized in Table 16. For each condition the level of service is shown, followed parenthetically by the average delay per vehicle, in seconds.

The capacity analysis reports for the signalized intersections under existing conditions are included in Appendix I.

Table 16: CAPACITY ANALYSIS, EXISTING CONDITIONS

INTERSECTION	AM PEAK HOUR	PM PEAK HOUR
Marietta St @ Baker St	B (12.2)	B (16.3)
Luckie St @ Baker St	B (15.5)	B (28.7)
COP Dr @ Baker St	C (32.7)	C (28.1)
Williams St @ Baker St	B (11.0)	B (18.3)
Ted Turner Dr @ Baker St	A (9.7)	B (13.8)
Peachtree St @ Baker St	B (17.7)	C (31.4)
Peachtree Center Ave @ Baker St	C (22.4)	C (22.4)
Courtland St @ Baker St	C (33.3)	C (21.8)
Piedmont Ave @ Baker St	B (17.2)	B (13.7)

The capacity results indicate that the signalized intersections currently operate at acceptable levels of service in the AM and PM Peak Hours.

PROJECTED CONDITIONS

The signalized intersections of Baker Street were then evaluated using the total projected volumes using lane geometries from the projected no-build and build scenarios.

The results of the capacity analysis for the intersections are summarized in Table 17. For each condition the level of service is shown, followed parenthetically by the average delay per vehicle, in seconds.

The capacity analysis reports for the signalized intersections under projected conditions with no improvements (No-Build Scenario) are included in Appendix J. The capacity analysis reports for the signalized intersections under projected conditions with concept plan improvements (Build Scenaio) are included in Appendix K.

Table 17: CAPACITY ANALYSIS, PROJECTED CONDITIONS (INTERSECTIONS)

INTERSECTION	AM PEAK HOUR		PM PEAK HOUR	
	2028 NO BUILD	2028 BUILD	2028 NO BUILD	2028 BUILD
Marietta St @ Baker St	B (15.3)	B (14.2)	B (16.5)	C (22.5)
Luckie St @ Baker St	B (15.9)	B (18.7)	B (18.5)	B (17.5)
COP Dr @ Baker St	C (33.1)	C (23.2)	C (28.8)	C (23.8)
Williams St @ Baker St	B (11.4)	B (14.4)	B (18.4)	B (10.3)
Ted Turner Dr @ Baker St	B (10.0)	B (10.7)	B (17.3)	B (11.9)
Peachtree St @ Baker St	B (18.9)	F (127.5)	C (34.9)	F (121.8)
Peachtree Center Ave @ Baker St	C (23.9)	F (106.3)	C (22.9)	C (29.7)
Courtland St @ Baker St	D (45.1)	F (225.1)	C (24.0)	D (52.1)
Piedmont Ave @ Baker St	B (17.7)	C (25.2)	B (14.1)	C (24.5)

For the 2028 No-Build Scenario, capacity results indicate that the signalized intersections will operate at acceptable levels of service in the AM and PM Peak Hours.

For the 2028 Build Scenario, capacity results indicate that the following signalized intersections will operate at unacceptable levels of service in the AM Peak Hour:

- Peachtree Street at Baker Street
- Peachtree Center Avenue at Baker Street
- Courtland Street at Baker Street

For the 2028 Build Scenario, capacity results indicate that the following signalized intersections will operate at unacceptable levels of service in the PM Peak Hour:

- Peachtree Street at Baker Street

Further control delay analysis was conducted between the no-build and build scenarios to determine the affect a roadway conversion will have on the approaches to the study intersections.

The projected approach delay results for the study intersections are summarized in Table 18. Delays at LOS E or LOS F are shown below in red. Similar approaches for the no-build and build scenarios that have Peak Hour delay discrepancies greater than 20 seconds are in yellow.

The capacity analysis reports for these intersection approaches are included in Appendix J and K.

Table 18: CAPACITY ANALYSIS, PROJECTED CONDITIONS (INTERSECTION APPROACHES)

INTERSECTION	APPROACH	AM PEAK		PM PEAK	
		NO-BUILD	BUILD	NO-BUILD	BUILD
Marietta St @ Baker St	NB	A (9.8)	A (7.2)	A (9.7)	B (13.4)
	SB	B (10.8)	B (11.8)	A (9.1)	B (15.5)
	EB	C (34.7)	E (55.4)	D (39.9)	E (60.8)
	WB	D (48.0)	D (46.6)	C (34.8)	D (38.6)
Luckie St @ Baker St	NB	A (4.2)	A (4.5)	A (5.8)	A (5.0)
	SB	A (4.8)	A (4.7)	A (6.5)	A (5.9)
	EB	C (26.5)	C (26.4)	C (22.4)	C (23.9)
	WB	C (26.0)	C (25.3)	C (25.5)	C (26.6)
COP Dr @ Baker St	SB	B (14.6)	B (15.4)	B (20.0)	B (11.2)
	EB	E (57.8)	C (21.3)	E (61.4)	C (28.1)
	WB	D (46.8)	D (40.1)	C (29.3)	D (45.4)
Williams St @ Baker St	NB	A (3.4)	A (8.5)	A (6.8)	B (11.9)
	SB	A (5.1)	B (14.0)	A (6.8)	B (14.2)
	EB	-	C (26.3)	-	B (14.3)
	WB	C (26.4)	B (12.1)	C (25.6)	A (6.0)
Ted Turner Dr @ Baker St	NB	A (5.0)	A (8.0)	A (7.5)	B (10.3)
	EB	-	B (14.6)	-	B (12.1)
	WB	C (25.3)	B (15.4)	C (25.4)	B (15.3)
Peachtree St @ Baker St	NB	B (10.9)	B (13.9)	B (12.0)	B (13.3)
	SB	B (12.6)	B (17.9)	B (18.3)	B (18.5)
	EB	-	B (13.2)	-	C (32.7)
	WB	C (28.2)	F (325.1)	E (68.7)	F (392.6)
Peachtree Center Ave @ Baker St	NB	B (18.0)	B (18.1)	B (16.6)	B (16.3)
	EB	-	F (216.5)	-	C (24.1)
	WB	C (30.4)	F (143.5)	C (28.7)	D (40.3)
Courtland St @ Baker St	SB	C (34.7)	C (24.8)	B (13.9)	C (32.8)
	EB	-	C (33.6)	-	C (20.3)
	WB	F (84.7)	F (973.9)	E (56.4)	F (153.5)
Piedmont Ave @ Baker St	NB	A (6.7)	B (15.4)	A (4.7)	B (18.4)
	EB	-	D (49.5)	-	D (49.8)
	WB	D (50.7)	D (51.0)	D (53.7)	C (27.6)

Build Scenario results indicate that with the two-way conversion of Baker Street, side street delays will increase at all intersections east of COP Drive when compared to the No-Build Scenario results. The Build Scenario results also indicate that Baker Street will experience an extensive westbound LOS F delay between Peachtree Street and Piedmont Avenue.

SUMMARY OF FINDINGS

Baker Street, from Piedmont Avenue to Centennial Olympic Park (COP) Drive, is proposed to be converted from one-way to two-way operation. The Baker Street study corridor, from Marietta Street to Piedmont Avenue, was evaluated to determine the operational and safety-related impacts anticipated from the conversion. This conversion was previously studied by the Jacobs Engineering Group on August 29, 2017.

Based on traffic signal timing plans and phasing plans provided by the City of Atlanta, Baker Street is the minor-phased movement. The side streets to Baker Street, along the entire corridor, are the major-phased movements.

Existing roadway conditions were observed along Baker Street on Wednesday, March 27, 2019. This site visit evaluated the following roadway characteristics to determine the capacity and performance of Baker Street in existing and projected conditions:

- parking facilities/garages
- loading docks/garages for freight
- dedicated taxi lanes, bus drop-off and pick-up zones, and on street parking

From Marietta Street to COP Drive, Baker Street operates as a two-way road. From COP Drive to Peachtree Street, Baker Street operates as a four-lane, one-way road in the westbound direction. From Peachtree Street to Piedmont Avenue, Baker Street was observed with only two lanes in operation since the outside lanes are being utilized for service areas and metered on street parking. Additionally, unenforced and illegal on street parking was observed since curbside management is not present along Baker Street.

Historic crash data analysis indicates that Baker Street has crash rates which exceed state-wide averages for roadways with similar characteristics.

- The intersection of Courtland Street and Baker Street accounts for 47% of the total crashes recorded along this corridor.
- Piedmont Avenue and Baker Street, the intersection with the second-highest number of crashes, accounts for only 11% of the total crashes along the corridor.

Based on traffic volumes previously reported on by the Jacobs Engineering Group, a growth rate of 1% was used to evaluate Baker Street in future scenarios. Traffic volumes were evaluated under the following scenarios for the year 2028:

- No-Build (Baker Street remaining as one-way operation)
- Build (converting Baker Street to two-way operation)

Under existing conditions, capacity analysis results indicate that the signalized intersections operate at acceptable levels of service in the AM and PM Peak Hours.

Under projected conditions for the 2028 No-Build Scenario, capacity analysis results indicate that the signalized intersections will operate at acceptable levels of service in the AM and PM Peak Hours.

Under projected conditions for the 2028 Build Scenario, capacity analysis results indicate that the following signalized intersections will operate at unacceptable LOS F in the following Peak Hours:

- Peachtree Street at Baker Street (AM and PM Peak Hours)
- Peachtree Center Avenue at Baker Street (AM Peak Hour)
- Courtland Street at Baker Street (AM Peak Hour)

Build Scenario results indicate that with the two-way conversion of Baker Street, side street delays will increase at all intersections east of COP Drive. The Build Scenario results also indicate that Baker Street will experience an extensive westbound LOS F delay between Peachtree Street and Piedmont Avenue.

On Baker Street where an eastbound direction is proposed between Peachtree Street and Piedmont Avenue, these approach delays for new traffic accommodations are expected to exceed more than 20 seconds of delay in either Peak Hour – an operational LOS decrease of two classifications.

The following intersections were observed to have significant approach delays greater than 20 seconds when comparing No-Build Scenario results with Build Scenario results:

- At Peachtree Street and Baker Street, an AM Peak Hour increase of 297 seconds of delay in the Build Scenario for the westbound approach and a PM Peak Hour increase of 324 seconds of delay
    - 33 seconds of delay added to the proposed eastbound approach in the PM Peak
- At Peachtree Center Avenue and Baker Street, an AM Peak Hour increase of 113 seconds of delay in the Build Scenario for the westbound approach
    - 217 seconds of delay added to the proposed eastbound approach in the AM Peak and 24 seconds of delay in the PM Peak
- At Courtland Street and Baker Street, an AM Peak Hour increase of 889 seconds of delay in the Build Scenario for the westbound approach and a PM Peak Hour increase of 97 seconds of delay
    - 50 seconds of delay added to the proposed eastbound approach in both Peak Hours

Tables 19 and 20 on the following pages summarize the advantages and disadvantages of having a one-way roadway or a two-way roadway in a downtown area. Additional research was conducted to evaluate the advantages and disadvantages to both systems based on publicly published research on roadway conversions. These publications are provided in Appendix L for reference.

Table 19: ADVANTAGES AND DISADVANTAGES OF ONE-WAY VERSUS TWO-WAY OPERATION (1 of 2)

TOPIC	ROADWAY DESIGN ADVANTAGES		ROADWAY DESIGN DISADVANTAGES	
	ONE-WAY	TWO-WAY	ONE-WAY	TWO-WAY
Safety (also refer to Tables 3 through 14)	• One-way roads, converted from two-way roads, show a reduction in pedestrian and vehiclular crash rates by 57%[5] • There are fewer conflicting turning movements at these intersections, which reduce the potential for a through vehicle to encounter a turning vehicle[2] • One-ways eliminate head on collisions[4]	• Some two-way road operations create more pedestrian-friendly environments[1] • On a two-way street, pedestrians have the choice of walking against and facing the oncoming traffic[2]	• Conflicting reports that state one-way roads are a safer alternative to two-way roads when addressing pedestrian and vehicular safety[1, 2, 3, 4] • On a one-way street, pedestrians moving in the same direction as the traffic will always have adjacent traffic coming behind them regardless of which side of the street, they choose to walk on[2]	• Converting one-way roads to two-way roads are expected to increase pedestrian and vehicular crash rates by 57%[5] • Two-way roads typically have more pedestrian and vehicle crash rates than one-way roads due to an increase in conflict points • Conflicting reports that state two-way roads are a safer alternative to one-way roads when addressing pedestrian and vehicular safety[1, 2, 3, 4]
Capacity/Performance (also refer to Tables 16 through 18)	• The study intersections currently operate at acceptable levels of service as a one-way • One-way roads are generally wider and have a greater number of lanes per direction than two-way counterparts[1] • Curbside activity along these roads can be less disruptive to the traffic flow, where only outside travel lanes are usually blocked[2] • One-way operation typically increases capacity of roadways[4] • Conversion of two-way to one-way operations generally increases capacity to a street by about 10% to 20%[2]	• The study intersections along Baker Street between Marietta Street and Ted Turner Drive will operate at acceptable levels of service in this scenario • This roadway conversion will provide a direct access link between the City Business and Entertainment Districts at COP Drive • Two-way roads generally have narrower roads which can help reduced speeds when compared to a one-way counterpart	• There is no proper curbside management on the outside lanes of Baker Street between Peachtree Street and Piedmont Avenue, reducing its true capacity capability in half • One-way system generally yields 120% to 160% more turning movements when compared to a two-way system[2] • Travel distances from a downtown entry point to destination is typically 20% to 50% greater in a one-way system when compared to a two-way system[2]	• The study intersections between Peachtree Street and Piedmont Avenue along Baker Street will operate at unacceptable levels of service (LOS F) in this scenario • Improper curbside management of the outside lanes on Baker Street will continue to reduce the capacity of a two-way road. If existing curbside management does not change, Baker Street concept plan lane utilization will only produce one usable travel lane in each direction • Baker Street westbound segments are expected to have over 100-second delays between Peachtree Street and Piedmont Avenue
Servicing People, Vehicles, and Business / **Multi-Modal Aspects** (also refer to Appendix C and E)	• One-way roads are more suited for downtown business districts, where traffic can be moved into and out of the downtown employment area as quickly as possible[2] • There are 19 public transit bus routes from Cobb County, Gwinnett County, and MARTA that service the Downtown Business District on typical work days • The Peachtree Street and Baker Street intersection services over 1500 pedestrians daily • Existing conditions provide corridor access to pedestrians, bicyclists, public transit charter bus services, and vehicular traffic • Parking Facilities to and from businesses along Baker Street are easily accessible	• Conversion to two-way streets is believed to bring about improved neighborhood livability, economic growth, and overall enhancement of quality of life for users and residents alike[1] • Two-way operations in downtown areas could help serve the changing mix of downtown visitors. These conversions could also make shops and restaurants more accessible[1] • Most major streets and highways are originally designed for use by two-way traffic[4] • Having new public transit bus stop zones in either direction for more convenient pedestrian accessibility • Parking facilties to and from business along Baker Street can be accessible from either direction	• One-way street systems often cause drivers to take out-of-direction routes to their destination[2] • One-way street systems often increase the number of turning movements required and the number of intersections a vehicle must pass through[2] • One-way systems generally yield 120% to 160% more turning movements when compared to two-way systems[2] • Most major streets and highways are originally designed for two-way traffic usage[4] • Existing multi-modal usage of the corridor limits vehicular travelers from utilizing the full available capacity of the road	• Converting the one-way road to a two-way road will create a disservice to the pre-existing traffic flow patterns for the businesses/hotels/parking facilities that have been successfully operational with Baker Street as a one-way • Accommodating for two-way conversion will affect the behavior of the roadway system in relation to its side street counterparts, which depend on Baker Street to collect and service adjacent traffic from more major arterial roadways • Having to restructure existing public transit bus routes to accommodate for new bus stop zones and intersections where proper bus turning maneuvers can be achieved in CBD zones • Parking Facilities to and from businesses along Baker Street will be much less accessible and more difficult to enter/exit

1 = “Conversion of One-Way Street Pairs to Two-Way Operations in Downtown Birmingham” by Virginia P. Sisiopiku, Ph.D. (n.d.)

2 = “Advantages and Disadvantages of One-Way Streets” by the Glatting Jackson Kercher Anglin Firm (30 October 2007)

3 = “One-Way vs. Two-Way Streets: Let the Debate Begin” by the Richmond Business and Commercial News blog (27 July 2007)

4 = “Conversion of Streets From One-Way to Two-Way Operation” by the Michigan Department of Transportation (26 July 2000)

5 = “Convert frontage road from two-way operation to one-way operation (CMFID 4010)” by the Crash Modification Factors Clearinghouse (n.d.)

Table 20: ADVANTAGES AND DISADVANTAGES OF ONE-WAY VERSUS TWO-WAY OPERATION (2 of 2)

TOPIC	ROADWAY DESIGN ADVANTAGES		ROADWAY DESIGN DISADVANTAGES	
	ONE-WAY	TWO-WAY	ONE-WAY	TWO-WAY
Interstate Connector Accessibility (also refer to Figure 17)	• Most traffic entering and exiting Baker Street via the Interstate Connector are fed from the Ivan Allen Jr Blvd, Williams St, Ellis St, and/or Courtland St corridors • The only intersections that provide full ramp access (both North and South On Ramps) to the interstate from the Business District are at Intersections B and E • Drivers attempting to use the dedicated North Ramp at Intersection G are likely traveling from John Portman Blvd (Intersection D) • Drivers attempting to go South from Baker Street are more likely using the On Ramps at Ellis St (Intersection E) more so than Ivan Allen Jr Blvd (Intersection B)	• This conversion will provide a new access route to travelers driving northbound through the Highland Ave Connector (Intersection G) that would otherwise utilize Ivan Allen Jr Blvd (Intersection B), John Portman Blvd (Intersection D), or Ellis St (Intersection E) for those On Ramps • This conversion may divert some of the existing traffic patterns along John Portman Blvd and/or Ellis St who are attempting to get on the northbound Connector at Intersection G via Piedmont Ave	• Baker Street is a major road with limited interstate access that instead collects traffic from the interstate Off Ramps at Ivan Allen Jr Blvd (Intersection B), Courtland Street (Intersection C), and the HOV Off Ramp at John Portman Blvd (Intersection D) • Baker Street is not a heavily utilized corridor by travelers when compared to its side streets. Side Streets along Baker Street provide more accessibility to and from the Interstate Connector • The function of Baker Street is not to provide immediate interstate access but rather to transport users to other surrounding roads whose purpose and function is to provide that interstate access	• The existing interstate accessibility to and from the Connector will not change in this scenario • Two-way conversion will provide a new EB route to Intersection G, which only provides access to the Connector in the North direction. • The only interstate access on Baker Street is an On Ramp to the Connector. No Off Ramp from the Connector has access to Baker Street for a two-way conversion to be justified • This conversion will likely only benefit travelers going northbound on the Connector, since Baker Street only provides access to it at Intersection G. However, drivers going north from the entertainment and business district are more inclined to use interstate access at Intersection B more so than that of Intersection G because it is closer to their final destinations • Travelers going southbound on the Connector will still likely utilize John Portman Blvd (Intersection D) or Ellis St (Intersection E) since Piedmont Ave will remain as a one-way NB road
Grid Connectivity (also refer to Figure 17)	• Baker Street currently operates at acceptable LOS and is expected to continue to operate at acceptable LOS in future years as a one-way • One-way streets typically offer the opportunity to control signalized intersection approaches by a single signal phase, allowing for more efficient green time distribution at intersection[2] • One-way systems typically redistribute traffic onto adjacent streets to relieve congestion[4]	• Conversions to two-way streets is believed to bring about better accessibility and mobility within downtown grids[1] • Two-way operations in downtown areas could help redistribute the enormous capacity of downtown grids if analyzed on a macro-scale[1] • Destinations are more visible and accessible on two-way streets[4]	• One-way system generally yields 120% to 160% more turning movements when compared to a two-way system[2] • Travel distances from a downtown entry point to destination is typically 20% to 50% greater in a one-way system when compared to a two-way system[2]	• Converting Baker Street from one-way to two-way will not significantly redistribute adjacent street traffic through the downtown grid, since convenient interstate access is already located at Ivan Allen Jr Blvd and Ellis Street • Any eastbound traffic assigned to Baker Street coming/going to and from the interstate will conflict with existing and future movements on Piedmont Avenue, which is planned to remain as a one-way northbound arterial
Roadway Conversion Costs	• Roadway conversion projects, from two-way to one-way are generally not costly, relative to converting from a one-way to a two-way[3] • Roadway conversions to a one-way operation typically reduces driver confusion for locals familiar with the area[3]	• Several urban cities across the United States have been converting one-way streets into two-way streets since the 1990's[1] • Roadway conversions to a two-way operation typically reduces driver confusion for visitors unfamiliar with the area[3]	• Several urban cities across the United States have been converting their one-way streets into two-way streets since the 1990's[1] • Roadway conversion projects are generally more successful if a consensus is reached with the community[4] • One-way roadway operations generally depend on local needs[4] • One-way roads typically increase driver confusion for visitors unfamiliar with the area[3]	• Roadway conversion projects, from one-way to two-way are generally costly, relative to converting from a two-way to a one-way[3] • Roadway conversion projects are generally more successful if a consensus is reached with the community[4] • Two-way roadway operations generally depend on local needs[4] • A conversion from one-way operation to two-way operation typically increases driver confusion for locals familiar with the area[3]

1 = "Conversion of One-Way Street Pairs to Two-Way Operations in Downtown Birmingham" by Virginia P. Sisiopiku, Ph.D. (n.d.)

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CONCLUSION

From previously conducted studies throughout the nation on roadway conversions, no correlating trends have been concluded between the advantages and disadvantages of either one-way or two-way operation in downtown areas. Benefits for or against either roadway operation are dependent on its surrounding areas and driving behavior factors. Concerns for roadway conversion projects are best resolved if consensus is reached with the community it will impact.

Baker Street has operated as a one-way facility between Piedmont Avenue and Centennial Olympic Park for nearly 60 years. Businesses along this section of the Central Business District (CBD) have cultivated and shaped their community around one-way operation. Based on the capacity analysis results, Baker Street operates and will operate acceptably as a one-way road. Results indicate that if Baker Street were to be converted to two-way operation, LOS F will occur on intersections between Peachtree Street and Piedmont Avenue. Additionally, there have been studies showing trends in crash rate reductions when converting roadways from one-way operation to two-way operation (see Appendix L, Footnote 5). Therefore, crash rates will likely increase with two-way operation.

Rather than solely analyzing the Baker Street corridor for its proposed conversion from one-way to two-way operation, the scope of work should focus on impacts to the entire Downtown Atlanta grid network. The City of Atlanta should evaluate how proposed roadway conversions like this will impact the downtown CBD. Impacts such as downtown grid connectivity, and any affects they may have to ramp accessibility on and off the Interstate Connector, should be evaluated. From these findings, representatives from the Business and Entertainment Districts within the CBD can determine which roadway operations will best suit their local needs.

APPENDICES