Transportation Analysis

Celebration Village Snellville
Development of Regional Impact #2752
Gwinnett County, Georgia

February 22, 2018

MARC R. ACAMPORA, PE, LLC
TRAFFIC ENGINEERING

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study prepared for:

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February 22, 2018

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Summary

This Transportation Analysis was prepared for the Celebration Village Snellville Development of Regional Impact (DRI) #2752, in compliance with the requirements of the Georgia Regional Transportation Authority for Expedited Review due to 24-hour trip generation projections below 3,000 vpd.

The project will consist of a mix of senior residential options including 140 independent living villas, 44 concierge living apartments, 55 assisted living apartments, 31 memory care apartments, 128 senior attached single-family homes, and 24 personal care beds. The front of the site will also include 30,000 ft² of specialty retail shops and an 18,000 ft² office building.

Vehicular access will be provided at three full-movement accesses along the north side of Webb Gin House Road. The western and eastern accesses will be side street stop sign controlled and gated. The central access will create the fourth approach to the existing signal at Bennett Road.

The mitigation identified in this study is summarized in the following table:

Summary of Mitigation Identified in This Study for Compliance with GRTA Standards

Condition	Intersection	Mitigation Required
Existing	1. GA 124 / Webb Gin House Road	1. Add EB exclusive right turn lane
		2. Add second WB through lane
	3. GA 20 / Webb Gin House Road	1. Change EB to shared left/through and exclusive right
		2. Add EB RT overlap phase
No-Build	1. GA 124 / Webb Gin House Road	1. Add second NB left turn lane
	3. GA 20 / Webb Gin House Road	1. Add second NB left turn lane
	4. Hillside Drive / Bennett Road	1. Add SB right turn lane on Bennett
		2. Add WB right turn lane on Hillside
Build	none	none

Contents

SUMMARY

1. PROJECT DESCRIPTION 1

1.1 Project Phasing, Pods, and Land Uses 2
1.2 Site Plan 2
1.3 Site Vehicular Access 4
1.4 On-Site Pedestrian and Bicycle Facilities 4
1.5 Transit Access 4
1.6 Parking 4

2. STUDY NETWORK 5

2.1 Peak Time Periods and Analysis Conditions 5
2.2 Level of Service Standard 5

3. EXISTING TRANSPORTATION FACILITIES 6

3.1 Webb Gin House Road 6
3.2 Bennett Road 6
3.3 Scenic Highway (GA 124) 6
3.4 Grayson Highway (GA 20) 7
3.5 Hillside Drive 7
3.6 Transit Service 7
3.7 Bicycle and Pedestrian Facilities 7

4. PROJECT TRAFFIC CHARACTERISTICS 8

4.1 Trip Generation 8
4.2 Trip Distribution and Assignment 10

5. EXISTING TRAFFIC ANALYSIS 12

5.1 Existing Lanes and Traffic Control 12
5.2 Existing Traffic Volumes 12
5.3 Existing Intersection Operations 14
5.4 Existing Facilities Needs Analysis 15

6. NO-BUILD TRAFFIC ANALYSIS 18

6.1 Programmed Infrastructure Projects 18
6.2 No-Build Traffic Volumes 18
6.3 No-Build Intersection Operations 21
6.4 No-Build Facilities Needs Analysis 22

7. FUTURE (BUILD) TRAFFIC ANALYSIS 24

7.1 Build Lanes and Traffic Control 24

7.2 BUILD TRAFFIC VOLUMES 25
7.3 BUILD INTERSECTION OPERATIONS 26
7.4 BUILD FACILITIES NEEDS ANALYSIS 27
7.5 SITE ACCESS ANALYSIS 28
8. SUMMARY OF RECOMMENDED MITIGATION 300
9. SITE INTERNAL CIRCULATION AND CONNECTIVITY 322
10. COMPLIANCE WITH GRTA CRITERIA 333
10.1 GENERAL CRITERIA APPLICABLE TO ALL PROPOSED DRIS 333
APPENDIX

Tables

Summary of Mitigation Identified in This Study for Compliance with GRTA Standards ..... Summary
Table 1 – Celebration Village Snellville DRI Proposed Land Uses and Sizes 2
Table 2 – Celebration Village Snellville DRI On-Site Parking 4
Table 3 – Intersections Included in the Study Network 5
Table 4 – Celebration Village Snellville DRI Trip Generation 9
Table 5 – Celebration Village Snellville DRI Trip Generation Summary 10
Table 6 – Existing Intersection Levels of Service 15
Table 7 – Existing Intersection Levels of Service Without and With Mitigation 17
Table 8 – Programmed Transportation Infrastructure Projects 18
Table 9 – Historic Georgia DOT Traffic Volume Counts and Annual Growth Rates 19
Table 10 – No-Build Intersection Operations 21
Table 11 – No-Build Intersection Levels of Service Without and With Mitigation 23
Table 12 – Build Intersection Operations 26
Table 13 – Build Intersection Levels of Service Without and With Mitigation 28
Table 14 – Summary of Mitigation Identified in This Study for Compliance with GRTA Standards 300
Table A – Level of Service Criteria for Signalized Intersections and Roundabouts ..... Appendix
Table B – Level of Service Criteria for Unsignalized Intersections ..... Appendix

Figures

Figure 1 – Site Location Map 1
Figure 2 – Celebration Village Snellville DRI Site Plan 3
Figure 3 – Celebration Village Snellville Weekday A.M. and P.M. Peak Hour Site Trips and Distribution Percentages 11
Figure 4 – Existing Lane Configuration and Traffic Control 13
Figure 5 – Existing A.M. and P.M. Peak Hour Volumes 14
Figure 6 – No-Build A.M. and P.M. Peak Hour Volumes 20
Figure 7 – Build Lane Configuration and Traffic Control 24
Figure 8 – Build A.M. and P.M. Peak Hour Volumes 25
Figure 9 – Mitigation Summary 311

1. Project Description

This Transportation Analysis was performed for the proposed Celebration Snellville Development of Regional Impact (DRI) #2752. The site location is along the north side of Webb Gin House Road, at Bennett Road, in Gwinnett County. An area map is presented in Figure 1. The total square footage of the multi-use development exceeds 500,000 square feet, which is a DRI threshold for a multi-use development in "Maturing Neighborhoods, Established Suburbs, and Developing Suburbs" as set forth in the Rules of the Georgia Department of Community Affairs (DCA), Chapter 110-12-7, Developments of Regional Impact: Alternative Requirements – Atlanta Regional Commission. The raw trip generation of the project is below 3,000 vehicles per day, so the project meets the criteria for Expedited Review. This study was performed to meet the Georgia Regional Transportation Authority (GRTA) Development of Regional Impact expedited review requirements, according to the GRTA DRI Review Package Technical Guidelines.

Figure 1 – Site Location Map

1.1 Project Phasing, Pods, and Land Uses

The subject site is currently undeveloped. The project will consist of a mix of senior residential options including 140 independent living villas, 44 concierge living apartments, 55 assisted living apartments, 31 memory care apartments, 128 senior townhomes, and 24 personal care beds. The front of the site will also include 30,000 ft² of specialty retail shops and an 18,000 ft² office building. The project will be developed in one continuous phase, with buildout anticipated in five years (2023). Table 1 presents the programmed land uses and sizes. The "Area" designations correspond to the site plan.

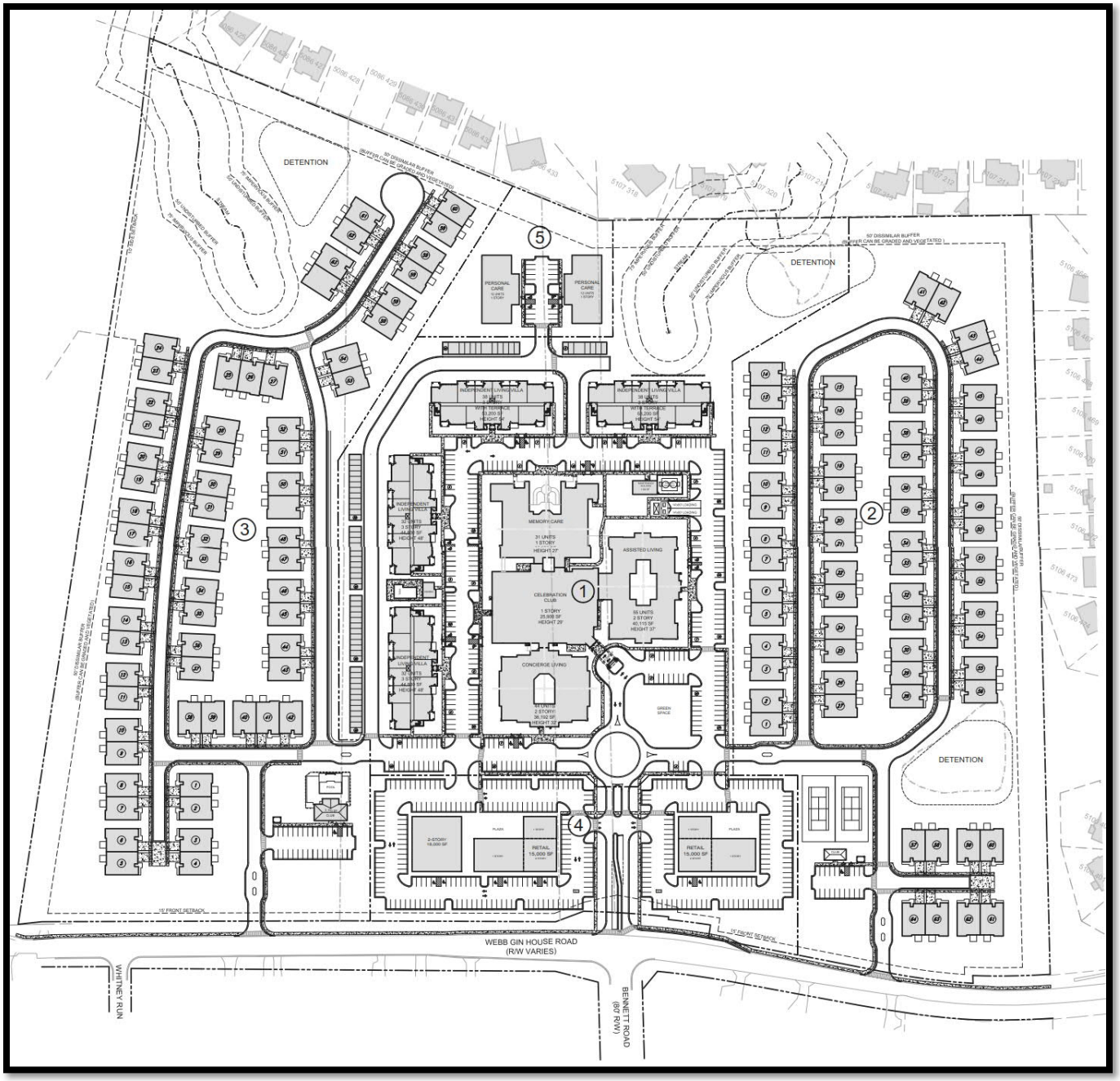
Table 1 – Celebration Snellville DRI Proposed Land Uses and Sizes

Area	Area Name	Land Use	Size
1	Celebration Village	Independent Living Villas	140 units
		Concierge Living Apartments	44 units
		Assisted Living Apartments	55 units
		Memory Care Apartments	31 beds
2	Reserve East	Senior Attached Single Family Homes	64 units
3	Reserve West	Senior Attached Single Family Homes	64 units
4	Celebration Retail	Retail	30,000 ft²
		Office	18,000 ft²
5	Personal Care	Personal Care	24 beds

from 10/27/17 site plan by Paradigm Engineering

1.2 Site Plan

This study is based on the site plan for the project, prepared by Paradigm Engineering Services, Inc, dated October 27, 2017, as shown in Figure 2.



site plan by Paradigm Engineering

Figure 2 – Celebration Village Snellville DRI Site Plan

1.3 Site Vehicular Access

Vehicular access will be provided at three accesses along the north side of Webb Gin House Road. The main entrance will be a full-movement access that will align with Bennett Road at its signalized intersection with Webb Gin House Road. A gated access to the residential portion of the site will be provided inside this main access, behind the street-fronting retail and office. Minor western and eastern accesses will be provided on Webb Gin House Road, one each east and west of the main access. These minor accesses will be gated and will allow full turning movements.

1.4 On-Site Pedestrian and Bicycle Facilities

Sidewalks and walking paths will be provided throughout the development. There is currently no sidewalk on Webb Gin House Road or Bennett Road in the vicinity of the project. The project will add new sidewalk along the property frontage on Webb Gin House Road will connect those sidewalks to the sidewalks within the project. There are no dedicated or shared striped bicycle lanes adjacent to the subject site and no dedicated bicycle lanes are proposed within the Celebration Village Snellville development.

1.5 Transit Access

There is no regularly-scheduled public transit service available immediately adjacent to, or within reasonable walking distance from, the subject site. The project will provide an internal shuttle bus service for residents. This service is ultimately anticipated to be expanded to area attractions such as the Shoppes at Webb Gin.

1.6 Parking

Parking will be provided on-site by a combination of surface parking lots, on-street parking, and private garages. All parking is shown on the site plan submitted with this report. The on-site parking is summarized in Table 2.

Table 2 – Celebration Village Snellville DRI On-Site Parking

Area	Area Name	Land Use	Size	Spaces Required	Spaces Provided
1	Celebration Village	Independent Living Villas	140 units	210	244
		Concierge Living Apartments	44 units	66	70
		Assisted Living Apartments	55 units	83	90
		Memory Care Apartments	31 beds	11	16
2	Reserve East	Senior Attached Single Family	64 units	128	128
3	Reserve West	Senior Attached Single Family	64 units	128	128
4	Celebration Retail	Retail	30,000 ft²	60	150
		Office	18,000 ft²	36	80
5	Personal Care	Personal Care	24 beds	8	20

2. Study Network

The study network for this project was agreed to with GRTA and specified in GRTA's Letter of Understanding (LOU) dated December 20, 2017. The network intersections are presented in Table 3.

Table 3 – Intersections Included in the Study Network

#	Description
1.	GA 124 / Webb Gin House Road
2.	Webb Gin House Road / Bennett Road / Celebration Main Access
3.	GA 20 / Webb Gin House Road
4.	Hillside Drive / Bennett Road
5/6.	Celebration Minor Accesses

2.1 Peak Time Periods and Analysis Conditions

All analyses are performed for the weekday a.m. peak hour (counted 7:00-9:00 a.m.) and the weekday p.m. peak hour (counted 4:30-6:30 p.m.). The existing 2018, 2023 no-build, and 2023 build conditions are evaluated.

2.2 Level of Service Standard

The level of service standard is that level of service considered to be the minimum that provides acceptable operating conditions. A level of service (LOS) standard of D is used for suburban and urban areas, and for this study a LOS D standard was applied to all facilities. As indicated in the LOU, 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), then the measured LOS service for that segment and time period is the standard by which the no-build and future traffic conditions will be designed, but the standard must remain above LOS F. For example, the County's LOS standard is LOS D, but if an intersection approach currently operates at LOS E for a certain peak period, then the LOS standard for that approach for no-build and future conditions becomes LOS E (only for that approach and only for that peak period). In the facilities needs analysis, mitigation is developed with LOS D as the minimum goal (unless it is operating below LOS D as just described). The Appendix includes a description of the methodology used for the intersection analysis.

3. Existing Transportation Facilities

This section provides a description of the existing transportation infrastructure that will serve the proposed Celebration Village Snellville DRI. An inventory was performed of the lanes and method of control at the existing traffic facilities in the vicinity of the site. The availability of transit, bicycle, and pedestrian facilities adjacent to the site was also reviewed. Figure 5 in the Existing Traffic Analysis section of this report, depicts the existing lanes and control for the intersections in the study network. The following is a brief description of each of these facilities.

3.1 Webb Gin House Road

Webb Gin House Road is an east/west local roadway that begins west of GA 124 and terminates at GA 20. The road has one through travel lane per direction (with a brief four lane section just east of GA 124) with exclusive turn lanes provided at significant intersections. The terrain is gently rolling and the posted speed limit is 40 mph. Signalized intersections are provided on Webb Gin House Road, in the study area, at GA 124, the entrance to the Shoppes at Webb Gin, Bennett Road, and GA 20. Gwinnett County's estimated Average Daily Traffic (ADT) volume in their 2017 count report is 13,155 vehicles per day (vpd) on Webb Gin House Road between GA 124 and GA 20.

3.2 Bennett Road

Bennett Road is a two-lane local roadway that begins at Webb Gin House Road, at the location of the proposed main entrance to the Celebration Snellville DRI, and extends to the southeast to Hillside Drive. The road then continues to the southeast, with this segment offset to the east along Hillside Drive from the northern segment of Bennett Road. The terrain is very gently rolling and the posted speed limit is 25 mph. At Hillside Drive, Bennett Road is side street stop sign controlled. The Georgia Department of Transportation (Georgia DOT) recorded an Annual Average Daily Traffic (AADT) volume of 3,060 vpd on Bennett Road north of Hillside Drive in 2016 (the most recent year for which Georgia DOT counts were available at study time).

3.3 Scenic Highway (GA 124)

Scenic Highway (Georgia State Route 124) is a northeast/southwest urban major arterial (Georgia DOT classification) that, in the vicinity, connects downtown Lawrenceville to Snellville. In the vicinity of the site, the road has two through lanes in each direction with exclusive left and right turn lanes provided at most major intersections, including at the intersection with Webb Gin House Road. The terrain along GA 124 is very gently rolling in the study area and the posted speed limit is 45 mph. In 2016 the Georgia DOT recorded an AADT volume of 36,900 vpd on GA 124 north of Webb Gin Road.

3.4 Grayson Highway (GA 20)

Grayson Highway (Georgia State Route 20) is a northwest/southeast urban minor arterial (Georgia DOT classification) that, in the vicinity connects downtown Lawrenceville to Grayson then Loganville. In the vicinity of the site, the road has two through lanes in each direction with exclusive left and right turn lanes provided at most major intersections, including at the signalized intersection with Webb Gin House Road. The terrain along GA 20 is very gently rolling in the study area and the posted speed limit is 45 mph. In 2016 the Georgia DOT recorded an AADT volume of 44,100 vpd on GA 20 south of Hillside Drive.

3.5 Hillside Drive

Hillside Drive is a two-lane local roadway that, with the name Pharrs Road, begins at GA 124, then changes names to Hillside Drive at Lakeview Road, intersects with GA 20, then continues into a residential subdivision east of GA 20. The terrain along Hillside Drive is gently rolling and the posted speed limit is 40 mph. Gwinnett County's estimated ADT volume in their 2017 count report is 4,209 vpd on Hillside Drive between GA 124 and GA 20.

3.6 Transit Service

There is no regularly-scheduled public transit service available immediately adjacent to, or within reasonable walking distance from, the subject site.

3.7 Bicycle and Pedestrian Facilities

There are no sidewalks along Webb Gin House Road or Bennett Road in the vicinity of the Celebration Village Snellville site. No crosswalks or pedestrian signal are provided at the Webb Gin House / Bennett intersection. There are pedestrian signals and crosswalks at the Webb Gin House Road intersections at GA 124 and GA 20. There are no dedicated or shared striped bicycle lanes adjacent to, or in the vicinity of, the subject site.

4. Project Traffic Characteristics

This section describes the anticipated traffic characteristics of the proposed Celebration Village Snellville DRI, including a site description, how much traffic the project will generate, and where that traffic will travel.

4.1 Trip Generation

Trip generation is an estimate of the number of entering and exiting vehicular trips that will be generated by the proposed Celebration Village Snellville DRI. Trip generation was calculated using the standard rates and equations from the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th edition. ITE Land Use 252 – Senior Adult Housing – Attached was used for the Independent Living Villas and Concierge Apartments in Area 1 and the Senior Attached Single Family Homes in Areas 2 and 3. ITE Land Use 254 – Assisted Living was used for the Assisted Living Apartments and Memory Care Apartments in Area 1, and the Personal Care beds in Area 5. ITE Land Use 820 – Shopping Center was used for the retail in Area 4 and ITE Land Use 710 – General Office Building was used for the office in Area 4.

Two adjustments were applied to the raw trip generation. First, a multi-use adjustment was developed based on the methodology proscribed in the ITE Trip Generation Handbook, 3rd Edition, which reflects the methodology set forth in NCHRP Report 684. This methodology is used to calculate how many trips will occur between compatible land uses within the development. For example, some of the residential trips that are included in the raw trip generation calculations include trips that will travel to and from retail shopping. Since the project includes retail shopping, these trips will be accommodated within the property and will not be new external trips from the site. Therefore, these duplicate trips are subtracted from the raw project trip generation. The NCHRP Report 684 worksheets for the a.m. and p.m. peak hours are included in Appendix A.

In addition to the multi-use adjustment, an adjustment was made to the retail trips to account for the effect of pass-by trips. Pass-by trips are trips that are already driving by the property but will be intercepted by the retail in the Celebration project. These trips are new to the project driveways, but do not represent new trips to the adjacent roadways, since they are currently occurring and are, therefore, included in the existing traffic volume counts. The ITE Trip Generation Handbook provides data and average rates for the pass-by percentages for Land Use 820 – Shopping Center, which has an average p.m. peak hour pass-by percentage of 34%. Therefore, a 34% adjustment was applied to the p.m. peak hour trips, while a 24% reduction was applied to the a.m.

Table 4 presents the trip generation for the Celebration Village Snellville DRI. Table 5 summarizes the trip generation for the entire project. The multi-use adjustment methodology and the pass-by percentages do not include the 24-hour volumes. Therefore, for informational purposes, those adjustment percentages were estimated based on the a.m. and p.m. adjustments. A 5% multi-use adjustment and a 20% pass-by adjustment were applied to the 24-hour volumes to estimate those effects.

Table 4 – Celebration Village Snellville DRI Trip Generation

Area	Land Use	ITE Code	Size	AM Peak Hour			PM Peak Hour			24-Hour
				Enter	Exit	2-Way	Enter	Exit	2-Way	2-Way
1	Independent Living Villas	252	140 units	10	18	28	20	16	36	538
	Concierge Living Apartments	252	44 units	3	6	9	7	6	13	152
	Assisted Living Apartments	254	55 units	16	5	21	8	18	26	230
	Memory Care Apartments	254	31 beds	9	3	12	5	10	15	130
	Area 1 Total		270 units	38	32	70	40	50	90	1,050
2	Senior Attached Single Family	252	64 units	5	8	13	10	8	18	232
3	Senior Attached Single Family	252	64 units	5	8	13	10	8	18	232
4	Retail	820	30,000 ft²	17	11	28	55	59	114	1,133
	General Office Building	710	18,000 ft²	18	3	21	3	18	21	175
5	Personal Care	254	24 beds	7	2	9	4	8	12	101
	Gross Residential Trips		422 units	55	50	105	64	74	138	1,615
	Multi-use adjustment			-1	-2	-3	-1	-1	-2	
	Residential New Trips			54	48	102	63	73	136	
	Gross Retail Trips		30,000 ft²	17	11	28	55	59	114	1,133
	Multi-use adjustment			-2	-2	-4	-6	-1	-7	
	Retail Subtotal			15	9	24	49	58	107	
	Pass-by adjustment		24%/34%	-4	-2	-6	-17	-20	-37	
	Retail New Trips			11	7	18	32	38	70	
	Gross Office Trips		18,000 ft²	18	3	21	3	18	21	175
	Multi-use adjustment			-2	-1	-3	0	-5	-5	
	Office New Trips			16	2	18	3	13	16	

Table 5 – Celebration Snellville DRI Trip Generation Summary

Summary	Size	AM Peak Hour			PM Peak Hour			24-Hour
		Enter	Exit	2-Way	Enter	Exit	2-Way	2-Way
Total Gross Trips		90	64	154	122	151	273	2,923
Gross Residential Trips	422 units	55	50	105	64	74	138	1,615
Gross Retail Trips	30,000 ft²	17	11	28	55	59	114	1,133
Gross Office Trips	18,000 ft²	18	3	21	3	18	21	175
multi-use adjustments		-5	-5	-10	-7	-7	-14	-146
multi-use percentages		5.6%	7.8%	6.5%	5.7%	4.6%	5.1%	5.0%
pass-by trips		-4	-2	-6	-17	-20	-37	-215
Total Project New Trips		81	57	138	98	124	222	2,562

4.2 Trip Distribution and Assignment

The trip distribution percentages indicate what proportion of the project's trips will travel to and from various directions. The trip distribution percentages for the residential was developed based on the locations and proximity of likely trip origins and destinations, such as other retail and offices in the area, other regional trip attractors, and employment centers. However, consideration was also given to residential areas because, unlike most residential land uses, less of the trips to these senior residential uses will be made to employment centers (some will) and some will be made by visitors and staff. The distances to these trip attractors were considered, but less so than for the retail distribution percentages. The retail distribution percentages were based on the locations of residential populations in the area and the distances to those populations. The office distribution percentages were also based on population densities, but with just minimal consideration given to the distances to those populations. The logic here is that motorists will typically drive significantly greater distances for employment trips than for shopping or dining. The new project trips, shown in Table 4, were assigned to the roadway network based on the distribution percentages for each land use grouping. The trip distribution percentages and the a.m. and p.m. peak hour trips expected to be generated by the Celebration Village Snellville DRI, are shown in Figure 3.

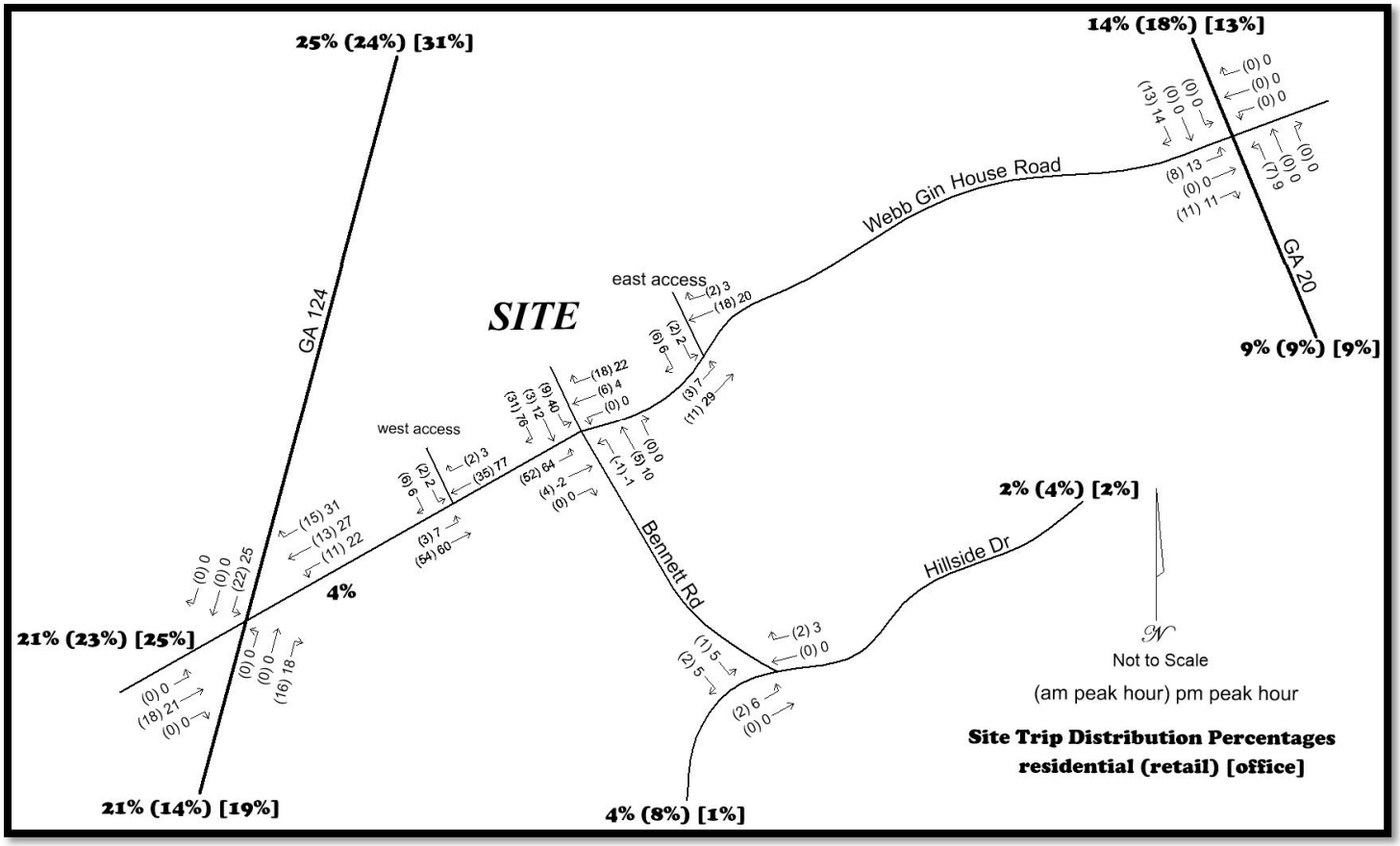


Figure 3 – Celebration Village Snellville Weekday A.M. and P.M. Peak Hour Site Trips and Distribution Percentages

5. Existing Traffic Analysis

This chapter presents the results of the capacity analysis and facilities needs analysis for the existing condition.

5.1 Existing Lanes and Traffic Control

A description of the existing conditions was provided previously in this report. Figure 4 presents the existing lane configuration and method of traffic control at each study intersection.

5.2 Existing Traffic Volumes

Existing full turning movement traffic volume counts were collected at the existing intersections (presented previously in Table 3) in the study network. The counts were collected on Wednesday, January 10, 2018. Area public schools were in standard session on the day on which the counts were recorded. The counts were collected from 7:00 a.m. to 9:00 a.m. and from 4:30 p.m. to 6:30 p.m. From the count data, the highest four consecutive 15-minute interval volumes at each intersection, during each time period, were determined. These volumes make up the typical weekday a.m. and p.m. peak hour traffic volumes at that intersection. The existing a.m. and p.m. peak hour turning movement volumes are shown in Figure 5. The intersection raw count data is found in Appendix A.

In addition to the intersection turning movement counts, Georgia Department of Transportation (GDOT) Annual Average Daily Traffic (AADT) volume counts were obtained on nearby roadways, as available. The 2016 AADT volumes include: GA 124 north of Webb Gin House Road: 36,900 vehicles per day (vpd), Bennett Road north of Hillside Drive: 3,060 vpd, and GA 20 south of Hillside Drive: 44,100 vpd. Gwinnett County 2017 counts were also obtained as follows: Webb Gin House Road, 13,155 vpd, Hillside Drive, 4,209 vpd. Table 9, presented in the No-Build Traffic Analysis section of this report, shows the historic Georgia DOT counts, and a few other area counts, and the annual growth rates between the counts.

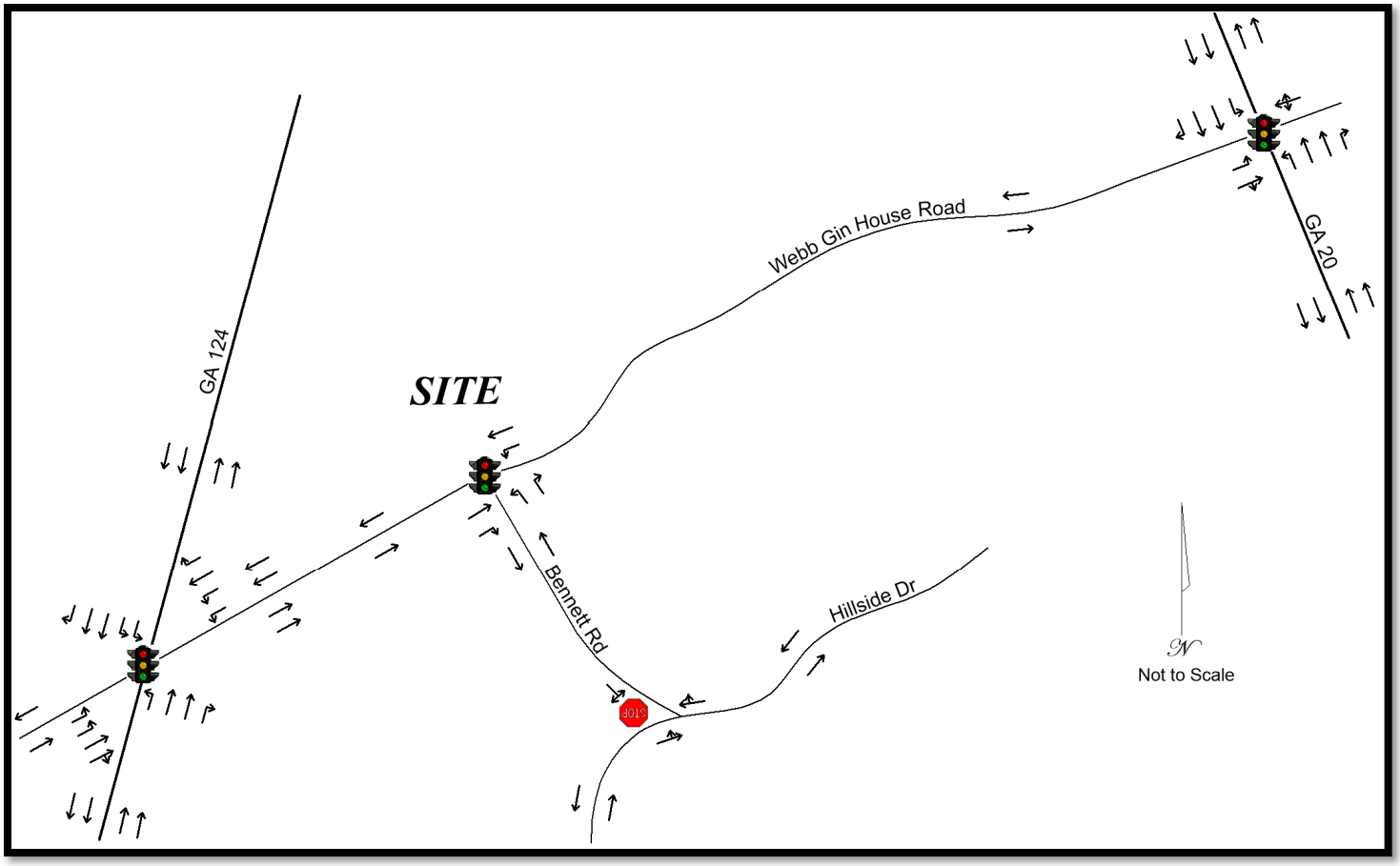


Figure 4 – Existing Lane Configuration and Traffic Control

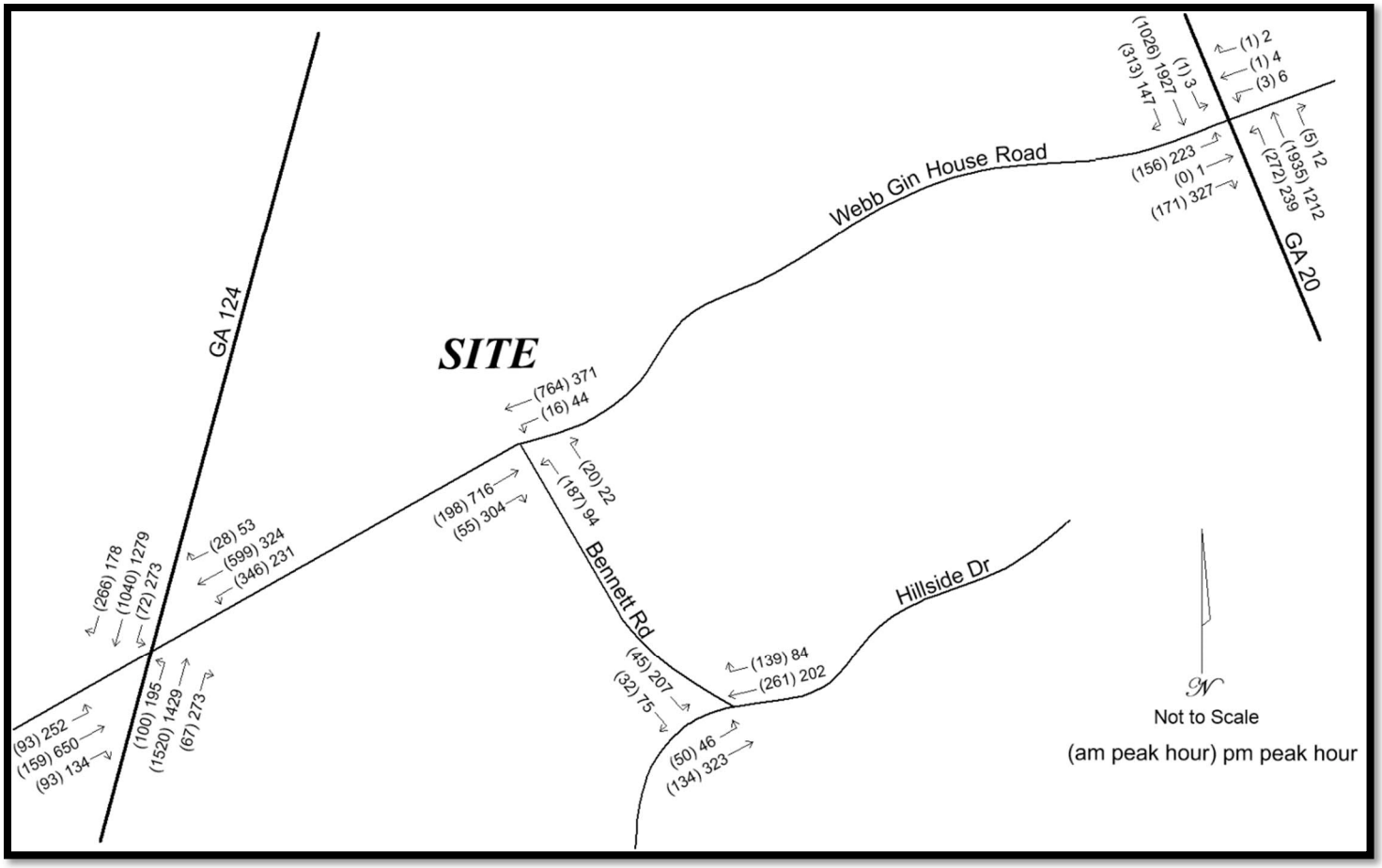


Figure 5 – Existing A.M. and P.M. Peak Hour Volumes

5.3 Existing Intersection Operations

An analysis was performed for each existing study intersection, based on the counted traffic volumes, existing lane configurations, and method of traffic control. The results of the analysis are shown in Table 6. The locations that fail the LOS D standard are shown in bold type. The Synchro 10 printouts are included in Appendix C.

Table 6 – Existing Intersection Levels of Service

Intersection / Approach	A.M. Peak Hour		P.M. Peak Hour	
	LOS	Delay (s/veh)	LOS	Delay (s/veh)
1. GA 124 / Webb Gin House Road	**E***	**68.7**	**E***	**69.6**
northbound approach	**E***	**74.4**	**E***	**59.9**
southbound approach	D	41.4	**E***	**60.9**
eastbound approach	**F***	**89.2**	**F***	**96.4**
westbound approach	**F***	**86.9**	**E***	**75.6**
2. Webb Gin House Road / Bennett Road	B	17.9	B	17.4
northbound approach	B	15.2	B	18.6
eastbound approach	B	11.3	C	21.0
westbound approach	C	20.8	A	8.0
3. GA 20 / Webb Gin House Road	B	19.0	D	46.1
northbound approach	B	16.4	C	23.3
southbound approach	B	12.0	D	38.0
eastbound approach	**E***	**63.5**	**F***	**138.2**
westbound approach	D	52.9	**E***	**56.1**
4. Hillside Drive / Bennett Road	A	2.1	B	13.6
southbound approach	B	13.9	**E***	**42.6**
eastbound left turn	A	8.5	A	8.1

* locations where LOS E becomes the standard

5.4 Existing Facilities Needs Analysis

The analysis of existing conditions reveals that several locations do not meet the LOS D standard. These are discussed below.

1. **GA 124 / Webb Gin House Road** – This intersection operates at LOS E or LOS F on all approaches at both peak time periods, except the southbound approach of GA 124 in the a.m. peak hour. Therefore, the LOS standard becomes LOS E for all approaches and the overall intersection, with the exception of southbound GA 124 in the a.m., at which the standard remains LOS D. The addition of an eastbound

exclusive right turn lane on Webb Gin House Road has a notable benefit in the p.m. peak, improving the northbound and southbound approaches on GA 124 from LOS E to LOS D and improving the eastbound approach on Webb Gin House to from LOS F to LOS E. The westbound approach would still operate at LOS F, but this one right turn lane would go a long way toward meeting the LOS goals in the p.m. The benefits of this lane in the a.m. are minimal. It is suggested that reduction in the cycle length could have benefits at this intersection. Changes in cycle length are not considered mitigation by GRTA and it is recognized that the signal timing in a corridor such as GA 124 must be compatible with adjacent intersections. That said, both the analysis and field observations suggest that a shorter cycle length may reduce delays and queues. Observations reveal that the long cycle lengths result in notable queuing on some approaches while, at other times, vehicles were waiting with no conflicting flows. It is suggested that "snappier" signal operations may benefit the GA 124 corridor. A more significant improvement would be the addition of a second westbound through lane on Webb Gin House Road. This road provides a connection to Ronald Reagan Parkway, to the west, and therefore receives heavy westbound through volumes in the a.m. and heavy eastbound throughs in the p.m. A segment of Webb Gin House between GA 124 and the east end of The Shoppes at Webb Gin already includes two through lanes per direction and the eastbound approach currently includes a second through lane that is shared with the right turn movement. Providing a second westbound through lane to the west of GA 124 would have notable benefit to the intersection and, coupled with the eastbound right turn lane just discussed, would allow the intersection to meet the LOS goals. Based on this discussion, the mitigation recommended for this intersection for the existing condition is 1) add an eastbound exclusive right turn lane on Webb Gin House Road, 2) add a second westbound through lane on Webb Gin House Road, 3) consider reducing the cycle length in the GA 124 corridor to reduce queuing and improve signal efficiency. With the addition of the lanes, but preserving existing corridor signal timing, the intersection will operate as shown in Table 7.

3. **GA 20 / Webb Gin House Road** – This intersection operates acceptably overall, but experiences high side street approach delays. This is attributed to the signal timing favoring GA 20, which is appropriate. Two improvements can be made. First, since the side street approaches operate with a green ball indication, the eastbound approach lane configuration can be changed from the existing exclusive left turn lane and shared through/right to a shared left/through and an exclusive right. This will allow right turns on red without being blocked by eastbound through trips (though the eastbound through volume is minimal). In conjunction with this change, an eastbound right turn overlap phase can be added, improving the efficiency of the signal. The addition of these improvements yields the results shown in Table 7.

4. **Hillside Drive / Bennett Road** – This intersection operates well with only a LOS E arising on the side street approach in the p.m. peak hour. High side street delays are not unusual for a side street stop sign controlled approach. The addition of a second southbound lane at the intersection would facilitate the easier right turn movement by removing it from the queues of the more-challenging left turn movement. This would result in the southbound approach operating at LOS D, but the left turn movement would

continue to operate at LOS E. This side street delay also suggests that signalization of this intersection may be warranted either now or in the near future. An alternative to signalization that may be feasible at this intersection is a roundabout. Based on the GRTA procedures, the southbound approach LOS standard becomes LOS E in the p.m. and remains LOS D in the a.m. Therefore, no mitigation is identified as necessary according to the GRTA procedures. The potential improvements that were just identified do merit consideration, but, ultimately are not considered necessary, irrespective of GRTA procedures, in the existing condition.

Table 7 – Existing Intersection Levels of Service Without and With Mitigation

Intersection / Approach	A.M. Peak Hour				P.M. Peak Hour			
	Existing		With Mitigation		Existing		With Mitigation	
	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)
1. GA 124 / Webb Gin House Road	E*	68.7	D	47.3	E*	69.6	E	58.3
northbound approach	E*	74.4	D	43.1	E*	59.9	D	49.3
southbound approach	D	41.4	C	25.0	E*	60.9	D	51.6
eastbound approach	**F***	**89.2**	E	78.2	**F***	**96.4**	E	77.1
westbound approach	**F***	**86.9**	E	73.0	E*	75.6	E	71.5
3. GA 20 / Webb Gin House Road	B	19.0	B	19.5	D	46.1	D	42.8
northbound approach	B	16.4	B	17.5	C	23.3	C	24.8
southbound approach	B	12.0	B	12.8	D	38.0	D	49.3
eastbound approach	E*	63.5	E	59.2	**F***	**138.2**	E	67.3
westbound approach	D	52.9	D	53.3	E*	56.1	D	54.3

* locations where LOS E becomes the standard

6. No-Build Traffic Analysis

A no-build analysis condition was developed for the DRI's build-out year of 2023. The no-build analysis provides a reference by which to measure the traffic impact of the proposed Celebration Village Snellville DRI.

6.1 Programmed Infrastructure Projects

Several transportation infrastructure projects are programmed in the study area, though none are planned to be implemented before the 2023 future analysis year. These are summarized in Table 8. Project information sheets are located in Appendix F.

Table 8 – Programmed Transportation Infrastructure Projects

Project	Description	Network Year
GW-269	GA 124 widen from US 78 to Ronald Reagan Parkway from 4 to 6 lanes	Long Range 2040+
GW-390A	ATMS/ITS infrastructure expansion – Five Forks Trickum Road from Rockbridge Road to Sugarloaf Parkway	TBD
GW-390B	ATMS/ITS infrastructure expansion – Ronald Reagan Parkway from Pleasant Hill Road to GA 124	TBD
GW-391	US 78 signal upgrades east of downtown Snellville	TBD

All listed projects are either long-term projects, do not have an identified network year, or will not directly impact any study intersections. Therefore, none of these projects were included in the no-build analysis. The lane configuration and method of control at each intersection in the no-build condition remains the same as the existing condition, as shown previously in Figure 4.

6.2 No-Build Traffic Volumes

The no-build condition includes background increases in traffic volumes that will occur whether or not the Celebration Village Snellville DRI is built. Georgia DOT historic traffic volume count data was collected at the GDOT count stations closest to the subject development. The data was obtained for the five years 2012 through 2016 (the last year for which data was available at the time this study was performed). This data was used to develop annual growth rates for each year, and an overall growth percentage from 2012 to 2016. Table 9 presents this historic GDOT data and the growth rates.

Table 9 – Historic Georgia DOT Traffic Volume Counts and Annual Growth Rates

Year	Moon Place N of Webb Gin	Annual Growth	GA 124 N of Webb Gin	Annual Growth	Bennett N of Hillside	Annual Growth	GA 20 S of Hillside	Annual Growth
Station ID	1358079		1350192		1358061		1350149	
2012	4,510		36,440		2,810		36,050	
2013	4,610	2.2%	36,550	0.3%	2,870	2.1%	36,220	0.5%
2014	4,610	0.0%	36,600	0.1%	2,870	0.0%	43,300	19.5%
2015	4,800	4.1%	37,900	3.6%	2,990	4.2%	46,600	7.6%
2016	4,920	2.5%	36,900	-2.6%	3,060	2.3%	44,100	-5.4%
Average Growth		2.2%		0.3%		2.2%		5.2%

Based on a review of the overall trends, and the annual fluctuations, it was decided to employ an annual growth rate of 2.0% to the counted intersection volumes, for five years, to the project anticipated build-out year of 2023. This equates to a growth rate of 10.4% applied to the counts collected for this study. This growth rate was approved by GRTA and ARC. Figure 6 shows the no-build weekday a.m. and p.m. peak hour traffic volumes at each study intersection. These volumes are also shown in the intersection volume worksheets in Appendix A.

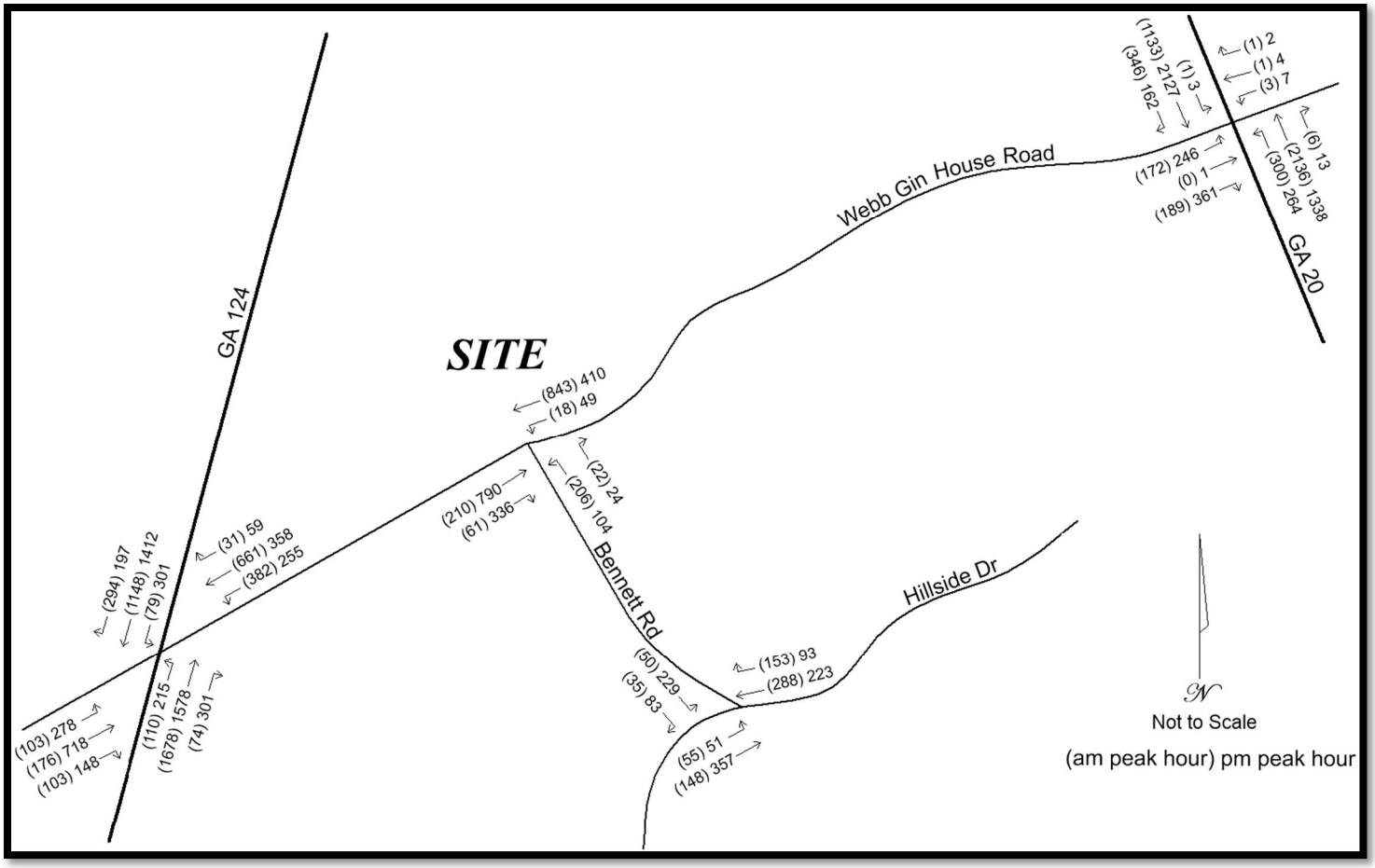


Figure 6 – No-Build A.M. and P.M. Peak Hour Volumes

6.3 No-Build Intersection Operations

Each study intersection was evaluated for the 2023 no-build condition. The no-build levels of service at each intersection are shown in Table 10. Locations that fail the LOS D/E standard are shown in bold type. The Synchro 10 computer printouts are found in Appendix D.

Table 10 – No-Build Intersection Operations

Intersection / Approach	A.M. Peak Hour		P.M. Peak Hour	
	LOS	Delay (s/veh)	LOS	Delay (s/veh)
1. GA 124 / Webb Gin House Road	**F***	**90.4**	**F***	**90.3**
northbound approach	**F***	**108.1**	**F***	**82.3**
southbound approach	D	44.7	E*	77.9
eastbound approach	**F***	**105.9**	**F***	**122.8**
westbound approach	**F***	**113.2**	**F***	**91.1**
2. Webb Gin House Road / Bennett Road	B	19.2	B	18.3
northbound approach	B	18.7	C	22.0
eastbound approach	B	10.6	C	21.8
westbound approach	C	22.3	A	7.8
3. GA 20 / Webb Gin House Road	C	25.0	**E**	**64.4**
northbound approach	C	23.7	C	32.1
southbound approach	B	14.6	**E**	**60.5**
eastbound approach	E*	73.6	**F***	**167.5**
westbound approach	D	52.8	E*	57.9
4. Hillside Drive / Bennett Road	A	2.2	D	25.8
southbound approach	C	15.1	**F***	**81.8**
eastbound left turn	A	8.7	A	8.2

* locations where LOS E is the standard

6.4 No-Build Facilities Needs Analysis

The analysis of no-build conditions reveals that several locations do not meet the LOS D/E standard. These are discussed below.

1. **GA 124 / Webb Gin House Road** – Operations at this intersection were already congested in the existing condition and the congestion will increase with general growth in the area. The mitigation identified in the existing condition will achieve the LOS D/E standard at most locations. In the a.m., the LOS D/E standard will continue to be satisfied with the mitigation identified in the existing condition (the addition of an eastbound right turn lane and a second westbound through lane). In the p.m., the LOS standard is LOS E for the overall intersection and all approaches and, with the addition of the existing condition mitigation, the intersection and all approaches will operate at LOS E except the eastbound approach, which will operate at LOS F. The northbound approach on GA 124 currently has a single left turn lane, but there is a hatched-out area that, with some adjustment to the adjacent lanes, could be restriped to provide a second northbound left turn lane. The addition of this second lane, in conjunction with the existing mitigation, would achieve the LOS D/E standard in the p.m. peak. With the addition of the lanes, but preserving existing corridor signal timing, the intersection will operate as shown in Table 11.

3. **GA 20 / Webb Gin House Road** – As in the existing condition, this intersection operates acceptably overall, but experiences high side street approach delays due to the signal timing favoring GA 20. In the no-build a.m., no mitigation is required to achieve the LOS D/E standard. In the p.m., the mitigation identified in the existing condition will achieve the LOS D/E standard for the no-build condition for all approaches, but the overall intersection will deteriorate to LOS E (LOS D is the standard). The existing mitigation includes changing the eastbound exclusive left turn lane and shared through/right to a shared left/through and an exclusive right and adding an eastbound right turn overlap phase. A second northbound exclusive left turn lane will allow the overall intersection to achieve LOS D and will improve approach operations, as well. It is noted that the through volumes on GA 20 are generally higher than those on GA 124 and the northbound left turn from GA 20 has a comparable magnitude of volumes in the p.m. but much higher in the a.m. than the southbound left from GA 124, yet the southbound left from GA 124 is served by dual left turn lanes, while the northbound left on GA 20 has only one left turn lane. The second northbound left turn lane on GA 20 at Webb Gin House is arguably more justified than the existing second southbound left turn lane on GA 124 at Webb Gin House. The addition of the eastbound improvements, identified in the existing, plus the second northbound left turn lane on GA 20, yields the results shown in Table 11.

4. **Hillside Drive / Bennett Road** – The southbound approach will deteriorate to LOS F in the no-build p.m. The addition of a southbound right turn lane would be beneficial, but the left turn movement would still operate at LOS F. Adding a westbound right turn lane removes those right turners from conflicting with

the southbound lefts, such that the southbound left turn level of service improves to LOS E in the p.m., which is the LOS standard for that approach and time period. Therefore, the mitigation identified for the no-build condition is to add a southbound right turn lane on Bennett and a westbound right turn lane on Hillside, and preserve side street stop sign control. It is noted that signalization or conversion of this intersection to a roundabout would also mitigate this problem. Gwinnett County should consider the advantages and disadvantages of adding the identified lanes versus signalization or installing a roundabout. Should signalization be preferred, a signal warrant analysis should be performed according to the criteria set forth in the Federal Highway Administration's Manual On Uniform Traffic Control Devices (MUTCD) to determine if and when signalization of this intersection would be justified. This intersection may be a good candidate to be converted into a roundabout. This roundabout could possibly even incorporate the nearby intersection of Lakemont Drive at Hillside Drive. A signal would allow all approaches to operate at LOS A or B. A roundabout shows all approaches operating at LOS A in both the a.m. and p.m. The results in Table 11 are for the recommended mitigation, with the additional lanes and preservation of side street stop sign control.

Table 11 – No-Build Intersection Levels of Service Without and With Mitigation

Intersection / Approach	A.M. Peak Hour				P.M. Peak Hour			
	No-Build		With Mitigation		No-Build		With Mitigation	
	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)
1. GA 124 / Webb Gin House Road	**F***	**90.4**	D	52.9	**F***	**90.3**	E	68.9
northbound approach	**F***	**108.1**	E	55.9	**F***	**82.3**	E	62.0
southbound approach	D	44.7	C	25.3	E*	77.9	E	70.7
eastbound approach	**F***	**105.9**	E	78.0	**F***	**122.8**	E	73.0
westbound approach	**F***	**113.2**	E	74.7	**F***	**91.1**	E	77.8
3. GA 20 / Webb Gin House Road	C	25.0	C	29.7	**E**	**64.4**	D	47.3
northbound approach	C	23.7	C	32.5	C	32.1	C	27.5
southbound approach	B	14.6	B	18.6	**E**	**60.5**	D	53.7
eastbound approach	E*	73.6	D	54.6	**F***	**167.5**	E	78.2
westbound approach	D	52.8	D	51.4	E*	57.9	E	55.5
4. Hillside Drive / Bennett Road	A	2.2	A	2.0	D	25.8	B	11.8
southbound approach	C	15.1	B	13.0	**F***	**81.8**	E	36.8
eastbound left turn	A	8.7	A	8.7	A	8.2	A	8.2

* locations where LOS E is the standard

7. Future (Build) Traffic Analysis

The analysis of the 2023 build scenario identifies the traffic impact of the proposed Celebration Village Snellville DRI. This future condition includes all traffic volumes and programmed improvements (none identified) from the 2023 no-build scenario, plus the traffic that will be added by the Celebration project.

7.1 Build Lanes and Traffic Control

The assumptions made for the build analysis are the lane configurations proposed in the Celebration Village Snellville DRI site plan at the project entrances. The site plan shows the addition of a westbound right turn lane on Webb Gin House Road at the main site access aligning with Bennett Road. The analysis also assumes an eastbound exclusive left turn lane at the main access, which the volumes will justify, as discussed later in this report. The new southbound approach exiting the site at the main access will include a shared left/through lane and a right turn lane. One inbound lane will suffice. At the two minor site accesses, no exclusive turn lanes were assumed on Webb Gin House Road. One entering and one exiting lane will suffice at each of those accesses, with the side street approach, exiting the site, controlled by stop sign. The build lane geometry and control assumptions are presented in Figure 7.

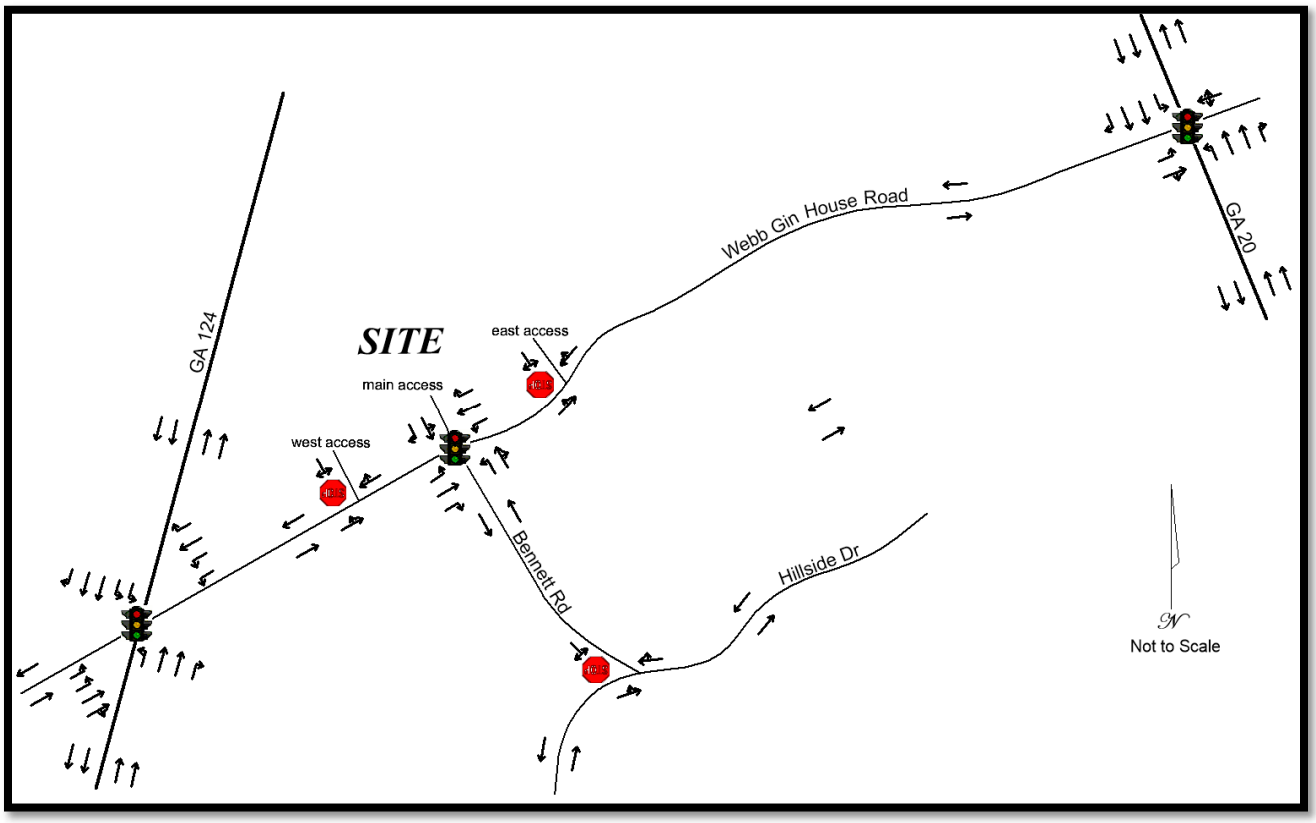


Figure 7 – Build Lane Configuration and Traffic Control

7.2 Build Traffic Volumes

The no-build volumes, shown previously in Figure 6, were combined with the site-generated trips, shown in Figure 3. This produces the 2023 build traffic volumes at each study intersection after the Celebration Village Snellville DRI is fully constructed and operational. These build volumes are presented in Figure 8, and are also shown in the intersection volume worksheets in Appendix A.

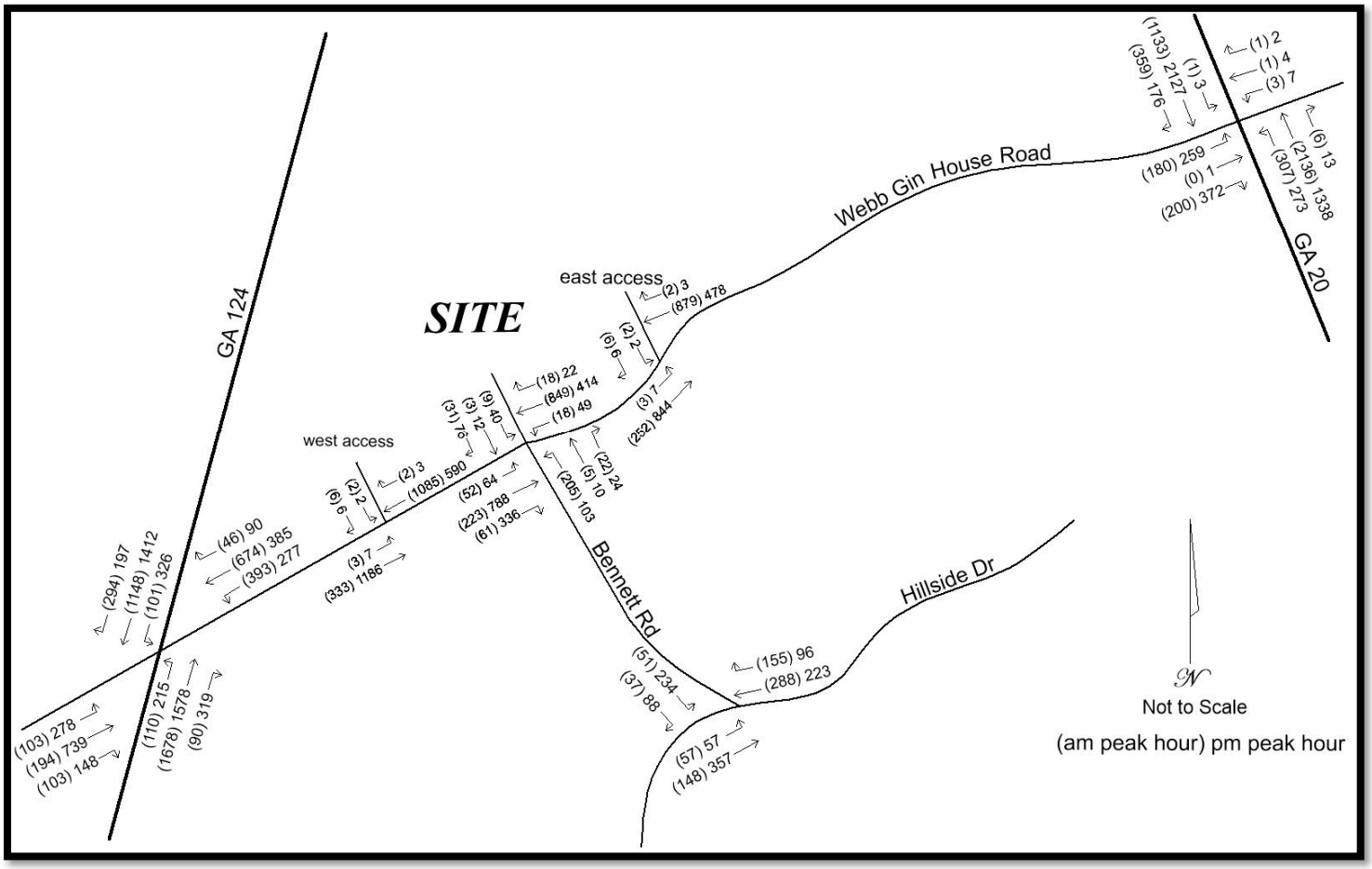


Figure 8 – Build A.M. and P.M. Peak Hour Volumes

7.3 Build Intersection Operations

Each study intersection was re-evaluated for the 2023 build condition. A build condition analysis was also performed at each site access. The build levels of service at each intersection are shown in Table 12. The Synchro 10 computer printouts are located in Appendix E.

Table 12 – Build Intersection Operations

Intersection / Approach	A.M. Peak Hour		P.M. Peak Hour	
	LOS	Delay (s/veh)	LOS	Delay (s/veh)
1. GA 124 / Webb Gin House Road	**F***	**92.6**	**F***	**94.9**
northbound approach	**F***	**107.3**	**F***	**82.7**
southbound approach	D	49.5	**F***	**80.6**
eastbound approach	**F***	**105.7**	**F***	**135.0**
westbound approach	**F***	**117.7**	**F***	**99.2**
2. Webb Gin House Road / Bennett Road / Site Main Access	B	19.6	B	18.2
northbound approach	C	20.3	C	25.2
southbound approach (exiting site)	B	15.5	C	21.3
eastbound approach	B	13.5	C	20.9
westbound approach	C	22.2	A	7.7
3. GA 20 / Webb Gin House Road	C	25.5	**E**	**68.8**
northbound approach	C	22.2	C	32.1
southbound approach	B	14.1	**E**	**56.9**
eastbound approach	**F***	**88.8**	**F***	**209.3**
westbound approach	D	54.4	E*	59.1
4. Hillside Drive / Bennett Road	A	2.3	D	31.0
southbound approach	C	15.3	**F***	**97.2**
eastbound left turn	A	8.7	A	8.3
5. Webb Gin House Road / Site Western Access	A	0.2	A	0.2
southbound approach (exiting site)	D	26.5	C	23.6
eastbound left turn (entering site)	B	11.2	A	8.7
6. Webb Gin House Road / Site Eastern Access	A	0.2	A	0.2
southbound approach (exiting site)	C	19.5	C	16.1
eastbound left turn (entering site)	B	10.1	A	8.4

* locations where LOS E is the standard

7.4 Build Facilities Needs Analysis

The analysis of build conditions reveals that several locations do not meet the LOS D/E standard. These are discussed below.

1. **GA 124 / Webb Gin House Road** – Operations at this intersection are congested in the existing condition and this congestion will continue to the no-build and build conditions. The mitigation identified in the existing condition will achieve the LOS D/E standard at most locations. The mitigation identified in the existing and no-build conditions will still allow the intersection to meet the LOS D/E standards in the build condition, as shown in Table 13. No additional mitigation is identified for the build condition.

3. **GA 20 / Webb Gin House Road** – The mitigation identified in the existing and no-build conditions will allow the intersection to meet the LOS D/E standards in the build condition, as shown in Table 13. No new mitigation is identified for the build condition.

4. **Hillside Drive / Bennett Road** – The no-build condition identified lane improvements that would allow the LOS D/E standards to be satisfied. With that same mitigation, the overall intersection and all approaches will meet the LOS D/E standards in the build condition. However, one movement, the southbound left turn will deteriorate to LOS F in the p.m. (the approach will remain at LOS E, which is the standard for that approach and time period). Based on the wording of the GRTA requirement, which states that "intersection" or "segments" must meet the standard, it is concluded that, since all approaches and the overall intersection meet the standards, that additional mitigation is not required for one movement and, therefore, no additional mitigation is identified for the build condition.

Table 13 – Build Intersection Levels of Service Without and With Mitigation

Intersection / Approach	A.M. Peak Hour				P.M. Peak Hour			
	Build		With Mitigation		Build		With Mitigation	
	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)
1. GA 124 / Webb Gin House Road	**F***	**92.6**	D	52.8	**F***	**94.9**	E	76.9
northbound approach	**F***	**107.3**	D	52.4	**F***	**82.7**	E	76.5
southbound approach	D	49.5	C	26.1	**F***	**80.6**	E	78.7
eastbound approach	**F***	**105.7**	E	79.8	**F***	**135.0**	E	73.2
westbound approach	**F***	**117.7**	E	77.8	**F***	**99.2**	E	79.7
3. GA 20 / Webb Gin House Rd	C	25.5	C	30.6	**E**	**68.8**	D	51.8
northbound approach	C	22.2	C	33.3	C	32.1	D	38.3
southbound approach	B	14.1	B	19.2	**E**	**56.9**	D	54.2
eastbound approach	**F***	**88.8**	E	56.6	**F***	**209.3**	E	78.9
westbound approach	D	54.4	D	51.5	E*	59.1	D	54.4
4. Hillside Drive / Bennett Road	A	2.3	A	2.1	D	31.0	B	13.2
southbound approach	C	15.3	B	13.1	**F***	**97.2**	E	40.8
eastbound left turn	A	8.7	A	8.7	A	8.3	A	8.3

* locations where LOS E is the standard

7.5 Site Access Analysis

The levels of service at the three proposed site accesses were presented previously in Table 12. The analysis shows that all accesses will meet the LOS D standard in the build condition. The lane configuration assumed in the analysis was presented previously in Figure 7. The lane assumptions and methods of control were found to be appropriate for efficient operations at all three accesses.

In addition to the GRTA standards, the site accesses were reviewed for Gwinnett County standards. The Gwinnett County Unified Development Ordinance (UDO) includes two subsections, under Section 900-30 Project Access Improvements, that apply to new developments. Subsection 900-30.1 Includes project access improvements for single-family detached, single-family attached, and duplex residential subdivisions. The eastern and western portions of the Celebration Village Snellville DRI, Areas 2 and 3, will be developed with residential units that fit the description of single-family attached or duplex units. These areas will each have their own access to Webb Gin House Road, which will be gated, and the interconnection from these areas to the main, central portion of

Celebration will also be gated. Subsection 900-30.2 applies to Multi-Family and Non-Residential Developments. This section would apply to the main project access to the central residential development and the retail and office components.

Both sections state that a deceleration lane will be required at each project driveway that is provided access to a Minor Collector or Major Thoroughfare. Since Webb Gin House Road is unclassified / a local roadway, these standards do not apply. Based on the volume projections, it is recommended that a deceleration lane be provided at the main project access, and this lane is included on the proposed site plan. However, due to the extremely low volume projections at each minor access (the westbound right turn volume at each access is projected at 2 vehicles in the a.m. peak hour and 3 vehicles in the p.m. peak hour), it is concluded that the need for, and benefit provided by, deceleration lanes at the minor accesses would be negligible, and none are recommended.

The UDO refers to the Gwinnett County DOT's "Criteria and Guidelines for Left Turn Lanes" for assessing the need for left turn lanes at the three project accesses. As with the UDO, the County's Left Turn Lane Criteria apply to Minor Collectors and Major Thoroughfares and, so, do not apply on Webb Gin House Road. However, the County's standards were reviewed in developing recommendations for this study. Based on the County's standards for Minor Collectors and Major Thoroughfares, and considering the ADT of Webb Gin House Road (13,155 vpd), with a posted speed limit of 40 mph, it is concluded that an eastbound exclusive left turn lane should be provided at the main project access. Due to the very low left turn volumes at the minor accesses (3 in the a.m. peak hour and 7 in the p.m. peak hour at each minor access), it is concluded that no left turn lane is necessary at either minor project access.

In summary, the Gwinnett County UDO and Criteria for Left Turn Lanes do not apply on Webb Gin House Road but were taken into consideration when developing recommendations for this study. This study recommends that a deceleration lane be provided at the main access, and the site plan calls for this lane. This study advises no deceleration lanes are necessary at the two minor project accesses due to the extremely low right turn volumes projected at each. This study advises that no left turn lane is necessary at each of the minor accesses, but a left turn lane should be provided at the main access.

The western and eastern accesses should each be constructed with one inbound and one outbound lane, and the outbound (southbound) lane should be controlled by stop sign and accompanying stop bar. The access control gate should be located sufficiently back from Webb Gin House Road to prevent any queuing behind a vehicle attempting to gain entry, from reaching the public roadway.

The main access will become the fourth approach to the existing signal at Bennett Road. This fourth approach should include one entering and two exiting lanes, with the exiting lanes designed as a shared left/through lane and a right turn lane. This fourth approach should be signalized by adding the appropriate signal heads and control equipment to the existing signal.

8. Summary of Recommended Mitigation

Table 14 presents a summary of the mitigation recommended in this study. These improvements are presented graphically in Figure 9. Note that this is a summary of the mitigation identified according to GRTA standards. It does not include the lanes and control modifications that will be made at the project accesses independent of the GRTA standards.

Table 14 – Summary of Mitigation Identified in This Study for Compliance with GRTA Standards

Condition	Intersection	Mitigation Required
Existing	2. GA 124 / Webb Gin House Road	4. Add EB exclusive right turn lane
		5. Add second WB through lane
	6. GA 20 / Webb Gin House Road	3. Change EB to shared left/through and exclusive right
		4. Add EB RT overlap phase
No-Build	2. GA 124 / Webb Gin House Road	2. Add second NB left turn lane
	5. GA 20 / Webb Gin House Road	2. Add second NB left turn lane
	6. Hillside Drive / Bennett Road	3. Add SB right turn lane on Bennett
		4. Add WB right turn lane on Hillside
Build	none	none

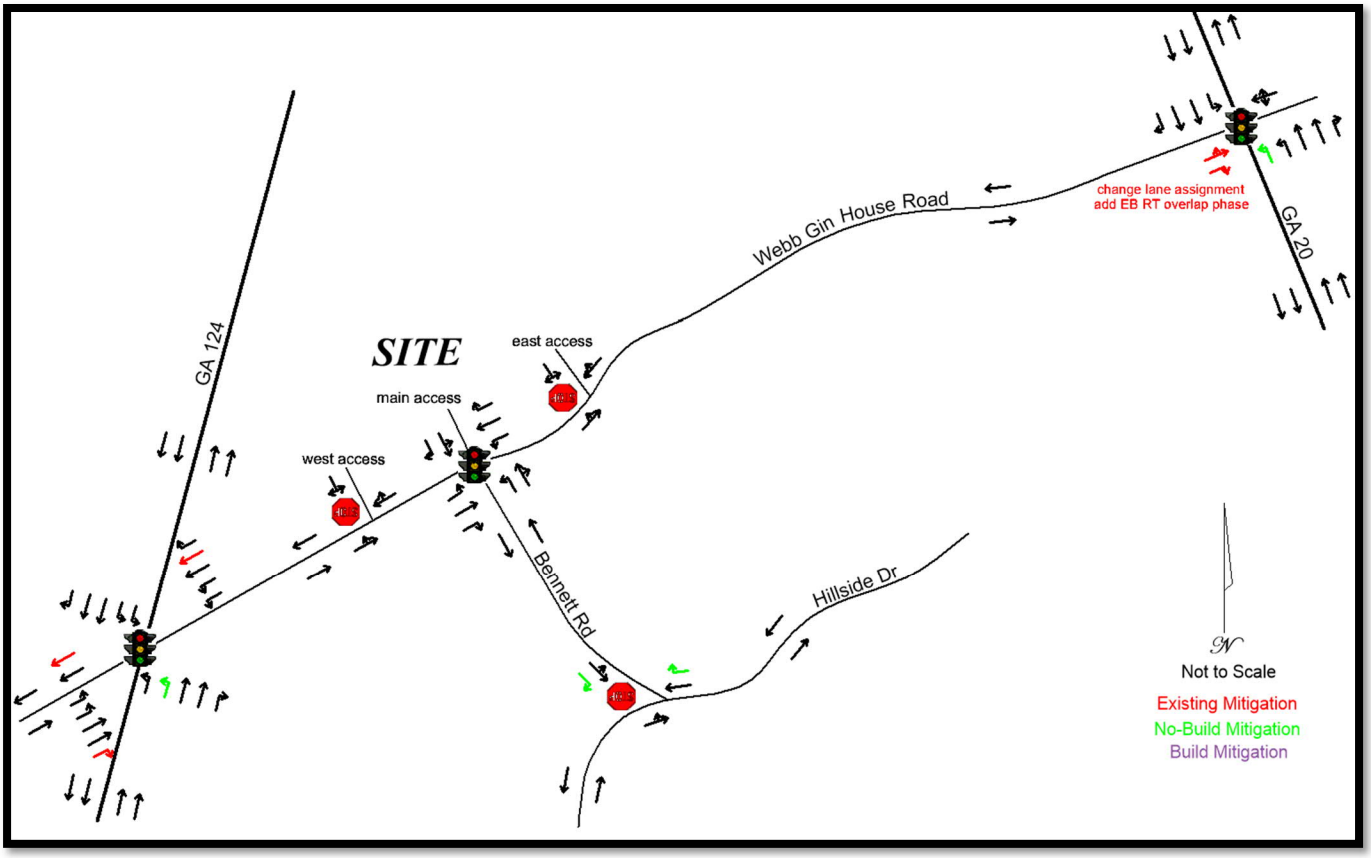


Figure 9 – Mitigation Summary

9. Site Internal Circulation and Connectivity

The Celebration Village Snellville project is effectively divided into three distinct tracts. The western and eastern tracts, Areas 3 and 2, respectively, are strictly residential senior housing areas, each with their own access to the public streets. Each is provided with an interparcel vehicular and sidewalk connection to the main portion of the project which contains the resident amenities and the retail and office. These interparcel connections are gated so that there will not be free flow through the western and eastern tracts by non-residents. But, the residents of those outer tracts will be able to circulate to and from the central portion of the development without the need to travel on public streets.

The internal circulation of each of the western and eastern residential tracts is a simple looping roadway. The central, front portion of the development includes the publicly-accessible retail and office space. This area includes two front parcels, each with full circulation and parking surrounding the retail and office buildings. Each front parcel has a direct connection to the central entrance roadway, and each has a separate, direct connection to the main "campus". A traffic circle is provided at the front of the main campus and circulation is provided around the main central building. There is a vehicle drop-off area behind the traffic circle, at the front of the main building.

Sidewalks and walking paths will be provided along the campus roadways and between the western, central, and eastern tracts. New sidewalk will be constructed along the project frontage on Webb Gin House Road and connections will be made from this sidewalk to the internal project sidewalk network. No bicycle lanes exist in the study area and none are proposed within the Celebration Village Snellville DRI. This is not inconsistent with the senior and assisted living character of the project.

A shuttle bus service will be provided for the use of Celebration residents to provide connectivity within the site. Ultimately, the goal is for this shuttle bus service to also connect to nearby destinations such as the Shoppes at Webb Gin. Appendix F includes a flier for this service at another Celebration Village development in metro Atlanta.

10. Compliance with GRTA Criteria

This section addresses the compliance of Celebration Snellville DRI #2752 with the five criteria presented in Section 3-101 – General Criteria Applicable to All Proposed DRIs found in Procedures and Principles for GRTA Development of Regional Impact Review, effective February 13, 2013.

10.1 General Criteria Applicable to All Proposed DRIs

A. **Accessibility** – The proposed DRI is designed to provide safe, quality, and convenient access and provides the flexibility of non-vehicular transportation options from the proposed development to existing or planned pedestrian, bicycle, or transit facilities such that there is a likelihood of significant use by residents, employees, and visitors to the proposed DRI.

The Celebration Village Snellville DRI will be served by three vehicular accesses providing convenient vehicular access from the public roadways. New sidewalk will be added along the project frontage on Webb Gin House Road and they will connect to the project sidewalk network. There are no bicycle lanes or regularly-scheduled public transit immediately adjacent to the site. The project will include a shuttle bus service for residents that will initially provide connectivity within the project, but is ultimately planned to connect to nearby destinations, thus facilitating accessibility.

B. **Connectivity –** The proposed DRI is likely to promote improved regional mobility in terms of new vehicular connections, on-site vehicular movements, and alternate routes that are likely to operate in a safe and efficient manner, increase the public roadway network, and avoid delays during peak periods.

The main access of this project will align with Bennett Road at the existing signal. This will facilitate direct connectivity with the neighborhood to the south. The providing of amenities such as retail shops with this direct connection to the neighborhood will facilitate safety and efficiency by reducing the movements and vehicle miles traveled by neighbors to reach some of the goods and services and amenities they need, and currently travel further to obtain. On-site interparcel connectivity will eliminate the need for the use of the public roadways to circulate between different sections of the development.

C. **Access Management –** The proposed DRI is designed so that vehicular ingress and egress to any on-site parking facilities and all access points to adjacent public roads are likely to operate in a safe and efficient manner and are not reasonably anticipated to result in peak hour ingress and egress congestion on adjacent roads and at nearby intersections, referred to as an Access Analysis.

The site is designed with multiple accesses which are connected to the various parking facilities throughout the site. This will allow for efficient motorist choice of appropriate access. The analysis of the site accesses reveals that acceptable operations are expected at all of these locations.

D. **Regional Policies and Adopted Plans –** The proposed DRI is likely to promote improved regional mobility because it is located in a center or corridor identified in the Regional Development Plan (RDP) designated by an RC; or the DRI has included in the proposed site plan components which will assist in the implementation of a transportation project currently in the Regional Transportation Plan (RTP) or Transportation Improvement Program (TIP), or other adopted regional plan designated by an RC.

The Celebration Village Snellville DRI is compatible with land use plans for this area of Gwinnett County. The project is primarily residential and is surrounded by residential uses. The small retail and office node is consistent with retail development to the west on Webb Gin House Road. While the project does not specifically assist in the implementation of any planned transportation project, it will not preclude any such improvements or plans.

E. **Local Standards Supporting Regional Policies –** The proposed DRI is located within a local jurisdiction, or other jurisdictional agencies, with adopted codes that support regionally adopted policies, or the development codes and standards do not prohibit or impede the proposed DRI from meeting the GRTA DRI review criteria stated in Sections 3-101, 3-102, and 3-103.

The Celebration Village Snellville DRI is located in Gwinnett County. The County controls land development patterns and land uses through a comprehensive code of zoning ordinances, a comprehensive land use plan, and a comprehensive transportation plan. No applicable code or standard of the County has been identified through this transportation study that would impede or prohibit the Celebration Village Snellville DRI from meeting regional goals.

Appendix A

Traffic Count Data and Volume Worksheets

Celebration Snellville DRI #2752 Transportation Analysis
Gwinnett County, Georgia

February 2018

Intersection: 1. GA 124 / Webb Gin House Road

Weekday A.M. Peak Hour	Northbound GA 124				Southbound GA 124				Eastbound Webb Gin House Road				Westbound Webb Gin House Road			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Counted Volumes (Wednesday, January 10, 2018)	100	1520	67	1687	72	1040	266	1378	93	159	93	345	346	599	28	973
Total Annual Background Growth	10.4%	10.4%	10.4%		10.4%	10.4%	10.4%		10.4%	10.4%	10.4%		10.4%	10.4%	10.4%	
No-Build Volumes	**110**	**1678**	**74**	**1862**	**79**	**1148**	**294**	**1521**	**103**	**176**	**103**	**381**	**382**	**661**	**31**	**1074**
Celebration DRI Senior Residential	0	0	11	11	14	0	0	14	0	11	0	11	10	10	12	32
Celebration DRI Retail	0	0	2	2	3	0	0	3	0	3	0	3	1	2	2	5
Celebration DRI Office	0	0	3	3	5	0	0	5	0	4	0	4	0	1	1	2
DRI Total	**0**	**0**	**16**	**16**	**22**	**0**	**0**	**22**	**0**	**18**	**0**	**18**	**11**	**13**	**15**	**39**
Build Volumes	**110**	**1678**	**90**	**1878**	**101**	**1148**	**294**	**1543**	**103**	**194**	**103**	**399**	**393**	**674**	**46**	**1113**

Weekday P.M. Peak Hour	Northbound GA 124				Southbound GA 124				Eastbound Webb Gin House Road				Westbound Webb Gin House Road			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Counted Volumes (Wednesday, January 10, 2018)	195	1429	273	1897	273	1279	178	1730	252	650	134	1036	231	324	53	608
Total Annual Background Growth	10.4%	10.4%	10.4%		10.4%	10.4%	10.4%		10.4%	10.4%	10.4%		10.4%	10.4%	10.4%	
No-Build Volumes	**215**	**1578**	**301**	**2094**	**301**	**1412**	**197**	**1910**	**278**	**718**	**148**	**1144**	**255**	**358**	**59**	**671**
Celebration DRI Senior Residential	0	0	13	13	16	0	0	16	0	13	0	13	15	15	18	48
Celebration DRI Retail	0	0	4	4	8	0	0	8	0	7	0	7	5	9	9	23
Celebration DRI Office	0	0	1	1	1	0	0	1	0	1	0	1	2	3	4	9
DRI Total	**0**	**0**	**18**	**18**	**25**	**0**	**0**	**25**	**0**	**21**	**0**	**21**	**22**	**27**	**31**	**80**
Build Volumes	**215**	**1578**	**319**	**2112**	**326**	**1412**	**197**	**1935**	**278**	**739**	**148**	**1165**	**277**	**385**	**90**	**751**

Celebration Snellville DRI #2752 Transportation Analysis
Gwinnett County, Georgia

February 2018

Intersection: 2. Webb Gin House Road / Bennett Road

Weekday A.M. Peak Hour	Northbound Bennett Road				Southbound Celebration Main Access				Eastbound Webb Gin House Road				Westbound Webb Gin House Road			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Counted Volumes (Wednesday, January 10, 2018)	187		20	207						198	55	253	16	764		780
Total Annual Background Growth	10.4%		10.4%							10.4%	10.4%		10.4%	10.4%		
No-Build Volumes	**206**		**22**	**229**						**219**	**61**	**279**	**18**	**843**		**861**
Celebration DRI Senior Residential	0	3	0	3	7	3	22	32	31	5	0	36	0	8	10	18
Celebration DRI Retail	0	0	0	0	2	0	5	7	8	0	0	8	0	0	3	3
Celebration DRI Retail pass-by	-1	1	0	0	0	0	2	2	1	-1	0	0	0	-2	2	0
Celebration DRI Office	0	1	0	1	0	0	2	2	12	0	0	12	0	0	3	3
DRI Total	**-1**	**5**	**0**	**4**	**9**	**3**	**31**	**43**	**52**	**4**	**0**	**56**	**0**	**6**	**18**	**24**
Build Volumes	**205**	**5**	**22**	**233**	**9**	**3**	**31**	**43**	**52**	**223**	**61**	**335**	**18**	**849**	**18**	**885**

Weekday P.M. Peak Hour	Northbound Bennett Road				Southbound Celebration Main Access				Eastbound Webb Gin House Road				Westbound Webb Gin House Road			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Counted Volumes (Wednesday, January 10, 2018)	94		22	116						716	304	1020	44	371		415
Total Annual Background Growth	10.4%		10.4%							10.4%	10.4%		10.4%	10.4%		
No-Build Volumes	**104**		**24**	**128**						**790**	**336**	**1126**	**49**	**410**		**458**
Celebration DRI Senior Residential	0	4	0	4	14	4	39	57	31	9	0	40	0	9	9	18
Celebration DRI Retail	0	5	0	5	10	5	23	38	19	0	0	19	0	0	8	8
Celebration DRI Retail pass-by	-1	1	0	0	13	2	5	20	11	-11	0	0	0	-5	5	0
Celebration DRI Office	0	0	0	0	3	1	9	13	3	0	0	3	0	0	0	0
DRI Total	**-1**	**10**	**0**	**9**	**40**	**12**	**76**	**128**	**64**	**-2**	**0**	**62**	**0**	**4**	**22**	**26**
Build Volumes	**103**	**10**	**24**	**137**	**40**	**12**	**76**	**128**	**64**	**788**	**336**	**1188**	**49**	**414**	**22**	**484**

Celebration Snellville DRI #2752 Transportation Analysis
Gwinnett County, Georgia

February 2018

Intersection: 3. GA 20 / Webb Gin House Road

Weekday A.M. Peak Hour	Northbound GA 20				Southbound GA 20				Eastbound Webb Gin House Road				Westbound Church Access			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Counted Volumes (Wednesday, January 10, 2018)	272	1935	5	2212	1	1026	313	1340	156	0	171	327	3	1	1	5
Total Annual Background Growth	10.4%	10.4%	10.4%		10.4%	10.4%	10.4%		10.4%	10.4%	10.4%		10.4%	10.4%	10.4%	
No-Build Volumes	**300**	**2136**	**6**	**2442**	**1**	**1133**	**346**	**1479**	**172**	**0**	**189**	**361**	**3**	**1**	**1**	**6**
Celebration DRI Senior Residential	5	0	0	5	0	0	9	9	7	0	4	11	0	0	0	0
Celebration DRI Retail	1	0	0	1	0	0	2	2	1	0	7	8	0	0	0	0
Celebration DRI Office	1	0	0	1	0	0	2	2	0	0	0	0	0	0	0	0
DRI Total	**7**	**0**	**0**	**7**	**0**	**0**	**13**	**13**	**8**	**0**	**11**	**19**	**0**	**0**	**0**	**0**
Build Volumes	**307**	**2136**	**6**	**2449**	**1**	**1133**	**359**	**1492**	**180**	**0**	**200**	**380**	**3**	**1**	**1**	**6**

Weekday P.M. Peak Hour	Northbound GA 20				Southbound GA 20				Eastbound Webb Gin House Road				Westbound Church Access			
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot
Counted Volumes (Wednesday, January 10, 2018)	239	1212	12	1463	3	1927	147	2077	223	1	327	551	6	4	2	12
Total Annual Background Growth	10.4%	10.4%	10.4%		10.4%	10.4%	10.4%		10.4%	10.4%	10.4%		10.4%	10.4%	10.4%	
No-Build Volumes	**264**	**1338**	**13**	**1615**	**3**	**2127**	**162**	**2293**	**246**	**1**	**361**	**608**	**7**	**4**	**2**	**13**
Celebration DRI Senior Residential	6	0	0	6	0	0	9	9	10	0	7	17	0	0	0	0
Celebration DRI Retail	3	0	0	3	0	0	5	5	1	0	3	4	0	0	0	0
Celebration DRI Office	0	0	0	0	0	0	0	0	2	0	1	3	0	0	0	0
DRI Total	**9**	**0**	**0**	**9**	**0**	**0**	**14**	**14**	**13**	**0**	**11**	**24**	**0**	**0**	**0**	**0**
Build Volumes	**273**	**1338**	**13**	**1624**	**3**	**2127**	**176**	**2307**	**259**	**1**	**372**	**632**	**7**	**4**	**2**	**13**

Celebration Snellville DRI #2752 Transportation Analysis
Gwinnett County, Georgia

February 2018

Intersection: 4. Hillside Drive / Bennett Road

Weekday A.M. Peak Hour		Southbound Bennett Road			Eastbound Hillside Drive			Westbound Hillside Drive		
		L	R	Tot	L	T	Tot	T	R	Tot
Counted Volumes (Wednesday, January 10, 2018)		45	32	77	50	134	184	261	139	400
Total Annual Background Growth		10.4%	10.4%		10.4%	10.4%		10.4%	10.4%	
No-Build Volumes		**50**	**35**	**85**	**55**	**148**	**203**	**288**	**153**	**442**
Celebration DRI Senior Residential		1	2	3	2	0	2	0	1	1
Celebration DRI Retail		0	0	0	0	0	0	0	0	0
Celebration DRI Office		0	0	0	0	0	0	0	1	1
DRI Total		**1**	**2**	**3**	**2**	**0**	**2**	**0**	**2**	**2**
Build Volumes		**51**	**37**	**88**	**57**	**148**	**205**	**288**	**155**	**444**

Weekday P.M. Peak Hour		Southbound Bennett Road			Eastbound Hillside Drive			Westbound Hillside Drive		
		L	R	Tot	L	T	Tot	T	R	Tot
Counted Volumes (Wednesday, January 10, 2018)		207	75	282	46	323	369	202	84	286
Total Annual Background Growth		10.4%	10.4%		10.4%	10.4%		10.4%	10.4%	
No-Build Volumes		**229**	**83**	**311**	**51**	**357**	**407**	**223**	**93**	**316**
Celebration DRI Senior Residential		1	3	4	3	0	3	0	1	1
Celebration DRI Retail		3	2	5	3	0	3	0	2	2
Celebration DRI Office		1	0	1	0	0	0	0	0	0
DRI Total		**5**	**5**	**10**	**6**	**0**	**6**	**0**	**3**	**3**
Build Volumes		**234**	**88**	**321**	**57**	**357**	**413**	**223**	**96**	**319**

Celebration Snellville DRI #2752 Transportation Analysis
Gwinnett County, Georgia

February 2018

Intersection: 5. Webb Gin House Road / Celebration Western Access

Weekday A.M. Peak Hour		**Southbound Western Access**			**Eastbound Webb Gin House Road**			**Westbound Webb Gin House Road**		
		L	**R**	**Tot**	**L**	**T**	**Tot**	**T**	**R**	**Tot**
Counted Volumes (Wednesday, January 10, 2018)						253	253	951		951
Total Annual Background Growth						10.4%		10.4%		
No-Build Volumes						**279**	**279**	**1050**		**1050**
Celebration DRI Senior Residential		2	6	8	3	34	37	28	2	30
Celebration DRI Retail		0	0	0	0	8	8	5	0	5
Celebration DRI Office		0	0	0	0	12	12	2	0	2
DRI Total		**2**	**6**	**8**	**3**	**54**	**57**	**35**	**2**	**37**
Build Volumes		**2**	**6**	**8**	**3**	**333**	**336**	**1085**	**2**	**1087**

Weekday P.M. Peak Hour		**Southbound Western Access**			**Eastbound Webb Gin House Road**			**Westbound Webb Gin House Road**		
		L	**R**	**Tot**	**L**	**T**	**Tot**	**T**	**R**	**Tot**
Counted Volumes (Wednesday, January 10, 2018)						1020	1020	465		465
Total Annual Background Growth						10.4%		10.4%		
No-Build Volumes						**1126**	**1126**	**513**		**513**
Celebration DRI Senior Residential		2	6	8	7	38	45	45	3	48
Celebration DRI Retail		0	0	0	0	19	19	23	0	23
Celebration DRI Office		0	0	0	0	3	3	9	0	9
DRI Total		**2**	**6**	**8**	**7**	**60**	**67**	**77**	**3**	**80**
Build Volumes		**2**	**6**	**8**	**7**	**1186**	**1193**	**590**	**3**	**593**

Celebration Snellville DRI #2752 Transportation Analysis
Gwinnett County, Georgia

February 2018

Intersection: 6. Webb Gin House Road / Celebration Eastern Access

Weekday A.M. Peak Hour		**Southbound Eastern Access**			**Eastbound Webb Gin House Road**			**Westbound Webb Gin House Road**		
		L	**R**	**Tot**	**L**	**T**	**Tot**	**T**	**R**	**Tot**
Counted Volumes (Wednesday, January 10, 2018)						218	218	780		780
Total Annual Background Growth						10.4%		10.4%		
No-Build Volumes						**241**	**241**	**861**		**861**
Celebration DRI Senior Residential		2	6	8	3	9	12	12	2	14
Celebration DRI Retail		0	0	0	0	2	2	3	0	3
Celebration DRI Office		0	0	0	0	0	0	3	0	3
DRI Total		**2**	**6**	**8**	**3**	**11**	**14**	**18**	**2**	**20**
Build Volumes		**2**	**6**	**8**	**3**	**252**	**255**	**879**	**2**	**881**

Weekday P.M. Peak Hour		**Southbound Eastern Access**			**Eastbound Webb Gin House Road**			**Westbound Webb Gin House Road**		
		L	**R**	**Tot**	**L**	**T**	**Tot**	**T**	**R**	**Tot**
Counted Volumes (Wednesday, January 10, 2018)						738	738	415		415
Total Annual Background Growth						10.4%		10.4%		
No-Build Volumes						**815**	**815**	**458**		**458**
Celebration DRI Senior Residential		2	6	8	7	16	23	12	3	15
Celebration DRI Retail		0	0	0	0	10	10	8	0	8
Celebration DRI Office		0	0	0	0	3	3	0	0	0
DRI Total		**2**	**6**	**8**	**7**	**29**	**36**	**20**	**3**	**23**
Build Volumes		**2**	**6**	**8**	**7**	**844**	**851**	**478**	**3**	**481**

Celebration Snellville DRI #2752 Transportation Analysis
Gwinnett County, Georgia

February 2018

Intersection: 7. Webb Gin House Road / Whitney Run

Weekday A.M. Peak Hour	Northbound Whitney Run				Eastbound Webb Gin House Road			Westbound Webb Gin House Road		
	L	R	Tot		T	R	Tot	L	T	Tot
Counted Volumes (Wednesday, January 10, 2018)	8	3	11		250	6	256	1	950	951
Total Annual Background Growth	10.4%	10.4%			10.4%	10.4%		10.4%	10.4%	
No-Build Volumes	**9**	**3**	**12**		**276**	**7**	**283**	**1**	**1049**	**1050**
Celebration DRI Senior Residential	0	0	0		37	0	37	0	34	34
Celebration DRI Retail	0	0	0		8	0	8	0	5	5
Celebration DRI Office	0	0	0		12	0	12	0	2	2
DRI Total	**0**	**0**	**0**		**57**	**0**	**57**	**0**	**41**	**41**
Build Volumes	**9**	**3**	**12**		**333**	**7**	**340**	**1**	**1090**	**1091**

Weekday P.M. Peak Hour	Northbound Whitney Run				Eastbound Webb Gin House Road			Westbound Webb Gin House Road		
	L	R	Tot		T	R	Tot	L	T	Tot
Counted Volumes (Wednesday, January 10, 2018)	3	2	5		1031	9	1040	4	478	482
Total Annual Background Growth	10.4%	10.4%			10.4%	10.4%		10.4%	10.4%	
No-Build Volumes	**3**	**2**	**6**		**1138**	**10**	**1148**	**4**	**528**	**532**
Celebration DRI Senior Residential	0	0	0		45	0	45	0	51	51
Celebration DRI Retail	0	0	0		19	0	19	0	23	23
Celebration DRI Office	0	0	0		3	0	3	0	9	9
DRI Total	**0**	**0**	**0**		**67**	**0**	**67**	**0**	**83**	**83**
Build Volumes	**3**	**2**	**6**		**1205**	**10**	**1215**	**4**	**611**	**615**

Reliable Traffic Data Services

Tel: (770) 578-8158 | Fax: (770) 578-8159
info@reliabletraffic.org | www.reliabletraffic.org

TMC Data
Webb Gin House Rd @ SR 20

7-9am | 4:30-6:30pm

File Name : 41660001
Site Code : 41660001
Start Date : 1/10/2018
Page No : 1

Groups Printed- Cars, Trucks, Buses

	SR 20 Northbound					SR 20 Southbound					Webb Gin House Rd Eastbound					Webb Gin House Rd Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	78	489	0	0	567	0	209	56	0	265	42	1	30	0	73	0	0	0	0	0	905
07:15 AM	90	546	1	0	637	0	206	64	0	270	36	0	39	0	75	0	0	1	0	1	983
07:30 AM	49	544	2	0	595	0	217	82	0	299	43	0	48	0	91	0	1	1	0	2	987
07:45 AM	64	434	2	0	500	0	273	86	0	359	34	0	40	0	74	1	0	0	0	1	934
Total	281	2013	5	0	2299	0	905	288	0	1193	155	1	157	0	313	1	1	2	0	4	3809
08:00 AM	78	452	1	0	531	1	263	73	0	337	41	0	46	0	87	2	0	0	0	2	957
08:15 AM	81	505	0	0	586	0	273	72	0	345	38	0	37	0	75	0	0	0	0	0	1006
08:30 AM	80	464	0	0	544	0	218	60	0	278	39	0	31	0	70	0	0	0	0	0	892
08:45 AM	83	387	0	0	470	0	225	52	0	277	36	0	39	0	75	0	0	0	0	0	822
Total	322	1808	1	0	2131	1	979	257	0	1237	154	0	153	0	307	2	0	0	0	2	3677
*** BREAK ***																					
04:30 PM	61	332	1	0	394	0	474	33	0	507	53	1	77	0	131	1	0	0	0	1	1033
04:45 PM	53	256	4	0	313	1	479	34	0	514	56	0	84	0	140	1	1	2	0	4	971
Total	114	588	5	0	707	1	953	67	0	1021	109	1	161	0	271	2	1	2	0	5	2004
05:00 PM	62	308	3	0	373	0	478	48	0	526	59	0	78	0	137	1	0	0	0	1	1037
05:15 PM	63	316	4	0	383	2	496	32	0	530	55	0	88	0	143	3	3	0	0	6	1062
05:30 PM	68	283	7	0	358	0	439	16	0	455	48	1	64	0	113	3	5	1	0	9	935
05:45 PM	70	318	5	0	393	0	459	30	0	489	54	1	90	0	145	1	4	1	0	6	1033
Total	263	1225	19	0	1507	2	1872	126	0	2000	216	2	320	0	538	8	12	2	0	22	4067
06:00 PM	61	302	8	0	371	2	474	14	0	490	52	2	86	0	140	4	4	2	0	10	1011
06:15 PM	52	282	2	0	336	0	472	26	0	498	51	1	58	0	110	5	2	2	0	9	953
Grand Total	1093	6218	40	0	7351	6	5655	778	0	6439	737	7	935	0	1679	22	20	10	0	52	15521
Apprch %	14.9	84.6	0.5	0		0.1	87.8	12.1	0		43.9	0.4	55.7	0		42.3	38.5	19.2	0		
Total %	7	40.1	0.3	0	47.4	0	36.4	5	0	41.5	4.7	0	6	0	10.8	0.1	0.1	0.1	0	0.3	

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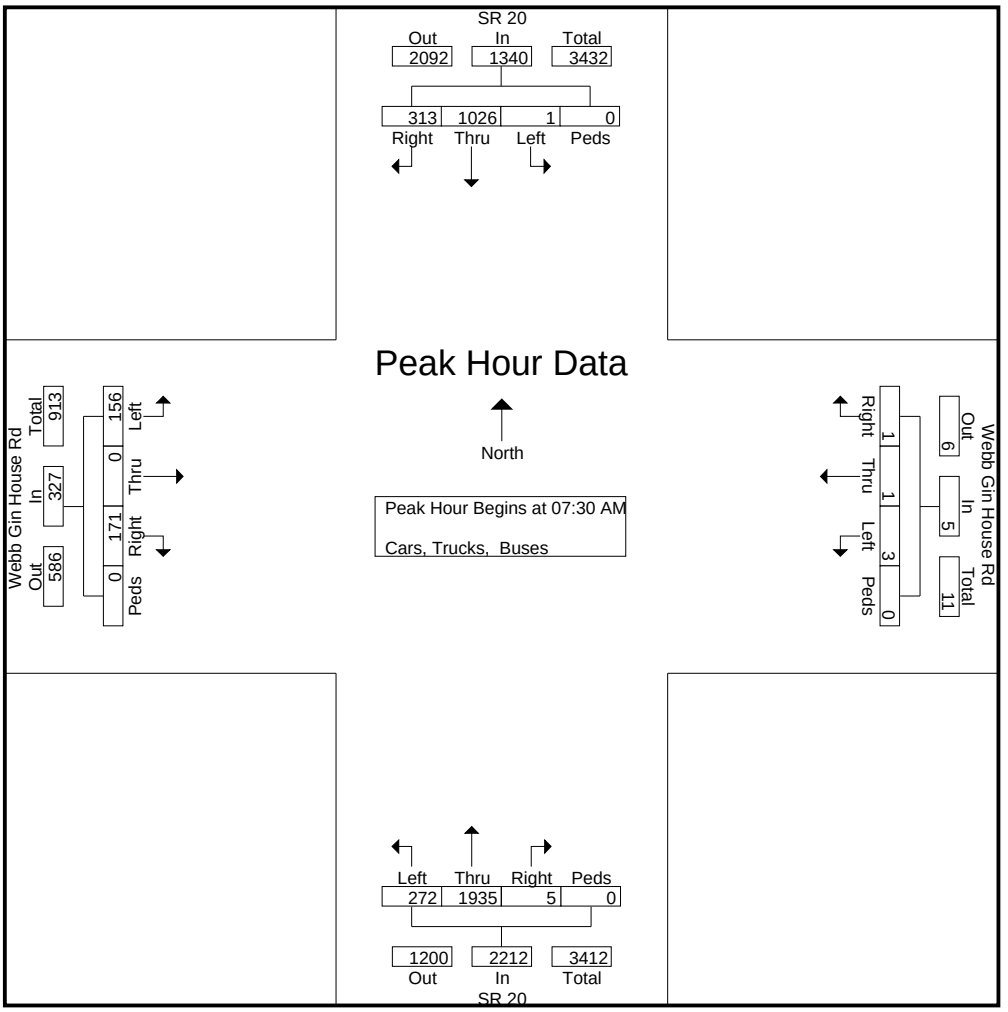
TMC Data
Webb Gin House Rd @ SR 20

7-9am | 4:30-6:30pm

File Name : 41660001
Site Code : 41660001
Start Date : 1/10/2018
Page No : 2

	SR 20 Northbound					SR 20 Southbound					Webb Gin House Rd Eastbound					Webb Gin House Rd Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	49	**544**	**2**	0	**595**	0	217	82	0	299	**43**	0	**48**	0	**91**	0	**1**	**1**	0	**2**	987
07:45 AM	64	434	2	0	500	0	**273**	**86**	0	**359**	34	0	40	0	74	1	0	0	0	1	934
08:00 AM	78	452	1	0	531	**1**	263	73	0	337	41	0	46	0	87	**2**	0	0	0	2	957
08:15 AM	**81**	505	0	0	586	0	273	72	0	345	38	0	37	0	75	0	0	0	0	0	**1006**
Total Volume	272	1935	5	0	2212	1	1026	313	0	1340	156	0	171	0	327	3	1	1	0	5	3884
% App. Total	12.3	87.5	0.2	0		0.1	76.6	23.4	0		47.7	0	52.3	0		60	20	20	0		
PHF	.840	.889	.625	.000	.929	.250	.940	.910	.000	.933	.907	.000	.891	.000	.898	.375	.250	.250	.000	.625	.965



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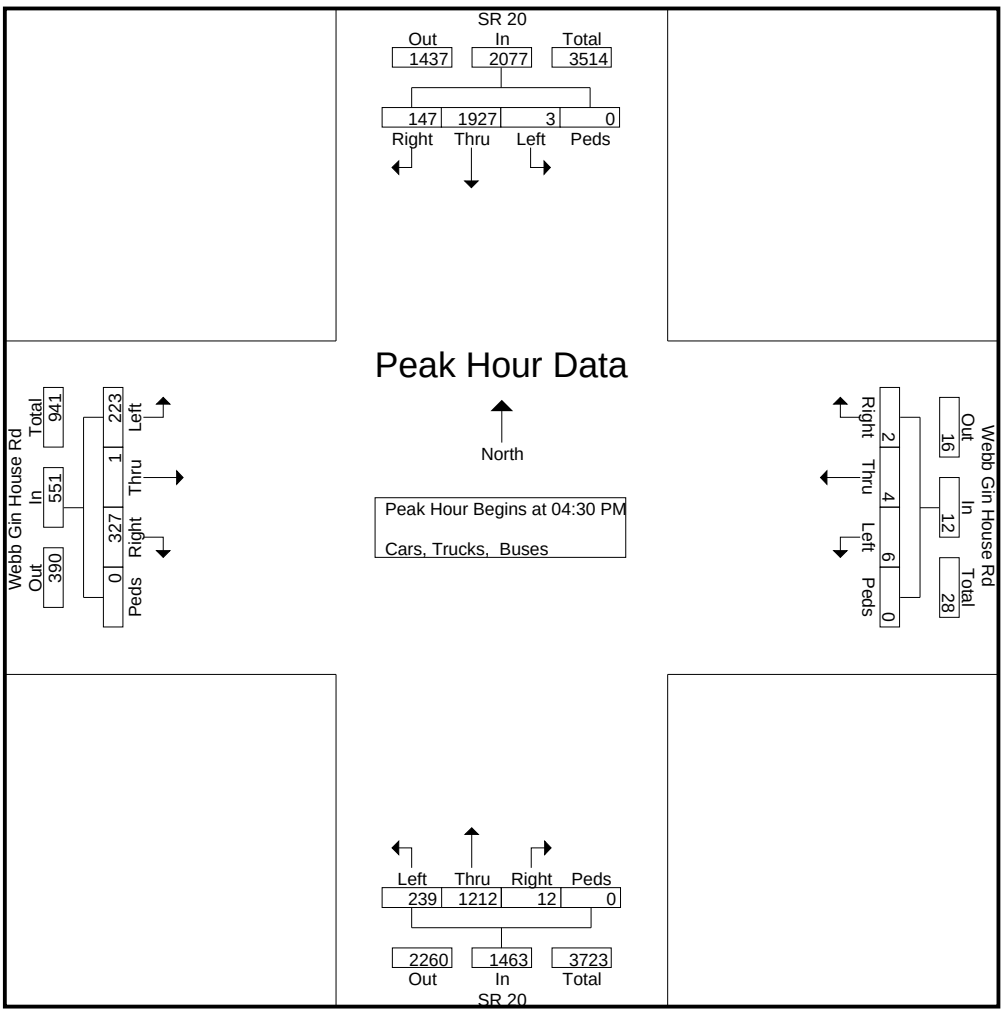
TMC Data
Webb Gin House Rd @ SR 20

7-9am | 4:30-6:30pm

File Name : 41660001
Site Code : 41660001
Start Date : 1/10/2018
Page No : 3

	SR 20 Northbound					SR 20 Southbound					Webb Gin House Rd Eastbound					Webb Gin House Rd Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	61	**332**	1	0	**394**	0	474	33	0	507	53	**1**	77	0	131	1	0	0	0	1	1033
04:45 PM	53	256	**4**	0	313	1	479	34	0	514	56	0	84	0	140	1	1	**2**	0	4	971
05:00 PM	62	308	3	0	373	0	478	**48**	0	526	**59**	0	78	0	137	1	0	0	0	1	1037
05:15 PM	**63**	316	4	0	383	**2**	**496**	32	0	**530**	55	0	**88**	0	**143**	**3**	**3**	0	0	**6**	**1062**
Total Volume	239	1212	12	0	1463	3	1927	147	0	2077	223	1	327	0	551	6	4	2	0	12	4103
% App. Total	16.3	82.8	0.8	0		0.1	92.8	7.1	0		40.5	0.2	59.3	0		50	33.3	16.7	0		
PHF	.948	.913	.750	.000	.928	.375	.971	.766	.000	.980	.945	.250	.929	.000	.963	.500	.333	.250	.000	.500	.966



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TMC Data
Webb Gin House Rd @ Bennett Rd

7-9am | 4:30-6:30pm

File Name : 41660002
Site Code : 41660002
Start Date : 1/10/2018
Page No : 1

Groups Printed- Cars, Trucks, Buses

	Bennett Rd Northbound					Southbound					Webb Gin House Rd Eastbound					Webb Gin House Rd Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	47	0	1	0	48	0	0	0	0	0	0	30	6	0	36	3	199	0	0	202	286
07:15 AM	53	0	8	0	61	0	0	0	0	0	0	27	14	0	41	4	200	0	0	204	306
07:30 AM	49	0	5	0	54	0	0	0	0	0	0	41	12	0	53	0	216	0	0	216	323
07:45 AM	48	0	5	0	53	0	0	0	0	0	0	56	14	0	70	4	178	0	0	182	305
Total	197	0	19	0	216	0	0	0	0	0	0	154	46	0	200	11	793	0	0	804	1220
08:00 AM	47	0	6	0	53	0	0	0	0	0	0	41	12	0	53	8	170	0	0	178	284
08:15 AM	43	0	4	0	47	0	0	0	0	0	0	60	17	0	77	4	200	0	0	204	328
08:30 AM	38	0	6	0	44	0	0	0	0	0	0	55	15	0	70	6	163	0	0	169	283
08:45 AM	39	0	5	0	44	0	0	0	0	0	0	47	8	0	55	6	165	0	0	171	270
Total	167	0	21	0	188	0	0	0	0	0	0	203	52	0	255	24	698	0	0	722	1165
*** BREAK ***																					
04:30 PM	34	0	2	0	36	0	0	0	0	0	0	149	65	0	214	9	92	0	0	101	351
04:45 PM	23	0	11	0	34	0	0	0	0	0	0	154	72	0	226	10	86	0	0	96	356
Total	57	0	13	0	70	0	0	0	0	0	0	303	137	0	440	19	178	0	0	197	707
05:00 PM	32	0	8	0	40	0	0	0	0	0	0	176	80	0	256	10	89	0	0	99	395
05:15 PM	21	0	3	0	24	0	0	0	0	0	0	193	81	0	274	10	92	0	0	102	400
05:30 PM	21	0	5	0	26	0	0	0	0	0	0	179	75	0	254	10	97	0	0	107	387
05:45 PM	20	0	6	0	26	0	0	0	0	0	0	168	68	0	236	14	93	0	0	107	369
Total	94	0	22	0	116	0	0	0	0	0	0	716	304	0	1020	44	371	0	0	415	1551
06:00 PM	37	0	1	0	38	0	0	0	0	0	0	168	55	0	223	9	74	0	0	83	344
06:15 PM	29	0	7	0	36	0	0	0	0	0	0	163	61	0	224	5	98	0	0	103	363
Grand Total	581	0	83	0	664	0	0	0	0	0	0	1707	655	0	2362	112	2212	0	0	2324	5350
Apprch %	87.5	0	12.5	0		0	0	0	0		0	72.3	27.7	0		4.8	95.2	0	0		
Total %	10.9	0	1.6	0	12.4	0	0	0	0	0	0	31.9	12.2	0	44.1	2.1	41.3	0	0	43.4	

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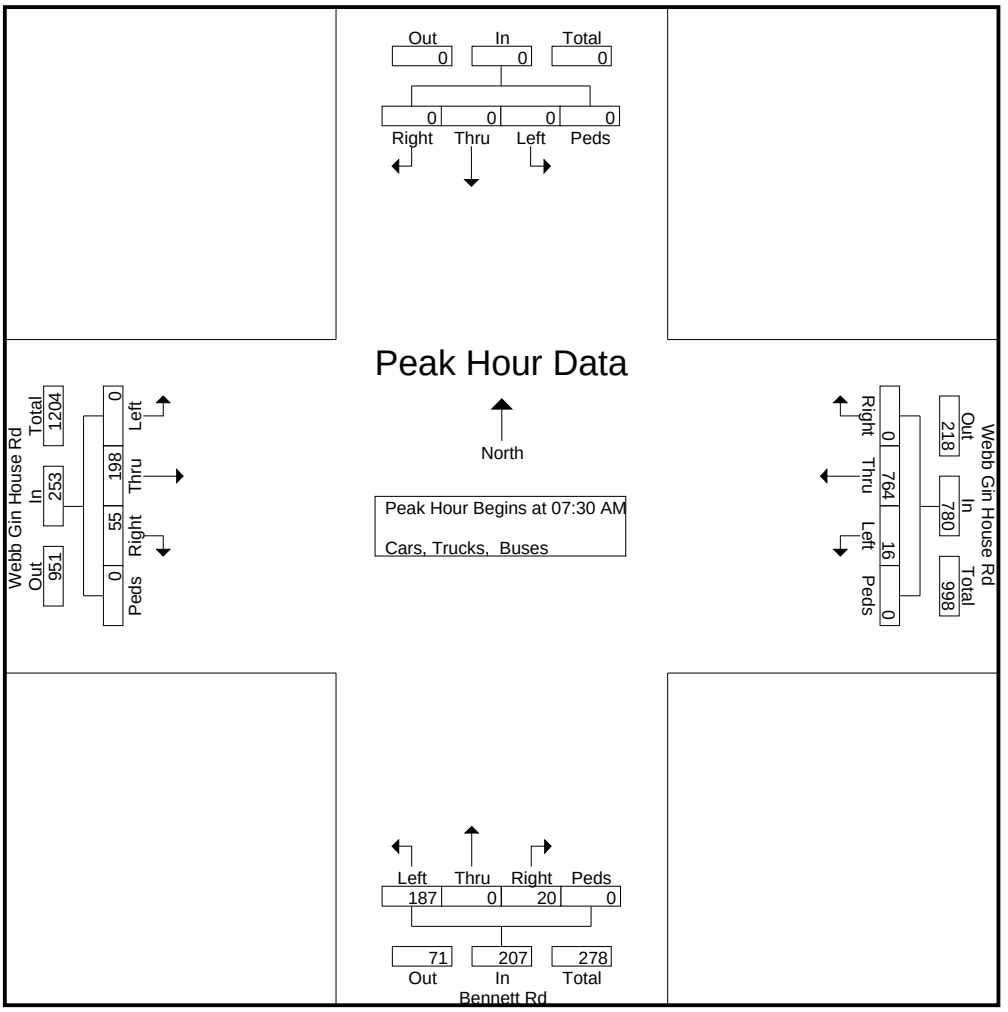
TMC Data
Webb Gin House Rd @ Bennett Rd

7-9am | 4:30-6:30pm

File Name : 41660002
Site Code : 41660002
Start Date : 1/10/2018
Page No : 2

	Bennett Rd Northbound					Southbound					Webb Gin House Rd Eastbound					Webb Gin House Rd Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	**49**	0	5	0	**54**	0	0	0	0	0	0	41	12	0	53	0	**216**	0	0	**216**	323
07:45 AM	48	0	5	0	53	0	0	0	0	0	0	56	14	0	70	4	178	0	0	182	305
08:00 AM	47	0	**6**	0	53	0	0	0	0	0	0	41	12	0	53	**8**	170	0	0	178	284
08:15 AM	43	0	4	0	47	0	0	0	0	0	0	**60**	**17**	0	**77**	4	200	0	0	204	**328**
Total Volume	187	0	20	0	207	0	0	0	0	0	0	198	55	0	253	16	764	0	0	780	1240
% App. Total	90.3											78.3	21.7				97.9				
PHF	.954	.000	.833	.000	.958	.000	.000	.000	.000	.000	.000	.825	.809	.000	.821	.500	.884	.000	.000	.903	.945



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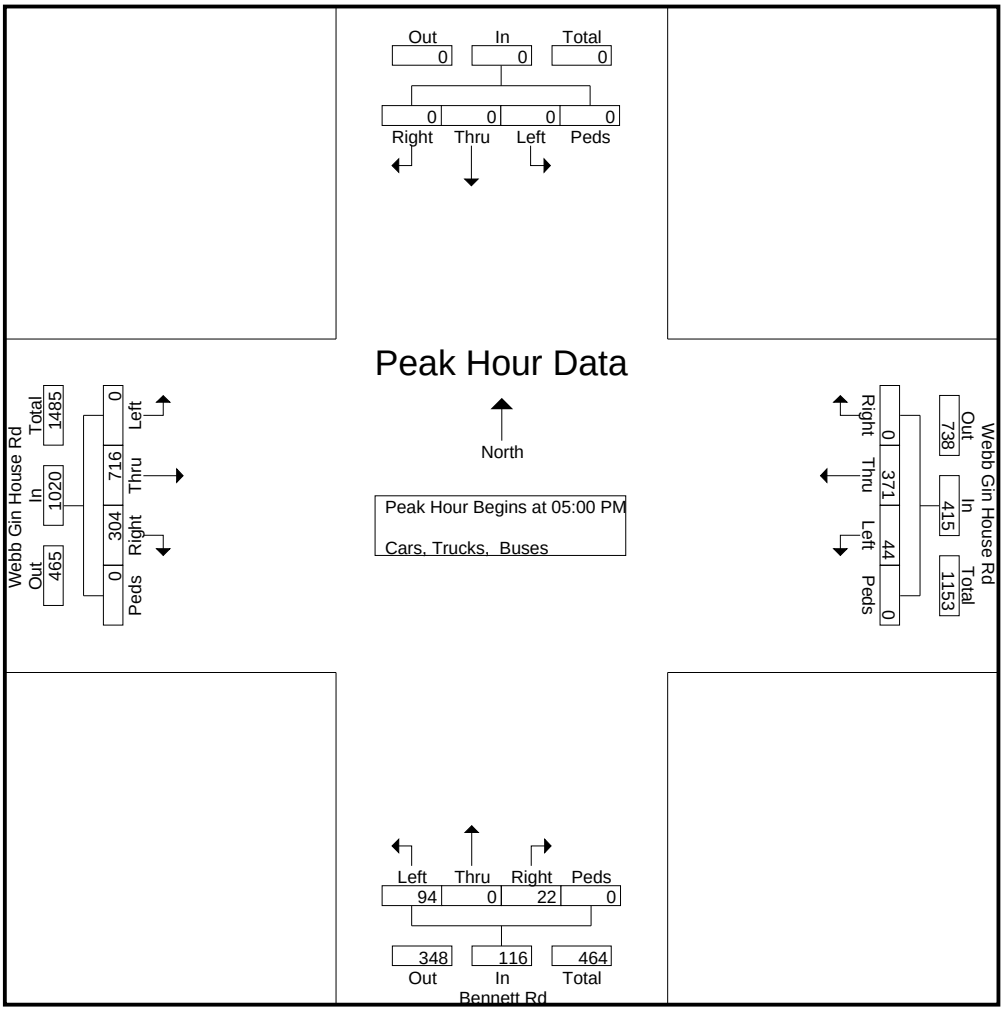
TMC Data
Webb Gin House Rd @ Bennett Rd

7-9am | 4:30-6:30pm

File Name : 41660002
Site Code : 41660002
Start Date : 1/10/2018
Page No : 3

	Bennett Rd Northbound					Southbound					Webb Gin House Rd Eastbound					Webb Gin House Rd Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	**32**	0	**8**	0	**40**	0	0	0	0	0	0	176	80	0	256	10	89	0	0	99	395
05:15 PM	21	0	3	0	24	0	0	0	0	0	0	**193**	**81**	0	**274**	10	92	0	0	102	**400**
05:30 PM	21	0	5	0	26	0	0	0	0	0	0	179	75	0	254	10	**97**	0	0	**107**	387
05:45 PM	20	0	6	0	26	0	0	0	0	0	0	168	68	0	236	**14**	93	0	0	107	369
Total Volume	94	0	22	0	116	0	0	0	0	0	0	716	304	0	1020	44	371	0	0	415	1551
% App. Total												70.2	29.8			10.6	89.4				
PHF	.734	.000	.688	.000	.725	.000	.000	.000	.000	.000	.000	.927	.938	.000	.931	.786	.956	.000	.000	.970	.969



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TMC Data
Webb Gin House Rd @ Whitney Run

7-9am | 4:30-6:30pm

File Name : 41660003
Site Code : 41660003
Start Date : 1/10/2018
Page No : 1

Groups Printed- Cars, Trucks, Buses

	Whitney Run Northbound					Southbound					Webb Gin House Rd Eastbound					Webb Gin House Rd Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	2	0	2	0	4	0	0	0	0	0	0	39	0	0	39	0	242	0	0	242	285
07:15 AM	0	0	1	0	1	0	0	0	0	0	0	46	0	0	46	0	263	0	0	263	310
07:30 AM	5	0	1	0	6	0	0	0	0	0	0	49	2	0	51	0	262	0	0	262	319
07:45 AM	1	0	1	0	2	0	0	0	0	0	0	76	2	0	78	0	220	0	0	220	300
Total	8	0	5	0	13	0	0	0	0	0	0	210	4	0	214	0	987	0	0	987	1214
08:00 AM	0	0	1	0	1	0	0	0	0	0	0	43	2	0	45	0	231	0	0	231	277
08:15 AM	2	0	0	0	2	0	0	0	0	0	0	82	0	0	82	1	237	0	0	238	322
08:30 AM	2	0	2	0	4	0	0	0	0	0	0	59	0	0	59	0	212	0	0	212	275
08:45 AM	0	0	3	0	3	0	0	0	0	0	0	51	1	0	52	0	205	0	0	205	260
Total	4	0	6	0	10	0	0	0	0	0	0	235	3	0	238	1	885	0	0	886	1134
*** BREAK ***																					
04:30 PM	0	0	1	0	1	0	0	0	0	0	0	223	1	0	224	0	127	0	0	127	352
04:45 PM	3	0	2	0	5	0	0	0	0	0	0	218	2	0	220	1	117	0	0	118	343
Total	3	0	3	0	6	0	0	0	0	0	0	441	3	0	444	1	244	0	0	245	695
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	266	4	0	270	0	132	0	0	132	402
05:15 PM	2	0	2	0	4	0	0	0	0	0	0	273	2	0	275	0	109	0	0	109	388
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	242	1	0	243	2	115	0	0	117	360
05:45 PM	1	0	0	0	1	0	0	0	0	0	0	250	2	0	252	2	122	0	0	124	377
Total	3	0	2	0	5	0	0	0	0	0	0	1031	9	0	1040	4	478	0	0	482	1527
06:00 PM	1	0	1	0	2	0	0	0	0	0	0	219	2	0	221	0	105	0	0	105	328
06:15 PM	1	0	0	0	1	0	0	0	0	0	0	219	2	0	221	0	125	0	0	125	347
Grand Total	20	0	17	0	37	0	0	0	0	0	0	2355	23	0	2378	6	2824	0	0	2830	5245
Apprch %	54.1	0	45.9	0		0	0	0	0		0	99	1	0		0.2	99.8	0	0		
Total %	0.4	0	0.3	0	0.7	0	0	0	0	0	0	44.9	0.4	0	45.3	0.1	53.8	0	0	54	

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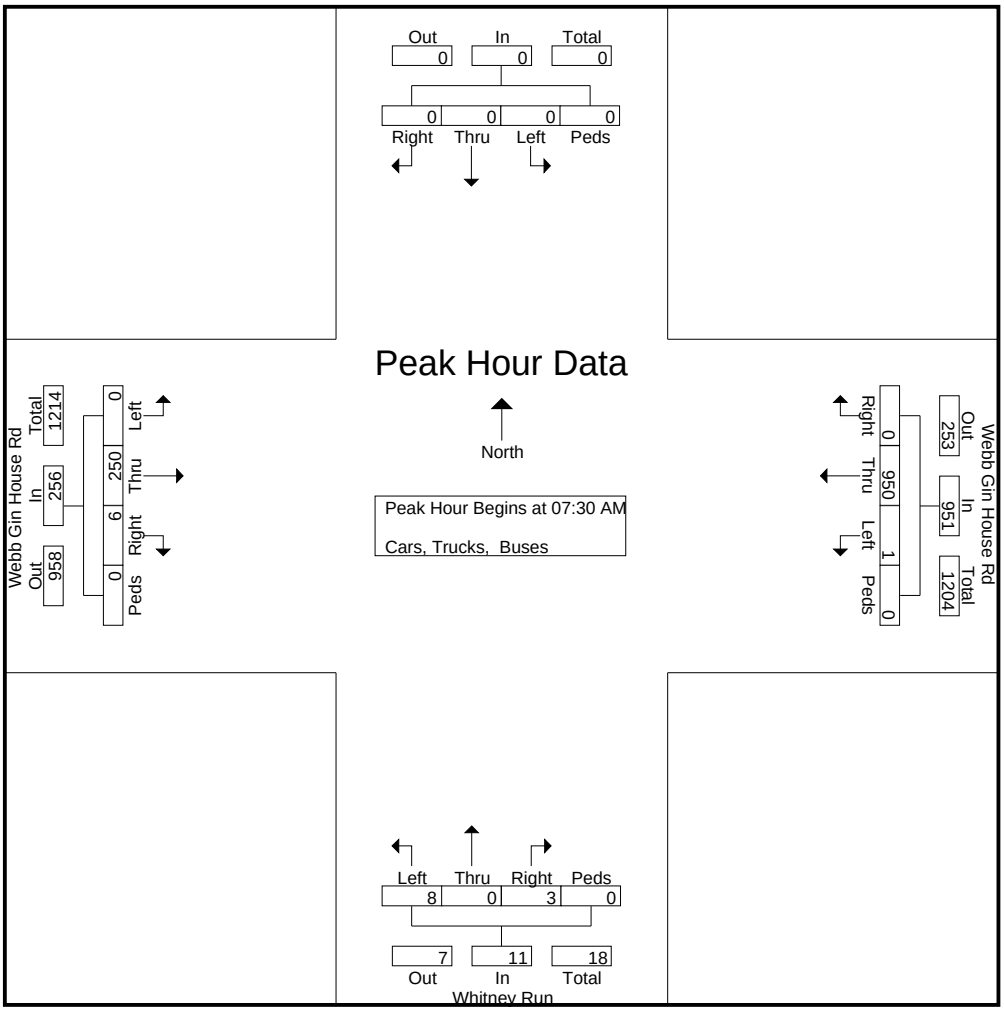
TMC Data
Webb Gin House Rd @ Whitney Run

7-9am | 4:30-6:30pm

File Name : 41660003
Site Code : 41660003
Start Date : 1/10/2018
Page No : 2

	Whitney Run Northbound					Southbound					Webb Gin House Rd Eastbound					Webb Gin House Rd Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	**5**	0	**1**	0	**6**	0	0	0	0	0	0	49	**2**	0	51	0	**262**	0	0	**262**	319
07:45 AM	1	0	1	0	2	0	0	0	0	0	0	76	2	0	78	0	220	0	0	220	300
08:00 AM	0	0	1	0	1	0	0	0	0	0	0	43	2	0	45	0	231	0	0	231	277
08:15 AM	2	0	0	0	2	0	0	0	0	0	0	**82**	0	0	**82**	**1**	237	0	0	238	**322**
Total Volume	8	0	3	0	11	0	0	0	0	0	0	250	6	0	256	1	950	0	0	951	1218
% App. Total	72.7		27.3									97.7					99.9				
PHF	.400	.000	.750	.000	.458	.000	.000	.000	.000	.000	.000	.762	.750	.000	.780	.250	.906	.000	.000	.907	.946



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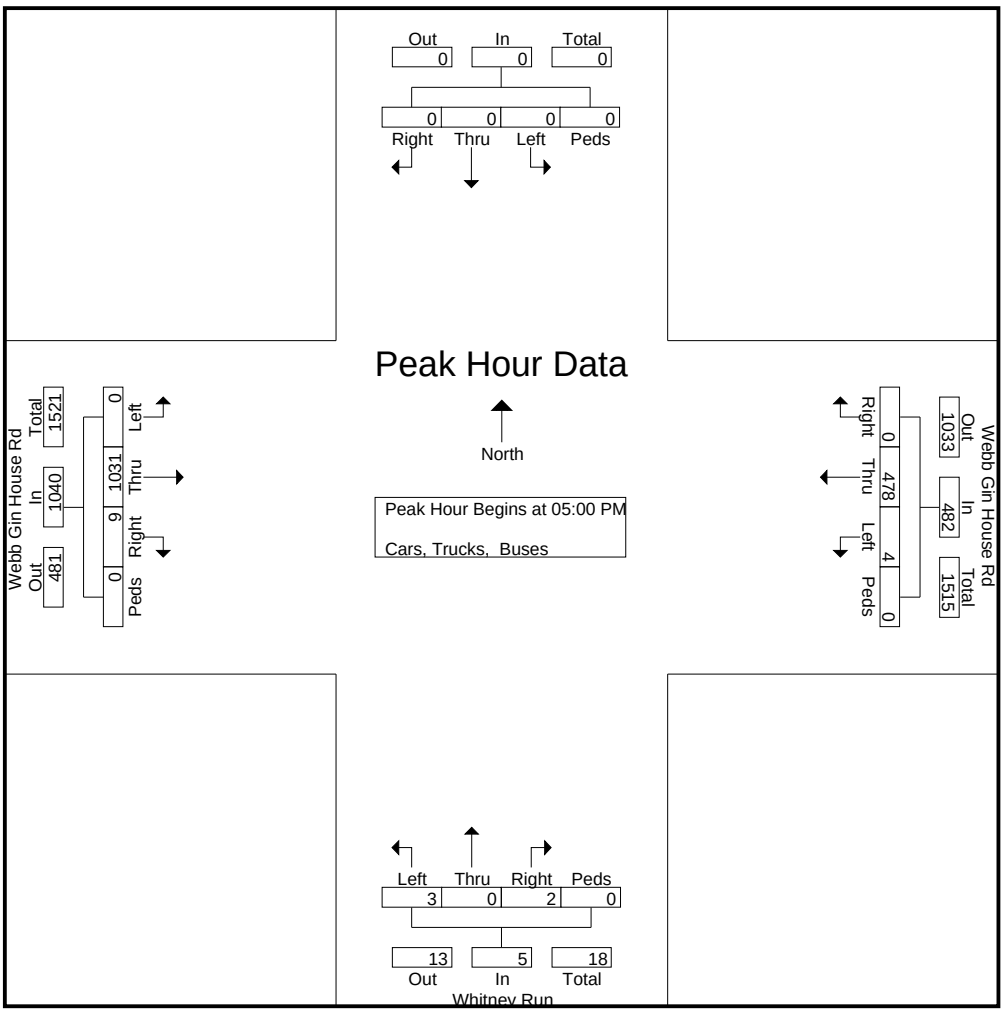
TMC Data
Webb Gin House Rd @ Whitney Run

7-9am | 4:30-6:30pm

File Name : 41660003
Site Code : 41660003
Start Date : 1/10/2018
Page No : 3

	Whitney Run Northbound					Southbound					Webb Gin House Rd Eastbound					Webb Gin House Rd Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	266	**4**	0	270	0	**132**	0	0	**132**	**402**
05:15 PM	**2**	0	**2**	0	**4**	0	0	0	0	0	0	**273**	2	0	**275**	0	109	0	0	109	388
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	242	1	0	243	**2**	115	0	0	117	360
05:45 PM	1	0	0	0	1	0	0	0	0	0	0	250	2	0	252	2	122	0	0	124	377
Total Volume	3	0	2	0	5	0	0	0	0	0	0	1031	9	0	1040	4	478	0	0	482	1527
% App. Total	60	0	40	0		0	0	0	0		0	99.1	0.9	0		0.8	99.2	0	0		
PHF	.375	.000	.250	.000	.313	.000	.000	.000	.000	.000	.000	.944	.563	.000	.945	.500	.905	.000	.000	.913	.950



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TMC Data
Webb Gin House Rd @ Scenic Hwy

7-9am | 4:30-6:30pm

File Name : 41660004
Site Code : 41660004
Start Date : 1/10/2018
Page No : 1

Groups Printed- Cars, Trucks, Buses

	Scenic Hwy Northbound					Scenic Hwy Southbound					Webb Gin House Rd Eastbound					Webb Gin House Rd Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	17	255	0	0	272	4	196	35	0	235	24	33	20	0	77	70	163	0	0	233	817
07:15 AM	27	357	1	0	385	7	266	62	0	335	24	26	26	0	76	70	134	0	0	204	1000
07:30 AM	27	465	7	0	499	13	274	73	0	360	27	26	12	0	65	90	177	8	0	275	1199
07:45 AM	20	366	24	0	410	18	221	68	0	307	27	39	36	0	102	105	150	5	0	260	1079
Total	91	1443	32	0	1566	42	957	238	0	1237	102	124	94	0	320	335	624	13	0	972	4095
08:00 AM	34	328	14	0	376	28	263	72	0	363	20	44	28	0	92	61	122	9	0	192	1023
08:15 AM	19	361	22	0	402	13	282	53	0	348	19	50	17	0	86	90	150	6	0	246	1082
08:30 AM	35	338	42	0	415	14	228	55	0	297	37	29	40	0	106	90	151	5	0	246	1064
08:45 AM	38	368	23	0	429	22	273	47	0	342	27	28	25	0	80	66	124	9	0	199	1050
Total	126	1395	101	0	1622	77	1046	227	0	1350	103	151	110	0	364	307	547	29	0	883	4219
*** BREAK ***																					
04:30 PM	41	344	62	0	447	53	330	40	0	423	35	148	26	0	209	74	81	13	0	168	1247
04:45 PM	40	373	68	0	481	64	302	37	0	403	55	146	30	0	231	54	76	17	0	147	1262
Total	81	717	130	0	928	117	632	77	0	826	90	294	56	0	440	128	157	30	0	315	2509
05:00 PM	49	356	67	0	472	70	340	32	0	442	59	146	27	0	232	44	76	17	0	137	1283
05:15 PM	36	363	77	0	476	71	311	51	0	433	92	179	32	0	303	70	78	13	0	161	1373
05:30 PM	64	373	80	0	517	50	292	49	0	391	59	154	29	0	242	64	82	10	0	156	1306
05:45 PM	46	337	49	0	432	82	336	46	0	464	42	171	46	0	259	53	88	13	0	154	1309
Total	195	1429	273	0	1897	273	1279	178	0	1730	252	650	134	0	1036	231	324	53	0	608	5271
06:00 PM	43	276	15	0	334	56	296	51	0	403	64	154	35	0	253	76	114	12	0	202	1192
06:15 PM	36	251	16	0	303	46	285	40	0	371	29	123	36	0	188	57	100	1	0	158	1020
Grand Total	572	5511	567	0	6650	611	4495	811	0	5917	640	1496	465	0	2601	1134	1866	138	0	3138	18306
Apprch %	8.6	82.9	8.5	0		10.3	76	13.7	0		24.6	57.5	17.9	0		36.1	59.5	4.4	0		
Total %	3.1	30.1	3.1	0	36.3	3.3	24.6	4.4	0	32.3	3.5	8.2	2.5	0	14.2	6.2	10.2	0.8	0	17.1	

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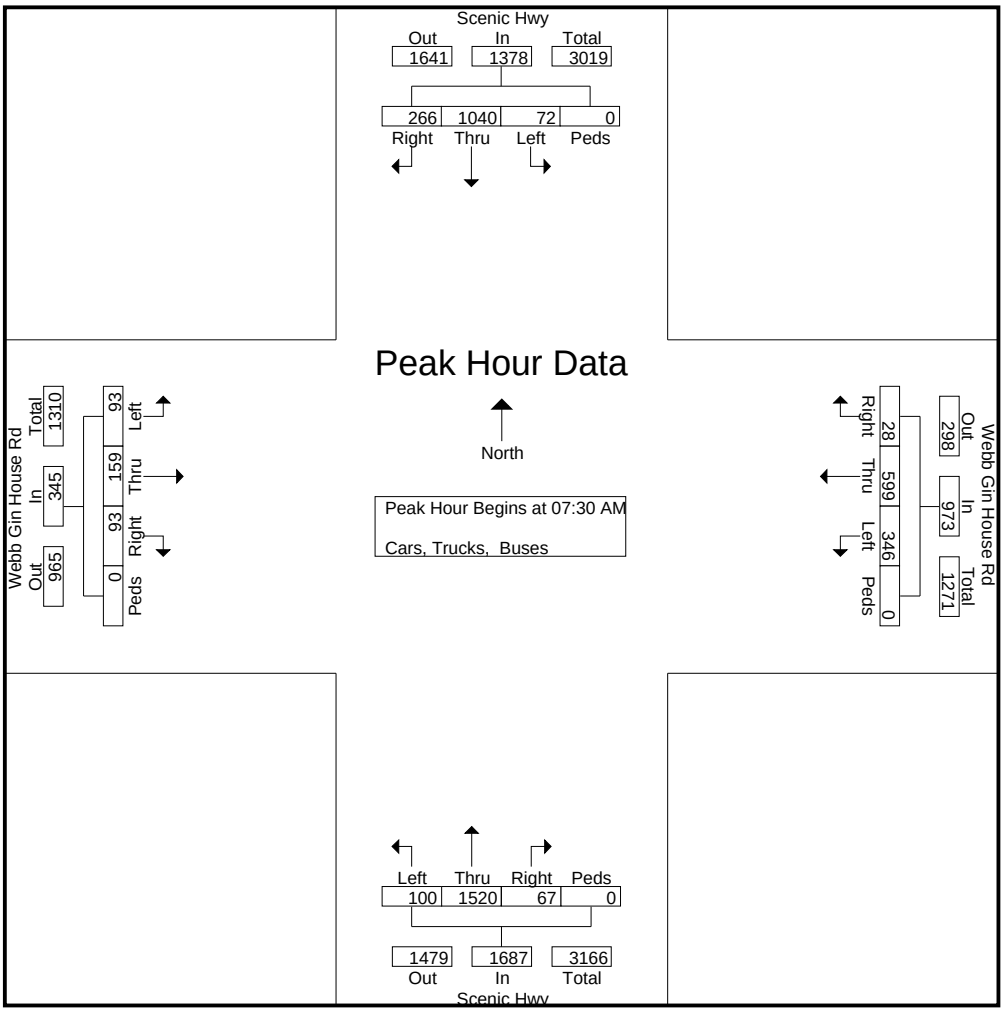
TMC Data
Webb Gin House Rd @ Scenic Hwy

7-9am | 4:30-6:30pm

File Name : 41660004
Site Code : 41660004
Start Date : 1/10/2018

	Scenic Hwy Northbound					Scenic Hwy Southbound					Webb Gin House Rd Eastbound					Webb Gin House Rd Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	27	**465**	7	0	**499**	13	274	**73**	0	360	**27**	26	12	0	65	90	**177**	8	0	**275**	**1199**
07:45 AM	20	366	**24**	0	410	18	221	68	0	307	27	39	**36**	0	**102**	**105**	150	5	0	260	1079
08:00 AM	**34**	328	14	0	376	**28**	263	72	0	**363**	20	44	28	0	92	61	122	**9**	0	192	1023
08:15 AM	19	361	22	0	402	13	**282**	53	0	348	19	**50**	17	0	86	90	150	6	0	246	1082
Total Volume	100	1520	67	0	1687	72	1040	266	0	1378	93	159	93	0	345	346	599	28	0	973	4383
% App. Total	5.9	90.1	4	0		5.2	75.5	19.3	0		27	46.1	27	0		35.6	61.6	2.9	0		
PHF	.735	.817	.698	.000	.845	.643	.922	.911	.000	.949	.861	.795	.646	.000	.846	.824	.846	.778	.000	.885	.914



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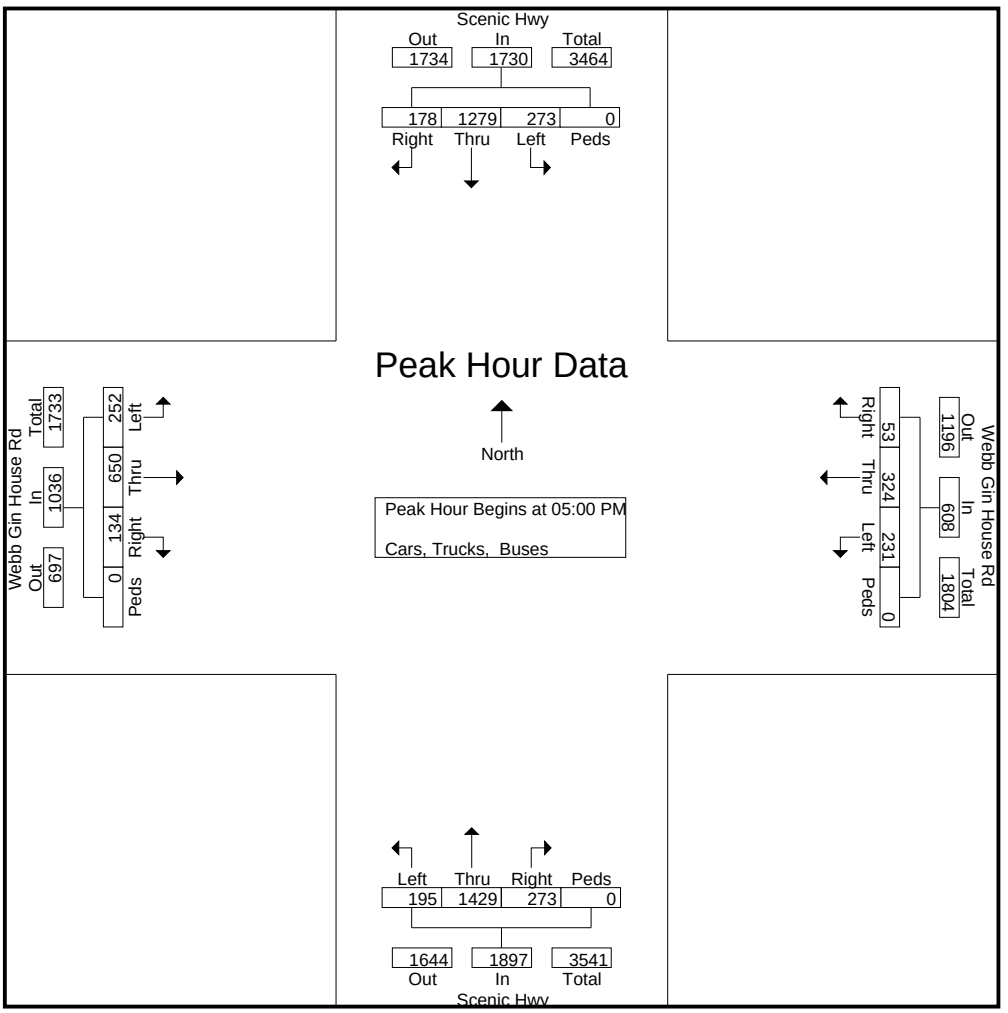
TMC Data
Webb Gin House Rd @ Scenic Hwy

7-9am | 4:30-6:30pm

File Name : 41660004
Site Code : 41660004
Start Date : 1/10/2018

	Scenic Hwy Northbound					Scenic Hwy Southbound					Webb Gin House Rd Eastbound					Webb Gin House Rd Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	49	356	67	0	472	70	**340**	32	0	442	59	146	27	0	232	44	76	**17**	0	137	1283
05:15 PM	36	363	77	0	476	71	311	**51**	0	433	**92**	**179**	32	0	**303**	**70**	78	13	0	**161**	**1373**
05:30 PM	**64**	**373**	**80**	0	**517**	50	292	49	0	391	59	154	29	0	242	64	82	10	0	156	1306
05:45 PM	46	337	49	0	432	**82**	336	46	0	**464**	42	171	**46**	0	259	53	**88**	13	0	154	1309
Total Volume	195	1429	273	0	1897	273	1279	178	0	1730	252	650	134	0	1036	231	324	53	0	608	5271
% App. Total	10.3	75.3	14.4	0		15.8	73.9	10.3	0		24.3	62.7	12.9	0		38	53.3	8.7	0		
PHF	.762	.958	.853	.000	.917	.832	.940	.873	.000	.932	.685	.908	.728	.000	.855	.825	.920	.779	.000	.944	.960



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TMC Data
Bennett Rd @ Hillside Dr

7-9am | 4:30-6:30pm

File Name : 41660005
Site Code : 41660005
Start Date : 1/10/2018
Page No : 1

Groups Printed- Cars, Trucks, Buses

	Northbound					Bennett Rd Southbound					Hillside Dr Eastbound					Hillside Dr Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	7	0	6	0	13	12	25	0	0	37	0	56	40	0	96	146
07:15 AM	0	0	0	0	0	11	0	9	0	20	14	30	0	0	44	0	58	34	0	92	156
07:30 AM	0	0	0	0	0	12	0	3	0	15	11	31	0	0	42	0	54	37	0	91	148
07:45 AM	0	0	0	0	0	11	0	9	0	20	10	35	0	0	45	0	73	46	0	119	184
Total	0	0	0	0	0	41	0	27	0	68	47	121	0	0	168	0	241	157	0	398	634
08:00 AM	0	0	0	0	0	11	0	9	0	20	10	35	0	0	45	0	61	34	0	95	160
08:15 AM	0	0	0	0	0	12	0	5	0	17	12	31	0	0	43	0	70	37	0	107	167
08:30 AM	0	0	0	0	0	11	0	9	0	20	18	33	0	0	51	0	57	22	0	79	150
08:45 AM	0	0	0	0	0	10	0	7	0	17	12	40	0	0	52	0	58	27	0	85	154
Total	0	0	0	0	0	44	0	30	0	74	52	139	0	0	191	0	246	120	0	366	631
*** BREAK ***																					
04:30 PM	0	0	0	0	0	47	0	22	0	69	10	65	0	0	75	0	40	25	0	65	209
04:45 PM	0	0	0	0	0	46	0	19	0	65	11	60	0	0	71	0	39	16	0	55	191
Total	0	0	0	0	0	93	0	41	0	134	21	125	0	0	146	0	79	41	0	120	400
05:00 PM	0	0	0	0	0	53	0	17	0	70	8	57	0	0	65	0	32	13	0	45	180
05:15 PM	0	0	0	0	0	48	0	18	0	66	7	60	0	0	67	0	17	11	0	28	161
05:30 PM	0	0	0	0	0	50	0	16	0	66	8	79	0	0	87	0	53	20	0	73	226
05:45 PM	0	0	0	0	0	63	0	22	0	85	12	79	0	0	91	0	54	15	0	69	245
Total	0	0	0	0	0	214	0	73	0	287	35	275	0	0	310	0	156	59	0	215	812
06:00 PM	0	0	0	0	0	48	0	21	0	69	14	78	0	0	92	0	39	16	0	55	216
06:15 PM	0	0	0	0	0	46	0	16	0	62	12	87	0	0	99	0	56	33	0	89	250
Grand Total	0	0	0	0	0	486	0	208	0	694	181	825	0	0	1006	0	817	426	0	1243	2943
Apprch %	0	0	0	0		70	0	30	0		18	82	0	0		0	65.7	34.3	0		
Total %	0	0	0	0	0	16.5	0	7.1	0	23.6	6.2	28	0	0	34.2	0	27.8	14.5	0	42.2	

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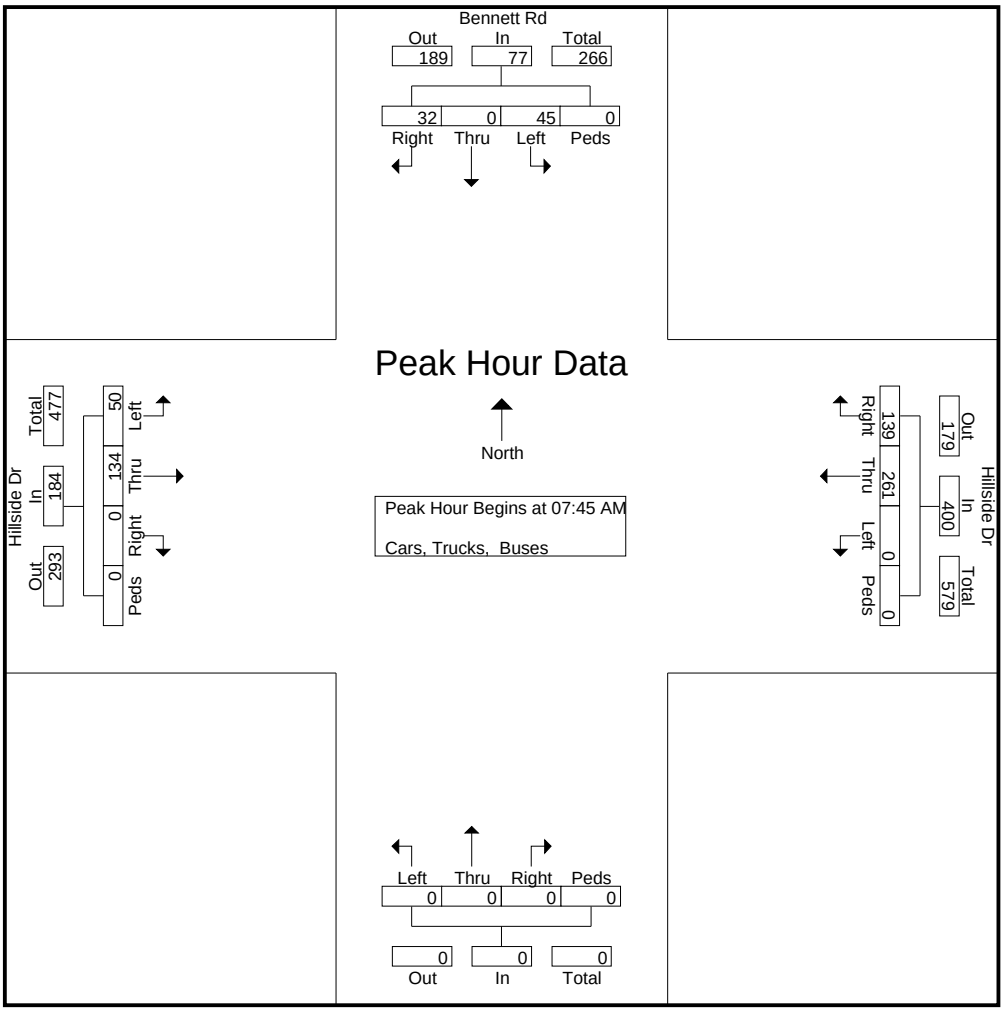
TMC Data
Bennett Rd @ Hillside Dr

7-9am | 4:30-6:30pm

File Name : 41660005
Site Code : 41660005
Start Date : 1/10/2018
Page No : 2

	Northbound					Bennett Rd Southbound					Hillside Dr Eastbound					Hillside Dr Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	0	0	0	0	11	0	**9**	0	**20**	10	**35**	0	0	45	0	**73**	**46**	0	**119**	**184**
08:00 AM	0	0	0	0	0	11	0	9	0	20	10	35	0	0	45	0	61	34	0	95	160
08:15 AM	0	0	0	0	0	**12**	0	5	0	17	12	31	0	0	43	0	70	37	0	107	167
08:30 AM	0	0	0	0	0	11	0	9	0	20	**18**	33	0	0	**51**	0	57	22	0	79	150
Total Volume	0	0	0	0	0	45	0	32	0	77	50	134	0	0	184	0	261	139	0	400	661
% App. Total						58.4		41.6			27.2	72.8					65.2	34.8			
PHF	.000	.000	.000	.000	.000	.938	.000	.889	.000	.963	.694	.957	.000	.000	.902	.000	.894	.755	.000	.840	.898



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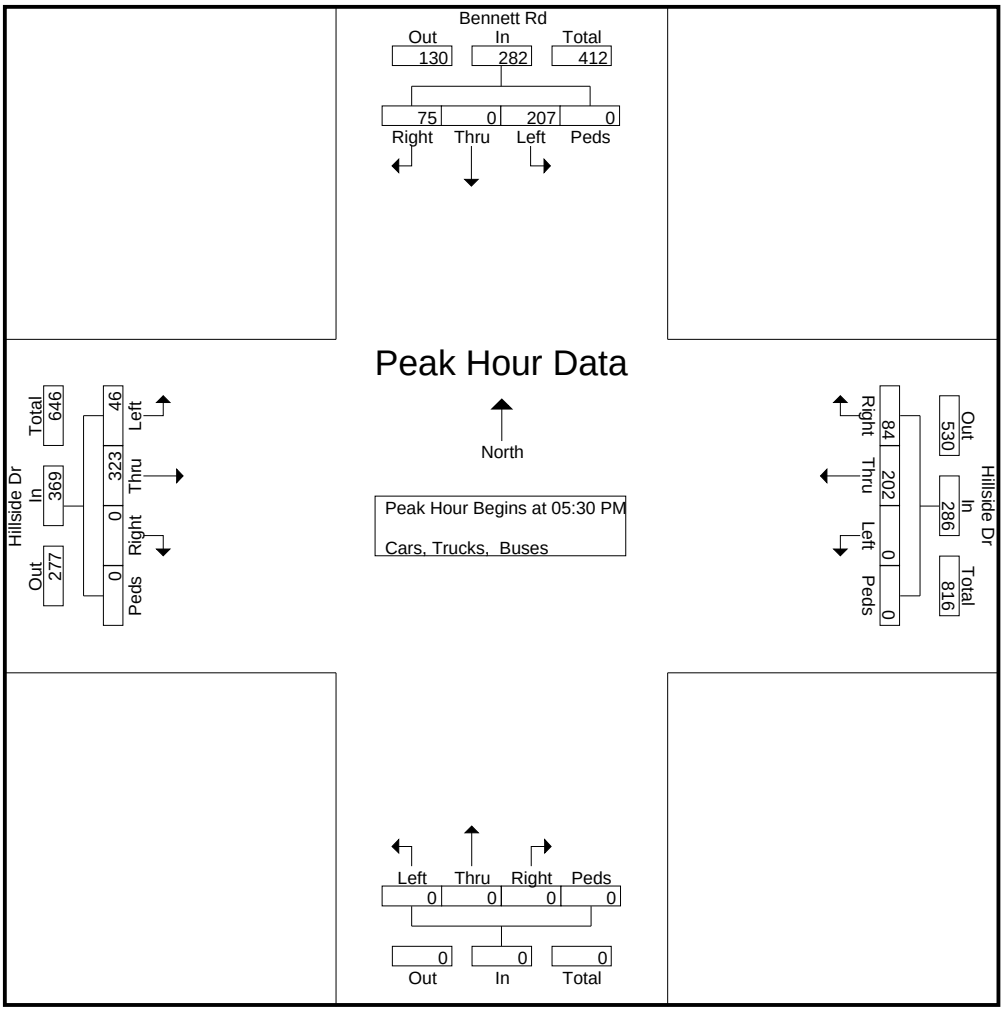
TMC Data
Bennett Rd @ Hillside Dr

7-9am | 4:30-6:30pm

File Name : 41660005
Site Code : 41660005
Start Date : 1/10/2018
Page No : 3

	Northbound					Bennett Rd Southbound					Hillside Dr Eastbound					Hillside Dr Westbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:30 PM																					
05:30 PM	0	0	0	0	0	50	0	16	0	66	8	79	0	0	87	0	53	20	0	73	226
05:45 PM	0	0	0	0	0	**63**	0	**22**	0	**85**	12	79	0	0	91	0	54	15	0	69	245
06:00 PM	0	0	0	0	0	48	0	21	0	69	**14**	78	0	0	92	0	39	16	0	55	216
06:15 PM	0	0	0	0	0	46	0	16	0	62	12	**87**	0	0	**99**	0	**56**	**33**	0	**89**	**250**
Total Volume	0	0	0	0	0	207	0	75	0	282	46	323	0	0	369	0	202	84	0	286	937
% App. Total						73.4		26.6			12.5	87.5					70.6	29.4			
PHF	.000	.000	.000	.000	.000	.821	.000	.852	.000	.829	.821	.928	.000	.000	.932	.000	.902	.636	.000	.803	.937



NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Celebration Snellville DRI #2752	**Organization:**	Marc R Acampora, PE, LLC
Project Location:	Gwinnett County, Georgia	**Performed By:**	MRA
Scenario Description:	future build	**Date:**	1/24/2018
Analysis Year:	2023	**Checked By:**	
Analysis Period:	**AM Street Peak Hour**	**Date:**	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office	710	18,000	sf	21	18	3
Retail	820	30,000	sf	28	17	11
Restaurant				0		
Cinema/Entertainment				0		
Residential	252, 254	422	du	105	55	50
Hotel				0		
All Other Land Uses[2]				0		
				154	90	64

Table 2-A: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office	1.06	0%	0%	1.06	0%	0%
Retail	1.17	0%	0%	1.16	0%	0%
Restaurant						
Cinema/Entertainment						
Residential	1.13	0%	0%	1.09	0%	0%
Hotel						
All Other Land Uses[2]						

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		1	0	0	0	0
Retail	1		0	0	1	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	1	1	0	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary

	Total	Entering	Exiting
All Person-Trips	172	101	71
Internal Capture Percentage	6%	5%	7%
External Vehicle-Trips[5]	145	85	60
External Transit-Trips[6]	0	0	0
External Non-Motorized Trips[6]	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	11%	33%
Retail	10%	15%
Restaurant	N/A	N/A
Cinema/Entertainment	N/A	N/A
Residential	2%	4%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4]Enter vehicle occupancy assumed in Table 1-A vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made to Tables 5-A, 9-A (O and D). Enter transit, non-motorized percentages that will result with proposed mixed-use project complete.

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.

[6]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Celebration Snellville DRI #2752	**Organization:**	Marc R Acampora, PE, LLC
Project Location:	Gwinnett County, Georgia	**Performed By:**	MRA
Scenario Description:	future build	**Date:**	1/24/2018
Analysis Year:	2023	**Checked By:**	
Analysis Period:	**PM Street Peak Hour**	**Date:**	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office	710	18,000	sf	21	3	18
Retail	820	30,000	sf	114	55	59
Restaurant				0		
Cinema/Entertainment				0		
Residential	252, 254	422	du	138	64	74
Hotel				0		
All Other Land Uses[2]				0		
				273	122	151

Table 2-A: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office	1.11	0%	0%	1.07	0%	0%
Retail	1.21	0%	0%	1.18	0%	0%
Restaurant						
Cinema/Entertainment						
Residential	1.15	0%	0%	1.21	0%	0%
Hotel						
All Other Land Uses[2]						

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		5	0	0	0	0
Retail	0		0	0	1	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	1	0	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary

	Total	Entering	Exiting
All Person-Trips	323	144	179
Internal Capture Percentage	4%	5%	4%
External Vehicle-Trips[5]	261	116	145
External Transit-Trips[6]	0	0	0
External Non-Motorized Trips[6]	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	0%	26%
Retail	9%	1%
Restaurant	N/A	N/A
Cinema/Entertainment	N/A	N/A
Residential	1%	1%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4]Enter vehicle occupancy assumed in Table 1-A vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made to Tables 5-A, 9-A (O and D). Enter transit, non-motorized percentages that will result with proposed mixed-use project complete.

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.

[6]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

Appendix B

Intersection Analysis Methodology

Intersection Analysis Methodology

The methodology used for evaluating traffic operations at intersections is presented in the Transportation Research Board's Highway Capacity Manual, 2016 edition (HCM 6). Synchro 10 software, which emulates the HCM 6 methodology, was used for all analyses. The following is an overview of the methodology employed for the analysis of signalized intersections and roundabouts and stop-sign controlled (unsignalized) intersections. Levels of service (LOS) are assigned letters A through F. LOS A indicates operations with very low control delay while LOS F describes operations with high control delay. LOS F is considered to be unacceptable by most drivers, while LOS E is typically considered to be the limit of acceptable delay.

Signalized Intersections and Roundabouts – Level of service for a signalized intersection and a roundabout is defined in terms of control delay per vehicle. For signalized intersections and roundabouts, a composite intersection level of service is determined. The thresholds for each level of service are higher for signalized intersections and roundabouts than for unsignalized intersections. This is attributable to a variety of factors including expectation and acceptance of higher delays at signals/roundabouts, and the fact that drivers can relax when waiting at a signal as opposed to having to remain attentive as they proceed through the unsignalized intersection. The level of service criteria for signalized intersections and roundabouts are shown in Table A.

Table A – Level of Service Criteria for Signalized Intersections and Roundabouts

Control Delay (s/veh)	LOS
≤ 10	A
> 10 and ≤ 20	B
> 20 and ≤ 35	C
> 35 and ≤ 55	D
> 55 and ≤ 80	E
> 80	F

Source: Highway Capacity Manual 6

Unsignalized Intersections – Level of service for an unsignalized intersection is defined in terms of control delay per vehicle. Control delay is that portion of delay attributable to the control device and includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The delays at unsignalized intersections are based on gap acceptance theory, factoring in availability of gaps, usefulness of the gaps, and the priority of right-of-way given to each traffic stream. The level of service criteria for unsignalized intersections are presented in Table B.

Table B – Level of Service Criteria for Unsignalized Intersections

Control Delay (s/veh)	LOS
0 – 10	A
> 10 and ≤ 15	B
> 15 and ≤ 25	C
> 25 and ≤ 35	D
> 35 and ≤ 50	E
> 50	F

Source: Highway Capacity Manual 6

Appendix C

Existing Intersection Operational Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	93	159	93	346	599	28	100	1520	67	72	1040	266
Future Volume (veh/h)	93	159	93	346	599	28	100	1520	67	72	1040	266
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1856	1870	1870	1856	1870
Adj Flow Rate, veh/h	109	187	109	389	673	31	118	1788	79	76	1095	280
Peak Hour Factor	0.85	0.85	0.85	0.89	0.89	0.89	0.85	0.85	0.85	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	3	2	2	3	2
Cap, veh/h	130	238	132	918	629	533	139	1716	1193	105	1548	756
Arrive On Green	0.04	0.11	0.11	0.27	0.34	0.34	0.08	0.49	0.49	0.03	0.44	0.44
Sat Flow, veh/h	3456	2202	1225	3456	1870	1585	1781	3526	1585	3456	3526	1585
Grp Volume(v), veh/h	109	149	147	389	673	31	118	1788	79	76	1095	280
Grp Sat Flow(s),veh/h/ln	1728	1777	1650	1728	1870	1585	1781	1763	1585	1728	1763	1585
Q Serve(g_s), s	5.2	13.5	14.4	15.4	55.5	1.9	10.8	80.3	0.0	3.6	41.7	18.5
Cycle Q Clear(g_c), s	5.2	13.5	14.4	15.4	55.5	1.9	10.8	80.3	0.0	3.6	41.7	18.5
Prop In Lane	1.00		0.74	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	130	192	178	918	629	533	139	1716	1193	105	1548	756
V/C Ratio(X)	0.84	0.78	0.82	0.42	1.07	0.06	0.85	1.04	0.07	0.73	0.71	0.37
Avail Cap(c_a), veh/h	130	376	349	918	629	533	192	1716	1193	105	1548	756
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	78.9	71.6	72.0	50.1	54.8	28.2	75.1	42.3	5.3	79.3	37.6	27.4
Incr Delay (d2), s/veh	36.1	6.6	9.1	0.3	56.0	0.0	22.1	33.6	0.1	22.0	2.8	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	6.5	6.5	6.7	35.4	0.9	5.7	40.6	0.7	1.9	17.8	7.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	115.0	78.2	81.1	50.4	110.7	28.2	97.2	75.9	5.4	101.3	40.4	28.8
LnGrp LOS	F	E	F	D	F	C	F	F	A	F	D	C
Approach Vol, veh/h		405			1093			1985			1451	
Approach Delay, s/veh		89.2			86.9			74.4			41.4	
Approach LOS		F			F			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.5	84.8	48.3	22.4	17.3	77.0	10.7	60.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	80.3	26.8	34.9	17.8	67.5	6.2	55.5
Max Q Clear Time (g_c+I1), s	5.6	82.3	17.4	16.4	12.8	43.7	7.2	57.5
Green Ext Time (p_c), s	0.0	0.0	1.0	1.5	0.1	8.5	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	68.7
HCM 6th LOS	E

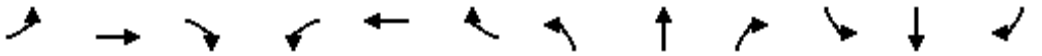
Notes

User approved changes to right turn type.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	198	55	16	764	187	20
Future Volume (veh/h)	198	55	16	764	187	20
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	241	67	18	849	195	21
Peak Hour Factor	0.82	0.82	0.90	0.90	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	758	642	508	950	589	524
Arrive On Green	0.41	0.41	0.02	0.51	0.33	0.33
Sat Flow, veh/h	1870	1585	1781	1870	1781	1585
Grp Volume(v), veh/h	241	67	18	849	195	21
Grp Sat Flow(s),veh/h/ln	1870	1585	1781	1870	1781	1585
Q Serve(g_s), s	4.9	1.5	0.3	22.8	4.6	0.5
Cycle Q Clear(g_c), s	4.9	1.5	0.3	22.8	4.6	0.5
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	758	642	508	950	589	524
V/C Ratio(X)	0.32	0.10	0.04	0.89	0.33	0.04
Avail Cap(c_a), veh/h	776	658	629	1096	589	524
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.3	10.3	8.5	12.4	14.0	12.6
Incr Delay (d2), s/veh	0.2	0.1	0.0	8.7	1.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.4	0.1	9.0	1.9	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.5	10.4	8.6	21.1	15.5	12.8
LnGrp LOS	B	B	A	C	B	B
Approach Vol, veh/h	308			867	216	
Approach Delay, s/veh	11.3			20.8	15.2	
Approach LOS	B			C	B	

Timer - Assigned Phs	2	3	4	8
Phs Duration (G+Y+Rc), s	22.9	5.7	27.0	32.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.4	5.0	23.1	32.6
Max Q Clear Time (g_c+I1), s	6.6	2.3	6.9	24.8
Green Ext Time (p_c), s	0.5	0.0	1.3	3.5

Intersection Summary	
HCM 6th Ctrl Delay	17.9
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	156	0	171	3	1	1	272	1935	5	1	1026	313
Future Volume (veh/h)	156	0	171	3	1	1	272	1935	5	1	1026	313
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1826	1870	1870	1826	1870
Adj Flow Rate, veh/h	173	0	190	5	2	2	292	2081	5	1	1103	337
Peak Hour Factor	0.90	0.90	0.90	0.63	0.63	0.63	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	5	2	2	5	2
Cap, veh/h	251	0	272	83	33	22	359	2556	1168	118	2331	1065
Arrive On Green	0.17	0.00	0.17	0.17	0.17	0.17	0.07	0.74	0.74	0.00	0.67	0.67
Sat Flow, veh/h	1412	0	1585	263	192	130	1781	3469	1585	1781	3469	1585
Grp Volume(v), veh/h	173	0	190	9	0	0	292	2081	5	1	1103	337
Grp Sat Flow(s),veh/h/ln	1412	0	1585	585	0	0	1781	1735	1585	1781	1735	1585
Q Serve(g_s), s	5.1	0.0	16.9	0.1	0.0	0.0	7.3	59.2	0.1	0.0	22.9	13.3
Cycle Q Clear(g_c), s	22.2	0.0	16.9	17.0	0.0	0.0	7.3	59.2	0.1	0.0	22.9	13.3
Prop In Lane	1.00		1.00	0.56		0.22	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	251	0	272	138	0	0	359	2556	1168	118	2331	1065
V/C Ratio(X)	0.69	0.00	0.70	0.07	0.00	0.00	0.81	0.81	0.00	0.01	0.47	0.32
Avail Cap(c_a), veh/h	498	0	549	379	0	0	517	2556	1168	175	2331	1065
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.2	0.0	58.5	52.5	0.0	0.0	15.1	13.0	5.2	16.2	11.8	10.3
Incr Delay (d2), s/veh	3.4	0.0	3.2	0.2	0.0	0.0	6.5	3.0	0.0	0.0	0.7	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	0.0	7.0	0.3	0.0	0.0	4.7	19.2	0.0	0.0	8.1	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.6	0.0	61.7	52.7	0.0	0.0	21.6	15.9	5.2	16.2	12.5	11.0
LnGrp LOS	E	A	E	D	A	A	C	B	A	B	B	B
Approach Vol, veh/h		363			9			2378			1441	
Approach Delay, s/veh		63.1			52.7			16.6			12.2	
Approach LOS		E			D			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.7	115.0		30.3	14.5	105.3		30.3				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	79.5		52.0	23.3	61.2		52.0				
Max Q Clear Time (g_c+I1), s	2.0	61.2		24.2	9.3	24.9		19.0				
Green Ext Time (p_c), s	0.0	13.7		1.6	0.7	10.0		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		19.2	
HCM 6th LOS		B	

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Vol, veh/h	50	134	261	139	45	32
Future Vol, veh/h	50	134	261	139	45	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	84	84	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	56	149	311	165	47	33

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	476	0	-	0	655	394
Stage 1	-	-	-	-	394	-
Stage 2	-	-	-	-	261	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1086	-	-	-	431	655
Stage 1	-	-	-	-	681	-
Stage 2	-	-	-	-	783	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1086	-	-	-	407	655
Mov Cap-2 Maneuver	-	-	-	-	407	-
Stage 1	-	-	-	-	643	-
Stage 2	-	-	-	-	783	-

Approach	EB	WB	SE
HCM Control Delay, s	2.3	0	13.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SELn1
Capacity (veh/h)	1086	-	-	-	483
HCM Lane V/C Ratio	0.051	-	-	-	0.166
HCM Control Delay (s)	8.5	0	-	-	13.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.6

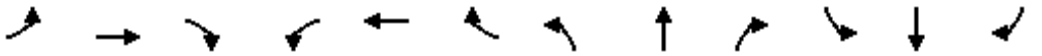
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	93	159	93	346	599	28	100	1520	67	72	1040	266
Future Volume (veh/h)	93	159	93	346	599	28	100	1520	67	72	1040	266
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1856	1870	1870	1856	1870
Adj Flow Rate, veh/h	109	187	109	389	673	31	118	1788	79	76	1095	280
Peak Hour Factor	0.85	0.85	0.85	0.89	0.89	0.89	0.85	0.85	0.85	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	3	2	2	3	2
Cap, veh/h	151	274	122	599	736	328	139	1955	1154	296	1983	961
Arrive On Green	0.04	0.08	0.08	0.17	0.21	0.21	0.08	0.55	0.55	0.09	0.56	0.56
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	1781	3526	1585	3456	3526	1585
Grp Volume(v), veh/h	109	187	109	389	673	31	118	1788	79	76	1095	280
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1781	1763	1585	1728	1763	1585
Q Serve(g_s), s	5.1	8.5	9.6	17.3	30.6	2.1	10.8	75.6	0.0	3.4	32.5	13.9
Cycle Q Clear(g_c), s	5.1	8.5	9.6	17.3	30.6	2.1	10.8	75.6	0.0	3.4	32.5	13.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	151	274	122	599	736	328	139	1955	1154	296	1983	961
V/C Ratio(X)	0.72	0.68	0.89	0.65	0.92	0.09	0.85	0.91	0.07	0.26	0.55	0.29
Avail Cap(c_a), veh/h	256	526	234	599	786	351	207	1955	1154	296	1983	961
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	77.9	74.2	55.3	63.5	64.0	35.9	75.1	33.2	6.4	70.5	22.9	15.6
Incr Delay (d2), s/veh	6.4	3.0	18.8	2.5	14.7	0.1	18.7	8.1	0.1	0.5	1.1	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	4.0	4.5	7.8	15.2	1.1	5.6	32.0	0.8	1.5	13.1	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	84.3	77.1	74.1	66.0	78.7	36.0	93.8	41.3	6.5	71.0	24.0	16.3
LnGrp LOS	F	E	E	E	E	D	F	D	A	E	C	B
Approach Vol, veh/h		405			1093			1985			1451	
Approach Delay, s/veh		78.2			73.0			43.1			25.0	
Approach LOS		E			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.6	96.0	33.1	17.2	17.4	97.3	11.7	38.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.8	91.5	24.3	24.4	19.2	79.1	12.2	36.5
Max Q Clear Time (g_c+I1), s	5.4	77.6	19.3	11.6	12.8	34.5	7.1	32.6
Green Ext Time (p_c), s	0.0	9.7	0.6	1.1	0.1	9.9	0.1	1.6

Intersection Summary	
HCM 6th Ctrl Delay	47.3
HCM 6th LOS	D

Notes

User approved changes to right turn type.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	156	0	171	3	1	1	272	1935	5	1	1026	313
Future Volume (veh/h)	156	0	171	3	1	1	272	1935	5	1	1026	313
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1826	1870	1870	1826	1870
Adj Flow Rate, veh/h	173	0	190	5	2	2	292	2081	5	1	1103	337
Peak Hour Factor	0.90	0.90	0.90	0.63	0.63	0.63	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	5	2	2	5	2
Cap, veh/h	239	0	390	49	20	9	357	2534	1158	115	2303	1052
Arrive On Green	0.18	0.00	0.18	0.18	0.18	0.18	0.07	0.73	0.73	0.00	0.66	0.66
Sat Flow, veh/h	1072	0	1585	64	109	50	1781	3469	1585	1781	3469	1585
Grp Volume(v), veh/h	173	0	190	9	0	0	292	2081	5	1	1103	337
Grp Sat Flow(s),veh/h/ln	1072	0	1585	224	0	0	1781	1735	1585	1781	1735	1585
Q Serve(g_s), s	0.0	0.0	15.4	0.2	0.0	0.0	7.5	60.6	0.1	0.0	23.5	13.6
Cycle Q Clear(g_c), s	24.5	0.0	15.4	24.7	0.0	0.0	7.5	60.6	0.1	0.0	23.5	13.6
Prop In Lane	1.00		1.00	0.56		0.22	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	239	0	390	77	0	0	357	2534	1158	115	2303	1052
V/C Ratio(X)	0.72	0.00	0.49	0.12	0.00	0.00	0.82	0.82	0.00	0.01	0.48	0.32
Avail Cap(c_a), veh/h	251	0	403	89	0	0	513	2534	1158	172	2303	1052
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.7	0.0	48.4	52.6	0.0	0.0	15.7	13.6	5.5	17.0	12.4	10.8
Incr Delay (d2), s/veh	9.4	0.0	0.9	0.7	0.0	0.0	6.8	3.1	0.0	0.0	0.7	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.0	0.0	6.3	0.3	0.0	0.0	4.9	20.0	0.0	0.0	8.3	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.1	0.0	49.4	53.3	0.0	0.0	22.6	16.8	5.5	17.0	13.1	11.6
LnGrp LOS	E	A	D	D	A	A	C	B	A	B	B	B
Approach Vol, veh/h		363			9			2378			1441	
Approach Delay, s/veh		59.2			53.3			17.5			12.8	
Approach LOS		E			D			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.7	114.0		31.3	14.7	104.1		31.3				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	103.5		28.0	23.3	85.2		28.0				
Max Q Clear Time (g_c+I1), s	2.0	62.6		26.5	9.5	25.5		26.7				
Green Ext Time (p_c), s	0.0	23.6		0.2	0.7	10.7		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		19.5	
HCM 6th LOS		B	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	252	650	134	231	324	53	195	1429	273	273	1279	178
Future Volume (veh/h)	252	650	134	231	324	53	195	1429	273	273	1279	178
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1856	1870	1870	1856	1870
Adj Flow Rate, veh/h	293	756	156	246	345	56	212	1553	297	294	1375	191
Peak Hour Factor	0.86	0.86	0.86	0.94	0.94	0.94	0.92	0.92	0.92	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	3	2	2	3	2
Cap, veh/h	334	770	159	279	461	390	226	1607	850	318	1485	821
Arrive On Green	0.10	0.26	0.26	0.08	0.25	0.25	0.13	0.46	0.46	0.09	0.42	0.42
Sat Flow, veh/h	3456	2933	605	3456	1870	1585	1781	3526	1585	3456	3526	1585
Grp Volume(v), veh/h	293	458	454	246	345	56	212	1553	297	294	1375	191
Grp Sat Flow(s),veh/h/ln	1728	1777	1761	1728	1870	1585	1781	1763	1585	1728	1763	1585
Q Serve(g_s), s	13.8	42.3	42.3	11.6	28.1	3.7	19.5	70.7	4.3	13.9	61.1	10.9
Cycle Q Clear(g_c), s	13.8	42.3	42.3	11.6	28.1	3.7	19.5	70.7	4.3	13.9	61.1	10.9
Prop In Lane	1.00		0.34	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	334	466	462	279	461	390	226	1607	850	318	1485	821
V/C Ratio(X)	0.88	0.98	0.98	0.88	0.75	0.14	0.94	0.97	0.35	0.92	0.93	0.23
Avail Cap(c_a), veh/h	362	466	462	279	461	390	226	1607	850	318	1485	821
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	73.5	60.5	60.5	75.1	57.5	31.5	71.4	43.7	21.8	74.3	45.3	21.8
Incr Delay (d2), s/veh	19.7	36.9	37.1	26.5	6.7	0.2	43.3	15.8	1.1	31.4	11.3	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.0	23.6	23.4	6.2	14.1	1.8	11.4	32.6	6.8	7.4	27.7	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	93.2	97.4	97.6	101.6	64.1	31.7	114.7	59.5	23.0	105.7	56.6	22.5
LnGrp LOS	F	F	F	F	E	C	F	E	C	F	E	C
Approach Vol, veh/h		1205			647			2062			1860	
Approach Delay, s/veh		96.4			75.6			59.9			60.9	
Approach LOS		F			E			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.7	79.7	17.8	47.8	25.4	74.0	20.5	45.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	15.2	75.2	13.3	43.3	20.9	69.5	17.3	39.3
Max Q Clear Time (g_c+I1), s	15.9	72.7	13.6	44.3	21.5	63.1	15.8	30.1
Green Ext Time (p_c), s	0.0	2.1	0.0	0.0	0.0	4.4	0.2	1.4

Intersection Summary	
HCM 6th Ctrl Delay	69.6
HCM 6th LOS	E

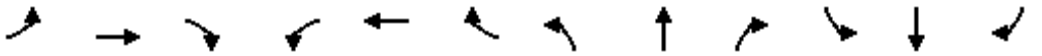
Notes

User approved changes to right turn type.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	716	304	44	371	94	22
Future Volume (veh/h)	716	304	44	371	94	22
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	770	327	45	382	129	30
Peak Hour Factor	0.93	0.93	0.97	0.97	0.73	0.73
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	868	735	235	1080	502	446
Arrive On Green	0.46	0.46	0.04	0.58	0.28	0.28
Sat Flow, veh/h	1870	1585	1781	1870	1781	1585
Grp Volume(v), veh/h	770	327	45	382	129	30
Grp Sat Flow(s),veh/h/ln	1870	1585	1781	1870	1781	1585
Q Serve(g_s), s	24.0	8.9	0.8	6.9	3.6	0.9
Cycle Q Clear(g_c), s	24.0	8.9	0.8	6.9	3.6	0.9
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	868	735	235	1080	502	446
V/C Ratio(X)	0.89	0.44	0.19	0.35	0.26	0.07
Avail Cap(c_a), veh/h	981	831	298	1259	502	446
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.6	11.6	12.8	7.2	17.8	16.8
Incr Delay (d2), s/veh	9.2	0.4	0.4	0.2	1.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.3	2.6	0.2	2.0	1.6	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	24.8	12.0	13.2	7.4	19.0	17.1
LnGrp LOS	C	B	B	A	B	B
Approach Vol, veh/h	1097			427	159	
Approach Delay, s/veh	21.0			8.0	18.6	
Approach LOS	C			A	B	

Timer - Assigned Phs		2	3	4			8
Phs Duration (G+Y+Rc), s		22.5	7.3	34.2			41.4
Change Period (Y+Rc), s		4.5	4.5	4.5			4.5
Max Green Setting (Gmax), s		18.0	5.0	33.5			43.0
Max Q Clear Time (g_c+I1), s		5.6	2.8	26.0			8.9
Green Ext Time (p_c), s		0.3	0.0	3.7			2.3

Intersection Summary	
HCM 6th Ctrl Delay	17.4
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	223	1	327	6	4	2	239	1212	12	3	1927	147
Future Volume (veh/h)	223	1	327	6	4	2	239	1212	12	3	1927	147
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1826	1870	1870	1826	1870
Adj Flow Rate, veh/h	232	1	341	12	8	4	257	1303	13	3	1966	150
Peak Hour Factor	0.96	0.96	0.96	0.50	0.50	0.50	0.93	0.93	0.93	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	5	2	2	5	2
Cap, veh/h	229	1	306	36	20	4	278	2473	1130	280	2063	943
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.12	0.71	0.71	0.00	0.59	0.59
Sat Flow, veh/h	1402	5	1581	0	104	21	1781	3469	1585	1781	3469	1585
Grp Volume(v), veh/h	232	0	342	24	0	0	257	1303	13	3	1966	150
Grp Sat Flow(s),veh/h/ln	1402	0	1586	125	0	0	1781	1735	1585	1781	1735	1585
Q Serve(g_s), s	0.0	0.0	29.0	0.0	0.0	0.0	16.3	25.9	0.4	0.1	79.5	6.4
Cycle Q Clear(g_c), s	29.0	0.0	29.0	29.0	0.0	0.0	16.3	25.9	0.4	0.1	79.5	6.4
Prop In Lane	1.00		1.00	0.50		0.17	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	229	0	307	60	0	0	278	2473	1130	280	2063	943
V/C Ratio(X)	1.01	0.00	1.12	0.40	0.00	0.00	0.93	0.53	0.01	0.01	0.95	0.16
Avail Cap(c_a), veh/h	229	0	307	60	0	0	281	2473	1130	333	2063	943
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.5	0.0	60.5	51.9	0.0	0.0	53.3	9.9	6.2	12.3	28.4	13.6
Incr Delay (d2), s/veh	62.3	0.0	86.2	4.2	0.0	0.0	34.4	0.8	0.0	0.0	11.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.8	0.0	18.8	0.8	0.0	0.0	12.0	8.6	0.1	0.0	32.5	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	125.8	0.0	146.7	56.1	0.0	0.0	87.7	10.7	6.3	12.3	39.9	14.0
LnGrp LOS	F	A	F	E	A	A	F	B	A	B	D	B
Approach Vol, veh/h		574			24			1573			2119	
Approach Delay, s/veh		138.2			56.1			23.3			38.0	
Approach LOS		F			E			C			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.1	111.4		33.5	22.8	93.7		33.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	102.5		29.0	18.6	88.9		29.0				
Max Q Clear Time (g_c+I1), s	2.1	27.9		31.0	18.3	81.5		31.0				
Green Ext Time (p_c), s	0.0	11.6		0.0	0.0	6.2		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		46.1	
HCM 6th LOS		D	

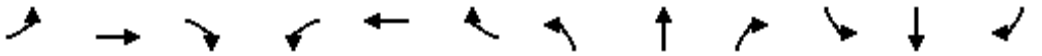
Intersection	
Int Delay, s/veh	13.6

Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Vol, veh/h	46	323	202	84	207	75
Future Vol, veh/h	46	323	202	84	207	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	80	80	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	49	347	253	105	249	90

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	358	0	-	0	751	306
Stage 1	-	-	-	-	306	-
Stage 2	-	-	-	-	445	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1201	-	-	-	378	734
Stage 1	-	-	-	-	747	-
Stage 2	-	-	-	-	646	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1201	-	-	-	359	734
Mov Cap-2 Maneuver	-	-	-	-	359	-
Stage 1	-	-	-	-	709	-
Stage 2	-	-	-	-	646	-

Approach	EB	WB	SE
HCM Control Delay, s	1	0	42.6
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SELn1
Capacity (veh/h)	1201	-	-	-	415
HCM Lane V/C Ratio	0.041	-	-	-	0.819
HCM Control Delay (s)	8.1	0	-	-	42.6
HCM Lane LOS	A	A	-	-	E
HCM 95th %tile Q(veh)	0.1	-	-	-	7.5



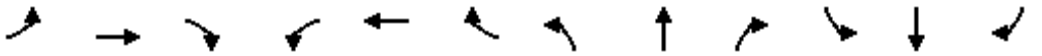
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	252	650	134	231	324	53	195	1429	273	273	1279	178
Future Volume (veh/h)	252	650	134	231	324	53	195	1429	273	273	1279	178
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1856	1870	1870	1856	1870
Adj Flow Rate, veh/h	293	756	156	246	345	56	212	1553	297	294	1375	191
Peak Hour Factor	0.86	0.86	0.86	0.94	0.94	0.94	0.92	0.92	0.92	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	3	2	2	3	2
Cap, veh/h	340	799	356	283	740	330	231	1720	903	333	1603	877
Arrive On Green	0.10	0.22	0.22	0.08	0.21	0.21	0.13	0.49	0.49	0.10	0.45	0.45
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	1781	3526	1585	3456	3526	1585
Grp Volume(v), veh/h	293	756	156	246	345	56	212	1553	297	294	1375	191
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1781	1763	1585	1728	1763	1585
Q Serve(g_s), s	13.8	34.6	10.6	11.6	14.0	3.9	19.4	66.5	2.9	13.9	57.5	10.1
Cycle Q Clear(g_c), s	13.8	34.6	10.6	11.6	14.0	3.9	19.4	66.5	2.9	13.9	57.5	10.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	340	799	356	283	740	330	231	1720	903	333	1603	877
V/C Ratio(X)	0.86	0.95	0.44	0.87	0.47	0.17	0.92	0.90	0.33	0.88	0.86	0.22
Avail Cap(c_a), veh/h	442	808	360	283	740	330	232	1720	903	333	1603	877
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	73.3	63.0	32.0	74.9	57.3	35.1	70.9	38.7	18.8	73.6	40.2	18.7
Incr Delay (d2), s/veh	12.8	19.7	0.8	24.1	0.5	0.2	37.3	8.2	1.0	23.0	6.2	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.7	17.6	4.2	6.1	6.3	1.9	11.0	29.0	6.2	7.1	25.0	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	86.1	82.7	32.8	98.9	57.8	35.4	108.3	46.9	19.8	96.6	46.4	19.3
LnGrp LOS	F	F	C	F	E	D	F	D	B	F	D	B
Approach Vol, veh/h		1205			647			2062			1860	
Approach Delay, s/veh		77.1			71.5			49.3			51.6	
Approach LOS		E			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.4	85.0	18.0	41.6	25.9	79.5	20.7	38.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	15.5	80.5	13.5	37.5	21.5	74.5	21.1	29.9
Max Q Clear Time (g_c+I1), s	15.9	68.5	13.6	36.6	21.4	59.5	15.8	16.0
Green Ext Time (p_c), s	0.0	8.1	0.0	0.5	0.0	8.2	0.5	1.9

Intersection Summary	
HCM 6th Ctrl Delay	58.3
HCM 6th LOS	E

Notes

User approved changes to right turn type.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	223	1	327	6	4	2	239	1212	12	3	1927	147
Future Volume (veh/h)	223	1	327	6	4	2	239	1212	12	3	1927	147
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1826	1870	1870	1826	1870
Adj Flow Rate, veh/h	232	1	341	12	8	4	257	1303	13	3	1966	150
Peak Hour Factor	0.96	0.96	0.96	0.50	0.50	0.50	0.93	0.93	0.93	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	5	2	2	5	2
Cap, veh/h	247	1	542	36	20	4	278	2403	1098	267	1971	901
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.13	0.69	0.69	0.00	0.57	0.57
Sat Flow, veh/h	935	4	1585	0	95	19	1781	3469	1585	1781	3469	1585
Grp Volume(v), veh/h	233	0	341	24	0	0	257	1303	13	3	1966	150
Grp Sat Flow(s),veh/h/ln	939	0	1585	113	0	0	1781	1735	1585	1781	1735	1585
Q Serve(g_s), s	0.0	0.0	27.1	0.0	0.0	0.0	17.3	27.7	0.4	0.1	84.7	6.8
Cycle Q Clear(g_c), s	32.0	0.0	27.1	32.0	0.0	0.0	17.3	27.7	0.4	0.1	84.7	6.8
Prop In Lane	1.00		1.00	0.50		0.17	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	248	0	542	60	0	0	278	2403	1098	267	1971	901
V/C Ratio(X)	0.94	0.00	0.63	0.40	0.00	0.00	0.93	0.54	0.01	0.01	1.00	0.17
Avail Cap(c_a), veh/h	248	0	542	60	0	0	280	2403	1098	319	1971	901
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.2	0.0	41.4	50.0	0.0	0.0	54.6	11.3	7.1	14.0	32.3	15.4
Incr Delay (d2), s/veh	40.6	0.0	2.3	4.2	0.0	0.0	34.6	0.9	0.0	0.0	19.7	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.7	0.0	11.0	0.8	0.0	0.0	12.0	9.5	0.1	0.0	37.1	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	101.8	0.0	43.7	54.3	0.0	0.0	89.2	12.2	7.2	14.0	51.9	15.8
LnGrp LOS	F	A	D	D	A	A	F	B	A	B	D	B
Approach Vol, veh/h		574			24			1573			2119	
Approach Delay, s/veh		67.3			54.3			24.8			49.3	
Approach LOS		E			D			C			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.1	108.4		36.5	23.8	89.7		36.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	99.5		32.0	19.5	85.0		32.0				
Max Q Clear Time (g_c+I1), s	2.1	29.7		34.0	19.3	86.7		34.0				
Green Ext Time (p_c), s	0.0	11.6		0.0	0.0	0.0		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		42.8	
HCM 6th LOS		D	

Appendix D

No-Build Intersection Operational Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	103	176	103	382	661	31	110	1678	74	79	1148	294
Future Volume (veh/h)	103	176	103	382	661	31	110	1678	74	79	1148	294
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1856	1870	1870	1856	1870
Adj Flow Rate, veh/h	121	207	121	429	743	35	129	1974	87	83	1208	309
Peak Hour Factor	0.85	0.85	0.85	0.89	0.89	0.89	0.85	0.85	0.85	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	3	2	2	3	2
Cap, veh/h	115	258	144	872	629	533	149	1731	1178	105	1542	746
Arrive On Green	0.03	0.12	0.12	0.25	0.34	0.34	0.08	0.49	0.49	0.03	0.44	0.44
Sat Flow, veh/h	3456	2196	1230	3456	1870	1585	1781	3526	1585	3456	3526	1585
Grp Volume(v), veh/h	121	166	162	429	743	35	129	1974	87	83	1208	309
Grp Sat Flow(s),veh/h/ln	1728	1777	1649	1728	1870	1585	1781	1763	1585	1728	1763	1585
Q Serve(g_s), s	5.5	15.0	15.9	17.5	55.5	2.2	11.8	81.0	0.0	3.9	48.4	21.1
Cycle Q Clear(g_c), s	5.5	15.0	15.9	17.5	55.5	2.2	11.8	81.0	0.0	3.9	48.4	21.1
Prop In Lane	1.00		0.75	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	115	209	194	872	629	533	149	1731	1178	105	1542	746
V/C Ratio(X)	1.05	0.79	0.84	0.49	1.18	0.07	0.86	1.14	0.07	0.79	0.78	0.41
Avail Cap(c_a), veh/h	115	342	318	872	629	533	172	1731	1178	105	1542	746
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	79.8	70.9	71.3	52.7	54.8	28.3	74.7	42.0	5.8	79.5	39.7	28.7
Incr Delay (d2), s/veh	98.0	6.7	9.9	0.4	97.1	0.1	31.1	70.8	0.1	32.8	4.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	7.2	7.2	7.6	42.6	1.0	6.6	49.9	0.8	2.2	20.9	8.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	177.8	77.6	81.2	53.1	151.9	28.3	105.8	112.8	5.9	112.3	43.8	30.4
LnGrp LOS	F	E	F	D	F	C	F	F	A	F	D	C
Approach Vol, veh/h		449			1207			2190			1600	
Approach Delay, s/veh		105.9			113.2			108.1			44.7	
Approach LOS		F			F			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.5	85.5	46.1	23.9	18.3	76.7	10.0	60.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	81.0	29.2	31.8	15.9	70.1	5.5	55.5
Max Q Clear Time (g_c+I1), s	5.9	83.0	19.5	17.9	13.8	50.4	7.5	57.5
Green Ext Time (p_c), s	0.0	0.0	1.1	1.5	0.1	8.8	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	90.4
HCM 6th LOS	F

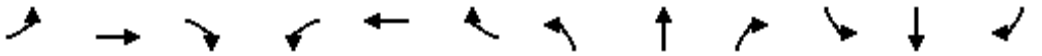
Notes

User approved changes to right turn type.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	219	61	18	843	206	22
Future Volume (veh/h)	219	61	18	843	206	22
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	267	74	20	937	215	23
Peak Hour Factor	0.82	0.82	0.90	0.90	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	846	717	535	1028	540	480
Arrive On Green	0.45	0.45	0.02	0.55	0.30	0.30
Sat Flow, veh/h	1870	1585	1781	1870	1781	1585
Grp Volume(v), veh/h	267	74	20	937	215	23
Grp Sat Flow(s),veh/h/ln	1870	1585	1781	1870	1781	1585
Q Serve(g_s), s	5.6	1.6	0.3	27.6	5.8	0.6
Cycle Q Clear(g_c), s	5.6	1.6	0.3	27.6	5.8	0.6
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	846	717	535	1028	540	480
V/C Ratio(X)	0.32	0.10	0.04	0.91	0.40	0.05
Avail Cap(c_a), veh/h	858	727	639	1149	540	480
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.7	9.6	7.9	12.4	16.9	15.1
Incr Delay (d2), s/veh	0.2	0.1	0.0	10.2	2.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.5	0.1	11.0	2.6	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	10.9	9.7	8.0	22.6	19.1	15.2
LnGrp LOS	B	A	A	C	B	B
Approach Vol, veh/h	341			957	238	
Approach Delay, s/veh	10.6			22.3	18.7	
Approach LOS	B			C	B	

Timer - Assigned Phs	2	3	4	8
Phs Duration (G+Y+Rc), s	23.0	5.9	32.1	38.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.5	5.0	28.0	37.5
Max Q Clear Time (g_c+I1), s	7.8	2.3	7.6	29.6
Green Ext Time (p_c), s	0.5	0.0	1.6	4.0

Intersection Summary	
HCM 6th Ctrl Delay	19.2
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	172	0	189	3	1	1	300	2136	6	1	1133	346
Future Volume (veh/h)	172	0	189	3	1	1	300	2136	6	1	1133	346
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1826	1870	1870	1826	1870
Adj Flow Rate, veh/h	191	0	210	5	2	2	323	2297	6	1	1218	372
Peak Hour Factor	0.90	0.90	0.90	0.63	0.63	0.63	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	5	2	2	5	2
Cap, veh/h	247	0	275	73	29	19	350	2551	1165	85	2255	1030
Arrive On Green	0.17	0.00	0.17	0.17	0.17	0.17	0.09	0.74	0.74	0.00	0.65	0.65
Sat Flow, veh/h	1412	0	1585	206	168	107	1781	3469	1585	1781	3469	1585
Grp Volume(v), veh/h	191	0	210	9	0	0	323	2297	6	1	1218	372
Grp Sat Flow(s),veh/h/ln	1412	0	1585	481	0	0	1781	1735	1585	1781	1735	1585
Q Serve(g_s), s	5.9	0.0	18.9	0.1	0.0	0.0	10.2	77.8	0.2	0.0	28.4	16.1
Cycle Q Clear(g_c), s	25.0	0.0	18.9	19.1	0.0	0.0	10.2	77.8	0.2	0.0	28.4	16.1
Prop In Lane	1.00		1.00	0.56		0.22	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	247	0	275	121	0	0	350	2551	1165	85	2255	1030
V/C Ratio(X)	0.77	0.00	0.76	0.07	0.00	0.00	0.92	0.90	0.01	0.01	0.54	0.36
Avail Cap(c_a), veh/h	247	0	275	121	0	0	531	2551	1165	142	2255	1030
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.3	0.0	59.1	52.5	0.0	0.0	25.6	15.6	5.3	23.3	14.2	12.0
Incr Delay (d2), s/veh	14.0	0.0	12.0	0.3	0.0	0.0	16.2	5.7	0.0	0.1	0.9	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.1	0.0	8.4	0.3	0.0	0.0	9.2	25.9	0.0	0.0	10.2	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.3	0.0	71.1	52.8	0.0	0.0	41.7	21.2	5.3	23.4	15.1	13.0
LnGrp LOS	E	A	E	D	A	A	D	C	A	C	B	B
Approach Vol, veh/h		401			9			2626			1591	
Approach Delay, s/veh		73.6			52.8			23.7			14.6	
Approach LOS		E			D			C			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.7	114.8		30.5	17.5	102.0		30.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	105.5		26.0	28.2	82.3		26.0				
Max Q Clear Time (g_c+I1), s	2.0	79.8		27.0	12.2	30.4		21.1				
Green Ext Time (p_c), s	0.0	19.5		0.0	0.8	12.5		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		25.0	
HCM 6th LOS		C	

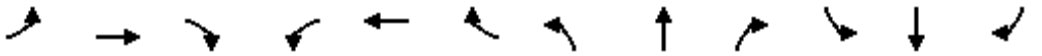
Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Vol, veh/h	55	148	288	153	50	35
Future Vol, veh/h	55	148	288	153	50	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	84	84	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	61	164	343	182	52	36

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	525	0	-	0	720	434
Stage 1	-	-	-	-	434	-
Stage 2	-	-	-	-	286	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1042	-	-	-	395	622
Stage 1	-	-	-	-	653	-
Stage 2	-	-	-	-	763	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1042	-	-	-	370	622
Mov Cap-2 Maneuver	-	-	-	-	370	-
Stage 1	-	-	-	-	611	-
Stage 2	-	-	-	-	763	-

Approach	EB	WB	SE
HCM Control Delay, s	2.3	0	15.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SELn1
Capacity (veh/h)	1042	-	-	-	444
HCM Lane V/C Ratio	0.059	-	-	-	0.199
HCM Control Delay (s)	8.7	0	-	-	15.1
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.2	-	-	-	0.7



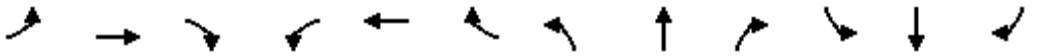
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	103	176	103	382	661	31	110	1678	74	79	1148	294
Future Volume (veh/h)	103	176	103	382	661	31	110	1678	74	79	1148	294
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1856	1870	1870	1856	1870
Adj Flow Rate, veh/h	121	207	121	429	743	35	129	1974	87	83	1208	309
Peak Hour Factor	0.85	0.85	0.85	0.89	0.89	0.89	0.85	0.85	0.85	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	3	2	2	3	2
Cap, veh/h	163	307	137	633	790	353	171	1976	1179	210	2017	981
Arrive On Green	0.05	0.09	0.09	0.18	0.22	0.22	0.05	0.56	0.56	0.06	0.57	0.57
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	3526	1585	3456	3526	1585
Grp Volume(v), veh/h	121	207	121	429	743	35	129	1974	87	83	1208	309
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1763	1585	1728	1763	1585
Q Serve(g_s), s	5.7	9.3	11.0	19.1	33.9	2.5	6.1	92.2	0.0	3.8	36.8	15.2
Cycle Q Clear(g_c), s	5.7	9.3	11.0	19.1	33.9	2.5	6.1	92.2	0.0	3.8	36.8	15.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	163	307	137	633	790	353	171	1976	1179	210	2017	981
V/C Ratio(X)	0.74	0.67	0.88	0.68	0.94	0.10	0.76	1.00	0.07	0.40	0.60	0.31
Avail Cap(c_a), veh/h	241	536	239	633	808	360	235	1976	1179	210	2017	981
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	77.6	73.1	58.6	62.8	63.1	37.0	77.4	36.2	5.7	74.6	23.0	14.9
Incr Delay (d2), s/veh	6.6	2.6	17.0	2.9	18.5	0.1	8.9	20.0	0.1	1.2	1.3	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	4.3	5.1	8.6	17.2	1.2	2.9	41.6	0.8	1.7	14.7	5.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	84.3	75.7	75.6	65.7	81.6	37.1	86.3	56.2	5.9	75.8	24.3	15.7
LnGrp LOS	F	E	E	E	F	D	F	E	A	E	C	B
Approach Vol, veh/h		449			1207			2190			1600	
Approach Delay, s/veh		78.0			74.7			55.9			25.3	
Approach LOS		E			E			E			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.5	97.0	34.7	18.7	12.7	98.9	12.3	41.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	92.5	24.1	24.9	11.2	86.8	11.5	37.5
Max Q Clear Time (g_c+I1), s	5.8	94.2	21.1	13.0	8.1	38.8	7.7	35.9
Green Ext Time (p_c), s	0.0	0.0	0.5	1.2	0.1	11.7	0.1	0.8

Intersection Summary	
HCM 6th Ctrl Delay	52.9
HCM 6th LOS	D

Notes

User approved changes to right turn type.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	172	0	189	3	1	1	300	2136	6	1	1133	346
Future Volume (veh/h)	172	0	189	3	1	1	300	2136	6	1	1133	346
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1826	1870	1870	1826	1870
Adj Flow Rate, veh/h	191	0	210	5	2	2	323	2297	6	1	1218	372
Peak Hour Factor	0.90	0.90	0.90	0.63	0.63	0.63	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	5	2	2	5	2
Cap, veh/h	259	0	485	50	20	9	375	2468	1128	74	2096	958
Arrive On Green	0.20	0.00	0.20	0.20	0.20	0.20	0.11	0.71	0.71	0.00	0.60	0.60
Sat Flow, veh/h	1071	0	1585	64	101	47	3456	3469	1585	1781	3469	1585
Grp Volume(v), veh/h	191	0	210	9	0	0	323	2297	6	1	1218	372
Grp Sat Flow(s),veh/h/ln	1071	0	1585	213	0	0	1728	1735	1585	1781	1735	1585
Q Serve(g_s), s	0.0	0.0	15.9	0.2	0.0	0.0	13.8	84.8	0.2	0.0	32.1	18.2
Cycle Q Clear(g_c), s	27.1	0.0	15.9	27.2	0.0	0.0	13.8	84.8	0.2	0.0	32.1	18.2
Prop In Lane	1.00		1.00	0.56		0.22	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	259	0	485	79	0	0	375	2468	1128	74	2096	958
V/C Ratio(X)	0.74	0.00	0.43	0.11	0.00	0.00	0.86	0.93	0.01	0.01	0.58	0.39
Avail Cap(c_a), veh/h	282	0	510	102	0	0	486	2468	1128	131	2096	958
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.2	0.0	41.7	50.8	0.0	0.0	65.7	18.5	6.3	27.5	18.1	15.3
Incr Delay (d2), s/veh	9.0	0.0	0.6	0.6	0.0	0.0	11.8	7.8	0.0	0.1	1.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.7	0.0	6.4	0.3	0.0	0.0	6.5	29.9	0.1	0.0	12.1	6.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.2	0.0	42.3	51.4	0.0	0.0	77.5	26.3	6.3	27.6	19.3	16.5
LnGrp LOS	E	A	D	D	A	A	E	C	A	C	B	B
Approach Vol, veh/h		401			9			2626			1591	
Approach Delay, s/veh		54.6			51.4			32.5			18.6	
Approach LOS		D			D			C			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.7	111.2		34.1	20.8	95.1		34.1				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	99.5		32.0	21.1	83.4		32.0				
Max Q Clear Time (g_c+I1), s	2.0	86.8		29.1	15.8	34.1		29.2				
Green Ext Time (p_c), s	0.0	10.8		0.5	0.5	12.4		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		29.7	
HCM 6th LOS		C	

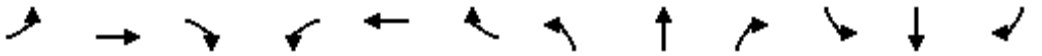
Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Vol, veh/h	55	148	288	153	50	35
Future Vol, veh/h	55	148	288	153	50	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	84	84	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	61	164	343	182	52	36

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	525	0	-	0	629	343
Stage 1	-	-	-	-	343	-
Stage 2	-	-	-	-	286	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1042	-	-	-	446	700
Stage 1	-	-	-	-	719	-
Stage 2	-	-	-	-	763	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1042	-	-	-	417	700
Mov Cap-2 Maneuver	-	-	-	-	417	-
Stage 1	-	-	-	-	673	-
Stage 2	-	-	-	-	763	-

Approach	EB	WB	SE
HCM Control Delay, s	2.3	0	13
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SELn1	SELn2
Capacity (veh/h)	1042	-	-	-	417	700
HCM Lane V/C Ratio	0.059	-	-	-	0.125	0.052
HCM Control Delay (s)	8.7	0	-	-	14.9	10.4
HCM Lane LOS	A	A	-	-	B	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.4	0.2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	278	718	148	255	358	59	215	1578	301	301	1412	197
Future Volume (veh/h)	278	718	148	255	358	59	215	1578	301	301	1412	197
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1856	1870	1870	1856	1870
Adj Flow Rate, veh/h	323	835	172	271	381	63	234	1715	327	324	1518	212
Peak Hour Factor	0.86	0.86	0.86	0.94	0.94	0.94	0.92	0.92	0.92	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	3	2	2	3	2
Cap, veh/h	346	768	158	272	450	381	223	1617	852	316	1498	832
Arrive On Green	0.10	0.26	0.26	0.08	0.24	0.24	0.13	0.46	0.46	0.09	0.42	0.42
Sat Flow, veh/h	3456	2934	604	3456	1870	1585	1781	3526	1585	3456	3526	1585
Grp Volume(v), veh/h	323	506	501	271	381	63	234	1715	327	324	1518	212
Grp Sat Flow(s),veh/h/ln	1728	1777	1762	1728	1870	1585	1781	1763	1585	1728	1763	1585
Q Serve(g_s), s	15.3	43.2	43.2	12.9	32.1	4.2	20.7	75.7	6.8	15.1	70.1	12.1
Cycle Q Clear(g_c), s	15.3	43.2	43.2	12.9	32.1	4.2	20.7	75.7	6.8	15.1	70.1	12.1
Prop In Lane	1.00		0.34	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	346	465	461	272	450	381	223	1617	852	316	1498	832
V/C Ratio(X)	0.93	1.09	1.09	1.00	0.85	0.17	1.05	1.06	0.38	1.02	1.01	0.25
Avail Cap(c_a), veh/h	346	465	461	272	450	381	223	1617	852	316	1498	832
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	73.7	60.9	60.9	76.0	59.7	32.3	72.2	44.6	22.2	74.9	47.5	21.5
Incr Delay (d2), s/veh	32.0	67.3	67.5	53.2	14.0	0.2	73.1	40.3	1.3	57.0	26.6	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.3	27.9	27.7	7.7	16.8	2.1	13.8	40.1	7.7	9.0	34.6	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	105.7	128.2	128.4	129.1	73.7	32.5	145.3	85.0	23.5	132.0	74.1	22.2
LnGrp LOS	F	F	F	F	E	C	F	F	C	F	F	C
Approach Vol, veh/h		1330			715			2276			2054	
Approach Delay, s/veh		122.8			91.1			82.3			77.9	
Approach LOS		F			F			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.6	80.2	17.5	47.7	25.2	74.6	21.0	44.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	15.1	75.7	13.0	43.2	20.7	70.1	16.5	39.7
Max Q Clear Time (g_c+I1), s	17.1	77.7	14.9	45.2	22.7	72.1	17.3	34.1
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1

Intersection Summary	
HCM 6th Ctrl Delay	90.3
HCM 6th LOS	F

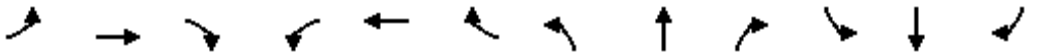
Notes

User approved changes to right turn type.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	790	336	49	410	104	24
Future Volume (veh/h)	790	336	49	410	104	24
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	849	361	51	423	142	33
Peak Hour Factor	0.93	0.93	0.97	0.97	0.73	0.73
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	939	796	225	1145	461	410
Arrive On Green	0.50	0.50	0.05	0.61	0.26	0.26
Sat Flow, veh/h	1870	1585	1781	1870	1781	1585
Grp Volume(v), veh/h	849	361	51	423	142	33
Grp Sat Flow(s),veh/h/ln	1870	1585	1781	1870	1781	1585
Q Serve(g_s), s	28.8	10.2	0.9	7.9	4.5	1.1
Cycle Q Clear(g_c), s	28.8	10.2	0.9	7.9	4.5	1.1
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	939	796	225	1145	461	410
V/C Ratio(X)	0.90	0.45	0.23	0.37	0.31	0.08
Avail Cap(c_a), veh/h	1035	877	272	1290	461	410
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.8	11.2	14.1	6.8	20.8	19.5
Incr Delay (d2), s/veh	10.4	0.4	0.5	0.2	1.7	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.5	3.0	0.3	2.3	2.0	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	26.2	11.6	14.6	7.0	22.5	19.9
LnGrp LOS	C	B	B	A	C	B
Approach Vol, veh/h	1210			474	175	
Approach Delay, s/veh	21.8			7.8	22.0	
Approach LOS	C			A	C	

Timer - Assigned Phs	2	3	4	8
Phs Duration (G+Y+Rc), s	22.5	7.6	39.5	47.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	5.0	38.5	48.0
Max Q Clear Time (g_c+I1), s	6.5	2.9	30.8	9.9
Green Ext Time (p_c), s	0.4	0.0	4.2	2.6

Intersection Summary	
HCM 6th Ctrl Delay	18.3
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	246	1	361	7	4	2	264	1338	13	3	2127	162
Future Volume (veh/h)	246	1	361	7	4	2	264	1338	13	3	2127	162
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1826	1870	1870	1826	1870
Adj Flow Rate, veh/h	256	1	376	14	8	4	284	1439	14	3	2170	165
Peak Hour Factor	0.96	0.96	0.96	0.50	0.50	0.50	0.93	0.93	0.93	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	5	2	2	5	2
Cap, veh/h	243	1	306	37	18	3	262	2473	1130	241	2070	946
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.12	0.71	0.71	0.00	0.60	0.60
Sat Flow, veh/h	1402	4	1581	0	91	17	1781	3469	1585	1781	3469	1585
Grp Volume(v), veh/h	256	0	377	26	0	0	284	1439	14	3	2170	165
Grp Sat Flow(s),veh/h/ln	1402	0	1586	108	0	0	1781	1735	1585	1781	1735	1585
Q Serve(g_s), s	0.0	0.0	29.0	0.0	0.0	0.0	18.0	30.5	0.4	0.1	89.5	7.0
Cycle Q Clear(g_c), s	29.0	0.0	29.0	29.0	0.0	0.0	18.0	30.5	0.4	0.1	89.5	7.0
Prop In Lane	1.00		1.00	0.54		0.15	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	243	0	307	58	0	0	262	2473	1130	241	2070	946
V/C Ratio(X)	1.05	0.00	1.23	0.45	0.00	0.00	1.08	0.58	0.01	0.01	1.05	0.17
Avail Cap(c_a), veh/h	243	0	307	58	0	0	262	2473	1130	294	2070	946
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.4	0.0	60.5	52.5	0.0	0.0	56.9	10.6	6.2	12.6	30.3	13.6
Incr Delay (d2), s/veh	72.4	0.0	128.6	5.4	0.0	0.0	80.1	1.0	0.0	0.0	33.9	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.2	0.0	22.5	0.9	0.0	0.0	15.1	10.1	0.1	0.0	42.6	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	135.7	0.0	189.1	57.9	0.0	0.0	137.1	11.6	6.3	12.6	64.1	14.0
LnGrp LOS	F	A	F	E	A	A	F	B	A	B	F	B
Approach Vol, veh/h		633			26			1737			2338	
Approach Delay, s/veh		167.5			57.9			32.1			60.5	
Approach LOS		F			E			C			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.1	111.4		33.5	22.5	94.0		33.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	102.5		29.0	18.0	89.5		29.0				
Max Q Clear Time (g_c+I1), s	2.1	32.5		31.0	20.0	91.5		31.0				
Green Ext Time (p_c), s	0.0	13.9		0.0	0.0	0.0		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		64.4	
HCM 6th LOS		E	

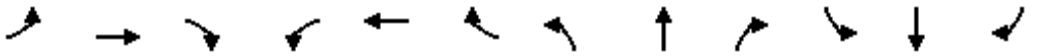
Intersection	
Int Delay, s/veh	25.8

Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Vol, veh/h	51	357	223	93	229	83
Future Vol, veh/h	51	357	223	93	229	83
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	80	80	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	55	384	279	116	276	100

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	395	0	-	0	831	337
Stage 1	-	-	-	-	337	-
Stage 2	-	-	-	-	494	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1164	-	-	-	340	705
Stage 1	-	-	-	-	723	-
Stage 2	-	-	-	-	613	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1164	-	-	-	320	705
Mov Cap-2 Maneuver	-	-	-	-	320	-
Stage 1	-	-	-	-	680	-
Stage 2	-	-	-	-	613	-

Approach	EB	WB	SE
HCM Control Delay, s	1	0	81.8
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SELn1
Capacity (veh/h)	1164	-	-	-	374
HCM Lane V/C Ratio	0.047	-	-	-	1.005
HCM Control Delay (s)	8.2	0	-	-	81.8
HCM Lane LOS	A	A	-	-	F
HCM 95th %tile Q(veh)	0.1	-	-	-	12



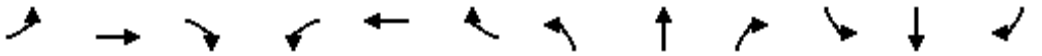
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	278	718	148	255	358	59	215	1578	301	301	1412	197
Future Volume (veh/h)	278	718	148	255	358	59	215	1578	301	301	1412	197
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1856	1870	1870	1856	1870
Adj Flow Rate, veh/h	323	835	172	271	381	63	234	1715	327	324	1518	212
Peak Hour Factor	0.86	0.86	0.86	0.94	0.94	0.94	0.92	0.92	0.92	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	3	2	2	3	2
Cap, veh/h	376	888	396	283	792	353	275	1707	897	259	1691	933
Arrive On Green	0.11	0.25	0.25	0.08	0.22	0.22	0.08	0.48	0.48	0.08	0.48	0.48
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	3526	1585	3456	3526	1585
Grp Volume(v), veh/h	323	835	172	271	381	63	234	1715	327	324	1518	212
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1763	1585	1728	1763	1585
Q Serve(g_s), s	15.2	38.0	12.4	12.9	15.4	4.4	11.0	79.9	5.1	12.4	64.9	10.5
Cycle Q Clear(g_c), s	15.2	38.0	12.4	12.9	15.4	4.4	11.0	79.9	5.1	12.4	64.9	10.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	376	888	396	283	792	353	275	1707	897	259	1691	933
V/C Ratio(X)	0.86	0.94	0.43	0.96	0.48	0.18	0.85	1.00	0.36	1.25	0.90	0.23
Avail Cap(c_a), veh/h	572	907	404	283	792	353	299	1707	897	259	1691	933
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	72.3	60.7	35.1	75.5	55.8	36.0	75.0	42.5	19.6	76.3	39.2	16.1
Incr Delay (d2), s/veh	8.2	17.1	0.8	42.2	0.5	0.2	19.1	22.9	1.1	140.2	8.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	19.1	4.9	7.3	6.9	2.1	5.5	37.9	7.1	10.4	28.3	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	80.5	77.8	35.9	117.6	56.3	36.3	94.1	65.4	20.7	216.5	47.2	16.7
LnGrp LOS	F	E	D	F	E	D	F	F	C	F	D	B
Approach Vol, veh/h		1330			715			2276			2054	
Approach Delay, s/veh		73.0			77.8			62.0			70.7	
Approach LOS		E			E			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.9	84.4	18.0	45.7	17.6	83.7	22.5	41.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	11.5	79.9	13.5	42.1	14.3	77.1	27.3	28.3
Max Q Clear Time (g_c+I1), s	14.4	81.9	14.9	40.0	13.0	66.9	17.2	17.4
Green Ext Time (p_c), s	0.0	0.0	0.0	1.2	0.1	6.9	0.8	1.9

Intersection Summary	
HCM 6th Ctrl Delay	68.9
HCM 6th LOS	E

Notes

User approved changes to right turn type.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	246	1	361	7	4	2	264	1338	13	3	2127	162
Future Volume (veh/h)	246	1	361	7	4	2	264	1338	13	3	2127	162
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1826	1870	1870	1826	1870
Adj Flow Rate, veh/h	256	1	376	14	8	4	284	1439	14	3	2170	165
Peak Hour Factor	0.96	0.96	0.96	0.50	0.50	0.50	0.93	0.93	0.93	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	5	2	2	5	2
Cap, veh/h	263	1	479	37	18	3	306	2403	1098	229	2109	964
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.09	0.69	0.69	0.00	0.61	0.61
Sat Flow, veh/h	1006	4	1585	0	82	15	3456	3469	1585	1781	3469	1585
Grp Volume(v), veh/h	257	0	376	26	0	0	284	1439	14	3	2170	165
Grp Sat Flow(s),veh/h/ln	1010	0	1585	97	0	0	1728	1735	1585	1781	1735	1585
Q Serve(g_s), s	0.0	0.0	32.0	0.0	0.0	0.0	12.2	32.7	0.4	0.1	91.2	6.8
Cycle Q Clear(g_c), s	32.0	0.0	32.0	32.0	0.0	0.0	12.2	32.7	0.4	0.1	91.2	6.8
Prop In Lane	1.00		1.00	0.54		0.15	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	263	0	479	58	0	0	306	2403	1098	229	2109	964
V/C Ratio(X)	0.98	0.00	0.79	0.45	0.00	0.00	0.93	0.60	0.01	0.01	1.03	0.17
Avail Cap(c_a), veh/h	263	0	479	58	0	0	306	2403	1098	281	2109	964
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.6	0.0	47.9	50.1	0.0	0.0	67.9	12.1	7.1	12.7	29.4	12.9
Incr Delay (d2), s/veh	48.6	0.0	8.4	5.4	0.0	0.0	32.9	1.1	0.0	0.0	27.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.4	0.0	14.0	0.9	0.0	0.0	6.7	11.2	0.1	0.0	41.3	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	110.2	0.0	56.3	55.5	0.0	0.0	100.8	13.2	7.2	12.7	56.8	13.2
LnGrp LOS	F	A	E	E	A	A	F	B	A	B	F	B
Approach Vol, veh/h		633			26			1737			2338	
Approach Delay, s/veh		78.2			55.5			27.5			53.7	
Approach LOS		E			E			C			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.1	108.4		36.5	17.8	95.7		36.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	99.5		32.0	13.3	91.2		32.0				
Max Q Clear Time (g_c+I1), s	2.1	34.7		34.0	14.2	93.2		34.0				
Green Ext Time (p_c), s	0.0	13.8		0.0	0.0	0.0		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		47.3	
HCM 6th LOS		D	

Intersection	
Int Delay, s/veh	11.8

Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Vol, veh/h	51	357	223	93	229	83
Future Vol, veh/h	51	357	223	93	229	83
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	150
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	80	80	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	55	384	279	116	276	100

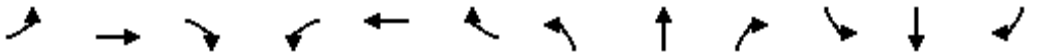
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	395	0	-	0	773	279
Stage 1	-	-	-	-	279	-
Stage 2	-	-	-	-	494	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1164	-	-	-	367	760
Stage 1	-	-	-	-	768	-
Stage 2	-	-	-	-	613	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1164	-	-	-	345	760
Mov Cap-2 Maneuver	-	-	-	-	345	-
Stage 1	-	-	-	-	722	-
Stage 2	-	-	-	-	613	-

Approach	EB	WB	SE
HCM Control Delay, s	1	0	36.8
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SELn1	SELn2
Capacity (veh/h)	1164	-	-	-	345	760
HCM Lane V/C Ratio	0.047	-	-	-	0.8	0.132
HCM Control Delay (s)	8.2	0	-	-	46.4	10.5
HCM Lane LOS	A	A	-	-	E	B
HCM 95th %tile Q(veh)	0.1	-	-	-	6.7	0.5

Appendix E

Build Intersection Operational Analysis



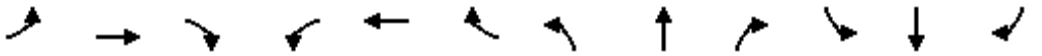
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	103	194	103	393	674	46	110	1678	90	101	1148	294
Future Volume (veh/h)	103	194	103	393	674	46	110	1678	90	101	1148	294
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1856	1870	1870	1856	1870
Adj Flow Rate, veh/h	121	228	121	442	757	52	129	1974	106	106	1208	309
Peak Hour Factor	0.85	0.85	0.85	0.89	0.89	0.89	0.85	0.85	0.85	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	3	2	2	3	2
Cap, veh/h	115	280	143	853	629	533	149	1731	1169	105	1542	746
Arrive On Green	0.03	0.12	0.12	0.25	0.34	0.34	0.08	0.49	0.49	0.03	0.44	0.44
Sat Flow, veh/h	3456	2274	1164	3456	1870	1585	1781	3526	1585	3456	3526	1585
Grp Volume(v), veh/h	121	176	173	442	757	52	129	1974	106	106	1208	309
Grp Sat Flow(s),veh/h/ln	1728	1777	1661	1728	1870	1585	1781	1763	1585	1728	1763	1585
Q Serve(g_s), s	5.5	15.9	16.8	18.2	55.5	3.2	11.8	81.0	0.0	5.0	48.4	21.1
Cycle Q Clear(g_c), s	5.5	15.9	16.8	18.2	55.5	3.2	11.8	81.0	0.0	5.0	48.4	21.1
Prop In Lane	1.00		0.70	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	115	219	204	853	629	533	149	1731	1169	105	1542	746
V/C Ratio(X)	1.05	0.81	0.85	0.52	1.20	0.10	0.86	1.14	0.09	1.01	0.78	0.41
Avail Cap(c_a), veh/h	115	336	314	853	629	533	172	1731	1169	105	1542	746
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	79.8	70.4	70.8	53.7	54.8	28.6	74.7	42.0	6.1	80.0	39.7	28.7
Incr Delay (d2), s/veh	98.0	8.0	12.1	0.6	106.1	0.1	31.1	70.8	0.2	91.3	4.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	7.7	7.8	8.0	44.2	1.5	6.6	49.9	1.0	3.5	20.9	8.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	177.8	78.5	82.9	54.2	160.8	28.7	105.8	112.8	6.2	171.3	43.8	30.4
LnGrp LOS	F	E	F	D	F	C	F	F	A	F	D	C
Approach Vol, veh/h		470			1251			2209			1623	
Approach Delay, s/veh		105.7			117.7			107.3			49.5	
Approach LOS		F			F			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.5	85.5	45.2	24.8	18.3	76.7	10.0	60.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	81.0	29.8	31.2	15.9	70.1	5.5	55.5
Max Q Clear Time (g_c+I1), s	7.0	83.0	20.2	18.8	13.8	50.4	7.5	57.5
Green Ext Time (p_c), s	0.0	0.0	1.1	1.5	0.1	8.8	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	92.6
HCM 6th LOS	F

Notes

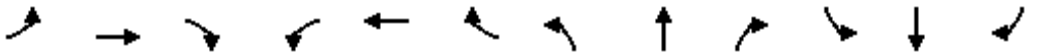
User approved changes to right turn type.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	223	61	18	849	18	205	5	22	9	3	31
Future Volume (veh/h)	52	223	61	18	849	18	205	5	22	9	3	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	63	272	74	20	943	20	214	5	23	11	4	36
Peak Hour Factor	0.82	0.82	0.82	0.90	0.90	0.90	0.96	0.96	0.96	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	174	852	722	535	1033	876	512	88	403	416	137	477
Arrive On Green	0.46	0.46	0.46	0.02	0.55	0.55	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	583	1870	1585	1781	1870	1585	1367	291	1338	1045	454	1585
Grp Volume(v), veh/h	63	272	74	20	943	20	214	0	28	15	0	36
Grp Sat Flow(s),veh/h/ln	583	1870	1585	1781	1870	1585	1367	0	1629	1499	0	1585
Q Serve(g_s), s	6.0	5.7	1.6	0.3	28.0	0.4	8.1	0.0	0.8	0.0	0.0	1.0
Cycle Q Clear(g_c), s	28.0	5.7	1.6	0.3	28.0	0.4	8.9	0.0	0.8	0.8	0.0	1.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.82	0.73		1.00
Lane Grp Cap(c), veh/h	174	852	722	535	1033	876	512	0	491	553	0	477
V/C Ratio(X)	0.36	0.32	0.10	0.04	0.91	0.02	0.42	0.00	0.06	0.03	0.00	0.08
Avail Cap(c_a), veh/h	174	852	722	638	1141	967	512	0	491	553	0	477
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.0	10.7	9.5	7.9	12.4	6.2	18.4	0.0	15.3	15.1	0.0	15.4
Incr Delay (d2), s/veh	1.3	0.2	0.1	0.0	10.5	0.0	2.5	0.0	0.2	0.1	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	1.9	0.5	0.1	11.1	0.1	2.8	0.0	0.3	0.2	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.3	10.9	9.6	7.9	22.9	6.2	20.9	0.0	15.5	15.2	0.0	15.7
LnGrp LOS	C	B	A	A	C	A	C	A	B	B	A	B
Approach Vol, veh/h		409			983			242			51	
Approach Delay, s/veh		13.5			22.2			20.3			15.5	
Approach LOS		B			C			C			B	

Timer - Assigned Phs		2	3	4		6		8				
Phs Duration (G+Y+Rc), s		23.0	5.9	32.5		23.0		38.4				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.5	5.0	28.0		18.5		37.5				
Max Q Clear Time (g_c+I1), s		10.9	2.3	30.0		3.0		30.0				
Green Ext Time (p_c), s		0.5	0.0	0.0		0.1		3.9				

Intersection Summary												
HCM 6th Ctrl Delay			19.6									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	180	0	200	3	1	1	307	2136	6	1	1133	359
Future Volume (veh/h)	180	0	200	3	1	1	307	2136	6	1	1133	359
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1826	1870	1870	1826	1870
Adj Flow Rate, veh/h	200	0	222	5	2	2	330	2297	6	1	1218	386
Peak Hour Factor	0.90	0.90	0.90	0.63	0.63	0.63	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	5	2	2	5	2
Cap, veh/h	229	0	259	58	23	12	357	2586	1181	90	2278	1041
Arrive On Green	0.16	0.00	0.16	0.16	0.16	0.16	0.09	0.75	0.75	0.00	0.66	0.66
Sat Flow, veh/h	1412	0	1585	125	141	76	1781	3469	1585	1781	3469	1585
Grp Volume(v), veh/h	200	0	222	9	0	0	330	2297	6	1	1218	386
Grp Sat Flow(s),veh/h/ln	1412	0	1585	342	0	0	1781	1735	1585	1781	1735	1585
Q Serve(g_s), s	3.9	0.0	20.4	0.1	0.0	0.0	10.7	74.9	0.1	0.0	27.9	16.6
Cycle Q Clear(g_c), s	24.5	0.0	20.4	20.6	0.0	0.0	10.7	74.9	0.1	0.0	27.9	16.6
Prop In Lane	1.00		1.00	0.56		0.22	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	229	0	259	93	0	0	357	2586	1181	90	2278	1041
V/C Ratio(X)	0.87	0.00	0.86	0.10	0.00	0.00	0.92	0.89	0.01	0.01	0.53	0.37
Avail Cap(c_a), veh/h	229	0	259	93	0	0	547	2586	1181	147	2278	1041
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.4	0.0	61.1	54.0	0.0	0.0	26.3	14.4	4.9	21.5	13.6	11.7
Incr Delay (d2), s/veh	28.9	0.0	23.7	0.4	0.0	0.0	15.7	5.0	0.0	0.0	0.9	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.5	0.0	9.8	0.3	0.0	0.0	9.5	24.3	0.0	0.0	9.9	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	93.3	0.0	84.8	54.4	0.0	0.0	42.1	19.4	4.9	21.5	14.5	12.7
LnGrp LOS	F	A	F	D	A	A	D	B	A	C	B	B
Approach Vol, veh/h		422			9			2633			1605	
Approach Delay, s/veh		88.8			54.4			22.2			14.1	
Approach LOS		F			D			C			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.7	116.3		29.0	18.0	103.0		29.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	107.0		24.5	29.5	82.5		24.5				
Max Q Clear Time (g_c+I1), s	2.0	76.9		26.5	12.7	29.9		22.6				
Green Ext Time (p_c), s	0.0	22.1		0.0	0.8	12.6		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		25.5	
HCM 6th LOS		C	

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Vol, veh/h	57	148	288	155	51	37
Future Vol, veh/h	57	148	288	155	51	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	84	84	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	63	164	343	185	53	39

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	528	0	-	0	726	436
Stage 1	-	-	-	-	436	-
Stage 2	-	-	-	-	290	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1039	-	-	-	391	620
Stage 1	-	-	-	-	652	-
Stage 2	-	-	-	-	759	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1039	-	-	-	365	620
Mov Cap-2 Maneuver	-	-	-	-	365	-
Stage 1	-	-	-	-	608	-
Stage 2	-	-	-	-	759	-

Approach	EB	WB	SE
HCM Control Delay, s	2.4	0	15.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SELn1
Capacity (veh/h)	1039	-	-	-	441
HCM Lane V/C Ratio	0.061	-	-	-	0.208
HCM Control Delay (s)	8.7	0	-	-	15.3
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.2	-	-	-	0.8

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	3	333	1085	2	2	6
Future Vol, veh/h	3	333	1085	2	2	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	82	82	90	90	60	60
Heavy Vehicles, %	0	2	2	0	0	0
Mvmt Flow	4	406	1206	2	3	10

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1208	0	-	0	1621	1207
Stage 1	-	-	-	-	1207	-
Stage 2	-	-	-	-	414	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	585	-	-	-	115	226
Stage 1	-	-	-	-	286	-
Stage 2	-	-	-	-	671	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	585	-	-	-	114	226
Mov Cap-2 Maneuver	-	-	-	-	114	-
Stage 1	-	-	-	-	283	-
Stage 2	-	-	-	-	671	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	26.5
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	585	-	-	-	181
HCM Lane V/C Ratio	0.006	-	-	-	0.074
HCM Control Delay (s)	11.2	0	-	-	26.5
HCM Lane LOS	B	A	-	-	D
HCM 95th %tile Q(veh)	0	-	-	-	0.2

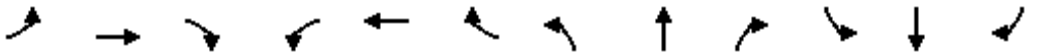
Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	3	252	879	2	2	6
Future Vol, veh/h	3	252	879	2	2	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	82	82	90	90	60	60
Heavy Vehicles, %	0	2	2	0	0	0
Mvmt Flow	4	307	977	2	3	10

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	979	0	-	0	1293	978
Stage 1	-	-	-	-	978	-
Stage 2	-	-	-	-	315	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	713	-	-	-	181	307
Stage 1	-	-	-	-	368	-
Stage 2	-	-	-	-	744	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	713	-	-	-	180	307
Mov Cap-2 Maneuver	-	-	-	-	180	-
Stage 1	-	-	-	-	365	-
Stage 2	-	-	-	-	744	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	19.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	713	-	-	-	261
HCM Lane V/C Ratio	0.005	-	-	-	0.051
HCM Control Delay (s)	10.1	0	-	-	19.5
HCM Lane LOS	B	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.2



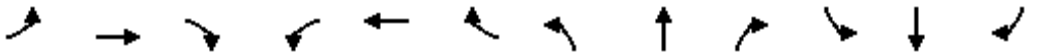
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	103	194	103	393	674	46	110	1678	90	101	1148	294
Future Volume (veh/h)	103	194	103	393	674	46	110	1678	90	101	1148	294
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1856	1870	1870	1856	1870
Adj Flow Rate, veh/h	121	228	121	442	757	52	129	1974	106	106	1208	309
Peak Hour Factor	0.85	0.85	0.85	0.89	0.89	0.89	0.85	0.85	0.85	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	3	2	2	3	2
Cap, veh/h	163	306	137	630	786	351	171	1998	1187	193	2021	983
Arrive On Green	0.05	0.09	0.09	0.18	0.22	0.22	0.05	0.57	0.57	0.06	0.57	0.57
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	3526	1585	3456	3526	1585
Grp Volume(v), veh/h	121	228	121	442	757	52	129	1974	106	106	1208	309
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1763	1585	1728	1763	1585
Q Serve(g_s), s	5.7	10.3	11.0	19.8	34.8	3.7	6.1	91.0	0.0	4.9	36.7	15.2
Cycle Q Clear(g_c), s	5.7	10.3	11.0	19.8	34.8	3.7	6.1	91.0	0.0	4.9	36.7	15.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	163	306	137	630	786	351	171	1998	1187	193	2021	983
V/C Ratio(X)	0.74	0.74	0.89	0.70	0.96	0.15	0.76	0.99	0.09	0.55	0.60	0.31
Avail Cap(c_a), veh/h	243	489	218	630	786	351	235	1998	1187	193	2021	983
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	77.6	73.6	58.6	63.3	63.6	38.1	77.4	35.2	5.6	75.9	22.9	14.8
Incr Delay (d2), s/veh	6.5	3.6	21.7	3.5	23.4	0.2	8.9	17.5	0.1	3.3	1.3	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	4.8	5.2	9.0	18.1	1.7	2.9	40.4	1.0	2.2	14.7	5.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	84.1	77.2	80.3	66.8	86.9	38.3	86.3	52.7	5.7	79.1	24.2	15.6
LnGrp LOS	F	E	F	E	F	D	F	D	A	E	C	B
Approach Vol, veh/h		470			1251			2209			1623	
Approach Delay, s/veh		79.8			77.8			52.4			26.1	
Approach LOS		E			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.7	98.0	34.6	18.7	12.7	99.1	12.3	41.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.4	93.5	25.4	22.7	11.2	87.7	11.6	36.5
Max Q Clear Time (g_c+I1), s	6.9	93.0	21.8	13.0	8.1	38.7	7.7	36.8
Green Ext Time (p_c), s	0.0	0.5	0.6	1.2	0.1	11.7	0.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	52.8
HCM 6th LOS	D

Notes

User approved changes to right turn type.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	180	0	200	3	1	1	307	2136	6	1	1133	359
Future Volume (veh/h)	180	0	200	3	1	1	307	2136	6	1	1133	359
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1826	1870	1870	1826	1870
Adj Flow Rate, veh/h	200	0	222	5	2	2	330	2297	6	1	1218	386
Peak Hour Factor	0.90	0.90	0.90	0.63	0.63	0.63	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	5	2	2	5	2
Cap, veh/h	259	0	493	45	18	7	383	2458	1123	72	2079	950
Arrive On Green	0.20	0.00	0.20	0.20	0.20	0.20	0.11	0.71	0.71	0.00	0.60	0.60
Sat Flow, veh/h	1056	0	1585	36	89	36	3456	3469	1585	1781	3469	1585
Grp Volume(v), veh/h	200	0	222	9	0	0	330	2297	6	1	1218	386
Grp Sat Flow(s),veh/h/ln	1056	0	1585	161	0	0	1728	1735	1585	1781	1735	1585
Q Serve(g_s), s	0.0	0.0	16.8	0.2	0.0	0.0	14.1	85.6	0.2	0.0	32.5	19.4
Cycle Q Clear(g_c), s	28.5	0.0	16.8	28.7	0.0	0.0	14.1	85.6	0.2	0.0	32.5	19.4
Prop In Lane	1.00		1.00	0.56		0.22	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	259	0	493	70	0	0	383	2458	1123	72	2079	950
V/C Ratio(X)	0.77	0.00	0.45	0.13	0.00	0.00	0.86	0.93	0.01	0.01	0.59	0.41
Avail Cap(c_a), veh/h	259	0	493	70	0	0	498	2458	1123	129	2079	950
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.4	0.0	41.4	50.7	0.0	0.0	65.6	18.8	6.4	28.0	18.6	15.9
Incr Delay (d2), s/veh	13.3	0.0	0.6	0.8	0.0	0.0	11.7	8.2	0.0	0.1	1.2	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.4	0.0	6.8	0.3	0.0	0.0	6.6	30.5	0.1	0.0	12.3	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.7	0.0	42.1	51.5	0.0	0.0	77.2	27.0	6.4	28.1	19.8	17.2
LnGrp LOS	E	A	D	D	A	A	E	C	A	C	B	B
Approach Vol, veh/h		422			9			2633			1605	
Approach Delay, s/veh		56.6			51.5			33.3			19.2	
Approach LOS		E			D			C			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.7	110.8		34.5	21.1	94.4		34.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	101.5		30.0	21.6	84.9		30.0				
Max Q Clear Time (g_c+I1), s	2.0	87.6		30.5	16.1	34.5		30.7				
Green Ext Time (p_c), s	0.0	11.7		0.0	0.5	12.6		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		30.6	
HCM 6th LOS		C	

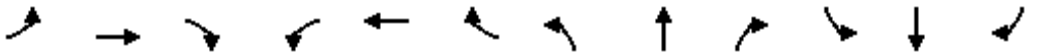
Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Vol, veh/h	57	148	288	155	51	37
Future Vol, veh/h	57	148	288	155	51	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	84	84	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	63	164	343	185	53	39

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	528	0	-	0	633	343
Stage 1	-	-	-	-	343	-
Stage 2	-	-	-	-	290	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1039	-	-	-	444	700
Stage 1	-	-	-	-	719	-
Stage 2	-	-	-	-	759	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1039	-	-	-	414	700
Mov Cap-2 Maneuver	-	-	-	-	414	-
Stage 1	-	-	-	-	671	-
Stage 2	-	-	-	-	759	-

Approach	EB	WB	SE
HCM Control Delay, s	2.4	0	13.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SELn1	SELn2
Capacity (veh/h)	1039	-	-	-	414	700
HCM Lane V/C Ratio	0.061	-	-	-	0.128	0.055
HCM Control Delay (s)	8.7	0	-	-	15	10.4
HCM Lane LOS	A	A	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.4	0.2



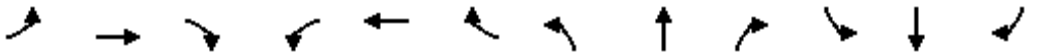
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	278	739	148	277	385	90	215	1578	319	326	1412	197
Future Volume (veh/h)	278	739	148	277	385	90	215	1578	319	326	1412	197
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1856	1870	1870	1856	1870
Adj Flow Rate, veh/h	323	859	172	295	410	96	234	1715	347	351	1518	212
Peak Hour Factor	0.86	0.86	0.86	0.94	0.94	0.94	0.92	0.92	0.92	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	3	2	2	3	2
Cap, veh/h	346	760	152	283	448	379	223	1613	855	325	1502	834
Arrive On Green	0.10	0.26	0.26	0.08	0.24	0.24	0.13	0.46	0.46	0.09	0.43	0.43
Sat Flow, veh/h	3456	2950	591	3456	1870	1585	1781	3526	1585	3456	3526	1585
Grp Volume(v), veh/h	323	517	514	295	410	96	234	1715	347	351	1518	212
Grp Sat Flow(s),veh/h/ln	1728	1777	1764	1728	1870	1585	1781	1763	1585	1728	1763	1585
Q Serve(g_s), s	15.3	42.5	42.5	13.5	35.2	6.5	20.7	75.5	7.8	15.5	70.3	12.1
Cycle Q Clear(g_c), s	15.3	42.5	42.5	13.5	35.2	6.5	20.7	75.5	7.8	15.5	70.3	12.1
Prop In Lane	1.00		0.33	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	346	458	454	283	448	379	223	1613	855	325	1502	834
V/C Ratio(X)	0.93	1.13	1.13	1.04	0.92	0.25	1.05	1.06	0.41	1.08	1.01	0.25
Avail Cap(c_a), veh/h	346	458	454	283	448	379	223	1613	855	325	1502	834
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	73.7	61.3	61.3	75.8	61.1	32.9	72.2	44.8	22.4	74.8	47.3	21.4
Incr Delay (d2), s/veh	32.0	82.8	83.0	65.3	23.4	0.3	73.1	41.3	1.4	73.3	25.8	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.3	29.4	29.2	8.5	19.5	3.2	13.8	40.2	8.2	10.0	34.6	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	105.7	144.1	144.3	141.0	84.6	33.3	145.3	86.1	23.8	148.1	73.2	22.1
LnGrp LOS	F	F	F	F	F	C	F	F	C	F	F	C
Approach Vol, veh/h		1354			801			2296			2081	
Approach Delay, s/veh		135.0			99.2			82.7			80.6	
Approach LOS		F			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.0	80.0	18.0	47.0	25.2	74.8	21.0	44.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	15.5	75.5	13.5	42.5	20.7	70.3	16.5	39.5
Max Q Clear Time (g_c+I1), s	17.5	77.5	15.5	44.5	22.7	72.3	17.3	37.2
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	94.9
HCM 6th LOS	F

Notes

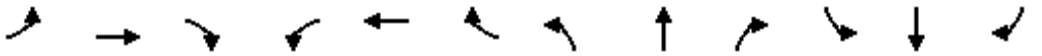
User approved changes to right turn type.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	788	336	49	414	22	103	10	24	40	12	76
Future Volume (veh/h)	64	788	336	49	414	22	103	10	24	40	12	76
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	69	847	361	51	427	23	141	14	33	47	14	89
Peak Hour Factor	0.93	0.93	0.93	0.97	0.97	0.97	0.73	0.73	0.73	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	572	941	797	226	1146	971	381	128	301	356	95	409
Arrive On Green	0.50	0.50	0.50	0.05	0.61	0.61	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	940	1870	1585	1781	1870	1585	1291	495	1166	1023	367	1585
Grp Volume(v), veh/h	69	847	361	51	427	23	141	0	47	61	0	89
Grp Sat Flow(s),veh/h/ln	940	1870	1585	1781	1870	1585	1291	0	1661	1390	0	1585
Q Serve(g_s), s	2.8	28.7	10.2	0.9	8.0	0.4	6.7	0.0	1.5	1.5	0.0	3.1
Cycle Q Clear(g_c), s	3.1	28.7	10.2	0.9	8.0	0.4	9.7	0.0	1.5	3.0	0.0	3.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.70	0.77		1.00
Lane Grp Cap(c), veh/h	572	941	797	226	1146	971	381	0	429	451	0	409
V/C Ratio(X)	0.12	0.90	0.45	0.23	0.37	0.02	0.37	0.00	0.11	0.14	0.00	0.22
Avail Cap(c_a), veh/h	618	1033	876	273	1288	1092	381	0	429	451	0	409
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.5	15.7	11.1	14.0	6.8	5.3	24.1	0.0	19.7	20.4	0.0	20.3
Incr Delay (d2), s/veh	0.1	10.1	0.4	0.5	0.2	0.0	2.8	0.0	0.5	0.6	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	12.4	3.0	0.3	2.4	0.1	2.3	0.0	0.6	0.8	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.6	25.9	11.5	14.5	7.0	5.3	26.9	0.0	20.2	21.0	0.0	21.5
LnGrp LOS	A	C	B	B	A	A	C	A	C	C	A	C
Approach Vol, veh/h		1277			501			188			150	
Approach Delay, s/veh		20.9			7.7			25.2			21.3	
Approach LOS		C			A			C			C	

Timer - Assigned Phs		2	3	4		6		8				
Phs Duration (G+Y+Rc), s		22.5	7.6	39.5		22.5		47.2				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.0	5.0	38.5		18.0		48.0				
Max Q Clear Time (g_c+I1), s		11.7	2.9	30.7		5.1		10.0				
Green Ext Time (p_c), s		0.3	0.0	4.4		0.4		2.7				

Intersection Summary												
HCM 6th Ctrl Delay			18.2									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	259	1	372	7	4	2	273	1338	13	3	2127	176
Future Volume (veh/h)	259	1	372	7	4	2	273	1338	13	3	2127	176
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1826	1870	1870	1826	1870
Adj Flow Rate, veh/h	270	1	388	14	8	4	294	1439	14	3	2170	180
Peak Hour Factor	0.96	0.96	0.96	0.50	0.50	0.50	0.93	0.93	0.93	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	5	2	2	5	2
Cap, veh/h	233	1	290	37	18	3	270	2507	1146	248	2088	954
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.12	0.72	0.72	0.00	0.60	0.60
Sat Flow, veh/h	1402	4	1582	0	96	17	1781	3469	1585	1781	3469	1585
Grp Volume(v), veh/h	270	0	389	26	0	0	294	1439	14	3	2170	180
Grp Sat Flow(s),veh/h/ln	1402	0	1586	113	0	0	1781	1735	1585	1781	1735	1585
Q Serve(g_s), s	0.0	0.0	27.5	0.0	0.0	0.0	18.7	29.5	0.4	0.1	90.3	7.6
Cycle Q Clear(g_c), s	27.5	0.0	27.5	27.5	0.0	0.0	18.7	29.5	0.4	0.1	90.3	7.6
Prop In Lane	1.00		1.00	0.54		0.15	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	233	0	291	58	0	0	270	2507	1146	248	2088	954
V/C Ratio(X)	1.16	0.00	1.34	0.45	0.00	0.00	1.09	0.57	0.01	0.01	1.04	0.19
Avail Cap(c_a), veh/h	233	0	291	58	0	0	270	2507	1146	300	2088	954
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.1	0.0	61.3	53.7	0.0	0.0	57.1	9.9	5.8	12.1	29.9	13.4
Incr Delay (d2), s/veh	108.3	0.0	173.6	5.4	0.0	0.0	80.5	1.0	0.0	0.0	30.7	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.9	0.0	24.9	0.9	0.0	0.0	15.6	9.6	0.1	0.0	41.9	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	172.4	0.0	234.9	59.1	0.0	0.0	137.5	10.8	5.8	12.1	60.5	13.8
LnGrp LOS	F	A	F	E	A	A	F	B	A	B	F	B
Approach Vol, veh/h		659			26			1747			2353	
Approach Delay, s/veh		209.3			59.1			32.1			56.9	
Approach LOS		F			E			C			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.1	112.9		32.0	23.2	94.8		32.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	104.0		27.5	18.7	90.3		27.5				
Max Q Clear Time (g_c+I1), s	2.1	31.5		29.5	20.7	92.3		29.5				
Green Ext Time (p_c), s	0.0	14.0		0.0	0.0	0.0		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		68.8	
HCM 6th LOS		E	

Intersection	
Int Delay, s/veh	31

Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Vol, veh/h	57	357	223	96	234	88
Future Vol, veh/h	57	357	223	96	234	88
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	80	80	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	61	384	279	120	282	106

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	399	0	-	0	845	339
Stage 1	-	-	-	-	339	-
Stage 2	-	-	-	-	506	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1160	-	-	-	333	703
Stage 1	-	-	-	-	722	-
Stage 2	-	-	-	-	606	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1160	-	-	-	311	703
Mov Cap-2 Maneuver	-	-	-	-	311	-
Stage 1	-	-	-	-	674	-
Stage 2	-	-	-	-	606	-

Approach	EB	WB	SE
HCM Control Delay, s	1.1	0	97.2
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SELn1
Capacity (veh/h)	1160	-	-	-	367
HCM Lane V/C Ratio	0.053	-	-	-	1.057
HCM Control Delay (s)	8.3	0	-	-	97.2
HCM Lane LOS	A	A	-	-	F
HCM 95th %tile Q(veh)	0.2	-	-	-	13.4

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	7	1186	590	3	2	6
Future Vol, veh/h	7	1186	590	3	2	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	97	97	60	60
Heavy Vehicles, %	0	2	2	0	0	0
Mvmt Flow	8	1275	608	3	3	10

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	611	0	-	0	1901	610
Stage 1	-	-	-	-	610	-
Stage 2	-	-	-	-	1291	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	978	-	-	-	77	498
Stage 1	-	-	-	-	546	-
Stage 2	-	-	-	-	260	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	978	-	-	-	75	498
Mov Cap-2 Maneuver	-	-	-	-	75	-
Stage 1	-	-	-	-	531	-
Stage 2	-	-	-	-	260	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	23.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	978	-	-	-	207
HCM Lane V/C Ratio	0.008	-	-	-	0.064
HCM Control Delay (s)	8.7	0	-	-	23.6
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.2

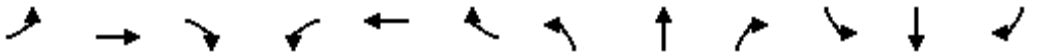
Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	7	844	478	3	2	6
Future Vol, veh/h	7	844	478	3	2	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	97	97	60	60
Heavy Vehicles, %	0	2	2	0	0	0
Mvmt Flow	8	908	493	3	3	10

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	496	0	-	0	1419	495
Stage 1	-	-	-	-	495	-
Stage 2	-	-	-	-	924	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1078	-	-	-	152	579
Stage 1	-	-	-	-	617	-
Stage 2	-	-	-	-	390	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1078	-	-	-	150	579
Mov Cap-2 Maneuver	-	-	-	-	150	-
Stage 1	-	-	-	-	608	-
Stage 2	-	-	-	-	390	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	16.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1078	-	-	-	338
HCM Lane V/C Ratio	0.007	-	-	-	0.039
HCM Control Delay (s)	8.4	0	-	-	16.1
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.1



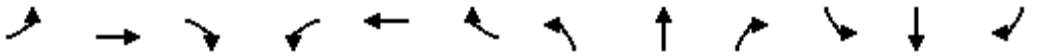
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	278	739	148	277	385	90	215	1578	319	326	1412	197
Future Volume (veh/h)	278	739	148	277	385	90	215	1578	319	326	1412	197
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1856	1870	1870	1856	1870
Adj Flow Rate, veh/h	323	859	172	295	410	96	234	1715	347	351	1518	212
Peak Hour Factor	0.86	0.86	0.86	0.94	0.94	0.94	0.92	0.92	0.92	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	3	2	2	3	2
Cap, veh/h	377	909	405	295	825	368	199	1677	890	256	1735	953
Arrive On Green	0.11	0.26	0.26	0.09	0.23	0.23	0.06	0.48	0.48	0.07	0.49	0.49
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	3526	1585	3456	3526	1585
Grp Volume(v), veh/h	323	859	172	295	410	96	234	1715	347	351	1518	212
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1763	1585	1728	1763	1585
Q Serve(g_s), s	15.2	39.1	12.7	14.1	16.5	6.8	9.5	78.5	6.2	12.2	63.4	10.2
Cycle Q Clear(g_c), s	15.2	39.1	12.7	14.1	16.5	6.8	9.5	78.5	6.2	12.2	63.4	10.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	377	909	405	295	825	368	199	1677	890	256	1735	953
V/C Ratio(X)	0.86	0.95	0.42	1.00	0.50	0.26	1.18	1.02	0.39	1.37	0.87	0.22
Avail Cap(c_a), veh/h	597	924	412	295	825	368	199	1677	890	256	1735	953
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	72.2	60.3	37.0	75.4	55.0	35.9	77.8	43.3	20.3	76.4	37.4	15.1
Incr Delay (d2), s/veh	7.2	17.7	0.7	52.1	0.5	0.4	119.4	27.8	1.3	190.8	6.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	19.7	5.0	8.4	7.4	0.0	7.4	38.5	7.8	12.1	27.2	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	79.5	78.0	37.7	127.5	55.5	36.3	197.1	71.1	21.6	267.2	43.9	15.7
LnGrp LOS	E	E	D	F	E	D	F	F	C	F	D	B
Approach Vol, veh/h		1354			801			2296			2081	
Approach Delay, s/veh		73.2			79.7			76.5			78.7	
Approach LOS		E			E			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.7	83.0	18.6	46.7	14.0	85.7	22.5	42.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	11.5	78.5	14.1	42.9	9.5	80.5	28.5	28.5
Max Q Clear Time (g_c+I1), s	14.2	80.5	16.1	41.1	11.5	65.4	17.2	18.5
Green Ext Time (p_c), s	0.0	0.0	0.0	1.0	0.0	9.2	0.8	2.0

Intersection Summary	
HCM 6th Ctrl Delay	76.9
HCM 6th LOS	E

Notes

User approved changes to right turn type.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	259	1	372	7	4	2	273	1338	13	3	2127	176
Future Volume (veh/h)	259	1	372	7	4	2	273	1338	13	3	2127	176
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1826	1870	1870	1826	1870
Adj Flow Rate, veh/h	270	1	388	14	8	4	294	1439	14	3	2170	180
Peak Hour Factor	0.96	0.96	0.96	0.50	0.50	0.50	0.93	0.93	0.93	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	5	2	2	5	2
Cap, veh/h	276	1	481	37	18	3	265	2357	1077	221	2105	962
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.08	0.68	0.68	0.00	0.61	0.61
Sat Flow, veh/h	1006	4	1585	0	78	14	3456	3469	1585	1781	3469	1585
Grp Volume(v), veh/h	271	0	388	26	0	0	294	1439	14	3	2170	180
Grp Sat Flow(s),veh/h/ln	1010	0	1585	92	0	0	1728	1735	1585	1781	1735	1585
Q Serve(g_s), s	0.0	0.0	33.9	0.0	0.0	0.0	11.5	34.1	0.4	0.1	91.0	7.6
Cycle Q Clear(g_c), s	34.0	0.0	33.9	34.0	0.0	0.0	11.5	34.1	0.4	0.1	91.0	7.6
Prop In Lane	1.00		1.00	0.54		0.15	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	277	0	481	58	0	0	265	2357	1077	221	2105	962
V/C Ratio(X)	0.98	0.00	0.81	0.45	0.00	0.00	1.11	0.61	0.01	0.01	1.03	0.19
Avail Cap(c_a), veh/h	277	0	481	58	0	0	265	2357	1077	273	2105	962
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.6	0.0	48.2	49.0	0.0	0.0	69.2	13.2	7.8	13.2	29.5	13.1
Incr Delay (d2), s/veh	48.2	0.0	9.8	5.4	0.0	0.0	87.9	1.2	0.0	0.0	28.1	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.1	0.0	14.7	0.9	0.0	0.0	8.2	11.9	0.1	0.0	41.3	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	108.9	0.0	58.0	54.4	0.0	0.0	157.2	14.4	7.8	13.2	57.6	13.5
LnGrp LOS	F	A	E	D	A	A	F	B	A	B	F	B
Approach Vol, veh/h		659			26			1747			2353	
Approach Delay, s/veh		78.9			54.4			38.3			54.2	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.1	106.4		38.5	16.0	95.5		38.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	97.5		34.0	11.5	91.0		34.0				
Max Q Clear Time (g_c+I1), s	2.1	36.1		36.0	13.5	93.0		36.0				
Green Ext Time (p_c), s	0.0	13.8		0.0	0.0	0.0		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			51.8									
HCM 6th LOS			D									

Intersection	
Int Delay, s/veh	13.2

Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Vol, veh/h	57	357	223	96	234	88
Future Vol, veh/h	57	357	223	96	234	88
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	80	80	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	61	384	279	120	282	106

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	399	0	-	0	785	279
Stage 1	-	-	-	-	279	-
Stage 2	-	-	-	-	506	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1160	-	-	-	361	760
Stage 1	-	-	-	-	768	-
Stage 2	-	-	-	-	606	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1160	-	-	-	337	760
Mov Cap-2 Maneuver	-	-	-	-	337	-
Stage 1	-	-	-	-	717	-
Stage 2	-	-	-	-	606	-

Approach	EB	WB	SE
HCM Control Delay, s	1.1	0	40.8
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SELn1	SELn2
Capacity (veh/h)	1160	-	-	-	337	760
HCM Lane V/C Ratio	0.053	-	-	-	0.837	0.14
HCM Control Delay (s)	8.3	0	-	-	52.2	10.5
HCM Lane LOS	A	A	-	-	F	B
HCM 95th %tile Q(veh)	0.2	-	-	-	7.4	0.5

Appendix F

Programmed Transportation Infrastructure Project Sheets and Miscellaneous

Celebration Snellville DRI
City of Snellville, Gwinnett County, Georgia
Transportation Analysis

Study Network Determination

November 2017

Name of Facility	Segment		Facility Type	LOS D Service Volume	Adjustment	Adjusted Service Volume	Residential Trip Percentage	Residential Trips	Retail Trip Percentage	Retail Trips	Office Trip Percentage	Office Trips	Total Trips	Percent of Service Volume Consumed	Is Percent of Service Volume > than 7%?
	From	To													
Webb Gin	site	Shoppes at Webb Gin	2L und, LT bays	10900	0%	10900	71%	1147	64%	725	76%	133	2005	18.4%	Yes
Webb Gin	Shoppes at Webb Gin	SR 124	4L div, LT bays	23800	0%	23800	67%	1082	64%	725	76%	133	1940	8.2%	Yes
Webb Gin	site	SR 20	2L und, no LT bays	10900	-20%	8720	20%	323	29%	329	22%	39	690	7.9%	Yes
Webb Gin	SR 124	Moon Place	2L und, no LT bays	10900	-20%	8720	21%	339	23%	261	25%	44	643	7.4%	Yes
Webb Gin	Moon Place	Ronald Reagan	2L und, no LT bays	10900	-20%	8720	21%	339	17%	193	22%	39	570	6.5%	No
Bennett	Webb Gin	Hillside	2L und, no LT bays	10900	-20%	8720	9%	145	9%	102	2%	4	251	2.9%	No
Bennett	Hillside	Grayson	2L und, no LT bays	10900	-20%	8720	5%	81	3%	34	2%	4	118	1.4%	No
Hillside	Bennett	Pharrs	2L und, no LT bays	10900	-20%	8720	4%	65	6%	68	1%	2	134	1.5%	No
Hillside	Bennett	SR 20	2L und, no LT bays	10900	-20%	8720	0%	0	3%	34	0%	0	34	0.4%	No
SR 124	Webb Gin	Sugarloaf	4L div 2-4.5 sig	35000	0%	35000	25%	404	24%	272	21%	37	712	2.0%	No
SR 124	Sugarloaf	SR 20	4L div 2-4.5 sig	35000	0%	35000	11%	178	12%	136	12%	21	335	1.0%	No
Sugarloaf	SR 124	Old Snellville	4L div 2-4.5 sig	35000	0%	35000	14%	226	10%	113	19%	33	373	1.1%	No
Sugarloaf	SR 124	SR 20	4L div 2-4.5 sig	35000	0%	35000	0%	0	2%	23	0%	0	23	0.1%	No
Sugarloaf	SR 20	New Hope	4L div 2-4.5 sig	35000	0%	35000	6%	97	7%	79	7%	12	188	0.5%	No
SR 124	Webb Gin	Ronald Reagan	4L div 2-4.5 sig	35000	0%	35000	21%	339	17%	193	20%	35	567	1.6%	No
SR 124	Ronald Reagan	US 78	4L div 2-4.5 sig	35000	0%	35000	17%	275	11%	125	19%	33	432	1.2%	No
Ronald Reagan	SR 124	Webb Gin	4L div 2-4.5 sig	35000	0%	35000	2%	32	3%	34	0%	0	66	0.2%	No
Pinehurst	SR 124	Ridgedale	2L und, LT bays	10900	0%	10900	2%	32	3%	34	1%	2	68	0.6%	No
SR 20	Webb Gin	Sugarloaf	4L div 2-4.5 sig	35000	0%	35000	14%	226	3%	34	13%	23	283	0.8%	No
SR 20	Sugarloaf	Davis	4L div 2-4.5 sig	35000	0%	35000	8%	129	16%	181	6%	11	321	0.9%	No
SR 20	Davis	SR 124	4L div 2-4.5 sig	35000	0%	35000	8%	129	9%	102	6%	11	242	0.7%	No
SR 20	Webb Gin	Rosebud	4L div 2-4.5 sig	35000	0%	35000	6%	97	9%	102	9%	16	215	0.6%	No

LEGEND
(no.) L: number of lanes
div: median divided
<2, 2-4.5, >4.5: number of signals per mile
CBD: central business district

24-Hour Trip Generation:	
Residential	1615
Retail	1133
Office	175

MARC R. ACAMPORA, PE, LLC

GW-269

Atlanta Region's Plan RTP (2016) PROJECT FACT SHEET

Short Title	SR 124 (SCENIC HIGHWAY) WIDENING FROM US 78 (MAIN STREET) TO SR 864 (RONALD REAGAN PARKWAY)
GDOT Project No.	0006921
Federal ID No.	N/A
Status	Long Range
Service Type	Roadway / General Purpose Capacity
Sponsor	GDOT
Jurisdiction	Gwinnett County
Analysis Level	In the Region's Air Quality Conformity Analysis

Existing Thru Lane	4	**LCI**		**Network Year**	2040+
Planned Thru Lane	6	**Flex**		**Corridor Length**	1.1 miles

Detailed Description and Justification

The project consists of the widening of 1.1 miles of SR 124 from Ronald Reagan Parkway to US 78 from an existing 4 lane to a 6 lane divided highway with raised median and turn lanes. Intersection improvements will also be done at Wisteria Drive, Oak Road, Dogwood Road, US 78, and Ronald Reagan Parkway. The project would also include sidewalks and a multi-use path.

Phase Status & Funding Information		Status	FISCAL YEAR	TOTAL PHASE COST	BREAKDOWN OF TOTAL PHASE COST BY FUNDING SOURCE			
					FEDERAL	STATE	BONDS	LOCAL/PRIVATE
PE	Local Jurisdiction/Municipality Funds		LR 2024-2030	**$1,011,730**	$0,000	$0,000	$0,000	$1,011,730
ALL	Transportation Funding Act (HB 170)		LR 2041+	**$38,297,779**	$30,638,223	$7,659,556	$0,000	$0,000
				$39,309,509	**$30,638,223**	**$7,659,556**	**$0,000**	**$1,011,730**

SCP: Scoping PE: Preliminary engineering / engineering / design / planning PE-OV: GDOT oversight services for engineering ROW: Right-of-way Acquistion
UTL: Utility relocation CST: Construction / Implementation ALL: Total estimated cost, inclusive of all phases

? For additional information about this project, please call (404) 463-3100 or email transportation@atlantaregional.com.

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GW-390A

Atlanta Region's Plan RTP (2016) PROJECT FACT SHEET

Short Title	GWINNETT COUNTY ATMS/ITS INFRASTRUCTURE EXPANSION - FIVE FORKS TRICKUM ROAD FROM ROCKBRIDGE ROAD TO SUGARLOAF PARKWAY
GDOT Project No.	0013143
Federal ID No.	
Status	Completed
Service Type	Roadway / Operations & Safety
Sponsor	Gwinnett County
Jurisdiction	Gwinnett County
Analysis Level	Exempt from Air Quality Analysis (40 CFR 93)

Existing Thru Lane	N/A	**LCI**		**Network Year**	TBD
Planned Thru Lane	N/A	**Flex**		**Corridor Length**	6.7 miles

Detailed Description and Justification

In addition to the ATMS/ITS infrastructure already in place, the proposed CMAQ-funded ATMS/ITS expansion enables critical monitoring ability of almost every major travel corridor in Gwinnett County, significantly improving travel in the northeast Atlanta region. Traffic signalization and intersection improvement projects are designed to reduce traffic congestion, increase travel speeds, and/or reduce delay thus meeting both goals of the CMAQ program: decreasing congestion and reducing air pollution. Interconnecting traffic signals improves both peak and off peak travel speeds and reduces congestion at intersections. Fiber optic cable installation for traffic signal optimization will occur along four major travel corridors in Gwinnett County: Old Peachtree Road, from North Brown Road to Sugarloaf Parkway; Ronald Reagan Parkway, from SR 124 to US 29; Five Forks Trickum Road, from Sugarloaf Parkway to Rockbridge Road; SR 316, from Hi-Hope Road to Barrow County line.

Phase Status & Funding Information		Status	FISCAL YEAR	TOTAL PHASE COST	BREAKDOWN OF TOTAL PHASE COST BY FUNDING SOURCE			
					FEDERAL	STATE	BONDS	LOCAL/PRIVATE
PE	Local Jurisdiction/Municipality Funds	AUTH	2015	**$200,000**	~~$0,000~~	~~$0,000~~	~~$0,000~~	~~$200,000~~
CST	Congestion Mitigation & Air Quality Improvement (CMAQ)	AUTH	2018	**$1,582,296**	~~$1,234,811~~	~~$0,000~~	~~$0,000~~	~~$347,485~~
CST	Surface Transportation Block Grant (STBG) Program - Urban (>200K) (ARC)	AUTH	2018	**$76,875**	~~$61,500~~	~~$0,000~~	~~$0,000~~	~~$15,375~~
				$1,859,171	**$1,296,311**	**$0,000**	**$0,000**	**$562,860**

SCP: Scoping PE: Preliminary engineering / engineering / design / planning PE-OV: GDOT oversight services for engineering ROW: Right-of-way Acquistion
UTL: Utility relocation CST: Construction / Implementation ALL: Total estimated cost, inclusive of all phases

? For additional information about this project, please call (404) 463-3100 or email transportation@atlantaregional.com.

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GW-390B

Atlanta Region's Plan RTP (2016) PROJECT FACT SHEET

Short Title	GWINNETT COUNTY ATMS/ITS INFRASTRUCTURE EXPANSION - RONALD REAGAN PARKWAY FROM PLEASANT HILL ROAD TO SR 124 (SCENIC HIGHWAY)
GDOT Project No.	0013323
Federal ID No.	
Status	Completed
Service Type	Roadway / Operations & Safety
Sponsor	Gwinnett County
Jurisdiction	Gwinnett County
Analysis Level	Exempt from Air Quality Analysis (40 CFR 93)

Existing Thru Lane	N/A	**LCI**		**Network Year**	TBD
Planned Thru Lane	N/A	**Flex**		**Corridor Length**	7.1 miles

Detailed Description and Justification

In addition to the ATMS/ITS infrastructure already in place, the proposed CMAQ-funded ATMS/ITS expansion enables critical monitoring ability of almost every major travel corridor in Gwinnett County, significantly improving travel in the northeast Atlanta region. Traffic signalization and intersection improvement projects are designed to reduce traffic congestion, increase travel speeds, and/or reduce delay thus meeting both goals of the CMAQ program: decreasing congestion and reducing air pollution. Interconnecting traffic signals improves both peak and off peak travel speeds and reduces congestion at intersections. Fiber optic cable installation for traffic signal optimization will occur along four major travel corridors in Gwinnett County: Old Peachtree Road, from North Brown Road to Sugarloaf Parkway; Ronald Reagan Parkway, from SR 124 to US 29; Five Forks Trickum Road, from Sugarloaf Parkway to Rockbridge Road; SR 316, from Hi-Hope Road to Barrow County line.

Phase Status & Funding Information		Status	FISCAL YEAR	TOTAL PHASE COST	BREAKDOWN OF TOTAL PHASE COST BY FUNDING SOURCE			
					FEDERAL	STATE	BONDS	LOCAL/PRIVATE
PE	Local Jurisdiction/Municipality Funds	AUTH	2015	**$200,000**	~~$0,000~~	~~$0,000~~	~~$0,000~~	~~$200,000~~
CST	Congestion Mitigation & Air Quality Improvement (CMAQ)	AUTH	2018	**$1,285,939**	~~$993,096~~	~~$0,000~~	~~$0,000~~	~~$292,843~~
CST	Surface Transportation Block Grant (STBG) Program - Urban (>200K) (ARC)	AUTH	2018	**$76,875**	~~$61,500~~	~~$0,000~~	~~$0,000~~	~~$15,375~~
				$1,562,814	**$1,054,596**	**$0,000**	**$0,000**	**$508,218**

SCP: Scoping PE: Preliminary engineering / engineering / design / planning PE-OV: GDOT oversight services for engineering ROW: Right-of-way Acquistion
UTL: Utility relocation CST: Construction / Implementation ALL: Total estimated cost, inclusive of all phases

? For additional information about this project, please call (404) 463-3100 or email transportation@atlantaregional.com.

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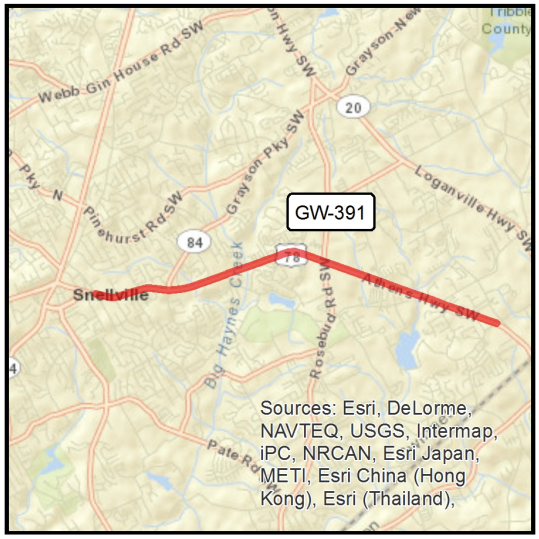
GW-391

Atlanta Region's Plan RTP (2016) PROJECT FACT SHEET

Short Title	US 78/ SR 10 (EAST MAIN STREET / ATHENS HIGHWAY) SIGNAL UPGRADES AT 5 LOCATIONS
GDOT Project No.	0012817
Federal ID No.	
Status	Programmed
Service Type	Roadway / Operations & Safety
Sponsor	GDOT
Jurisdiction	Gwinnett County
Analysis Level	Exempt from Air Quality Analysis (40 CFR 93)



Existing Thru Lane	N/A	**LCI**		**Network Year**	TBD
Planned Thru Lane	N/A	**Flex**		**Corridor Length**	N/A miles

Detailed Description and Justification

Signal upgrades on SR 10/US 78 (Athens Hwy) in the Snellville and Grayson areas. Total corridor length is approximately 5.7 miles, with 5 signal upgrades: Wisteria/Skyland, Snellville Oaks, Abington, Summitt Chase Dr, Old Logan Rd/Brand Rd.

Phase Status & Funding Information		Status	FISCAL YEAR	TOTAL PHASE COST	BREAKDOWN OF TOTAL PHASE COST BY FUNDING SOURCE			
					FEDERAL	STATE	BONDS	LOCAL/PRIVATE
PE	STP - Statewide Flexible (GDOT)	AUTH	2014	**$125,000**	~~$125,000~~	~~$0,000~~	~~$0,000~~	~~$0,000~~
ROW	National Highway Performance Program (NHPP)		2018	**$250,000**	$250,000	$0,000	$0,000	$0,000
CST	National Highway Performance Program (NHPP)		2018	**$650,000**	$650,000	$0,000	$0,000	$0,000
				$1,025,000	**$1,025,000**	**$0,000**	**$0,000**	**$0,000**

SCP: Scoping PE: Preliminary engineering / engineering / design / planning PE-OV: GDOT oversight services for engineering ROW: Right-of-way Acquistion
UTL: Utility relocation CST: Construction / Implementation ALL: Total estimated cost, inclusive of all phases

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Inspire Chiropractic
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