Transportation Analysis

Palmetto Industrial
Development of Regional Impact #2649
City of Palmetto, Georgia

January 19, 2017

MARC R. ACAMPORA, PE, LLC
TRAFFIC ENGINEERING

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City of Palmetto, Georgia

study prepared for:

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Summary

This Transportation Analysis was prepared for the Palmetto Industrial Development of Regional Impact (DRI) #2649, in compliance with the requirements of the Georgia Regional Transportation Authority. The site is located along the south side of Collinsworth Road and Weldon Road in the City of Palmetto. The development will consist of a 1,000,200 square foot warehousing facility. Access will be provided at three full-movement driveways, one on Weldon Road, west of its intersection with Collinsworth Road, one at the Collinsworth / Weldon intersection, and one on Collinsworth Road just west of its interchange with Interstate 85. The project will be developed in one continuous phase, with build-out planned for 2018.

The project will generate 293 a.m. peak hour trips, 260 p.m. peak hour trips, and 3,572 24-hour trips. The gross 24-hour two-way volume of 3,572 trips was used for the study network determination using the 7% methodology. Per GRTA practice, the trips were assumed to be comprised of 2/3 automobiles and 1/3 trucks. The truck trips will be oriented toward the Interstate 85 ramps, while the automobile trips will travel in all directions to and from the site, but will still have a notable proportion of trips traveling on I-85.

The existing analysis reveals only one location that requires mitigation – the southbound approach of Collinsworth Road at the Collinsworth / Weldon intersection. Signalization is identified as the mitigation required and the recommendation is to perform a signal warrant analysis to determine if and when signalization would meet the standards proscribed in the MUTCD.

The no-build analysis reveals that no mitigation is required.

The build analysis identified that the overall intersection, and the westbound approach of the intersection, of Collinsworth at the I-85 northbound ramps, will require mitigation. The mitigation identified was the addition of a second westbound exclusive right turn lane from Collinsworth to the I-85 northbound on-ramp. The volumes for this movement are over 700 right turn vehicles in the existing a.m. peak hour, projected to increase to 745 in the build condition. It is noted that the Palmetto Industrial DRI adds no trips to this movement.

The ARC database identified no programmed improvements within, or in close proximity to, the study network. However, the Coweta County CTP identified that the Collinsworth / Weldon intersection is scheduled for upgrades in the short-term gap years (2018-2020) and the Collinsworth / Cannongate intersection is planned to be realigned in the mid-term (2021-2030).

The three proposed site accesses were evaluated and shown to operate well. The eastern and western access assumed side street stop sign control and one entering and one exiting lane. The central site access, aligning with the Collinsworth / Weldon intersection, was analyzed with signal control, as identified as mitigation in the existing analysis. This access is expected to operate acceptably, as well, with one entering and one exiting lane. It is recommended that an exclusive westbound left turn lane be provided at each full-movement site access, since most of the site traffic will enter from the direction of I-85 and will turn left into the site. It is advised that consideration be given to restricting the eastern access, closest to the I-85 southbound ramps, to RIRO operations only. This will minimize the potential for conflicts with the ramps, particularly for the westbound left turns entering the site.

Internal circulation through the site is simple and straightforward with parking lots and connecting roadways encircling one central structure. No interparcel connectivity to adjacent properties is anticipated. Connectivity to the west is constrained by a stream and wetlands, and to the east by the I-85 southbound on-ramp. Potential development to the south is

undetermined at this time. Future connectivity to the south could be logical if a similar, compatible warehousing facility were to be developed there.

This area is not served by scheduled public mass transit. There are no pedestrian or bicycle facilities in the area and none are anticipated to be constructed by the proposed development. This development is industrial in nature and the surrounding area is primarily either undeveloped or developed at very low densities.

The review of compliance with the five criteria presented in Section 3-101 of *Procedures and Principles for GRTA Development of Regional Impact Review*, is summarized as follows:

A. Accessibility – The Palmetto Industrial DRI is highly accessible to Interstate 85, being located directly adjacent to its interchange at Collinsworth Road. This accessibility to the interstate will serve employees and will keep truck traffic off of the local surface streets. The nature of this warehousing development, coupled with the undeveloped and low-density developed land in the area, does not lend itself to pedestrian or bicycle accessibility and it is expected that, even if bicycle and pedestrian facilities were provided, their use would be minimal.

B. Connectivity – On-site vehicular movements will be simple and logical. This project does not provide new vehicular connectivity or alternative routes. Facilities such as this often schedule employee shift changes and truck arrivals and departures so as to avoid peak times, thus minimizing the project impact during those busiest time periods, and this is recommended.

C. Access Management – The proposed site accesses will operate in a safe and efficient manner as identified in the future intersection analysis. This study does recommend that consideration be given to restricting the easternmost access to RIRO so as to minimize conflicts, particularly with westbound entering left turns, with the I-85 southbound ramps. On-site parking facilities are located interior to the site. Given the proximity to the Interstate 85 ramps, it is advised that the design of site accesses comply with the Georgia DOT *Regulations for Driveway and Encroachment Control* as well as applicable City and County standards.

D. Regional Policies and Adopted Plans – The proposed Palmetto Industrial DRI does not preclude any improvements to regional mobility, or any programmed transportation infrastructure projects that have been identified in the ARC Regional Transportation Plan (RTP) interactive mapping or in the Coweta County Comprehensive Transportation Plan.

E. Local Standards Supporting Regional Policies – The Palmetto Industrial DRI is located in the City of Palmetto. The City, and the nearby jurisdiction of Coweta County, control land development patterns and uses through a comprehensive code of zoning ordinances, a comprehensive land use plan, and a transportation plan. No applicable code or standard of the City of Palmetto or Coweta County has been identified through this transportation study that would impede or prohibit the Palmetto Industrial DRI from meeting regional goals.

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1. Project Description

This Transportation Analysis was performed for the proposed Development of Regional Impact (DRI) #2649 – Palmetto Industrial. The site is located along the south side of Collinsworth Road and Weldon Road in the City of Palmetto. The development will consist of a 1,000,200 square foot warehousing facility. Access will be provided at three full-movement driveways, one on Weldon Road, west of its intersection with Collinsworth Road, one aligning with the Collinsworth Road / Weldon Road intersection, and one on Collinsworth Road just west of its interchange with Interstate 85. An area map is presented in Figure 1 and an aerial photograph of the immediate site vicinity is presented in Figure 2. The total square footage of the industrial development exceeds 500,000 square feet, which is a DRI threshold for an industrial development in a metropolitan region, as set forth in the Georgia Department of Community Affairs (DCA) website for DRIs, Developments of Regional Impact Tiers and Development Thresholds. This study was performed to meet the Georgia Regional Transportation Authority (GRTA) Development of Regional Impact non-expedited review requirements, according to the GRTA *DRI Review Package Technical Guidelines*.

Figure 1 – Site Location Map

Figure 2 – Site Vicinity Aerial Photograph

1.1 Project Phasing, Pods, and Land Uses

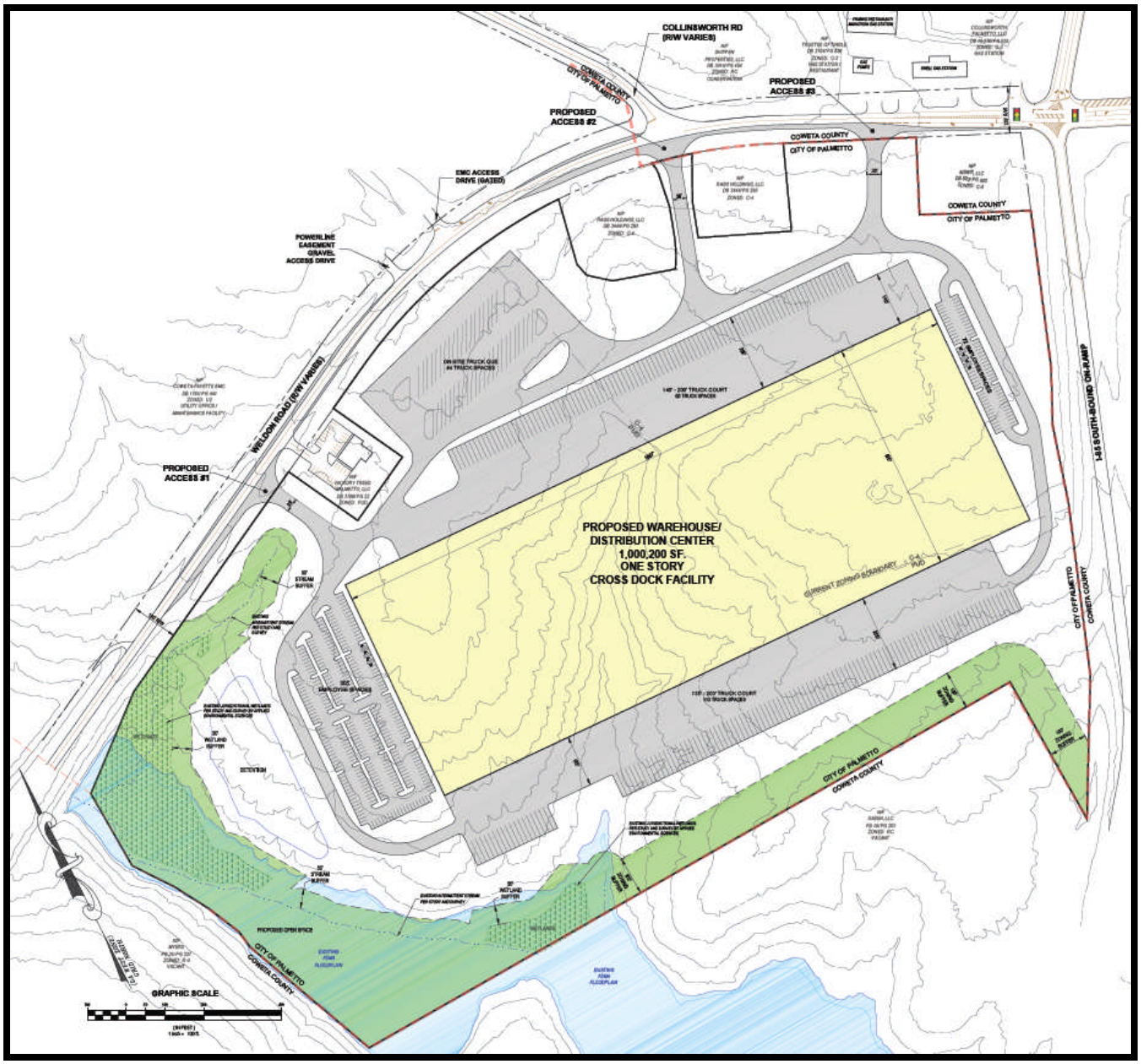
The site is currently undeveloped. The proposed Palmetto Industrial DRI will develop the site with 1,000,200 square feet of warehousing. The project will be built in one continuous phase, with build-out expected in 2018. Table 1 presents the programmed land use and size.

Table 1 – Palmetto Industrial Proposed Land Use and Size

Land Use	Size
Warehousing	1,000,200 ft²

1.2 Site Plan

This study is based on the site plan shown in Figure 3.



site plan by Moore Bass Consulting

Figure 3 – Palmetto Industrial Site Plan

1.3 Site Access

Access to the site will be provided at three full movement driveways. The central driveway will become the fourth approach at the existing intersection of Collinsworth Road at Weldon Road.

1.4 On-Site Pedestrian and Bicycle Facilities

The area surrounding the proposed development is primarily undeveloped, or developed at very low densities. There are no sidewalks in the area and, consistent with its industrial nature, no sidewalks will be included in the proposed development. No bicycle lanes exist in the vicinity of the site and none are planned within site.

1.5 Transit Access

This area surrounding the Palmetto Industrial DRI is not served by regularly scheduled public mass transit.

1.6 Parking

Parking will be provided on-site by a surface parking lots, differentiated by employee parking areas and truck parking bays. All parking is shown on the site plan submitted with this report. The on-site parking is summarized in Table 2.

Table 2 – Palmetto Industrial On-Site Parking

Land Use	Spaces Required	Spaces Provided
Warehousing Employee Parking	377	377
Warehousing Truck Parking	NA	252

from site plan by Moore Bass Consulting

2. Study Network

The study network for this project was developed using GRTA's 7% methodology and was agreed to with GRTA. The intersections to be analyzed are presented in Table 3.

Table 3 – Existing Intersections Included in the Study Network

#	Description
1	US 29 at Weldon Road
2	Collinsworth Road at Weldon Road
3	Collinsworth Road at Interstate 85 southbound ramps
4	Collinsworth Road at Interstate 85 northbound ramps
5	Collinsworth Road at Cannongate Road

2.1 Peak Time Periods And Analysis Conditions

All analyses are performed for the weekday a.m. peak hour and the weekday p.m. peak hour. The existing 2016, 2018 no-build, and 2018 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. In the facilities needs analyses, mitigation is developed with LOS D as the minimum goal. However, should the existing LOS be worse than the standard, the existing LOS is taken to be the standard for that location and time period (but not to exceed LOS E), as set forth by GRTA procedures. Appendix A 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 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 roadway and intersection facilities in the study network. The following is a brief description of each of these facilities.

3.1 Weldon Road / Collinsworth Road

Weldon Road is an east/west two lane highway, recently reclassified from major collector to minor arterial, that begins at US 29 (west of which it carries the name Meadow Chase Way) and changes name to Collinsworth Road at its intersection with Collinsworth Road. Collinsworth Road is a two lane highway, also classified as a minor arterial between downtown Palmetto and Interstate 85, that begins at Spring Lake Drive (north of which it carries the name Fayetteville Road) and meets Weldon Road on the side street southbound stop sign controlled approach. East of the intersection of Collinsworth and Weldon Roads, the highway continues east with the name Collinsworth Road, has an interchange with Interstate 85, then continues to the east to the Coweta / Fayette County line, where it changes name to Palmetto Road and continues to the east. The terrain along Weldon Road and Collinsworth Road is gently rolling. There was no observed posted speed limit sign along Weldon Road, but there is an advisory sign for a school bus stop, with an advised speed of 45 mph, suggesting that the standard speed limit is 55 mph. The posted speed limit on Collinsworth Road north of its intersection with Weldon Road is 45 mph. The land along these roads is primarily undeveloped or developed with low-density residential land uses. There is a very small commercial node on Collinsworth Road at the I-85 interchange and some light industrial / commercial use on Weldon Road near US 29. An at-grade railroad crossing crosses Weldon Road just east of its intersection with US 29. In 2015 the Georgia Department of Transportation (DOT) recorded an Annual Average Daily Traffic (AADT) volume of 9,750 vehicles per day (vpd) on Collinsworth Road just west of I-85, an AADT of 5,790 vpd on Collinsworth Road north of Weldon Road, and an AADT of 5,810 on Weldon Road east of US 29. Photograph 1 is the view along Collinsworth Road facing west towards its intersection with Weldon Road. The subject site is to the left in the photo. Photograph 2 faces west along Collinsworth Road facing Cannongate Road and the Interstate 85 northbound ramps. The exclusive right turn lane to the right in the photo continues from east of Cannongate Road, through that intersection, and feeds the Interstate 85 northbound on-ramp.

Photograph 1 – Collinsworth Road Facing West Toward its Intersection with Weldon Road, Site to Left

Photograph 2 – Collinsworth Road Facing West Toward Cannongate Road and I-85

3.2 Interstate 85

Interstate 85 is a northeast/southwest interstate highway that extends to southwest Georgia and into Alabama, to the south of the site, and to downtown Atlanta and then to the northeast to the Carolinas and beyond, to the north. In the vicinity of the interchange with Collinsworth Road, I-85 has four travel lanes per direction with a wide grassed median. The terrain is gently rolling and the posted speed limit is 70 mph. In 2015 Georgia DOT recorded an AADT volume of 81,600 vpd on I-85 just north of Collinsworth Road. The northbound and southbound off-ramps from I-85 are both signal controlled at Collinsworth Road. Each of these signals operates in conjunction with an immediately-adjacent signal – the northbound ramp signal operates in conjunction with the signal at Cannongate Road and the southbound ramp operates in conjunction with the signal at Tingle Lane. At both intersections, Cannongate Road receives its green phases, then one side street approach (say Cannongate Road) receives the green, then the other side street approach (say the I-85 northbound ramp) receives the green. This is necessary due to the very close proximity of the signals at the ramps to the adjacent side streets. Observations reveal low volumes on Tingle Lane, but notable volumes on Cannongate Road. 3.3 US Highway 29

US Highway 29 is a north/south arterial that extends to downtown Palmetto then to Fairburn and the City of Atlanta, to the north, and to downtown Newnan to the south. The road has one through lane in each direction, with exclusive left and right turn lanes, and signal control at its intersection with Weldon Road. The terrain is very gently rolling and the posted speed limit near Weldon Road is 55 mph. In 2015 Georgia DOT recorded an AADT volume of 11,800 vpd on US 29 just north of Weldon Road.

3.3 Cannongate Road

Cannongate Road is a north/south roadway that provides access to several residential subdivisions and undeveloped land. The road has one through travel lane per direction and intersects Collinsworth Road immediately adjacent to the I-85 northbound off-ramp. The roadway is somewhat winding and the terrain along Cannongate Road is gently rolling. The posted speed limit is 45 mph. In 2015 Georgia DOT recorded an AADT volume of 5,800 vpd on Cannongate Road south of Collinsworth Road.

3.4 Transit Service

The Palmetto Industrial DRI area is not served by regularly scheduled public mass transit.

3.5 Bicycle and Pedestrian Facilities

This area does not have dedicated bicycle lanes or sidewalks. The signalized intersection of US 29 at Weldon Road includes crosswalks on the north and west legs and accompanying pedestrian crossing signals. There are no crosswalks or pedestrian crossing signals at any of the other intersections in this study.

4. Project Traffic Characteristics

This section provides a description of the traffic characteristics of the proposed Palmetto Industrial DRI, including the number of trips that will be generated, and where that traffic will travel.

4.1 Trip Generation

Vehicle trip projections are determined through a process called trip generation. Rates or equations are applied to the size of a proposed land use to estimate the number of entering and exiting trips during specific time intervals. The standard rates and equations were employed from the 9th edition of the Institute of Transportation Engineers (ITE) *Trip Generation Manual*. The raw trip generation for the Palmetto Industrial DRI was calculated for the weekday a.m. and p.m. peak hours, as well as the weekday 24-hour period. No reductions were made for transit, pedestrian activity, multi-use, or pass-by, as none of these potential reductions are applicable to the proposed site. However, the proportion of trips that will be made by trucks versus automobiles was calculated using GRTA's practice of assigning 2/3 of the total trips as automobiles and 1/3 as trucks. The trip generation calculations are presented in Table 4.

Table 4 – Palmetto Industrial Trip Generation

Land Use	ITE Code	Size	A.M. Peak Hour			P.M. Peak Hour			24-Hour
			Enter	Exit	2-Way	Enter	Exit	2-Way	2-Way
Warehousing	150	1,000,200 ft²	231	62	293	65	195	260	3,572
Automobiles		67%	154	41	195	43	130	173	2,382
Trucks		33%	77	21	98	22	65	87	1,190

The gross 24-hour two-way volume of 3,572 trips was used for the study network determination using the 7% methodology.

4.2 Trip Distribution and Assignment

Trip distribution percentages were developed to determine where the Palmetto Industrial traffic would travel. Two distributions were developed, one for the automobiles (generally, employee trips) and one for the trucks. The employee distribution is based on the location and population density of residential areas where employees may reside. These areas include downtown Atlanta, and the cities of Newnan, Palmetto, Peachtree City, and population areas in south Fulton, Coweta, and Fayette Counties. The truck distribution is heavily oriented toward Interstate 85 which provides connectivity to metro Atlanta, Hartsfield-Jackson Airport, and the interstate system.

The trips for automobiles and trucks were assigned to each study intersection based on the trip distribution percentages developed for each. The total trips expected to be generated solely by the Palmetto Industrial DRI are shown in Figure 4, along with the automobile and truck trip distribution percentages. Appendix B includes intersection volume worksheets that break out the automobile and truck trips at each intersection, by turning movement.

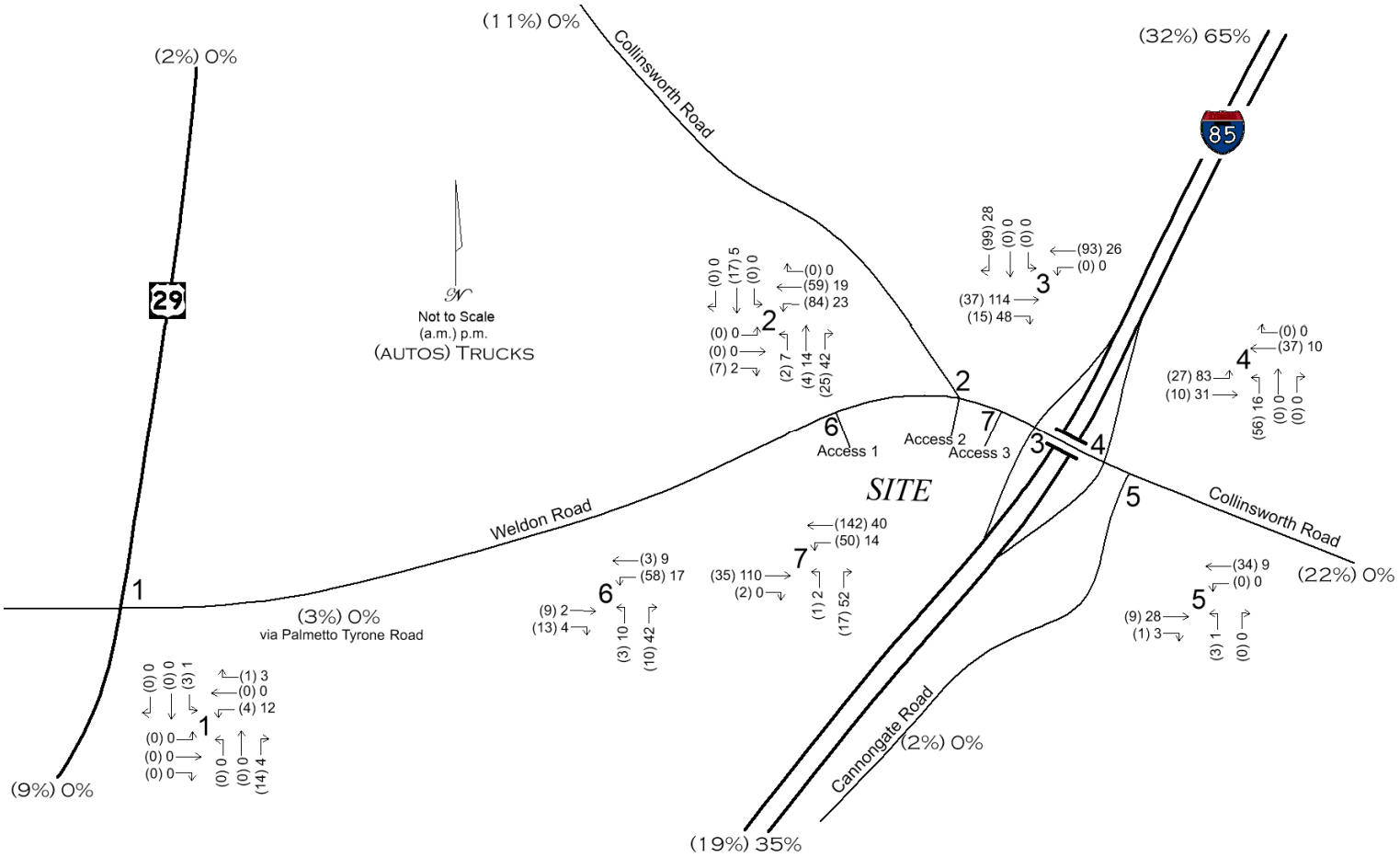


Figure 4 – Palmetto Industrial Site Generated Trips and Trip Distribution Percentages

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 5 presents the existing lane configuration and method of traffic control at each study intersection.

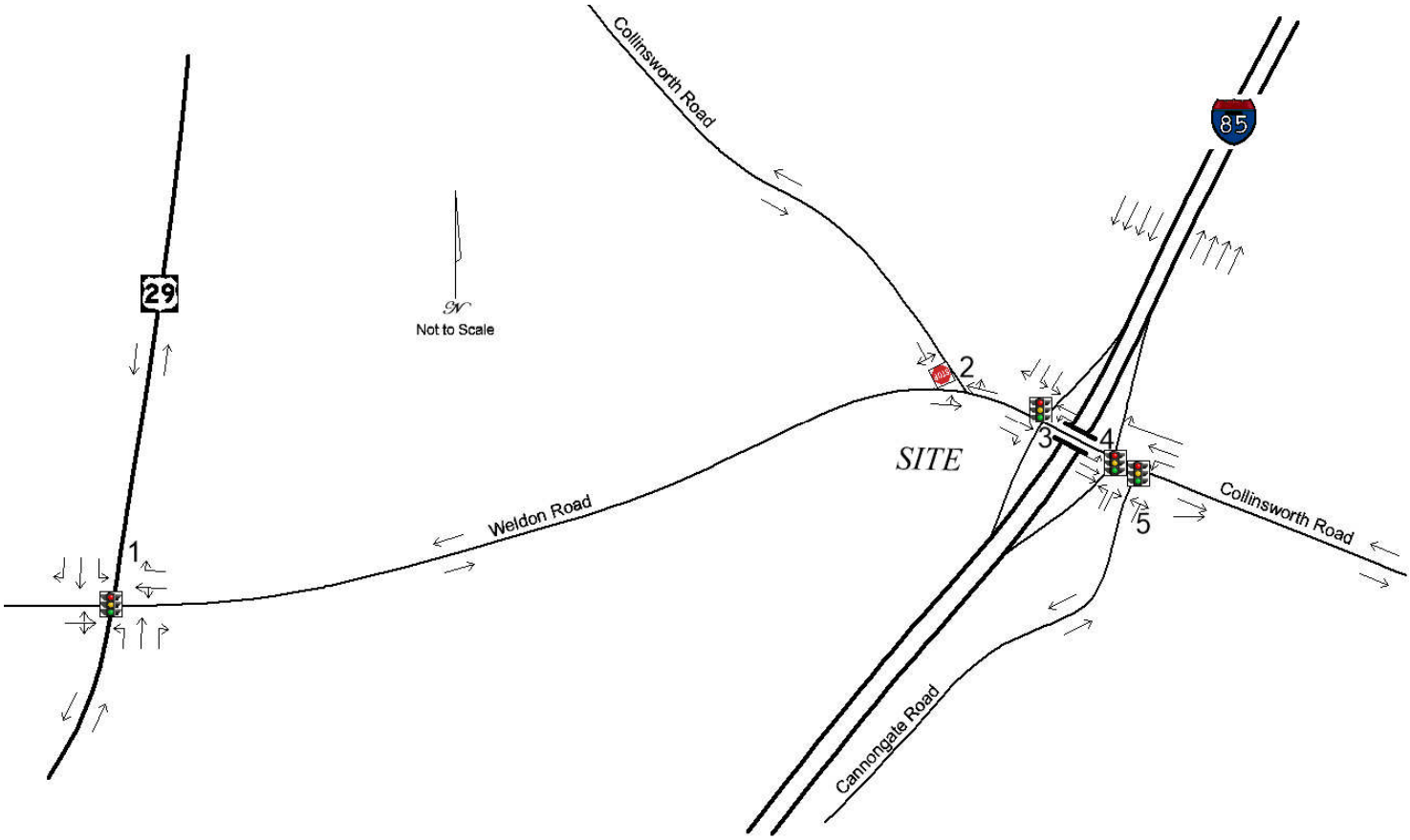


Figure 5 – Existing Lanes and Control

5.2 Existing Traffic Volumes

Traffic counts used in the analysis were collected during the weekday a.m. and p.m. peak periods. All traffic counts were performed on Tuesday, December 6, 2016. Local schools were in regular session when the counts were collected. The morning counts were collected from 7:00 a.m. to 9:00 a.m. and the evening counts were performed from 4:00 p.m. to

6:00 p.m. The counts included classification to differentiate between automobiles and large trucks and these proportions were used in the operational analysis. All counts were performed by a traffic data collection subconsultant and reviewed by Marc R. Acampora, PE, LLC. The peak hour during each count period was identified as the highest four consecutive fifteen minute volumes during each count period at each intersection. Appendix B presents all raw traffic count data. The existing peak hour volumes are presented in Figure 6.

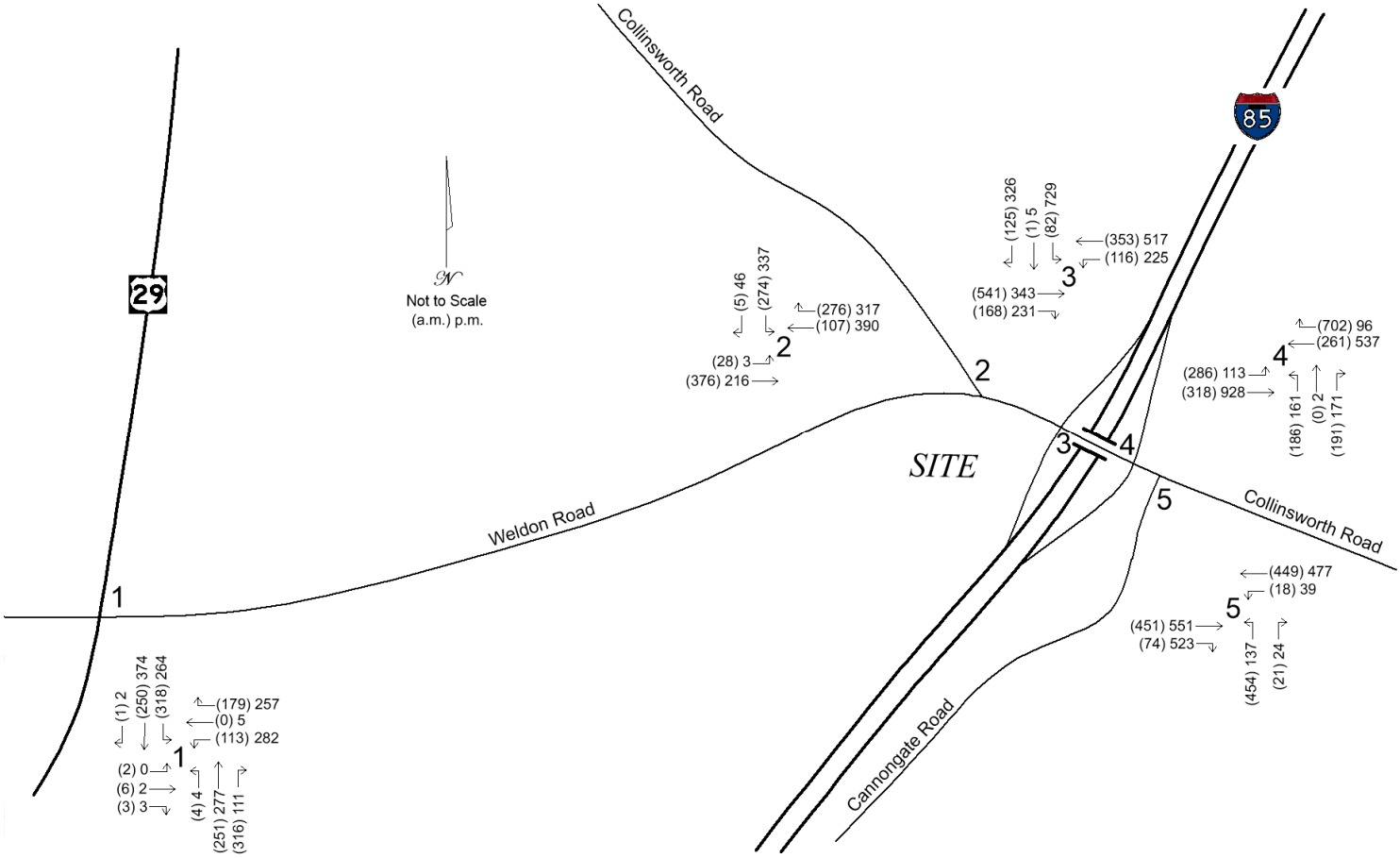


Figure 6 – Existing Traffic Volumes

5.3 Existing Intersection Operations

An analysis was performed for each study intersection, based on the counted traffic volumes, existing lane configurations, and method of traffic control (shown previously in Figure 5). The results of the analysis are shown in Table 5. The Synchro computer printouts, which provide detailed analysis information, are included in Appendix D.

Table 5 – Existing Intersection Levels of Service

#	Intersection	A.M. Peak Hour	P.M. Peak Hour
1	US 29 at Weldon Road	B	B
	northbound approach	B	B
	southbound approach	B	B
	eastbound approach	B	B
	westbound approach	B	B
2	Collinsworth Road at Weldon Road	B	***E***
	southbound approach	***F***	***F***
	eastbound left turn	A	A
3	Collinsworth Road at Interstate 85 southbound ramps	D	D
	southbound approach	B	C
	eastbound approach	D	***E***
	westbound approach	C	D
4	Collinsworth Road at Interstate 85 northbound ramps	D	D
	northbound approach	D	C
	eastbound approach	B	D
	westbound approach	***E***	***E***
5	Collinsworth Road at Cannongate Road	D	C
	northbound approach	B	C
	eastbound approach	D	C
	westbound approach	D	C

5.4 Existing Facilities Needs Analysis

The analysis of existing conditions reveals that all intersections in the study network operate at or better than the LOS D standard except for Collinsworth Road at Weldon Road in the p.m. peak hour. In the existing condition, this intersection operates at LOS E. Therefore, according to GRTA guidelines, the LOS standard at this intersection is established as LOS E. The southbound approach of Collinsworth Road at Weldon Road currently operates at LOS F in both the a.m. and p.m. peak hours. Therefore, according to GRTA guidelines, the level of service standard for this approach is set at LOS E. With the existing LOS F, this approach does not meet the level of service standard.

While the other study intersections all operate at LOS D or better for the overall intersection, there are a few other approaches at these intersections that operate below LOS D. These include the eastbound approach of Collinsworth Road at the I-85 southbound ramps, LOS E p.m., and the westbound approach of Collinsworth Road at the I-85 northbound ramps, LOS E a.m. and p.m. Therefore, LOS E is set as the standard for the eastbound approach of Collinsworth Road at the I-85 southbound ramps and for the westbound approach of Collinsworth Road at the I-85 northbound ramps.

After adjusting the level of service standard for specific intersections and movements, according to GRTA guidelines, Collinsworth Road at Weldon Road, southbound approach, is the only location that requires mitigation in the existing condition. The side street stop sign controlled approach operates at LOS F in both the a.m. and p.m. peak hours and, therefore, must be mitigated back to LOS E (as just described). This is not unusual on side street stop sign controlled approaches. In order to eliminate the side street LOS F, this intersection would require signalization. It is recommended that a signal warrant analysis be conducted for this intersection to determine if the applicable criteria for signalization are satisfied, as set forth in the Federal Highway Administration's *Manual On Uniform Traffic Control Devices* (MUTCD). Table 6 summarizes the results of signalizing this intersection.

Table 6 – Existing Intersection Levels of Service with Mitigation

Intersection of Collinsworth Road at Weldon Road

#	Intersection	A.M. Peak Hour	P.M. Peak Hour
2	Collinsworth Road at Weldon Road	B	C
	southbound approach	A	B
	eastbound approach	B	A
	westbound approach	B	C

With signalization, the overall intersection and all approaches will meet the established LOS standards. Operations at all other locations will remain unchanged from Table 5.

6. No-Build Traffic Analysis

A no-build analysis condition was developed for the DRI's build-out year of 2018. The no-build analysis provides a reference by which to measure the traffic impact of the proposed Palmetto Industrial DRI.

6.1 No Build Lanes and Traffic Control

The Existing Facilities Needs Analysis identified the signalization of Collinsworth Road at Weldon Road as mitigation required to achieve the established level of service standards. Therefore, the no-build analysis evaluated this intersection with signal control. It is recognized that signalization is subject to satisfaction of signal warrants. Absent this signalization, this intersection can be expected to continue to fail the established level of service standards in the no-build condition. The same lane configuration and traffic control as in the existing condition, was kept in place at the other study intersections.

6.2 No-Build Traffic Volumes

The no-build condition includes background increases in traffic volumes that will occur whether or not the Palmetto Industrial DRI is built. Georgia Department of Transportation historic daily traffic volumes were researched in the study area. The data was collected for five years from 2011 to 2015 (inclusive; 2015 is the last year that Georgia DOT data is available) and is presented in Table 7.

Based on the traffic volume data presented in Table 7, an annual growth factor of 3% was agreed to with GRTA and applied to the counted volumes. The growth was applied for two years (for a total of 6.1%), to account for area growth and development that will occur between the date of the traffic counts and the buildout of the Palmetto Industrial DRI. Figure 7 depicts the no-build traffic volumes.

Table 7 - Historic Georgia DOT Traffic Volume Counts and Annual Growth Rates

Year	Collinsworth	Ann %	I85 SB	Ann %	I85 SB	Ann %	I85 NB	Ann %	I85 NB	Ann %	Collinsworth	Ann %	Weldon	Ann %	Weldon	Ann %
	E of Weldon		off ramp		on ramp		off ramp		on ramp		N of Weldon		E of Palmetto Tyrone		E of US 29	
Station ID	770295		77r609		77r610		77r009		77r010		770292		770448		770310	
2011	8,160		4,170		2,460		2,180		4,400		4,750		3,580		6,130	
2012	8,040	-1.5%	4,240	1.7%	2,500	1.6%	2,180	0.0%	4,400	0.0%	5,260	10.7%	3,530	-1.4%	6,040	-1.5%
2013	9,060	12.7%	4,020	-5.2%	2,650	6.0%	2,550	17.0%	4,210	-4.3%	5,380	2.3%	3,610	2.3%	6,170	2.2%
2014	9,060	0.0%	4,020	0.0%	2,650	0.0%	2,550	0.0%	4,210	0.0%	5,380	0.0%	3,600	-0.3%	5,400	-12.5%
2015	9,750	7.6%	4,710	17.2%	3,150	18.9%	3,170	24.3%	4,690	11.4%	5,790	7.6%	3,870	7.5%	5,810	7.6%
Overall Annual Growth Trend		4.6%		3.1%		6.4%		9.8%		1.6%		5.1%		2.0%		-1.3%

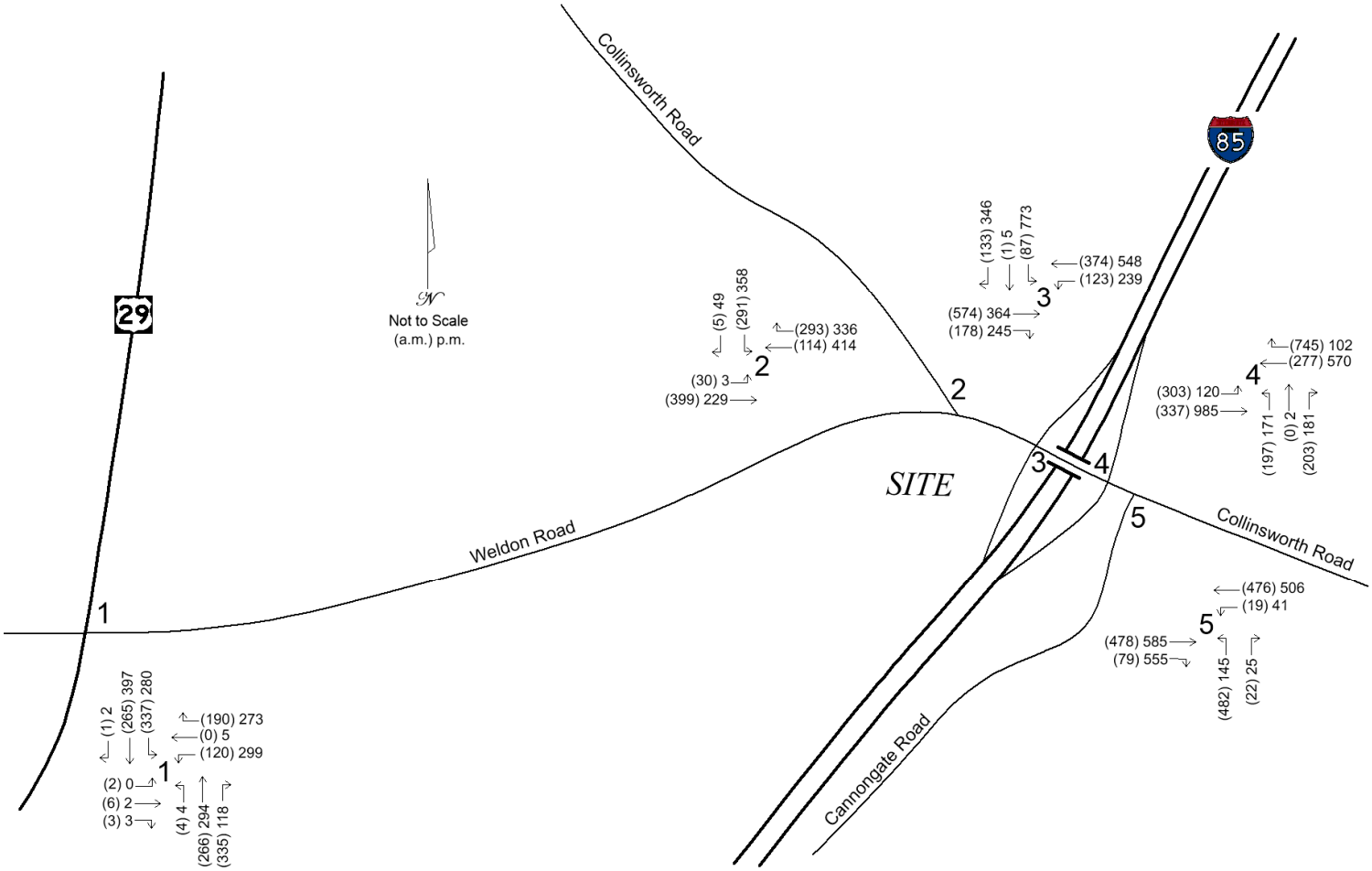


Figure 7 – No-Build Traffic Volumes

6.3 No-Build Intersection Operations

Each study intersection was evaluated for the 2018 no-build condition. The no-build levels of service at each intersection are shown in Table 8. The Synchro computer printouts are found in Appendix E.

Table 8 – No-Build Intersection Levels of Service

#	Intersection	A.M. Peak Hour	P.M. Peak Hour
1	US 29 at Weldon Road	B	B
	northbound approach	B	B
	southbound approach	B	B
	eastbound approach	B	B
	westbound approach	B	B
2	Collinsworth Road at Weldon Road (signalized)	B	C
	southbound approach	B	C
	eastbound approach	B	A
	westbound approach	B	C
3	Collinsworth Road at Interstate 85 southbound ramps	D	D
	southbound approach	C	C
	eastbound approach	D	E
	westbound approach	C	D
4	Collinsworth Road at Interstate 85 northbound ramps	D	D
	northbound approach	D	C
	eastbound approach	B	D
	westbound approach	E	E
5	Collinsworth Road at Cannongate Road	D	C
	northbound approach	C	C
	eastbound approach	D	C
	westbound approach	D	C

6.4 No-Build Facilities Needs Analysis

The no-build analysis reveals that all intersections will meet the established LOS standards. The same approaches that operate at LOS E in the existing condition (thus establishing LOS E as the standard for those approaches), will continue to operate at LOS E. Therefore, no mitigation is required for the no-build condition.

7. Future (Build) Traffic Analysis

The analysis of the 2018 build scenario identifies the traffic impact of the proposed Palmetto Industrial DRI. This future condition includes all traffic from the 2018 no-build scenario, plus the traffic that will be added by the proposed DRI.

7.1 Build Lanes and Traffic Control

The existing condition identified as mitigation the signalization of the Collinsworth / Weldon intersection, and that mitigation was carried through to the no-build analysis. No mitigation was identified for the 2018 no-build scenario. Therefore, the no-build lanes and traffic control will continue to be used for the build condition analysis.

7.2 Build Traffic Volumes

The 2018 build volumes are the combined volumes from Figure 7 (the no-build volumes) and Figure 4 (the Palmetto Industrial DRI site-generated trips). These build volumes are depicted at each intersection in Figure 8. The spreadsheets showing the components of all intersection volumes, by movement, are located in Appendix C.

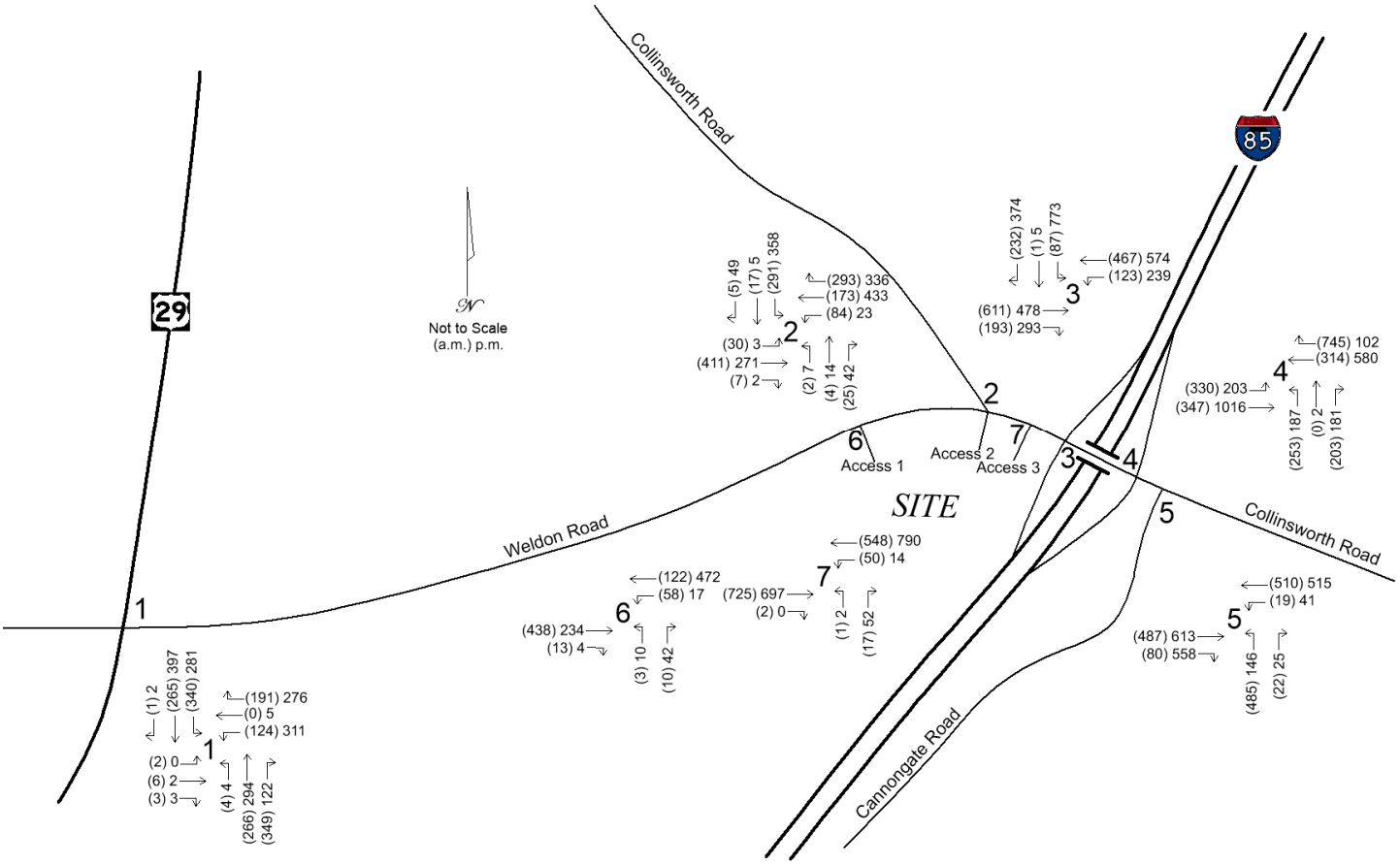


Figure 8 – Build Traffic Volumes

7.3 Build Intersection Operations

Each study intersection was re-evaluated for the 2018 build condition. The levels of service at each intersection are shown in Table 9. The Synchro computer printouts are located in Appendix F.

Table 9 – Build Intersection Levels of Service

#	Intersection	A.M. Peak Hour	P.M. Peak Hour
1	US 29 at Weldon Road	B	B
	northbound approach	B	B
	southbound approach	B	B
	eastbound approach	B	B
	westbound approach	B	B
2	Collinsworth Road at Weldon Road / Access 2 (signalized)	B	C
	northbound approach	B	B
	southbound approach	B	C
	eastbound approach	B	A
	westbound approach	B	D
3	Collinsworth Road at Interstate 85 southbound ramps	D	D
	southbound approach	C	C
	eastbound approach	D	D
	westbound approach	C	D
4	Collinsworth Road at Interstate 85 northbound ramps	*E*	D
	northbound approach	D	C
	eastbound approach	C	C
	westbound approach	*F*	D
5	Collinsworth Road at Cannongate Road	D	C
	northbound approach	C	C
	eastbound approach	D	C
	westbound approach	D	C
6	Weldon Road at Access 1	A	A
	northbound approach	B	B
	westbound left turn	A	A
7	Collinsworth Road at Access 2	A	A
	northbound approach	C	C
	westbound left turn	B	A

7.4 Build Facilities Needs Analysis

The 2018 future build analysis identifies one intersection, Collinsworth Road at the I-85 northbound ramps (LOS E in the a.m.), and one approach at that intersection, westbound on Collinsworth Road (LOS F in the a.m.), that will not meet the LOS standards. It is noted that there are a few locations that experience a slight improvement in LOS from the no-build to the build condition. This is attributed to very slight changes in delays, on movements where the delays were right at the threshold between two levels of service, due to slight reallocation of the greentime on the signal to account for the changes in volumes. For example, in the p.m., the eastbound approach on Collinsworth Road at the I-85 southbound ramp improves from LOS E to LOS D between the no-build and build conditions. The threshold between LOS D and LOS E is 55.0 seconds of delay. In the no-build condition this eastbound approach had 56.6 seconds average delay per vehicle (LOS E). In the build condition, this delay dropped to 52.2 seconds (LOS D), thus improving the approach level of service from LOS E to LOS D. At the same time, the delay on the southbound ramp increased from 22.3 seconds to 29.6 seconds, both LOS C. The overall delay at the intersection increased from 37.5 seconds to 39.0 seconds, both LOS D.

The overall intersection LOS at the I-85 northbound ramp intersection must be mitigated from LOS E to LOS D, while the westbound approach was identified in the existing condition as operating at LOS E, establishing that as the LOS standard for that approach. The high delays at that intersection are contributed to by the extremely heavy westbound right turn movement from Collinsworth Road onto the I-85 northbound on-ramp, which is at 702 right turners in the existing condition, and will increase to 745 right turners in the future build condition. It is noted that the Palmetto Industrial DRI adds no trips to this movement. The addition of a second westbound exclusive right turn lane would improve the overall intersection level of service to LOS D and the westbound approach to LOS E, thus satisfying the LOS standards. This improvement appears to be feasible and is logical given the volumes at the intersection. Table 10 presents the build levels of service at the I-85 northbound ramps with the addition of a second westbound exclusive right turn lane. The levels of service will remain unchanged from Table 8 at the other intersections.

Table 10 – Build Intersection Levels of Service with Mitigation

Intersection of Collinsworth Road at I-85 Northbound Ramps

#	Intersection	A.M. Peak Hour	P.M. Peak Hour
4	Collinsworth Road at Interstate 85 northbound ramps	D	D
	northbound approach	C	C
	eastbound approach	C	C
	westbound approach	E	D

Note – the westbound approach LOS standard was established at LOS E.

The results of the build condition analysis, shown in Table 9, include the proposed site accesses. The Palmetto Industrial DRI will be served by three primary accesses to Weldon Road / Collinsworth Road. The western access is expected to operate with full movements permitted. This access was modeled as operating well with one entering and one exiting lane, controlled by side street stop sign. The central access will align with intersection of Collinsworth Road at Weldon Road and will also permit full movements. This intersection was modeled with one entering and one exiting lane, with the intersection controlled by signal, as identified as mitigation in the existing condition. The eastern access was also modeled with one entering and one existing lane, with side street stop sign control and was shown to operate acceptably. Because this access is located in close proximity to the I-85 ramps and, it is recommended that consideration be given to restricting movements at this access to right-in / right-out so as to minimize conflicts between these intersections, especially for the westbound

entering left turn movements at the site access. It is recommended that an exclusive westbound left turn lane be provided at each full-movement site access, since most of the site traffic will enter from the direction of I-85 and will turn left into the site.

Figure 9 graphically depicts a summary of the mitigation required for the existing, no-build, and build conditions.

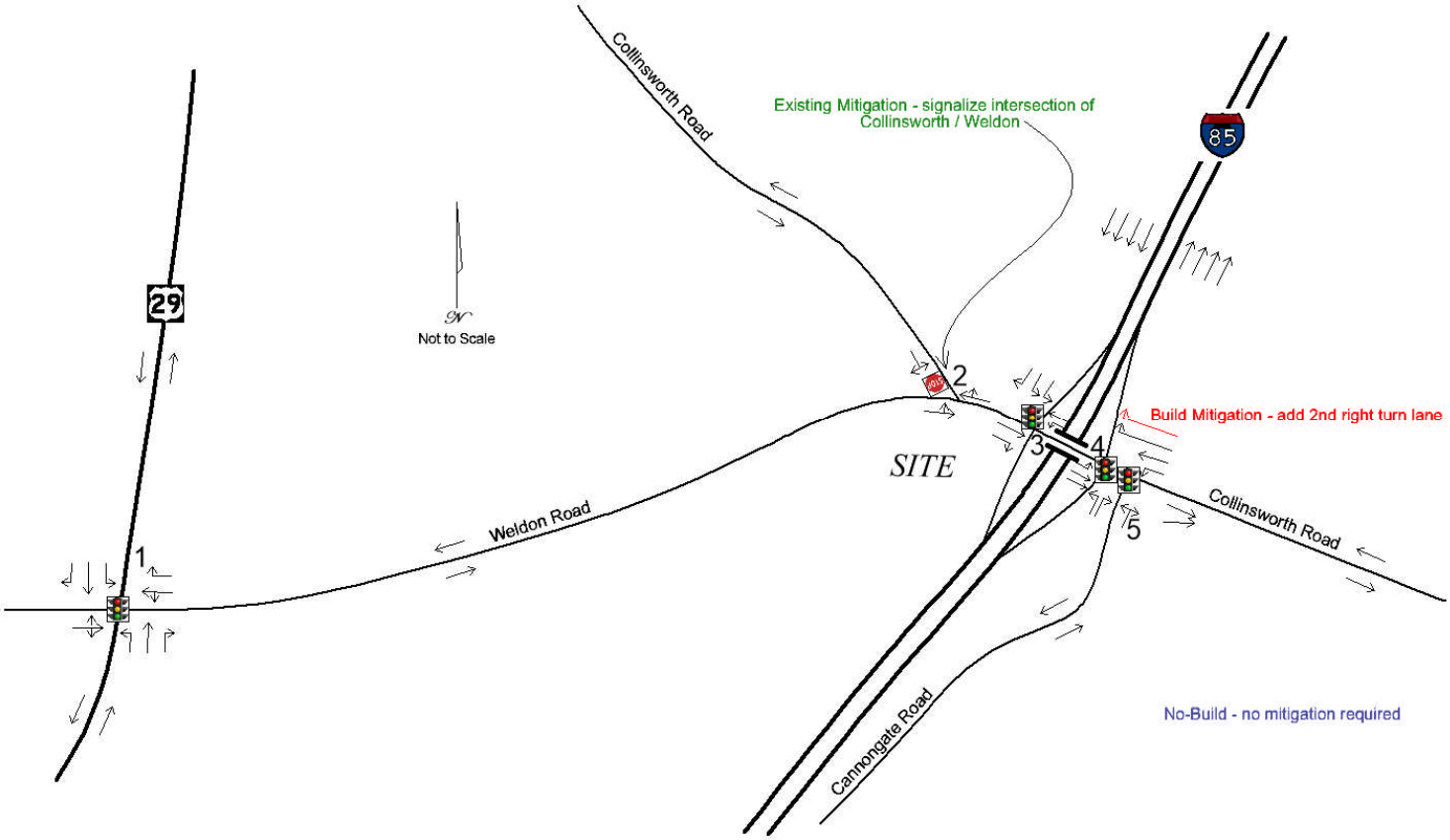


Figure 9 – Graphical Summary of Mitigation

8. Site Internal Circulation and Connectivity

Internal circulation through the site is simple and straightforward with parking lots and connecting roadways encircling one central structure. The front and rear frontages of the single large building on the site will be lined with truck loading/unloading/parking areas with simple connecting roadways between the front and rear areas, one on each side of the building. At the northern end of the property is a truck queuing area. The site plan calls for employee parking at the eastern end of the building with a potential additional future employee parking area at the western end of the building.

The site plan does not propose any connectivity with adjacent properties. To the west, the subject property is bounded by a stream and wetlands and the I-85 southbound on-ramp is located to the east. Potential development to the south is undetermined at this time. Future connectivity to the south could be logical if a similar, compatible warehousing facility were to be developed there.

9. Programmed Infrastructure Projects

Programmed transportation infrastructure projects in the vicinity of the Palmetto Industrial site were researched using the Atlanta Regional Commission's (ARC) Regional Transportation Plan (RTP) interactive mapping. No projects were identified in the project vicinity. The Coweta County Comprehensive Transportation Plan, adopted March 4, 2014, identifies the area along Weldon and Collinsworth Roads, west of I-85, as the "Weldon Road Gateway". The CTP identifies project M2, Collinsworth Road at Weldon Road, described in the report as intersection modifications, and listed under "Short-Term Gap Years (2018-2019-2020)". Also identified is project OP9, Cannongate Road intersection realignment at Collinsworth Road, listed under "Mid-Term 2021-2030".

10. Compliance with GRTA Criteria

This section addresses the compliance of the Palmetto Industrial DRI #2649 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.

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 Palmetto Industrial DRI is highly accessible to Interstate 85, being located directly adjacent to its interchange at Collinsworth Road. This accessibility to the interstate will serve employees and will keep truck traffic off of the local surface streets. The nature of this warehousing development, coupled with the undeveloped and low-density developed land in the area, does not lend itself to pedestrian or bicycle accessibility and it is expected that, even if bicycle and pedestrian facilities were provided, their use would be minimal.

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.

   On-site vehicular movements will be simple and logical. This project does not provide new vehicular connectivity or alternative routes. Facilities such as this often schedule employee shift changes and truck arrivals and departures so as to avoid peak times, thus minimizing the project impact during those busiest time periods, and this is recommended.

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 proposed site accesses will operate in a safe and efficient manner as identified in the future intersection analysis. This study does recommend that consideration be given to restricting the easternmost access to RIRO so as to minimize conflicts, particularly with westbound entering left turns, with the I-85 southbound ramps. On-site parking facilities are located interior to the site. Given the proximity to the Interstate 85 ramps, it is advised that the design of site accesses comply with the Georgia DOT *Regulations for Driveway and Encroachment Control* as well as applicable City and County standards.

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 proposed Palmetto Industrial DRI does not preclude any improvements to regional mobility, or any programmed transportation infrastructure projects that have been identified in the ARC Regional Transportation Plan (RTP) interactive mapping or in the Coweta County Comprehensive Transportation Plan.

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 Palmetto Industrial DRI is located in the City of Palmetto. The City, and the nearby jurisdiction of Coweta County, control land development patterns and uses through a comprehensive code of zoning ordinances, a comprehensive land use plan, and a transportation plan. No applicable code or standard of the City of Palmetto or Coweta County has been identified through this transportation study that would impede or prohibit the Palmetto Industrial DRI from meeting regional goals.

Appendix A
Traffic Analysis Methodologies

Intersection Analysis Methodology

The methodology used for evaluating traffic operations at intersections is presented in the Transportation Research Board's *Highway Capacity Manual*, 2010 edition (HCM 2010). Synchro 8 software, which emulates the HCM 2010 methodology, was used for all analyses. The following is an overview of the methodology employed for the analysis of signalized intersections and stop-sign controlled (unsignalized) intersections.

Signalized Intersections

The criteria for evaluating signalized intersections are capacity and level of service. The capacity analysis of an intersection compares the volume of traffic using the various lane groups at the intersection to the capacity of those lane groups. This produces a volume-to-capacity (v/c) ratio for each lane group. A v/c ratio greater than 1.0 indicates that the volume of traffic has exceeded the capacity available and indicates a temporary excess of demand. The HCM 2010 methodology computes a critical v/c ratio for an intersection based on the critical lane groups or approaches. This critical v/c ratio is an indication of overall intersection sufficiency.

Level of service for a signalized intersection is defined in terms of control delay per vehicle. For signalized intersections, a composite intersection level of service is determined. The thresholds for each level of service are higher for signalized intersections than for unsignalized intersections. This is attributable to a variety of factors including expectation and acceptance of higher delays at signals, 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 are shown in Table A.

Table A – Level of Service Criteria for Signalized Intersections

Control Delay (s/veh)	Level of Service by Volume-to-Capacity Ratio	
	≤1.0	>1.0
≤ 10	A	F
> 10 and ≤ 20	B	F
> 20 and ≤ 35	C	F
> 35 and ≤ 55	D	F
> 55 and ≤ 80	E	F
> 80	F	F

Source: Highway Capacity Manual 2010

Unsignalized Intersections

The operations at an unsignalized intersection are defined in terms of levels of service. Level of service (LOS) is a measure of driver discomfort, frustration, fuel consumption, and lost travel time. 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.

Levels of service 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. 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)	Level of Service by Volume-to-Capacity Ratio	
	≤1.0	>1.0
0 – 10	A	F
> 10 and ≤ 15	B	F
> 15 and ≤ 25	C	F
> 25 and ≤ 35	D	F
> 35 and ≤ 50	E	F
> 50	F	F

Source: Highway Capacity Manual 2010

Facilities Needs Analysis

A facilities needs analysis tests alternative combinations of roadway improvements that allow a facility to achieve the LOS D standard (see Level of Service Standards section of the Study Network Chapter). Facilities needs analyses are performed for the existing, no-build, and build conditions, where necessary. The existing facilities needs analysis identifies existing deficiencies, and the mitigation required to achieve the applicable LOS standard. The future no-build analysis allows for the identification of projects necessary to bring the roadways up to the proscribed LOS standard, after the inclusion of other planned levels of development, but before the introduction of project-generated traffic. The future build analysis identifies those additional facilities improvements that will be necessitated by the subject DRI. Later in the study, programmed transportation improvements are identified, and those improvements are compared with the results of the facilities needs analysis, where appropriate.

Appendix B
Traffic Count Data

Reliable Traffic Data Services, LLC

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TMC Data
US29/SR14 @ Weldon Rd/
Meadow Chase Way, Palmetto, GA
7-9am I 4-6pm

File Name : 39610001
Site Code : 39610001
Start Date : 12/6/2016
Page No : 1

Groups Printed- Cars and Buses - Trucks

	US29/SR14 Northbound					US29/SR14 Southbound					Meadow Chase Way Eastbound					Weldon 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	0	54	41	0	95	62	37	0	0	99	1	1	1	0	3	12	1	41	0	54	251
07:15 AM	1	74	59	0	134	62	64	0	0	126	1	0	2	0	3	19	0	43	0	62	325
07:30 AM	1	53	67	0	121	61	64	1	0	126	1	2	0	0	3	28	0	38	0	66	316
07:45 AM	1	54	104	0	159	102	62	0	0	164	0	2	1	0	3	44	0	50	0	94	420
Total	3	235	271	0	509	287	227	1	0	515	3	5	4	0	12	103	1	172	0	276	1312
08:00 AM	1	70	86	0	157	93	60	0	0	153	0	2	0	0	2	22	0	48	0	70	382
08:15 AM	0	64	50	0	114	48	60	1	0	109	0	1	0	0	1	16	0	43	0	59	283
08:30 AM	0	70	42	0	112	38	60	0	0	98	0	1	0	0	1	19	1	42	0	62	273
08:45 AM	0	50	25	0	75	27	51	1	0	79	0	1	2	0	3	13	0	29	0	42	199
Total	1	254	203	0	458	206	231	2	0	439	0	5	2	0	7	70	1	162	0	233	1137
*** BREAK ***																					
04:00 PM	0	72	26	0	98	61	82	2	0	145	0	1	0	0	1	56	1	61	0	118	362
04:15 PM	3	63	31	0	97	63	93	0	0	156	1	2	0	0	3	45	0	49	0	94	350
04:30 PM	0	57	29	0	86	54	77	1	0	132	0	1	0	0	1	60	0	58	0	118	337
04:45 PM	3	64	27	0	94	58	83	2	0	143	0	2	2	0	4	57	1	55	0	113	354
Total	6	256	113	0	375	236	335	5	0	576	1	6	2	0	9	218	2	223	0	443	1403
05:00 PM	1	57	26	0	84	70	104	0	0	174	0	0	0	0	0	74	2	68	0	144	402
05:15 PM	0	78	34	0	112	66	88	0	0	154	0	0	0	0	0	83	1	68	0	152	418
05:30 PM	0	78	24	0	102	70	99	0	0	169	0	0	1	0	1	68	1	66	0	135	407
05:45 PM	1	62	36	0	99	51	81	0	0	132	0	0	0	0	0	72	0	47	0	119	350
Total	2	275	120	0	397	257	372	0	0	629	0	0	1	0	1	297	4	249	0	550	1577
Grand Total	12	1020	707	0	1739	986	1165	8	0	2159	4	16	9	0	29	688	8	806	0	1502	5429
Apprch %	0.7	58.7	40.7	0		45.7	54	0.4	0		13.8	55.2	31	0		45.8	0.5	53.7	0		
Total %	0.2	18.8	13	0	32	18.2	21.5	0.1	0	39.8	0.1	0.3	0.2	0	0.5	12.7	0.1	14.8	0	27.7	
Cars and Buses	12	986	706	0	1704	972	1138	8	0	2118	4	16	9	0	29	687	6	803	0	1496	5347
% Cars and Buses	100	96.7	99.9	0	98	98.6	97.7	100	0	98.1	100	100	100	0	100	99.9	75	99.6	0	99.6	98.5
Trucks	0	34	1	0	35	14	27	0	0	41	0	0	0	0	0	1	2	3	0	6	82
% Trucks	0	3.3	0.1	0	2	1.4	2.3	0	0	1.9	0	0	0	0	0	0.1	25	0.4	0	0.4	1.5

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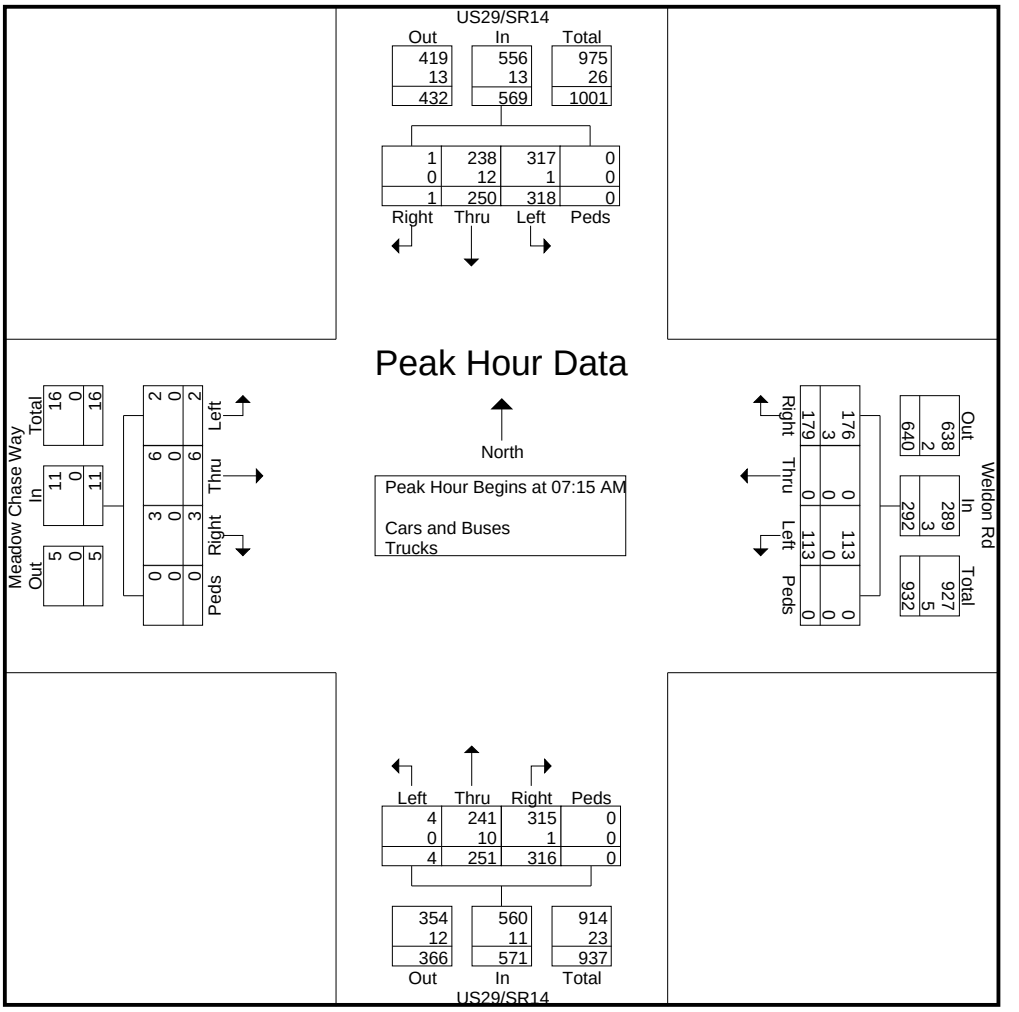
TMC Data
US29/SR14 @ Weldon Rd/
Meadow Chase Way, Palmetto, GA
7-9am I 4-6pm

File Name : 39610001
Site Code : 39610001
Start Date : 12/6/2016
Page No : 2

	US29/SR14 Northbound					US29/SR14 Southbound					Meadow Chase Way Eastbound					Weldon 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 07:15 AM																					
07:15 AM	**1**	**74**	59	0	134	62	**64**	0	0	126	**1**	0	**2**	0	**3**	19	0	43	0	62	325
07:30 AM	1	53	67	0	121	61	64	**1**	0	126	1	**2**	0	0	3	28	0	38	0	66	316
07:45 AM	1	54	**104**	0	**159**	**102**	62	0	0	**164**	0	2	1	0	3	**44**	0	**50**	0	**94**	**420**
08:00 AM	1	70	86	0	157	93	60	0	0	153	0	2	0	0	2	22	0	48	0	70	382
Total Volume	4	251	316	0	571	318	250	1	0	569	2	6	3	0	11	113	0	179	0	292	1443
% App. Total	0.7	44	55.3	0		55.9	43.9	0.2	0		18.2	54.5	27.3	0		38.7	0	61.3	0		
PHF	1.00	.848	.760	.000	.898	.779	.977	.250	.000	.867	.500	.750	.375	.000	.917	.642	.000	.895	.000	.777	.859
Cars and Buses	4	241	315	0	560	317	238	1	0	556	2	6	3	0	11	113	0	176	0	289	1416
% Cars and Buses	100	96.0	99.7	0	98.1	99.7	95.2	100	0	97.7	100	100	100	0	100	100	0	98.3	0	99.0	98.1
Trucks	0	10	1	0	11	1	12	0	0	13	0	0	0	0	0	0	0	3	0	3	27
% Trucks	0	4.0	0.3	0	1.9	0.3	4.8	0	0	2.3	0	0	0	0	0	0	0	1.7	0	1.0	1.9



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7-9am I 4-6pm

File Name : 39610001
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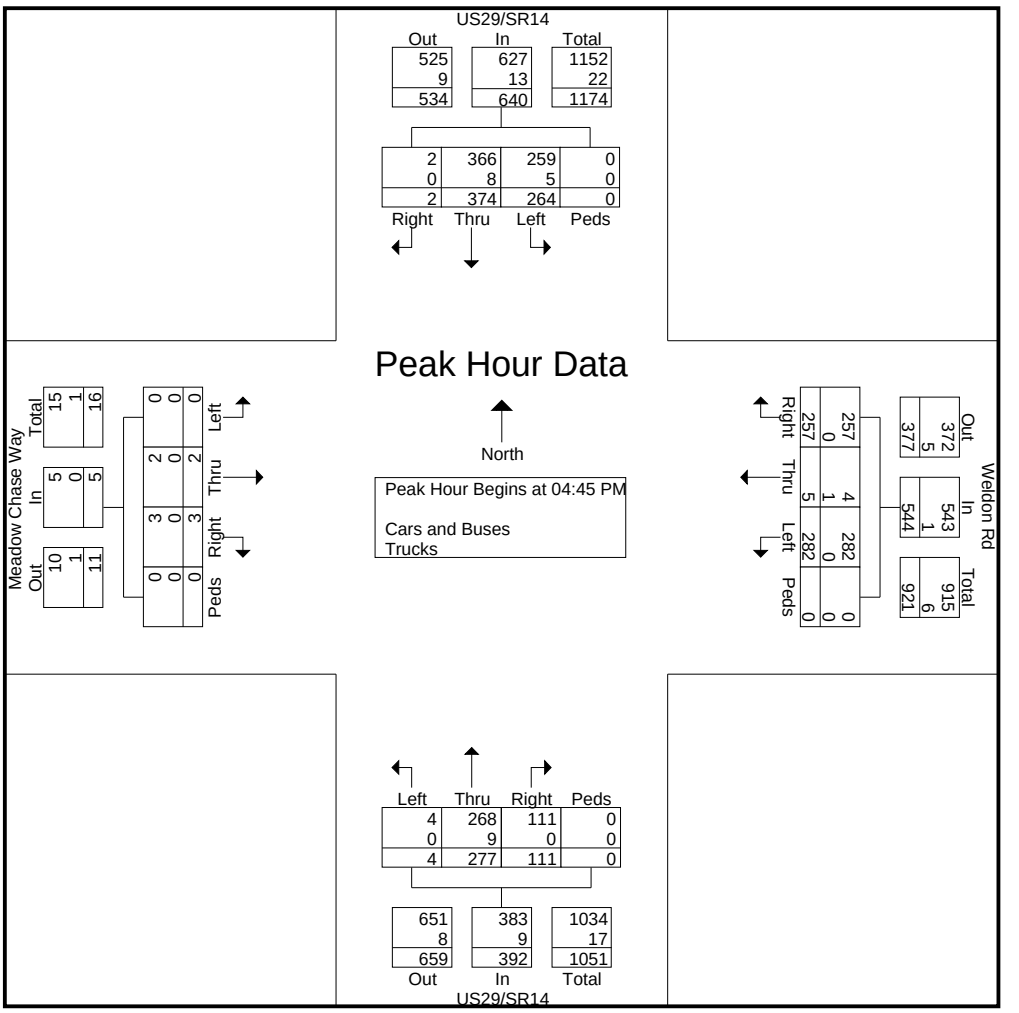
Start Date : 12/6/2016
Page No : 3

	US29/SR14 Northbound					US29/SR14 Southbound					Meadow Chase Way Eastbound					Weldon 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 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	**3**	64	27	0	94	58	83	**2**	0	143	0	**2**	**2**	0	**4**	57	1	55	0	113	354
05:00 PM	1	57	26	0	84	**70**	**104**	0	0	**174**	0	0	0	0	0	74	**2**	**68**	0	144	402
05:15 PM	0	**78**	**34**	0	**112**	66	88	0	0	154	0	0	0	0	0	**83**	1	68	0	**152**	**418**
05:30 PM	0	78	24	0	102	70	99	0	0	169	0	0	1	0	1	68	1	66	0	135	407
Total Volume	4	277	111	0	392	264	374	2	0	640	0	2	3	0	5	282	5	257	0	544	1581
% App. Total	1	70.7	28.3	0		41.2	58.4	0.3	0		0	40	60	0		51.8	0.9	47.2	0		
PHF	.333	.888	.816	.000	.875	.943	.899	.250	.000	.920	.000	.250	.375	.000	.313	.849	.625	.945	.000	.895	.946
Cars and Buses	4	268	111	0	383	259	366	2	0	627	0	2	3	0	5	282	4	257	0	543	1558
% Cars and Buses	100	96.8	100	0	97.7	98.1	97.9	100	0	98.0	0	100	100	0	100	100	80.0	100	0	99.8	98.5
Trucks	0	9	0	0	9	5	8	0	0	13	0	0	0	0	0	0	1	0	0	1	23
% Trucks	0	3.2	0	0	2.3	1.9	2.1	0	0	2.0	0	0	0	0	0	0	20.0	0	0	0.2	1.5



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TMC Data
Collingsworth Rd @ Weldon Rd
Palmetto, GA
7-9am I 4-6pm

File Name : 39610002
Site Code : 39610002
Start Date : 12/6/2016
Page No : 1

Groups Printed- Cars and Buses - Trucks

	Northbound					Collingsworth Rd Southbound					Weldon Rd Eastbound					Collingsworth 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	0	0	0	0	0	68	0	0	0	68	8	68	0	0	76	0	15	45	0	60	204
07:15 AM	0	0	0	0	0	79	0	2	0	81	6	93	0	0	99	0	21	68	0	89	269
07:30 AM	0	0	0	0	0	66	0	1	0	67	9	97	0	0	106	0	26	78	0	104	277
07:45 AM	0	0	0	0	0	66	0	2	0	68	10	103	0	0	113	0	33	65	0	98	279
Total	0	0	0	0	0	279	0	5	0	284	33	361	0	0	394	0	95	256	0	351	1029
08:00 AM	0	0	0	0	0	63	0	0	0	63	3	83	0	0	86	0	27	65	0	92	241
08:15 AM	0	0	0	0	0	66	0	1	0	67	3	63	0	0	66	0	29	52	0	81	214
08:30 AM	0	0	0	0	0	54	0	1	0	55	0	60	0	0	60	0	21	51	0	72	187
08:45 AM	0	0	0	0	0	54	0	0	0	54	3	52	0	0	55	0	18	48	0	66	175
Total	0	0	0	0	0	237	0	2	0	239	9	258	0	0	267	0	95	216	0	311	817
*** BREAK ***																					
04:00 PM	0	0	0	0	0	61	0	2	0	63	1	46	0	0	47	0	60	88	0	148	258
04:15 PM	0	0	0	0	0	60	0	5	0	65	4	47	0	0	51	0	72	89	0	161	277
04:30 PM	0	0	0	0	0	81	0	4	0	85	1	48	0	0	49	0	85	86	0	171	305
04:45 PM	0	0	0	0	0	81	0	2	0	83	2	51	0	0	53	0	92	79	0	171	307
Total	0	0	0	0	0	283	0	13	0	296	8	192	0	0	200	0	309	342	0	651	1147
05:00 PM	0	0	0	0	0	87	0	21	0	108	0	56	0	0	56	0	86	74	0	160	324
05:15 PM	0	0	0	0	0	75	0	15	0	90	0	58	0	0	58	0	110	79	0	189	337
05:30 PM	0	0	0	0	0	94	0	8	0	102	1	51	0	0	52	0	102	85	0	187	341
05:45 PM	0	0	0	0	0	61	0	5	0	66	0	48	0	0	48	0	88	93	0	181	295
Total	0	0	0	0	0	317	0	49	0	366	1	213	0	0	214	0	386	331	0	717	1297
Grand Total	0	0	0	0	0	1116	0	69	0	1185	51	1024	0	0	1075	0	885	1145	0	2030	4290
Apprch %	0	0	0	0		94.2	0	5.8	0		4.7	95.3	0	0		0	43.6	56.4	0		
Total %	0	0	0	0	0	26	0	1.6	0	27.6	1.2	23.9	0	0	25.1	0	20.6	26.7	0	47.3	
Cars and Buses	0	0	0	0	0	1104	0	69	0	1173	51	1007	0	0	1058	0	877	1130	0	2007	4238
% Cars and Buses	0	0	0	0	0	98.9	0	100	0	99	100	98.3	0	0	98.4	0	99.1	98.7	0	98.9	98.8
Trucks	0	0	0	0	0	12	0	0	0	12	0	17	0	0	17	0	8	15	0	23	52
% Trucks	0	0	0	0	0	1.1	0	0	0	1	0	1.7	0	0	1.6	0	0.9	1.3	0	1.1	1.2

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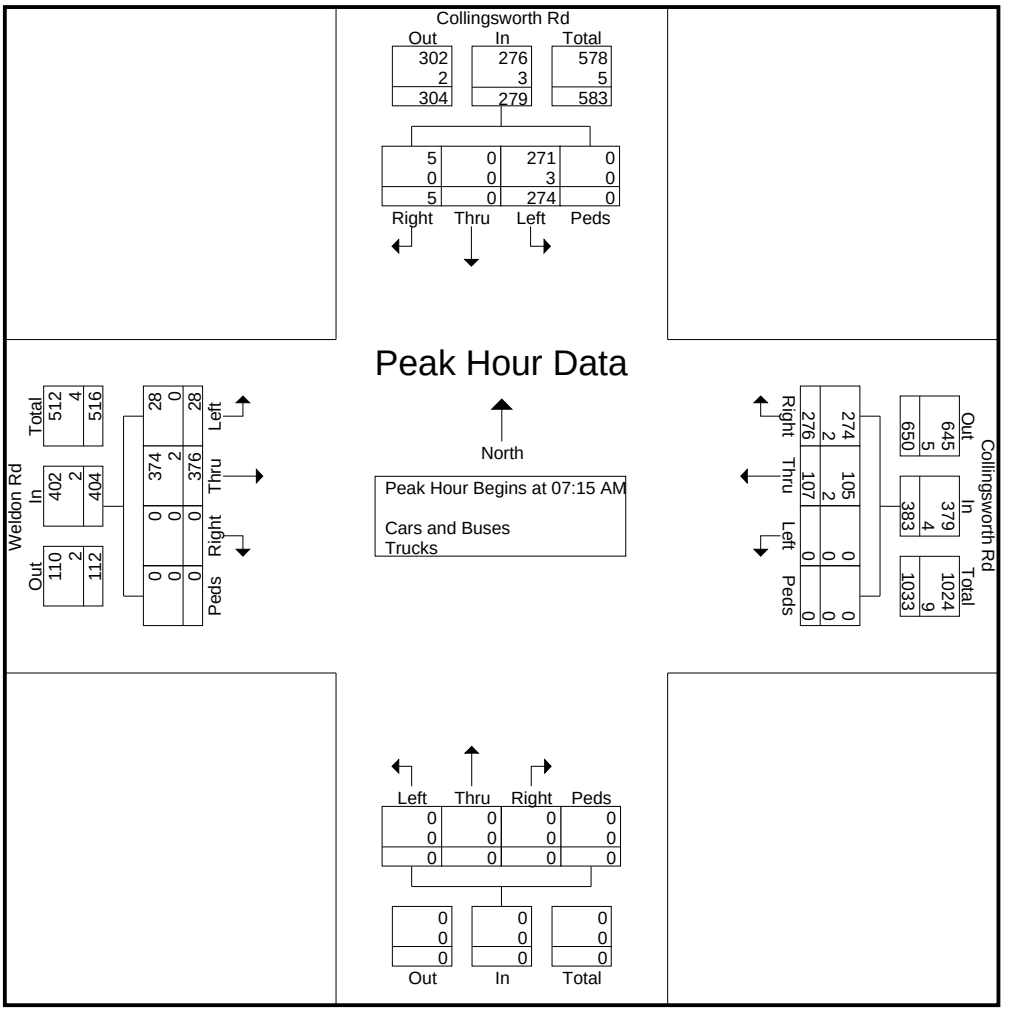
TMC Data
Collingsworth Rd @ Weldon Rd
Palmetto, GA
7-9am I 4-6pm

File Name : 39610002
Site Code : 39610002
Start Date : 12/6/2016

	Northbound					Collingsworth Rd Southbound					Weldon Rd Eastbound					Collingsworth 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 07:15 AM																					
07:15 AM	0	0	0	0	0	**79**	0	**2**	0	**81**	6	93	0	0	99	0	21	68	0	89	269
07:30 AM	0	0	0	0	0	66	0	1	0	67	9	97	0	0	106	0	26	**78**	0	**104**	277
07:45 AM	0	0	0	0	0	66	0	2	0	68	**10**	**103**	0	0	**113**	0	**33**	65	0	98	**279**
08:00 AM	0	0	0	0	0	63	0	0	0	63	3	83	0	0	86	0	27	65	0	92	241
Total Volume	0	0	0	0	0	274	0	5	0	279	28	376	0	0	404	0	107	276	0	383	1066
% App. Total	0	0	0	0		98.2	0	1.8	0		6.9	93.1	0	0		0	27.9	72.1	0		
PHF	.000	.000	.000	.000	.000	.867	.000	.625	.000	.861	.700	.913	.000	.000	.894	.000	.811	.885	.000	.921	.955
Cars and Buses	0	0	0	0	0	271	0	5	0	276	28	374	0	0	402	0	105	274	0	379	1057
% Cars and Buses	0	0	0	0	0	98.9	0	100	0	98.9	100	99.5	0	0	99.5	0	98.1	99.3	0	99.0	99.2
Trucks	0	0	0	0	0	3	0	0	0	3	0	2	0	0	2	0	2	2	0	4	9
% Trucks	0	0	0	0	0	1.1	0	0	0	1.1	0	0.5	0	0	0.5	0	1.9	0.7	0	1.0	0.8



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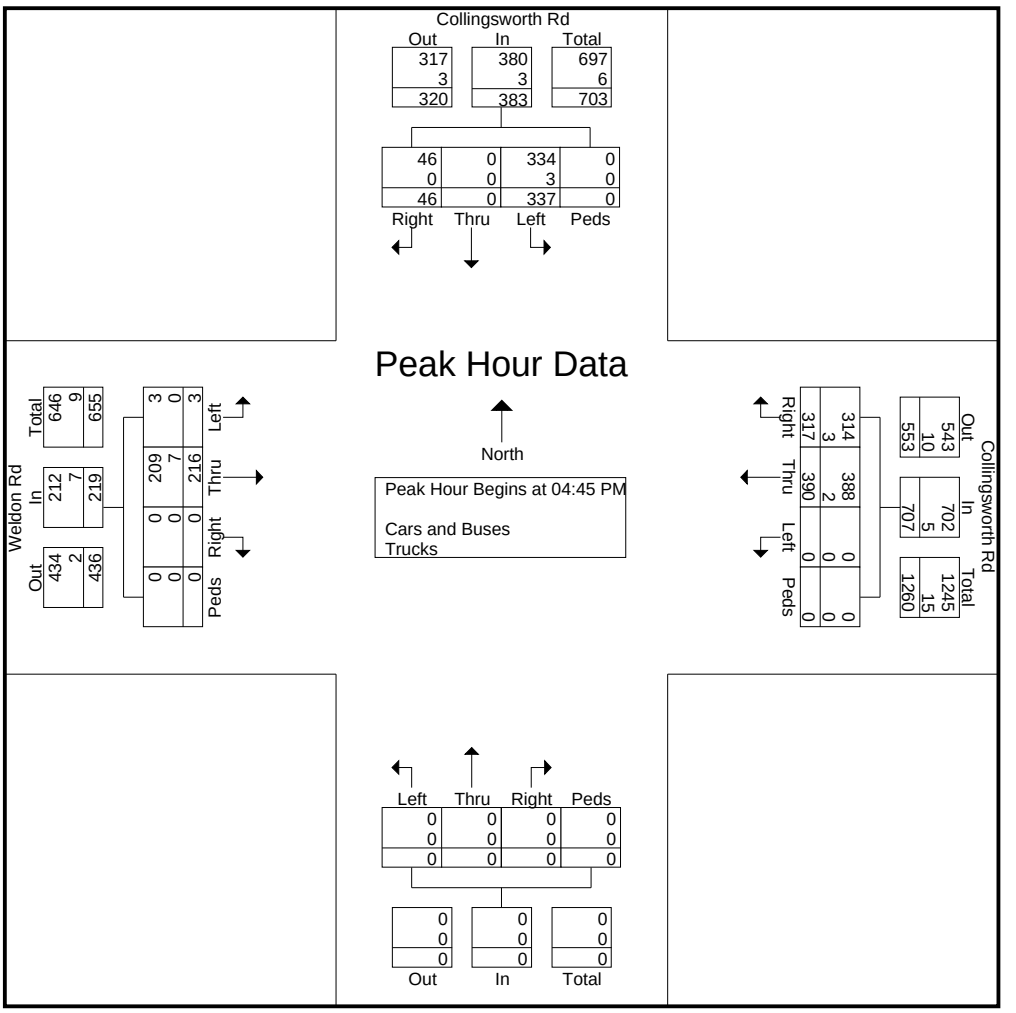
TMC Data
Collingsworth Rd @ Weldon Rd
Palmetto, GA
7-9am I 4-6pm

File Name : 39610002
Site Code : 39610002
Start Date : 12/6/2016
Page No : 3

	Northbound					Collingsworth Rd Southbound					Weldon Rd Eastbound					Collingsworth 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 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	0	0	0	0	0	81	0	2	0	83	**2**	51	0	0	53	0	92	79	0	171	307
05:00 PM	0	0	0	0	0	87	0	**21**	0	**108**	0	56	0	0	56	0	86	74	0	160	324
05:15 PM	0	0	0	0	0	75	0	15	0	90	0	**58**	0	0	**58**	0	**110**	79	0	**189**	337
05:30 PM	0	0	0	0	0	**94**	0	8	0	102	1	51	0	0	52	0	102	**85**	0	187	**341**
Total Volume	0	0	0	0	0	337	0	46	0	383	3	216	0	0	219	0	390	317	0	707	1309
% App. Total	0	0	0	0		88	0	12	0		1.4	98.6	0	0		0	55.2	44.8	0		
PHF	.000	.000	.000	.000	.000	.896	.000	.548	.000	.887	.375	.931	.000	.000	.944	.000	.886	.932	.000	.935	.960
Cars and Buses	0	0	0	0	0	334	0	46	0	380	3	209	0	0	212	0	388	314	0	702	1294
% Cars and Buses	0	0	0	0	0	99.1	0	100	0	99.2	100	96.8	0	0	96.8	0	99.5	99.1	0	99.3	98.9
Trucks	0	0	0	0	0	3	0	0	0	3	0	7	0	0	7	0	2	3	0	5	15
% Trucks	0	0	0	0	0	0.9	0	0	0	0.8	0	3.2	0	0	3.2	0	0.5	0.9	0	0.7	1.1



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TMC Data
Collingsworth Rd @ I-85 SB Off-Ramp
Palmetto, GA
7-9am I 4-6pm

File Name : 39610003
Site Code : 39610003
Start Date : 12/6/2016
Page No : 1

Groups Printed- Cars and Buses - Trucks

	Northbound					I-85 SB Off-Ramp Southbound					Collingsworth Rd Eastbound					Collingsworth 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	0	0	0	0	0	13	0	21	0	34	0	123	33	0	156	26	52	0	0	78	268
07:15 AM	0	0	0	0	0	19	0	19	0	38	0	134	38	0	172	25	84	0	0	109	319
07:30 AM	0	0	0	0	0	17	0	38	0	55	0	141	45	0	186	36	93	0	0	129	370
07:45 AM	0	0	0	0	0	26	1	39	0	66	0	138	46	0	184	25	96	0	0	121	371
Total	0	0	0	0	0	75	1	117	0	193	0	536	162	0	698	112	325	0	0	437	1328
08:00 AM	0	0	0	0	0	20	0	29	0	49	0	128	39	0	167	30	80	0	0	110	326
08:15 AM	0	0	0	0	0	13	0	39	0	52	0	103	28	0	131	27	66	0	0	93	276
08:30 AM	0	0	0	0	0	9	0	23	0	32	0	95	35	0	130	47	59	0	0	106	268
08:45 AM	0	0	0	0	0	23	0	32	0	55	0	81	33	0	114	25	53	0	0	78	247
Total	0	0	0	0	0	65	0	123	0	188	0	407	135	0	542	129	258	0	0	387	1117
*** BREAK ***																					
04:00 PM	0	0	0	0	0	103	1	70	0	174	0	79	40	0	119	28	95	0	0	123	416
04:15 PM	0	0	0	0	0	141	0	71	0	212	0	83	34	0	117	34	107	0	0	141	470
04:30 PM	0	0	0	0	0	120	0	79	0	199	0	86	52	0	138	39	121	0	0	160	497
04:45 PM	0	0	0	0	0	161	0	76	0	237	0	88	57	0	145	34	124	0	0	158	540
Total	0	0	0	0	0	525	1	296	0	822	0	336	183	0	519	135	447	0	0	582	1923
05:00 PM	0	0	0	0	0	207	0	86	0	293	0	85	54	0	139	50	118	0	0	168	600
05:15 PM	0	0	0	0	0	177	5	83	0	265	0	81	51	0	132	70	140	0	0	210	607
05:30 PM	0	0	0	0	0	184	0	81	0	265	0	89	69	0	158	71	135	0	0	206	629
05:45 PM	0	0	0	0	0	154	0	64	0	218	0	81	38	0	119	27	103	0	0	130	467
Total	0	0	0	0	0	722	5	314	0	1041	0	336	212	0	548	218	496	0	0	714	2303
Grand Total	0	0	0	0	0	1387	7	850	0	2244	0	1615	692	0	2307	594	1526	0	0	2120	6671
Apprch %	0	0	0	0		61.8	0.3	37.9	0		0	70	30	0		28	72	0	0		
Total %	0	0	0	0	0	20.8	0.1	12.7	0	33.6	0	24.2	10.4	0	34.6	8.9	22.9	0	0	31.8	
Cars and Buses	0	0	0	0	0	1383	6	847	0	2236	0	1611	670	0	2281	587	1507	0	0	2094	6611
% Cars and Buses	0	0	0	0	0	99.7	85.7	99.6	0	99.6	0	99.8	96.8	0	98.9	98.8	98.8	0	0	98.8	99.1
Trucks	0	0	0	0	0	4	1	3	0	8	0	4	22	0	26	7	19	0	0	26	60
% Trucks	0	0	0	0	0	0.3	14.3	0.4	0	0.4	0	0.2	3.2	0	1.1	1.2	1.2	0	0	1.2	0.9

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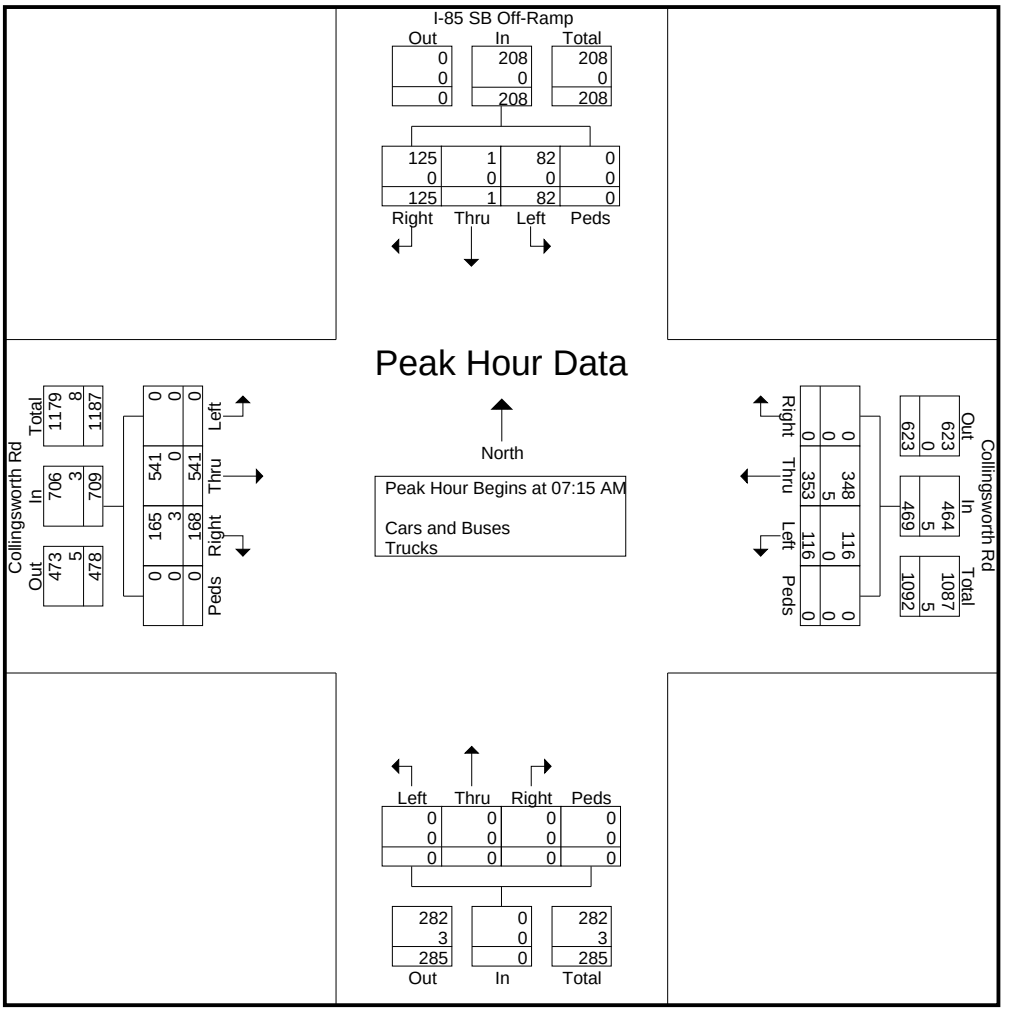
TMC Data
Collingsworth Rd @ I-85 SB Off-Ramp
Palmetto, GA
7-9am I 4-6pm

File Name : 39610003
Site Code : 39610003
Start Date : 12/6/2016

	Northbound					I-85 SB Off-Ramp Southbound					Collingsworth Rd Eastbound					Collingsworth 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 07:15 AM																					
07:15 AM	0	0	0	0	0	19	0	19	0	38	0	134	38	0	172	25	84	0	0	109	319
07:30 AM	0	0	0	0	0	17	0	38	0	55	0	**141**	45	0	**186**	**36**	93	0	0	**129**	370
07:45 AM	0	0	0	0	0	**26**	**1**	**39**	0	**66**	0	138	**46**	0	184	25	**96**	0	0	121	**371**
08:00 AM	0	0	0	0	0	20	0	29	0	49	0	128	39	0	167	30	80	0	0	110	326
Total Volume	0	0	0	0	0	82	1	125	0	208	0	541	168	0	709	116	353	0	0	469	1386
% App. Total	0	0	0	0		39.4	0.5	60.1	0		0	76.3	23.7	0		24.7	75.3	0	0		
PHF	.000	.000	.000	.000	.000	.788	.250	.801	.000	.788	.000	.959	.913	.000	.953	.806	.919	.000	.000	.909	.934
Cars and Buses	0	0	0	0	0	82	1	125	0	208	0	541	165	0	706	116	348	0	0	464	1378
% Cars and Buses	0	0	0	0	0	100	100	100	0	100	0	100	98.2	0	99.6	100	98.6	0	0	98.9	99.4
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	5	0	0	5	8
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	1.8	0	0.4	0	1.4	0	0	1.1	0.6



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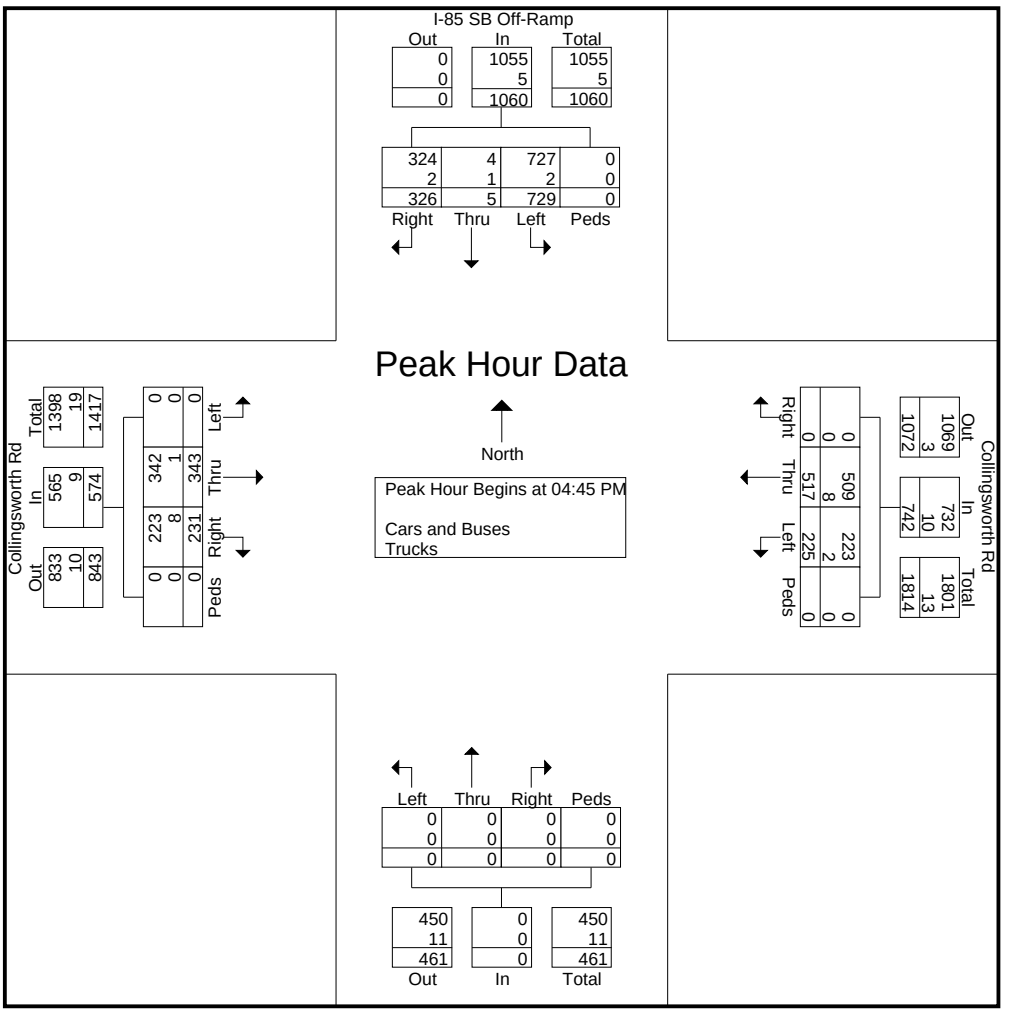
TMC Data
Collingsworth Rd @ I-85 SB Off-Ramp
Palmetto, GA
7-9am I 4-6pm

File Name : 39610003
Site Code : 39610003
Start Date : 12/6/2016
Page No : 3

	Northbound					I-85 SB Off-Ramp Southbound					Collingsworth Rd Eastbound					Collingsworth 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 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	0	0	0	0	0	161	0	76	0	237	0	88	57	0	145	34	124	0	0	158	540
05:00 PM	0	0	0	0	0	**207**	0	**86**	0	**293**	0	85	54	0	139	50	118	0	0	168	600
05:15 PM	0	0	0	0	0	177	**5**	83	0	265	0	81	51	0	132	70	**140**	0	0	**210**	607
05:30 PM	0	0	0	0	0	184	0	81	0	265	0	**89**	**69**	0	**158**	**71**	135	0	0	206	**629**
Total Volume	0	0	0	0	0	729	5	326	0	1060	0	343	231	0	574	225	517	0	0	742	2376
% App. Total	0	0	0	0		68.8	0.5	30.8	0		0	59.8	40.2	0		30.3	69.7	0	0		
PHF	.000	.000	.000	.000	.000	.880	.250	.948	.000	.904	.000	.963	.837	.000	.908	.792	.923	.000	.000	.883	.944
Cars and Buses	0	0	0	0	0	727	4	324	0	1055	0	342	223	0	565	223	509	0	0	732	2352
% Cars and Buses	0	0	0	0	0	99.7	80.0	99.4	0	99.5	0	99.7	96.5	0	98.4	99.1	98.5	0	0	98.7	99.0
Trucks	0	0	0	0	0	2	1	2	0	5	0	1	8	0	9	2	8	0	0	10	24
% Trucks	0	0	0	0	0	0.3	20.0	0.6	0	0.5	0	0.3	3.5	0	1.6	0.9	1.5	0	0	1.3	1.0



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TMC Data
Collingsworth Rd @ I-85 NB Off-Ramp
Palmetto, GA
7-9am I 4-6pm

File Name : 39610004
Site Code : 39610004
Start Date : 12/6/2016
Page No : 1

Groups Printed- Cars and Buses - Trucks

	I-85 NB Off-Ramp Northbound					Southbound					Collingsworth Rd Eastbound					Collingsworth 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	25	0	34	0	59	0	0	0	0	0	63	68	0	0	131	0	49	167	0	216	406
07:15 AM	46	0	36	0	82	0	0	0	0	0	74	79	0	0	153	0	64	159	0	223	458
07:30 AM	54	0	50	0	104	0	0	0	0	0	77	81	0	0	158	0	67	189	0	256	518
07:45 AM	51	0	48	0	99	0	0	0	0	0	72	85	0	0	157	0	65	184	0	249	505
Total	176	0	168	0	344	0	0	0	0	0	286	313	0	0	599	0	245	699	0	944	1887
08:00 AM	35	0	57	0	92	0	0	0	0	0	63	73	0	0	136	0	65	170	0	235	463
08:15 AM	41	0	53	0	94	0	0	0	0	0	51	76	0	0	127	0	61	139	0	200	421
08:30 AM	27	0	40	0	67	0	0	0	0	0	36	71	0	0	107	0	69	99	0	168	342
08:45 AM	27	0	25	0	52	0	0	0	0	0	28	63	0	0	91	0	48	62	0	110	253
Total	130	0	175	0	305	0	0	0	0	0	178	283	0	0	461	0	243	470	0	713	1479
*** BREAK ***																					
04:00 PM	45	0	35	0	80	0	0	0	0	0	23	147	0	0	170	0	82	33	0	115	365
04:15 PM	46	1	34	0	81	0	0	0	0	0	31	197	0	0	228	0	98	28	0	126	435
04:30 PM	48	0	37	0	85	0	0	0	0	0	23	193	0	0	216	0	109	19	0	128	429
04:45 PM	42	0	44	0	86	0	0	0	0	0	31	198	0	0	229	0	105	25	0	130	445
Total	181	1	150	0	332	0	0	0	0	0	108	735	0	0	843	0	394	105	0	499	1674
05:00 PM	29	1	51	0	81	0	0	0	0	0	27	217	0	0	244	0	132	26	0	158	483
05:15 PM	43	0	34	0	77	0	0	0	0	0	25	248	0	0	273	0	158	23	0	181	531
05:30 PM	42	0	38	0	80	0	0	0	0	0	28	246	0	0	274	0	129	26	0	155	509
05:45 PM	47	1	48	0	96	0	0	0	0	0	33	217	0	0	250	0	118	21	0	139	485
Total	161	2	171	0	334	0	0	0	0	0	113	928	0	0	1041	0	537	96	0	633	2008
Grand Total	648	3	664	0	1315	0	0	0	0	0	685	2259	0	0	2944	0	1419	1370	0	2789	7048
Apprch %	49.3	0.2	50.5	0		0	0	0	0		23.3	76.7	0	0		0	50.9	49.1	0		
Total %	9.2	0	9.4	0	18.7	0	0	0	0	0	9.7	32.1	0	0	41.8	0	20.1	19.4	0	39.6	
Cars and Buses	637	3	660	0	1300	0	0	0	0	0	680	2255	0	0	2935	0	1407	1369	0	2776	7011
% Cars and Buses	98.3	100	99.4	0	98.9	0	0	0	0	0	99.3	99.8	0	0	99.7	0	99.2	99.9	0	99.5	99.5
Trucks	11	0	4	0	15	0	0	0	0	0	5	4	0	0	9	0	12	1	0	13	37
% Trucks	1.7	0	0.6	0	1.1	0	0	0	0	0	0.7	0.2	0	0	0.3	0	0.8	0.1	0	0.5	0.5

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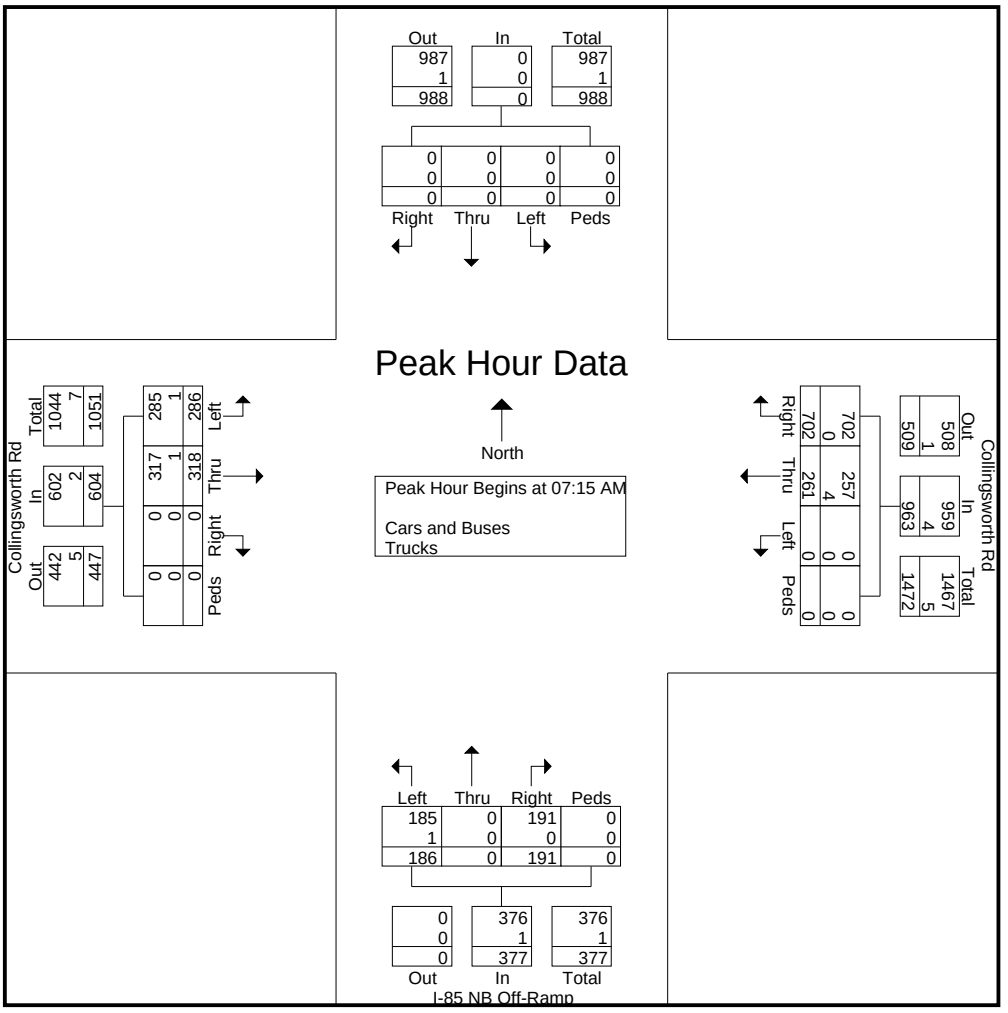
TMC Data
Collingsworth Rd @ I-85 NB Off-Ramp
Palmetto, GA
7-9am I 4-6pm

File Name : 39610004
Site Code : 39610004
Start Date : 12/6/2016

	I-85 NB Off-Ramp Northbound					Southbound					Collingsworth Rd Eastbound					Collingsworth 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 07:15 AM																					
07:15 AM	46	0	36	0	82	0	0	0	0	0	74	79	0	0	153	0	64	159	0	223	458
07:30 AM	**54**	0	50	0	**104**	0	0	0	0	0	**77**	81	0	0	**158**	0	**67**	**189**	0	**256**	**518**
07:45 AM	51	0	48	0	99	0	0	0	0	0	72	**85**	0	0	157	0	65	184	0	249	505
08:00 AM	35	0	**57**	0	92	0	0	0	0	0	63	73	0	0	136	0	65	170	0	235	463
Total Volume	186	0	191	0	377	0	0	0	0	0	286	318	0	0	604	0	261	702	0	963	1944
% App. Total	49.3	0	50.7	0		0	0	0	0		47.4	52.6	0	0		0	27.1	72.9	0		
PHF	.861	.000	.838	.000	.906	.000	.000	.000	.000	.000	.929	.935	.000	.000	.956	.000	.974	.929	.000	.940	.938
Cars and Buses	185	0	191	0	376	0	0	0	0	0	285	317	0	0	602	0	257	702	0	959	1937
% Cars and Buses	99.5	0	100	0	99.7	0	0	0	0	0	99.7	99.7	0	0	99.7	0	98.5	100	0	99.6	99.6
Trucks	1	0	0	0	1	0	0	0	0	0	1	1	0	0	2	0	4	0	0	4	7
% Trucks	0.5	0	0	0	0.3	0	0	0	0	0	0.3	0.3	0	0	0.3	0	1.5	0	0	0.4	0.4



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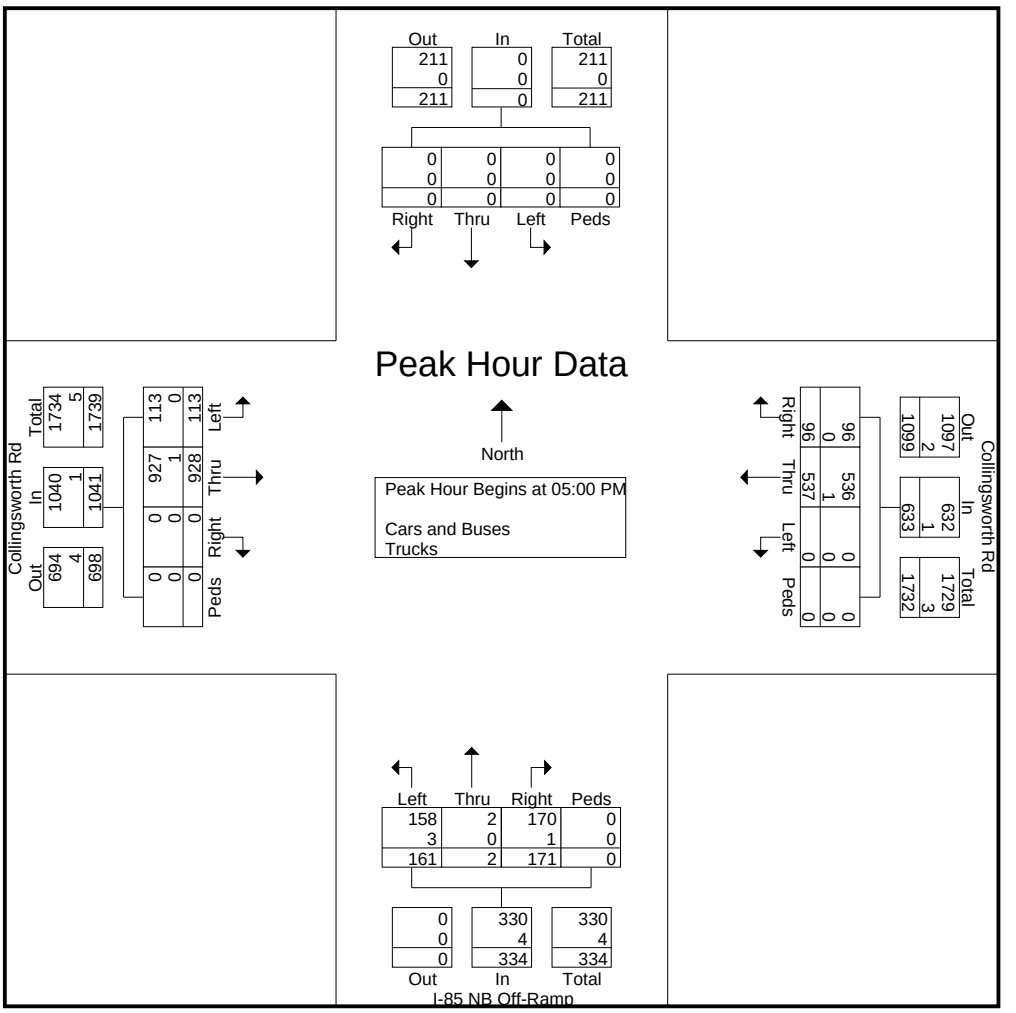
TMC Data
Collingsworth Rd @ I-85 NB Off-Ramp
Palmetto, GA
7-9am I 4-6pm

File Name : 39610004
Site Code : 39610004
Start Date : 12/6/2016
Page No : 3

	I-85 NB Off-Ramp Northbound					Southbound					Collingsworth Rd Eastbound					Collingsworth 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 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	29	**1**	**51**	0	81	0	0	0	0	0	27	217	0	0	244	0	132	**26**	0	158	483
05:15 PM	43	0	34	0	77	0	0	0	0	0	25	**248**	0	0	273	0	**158**	23	0	**181**	**531**
05:30 PM	42	0	38	0	80	0	0	0	0	0	28	246	0	0	**274**	0	129	26	0	155	509
05:45 PM	**47**	1	48	0	**96**	0	0	0	0	0	**33**	217	0	0	250	0	118	21	0	139	485
Total Volume	161	2	171	0	334	0	0	0	0	0	113	928	0	0	1041	0	537	96	0	633	2008
% App. Total	48.2	0.6	51.2	0		0	0	0	0		10.9	89.1	0	0		0	84.8	15.2	0		
PHF	.856	.500	.838	.000	.870	.000	.000	.000	.000	.000	.856	.935	.000	.000	.950	.000	.850	.923	.000	.874	.945
Cars and Buses	158	2	170	0	330	0	0	0	0	0	113	927	0	0	1040	0	536	96	0	632	2002
% Cars and Buses	98.1	100	99.4	0	98.8	0	0	0	0	0	100	99.9	0	0	99.9	0	99.8	100	0	99.8	99.7
Trucks	3	0	1	0	4	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	6
% Trucks	1.9	0	0.6	0	1.2	0	0	0	0	0	0	0.1	0	0	0.1	0	0.2	0	0	0.2	0.3



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TMC Data
Collingsworth Rd @ Cannongate Rd
Palmetto, GA
7-9am I 4-6pm

File Name : 39610005
Site Code : 39610005
Start Date : 12/6/2016
Page No : 1

Groups Printed- Cars and Buses - Trucks

	Cannongate Rd Northbound					Southbound					Collingsworth Rd Eastbound					Collingsworth 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	128	0	1	0	129	0	0	0	0	0	0	76	17	0	93	0	82	0	0	82	304
07:15 AM	132	0	4	0	136	0	0	0	0	0	0	88	15	0	103	2	88	0	0	90	329
07:30 AM	117	0	6	0	123	0	0	0	0	0	0	112	19	0	131	7	138	0	0	145	399
07:45 AM	122	0	7	0	129	0	0	0	0	0	0	118	17	0	135	2	119	0	0	121	385
Total	499	0	18	0	517	0	0	0	0	0	0	394	68	0	462	11	427	0	0	438	1417
08:00 AM	108	0	3	0	111	0	0	0	0	0	0	113	18	0	131	6	105	0	0	111	353
08:15 AM	107	0	5	0	112	0	0	0	0	0	0	108	20	0	128	3	87	0	0	90	330
08:30 AM	96	0	5	0	101	0	0	0	0	0	0	86	12	0	98	2	70	0	0	72	271
08:45 AM	55	0	3	0	58	0	0	0	0	0	0	72	20	0	92	1	62	0	0	63	213
Total	366	0	16	0	382	0	0	0	0	0	0	379	70	0	449	12	324	0	0	336	1167
*** BREAK ***																					
04:00 PM	43	0	5	0	48	0	0	0	0	0	0	85	81	0	166	6	63	0	0	69	283
04:15 PM	36	0	7	0	43	0	0	0	0	0	0	109	113	0	222	6	82	0	0	88	353
04:30 PM	39	0	7	0	46	0	0	0	0	0	0	112	110	0	222	8	91	0	0	99	367
04:45 PM	41	0	6	0	47	0	0	0	0	0	0	140	114	0	254	9	94	0	0	103	404
Total	159	0	25	0	184	0	0	0	0	0	0	446	418	0	864	29	330	0	0	359	1407
05:00 PM	38	0	6	0	44	0	0	0	0	0	0	141	137	0	278	8	111	0	0	119	441
05:15 PM	36	0	7	0	43	0	0	0	0	0	0	131	141	0	272	5	126	0	0	131	446
05:30 PM	35	0	8	0	43	0	0	0	0	0	0	137	127	0	264	11	122	0	0	133	440
05:45 PM	28	0	3	0	31	0	0	0	0	0	0	142	118	0	260	15	118	0	0	133	424
Total	137	0	24	0	161	0	0	0	0	0	0	551	523	0	1074	39	477	0	0	516	1751
Grand Total	1161	0	83	0	1244	0	0	0	0	0	0	1770	1079	0	2849	91	1558	0	0	1649	5742
Apprch %	93.3	0	6.7	0		0	0	0	0		0	62.1	37.9	0		5.5	94.5	0	0		
Total %	20.2	0	1.4	0	21.7	0	0	0	0	0	0	30.8	18.8	0	49.6	1.6	27.1	0	0	28.7	
Cars and Buses	1161	0	83	0	1244	0	0	0	0	0	0	1761	1079	0	2840	91	1546	0	0	1637	5721
% Cars and Buses	100	0	100	0	100	0	0	0	0	0	0	99.5	100	0	99.7	100	99.2	0	0	99.3	99.6
Trucks	0	0	0	0	0	0	0	0	0	0	0	9	0	0	9	0	12	0	0	12	21
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0.5	0	0	0.3	0	0.8	0	0	0.7	0.4

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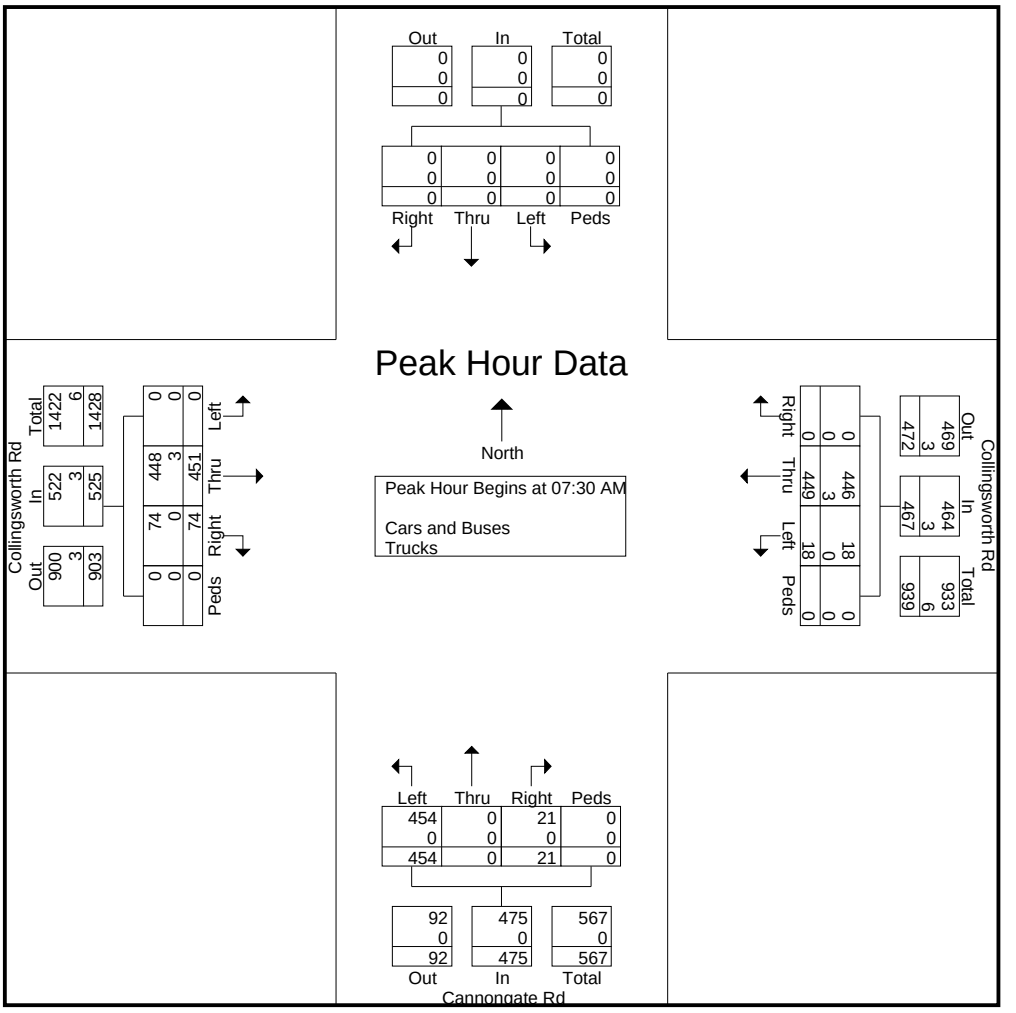
TMC Data
Collingsworth Rd @ Cannongate Rd
Palmetto, GA
7-9am I 4-6pm

File Name : 39610005
Site Code : 39610005
Start Date : 12/6/2016

	Cannongate Rd Northbound					Southbound					Collingsworth Rd Eastbound					Collingsworth 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	117	0	6	0	123	0	0	0	0	0	0	112	19	0	131	**7**	**138**	0	0	**145**	**399**
07:45 AM	**122**	0	**7**	0	**129**	0	0	0	0	0	0	**118**	17	0	**135**	2	119	0	0	121	385
08:00 AM	108	0	3	0	111	0	0	0	0	0	0	113	18	0	131	6	105	0	0	111	353
08:15 AM	107	0	5	0	112	0	0	0	0	0	0	108	**20**	0	128	3	87	0	0	90	330
Total Volume	454	0	21	0	475	0	0	0	0	0	0	451	74	0	525	18	449	0	0	467	1467
% App. Total	95.6	0	4.4	0		0	0	0	0		0	85.9	14.1	0		3.9	96.1	0	0		
PHF	.930	.000	.750	.000	.921	.000	.000	.000	.000	.000	.000	.956	.925	.000	.972	.643	.813	.000	.000	.805	.919
Cars and Buses	454	0	21	0	475	0	0	0	0	0	0	448	74	0	522	18	446	0	0	464	1461
% Cars and Buses	100	0	100	0	100	0	0	0	0	0	0	99.3	100	0	99.4	100	99.3	0	0	99.4	99.6
Trucks	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	3	0	0	3	6
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0.7	0	0	0.6	0	0.7	0	0	0.6	0.4



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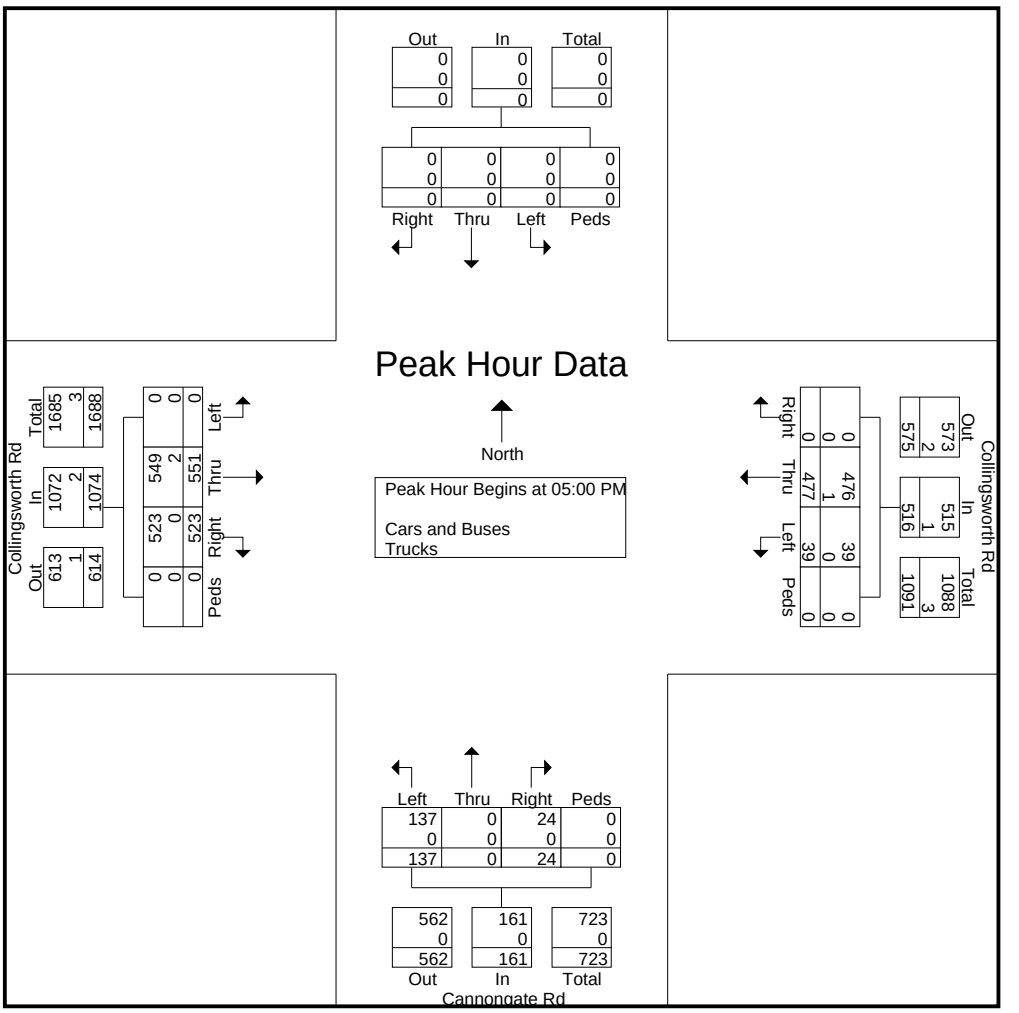
TMC Data
Collingsworth Rd @ Cannongate Rd
Palmetto, GA
7-9am I 4-6pm

File Name : 39610005
Site Code : 39610005
Start Date : 12/6/2016
Page No : 3

	Cannongate Rd Northbound					Southbound					Collingsworth Rd Eastbound					Collingsworth 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 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	**38**	0	6	0	**44**	0	0	0	0	0	0	141	137	0	**278**	8	111	0	0	119	441
05:15 PM	36	0	7	0	43	0	0	0	0	0	0	131	**141**	0	272	5	**126**	0	0	131	**446**
05:30 PM	35	0	**8**	0	43	0	0	0	0	0	0	137	127	0	264	11	122	0	0	**133**	440
05:45 PM	28	0	3	0	31	0	0	0	0	0	0	**142**	118	0	260	**15**	118	0	0	133	424
Total Volume	137	0	24	0	161	0	0	0	0	0	0	551	523	0	1074	39	477	0	0	516	1751
% App. Total	85.1	0	14.9	0		0	0	0	0		0	51.3	48.7	0		7.6	92.4	0	0		
PHF	.901	.000	.750	.000	.915	.000	.000	.000	.000	.000	.000	.970	.927	.000	.966	.650	.946	.000	.000	.970	.982
Cars and Buses	137	0	24	0	161	0	0	0	0	0	0	549	523	0	1072	39	476	0	0	515	1748
% Cars and Buses	100	0	100	0	100	0	0	0	0	0	0	99.6	100	0	99.8	100	99.8	0	0	99.8	99.8
Trucks	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	1	0	0	1	3
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0.4	0	0	0.2	0	0.2	0	0	0.2	0.2



Appendix C
Traffic Volume Worksheets

Palmetto Industrial DRI #2649 Transportation Analysis
City of Palmetto, Georgia

January 2017

Intersection: 1. US 29 at Weldon Road

Weekday A.M. Peak Hour	**Northbound US 29**				**Southbound US 29**				**Eastbound Meadow Chase Way**				**Westbound Weldon Road**			
	L	**T**	**R**	**Tot**	**L**	**T**	**R**	**Tot**	**L**	**T**	**R**	**Tot**	**L**	**T**	**R**	**Tot**
Counted Volumes (Tuesday, December 6, 2016)	4	251	316	571	318	250	1	569	2	6	3	11	113	0	179	292
Total Annual Background Growth	6.1%	6.1%	6.1%		6.1%	6.1%	6.1%		6.1%	6.1%	6.1%		6.1%	6.1%	6.1%	
2018 No-Build Volumes	**4**	**266**	**335**	**571**	**337**	**265**	**1**	**569**	**2**	**6**	**3**	**11**	**120**	**0**	**190**	**292**
Palmetto Industrial Automobiles	0	0	14	14	3	0	0	3	0	0	0	0	4	0	1	5
Palmetto Industrial Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Palmetto Industrial Total	**0**	**0**	**14**	**14**	**3**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**4**	**0**	**1**	**5**
2018 Build Volumes	**4**	**266**	**349**	**620**	**340**	**265**	**1**	**607**	**2**	**6**	**3**	**12**	**124**	**0**	**191**	**315**

Weekday P.M. Peak Hour	**Northbound US 29**				**Southbound US 29**				**Eastbound Meadow Chase Way**				**Westbound Weldon Road**			
	L	**T**	**R**	**Tot**	**L**	**T**	**R**	**Tot**	**L**	**T**	**R**	**Tot**	**L**	**T**	**R**	**Tot**
Counted Volumes (Tuesday, December 6, 2016)	4	277	111	392	264	374	2	640	0	2	3	5	282	5	257	544
Total Annual Background Growth	6.1%	6.1%	6.1%		6.1%	6.1%	6.1%		6.1%	6.1%	6.1%		6.1%	6.1%	6.1%	
2018 No-Build Volumes	**4**	**294**	**118**	**392**	**280**	**397**	**2**	**640**	**0**	**2**	**3**	**5**	**299**	**5**	**273**	**544**
Palmetto Industrial Automobiles	0	0	4	4	1	0	0	1	0	0	0	0	12	0	3	15
Palmetto Industrial Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Palmetto Industrial Total	**0**	**0**	**4**	**4**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**12**	**0**	**3**	**15**
2018 Build Volumes	**4**	**294**	**122**	**420**	**281**	**397**	**2**	**680**	**0**	**2**	**3**	**5**	**311**	**5**	**276**	**592**

Palmetto Industrial DRI #2649 Transportation Analysis
City of Palmetto, Georgia

January 2017

Intersection: 2. Collinsworth Road at Weldon Road / Access 2

Weekday A.M. Peak Hour	**Northbound Access 2**				**Southbound Collinsworth Road**				**Eastbound Weldon Road**				**Westbound Collinsworth Road**			
	L	**T**	**R**	**Tot**	**L**	**T**	**R**	**Tot**	**L**	**T**	**R**	**Tot**	**L**	**T**	**R**	**Tot**
Counted Volumes (Tuesday, December 6, 2016)					274		5	279	28	376		404		107	276	383
Total Annual Background Growth					6.1%		6.1%		6.1%	6.1%				6.1%	6.1%	
2018 No-Build Volumes					**291**		**5**	**279**	**30**	**399**		**404**		**114**	**293**	**383**
Palmetto Industrial Automobiles	2	4	12	18	0	17	0	17	0	8	7	15	45	36	0	81
Palmetto Industrial Trucks	0	0	13	13	0	0	0	0	0	4	0	4	39	23	0	62
Palmetto Industrial Total	**2**	**4**	**25**	**31**	**0**	**17**	**0**	**17**	**0**	**12**	**7**	**19**	**84**	**59**	**0**	**143**
2018 Build Volumes	**2**	**4**	**25**	**31**	**291**	**17**	**5**	**313**	**30**	**411**	**7**	**448**	**84**	**173**	**293**	**549**

Weekday P.M. Peak Hour	**Northbound Access 2**				**Southbound Collinsworth Road**				**Eastbound Weldon Road**				**Westbound Collinsworth Road**			
	L	**T**	**R**	**Tot**	**L**	**T**	**R**	**Tot**	**L**	**T**	**R**	**Tot**	**L**	**T**	**R**	**Tot**
Counted Volumes (Tuesday, December 6, 2016)					337		46	383	3	216		219		390	317	707
Total Annual Background Growth					6.1%		6.1%		6.1%	6.1%				6.1%	6.1%	
2018 No-Build Volumes					**358**		**49**	**383**	**3**	**229**		**219**		**414**	**336**	**707**
Palmetto Industrial Automobiles	7	14	29	50	0	5	0	5	0	29	2	31	12	12	0	24
Palmetto Industrial Trucks	0	0	13	13	0	0	0	0	0	13	0	13	11	7	0	18
Palmetto Industrial Total	**7**	**14**	**42**	**63**	**0**	**5**	**0**	**5**	**0**	**42**	**2**	**44**	**23**	**19**	**0**	**42**
2018 Build Volumes	**7**	**14**	**42**	**63**	**358**	**5**	**49**	**411**	**3**	**271**	**2**	**276**	**23**	**433**	**336**	**792**

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Intersection: 3. Collinsworth Road at Interstate 85 Southbound Ramps

Weekday A.M. Peak Hour		**Southbound I-85**				**Eastbound Collinsworth Road**			**Westbound Collinsworth Road**		
		L	**T**	**R**	**Tot**	**T**	**R**	**Tot**	**L**	**T**	**Tot**
Counted Volumes (Tuesday, December 6, 2016)		82	1	125	208	541	168	709	116	353	469
Total Annual Background Growth		6.1%	6.1%	6.1%		6.1%	6.1%		6.1%	6.1%	
2018 No-Build Volumes		**87**	**1**	**133**	**208**	**574**	**178**	**709**	**123**	**374**	**469**
Palmetto Industrial Automobiles		0	0	49	49	23	8	31	0	66	66
Palmetto Industrial Trucks		0	0	50	50	14	7	21	0	27	27
Palmetto Industrial Total		**0**	**0**	**99**	**99**	**37**	**15**	**52**	**0**	**93**	**93**
2018 Build Volumes		**87**	**1**	**232**	**320**	**611**	**193**	**804**	**123**	**467**	**591**

Weekday P.M. Peak Hour		**Southbound I-85**				**Eastbound Collinsworth Road**			**Westbound Collinsworth Road**		
		L	**T**	**R**	**Tot**	**T**	**R**	**Tot**	**L**	**T**	**Tot**
Counted Volumes (Tuesday, December 6, 2016)		729	5	326	1060	343	231	574	225	517	742
Total Annual Background Growth		6.1%	6.1%	6.1%		6.1%	6.1%		6.1%	6.1%	
2018 No-Build Volumes		**773**	**5**	**346**	**1060**	**364**	**245**	**574**	**239**	**548**	**742**
Palmetto Industrial Automobiles		0	0	14	14	72	25	97	0	18	18
Palmetto Industrial Trucks		0	0	14	14	42	23	65	0	8	8
Palmetto Industrial Total		**0**	**0**	**28**	**28**	**114**	**48**	**162**	**0**	**26**	**26**
2018 Build Volumes		**773**	**5**	**374**	**1153**	**478**	**293**	**771**	**239**	**574**	**813**

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Intersection: 4. Collinsworth Road at Interstate 85 Northbound Ramps

Weekday A.M. Peak Hour	Northbound I-85					Eastbound Collinsworth Road			Westbound Collinsworth Road		
	L	T	R	Tot		L	T	Tot	T	R	Tot
Counted Volumes (Tuesday, December 6, 2016)	186	0	191	377		286	318	604	261	702	963
Total Annual Background Growth	6.1%	6.1%	6.1%			6.1%	6.1%		6.1%	6.1%	
2018 No-Build Volumes	**197**	**0**	**203**	**377**		**303**	**337**	**604**	**277**	**745**	**963**
Palmetto Industrial Automobiles	29	0	0	29		13	10	23	37	0	37
Palmetto Industrial Trucks	27	0	0	27		14	0	14	0	0	0
Palmetto Industrial Total	**56**	**0**	**0**	**56**		**27**	**10**	**37**	**37**	**0**	**37**
2018 Build Volumes	**253**	**0**	**203**	**456**		**330**	**347**	**678**	**314**	**745**	**1059**

Weekday P.M. Peak Hour	Northbound I-85					Eastbound Collinsworth Road			Westbound Collinsworth Road		
	L	T	R	Tot		L	T	Tot	T	R	Tot
Counted Volumes (Tuesday, December 6, 2016)	161	2	171	334		113	928	1041	537	96	633
Total Annual Background Growth	6.1%	6.1%	6.1%			6.1%	6.1%		6.1%	6.1%	
2018 No-Build Volumes	**171**	**2**	**181**	**334**		**120**	**985**	**1041**	**570**	**102**	**633**
Palmetto Industrial Automobiles	8	0	0	8		41	31	72	10	0	10
Palmetto Industrial Trucks	8	0	0	8		42	0	42	0	0	0
Palmetto Industrial Total	**16**	**0**	**0**	**16**		**83**	**31**	**114**	**10**	**0**	**10**
2018 Build Volumes	**187**	**2**	**181**	**370**		**203**	**1016**	**1218**	**580**	**102**	**682**

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Intersection: 5. Collinsworth Road at Cannongate Road

Weekday A.M. Peak Hour	**Northbound Cannongate Road**				**Eastbound Collinsworth Road**			**Westbound Collinsworth Road**			
	L	**R**	**Tot**		**T**	**R**	**Tot**	**L**	**T**		**Tot**
Counted Volumes (Tuesday, December 6, 2016)	454	21	475		451	74	525	18	449		467
Total Annual Background Growth	6.1%	6.1%			6.1%	6.1%		6.1%	6.1%		
2018 No-Build Volumes	**482**	**22**	**475**		**478**	**79**	**525**	**19**	**476**		**467**
Palmetto Industrial Automobiles	3	0	3		9	1	10	0	34		34
Palmetto Industrial Trucks	0	0	0		0	0	0	0	0		0
Palmetto Industrial Total	**3**	**0**	**3**		**9**	**1**	**10**	**0**	**34**		**34**
2018 Build Volumes	**485**	**22**	**507**		**487**	**80**	**567**	**19**	**510**	**0**	**529**

Weekday P.M. Peak Hour	**Northbound Cannongate Road**				**Eastbound Collinsworth Road**			**Westbound Collinsworth Road**			
	L	**R**	**Tot**		**T**	**R**	**Tot**	**L**	**T**		**Tot**
Counted Volumes (Tuesday, December 6, 2016)	137	24	161		551	523	1074	39	477		516
Total Annual Background Growth	6.1%	6.1%			6.1%	6.1%		6.1%	6.1%		
2018 No-Build Volumes	**145**	**25**	**161**		**585**	**555**	**1074**	**41**	**506**		**516**
Palmetto Industrial Automobiles	1	0	1		28	3	31	0	9		9
Palmetto Industrial Trucks	0	0	0		0	0	0	0	0		0
Palmetto Industrial Total	**1**	**0**	**1**		**28**	**3**	**31**	**0**	**9**		**9**
2018 Build Volumes	**146**	**25**	**172**		**613**	**558**	**1170**	**41**	**515**	**0**	**556**

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Intersection: 6. Weldon Road at Access 1

Weekday A.M. Peak Hour	**Northbound Access 1**				**Eastbound Weldon Road**			**Westbound Weldon Road**			
	L	**R**	**Tot**		**T**	**R**	**Tot**	**L**	**T**		**Tot**
Counted Volumes (Tuesday, December 6, 2016)					404				112		112
Total Annual Background Growth					6.1%				6.1%		
2018 No-Build Volumes					**429**				**119**		**112**
Palmetto Industrial Automobiles	3	6	9		9	13	22	35	3		38
Palmetto Industrial Trucks	0	4	4		0	0	0	23	0		23
Palmetto Industrial Total	**3**	**10**	**13**		**9**	**13**	**22**	**58**	**3**		**61**
2018 Build Volumes	**3**	**10**	**13**		**438**	**13**	**451**	**58**	**122**	**0**	**180**

Weekday P.M. Peak Hour	**Northbound Access 1**				**Eastbound Weldon Road**			**Westbound Weldon Road**			
	L	**R**	**Tot**		**T**	**R**	**Tot**	**L**	**T**		**Tot**
Counted Volumes (Tuesday, December 6, 2016)					219				436		436
Total Annual Background Growth					6.1%				6.1%		
2018 No-Build Volumes					**232**				**463**		**436**
Palmetto Industrial Automobiles	10	29	39		2	4	6	10	9		19
Palmetto Industrial Trucks	0	13	13		0	0	0	7	0		7
Palmetto Industrial Total	**10**	**42**	**52**		**2**	**4**	**6**	**17**	**9**		**26**
2018 Build Volumes	**10**	**42**	**52**		**234**	**4**	**238**	**17**	**472**	**0**	**489**

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Intersection: 7. Collinsworth Road at Access 3

Weekday A.M. Peak Hour	**Northbound Access 3**				**Eastbound Collinsworth Road**			**Westbound Collinsworth Road**			
	L	**R**	**Tot**		**T**	**R**	**Tot**	**L**	**T**		**Tot**
Counted Volumes (Tuesday, December 6, 2016)					650				383		383
Total Annual Background Growth					6.1%				6.1%		
2018 No-Build Volumes					**690**				**406**		**383**
Palmetto Industrial Automobiles	1	13	14		18	2	20	35	80		115
Palmetto Industrial Trucks	0	4	4		17	0	17	15	62		77
Palmetto Industrial Total	**1**	**17**	**18**		**35**	**2**	**37**	**50**	**142**		**192**
2018 Build Volumes	**1**	**17**	**18**		**725**	**2**	**727**	**50**	**548**	**0**	**598**

Weekday P.M. Peak Hour	**Northbound Access 3**				**Eastbound Collinsworth Road**			**Westbound Collinsworth Road**			
	L	**R**	**Tot**		**T**	**R**	**Tot**	**L**	**T**		**Tot**
Counted Volumes (Tuesday, December 6, 2016)					553				707		707
Total Annual Background Growth					6.1%				6.1%		
2018 No-Build Volumes					**587**				**750**		**707**
Palmetto Industrial Automobiles	2	39	41		58	0	58	10	22		32
Palmetto Industrial Trucks	0	13	13		52	0	52	4	18		22
Palmetto Industrial Total	**2**	**52**	**54**		**110**	**0**	**110**	**14**	**40**		**54**
2018 Build Volumes	**2**	**52**	**54**		**697**	**0**	**697**	**14**	**790**	**0**	**804**

Appendix D
Existing Condition Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	2	6	3	113	0	179	4	251	316	318	250	1
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1863	1900	1827	1881	1881	1810	1900
Adj Flow Rate, veh/h	2	7	3	145	0	229	4	279	351	366	287	1
Adj No. of Lanes	0	1	0	0	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.78	0.78	0.78	0.90	0.90	0.90	0.87	0.87	0.87
Percent Heavy Veh, %	0	0	0	0	0	2	0	4	1	1	5	0
Cap, veh/h	134	273	98	512	0	354	323	594	520	550	822	734
Arrive On Green	0.22	0.22	0.22	0.22	0.00	0.22	0.00	0.33	0.33	0.13	0.45	0.45
Sat Flow, veh/h	100	1219	440	1436	0	1583	1810	1827	1599	1792	1810	1615
Grp Volume(v), veh/h	12	0	0	145	0	229	4	279	351	366	287	1
Grp Sat Flow(s),veh/h/ln	1760	0	0	1436	0	1583	1810	1827	1599	1792	1810	1615
Q Serve(g_s), s	0.0	0.0	0.0	3.1	0.0	5.0	0.1	4.6	7.2	0.2	3.9	0.0
Cycle Q Clear(g_c), s	0.2	0.0	0.0	3.3	0.0	5.0	0.1	4.6	7.2	0.2	3.9	0.0
Prop In Lane	0.17		0.25	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	505	0	0	512	0	354	323	594	520	550	822	734
V/C Ratio(X)	0.02	0.00	0.00	0.28	0.00	0.65	0.01	0.47	0.67	0.67	0.35	0.00
Avail Cap(c_a), veh/h	1406	0	0	1289	0	1216	603	2081	1821	1782	3259	2909
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	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.5	0.0	0.0	12.6	0.0	13.3	10.5	10.1	11.0	13.2	6.7	5.6
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.3	0.0	2.0	0.0	0.6	1.5	1.4	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	1.3	0.0	2.3	0.0	2.3	3.3	3.5	2.0	0.0
LnGrp Delay(d),s/veh	11.5	0.0	0.0	12.9	0.0	15.3	10.5	10.7	12.5	14.6	6.9	5.6
LnGrp LOS	B			B		B	B	B	B	B	A	A
Approach Vol, veh/h		12			374			634			654	
Approach Delay, s/veh		11.5			14.4			11.7			11.2	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.0	16.3		12.4	4.2	21.2		12.4
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	31.0	43.0		29.0	6.0	68.0		29.0
Max Q Clear Time (g_c+I1), s	2.2	9.2		2.2	2.1	5.9		7.0
Green Ext Time (p_c), s	3.0	3.1		1.7	0.0	3.1		1.6

Intersection Summary	
HCM 2010 Ctrl Delay	12.1
HCM 2010 LOS	B

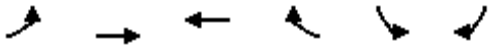
Intersection	
Int Delay, s/veh	15

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	28	376	107	276	274	5
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	89	89	92	92	86	86
Heavy Vehicles, %	0	1	2	1	1	0
Mvmt Flow	31	422	116	300	319	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	416	0	-	0	751	266
Stage 1	-	-	-	-	266	-
Stage 2	-	-	-	-	485	-
Critical Hdwy	4.1	-	-	-	6.41	6.2
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.2	-	-	-	3.509	3.3
Pot Cap-1 Maneuver	1154	-	-	-	380	778
Stage 1	-	-	-	-	781	-
Stage 2	-	-	-	-	621	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1154	-	-	-	367	778
Mov Cap-2 Maneuver	-	-	-	-	367	-
Stage 1	-	-	-	-	781	-
Stage 2	-	-	-	-	599	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	54.4
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1154	-	-	-	371
HCM Lane V/C Ratio	0.027	-	-	-	0.874
HCM Control Delay (s)	8.2	0	-	-	54.4
HCM Lane LOS	A	A	-	-	F
HCM 95th %tile Q(veh)	0.1	-	-	-	8.5



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	28	376	107	276	274	5
Number	7	4	8	18	1	16
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
Adj Sat Flow, veh/h/ln	1900	1882	1876	1900	1882	1900
Adj Flow Rate, veh/h	31	422	116	300	319	6
Adj No. of Lanes	0	1	1	0	0	0
Peak Hour Factor	0.89	0.89	0.92	0.92	0.86	0.86
Percent Heavy Veh, %	1	1	2	2	0	0
Cap, veh/h	104	586	168	434	806	15
Arrive On Green	0.36	0.36	0.36	0.36	0.46	0.46
Sat Flow, veh/h	50	1620	464	1200	1750	33
Grp Volume(v), veh/h	453	0	0	416	326	0
Grp Sat Flow(s),veh/h/ln	1669	0	0	1664	1788	0
Q Serve(g_s), s	1.5	0.0	0.0	9.6	5.4	0.0
Cycle Q Clear(g_c), s	11.1	0.0	0.0	9.6	5.4	0.0
Prop In Lane	0.07			0.72	0.98	0.02
Lane Grp Cap(c), veh/h	689	0	0	602	824	0
V/C Ratio(X)	0.66	0.00	0.00	0.69	0.40	0.00
Avail Cap(c_a), veh/h	836	0	0	740	824	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	12.2	0.0	0.0	12.2	8.0	0.0
Incr Delay (d2), s/veh	1.4	0.0	0.0	2.1	1.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.2	0.0	0.0	4.7	3.0	0.0
LnGrp Delay(d),s/veh	13.6	0.0	0.0	14.3	9.4	0.0
LnGrp LOS	B			B	A	
Approach Vol, veh/h		453	416		326	
Approach Delay, s/veh		13.6	14.3		9.4	
Approach LOS		B	B		A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				20.3		24.7		20.3
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				20.0		17.0		20.0
Max Q Clear Time (g_c+I1), s				13.1		7.4		11.6
Green Ext Time (p_c), s				3.1		0.7		3.6

Intersection Summary	
HCM 2010 Ctrl Delay	12.7
HCM 2010 LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	541	168	116	353	0	0	0	0	83	0	125
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1863	1900	1863	0				1900	0	1900
Adj Flow Rate, veh/h	0	569	177	127	388	0				105	0	158
Adj No. of Lanes	0	1	1	1	1	0				2	0	1
Peak Hour Factor	0.92	0.95	0.95	0.91	0.91	0.92				0.79	0.79	0.79
Percent Heavy Veh, %	0	0	2	0	2	0				0	0	0
Cap, veh/h	0	660	550	200	802	0				1818	0	837
Arrive On Green	0.00	0.35	0.35	0.06	0.43	0.00				0.52	0.00	0.52
Sat Flow, veh/h	0	1900	1583	1810	1863	0				3510	0	1615
Grp Volume(v), veh/h	0	569	177	127	388	0				105	0	158
Grp Sat Flow(s),veh/h/ln	0	1900	1583	1810	1863	0				1755	0	1615
Q Serve(g_s), s	0.0	43.2	12.7	6.8	23.2	0.0				2.3	0.0	8.1
Cycle Q Clear(g_c), s	0.0	43.2	12.7	6.8	23.2	0.0				2.3	0.0	8.1
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	660	550	200	802	0				1818	0	837
V/C Ratio(X)	0.00	0.86	0.32	0.64	0.48	0.00				0.06	0.00	0.19
Avail Cap(c_a), veh/h	0	1115	930	236	1286	0				1818	0	837
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.86	0.86	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	47.1	37.2	36.3	31.8	0.0				18.6	0.0	20.0
Incr Delay (d2), s/veh	0.0	3.7	0.3	3.7	0.4	0.0				0.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	23.4	5.6	3.6	12.1	0.0				1.1	0.0	3.6
LnGrp Delay(d),s/veh	0.0	50.8	37.5	39.9	32.2	0.0				18.6	0.0	20.1
LnGrp LOS		D	D	D	C					B		C
Approach Vol, veh/h		746			515						263	
Approach Delay, s/veh		47.7			34.1						19.5	
Approach LOS		D			C						B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs			3	4		6		8
Phs Duration (G+Y+Rc), s			12.9	57.8		84.3		70.7
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0
Max Green Setting (Gmax), s			12.0	91.0		40.0		107.0
Max Q Clear Time (g_c+I1), s			8.8	45.2		10.1		25.2
Green Ext Time (p_c), s			0.1	8.6		0.9		8.8

Intersection Summary	
HCM 2010 Ctrl Delay	38.2
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	286	318	0	0	261	702	186	0	191	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1881	1881	0	0	1863	1900	1881	0	1900			
Adj Flow Rate, veh/h	298	331	0	0	278	747	204	0	210			
Adj No. of Lanes	1	2	0	0	1	1	1	0	1			
Peak Hour Factor	0.96	0.96	0.92	0.92	0.94	0.94	0.91	0.91	0.91			
Percent Heavy Veh, %	1	1	0	0	2	0	1	0	0			
Cap, veh/h	419	2210	0	0	927	804	591	0	533			
Arrive On Green	0.09	0.62	0.00	0.00	0.16	0.16	0.33	0.00	0.33			
Sat Flow, veh/h	1792	3668	0	0	1863	1615	1792	0	1615			
Grp Volume(v), veh/h	298	331	0	0	278	747	204	0	210			
Grp Sat Flow(s),veh/h/ln	1792	1787	0	0	1863	1615	1792	0	1615			
Q Serve(g_s), s	12.2	6.0	0.0	0.0	20.3	70.7	13.3	0.0	15.5			
Cycle Q Clear(g_c), s	12.2	6.0	0.0	0.0	20.3	70.7	13.3	0.0	15.5			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	419	2210	0	0	927	804	591	0	533			
V/C Ratio(X)	0.71	0.15	0.00	0.00	0.30	0.93	0.35	0.00	0.39			
Avail Cap(c_a), veh/h	492	2444	0	0	973	844	591	0	533			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00			
Upstream Filter(I)	0.69	0.69	0.00	0.00	0.70	0.70	1.00	0.00	1.00			
Uniform Delay (d), s/veh	18.0	12.4	0.0	0.0	41.0	62.1	39.3	0.0	40.0			
Incr Delay (d2), s/veh	2.7	0.0	0.0	0.0	0.1	12.2	0.3	0.0	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			
%ile BackOfQ(50%),veh/ln	6.3	3.0	0.0	0.0	10.6	34.4	6.7	0.0	7.0			
LnGrp Delay(d),s/veh	20.7	12.5	0.0	0.0	41.2	74.3	39.6	0.0	40.5			
LnGrp LOS	C	B			D	E	D		D			
Approach Vol, veh/h		629			1025			414				
Approach Delay, s/veh		16.3			65.3			40.0				
Approach LOS		B			E			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4			7	8
Phs Duration (G+Y+Rc), s		55.1		99.9			18.7	81.1
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0
Max Green Setting (Gmax), s		41.0		106.0			21.0	81.0
Max Q Clear Time (g_c+I1), s		17.5		8.0			14.2	72.7
Green Ext Time (p_c), s		1.3		9.2			0.5	4.4

Intersection Summary	
HCM 2010 Ctrl Delay	45.3
HCM 2010 LOS	D

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	451	74	18	449	454	21
Number	4	14	3	8	5	12
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
Adj Sat Flow, veh/h/ln	1884	1900	1900	1881	1900	1900
Adj Flow Rate, veh/h	465	76	22	554	493	23
Adj No. of Lanes	2	0	1	1	0	0
Peak Hour Factor	0.97	0.97	0.81	0.81	0.92	0.92
Percent Heavy Veh, %	1	1	0	1	0	0
Cap, veh/h	1055	171	244	644	1041	49
Arrive On Green	0.34	0.34	0.34	0.34	0.61	0.61
Sat Flow, veh/h	3178	501	878	1881	1716	80
Grp Volume(v), veh/h	269	272	22	554	517	0
Grp Sat Flow(s),veh/h/ln	1790	1795	878	1881	1800	0
Q Serve(g_s), s	18.0	18.2	3.1	42.6	24.6	0.0
Cycle Q Clear(g_c), s	18.0	18.2	21.3	42.6	24.6	0.0
Prop In Lane		0.28	1.00		0.95	0.04
Lane Grp Cap(c), veh/h	612	614	244	644	1091	0
V/C Ratio(X)	0.44	0.44	0.09	0.86	0.47	0.00
Avail Cap(c_a), veh/h	866	869	368	910	1091	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	39.5	39.5	47.8	47.5	16.9	0.0
Incr Delay (d2), s/veh	0.5	0.5	0.2	6.1	1.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.0	9.2	0.8	23.2	12.7	0.0
LnGrp Delay(d),s/veh	40.0	40.0	48.0	53.6	18.3	0.0
LnGrp LOS	D	D	D	D	B	
Approach Vol, veh/h	541			576	517	
Approach Delay, s/veh	40.0			53.4	18.3	
Approach LOS	D			D	B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		98.0		57.0				57.0
Change Period (Y+Rc), s		4.0		4.0				4.0
Max Green Setting (Gmax), s		72.0		75.0				75.0
Max Q Clear Time (g_c+I1), s		26.6		20.2				44.6
Green Ext Time (p_c), s		1.8		9.3				8.5

Intersection Summary	
HCM 2010 Ctrl Delay	37.9
HCM 2010 LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	2	3	282	5	257	4	277	111	264	374	2
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1893	1900	1900	1845	1900	1863	1863	1900
Adj Flow Rate, veh/h	0	6	10	313	6	286	5	315	126	287	407	2
Adj No. of Lanes	0	1	0	0	1	1	1	1	1	1	1	1
Peak Hour Factor	0.31	0.31	0.31	0.90	0.90	0.90	0.88	0.88	0.88	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	20	20	0	0	3	0	2	2	0
Cap, veh/h	0	201	336	572	8	507	435	542	475	553	818	710
Arrive On Green	0.00	0.31	0.31	0.31	0.31	0.31	0.01	0.29	0.29	0.15	0.44	0.44
Sat Flow, veh/h	0	642	1070	1365	26	1615	1810	1845	1615	1774	1863	1615
Grp Volume(v), veh/h	0	0	16	319	0	286	5	315	126	287	407	2
Grp Sat Flow(s),veh/h/ln	0	0	1711	1391	0	1615	1810	1845	1615	1774	1863	1615
Q Serve(g_s), s	0.0	0.0	0.3	10.0	0.0	7.3	0.1	7.2	3.0	4.9	7.8	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.3	10.3	0.0	7.3	0.1	7.2	3.0	4.9	7.8	0.0
Prop In Lane	0.00		0.62	0.98		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	0	0	537	580	0	507	435	542	475	553	818	710
V/C Ratio(X)	0.00	0.00	0.03	0.55	0.00	0.56	0.01	0.58	0.27	0.52	0.50	0.00
Avail Cap(c_a), veh/h	0	0	1583	1449	0	1494	571	1373	1202	999	1985	1721
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)	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	11.8	15.4	0.0	14.2	12.2	14.9	13.4	9.1	10.0	7.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.8	0.0	1.0	0.0	1.0	0.3	0.8	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.2	4.0	0.0	3.4	0.0	3.8	1.4	2.5	4.1	0.0
LnGrp Delay(d),s/veh	0.0	0.0	11.8	16.2	0.0	15.2	12.3	15.9	13.7	9.9	10.5	7.8
LnGrp LOS			B	B		B	B	B	B	A	B	A
Approach Vol, veh/h		16			605			446			696	
Approach Delay, s/veh		11.8			15.7			15.3			10.2	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.5	18.6		19.6	4.3	25.8		19.6
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	20.0	37.0		46.0	4.0	53.0		46.0
Max Q Clear Time (g_c+I1), s	6.9	9.2		2.3	2.1	9.8		12.3
Green Ext Time (p_c), s	0.7	5.4		3.4	0.0	5.7		3.3

Intersection Summary	
HCM 2010 Ctrl Delay	13.4
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	44.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Vol, veh/h	3	216	390	317	337	46
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	94	94	94	94	89	89
Heavy Vehicles, %	0	3	1	1	1	0
Mvmt Flow	3	230	415	337	379	52

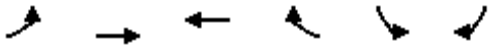
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	752	0	-	0	820	584
Stage 1	-	-	-	-	584	-
Stage 2	-	-	-	-	236	-
Critical Hdwy	4.1	-	-	-	6.41	6.2
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.2	-	-	-	3.509	3.3
Pot Cap-1 Maneuver	867	-	-	-	~ 346	515
Stage 1	-	-	-	-	559	-
Stage 2	-	-	-	-	806	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	867	-	-	-	~ 345	515
Mov Cap-2 Maneuver	-	-	-	-	~ 345	-
Stage 1	-	-	-	-	559	-
Stage 2	-	-	-	-	803	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	145.8
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	867	-	-	-	359
HCM Lane V/C Ratio	0.004	-	-	-	1.199
HCM Control Delay (s)	9.2	0	-	-	145.8
HCM Lane LOS	A	A	-	-	F
HCM 95th %tile Q(veh)	0	-	-	-	17.9

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	3	216	390	317	337	46
Number	7	4	8	18	1	16
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
Adj Sat Flow, veh/h/ln	1900	1845	1881	1900	1883	1900
Adj Flow Rate, veh/h	3	230	415	337	379	52
Adj No. of Lanes	0	1	1	0	0	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.89	0.89
Percent Heavy Veh, %	3	3	1	1	0	0
Cap, veh/h	63	887	465	378	594	81
Arrive On Green	0.48	0.48	0.48	0.48	0.38	0.38
Sat Flow, veh/h	4	1832	962	781	1551	213
Grp Volume(v), veh/h	233	0	0	752	432	0
Grp Sat Flow(s),veh/h/ln	1837	0	0	1743	1768	0
Q Serve(g_s), s	0.0	0.0	0.0	23.5	12.0	0.0
Cycle Q Clear(g_c), s	23.5	0.0	0.0	23.5	12.0	0.0
Prop In Lane	0.01			0.45	0.88	0.12
Lane Grp Cap(c), veh/h	949	0	0	843	677	0
V/C Ratio(X)	0.25	0.00	0.00	0.89	0.64	0.00
Avail Cap(c_a), veh/h	1039	0	0	930	677	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	9.1	0.0	0.0	14.1	15.1	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.0	10.2	4.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.0	0.0	13.5	6.6	0.0
LnGrp Delay(d),s/veh	9.3	0.0	0.0	24.2	19.7	0.0
LnGrp LOS	A			C	B	
Approach Vol, veh/h		233	752		432	
Approach Delay, s/veh		9.3	24.2		19.7	
Approach LOS		A	C		B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				33.0		27.0		33.0
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				32.0		20.0		32.0
Max Q Clear Time (g_c+I1), s				25.5		14.0		25.5
Green Ext Time (p_c), s				3.5		0.8		3.5

Intersection Summary	
HCM 2010 Ctrl Delay	20.4
HCM 2010 LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	343	231	225	517	0	0	0	0	734	0	326
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1827	1881	1863	0				1881	0	1881
Adj Flow Rate, veh/h	0	377	254	256	588	0				816	0	362
Adj No. of Lanes	0	1	1	1	1	0				2	0	1
Peak Hour Factor	0.92	0.91	0.91	0.88	0.88	0.92				0.90	0.90	0.90
Percent Heavy Veh, %	0	0	4	1	2	0				1	0	1
Cap, veh/h	0	474	387	310	734	0				1927	0	886
Arrive On Green	0.00	0.25	0.25	0.12	0.39	0.00				0.55	0.00	0.55
Sat Flow, veh/h	0	1900	1553	1792	1863	0				3476	0	1599
Grp Volume(v), veh/h	0	377	254	256	588	0				816	0	362
Grp Sat Flow(s),veh/h/ln	0	1900	1553	1792	1863	0				1738	0	1599
Q Serve(g_s), s	0.0	28.8	22.8	16.0	43.3	0.0				21.2	0.0	20.2
Cycle Q Clear(g_c), s	0.0	28.8	22.8	16.0	43.3	0.0				21.2	0.0	20.2
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	474	387	310	734	0				1927	0	886
V/C Ratio(X)	0.00	0.80	0.66	0.83	0.80	0.00				0.42	0.00	0.41
Avail Cap(c_a), veh/h	0	662	541	386	997	0				1927	0	886
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.70	0.70	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	54.5	52.2	39.0	41.6	0.0				20.1	0.0	19.9
Incr Delay (d2), s/veh	0.0	4.6	1.9	8.2	2.4	0.0				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
%ile BackOfQ(50%),veh/ln	0.0	15.7	9.9	8.6	22.7	0.0				10.1	0.0	9.0
LnGrp Delay(d),s/veh	0.0	59.1	54.1	47.2	44.0	0.0				20.3	0.0	20.2
LnGrp LOS		E	D	D	D					C		C
Approach Vol, veh/h		631			844						1178	
Approach Delay, s/veh		57.1			45.0						20.2	
Approach LOS		E			D						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs			3	4		6		8
Phs Duration (G+Y+Rc), s			22.4	42.7		89.9		65.1
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0
Max Green Setting (Gmax), s			25.0	54.0		64.0		83.0
Max Q Clear Time (g_c+I1), s			18.0	30.8		23.2		45.3
Green Ext Time (p_c), s			0.4	7.9		5.1		9.0

Intersection Summary	
HCM 2010 Ctrl Delay	36.9
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	113	928	0	0	537	96	163	0	171	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1900	1900	0	0	1900	1900	1863	0	1881			
Adj Flow Rate, veh/h	119	977	0	0	617	110	187	0	197			
Adj No. of Lanes	1	2	0	0	1	1	1	0	1			
Peak Hour Factor	0.95	0.95	0.92	0.92	0.87	0.87	0.87	0.87	0.87			
Percent Heavy Veh, %	0	0	0	0	0	0	2	0	1			
Cap, veh/h	174	1601	0	0	686	583	896	0	807			
Arrive On Green	0.06	0.44	0.00	0.00	0.24	0.24	0.50	0.00	0.50			
Sat Flow, veh/h	1810	3705	0	0	1900	1615	1774	0	1599			
Grp Volume(v), veh/h	119	977	0	0	617	110	187	0	197			
Grp Sat Flow(s),veh/h/ln	1810	1805	0	0	1900	1615	1774	0	1599			
Q Serve(g_s), s	3.8	32.0	0.0	0.0	48.8	8.4	9.0	0.0	10.8			
Cycle Q Clear(g_c), s	3.8	32.0	0.0	0.0	48.8	8.4	9.0	0.0	10.8			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	174	1601	0	0	686	583	896	0	807			
V/C Ratio(X)	0.68	0.61	0.00	0.00	0.90	0.19	0.21	0.00	0.24			
Avail Cap(c_a), veh/h	200	2445	0	0	1103	938	896	0	807			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.67	0.67	1.00	1.00	1.00			
Upstream Filter(I)	0.81	0.81	0.00	0.00	0.79	0.79	1.00	0.00	1.00			
Uniform Delay (d), s/veh	69.1	32.9	0.0	0.0	56.0	40.7	21.2	0.0	21.7			
Incr Delay (d2), s/veh	6.4	0.3	0.0	0.0	5.1	0.1	0.1	0.0	0.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	5.2	15.9	0.0	0.0	26.6	3.8	4.4	0.0	4.8			
LnGrp Delay(d),s/veh	75.5	33.2	0.0	0.0	61.1	40.8	21.4	0.0	21.8			
LnGrp LOS	E	C			E	D	C		C			
Approach Vol, veh/h		1096			727			384				
Approach Delay, s/veh		37.8			58.1			21.6				
Approach LOS		D			E			C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4			7	8
Phs Duration (G+Y+Rc), s		82.2		72.8			12.8	60.0
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0
Max Green Setting (Gmax), s		42.0		105.0			11.0	90.0
Max Q Clear Time (g_c+I1), s		12.8		34.0			5.8	50.8
Green Ext Time (p_c), s		1.2		9.7			3.1	5.2

Intersection Summary	
HCM 2010 Ctrl Delay	41.7
HCM 2010 LOS	D

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	551	523	39	477	137	24
Number	4	14	3	8	5	12
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
Adj Sat Flow, veh/h/ln	1890	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	568	539	40	492	149	26
Adj No. of Lanes	2	0	1	1	0	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.92	0.92
Percent Heavy Veh, %	1	1	0	0	0	0
Cap, veh/h	836	748	148	884	727	127
Arrive On Green	0.47	0.47	0.47	0.47	0.48	0.48
Sat Flow, veh/h	1890	1607	517	1900	1506	263
Grp Volume(v), veh/h	568	539	40	492	176	0
Grp Sat Flow(s),veh/h/ln	1796	1607	517	1900	1778	0
Q Serve(g_s), s	38.3	41.8	10.5	29.0	8.8	0.0
Cycle Q Clear(g_c), s	38.3	41.8	52.3	29.0	8.8	0.0
Prop In Lane		1.00	1.00		0.85	0.15
Lane Grp Cap(c), veh/h	836	748	148	884	859	0
V/C Ratio(X)	0.68	0.72	0.27	0.56	0.20	0.00
Avail Cap(c_a), veh/h	1205	1078	254	1275	859	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.85	0.85	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	32.4	33.3	54.4	29.9	23.0	0.0
Incr Delay (d2), s/veh	0.8	1.1	1.0	0.6	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.1	18.8	1.5	15.3	4.4	0.0
LnGrp Delay(d),s/veh	33.2	34.5	55.4	30.5	23.5	0.0
LnGrp LOS	C	C	E	C	C	
Approach Vol, veh/h	1107			532	176	
Approach Delay, s/veh	33.8			32.3	23.5	
Approach LOS	C			C	C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		78.9		76.1				76.1
Change Period (Y+Rc), s		4.0		4.0				4.0
Max Green Setting (Gmax), s		43.0		104.0				104.0
Max Q Clear Time (g_c+I1), s		10.8		43.8				54.3
Green Ext Time (p_c), s		0.5		18.7				17.8

Intersection Summary	
HCM 2010 Ctrl Delay	32.4
HCM 2010 LOS	C

Notes

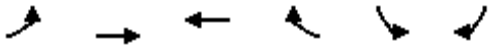
User approved volume balancing among the lanes for turning movement.

Appendix E
No-Build Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	2	6	3	120	0	190	4	266	335	337	265	1
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1863	1900	1827	1881	1881	1810	1900
Adj Flow Rate, veh/h	2	7	3	154	0	244	4	296	372	387	305	1
Adj No. of Lanes	0	1	0	0	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.78	0.78	0.78	0.90	0.90	0.90	0.87	0.87	0.87
Percent Heavy Veh, %	0	0	0	0	0	2	0	4	1	1	5	0
Cap, veh/h	126	276	100	502	0	362	318	606	530	561	863	770
Arrive On Green	0.23	0.23	0.23	0.23	0.00	0.23	0.00	0.33	0.33	0.15	0.48	0.48
Sat Flow, veh/h	107	1208	438	1436	0	1583	1810	1827	1599	1792	1810	1615
Grp Volume(v), veh/h	12	0	0	154	0	244	4	296	372	387	305	1
Grp Sat Flow(s),veh/h/ln	1753	0	0	1436	0	1583	1810	1827	1599	1792	1810	1615
Q Serve(g_s), s	0.0	0.0	0.0	3.6	0.0	5.8	0.1	5.3	8.4	1.1	4.4	0.0
Cycle Q Clear(g_c), s	0.2	0.0	0.0	3.8	0.0	5.8	0.1	5.3	8.4	1.1	4.4	0.0
Prop In Lane	0.17		0.25	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	503	0	0	502	0	362	318	606	530	561	863	770
V/C Ratio(X)	0.02	0.00	0.00	0.31	0.00	0.67	0.01	0.49	0.70	0.69	0.35	0.00
Avail Cap(c_a), veh/h	1282	0	0	1177	0	1110	485	1900	1663	1636	3063	2734
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	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.4	0.0	0.0	13.7	0.0	14.5	11.1	11.0	12.0	14.0	6.8	5.7
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.3	0.0	2.2	0.0	0.6	1.7	1.5	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	1.5	0.0	2.7	0.0	2.7	3.9	4.1	2.2	0.0
LnGrp Delay(d),s/veh	12.4	0.0	0.0	14.1	0.0	16.7	11.2	11.6	13.7	15.6	7.1	5.7
LnGrp LOS	B			B		B	B	B	B	B	A	A
Approach Vol, veh/h		12			398			672			693	
Approach Delay, s/veh		12.4			15.7			12.8			11.8	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.2	17.7		13.5	4.2	23.7		13.5
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	31.0	43.0		29.0	4.0	70.0		29.0
Max Q Clear Time (g_c+I1), s	3.1	10.4		2.2	2.1	6.4		7.8
Green Ext Time (p_c), s	3.2	3.3		1.8	0.0	3.3		1.7

Intersection Summary	
HCM 2010 Ctrl Delay	13.1
HCM 2010 LOS	B



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	30	399	114	293	291	5
Number	7	4	8	18	1	16
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
Adj Sat Flow, veh/h/ln	1900	1883	1876	1900	1882	1900
Adj Flow Rate, veh/h	34	448	124	318	338	6
Adj No. of Lanes	0	1	1	0	0	0
Peak Hour Factor	0.89	0.89	0.92	0.92	0.86	0.86
Percent Heavy Veh, %	1	1	2	2	0	0
Cap, veh/h	84	600	180	461	844	15
Arrive On Green	0.38	0.38	0.38	0.38	0.48	0.48
Sat Flow, veh/h	52	1559	467	1198	1752	31
Grp Volume(v), veh/h	482	0	0	442	345	0
Grp Sat Flow(s),veh/h/ln	1612	0	0	1665	1788	0
Q Serve(g_s), s	3.3	0.0	0.0	13.3	7.4	0.0
Cycle Q Clear(g_c), s	16.6	0.0	0.0	13.3	7.4	0.0
Prop In Lane	0.07			0.72	0.98	0.02
Lane Grp Cap(c), veh/h	684	0	0	641	862	0
V/C Ratio(X)	0.70	0.00	0.00	0.69	0.40	0.00
Avail Cap(c_a), veh/h	858	0	0	805	862	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	15.7	0.0	0.0	15.5	10.0	0.0
Incr Delay (d2), s/veh	1.9	0.0	0.0	1.8	1.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.5	0.0	0.0	6.5	4.0	0.0
LnGrp Delay(d),s/veh	17.7	0.0	0.0	17.3	11.4	0.0
LnGrp LOS	B			B	B	
Approach Vol, veh/h		482	442		345	
Approach Delay, s/veh		17.7	17.3		11.4	
Approach LOS		B	B		B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				27.1		32.9		27.1
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				29.0		23.0		29.0
Max Q Clear Time (g_c+I1), s				18.6		9.4		15.3
Green Ext Time (p_c), s				4.5		0.9		5.3

Intersection Summary	
HCM 2010 Ctrl Delay	15.8
HCM 2010 LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	574	178	123	374	0	0	0	0	88	0	133
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1863	1900	1863	0				1900	0	1900
Adj Flow Rate, veh/h	0	604	187	135	411	0				111	0	168
Adj No. of Lanes	0	1	1	1	1	0				2	0	1
Peak Hour Factor	0.92	0.95	0.95	0.91	0.91	0.92				0.79	0.79	0.79
Percent Heavy Veh, %	0	0	2	0	2	0				0	0	0
Cap, veh/h	0	699	582	204	843	0				1741	0	801
Arrive On Green	0.00	0.37	0.37	0.06	0.45	0.00				0.50	0.00	0.50
Sat Flow, veh/h	0	1900	1583	1810	1863	0				3510	0	1615
Grp Volume(v), veh/h	0	604	187	135	411	0				111	0	168
Grp Sat Flow(s),veh/h/ln	0	1900	1583	1810	1863	0				1755	0	1615
Q Serve(g_s), s	0.0	45.7	13.1	7.0	24.0	0.0				2.6	0.0	9.1
Cycle Q Clear(g_c), s	0.0	45.7	13.1	7.0	24.0	0.0				2.6	0.0	9.1
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	699	582	204	843	0				1741	0	801
V/C Ratio(X)	0.00	0.86	0.32	0.66	0.49	0.00				0.06	0.00	0.21
Avail Cap(c_a), veh/h	0	1115	930	249	1298	0				1741	0	801
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.85	0.85	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	45.4	35.1	35.4	29.8	0.0				20.3	0.0	22.0
Incr Delay (d2), s/veh	0.0	4.3	0.3	4.1	0.4	0.0				0.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	24.8	5.8	3.7	12.4	0.0				1.2	0.0	4.1
LnGrp Delay(d),s/veh	0.0	49.7	35.4	39.5	30.2	0.0				20.3	0.0	22.1
LnGrp LOS		D	D	D	C					C		C
Approach Vol, veh/h		791			546						279	
Approach Delay, s/veh		46.3			32.5						21.4	
Approach LOS		D			C						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs			3	4		6		8
Phs Duration (G+Y+Rc), s			13.1	61.0		80.9		74.1
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0
Max Green Setting (Gmax), s			13.0	91.0		39.0		108.0
Max Q Clear Time (g_c+I1), s			9.0	47.7		11.1		26.0
Green Ext Time (p_c), s			0.1	9.4		0.9		9.7

Intersection Summary	
HCM 2010 Ctrl Delay	37.3
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	303	337	0	0	277	745	197	0	203	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1881	1881	0	0	1863	1900	1881	0	1900			
Adj Flow Rate, veh/h	316	351	0	0	295	793	216	0	223			
Adj No. of Lanes	1	2	0	0	1	1	1	0	1			
Peak Hour Factor	0.96	0.96	0.92	0.92	0.94	0.94	0.91	0.91	0.91			
Percent Heavy Veh, %	1	1	0	0	2	0	1	0	0			
Cap, veh/h	415	2257	0	0	945	819	568	0	512			
Arrive On Green	0.10	0.63	0.00	0.00	0.17	0.17	0.32	0.00	0.32			
Sat Flow, veh/h	1792	3668	0	0	1863	1615	1792	0	1615			
Grp Volume(v), veh/h	316	351	0	0	295	793	216	0	223			
Grp Sat Flow(s),veh/h/ln	1792	1787	0	0	1863	1615	1792	0	1615			
Q Serve(g_s), s	12.7	6.2	0.0	0.0	21.6	75.6	14.5	0.0	17.0			
Cycle Q Clear(g_c), s	12.7	6.2	0.0	0.0	21.6	75.6	14.5	0.0	17.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	415	2257	0	0	945	819	568	0	512			
V/C Ratio(X)	0.76	0.16	0.00	0.00	0.31	0.97	0.38	0.00	0.44			
Avail Cap(c_a), veh/h	493	2421	0	0	949	823	568	0	512			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00			
Upstream Filter(I)	0.69	0.69	0.00	0.00	0.66	0.66	1.00	0.00	1.00			
Uniform Delay (d), s/veh	18.2	11.7	0.0	0.0	40.8	63.3	41.1	0.0	41.9			
Incr Delay (d2), s/veh	4.0	0.0	0.0	0.0	0.1	18.3	0.4	0.0	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			
%ile BackOfQ(50%),veh/ln	6.7	3.1	0.0	0.0	11.2	38.0	7.3	0.0	7.6			
LnGrp Delay(d),s/veh	22.3	11.7	0.0	0.0	40.9	81.6	41.5	0.0	42.5			
LnGrp LOS	C	B			D	F	D		D			
Approach Vol, veh/h		667			1088			439				
Approach Delay, s/veh		16.7			70.6			42.0				
Approach LOS		B			E			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4			7	8
Phs Duration (G+Y+Rc), s		53.1		101.9			19.2	82.6
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0
Max Green Setting (Gmax), s		42.0		105.0			22.0	79.0
Max Q Clear Time (g_c+I1), s		19.0		8.2			14.7	77.6
Green Ext Time (p_c), s		1.4		10.2			0.6	1.0

Intersection Summary	
HCM 2010 Ctrl Delay	48.5
HCM 2010 LOS	D

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	478	79	19	476	482	22
Number	4	14	3	8	5	12
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
Adj Sat Flow, veh/h/ln	1884	1900	1900	1881	1900	1900
Adj Flow Rate, veh/h	493	81	23	588	524	24
Adj No. of Lanes	2	0	1	1	0	0
Peak Hour Factor	0.97	0.97	0.81	0.81	0.92	0.92
Percent Heavy Veh, %	1	1	0	1	0	0
Cap, veh/h	1113	182	250	679	1009	46
Arrive On Green	0.36	0.36	0.36	0.36	0.59	0.59
Sat Flow, veh/h	3175	504	852	1881	1718	79
Grp Volume(v), veh/h	285	289	23	588	549	0
Grp Sat Flow(s),veh/h/ln	1790	1795	852	1881	1800	0
Q Serve(g_s), s	18.8	19.0	3.3	45.0	28.1	0.0
Cycle Q Clear(g_c), s	18.8	19.0	22.2	45.0	28.1	0.0
Prop In Lane		0.28	1.00		0.95	0.04
Lane Grp Cap(c), veh/h	646	648	250	679	1057	0
V/C Ratio(X)	0.44	0.45	0.09	0.87	0.52	0.00
Avail Cap(c_a), veh/h	866	869	354	910	1057	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	37.6	37.7	46.2	46.0	19.0	0.0
Incr Delay (d2), s/veh	0.5	0.5	0.2	6.8	1.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.4	9.5	0.8	24.6	14.4	0.0
LnGrp Delay(d),s/veh	38.1	38.2	46.3	52.8	20.8	0.0
LnGrp LOS	D	D	D	D	C	
Approach Vol, veh/h	574			611	549	
Approach Delay, s/veh	38.1			52.6	20.8	
Approach LOS	D			D	C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		95.0		60.0				60.0
Change Period (Y+Rc), s		4.0		4.0				4.0
Max Green Setting (Gmax), s		72.0		75.0				75.0
Max Q Clear Time (g_c+I1), s		30.1		21.0				47.0
Green Ext Time (p_c), s		1.9		10.2				8.9

Intersection Summary	
HCM 2010 Ctrl Delay	37.7
HCM 2010 LOS	D

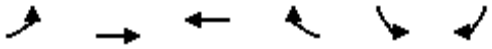
Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	2	3	299	5	273	4	294	118	280	397	2
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1893	1900	1900	1845	1900	1863	1863	1900
Adj Flow Rate, veh/h	0	6	10	332	6	303	5	334	134	304	432	2
Adj No. of Lanes	0	1	0	0	1	1	1	1	1	1	1	1
Peak Hour Factor	0.31	0.31	0.31	0.90	0.90	0.90	0.88	0.88	0.88	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	20	20	0	0	3	0	2	2	0
Cap, veh/h	0	207	345	575	8	522	417	551	482	541	835	724
Arrive On Green	0.00	0.32	0.32	0.32	0.32	0.32	0.01	0.30	0.30	0.15	0.45	0.45
Sat Flow, veh/h	0	642	1070	1368	25	1615	1810	1845	1615	1774	1863	1615
Grp Volume(v), veh/h	0	0	16	338	0	303	5	334	134	304	432	2
Grp Sat Flow(s),veh/h/ln	0	0	1711	1393	0	1615	1810	1845	1615	1774	1863	1615
Q Serve(g_s), s	0.0	0.0	0.3	11.5	0.0	8.4	0.1	8.3	3.4	5.7	8.9	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.3	11.8	0.0	8.4	0.1	8.3	3.4	5.7	8.9	0.0
Prop In Lane	0.00		0.62	0.98		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	0	0	553	583	0	522	417	551	482	541	835	724
V/C Ratio(X)	0.00	0.00	0.03	0.58	0.00	0.58	0.01	0.61	0.28	0.56	0.52	0.00
Avail Cap(c_a), veh/h	0	0	1466	1341	0	1384	542	1237	1083	960	1839	1594
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)	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	12.4	16.5	0.0	15.1	13.1	16.1	14.4	9.9	10.6	8.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.9	0.0	1.0	0.0	1.1	0.3	0.9	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.2	4.6	0.0	3.9	0.0	4.3	1.6	2.8	4.7	0.0
LnGrp Delay(d),s/veh	0.0	0.0	12.4	17.4	0.0	16.2	13.1	17.2	14.7	10.8	11.1	8.2
LnGrp LOS			B	B		B	B	B	B	B	B	A
Approach Vol, veh/h		16			641			473			738	
Approach Delay, s/veh		12.4			16.8			16.5			11.0	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.3	20.0		21.3	4.3	28.1		21.3
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	21.0	36.0		46.0	4.0	53.0		46.0
Max Q Clear Time (g_c+I1), s	7.7	10.3		2.3	2.1	10.9		13.8
Green Ext Time (p_c), s	0.8	5.7		3.6	0.0	6.2		3.5

Intersection Summary	
HCM 2010 Ctrl Delay	14.4
HCM 2010 LOS	B



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	3	229	414	336	358	49
Number	7	4	8	18	1	16
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
Adj Sat Flow, veh/h/ln	1900	1845	1881	1900	1883	1900
Adj Flow Rate, veh/h	3	244	440	357	402	55
Adj No. of Lanes	0	1	1	0	0	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.89	0.89
Percent Heavy Veh, %	3	3	1	1	0	0
Cap, veh/h	63	900	483	392	566	77
Arrive On Green	0.50	0.50	0.50	0.50	0.36	0.36
Sat Flow, veh/h	4	1793	962	781	1552	212
Grp Volume(v), veh/h	247	0	0	797	458	0
Grp Sat Flow(s),veh/h/ln	1796	0	0	1743	1768	0
Q Serve(g_s), s	0.1	0.0	0.0	25.1	13.3	0.0
Cycle Q Clear(g_c), s	25.3	0.0	0.0	25.1	13.3	0.0
Prop In Lane	0.01			0.45	0.88	0.12
Lane Grp Cap(c), veh/h	963	0	0	876	644	0
V/C Ratio(X)	0.26	0.00	0.00	0.91	0.71	0.00
Avail Cap(c_a), veh/h	1019	0	0	930	644	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	8.6	0.0	0.0	13.7	16.4	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.0	12.4	6.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	0.0	15.0	7.7	0.0
LnGrp Delay(d),s/veh	8.7	0.0	0.0	26.1	22.9	0.0
LnGrp LOS	A			C	C	
Approach Vol, veh/h		247	797		458	
Approach Delay, s/veh		8.7	26.1		22.9	
Approach LOS		A	C		C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				34.1		25.9		34.1
Change Period (Y+Rc), s				4.0		4.0		4.0
Max Green Setting (Gmax), s				32.0		20.0		32.0
Max Q Clear Time (g_c+I1), s				27.3		15.3		27.1
Green Ext Time (p_c), s				2.9		0.7		2.9

Intersection Summary	
HCM 2010 Ctrl Delay	22.2
HCM 2010 LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	364	245	239	548	0	0	0	0	778	0	346
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1900	1827	1881	1863	0				1881	0	1881
Adj Flow Rate, veh/h	0	400	269	272	623	0				864	0	384
Adj No. of Lanes	0	1	1	1	1	0				2	0	1
Peak Hour Factor	0.92	0.91	0.91	0.88	0.88	0.92				0.90	0.90	0.90
Percent Heavy Veh, %	0	0	4	1	2	0				1	0	1
Cap, veh/h	0	497	406	318	766	0				1866	0	859
Arrive On Green	0.00	0.26	0.26	0.12	0.41	0.00				0.54	0.00	0.54
Sat Flow, veh/h	0	1900	1553	1792	1863	0				3476	0	1599
Grp Volume(v), veh/h	0	400	269	272	623	0				864	0	384
Grp Sat Flow(s),veh/h/ln	0	1900	1553	1792	1863	0				1738	0	1599
Q Serve(g_s), s	0.0	30.5	24.0	16.7	45.8	0.0				23.7	0.0	22.7
Cycle Q Clear(g_c), s	0.0	30.5	24.0	16.7	45.8	0.0				23.7	0.0	22.7
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	497	406	318	766	0				1866	0	859
V/C Ratio(X)	0.00	0.80	0.66	0.85	0.81	0.00				0.46	0.00	0.45
Avail Cap(c_a), veh/h	0	650	531	409	1009	0				1866	0	859
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.69	0.69	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	53.5	51.1	38.0	40.3	0.0				22.1	0.0	21.9
Incr Delay (d2), s/veh	0.0	5.6	1.9	9.5	2.7	0.0				0.2	0.0	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
%ile BackOfQ(50%),veh/ln	0.0	16.8	10.5	9.1	24.1	0.0				11.4	0.0	10.1
LnGrp Delay(d),s/veh	0.0	59.1	53.0	47.5	43.1	0.0				22.3	0.0	22.2
LnGrp LOS		E	D	D	D					C		C
Approach Vol, veh/h		669			895						1248	
Approach Delay, s/veh		56.6			44.4						22.3	
Approach LOS		E			D						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs			3	4		6		8
Phs Duration (G+Y+Rc), s			23.2	44.6		87.2		67.8
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0
Max Green Setting (Gmax), s			27.0	53.0		63.0		84.0
Max Q Clear Time (g_c+I1), s			18.7	32.5		25.7		47.8
Green Ext Time (p_c), s			0.5	8.0		5.5		9.7

Intersection Summary	
HCM 2010 Ctrl Delay	37.5
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	120	985	0	0	570	102	173	0	181	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1900	1900	0	0	1900	1900	1863	0	1881			
Adj Flow Rate, veh/h	126	1037	0	0	655	117	199	0	208			
Adj No. of Lanes	1	2	0	0	1	1	1	0	1			
Peak Hour Factor	0.95	0.95	0.92	0.92	0.87	0.87	0.87	0.87	0.87			
Percent Heavy Veh, %	0	0	0	0	0	0	2	0	1			
Cap, veh/h	173	1676	0	0	727	618	859	0	774			
Arrive On Green	0.06	0.46	0.00	0.00	0.26	0.26	0.48	0.00	0.48			
Sat Flow, veh/h	1810	3705	0	0	1900	1615	1774	0	1599			
Grp Volume(v), veh/h	126	1037	0	0	655	117	199	0	208			
Grp Sat Flow(s),veh/h/ln	1810	1805	0	0	1900	1615	1774	0	1599			
Q Serve(g_s), s	4.3	33.5	0.0	0.0	51.7	8.8	10.1	0.0	12.0			
Cycle Q Clear(g_c), s	4.3	33.5	0.0	0.0	51.7	8.8	10.1	0.0	12.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	173	1676	0	0	727	618	859	0	774			
V/C Ratio(X)	0.73	0.62	0.00	0.00	0.90	0.19	0.23	0.00	0.27			
Avail Cap(c_a), veh/h	189	2399	0	0	1091	927	859	0	774			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.67	0.67	1.00	1.00	1.00			
Upstream Filter(I)	0.78	0.78	0.00	0.00	0.80	0.80	1.00	0.00	1.00			
Uniform Delay (d), s/veh	69.3	31.2	0.0	0.0	54.8	38.8	23.2	0.0	23.7			
Incr Delay (d2), s/veh	9.6	0.3	0.0	0.0	6.0	0.1	0.1	0.0	0.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	5.7	16.8	0.0	0.0	28.4	3.9	5.0	0.0	5.3			
LnGrp Delay(d),s/veh	79.0	31.5	0.0	0.0	60.8	39.0	23.4	0.0	23.9			
LnGrp LOS	E	C			E	D	C		C			
Approach Vol, veh/h		1163			772			407				
Approach Delay, s/veh		36.7			57.5			23.6				
Approach LOS		D			E			C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4			7	8
Phs Duration (G+Y+Rc), s		79.0		76.0			12.7	63.3
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0
Max Green Setting (Gmax), s		44.0		103.0			10.0	89.0
Max Q Clear Time (g_c+I1), s		14.0		35.5			6.3	53.7
Green Ext Time (p_c), s		1.3		10.7			2.4	5.6

Intersection Summary	
HCM 2010 Ctrl Delay	41.2
HCM 2010 LOS	D

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	585	555	41	506	145	25
Number	4	14	3	8	5	12
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
Adj Sat Flow, veh/h/ln	1890	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	603	572	42	522	158	27
Adj No. of Lanes	2	0	1	1	0	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.92	0.92
Percent Heavy Veh, %	1	1	0	0	0	0
Cap, veh/h	886	792	150	937	688	118
Arrive On Green	0.49	0.49	0.49	0.49	0.46	0.46
Sat Flow, veh/h	1890	1607	485	1900	1511	258
Grp Volume(v), veh/h	603	572	42	522	186	0
Grp Sat Flow(s),veh/h/ln	1796	1607	485	1900	1779	0
Q Serve(g_s), s	39.7	43.4	11.6	29.8	9.9	0.0
Cycle Q Clear(g_c), s	39.7	43.4	55.0	29.8	9.9	0.0
Prop In Lane		1.00	1.00		0.85	0.15
Lane Grp Cap(c), veh/h	886	792	150	937	810	0
V/C Ratio(X)	0.68	0.72	0.28	0.56	0.23	0.00
Avail Cap(c_a), veh/h	1205	1078	236	1275	810	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.84	0.84	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	30.0	30.9	52.6	27.5	25.7	0.0
Incr Delay (d2), s/veh	0.8	1.3	1.0	0.5	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.8	19.5	1.6	15.7	5.0	0.0
LnGrp Delay(d),s/veh	30.8	32.2	53.6	28.0	26.3	0.0
LnGrp LOS	C	C	D	C	C	
Approach Vol, veh/h	1175			564	186	
Approach Delay, s/veh	31.5			29.9	26.3	
Approach LOS	C			C	C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		74.6		80.4				80.4
Change Period (Y+Rc), s		4.0		4.0				4.0
Max Green Setting (Gmax), s		43.0		104.0				104.0
Max Q Clear Time (g_c+I1), s		11.9		45.4				57.0
Green Ext Time (p_c), s		0.5		20.8				19.4

Intersection Summary	
HCM 2010 Ctrl Delay	30.5
HCM 2010 LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Appendix F
Build Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	2	6	3	124	0	191	4	266	349	340	265	1
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1863	1900	1827	1881	1881	1810	1900
Adj Flow Rate, veh/h	2	7	3	159	0	245	4	296	388	391	305	1
Adj No. of Lanes	0	1	0	0	1	1	1	1	1	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.78	0.78	0.78	0.90	0.90	0.90	0.87	0.87	0.87
Percent Heavy Veh, %	0	0	0	0	0	2	0	4	1	1	5	0
Cap, veh/h	124	276	100	498	0	362	326	620	543	561	875	781
Arrive On Green	0.23	0.23	0.23	0.23	0.00	0.23	0.00	0.34	0.34	0.15	0.48	0.48
Sat Flow, veh/h	108	1206	438	1436	0	1583	1810	1827	1599	1792	1810	1615
Grp Volume(v), veh/h	12	0	0	159	0	245	4	296	388	391	305	1
Grp Sat Flow(s),veh/h/ln	1752	0	0	1436	0	1583	1810	1827	1599	1792	1810	1615
Q Serve(g_s), s	0.0	0.0	0.0	3.8	0.0	6.0	0.1	5.4	9.0	1.1	4.4	0.0
Cycle Q Clear(g_c), s	0.2	0.0	0.0	4.0	0.0	6.0	0.1	5.4	9.0	1.1	4.4	0.0
Prop In Lane	0.17		0.25	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	500	0	0	498	0	362	326	620	543	561	875	781
V/C Ratio(X)	0.02	0.00	0.00	0.32	0.00	0.68	0.01	0.48	0.71	0.70	0.35	0.00
Avail Cap(c_a), veh/h	1253	0	0	1150	0	1085	489	1857	1625	1608	2994	2672
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	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.7	0.0	0.0	14.1	0.0	14.9	11.1	11.0	12.2	14.3	6.8	5.6
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.4	0.0	2.2	0.0	0.6	1.8	1.6	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	1.6	0.0	2.8	0.0	2.8	4.1	4.2	2.3	0.0
LnGrp Delay(d),s/veh	12.7	0.0	0.0	14.5	0.0	17.1	11.1	11.6	14.0	15.9	7.0	5.6
LnGrp LOS	B			B		B	B	B	B	B	A	A
Approach Vol, veh/h		12			404			688			697	
Approach Delay, s/veh		12.7			16.1			12.9			12.0	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.3	18.4		13.7	4.2	24.5		13.7
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	31.0	43.0		29.0	4.0	70.0		29.0
Max Q Clear Time (g_c+I1), s	3.1	11.0		2.2	2.1	6.4		8.0
Green Ext Time (p_c), s	3.2	3.4		1.8	0.0	3.3		1.8

Intersection Summary	
HCM 2010 Ctrl Delay	13.3
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	30	411	7	84	173	293	2	4	25	291	17	5
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1882	1900	1301	1789	1900	1900	1334	1900	1900	1883	1900
Adj Flow Rate, veh/h	33	457	8	91	188	318	2	5	31	334	20	6
Adj No. of Lanes	0	1	1	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.80	0.80	0.80	0.87	0.87	0.87
Percent Heavy Veh, %	1	1	0	46	15	15	0	0	0	0	0	0
Cap, veh/h	87	724	720	235	267	451	71	82	398	671	33	10
Arrive On Green	0.45	0.45	0.45	0.45	0.45	0.45	0.42	0.42	0.42	0.42	0.42	0.42
Sat Flow, veh/h	51	1623	1615	645	598	1012	18	196	947	1320	80	24
Grp Volume(v), veh/h	490	0	8	91	0	506	38	0	0	360	0	0
Grp Sat Flow(s),veh/h/ln	1674	0	1615	645	0	1610	1161	0	0	1423	0	0
Q Serve(g_s), s	0.8	0.0	0.2	8.1	0.0	15.2	0.0	0.0	0.0	10.4	0.0	0.0
Cycle Q Clear(g_c), s	16.1	0.0	0.2	24.2	0.0	15.2	1.2	0.0	0.0	11.5	0.0	0.0
Prop In Lane	0.07		1.00	1.00		0.63	0.05		0.82	0.93		0.02
Lane Grp Cap(c), veh/h	810	0	720	235	0	718	552	0	0	715	0	0
V/C Ratio(X)	0.60	0.00	0.01	0.39	0.00	0.70	0.07	0.00	0.00	0.50	0.00	0.00
Avail Cap(c_a), veh/h	818	0	727	238	0	725	552	0	0	715	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.5	0.0	9.3	23.6	0.0	13.4	10.4	0.0	0.0	13.3	0.0	0.0
Incr Delay (d2), s/veh	1.3	0.0	0.0	1.0	0.0	3.1	0.2	0.0	0.0	2.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	0.0	0.1	1.5	0.0	7.4	0.4	0.0	0.0	5.0	0.0	0.0
LnGrp Delay(d),s/veh	13.8	0.0	9.3	24.6	0.0	16.5	10.6	0.0	0.0	15.8	0.0	0.0
LnGrp LOS	B		A	C		B	B			B		
Approach Vol, veh/h		498			597			38			360	
Approach Delay, s/veh		13.7			17.8			10.6			15.8	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		29.2		30.8		29.2		30.8
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0
Max Green Setting (Gmax), s		25.0		27.0		25.0		27.0
Max Q Clear Time (g_c+I1), s		3.2		18.1		13.5		26.2
Green Ext Time (p_c), s		2.5		4.8		1.9		0.6

Intersection Summary	
HCM 2010 Ctrl Delay	15.8
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	611	193	123	467	0	0	0	0	88	0	232
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1792	1900	1776	0				1900	0	1557
Adj Flow Rate, veh/h	0	643	203	135	513	0				111	0	294
Adj No. of Lanes	0	1	1	1	1	0				2	0	1
Peak Hour Factor	0.92	0.95	0.95	0.91	0.91	0.92				0.79	0.79	0.79
Percent Heavy Veh, %	0	2	6	0	7	0				0	0	22
Cap, veh/h	0	735	601	198	846	0				1657	0	625
Arrive On Green	0.00	0.39	0.39	0.06	0.48	0.00				0.47	0.00	0.47
Sat Flow, veh/h	0	1863	1524	1810	1776	0				3510	0	1324
Grp Volume(v), veh/h	0	643	203	135	513	0				111	0	294
Grp Sat Flow(s),veh/h/ln	0	1863	1524	1810	1776	0				1755	0	1324
Q Serve(g_s), s	0.0	49.5	14.4	6.7	33.0	0.0				2.7	0.0	23.4
Cycle Q Clear(g_c), s	0.0	49.5	14.4	6.7	33.0	0.0				2.7	0.0	23.4
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	735	601	198	846	0				1657	0	625
V/C Ratio(X)	0.00	0.88	0.34	0.68	0.61	0.00				0.07	0.00	0.47
Avail Cap(c_a), veh/h	0	913	747	201	1020	0				1657	0	625
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.80	0.80	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	43.4	32.8	34.8	29.9	0.0				22.3	0.0	27.8
Incr Delay (d2), s/veh	0.0	8.1	0.3	7.2	0.6	0.0				0.0	0.0	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
%ile BackOfQ(50%),veh/ln	0.0	27.0	6.1	3.7	16.2	0.0				1.3	0.0	8.6
LnGrp Delay(d),s/veh	0.0	51.5	33.1	42.0	30.5	0.0				22.3	0.0	28.3
LnGrp LOS		D	C	D	C					C		C
Approach Vol, veh/h		846			648						405	
Approach Delay, s/veh		47.1			32.9						26.7	
Approach LOS		D			C						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs			3	4		6		8
Phs Duration (G+Y+Rc), s			12.7	65.1		77.2		77.8
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0
Max Green Setting (Gmax), s			9.0	76.0		58.0		89.0
Max Q Clear Time (g_c+I1), s			8.7	51.5		25.4		35.0
Green Ext Time (p_c), s			0.0	9.7		1.5		11.8

Intersection Summary	
HCM 2010 Ctrl Delay	37.9
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	330	347	0	0	314	745	253	0	203	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1810	1881	0	0	1863	1900	1696	0	1900			
Adj Flow Rate, veh/h	344	361	0	0	334	793	278	0	223			
Adj No. of Lanes	1	2	0	0	1	1	1	0	1			
Peak Hour Factor	0.96	0.96	0.92	0.92	0.94	0.94	0.91	0.91	0.91			
Percent Heavy Veh, %	5	1	0	0	2	0	12	0	0			
Cap, veh/h	393	2119	0	0	829	719	574	0	574			
Arrive On Green	0.12	0.59	0.00	0.00	0.15	0.15	0.36	0.00	0.36			
Sat Flow, veh/h	1723	3668	0	0	1863	1615	1616	0	1615			
Grp Volume(v), veh/h	344	361	0	0	334	793	278	0	223			
Grp Sat Flow(s),veh/h/ln	1723	1787	0	0	1863	1615	1616	0	1615			
Q Serve(g_s), s	16.2	7.1	0.0	0.0	25.2	69.0	20.8	0.0	16.0			
Cycle Q Clear(g_c), s	16.2	7.1	0.0	0.0	25.2	69.0	20.8	0.0	16.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	393	2119	0	0	829	719	574	0	574			
V/C Ratio(X)	0.87	0.17	0.00	0.00	0.40	1.10	0.48	0.00	0.39			
Avail Cap(c_a), veh/h	472	2283	0	0	829	719	574	0	574			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00			
Upstream Filter(I)	0.61	0.61	0.00	0.00	0.64	0.64	1.00	0.00	1.00			
Uniform Delay (d), s/veh	24.6	14.3	0.0	0.0	47.4	66.1	38.9	0.0	37.4			
Incr Delay (d2), s/veh	9.5	0.0	0.0	0.0	0.2	59.7	0.6	0.0	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			
%ile BackOfQ(50%),veh/ln	8.7	3.5	0.0	0.0	13.1	42.8	9.4	0.0	7.2			
LnGrp Delay(d),s/veh	34.2	14.3	0.0	0.0	47.6	125.8	39.5	0.0	37.8			
LnGrp LOS	C	B			D	F	D		D			
Approach Vol, veh/h		705			1127			501				
Approach Delay, s/veh		24.0			102.6			38.8				
Approach LOS		C			F			D				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4			7	8
Phs Duration (G+Y+Rc), s		59.1		95.9			22.9	73.0
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0
Max Green Setting (Gmax), s		48.0		99.0			26.0	69.0
Max Q Clear Time (g_c+I1), s		22.8		9.1			18.2	71.0
Green Ext Time (p_c), s		1.6		10.9			0.7	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	65.2
HCM 2010 LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	330	347	0	0	314	745	253	0	203	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1810	1881	0	0	1863	1900	1696	0	1900			
Adj Flow Rate, veh/h	344	361	0	0	334	793	278	0	223			
Adj No. of Lanes	1	2	0	0	1	2	1	0	1			
Peak Hour Factor	0.96	0.96	0.92	0.92	0.94	0.94	0.91	0.91	0.91			
Percent Heavy Veh, %	5	1	0	0	2	0	12	0	0			
Cap, veh/h	373	1740	0	0	579	883	746	0	746			
Arrive On Green	0.15	0.49	0.00	0.00	0.10	0.10	0.46	0.00	0.46			
Sat Flow, veh/h	1723	3668	0	0	1863	2842	1616	0	1615			
Grp Volume(v), veh/h	344	361	0	0	334	793	278	0	223			
Grp Sat Flow(s),veh/h/ln	1723	1787	0	0	1863	1421	1616	0	1615			
Q Serve(g_s), s	20.3	8.9	0.0	0.0	26.5	42.7	17.3	0.0	13.4			
Cycle Q Clear(g_c), s	20.3	8.9	0.0	0.0	26.5	42.7	17.3	0.0	13.4			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	373	1740	0	0	579	883	746	0	746			
V/C Ratio(X)	0.92	0.21	0.00	0.00	0.58	0.90	0.37	0.00	0.30			
Avail Cap(c_a), veh/h	548	2145	0	0	601	917	746	0	746			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00			
Upstream Filter(I)	0.61	0.61	0.00	0.00	0.64	0.64	1.00	0.00	1.00			
Uniform Delay (d), s/veh	32.8	22.7	0.0	0.0	59.9	67.1	27.1	0.0	26.1			
Incr Delay (d2), s/veh	11.0	0.0	0.0	0.0	0.8	7.8	0.3	0.0	0.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	10.7	4.4	0.0	0.0	13.8	17.8	7.8	0.0	6.0			
LnGrp Delay(d),s/veh	43.8	22.7	0.0	0.0	60.7	74.9	27.4	0.0	26.3			
LnGrp LOS	D	C			E	E	C		C			
Approach Vol, veh/h		705			1127			501				
Approach Delay, s/veh		33.0			70.7			26.9				
Approach LOS		C			E			C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4			7	8
Phs Duration (G+Y+Rc), s		75.6		79.4			27.3	52.1
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0
Max Green Setting (Gmax), s		54.0		93.0			39.0	50.0
Max Q Clear Time (g_c+I1), s		19.3		10.9			22.3	44.7
Green Ext Time (p_c), s		1.7		10.9			1.0	3.4

Intersection Summary	
HCM 2010 Ctrl Delay	49.9
HCM 2010 LOS	D

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	487	80	19	510	485	22
Number	4	14	3	8	5	12
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
Adj Sat Flow, veh/h/ln	1884	1900	1900	1881	1900	1900
Adj Flow Rate, veh/h	502	82	23	630	527	24
Adj No. of Lanes	2	0	1	1	0	0
Peak Hour Factor	0.97	0.97	0.81	0.81	0.92	0.92
Percent Heavy Veh, %	1	1	0	1	0	0
Cap, veh/h	1183	192	269	722	970	44
Arrive On Green	0.38	0.38	0.38	0.38	0.56	0.56
Sat Flow, veh/h	3178	501	844	1881	1719	78
Grp Volume(v), veh/h	290	294	23	630	552	0
Grp Sat Flow(s),veh/h/ln	1790	1795	844	1881	1800	0
Q Serve(g_s), s	18.5	18.7	3.2	48.1	29.8	0.0
Cycle Q Clear(g_c), s	18.5	18.7	21.9	48.1	29.8	0.0
Prop In Lane		0.28	1.00		0.95	0.04
Lane Grp Cap(c), veh/h	687	689	269	722	1016	0
V/C Ratio(X)	0.42	0.43	0.09	0.87	0.54	0.00
Avail Cap(c_a), veh/h	889	892	364	935	1016	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	35.1	35.2	43.2	44.2	21.2	0.0
Incr Delay (d2), s/veh	0.4	0.4	0.1	7.4	2.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.2	9.4	0.8	26.5	15.3	0.0
LnGrp Delay(d),s/veh	35.5	35.6	43.4	51.6	23.3	0.0
LnGrp LOS	D	D	D	D	C	
Approach Vol, veh/h	584			653	552	
Approach Delay, s/veh	35.6			51.4	23.3	
Approach LOS	D			D	C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		91.5		63.5				63.5
Change Period (Y+Rc), s		4.0		4.0				4.0
Max Green Setting (Gmax), s		70.0		77.0				77.0
Max Q Clear Time (g_c+I1), s		31.8		20.7				50.1
Green Ext Time (p_c), s		1.9		11.0				9.4

Intersection Summary	
HCM 2010 Ctrl Delay	37.5
HCM 2010 LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	2	3	311	5	276	4	294	122	281	397	2
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1894	1900	1900	1845	1900	1863	1863	1900
Adj Flow Rate, veh/h	0	6	10	346	6	307	5	334	139	305	432	2
Adj No. of Lanes	0	1	0	0	1	1	1	1	1	1	1	1
Peak Hour Factor	0.31	0.31	0.31	0.90	0.90	0.90	0.88	0.88	0.88	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	20	20	0	0	3	0	2	2	0
Cap, veh/h	0	213	354	584	8	535	410	545	477	534	830	719
Arrive On Green	0.00	0.33	0.33	0.33	0.33	0.33	0.01	0.30	0.30	0.16	0.45	0.45
Sat Flow, veh/h	0	642	1070	1370	24	1615	1810	1845	1615	1774	1863	1615
Grp Volume(v), veh/h	0	0	16	352	0	307	5	334	139	305	432	2
Grp Sat Flow(s),veh/h/ln	0	0	1711	1394	0	1615	1810	1845	1615	1774	1863	1615
Q Serve(g_s), s	0.0	0.0	0.3	12.2	0.0	8.6	0.1	8.6	3.7	5.9	9.2	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.3	12.6	0.0	8.6	0.1	8.6	3.7	5.9	9.2	0.0
Prop In Lane	0.00		0.62	0.98		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	0	0	567	591	0	535	410	545	477	534	830	719
V/C Ratio(X)	0.00	0.00	0.03	0.60	0.00	0.57	0.01	0.61	0.29	0.57	0.52	0.00
Avail Cap(c_a), veh/h	0	0	1429	1307	0	1349	532	1206	1055	935	1792	1554
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)	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	12.4	16.7	0.0	15.2	13.5	16.7	15.0	10.3	11.0	8.5
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.0	0.0	1.0	0.0	1.1	0.3	1.0	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.2	4.9	0.0	4.0	0.1	4.5	1.7	2.9	4.8	0.0
LnGrp Delay(d),s/veh	0.0	0.0	12.4	17.6	0.0	16.2	13.5	17.8	15.3	11.2	11.5	8.5
LnGrp LOS			B	B		B	B	B	B	B	B	A
Approach Vol, veh/h		16			659			478			739	
Approach Delay, s/veh		12.4			17.0			17.0			11.4	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.5	20.3		22.3	4.3	28.5		22.3
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	21.0	36.0		46.0	4.0	53.0		46.0
Max Q Clear Time (g_c+I1), s	7.9	10.6		2.3	2.1	11.2		14.6
Green Ext Time (p_c), s	0.8	5.7		3.8	0.0	6.2		3.7

Intersection Summary	
HCM 2010 Ctrl Delay	14.8
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	3	271	2	23	433	336	7	14	42	358	5	49
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1761	1900	1284	1860	1900	1900	1578	1900	1900	1884	1900
Adj Flow Rate, veh/h	3	285	2	24	456	354	9	18	52	398	6	54
Adj No. of Lanes	0	1	1	1	1	0	0	1	0	0	1	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.80	0.80	0.80	0.90	0.90	0.90
Percent Heavy Veh, %	8	8	0	48	3	3	0	0	0	0	0	0
Cap, veh/h	61	755	781	132	470	365	98	157	363	583	7	64
Arrive On Green	0.48	0.48	0.48	0.48	0.48	0.48	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	1	1563	1615	750	972	755	82	409	946	1228	19	167
Grp Volume(v), veh/h	288	0	2	24	0	810	79	0	0	458	0	0
Grp Sat Flow(s),veh/h/ln	1564	0	1615	750	0	1727	1438	0	0	1413	0	0
Q Serve(g_s), s	0.6	0.0	0.0	1.0	0.0	27.4	0.0	0.0	0.0	15.3	0.0	0.0
Cycle Q Clear(g_c), s	28.0	0.0	0.0	29.0	0.0	27.4	2.2	0.0	0.0	17.5	0.0	0.0
Prop In Lane	0.01		1.00	1.00		0.44	0.11		0.66	0.87		0.12
Lane Grp Cap(c), veh/h	816	0	781	132	0	835	618	0	0	654	0	0
V/C Ratio(X)	0.35	0.00	0.00	0.18	0.00	0.97	0.13	0.00	0.00	0.70	0.00	0.00
Avail Cap(c_a), veh/h	816	0	781	132	0	835	618	0	0	654	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.7	0.0	8.0	29.7	0.0	15.1	12.1	0.0	0.0	16.5	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.7	0.0	24.0	0.4	0.0	0.0	6.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	0.0	0.4	0.0	18.4	0.9	0.0	0.0	8.0	0.0	0.0
LnGrp Delay(d),s/veh	9.9	0.0	8.0	30.4	0.0	39.1	12.5	0.0	0.0	22.7	0.0	0.0
LnGrp LOS	A		A	C		D	B			C		
Approach Vol, veh/h		290			834			79			458	
Approach Delay, s/veh		9.9			38.8			12.5			22.7	
Approach LOS		A			D			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		27.0		33.0		27.0		33.0
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0
Max Green Setting (Gmax), s		23.0		29.0		23.0		29.0
Max Q Clear Time (g_c+I1), s		4.2		30.0		19.5		31.0
Green Ext Time (p_c), s		3.5		0.0		1.2		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	28.1
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	478	293	239	574	0	0	0	0	778	0	374
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1743	1696	1881	1845	0				1881	0	1810
Adj Flow Rate, veh/h	0	514	315	266	638	0				846	0	407
Adj No. of Lanes	0	1	1	1	1	0				2	0	1
Peak Hour Factor	0.92	0.93	0.93	0.90	0.90	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	9	12	1	3	0				1	0	5
Cap, veh/h	0	598	495	289	884	0				1631	0	722
Arrive On Green	0.00	0.34	0.34	0.11	0.48	0.00				0.47	0.00	0.47
Sat Flow, veh/h	0	1743	1442	1792	1845	0				3476	0	1538
Grp Volume(v), veh/h	0	514	315	266	638	0				846	0	407
Grp Sat Flow(s),veh/h/ln	0	1743	1442	1792	1845	0				1738	0	1538
Q Serve(g_s), s	0.0	42.6	28.5	14.7	42.7	0.0				26.5	0.0	29.6
Cycle Q Clear(g_c), s	0.0	42.6	28.5	14.7	42.7	0.0				26.5	0.0	29.6
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	598	495	289	884	0				1631	0	722
V/C Ratio(X)	0.00	0.86	0.64	0.92	0.72	0.00				0.52	0.00	0.56
Avail Cap(c_a), veh/h	0	697	577	346	1047	0				1631	0	722
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.66	0.66	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	47.4	42.8	35.8	32.2	0.0				28.8	0.0	29.7
Incr Delay (d2), s/veh	0.0	9.4	1.8	19.3	1.3	0.0				0.3	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	22.1	11.6	12.8	21.9	0.0				12.8	0.0	12.8
LnGrp Delay(d),s/veh	0.0	56.8	44.6	55.2	33.5	0.0				29.1	0.0	30.7
LnGrp LOS		E	D	E	C					C		C
Approach Vol, veh/h		829			904						1253	
Approach Delay, s/veh		52.2			39.9						29.6	
Approach LOS		D			D						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs			3	4		6		8
Phs Duration (G+Y+Rc), s			21.1	57.2		76.7		78.3
Change Period (Y+Rc), s			4.0	4.0		4.0		4.0
Max Green Setting (Gmax), s			22.0	62.0		59.0		88.0
Max Q Clear Time (g_c+I1), s			16.7	44.6		31.6		44.7
Green Ext Time (p_c), s			0.4	8.6		5.4		12.2

Intersection Summary	
HCM 2010 Ctrl Delay	39.0
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	203	1016	0	0	580	102	189	0	181	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1570	1900	0	0	1900	1900	1792	0	1881			
Adj Flow Rate, veh/h	211	1058	0	0	652	115	212	0	203			
Adj No. of Lanes	1	2	0	0	1	1	1	0	1			
Peak Hour Factor	0.96	0.96	0.92	0.92	0.89	0.89	0.89	0.89	0.89			
Percent Heavy Veh, %	21	0	0	0	0	0	6	0	1			
Cap, veh/h	263	1899	0	0	702	596	721	0	676			
Arrive On Green	0.13	0.53	0.00	0.00	0.49	0.49	0.42	0.00	0.42			
Sat Flow, veh/h	1495	3705	0	0	1900	1615	1707	0	1599			
Grp Volume(v), veh/h	211	1058	0	0	652	115	212	0	203			
Grp Sat Flow(s),veh/h/ln	1495	1805	0	0	1900	1615	1707	0	1599			
Q Serve(g_s), s	14.0	30.5	0.0	0.0	49.8	6.2	12.7	0.0	13.0			
Cycle Q Clear(g_c), s	14.0	30.5	0.0	0.0	49.8	6.2	12.7	0.0	13.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	263	1899	0	0	702	596	721	0	676			
V/C Ratio(X)	0.80	0.56	0.00	0.00	0.93	0.19	0.29	0.00	0.30			
Avail Cap(c_a), veh/h	289	2539	0	0	1005	854	721	0	676			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.33	1.33	1.00	1.00	1.00			
Upstream Filter(I)	0.70	0.70	0.00	0.00	0.81	0.81	1.00	0.00	1.00			
Uniform Delay (d), s/veh	62.1	24.6	0.0	0.0	37.5	26.5	29.5	0.0	29.6			
Incr Delay (d2), s/veh	10.1	0.2	0.0	0.0	9.5	0.1	0.2	0.0	0.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	9.4	15.2	0.0	0.0	27.7	2.8	6.1	0.0	5.8			
LnGrp Delay(d),s/veh	72.3	24.8	0.0	0.0	47.0	26.6	29.7	0.0	29.9			
LnGrp LOS	E	C			D	C	C		C			
Approach Vol, veh/h		1269			767			415				
Approach Delay, s/veh		32.7			43.9			29.8				
Approach LOS		C			D			C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4			7	8
Phs Duration (G+Y+Rc), s		69.5		85.5			24.3	61.2
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0
Max Green Setting (Gmax), s		38.0		109.0			23.0	82.0
Max Q Clear Time (g_c+I1), s		15.0		32.5			16.0	51.8
Green Ext Time (p_c), s		1.3		11.6			4.3	5.4

Intersection Summary	
HCM 2010 Ctrl Delay	35.7
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	203	1016	0	0	580	102	189	0	181	0	0	0
Number	7	4	14	3	8	18	5	2	12			
Initial Q (Qb), veh	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			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Adj Sat Flow, veh/h/ln	1570	1900	0	0	1900	1900	1792	0	1881			
Adj Flow Rate, veh/h	211	1058	0	0	652	115	212	0	203			
Adj No. of Lanes	1	2	0	0	1	2	1	0	1			
Peak Hour Factor	0.96	0.96	0.92	0.92	0.89	0.89	0.89	0.89	0.89			
Percent Heavy Veh, %	21	0	0	0	0	0	6	0	1			
Cap, veh/h	263	1899	0	0	702	1051	721	0	675			
Arrive On Green	0.13	0.53	0.00	0.00	0.49	0.49	0.42	0.00	0.42			
Sat Flow, veh/h	1495	3705	0	0	1900	2842	1707	0	1599			
Grp Volume(v), veh/h	211	1058	0	0	652	115	212	0	203			
Grp Sat Flow(s),veh/h/ln	1495	1805	0	0	1900	1421	1707	0	1599			
Q Serve(g_s), s	14.0	30.4	0.0	0.0	49.7	3.4	12.7	0.0	13.0			
Cycle Q Clear(g_c), s	14.0	30.4	0.0	0.0	49.7	3.4	12.7	0.0	13.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	263	1899	0	0	702	1051	721	0	675			
V/C Ratio(X)	0.80	0.56	0.00	0.00	0.93	0.11	0.29	0.00	0.30			
Avail Cap(c_a), veh/h	289	2539	0	0	1005	1504	721	0	675			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.33	1.33	1.00	1.00	1.00			
Upstream Filter(I)	0.70	0.70	0.00	0.00	0.81	0.81	1.00	0.00	1.00			
Uniform Delay (d), s/veh	62.1	24.6	0.0	0.0	37.5	25.7	29.5	0.0	29.6			
Incr Delay (d2), s/veh	10.1	0.2	0.0	0.0	9.4	0.0	0.2	0.0	0.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	9.4	15.2	0.0	0.0	27.7	1.3	6.1	0.0	5.8			
LnGrp Delay(d),s/veh	72.2	24.8	0.0	0.0	46.9	25.7	29.8	0.0	29.9			
LnGrp LOS	E	C			D	C	C		C			
Approach Vol, veh/h		1269			767			415				
Approach Delay, s/veh		32.7			43.7			29.8				
Approach LOS		C			D			C				

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4			7	8
Phs Duration (G+Y+Rc), s		69.4		85.6			24.3	61.3
Change Period (Y+Rc), s		4.0		4.0			4.0	4.0
Max Green Setting (Gmax), s		38.0		109.0			23.0	82.0
Max Q Clear Time (g_c+I1), s		15.0		32.4			16.0	51.7
Green Ext Time (p_c), s		1.3		11.6			4.3	5.5

Intersection Summary	
HCM 2010 Ctrl Delay	35.6
HCM 2010 LOS	D

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	613	558	41	515	146	25
Number	4	14	3	8	5	12
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
Adj Sat Flow, veh/h/ln	1890	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	626	569	42	526	157	27
Adj No. of Lanes	2	0	1	1	0	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.93	0.93
Percent Heavy Veh, %	1	1	0	0	0	0
Cap, veh/h	889	796	150	941	684	118
Arrive On Green	0.50	0.50	0.50	0.50	0.45	0.45
Sat Flow, veh/h	1890	1607	476	1900	1510	260
Grp Volume(v), veh/h	626	569	42	526	185	0
Grp Sat Flow(s),veh/h/ln	1796	1607	476	1900	1779	0
Q Serve(g_s), s	41.9	42.9	11.7	30.0	9.8	0.0
Cycle Q Clear(g_c), s	41.9	42.9	54.6	30.0	9.8	0.0
Prop In Lane		1.00	1.00		0.85	0.15
Lane Grp Cap(c), veh/h	889	796	150	941	806	0
V/C Ratio(X)	0.70	0.72	0.28	0.56	0.23	0.00
Avail Cap(c_a), veh/h	1216	1088	237	1287	806	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.86	0.86	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	30.3	30.6	51.9	27.3	25.9	0.0
Incr Delay (d2), s/veh	1.0	1.2	1.0	0.5	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	20.9	19.2	1.6	15.8	5.0	0.0
LnGrp Delay(d),s/veh	31.3	31.8	52.9	27.8	26.5	0.0
LnGrp LOS	C	C	D	C	C	
Approach Vol, veh/h	1195			568	185	
Approach Delay, s/veh	31.5			29.7	26.5	
Approach LOS	C			C	C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		74.2		80.8				80.8
Change Period (Y+Rc), s		4.0		4.0				4.0
Max Green Setting (Gmax), s		42.0		105.0				105.0
Max Q Clear Time (g_c+I1), s		11.8		44.9				56.6
Green Ext Time (p_c), s		0.5		21.5				20.1

Intersection Summary	
HCM 2010 Ctrl Delay	30.5
HCM 2010 LOS	C

Notes

User approved volume balancing among the lanes for turning movement.