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Developments of Regional Impact (DRI) Your DeKalb Farmers Market DeKalb County, GA DRI # 2273 July 16, 2012



Civil, Survey & Transportation



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Your DeKalb Farmers Market Development of Regional Impacts (DRI) # 2273

Anticipated Traffic Impact Study Results
July 16, 2012

PROJECT SUMMARY

Name and Number of DRI	Your DeKalb Farmers Market, DRI # 2273
Jurisdiction	DeKalb County
Local Development Approval Sought	Land Development Permit
Location	3000 E. Ponce De Leon Avenue, Decatur Georgia 30030
Uses and Intensities of Use	1,246,626 Sq Feet Proposed Warehouse/Wholesale & 328,954 Sq Feet of Retail
Project Phasing and Build-Out	Phase I – 2015 – 548,675 SF, Overall – 2023 - 1,575,580 SF
Site Trip Generation (Average Daily Traffic / PM / SAT Peak Hour Traffic)	Phase I – 6,259/ 535 / 472 Phase II – 7,054 / 606 / 601 Phase III – 17,172 / 1,351 / 1,273 Phase IV – 22,674 / 1,747 / 1,715

Executive Summary

This report presents a systematic approach, by LAI Engineering (LAI), to analyze the anticipated traffic impacts for a proposed 1.57 million square foot redevelopment of the existing Your DeKalb Farmers Market in DeKalb County. Your DeKalb Farmers Market (DRI #2273), is located in unincorporated DeKalb County, Georgia. More specifically, the proposed development is located along E. Ponce De Leon Avenue between N. Decatur Road and DeKalb Industrial Way. The applicant (Your DeKalb Farmers Market) is applying for approval under Georgia Regional Transportation Authority's (GRTA's) non-expedited review process. Because the proposed redevelopment will exceed 1000 parking spaces, Your DeKalb Farmers Market requires a Development of Regional Impact (DRI) study and is subject to GRTA and Atlanta Regional Commission (ARC) review.

Proposed Development Conditions

The proposed expansion will add 1,104,151 SF gross area of Warehouse and 328,954 SF gross area of retail to the existing facility. The existing retail area of 142,475 SF will be converted to warehouse and wholesale area with an overall warehouse/wholesale area of 1,246,626 SF

The proposed expansion will be built in four phases; Phase 1 will consist of 361,972 SF of Warehouse and 186,703 SF of Retail. The existing retail area of 142,475 SF will be converted to warehouse and wholesale area after the completion of Phase 1; Phase 2 will consist of 223,530 SF of Warehouse; Phase 3 will consist of 419,875 SF of Warehouse and 89,065 SF of Retail; Phase 4 will consist of 98,774 SF of Warehouse and 53,186 SF of Retail; and Phase 4 will consist of 223,530 SF of Warehouse. Phase 1 is expected to be completed by 2015 and the overall project by 2023.

As part of the DRI process, 2012 existing traffic conditions, future background condition for 2015 and 2023, and future condition with full build out for the year 2023 were analyzed using SYNCHRO 7.0 software. Each scenario was analyzed for PM and Saturday peak hour traffic data for the 2015 and 2023 build-out years. The projected traffic was calculated using a 2% background traffic growth rate agreed upon by GRTA during the methodology review process.

Existing Traffic Analysis

Based on intersection analysis under the 2012 existing conditions, there were **no** intersections below the standard level of service D.

No-Build Conditions

The No-Build conditions were analyzed using the factors described in the Analysis of Anticipated Traffic Impact paragraph below for the 2015 and 2023 build-out year. A growth rate of 2% was used for projecting existing traffic data.

Build Conditions

The Build conditions were analyzed using the factors described in the Analysis of Anticipated Traffic Impact paragraph below, plus the site generated traffic associated with the Farmers Market for each phase of development.

Analysis of the Anticipated Traffic Impacts

No-Build Conditions

The results of the detailed intersection analysis for the 2015 and 2023 No-Build conditions include background traffic growth of 2% per year.

Based on intersection analysis under the 2015 future background conditions, there were **no** intersections below the standard LOS D. Based on 2023 future background conditions, four (4) intersections were identified as operating below the Level of Service Standard (LOS D). Recommendations were provided for to the intersections not meeting the acceptable Level of Service “D” are listed below:

- East Ponce De Leon Ave & N Decatur Rd
- N Decatur Rd & DeKalb Industrial Way.
- E College Dr & Arcadia Ave
- DeKalb Industrial Way & SR 8

The improvement recommendations for those intersections that do not meet the acceptable LOS D for No-Build 2023 conditions are:

- East Ponce De Leon Ave & N Decatur Rd
 - Recommend split phasing for the northbound and southbound traffic at the intersection.
 - Optimize signal timing and coordination with Church St and N Decatur Road.
- N Decatur Rd & DeKalb Industrial Way

- o Recommend adding additional southbound right turn lane at the intersection.
 - o Optimize signal timing at the intersection.
- E College Dr & Arcadia Ave
 - o Recommend dual left turns for eastbound approach at the intersection.
 - o Optimize signal timing at the intersection.
- DeKalb Industrial Way & SR 8
 - o Recommend additional through lane for SR 8 in the northbound direction.
 - o Optimize signal timing at the intersection.

The above intersections had to be improved in the analysis models before site specific analysis was completed. This ensured that the area roadways will continue to operate at an acceptable Level of Service once the development comes to the area.

Future Build Conditions

Based on intersection analysis under the 2015 Phase I build conditions, most of the intersections perform at acceptable levels of service except intersection DeKalb Industrial Way and SR 8 that performs at lower level of service. Recommended improvements for the intersection to operate at an acceptable level of service are:

- DeKalb Industrial Way & SR 8
 - o Optimize signal timing and cycle length at the intersection.

All the intersections under Phase II conditions operate at an acceptable level of service “D”.

Based on the intersection analysis for Phase III conditions three (3) intersections were identified as operating below the Level of Service Standard (LOS D). To maintain appropriate levels of service, improvements were recommended to the following intersections not meeting the acceptable Level of Service “D”:

- East Ponce De Leon Ave & Laredo Drive
- East Ponce De Leon Ave & N Arcadia Ave/Sams Crossing
- N Decatur Rd & DeKalb Industrial Way

The improvement recommendations for those intersections that do not meet the acceptable LOS D for Phase III Build 2023 conditions are:

- East Ponce De Leon Ave & Laredo Drive
 - Optimize signal timing and coordination at the intersection.
- East Ponce De Leon Ave & N Arcadia Ave/Sams Crossing
 - Optimize signal timing and phasing
- N Decatur Rd & DeKalb Industrial Way
 - Recommend adding additional eastbound right turn lane at the intersection.
 - Optimize signal timings at the intersection.

Based on the intersection analysis for Phase IV conditions, two (2) intersections were identified as operating below the Level of Service Standard (LOS D). To maintain appropriate levels of service, improvements were recommended to the following intersections not meeting the acceptable Level of Service “D”:

- East Ponce De Leon Ave & N Arcadia Ave/Sams Crossing
- East College Drive & N Arcadia Ave/Sams Crossing

The improvement recommendations for those intersections that do not meet the acceptable LOS D for Phase IV Build 2023 conditions are:

- East Ponce De Leon Ave & N Arcadia Ave/Sams Crossing
 - Recommend dual left turns for westbound approach at the intersection.
 - Optimize signal timing at the intersection.
- East College Drive & N Arcadia Ave/Sams Crossing
 - Optimize signal timing at the intersection

Segment Analysis

As part of the DRI process, a detailed segment analysis for all major corridors in the study network had been completed. SR 10/E College Dr, E Ponce De Leon Ave, N Decatur Rd and DeKalb Industrial Way were the four major segments analyzed. The analysis was completed for the existing year (2012), No-Build 2023 and Overall Project Build 2023 scenarios. The results of the detailed segment analysis reveal that SR 10/E College Dr, E Ponce De Leon Ave, N Decatur Rd and DeKalb Industrial Way will all operate at acceptable levels of service during all analyzed scenarios.

Signal Warrant Analysis

Using the future 2023 build condition traffic volumes, signal warrant analysis was performed at the intersection E Ponce De Leon Ave and New Entrance to Farmers Market. The results of the analysis showed the study intersection satisfies Warrants 1, satisfies Warrant 2 and satisfies Warrant 3B.

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1.0 Introduction

This report presents a systematic approach to the analysis of the anticipated traffic impacts for the proposed 1.57 million square feet redevelopment of the existing Your DeKalb Farmers Market in DeKalb County. Your DeKalb Farmers Market (DRI #2273), is located in unincorporated DeKalb County, Georgia. More specifically, the proposed development is located along E. Ponce De Leon Avenue between N. Decatur Road and DeKalb Industrial Way. See Figure 1 and Figure 2 for Location Map and Aerial Site Plan.

The proposed expansion will consist of approximately 106 acres with four new buildings that add 1,104,151 SF gross area of Warehouses and 328,954 SF gross area of retail to the existing facility. The existing retail area of 142,475 SF will be converted to warehouse and wholesale area. 60 percent of the existing retail area of 142,475 SF will be converted to warehouse and 40 percent will be converted to wholesale area, with an overall warehouse/wholesale area of 1,246,626 SF. See **Table 1** for proposed land use intensities. 2,802 new parking spaces will be provided in addition to the existing 763 spaces. The 2,802 new parking spaces include both newly paved and restriped spaces. Two new driveways will be proposed; 1 signalized along East Ponce De Leon Avenue and 1 un-signalized along DeKalb Industrial Way, in addition to the existing driveways.

The site is zoned M-2 (Industrial District) which permits a farmer's market and warehousing development of this type. The development borders other industrial and multifamily residential districts. The proposed zoning will remain M-2.

Table 1: Proposed Land Uses

Land Use	Area
150- Warehouse	1,189,636 SF
860-Wholesale Market (40 Percent of Existing Building)	56,990 SF
854- Retail Farmers Market	328,954 SF
Grand Total	1,575,580 SF

1.1 Phasing and Build-Out Schedule

The proposed expansion will be built in four phases; Phase 1 will consist of 361,972 SF of Warehouse and 186,703 SF of Retail. The existing retail area of 142,475 SF will be converted to warehouse and wholesale area after the completion of Phase 1; Phase 2 will consist of 223,530 SF of Warehouse; Phase 3 will consist of 419,875 SF of Warehouse and 89,065 SF of Retail;

Phase 4 will consist of 98,774 SF of Warehouse and 53,186 SF of Retail; and Phase 4 will consist of 223,530 SF of Warehouse.

Phase I is expected to be completed in 3 Years (Year 2015) and the overall project is expected to be completed in 10 years (Year 2023).

1.2 Site Plan Review

The proposed development utilizes a two pod design (Pod A & Pod B), where the elements contained in Pod A (buildings A, B & C) of the project have both retail and warehouse space and are accessible by pedestrian walkways. Pod B consists of warehouse and wholesale space and does not include retail space for public. The site plan for the proposed development is shown in Figure 3.

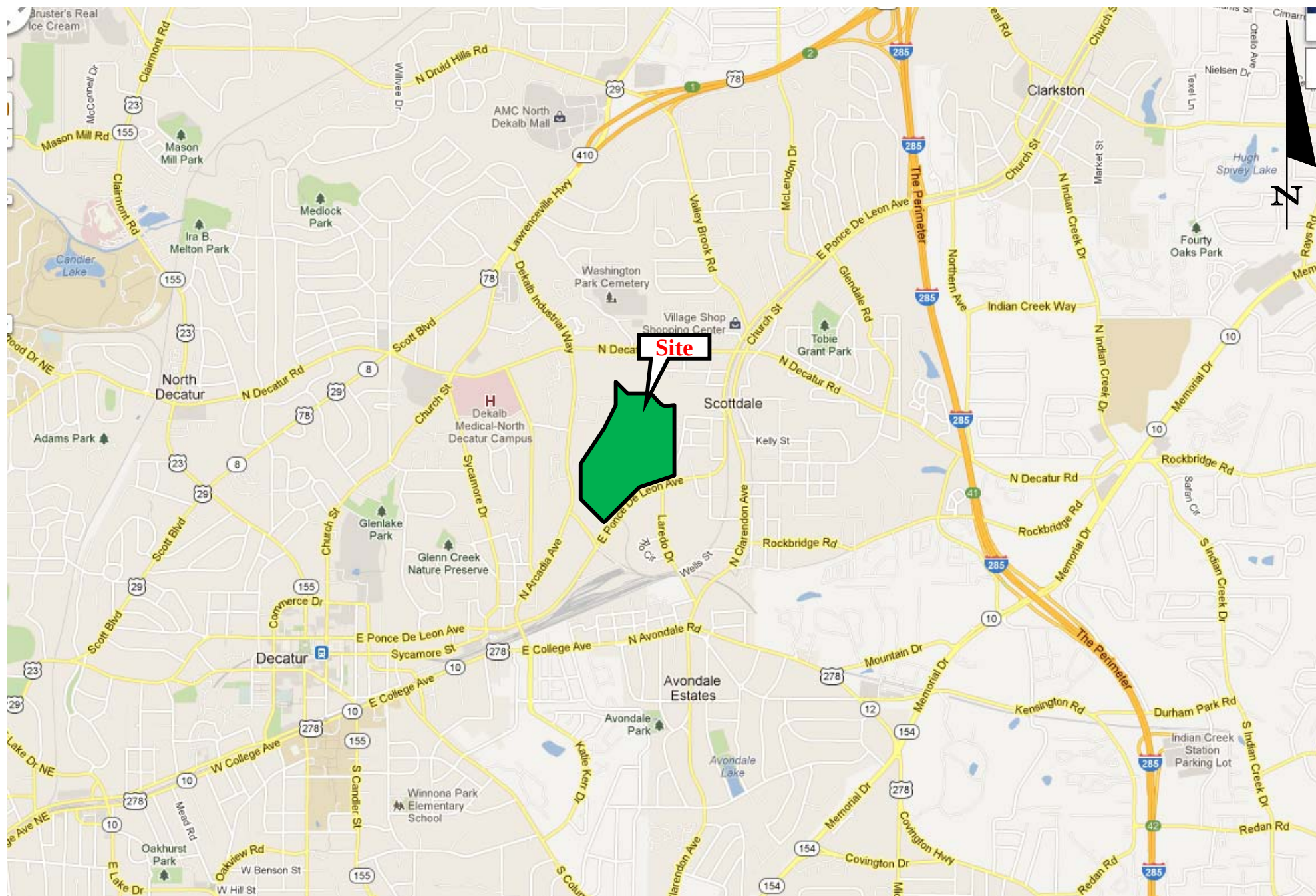
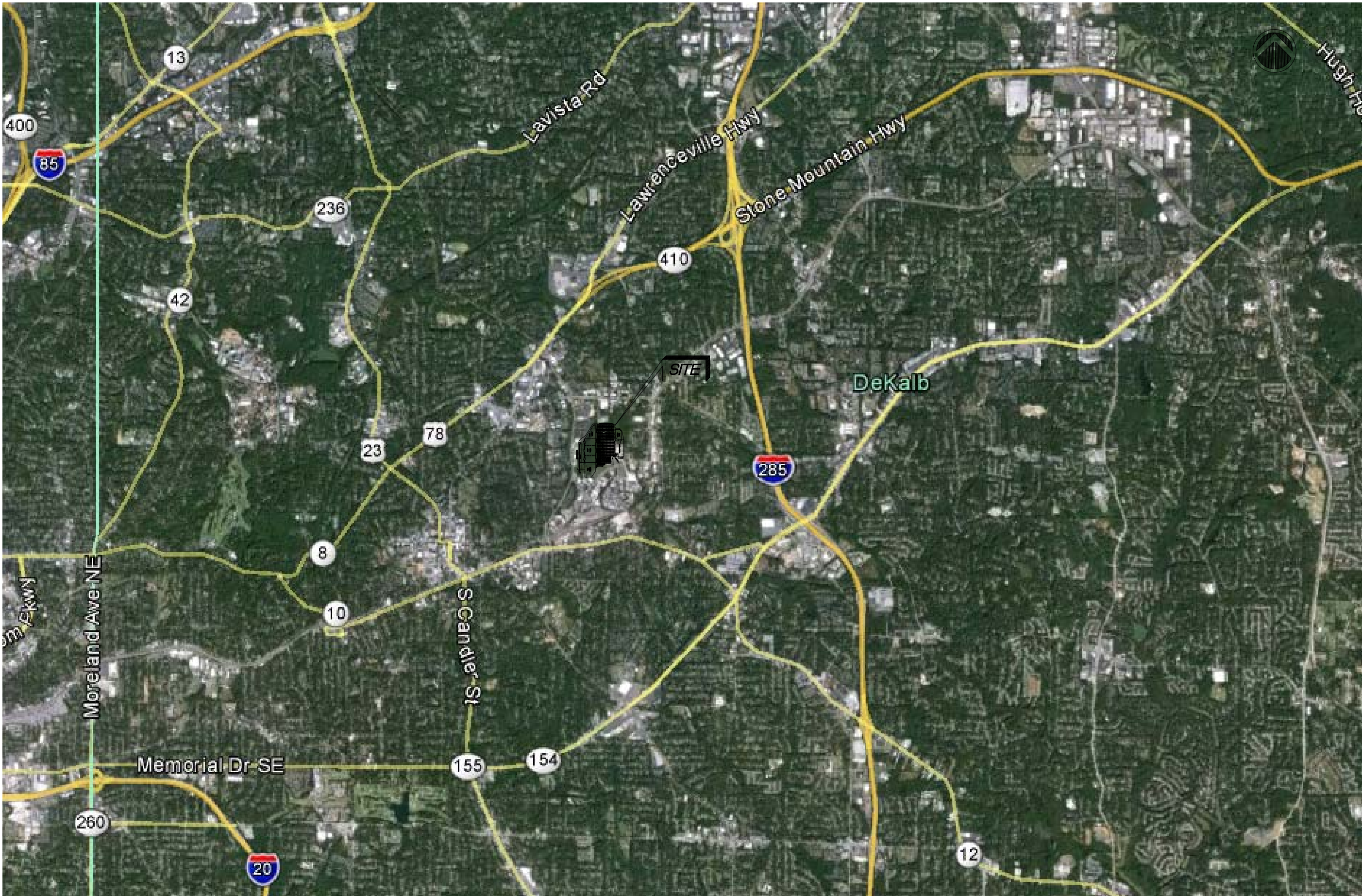
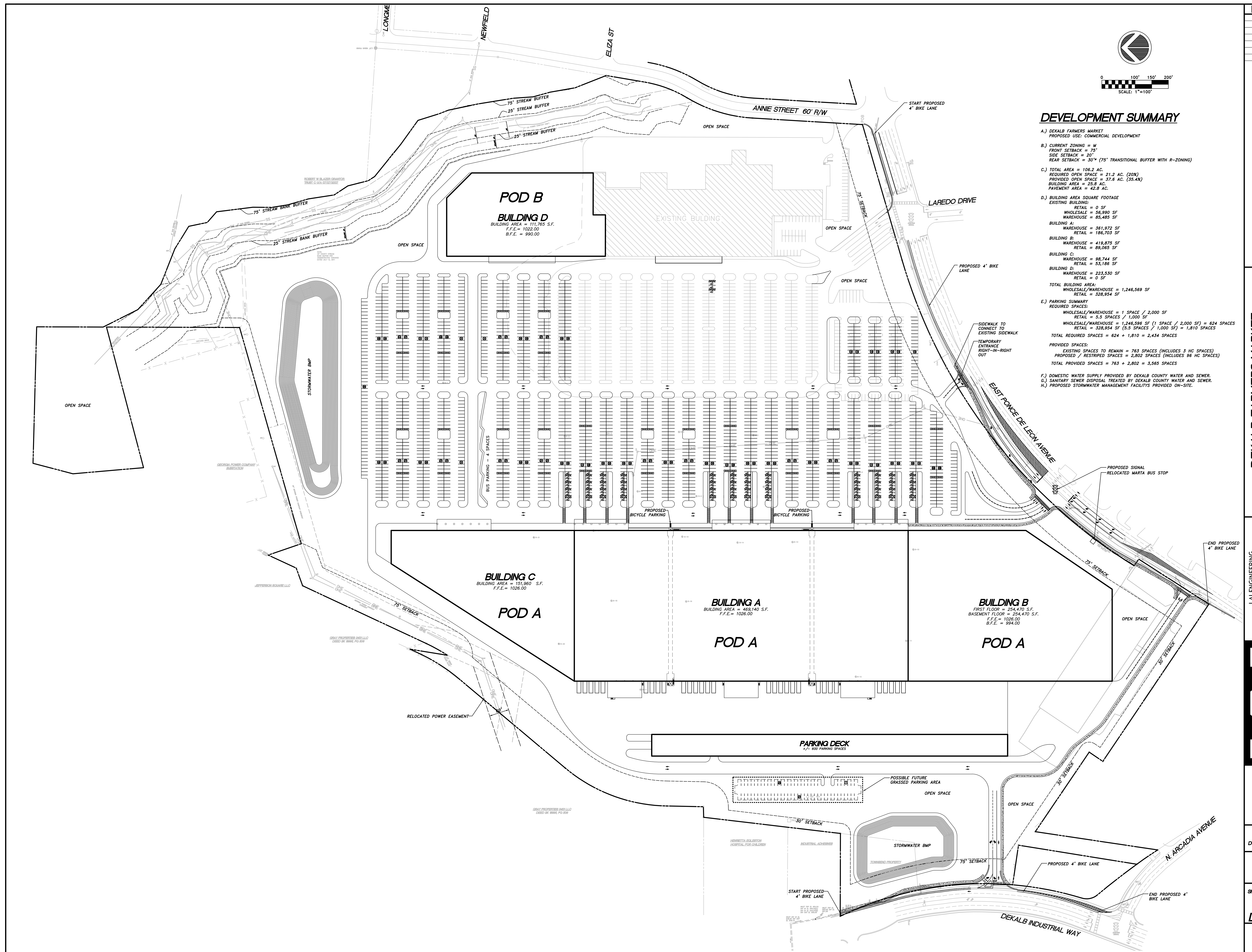


FIGURE 1: LOCATION MAP

FIGURE 2-AERIAL SITE PLAN



REVISIONS	
YOUR DEKALB FARMERS MARKET 3000 E. PONCE DE LEON AVE, DECATUR DEKALB COUNTY GEORGIA	
LAI ENGINEERING PARKWAY CENTER - 1800 PARKWAY PL. - STE. 720 MARIETTA, GA 30067 PHONE: 770.423.0807 FAX: 770.423.1262 WWW.LAIENGINEERING.COM	
JOB NO: 12001 DWG NAME: AERIAL SITE PLAN	
SHEET: FIG 2	
DATE: 05/18/2012 Copyright © 2007	



1.3 Site Plan Review

Access will be provided to the proposed development through five (5) driveways: Three (3) driveways along East Ponce De Leon, One (1) driveway along DeKalb Industrial Way and One (1) driveway along Annie Street. In addition to the five (5) driveways, a temporary driveway will be provided along East Ponce De Leon Avenue during Phase I construction. The temporary driveway along East Ponce De Leon Avenue will be used for emergency purpose after Phase I construction.

Driveway-1 (Existing Signalized) – The existing driveway 1 will be a fully accessible commercial driveway into Pod “A” and Pod “B” at Laredo Drive. Driveway 1 is located along East Ponce De Leon Avenue approximately 2,100 ft north of DeKalb Industrial Way with five (5) 12 ft lanes; two (2) lanes entering and three (3) lanes exiting the farmers market.

Driveway-2 (Proposed Signalized) – The proposed driveway 2 will be a fully accessible commercial driveway into Pod “A” and Pod “B” at its intersection with East Ponce De Leon Avenue. Driveway 2 is located approximately 1,100 ft north of DeKalb Industrial Way and approximately 950’ west of the existing Driveway 1.

The proposed driveway 2 will serve as the main entrance for the farmers market.

Driveway-3 (Existing Unsignalized) – The existing driveway 3 will be a fully accessible commercial driveway into Pod “A” and Pod “B” at intersection with East Ponce De Leon Avenue. Driveway 3 is located approximately 1400’ west of Driveway 1 along East Ponce De Leon Avenue. Driveway 3 will be used exclusively for trucks loading and unloading cargo at the warehouse in Pod “A”. Vehicles entering Driveway 4 will not have access to the retail area and Pod B Warehouse area.

Driveway-4 (Proposed Unsignalized) – The proposed driveway 4 will be a fully accessible commercial driveway into Pod “A” at intersection with DeKalb Industrial Way. Driveway 4 is located approximately 350 ft north of the signalized intersection with N Arcadia Avenue.

Temporary Driveway – A temporary driveway between Driveway 1 and 2 will be provided at intersection with East Ponce De Leon Avenue during Phase 1 construction. The temporary driveway will be used for emergency purpose after Phase I construction and will remain closed during normal business times.

1.4 Transit Facilities

Currently Metropolitan Atlanta Rapid Transit Authority (MARTA) provides bus service through East Ponce De Leon Avenue and DeKalb Industrial Way. Route 120 and Route 36 provides service along E Ponce De Leon Avenue, and Route 75 provides service along DeKalb Industrial Way. These bus services connect Your DeKalb Farmers Market directly from Avondale Metro Station and other parts of DeKalb County. The bus stops at the proposed driveway 4 and existing driveway 1 will be relocated.

Source: <http://www.itsmarta.com/bus-schedules.aspx>

1.5 Bicycle and Pedestrian Facilities

Your DeKalb Farmers Market is designed to be a pedestrian and transit friendly development. As transit service is available in this area, pedestrian friendly environment will be created from the bus stops to market facilities through the use of sidewalks, pedestrian-scaled features, aesthetic plantings, etc allowing for walkers and bikers in the vicinity. Pedestrian Facilities will be improved along E Ponce De Leon Avenue as agreed in the pre-review and methodology meeting held at ARC office on April 30, 2012.

2.0 Traffic Analyses – Methodology and Assumptions

2.1 Existing Facilities

The area roadways in the vicinity of the proposed development offer drivers a wide range of travel paths with functional classifications including 1-Urban Principal Arterials, 8-Urban Minor Arterials, 5-Urban Collector Streets and 4-Urban Local Roads.

There are three basic functional classifications of roadways: arterial, collector and local roads. All streets and highways are grouped into one of these classifications depending on the character of traffic (i.e., local or long distance) and the degree of property access they allow.

See **Table 2** for a list of existing roadways in the study network and description as defined by the Georgia Department of Transportation (GDOT). See **Figure 4** for photographs of the major intersections in the vicinity of the Farmers Market.

Table 2: Trip Generation

Roadway Name	Orientation	GDOT Classification	Speed Limit
East Ponce De Leon Ave	North-South	Urban Minor Arterial	40 mph
DeKalb Industrial Way	North-South	Urban Collector Street	45 mph
N Decatur Rd	East-West	Urban Minor Arterial	35 mph
E College Dr	East-West	Urban Minor Arterial	35 mph
N Arcadia Ave/Sams Crossing	North-South	Urban Collector Street	30 mph
SR 155/N Candler St	North-South	Urban Minor Arterial	35 mph
Glendale Rd	North-South	Urban Local Road	30 mph
Church Street W of Dekalb Ind Way	North-South	Urban Collector Street	35 mph
Church Street E of Dekalb Ind Way	North-South	Urban Local Road	35 mph
N Clarendon Ave	North-South	Urban Collector Street	35 mph
SR 8/ Lawrenceville Hwy	North-South	Urban Principal Arterial	45 mph
N Avondale Rd/US 278	East-West	Urban Minor Arterial	35 mph
Laredo Dr	North-South	Urban Local Road	35 mph
Valley Brook Rd	North-South	Urban Minor Arterial	35 mph
McLendon Dr	North-South	Urban Collector Street	30 mph
S Columbia Dr	North-South	Urban Minor Arterial	35 mph
Commerce St	North-South	Urban Minor Arterial	35 mph
S Mc Dough St	North-South	Urban Local Road	35 mph

Functional Classification Source: <http://www.dot.state.ga.us/maps/pages/highwaysystem.aspx>



Facing North



Facing South



Facing East



Facing West



Facing North



Facing South



Facing North



Facing South



Facing North



Facing South



Facing North



Facing South

2.2 Growth Rate

Historical traffic volumes were analyzed utilizing volume data gathered from the Georgia Department of Transportation. Volume data from 6 previous years was assembled to help determine a background traffic growth rate on the roadways within the study network. Based on recent travel trends in traffic along the area roadways, as well as the population growth rates of DeKalb County Census, a growth rate of 2.0% per year was used to calculate all future traffic. This 2% growth rate was approved by GRTA during the methodology review process and is documented in GRTA's Letter of Understanding dated May 07, 2012.

2.3 Traffic Data Collection

Vehicle turning movement counts were collected by Reliable Traffic Data Services, LLC and LAI Engineering for typical weekday PM (4:00 pm – 6:00 pm) peak periods and Saturday peak period (02:00 pm – 04:00 pm). Weekday PM and Saturday peak hour counts were performed in the second and third week of May, 2012. 24-Hr mechanical counts were also collected along E Ponce De Leon Avenue and DeKalb Industrial Way during a weekday and Saturday. Existing Signal Timing information was collected from the DeKalb County Transportation Division. All the existing PM peak hour counts were collected while school were in session.

See **Appendix C** for Traffic Counts.

2.4 Detailed Intersection Analysis

Level of service (LOS) is used to describe the operating characteristics of a road segment or intersection in relation to its capacity. LOS is defined as a quantitative measure that describes operational conditions and motorist perceptions within a traffic stream. The Highway Capacity Manual defines six levels of service, LOS A through LOS F, with A being the best and F being the worst. Level of service analyses were conducted at all intersections within the study network using Synchro/Sim Traffic Professional, Version 7.

Levels of service for signalized intersections are reported for individual movements as well as for the intersection as a whole. One or more movements at an intersection may experience a low level of service, while the intersection as a whole may operate acceptably.

Levels of service for un-signalized intersections, with stop control on the minor street only are reported for the minor (side) approaches. Low levels of service for side street approaches are not uncommon, as vehicles may experience delay in turning onto major roadways.

If an intersection or roadway segment (corridor) was found to be below the acceptable level of service, as established by the city standards, it was improved to an acceptable level of service before the analysis could be considered complete.

3.0 Study Network

3.1 Existing Facilities

As stated earlier, there are three (3) functional classifications of roadways: arterial, collector and local roads. All streets and highways are grouped into one of these classifications depending on the character of traffic (i.e., local or long distance) and the degree of land access they allow. See **Table 2** for a list of existing roadways in the study network and the functional classification as defined by the Georgia Department of Transportation (GDOT).

3.2 Study Intersections

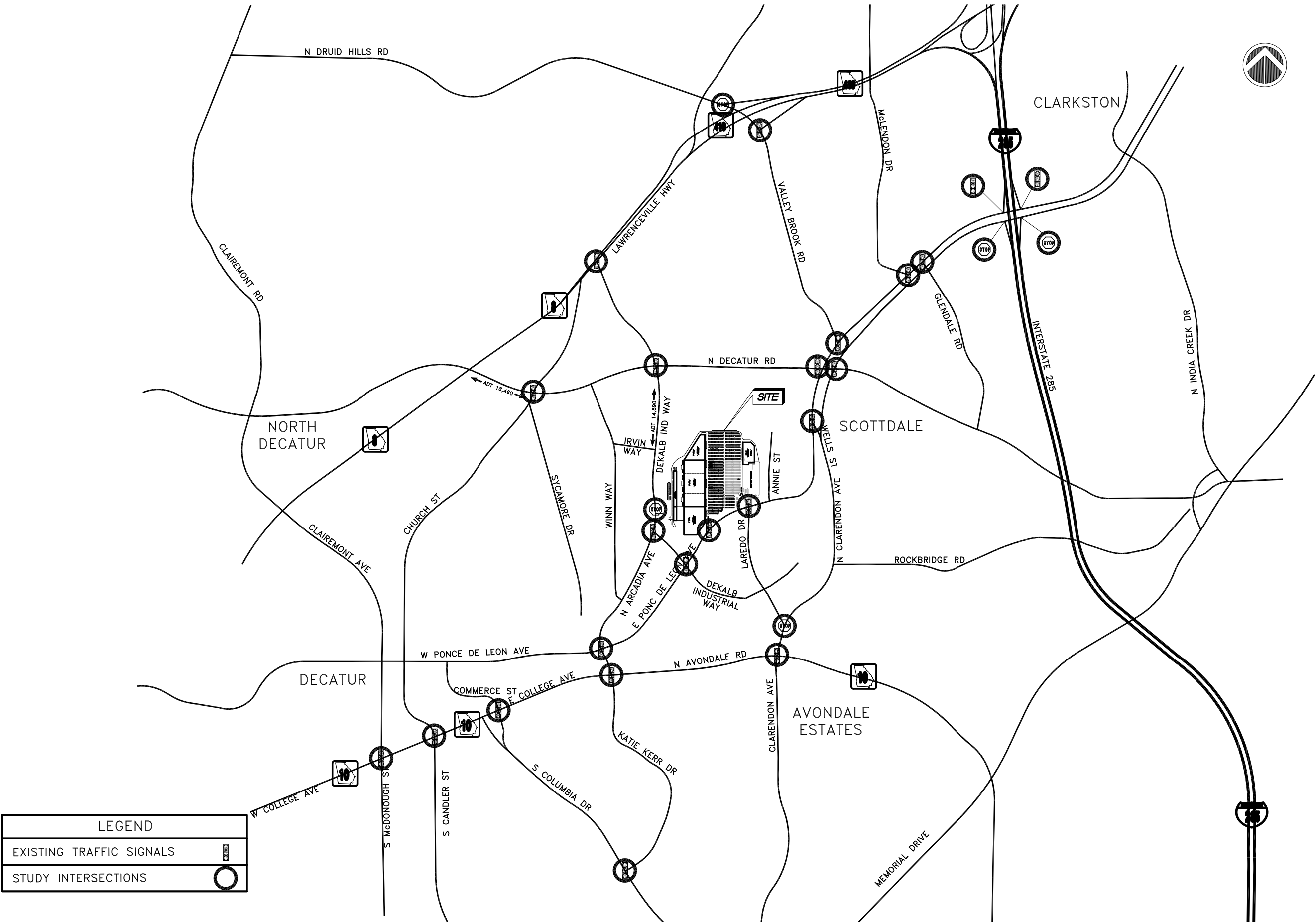
The study network was determined by evaluating the amount of traffic that the proposed development will add to each roadway segment in the area. According to GRTA's requirements, a roadway segment carries a "significant" amount of traffic if the project contributes 7% or more trips to the two-way daily service volumes of the roadway at the appropriate level of service standard. Upon agreement with GRTA, a standard Level of Service D was used for determining the study network area. See **Figure 5** for Study Network Intersections. See **Appendix A** for GRTA's 7% study network determination table.

The traffic generated by the proposed project was then assigned to the area roadways using a trip distribution process (historical travel trends, residential densities and engineering judgment) to determine the site-generated traffic volumes on each roadway segment. The boundaries of the study network extend to the most distant intersections where at least 7% of the service volumes on the segment are attributed to the project traffic. The following intersections were found to have site generated volumes in keeping with the 7% rule and have been included in the traffic study:

1. East Ponce De Leon Ave & Laredo Drive	2. East Ponce De Leon Ave & Wells St
3. East Ponce De Leon Ave & DeKalb Industrial Way	4. East Ponce De Leon Ave & N Arcadia Ave/Sams Crossing
5. East Ponce De Leon Ave & N Decatur Rd	6. East Ponce De Leon Av & Valley Brook Rd
7. East Ponce De Leon Ave & Glendale Rd	8. East Ponce De Leon Ave & McLendon Dr
9. East Ponce De Leon Ave & I-285 Ramps	10. Church Street & I-285 Ramps `

11. Valley Brook Rd and SR 410 Ramps	12. N Decatur Rd & DeKalb Industrial Way
13. N Decatur Rd & Church St W of DeKalb Industrial Way	14. N Decatur Rd & Church St E of DeKalb Industrial Way
15. E College Dr & Arcadia Ave	16. Arcadia Ave & S Columbus Dr
17. E College Dr & Commerce St	18. E College Dr & SR 155
19. E College Dr & S McDonough St	20. DeKalb Industrial Way & N Arcadia Ave
21. DeKalb Industrial Way & SR 8	22. N Clarendon Ave & N Avondale Rd/US 278
23. N Clarendon Ave & Laredo Drive	24. All existing and proposed site driveways

FIGURE 5-STUDY NETWORK INTERSECTIONS



LEGEND	
EXISTING TRAFFIC SIGNALS	
STUDY INTERSECTIONS	

REVISIONS

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DRI
2273

JOB NO: 12001
DWG NAME: STDY NTKW

STUDY NETWORK
PLAN

SHEET:
FIG 5

DATE: 05/18/2012
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NOT ISSUED FOR CONSTRUCTION

3.3 Trip Generation

Trip generation estimates were based on the rates and equations published in the 8th Edition of the Institute of Transportation Engineers (ITE) *Trip Generation Manual*. The ITE *Trip Generation Manual* contains traffic volume count data collected at similar facilities nationwide. The overall proposed development will consist of 328,954 SF of retail space, 1,189,636 SF of warehouse space and 56,990 SF of wholesale market.

As explained in Section 1.1 the proposed development will be constructed in four different phases:

Phase 1 involves construction of building A with 361,972 SF of Warehouse and 186,703 SF of Retail space. Figure 3-Site Plan shows the location of the proposed building A. The existing retail area of 142,475 SF will be converted to warehouse space of 85,485 SF and wholesale area of 56,990 SF after the completion of Phase 1.

Phase 2 involves construction of building D with 223,530 SF of Warehouse space.

Phase 3 involves construction of building B with 419,875 SF of Warehouse and 89,065 SF of Retail space.

Phase 4 involves construction of building C with 98,774 SF of Warehouse and 53,186 SF of Retail.

Phase I is expected to be completed in 3 Years (Year 2015) and the overall project is expected to be completed in 10 years (Year 2023). Figure 3-DRI Site Plan shows the location of the existing and the proposed buildings A, B, C & D.

Pass-by reductions were applied for the retail land uses based on ITE's Trip Generation Handbook, 2nd Edition. Pass-by reductions are trips already on the roadway that will go to the proposed site on the way from an origin to a primary trip destination without a route diversion. 23 percent of pass-by reduction trips were estimated for the proposed retail site based on the ITE Trip generation Handbook. As GRTA limits the pass-by reductions to 15 percent, a 15 percent reduction in the retail trips were applied for the present study.

Based on the ITE's Trip Generation Handbook, no mixed use reduction was applied to the development as there is no significant internal capture for the proposed warehouse, wholesale and retail.

ITE Trip Generation Handbook does not have traffic volume survey for the Farmers Market. So, ITE Land Use Code 854 Retail Discount Supermarket, which has similar land use properties (free-standing retail stores selling a complete assortment of food, ATMs and Bakeries) to the Farmers Market, was used for the present study. Similarly, ITE Land Use Codes 150 and 860 were used for the warehouse space and the wholesale market in the proposed development.

A detailed trip generation was conducted based on each phase of the development and the results are shown in following tables.

Table 3: Trip Generation – Phase I shows the trip generation for the Phase 1 development of the Farmers Market.

Table 3: Trip Generation - Phase I

Land Use Code/Size	Avg Weekday Trips	Traffic Direction	PM Peak Trips	PM Peak Pass-by Trips (Retail-15%)	Sat PM Peak Trips	Sat Peak Pass-by Trips (Retail-15%)	Net- New PM Trips	Net- New Sat PM Trips
POD A								
Warehouse 150/361,972 S.F	1,289	Enter	29	0	30	0	29	30
		Exit	87	0	17	0	87	17
Discount Retail (Farmers Market) 854/186,703 S.F	18,077	Enter	831	125	976	146	706	830
		Exit	831	125	976	146	706	830
POD B								
Warehouse 150/85,485 S.F	304	Enter	7	0	7	0	7	7
		Exit	21	0	4	0	21	4
Wholesale Market 860/56,990 S.F	384	Enter	27	0	7	0	27	7
		Exit	24	0	7	0	24	7
GROSS TRIPS POD A & POD B								
Gross Total	20,053	Enter	893	125	1,020	146	769	874
		Exit	962	125	1,004	146	837	857
-Existing Retail Area Reduction (Farmers Market) 854/142,475 S.F	13,794	Enter	634	95	745	112	539	633
		Exit	634	95	745	112	539	633
NET TRIPS POD A & POD B								
Net Total	6,259	Enter	259	30	275	35	230	240
		Exit	328	30	259	35	298	224

Table 4: Trip Generation – Phase II shows the trip generation for the Phase 2 along with the Phase 1 development of Farmers Market.

Table 4: Trip Generation - Phase II

Land Use Code/Size	Avg Weekday Trips	Traffic Direction	PM Peak Trips	PM Peak Pass-by Trips (Retail-15%)	Sat PM Peak Trips	Sat Peak Pass-by Trips (Retail-15%)	Net-New PM Trips	Net-New Sat PM Trips
POD A								
Warehouse 150/361,972 S.F	1,289	Enter	29	0	30	0	29	30
		Exit	87	0	17	0	87	17
Discount Retail (Farmers Market) 854/186,703 S.F	18,077	Enter	831	125	976	146	706	830
		Exit	831	125	976	146	706	830
POD B								
Warehouse 150/309,015 S.F	1,100	Enter	25	0	26	0	25	26
		Exit	74	0	14	0	74	14
Wholesale Market 860/56,990 S.F	384	Enter	27	0	7	0	27	7
		Exit	24	0	7	0	24	7
GROSS TRIPS POD A & POD B								
Gross Total	20,849	Enter	911	125	1,039	146	786	892
		Exit	1,015	125	1,014	146	891	868
-Existing Retail Area Reduction (Farmers Market) 854/142,475 S.F	13,794	Enter	634	95	745	112	539	633
		Exit	634	95	745	112	539	633
NET TRIPS POD A & POD B								
Net Total	7,054	Enter	277	30	294	35	248	259
		Exit	381	30	269	35	352	235

Table 5: Trip Generation – Phase III shows the trip generation for the Phase 3 along with the Phase 1 and Phase 2 development of Farmers Market.

Table 5: Trip Generation - Phase III

Land Use Code/Size	Avg Weekday Trips	Traffic Direction	PM Peak Trips	PM Peak Pass-by Trips (Retail-15%)	Sat PM Peak Trips	Sat Peak Pass-by Trips (Retail-15%)	Net- New PM Trips	Net- New Sat PM Trips
POD A								
Warehouse 150/781,847 S.F	2,783	Enter	63	0	65	0	63	65
		Exit	188	0	37	0	188	37
Discount Retail (Farmers Market) 854/275,768 S.F	26,700	Enter	1,227	184	1,442	216	1,043	1,226
		Exit	1,227	184	1,442	216	1,043	1,226
POD B								
Warehouse 150/309,015 S.F	1,100	Enter	25	0	26	0	25	26
		Exit	74	0	14	0	74	14
Wholesale Market 860/56,990 S.F	384	Enter	27	0	7	0	27	7
		Exit	24	0	7	0	24	7
GROSS TRIPS POD A & POD B								
Gross Total	30,967	Enter	1,341	184	1,540	216	1,157	1,323
		Exit	1,513	184	1,500	216	1,328	1,284
-Existing Retail Area Reduction (Farmers Market) 854/142,475 S.F	13,794	Enter	634	95	745	112	539	633
		Exit	634	95	745	112	539	633
NET TRIPS POD A & POD B								
Net Total	17,172	Enter	707	89	794	105	618	690
		Exit	879	89	755	105	790	650

Table 6: Trip Generation – Phase IV shows the trip generation for the Phase 4 along with the Phase 1, Phase 2 and Phase 3 development of Farmers Market.

Table 6: Trip Generation - Phase IV

Land Use Code/Size	Avg Weekday Trips	Traffic Direction	PM Peak Trips	PM Peak Pass-by Trips (Retail-15%)	Sat PM Peak Trips	Sat Peak Pass-by Trips (Retail-15%)	Net- New PM Trips	Net- New Sat PM Trips
POD A								
Warehouse 150/880,621 S.F	3,135	Enter	70	0	73	0	70	73
		Exit	211	0	41	0	211	41
Discount Retail (Farmers Market) 854/328,954 S.F	31,849	Enter	1,464	220	1,720	258	1,244	1,462
		Exit	1,464	220	1,720	258	1,244	1,462
POD B								
Warehouse 150/309,015 S.F	1,100	Enter	25	0	26	0	25	26
		Exit	74	0	14	0	74	14
Wholesale Market 860/56,990 S.F	384	Enter	27	0	7	0	27	7
		Exit	24	0	7	0	24	7
GROSS TRIPS POD A & POD B								
Gross Total	36,468	Enter	1,586	220	1,826	258	1,366	1,568
		Exit	1,773	220	1,783	258	1,553	1,525
-Existing Retail Area Reduction (Farmers Market) 854/142,475 S.F	13,794	Enter	634	95	745	112	539	633
		Exit	634	95	745	112	539	633
NET TRIPS POD A & POD B								
Net Total	22,674	Enter	952	124	1,081	146	827	935
		Exit	1,139	124	1,038	146	1,014	891

4.0 Trip Distribution

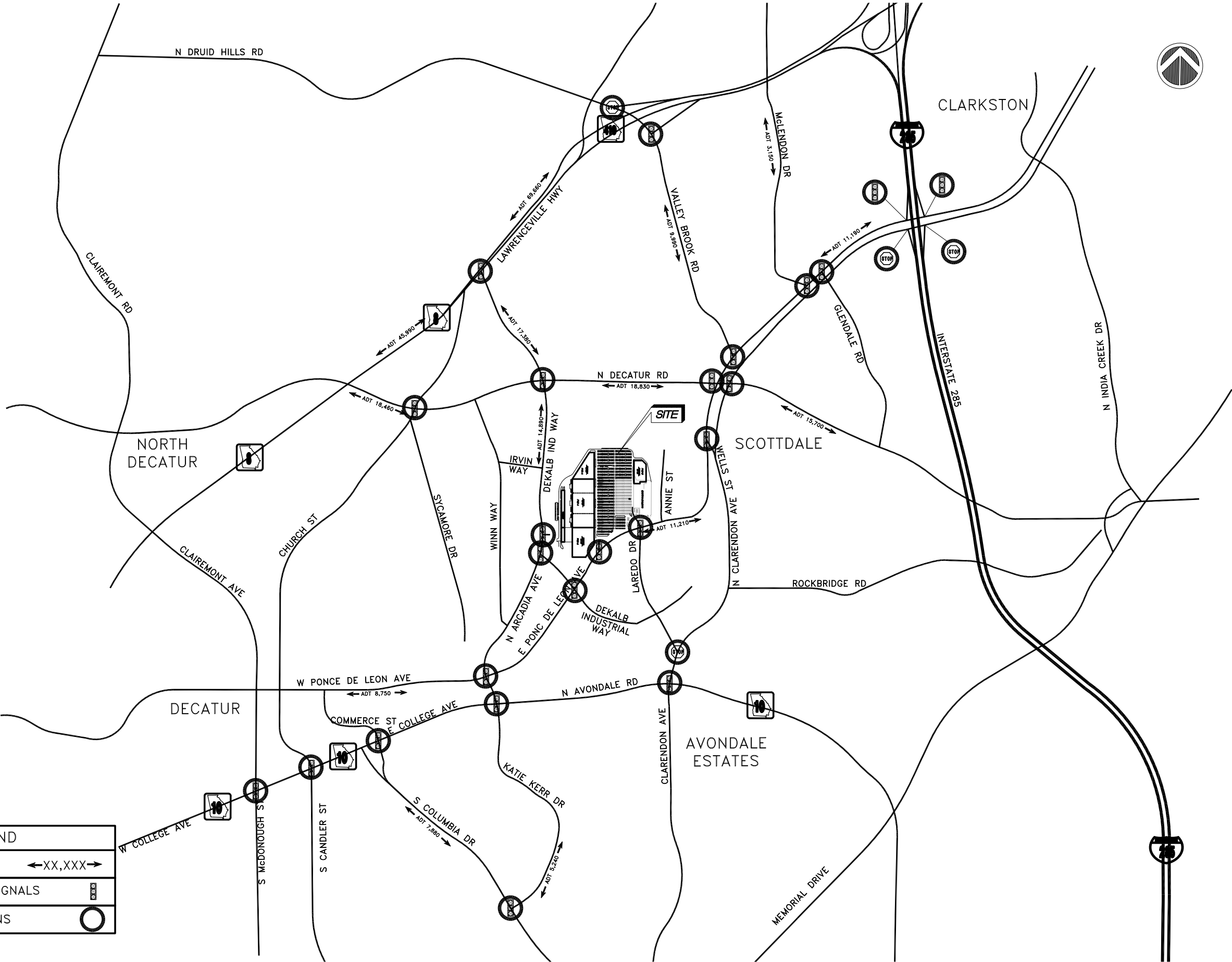
The trip distribution is the percentage of the traffic generated by the site that uses each segment of the surrounding roadway network. A trip distribution is estimated for the land use for the site. The site generated traffic distributions were based on knowledge of the roadway system in conjunction with engineering judgment and historical travel trends within the defined study network. Historical travel trend data gathered from average daily traffic (ADT) was taken from the GDOT web-site and utilized to develop the distributions. The intersections that will be analyzed based on the 7 percent rule trip distributions were agreed upon in the methodology process with GRTA, ARC and DeKalb County. See **Figure 6** for the Study Network ADT and **Figure 7** for the trip distribution percentages.

Figure 8, Figure 9, Figure 10 and **Figure 11** shows the site generated volumes for Phase I, Phase II, Phase III and Phase IV.

Figure 6: Network ADT

FIGURE 6-AVERAGE DAILY TRAFFIC

LEGEND	
ADT COUNTS	←XX,XXX→
EXISTING TRAFFIC SIGNALS	ⓧ
STUDY INTERSECTIONS	◯



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2273

JOB NO: 12001

DWG NAME: NTKW ADT

STUDY NETWORK
PLAN

SHEET:

FIG 6

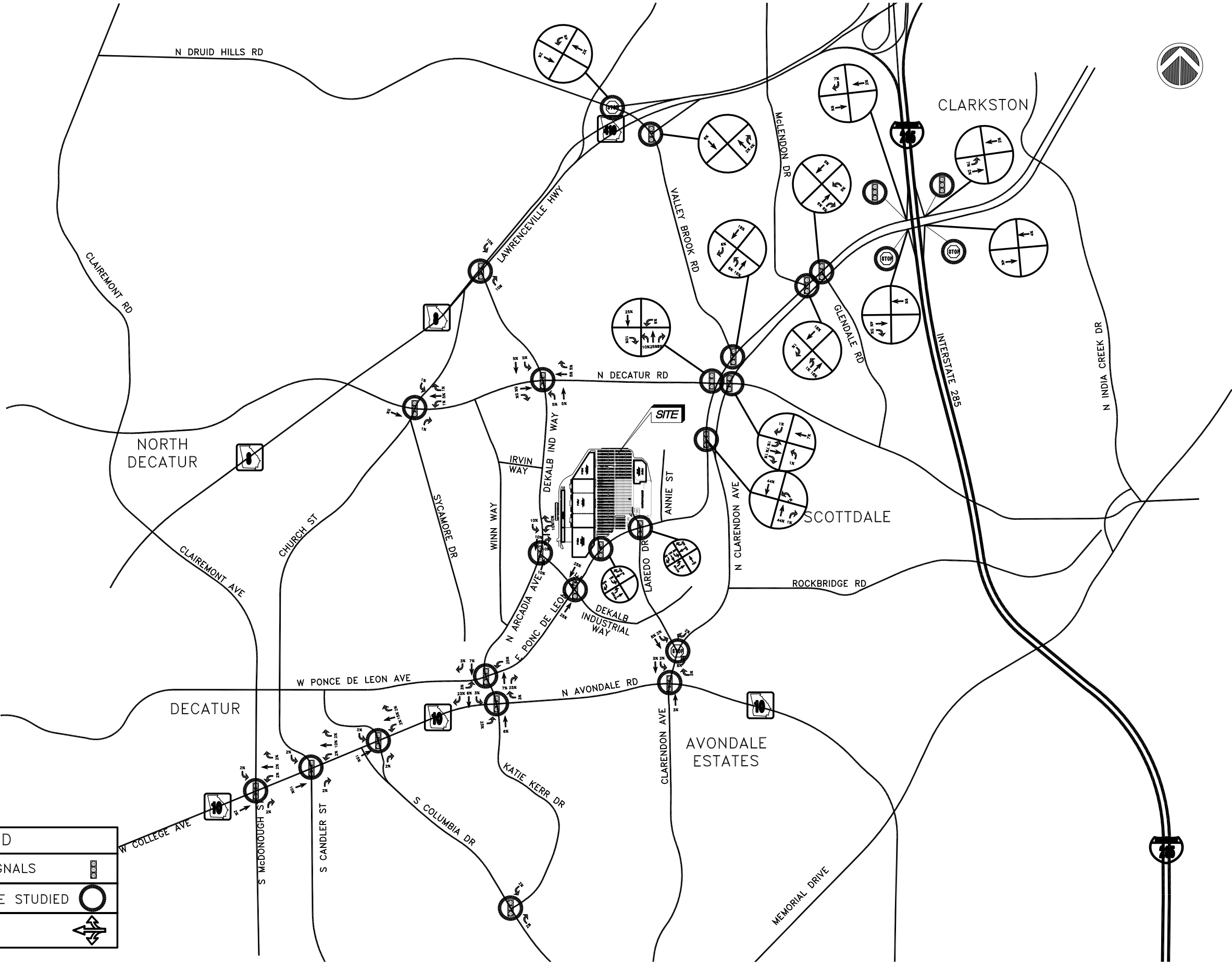
DATE: 05/18/2012

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FIGURE 7-STUDY NETWORK TRIP DISTRIBUTION PERCENTAGES



LEGEND	
EXISTING TRAFFIC SIGNALS	
INTERSECTIONS TO BE STUDIED	
TRAFFIC MOVEMENTS	

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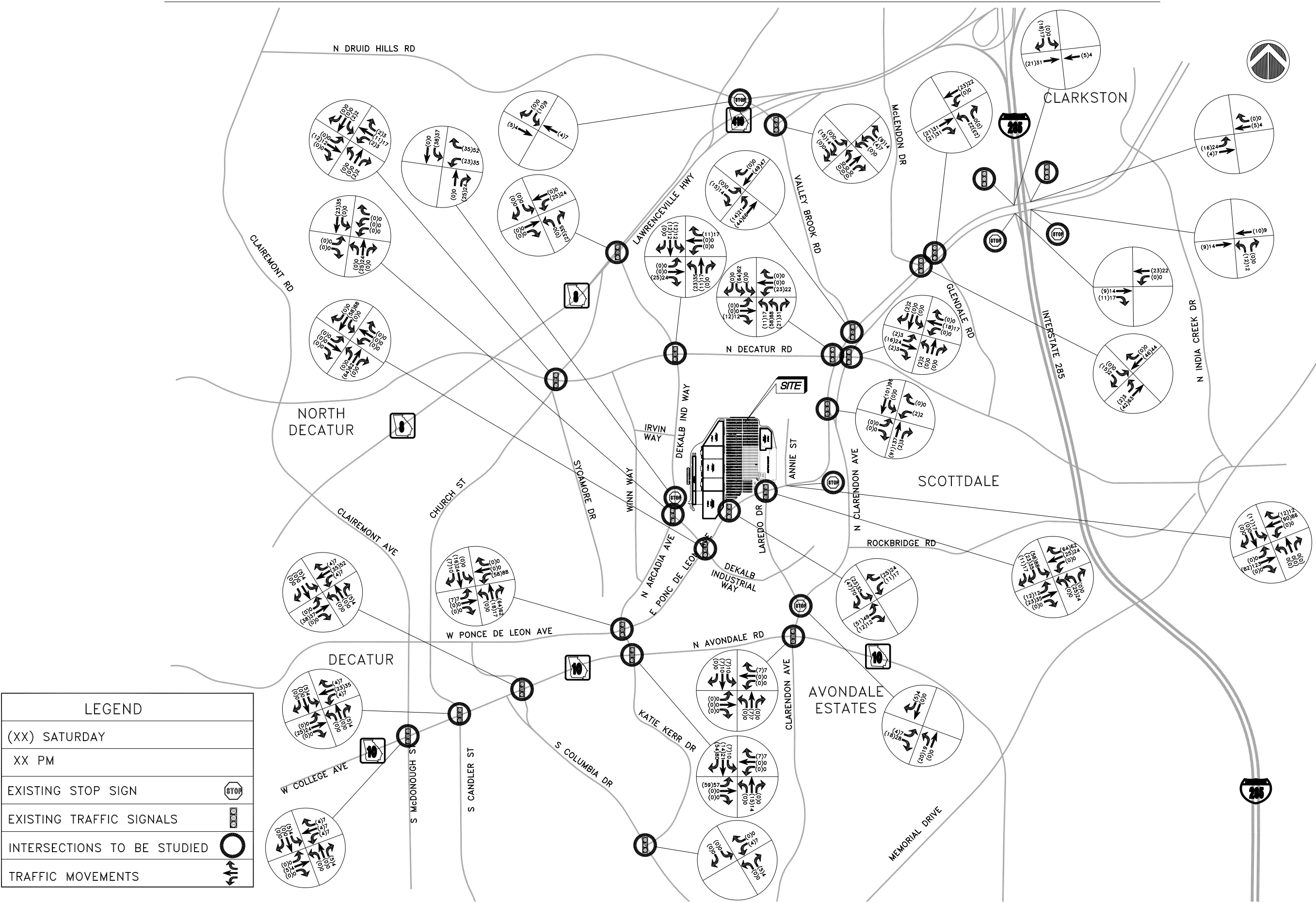
STUDY NETWORK
PLAN

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FIG 7

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FIGURE 9-SITE GENERATED TRAFFIC VOLUMES-PHASE II



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JOB NO: 12001
DWG NAME: FIGURE 9

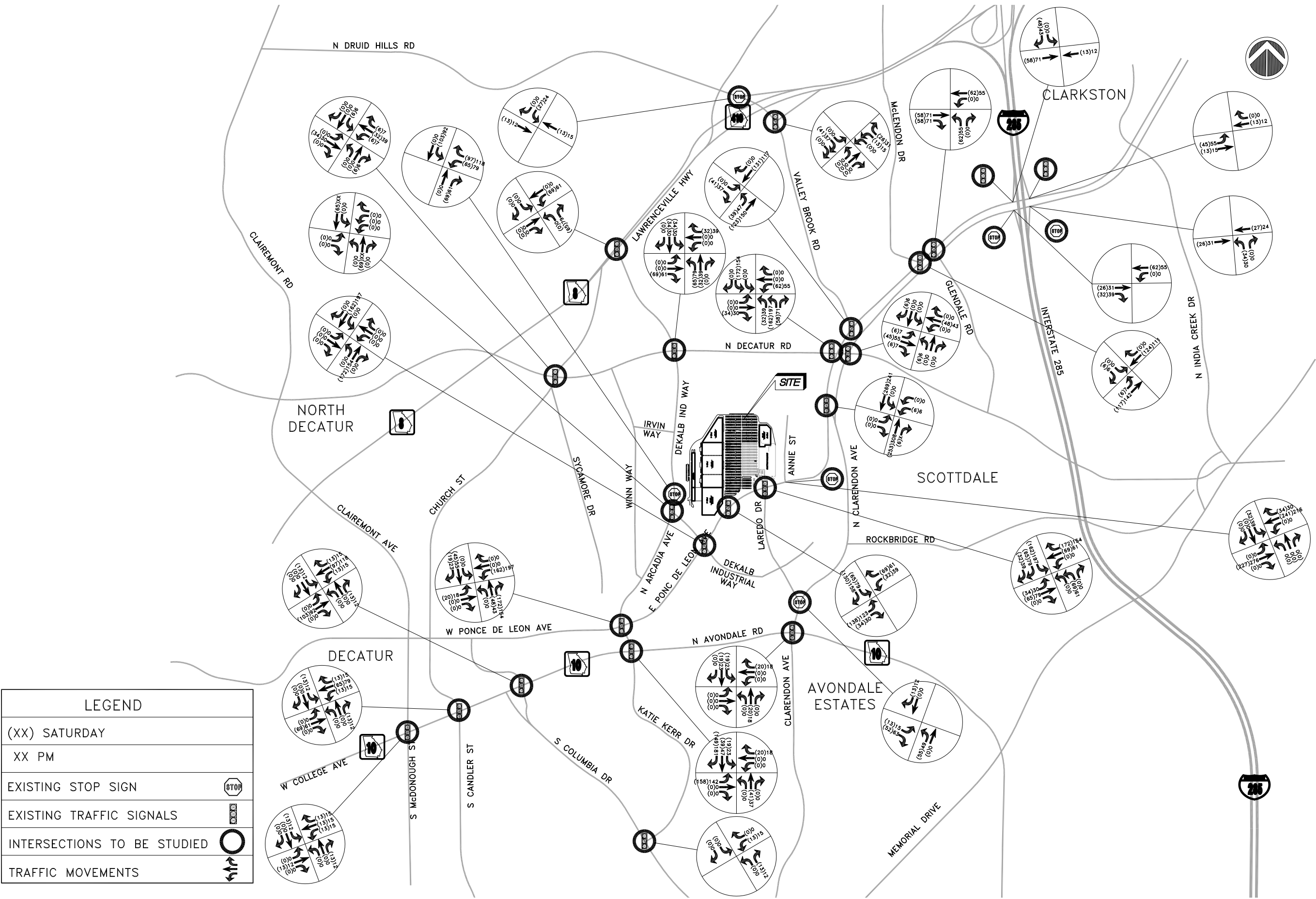
PHASE II
TRAFFIC PLAN

SHEET:
FIG 9

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FIGURE 10-SITE GENERATED TRAFFIC VOLUMES-PHASE III



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JOB NO.: 12001
DWG NAME: FIGURE 10

PHASE III
TRAFFIC PLAN

SHEET:
FIG 10

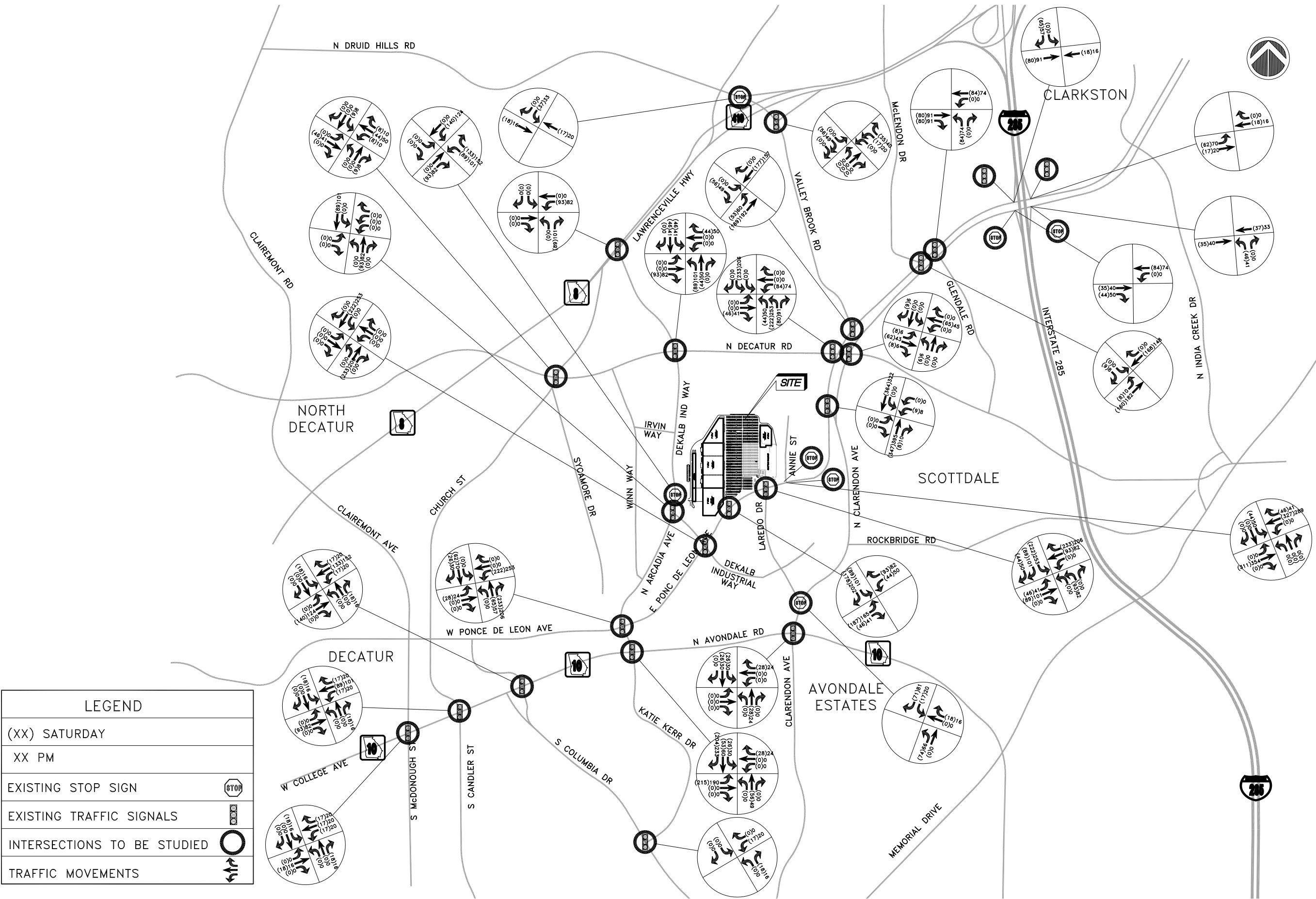
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FIGURE 11-SITE GENERATED TRAFFIC VOLUMES-PHASE IV



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JOB NO.: 12001
DWG NAME: FIGURE 11

PHASE IV
TRAFFIC PLAN

SHEET:
FIG 11

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5.0 Level of Service Standards

DeKalb County does not currently have a standard level of service. For the purpose of this DRI analysis and as per the previously mentioned GRTA technical guidelines, a standard LOS D was utilized for all analyses.

The levels of service of the key intersections analyzed as part of this study were determined with the use of the SYNCHRO 7.0 which is based on the methodology in the current edition Highway Capacity Manual. Level of service (LOS) is an indication of the operations of an intersection and is designated by the letters A through F. A level of service A represents good traffic flow with little or no delay to motorists, and a level of service F represents very poor traffic flow and extreme delays to motorists.

The capacity analyses performed were based on the existing traffic volumes counted, the lane configurations, type of control, truck traffic characteristics and various other parameters of traffic operations at each of these intersections. Once the analysis has been done, a level of service of each intersection is determined.

For unsignalized intersections, the level of service is based on reserve capacity and average delay per vehicle. Table 7 illustrates the criteria for determining level of service for unsignalized control, based on information in the Highway Capacity Manual. An overall level of service of LOS D or better is considered adequate for the proposed study area.

Table 7: Level of Service Criteria for UnSignalized Intersections

Reserve Capacity(PCPH)	Level of Service	Expected Delay to Minor Street Traffic
≥ 500	A	Little or no delay
300 – 399	B	Short traffic delays
200 – 299	C	Average traffic delays
100 – 199	D	Long traffic delays
0 – 99	E	Very long traffic delays
*	F	*
* When demand volume exceeds the capacity of the lane, extreme delays will be encountered with queuing which may cause severe congestion affecting other traffic movements in the intersection. This condition may warrant intersection improvements.		

For signalized intersections, the level of service is based on stopped delay per vehicle and volume to capacity ratio of the approaches to the intersection. Table 2 contains information obtained from the Highway Capacity Manual, which illustrates the criteria for determining level of service for signalized control.

Table 8: Level of Service Criteria for Signalized Intersections

Level of Service	Stopped Delay per Vehicle
A	≤ 5.0
B	5.1 to 15.0
C	15.1 to 25.0
D	25.1 to 40.0
E	40.1 to 60.0
F	> 60.0

6.0 Traffic Analysis

6.1 Existing Traffic Conditions – 2012

Existing traffic was analyzed at recommended intersections which were identified by GRTA during the methodology process and then confirmed by GRTA's Letter of Understanding. Any intersection that was found to be below the standard LOS D had to be improved in the analysis models before any future traffic analysis could be completed. This would insure that the area intersections would operate, and will continue to operate at an acceptable level of service.

The recommended improvements for those intersections which did not meet the standard level of service (LOS) D were made and all future traffic analysis includes those recommended improvements. The existing analysis was performed using SYNCHRO 7.0 and the results are shown in Table 9.

Table 9: Existing 2012 Intersection Levels of Service (Delay, Sec)

Intersection	Traffic Control	Approach	PM Peak		Sat Peak	
			LOS	Delay	LOS	Delay
East Ponce De Leon Ave & Laredo Drive 1	Signalized		C	23.2	C	28.7
East Ponce De Leon Ave & Wells St 2	Signalized		A	8.8	A	9.5
East Ponce De Leon Ave & DeKalb Industrial Way 3	Signalized		B	13.0	B	13.2
East Ponce De Leon Ave & N Arcadia Ave/Sams Crossing 4	Signalized		C	33.7	C	27.3
East Ponce De Leon Ave & N Decatur Rd 5	Signalized		C	23.3	C	21.6
East Ponce De Leon Ave & Valley Brook Rd 6	Signalized		B	12.5	B	11.0
East Ponce De Leon Ave & Glendale Rd 7	Signalized		A	6.7	A	6.3
East Ponce De Leon Ave & McLendon Dr 8	Signalized		B	16.1	A	8.0
East Ponce De Leon Ave & I-285 Off-Ramps (9)	Signalized		B	17.8	B	17.0
East Ponce De Leon Ave & I-285 On-Ramps (25)	Signalized		B	14.1	B	11.8
Church Street & I-285 Off-Ramps (10)	Un-Signalized	EB	C	17.4	B	11.3
		WB	C	17.4	A	14.1
Church Street & I-285 On-Ramps (26)	Un-Signalized	EB	B	10.8	A	10.0
		WB	B	12.4	B	11.6
		NB	B	10.7	B	10.8
Valley Brook Rd and SR 410 Off-Ramps 11	Un-Signalized	EB	A	0.0	A	0.0
		WB	A	0.0	A	0.0
		SB	F	96.2	D	33.8

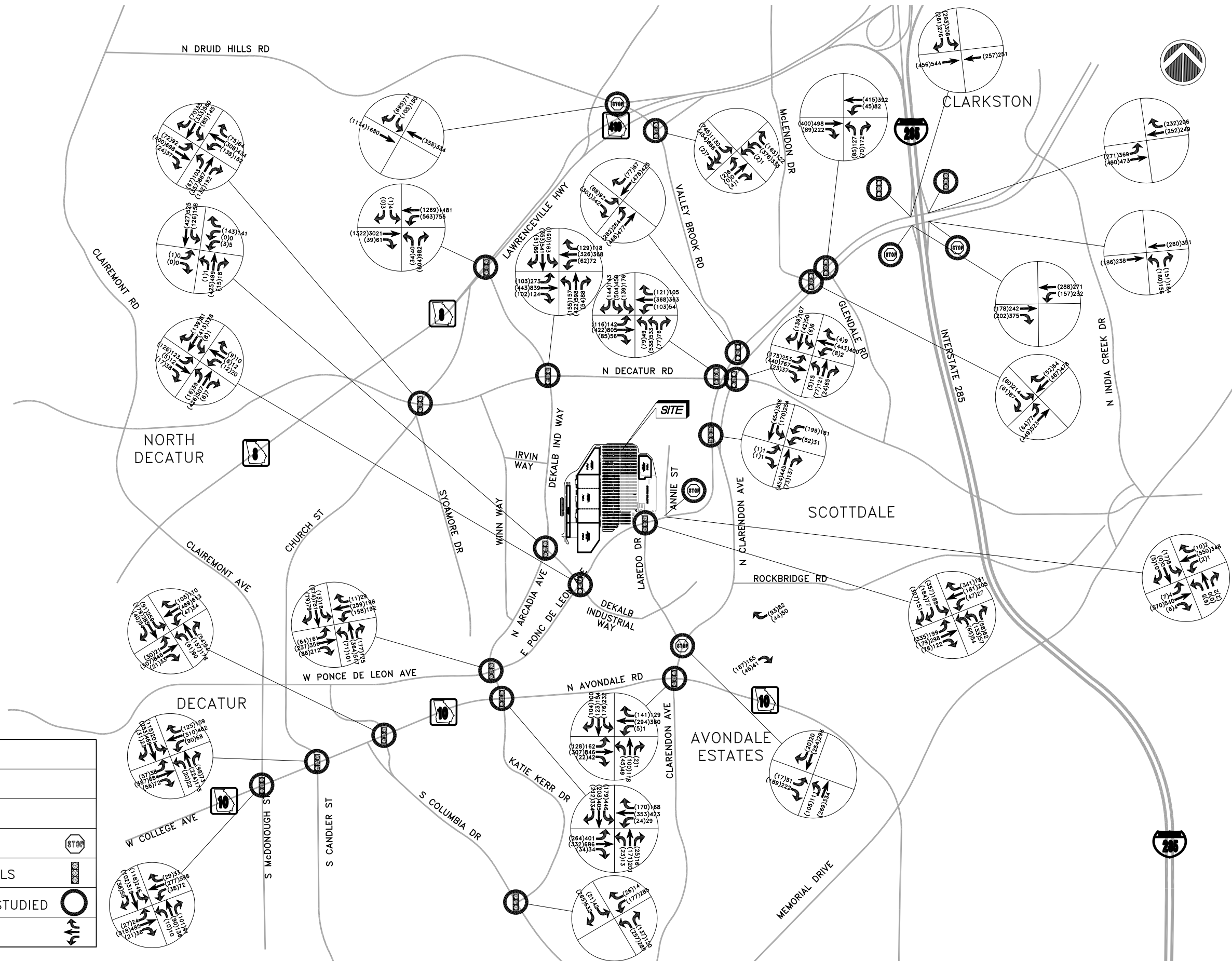
Intersection	Traffic Control	Approach	PM Peak		Sat Peak	
			LOS	Delay	LOS	Delay
Valley Brook Rd and SR 410 On-Ramps 27	Signalized		B	11.7	A	9.9
N Decatur Rd & DeKalb Industrial Way 12	Signalized		D	42.1	C	31.1
N Decatur Rd & Church St W of DeKalb Industrial Way 13	Signalized		D	37.9	C	32.4
N Decatur Rd & Church St E of DeKalb Industrial Way 14	Signalized		B	18.0	B	17.4
E College Dr & Arcadia Ave 15	Signalized		C	32.6	C	21.3
Arcadia Ave & S Columbia Dr 16	Signalized		B	16.0	B	12.9
E College Dr & Commerce St 17	Signalized		B	18.4	B	16.8
E College Dr & SR 155 18	Signalized		C	28.4	C	27.3
E College Dr & S McDonough St 19	Signalized		C	26.2	C	24.3
DeKalb Industrial Way & N Arcadia Ave 20	Signalized		A	4.7	A	4.4
DeKalb Industrial Way & SR 8 21	Signalized		D	36.7	B	15.7
N Clarendon Ave & N Avondale Rd/US 278 22	Signalized		C	22.7	B	19.7
N Clarendon Ave & Laredo Drive (23)	Un-Signalized	NB	A	8.3	A	8.2
		SB	A	0.0	A	0.0
		EB	C	22.3	B	14.4
E Ponce De Leon Ave & Annie St (24)	Un-Signalized	EB	A	0.0	A	0.3
		WB	A	0.0	A	0.1
		NB	B	14.9	C	18.5
		SB	B	11.5	C	21.6
EB-East Bound, WB-West Bound, NB-North Bound, SB-South Bound						

* **NOTE:** It is important to note that is not uncommon to have an un-signalized intersection to have an approach (usually a side street) to have an unacceptable LOS. This does not mean that the intersection as a whole is not operating at an acceptable level of service.

All the study intersections perform at level of service of D or better in the existing condition during both PM and Saturday peak periods. Hence, intersection improvements are not recommended for the existing condition.

See **Figure 12** for 2012 Existing Turning Movement Counts. Based on intersection analysis for 2012 existing conditions, there were no intersections below the standard LOS D.

FIGURE 12-EXISTING TRAFFIC VOLUMES

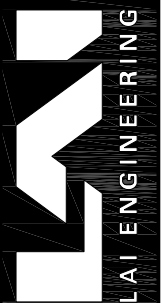


LEGEND	
(XX) SATURDAY	
XX PM	
EXISTING STOP SIGN	
EXISTING TRAFFIC SIGNALS	
INTERSECTIONS TO BE STUDIED	
TRAFFIC MOVEMENTS	

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JOB NO.: 12001
DWG NAME: FIGURE 12

	EXISTING	TRAFFIC VOL
ADVISORY	0	0
PROPOSED	0	0
TOTAL	0	0

SHEET:
FIG 12

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6.2 Future Background Traffic Conditions – 2015 & 2023

Your DeKalb Farmers Market will be built in four different phases. Phase 1 is scheduled to be completed by 2015 and rest of the phases are scheduled to be completed by 2023. No-Build Traffic is based on the projected build-out year traffic conditions and any traffic from the transportation system improvements, which would impact the configuration and capacity of the study area.

The projected design year traffic conditions consist of the following key elements:

- Potential increase in through traffic based on historical growth trends. (2%)
- Any planned and programmed transportation system improvements which would impact the configuration and capacity of the study area roadway network by 2023.
 - Upgrades to 40 Traffic Signals in DeKalb County that would improve the overall efficiency and safety of traffic flow due to upgraded traffic signal displays and state of the art traffic signal control equipment, provide better signal coordination through fiber optic communications cable, and improve pedestrian safety with improved crosswalks, pedestrian signals and sidewalk ramps in compliance with the Americans with Disability Act. (DK-344A Fed ID No: STP-0002-00(669)).
 - DeKalb County will upgrade/replace signals at 31 intersections along Lavista Road; Sheridan Road; Clifton Road at North Decatur Road; North Decatur Road at North Decatur Center Drive; Clairmont Road at North Decatur Road; North Druid Hills Road; North Decatur Road and many other places. (DK-344C Fed ID No: CSSTP-0006-00(999)).

This DRI Transportation Analysis applied a conservative two percent (2.0%) annual growth factor to the traffic for the study area network. No-build traffic was analyzed at the same intersections as the existing conditions. The no build analysis was performed for the years 2015 and 2023 using SYNCHRO 7.0 and the results are shown in the following tables.

See **Table 10** for No Build 2015 Intersection Levels of Service and Delays. **Figure 13** shows traffic volumes for 2015 No-Build Traffic Analysis.

See **Table 11** for No Build 2023 Intersection Levels of Service and Delays. **Figure 14** shows traffic volumes for 2023 No-Build Traffic Analysis.

Table 10: No Build 2015 Intersection Levels of Service (Delay, sec)

Intersection	Traffic Control	Approach	PM Peak		Sat Peak	
			LOS	Delay	LOS	Delay
East Ponce De Leon Ave & Laredo Drive 1	Signalized		C	24.2	D	35.6
East Ponce De Leon Ave & Wells St 2	Signalized		A	9.3	B	11.0
East Ponce De Leon Ave & DeKalb Industrial Way 3	Signalized		B	13.5	B	14.0
East Ponce De Leon Ave & N Arcadia Ave/Sams Crossing 4	Signalized		C	34.8	C	27.7
East Ponce De Leon Ave & N Decatur Rd 5	Signalized		C	25.7	C	25.5
East Ponce De Leon Ave & Valley Brook Rd 6	Signalized		B	13.9	B	17.0
East Ponce De Leon Ave & Glendale Rd 7	Signalized		A	6.9	A	6.3
East Ponce De Leon Ave & McLendon Dr 8	Signalized		B	16.8	A	8.3
East Ponce De Leon Ave & I-285 Off-Ramps (9)	Signalized		B	18.3	B	17.5
East Ponce De Leon Ave & I-285 On-Ramps (25)	Signalized		B	15.9	B	14.5
Church Street & I-285 Off-Ramps (10)	Un-Signalized	EB	C	20.3	B	12.0
		WB	C	19.9	C	15.4
Church Street & I-285 On-Ramps (26)	Un-Signalized	EB	B	11.4	B	10.3
		WB	B	13.4	B	12.3
		NB	B	11.1	B	11.2
Valley Brook Rd and SR 410 Off-Ramps 11	Un-Signalized	EB	A	0.0	A	0.0
		WB	A	0.0	A	0.0
		SB	F	147.8	E	41.6
Valley Brook Rd and SR 410 On-Ramps 27	Signalized		B	12.4	B	10.5
N Decatur Rd & DeKalb Industrial Way 12	Signalized		D	45.4	C	31.4
N Decatur Rd & Church St W of DeKalb Industrial Way 13	Signalized		D	39.8	C	32.7
N Decatur Rd & Church St E of DeKalb Industrial Way 14	Signalized		B	19.4	B	18.7
E College Dr & Arcadia Ave 15	Signalized		D	39.3	C	22.5
Arcadia Ave & S Columbia Dr 16	Signalized		B	19.5	B	14.3
E College Dr & Commerce St 17	Signalized		B	19.6	B	16.7
E College Dr & SR 155 18	Signalized		C	29.7	C	27.5
E College Dr & S McDonough St 19	Signalized		C	27.9	C	24.7
DeKalb Industrial Way & N Arcadia Ave 20	Signalized		A	4.8	A	4.4
DeKalb Industrial Way & SR 8 21	Signalized		D	53.4	B	16.1
N Clarendon Ave & N Avondale Rd/US 278 22	Signalized		C	25.1	C	21.2

Intersection	Traffic Control	Approach	PM Peak		Sat Peak	
			LOS	Delay	LOS	Delay
N Clarendon Ave & Laredo Drive (23)	Un-Signalized	NB	A	8.3	A	8.3
		SB	A	0.0	A	0.0
		EB	D	26.7	B	15.4
E Ponce De Leon Ave & Annie St (24)	Un-Signalized	EB	A	0.1	A	0.2
		WB	A	0.0	A	0.0
		NB	C	15.4	C	20.7
		SB	B	11.6	C	22.1
EB-East Bound, WB-West Bound, NB-North Bound, SB-South Bound						

* **NOTE:** It is important to note that is not uncommon to have an un-signalized intersection to have an approach (usually a side street) to have an unacceptable LOS. This does not mean that the intersection as a whole is not operating at an acceptable level of service.

All the study intersections are expected to perform at level of service of D or better in the No Build 2015 conditions during both PM and Saturday peak periods. Hence, intersection improvements are not recommended for the 2015 No Build conditions.

Table 11: No Build 2023 Intersection Levels of Service (Delay, sec)

Intersection	Traffic Control	Approach	PM Peak		Sat Peak	
			LOS	Delay	LOS	Delay
East Ponce De Leon Ave & Laredo Drive 1	Signalized		C	27.6	D	37.3
East Ponce De Leon Ave & Wells St 2	Signalized		B	10.9	B	12.3
East Ponce De Leon Ave & DeKalb Industrial Way 3	Signalized		B	15.8	B	16.1
East Ponce De Leon Ave & N Arcadia Ave/Sams Crossing 4	Signalized		D	40.1	C	28.9
East Ponce De Leon Ave & N Decatur Rd 5	Signalized		E	59.0	D	37.0
East Ponce De Leon Ave & Valley Brook Rd 6	Signalized		C	31.3	B	18.5
East Ponce De Leon Ave & Glendale Rd 7	Signalized		A	7.7	A	7.2
East Ponce De Leon Ave & McLendon Dr 8	Signalized		B	19.2	A	9.7
East Ponce De Leon Ave & I-285 Off-Ramps (9)	Signalized		C	22.8	B	18.5
East Ponce De Leon Ave & I-285 On-Ramps (25)	Signalized		C	24.1	B	16.3
Church Street & I-285 Off-Ramps (10)	Un-Signalized	EB	E	39.0	B	14.9
		WB	D	34.1	C	21.6
Church Street & I-285 On-Ramps (26)	Un-Signalized	EB	B	13.4	B	11.7
		WB	C	17.4	C	15.2
		NB	B	12.5	B	12.8
Valley Brook Rd and SR 410 Off-Ramps 11	Un-	EB	A	0.0	A	0.0

Intersection	Traffic Control	Approach	PM Peak		Sat Peak	
			LOS	Delay	LOS	Delay
	Signalized	WB	A	0.0	A	0.0
		SB	F	435.2	F	100.8
Valley Brook Rd and SR 410 On-Ramps 27	Signalized		B	15.1	B	12.2
N Decatur Rd & DeKalb Industrial Way 12	Signalized		E	61.5	D	38.6
N Decatur Rd & Church St W of DeKalb Industrial Way 13	Signalized		D	48.8	C	33.4
N Decatur Rd & Church St E of DeKalb Industrial Way 14	Signalized		D	35.2	C	24.6
E College Dr & Arcadia Ave 15	Signalized		E	64.3	C	27.0
Arcadia Ave & S Columbia Dr 16	Signalized		D	41.9	B	18.2
E College Dr & Commerce St 17	Signalized		C	30.7	B	17.2
E College Dr & SR 155 18	Signalized		D	36.2	C	31.0
E College Dr & S McDonough St 19	Signalized		D	38.9	C	28.3
DeKalb Industrial Way & N Arcadia Ave 20	Signalized		A	5.0	A	4.7
DeKalb Industrial Way & SR 8 21	Signalized		F	99.5	C	33.1
N Clarendon Ave & N Avondale Rd/US 278 22	Signalized		D	41.4	C	22.9
N Clarendon Ave & Laredo Drive (23)	Un-Signalized	NB	A	8.6	A	8.5
		SB	A	0.0	A	0.0
		EB	F	62.6	C	20.2
E Ponce De Leon Ave & Annie St (24)	Un-Signalized	EB	A	0.1	A	0.3
		WB	A	0.0	A	0.1
		NB	C	17.5	C	24.6
		SB	B	12.4	D	30.9
EB-East Bound, WB-West Bound, NB-North Bound, SB-South Bound						

* **NOTE:** It is important to note that is not uncommon to have an un-signalized intersection to have an approach (usually a side street) to have an unacceptable LOS. This does not mean that the intersection as a whole is not operating at an acceptable level of service.

Based on the intersection analysis four (4) intersections were identified as operating below the Level of Service Standard (LOS D) for the 2023 No Build conditions. Those intersections had to be improved in the analysis models before any site specific analysis could be completed. This ensured that the area roadways will continue to operate at an acceptable Level of Service once the development comes to the area. The recommended improvements for those intersections not meeting the acceptable Level of Service “D” are listed below:

- East Ponce De Leon Ave & N Decatur Rd
 - Recommend split phasing for the northbound and southbound traffic at the intersection.

- o Optimize signal timing and coordination with Church St and N Decatur Road.
- N Decatur Rd & DeKalb Industrial Way
 - o Recommend adding additional southbound right turn lane at the intersection.
 - o Optimize signal timing at the intersection.
- E College Dr & Arcadia Ave
 - o Recommend dual left turns for eastbound approach at the intersection.
 - o Optimize signal timing at the intersection.
- DeKalb Industrial Way & SR 8
 - o Recommend additional through lane for SR 8 in the northbound direction.
 - o Optimize signal timing at the intersection.

Table 12 shows the improved level of service for the four intersections identified as operating below the Level of Service Standard based on the suggested recommendations.

Table 12: No Build 2023 Improved Intersection Levels of Service (Delay, sec)

Intersection	Traffic Control	Approach	PM Peak		Sat Peak	
			LOS	Delay	LOS	Delay
East Ponce De Leon Ave & N Decatur Rd 5	Signalized		D	36.5	B	19.4
N Decatur Rd & DeKalb Industrial Way 12	Signalized		D	52.2	D	38.1
E College Dr & Arcadia Ave 15	Signalized		D	36.5	C	20.4
DeKalb Industrial Way & SR 8 21	Signalized		D	53.6	B	14.8s

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JOB NO: 12001
G NAME: FIGURE 13

D-BUILD 2015
TRAFFIC VOL

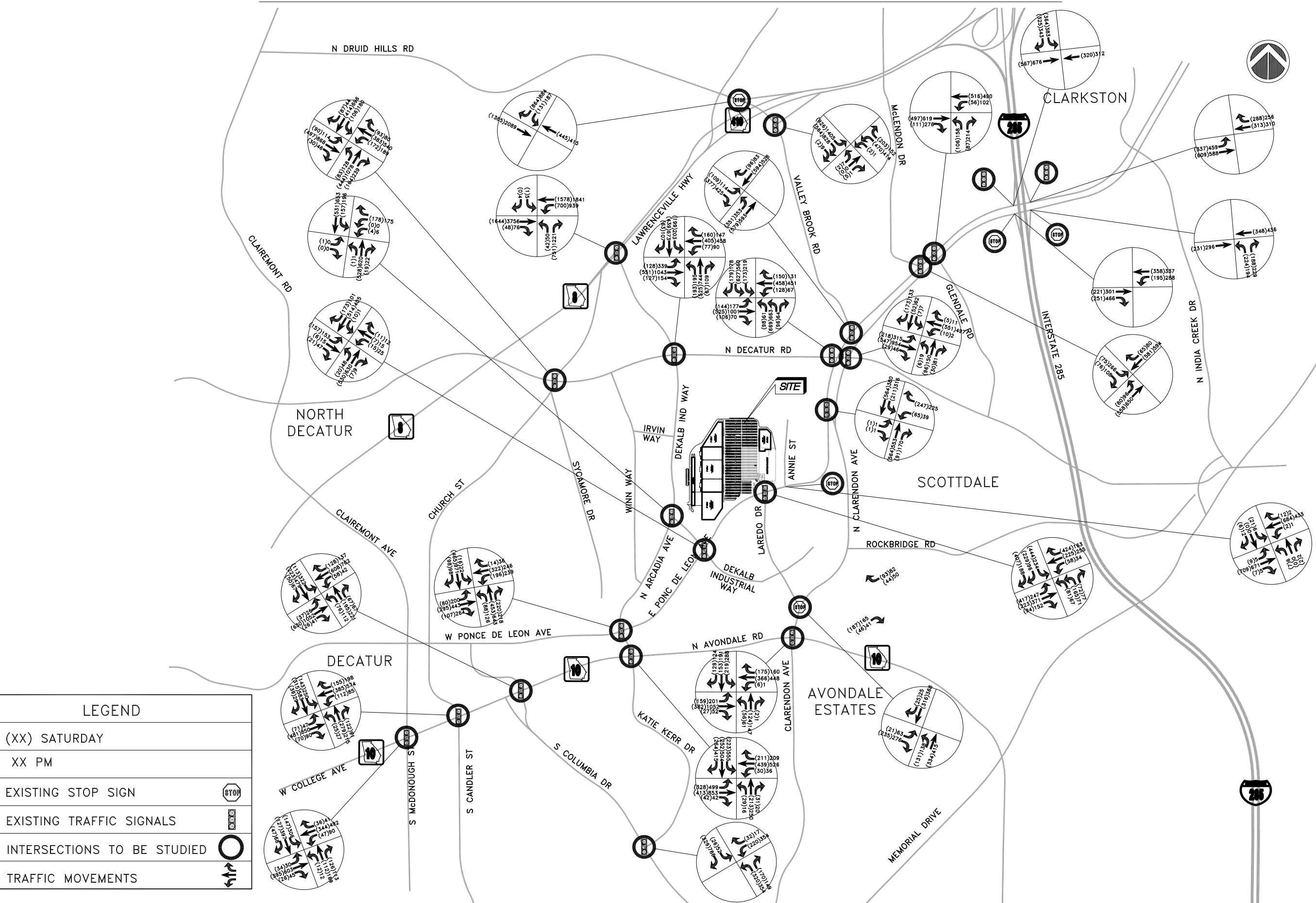
FIG 13

DATE: 7/10/2012
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0
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LEGEND	
(XX) SATURDAY	
XX PM	
EXISTING STOP SIGN	
EXISTING TRAFFIC SIGNALS	
INTERSECTIONS TO BE STUDIED	
TRAFFIC MOVEMENTS	

FIGURE 14-NO-BUILD 2023 TRAFFIC VOLUMES



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3000 E. PONCE DE LEON AVE
PREPARED FOR

DEKALB COUNTY

DECATUR, GEORGIA

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JOB NO.: 12001
DWG NAME: FIGURE 14

NO-BUILD 2023
TRAFFIC VOL

SHEET:
FIG 14

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6.3 Future Build Traffic Conditions

Your DeKalb Farmers Market Phase 1 development is currently scheduled to complete by 2015, and Phase 2, Phase 3 and Phase 4 by 2023. The future condition is based on the projected build-out year traffic conditions along with the traffic generated by the development.

Following are the changes that will be reflected in the future year condition:

- New Entrance to the Farmers Market along East Ponce De Leon Avenue, south of the existing entrance at Laredo Drive.
- New Service Entrance to the Farmers Market along DeKalb Industrial Way, north of Arcadia Avenue.

Site generated trips anticipated to be produced by the proposed development were distributed along the proposed new roadway network to arrive at the anticipated number of trips at each study intersection in the future condition. A percentage of the existing northbound traffic entering Farmers Market at Laredo Drive and E Ponce De Leon Avenue will be diverted to the new entrance along E Ponce De Leon Ave (Approximately 50%-60%).

The build analysis was performed using SYNCHRO 7.0 and the results for each phase of development are shown in the following sections. See **Table 13** for the Future Build 2015 Phase I Intersection Levels of Service and Delays. **Figure 15** shows traffic volumes for 2015 Phase 1 Build Traffic Analysis.

Table 13: Future Build 2015 Intersection Levels of Service (Delay, Sec) for Phase I

Intersection	Traffic Control	Approach	PM Peak		Sat Peak	
			LOS	Delay	LOS	Delay
East Ponce De Leon Ave & Laredo Drive 1	Signalized		C	27.2	D	38.4
East Ponce De Leon Ave & Wells St 2	Signalized		B	10.5	B	12.5
East Ponce De Leon Ave & DeKalb Industrial Way 3	Signalized		B	14.3	B	14.2
East Ponce De Leon Ave & N Arcadia Ave/Sams Crossing 4	Signalized		D	37.1	C	28.2
East Ponce De Leon Ave & N Decatur Rd 5	Signalized		C	34.3	C	30.5
East Ponce De Leon Ave & Valley Brook Rd 6	Signalized		B	13.6	B	16.9
East Ponce De Leon Ave & Glendale Rd 7	Signalized		B	10.4	B	10.3
East Ponce De Leon Ave & McLendon Dr 8	Signalized		B	17.1	A	7.5
East Ponce De Leon Ave & I-285 Off-Ramps 9	Signalized		B	18.6	B	17.6
East Ponce De Leon Ave & I-285 On-Ramps (25)	Signalized		B	16.1	B	14.4

Intersection	Traffic Control	Approach	PM Peak		Sat Peak	
			LOS	Delay	LOS	Delay
Church Street & I-285 Off-Ramps (10)	Un-Signalized	EB	C	23.1	B	11.2
		WB	C	21.8	B	15.0
Church Street & I-285 On-Ramps (26)	Un-Signalized	EB	A	0.0	A	0.0
		WB	A	0.0	A	0.0
		NB	C	22.1	C	18.4
Valley Brook Rd and SR 410 Off-Ramps 11	Un-Signalized	EB	A	0.0	A	0.0
		WB	A	0.0	A	0.0
		SB	F	172.7	E	36.1
Valley Brook Rd and SR 410 On-Ramps 27	Signalized		B	12.6	B	10.5
N Decatur Rd & DeKalb Industrial Way 12	Signalized		D	47.7	C	32.4
N Decatur Rd & Church St W of DeKalb Industrial Way 13	Signalized		D	40.2	C	33.0
N Decatur Rd & Church St E of DeKalb Industrial Way 14	Signalized		C	21.1	B	19.7
E College Dr & Arcadia Ave 15	Signalized		D	43.9	C	23.9
Arcadia Ave & S Columbia Dr 16	Signalized		B	17.2	B	15.5
E College Dr & Commerce St 17	Signalized		C	20.4	B	16.3
E College Dr & SR 155 18	Signalized		C	30.0	C	27.7
E College Dr & S McDonough St 19	Signalized		C	28.7	C	25.8
DeKalb Industrial Way & N Arcadia Ave 20	Signalized		A	4.9	A	4.5
DeKalb Industrial Way & SR 8 21	Signalized		E	56.5	B	19.8
N Clarendon Ave & N Avondale Rd/US 278 22	Signalized		C	26.6	C	21.6
N Clarendon Ave & Laredo Drive (23)	Un-Signalized	NB	A	8.4	A	8.3
		SB	A	0.0	A	0.0
		EB	E	35.3	C	15.3
E Ponce De Leon Ave & Annie St (24)	Un-Signalized	EB	A	0.1	A	0.2
		WB	A	0.0	A	0.0
		NB	C	17.4	C	23.4
		SB	C	15.4	D	29.0
E Ponce De Leon Avenue & New Entrance South of Laredo Dr	Signalized		A	8.5	A	9.0
E Ponce De Leon Avenue & New Entrance along DeKalb Industrial Way	Un-Signalized	NB	A	0.0	B	13.5
		SB	A	9.0	A	0.0
		WB	B	14.5	A	8.9
EB-East Bound, WB-West Bound, NB-North Bound, SB-South Bound						

* **NOTE:** It is important to note that is not uncommon to have an un-signalized intersection to have an approach (usually a side street) to have an unacceptable LOS. This does not mean that the intersection as a whole is not operating at an acceptable level of service.

Based on the intersection analysis there was one (1) intersection identified as operating below the Level of Service Standard (LOS D) for the 2015 Phase I conditions. This intersection had to be improved in the analysis models before Phase 2, Phase 3 and Phase 4 analysis could be completed. This insured that the area roadways will continue to operate at an acceptable Level of Service. The recommended improvements for the intersection are listed below:

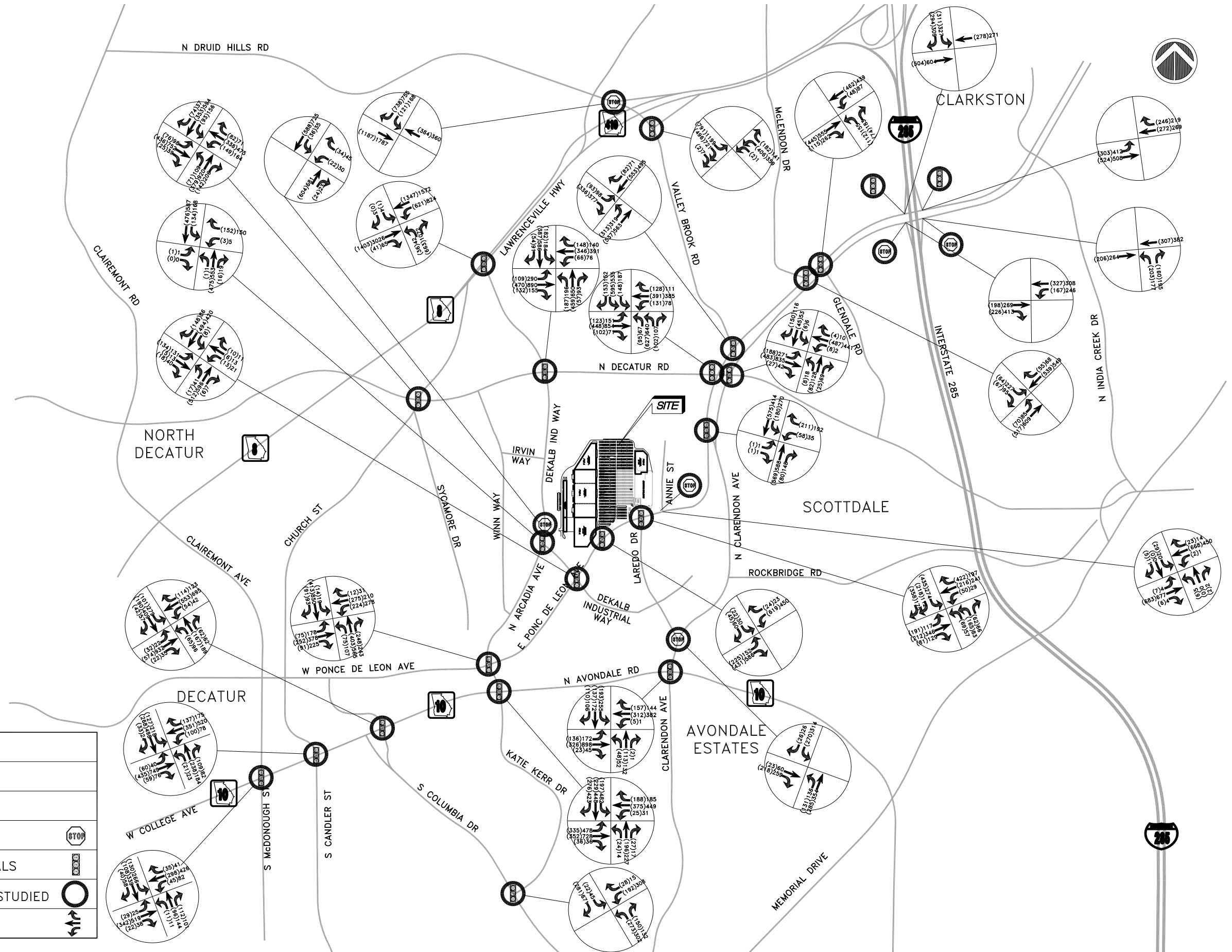
- DeKalb Industrial Way & SR 8
 - o Optimize signal timing and cycle length at the intersection.

Table 14 shows the improved level of service for the intersection DeKalb Industrial Way & SR 8 based on the above suggested recommendation.

Table 14: Future Build 2015 Phase I Improved Intersection Levels of Service (Delay, sec)

Intersection	Traffic Control	Approach	PM Peak		Sat Peak	
			LOS	Delay	LOS	Delay
DeKalb Industrial Way & SR 8	Signalized		D	52.3	B	14.6

FIGURE 15-2015 SITE BUILT TRAFFIC VOLUMES-PHASE I



LEGEND	
(XX) SATURDAY	
XX PM	
EXISTING STOP SIGN	
EXISTING TRAFFIC SIGNALS	
INTERSECTIONS TO BE STUDIED	
TRAFFIC MOVEMENTS	

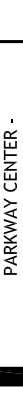
		DEKALB FARMERS MARKET 3000 E. PONCE DE LEON AVE PREPARED FOR		DECATUR, GEORGIA	
DRI 2273		1800 PARKWAY PL. - 5TE: 720 PARKWAY CENTER - LAI ENGINEERING MARIETTA, GA 30067 PHONE: 770.423.0807 FAX: 770.423.1262 WWW.LAIENGINEERING.COM		DEKALB COUNTY	
JOB NO: 12001		OWG NAME: FIGURE 15		REVISIONS	
SITE BUILD PHASE I TRAFFIC PLAN		SHEET:			
FIG 15		DATE: 7/10/2012			
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Table 15 shows the Future Build 2023 Phase II Intersection Levels of Service and Delays. **Figure 16** shows traffic volumes for 2023 Phase II Build Traffic Analysis.

Table 15: Future Build 2023 Intersection Levels of Service (Delay, Sec) for Phase II

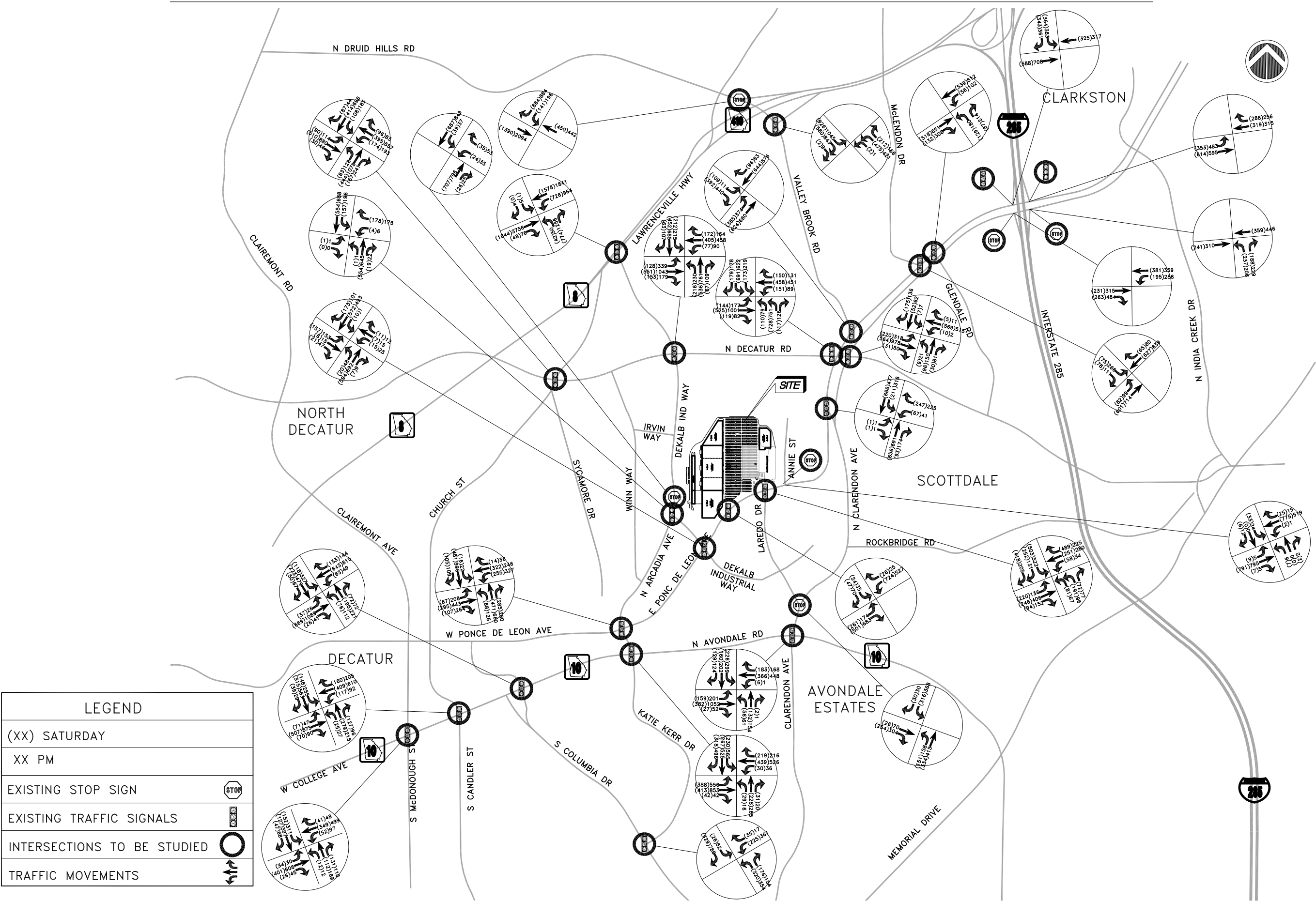
Intersection	Traffic Control	Approach	PM Peak		Sat Peak	
			LOS	Delay	LOS	Delay
East Ponce De Leon Ave & Laredo Drive 1	Signalized		C	32.1	D	43.3
East Ponce De Leon Ave & Wells St 2	Signalized		B	13.2	B	17.1
East Ponce De Leon Ave & DeKalb Industrial Way 3	Signalized		B	16.5	B	17.0
East Ponce De Leon Ave & N Arcadia Ave/Sams Crossing 4	Signalized		D	47.9	C	27.6
East Ponce De Leon Ave & N Decatur Rd 5	Signalized		C	26.5	C	26.5
East Ponce De Leon Ave & Valley Brook Rd 6	Signalized		C	24.6	C	32.7
East Ponce De Leon Ave & Glendale Rd 7	Signalized		B	12.7	B	11.2
East Ponce De Leon Ave & McLendon Dr 8	Signalized		B	19.9	A	8.7
East Ponce De Leon Ave & I-285 Off-Ramps (9)	Signalized		C	24.5	B	19.1
East Ponce De Leon Ave & I-285 On-Ramps (25)	Signalized		C	26.2	B	18.8
Church Street & I-285 Off-Ramps (10)	Un-Signalized	EB	E	48.8	B	13.3
		WB	E	40.1	C	20.4
Church Street & I-285 On-Ramps (26)	Un-Signalized	EB	A	0.0	A	0.0
		WB	A	0.0	A	0.0
		NB	D	34.3	D	25.4
Valley Brook Rd and SR 410 Off-Ramps 11	Un-Signalized	EB	A	0.0	A	0.0
		WB	A	0.0	A	0.0
		SB	F	483.7	F	76.1
Valley Brook Rd and SR 410 On-Ramps 27	Signalized		B	15.4	B	12.4
N Decatur Rd & DeKalb Industrial Way 12	Signalized		D	49.3	D	36.5
N Decatur Rd & Church St W of DeKalb Industrial Way 13	Signalized		D	49.6	C	33.9
N Decatur Rd & Church St E of DeKalb Industrial Way 14	Signalized		B	16.3	B	15.9
E College Dr & Arcadia Ave 15	Signalized		D	40.4	C	20.6
Arcadia Ave & S Columbia Dr 16	Signalized		D	44.0	B	18.3
E College Dr & Commerce St 17	Signalized		D	40.5	B	19.2
E College Dr & SR 155 18	Signalized		D	37.4	C	29.7
E College Dr & S McDonough St 19	Signalized		D	43.8	C	27.7
DeKalb Industrial Way & N Arcadia Ave 20	Signalized		A	5.0	A	4.7

Intersection	Traffic Control	Approach	PM Peak		Sat Peak	
			LOS	Delay	LOS	Delay
DeKalb Industrial Way & SR 8 21	Signalized		D	53.4	C	20.4
N Clarendon Ave & N Avondale Rd/US 278 22	Signalized		D	45.4	C	25.4
N Clarendon Ave & Laredo Drive (23)	Un-Signalized	NB	A	8.7	A	8.5
		SB	A	0.0	A	0.0
		EB	F	106.4	C	19.7
E Ponce De Leon Ave & Annie St (24)	Un-Signalized	EB	A	0.26	A	0.2
		WB	A	0.18	A	0.0
		NB	C	20.6	D	30.1
		SB	C	17.4	E	40.0
E Ponce De Leon Avenue & New Entrance South of Laredo Dr	Signalized		A	8.8	A	9.5
E Ponce De Leon Avenue & New Entrance along DeKalb Industrial Way	Un-Signalized	NB	A	0.0	A	0.0
		SB	A	9.5	A	9.2
		WB	C	16.2	B	14.6
EB-East Bound, WB-West Bound, NB-North Bound, SB-South Bound						

* **NOTE:** It is important to note that is not uncommon to have an un-signalized intersection to have an approach (usually a side street) to have an unacceptable LOS. This does not mean that the intersection as a whole is not operating at an acceptable level of service.

All the study intersections are expected to perform at level of service of D or better in the Future Build 2023 Phase II conditions during both PM and Saturday peak periods. Hence, intersection improvements are not recommended for 2023 Phase II conditions.

FIGURE 16-2023 SITE BUILT TRAFFIC VOLUMES-PHASE II



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JOB NO.: 12001
DWG NAME: FIGURE 16

SITE BUILD
PHASE II
TRAFFIC PLAN

SHEET:
FIG 16

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Table 16 shows the Future Build 2023 Phase III Intersection Levels of Service and Delays. **Figure 17** shows traffic volumes for 2023 Phase III Build Traffic Analysis.

Table 16: Future Build 2023 Intersection Levels of Service (Delay, Sec) for Phase III

Intersection	Traffic Control	Approach	PM Peak		Sat Peak	
			LOS	Delay	LOS	Delay
East Ponce De Leon Ave & Laredo Drive 1	Signalized		D	42.1	F	89.0
East Ponce De Leon Ave & Wells St 2	Signalized		B	16.4	C	23.7
East Ponce De Leon Ave & DeKalb Industrial Way 3	Signalized		B	17.2	B	17.6
East Ponce De Leon Ave & N Arcadia Ave/Sams Crossing 4	Signalized		E	66.0	C	21.4
East Ponce De Leon Ave & N Decatur Rd 5	Signalized		D	45.0	D	39.9
East Ponce De Leon Ave & Valley Brook Rd 6	Signalized		C	34.0	D	42.8
East Ponce De Leon Ave & Glendale Rd 7	Signalized		B	16.2	B	14.9
East Ponce De Leon Ave & McLendon Dr 8	Signalized		C	21.3	A	9.3
East Ponce De Leon Ave & I-285 Off-Ramps (9)	Signalized		C	28.3	B	19.6
East Ponce De Leon Ave & I-285 On-Ramps (25)	Signalized		C	29.2	B	19.9
Church Street & I-285 Off-Ramps (10)	Un-Signalized	EB	F	65.0	B	14.8
		WB	E	47.9	C	24.6
Church Street & I-285 On-Ramps (26)	Un-Signalized	EB	C	0.0	A	0.0
		WB	D	0.0	A	0.0
		NB	C	44.5	D	31.4
Valley Brook Rd and SR 410 Off-Ramps 11	Un-Signalized	EB	A	0.0	A	0.0
		WB	A	0.0	A	0.0
		SB	F	563.3	F	100.7
Valley Brook Rd and SR 410 On-Ramps 27	Signalized		B	15.8	B	12.6
N Decatur Rd & DeKalb Industrial Way 12	Signalized		E	55.7	D	43.5
N Decatur Rd & Church St W of DeKalb Industrial Way 13	Signalized		D	50.8	C	34.2
N Decatur Rd & Church St E of DeKalb Industrial Way 14	Signalized		B	17.7	B	18.3
E College Dr & Arcadia Ave 15	Signalized		D	50.1	B	19.6
Arcadia Ave & S Columbia Dr 16	Signalized		D	46.7	D	36.5
E College Dr & Commerce St 17	Signalized		E	56.6	B	19.0
E College Dr & SR 155 18	Signalized		D	40.2	C	32.2
E College Dr & S McDonough St 19	Signalized		D	52.4	C	28.1
DeKalb Industrial Way & N Arcadia Ave 20	Signalized		A	5.0	A	4.8

Intersection	Traffic Control	Approach	PM Peak		Sat Peak	
			LOS	Delay	LOS	Delay
DeKalb Industrial Way & SR 8 21	Signalized		D	49.1	C	26.4
N Clarendon Ave & N Avondale Rd/US 278 22	Signalized		D	50.6	C	26.8
N Clarendon Ave & Laredo Drive (23)	Un-Signalized	NB	A	8.9	A	8.7
		SB	A	0.0	A	0.0
		EB	F	196.8	D	27.9
E Ponce De Leon Ave & Annie St (24)	Un-Signalized	EB	A	0.1	A	0.3
		WB	A	0.0	A	0.0
		NB	D	28.5	E	42.8
		SB	D	29.7	F	109.5
E Ponce De Leon Avenue & New Entrance South of Laredo Dr	Signalized		A	8.8	A	9.5
E Ponce De Leon Avenue & New Entrance along DeKalb Industrial Way	Un-Signalized	NB	A	0.0	A	0.0
		SB	A	10.0	A	9.7
		WB	C	20.7	C	18.2
EB-East Bound, WB-West Bound, NB-North Bound, SB-South Bound						

* **NOTE:** It is important to note that is not uncommon to have an un-signalized intersection to have an approach (usually a side street) to have an unacceptable LOS. This does not mean that the intersection as a whole is not operating at an acceptable level of service.

Based on the intersection analysis four (4) intersections were identified as operating below the Level of Service Standard (LOS D) for the 2023 Phase III conditions. To maintain appropriate levels of service, improvements to the intersections are recommended before Phase 4 analysis could be completed. The recommended improvements for those intersections not meeting the acceptable Level of Service “D” are listed below:

- East Ponce De Leon Ave & Laredo Drive
 - Optimize signal timing and coordination at the intersection.
- East Ponce De Leon Ave & N Arcadia Ave/Sams Crossing
 - Optimize signal timing and phasing
- N Decatur Rd & DeKalb Industrial Way
 - Recommend adding additional eastbound right turn lane at the intersection.
 - Optimize signal timings at the intersection.

The proposed land-use for the DeKalb Farmers Market was updated after the methodology meeting with ARC/GRTA dated on April 30 2012. Based on the updated network site trip

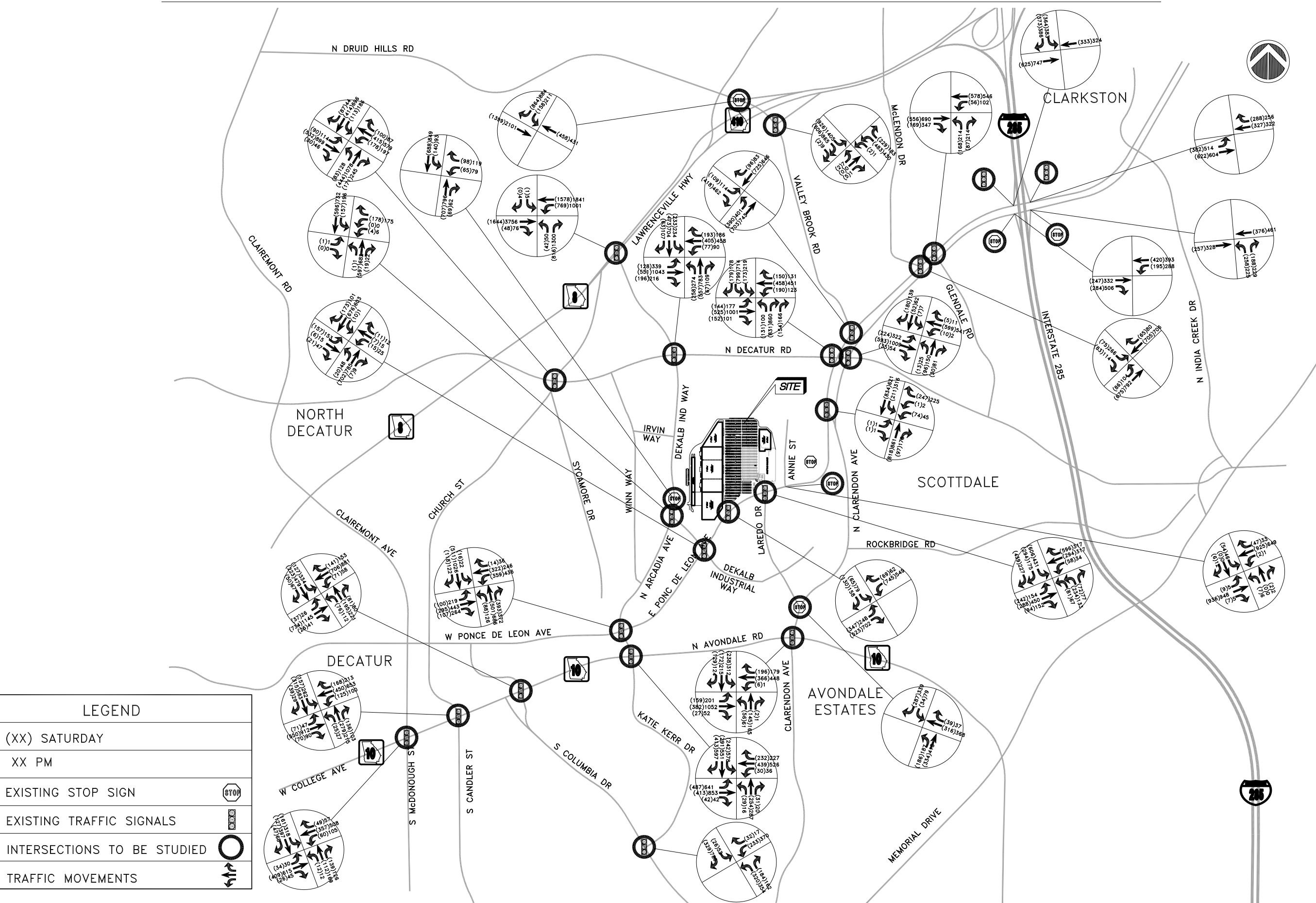
distribution (As shown in Appendix A), the intersections E College Dr and Commerce St do not carry “significant” amount of traffic based on the GRTA 7% rule. Based on the updated network site trip distribution (Appendix A), no recommendations were provided to intersection E College Dr and Commerce St.

Table 17 shows the improved level of service for the intersections East Ponce De Leon Ave and Laredo Drive, East Ponce De Leon Ave and N Arcadia Ave/Sams Crossing, and N Decatur Rd and DeKalb Industrial Way based on the suggested recommendations.

Table 17: Future Build 2023 Phase III Improved Intersection Levels of Service (Delay, sec)

Intersection	Traffic Control	Approach	PM Peak		Sat Peak	
			LOS	Delay	LOS	Delay
East Ponce De Leon Ave & Laredo Drive 1	Signalized		C	30.9	D	43.3
East Ponce De Leon Ave & N Arcadia Ave/Sams Crossing 4	Signalized		D	53.4	C	21.4
N Decatur Rd & DeKalb Industrial Way 12	Signalized		D	50.0	D	41.3

FIGURE 17-2023 SITE BUILD TRAFFIC VOLUMES-PHASE III



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DWG NAME: FIGURE 17

PHASE 3
TRAFFIC PLAN

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FIG 17

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Table 18 shows the Future Build 2023 Phase IV Intersection Levels of Service and Delays. **Figure 18** shows traffic volumes for 2023 Phase IV Build Traffic Analysis.

Table 18: Future Build 2023 Intersection Levels of Service (Delay, Sec) for Phase IV

Intersection	Traffic Control	Approach	PM Peak		Sat Peak	
			LOS	Delay	LOS	Delay
East Ponce De Leon Ave & Laredo Drive 1	Signalized		D	39.8	D	53.3
East Ponce De Leon Ave & Wells St 2	Signalized		C	20.4	D	37.7
East Ponce De Leon Ave & DeKalb Industrial Way 3	Signalized		B	17.6	B	17.9
East Ponce De Leon Ave & N Arcadia Ave/Sams Crossing 4	Signalized		E	60.8	C	28.0
East Ponce De Leon Ave & N Decatur Rd 5	Signalized		D	48.4	D	46.5
East Ponce De Leon Ave & Valley Brook Rd 6	Signalized		D	39.4	D	50.5
East Ponce De Leon Ave & Glendale Rd 7	Signalized		B	18.4	B	16.4
East Ponce De Leon Ave & McLendon Dr 8	Signalized		C	22.4	A	9.7
East Ponce De Leon Ave & I-285 Off-Ramps (9)	Signalized		C	30.1	C	20.4
East Ponce De Leon Ave & I-285 On-Ramps (25)	Signalized		C	31.4	B	19.6
Church Street & I-285 Off-Ramps (10)	Un-Signalized	EB	F	74.2	C	16.0
		WB	F	53.5	D	27.8
Church Street & I-285 On-Ramps (26)	Un-Signalized	EB	A	0.0	A	0.0
		WB	A	0.0	A	0.0
		NB	F	52.2	E	36.7
Valley Brook Rd and SR 410 Off-Ramps 11	Un-Signalized	EB	A	0.0	A	0.0
		WB	A	0.0	A	0.0
		SB	F	612.1	F	119.4
Valley Brook Rd and SR 410 On-Ramps 27	Signalized		B	16.1	B	12.7
N Decatur Rd & DeKalb Industrial Way 12	Signalized		D	52.7	D	47.7
N Decatur Rd & Church St W of DeKalb Industrial Way 13	Signalized		D	51.4	C	34.4
N Decatur Rd & Church St E of DeKalb Industrial Way 14	Signalized		C	25.5	B	18.1
E College Dr & Arcadia Ave 15	Signalized		E	56.8	C	21.0
Arcadia Ave & S Columbia Dr 16	Signalized		C	24.5	D	38.3
E College Dr & Commerce St 17	Signalized		E	63.0	B	19.1
E College Dr & SR 155 18	Signalized		D	44.1	C	34.3
E College Dr & S McDonough St 19	Signalized		E	55.4	C	28.3
DeKalb Industrial Way & N Arcadia Ave 20	Signalized		A	5.1	A	4.8

Intersection	Traffic Control	Approach	PM Peak		Sat Peak	
			LOS	Delay	LOS	Delay
DeKalb Industrial Way & SR 8 21	Signalized		D	50.7	C	27.3
N Clarendon Ave & N Avondale Rd/US 278	Signalized		D	54.4	C	28.4
N Clarendon Ave & Laredo Drive (23)	Un-Signalized	NB	A	9.0	A	8.8
		SB	A	0.0	A	0.0
		EB	F	260	E	37.5
E Ponce De Leon Ave & Annie St (24)	Un-Signalized	EB	A	0.1	A	0.4
		WB	A	0.0	A	0.0
		NB	D	35.0	F	53.2
		SB	E	45.7	F	238.4
E Ponce De Leon Avenue & New Entrance South of Laredo Dr	Signalized		A	8.2	A	9.5
E Ponce De Leon Avenue & New Entrance along DeKalb Industrial Way	Un-Signalized	NB	A	0.0	A	0.0
		SB	B	10.4	B	10.1
		WB	D	25.1	C	21.9
EB-East Bound, WB-West Bound, NB-North Bound, SB-South Bound						

* **NOTE:** It is important to note that is not uncommon to have an un-signalized intersection to have an approach (usually a side street) to have an unacceptable LOS. This does not mean that the intersection as a whole is not operating at an acceptable level of service.

Based on the intersection analysis four (4) intersections were identified as operating below the Level of Service Standard (LOS D) for the 2023 Phase IV conditions. To maintain appropriate levels of service, improvements to the intersections are recommended. The recommended improvements for the two intersections not meeting the acceptable Level of Service “D” are listed below:

- East Ponce De Leon Ave & N Arcadia Ave/Sams Crossing
 - Recommend dual left turns for westbound approach at the intersection.
 - Optimize signal timing at the intersection.
- East College Drive & N Arcadia Ave/Sams Crossing
 - Optimize signal timing at the intersection

The proposed land-use for the DeKalb Farmers Market was updated after the methodology meeting with ARC/GRTA dated on April 30 2012. Based on the updated network site trip distribution (As shown in Appendix A), the intersections E College Dr and Commerce St and E College Dr & S McDonough St do not carry “significant” amount of traffic based on the GRTA 7% rule. Based on the updated network site trip distribution (Appendix A), no recommendations were provided to intersection E College Dr and Commerce St and E College Dr & S McDonough St.

Table 19 shows the improved level of service for the intersections East Ponce De Leon Ave and N Arcadia Ave/Sams Crossing, and E College Dr and Arcadia Ave based on the suggested recommendations.

Table 19: Future Build 2023 Phase IV Improved Intersection Levels of Service (Delay, sec)

Intersection	Traffic Control	Approach	PM Peak		Sat Peak	
			LOS	Delay	LOS	Delay
East Ponce De Leon Ave & N Arcadia Ave/Sams Crossing 4	Signalized		D	37.8	B	17.1
E College Dr & Arcadia Ave 15	Signalized		D	52.7	C	20.3

7.0 Corridor Segment Study

Corridor analyses were performed along segments of SR 10/E College Dr, E Ponce De Leon Ave, N Decatur Rd and DeKalb Industrial Way. SYNCHRO 7.0 was utilized to calculate the existing, no-build and build corridor levels of service. A detailed segment analysis was completed based on those links within the study network, as defined by GRTA's Technical Analysis Guidelines. **Table 20** illustrates the results for the existing, 2023 no-build and 2023 overall project phase.

Table 20: Corridor Levels of Service for Overall Project Phase

	PM Peak Hour (LOS)		SAT Peak Hour (LOS)	
SR 10/E College Dr				
	EB	WB	EB	WB
2012 Existing	B	C	B	B
2023 No-Build	C	C	B	B
2023 Build	C	D	B	B
E Ponce De Leon Ave				
	NB	SB	NB	SB
2012 Existing	C	C	C	C
2023 No-Build	D	D	C	D
2023 Build	D	D	D	D
N Decatur Rd				
	EB	WB	EB	WB
2012 Existing	D	C	D	C
2023 No-Build	D	C	C	C
2023 Build	C	D	C	D
DeKalb Industrial Way				
	NB	SB	NB	SB
2012 Existing	C	C	C	B
2023 No-Build	C	C	B	B
2023 Build	C	C	C	D

The results of the detailed segment analysis reveal that SR 10/E College Dr, E Ponce De Leon Ave, N Decatur Rd and DeKalb Industrial Way will operate at acceptable levels of service during all analyzed scenarios per the outlined GRTA's technical guidelines.

8.0 Identification of Planned Projects

The ARC's Transportation Improvement Program, Regional Transportation Improvement Program, State Transportation Improvement Program and GDOT's Construction Work Program were researched to determine the sponsors, funding source and projected improvements to be made to all roadways and intersections within the study network. See Table 21: Programmed Projects below for identified programmed projects. See **Appendix B** for the detailed information for ARC and GDOT planned projects.

Table 21: Programmed Projects

IDENTIFICATION OF PROGRAMMED PROJECTS	
Project ID Number / Title	General Description
AR-412 Clifton Corridor High Capacity Rail Service from Emory University to Avondale MARTA Station (ARC).	The project will construct high capacity rail service along the Clifton Corridor from Emory University to the Avondale MARTA station. This project includes provisions for both heavy rail and light rail service to meet the complex travel patterns and needs within the service corridor as identified within the Clifton Corridor Transit Initiative Alternative Analysis. The DeKalb Medical Center, the City of Decatur and the MARTA Blue line will be served by a support network of feeder bus service. The project will also provide long distance travelers approaching the Clifton Corridor from points along the Gold line or Red line with rail service into the Emory/CDC complex.
DK-344A Upgrades to Approximately 40 Signals in DeKalb County (ARC).	DeKalb County will be upgrading traffic signal equipment at forty (40) intersections in Dekalb County. This project would improve the overall efficiency and safety of traffic flow due to upgraded traffic signal displays and state of the art traffic signal control equipment, provide better signal coordination through fiber optic communications cable, and improve pedestrian safety with improved crosswalks, pedestrian signals and sidewalk ramps in compliance with the Americans with Disability Act (ADA). The improvements will be provided along Briarcliff Road, Chamblee-Tucker Road, Clairmont Road, Clifton Road, Columbia Drive, Covington Highway, LaVista Road, Peachtree Road, and Peachtree Industrial Boulevard.
DK-344C Upgrades to approximately 31 Signals in DeKalb County (ARC).	This project upgrades/replaces signals along the following locations: Briarcliff Road at Johnson Road; Clifton Road; Briar Vista Terrace; Lavista Road; Sheridan Road; Clifton Road at North Decatur Road; Fishburn Drive; Emory University

	Hospital; Haygood Drive; Gatewood Road; Houston Mill Road; Emory Conference Center; Clifton Way; CDC Parkway; North Decatur Road at North Decatur Center Drive; Clairmont Road at North Decatur Road; Gables Apartment driveway; Williams Lane; Clairmont Lake; Southern Lane; Mason Mill Road; McConnell Drive; North Druid Hills Road; Lavista Road; North Decatur Road at Webster Drive; Church Street at Clairmont Oaks Apartment driveway; Glenlake Park driveway; Forkner Drive; Christian Towers Apartment; North Decatur Road.
DK-377 North McDonough Road bicycle and pedestrian facilities from College Avenue to West Trinity Place (ARC).	The project will reduce the number of through travel lanes from 4 to 2 along North McDonough Road from College Ave to West Trinity Place, and adding two-way bicycle track on west side of North McDonough, parallel parking and sidewalks on both sides of the street, landscaped buffers separating sidewalk, bike path and roadway, and mid-block crossings.
0010327 CS 2097/N McDonough Rd from SR 10 To CS 2094/W Trinity Pl-LCI (GDOT).	The project will provide Bicycle/Pedestrian Facilities along N McDonough Rd from SR 10 to W Trinity Pl.
0009025 SR 155 at SR 10; CS 2097 at SR 10 & at CS 2025 (GDOT).	The project will provide Bicycle/Pedestrian Facilities at intersection SR 155 & SR 10, CS 2097 & SR 10 and CS 2097 & CS 2025.
0010631 SR 155 @ SR 10 & CR 5365/Church St from SR 155 to Forkner Dr (GDOT).	The project will provide Bicycle/Pedestrian Facilities at (1) SR 155/Clairmont Ave at SR 10/Commerce Drive and (2) CR 5365/Church Street from SR 155/Commerce Drive to CS 2113/Forkner Drive.

9.0 Compliance with Comprehensive Plan Analysis

The site is zoned M-2 (Industrial) District which permits a farmer's market and warehousing development of this type. The development borders other industrial and multifamily residential districts on adjacent adjoining property lines and across all public right-of-ways. Current zoning map of the area was obtained from the DeKalb County. See **Figure 19** for Farmers Market Current Zoning Map. The proposed zoning will remain M-2.

18-048-03-002

419
Dekalb Industrial Way

18-047-06-018

48 47

8 9

3000 E. Ponce de Leon

3060 E. Ponce de Leon

18-009-33-001

18-007-04-005

TU	TA
8	9

8 | 9

33

1

8.91 AC(C)

CZ-84072

M-2

RELOCATION ANNIE STREET

5

CZ 3092 84072

RM-75

CZ-86054

213
ALDRIDGE
100'

4

~~1 FON~~

~~PONCE~~

~~EAST~~

3093

AVENUE

32

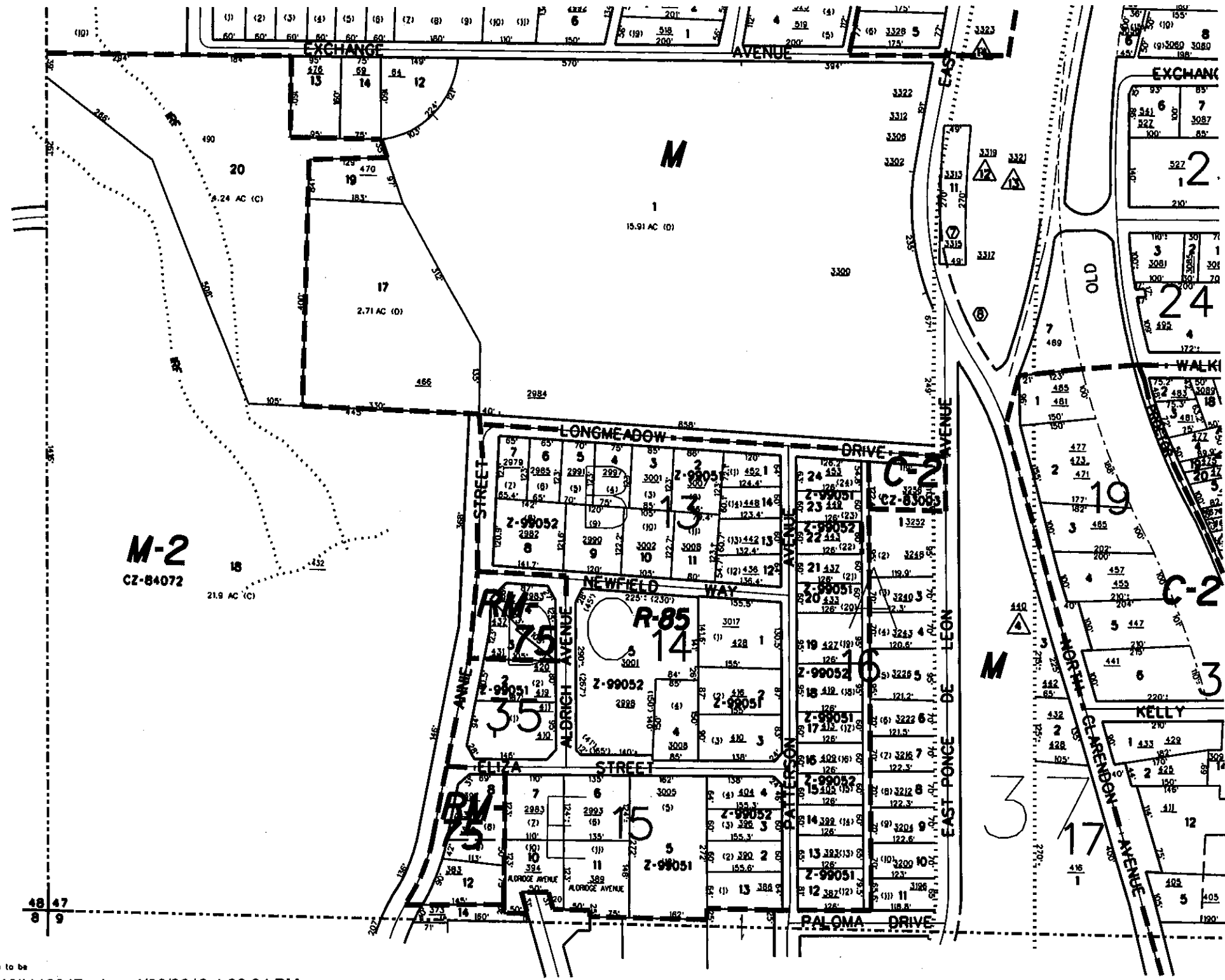
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3.20 AC(C)

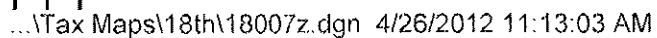
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2.99 AC ±

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PLAIN SHOWN ON THIS
MAP IS THE DELINEATION OF
THE ZONE MAP, CONTACT
THE ZONE MAP AND DRAINAGE



10.0 **Conclusions**

The proposed Farmers Market will consist of approximately 106 acres with four new buildings that add 1,104,151 SF gross area of Warehouses and 328,954 SF gross area of retail to the existing facility. The existing retail area of 142,475 SF will be converted to warehouse and wholesale area. 60 percent of the existing retail area of 142,475 SF will be converted to warehouse and 40 percent will be converted to wholesale area, with an overall warehouse/wholesale area of 1,246,626 SF.

The proposed expansion will be built in four phases; Phase 1 will consist of 361,972 SF of Warehouse and 186,703 SF of Retail. The existing retail area of 142,475 SF will be converted to warehouse and wholesale area after the completion of Phase 1; Phase 2 will consist of 223,530 SF of Warehouse; Phase 3 will consist of 419,875 SF of Warehouse and 89,065 SF of Retail; Phase 4 will consist of 98,774 SF of Warehouse and 53,186 SF of Retail; and Phase 4 will consist of 223,530 SF of Warehouse. Phase I is expected to be completed in 3 Years (Year 2015) and the overall project is expected to be completed in 10 years (Year 2023).

The proposed development will consist of Retail, Warehouse and Wholesale Market with the peak operating hours during evening and during Saturdays. The proposed development has sufficient access points from E Ponce De Leon Avenue and DeKalb Industrial Way.

The development will have sidewalk and bike lanes along E Ponce De Leon Avenue and DeKalb Industrial Way. Crosswalks will be provided at all the intersections and driveways in to the development.

10.1 **Existing Traffic Analysis**

Based on intersection analysis under the 2012 existing conditions, there were **no** intersections below the standard LOS D.

10.2 **Future Background Conditions**

A background growth of 2% was applied to the intersections. Based on intersection analysis under the 2015 future background conditions, there were **no** intersections below the standard LOS D. Also, based on 2023 future background conditions, four (4) intersections were identified as operating below the Level of Service Standard (LOS D). Recommendations were provided for to intersections not meeting the acceptable Level of Service “D” are listed below:

- East Ponce De Leon Ave & N Decatur Rd

- N Decatur Rd & DeKalb Industrial Way.
- E College Dr & Arcadia Ave
- DeKalb Industrial Way & SR 8

10.3 Future Build Conditions

Site generated traffic from each phase of the proposed Farmers Market were added to the future background traffic to arrive at the future condition traffic volume. Proposed driveways were considered in the analysis.

Based on intersection analysis under the 2015 Phase I future conditions, most of the intersections perform at acceptable levels of service. The intersection of DeKalb Industrial Way and SR 8 performs at lower level of service. Recommendations were provided at the intersection to operate at an acceptable level of service.

All the intersections under Phase II conditions operate at an acceptable level of service.

Based on the intersection analysis for Phase III conditions three (3) intersections were identified as operating below the Level of Service Standard (LOS D). To maintain appropriate levels of service, improvements were recommended to the following intersections not meeting the acceptable Level of Service “D”:

- East Ponce De Leon Ave & Laredo Drive
- East Ponce De Leon Ave & N Arcadia Ave/Sams Crossing
- N Decatur Rd & DeKalb Industrial Way

Based on the intersection analysis for Phase IV conditions, two (2) intersections were identified as operating below the Level of Service Standard (LOS D). To maintain appropriate levels of service, improvements were recommended to the following intersections not meeting the acceptable Level of Service “D”:

- East Ponce De Leon Ave & N Arcadia Ave/Sams Crossing
- East College Drive & N Arcadia Ave/Sams Crossing

10.4 Segment Analysis

As part of the DRI process, a detailed segment analysis for all major corridors in the study network had to be completed.

SR 10/E College Dr, E Ponce De Leon Ave, N Decatur Rd and DeKalb Industrial Way were the four major segments analyzed. The analysis was completed for the existing year (2012), No-Build 2023 and Build 2023 scenarios. The results of the detailed segment analysis reveal that SR 10/E College Dr, E Ponce De Leon Ave, N Decatur Rd and DeKalb Industrial Way will all operate at acceptable levels of service during all analyzed scenarios.

11.0 Signal Warrant Analysis: E Ponce De Leon Ave & New Entrance to Market

A traffic signal warrant investigation must be conducted to determine whether the installation of a traffic control signal is justified at a particular location. The Manual on Uniform Traffic Control Devices (MUTCD) explains the methodology for conducting an investigation. Traffic volumes in exclusive right turn lanes were excluded from the traffic signal warrant analyses. The MUTCD describes eight warrants that may be considered and three of them are applicable to our investigations.

Warrant 1 – Eight-Hour Vehicular Volume

The Minimum Vehicular Volume, Condition A, is intended for application where a large volume of intersecting traffic is the principal reason to consider installing a traffic control signal.

The Interruption of Continuous Traffic, Condition B, is intended for application where the traffic volume on a major street is so heavy that traffic on a minor intersecting street suffers excessive delay or conflict in entering or crossing the major street.

Warrant 1 is met if the requirements for Condition A or Condition B are fulfilled for any eight hours of an average day or if a Combination of Warrants, 80% of Condition A and 80% of Condition B, is fulfilled for any eight hours of an average day.

Warrant 2 – Four-Hour Vehicular Volume

The Four-Hour Vehicular Volume signal warrant conditions are intended to be applied where the volume of intersecting traffic is the principal reason to consider installing a traffic control signal. Warrant 2 is met if the requirements are met for any four hours of an average day.

Warrant 3 – Peak Hour

The Peak Hour signal warrant is intended for use at a location where traffic conditions are such that for a minimum of 1 hour of an average day, the minor-street traffic suffers undue delay when entering or crossing the major street. This signal warrant shall be applied only in unusual cases. Such cases include, but are not limited to, office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time.

LAI prepared an analysis of the traffic signal warrants found in the MUTCD for intersection of E Ponce De Leon Ave & New Entrance to Farmers Market for the future condition with the proposed Farmers Market development in place in the year 2023. The signal warrant analysis

was performed using the 2000 version of PC-Warrants. This software compares traffic volumes at an intersection with the traffic signal warrants found in the MUTCD.

LAI utilized the 24 hour ADT count data on E Ponce De Leon Avenue to project future background traffic volumes to 2023 using a growth rate of 2%. Trip Generation from the proposed development for the study intersection between 10:00 AM and 10:00 PM on a typical weekday were then added to the future background traffic. This trip generation is based on predicted hourly variations for shopping center traffic from the Institute of Transportation Engineers 6th Edition Trip Generation Manual. A signal warrant analysis was performed for the study intersection for the year 2023.

Appendix G shows the background traffic, the total hourly projections, and a printout of the results. **Table 22** summarizes the results of the traffic signal warrants analysis conducted.

Table 22: Signal Warrant Analysis

Table 10: Signal Warrant Analysis			
Warrant	Criteria	Condition	Result
1			Satisfied
1A	Minimum Vehicular Volume	3 hrs – 8 hrs needed	Satisfied
1B	Interruption of Continuous Traffic	12 hrs- 8 hrs needed	Satisfied
1A & B	Combination Warrants	2 hrs – 8 hrs needed	Satisfied
2	4-Hour Vehicular Volume	15 hrs – 4 hrs needed	Satisfied
3	Peak Hour	Vol Exceed Min	Satisfied
4	Pedestrian Volumes	Not Evaluated	
5	School Crossing	Not Evaluated	
6	Coordinated Signal System	Not Evaluated	
7	Crash Experience	Not Satisfied	
8	Roadway Network	Not Evaluated	

Using the future condition traffic volumes signal warrant analysis was performed at the study intersection. The results of the analysis are included in the Appendix G. The analysis revealed the study intersection *satisfies Warrants 1, satisfies Warrant 2 and satisfies Warrant 3B* (See **Appendix G**) for the future year 2023 with the proposed Farmers Market development. Warrants 4, 5, 6, 7 and 8 were not evaluated as they are not relevant to this study.

A traffic signal is warranted at the intersection in the future condition with the proposed Farmers Market development.

12.0 Non Expedited Criteria

Regional Mobility and Location

1. *Quality Character, Convenience, and Flexibility of transportation options*

Currently Metropolitan Atlanta Rapid Transit Authority (MARTA) provides bus service through East Ponce De Leon Avenue and DeKalb Industrial Way. Route 120 and Route 36 provides service along E Ponce De Leon Avenue, and Route 75 provides service along DeKalb Industrial Way. These bus services connect Your DeKalb Farmers Market directly from Avondale Metro Station and other parts of DeKalb County.

2. *Vehicle Miles Traveled*

The proposed DRI will mainly provide retail shopping and warehouse space in close proximity to residential developments in DeKalb, Fulton and Cobb Counties. Pass-by-reductions were taken into consideration since the retail markets attract trips from the pass by adjacent street traffic. As per the GRTA limitation, 15 percent of the pass-by reductions were applied to the retail trips. The following table shows the summary of the trip generation based on the overall project.

Table 23: Trip Generation – Overall Project

Land Use Code/Size	Avg Weekday Trips	Traffic Direction	PM Peak Trips	PM Peak Pass-by Trips (Retail-15%)	Sat PM Peak Trips	Sat Peak Pass-by Trips (Retail-15%)	Net-New PM Trips	Net-New Sat PM Trips
GROSS TRIPS								
Gross Total	36,468	Enter	1,586	220	1,826	258	1,366	1,568
		Exit	1,773	220	1,783	258	1,553	1,525
-Existing Retail Area Reduction	13,794	Enter	634	95	745	112	539	633
		Exit	634	95	745	112	539	633
NET TRIPSs								
Net Total	22,674	Enter	952	124	1,081	146	827	935
		Exit	1,139	124	1,038	146	1,014	891

3. *Relationship between Location of Proposed DRI and Regional Mobility*

The proposed DRI is located within the proximity of MARTA Station and bus stops are located within the walking distance of the development.

4. Relationship between Proposed DRI and Existing or Planned Transit Facilities

The proposed development has existing transit facilities including MARTA and bus services in close proximity.

5. Transportation Management Area Designation

The proposed project location comes under DeKalb County Comprehensive Plan which encourages alternative modes of transportation.

6. Offsite Trip Reduction and Trip Reduction Techniques

No mixed-use reduction was applied to the development.

7. Relationships between Proposed DRI and Existing Development

The proposed DRI is located in an area where adequate public facilities will be available to serve the proposed development. DeKalb County Department of Watershed Management will provide water and wastewater facilities for the development. Regarding transportation, the traffic study has identified transportation improvements required in the surrounding roadway network, which will allow traffic in the area to operate at the LOS standard.

Appendix

Appendix: A Study Network Determination

Appendix: B ARC Programmed Projects

Appendix: C Traffic Data Sheets

Appendix: D SYNCHRO 7.0 Capacity Analysis

Appendix: E Corridor Study Analysis

Appendix: F Full Size Site Plan

Appendix: G Signal Warrant Analysis – E Ponce De Leon Ave & New Entrance to
Farmers Market

APPENDIX A

Study Network Determination

Network Development Worksheet DeKalb Farmers Market								
				Gross Trip Ends		11,050		
Roadway Segment	Facility Type	Facility LOS Standard	Facility Service Volume @ Standard	Adjusted Facility Service Volume @ Standard	Project Traffic Distribution	Project Trips Assigned	% Service Volume Consumed	Presumptive Impact
E Ponce De Leon between Laredo Dr and N Decatur Rd	4L with TL	D	32,500	30,875	40%	4420	14.32%	Yes
E Ponce De Leon between N Decatur Rd and Valley Brook Rd	4L with TL	D	32,500	30,875	25%	2763	8.95%	Yes
E Ponce De Leon between Valley Brook Rd and Glendale Rd	2L with TL	D	14,900	11,920	19%	2100	17.61%	Yes
E Ponce De Leon between Glendale Rd and I-285 Ramps	2L with TL	D	14,900	11,920	9%	995	8.34%	Yes
Church St between Glendale Rd and I-285 Ramps	2L with TL	D	14,900	11,920	9%	995	8.34%	Yes
Church St between I-285 Ramps and N Indian Creek Drive	4L with TL	D	32,500	30,875	4%	442	1.43%	No
Valley Brook Rd between E Ponce De Leon and SR 410 Ramps	2L with TL	D	14,900	11,920	6%	663	5.56%	No
N Decatur Rd between E Ponce De Leon Ave & DeKalb Industrial Way	4L with TL	D	32,500	30,875	5%	553	1.79%	No
N Decatur Rd between E Ponce De Leon Ave & Church St	4L with TL	D	32,500	30,875	7%	774	2.51%	No
Church St between Glendale Rd and Robinson Ave	2L with TL	D	14,900	11,920	2%	221	1.85%	No
N Decatur Rd between Church St & Glendale Rd	4L with TL	D	32,500	30,875	7%	774	2.51%	No
Glendale Rd between Brownelle Ave & E Ponce De Leon Ave	2L	D	14,900	11,902	2%	221	1.86%	No
E Ponce De Leon between the Proposed Drive and N Arcadia Avenue	4L with TL	D	32,500	30,875	25%	2763	8.95%	Yes
N Arcadia Avenue between New Entrance & E Ponce De Leon Ave	6L with TL	D	48,900	48,900	10%	1105	2.26%	No
E Ponce De Leon Ave between Arcadia Avenue & Church St	2L	D	14,900	11,920	3%	332	2.78%	No
Arcadia Ave Between E College Dr & S Columbus Drive	2L	D	14,900	11,920	6%	663	5.56%	No
S Columbia Dr between Katie Kerr Dr & Memorial Drive	4L with TL	D	32,500	30,875	2%	221	0.72%	No
E College Drive between Sams Crossing & Memorial Dr	4L with TL	D	32,500	30,875	3%	332	1.07%	No
E College Drive between Sams Crossing & Commerce Dr	4L with TL	D	32,500	30,875	19%	2100	6.80%	No
Commerce Drive between S Columbia Dr & College Dr	2L	D	14,900	11,920	3%	332	2.78%	No
Commerce Drive between College Dr & E Ponce De Leon Ave	2L	D	14,900	11,920	2%	221	1.85%	No
E College Drive between Commerce Dr & SR 155	4L with TL	D	32,500	30,875	15%	1658	5.37%	No
SR 155 between E College Dr & Memorial Dr	2L	D	14,900	11,920	3%	332	2.78%	No
SR 155 between E College Dr & W Ponce De Leon Ave	2L	D	14,900	11,920	3%	332	2.78%	No
E College Dr between SR 155 & S McDough St	2L with TL	D	14,900	11,920	6%	663	5.56%	No
S McDough St between E College Dr & Memorial Dr SE	2L	D	14,900	11,920	2%	221	1.85%	No
S McDough St between E College Dr & W Ponce De Leon Ave	2L	D	14,900	11,920	2%	221	1.85%	No
E College Dr between S McDough St & Adams St	2L	D	14,900	11,920	2%	221	1.85%	No
DeKalb Industrial Way between New Entrance & N Decatur Rd	4L with TL	D	32,500	30,875	15%	1658	5.37%	No
DeKalb Industrial Way between N Decatur Rd & SR 8	4L with TL	D	32,500	30,875	10%	1105	3.58%	No
SR 8 between DeKalb Industrial Way & Stone Mountain Hwy	6L with TL	D	48,900	48,900	10%	1105	2.26%	No
N Decatur Rd between DeKalb Industrial Way & Church St	4L with TL	D	32,500	30,875	10%	1105	3.58%	No
N Decatur Rd between Church St and SR 8	4L with TL	D	32,500	30,875	5%	553	1.79%	No
Laredo Dr between E Ponce De Leon Ave & N Clarendon Ave	2L	D	14,900	11,920	10%	1105	9.27%	Yes
N Clarendon Ave between Laredo Dr & Rock Bridge Rd	2L	D	14,900	11,920	2%	221	1.85%	No
N Clarendon Ave between Laredo Dr & N Avondale Rd	2L	D	14,900	11,920	8%	884	7.42%	Yes
N Clarendon Ave between N Avondale Rd & Fairfield Plaza	2L	D	14,900	11,920	3%	332	2.78%	No
N Avondale Rd between N Clarendon Rd & Memorial Dr	2L with TL	D	14,900	11,920	3%	332	2.78%	No

Based on Updated Site Plan
328,954 SF Retail &
1,246,626 SF Warehouse

Network Development Worksheet DeKalb Farmers Market								
				Gross Trip Ends		23,320		
Roadway Segment	Facility Type	Facility LOS Standard	Facility Service Volume @ Standard	Adjusted Facility Service Volume @ Standard	Project Traffic Distribution	Project Trips Assigned	% Service Volume Consumed	Presumptive Impact
E Ponce De Leon between Laredo Dr and N Decatur Rd	4L with TL	D	32,500	30,875	45%	10494	33.99%	Yes
E Ponce De Leon between N Decatur Rd and Valley Brook Rd	4L with TL	D	32,500	30,875	25%	5830	18.88%	Yes
E Ponce De Leon between Valley Brook Rd and Glendale Rd	2L with TL	D	14,900	11,920	19%	4431	37.17%	Yes
E Ponce De Leon between Glendale Rd and I-285 Ramps	2L with TL	D	14,900	11,920	9%	2099	17.61%	Yes
Church St between Glendale Rd and I-285 Ramps	2L with TL	D	14,900	11,920	9%	2099	17.61%	Yes
Church St between I-285 Ramps and N Indian Creek Drive	4L with TL	D	32,500	30,875	5%	1166	3.78%	No
Valley Brook Rd between E Ponce De Leon and SR 410 Ramps	2L with TL	D	14,900	11,920	6%	1399	11.74%	Yes
N Decatur Rd between E Ponce De Leon Ave & DeKalb Industrial Way	4L with TL	D	32,500	30,875	10%	2332	7.55%	Yes
N Decatur Rd between E Ponce De Leon Ave & Church St	4L with TL	D	32,500	30,875	10%	2332	7.55%	Yes
Church St between Glendale Rd and Robinson Ave	2L with TL	D	14,900	11,920	2%	466	3.91%	No
N Decatur Rd between Church St & Glendale Rd	4L with TL	D	32,500	30,875	8%	1866	6.04%	No
Glendale Rd between Brownelle Ave & E Ponce De Leon Ave	2L	D	14,900	11,902	2%	466	3.92%	No
E Ponce De Leon between the Proposed Drive and N Arcadia Avenue	4L with TL	D	32,500	30,875	25%	5830	18.88%	Yes
N Arcadia Avenue between New Entrance & E Ponce De Leon Ave	6L with TL	D	48,900	48,900	10%	2332	4.77%	No
E Ponce De Leon Ave between Arcadia Avenue & Church St	2L	D	14,900	11,920	3%	700	5.87%	No
Arcadia Ave Between E College Dr & S Columbus Drive	2L	D	14,900	11,920	6%	1399	11.74%	Yes
S Columbia Dr between Katie Kerr Dr & Memorial Drive	4L with TL	D	32,500	30,875	2%	466	1.51%	No
E College Drive between Sams Crossing & Memorial Dr	4L with TL	D	32,500	30,875	3%	700	2.27%	No
E College Drive between Sams Crossing & Commerce Dr	4L with TL	D	32,500	30,875	23%	5364	17.37%	Yes
Commerce Drive between S Columbia Dr & E Ponce De Leon Ave	2L	D	14,900	11,920	3%	700	5.87%	No
E College Drive between Commerce Dr & SR 155	4L with TL	D	32,500	30,875	15%	3498	11.33%	Yes
SR 155 between E College Dr & Memorial Dr	2L	D	14,900	11,920	3%	700	5.87%	No
SR 155 between E College Dr & W Ponce De Leon Ave	2L	D	14,900	11,920	2%	466	3.91%	No
E College Dr between SR 155 & S McDough St	2L with TL	D	14,900	11,920	10%	2332	19.56%	Yes
S McDough St between E College Dr & Memorial Dr SE	2L	D	14,900	11,920	3%	700	5.87%	No
S McDough St between E College Dr & W Ponce De Leon Ave	2L	D	14,900	11,920	3%	700	5.87%	No
E College Dr between S McDough St & Adams St	2L	D	14,900	11,920	3%	700	5.87%	No
DeKalb Industrial Way between New Entrance & N Decatur Rd	4L with TL	D	32,500	30,875	10%	2332	7.55%	Yes
DeKalb Industrial Way between N Decatur Rd & SR 8	4L with TL	D	32,500	30,875	10%	2332	7.55%	Yes
SR 8 between DeKalb Industrial Way & Stone Mountain Hwy	6L with TL	D	48,900	48,900	10%	2332	4.77%	No
N Decatur Rd between DeKalb Industrial Way & Church St	4L with TL	D	32,500	30,875	10%	2332	7.55%	Yes
N Decatur Rd between Church St and SR 8	4L with TL	D	32,500	30,875	5%	1166	3.78%	No
Laredo Dr between E Ponce De Leon Ave & N Clarendon Ave	2L	D	14,900	11,920	10%	2332	19.56%	Yes
N Clarendon Ave between Laredo Dr & Rock Bridge Rd	2L	D	14,900	11,920	2%	466	3.91%	No
N Clarendon Ave between Laredo Dr & N Avondale Rd	2L	D	14,900	11,920	8%	1866	15.65%	Yes
N Clarendon Ave between N Avondale Rd & Fairfield Plaza	2L	D	14,900	11,920	3%	700	5.87%	No
N Avondale Rd between N Clarendon Rd & Memorial Dr	4L with TL	D	32,500	30,875	3%	700	2.27%	No
N Clarendon Ave between Laredo Dr & N Avondale Rd	4L with TL	D	32,500	30,875	6%	1399	4.53%	No

Based on Old Site Plan
553,545 SF Retail &
1,022,035 SF Warehouse

Total Intersections at 7% Rule: 26 Intersections

APPENDIX B

ARC Programmed Projects

Short Title	CLIFTON CORRIDOR HIGH CAPACITY RAIL SERVICE FROM EMORY UNIVERSITY TO AVONDALE MARTA STATION
GDOT Project No.	N/A
Federal ID No.	N/A
Status	Long Range
Service Type	Transit / Rail Capital
Sponsor	MARTA
Jurisdiction	Regional - Central
Analysis Level	In the Region's Air Quality Conformity Analysis
Existing Thru Lane	N/A
Planned Thru Lane	N/A



Network Year 2040

Corridor Length 2.8 miles

Detailed Description and Justification

This project will construct high capacity rail service along the Clifton Corridor from Emory University to the Avondale MARTA station. This project includes provisions for both heavy rail and light rail service to meet the complex travel patterns and needs within the service corridor as identified within the Clifton Corridor Transit Initiative □ Alternatives Analysis (AA). The combined services provide high capacity transit mobility options for residents and commuters traveling between Lindbergh Center, the Emory University Main Campus and Clairmont Campus and the Centers for Disease Control Roybal Campus. The DeKalb Medical Center, the City of Decatur and the MARTA Blue line will be served by a support network of feeder bus service. Further, the project will provide long distance travelers approaching the Clifton Corridor from points along the Gold line or Red line with rail service into the Emory/CDC complex, which serves the travel demand patterns as revealed by extensive ridership analysis. The alignment will include provisions for interlining with other regional light rail services at either end of the corridor for service into the Beltline Corridor as well as a connection with the Avondale Station (on MARTA Blue line) as recommended by the Clifton Corridor AA.

Phase Status & Funding Information		Status	FISCAL YEAR	TOTAL PHASE COST	BREAKDOWN OF TOTAL PHASE COST BY FUNDING SOURCE			
					FEDERAL	STATE	BONDS	LOCAL/PRIVATE
ALL	Local Jurisdiction/Municipality Funds		LR 2031-2040	\$120,000,000	\$0,000	\$0,000	\$0,000	\$120,000,000
				\$120,000,000	\$0,000	\$0,000	\$0,000	\$120,000,000

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



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



Short Title

UPGRADES TO APPROXIMATELY 40 SIGNALS IN DEKALB COUNTY

GDOT Project No.

0002669

Federal ID No.

STP-0002-00(669)

Status

Programmed

Service Type

Roadway / Operations & Safety

Sponsor

GDOT

Jurisdiction

DeKalb County

Analysis Level

Exempt from Air Quality Analysis (40 CFR 93)

Existing Thru Lane

N/A

Planned Thru Lane

N/A

Network Year

2016

Corridor Length

N/A miles



No Image Available

Detailed Description and Justification

The proposed project would consist of the upgrading of traffic signal equipment at forty (40) intersections in Dekalb County. This project would improve the overall efficiency and safety of traffic flow due to upgraded traffic signal displays and state of the art traffic signal control equipment, provide better signal coordination through fiber optic communications cable, and improve pedestrian safety with improved crosswalks, pedestrian signals and sidewalk ramps in compliance with the Americans with Disability Act (ADA). This project upgrades (and in some cases replaces) signals along the following corridors: Briarcliff Road, Chamblee-Tucker Road, Clairmont Road, Clifton Road, Columbia Drive, Covington Highway, LaVista Road, Peachtree Road, and Peachtree Industrial Boulevard.

Phase Status & Funding Information		Status	FISCAL YEAR	TOTAL PHASE COST	BREAKDOWN OF TOTAL PHASE COST BY FUNDING SOURCE			
					FEDERAL	STATE	BONDS	LOCAL/PRIVATE
PE	STP - Statewide Flexible (GDOT)	AUTH	2005	\$0,000	\$0,000	\$0,000	\$0,000	\$0,000
ROW	Local Jurisdiction/Municipality Funds	AUTH	2011	\$500,000	\$0,000	\$0,000	\$0,000	\$500,000
CST	STP - Statewide Flexible (GDOT)		2013	\$5,923,934	\$5,923,934	\$0,000	\$0,000	\$0,000
				\$6,423,934	\$5,923,934	\$0,000	\$0,000	\$500,000

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



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



Short Title

UPGRADES TO APPROXIMATELY 31 SIGNALS IN DEKALB COUNTY

GDOT Project No.

0006999

Federal ID No.

CSSTP-0006-00(999)

Status

Programmed

Service Type

Roadway / Operations & Safety

Sponsor

GDOT

Jurisdiction

DeKalb County

Analysis Level

Exempt from Air Quality Analysis (40 CFR 93)

Existing Thru Lane

N/A

Planned Thru Lane

N/A

Network Year

2016

Corridor Length

N/A miles



No Image Available

Detailed Description and Justification

This project upgrades (and in some cases replaces) signals along the following locations: Briarcliff Road at Johnson Road; Clifton Road; Briar Vista Terrace; Lavista Road; Sheridan Road; Clifton Road at North Decatur Road; Fishburn Drive; Emory University Hospital; Haygood Drive; Gatewood Road; Houston Mill Road; Emory Conference Center; Clifton Way; CDC Parkway; North Decatur Road at North Decatur Center Drive; Clairmont Road at North Decatur Road; Gables Apartment driveway; Williams Lane; Clairmont Lake; Southern Lane; Mason Mill Road; McConnell Drive; North Druid Hills Road; Lavista Road; North Decatur Road at Webster Drive; Church Street at Clairmont Oaks Apartment driveway; Glenlake Park driveway; Forkner Drive; Christian Towers Apartment; North Decatur Road

Phase Status & Funding Information	Status	FISCAL YEAR	TOTAL PHASE COST	BREAKDOWN OF TOTAL PHASE COST BY FUNDING SOURCE			
				FEDERAL	STATE	BONDS	LOCAL/PRIVATE
CST STP - Statewide Flexible (GDOT)		2015	\$5,011,616	\$5,011,616	\$0,000	\$0,000	\$0,000
			\$5,011,616	\$5,011,616	\$0,000	\$0,000	\$0,000

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



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



Short Title

NORTH MCDONOUGH ROAD BICYCLE AND PEDESTRIAN FACILITIES FROM COLLEGE AVENUE TO WEST TRINITY PLACE

GDOT Project No.

0010327

Federal ID No.

N/A

Status

Programmed

Service Type

Roadway / Capacity Reduction or Conversion

Sponsor

City of Decatur

Jurisdiction

DeKalb County

Analysis Level

In the Region's Air Quality Conformity Analysis

Existing Thru Lane

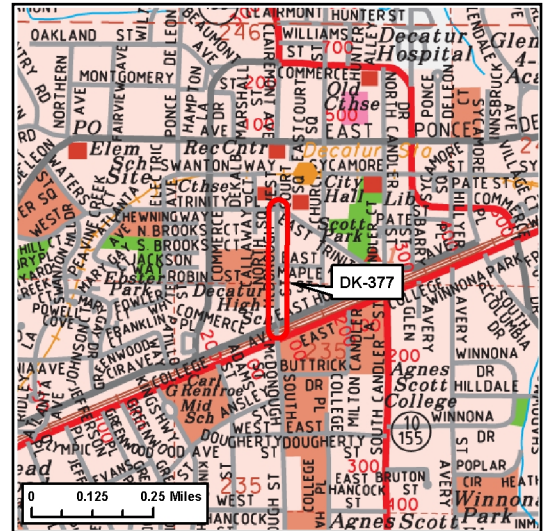
4

Planned Thru Lane

2

Detailed Description and Justification

Reducing number of through travel lanes from 4 to 2 along North McDonough Road from College Ave to West Trinity Place, and adding two-way bicycle track on west side of North McDonough, parallel parking and sidewalks on both sides of the street, landscaped buffers separating sidewalk, bike path and roadway, and mid-block crossings.



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Network Year

2016

Corridor Length

0.3 miles

Phase Status & Funding Information		Status	FISCAL YEAR	TOTAL PHASE COST	BREAKDOWN OF TOTAL PHASE COST BY FUNDING SOURCE			
					FEDERAL	STATE	BONDS	LOCAL/PRIVATE
PE	Local Jurisdiction/Municipality Funds	AUTH	2011	\$300,000	\$0,000	\$0,000	\$0,000	\$300,000
ROW	STP - Urban (>200K) (ARC)		2013	\$226,000	\$80,000	\$0,000	\$0,000	\$146,000
CST	STP - Urban (>200K) (ARC)		2014	\$1,669,834	\$1,335,867	\$0,000	\$0,000	\$333,967
				\$2,195,834	\$1,415,867	\$0,000	\$0,000	\$779,967

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



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



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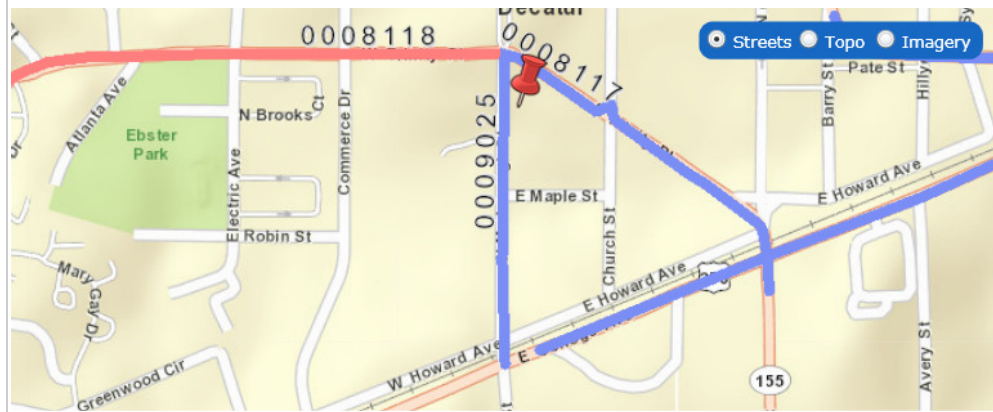
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CS 2097/N MCDONOUGH RD FM SR 10 TO CS 2094/W TRINITY PL-LCI

Project ID: 0010327
Project Manager: Darrell L. DeJean
Office: Program Delivery
County: DeKalb
Congressional District: 4, 5
State Senate District:
State House District:
Project Type: Enhancement
Project Status: Construction Work Program
Management Let Date:
Management ROW Date:
Notice to Proceed Date:
Current Completion Date:
Work Completion Date:
Construction Contract Amount:
Construction Contractor:
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PRECONSTRUCTION STATUS REPORT

PROJ ID	COUNTY	DESCRIPTION
0010327	DeKalb	CS 2097/N MCDONOUGH RD FM SR 10 TO CS 2094/W TRINITY PL-LCI

PROJ NO.:		SPONSOR :	Decatur
MPO TIP #:	DK-377	PROJ MGR:	DeJean, Darrell L.
MPO:	Atlanta TMA	DOT DIST:	7
PROJ LENGTH (MI)	0.20	CONG. DIST:	4, 5
PROGRAM TYPE:	Enhancement	House Dist :	
TYPE WORK:	Bicycle/Ped. Facility	Senate Dist :	
LET RESPONSIBILITY:	Local Let		
BIKE PROVISIONS INCLUDED?	N		

Phase	Fiscal Year Approved	Approved FY Estimate	Fund	Phase Status
Engineering	2011	\$ 300,000.00	LOC	AUTHORIZED
Right of Way	2013	\$ 226,000.00	L230	PRECST
Construction	2013	\$1,669,834.00	L230	PRECST
<i>*Inflation Included in Estimate</i>				

ACTIVITY	ACTUAL START	ACTUAL FINISH	PERCENT COMPLETE
Management Concept Approval Complete	12/13/2011	12/13/2011	100
Environmental Approval			0
Preliminary Plans			0
R/W Authorization			0
Final Design			0
FFPR Inspection			0

Right of Way Acquisition Information

Preliminary Parcel Count:	Total Parcel Count:	Acquired by:	LOC

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SR 155/CS 719 @ SR 10; CS 2097 @ SR 10 & @ CS 2025

Project ID: 0009025
Project Manager: Carleton Fisher
Office: Program Delivery
County: DeKalb
Congressional District: 4
State Senate District: 042
State House District: 083`085
Project Type: Enhancement
Project Status: Construction Work Program
Management Let Date:
Management ROW Date:
Notice to Proceed Date:
Current Completion Date:
Work Completion Date:
Construction Contract Amount:
Construction Contractor:
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PRECONSTRUCTION STATUS REPORT

PROJ ID	COUNTY	DESCRIPTION
0009025	DeKalb	SR 155/CS 719 @ SR 10; CS 2097 @ SR 10 & @ CS 2025

PROJ NO.: CSTEE-0009-00(025)
MPO TIP #:
MPO: Atlanta TMA
PROJ LENGTH (MI): 1.00
PROGRAM TYPE: Enhancement
TYPE WORK: TE-Bike/Ped Facility
LET RESPONSIBILITY: GDOT Let
BIKE PROVISIONS INCLUDED? N

SPONSOR : Decatur
PROJ MGR: Fisher, Carleton
DOT DIST: 7
CONG. DIST: 4
House Dist : **083, 085**
Senate Dist : 042

Phase	Fiscal Year Approved	Approved FY Estimate	Fund	Phase Status
Right of Way	LOCL	\$ 0.00	LOC	PRECST
Construction	LUMP	\$1,850,000.00	L220	PRECST
<i>*Inflation Included in Estimate</i>				

ACTIVITY	ACTUAL START	ACTUAL FINISH	PERCENT COMPLETE
Management Concept Approval Complete	8/26/2010	9/13/2010	100
Environmental Approval	9/15/2010	5/12/2011	100
Preliminary Plans			0
Final Design			0

Right of Way Acquisition Information

Preliminary Parcel Count: 8
 Total Parcel Count:
 Acquired by: LOC

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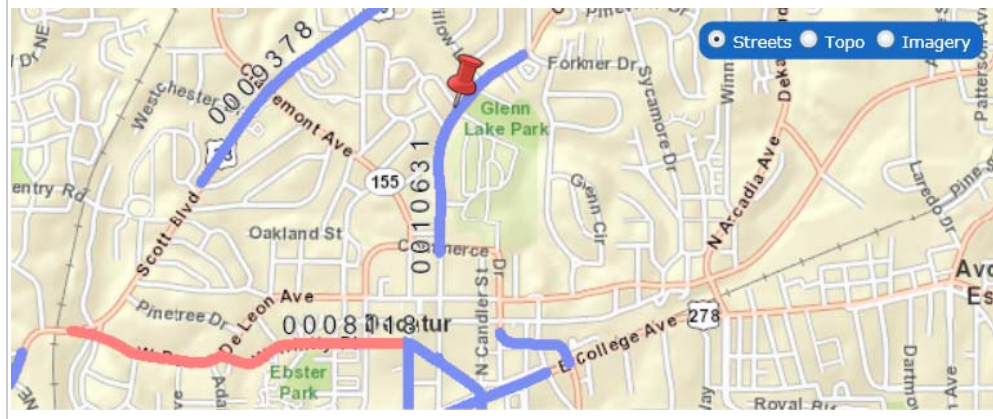
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SR 155 @ SR 10 & CR 5365 / CHURCH ST FM SR 155 TO FORKNER DR

Project ID: 0010631
Project Manager: Carleton Fisher
Office:
County: DeKalb
Congressional District: 4, 5
State Senate District:
State House District:
Project Type: Enhancement
Project Status: Construction Work Program
Management Let Date:
Management ROW Date:
Notice to Proceed Date:
Current Completion Date:
Work Completion Date:
Construction Contract Amount:
Construction Contractor:
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Clairmont Avenue and Commerce Drive Intersection & Church Street Bicycle Lanes: 1. SR 155/Clairmont Ave @ SR 10/Commerce Drive
2. CR 5365/Church Street from SR 155/Commerce Drive to CS 2113/Forkner Drive



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PRECONSTRUCTION STATUS REPORT

PROJ ID	COUNTY	DESCRIPTION
0010631	DeKalb	SR 155 @ SR 10 & CR 5365/CHURCH ST FM SR 155 TO FORKNER DR

Clairmont Avenue and Commerce Drive Intersection & Church Street Bicycle Lanes:

1. SR 155/Clairmont Ave @ SR 10/Commerce Drive
2. CR 5365/Church Street from SR 155/Commerce Drive to CS 2113/Forkner Drive

PROJ NO.:		SPONSOR :	Decatur
MPO TIP #:		PROJ MGR:	Fisher, Carleton
MPO:	Atlanta TMA	DOT DIST:	7
PROJ LENGTH (MI)	1.11	CONG. DIST:	4, 5
PROGRAM TYPE:	Enhancement	House Dist :	
TYPE WORK:	TE-Bike/Ped Facility	Senate Dist :	
LET RESPONSIBILITY:	Local Let		
BIKE PROVISIONS INCLUDED?	N		

Phase	Fiscal Year Approved	Approved FY Estimate	Fund	Phase Status
Right of Way	LOCL	\$ 0.00	LOC	PRECST
Construction	LUMP	\$1,125,000.00	L220	PRECST

**Inflation Included in Estimate*

ACTIVITY	ACTUAL START	ACTUAL FINISH	PERCENT COMPLETE

Right of Way Acquisition Information

Preliminary Parcel Count:

Total Parcel Count:

Acquired by:

LOC

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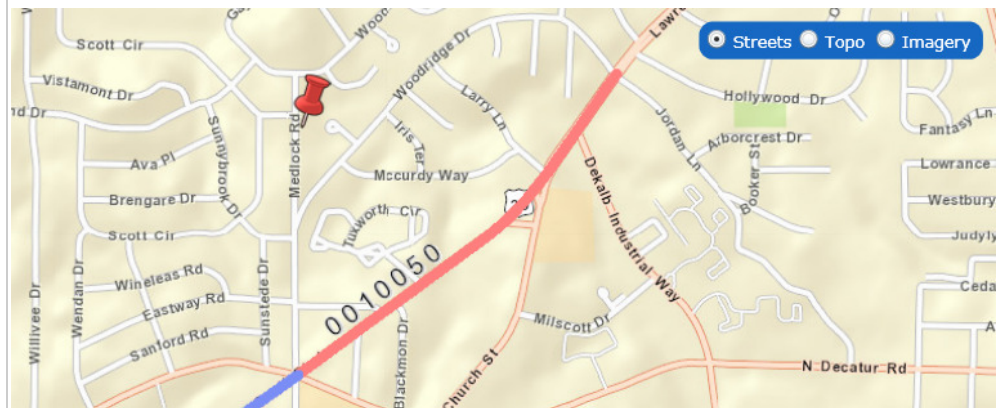
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SR 8 @ BLACKMON DR & @ LARRY LN- EMERGENCY PROJ - DEKALB-2

Project ID: **0010050**
Project Manager: Cale Durrence
Office: Maintenance
County: DeKalb
Congressional District: 5
State Senate District: 042
State House District: 083` 085
Project Type: Maintenance
Project Status: Under Construction
Management Let Date:
Management ROW Date:
Notice to Proceed Date:
Current Completion Date:
Work Completion Date:
Construction Contract Amount:
Construction Contractor:
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PRECONSTRUCTION STATUS REPORT

PROJ ID	COUNTY	DESCRIPTION
0010050	DeKalb	SR 8 @ BLACKMON DR & @ LARRY LN- EMERGENCY PROJ - DEKALB-2

PROJ NO.:
MPO TIP #:
MPO: Atlanta TMA
PROJ LENGTH (MI): 0.80
PROGRAM TYPE: Maintenance
TYPE WORK: Emergency Repairs
LET RESPONSIBILITY: Not a Let Project
BIKE PROVISIONS INCLUDED? N

SPONSOR : GDOT
PROJ MGR: Durrence, Cale
DOT DIST: 7
CONG. DIST: 5
House Dist :
Senate Dist :

Phase	Fiscal Year Approved	Approved FY Estimate	Fund	Phase Status
Construction	2011	\$ 33,744.00	ER60S	AUTHORIZED
<i>*Inflation Included in Estimate</i>				

ACTIVITY	ACTUAL START	ACTUAL FINISH	PERCENT COMPLETE
Environmental Approval	8/12/2010	9/23/2010	100

Right of Way Acquisition Information

Preliminary Parcel Count:

Total Parcel Count:

Acquired by:

N/R

APPENDIX C

Traffic Data Sheets

TMC Data
E Ponce de Leon Ave @ Laredo Dr/
Farmers Market Drwy
4pm - 6 pm

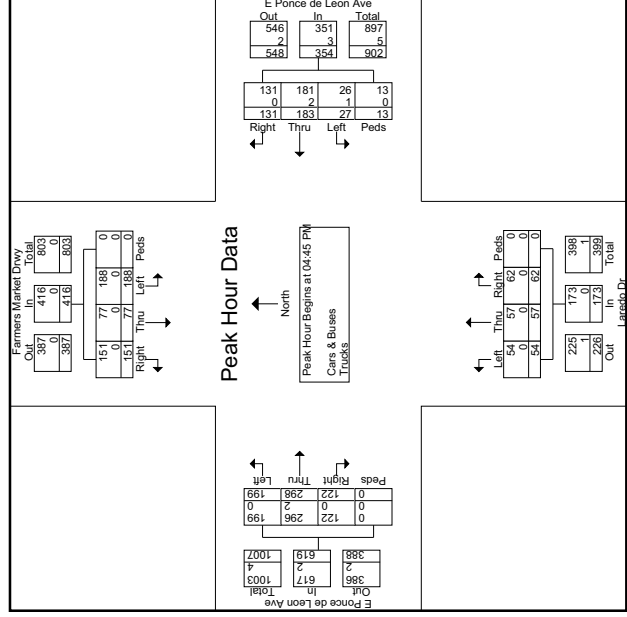
File Name : 32180001
Site Code : 32180001
Start Date : 5/10/2012
Page No : 1

Grouped Printed: Cars & Buses - Trucks													
Laredo Dr				Farmers Market Drwy				E Ponce de Leon Ave				Westbound	
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Left	Thru	Right	Left	Thru	Right
04:00 PM	14	11	13	48	19	47	0	114	57	16	0	130	11
04:15 PM	23	18	17	58	54	22	36	0	112	32	57	25	0
04:30 PM	16	10	17	43	43	24	59	0	106	42	69	27	0
04:45 PM	14	8	16	38	18	36	0	102	42	73	27	0	0
Total	67	47	63	178	193	83	138	0	434	193	256	95	0
05:00 PM	7	14	22	42	14	35	0	91	49	72	39	0	160
05:15 PM	19	18	12	49	41	28	37	0	106	37	77	32	0
05:30 PM	14	17	12	43	57	17	43	0	117	51	76	24	0
05:45 PM	14	18	8	40	38	19	38	0	95	41	67	24	0
Total	54	67	54	175	178	78	153	0	409	178	292	119	0
Grand Total	121	114	117	353	371	161	311	0	843	371	548	214	0
Approch %	34.3	32.3	33.1	0.3	44	19.1	36.9	0	27.3	32.7	48.4	18.9	0
Total %	3.9	3.7	3.8	0	11.4	12	5.2	10.1	0	12.7	6.9	3.67	0
Cars & Buses	121	114	117	353	371	161	311	0	843	371	544	214	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0

TMC Data
E Ponce de Leon Ave @ Laredo Dr/
Farmers Market Drwy
4pm - 6 pm

File Name : 32180001
Site Code : 32180001
Start Date : 5/10/2012
Page No : 2

Laredo Dr				Farmers Market Drwy				E Ponce de Leon Ave				Westbound	
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Left	Thru	Right	Left	Thru	Right
04:00 PM	14	11	13	48	19	47	0	114	57	16	0	130	11
04:15 PM	23	18	17	58	54	22	36	0	112	32	57	25	0
04:30 PM	16	10	17	43	43	24	59	0	106	42	69	27	0
04:45 PM	14	8	16	38	18	36	0	102	42	73	27	0	0
Total	67	47	63	178	193	83	138	0	434	193	256	95	0
05:00 PM	7	14	22	42	14	35	0	91	49	72	39	0	160
05:15 PM	19	18	12	49	41	28	37	0	106	37	77	32	0
05:30 PM	14	17	12	43	57	17	43	0	117	51	76	24	0
05:45 PM	14	18	8	40	38	19	38	0	95	41	67	24	0
Total	54	67	54	175	178	78	153	0	409	178	292	119	0
Grand Total	121	114	117	353	371	161	311	0	843	371	548	214	0
Approch %	34.3	32.3	33.1	0.3	44	19.1	36.9	0	27.3	32.7	48.4	18.9	0
Total %	3.9	3.7	3.8	0	11.4	12	5.2	10.1	0	12.7	6.9	3.67	0
Cars & Buses	121	114	117	353	371	161	311	0	843	371	544	214	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0



Reliable Traffic Data Services, LLC

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info@reliabletraffic.org | www.reliabletraffic.org

TMC Data
E Ponce de Leon Ave @ Laredo Dr/
Farmers Market Drwy
2pm - 4pm Sat

File Name : 32180001
Site Code : 32180001
Start Date : 5/19/2012
Page No : 1

Group Printed: Cars & Buses - Trucks

Start Time	Laredo Dr Northbound			Farmers Market Drwy Southbound			E Ponce de Leon Ave Eastbound			E Ponce de Leon Ave Westbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
02:00 PM	21	26	8	0	55	79	37	74	0	190	93	37
02:15 PM	19	24	10	0	53	78	40	77	0	195	88	42
02:30 PM	15	27	9	0	51	88	38	81	0	207	83	47
02:45 PM	17	30	16	1	52	90	41	86	0	210	84	49
Total	72	107	43	1	225	335	156	318	0	809	345	157
03:00 PM	18	37	18	0	73	91	32	81	0	204	85	46
03:15 PM	14	28	15	0	57	96	57	75	0	228	82	49
03:30 PM	16	38	9	0	63	80	54	85	0	219	87	43
03:45 PM	12	29	14	0	55	71	38	78	0	187	67	40
Total	60	132	56	0	248	338	181	319	0	838	321	178
Grand Total	132	239	99	1	473	673	337	637	0	1647	666	335
Apprch %	28	50.7	21	0.2	40.9	20.5	38.7	0	37.2	58.1	29.2	12.6
Total %	3	5.4	2.2	0	10.7	15.2	7.6	14.4	0	25.9	1.9	8.5
Cars & Buses	132	239	99	1	471	673	337	637	0	1647	666	335
Trucks	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0

1173	591	583	1174	591	583	1173	591	583	1174	591	583	1173
Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
1173	591	583	1174	591	583	1173	591	583	1174	591	583	1173
Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out

Reliable Traffic Data Services, LLC

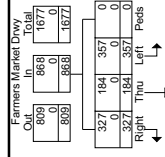
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TMC Data
E Ponce de Leon Ave @ Laredo Dr/
Farmers Market Drwy
2pm - 4pm Sat

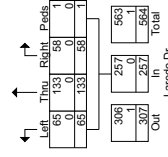
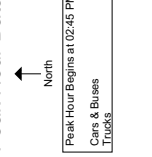
File Name : 32180001
Site Code : 32180001
Start Date : 5/19/2012
Page No : 2

Start Time	Laredo Dr Northbound			Farmers Market Drwy Southbound			E Ponce de Leon Ave Eastbound			E Ponce de Leon Ave Westbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
02:00 PM	17	30	16	1	64	90	41	86	0	217	81	41
02:15 PM	18	37	18	0	73	91	32	81	0	204	85	46
02:30 PM	14	28	15	0	57	96	57	75	0	228	82	49
02:45 PM	16	38	9	0	63	80	54	85	0	219	87	43
Total	65	133	58	1	257	357	184	327	0	868	335	179
% Appr. Total	25.3	51.8	22.6	0.4	41.1	21.2	37.7	0	56.7	30.3	12.9	0.2
PHF	.901	.875	.806	.250	.880	.940	.807	.951	.000	.952	.963	.913
Cars & Buses	65	133	58	1	257	357	184	327	0	868	335	179
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0

1173	591	583	1174	591	583	1173	591	583	1174	591	583	1173
Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
1173	591	583	1174	591	583	1173	591	583	1174	591	583	1173
Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out



Peak Hour Data

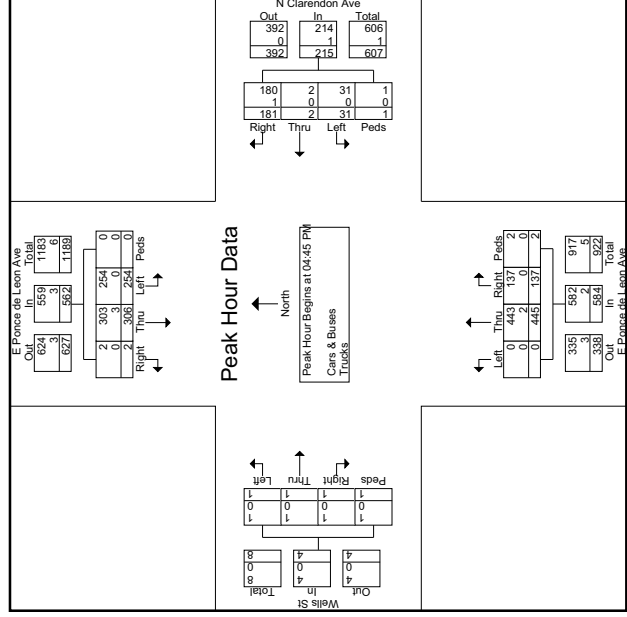


TMC Data
E Ponce de Leon Ave @ N Clarendon Ave/
Wells St
4pm - 6pm
File Name : 32180002
Site Code : 32180002
Start Date : 5/15/2012
Page No : 1

Start Time	E Ponce de Leon Ave										Wells St										N Clarendon Ave									
	Northbound					Southbound					Eastbound					Westbound					Westbound					Westbound				
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total
04:00 PM	0	97	28	0	125	57	88	0	0	145	0	0	0	0	0	6	0	35	0	41	311									
04:15 PM	0	103	30	0	133	61	84	0	0	145	0	1	0	1	2	8	0	38	0	46	326									
04:30 PM	0	108	33	1	142	58	73	0	0	131	0	0	0	0	0	5	0	41	0	46	319									
04:45 PM	0	119	38	0	157	64	76	0	0	140	0	0	0	0	0	7	0	45	0	52	325									
Total	0	427	129	1	557	240	321	0	0	561	0	1	0	1	2	26	0	159	0	185	1305									
05:00 PM	0	116	31	1	148	67	79	0	0	146	1	0	0	0	1	5	2	51	0	58	353									
05:15 PM	0	106	33	0	139	63	67	2	0	132	0	0	1	1	1	7	0	40	1	57	329									
05:30 PM	0	104	35	1	140	60	84	0	0	144	0	1	1	0	2	12	0	36	0	48	334									
05:45 PM	1	96	38	3	138	57	80	0	0	137	0	0	0	0	0	6	2	33	0	41	316									
Total	1	422	137	5	565	247	310	2	0	559	1	1	1	1	4	30	4	169	1	204	1332									
Grand Total	1	849	266	6	1122	487	631	2	0	1120	1	2	1	2	6	56	4	328	1	389	2637									
Appreh %	0.1	75.7	23.7	0.5		43.5	56.3	0.2	0		16.7	33.3	16.7	33.3		14.4	1	84.3	0.3											
Total %	0	32.2	10.1	0.2	42.5	18.5	23.9	0.1	0	42.5	0	0.1	0	0.1	0.2	2.1	0.2	12.4	0	14.8										
Cars & Buses	1	846	266	6	1119	487	627	2	0	1116	1	2	1	2	6	56	4	326	1	387	2628									
Trucks	0	3	0	0	3	0	4	0	0	4	0	0	0	0	0	0	0	0	0	2	9									
% Trucks	0	0.4	0	0	0.3	0	0.6	0	0	0.4	0	0	0	0	0	0	0	0	0.6	0	0.5									

TMC Data
E Ponce de Leon Ave @ N Clarendon Ave/
Wells St
4pm - 6pm
File Name : 32180002
Site Code : 32180002
Start Date : 5/15/2012
Page No : 2

Start Time	E Ponce de Leon Ave										Wells St										N Clarendon Ave									
	Northbound					Southbound					Eastbound					Westbound					Westbound					Westbound				
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. 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	119	38	0	157	64	76	0	0	140	0	0	0	0	0	7	0	45	0	52	349									
05:00 PM	0	116	31	1	148	67	79	0	0	146	1	0	0	0	1	5	2	51	0	58	353									
05:15 PM	0	106	33	0	139	63	67	2	0	132	0	0	0	0	1	7	0	49	1	57	329									
05:30 PM	0	104	35	1	140	60	84	0	0	144	0	1	1	0	2	12	0	36	0	48	334									
05:45 PM	0	445	137	2	584	254	306	2	0	562	1	1	1	1	4	31	2	181	1	215	1365									
Total Volume	0	76.2	23.5	0.3	45.2	54.4	0.4	0		25.2	25	25	25	25		14.4	0.9	84.2	0.5											
% App. Total	0	23.5	90.1	50.0	930	948	911	250	0.00	962	250	250	250	250	500	646	250	887	250	927	967									
Cars & Buses	0	443	137	2	582	254	303	2	0	559	1	1	1	1	4	31	2	180	1	214	1359									
% Cars & Buses	0	99.6	99.6	99.6	99.6	99.6	99.6	99.6	0.0	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6									
Trucks	0	2	0	0	2	0	3	0	0	3	0	0	0	0	0	0	0	0	0	1	6									
% Trucks	0	0.4	0	0	0.3	0	1.0	0	0	0.5	0	0	0	0	0	0	0	0	0	0.5	0									



TMC Data
E Ponce de Leon Ave @ N Clarendon Ave/
Wells St
2pm - 4pm Sat

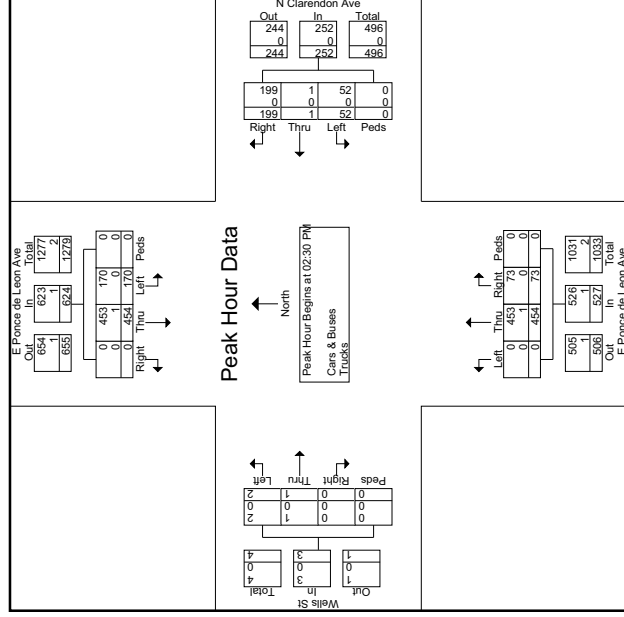
File Name : 32180002
Site Code : 32180002
Start Date : 5/19/2012
Page No : 1

Start Time	E Ponce de Leon Ave										Wells St										N Clarendon Ave									
	Northbound					Southbound					Eastbound					Westbound					Westbound									
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total					
02:00 PM	0	107	20	0	127	39	117	0	0	156	0	0	0	0	0	10	0	37	0	47	330	0	0	0	0	0				
02:15 PM	0	110	16	0	126	43	126	0	0	169	0	2	0	0	2	9	0	50	0	59	356	0	0	0	0	0				
02:30 PM	0	113	17	0	130	41	112	0	0	153	1	1	0	0	2	12	1	55	0	68	353	0	0	0	0	0				
02:45 PM	0	117	16	0	133	40	109	0	0	149	0	0	0	0	0	13	0	51	0	64	347	0	0	0	0	0				
Total	0	447	69	0	516	163	464	0	0	627	2	3	0	0	5	44	1	193	0	238	1386	0	0	0	0	0				
03:00 PM	0	114	19	0	133	42	114	0	0	156	0	0	0	0	0	12	0	45	0	57	346	0	0	0	0	0				
03:15 PM	0	110	21	0	131	47	119	0	0	166	0	0	0	0	0	15	0	48	0	63	360	0	0	0	0	0				
03:30 PM	0	107	25	0	132	45	116	0	0	161	0	1	0	0	1	12	0	45	0	57	351	0	0	0	0	0				
03:45 PM	0	113	23	0	136	41	113	1	0	155	0	1	0	0	1	10	0	42	0	52	344	0	0	0	0	0				
Total	0	444	88	0	532	175	462	1	0	638	0	1	1	0	2	49	0	180	0	229	1401	0	0	0	0	0				
Grand Total	0	891	157	0	1048	338	926	1	0	1265	2	4	1	0	7	93	1	373	0	467	2787	0	0	0	0	0				
Appreh %	0	85	15	0	26.7	73.2	0.1	0	0	28.6	57.1	14.3	0	0	0.3	3.3	0.2	79.9	0	46	16.8	0	0	0	0	0				
Cars & Buses	0	888	157	0	1045	338	925	1	0	1264	2	4	1	0	7	93	1	373	0	467	2783	0	0	0	0	0				
% Trucks	0	3	0	0	3	0	1	0	0	1	0	0	0	0	0	0	0	0	0	4	0.1	0	0	0	0	0				

TMC Data
E Ponce de Leon Ave @ N Clarendon Ave/
Wells St
2pm - 4pm Sat

File Name : 32180002
Site Code : 32180002
Start Date : 5/19/2012
Page No : 2

Start Time	E Ponce de Leon Ave					E Ponce de Leon Ave					Wells St					N Clarendon Ave					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 02:30 PM																					
02:30 PM	0	113	17	0	130	41	112	0	0	153	1	1	0	0	2	12	1	55	0	68	353
02:45 PM	0	117	16	0	133	40	109	0	0	149	1	0	0	0	1	13	0	51	0	64	347
03:00 PM	0	114	19	0	133	42	114	0	0	156	0	0	0	0	0	12	0	45	0	57	346
03:15 PM	0	110	21	0	131	47	119	0	0	166	2	0	0	0	0	15	0	48	0	63	360
Total Volume	0	454	73	0	527	170	454	0	0	624	4	2	0	0	3	52	1	199	0	252	1406
% App. Total	0	86.1	13.9	0	27.2	72.8	0	0	0	66.7	33.3	0	0	0	0	20.6	0.4	79	0	97.6	1484
PHF	.001	.270	.869	.000	.991	.904	.954	.000	.000	.940	.500	.250	.000	.000	.375	.867	.250	.905	.000	.926	.976
Cars & Buses	0	453	73	0	526	170	453	0	0	623	2	1	0	0	3	52	1	199	0	252	1484
% Trucks	0	99.8	0	0	1	0	99.8	0	0	1	0	0	0	0	0	0	0	0	0	0	2
% Trucks	0	0.2	0	0	0.2	0	0.2	0	0	0.2	0	0	0	0	0	0	0	0	0	0	0.1



TMC Data
E Ponce de Leon Ave @ Dekalb Indl Way
4pm - 6pm

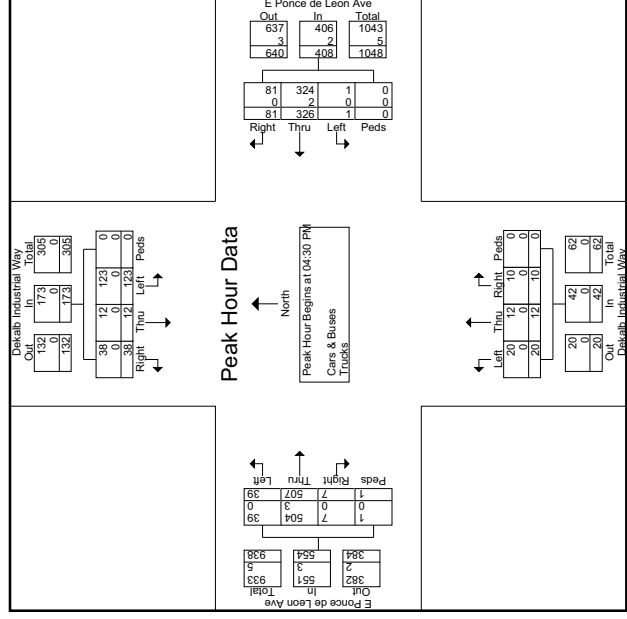
File Name : 32180003
Site Code : 32180003
Start Date : 5/10/2012
Page No : 1

Groups Pinned- Cars & Buses - Trucks																					
Dekalb Industrial Way Northbound					Dekalb Industrial Way Southbound					E Ponce de Leon Ave Eastbound					E Ponce de Leon Ave Westbound						
Start Time	Left	Thru	Right	Pkcs	App. Total	Left	Thru	Right	Pkcs	App. Total	Left	Thru	Right	Pkcs	App. Total	Left	Thru	Right	Pkcs	App. Total	
04:00 PM	3	3	2	0	8	32	2	6	0	40	11	107	4	0	122	0	104	25	0	129	299
04:15 PM	3	1	2	0	6	26	2	6	0	34	8	103	1	0	112	4	85	29	0	118	270
04:30 PM	9	6	4	0	19	39	4	10	0	53	14	123	1	0	138	1	84	26	0	111	301
04:45 PM	4	2	2	0	8	37	2	15	0	54	9	120	2	0	131	0	80	13	0	93	286
Total	19	12	10	0	41	114	10	37	0	161	42	453	8	0	503	5	353	93	0	451	1156
05:00 PM	5	2	0	0	7	37	1	7	0	45	5	134	4	0	143	0	84	20	0	104	299
05:15 PM	2	2	4	0	8	30	5	6	0	41	11	130	0	1	142	0	78	22	0	100	291
05:30 PM	1	1	2	0	4	24	1	4	0	29	6	132	0	0	138	1	104	20	0	125	296
05:45 PM	1	1	2	0	4	26	1	12	0	39	9	107	3	1	120	1	75	25	1	102	265
Total	9	6	8	0	23	117	8	29	0	154	31	503	7	2	543	2	341	87	1	431	1151
Grand Total	28	18	18	0	64	231	18	66	0	315	73	956	15	2	1046	7	694	180	1	882	2307
Apprch %	43.8	28.1	28.1	0		73.3	5.7	21	0		7	91.4	1.4	0.2		0.8	78.7	20.4	0.1		
Total %	1.2	0.8	0.8	0		2.8	10	0.8	2.9	0		13.7	3.2	41.4	0.7	4.53	30.1	7.8	0	38.2	
Cars & Buses	28	18	18	0		64	231	18	66	0		315	73	953	15	2	1043	180	1	878	2300
% Trucks	0	0	0	0		0	0	0	0	0		0	3	0	0	0	0	0	0	0.3	
Trucks	0	0	0	0		0	0	0	0	0		0	0	0	0	0	0	0	0	4	
% Trucks	0	0	0	0		0	0	0	0	0		0	0	0	0	0	0	0	0	0.5	

TMC Data
E Ponce de Leon Ave @ Dekalb Indl Way
4pm - 6pm

File Name : 32180003
Site Code : 32180003
Start Date : 5/10/2012
Page No : 2

Dekalb Industrial Way Northbound					Dekalb Industrial Way Southbound					E Ponce de Leon Ave Eastbound					E Ponce de Leon Ave Westbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total			
Peak Hour Analysis From 04:00 PM to 05:45 PM (Peak 1 of 1)																			
Peak Hour for Entire Intersection Begins at 04:30 PM																			
04:30 PM	9	6	4	19	19	4	10	33	14	123	1	0	138	1	84	26	0	111	301
04:45 PM	4	2	2	8	37	2	15	54	9	120	2	0	131	0	80	13	0	93	286
05:00 PM	5	2	0	7	37	1	7	45	5	134	4	0	143	0	84	20	0	104	299
05:15 PM	2	2	4	8	30	5	6	41	11	130	0	1	142	0	78	22	0	100	291
Total Volume	20	12	10	42	123	12	38	173	39	507	7	1	554	1	326	81	0	408	1177
% App. Total	47.6	28.6	23.8	0	71.1	6.9	22	0	7	91.5	1.3	0.2	0.2	79.9	19.9	0			
PHF	.550	.500	.625	.000	.553	.831	.600	.633	.000	.501	.696	.946	.438	.250	.960	.250	.970	.779	.000
Cars & Buses	20	12	10	42	123	12	38	173	39	504	7	1	551	1	324	81	0	406	1172
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

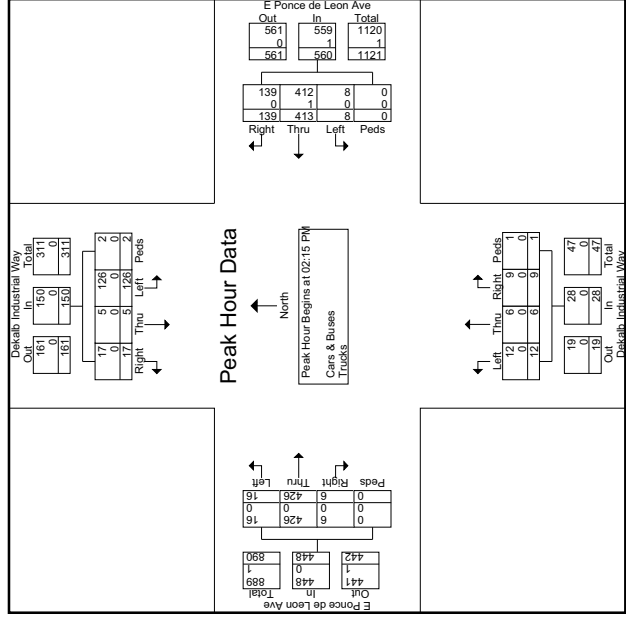


TMC Data
E Ponce de Leon Ave @ Dekalb Indl Way
2pm - 4pm Sat
File Name : 32180003
Site Code : 32180003
Start Date : 5/26/2012
Page No : 1

Group Pinned- Cars & Buses - Trucks															
Dekalb Industrial Way				Dekalb Industrial Way				E Ponce de Leon Ave				E Ponce de Leon Ave			
Northbound				Southbound				Eastbound				Westbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
02:00 PM	6	6	4	0	16	28	1	1	0	30	3	97	0	100	3
02:15 PM	3	2	1	8	37	3	3	0	43	5	105	2	0	112	3
02:30 PM	2	1	3	0	6	31	0	6	2	39	4	112	1	0	117
02:45 PM	5	2	1	3	0	8	28	1	4	0	33	4	106	0	110
Total	16	11	10	1	38	124	5	14	2	145	16	420	3	0	439
03:00 PM				03:00 PM				03:00 PM				03:00 PM			
03:15 PM	2	1	3	0	6	30	1	4	0	35	3	103	3	0	109
03:30 PM	3	0	1	0	4	34	0	3	1	38	5	98	1	0	104
03:45 PM	1	1	0	3	31	1	2	1	35	3	101	1	0	105	1
Total	7	4	8	1	20	128	3	11	2	144	13	401	7	2	423
Grand Total	23	15	18	2	58	252	8	25	4	289	29	821	10	2	862
Approach	39.7	25.9	31	3.4	87.2	2.8	8.7	1.4	3.4	95.2	1.2	0.2	1.3	74	24.5
Total %	1	0.6	0.8	0.1	2.5	10.9	0.3	1.1	0.2	12.5	1.3	35.6	0.4	0.1	37.3
Cars & Buses	23	15	18	2	58	252	8	25	4	289	29	821	10	2	862
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.1

TMC Data
E Ponce de Leon Ave @ Dekalb Indl Way
2pm - 4pm Sat
File Name : 32180003
Site Code : 32180003
Start Date : 5/26/2012
Page No : 2

Dekalb Industrial Way				Dekalb Industrial Way				E Ponce de Leon Ave				E Ponce de Leon Ave			
Northbound				Southbound				Eastbound				Westbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
02:15 PM	3	2	2	1	8	37	3	0	43	5	105	2	0	112	0
02:30 PM	2	1	3	0	6	31	0	6	2	39	4	112	1	0	117
02:45 PM	5	2	1	3	0	8	28	1	4	0	33	4	106	0	110
03:00 PM	2	1	3	0	6	30	1	4	0	35	3	103	3	0	109
Total Volume	12	6	9	1	28	126	5	17	2	150	16	426	6	0	448
% App. Total	49.2	21.4	32.1	3.6	84	3.3	11.3	1.3	3.6	95.1	1.3	0	1.4	73.8	24.8
PHF	.600	.750	.750	.250	.875	.851	.417	.708	.250	.872	.800	.951	.500	.000	.957
Cars & Buses	12	6	9	1	28	126	5	17	2	150	16	426	6	0	448
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.1



TMC Data
E Ponce de Leon Ave @ N Arcadia Ave/
Sams Crossing
4pm - 6pm

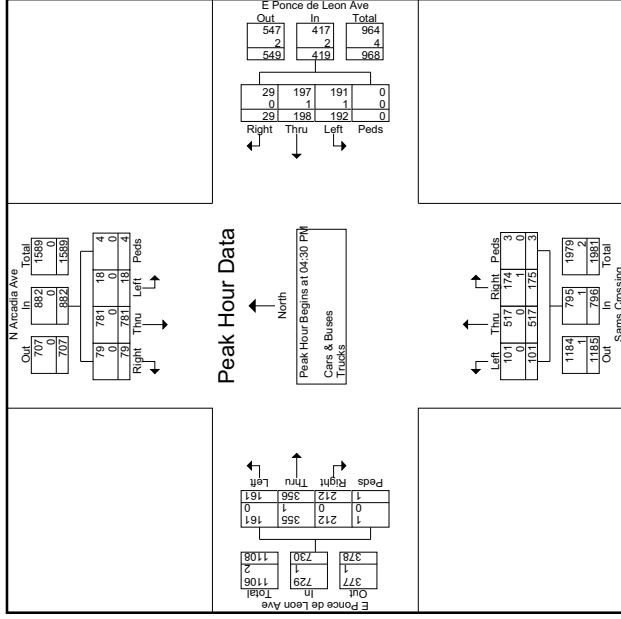
File Name : 32180004
Site Code : 32180004
Start Date : 5/15/2012
Page No : 1

Groups Printed: Cars & Buses - Trucks																	
Start Time	Sams Crossing Northbound				N Arcadia Ave Southbound				E Ponce de Leon Ave Eastbound				E Ponce de Leon Ave Westbound				
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
04:00 PM	20	128	33	0	3	158	16	0	177	31	77	46	0	154	37	44	3
04:15 PM	24	132	45	0	4	174	19	0	197	35	80	49	0	164	43	48	4
04:30 PM	27	135	55	0	6	186	16	1	209	37	83	52	0	172	47	50	8
04:45 PM	23	123	43	1	4	190	4	206	19	2	31	86	50	1	173	51	53
Total	94	518	176	1	789	17	724	70	3	814	139	326	197	1	663	178	195
05:00 PM	29	127	40	0	5	197	23	0	225	45	96	61	0	202	48	47	5
05:15 PM	22	132	37	2	3	192	21	1	217	43	91	49	0	183	46	48	6
05:30 PM	25	128	35	0	3	188	5	174	23	0	202	36	78	51	0	165	51
05:45 PM	22	125	48	0	2	158	18	0	178	32	75	55	0	162	34	37	4
Total	98	512	160	2	772	15	721	85	1	822	156	340	216	0	712	179	188
Grand Total	192	1030	336	3	1561	32	1445	155	4	1636	295	666	413	1	1375	357	47
Apprch %	3.6	66	21.5	0.2	22.3	88.3	9.5	0.2	21.5	48.4	30	0.1	45.8	48.1	6	0.1	6.1
Total %	3.6	19.2	6.3	0.1	29.2	0.6	27	2.9	0.1	30.6	5.5	12.4	7.7	0	25.7	6.7	9.9
Cars & Buses	192	1030	335	3	1560	32	1445	155	4	1636	295	665	413	1	1374	355	34
% Cars & Buses	100	100	99.7	100	99.9	100	100	100	100	100	99.8	100	99.9	99.4	99.7	100	99.6
Trucks	0	0	1	0	1	0	0	0	0	0	1	0	0	1	2	1	0
% Trucks	0	0	0.3	0	0.1	0	0	0	0	0	0.2	0	0	0.1	0.6	0.3	0.1

TMC Data
E Ponce de Leon Ave @ N Arcadia Ave/
Sams Crossing
4pm - 6pm

File Name : 32180004
Site Code : 32180004
Start Date : 5/15/2012
Page No : 2

Start Time	Sams Crossing Northbound				N Arcadia Ave Southbound				E Ponce de Leon Ave Eastbound				E Ponce de Leon Ave Westbound			
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																
Peak Hour for Entire Intersection Begins at 04:30 PM																
04:30 PM	27	135	55	0	217	6	186	16	1	209	37	83	52	0	172	47
04:45 PM	23	123	43	1	190	4	206	19	2	231	36	86	50	1	173	51
05:00 PM	29	127	40	0	196	5	197	23	0	225	45	96	61	0	202	48
05:15 PM	22	132	37	2	193	3	192	21	1	217	43	91	49	0	183	46
Total Volume	101	517	175	3	796	18	781	79	4	882	161	356	212	1	730	192
% App. Total	12.7	64.9	22	0.4	2	28.5	9	0.5	22.1	48.8	29	0.1	45.8	47.3	6.9	0
PHF	.871	.957	.795	.375	.917	.750	.948	.859	.500	.955	.894	.927	.869	.250	.903	.941
Cars & Buses	101	517	174	3	795	18	781	79	4	882	161	355	212	1	729	191
% Cars & Buses	100	99.4	99.4	99.4	99.7	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4
% Trucks	0	0	1	0	1	0	0	0	0	1	0	0	0	1	0	0

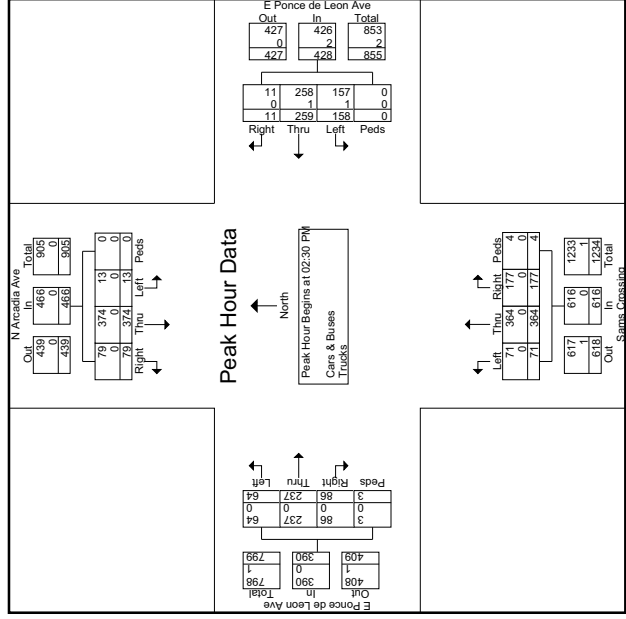


TMC Data
E Ponce de Leon Ave @ N Arcadia Ave/
Sams Crossing
2pm - 4pm Sat
File Name : 32180004
Site Code : 32180004
Start Date : 5/26/2012
Page No : 1

Start Time	Sams Crossing										N Arcadia Ave										E Ponce de Leon Ave									
	Northbound					Southbound					Eastbound					Westbound					Sams Crossing					N Arcadia Ave				
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total
02:00 PM	13	82	43	1	139	3	84	17	0	104	13	49	18	0	80	37	54	2	0	93	416	0	0	0	0	0	0	0	0	0
02:15 PM	16	87	45	2	150	5	87	16	0	108	15	52	20	1	88	41	57	2	0	100	446	0	0	0	0	0	0	0	0	0
02:30 PM	13	93	31	0	137	6	91	19	0	110	14	58	21	1	94	44	68	4	0	116	483	0	0	0	0	0	0	0	0	0
02:45 PM	19	90	27	1	137	1	94	21	0	116	16	55	24	0	96	40	61	2	0	103	471	0	0	0	0	0	0	0	0	0
Total	61	352	186	4	603	15	356	73	0	444	58	214	83	2	357	162	240	10	0	412	1816	0	0	0	0	0	0	0	0	0
03:00 PM	17	93	41	2	153	0	101	23	0	124	18	61	25	1	105	38	68	2	0	108	490	0	0	0	0	0	0	0	0	0
03:15 PM	22	88	38	1	149	6	88	16	0	110	16	63	16	1	96	36	62	3	0	101	456	0	0	0	0	0	0	0	0	0
03:30 PM	12	82	36	0	130	5	83	24	0	112	23	58	13	2	96	41	59	5	0	105	443	0	0	0	0	0	0	0	0	0
03:45 PM	15	76	33	1	125	8	63	15	0	86	15	52	11	0	78	38	55	2	0	95	384	0	0	0	0	0	0	0	0	0
Total	66	339	148	4	557	19	335	78	0	432	72	234	65	4	375	153	244	12	0	409	1773	0	0	0	0	0	0	0	0	0
Grand Total	127	691	334	8	1160	34	691	151	0	876	130	448	148	6	732	315	484	22	0	821	3589	0	0	0	0	0	0	0	0	0
Appreh %	10.9	59.6	28.8	0.7		3.9	78.9	17.2	0		17.8	61.2	20.2	0.8		38.4	59	2.7	0											
Total %	3.5	19.3	9.3	0.2	32.3	0.9	19.3	4.2	0	24.4	3.6	12.5	4.1	0.2	20.4	8.8	13.5	0.6	0											
Cars & Buses	127	691	334	8	1160	34	691	151	0	876	130	448	148	6	732	314	483	22	0	819	3587	0	0	0	0	0	0	0	0	0
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2										
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0.2	0	0	0.2										

TMC Data
E Ponce de Leon Ave @ N Arcadia Ave/
Sams Crossing
2pm - 4pm Sat
File Name : 32180004
Site Code : 32180004
Start Date : 5/26/2012
Page No : 2

Start Time	Sams Crossing										N Arcadia Ave										E Ponce de Leon Ave									
	Northbound					Southbound					Eastbound					Westbound					Sams Crossing					N Arcadia Ave				
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total
Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1	Peak Hour for Entire Intersection Begins at 02:30 PM																													
02:30 PM	13	93	51	0	157	6	91	19	0	116	14	58	21	1	94	44	68	4	0	116	483	0	0	0	0	0	0	0	0	0
02:45 PM	19	90	47	1	157	1	94	21	0	116	16	55	24	0	95	40	61	2	0	103	471	0	0	0	0	0	0	0	0	0
03:00 PM	17	93	41	2	153	0	101	23	0	124	18	61	25	1	105	38	68	2	0	108	490	0	0	0	0	0	0	0	0	0
03:15 PM	22	88	38	1	149	6	88	16	0	110	16	63	16	1	96	36	62	3	0	101	456	0	0	0	0	0	0	0	0	0
Total Volume	71	364	177	4	616	13	374	79	0	466	64	237	86	3	390	158	259	11	0	428	1900	0	0	0	0	0	0	0	0	0
% App. Total	11.5	59.1	28.7	0.6		2.8	60.3	17	0		16.4	60.8	22.1	0.8		36.9	60.5	2.6	0											
PHF	307	278	368	500	981	542	526	859	000	940	889	940	860	750	929	898	952	688	000	922	960	0	0	0	0	0	0	0	0	0
Cars & Buses	71	364	177	4	616	13	374	79	0	466	64	237	86	3	390	157	258	11	0	426	1898	0	0	0	0	0	0	0	0	0
% Cars & Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	99.4	99.6	1	0	0	99.4	99.6	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6	0.4	0	0	0.6	0.4	0	0	0	0	0	0	0	0	0



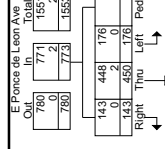
TMC Data
E Ponce de Leon Ave @ N Decatur Rd
4pm - 6pm
File Name : 32180005
Site Code : 32180005
Start Date : 5/16/2012
Page No : 1

Start Time	E Ponce de Leon Ave						N Decatur Rd					
	Northbound			Southbound			Eastbound			Westbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
04:00 PM	7	123	15	42	114	21	178	28	173	16	0	217
04:15 PM	8	127	19	155	48	117	24	191	31	183	19	1
04:30 PM	12	132	14	4	162	55	110	4	197	34	189	11
04:45 PM	13	138	20	0	173	52	106	54	0	195	38	203
Total	42	520	68	6	656	175	446	133	7	761	131	748
05:00 PM	12	144	15	4	175	49	112	24	0	185	41	221
05:15 PM	9	131	21	0	161	39	119	31	0	189	28	222
05:30 PM	13	120	20	1	154	56	114	34	0	204	35	194
05:45 PM	10	104	17	1	132	19	102	27	0	148	23	168
Total	44	499	73	6	622	163	447	116	0	726	127	805
Grand Total	86	1019	141	12	1258	338	893	249	7	1487	258	1553
Apprch %	6.8	81	11.2	1	22.7	60.1	16.7	0.5	13.4	80.7	5.9	0.1
Total %	1.5	17.8	2.5	0.2	22	5.9	15.6	4.4	0.1	26	4.5	27.1
Cars & Buses	86	1019	140	12	1257	337	891	249	7	1484	257	1552
% Cars & Buses	100	100	99.3	100	99.9	99.7	99.8	100	99.8	99.6	99.9	100
Trucks	0	0	1	1	2	0	0	0	0	3	1	1
% Trucks	0	0	0.7	0	0.1	0.3	0.2	0	0	0.2	0.4	0.1

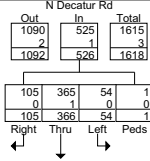
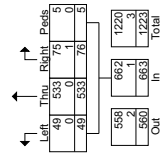
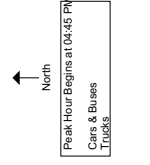
TMC Data
E Ponce de Leon Ave @ N Decatur Rd
4pm - 6pm
File Name : 32180005
Site Code : 32180005
Start Date : 5/16/2012
Page No : 2

Start Time	E Ponce de Leon Ave						N Decatur Rd					
	Northbound			Southbound			Eastbound			Westbound		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
04:00 PM	15	138	20	0	173	32	105	4	195	38	203	14
04:15 PM	12	144	15	4	175	49	112	24	0	185	41	221
04:30 PM	9	131	21	0	161	39	119	31	0	189	28	222
04:45 PM	13	120	20	1	154	56	114	34	0	204	35	194
Total	49	533	76	5	663	176	450	143	4	773	142	840
% Appr. Total	7.4	80.4	11.5	0.8	22.8	58.2	18.5	0.5	13.7	80.9	5.4	0
PHF	.817	.925	.905	.313	.947	.786	.945	.662	.250	.947	.866	.946
Cars & Buses	49	533	75	5	662	176	448	143	4	771	142	839
% Cars & Buses	100	100	99.6	100	99.8	99.5	99.5	99.4	100	99.9	99.4	100
Trucks	0	0	1	0	1	0	0	0	0	0	1	0
% Trucks	0	0	1.3	0	0.2	0	0.4	0	0	0	0.1	0

Peak Hour for Entire Intersection Begins at 04:45 PM



Peak Hour Data

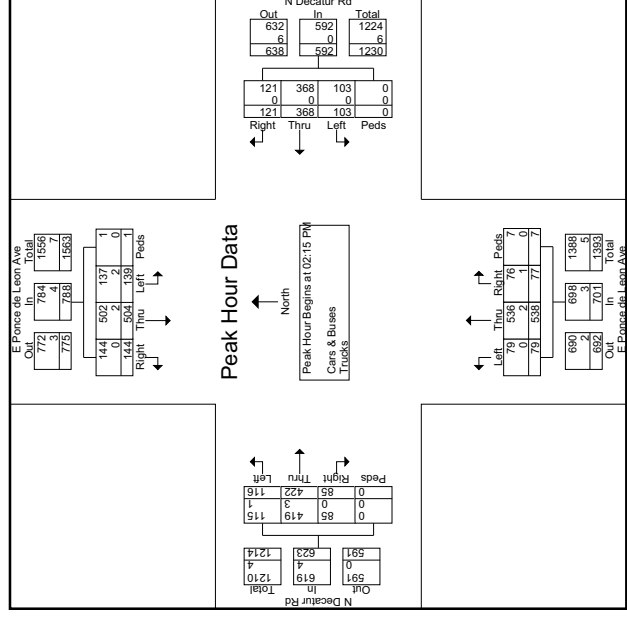


TMC Data
E Ponce de Leon Ave @ N Decatur Rd
2pm - 4pm Sat
File Name : 32180005
Site Code : 32180005
Start Date : 5/19/2012
Page No : 1

Start Time	E Ponce de Leon Ave										N Decatur Rd									
	Northbound					Southbound					Eastbound					Westbound				
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total
02:00 PM	13	122	15	0	150	36	118	37	0	191	26	78	17	0	121	24	77	27	0	128
02:15 PM	17	140	21	0	178	34	128	44	0	206	31	105	19	0	155	27	82	30	0	139
02:30 PM	20	142	22	3	187	33	122	32	0	187	32	102	21	0	155	25	97	28	0	150
02:45 PM	19	134	14	3	170	32	129	39	1	201	28	104	22	0	154	23	96	27	0	146
03:00 PM	18	122	20	1	166	30	103	25	0	155	25	97	28	0	155	25	97	28	0	150
03:15 PM	19	134	14	3	170	32	129	39	1	201	28	104	22	0	154	23	96	27	0	146
03:30 PM	20	142	22	3	187	33	122	32	0	187	32	102	21	0	155	25	97	28	0	150
03:45 PM	19	134	14	3	170	32	129	39	1	201	28	104	22	0	154	23	96	27	0	146
Total	73	526	78	4	681	145	495	142	0	778	114	396	80	0	590	104	349	121	0	574
03:00 PM	19	134	14	3	170	32	129	39	1	201	28	104	22	0	154	23	96	27	0	146
03:15 PM	23	136	21	0	180	38	127	30	1	196	27	101	21	0	149	26	78	32	0	136
03:30 PM	20	126	17	4	167	40	124	39	0	203	25	111	20	0	156	29	78	35	0	142
03:45 PM	18	122	20	1	161	41	118	38	0	197	30	103	18	0	151	23	85	23	0	131
Total	80	518	72	8	678	151	498	146	2	797	110	419	81	0	610	101	337	117	0	555
Grand Total	153	1044	150	12	1359	294	991	288	2	1575	224	815	161	0	1200	205	686	238	0	1129
Appreh %	11.3	76.8	11	0.9	18.7	62.9	18.3	0.1	18.7	67.9	13.4	0	18.2	60.8	21.1	0	18.2	60.8	21.1	0
Total %	2.9	19.8	2.9	0.2	25.8	5.6	18.8	5.5	0	29.9	4.3	15.5	3.1	0	22.8	3.9	13	4.5	0	21.5
Cars & Buses	153	1044	149	12	1355	292	987	288	2	1569	223	811	161	0	1195	205	684	238	0	1127
% Cars & Buses	100	99.7	99.3	100	99.7	99.3	99.6	100	100	99.6	99.6	99.5	100	0	99.6	100	99.7	100	0	99.8
Trucks	0	3	1	0	4	2	4	0	0	6	1	4	0	0	5	0	2	0	0	2
% Trucks	0	0.3	0.7	0	0.3	0.7	0.4	0	0	0.4	0.4	0.5	0	0	0.4	0	0.3	0	0	0.2

TMC Data
E Ponce de Leon Ave @ N Decatur Rd
2pm - 4pm Sat
File Name : 32180005
Site Code : 32180005
Start Date : 5/19/2012
Page No : 2

Start Time	E Ponce de Leon Ave Northbound					E Ponce de Leon Ave Southbound					N Decatur Rd Eastbound					N Decatur Rd Westbound				
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total
02:00 PM	13	122	15	0	150	36	118	37	0	191	26	78	17	0	121	24	77	27	0	128
02:15 PM	17	140	21	0	178	34	128	44	0	206	31	105	19	0	155	27	82	30	0	139
02:30 PM	20	142	22	3	187	33	122	32	0	187	32	102	21	0	155	25	97	28	0	150
02:45 PM	19	134	14	3	170	32	129	39	1	201	28	104	22	0	154	23	96	27	0	146
03:00 PM	18	122	20	1	166	30	103	25	0	155	25	97	28	0	155	25	97	28	0	150
03:15 PM	19	134	14	3	170	32	129	39	1	201	28	104	22	0	154	23	96	27	0	146
03:30 PM	20	142	22	3	187	33	122	32	0	187	32	102	21	0	155	25	97	28	0	150
03:45 PM	19	134	14	3	170	32	129	39	1	201	28	104	22	0	154	23	96	27	0	146
Total	73	526	78	4	681	145	495	142	0	778	114	396	80	0	590	104	349	121	0	574
03:00 PM	19	134	14	3	170	32	129	39	1	201	28	104	22	0	154	23	96	27	0	146
03:15 PM	23	136	21	0	180	38	127	30	1	196	27	101	21	0	149	26	78	32	0	136
03:30 PM	20	126	17	4	167	40	124	39	0	203	25	111	20	0	156	29	78	35	0	142
03:45 PM	18	122	20	1	161	41	118	38	0	197	30	103	18	0	151	23	85	23	0	131
Total	80	518	72	8	678	151	498	146	2	797	110	419	81	0	610	101	337	117	0	555
Grand Total	153	1044	150	12	1359	294	991	288	2	1575	224	815	161	0	1200	205	686	238	0	1129
Appreh %	11.3	76.8	11	0.9	18.7	62.9	18.3	0.1	18.7	67.9	13.4	0	18.2	60.8	21.1	0	18.2	60.8	21.1	0
Total %	2.9	19.8	2.9	0.2	25.8	5.6	18.8	5.5	0	29.9	4.3	15.5	3.1	0	22.8	3.9	13	4.5	0	21.5
Cars & Buses	153	1044	149	12	1355	292	987	288	2	1569	223	811	161	0	1195	205	684	238	0	1127
% Cars & Buses	100	99.7	99.3	100	99.7	99.3	99.6	100	100	99.6	99.6	99.5	100	0	99.6	100	99.7	100	0	99.8
Trucks	0	3	1	0	4	2	4	0	0	6	1	4	0	0	5	0	2	0	0	2
% Trucks	0	0.3	0.7	0	0.3	0.7	0.4	0	0	0.4	0.4	0.5	0	0	0.4	0	0.3	0	0	0.2



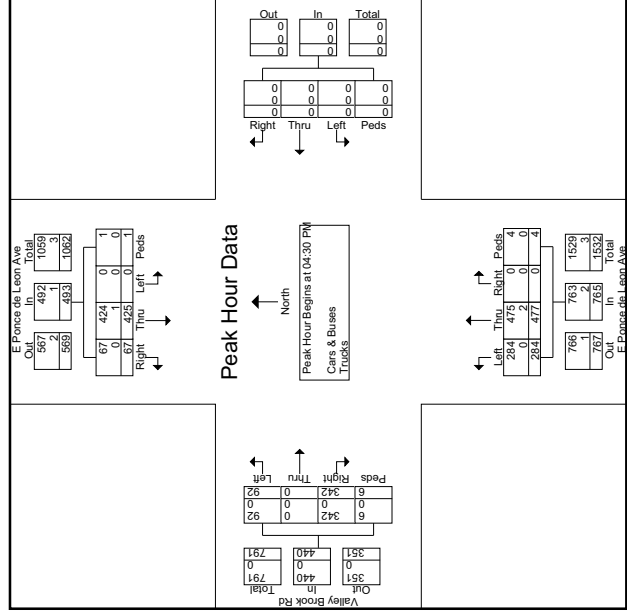
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TMC Data
E Ponce de Leon Ave @ Valley Brook Rd
4pm - 6pm

Group Private- Cars & Buses - Trucks															
E Ponce de Leon Ave				E Ponce de Leon Ave				Valley Brook Rd							
Northbound				Southbound				Eastbound				Westbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
04:00 PM	69	125	0	195	0	88	16	0	104	29	0	74	4	107	0
04:15 PM	65	128	0	193	0	94	12	0	106	21	0	77	2	100	0
04:30 PM	68	124	0	2	194	0	96	12	1	109	27	0	84	3	114
04:45 PM	71	117	0	2	190	0	108	22	0	130	21	0	90	1	112
Total	273	494	1	4	772	0	386	62	1	449	98	0	325	10	433
05:00 PM	82	120	0	202	0	103	14	0	117	20	0	82	2	104	0
05:15 PM	63	116	0	179	0	118	19	0	137	24	0	86	0	110	0
05:30 PM	64	119	0	183	0	96	23	0	89	23	0	70	4	97	0
05:45 PM	72	113	0	185	0	94	19	1	114	23	0	73	0	96	0
Total	281	468	0	0	749	0	381	75	1	457	90	0	311	6	407
Grand Total	554	962	1	4	1521	0	767	137	2	906	188	0	636	16	840
Apprel %	34.4	63.2	0.1	0.3	24.4	0	84.7	15.1	0.2	22.4	0	75.7	1.2	25.4	0
Total %	29.4	50.4	0.01	46.6	0	25.4	45.1	0.2	27.7	38	0	19.5	0.3	28.7	0
Cars & Buses	554	960	1	4	1519	0	764	135	2	903	180	0	630	16	840
Trucks	0	2	0	0	2	0	3	0	0	0	0	0	0	0	0
% Trucks	0	0.2	0	0.1	0	0.4	0	0	0.3	0	0	0	0	0	0
% Trucks	0	0.2	0	0.1	0	0.4	0	0	0.3	0	0	0	0	0	0

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TMC Data
E Ponce de Leon Ave @ Valley Brook Rd
4pm - 6pm

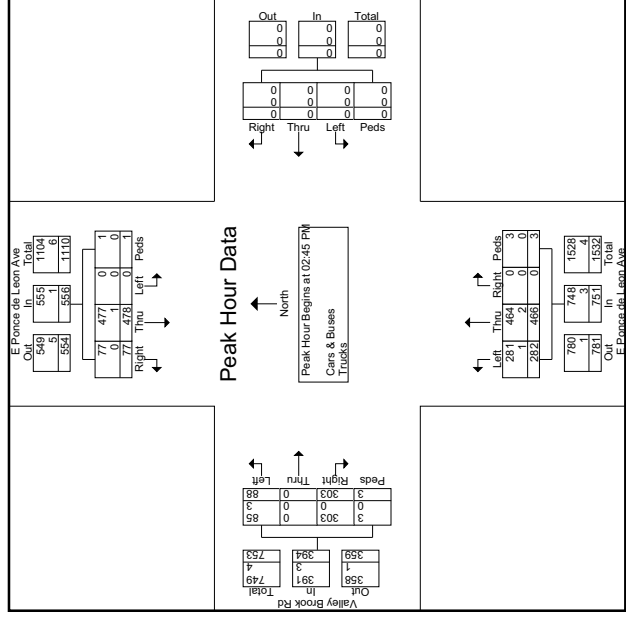
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TMC Data
E Ponce de Leon Ave @ Valley Brook Rd
2pm - 4pm Sat
File Name : 32180006
Site Code : 32180006
Start Date : 5/19/2012
Page No : 1

Start Time	E Ponce de Leon Ave												Valley Brook Rd											
	Northbound						Southbound						Eastbound						Westbound					
	Left	Thru	Right	Peak	Appr. %	App. Total	Left	Thru	Right	Peak	Appr. %	App. Total	Left	Thru	Right	Peak	Appr. %	App. Total	Left	Thru	Right	Peak	Appr. %	App. Total
02:00 PM	67	103	0	0	170	0	113	22	0	135	0	79	0	79	0	95	0	0	0	0	0	0	0	400
02:15 PM	67	107	0	0	174	0	115	22	0	137	0	78	0	78	0	94	0	0	0	0	0	0	0	405
02:30 PM	68	118	0	0	186	0	118	17	0	135	0	70	1	71	0	85	0	0	0	0	0	0	0	406
02:45 PM	72	123	0	1	196	0	121	20	0	141	0	66	0	66	0	88	0	0	0	0	0	0	0	425
Total	274	451	0	1	726	0	467	81	0	548	0	293	1	294	0	362	0	0	0	0	0	0	0	1165
03:00 PM	62	119	0	2	183	0	124	18	0	142	0	82	2	84	0	107	0	0	0	0	0	0	0	432
03:15 PM	70	116	0	0	186	0	115	20	0	135	0	82	0	82	0	106	0	0	0	0	0	0	0	427
03:30 PM	78	108	0	0	186	0	118	19	1	138	0	73	1	74	0	93	0	0	0	0	0	0	0	417
03:45 PM	56	102	0	1	159	0	113	16	0	129	0	71	0	71	0	88	0	0	0	0	0	0	0	376
Total	266	445	0	3	714	0	470	73	1	544	0	308	3	311	0	394	0	0	0	0	0	0	0	1652
Grand Total	540	896	0	4	1440	0	937	154	1	1092	0	601	4	756	0	0	0	0	0	0	0	0	0	3288
Apprch. %	37.5	62.2	0	0.3	16.4	27.3	0	85.8	14.1	0.1	20	0	79.5	0.5	18.3	0.1	23	0	0	0	0	0	0	0
Total %	16.4	27.3	0	0.1	43.8	0	28.5	4.7	0	33.2	4.6	0	18.3	0.1	23	0	0	0	0	0	0	0	0	0
Cars & Buses	539	893	0	4	1436	0	936	154	1	1091	0	600	4	750	0	0	0	0	0	0	0	0	0	3277
% Trucks	1	3	0	0	4	0	1	0	0	1	5	0	1	0	6	0	0	0	0	0	0	0	0	11
% Trucks	0.2	0.3	0	0	0.3	0	0.1	0	0	0.1	3.3	0	0.2	0	0.8	0	0	0	0	0	0	0	0	0.3

TMC Data
E Ponce de Leon Ave @ Valley Brook Rd
2pm - 4pm Sat
File Name : 32180006
Site Code : 32180006
Start Date : 5/19/2012
Page No : 2

Start Time	E Ponce de Leon Ave						Southbound						Valley Brook Rd						Westbound					
	Northbound						Southbound						Eastbound						Westbound					
	Left	Thru	Right	Peak	Appr. %	App. Total	Left	Thru	Right	Peak	Appr. %	App. Total	Left	Thru	Right	Peak	Appr. %	App. Total	Left	Thru	Right	Peak	Appr. %	App. Total
02:00 PM	67	103	0	0	170	0	113	22	0	135	0	79	0	79	0	95	0	0	0	0	0	0	0	400
02:15 PM	67	107	0	0	174	0	115	22	0	137	0	78	0	78	0	94	0	0	0	0	0	0	0	405
02:30 PM	68	118	0	0	186	0	118	17	0	135	0	70	1	71	0	85	0	0	0	0	0	0	0	406
02:45 PM	72	123	0	1	196	0	121	20	0	141	0	66	0	66	0	88	0	0	0	0	0	0	0	425
03:00 PM	62	119	0	2	183	0	124	18	0	142	0	82	2	84	0	107	0	0	0	0	0	0	0	432
03:15 PM	70	116	0	0	186	0	115	20	0	135	0	82	0	82	0	106	0	0	0	0	0	0	0	427
03:30 PM	78	108	0	0	186	0	118	19	1	138	0	73	1	74	0	93	0	0	0	0	0	0	0	417
03:45 PM	56	102	0	1	159	0	113	16	0	129	0	71	0	71	0	88	0	0	0	0	0	0	0	376
Total	266	445	0	3	714	0	470	73	1	544	0	308	3	311	0	394	0	0	0	0	0	0	0	1652
Grand Total	540	896	0	4	1440	0	937	154	1	1092	0	601	4	756	0	0	0	0	0	0	0	0	0	3288
Apprch. %	37.5	62.2	0	0.3	16.4	27.3	0	85.8	14.1	0.1	20	0	79.5	0.5	18.3	0.1	23	0	0	0	0	0	0	0
Total %	16.4	27.3	0	0.1	43.8	0	28.5	4.7	0	33.2	4.6	0	18.3	0.1	23	0	0	0	0	0	0	0	0	0
Cars & Buses	539	893	0	4	1436	0	936	154	1	1091	0	600	4	750	0	0	0	0	0	0	0	0	0	3277
% Trucks	1	3	0	0	4	0	1	0	0	1	5	0	1	0	6	0	0	0	0	0	0	0	0	11
% Trucks	0.2	0.3	0	0	0.3	0	0.1	0	0	0.1	3.3	0	0.2	0	0.8	0	0	0	0	0	0	0	0	0.3

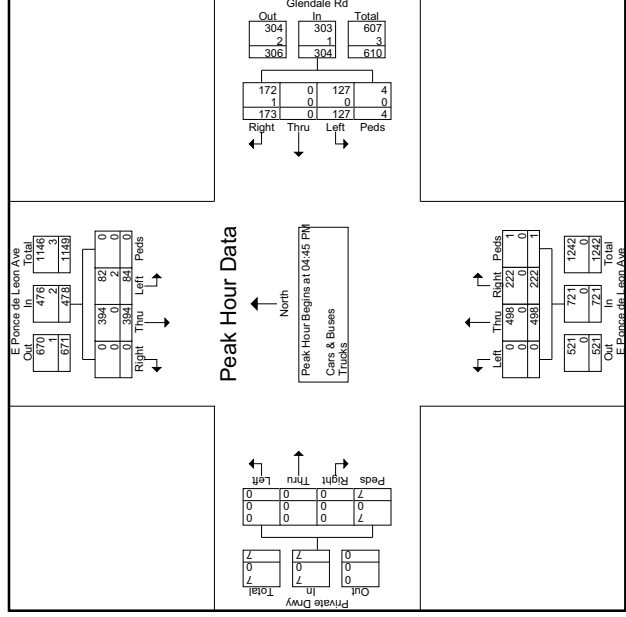


TMC Data
E Ponce de Leon Ave @ Glendale Rd
4pm - 6pm
File Name : 32180007
Site Code : 32180007
Start Date : 5/10/2012
Page No : 1

Start Time	E Ponce de Leon Ave										Private Drwy										Glendale Rd									
	Northbound					Southbound					Eastbound					Westbound					Eastbound					Westbound				
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total
04:00 PM	0	105	34	1	140	22	95	0	0	117	0	0	0	0	0	29	0	24	0	53	310	0	0	0	0	0	0	0	0	0
04:15 PM	0	115	37	1	153	23	97	0	0	120	0	0	0	1	1	31	0	33	0	64	338	0	0	0	0	0	0	0	0	0
04:30 PM	0	126	48	0	174	18	97	0	1	116	0	0	0	0	0	32	0	35	0	60	350	0	0	0	0	0	0	0	0	0
04:45 PM	0	123	52	0	175	23	95	0	0	118	0	0	0	0	0	35	0	39	0	74	383	0	0	0	0	0	0	0	0	0
Total	0	469	171	2	642	88	394	0	1	483	0	0	0	5	5	120	0	131	0	251	1381	0	0	0	0	0	0	0	0	0
05:00 PM	0	134	65	0	199	17	93	0	0	110	0	0	2	2	2	29	0	59	4	92	403	0	0	0	0	0	0	0	0	0
05:15 PM	0	123	60	0	183	19	97	0	0	116	0	0	0	0	0	32	0	40	0	72	371	0	0	0	0	0	0	0	0	0
05:30 PM	0	118	45	1	164	23	99	0	0	122	0	0	1	1	1	31	0	35	0	66	353	0	0	0	0	0	0	0	0	0
05:45 PM	0	113	59	4	176	20	84	0	0	104	0	0	2	2	2	29	0	28	1	58	340	0	0	0	0	0	0	0	0	0
Total	0	488	229	5	722	79	373	0	0	452	0	0	5	5	5	121	0	162	5	288	1467	0	0	0	0	0	0	0	0	0
Grand Total	0	957	400	7	1364	167	767	0	1	935	0	0	10	10	10	241	0	293	5	539	2848	0	0	0	0	0	0	0	0	0
Appreh %	0	70.2	29.3	0.5	17.9	82	0	0.1			0	0	0	0	100	44.7	0	54.4	0.9			0	0	0	0	0	0	0	0	0
Total %	0	33.6	14	0.2	47.9	5.9	26.9	0	0	32.8	0	0	0	0	0.4	8.5	0	10.3	0.2	18.9										
Cars & Buses	0	955	400	7	1362	163	766	0	1	930	0	0	0	10	10	241	0	291	5	537	2839	0	0	0	0	0	0	0	0	0
% Trucks	0	2	0	0	2	4	1	0	0	0.5	0	0	0	0	0	0	0	2	0	2	9	0	0	0	0	0	0	0	0	0

TMC Data
E Ponce de Leon Ave @ Glendale Rd
4pm - 6pm
File Name : 32180007
Site Code : 32180007
Start Date : 5/10/2012
Page No : 2

Start Time	E Ponce de Leon Ave										Private Drwy										Glendale Rd									
	Northbound					Southbound					Eastbound					Westbound					Eastbound					Westbound				
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. 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	123	52	0	175	25	105	0	0	130	0	0	0	0	4	35	0	39	0	74	383	0	0	0	0	0	0	0	0	0
05:00 PM	0	134	65	0	199	17	93	0	0	110	0	0	0	0	2	29	0	59	4	92	403	0	0	0	0	0	0	0	0	0
05:15 PM	0	123	60	0	183	19	97	0	0	116	0	0	0	0	0	32	0	40	0	72	371	0	0	0	0	0	0	0	0	0
05:30 PM	0	118	45	1	164	23	99	0	0	122	0	0	0	0	1	31	0	35	0	66	353	0	0	0	0	0	0	0	0	0
05:45 PM	0	498	222	1	721	84	394	0	0	478	0	0	0	7	7	127	0	173	4	304	1510	0	0	0	0	0	0	0	0	0
Total Volume	0	691	318.8	0.1	1776.8	222	105	0	0	130	0	0	0	100	100	418	0	569	13	937	4387	0	0	0	0	0	0	0	0	0
% App. Total	0	69.1	31.8	0.1	177.6	22.2	10.5	0	0	13.0	0	0	0	10.0	10.0	41.8	0	56.9	1.3	93.7	438.7	0	0	0	0	0	0	0	0	0
Cars & Buses	0	498	222	1	721	82	394	0	0	476	0	0	0	7	7	127	0	172	4	303	1507	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0.3	0.2	0	0	0	0	0	0	0	0	0



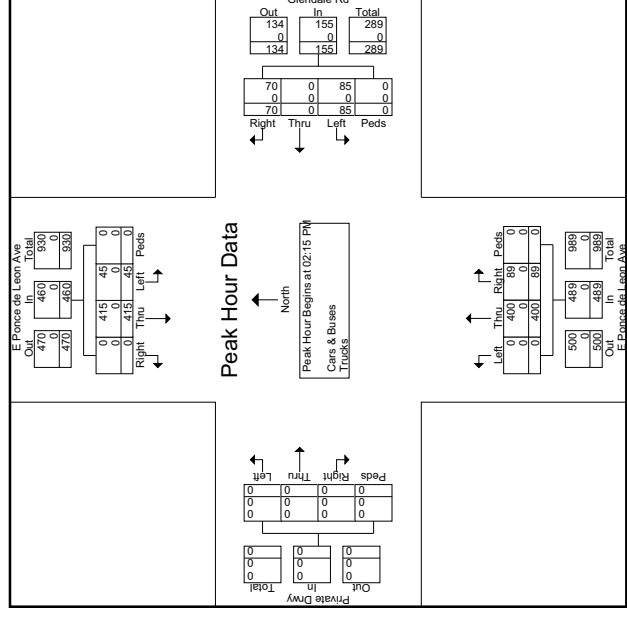
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TMC Data
E Ponce de Leon Ave @ Glendale Rd
File Name : 32180007
Site Code : 32180007
Start Date : 5/19/2012
Page No : 1
2pm - 4pm Sat

[illegible]

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TMC Data
E Ponce de Leon Ave @ Glendale Rd
2pm - 4pm Sat

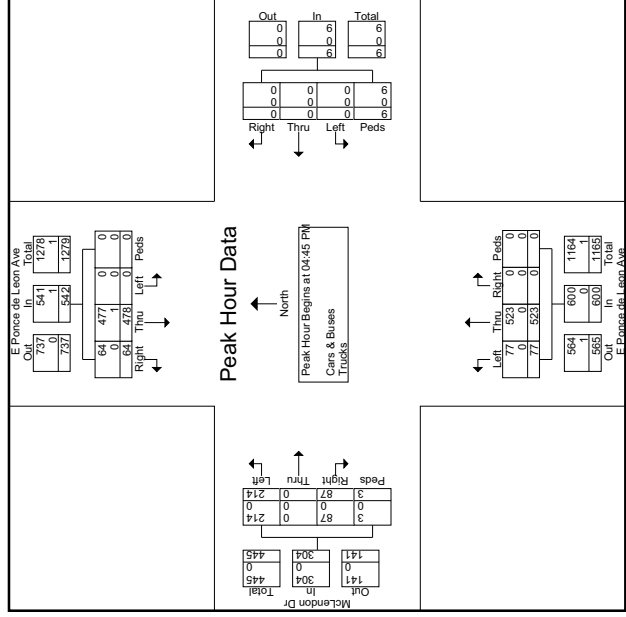
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TMC Data
E Ponce de Leon Ave @ McLendon Dr
4pm - 6pm
File Name : 32180008
Site Code : 32180008
Start Date : 5/10/2012
Page No : 1

Group: Pinned- Cars & Buses - Trucks															
E Ponce de Leon Ave				E Ponce de Leon Ave				McLendon Dr				Westbound			
Northbound		Southbound		Northbound		Southbound		Eastbound		Westbound		Eastbound		Westbound	
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total
04:00 PM	12	113	0	0	125	0	111	13	0	124	28	0	11	0	39
04:15 PM	15	125	0	0	138	0	116	16	0	132	31	0	14	2	47
04:30 PM	14	120	0	0	134	0	124	13	0	137	34	0	17	1	52
04:45 PM	17	127	0	0	144	0	130	11	0	141	47	0	28	0	75
Total	58	483	0	0	541	0	481	53	0	534	140	0	68	4	212
05:00 PM	18	155	0	0	173	0	113	15	0	128	59	0	22	1	82
05:15 PM	20	131	0	0	151	0	119	20	0	139	59	0	18	0	77
05:30 PM	22	110	0	0	132	0	116	18	0	134	49	0	21	1	71
05:45 PM	19	97	0	0	116	0	105	16	0	121	47	0	26	0	73
Total	79	493	0	0	572	0	453	69	0	522	214	0	87	2	303
Grand Total	137	976	0	0	1113	0	934	122	0	1056	354	0	155	6	515
Appreh %	12.3	87.7	0	0	88.4	11.6	88.4	11.6	0	88.7	13.2	0	5.8	0.2	19.1
Total %	5.1	56.3	0	0	41.3	0	34.7	4.5	0	39.2	13.2	0	5.8	0.2	19.1
Cars & Buses	137	974	0	0	1111	0	932	122	0	1054	354	0	155	6	515
Trucks	0	2	0	0	2	0	2	0	0	2	0	0	0	0	0
% Trucks	0	0.2	0	0	0.2	0	0.2	0	0	0.2	0	0	0	0	0

TMC Data
E Ponce de Leon Ave @ McLendon Dr
4pm - 6pm
File Name : 32180008
Site Code : 32180008
Start Date : 5/10/2012
Page No : 2

E Ponce de Leon Ave				E Ponce de Leon Ave				McLendon Dr				Westbound			
Northbound		Southbound		Northbound		Southbound		Eastbound		Westbound		Eastbound		Westbound	
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total
04:00 PM	17	127	0	0	144	0	130	11	0	141	47	0	26	1	74
04:15 PM	18	155	0	0	173	0	113	15	0	128	59	0	22	1	82
04:30 PM	20	131	0	0	151	0	119	20	0	139	59	0	18	0	77
04:45 PM	22	110	0	0	132	0	116	18	0	134	49	0	21	1	71
Total Volume	77	523	0	0	600	0	478	64	0	542	214	0	87	3	304
% App. Total	12.8	87.2	0	0	88.2	11.8	88.2	11.8	0	88.2	11.8	0	88.2	11.8	88.2
PHF	.875	.844	.000	.000	.867	.800	.919	.800	.000	.961	.907	.000	.837	.750	.927
Cars & Buses	77	523	0	0	600	0	477	64	0	541	214	0	87	3	304
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



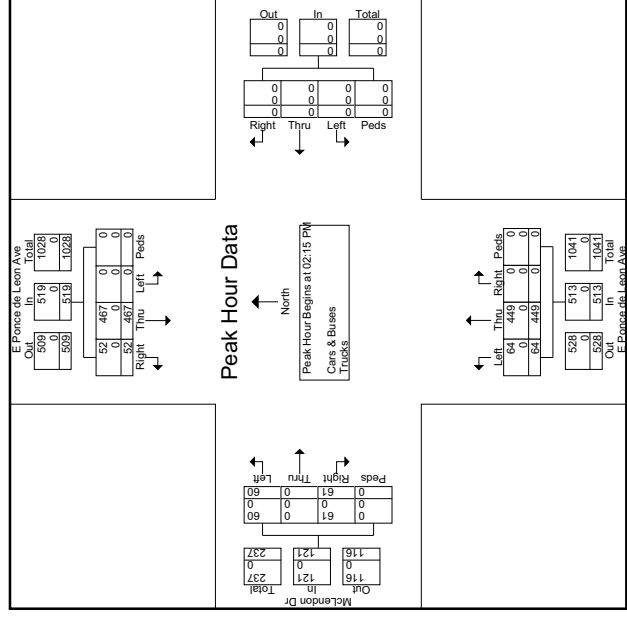
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TMC Data
E Ponce de Leon Ave @ McLendon Dr
2pm - 4pm Sat

[illegible]

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TMC Data
E Ponce de Leon Ave @ McLendon Dr
2pm - 4pm Sat

[illegible]

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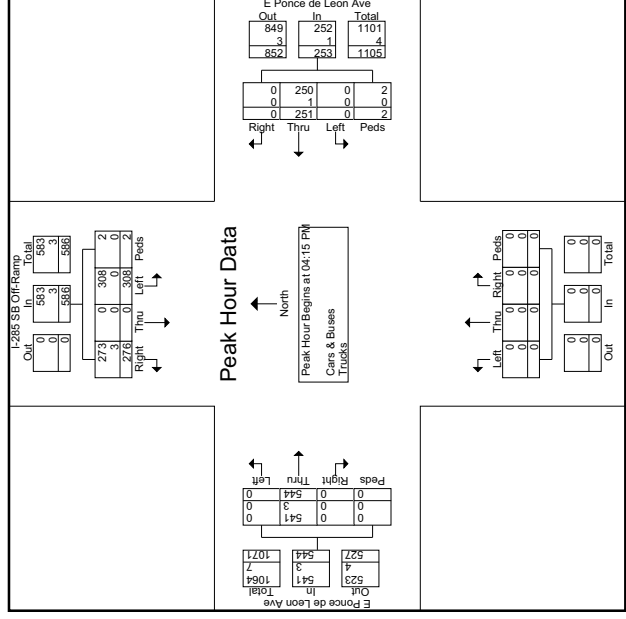
TMC Data
E Ponce de Leon Ave @
I-285 SB Off-Ramp
4pm - 6pm

[illegible]

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TMC Data
E Ponce de Leon Ave @
I-285 SB Off-Ramp
4pm - 6pm

	Northbound						1-35 SB Off-Ramp						E Ponce de Leon Ave Eastbound						E Ponce de Leon Ave 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			
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																								
Peak Hour for Entire Intersection Begins at 04:15 PM																								
04:15 PM							89	0	79	0	168	0	116	0	0	116	0	52	0	2	54	338		
04:30 PM							69	0	56	1	126	0	126	0	0	143	0	80	0	0	80	349		
04:45 PM							83	0	67	0	150	0	150	0	0	151	0	81	0	0	81	351		
05:00 PM							0	0	0	71	1	72	0	58	0	130	0	58	0	0	58	345		
Daily Totals		0	0	0	0	0	308	0	276	2	586	0	544	0	0	544	0	251	0	2	253	1345		
% Trucks		0	0	0	0	0	57.6	0	47.1	0.3	90.7	0	100	0	0	90.7	0	49.2	0	0.8	49.3	238.5		
PHF		0.00	0.00	0.00	0.00	0.00	36.6	0.00	31.3	0.01	87.2	0.00	50.7	0.00	0.00	50.7	0.00	25.0	0.00	0.25	25.0	98.5		
Curb & Right Turn		0	0	0	0	0	308	0	273	2	583	0	541	0	0	541	0	250	0	2	252	1376		
% Curb & Right		0	0	0	0	0	98.9	0	98.9	0	99.4	0	99.4	0	3	0	1	0	1	0	1	7		
% Trucks		0	0	0	0	0	0	0	0	0.3	0.5	0	0.6	0	0	0.6	0	0.4	0	0	0.4	0.5		



TMC Data
E Ponce de Leon Ave @
I-285 SB Off-Ramp
2pm - 4pm Sat

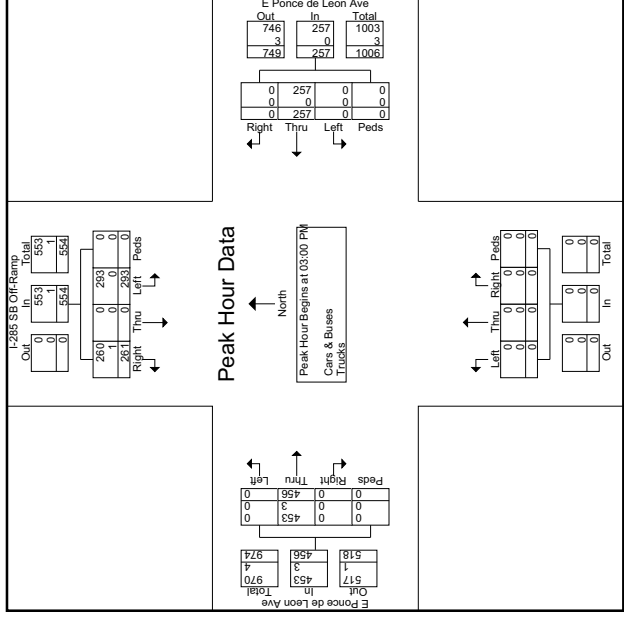
File Name : 32180009
Site Code : 32180009
Start Date : 5/19/2012
Page No : 1

Group Printed- Cars & Buses - Trucks													
Start Time	Northbound				I-285 SB Off-Ramp				E Ponce de Leon Ave				In Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
02:00 PM	0	0	0	0	74	0	58	0	114	0	114	0	59
02:15 PM	0	0	0	0	61	0	71	0	132	0	108	0	62
02:30 PM	0	0	0	0	45	0	77	0	112	0	117	0	66
02:45 PM	0	0	0	0	62	0	57	0	119	0	124	0	60
Total	0	0	0	0	242	0	253	0	495	0	463	0	247
03:00 PM	0	0	0	0	68	0	65	0	133	0	129	0	55
03:15 PM	0	0	0	0	73	0	62	0	135	0	104	0	73
03:30 PM	0	0	0	0	80	0	71	0	151	0	114	0	67
03:45 PM	0	0	0	0	72	0	63	0	135	0	109	0	62
Total	0	0	0	0	293	0	261	0	554	0	456	0	257
Grand Total	0	0	0	0	535	0	514	0	1049	0	919	0	504
Approch %	0	0	0	0	51	0	49	0	100	0	100	0	20.4
Total %	0	0	0	0	21.6	0	20.8	0	42.4	0	37.2	0	20.4
Cars & Buses	0	0	0	0	535	0	513	0	1048	0	915	0	504
% Trucks	0	0	0	0	0	0	0.2	0	0.1	0	0.4	0	0

TMC Data
E Ponce de Leon Ave @
I-285 SB Off-Ramp
2pm - 4pm Sat

File Name : 32180009
Site Code : 32180009
Start Date : 5/19/2012
Page No : 2

Start Time	Northbound				I-285 SB Off-Ramp				E Ponce de Leon Ave				In Total
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
03:00 PM	0	0	0	0	68	0	65	0	133	0	129	0	55
03:15 PM	0	0	0	0	73	0	62	0	135	0	104	0	73
03:30 PM	0	0	0	0	80	0	71	0	151	0	114	0	67
03:45 PM	0	0	0	0	72	0	63	0	135	0	109	0	62
Total Volume	0	0	0	0	293	0	261	0	554	0	456	0	257
% Appr. Total	0	0	0	0	52.9	0	47.1	0	100	0	100	0	257
PHF	.001	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
Cars & Buses	0	0	0	0	293	0	260	0	553	0	453	0	257
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0.4	0	0.2	0	0.7	0	0



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4pm - 6pm

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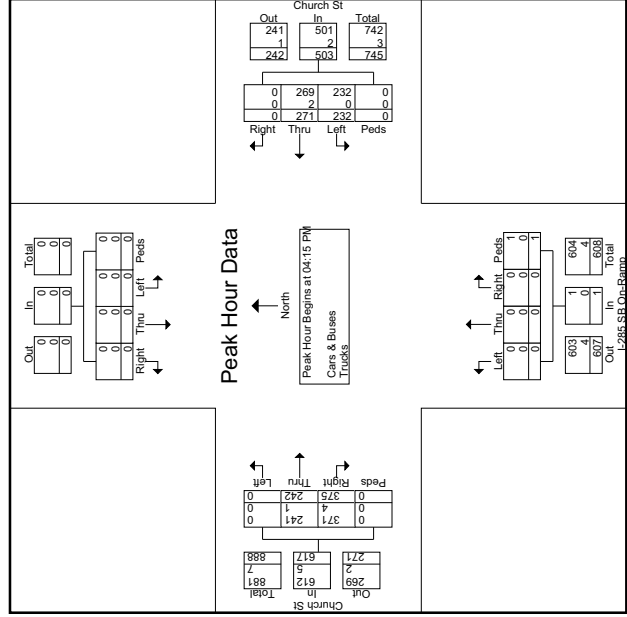
Groups Printed- Cars & Buses - Trucks																		
1-38 SR On-Ramp Northbound				Southbound				Church St Eastbound				Church St Westbound						
Start Time	Left	Thru	Back	Sec	Left	Thru	Back	Sec	Left	Thru	Back	Sec	Left	Thru	Back	Sec		
04:00 PM	0	0	0	0	0	0	0	0	0	57	87	0	139	48	64	0	112	251
04:15 PM	0	0	0	0	0	0	0	0	0	52	91	0	148	53	69	0	122	270
04:30 PM	0	0	0	0	0	0	0	0	0	63	97	0	160	66	66	0	132	292
04:45 PM	0	0	0	0	0	0	0	0	0	59	92	0	151	61	70	0	131	282
Total	0	0	0	0	0	0	0	0	0	231	367	0	598	228	269	0	497	1095
05:00 PM	0	0	0	1	1	0	0	0	0	63	95	0	158	52	66	0	118	277
05:15 PM	0	0	0	0	0	0	0	0	0	57	67	0	124	57	65	0	122	246
05:30 PM	0	0	0	0	0	0	0	0	0	64	66	0	144	66	68	0	134	278
05:45 PM	0	0	0	0	0	0	0	0	0	52	65	0	117	58	54	0	112	229
Total	0	0	0	1	1	0	0	0	0	237	306	0	543	233	253	0	486	1030
Grand Total	0	0	0	1	1	0	0	0	0	468	673	0	1141	461	522	0	983	2125
Appl %	0	0	0	100	0	0	0	0	0	41	59	0	469	531	0	0	463	0
Total %	0	0	0	0	0	0	0	0	0	237	317	0	537	217	246	0	497	1095
Cars & Buses	0	0	0	0	1	1	0	0	0	0	468	673	0	1134	460	531	0	971
Trucks	0	0	0	0	0	0	0	0	0	2	5	0	1	5	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0.4	0.7	0	0.6	0.2	0	0	0	0.6

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4pm - 6pm

Page No : 2

I-385 SB On-Ramp				Southbound				Church St Eastbound				Church St Westbound			
Start Time	Left	Thru	Right	Any Total	Peak	Left	Thru	Right	Any Total	Peak	Left	Thru	Right	Any Total	Peak
Peak Hour for Entire Intersection Begins at 04:15 PM															
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	57	91	0	148
04:30 PM	0	0	0	0	0	0	0	63	97	0	160	66	66	0	132
04:45 PM	0	0	0	0	0	0	59	52	0	111	61	70	0	131	262
05:00 PM	0	0	0	0	0	0	0	93	93	0	138	76	0	0	118
Total Volume	0	0	0	1	0	0	0	242	375	0	471	232	271	0	503
% Sat. Volume	0	0	0	100	0	0	0	0	60	50	0	39	66	0	1121
PHF															
04:15 PM	0	0	0	250	0	0	0	0	0	0	964	379	368	0	953
04:30 PM	0	0	0	1	0	0	0	0	0	0	642	232	269	0	501
04:45 PM	0	0	0	0	0	0	0	99.6	98.9	0	0	99.3	0	0	1114
% Trucks	0	0	0	0	0	0	1	4	5	0	2	0	0	2	7
% Heavy % Trucks	0	0	0	0	0	0	0	0.4	1.1	0	0.8	0.7	0	0	0.4



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2pm - 4pm Sat

Page No : 1

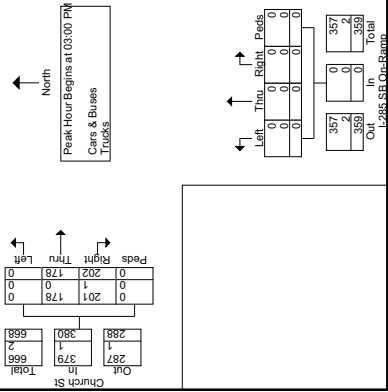
	5000 shares					
Trucks	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0

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2pm - 4pm Sat

Page No : 2

Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 03:00 PM																			
03:00 PM	0	0	0	0	0	0	0	0	0	55	54	0	109	40	65	0	0	105	214
03:15 PM	0	0	0	0	0	0	0	0	0	40	45	0	85	38	84	0	0	122	207
03:30 PM	0	0	0	0	0	0	0	0	0	47	46	0	93	37	76	0	0	113	206
03:45 PM	0	0	0	0	0	0	0	0	0	36	27	0	93	42	63	0	0	105	198
Total Volume	0	0	0	0	0	0	0	0	0	178	202	0	380	153	288	0	0	445	825
% Sat. Flow	0	0	0	0	0	0	0	0	0	46.8	53.2	0	55.7	34.7	44.7	0	0	57.2	67.8
% Sat. Flow	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.64
Conf. Interval	0	0	0	0	0	0	0	0	0	178	202	0	379	156	287	0	0	443	822
% Trucks	0	0	0	0	0	0	0	0	0	1	1	0	1	0	1	0	0	2	3
% Trucks	0	0	0	0	0	0	0	0	0	0	0.5	0	0.3	0.6	0.3	0	0	0.4	0.4



TMC Data File Name : 32180011
N Druid Hills Rd @ SR410 SB Off-Ramp Site Code : 32180011
Start Date : 5/10/2012
4pm - 6pm Page No : 1

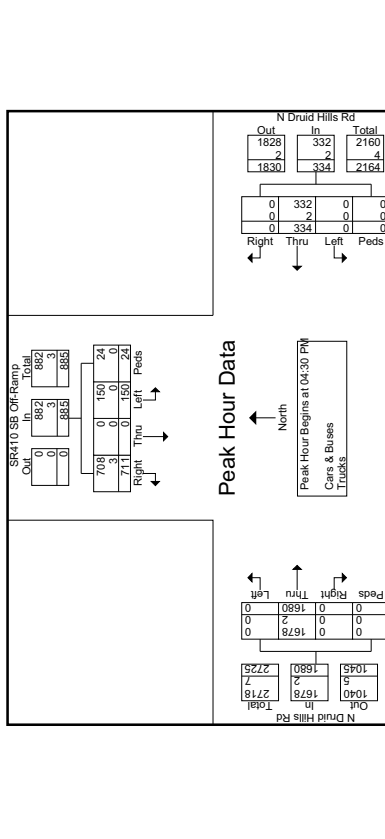
Start Time	Group Printed: Cars & Buses - Trucks											
	Northbound				SR410 SB Off-Ramp				N Druid Hills Rd Eastbound			
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
04:00 PM	0	0	0	0	29	0	163	6	198	0	413	0
04:15 PM	0	0	0	0	33	0	167	9	209	0	417	0
04:30 PM	0	0	0	0	36	0	177	7	220	0	424	0
04:45 PM	0	0	0	0	31	0	172	5	205	0	428	0
Total	0	0	0	0	139	0	686	27	832	0	1682	0
05:00 PM	0	0	0	0	39	0	174	7	220	0	419	0
05:15 PM	0	0	0	0	34	0	181	5	220	0	409	0
05:30 PM	0	0	0	0	27	0	163	6	196	0	437	0
05:45 PM	0	0	0	0	23	0	155	7	185	0	442	0
Total	0	0	0	0	123	0	673	25	821	0	1707	0
Grand Total	0	0	0	0	262	0	1359	52	1673	0	3389	0
Approch %	0	0	0	0	15.7	0	81.2	3.1	0	100	0	0
Total %	0	0	0	0	4.6	0	23.8	0.9	29.4	0	59.5	0
Cars & Buses	0	0	0	0	261	0	1356	52	1669	0	3386	0
% Cars & Buses	0	0	0	0	99.6	0	99.8	100	99.8	0	99.9	0
Trucks	0	0	0	0	1	0	3	0	4	0	3	0
% Trucks	0	0	0	0	0.4	0	0.2	0	0.2	0	0.1	0

Peak Hour Data



TMC Data File Name : 32180011
N Druid Hills Rd @ SR410 SB Off-Ramp Site Code : 32180011
Start Date : 5/10/2012
4pm - 6pm Page No : 2

Start Time	Northbound				SR410 SB Off-Ramp				N Druid Hills Rd Eastbound				N Druid Hills Rd Westbound			
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
04:00 PM	0	0	0	0	36	0	177	7	220	0	424	0	0	80	0	0
04:15 PM	0	0	0	0	41	0	179	5	225	0	428	0	0	84	0	0
04:30 PM	0	0	0	0	39	0	174	7	220	0	419	0	0	86	0	0
04:45 PM	0	0	0	0	34	0	181	5	220	0	409	0	0	84	0	0
Total	0	0	0	0	150	0	711	24	885	0	1680	0	0	334	0	0
% Cars & Buses	0	0	0	0	15.0	0	80.3	2.7	98.3	0.0	98.1	0.0	0.0	100	0	0
% Trucks	0	0	0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% Trucks	0	0	0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

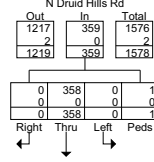
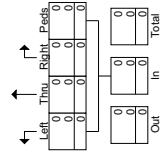
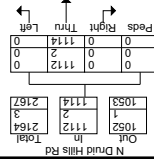
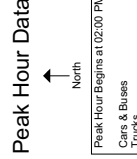
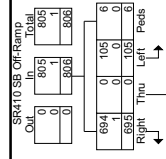


TMC Data
N Druid Hills Rd @ SR410 SB Off-Ramp
2pm - 4pm Sat
File Name : 32180011
Site Code : 32180011
Start Date : 5/19/2012
Page No : 1

Start Time	Group Printed: Cars & Buses - Trucks											
	Northbound				SR410 SB Off-Ramp				N Druid Hills Rd Eastbound			
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
02:00 PM	0	0	0	0	32	0	169	1	202	0	285	0
02:15 PM	0	0	0	0	27	0	175	4	206	0	300	0
02:30 PM	0	0	0	0	25	0	179	1	205	0	276	0
02:45 PM	0	0	0	0	21	0	172	0	193	0	253	0
Total	0	0	0	0	105	0	695	6	806	0	1114	0
03:00 PM	0	0	0	0	23	0	160	1	184	0	294	0
03:15 PM	0	0	0	0	20	1	153	1	175	0	236	0
03:30 PM	0	0	0	0	30	1	169	2	202	0	283	0
03:45 PM	0	0	0	0	43	0	185	2	230	0	288	0
Total	0	0	0	0	116	2	667	6	791	0	1101	0
Grand Total	0	0	0	0	221	2	1362	12	1597	0	2215	0
Approch %	0	0	0	0	13.8	0.1	85.3	0.8	0	100	0	0
Total %	0	0	0	0	4.9	0	30.3	35.2	0	48.8	0	0
Cars & Buses	0	0	0	0	221	2	1360	12	1595	0	2212	0
% Cars & Buses	0	0	0	0	100	100	99.9	100	99.9	0	99.9	0
Trucks	0	0	0	0	0	0	2	0	2	0	3	0
% Trucks	0	0	0	0	0	0	0.1	0	0.1	0	0.1	0

TMC Data
N Druid Hills Rd @ SR410 SB Off-Ramp
2pm - 4pm Sat
File Name : 32180011
Site Code : 32180011
Start Date : 5/19/2012
Page No : 2

Start Time	Northbound				SR410 SB Off-Ramp				N Druid Hills Rd Eastbound				N Druid Hills Rd Westbound			
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1																
Peak Hour for Entire Intersection Begins at 02:00 PM																
02:00 PM	0	0	0	0	32	0	169	1	202	0	285	0	0	285	0	1
02:15 PM	0	0	0	0	27	0	175	4	206	0	300	0	0	93	0	0
02:30 PM	0	0	0	0	25	0	179	1	205	0	276	0	0	87	0	0
02:45 PM	0	0	0	0	21	0	172	0	193	0	253	0	0	82	0	0
Total Volume	0	0	0	0	105	0	695	6	806	0	1114	0	0	359	2279	
% App. Total	0	0	0	0	13	0	86.2	0.7	100	0	100	0	0	99.7	0	0.3
PHF	.001	.000	.000	.000	.000	.000	.971	.375	.978	.000	.928	.000	.000	.932	.000	.925
Cars & Buses	0	0	0	0	105	0	694	6	805	0	1112	0	0	358	0	1
% Cars & Buses	0	0	0	0	100	0	99.9	100	99.9	0	99.8	0	0	100	0	100
Trucks	0	0	0	0	0	0	1	0	1	0	2	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0.1	0	0.1	0	0.2	0	0	0	0	0



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TMC Data
N Decatur Rd @
N Dekalb Industrial Way
4pm - 6pm

Groups Printed-Cars & Buses - Trucks														
N Dekalb Industrial Way					N Dekalb Industrial Way					N Decatur Rd				
Northbound					Southbound					Eastbound				
Start Time	Left	Thru	Right	Peds.	Left	Thru	Right	Peds.	no. wait	Left	Thru	Right	Peds.	no. wait
04:00 PM	32	143	19	2	196	42	128	20	1	190	57	201	28	0
04:15 PM	35	148	21	1	205	45	135	22	1	203	61	205	30	0
04:30 PM	37	146	24	2	209	43	137	25	2	205	64	209	33	0
04:45 PM	34	142	20	2	198	39	133	22	2	196	67	212	36	0
Total	138	579	84	7	808	169	533	89	3	794	249	827	127	0
05:00 PM	39	147	23	1	210	36	128	19	0	183	83	203	27	0
05:15 PM	47	163	21	2	233	45	143	20	3	211	59	215	28	0
05:30 PM	37	137	25	1	200	53	133	23	0	211	58	225	24	0
05:45 PM	29	129	18	2	178	59	126	22	2	207	46	189	27	0
Total	152	576	87	6	821	195	530	84	3	812	246	832	103	0
Grand Total	290	1151	171	13	1629	364	1063	173	6	1606	495	1633	233	0
% Trucks	4.3	13.3	0.8	0.1	20.4	6.6	18.9	0.4	24	3.9	9.8	3.5	0.5	0.1
Total	4.3	2.6	0.2	24.4	5.4	15.9	2.6	0.1	7.4	24.8	3.5	35.7	2.2	0.5
Clear 50%	280	1151	171	13	1627	364	1068	172	6	1600	495	1637	233	0
No. of Bikes	100	99.8	100	100	99.9	100	99.5	99.4	100	99.9	100	99.9	100	100
No. of Bikes	0	2	0	0	2	0	5	1	0	0	2	0	0	0
% Trucks	0	0.2	0	0	0.1	0	0.5	0.6	0	0.1	0	0	0	0
% Trucks	0	0.2	0	0	0.1	0	0.5	0.6	0	0.1	0	0	0	0

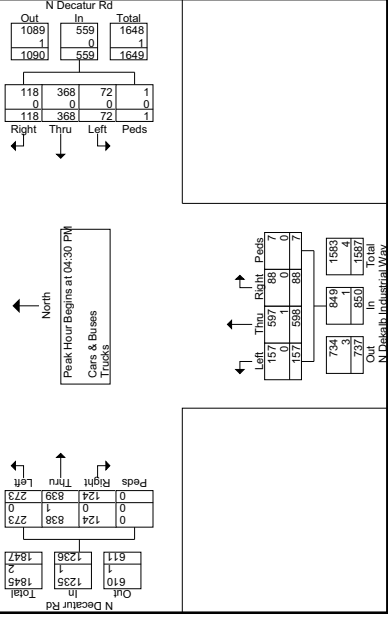
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TMC Data
N Decatur Rd @
N Dekalb Industrial Way
4pm - 6pm

File Name : 32180012
Site Code : 32180012
Start Date : 5/15/2012
Page No : 2

Start Time	N Dekalb Industrial Way						N Dekalb Industrial Way						N Decatur Rd						N Decatur Rd					
	Left	Thru	Right	Feet	Left	Thru	Right	Feet	Left	Thru	Right	Feet	Left	Thru	Right	Feet	Left	Thru	Right	Feet	Left	Thru	Right	Feet
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																								
Peak Hour for Entire Intersection Begins at 04:30 PM																								
04:30 PM	37	146	24	2	209	43	137	25	0	205	64	209	33	0	306	17	89	33	0	139	859			
04:45 PM	34	142	20	2	198	39	128	22	2	196	67	212	36	0	315	14	85	30	0	130	839			
05:00 PM	49	147	25	2	223	45	138	29	0	221	80	217	41	0	318	27	91	37	0	144	859			
05:15 PM	157	598	88	7	733	143	541	86	5	795	273	839	124	0	1236	72	368	118	0	559	3440			
Peak Volume	18.5	70.0	10.0	0.8	29.2	51.6	19.2	3.6	0.1	31.1	67.9	10.0	0.2		17.9	65.9	23.8	0.2		159	859			
PHF	0.835	0.917	0.875	0.518	0.916	0.864	0.860	0.417	0.942	0.822	0.976	0.861	0.000	0.981	0.733	0.929	0.894	0.250	0.957	0.964				
As Obs'd	187	597	88	7	849	163	538	85	5	791	273	838	124	0	1235	72	368	118	1	559	3484			
As Obs'd by Side																								
Trucks	0	1	0	0	1	0	3	1	0	0	1	0	0	1	0	0	0	0	0	0	0			
% Trucks	0.0	0.2	0	0	0.1	0	0.6	1.2	0	0.5	0	0.1	0	0	0.1	0	0	0	0	0	0			

Peak Hour Data



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TMC Data
N Decatur Rd @
N Dekalb Industrial Way
2pm - 4pm Sat

File Name : 32180012
Site Code : 32180012
Start Date : 5/26/2012
Page No : 1

Groups Printed: Cars & Buses - Trucks

	N Decatur Industrial Way				N Decatur Industrial Way				Groups Primed - Cars & Buses - Trucks				N Decatur Rd			
	Northbound		Southbound		Northbound		Southbound		Northbound		Southbound		Northbound		Southbound	
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
02:00 PM	34	95	7	0	136	39	86	14	1	140	25	80	20	1	126	37
02:15 PM	37	108	9	0	154	35	87	24	0	146	13	98	30	0	141	73
02:30 PM	40	115	12	0	167	38	100	25	0	163	24	94	27	0	145	18
02:45 PM	43	109	17	0	169	37	66	17	0	121	11	76	0	154	13	
Total	154	427	45	0	626	149	339	80	2	570	73	389	103	1	566	82
03:00 PM	40	103	21	1	165	47	88	12	1	148	29	100	22	0	151	85
03:15 PM	47	115	9	0	171	42	86	14	0	142	24	104	30	0	158	17
03:30 PM	36	108	14	1	159	37	83	12	2	134	25	108	23	0	179	25
03:45 PM	32	96	10	0	138	34	96	13	1	144	25	131	27	0	185	38
Total	155	422	54	2	633	160	353	51	4	568	103	443	102	0	648	62
Grand Total	309	849	99	2	1259	309	692	131	6	1138	176	832	205	1	1214	146
Approch %	24.5	67.4	7.9	0.2	27.2	60.8	11.5	0.5	14.5	68.5	16.9	0.1	13.8	64.1	22.1	0
Total %	6.6	18.2	2.1	0	27	6.6	14.9	2.8	0.1	24.4	3.8	17.9	4.4	0.1	31	22.4
Cars & Buses	309	848	99	2	1258	309	692	131	6	1138	176	832	205	1	1214	146
Trucks	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0.1	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0

	N. Cobb Rd. Bus.												
	Trucks												
	0	1	0	0	1	0	0	0	0	0	1	0	1
% Trucks	0	0.1	0	0	0.1	0	0	0	0	0	0.1	0	0.1
													2

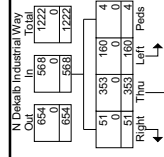
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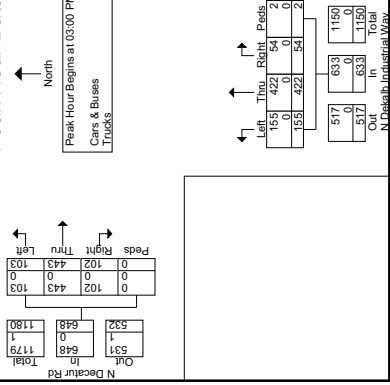
TMC Data
N Decatur Rd @
N Dekalb Industrial Way
2pm - 4pm Sat

File Name : 32180012
Site Code : 32180012
Start Date : 5/26/2012
Page No : 2

Start Time	N Dekalb Industrial Way				N Dekalb Industrial Way				N Decatur Rd				N Decatur Rd			
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1																
Peak Hour for Entire Intersection Begins at 02:00 PM																
03:00 PM	40	103	21	1	165	47	88	12	1	148	29	100	22	0	151	0
03:15 PM	47	115	9	0	171	42	86	14	0	142	24	104	30	0	138	17
03:30 PM	36	108	14	1	159	37	83	12	2	134	25	108	23	0	136	15
03:45 PM	32	96	10	0	138	34	96	13	1	144	25	131	27	0	183	30
Total Volume	155	422	54	2	633	160	353	51	4	568	103	443	102	0	648	62
% Approach	24.5	66.7	8.5	0.3	29.2	62.1	9.1	0.7	5.9	65.9	16.4	15.7	0.8	0.2	63.1	2.5
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars & Buses	155	422	54	2	633	160	353	51	4	568	103	443	102	0	648	62
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



Peak Hour Data



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TMC Data
N Decatur Rd @ Church St W
4pm - 6pm

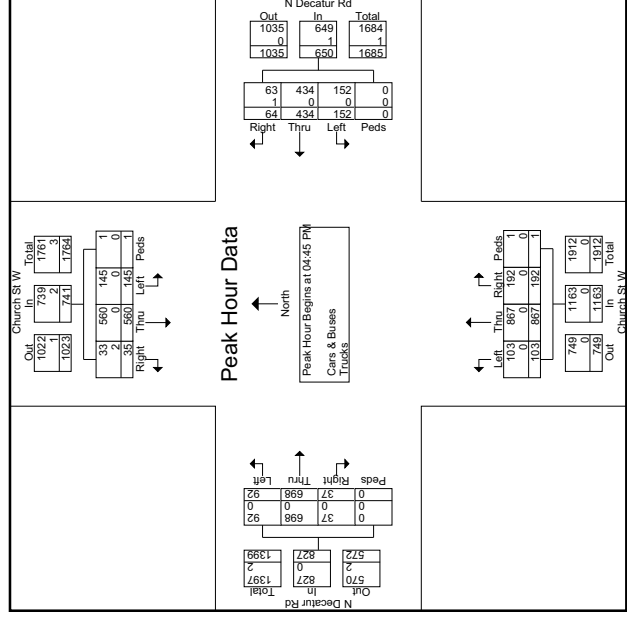
Groups Printed- Cars & Buses - Trucks																	
Church St W				Church St W				N Deatur Rd				N Deatur Rd					
Northbound		Southbound		Northbound		Southbound		Northbound		Southbound		Northbound		Southbound			
Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right	Left	Right		
Start Time		Start Time		Start Time		Start Time		Start Time		Start Time		Start Time		Start Time			
04:00 PM		29	178	42	249	28	103	6	2	139	18	176	5	0	193	738	
04:15 PM		31	201	45	277	33	109	8	0	250	25	181	7	0	213	805	
04:30 PM		28	198	48	275	31	105	0	0	162	23	184	9	0	206	805	
04:45 PM		25	213	45	283	36	126	9	0	171	20	172	8	0	210	807	
Total		113	790	180	1084	134	453	33	2	622	86	713	29	0	828	3146	
05:00 PM		21	224	62	0	307	39	149	8	0	196	23	164	9	0	180	879
05:15 PM		36	230	44	0	310	36	112	0	1	159	21	189	12	0	222	918
05:30 PM		21	401	11	263	34	173	8	0	215	28	173	0	0	209	818	
05:45 PM		25	177	30	0	232	22	115	7	0	144	15	169	5	0	189	714
Total		103	831	137	1112	131	549	33	1	714	87	695	34	0	866	3288	
Grand Total		216	1621	377	2196	265	1025	66	3	1336	173	1008	63	0	1644	6434	
Arrival %		3.8	78	7.7	49	0.2	10.8	0.6	3.8	0	25.6	4.2	9.1	0.1	19.6		
Depart %		3.4	253	5.5	34.1	41	15.6	1	0	20.8	2.7	21.4	1.8	0	0		
Clear %		246	189	357	2194	265	1001	63	3	1332	173	1499	63	0	1644	927	
N/Cat/Buses		100	99.9	100	99.9	100	99.9	95.5	100	99.7	100	100	100	0	100	99.8	
Trucks		0	2	0	2	0	1	3	0	4	0	0	0	0	0	2	
% Trucks		0	0.1	0	0	0	0.1	45	0	0.3	0	0	0	0	0	0.2	
% Trucks																0.1	

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TMC Data
N Decatur Rd @ Church St W
4pm - 6pm

[illegible]

	Cars & Buses	Trucks
% Cars & Buses	90.0	10.0
% Trucks	10.0	90.0



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TMC Data
N Decatur Rd @ Church St W

2pm - 4pm Sat

File Name : 32180013
Site Code : 32180013
Start Date : 5/26/2012
Page No : 1

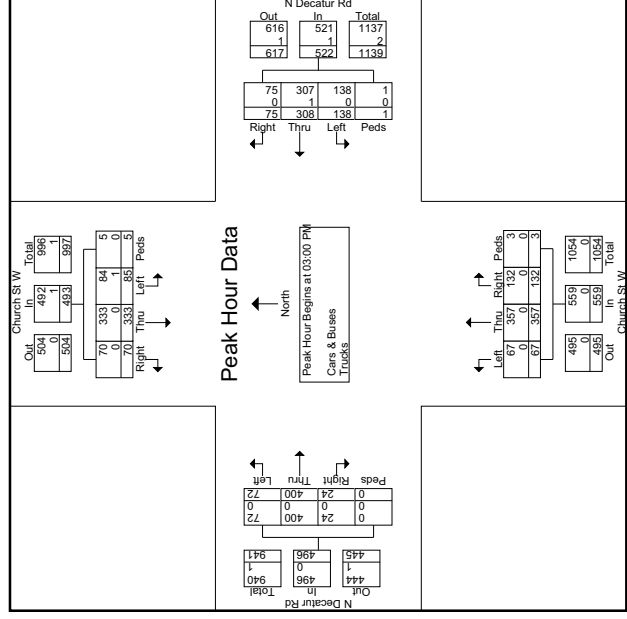
[illegible]

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TMC Data
N Decatur Rd @ Church St W

2pm - 4pm Sat

File Name : 32180013
Site Code : 32180013
Start Date : 5/26/2012
Page No : 2

[illegible]

TMC Data
N Decatur Rd @ Church St E

4pm - 6pm

File Name : 32180014
Site Code : 32180014
Start Date : 5/16/2012
Page No : 1

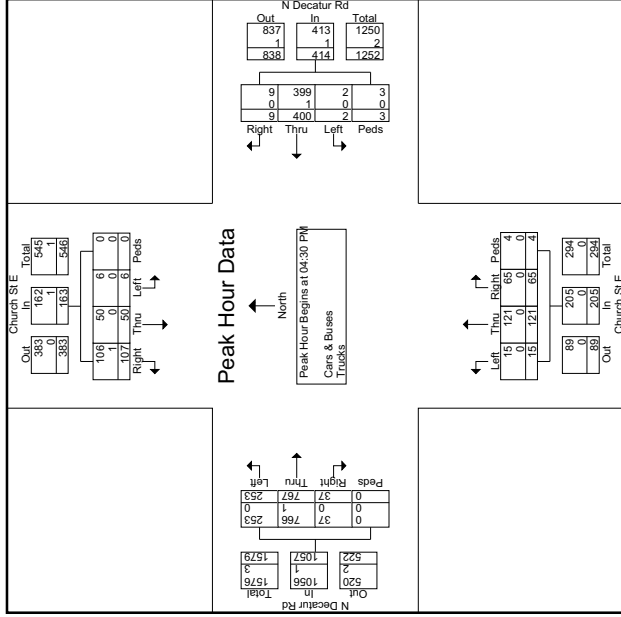
Groups Printed: Cars & Buses - Trucks											
Church St E				N Decatur Rd				Westbound			
Northbound		Southbound		Eastbound		Westbound		Left		Right	
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru
04:00 PM	5	24	11	0	40	1	23	38	0	54	167
04:15 PM	11	26	14	1	52	2	10	29	2	43	58
04:30 PM	2	29	20	0	51	4	9	15	0	28	62
04:45 PM	3	29	15	0	48	0	20	28	0	67	194
Total	21	108	60	2	191	7	62	110	2	181	241
05:00 PM	7	31	15	3	56	1	12	29	0	42	61
05:15 PM	3	32	15	0	50	1	9	35	0	45	63
05:30 PM	3	33	11	3	50	4	10	20	0	34	55
05:45 PM	3	25	13	3	44	2	17	38	0	57	50
Total	16	121	54	9	200	8	48	122	0	178	229
Grand Total	37	229	114	11	391	15	110	232	2	359	470
Approch %	9.5	58.6	29.2	2.8	4.2	30.6	64.6	0.6	0.6	23.4	72.8
Total %	1	6.4	3.2	0.3	10.9	0.4	3.1	6.4	0.1	1.0	13.1
Cars & Buses	37	229	114	11	391	15	110	230	2	357	469
% Trucks	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0

TMC Data
N Decatur Rd @ Church St E

4pm - 6pm

File Name : 32180014
Site Code : 32180014
Start Date : 5/16/2012
Page No : 2

Church St E				N Decatur Rd				Eastbound				Westbound			
Northbound		Southbound		Left		Right		Left		Right		Left		Right	
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Left	Thru	Right	Left
04:00 PM	2	29	20	0	51	4	9	15	0	28	62	173	9	0	244
04:15 PM	3	29	15	1	48	0	20	28	0	48	67	194	7	0	268
04:30 PM	7	31	15	3	56	1	12	29	0	42	61	208	6	0	275
04:45 PM	3	32	15	0	50	1	9	35	0	45	63	192	15	0	270
Total	15	121	65	4	205	6	50	107	0	163	253	767	37	0	1057
% Cars & Buses	7.3	59	31.7	2	3.7	30.7	65.6	0	23.9	72.6	3.5	0	0.5	96.6	2.2
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



TMC Data
N Decatur Rd @ Church St E
2pm - 4pm Sat

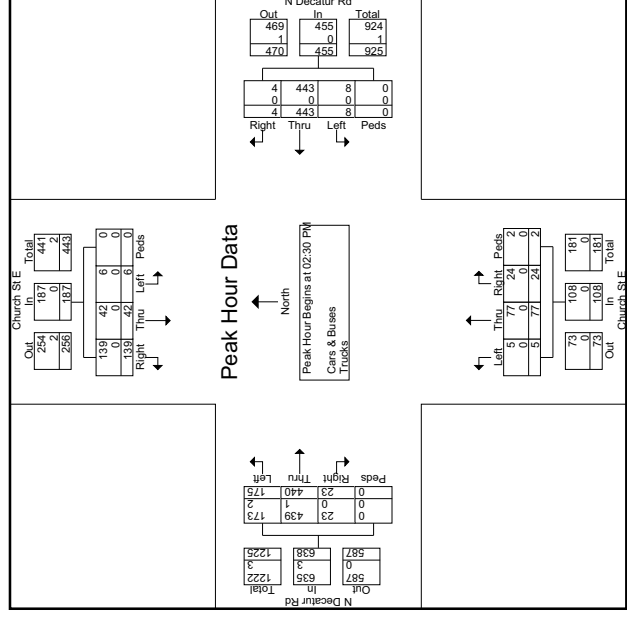
File Name : 32180014
Site Code : 32180014
Start Date : 5/19/2012
Page No : 1

Start Time	Church St E Northbound						Church St E Southbound						N Decatur Rd Eastbound						N Decatur Rd Westbound					
	Left	Thru	Right	Peds	App. Total		Left	Thru	Right	Peds	App. Total		Left	Thru	Right	Peds	App. Total		Left	Thru	Right	Peds	App. Total	
02:00 PM	1	22	5	0	28		2	10	37	0	49		37	104	4	0	145		1	76	0	0	77	
02:15 PM	2	33	7	1	43		1	6	29	0	36		32	108	3	0	143		4	98	1	0	103	
02:30 PM	0	14	8	0	22		2	11	33	0	46		38	114	8	0	160		2	127	2	0	131	
02:45 PM	2	19	7	0	28		1	8	35	0	44		50	109	4	0	163		2	115	0	0	117	
Total	5	88	27	1	121		6	35	134	0	175		157	435	19	0	611		9	416	3	0	428	
03:00 PM	2	23	5	1	31		1	9	38	0	48		46	106	5	0	157		1	102	1	0	104	
03:15 PM	1	21	4	1	27		2	14	33	0	49		41	111	6	0	158		3	99	1	0	103	
03:30 PM	3	25	8	0	36		4	14	37	0	55		37	115	5	1	158		1	97	3	1	102	
03:45 PM	1	21	16	0	38		3	8	34	0	45		38	112	9	0	159		2	89	2	0	93	
Total	7	90	33	2	132		10	45	142	0	197		162	444	25	1	632		7	387	7	1	402	
Grand Total	12	178	60	3	253		16	80	276	0	372		319	879	44	1	1243		16	803	10	1	830	
Apprch %	4.7	70.4	23.7	1.2			4.3	21.5	74.2	0	25.7		70.7	3.5	0.1		1.9		96.7	1.2	0.1			
Total %	0.4	6.6	2.2	0.1	9.4		0.6	3.3	10.2	0	13.8		11.8	32.6	1.6	0	46.1		0.6	29.8	0.4	0	30.8	
Cars & Buses	12	178	60	3	253		16	80	276	0	372		317	877	44	1	1239		16	801	10	1	828	
% Trucks	0	0	0	0	0		0	0	0	0	0		2	2	0	0	0.3		0	2	0	0	2	
Trucks	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	
% Trucks	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	

TMC Data
N Decatur Rd @ Church St E
2pm - 4pm Sat

File Name : 32180014
Site Code : 32180014
Start Date : 5/19/2012
Page No : 2

Start Time	Church St E Northbound						Church St E Southbound						N Decatur Rd Eastbound						N Decatur Rd Westbound					
	Left	Thru	Right	Peds	App. Total		Left	Thru	Right	Peds	App. Total		Left	Thru	Right	Peds	App. Total		Left	Thru	Right	Peds	App. Total	
02:00 PM	0	14	8	0	22		2	11	33	0	46		38	114	8	0	160		2	127	2	0	131	
02:15 PM	2	19	7	0	28		1	8	35	0	44		50	109	4	0	163		2	115	0	0	117	
02:30 PM	2	23	5	1	31		1	9	38	0	48		46	106	5	0	157		1	102	1	0	104	
02:45 PM	1	21	4	1	27		2	14	33	0	49		41	111	6	0	158		3	99	1	0	103	
Total	5	77	24	2	108		6	42	139	0	187		175	440	23	0	638		8	443	4	0	455	
% App. Total	4.6	71.3	22.2	1.9			3.2	22.5	74.3	0	27.4		69	3.6	0		1.8		97.4	0.9	0			
PHF	.625	.837	.750	.500	.871		.750	.750	.914	.000	.954		.875	.965	.719	.000	.979		.607	.872	.500	.000	.868	.967
Cars & Buses	5	77	24	2	108		6	42	139	0	187		175	439	23	0	635		8	443	4	0	455	
% Trucks	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	
Trucks	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	
% Trucks	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	



TMC Data
E College Ave (US278) @ Arcadia Ave/
Sams Crossing
4pm - 6pm

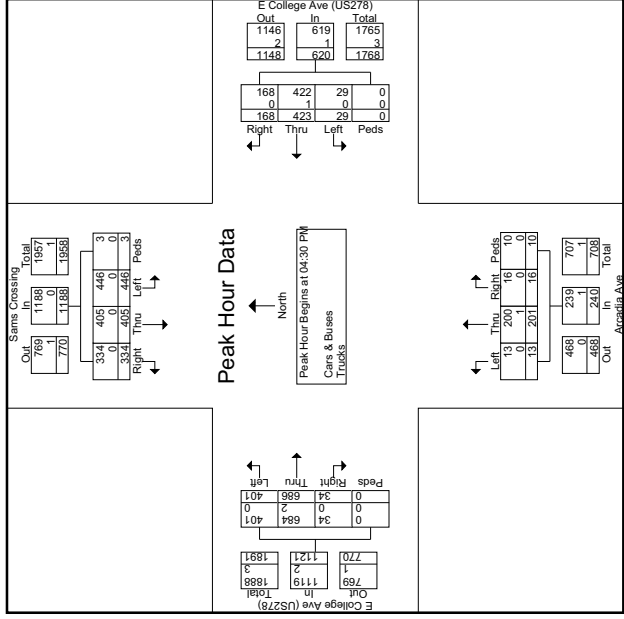
File Name : 32180015
Site Code : 32180015
Start Date : 5/15/2012
Page No : 1

Start Time	Sams Crossing										E College Ave (US278)									
	Northbound					Southbound					Eastbound					Westbound				
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total
04:00 PM	3	47	6	3	59	95	87	80	1	263	92	143	6	0	241	3	97	36	0	136
04:15 PM	5	50	5	5	65	103	91	82	0	276	95	149	9	0	253	5	107	39	0	151
04:30 PM	7	53	3	4	67	109	94	87	1	291	98	157	7	0	264	4	114	42	0	160
04:45 PM	2	59	6	3	70	112	97	82	1	292	105	175	7	0	287	9	119	45	0	173
Total	17	209	20	15	261	419	369	331	3	1122	390	624	31	0	1045	21	437	162	0	620
05:00 PM	4	47	3	2	56	117	104	79	1	301	101	169	6	0	276	8	115	39	0	162
05:15 PM	0	42	4	1	47	108	110	86	0	304	97	185	12	0	294	8	75	42	0	125
05:30 PM	5	39	7	5	56	99	97	74	0	270	96	177	10	0	283	4	103	49	0	156
05:45 PM	2	49	9	5	65	96	93	68	0	257	92	158	7	0	257	3	89	52	2	146
Total	11	177	23	13	224	420	404	307	1	1132	386	689	35	0	1110	23	382	182	2	589
Grand Total	28	386	43	28	485	839	773	638	4	2254	776	1313	66	0	2155	44	819	344	2	1209
Apprch %	5.8	79.6	8.9	5.8		37.2	34.3	28.3	0.2		36	60.9	3.1	0		3.6	67.7	28.5	0.2	
Total %	0.5	6.3	0.7	0.5		7.9	13.7	10.5	0.1		36.9	12.7	21.5	1.1		0.7	13.4	5.6	0	19.8
Cars & Buses	28	385	43	28	484	839	773	638	4	2254	776	1310	66	0	2152	44	817	344	2	1207
% Cars & Buses	100	99.7	100	100	99.8	100	100	100	100	99.9	100	99.8	100	0	99.9	100	99.8	100	100	99.8
Trucks	0	1	0	0	1	0	0	0	0	0	0	3	0	0	0	0	2	0	0	2
% Trucks	0	0.3	0	0	0.2	0	0	0	0	0.1	0	0.2	0	0	0.1	0	0.2	0	0	0.2

TMC Data
E College Ave (US278) @ Arcadia Ave/
Sams Crossing
4pm - 6pm

File Name : 32180015
Site Code : 32180015
Start Date : 5/15/2012
Page No : 2

Start Time	Sams Crossing										E College Ave (US278)									
	Northbound					Southbound					Eastbound					Westbound				
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																				
04:30 PM	7	53	3	4	67	109	94	87	1	291	98	157	9	0	264	4	114	42	0	160
04:45 PM	2	59	6	3	70	112	97	82	1	292	105	175	7	0	287	9	119	45	0	173
05:00 PM	4	47	3	2	56	117	104	79	1	301	101	169	6	0	276	8	115	39	0	162
05:15 PM	0	42	4	1	47	108	110	86	0	304	97	185	12	0	294	8	75	42	0	125
Total Volume	13	201	16	10	240	446	405	334	3	1188	401	686	34	0	1121	29	423	168	0	620
% App. Total	5.4	83.8	6.7	4.2		37.5	34.1	28.1	0.3		35.8	61.2	3	0		4.7	68.2	27.1	0	
PHF	.464	.852	.667	.625	.857	.953	.920	.960	.750	.977	.955	.927	.708	.000	.953	.806	.889	.933	.000	.896
Cars & Buses	13	200	16	10	239	446	405	334	3	1188	401	684	34	0	1119	29	422	168	0	619
% Cars & Buses	0	99.5	0	0	1	0	0	0	0	1	0	99.4	0	0	0	0	99.8	0	0	0
Trucks	0	0.5	0	0	0.4	0	0	0	0	0	0	0.2	0	0	0	0	0.2	0	0	0.2
% Trucks	0	0.5	0	0	0.4	0	0	0	0	0	0	0.3	0	0	0	0	0.2	0	0	0.2

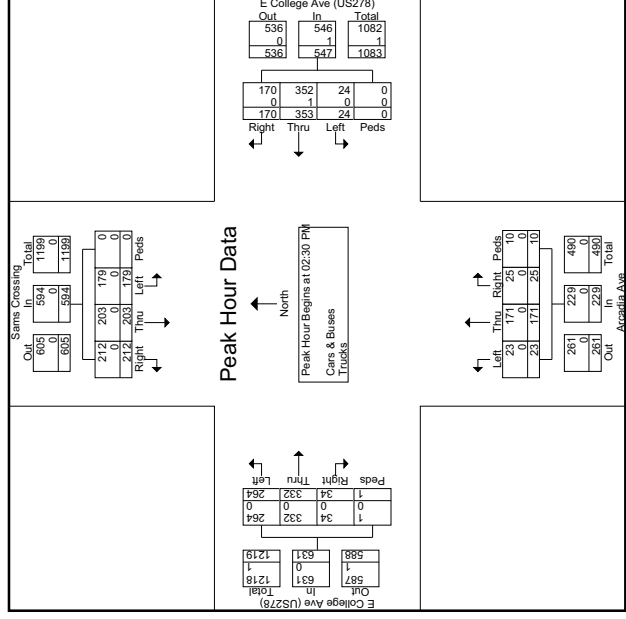


TMC Data
E College Ave (US278) @ Arcadia Ave/
Sams Crossing
2pm - 4pm Sat
File Name : 32180015
Site Code : 32180015
Start Date : 5/26/2012
Page No : 1

Start Time	Sams Crossing										E College Ave (US278)									
	Arcadia Ave Northbound					Southbound					Eastbound					Westbound				
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total
02:00 PM	6	38	4	1	49	41	53	46	0	140	58	72	2	0	132	3	72	36	0	111
02:15 PM	9	42	3	1	55	45	56	51	1	153	63	76	3	0	142	4	75	39	0	118
02:30 PM	4	45	6	4	59	48	61	58	0	147	67	81	7	0	155	6	79	42	0	127
02:45 PM	7	48	4	0	59	46	53	53	0	149	62	79	5	0	146	5	87	47	0	139
Total	26	173	17	6	222	180	213	198	1	592	250	308	17	0	575	18	313	164	0	495
03:00 PM	6	41	9	1	57	42	47	60	0	149	72	87	15	0	174	6	110	50	0	166
03:15 PM	6	37	6	5	54	43	52	51	0	146	63	85	7	1	156	7	77	31	0	115
03:30 PM	7	35	4	1	47	40	48	53	0	141	59	79	8	0	146	4	68	40	0	112
03:45 PM	1	31	5	1	38	37	46	46	0	129	52	75	5	0	132	2	61	31	0	94
Total	20	144	24	8	196	162	193	210	0	565	246	326	35	1	608	19	316	152	0	487
Grand Total	46	317	41	14	418	342	406	408	1	1157	496	634	52	1	1183	37	629	316	0	982
Appreh %	11	75.8	9.8	3.3		29.6	35.1	35.3	0.1		41.9	53.6	4.4	0.1		3.8	64.1	32.2	0	
Total %	1.2	8.5	1.1	0.4		9.1	10.9	10.9	0		13.3	17	1.4	0		1	16.8	8.4	0	
Cars & Buses	46	317	41	14	418	342	406	408	1	1157	496	634	52	1	1183	37	628	316	0	981
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0	0	0

TMC Data
E College Ave (US278) @ Arcadia Ave/
Sams Crossing
2pm - 4pm Sat
File Name : 32180015
Site Code : 32180015
Start Date : 5/26/2012
Page No : 2

Start Time	Sams Crossing										E College Ave (US278)									
	Arcadia Ave Northbound					Southbound					Eastbound					Westbound				
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total
02:00 PM	6	38	4	1	49	41	53	46	0	140	58	72	2	0	132	3	72	36	0	111
02:15 PM	9	42	3	1	55	45	56	51	1	153	63	76	3	0	142	4	75	39	0	118
02:30 PM	4	45	6	4	59	48	61	58	0	147	67	81	7	0	155	6	79	42	0	127
02:45 PM	7	48	4	0	59	46	53	53	0	149	62	79	5	0	146	5	87	47	0	139
Total	26	173	17	6	222	180	213	198	1	592	250	308	17	0	575	18	313	164	0	495
03:00 PM	6	41	9	1	57	42	47	60	0	149	72	87	15	0	174	6	110	50	0	166
03:15 PM	6	37	6	5	54	43	52	51	0	146	63	85	7	1	156	7	77	31	0	115
03:30 PM	7	35	4	1	47	40	48	53	0	141	59	79	8	0	146	4	68	40	0	112
03:45 PM	1	31	5	1	38	37	46	46	0	129	52	75	5	0	132	2	61	31	0	94
Total	20	144	24	8	196	162	193	210	0	565	246	326	35	1	608	19	316	152	0	487
Grand Total	46	317	41	14	418	342	406	408	1	1157	496	634	52	1	1183	37	629	316	0	982
Appreh %	11	75.8	9.8	3.3		29.6	35.1	35.3	0.1		41.9	53.6	4.4	0.1		3.8	64.1	32.2	0	
Total %	1.2	8.5	1.1	0.4		9.1	10.9	10.9	0		13.3	17	1.4	0		1	16.8	8.4	0	
Cars & Buses	46	317	41	14	418	342	406	408	1	1157	496	634	52	1	1183	37	628	316	0	981
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0	0	0

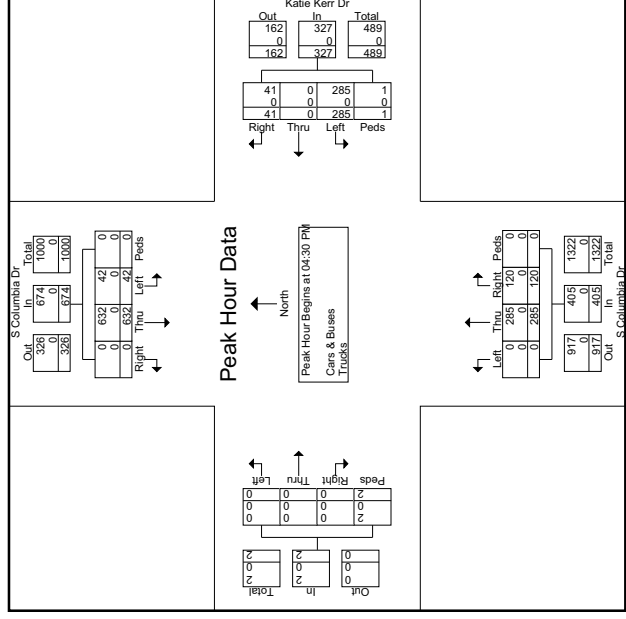


TMC Data
S Columbia Dr @ Katie Kerr Dr
4pm - 6pm
File Name : 32180016
Site Code : 32180016
Start Date : 5/16/2012
Page No : 1

Start Time	S Columbia Dr										Katie Kerr Dr									
	Northbound					Southbound					Eastbound					Westbound				
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total
04:00 PM	0	73	38	0	111	7	147	0	0	154	0	0	0	0	0	62	0	8	0	70
04:15 PM	0	77	31	0	108	9	154	0	0	163	0	0	0	0	0	68	0	10	0	78
04:30 PM	0	59	33	0	92	11	159	0	0	170	0	0	0	0	0	63	0	13	0	76
04:45 PM	0	82	29	0	111	15	142	0	0	157	0	0	0	0	0	69	0	9	0	78
Total	0	311	131	0	442	42	602	0	0	644	0	0	0	0	0	262	0	40	0	302
05:00 PM	0	61	30	0	91	9	153	0	0	162	0	0	0	0	0	80	0	8	1	89
05:15 PM	0	63	28	0	91	7	178	0	0	185	0	0	2	2	2	73	0	11	0	84
05:30 PM	0	74	33	0	107	6	137	0	0	143	0	0	3	3	3	78	0	17	0	95
05:45 PM	0	68	37	0	105	6	131	0	0	137	0	0	0	0	0	63	0	9	0	72
Total	0	266	128	0	394	28	599	0	0	627	0	0	5	5	5	294	0	45	1	340
Grand Total	0	577	259	0	836	70	1201	0	0	1271	0	0	5	5	5	556	0	85	1	642
Apprch. %	0	69	31	0	5.5	5.5	94.5	0	0	0	0	0	0	0	0	86.6	0	13.2	0.2	0
Total %	0	21	9.4	0	30.4	2.5	43.6	0	0	46.2	0	0	0.2	0.2	0.2	20.2	0	3.1	0	23.3
Cars & Buses	0	577	259	0	836	70	1201	0	0	1271	0	0	5	5	5	556	0	85	1	642
% Cars & Buses	0	100	100	0	100	100	100	0	0	100	0	0	100	100	100	100	0	100	100	100
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TMC Data
S Columbia Dr @ Katie Kerr Dr
4pm - 6pm
File Name : 32180016
Site Code : 32180016
Start Date : 5/16/2012
Page No : 2

Start Time	S Columbia Dr Northbound					S Columbia Dr Southbound					Eastbound					Katie Kerr Dr Westbound				
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																				
Peak Hour for Entire Intersection Begins at 04:30 PM																				
04:30 PM	0	79	33	0	112	11	159	0	0	170	0	0	0	0	0	63	0	13	0	76
04:45 PM	0	82	29	0	111	15	142	0	0	157	0	0	0	0	0	69	0	9	0	78
05:00 PM	0	61	30	0	91	9	153	0	0	162	0	0	0	0	0	80	0	8	1	89
05:15 PM	0	63	28	0	91	7	178	0	0	185	0	0	2	2	2	73	0	11	0	84
Total Volume	0	285	120	0	405	42	632	0	0	674	0	0	2	2	2	285	0	41	1	327
% App. Total	0	70.4	29.6	0		6.2	93.8	0	0		0	0	0	100		87.2	0	12.5	0.3	
PHF	.001	.869	.909	.000	.904	.700	.888	.000	.000	.911	.000	.000	.000	.250	.250	.891	.000	.788	.250	.919
Cars & Buses	0	285	120	0	405	42	632	0	0	674	0	0	2	2	2	285	0	41	1	327
% Cars & Buses	0	100	100	0	100	100	100	0	0	100	0	0	0	0	0	100	0	0	0	100
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



TMC Data
S Columbia Dr @ Katie Kerr Dr
2pm - 4pm Sat

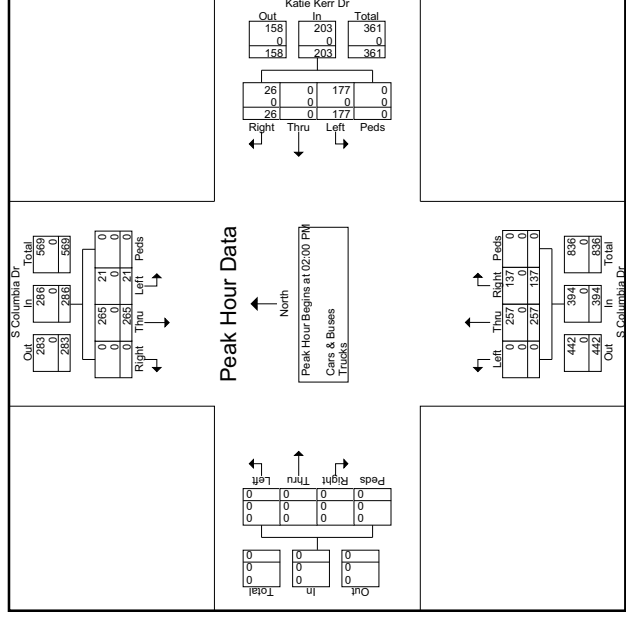
File Name : 32180016
Site Code : 32180016
Start Date : 5/19/2012
Page No : 1

Start Time	S Columbia Dr										Katie Kerr Dr									
	Northbound					Southbound					Eastbound					Westbound				
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total
02:00 PM	0	65	37	0	102	5	69	0	0	74	0	0	0	0	0	40	0	8	0	48
02:15 PM	0	62	32	0	94	5	63	0	0	68	0	0	0	0	0	43	0	6	0	49
02:30 PM	0	67	35	0	102	6	68	0	0	74	0	0	0	0	0	49	0	7	0	56
02:45 PM	0	63	33	0	96	5	65	0	0	70	0	0	0	0	0	45	0	5	0	50
Total	0	257	137	0	394	21	265	0	0	286	0	0	0	0	0	177	0	26	0	203
03:00 PM	0	59	32	1	92	3	61	0	0	64	0	0	0	0	0	47	0	4	0	51
03:15 PM	0	52	29	0	81	7	70	0	0	77	0	0	0	0	0	36	0	7	0	43
03:30 PM	0	66	32	0	98	5	77	0	0	82	0	0	0	0	0	38	0	8	0	46
03:45 PM	0	62	35	0	97	5	59	0	0	64	0	0	0	0	0	45	0	4	0	49
Total	0	239	128	1	368	20	267	0	0	287	0	0	0	0	0	166	0	23	0	189
Grand Total	0	496	265	1	762	41	532	0	0	573	0	0	0	0	0	343	0	49	0	392
Appreh %	0	65.1	34.8	0.1	7.2	92.8	0	0	0	87.5	0	0	0	0	0	12.5	0	2.8	0	22.7
Total %	0	28.7	15.3	0.1	44.1	2.4	30.8	0	0	33.2	0	0	0	0	0	19.9	0	2.8	0	22.7
Cars & Buses	0	496	265	1	762	41	532	0	0	573	0	0	0	0	0	343	0	49	0	392
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TMC Data
S Columbia Dr @ Katie Kerr Dr
2pm - 4pm Sat

File Name : 32180016
Site Code : 32180016
Start Date : 5/19/2012
Page No : 2

Start Time	S Columbia Dr Northbound					S Columbia Dr Southbound					Eastbound					Katie Kerr Dr Westbound				
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total
Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1																				
Peak Hour for Entire Intersection Begins at 02:00 PM																				
02:00 PM	0	65	37	0	102	5	69	0	0	74	0	0	0	0	0	40	0	8	0	48
02:15 PM	0	62	32	0	94	5	63	0	0	68	0	0	0	0	0	43	0	6	0	49
02:30 PM	0	67	35	0	102	6	68	0	0	74	0	0	0	0	0	49	0	7	0	56
02:45 PM	0	63	33	0	96	5	65	0	0	70	0	0	0	0	0	45	0	5	0	50
Total Volume	0	257	137	0	394	21	265	0	0	286	0	0	0	0	0	177	0	26	0	203
% App. Total	0	65.2	34.8	0	7.3	92.7	0	0	0	87.2	0	0	0	0	0	12.8	0	2.8	0	22.7
PHF	.001	.959	.926	.000	.966	.875	.960	.000	.000	.966	.000	.000	.000	.000	.000	.903	.000	.813	.000	.952
Cars & Buses	0	257	137	0	394	21	265	0	0	286	0	0	0	0	0	177	0	26	0	203
% Cars & Buses	0	100	100	0	100	100	100	0	0	100	0	0	0	0	0	100	0	100	0	100
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



TMC Data
E College Ave (US278) @
Commerce Dr
4pm - 6pm

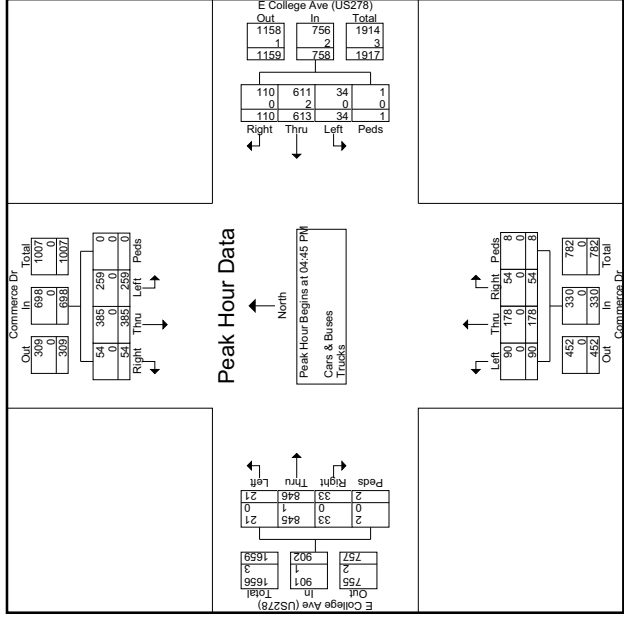
File Name : 32180017
Site Code : 32180017
Start Date : 5/16/2012
Page No : 1

Start Time	Commerce Dr										E College Ave (US278)									
	Northbound					Southbound					Eastbound					Westbound				
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total
04:00 PM	18	42	14	0	74	50	85	10	0	145	7	177	8	1	193	9	147	27	1	184
04:15 PM	24	59	15	2	100	48	99	15	0	162	5	186	7	1	199	10	153	30	0	193
04:30 PM	29	54	16	1	100	44	87	9	0	140	6	197	5	0	208	9	158	32	0	199
04:45 PM	24	36	13	2	75	39	10	0	0	49	3	204	10	0	214	6	155	27	0	188
Total	95	191	58	5	349	217	370	44	0	631	21	764	30	2	817	34	613	116	1	764
05:00 PM	19	51	18	3	91	67	102	13	0	182	5	213	8	0	226	11	157	24	0	192
05:15 PM	20	47	13	2	82	62	96	18	0	176	6	218	7	0	231	9	152	28	0	189
05:30 PM	27	44	10	1	82	55	88	13	0	156	7	211	8	2	228	8	149	31	1	189
05:45 PM	19	41	11	1	72	51	73	9	0	133	4	206	5	1	216	5	145	29	0	179
Total	85	183	52	7	327	235	359	53	0	647	22	848	28	3	901	33	603	112	1	749
Grand Total	180	374	110	12	676	452	729	97	0	1278	43	1612	58	5	1718	67	1216	228	2	1513
Apprch %	26.6	55.3	16.3	1.8	35.4	57	7.6	0	0	2.5	93.8	3.4	0.3	4.4	80.4	15.1	0.1	0	0	29.2
Total %	3.5	7.2	2.1	0.2	13	8.7	14.1	1.9	0	24.6	0.8	31.1	1.1	0.1	33.1	1.3	23.5	4.4	0	29.2
Cars & Buses	180	374	110	12	676	452	729	97	0	1278	43	1610	58	5	1716	67	1214	228	2	1511
% Cars & Buses	100	100	100	100	100	100	100	100	0	100	100	99.9	100	100	99.9	100	99.8	100	100	99.9
Trucks	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	2	0	0	2
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0.1	0	0.2	0	0	0.1

TMC Data
E College Ave (US278) @
Commerce Dr
4pm - 6pm

File Name : 32180017
Site Code : 32180017
Start Date : 5/16/2012
Page No : 2

Start Time	Commerce Dr										E College Ave (US278)									
	Northbound					Southbound					Eastbound					Westbound				
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total
04:00 PM	24	36	13	2	75	75	99	10	0	184	3	204	10	0	217	6	155	27	0	188
04:15 PM	19	51	18	3	91	67	102	13	0	182	5	213	8	0	226	11	157	24	0	192
04:30 PM	20	47	13	2	82	62	96	18	0	176	6	218	7	0	231	9	152	28	0	189
04:45 PM	27	44	10	1	82	55	88	13	0	156	7	211	8	2	228	8	149	31	1	189
Total	90	178	54	8	330	259	385	54	0	698	21	846	33	2	902	34	613	110	1	758
% App. Total	27.3	53.9	16.4	2.4	37.1	55.2	7.7	0	0	2.3	93.8	3.7	0.2	4.5	80.9	14.5	0.1	0	0	28.5
PHF	.831	.873	.750	.667	.907	.863	.944	.750	.600	.948	.750	.970	.825	.250	.976	.773	.976	.887	.250	.987
Cars & Buses	90	178	54	8	330	259	385	54	0	698	21	845	33	2	901	34	611	110	1	756
% Cars & Buses	100	100	100	100	100	100	100	100	0	100	100	99.9	100	100	99.9	100	99.9	100	100	99.9
Trucks	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0.1	0	0.3	0	0	0.3



TMC Data
E College Ave (US278) @
Commerce Dr
2pm - 4pm Sat

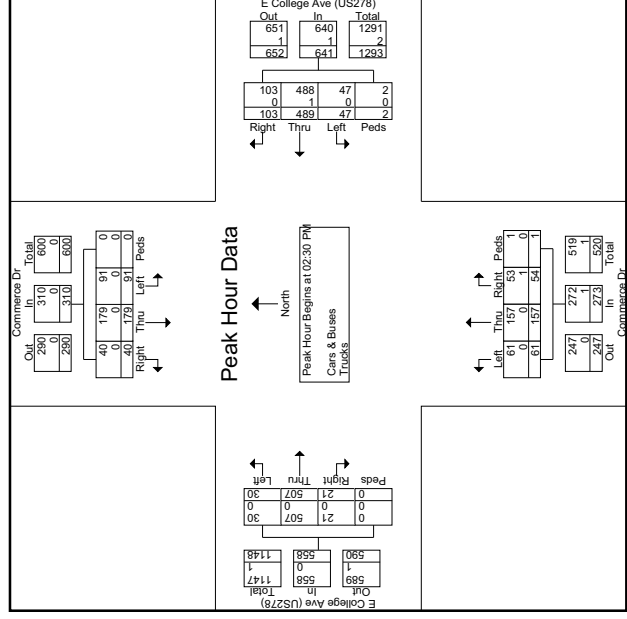
File Name : 32180017
Site Code : 32180017
Start Date : 5/26/2012
Page No : 1

Start Time	Commerce Dr										E College Ave (US278)									
	Northbound					Southbound					Eastbound					Westbound				
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total
02:00 PM	11	34	9	0	54	19	41	7	0	67	7	109	3	0	119	7	98	18	1	124
02:15 PM	14	37	11	1	63	21	45	9	0	75	7	115	5	0	127	10	107	21	0	138
02:30 PM	16	40	16	0	72	25	47	12	0	84	9	119	7	0	135	12	119	25	1	157
02:45 PM	3	49	12	0	64	23	44	10	0	77	5	131	3	0	139	10	128	22	0	160
Total	54	150	48	2	254	88	177	38	0	303	28	474	18	0	520	39	452	86	2	579
03:00 PM	10	37	9	0	56	22	41	8	0	71	6	136	7	0	149	14	123	30	1	168
03:15 PM	22	41	17	0	80	21	47	10	0	78	10	121	4	0	135	11	119	26	0	156
03:30 PM	17	37	10	1	65	24	45	9	0	78	7	116	7	0	130	7	107	22	1	137
03:45 PM	8	36	7	0	51	17	42	6	0	65	6	113	0	0	119	6	88	19	0	113
Total	57	151	43	1	252	84	175	33	0	292	29	486	18	0	533	38	437	97	2	574
Grand Total	111	301	91	3	506	172	352	71	0	595	57	960	36	0	1053	77	889	183	4	1153
Approach %	21.9	59.5	18	0.6		28.9	59.2	11.9	0		5.4	91.2	3.4	0		6.7	77.1	15.9	0.3	
Total %	3.4	9.1	2.8	0.1	15.3	5.2	10.6	2.1	0	18	1.7	29	1.1	0	31.8	2.3	26.9	5.5	0.1	34.9
Cars & Buses	111	301	90	3	505	172	352	71	0	595	57	960	36	0	1053	77	888	183	4	1152
% Trucks	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Trucks	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
% Trucks	0	0	1.1	0	0.2	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0.1

TMC Data
E College Ave (US278) @
Commerce Dr
2pm - 4pm Sat

File Name : 32180017
Site Code : 32180017
Start Date : 5/26/2012
Page No : 2

Start Time	Commerce Dr										E College Ave (US278)									
	Northbound					Southbound					Eastbound					Westbound				
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total
Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1																				
Peak Hour for Entire Intersection Begins at 02:30 PM																				
02:30 PM	16	40	16	0	72	25	47	12	0	84	9	119	7	0	135	12	119	25	1	157
02:45 PM	13	39	12	1	65	23	44	10	0	77	5	131	3	0	139	10	128	22	0	160
03:00 PM	10	37	9	0	56	22	41	8	0	71	6	136	7	0	149	14	123	30	1	168
03:15 PM	22	41	17	0	80	21	47	10	0	78	10	121	4	0	135	11	119	26	0	156
Total Volume	61	157	54	1	273	91	179	40	0	310	30	507	21	0	558	47	489	103	2	641
% App. Total	22.3	57.5	19.8	0.4		29.4	57.7	12.9	0		5.4	90.9	3.8	0		7.3	76.3	16.1	0.3	
PHF	.691	.957	.794	.250	.853	.910	.952	.833	.000	.923	.750	.932	.750	.000	.936	.839	.955	.858	.500	.954
Cars & Buses	61	157	53	1	272	91	179	40	0	310	30	507	21	0	558	47	488	103	2	640
% Trucks	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Trucks	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
% Trucks	0	0	1.9	0	0.4	0	0	0	0	0	0	0	0	0	0	0	0.2	0	0	0.2



TMC Data
E College Ave (US278) @
Candler St (SR155)
4pm - 6pm

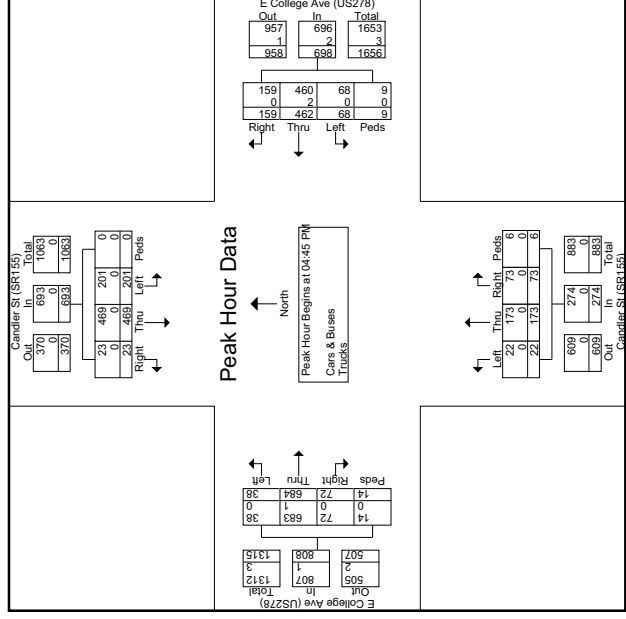
File Name : 32180018
Site Code : 32180018
Start Date : 5/16/2012
Page No : 1

Groups Printed: Cars & Buses - Trucks																			
Candler St (SR155)				E College Ave (US278)				Candler St (SR155)				E College Ave (US278)				Candler St (SR155)			
Northbound		Southbound		Eastbound		Westbound		Northbound		Southbound		Eastbound		Westbound		Northbound		Southbound	
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds
04:00 PM	8	59	10	0	77	43	106	2	0	151	9	134	20	5	168	21	107	34	0
04:15 PM	8	59	10	1	78	45	109	2	0	156	10	143	22	5	180	24	112	37	0
04:30 PM	6	55	18	2	81	48	105	4	0	157	7	168	17	2	194	22	117	41	1
04:45 PM	3	51	1	2	57	37	106	4	0	140	10	177	16	0	208	19	112	4	0
Total	25	224	55	5	309	183	436	15	0	634	36	622	75	15	794	86	448	159	1
05:00 PM	7	47	16	0	70	55	109	4	0	168	9	173	21	1	204	20	113	46	0
05:15 PM	5	33	19	3	60	52	120	7	0	179	8	169	19	7	203	17	108	35	4
05:30 PM	7	42	21	1	71	47	124	5	0	176	11	165	16	3	195	12	129	31	5
05:45 PM	4	47	17	0	68	44	117	9	0	170	11	162	17	2	192	15	115	48	2
Total	23	169	73	4	269	198	470	25	0	693	39	669	73	13	794	64	465	160	11
Grand Total	48	393	128	9	578	381	906	40	0	1327	75	1289	148	28	1542	150	913	319	12
Apprch %	8.3	68	22.1	1.6	28.7	68.3	3	0	4.9	83.7	9.6	1.8	10.8	65.5	22.9	0.9	28.8	0	0
Total %	1	8.1	2.6	0.2	11.9	7.9	18.7	0.8	0	27.4	1.5	26.7	3.1	0.6	31.9	3.1	18.9	6.6	0.2
Cars & Buses	48	393	128	9	578	381	906	40	0	1327	75	1289	148	28	1540	150	911	319	12
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TMC Data
E College Ave (US278) @
Candler St (SR155)
4pm - 6pm

File Name : 32180018
Site Code : 32180018
Start Date : 5/16/2012
Page No : 2

Candler St (SR155)				E College Ave (US278)				Candler St (SR155)				E College Ave (US278)				Candler St (SR155)			
Northbound		Southbound		Eastbound		Westbound		Northbound		Southbound		Eastbound		Westbound		Northbound		Southbound	
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds
04:00 PM	8	59	10	0	77	43	106	2	0	151	9	134	20	5	168	21	107	34	0
04:15 PM	8	59	10	1	78	45	109	2	0	156	10	143	22	5	180	24	112	37	0
04:30 PM	6	55	18	2	81	48	105	4	0	157	7	168	17	2	194	22	117	41	1
04:45 PM	3	51	1	2	57	37	106	4	0	140	10	177	16	0	208	19	112	4	0
Total	25	224	55	5	309	183	436	15	0	634	36	622	75	15	794	86	448	159	1
05:00 PM	7	47	16	0	70	55	109	4	0	168	9	173	21	1	204	20	113	46	0
05:15 PM	5	33	19	3	60	52	120	7	0	179	8	169	19	7	203	17	108	35	4
05:30 PM	7	42	21	1	71	47	124	5	0	176	11	165	16	3	195	12	129	31	5
05:45 PM	4	47	17	0	68	44	117	9	0	170	11	162	17	2	192	15	115	48	2
Total	23	169	73	4	269	198	470	25	0	693	39	669	73	13	794	64	465	160	11
Grand Total	48	393	128	9	578	381	906	40	0	1327	75	1289	148	28	1542	150	913	319	12
Apprch %	8.3	68	22.1	1.6	28.7	68.3	3	0	4.9	83.7	9.6	1.8	10.8	65.5	22.9	0.9	28.8	0	0
Total %	1	8.1	2.6	0.2	11.9	7.9	18.7	0.8	0	27.4	1.5	26.7	3.1	0.6	31.9	3.1	18.9	6.6	0.2
Cars & Buses	48	393	128	9	578	381	906	40	0	1327	75	1289	148	28	1540	150	911	319	12
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



TMC Data
E College Ave (US278) @
Candler St (SR155)
2pm - 4pm Sat

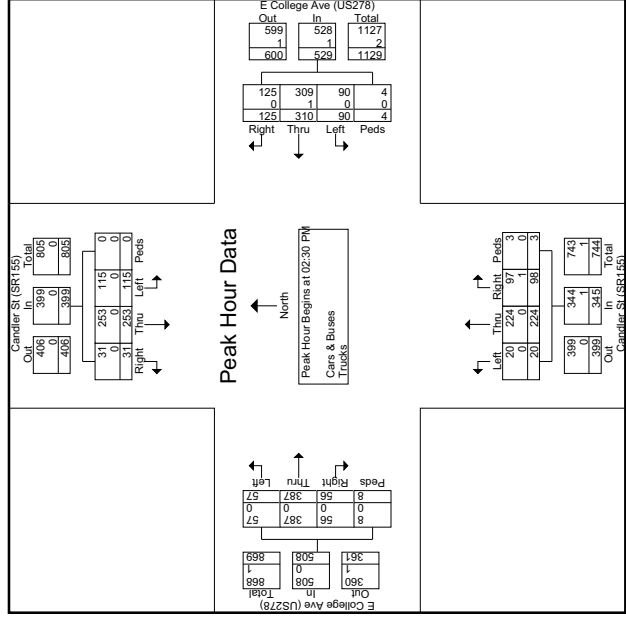
File Name : 32180018
Site Code : 32180018
Start Date : 5/26/2012
Page No : 1

		Group Printed: Cars & Buses - Trucks																							
		Candler St (SR155)						E College Ave (US278)						E College Ave (US278)											
		Northbound			Southbound			Eastbound			Westbound														
Start Time		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
02:00 PM		3	45	20	1	69	23	58	5	0	86	13	83	12	1	109	24	71	27	1	123	387			
02:15 PM		5	49	21	2	77	26	62	7	0	95	15	87	14	2	118	27	76	30	0	133	423			
02:30 PM		4	52	24	0	80	29	65	7	0	103	18	95	16	3	132	20	81	32	1	134	449			
02:45 PM		4	57	28	1	89	34	68	7	0	103	18	95	16	3	132	20	81	32	1	134	449			
Total		16	203	93	4	316	102	253	28	0	383	60	363	60	9	492	93	304	124	2	323	1174			
03:00 PM		6	60	21	0	87	28	70	9	0	107	12	108	10	1	131	27	69	23	2	121	446			
03:15 PM		6	55	25	2	88	34	50	6	0	90	13	86	12	1	112	21	84	35	1	141	431			
03:30 PM		7	60	21	0	88	23	75	5	0	103	11	96	11	1	119	25	74	33	0	132	442			
03:45 PM		3	37	17	1	58	19	53	7	0	79	18	79	20	1	118	25	61	36	3	125	380			
Total		22	212	84	3	321	104	248	27	0	379	54	369	53	4	480	98	288	127	6	519	1699			
Grand Total		38	415	177	7	637	206	501	55	0	762	114	732	113	13	972	191	592	251	8	1042	3413			
Approach %		6	65.1	27.8	1.1	27	65.7	7.2	0		11.7	75.3	11.6	1.3		18.3	56.8	24.1	0.8						
Total %		1.1	12.2	5.2	0.2	18.7	6	14.7	1.6	0	22.3	3.3	21.4	3.3	0.4	28.5	5.6	17.3	7.4	0.2					
Cars & Buses		38	415	176	7	636	206	501	55	0	762	114	732	113	13	972	191	591	251	8	1041	3411			
% Trucks		0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1			
Trucks		0	0	0.6	0	0.2	0	0	0	0	0	0	0	0	0	0	0	0.2	0	0	0.1				

TMC Data
E College Ave (US278) @
Candler St (SR155)
2pm - 4pm Sat

File Name : 32180018
Site Code : 32180018
Start Date : 5/26/2012
Page No : 2

		Candler St (SR155)						E College Ave (US278)						E College Ave (US278)											
		Northbound			Southbound			Eastbound			Westbound														
Start Time		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
02:00 PM		4	52	24	0	80	29	65	9	0	103	18	95	16	3	132	20	81	32	1	134	449			
02:15 PM		6	60	21	0	87	28	70	9	0	107	12	108	10	1	131	27	69	23	2	121	446			
02:30 PM		6	55	25	2	88	34	50	6	0	90	13	86	12	1	112	21	84	35	1	141	431			
02:45 PM		6	55	25	2	88	34	50	6	0	90	13	86	12	1	112	21	84	35	1	141	431			
Total		20	224	98	3	345	115	253	31	0	399	57	387	56	8	508	90	310	125	4	529	1781			
% App. Total		5.8	64.9	28.4	0.9	95.8	28.8	63.4	7.8	0	11.2	76.2	11	1.6			17	58.6	23.6	0.8					
PHF		.831	.933	.875	.375	.938	.846	.904	.861	.000	.932	.792	.896	.778	.667	.955	.833	.923	.893	.500	.938	.979			
Cars & Buses		20	224	97	3	344	115	253	31	0	399	57	387	56	8	508	90	309	125	4	528	1779			
% Trucks		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Trucks		0	0	1.0	0	0.3	0	0	0	0	0	0	0	0	0	0	0	0.3	0	0	0.2				



TMC Data
E College Ave (US278) @
McDonough St
4pm - 6pm

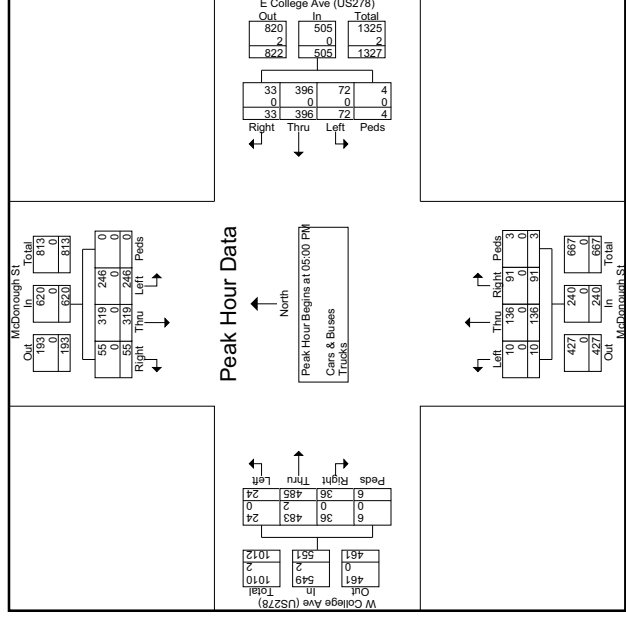
File Name : 32180019
Site Code : 32180019
Start Date : 5/16/2012
Page No : 1

Group Printed: Cars & Buses - Trucks														
Start Time	McDonough St Northbound					McDonough St Southbound					W College Ave (US278) Eastbound			
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	App. Total
04:00 PM	2	0	24	8	34	40	42	9	0	91	5	107	5	122
04:15 PM	3	31	27	18	79	44	46	8	0	98	6	113	8	135
04:30 PM	5	36	25	1	67	55	55	11	0	121	5	125	6	139
04:45 PM	1	36	42	3	82	53	50	0	0	103	4	117	3	121
Total	11	95	95	30	229	192	205	32	0	427	20	462	24	517
05:00 PM	2	27	18	1	48	60	94	8	0	162	6	120	6	133
05:15 PM	3	32	24	2	61	64	91	10	0	165	2	126	9	138
05:30 PM	2	39	22	0	63	62	75	19	0	156	5	121	14	143
05:45 PM	3	38	27	0	68	60	59	18	0	137	11	118	7	137
Total	10	136	91	3	240	246	319	55	0	620	24	485	36	551
Grand Total	21	229	186	33	469	438	522	87	0	1047	44	947	60	1075
Apprch %	4.5	48.8	39.7	7		41.8	49.9	8.3	0		4.1	87.8	5.6	2.5
Total %	0.6	6.4	5.2	0.9	13.2	12.3	14.7	2.4	0	29.4	1.2	26.6	1.7	0.8
Cars & Buses	21	229	186	33	469	437	522	87	0	1046	44	944	60	1075
% Trucks	0	0	0	0	0	1	0	0	0	0.3	0	0.3	0	0.3
Trucks	0	0	0	0	0	1	0	0	0	0.3	0	1	0	0.3
% Trucks	0	0	0	0	0	0.1	0	0	0	0.1	0	0.1	0	0.1

TMC Data
E College Ave (US278) @
McDonough St
4pm - 6pm

File Name : 32180019
Site Code : 32180019
Start Date : 5/16/2012
Page No : 2

Start Time	McDonough St Northbound					McDonough St Southbound					W College Ave (US278) Eastbound			
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	App. Total
05:00 PM	2	27	18	1	48	60	94	8	0	162	6	120	6	133
05:15 PM	3	32	24	2	61	64	91	10	0	165	2	126	9	138
05:30 PM	2	39	22	0	63	62	75	19	0	156	5	121	14	143
05:45 PM	3	38	27	0	68	60	59	18	0	137	11	118	7	137
Total Volume	10	136	91	3	240	246	319	55	0	620	24	485	36	551
% App. Total	4.2	56.7	37.9	1.2		39.7	51.5	8.9	0		4.4	88	6.5	1.1
PHF	.833	.872	.843	.375	.882	.961	.848	.724	.000	.939	.545	.902	.643	.500
Cars & Buses	10	136	91	3	240	246	319	55	0	620	24	483	36	549
% Trucks	0	0	0	0	0	0	0	0	0	0	0	2	0	0
Trucks	0	0	0	0	0	0	0	0	0	0	2	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0.4	0	0	0



Reliable Traffic Data Services, LLC

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TMC Data
E College Ave (US278) @
McDonough St
2pm - 4pm Sat

File Name : 32180019
Site Code : 32180019
Start Date : 5/26/2012
Page No : 1

Groups Printed: Cars & Buses - Trucks

Start Time	McDonough St Northbound					McDonough St Southbound					W College Ave (US278) Eastbound					E College Ave (US278) Westbound				
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total
02:00 PM	2	17	19	1	39	24	22	9	0	55	5	70	2	4	81	6	57	5	0	68
02:15 PM	2	20	20	1	43	27	27	11	0	65	7	74	4	6	91	9	64	6	0	79
02:30 PM	4	22	23	2	51	30	24	8	0	62	6	79	5	5	95	11	70	6	0	87
02:45 PM	2	25	25	0	52	33	26	11	0	70	8	82	8	5	103	11	70	6	0	87
Total	10	84	87	4	185	114	99	39	0	252	26	305	19	20	370	34	258	26	0	318
03:00 PM	2	22	28	1	53	30	23	9	0	62	7	77	5	7	96	9	72	7	0	88
03:15 PM	2	21	25	1	49	25	29	10	0	64	6	80	3	5	94	10	68	7	0	85
03:30 PM	3	24	19	4	50	26	23	13	0	62	6	78	5	4	93	7	59	5	0	71
03:45 PM	1	21	17	1	40	23	20	10	0	53	4	63	3	2	72	5	51	4	0	60
Total	8	88	89	7	192	104	95	42	0	241	23	298	16	18	355	31	250	23	0	304
Grand Total	18	172	176	11	377	218	194	81	0	493	49	603	35	38	725	65	508	49	0	622
Apprch %	4.8	45.6	46.7	2.9		44.2	39.4	16.4	0		6.8	83.2	4.8	5.2		10.5	81.7	7.9	0	
Total %	0.8	7.8	7.9	0.5		17	9.8	8.8	3.7		22.2	2.2	27.2	1.6	1.7		2.9	22.9	2.2	
Cars & Buses	18	172	175	11	376	218	194	81	0	493	49	603	35	38	725	65	507	49	0	621
% Trucks	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Trucks	0	0	0.6	0	0.3	0	0	0	0	0	0	0	0	0	0	0	0.2	0	0	0.1

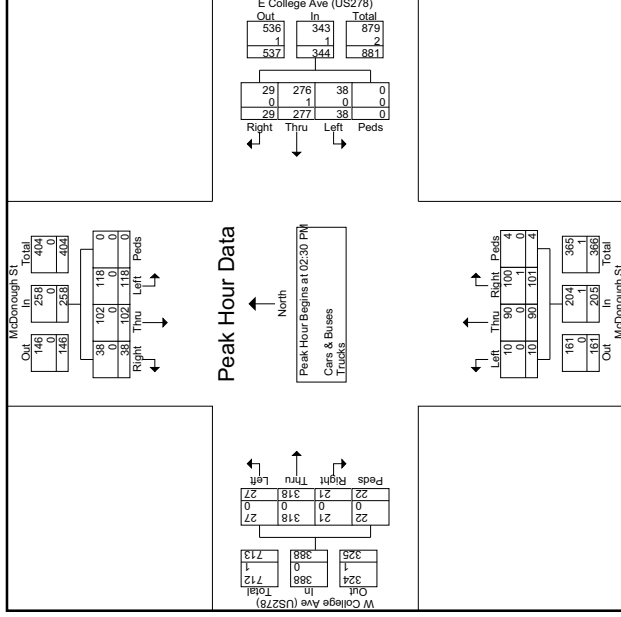
Reliable Traffic Data Services, LLC

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TMC Data
E College Ave (US278) @
McDonough St
2pm - 4pm Sat

File Name : 32180019
Site Code : 32180019
Start Date : 5/26/2012
Page No : 2

Start Time	McDonough St Northbound					McDonough St Southbound					W College Ave (US278) Eastbound					E College Ave (US278) Westbound				
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total
02:00 PM	2	22	23	2	51	30	24	8	0	62	6	79	5	5	95	8	67	9	0	84
02:15 PM	2	25	25	0	52	33	26	11	0	70	8	82	8	5	103	11	70	6	0	87
02:30 PM	2	22	28	1	53	30	23	9	0	62	7	77	5	7	96	9	72	7	0	88
03:00 PM	2	21	25	1	49	25	29	10	0	64	6	80	3	5	94	10	68	7	0	85
03:15 PM	2	21	25	1	49	25	29	10	0	64	6	80	3	5	94	10	68	7	0	85
03:30 PM	2	21	25	1	49	25	29	10	0	64	6	80	3	5	94	10	68	7	0	85
03:45 PM	2	21	25	1	49	25	29	10	0	64	6	80	3	5	94	10	68	7	0	85
Total	10	90	101	4	205	118	102	38	0	258	27	318	21	22	388	38	277	29	0	344
% App. Total	4.9	43.9	49.3	2		45.7	39.5	14.7	0		7	82	5.4	5.7		11	80.5	8.4	0	
PHF	.625	.900	.902	.500	.967	.894	.879	.864	.000	.921	.844	.970	.656	.786	.942	.864	.962	.806	.000	.977
Cars & Buses	10	90	100	4	204	118	102	38	0	253	27	318	21	22	383	38	276	29	0	343
% Trucks	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



TMC Data
Dekalb Industrial Way @
N Arcadia Ave
4pm - 6pm

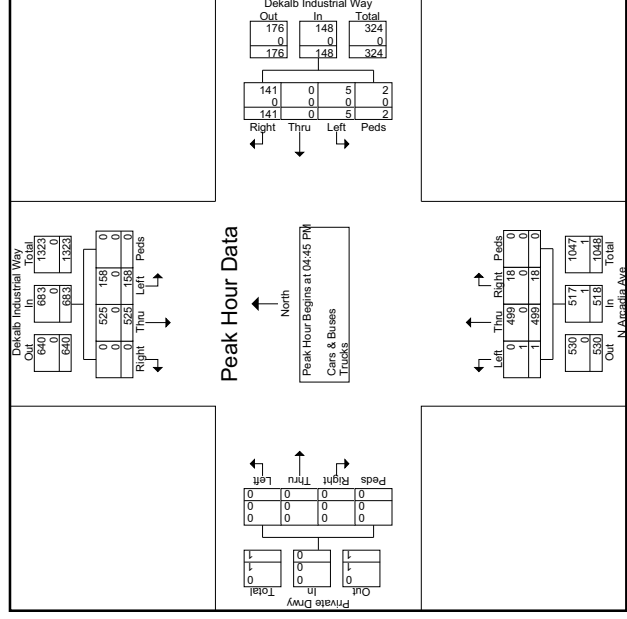
File Name : 32180020
Site Code : 32180020
Start Date : 5/16/2012
Page No : 1

Start Time	Grouped Pinned: Cars & Buses - Trucks											
	N Arcadia Ave Northbound				Dekalb Industrial Way Southbound				Private Drwy Eastbound			
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
04:00 PM	0	128	2	0	130	0	0	0	0	0	0	0
04:15 PM	0	133	3	0	136	33	118	0	0	151	0	0
04:30 PM	0	127	4	0	131	37	125	0	0	162	0	0
04:45 PM	0	135	7	0	123	41	129	0	0	130	0	0
Total	0	503	16	0	519	141	487	0	0	628	0	0
05:00 PM	0	137	3	0	140	38	137	0	0	175	0	0
05:15 PM	1	113	4	0	118	42	124	0	0	166	0	0
05:30 PM	0	134	4	0	138	37	135	0	0	172	0	0
05:45 PM	0	125	2	0	127	33	123	0	0	156	0	0
Total	1	509	13	0	523	150	519	0	0	669	0	0
Grand Total	1	1012	29	0	1042	291	1006	0	0	1297	0	0
Approch %	0.1	97.1	2.8	0	22.4	77.6	0	0	0	0	100	0
Total %	0	38.3	1.1	0	39.4	11	38	0	0	49	0	0
Cars & Buses	0	1011	29	0	1040	291	1006	0	0	1297	0	0
% Cars & Buses	0	99.9	100	0	99.8	100	100	0	0	100	100	0
Trucks	1	1	0	0	2	0	0	0	0	0	0	0
% Trucks	100	0.1	0	0	0.2	0	0	0	0	0	0	0

TMC Data
Dekalb Industrial Way @
N Arcadia Ave
4pm - 6pm

File Name : 32180020
Site Code : 32180020
Start Date : 5/16/2012
Page No : 2

Start Time	N Arcadia Ave Northbound				Dekalb Industrial Way Southbound				Private Drwy Eastbound				Dekalb Industrial Way Westbound			
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
04:00 PM	0	115	7	0	122	41	129	0	0	0	0	0	1	0	38	0
04:15 PM	0	137	3	0	140	38	137	0	0	175	0	0	0	0	33	0
04:30 PM	1	113	4	0	118	42	124	0	0	166	0	0	3	0	37	1
04:45 PM	0	134	4	0	138	37	135	0	0	172	0	0	1	0	33	1
Total Volume	1	499	18	0	518	158	525	0	0	683	0	0	5	0	141	2
% Appr. Total	0.2	96.3	3.5	0	23.1	76.9	0	0	0	0	0	0	3.4	0	95.3	1.4
PHF	.250	.211	.643	.000	.925	.940	.958	.000	.000	.976	.000	.000	.000	.417	.000	.928
Cars & Buses	0	499	18	0	517	158	523	0	0	683	0	0	5	0	141	2
% Cars & Buses	0	99.9	100	0	99.9	100	100	0	0	100	100	100	0	0	100	0
Trucks	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
% Trucks	100	0	0	0	0.2	0	0	0	0	0	0	0	0	0	0	0



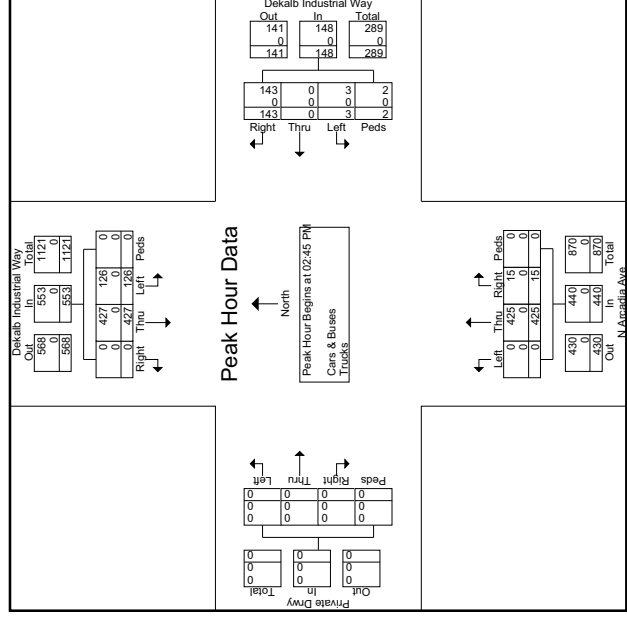
TMC Data
Dekalb Industrial Way @
N Arcadia Ave
2pm - 4pm Sat

TMC Data
Dekalb Industrial Way @
N Arcadia Ave
2pm - 4pm Sat

File Name : 32180020
Site Code : 32180020
Start Date : 5/26/2012
Page No : 1

Start Time	Grouped Pinned: Cars & Buses - Trucks									
	N Arcadia Ave Northbound					Dekalb Industrial Way Southbound				
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total
02:00 PM	0	92	2	0	94	36	88	0	0	124
02:15 PM	0	97	1	0	98	39	93	0	0	132
02:30 PM	1	104	1	0	106	37	100	0	0	137
02:45 PM	0	113	6	0	119	37	98	0	0	128
Total	1	408	10	0	419	139	379	0	0	518
03:00 PM	0	98	4	0	102	29	106	0	0	135
03:15 PM	0	100	1	0	101	36	106	0	0	142
03:30 PM	0	112	4	0	116	34	117	0	0	151
03:45 PM	0	87	1	0	88	34	76	0	0	110
Total	0	397	10	0	407	133	405	0	0	538
Grand Total	1	805	20	0	826	272	784	0	0	1056
Apprch. %	0.1	97.5	2.4	0	25.8	74.2	0	0	0	74.2
Total %	0	56.8	0.9	0	37.8	12.4	35.8	0	0	48.3
Cars & Buses	1	805	20	0	826	272	784	0	0	1056
Trucks	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0

Start Time	N Arcadia Ave Northbound					Dekalb Industrial Way Southbound					Private Drwy Eastbound					Dekalb Industrial Way Westbound				
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total
02:00 PM	0	115	6	0	121	27	98	0	0	125	0	0	0	0	0	0	0	30	1	31
02:15 PM	0	98	4	0	102	29	106	0	0	135	0	0	0	0	0	2	0	39	0	41
02:30 PM	0	100	1	0	101	36	106	0	0	142	0	0	0	0	0	1	0	36	0	37
02:45 PM	0	112	4	0	116	34	117	0	0	151	0	0	0	0	0	0	0	38	1	39
Total Volume	0	425	15	0	440	126	427	0	0	553	0	0	0	0	0	3	0	143	2	148
% App. Total	0	96.6	3.4	0	23.8	77.2	0	0	0	55.3	0	0	0	0	0	2	0	96.6	1.4	93.2
PHF	.001	.294	.625	.000	.000	.909	.875	.912	.000	.000	.000	.000	.000	.000	.000	.375	.000	.917	.500	.902
Cars & Buses	0	425	15	0	440	126	427	0	0	553	0	0	0	0	0	3	0	143	2	148
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



TMC Data
Lawrenceville Hwy (SR8/US29) @
Dekalb Industrial Way
4pm - 6pm

File Name : 32180021
Site Code : 32180021
Start Date : 5/15/2012
Page No : 1

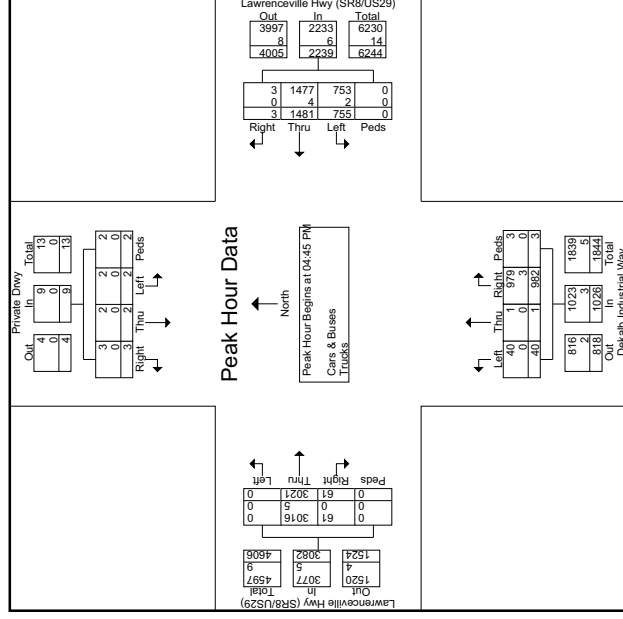
Group Printed- Cars & Buses - Trucks											
Dekalb Industrial Way Northbound				Private Drwy Southbound				Lawrenceville Hwy (SR8/US29) Eastbound			
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right
04:00 PM	7	1	240	0	248	0	0	1	0	720	17
04:15 PM	7	0	241	0	248	1	1	0	0	735	22
04:30 PM	17	2	245	0	264	2	0	0	4	748	18
04:45 PM	0	0	247	1	257	0	0	0	3	753	12
Total	40	3	975	1	1017	3	1	5	1	2936	69
05:00 PM	10	1	273	0	284	1	1	0	3	744	15
05:15 PM	9	0	233	2	244	1	0	1	0	764	19
05:30 PM	12	0	229	0	241	0	1	0	0	760	15
05:45 PM	12	3	215	0	230	5	0	1	0	669	13
Total	43	4	950	2	999	7	2	2	1	2937	62
Grand Total	83	7	1923	3	2016	10	3	7	2	5889	131
Approach %	4.1	0.3	95.4	0.1		45.5	13.6	31.8	9.1	0	97.8
Total %	0.7	0.1	15.6	0	16.3	0.1	0.1	0	0.2	0	47.7
Cars & Buses	83	7	1918	3	2011	10	3	7	2	5883	131
% Cars & Buses	100	100	99.7	100	99.8	100	100	100	100	99.8	100
Trucks	0	0	5	0	5	0	0	0	0	10	6
% Trucks	0	0	0.3	0	0.2	0	0	0	0	0.2	0.4

TMC Data
Lawrenceville Hwy (SR8/US29) @
Dekalb Industrial Way
4pm - 6pm

File Name : 32180021
Site Code : 32180021
Start Date : 5/15/2012
Page No : 2

Dekalb Industrial Way Northbound				Private Drwy Southbound				Lawrenceville Hwy (SR8/US29) Eastbound			
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right
04:00 PM	9	0	247	1	257	0	0	2	1	3	0
04:15 PM	10	1	273	0	284	1	1	0	3	0	744
04:30 PM	12	0	229	0	241	0	1	0	2	0	760
04:45 PM	12	0	229	0	241	0	1	0	2	0	760
Total Volume	40	1	982	3	1026	2	3	2	9	3021	61
% App. Total	3.9	0.1	95.7	0.3		22.2	22.2	33.3	22.2	0	98
PHF	.833	.250	.899	.375	.903	.500	.500	.375	.500	.989	.803
Cars & Buses	40	1	979	3	1023	2	3	2	9	3016	61
% Cars & Buses	100	100	99.7	100	99.7	100	100	100	100	99.8	100
Trucks	0	0	3	0	3	0	0	0	0	5	0
% Trucks	0	0	0.3	0	0.3	0	0	0	0	0.2	0

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



TMC Data
Lawrenceville Hwy (SR8/US29) @
Dekalb Industrial Way
2pm - 4pm Sat

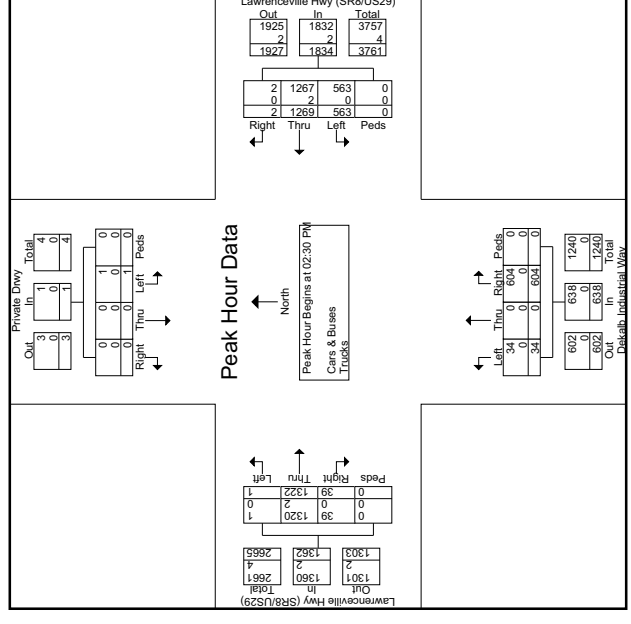
File Name : 32180021
Site Code : 32180021
Start Date : 5/26/2012
Page No : 1

Group Printed- Cars & Buses - Trucks														
Dekalb Industrial Way Northbound					Private Drwy Southbound					Lawrenceville Hwy (SR8/US29) Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	App. Total
02:00 PM	9	0	142	0	151	1	0	0	1	0	313	13	0	326
02:15 PM	13	0	150	0	163	2	0	0	2	0	318	9	0	327
02:30 PM	10	0	144	0	154	0	0	0	0	1	327	12	0	340
02:45 PM	7	0	137	0	144	0	0	0	0	0	332	10	0	342
Total	39	0	575	0	612	3	0	0	3	1	1290	44	0	1335
03:00 PM	8	0	156	0	164	1	0	0	1	0	337	9	0	346
03:15 PM	9	0	167	0	176	0	0	0	0	0	326	8	0	334
03:30 PM	7	0	159	0	166	1	0	0	1	1	331	13	0	345
03:45 PM	8	0	161	0	169	1	0	0	1	0	317	10	0	327
Total	32	0	643	0	675	3	0	0	3	1	1311	40	0	1352
Grand Total	71	0	1216	0	1287	6	0	0	6	2	2601	84	0	2687
Approach %	5.5	0	94.5	0	100	0	0	0	0	1	96.8	3.1	0	30.8
Total %	1	0	16.3	0	17.3	0.1	0	0	0.1	0	34.9	1.1	0	3.6
Cars & Buses	71	0	1214	0	1285	6	0	0	6	2	2599	84	0	2685
% Cars & Buses	100	0	99.8	0	99.8	100	0	0	100	99.9	100	99.9	100	99.9
Trucks	0	0	2	0	2	0	0	0	0	0	2	0	0	2
% Trucks	0	0	0.2	0	0.2	0	0	0	0	0.1	0	0.1	0	0.1

TMC Data
Lawrenceville Hwy (SR8/US29) @
Dekalb Industrial Way
2pm - 4pm Sat

File Name : 32180021
Site Code : 32180021
Start Date : 5/26/2012
Page No : 2

Dekalb Industrial Way Northbound					Private Drwy Southbound					Lawrenceville Hwy (SR8/US29) Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	App. Total
02:00 PM	10	0	144	0	154	0	0	0	0	1	327	12	0	340
02:15 PM	7	0	137	0	144	0	0	0	0	0	332	10	0	342
02:30 PM	8	0	156	0	164	1	0	0	1	0	337	9	0	346
02:45 PM	9	0	167	0	176	0	0	0	0	0	326	8	0	334
Total Volume	34	0	604	0	638	1	0	0	1	1	1322	39	0	1362
% App. Total	5.3	0	94.7	0	100	0	0	0	0	0.1	97.1	2.9	0	30.7
PHF	.850	.000	.904	.000	.906	.250	.000	.000	.250	.981	.813	.000	.984	.945
Cars & Buses	34	0	604	0	638	1	0	0	1	1	1320	39	0	1360
% Cars & Buses	100	0	100	0	100	0	0	0	0	100	99.8	100	0	99.9
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0.2	0	0	0	0.1



TMC Data
N Avondale Rd (US278) @
N Clarendon Ave
4pm - 6pm

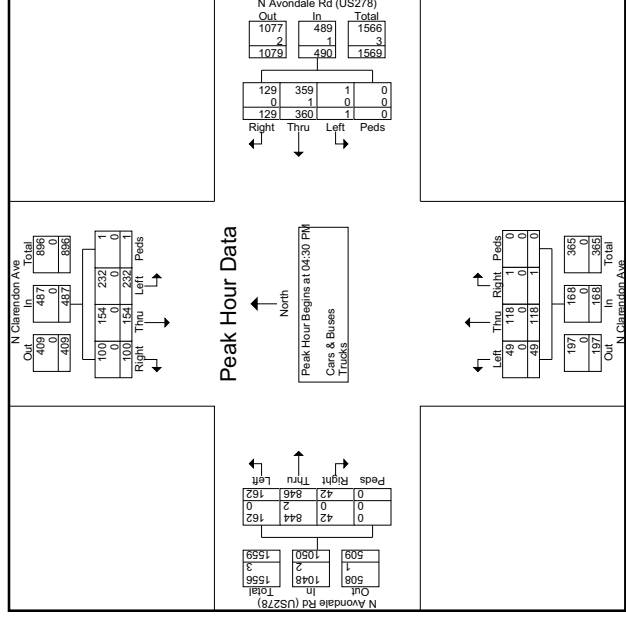
File Name : 32180022
Site Code : 32180022
Start Date : 5/15/2012
Page No : 1

Group Printed- Cars & Buses - Trucks															
N Clarendon Ave				N Clarendon Ave				N Avondale Rd (US278)				N Avondale Rd (US278)			
Northbound				Southbound				Eastbound				Westbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Left	Thru	Right	Left	Left	Thru	Right	In Total
04:00 PM	12	27	2	0	41	54	40	26	0	120	35	173	12	0	220
04:15 PM	8	33	2	0	43	57	42	27	0	126	42	163	11	1	217
04:30 PM	12	28	0	0	40	60	41	25	0	126	47	217	8	0	262
04:45 PM	15	30	0	0	43	57	37	22	0	136	37	208	13	0	262
04:55 PM	18	30	0	0	46	60	37	22	0	136	37	208	13	0	262
Total	47	118	4	0	169	228	160	100	0	488	151	761	44	1	957
05:00 PM	15	28	1	0	44	66	36	29	0	131	27	223	10	0	260
05:15 PM	7	32	0	0	39	49	40	24	1	114	61	198	11	0	270
05:30 PM	14	29	0	0	43	70	37	33	1	141	34	184	9	0	227
05:45 PM	5	26	2	0	33	44	26	15	0	85	42	176	10	0	228
Total	41	115	3	0	159	229	139	101	2	471	164	781	40	0	985
Grand Total	88	233	7	0	328	457	299	201	2	959	315	1542	84	1	1942
Approch %	26.8	71	2.1	0	47.7	31.2	21	0.2	0.6	74.8	24.6	0	0	0	0
Total %	2.1	5.5	0.2	0	7.8	10.8	7.1	4.8	0	22.7	7.5	36.6	2	0	46
Cars & Buses	88	233	7	0	328	457	299	201	2	959	315	1540	84	1	1940
% Cars & Buses	100	100	100	0	100	100	100	100	100	100	99.9	100	99.9	100	0
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0.1	0	0.1	0	0.1

TMC Data
N Avondale Rd (US278) @
N Clarendon Ave
4pm - 6pm

File Name : 32180022
Site Code : 32180022
Start Date : 5/15/2012
Page No : 2

N Clarendon Ave				N Clarendon Ave				N Avondale Rd (US278)				N Avondale Rd (US278)			
Northbound				Southbound				Eastbound				Westbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Left	Thru	Right	Left	Left	Thru	Right	In Total
04:00 PM	12	28	0	0	40	60	41	25	0	126	37	217	8	0	262
04:15 PM	15	30	0	0	45	57	37	22	0	116	37	208	13	0	258
04:30 PM	15	28	1	0	44	66	36	29	0	131	27	223	10	0	260
04:45 PM	7	32	0	0	39	49	40	24	1	114	61	198	11	0	270
05:00 PM	15	28	1	0	44	66	36	29	0	131	27	223	10	0	260
05:15 PM	7	32	0	0	39	49	40	24	1	114	61	198	11	0	270
05:30 PM	15	28	1	0	44	66	36	29	0	131	27	223	10	0	260
05:45 PM	5	26	2	0	33	44	26	15	0	85	42	176	10	0	228
Total	41	115	3	0	159	229	139	101	2	471	164	781	40	0	985
Grand Total	88	233	7	0	328	457	299	201	2	959	315	1542	84	1	1942
Approch %	26.8	71	2.1	0	47.7	31.2	21	0.2	0.6	74.8	24.6	0	0	0	0
Total %	2.1	5.5	0.2	0	7.8	10.8	7.1	4.8	0	22.7	7.5	36.6	2	0	46
Cars & Buses	88	233	7	0	328	457	299	201	2	959	315	1540	84	1	1940
% Cars & Buses	100	100	100	0	100	100	100	100	100	100	99.9	100	99.9	100	0
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0.1	0	0.1	0	0.1



TMC Data
N Avondale Rd (US278) @
N Clarendon Ave
2pm - 4pm Sat

File Name : 32180022
Site Code : 32180022
Start Date : 5/19/2012
Page No : 1

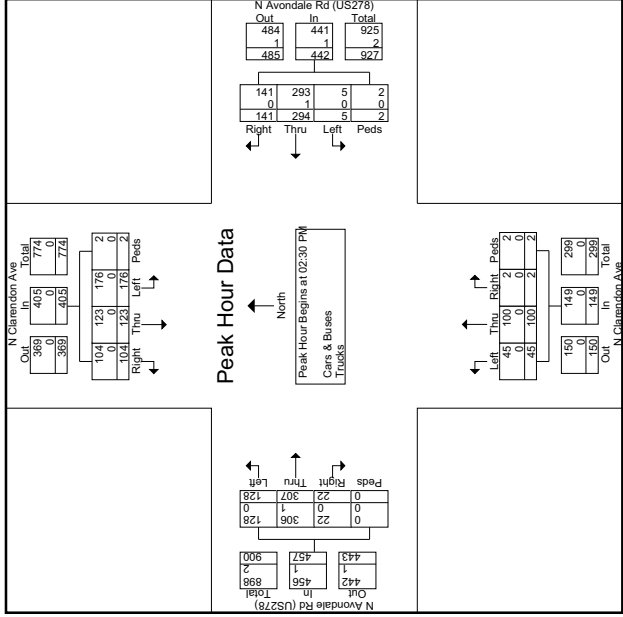
Groups Printed: Cars & Buses - Trucks

Start Time	N Clarendon Ave			N Clarendon Ave			N Avondale Rd (US278)			N Avondale Rd (US278)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
02:00 PM	10	27	1	38	40	31	25	1	97	31	65	4
02:15 PM	13	25	0	38	42	35	27	0	104	34	68	5
02:30 PM	11	28	1	40	41	32	29	2	104	37	73	9
02:45 PM	12	26	0	40	43	33	26	3	106	33	77	3
Total	46	106	2	156	168	133	107	3	411	135	283	21
03:00 PM	11	20	1	0	32	47	31	22	0	100	31	65
03:15 PM	11	26	0	0	37	43	25	27	0	95	27	92
03:30 PM	8	25	1	0	34	41	39	35	1	116	26	82
03:45 PM	13	28	1	0	42	45	26	28	2	101	29	92
Total	43	99	3	0	145	176	121	112	3	412	113	331
Grand Total	89	205	5	2	301	344	254	219	6	823	248	614
Approch %	29.6	68.1	1.7	0.7	41.8	30.9	26.6	0.7	27.6	68.4	4	0
Total %	3.1	7.1	0.2	0.1	10.5	12	8.8	7.6	0.2	28.7	8.6	21.4
Cars & Buses	89	205	5	2	301	344	254	219	6	823	248	613
Trucks	0	0	0	0	0	0	0	0	0	0	1	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0.2	0

TMC Data
N Avondale Rd (US278) @
N Clarendon Ave
2pm - 4pm Sat

File Name : 32180022
Site Code : 32180022
Start Date : 5/19/2012
Page No : 2

Start Time	N Clarendon Ave			N Clarendon Ave			N Avondale Rd (US278)			N Avondale Rd (US278)		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
02:00 PM	10	27	1	38	40	31	25	1	97	31	65	4
02:15 PM	13	25	0	38	42	35	27	0	104	34	68	5
02:30 PM	11	28	1	40	41	32	29	2	104	37	73	9
02:45 PM	12	26	0	40	43	33	26	3	106	33	77	3
Total	46	106	2	156	168	133	107	3	411	135	283	21
03:00 PM	11	20	1	0	32	47	31	22	0	100	31	65
03:15 PM	11	26	0	0	37	43	25	27	0	95	27	92
03:30 PM	8	25	1	0	34	41	39	35	1	116	26	82
03:45 PM	13	28	1	0	42	45	26	28	2	101	29	92
Total	43	99	3	0	145	176	121	112	3	412	113	331
Grand Total	89	205	5	2	301	344	254	219	6	823	248	614
Approch %	29.6	68.1	1.7	0.7	41.8	30.9	26.6	0.7	27.6	68.4	4	0
Total %	3.1	7.1	0.2	0.1	10.5	12	8.8	7.6	0.2	28.7	8.6	21.4
Cars & Buses	89	205	5	2	301	344	254	219	6	823	248	613
Trucks	0	0	0	0	0	0	0	0	0	0	1	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0.3	0

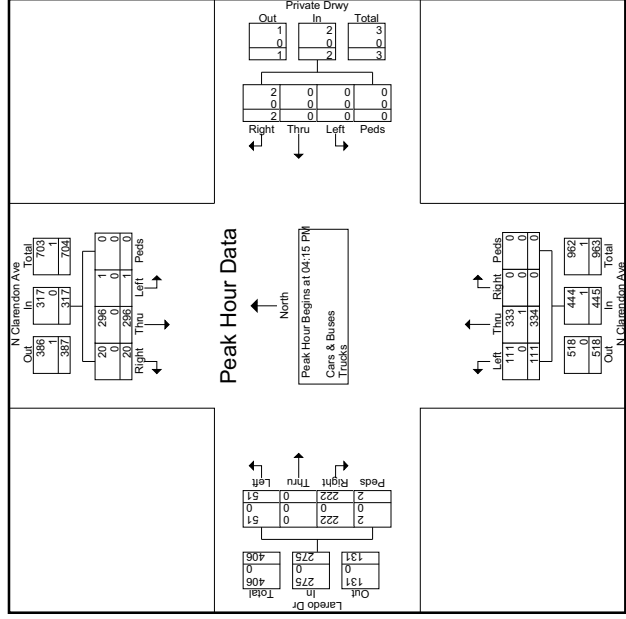


TMC Data File Name : 32180023
N Clarendon Ave @ Laredo Dr Site Code : 32180023
Start Date : 5/15/2012
4pm - 6pm Page No : 1

Group Printed: Cars & Buses - Trucks																			
N Clarendon Ave Northbound					N Clarendon Ave Southbound					Laredo Dr Eastbound					Private Drwy 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
04:00 PM	25	67	0	0	92	0	68	4	0	72	10	0	48	1	59	0	0	0	0
04:15 PM	31	88	0	0	119	1	72	4	0	77	12	0	56	0	68	0	0	0	0
04:30 PM	21	83	0	0	104	0	75	5	0	80	19	0	58	0	77	0	0	0	0
04:45 PM	17	86	0	0	103	0	71	6	0	77	11	0	56	0	67	0	0	0	0
04:55 PM	104	314	0	0	418	1	286	19	0	306	52	0	218	1	271	0	0	1	0
Total	104	314	0	0	418	1	286	19	0	306	52	0	218	1	271	0	0	1	0
05:00 PM	32	87	0	0	119	0	78	5	0	83	9	0	52	2	63	0	0	1	0
05:15 PM	25	96	0	0	121	1	70	10	0	81	11	0	49	0	60	0	0	0	0
05:30 PM	19	84	0	0	103	0	79	7	0	86	9	0	46	0	55	1	0	1	0
05:45 PM	25	76	0	0	101	0	64	9	0	73	15	0	48	0	63	0	0	2	0
Total	101	343	0	0	444	1	291	31	0	323	44	0	195	2	241	1	0	2	0
Grand Total	205	657	0	0	862	2	577	50	0	629	96	0	413	3	512	1	0	3	2
Approch %	23.8	76.2	0	0	0.3	91.7	7.9	0	0	18.8	0	80.7	0.6	16.7	0	50	33.3	0	0
Total %	10.2	32.7	0	0	42.9	0.1	28.7	2.5	0	31.3	4.8	0	20.6	0.1	25.5	0	0	0.1	0.3
Cars & Buses	205	656	0	0	861	2	576	50	0	628	96	0	413	3	512	1	0	3	2
% Trucks	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Trucks	0	0.2	0	0	0.1	0	0.2	0	0	0.2	0	0	0	0	0	0	0	0	0

TMC Data File Name : 32180023
N Clarendon Ave @ Laredo Dr Site Code : 32180023
Start Date : 5/15/2012
4pm - 6pm Page No : 2

N Clarendon Ave Northbound					N Clarendon Ave Southbound					Laredo Dr Eastbound					Private Drwy 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
04:00 PM	31	88	0	0	119	1	72	4	0	77	12	0	56	0	68	0	0	0	0
04:15 PM	21	83	0	0	104	0	75	5	0	80	19	0	58	0	77	0	0	0	0
04:30 PM	27	76	0	0	103	0	71	6	0	77	11	0	56	0	67	0	0	1	0
04:45 PM	32	87	0	0	119	0	78	5	0	83	9	0	52	2	63	0	0	1	0
04:55 PM	111	334	0	0	445	1	296	20	0	317	51	0	222	2	275	0	0	2	0
Total Volume	111	334	0	0	445	1	296	20	0	317	51	0	222	2	275	0	0	2	0
% App. Total	24.9	75.1	0	0	0.3	93.4	6.3	0	0	18.5	0	80.7	0.7	16.8	0	50.0	500	0.000	500
PHF	.367	.367	.000	.000	.935	.250	.949	.833	.000	.955	.671	.000	.957	.250	.893	.000	.000	.500	.977
Cars & Buses	111	333	0	0	444	1	296	20	0	317	51	0	222	2	275	0	0	2	0
% Trucks	0	0.3	0	0	0.1	0	0.3	0	0	0.2	0	0	0	0	0	0	0	0	0
Trucks	0	0.3	0	0	0.1	0	0.3	0	0	0.2	0	0	0	0	0	0	0	0	0



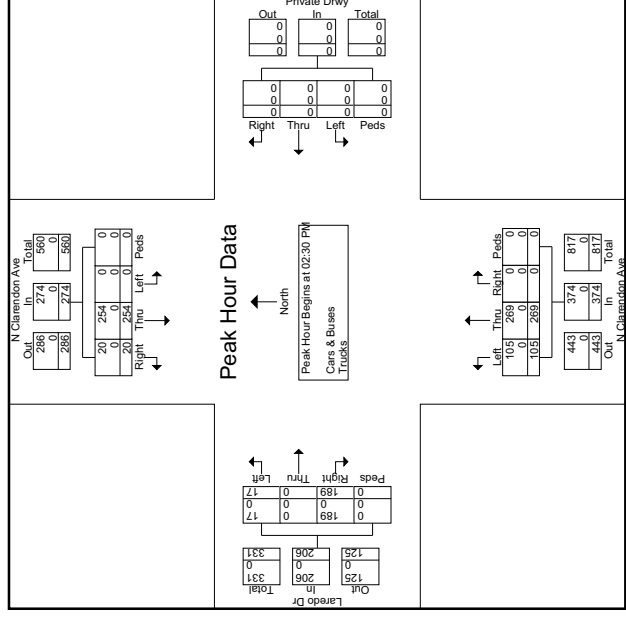
Tel: (770) 578-8158 | Fax: (770) 578-8159
info@reliabletraffic.org | www.reliabletraffic.org

TMC Data
N Clarendon Ave @ Laredo Dr
File Name : 32180023
Site Code : 32180023
Start Date : 5/19/2012
Page No : 1
2pm - 4pm Sat

[illegible]

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TMC Data
N Clarendon Ave @ Laredo Dr
2pm - 4pm Sat

[illegible]

TMC Data
E Ponce de Leon Ave @ Annie St/
Farmers Market Drwy
4pm - 6pm

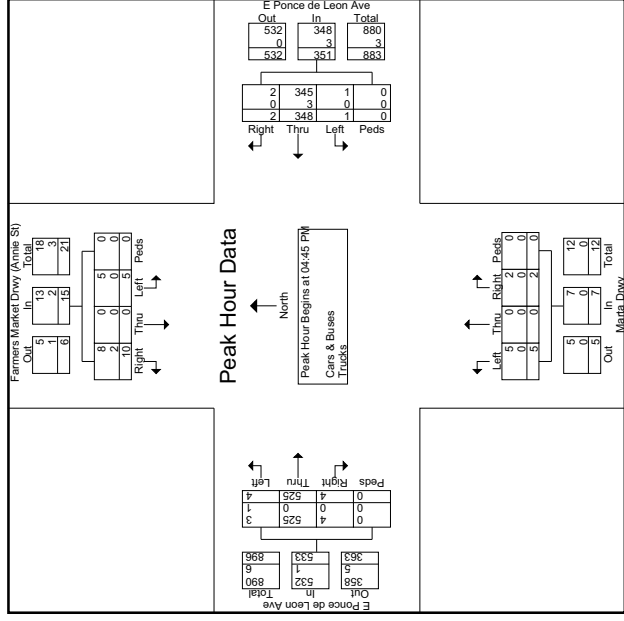
File Name : 32180024
Site Code : 32180024
Start Date : 5/17/2012
Page No : 1

Groups Pinned- Curs & Buses - Trucks															
Marta Drwy Northbound				Farmers Market Drwy Southbound (Annie St)				E Ponce de Leon Ave Eastbound				E Ponce de Leon Ave Westbound			
Start Time	Left	Thru	Right	Peds.	App. Total	Left	Thru	Right	Peds.	App. Total	Left	Thru	Right	Peds.	App. Total
04:00 PM	7	0	1	0	8	4	0	0	0	4	1	109	3	0	95
04:15 PM	2	0	3	0	5	3	0	6	0	9	5	117	2	0	94
04:30 PM	1	1	0	1	3	1	0	2	0	3	0	124	2	0	82
04:45 PM	0	0	1	0	1	0	0	3	0	3	1	132	3	0	81
Total	10	1	6	0	17	8	0	11	0	19	7	482	10	0	352
05:00 PM	4	0	0	0	4	2	0	4	0	6	1	127	1	0	84
05:15 PM	0	0	0	0	0	3	0	3	0	6	1	125	0	0	93
05:30 PM	1	0	1	0	2	0	0	0	0	1	131	0	0	92	226
05:45 PM	2	0	0	0	2	2	0	3	0	5	0	116	1	0	89
Total	7	0	1	0	8	7	0	10	0	17	3	509	2	0	359
Grand Total	17	1	7	0	25	15	0	21	0	36	10	991	12	0	711
Approch %	68	4	28	0	41.7	0	58.3	0	1	97.8	1.2	0	0.4	98.2	1.4
Total %	1	0.1	0.4	0	1.4	0.8	0	1.2	0	2	0.6	55.5	0.7	0	39.8
Cars & Buses	17	1	7	0	25	13	0	16	0	29	9	991	12	0	704
% Trucks	0	0	0	0	0	2	0	5	0	7	1	0	0	5	2
% Trucks	0	0	0	0	0	13.3	0	23.8	0	19.4	10	0	0	0.7	20

TMC Data
E Ponce de Leon Ave @ Annie St/
Farmers Market Drwy
4pm - 6pm

File Name : 32180024
Site Code : 32180024
Start Date : 5/17/2012
Page No : 2

Maria Drwy Northbound				Farmers Market Drwy Southbound (Annie St)				E Ponce de Leon Ave Eastbound				E Ponce de Leon Ave Westbound			
Peak Hour	Left	Thru	Right	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM															
Peak Hour for Entire Intersection Begins at 04:45 PM															
04:45 PM	0	0	1	0	0	3	0	3	1	132	3	0	136	0	80
05:00 PM	4	0	0	4	2	0	6	1	127	1	0	129	0	84	0
05:15 PM	0	0	0	0	3	0	3	0	1	135	0	0	136	0	93
05:30 PM	1	0	0	0	0	0	1	0	1	131	0	0	132	0	91
Total Volume	5	0	2	0	7	5	0	10	4	523	4	0	533	1	348
% App. Total	71.4	0	28.6	0	33.3	0	66.7	0	0.8	98.5	0.8	0	0.3	99.1	0.6
PHF	.313	.000	.500	.000	.438	.000	.625	.000	1.0	.972	.333	.000	.980	.250	.951
Cars & Buses	5	0	2	0	7	5	0	8	13	3	525	4	0	345	2
% Trucks	0	0	0	0	0	0	2	0	2	1	0	0	1	0	99.1
% Trucks	0	0	0	0	0	0	20.0	0	0	0	0	0	0.2	0	0.9
% Trucks	0	0	0	0	0	0	13.3	25.0	0	0	0	0	0.2	0	0.9
% Trucks	0	0	0	0	0	0	20.0	0	13.3	25.0	0	0	0.2	0	0.9



TMC Data
E Ponce de Leon Ave @ Annie St/
Farmers Market Drwy
2pm - 4pm Sat

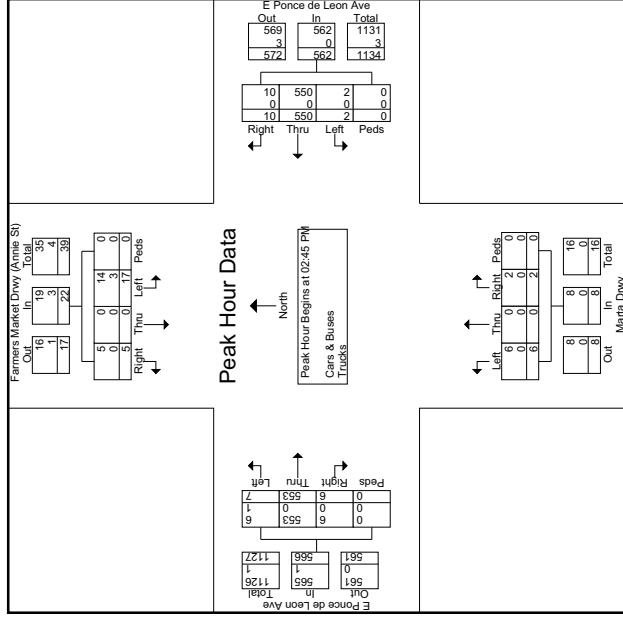
File Name : 32180024
Site Code : 32180024
Start Date : 5/19/2012
Page No : 1

Group Pinned: Cars & Buses - Trucks											
Marta Drwy Northbound				Farmers Market Drwy Southbound (Annie St)				E Ponce de Leon Ave Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru
02:00 PM	1	0	0	1	3	0	1	124	1	0	126
02:15 PM	0	0	0	0	0	1	0	127	1	0	131
02:30 PM	2	0	1	0	8	2	0	135	0	0	135
02:45 PM	1	0	1	0	4	0	0	132	0	0	132
Total	4	0	2	0	15	0	5	632	3	0	634
03:00 PM	3	0	1	0	3	0	0	3	143	2	0
03:15 PM	1	0	0	1	7	0	2	0	134	1	0
03:30 PM	1	0	0	1	3	0	2	0	137	2	0
03:45 PM	1	0	2	1	4	1	0	3	125	3	1
Total	6	0	3	1	10	14	0	6	539	8	1
Grand Total	10	0	5	1	16	29	0	11	1064	11	1
Approach %	62.5	0	31.2	6.2	72.5	0	27.5	0	1.3	97.6	1
Total %	0.4	0	0.2	0	0.7	1.3	0	0.5	0	0.1	0.1
Cars & Buses	10	0	5	1	16	26	0	11	1064	11	1
% Trucks	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0

TMC Data
E Ponce de Leon Ave @ Annie St/
Farmers Market Drwy
2pm - 4pm Sat

File Name : 32180024
Site Code : 32180024
Start Date : 5/19/2012
Page No : 2

Marta Drwy Northbound				Farmers Market Drwy Southbound (Annie St)				E Ponce de Leon Ave Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru
02:45 PM	1	0	1	0	2	4	0	1	0	5	2
03:00 PM	3	0	1	0	4	3	0	0	3	3	143
03:15 PM	1	0	0	1	7	0	2	0	9	0	134
03:30 PM	1	0	0	1	3	0	2	0	5	2	137
Total Volume	6	0	2	0	8	17	0	5	22	7	553
% App. Total	75	0	25	0	77.3	0	22.7	0	1.2	97.7	1.1
Cars & Buses	6	0	2	0	8	17	0	5	22	7	553
% Trucks	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0



TMC Data
E Ponce de Leon Ave @
I-285 NB On-Ramp
4pm - 6pm

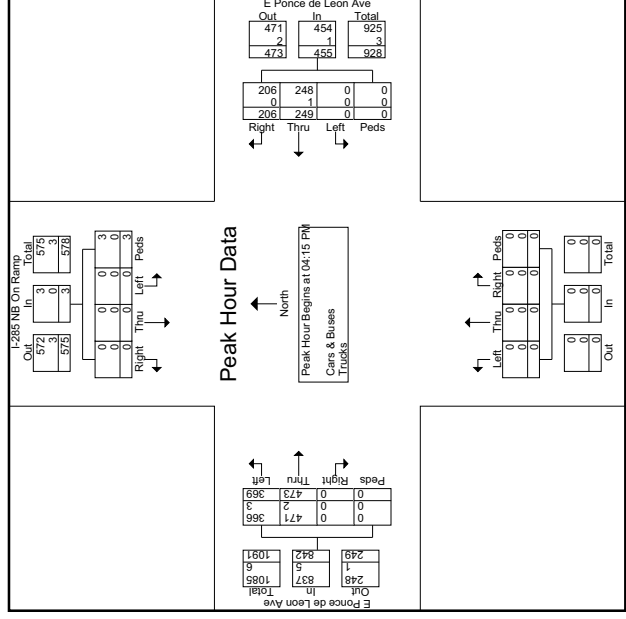
File Name : 32180025
Site Code : 32180025
Start Date : 5/10/2012
Page No : 1

Groups Printed: Cars & Buses - Trucks																
Start Time	Northbound					I-285 NB On Ramp					E Ponce de Leon Ave					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	49	47	0	96	
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	63	50	0	113	
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	91	118	0	209	
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	64	48	0	112	
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	64	57	0	121	
Total	0	0	0	0	0	0	0	0	0	0	0	240	202	0	442	
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	58	51	0	109	
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	63	49	0	112	
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	59	45	0	104	
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	57	42	0	99	
Total	0	0	0	0	0	0	0	0	0	0	0	237	187	0	424	
Grand Total	0	0	0	0	0	0	0	0	0	0	0	477	389	0	866	
Apprch. %	0	0	0	0	0	0	0	0	0	0	0	55.1	44.9	0	50	
Total %	0	0	0	0	0	0	0	0	0	0	0	19	15.5	0	34.6	
Cars & Buses	0	0	0	0	0	0	0	0	0	0	0	475	389	0	864	
% Trucks	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0.4	0	0	0.4	

TMC Data
E Ponce de Leon Ave @
I-285 NB On-Ramp
4pm - 6pm

File Name : 32180025
Site Code : 32180025
Start Date : 5/10/2012
Page No : 2

Start Time	Northbound					I-285 NB On Ramp					E Ponce de Leon Ave				
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
Cars & Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



TMC Data
E Ponce de Leon Ave @
I-285 NB On-Ramp
2pm - 4pm Sat

TMC Data
E Ponce de Leon Ave @
I-285 NB On-Ramp
2pm - 4pm Sat

File Name : 32180025
Site Code : 32180025
Start Date : 5/19/2012
Page No : 1

Group Printed- Cars & Buses - Trucks																
Start Time	Northbound					I-285 NB On Ramp					E Ponce de Leon Ave					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Apprch. %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Cars & Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

File Name : 32180025
Site Code : 32180025
Start Date : 5/19/2012
Page No : 1

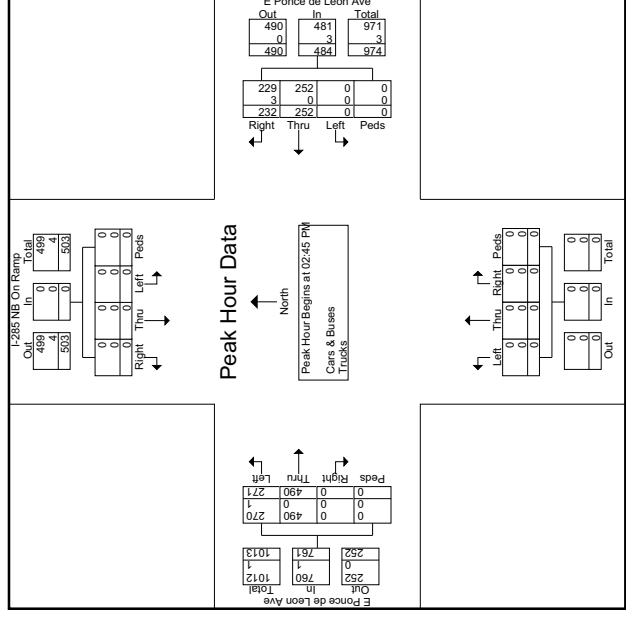
TMC Data
E Ponce de Leon Ave @
I-285 NB On-Ramp
2pm - 4pm Sat

File Name : 32180025
Site Code : 32180025
Start Date : 5/19/2012
Page No : 2

Start Time	Northbound					I-285 NB On Ramp					E Ponce de Leon Ave				
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars & Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1

Start Time	Northbound					I-285 NB On Ramp					E Ponce de Leon Ave				
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars & Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



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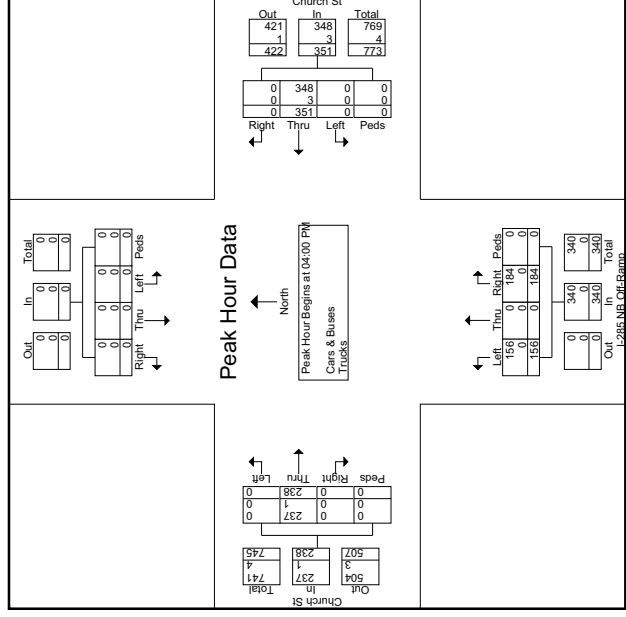
TMC Data
Church St @ +285 NB Off-Ramp
4pm - 6pm

Groups Printed- Cars & Buses - Trucks																
1-285 NB Off-Ramp				Southbound				Church St Eastbound				Church St Westbound				
Start Time	Left	Thru	Back	ave	Left	Thru	Right	ave	Left	Thru	Back	ave	Left	Thru	Back	ave
04:00 PM	35	0	42	0	77	0	0	0	0	53	0	53	0	85	0	85
04:15 PM	38	0	44	0	82	0	0	0	57	0	57	0	89	0	89	218
04:30 PM	40	0	47	0	87	0	0	0	59	0	59	0	93	0	93	239
04:45 PM	43	0	51	0	94	0	0	0	69	0	69	0	84	0	84	247
Total	156	0	184	0	340	0	0	0	238	0	238	0	351	0	351	929
05:00 PM	33	0	38	0	71	0	0	0	67	0	67	0	68	0	68	206
05:15 PM	47	0	34	1	82	0	0	0	71	0	71	0	75	0	75	228
05:30 PM	48	0	47	0	95	0	0	0	55	0	55	0	93	0	93	243
05:45 PM	42	0	39	0	81	0	0	0	52	0	52	0	71	0	71	204
Total	170	0	158	1	329	0	0	0	245	0	245	0	307	0	307	881
Grand Total	326	0	342	1	669	0	0	0	483	0	483	0	658	0	658	1810
Apprent %	48.7	0	51.1	0	48.7	0	0	0	100	0	100	0	100	0	100	0
Total %	18	0	18.9	0.1	37	0	0	0	26.7	0	26.7	0	36.4	0	36.4	0
Cars & Buses	328	0	341	1	668	0	0	0	480	0	480	0	653	0	653	1799
% Trucks	2	0	1	0	3	0	0	0	0	3	0	0	5	0	5	11
% Trucks	0.6	0	0.3	0	0.4	0	0	0	0.6	0	0.6	0	0.8	0	0.8	0.6

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TMC Data
Church St @ I-285 NB Off-Ramp
4pm - 6pm

I-285 NB Off-Ramp							Southbound					Church St Eastbound					Church St Westbound				
Start Time	Left	Thru	Right	Fish	App. total		Left	Thru	Right	Fish	App. total	Left	Thru	Right	Fish	App. total	Left	Thru	Right	Fish	App. total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection 04:00 PM - 04:00 PM																					
04:00 PM	35	0	42	0	77		0	0	0	0	0	0	53	0	0	53	0	85	0	0	85
04:15 PM	38	0	44	0	82		0	0	0	0	0	0	57	0	0	57	0	89	0	0	89
04:30 PM	40	0	47	0	87		0	0	0	0	0	0	59	0	0	59	0	93	0	0	93
04:45 PM	42	0	51	0	94		0	0	0	0	0	0	69	0	0	69	0	93	0	0	93
Total Volume	155	0	184	0	340		0	0	0	0	0	0	238	0	0	238	0	351	0	0	351
% Sat. Volume	45	0	54	0	99		0	0	0	0	0	0	100	0	0	100	0	100	0	0	100
PHF	0.97	0.00	0.912	0.00	0.94		0.00	0.00	0.00	0.00	0.00	0.00	0.862	0.00	0.00	0.862	0.00	0.944	0.00	0.00	0.944
Avg. Sat. Volume by Approach	156	0	184	0	340		0	0	0	0	0	0	237	0	0	237	0	348	0	0	348
Trucks	0	0	0	0	0		0	0	0	0	0	0	1	0	0	1	0	3	0	0	3
% Trucks	0	0	0	0	0		0	0	0	0	0	0	0.4	0	0	0.4	0	0.9	0	0	0.9



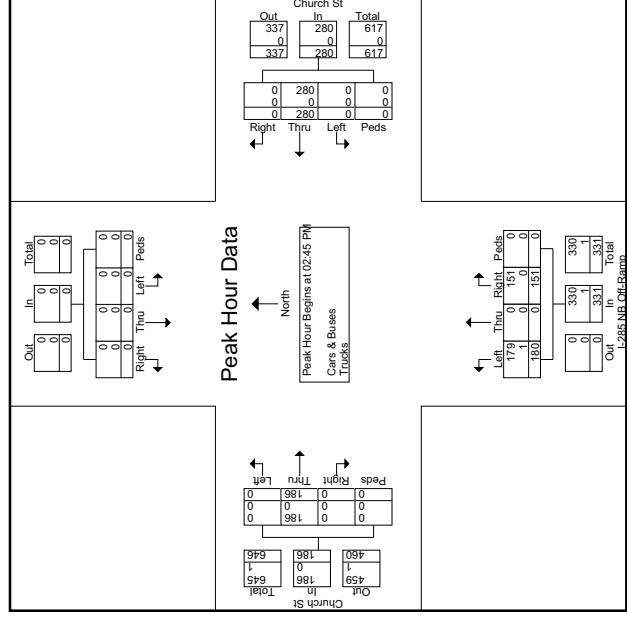
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TMC Data
Church St @ +285 NB Off-Ramp
2pm - 4pm Sat

Groups Printed- Cars & Buses - Trucks								
1-285 NR Off-Road Northbound			Southbound			Church St Eastbound		
Start Time	Left	Thru	Peds.	Left	Thru	Peds.	Left	Thru
02:00 PM	43	0	39	0	0	0	0	35
02:05 PM	42	0	35	0	77	0	34	0
02:10 PM	40	0	42	0	82	0	37	0
02:20 PM	48	0	35	0	0	0	41	0
Total	173	0	151	0	324	0	147	0
03:00 PM	40	0	32	0	72	0	55	0
03:15 PM	50	0	41	0	91	0	43	0
03:30 PM	42	0	43	0	85	0	47	0
03:45 PM	46	0	26	0	72	0	42	0
Total	178	0	142	0	320	0	187	0
Grand Total	351	0	293	0	644	0	334	0
Apprent %	54.5	0	45.5	0	44.5	0	100	0
Total %	23.1	0	19.3	0	42.3	0	22	0
Cars & Buses	350	0	293	0	643	0	334	0
Trucks	1	0	0	0	1	0	0	0
% Trucks	0.3	0	0	0	0.2	0	0	0

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TMC Data
Church St @ I-285 NB Off-Ramp
2pm - 4pm Sat

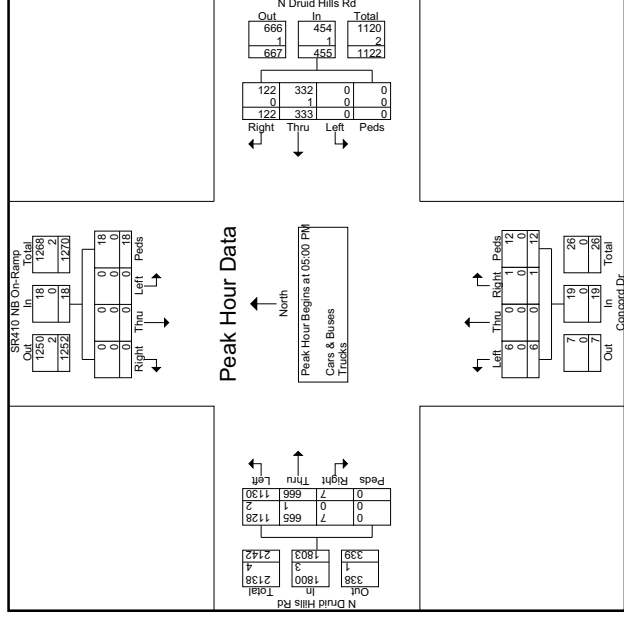
[illegible]

TMC Data File Name : 32180027
N Druid Hills Rd @ SR410 NB On-Ramp/ Site Code : 32180027
Concord Dr Start Date : 5/10/2012
4pm - 6pm Page No : 1

Group Printed- Cars & Buses - Trucks														
Concord Dr Northbound					SR410 NB On-Ramp Southbound					N Druid Hills Rd Eastbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total
04:00 PM	1	1	0	3	0	0	0	1	1	309	118	3	0	430
04:15 PM	1	0	2	0	3	0	0	2	2	325	124	2	0	451
04:30 PM	0	0	0	4	0	0	0	3	3	339	142	0	0	481
04:45 PM	1	1	0	0	0	0	0	0	0	289	136	2	0	327
Total	3	2	2	8	15	0	0	6	6	1262	520	7	0	1789
05:00 PM	1	0	0	2	0	0	0	4	4	285	147	3	0	435
05:15 PM	2	0	0	4	0	0	0	9	9	296	164	1	0	461
05:30 PM	2	0	1	2	5	0	0	4	4	278	179	3	0	460
05:45 PM	1	0	0	4	5	0	0	1	1	271	176	0	0	447
Total	6	0	1	12	19	0	0	18	18	1130	666	7	0	1803
Grand Total	9	2	3	20	34	0	0	24	24	2392	1186	14	0	3592
Apprch %	26.5	5.9	8.8	58.8		0	0	0	100	66.6	33	0.4	0	0.3
Total %	0.2	0	0.1	0.4	0.7	0	0	0.5	0.5	52.7	26.1	0.3	0	79.1
Cars & Buses	9	2	3	20	34	0	0	0	24	2388	1184	14	0	3586
% Cars & Buses	100	100	100	100	100	0	0	0	100	99.8	99.8	100	0	99.8
Trucks	0	0	0	0	0	0	0	0	0	4	2	0	0	6
% Trucks	0	0	0	0	0	0	0	0	0	0.2	0.2	0	0	0.2

TMC Data File Name : 32180027
N Druid Hills Rd @ SR410 NB On-Ramp/ Site Code : 32180027
Concord Dr Start Date : 5/10/2012
4pm - 6pm Page No : 2

Concord Dr Northbound					SR410 NB On-Ramp Southbound					N Druid Hills Rd Eastbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total
04:00 PM	1	0	0	2	0	0	0	0	0	285	147	3	0	435
04:15 PM	2	0	0	4	6	0	0	0	9	296	164	1	0	461
04:30 PM	2	0	1	2	5	0	0	0	4	278	179	3	0	460
04:45 PM	1	0	0	4	5	0	0	0	1	271	176	0	0	447
Total	6	0	1	12	19	0	0	0	18	1130	666	7	0	1803
% App. Total	31.6	0	5.3	63.2		0	0	0	100	62.7	36.9	0.4	0	73.2
PHF	.790	.000	.250	.750	.792	.000	.000	.500	.500	.954	.930	.583	.000	.978
Cars & Buses	6	0	1	12	19	0	0	0	18	1128	665	7	0	1800
% Cars & Buses	100	0	100	100	100	0	0	0	100	99.8	99.8	100	0	99.8
Trucks	0	0	0	0	0	0	0	0	0	2	1	0	0	3
% Trucks	0	0	0	0	0	0	0	0	0	0.2	0.2	0	0	0.2



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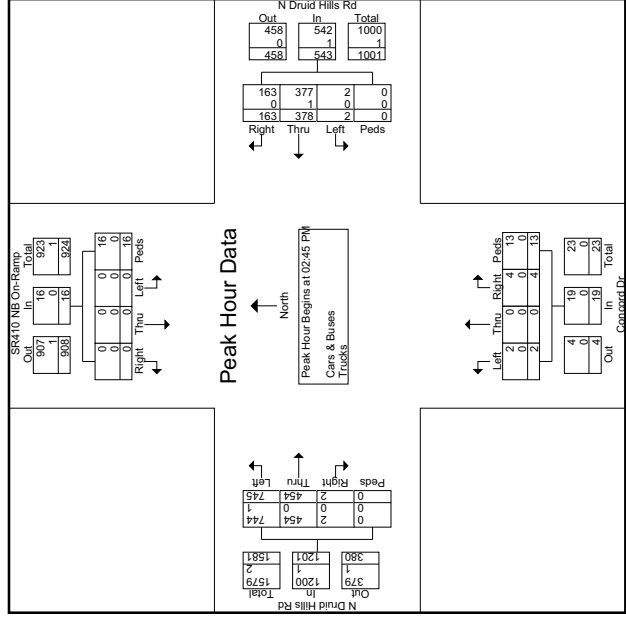
File Name : 32180027
Site Code : 32180027
Start Date : 5/19/2012
Page No : 1

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File Name : 32180027
Site Code : 32180027
Start Date : 5/19/2012
Page No : 2

	Concord Dr Northbound						SR410 NB On-Ramp Southbound						N Droid Hills Rd Eastbound						N Droid Hills Rd Westbound					
	Start Time	Left	Thru	Right	Peds	App Time	Left	Thru	Right	Peds	App Time	Left	Thru	Right	Peds	App Time	Left	Thru	Right	Peds	App Time			
Peak Hour for Entire Intersection 03:45 PM - Peak 1 of 1																								
Peak Hour Analysis From 02:00 PM to 03:45 PM																								
02:45 PM	0	0	0	3	3	0	0	0	0	0	0	187	108	1	0	296	0	109	35	0	144	443		
03:00 PM	0	0	0	3	3	0	0	0	2	2	2	184	119	1	0	304	0	94	39	0	133	442		
03:15 PM	0	0	2	0	2	0	0	0	0	0	0	185	115	0	0	300	0	94	38	0	132	441		
03:30 PM	2	0	2	7	12	0	0	0	12	12	18	182	118	0	0	320	0	97	46	0	130	446		
Total Volume																								
03:00 - 03:45	2	0	4	13	19	0	0	0	16	16	24	745	454	2	0	1201	2	378	163	0	543	1779		
% Trucks																								
03:00 - 03:45	10.5	0	21.1	68.4	43.2	0	0	0	100	100	62	37.8	0.2	0	0	0.4	60.4	30	0	0	30	0		
PHF																								
03:00 - 03:45	250	500	500	642	434	0	0	0	600	333	333	985	542	37.8	0.0	988	590	867	840	0.00	943	961		
C/Sat & B/Sat																								
03:00 - 03:45	2	0	4	13	19	0	0	0	16	16	24	454	2	0	1200	2	377	163	0	542	1777			
% Trucks																								
03:00 - 03:45	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	0	1		
% Trucks																								
03:00 - 03:45	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0	0.1	0	0.3	0	0	0.2	0.1		



TMC Data
N Decatur Rd @ Glendale Rd

4pm - 6pm

File Name : 32180028
Site Code : 32180028
Start Date : 5/17/2012
Page No : 1

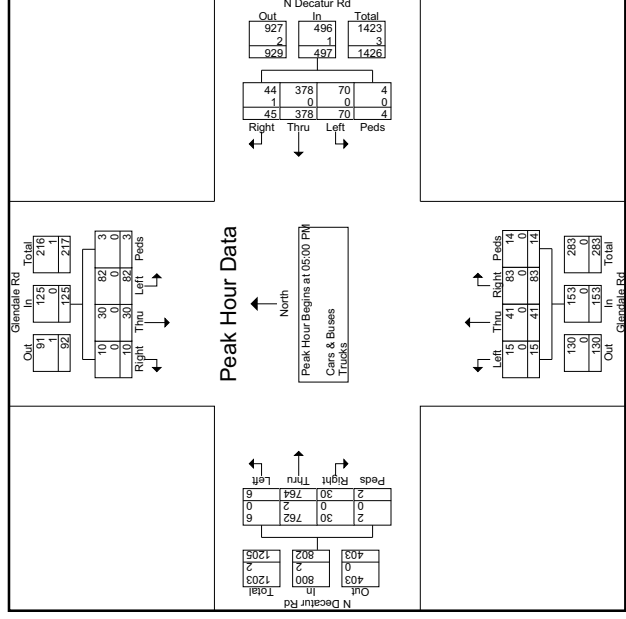
Start Time	Glendale Rd										N Decatur Rd									
	Northbound					Southbound					Eastbound					Westbound				
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total
04:00 PM	3	8	19	1	31	17	7	2	0	26	1	167	4	1	173	9	92	13	0	114
04:15 PM	2	6	17	3	28	18	8	3	5	34	0	200	5	1	206	13	91	9	1	114
04:30 PM	5	7	20	1	33	11	7	2	0	20	2	193	7	4	206	13	86	14	0	113
04:45 PM	4	4	16	1	25	10	7	3	0	19	3	186	12	4	192	8	83	14	0	102
Total	14	25	72	5	116	65	31	8	5	109	6	746	18	7	777	43	352	45	3	443
05:00 PM	4	12	20	2	38	14	5	1	0	20	2	216	10	0	228	13	86	8	0	107
05:15 PM	6	8	15	6	35	22	11	4	2	39	1	197	9	2	209	18	103	13	2	136
05:30 PM	3	9	20	1	33	25	4	1	1	31	2	177	6	0	185	17	93	12	2	124
05:45 PM	2	12	28	5	47	21	10	4	0	35	1	174	5	0	180	22	96	12	0	130
Total	15	41	83	14	153	82	30	10	3	125	6	764	30	2	802	70	378	45	4	497
Grand Total	29	66	155	19	269	147	61	18	8	234	12	1510	48	9	1579	113	730	90	7	940
Apprch %	10.8	24.5	57.6	7.1		62.8	26.1	7.7	3.4		0.8	95.6	3	0.6		12	77.7	9.6	0.7	
Total %	1	2.2	5.1	0.6		8.9	4.9	2	0.6	0.3	7.7	0.4	50	1.6	0.3	52.3	3.7	24.2	3	0.2
Cars & Buses	29	66	155	19	269	147	61	18	8	234	12	1507	48	9	1576	113	730	88	7	938
% Cars & Buses	100	100	100	100	100	100	100	100	100	100	100	99.8	100	100	99.8	100	100	97.8	100	99.8
Trucks	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	2	0	2
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0.2	0	0	0.2	0	0	2.2	0	0.2

TMC Data
N Decatur Rd @ Glendale Rd

4pm - 6pm

File Name : 32180028
Site Code : 32180028
Start Date : 5/17/2012
Page No : 2

Start Time	Glendale Rd										N Decatur Rd									
	Northbound					Southbound					Eastbound					Westbound				
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total
05:00 PM	4	12	20	2	38	14	5	1	0	20	2	216	10	0	228	13	86	8	0	107
05:15 PM	6	8	15	6	35	22	11	4	2	39	1	197	9	2	209	18	103	13	2	136
05:30 PM	3	9	20	1	33	25	4	1	1	31	2	177	6	0	185	17	93	12	2	124
05:45 PM	2	12	28	5	47	21	10	4	0	35	1	174	5	0	180	22	96	12	0	130
Total Volume	15	41	83	14	153	82	30	10	3	125	6	764	30	2	802	70	378	45	4	497
% App. Total	9.8	26.8	54.2	9.2		65.6	24	8	2.4		0.7	95.3	3.7	0.2		14.1	76.1	9.1	0.8	
PHF	.625	.854	.741	.583		.814	.820	.682	.375		.501	.750	.884	.750		.879	.795	.917	.865	
Cars & Buses	15	41	83	14	153	82	30	10	3	125	6	762	30	2	800	70	378	44	4	496
% Cars & Buses	100	100	100	100	100	100	100	100	100	100	100	99.7	100	100	99.7	100	100	99.8	100	99.7
Trucks	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	2	0	2
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0.3	0	0	0.3	0	0	2.2	0	0.2



TMC Data
N Decatur Rd @ Glendale Rd

2pm - 4pm Sat

File Name : 32180028
Site Code : 32180028
Start Date : 5/19/2012
Page No : 1

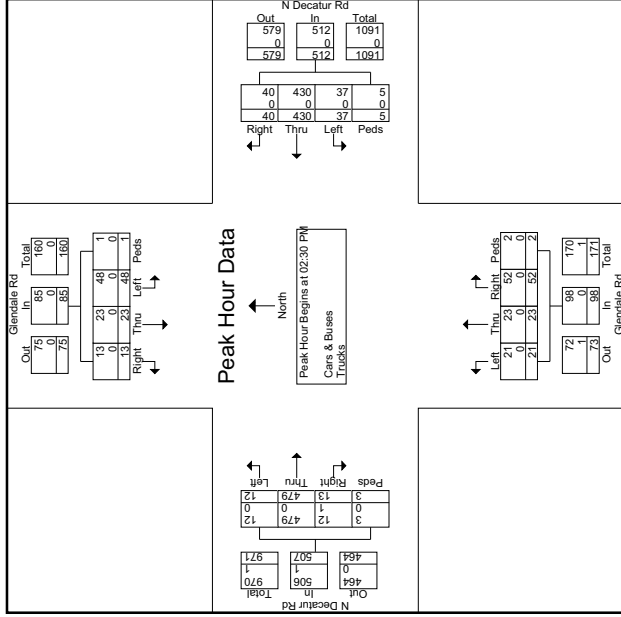
Start Time	Glendale Rd										N Decatur Rd									
	Northbound					Southbound					Eastbound					Westbound				
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total
02:00 PM	2	2	9	0	15	11	6	3	0	20	4	118	1	1	124	15	83	10	0	108
02:15 PM	2	4	10	0	16	10	3	4	0	17	4	121	1	0	126	10	105	9	1	125
02:30 PM	7	4	13	0	24	17	6	3	0	26	2	125	2	1	130	11	107	11	3	132
02:45 PM	7	6	14	0	27	14	5	1	0	20	2	113	3	0	116	9	115	13	1	138
Total	18	16	39	3	76	52	20	13	1	88	12	477	7	3	499	45	410	43	5	503
03:00 PM	3	8	16	1	28	9	8	2	0	19	4	117	3	0	124	10	106	7	1	124
03:15 PM	4	5	16	0	25	8	4	3	0	15	4	124	5	1	134	7	102	9	0	118
03:30 PM	2	7	6	2	17	13	7	2	0	22	1	125	1	0	127	9	98	15	1	123
03:45 PM	4	1	8	0	13	12	3	3	2	20	3	127	5	0	135	16	94	17	0	127
Total	13	21	46	3	83	42	22	10	2	76	12	493	14	1	520	42	400	48	2	492
Grand Total	31	37	85	6	159	94	42	25	3	164	24	970	21	4	1019	87	810	91	7	995
Apprch %	19.5	23.3	53.5	3.8		57.3	25.6	15.2	1.8		2.4	95.2	2.1	0.4		8.7	81.4	9.1	0.7	
Total %	1.3	1.6	3.6	0.3	6.8	4	1.8	1.1	0.1	7	1	41.5	0.9	0.2	43.6	3.7	34.7	3.9	0.3	42.6
Cars & Buses	31	37	85	6	159	94	42	25	3	164	24	970	20	4	1018	87	809	91	7	994
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	4.8	0	0	0.1	0	0	0.1
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	4.8	0	0	0.1	0	0	0.1

TMC Data
N Decatur Rd @ Glendale Rd

2pm - 4pm Sat

File Name : 32180028
Site Code : 32180028
Start Date : 5/19/2012
Page No : 2

Start Time	Glendale Rd Northbound					Glendale Rd Southbound					N Decatur Rd Eastbound					N Decatur Rd Westbound				
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total
Peak Hour Analysis From 02:00 PM to 03:45 PM - Peak 1 of 1																				
Peak Hour for Entire Intersection Begins at 02:30 PM																				
02:30 PM	7	4	13	0	24	17	6	3	0	26	2	125	2	1	130	11	107	11	3	132
02:45 PM	3	8	16	1	28	9	8	2	0	19	4	117	3	0	124	10	106	7	1	124
03:00 PM	7	6	7	1	21	14	5	5	1	25	2	113	3	1	119	9	115	13	1	138
03:15 PM	4	5	16	0	25	8	4	3	0	15	4	124	5	1	134	7	102	9	0	118
Total Volume	21	23	52	2	98	48	23	13	1	85	12	479	13	3	507	37	430	40	5	512
% App. Total	21.4	23.5	53.1	2	56.3	27.1	15.3	1.2	0	2.4	94.5	2.6	0.6	0	0.6	7.2	84	7.8	1	963
PHF	.750	.719	.813	.500	.875	.706	.719	.650	.250	.517	.750	.958	.650	.750	.946	.841	.935	.769	.417	.928
Cars & Buses	21	23	52	2	98	48	23	13	1	85	12	479	12	3	506	37	430	40	5	512
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



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ADT Data

Site Code: 32180101
E Ponce de Leon Ave East of Laredo Dr

Start Time	17-May-12 Thu	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		25	121			11	116				
12:15		14	131			7	123				
12:30		16	113			17	123				
12:45		12	101	67	466	12	141	47	503	114	969
01:00		8	109			15	104				
01:15		5	120			11	119				
01:30		10	142			8	103				
01:45		14	106	37	477	10	114	44	440	81	917
02:00		8	148			10	115				
02:15		6	119			11	87				
02:30		2	134			1	83				
02:45		6	134	22	535	2	98	24	383	46	918
03:00		8	120			3	90				
03:15		15	116			4	116				
03:30		13	133			13	94				
03:45		9	116	45	485	15	101	35	401	80	886
04:00		21	121			8	97				
04:15		11	133			11	83				
04:30		10	148			24	85				
04:45		26	130	68	532	26	101	69	366	137	898
05:00		21	135			22	102				
05:15		32	142			23	87				
05:30		25	139			29	83				
05:45		21	132	99	548	34	81	108	353	207	901
06:00		19	127			30	82				
06:15		15	109			59	82				
06:30		23	104			40	72				
06:45		12	94	69	434	69	90	198	326	267	760
07:00		20	79			82	73				
07:15		18	101			95	76				
07:30		42	80			107	65				
07:45		46	69	126	329	119	66	403	280	529	609
08:00		41	79			148	64				
08:15		40	67			120	60				
08:30		54	68			115	41				
08:45		34	58	169	272	125	36	508	201	677	473
09:00		36	73			94	30				
09:15		64	39			91	21				
09:30		57	43			98	20				
09:45		76	42	233	197	97	21	380	92	613	289
10:00		62	48			108	21				
10:15		81	25			102	15				
10:30		93	39			95	24				
10:45		90	16	326	128	110	21	415	81	741	209
11:00		91	21			107	20				
11:15		93	13			123	11				
11:30		106	29			122	13				
11:45		91	21	381	84	147	8	499	52	880	136
Total		1642	4487			2730	3478			4372	7965
Percent		26.8%	73.2%			44.0%	56.0%			35.4%	64.6%
Grand Total		1642	4487			2730	3478			4372	7965
Percent		26.8%	73.2%			44.0%	56.0%			35.4%	64.6%

ADT

ADT 12,337

AADT 12,337

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Page 1

ADT Data

Site Code: 32180101
E Ponce de Leon West of Laredo Dr

Start Time	12-May-12 Sat	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		25	152			22	141				
12:15		30	127			20	154				
12:30		32	147			16	141				
12:45		17	150	104	576	23	130	81	566	185	1142
01:00		16	144			16	154				
01:15		20	122			16	138				
01:30		13	144			11	140				
01:45		20	143	69	553	13	137	56	569	125	1122
02:00		10	134			10	153				
02:15		8	152			17	143				
02:30		12	129			8	131				
02:45		20	148	50	563	8	164	43	591	93	1154
03:00		22	140			2	138				
03:15		18	140			5	137				
03:30		28	131			8	179				
03:45		25	151	93	562	5	135	20	589	113	1151
04:00		8	128			10	139				
04:15		10	125			12	117				
04:30		11	119			4	156				
04:45		17	141	46	513	7	151	33	563	79	1076
05:00		10	132			5	128				
05:15		18	117			10	146				
05:30		7	111			20	150				
05:45		12	125	47	485	28	133	63	557	110	1042
06:00		12	105			12	121				
06:15		11	121			20	119				
06:30		16	111			12	112				
06:45		14	107	53	444	11	93	55	445	108	889
07:00		10	109			7	93				
07:15		7	102			18	102				
07:30		13	89			30	102				
07:45		19	85	49	385	28	90	83	387	132	772
08:00		23	92			31	108				
08:15		29	70			37	60				
08:30		37	55			46	75				
08:45		63	52	152	269	59	69	173	312	325	581
09:00		105	37			61	80				
09:15		90	31			85	29				
09:30		99	36			79	30				
09:45		110	27	404	131	128	26	353	165	757	296
10:00		109	34			132	19				
10:15		98	34			122	27				
10:30		119	28			133	9				
10:45		130	19	456	115	122	19	509	74	965	189
11:00		128	29			106	21				
11:15		140	33			126	14				
11:30		127	24			129	14				
11:45		123	30	518	116	137	8	498	57	1016	173
Total		2041	4712			1967	4875			4008	9587
Percent		30.2%	69.8%			28.7%	71.3%			29.5%	70.5%
Grand Total		2041	4712			1967	4875			4008	9587
Percent		30.2%	69.8%			28.7%	71.3%			29.5%	70.5%

ADT

ADT 13,595

AADT 13,595

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Page 1

ADT Data

Site Code: 32180102
E Ponce de Leon Ave West of Laredo Dr

Start Time	17-May-12 Thu	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		25	102			12	131				
12:15		21	143			9	133				
12:30		26	114			12	112				
12:45		11	118	83	477	8	117	41	493	124	970
01:00		18	123			6	136				
01:15		8	144			12	109				
01:30		9	124			8	108				
01:45		5	138	40	529	2	108	28	461	68	990
02:00		13	144			2	105				
02:15		7	110			6	128				
02:30		9	122			2	111				
02:45		15	136	44	512	5	144	15	488	59	1000
03:00		10	146			4	109				
03:15		9	144			12	124				
03:30		11	162			5	137				
03:45		14	160	44	612	13	110	34	480	78	1092
04:00		19	163			19	112				
04:15		14	136			18	103				
04:30		12	149			22	107				
04:45		8	139	53	587	22	105	81	427	134	1014
05:00		17	162			38	98				
05:15		12	160			27	101				
05:30		9	158			36	106				
05:45		11	121	49	601	42	97	143	402	192	1003
06:00		16	144			60	84				
06:15		11	108			57	87				
06:30		31	121			82	80				
06:45		25	103	83	476	98	77	297	328	380	804
07:00		24	115			121	71				
07:15		28	92			126	68				
07:30		35	102			146	81				
07:45		44	82	131	391	123	73	516	293	647	684
08:00		49	84			116	54				
08:15		50	74			103	61				
08:30		40	57			90	35				
08:45		53	52	192	267	94	25	403	175	595	442
09:00		82	41			86	24				
09:15		67	37			102	20				
09:30		84	36			109	17				
09:45		89	26	322	140	94	24	391	85	713	225
10:00		83	22			98	18				
10:15		92	32			113	15				
10:30		92	22			94	12				
10:45		98	14	365	90	116	11	421	56	786	146
11:00		121	32			128	12				
11:15		86	29			129	15				
11:30		119	22			140	13				
11:45		130	28	456	111	148	7	545	47	1001	158
Total		1862	4793			2915	3735			4777	8528
Percent		28.0%	72.0%			43.8%	56.2%			35.9%	64.1%
Grand Total		1862	4793			2915	3735			4777	8528
Percent		28.0%	72.0%			43.8%	56.2%			35.9%	64.1%

ADT

ADT 13,305

AADT 13,305

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Page 1

ADT Data

Site Code: 32180102
E Ponce de Leon East of Laredo Dr

Start Time	12-May-12 Sat	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		26	127			23	139				
12:15		31	139			26	165				
12:30		29	122			12	124				
12:45		16	161	102	549	24	147	85	575	187	1124
01:00		20	131			19	175				
01:15		18	121			12	151				
01:30		13	132			11	146				
01:45		22	146	73	530	13	137	55	609	128	1139
02:00		8	129			10	145				
02:15		8	136			16	160				
02:30		12	148			8	163				
02:45		19	143	47	556	8	147	42	615	89	1171
03:00		24	136			2	140				
03:15		20	170			5	159				
03:30		28	131			8	176				
03:45		28	154	100	591	25	167	40	642	140	1233
04:00		8	146			11	142				
04:15		10	146			10	139				
04:30		10	142			7	146				
04:45		13	151	41	585	23	149	51	576	92	1161
05:00		18	148			13	128				
05:15		25	116			7	129				
05:30		23	133			17	128				
05:45		24	118	90	515	28	114	65	499	155	1014
06:00		18	135			16	106				
06:15		11	145			22	117				
06:30		22	128			17	105				
06:45		17	124	68	532	30	94	85	422	153	954
07:00		12	126			28	111				
07:15		11	126			43	91				
07:30		10	126			41	95				
07:45		17	121	50	499	44	103	156	400	206	899
08:00		24	111			53	79				
08:15		29	99			56	54				
08:30		24	104			55	52				
08:45		17	64	94	378	106	35	270	220	364	598
09:00		32	81			116	34				
09:15		55	40			104	30				
09:30		64	53			106	28				
09:45		83	51	234	225	148	24	474	116	708	341
10:00		104	50			126	21				
10:15		81	52			127	25				
10:30		103	30			141	15				
10:45		109	18	397	150	145	30	539	91	936	241
11:00		98	30			118	16				
11:15		129	30			158	19				
11:30		124	21			131	15				
11:45		121	24	472	105	145	12	552	62	1024	167
Total		1768	5215			2414	4827			4182	10042
Percent		25.3%	74.7%			33.3%	66.7%			29.4%	70.6%
Grand Total		1768	5215			2414	4827			4182	10042
Percent		25.3%	74.7%			33.3%	66.7%			29.4%	70.6%

ADT

ADT 14,224

AADT 14,224

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Page 1

ADT Data

Site Code: 32180103
DeKalb Industrial Way North of
N Arcadia Ave

Start Time	17-May-12 Thu	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		15	141			12	109				
12:15		19	171			21	142				
12:30		9	142			9	124				
12:45		14	123	57	577	8	105	50	480	107	1057
01:00		11	136			9	105				
01:15		10	150			10	149				
01:30		3	134			3	127				
01:45		5	129	29	549	4	115	26	496	55	1045
02:00		10	97			6	112				
02:15		1	134			2	118				
02:30		5	138			5	133				
02:45		6	136	22	505	7	156	20	519	42	1024
03:00		14	124			15	110				
03:15		6	113			5	135				
03:30		4	176			1	163				
03:45		7	111	31	524	8	154	29	562	60	1086
04:00		8	145			3	159				
04:15		9	165			7	163				
04:30		5	173			3	168				
04:45		13	152	35	635	9	162	22	652	57	1287
05:00		15	160			10	167				
05:15		25	152			20	165				
05:30		19	174			20	163				
05:45		27	161	86	647	20	168	70	663	156	1310
06:00		41	140			40	156				
06:15		48	160			50	147				
06:30		65	146			61	134				
06:45		88	131	242	577	91	119	242	556	484	1133
07:00		100	111			91	112				
07:15		123	117			132	105				
07:30		151	95			159	83				
07:45		186	95	560	418	172	76	554	376	1114	794
08:00		192	72			203	63				
08:15		212	66			190	62				
08:30		154	76			146	59				
08:45		146	65	704	279	141	58	680	242	1384	521
09:00		144	72			135	56				
09:15		129	58			128	51				
09:30		108	66			92	67				
09:45		136	47	517	243	139	42	494	216	1011	459
10:00		117	45			106	43				
10:15		119	35			108	39				
10:30		139	33			114	28				
10:45		116	27	491	140	111	29	439	139	930	279
11:00		128	28			100	28				
11:15		109	24			99	24				
11:30		143	17			118	13				
11:45		129	23	509	92	114	24	431	89	940	181
Total		3283	5186			3057	4990			6340	10176
Percent		38.8%	61.2%			38.0%	62.0%			38.4%	61.6%
Grand Total		3283	5186			3057	4990			6340	10176
Percent		38.8%	61.2%			38.0%	62.0%			38.4%	61.6%

ADT

ADT 16,516

AADT 16,516

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Page 1

ADT Data

Site Code: 32180104
N Arcadia Ave South of
Dekalb Industrial Way

Start Time	17-May-12 Thu	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		11	97			18	96				
12:15		18	126			10	98				
12:30		9	110			14	103				
12:45		8	93	46	426	5	121	47	418	93	844
01:00		9	93			7	125				
01:15		10	133			9	94				
01:30		3	102			6	95				
01:45		4	87	26	415	4	97	26	411	52	826
02:00		6	78			7	98				
02:15		1	105			3	81				
02:30		5	118			2	100				
02:45		7	139	19	440	1	113	13	392	32	832
03:00		13	98			4	104				
03:15		5	120			6	105				
03:30		1	145			9	112				
03:45		8	103	27	466	2	118	21	439	48	905
04:00		1	138			3	115				
04:15		7	141			3	128				
04:30		3	142			3	125				
04:45		9	122	20	543	11	131	20	499	40	1042
05:00		10	134			9	134				
05:15		17	124			17	135				
05:30		17	134			16	139				
05:45		17	134	61	526	25	130	67	538	128	1064
06:00		36	129			24	140				
06:15		45	131			37	121				
06:30		54	116			40	126				
06:45		82	104	217	480	53	107	154	494	371	974
07:00		82	84			58	122				
07:15		117	93			87	103				
07:30		141	74			90	90				
07:45		153	67	493	318	113	94	348	409	841	727
08:00		181	56			101	86				
08:15		169	55			106	79				
08:30		130	52			101	68				
08:45		125	51	605	214	105	81	413	314	1018	528
09:00		120	50			100	67				
09:15		114	46			94	51				
09:30		83	60			75	59				
09:45		123	37	440	193	77	44	346	221	786	414
10:00		94	38			81	54				
10:15		96	35			87	48				
10:30		102	25			89	33				
10:45		99	26	391	124	84	30	341	165	732	289
11:00		88	25			74	23				
11:15		87	21			84	22				
11:30		105	12			82	23				
11:45		102	21	382	79	83	14	323	82	705	161
Total		2727	4224			2119	4382			4846	8606
Percent		39.2%	60.8%			32.6%	67.4%			36.0%	64.0%
Grand Total		2727	4224			2119	4382			4846	8606
Percent		39.2%	60.8%			32.6%	67.4%			36.0%	64.0%

ADT

ADT 13,452

AADT 13,452

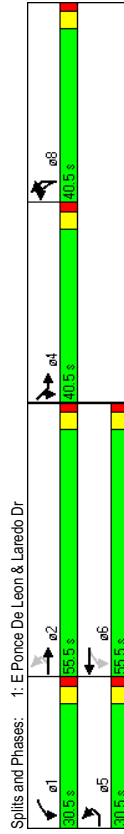
APPENDIX D

Synchro 7.0 Capacity Analysis

Timings 1: E Ponce De Leon & Laredo Dr

Existing PM
7/11/2012

Lane Group	EBL	EBT	WBL	WBT	NBL2	NBL	SER	SER2
Lane Configurations	EBL	EBT	WBL	WBT	NBL2	NBL	SER	SER2
Volume (vph)	199	298	27	205	54	57	188	77
Turn Type	pm+pt	pm+pt	Free	Free	Split	Split	Prot	Free
Protected Phases	5	2	1	6	8	8	4	4
Permitted Phases	2	6	Free	Free	4	4	4	Free
Switch Phase	5	2	1	6	8	8	4	4
Minimum Initial (s)	10.0	20.0	10.0	20.0	10.0	10.0	10.0	10.0
Minimum Split (s)	13.5	40.5	15.5	34.5	32.5	32.5	30.5	30.5
Total Split (s)	30.5	55.5	30.5	55.5	0.0	40.5	40.5	40.5
Total Split (%)	18.3%	33.2%	18.3%	33.2%	0.0%	24.3%	24.3%	24.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	4.0	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	None	None	None	None
Act Effect Green (s)	43.4	34.8	30.6	20.4	92.8	14.2	14.2	18.4
Actuated g/C Ratio	0.47	0.38	0.33	0.22	1.00	0.15	0.15	0.20
v/c Ratio	0.41	0.35	0.09	0.28	0.10	0.27	0.55	0.64
Control Delay	19.1	22.3	17.9	34.2	0.1	39.8	37.8	44.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.1	22.3	17.9	34.2	0.1	39.8	37.8	44.0
LOS	B	C	B	C	A	D	D	A
Approach Delay	21.2	20.2	20.2	38.4	27.7			
Approach LOS	C	C	C	D	C			



HCM Signalized Intersection Capacity Analysis 1: E Ponce De Leon & Laredo Dr

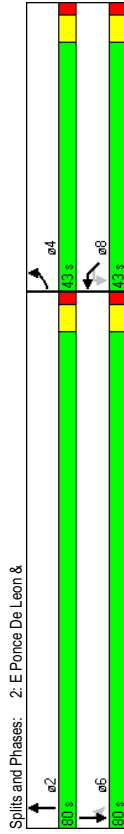
Existing PM
7/11/2012

Movement	EBL	EBT	WBL	WBT	NBL2	NBL	SER	SER2
Lane Configurations	EBL	EBT	WBL	WBT	NBL2	NBL	SER	SER2
Volume (vph)	199	298	122	205	54	57	188	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	4.0	5.5	5.5	5.5
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.95	1.00	1.00	1.00	0.92	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	0.95	0.98	1.00
Satd. Flow (prot)	1805	3405	1728	3574	1805	1705	1805	1615
Flt Permitted	0.49	1.00	0.49	1.00	1.00	0.95	0.98	1.00
Satd. Flow (perm)	939	3405	884	3574	1589	1705	1805	1615
Peak-hour factor, PHF	0.80	0.97	0.78	0.75	0.92	0.86	0.71	0.79
Adj. Flow (vph)	249	307	156	223	152	76	72	87
RTOR Reduction (vph)	0	35	0	0	0	0	28	0
Lane Group Flow (vph)	249	428	0	36	223	152	76	131
Confl. Peds. (#/hr)	13	13	13	13	13	13	13	13
Heavy Vehicles (%)	0%	1%	0%	4%	1%	0%	0%	0%
Turn Type	pm+pt	pm+pt	pm+pt	pm+pt	Free	Split	Prot	Free
Protected Phases	5	2	1	6	8	8	4	4
Permitted Phases	2	6	Free	Free	4	4	4	Free
Actuated Green, G (s)	45.8	34.8	28.5	23.0	94.9	14.2	14.2	18.4
Effective Green, g (s)	45.8	34.8	28.5	23.0	94.9	14.2	14.2	18.4
Actuated g/C Ratio	0.48	0.37	0.30	0.24	1.00	0.15	0.15	0.19
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Vehicle Extension (s)	3.0	5.0	3.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	611	1249	314	866	1589	270	255	350
v/s Ratio Prot	c0.07	0.13	0.01	0.06	0.04	c0.08	c0.13	0.07
v/s Ratio Perm	c0.12	0.34	0.03	0.11	0.26	0.10	0.28	0.51
v/c Ratio	0.41	0.34	0.11	0.26	0.10	0.28	0.51	0.36
Uniform Delay, d1	14.9	21.8	23.7	29.1	0.0	35.8	37.2	33.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	0.3	0.2	0.3	0.1	0.8	2.3	4.6
Delay (s)	15.4	22.1	23.9	29.4	0.1	36.6	39.5	34.1
Level of Service	B	C	C	C	A	D	D	C
Approach Delay (s)	19.8	18.1	18.1	38.6	25.2			
Approach LOS	B	B	B	D	C			

Intersection Summary	
HCM Average Control Delay	23.2
HCM Volume to Capacity ratio	0.48
Actuated Cycle Length (s)	94.9
Intersection Capacity Utilization	67.4%
Analysis Period (min)	15
c Critical Lane Group	

Timings 2: E Ponce De Leon & Existing PM 7/11/2012

Lane Group	EBL	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations	W	1	445	137	254	306	2
Volume (vph)	1	445	137	254	306	2	181
Turn Type	4i	2	Free	6	6	8i	
Protected Phases							
Permitted Phases	4	2	Free	6	6	8	
Switch Phase							
Minimum Initial (s)	8.0	12.0	12.0	12.0	12.0	8.0	
Minimum Split (s)	33.0	28.0	18.0	18.0	18.0	14.0	
Total Split (s)	43.0	80.0	0.0	80.0	80.0	43.0	
Total Split (%)	35.0%	65.0%	0.0%	65.0%	65.0%	35.0%	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	4.0	6.0	6.0	6.0	
Lead/Lag							
Lead-Lag Optimizer?							
Recall Mode	None	Min	Min	Min	Min	None	
Act Effct Green (s)	9.8	17.8	39.9	17.8	9.8		
Actuated g/C Ratio	0.25	0.45	1.00	0.45	0.25		
v/c Ratio	0.02	0.57	0.09	0.59	0.50		
Control Delay	13.5	11.4	0.1	11.1	10.4		
Queue Delay	0.0	0.0	0.0	0.0	0.0		
Total Delay	13.5	11.4	0.1	11.1	10.4		
LOS	B	B	A	B	B		
Approach Delay	13.5	8.6		11.1	10.4		
Approach LOS	B	A		B	B		
Intersection Summary							
Cycle Length: 123							
Actuated Cycle Length: 39.9							
Natural Cycle: 65							
Control Type: Semi-Act-Uncoord							
Maximum v/c Ratio: 0.59							
Intersection Signal Delay: 10.0							
Intersection LOS: A							
Intersection Capacity Utilization 78.9%							
Analysis Period (min) 15							
i - Phase conflict between lane groups.							



HCM Signalized Intersection Capacity Analysis 2: E Ponce De Leon & Existing PM 7/11/2012

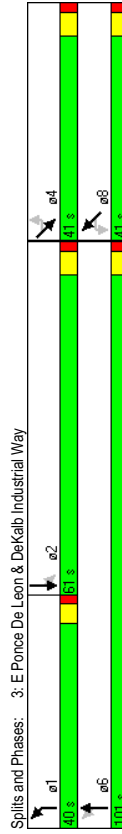
Movement	EBL	EBR	NBL	NBR	SBL	SBT	NWL	NWR
Lane Configurations	W	1	0	445	137	254	306	2
Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	6.0	6.0	4.0	6.0	6.0	6.0	6.0	6.0
Total Lost time (s)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	0.93	0.93	1.00	0.85	1.00	0.98	0.99	0.99
Flt Protected								
Flt Permitted	1729	1729	1863	1615	3474	1668	1668	1668
Satd. Flow (perm)	1729	1729	1863	1615	2280	1668	1668	1668
Peak-hour factor, PHF	0.25	0.25	0.94	0.90	0.95	0.91	0.92	0.65
Adj. Flow (vph)	4	4	0	473	152	267	336	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	8	0	0	473	152	0	603	0
Heavy Vehicles (%)	0%	0%	0%	2%	0%	3%	0%	0%
Turn Type	4i			2	Free	Perm	Perm	8i
Protected Phases								
Permitted Phases					Free	6	8	
Actuated Green, G (s)	9.8			17.8	39.6	17.8		9.8
Effective Green, g (s)	9.8			17.8	39.6	17.8		9.8
Actuated g/C Ratio	0.25			0.45	1.00	0.45		0.25
Clearance Time (s)	6.0			6.0	6.0	6.0		6.0
Vehicle Extension (s)	3.0			3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	428			837	1615	1025		413
v/s Ratio Prot	0.00			0.25		c0.26		0.09
v/c Ratio	0.02			0.57	0.09	0.59		0.35
Uniform Delay, d1	11.3			8.0	0.0	8.2		12.3
Progression Factor	1.00			1.00	1.00	1.00		1.00
Incremental Delay, d2	0.0			0.9	0.1	0.9		0.5
Delay (s)	11.3			8.9	0.1	9.0		12.8
Level of Service	B			A	A	A		B
Approach Delay (s)	11.3			6.8	9.0	12.8		
Approach LOS	B			A	A	B		
Intersection Summary								
HCM Average Control Delay				8.8				A
HCM Volume to Capacity ratio				0.50				
Actuated Cycle Length (s)				39.6				12.0
Intersection Capacity Utilization				78.9%				D
Analysis Period (min)				15				
i - Phase conflict between lane groups.								
c - Critical Lane Group								

Timings Existing PM
7/11/2012

HCM Signalized Intersection Capacity Analysis Existing PM
7/11/2012

3: E Ponce De Leon & DeKalb Industrial Way

Lane Group	NBL	NBT	SBL	SBT	SEL	SET	NWL	NWT
Lane Configurations	39	507	1	326	123	12	20	12
Volume (vph)	39	507	1	326	123	12	20	12
Turn Type	pm-pt		Perm		Perm		Perm	
Protected Phases	1	6	2	2	4	4	8	8
Permitted Phases	6	6	2	2	4	4	8	8
Detector Phase	1	6	2	2	4	4	8	8
Switch Phase								
Minimum Initial (s)	5.0	15.0	15.0	15.0	7.0	7.0	7.0	7.0
Minimum Split (s)	10.0	21.0	24.0	24.0	31.0	31.0	14.0	14.0
Total Split (s)	40.0	101.0	61.0	61.0	41.0	41.0	41.0	41.0
Total Split (%)	28.2%	71.1%	43.0%	43.0%	28.9%	28.9%	28.9%	28.9%
Yellow Time (s)	3.5	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lag				
Lead-Lag Optimizer?	Yes	Yes	Yes	Yes	None	None	None	None
Recall Mode	None	Min	Min	Min	None	None	None	None
Act Effct Green (s)	25.7	24.7	17.8	17.8	17.0	17.0	17.0	17.0
Actuated g/C Ratio	0.47	0.45	0.33	0.33	0.31	0.31	0.31	0.31
v/c Ratio	0.11	0.34	0.01	0.38	0.52	0.15	0.12	0.12
Control Delay	8.8	10.3	18.0	16.5	22.2	8.1	13.9	13.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.8	10.3	18.0	16.5	22.2	8.1	13.9	13.9
LOS	A	B	B	B	C	A	B	B
Approach Delay	10.1	16.5	16.5	18.3	13.9			
Approach LOS	B	B	B	B	B			



Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations	39	507	7	1	326	81	123	12	38	20	12	10
Volume (vph)	39	507	7	1	326	81	123	12	38	20	12	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	0.99	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fit	1.00	1.00	1.00	1.00	0.96	1.00	0.89	1.00	0.96	1.00	0.96	1.00
Fit Protected	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.98
Satd. Flow (prot)	1805	3557	1805	3456	1805	1805	1681	1795	1795	1795	1795	1795
Fit Permitted	0.39	1.00	0.45	1.00	0.72	1.00	0.72	1.00	0.88	1.00	0.88	1.00
Satd. Flow (perm)	737	3557	848	3456	1364	1681	1609	1609	1609	1609	1609	1609
Peak-hour factor, PHF	0.67	0.95	0.44	0.25	0.97	0.78	0.56	0.50	0.63	0.83	0.60	0.63
Adj. Flow (vph)	58	534	16	4	336	104	220	24	60	24	20	16
RTOR Reduction (vph)	0	2	0	0	23	0	0	42	0	0	0	8
Lane Group Flow (vph)	58	548	0	4	417	0	220	42	0	0	52	0
Conf. Peds. (#/hr)	1											
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm-pt											
Protected Phases	1	6	6	2	2	4	4	4	4	8	8	8
Permitted Phases	6	6	6	2	2	4	4	4	4	8	8	8
Actuated Green, G (s)	27.1	27.1	27.1	17.8	17.8	17.0	17.0	17.0	17.0	17.0	17.0	17.0
Effective Green, g (s)	27.1	27.1	27.1	17.8	17.8	17.0	17.0	17.0	17.0	17.0	17.0	17.0
Actuated g/C Ratio	0.48	0.48	0.48	0.32	0.32	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Clearance Time (s)	5.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	438	1718	269	1097	413	509	488	488	488	488	488	488
v/s Ratio Prot	0.01	c0.15		c0.12		0.03		0.03		0.03		0.03
v/s Ratio Perm	0.05					c0.16						
v/c Ratio	0.13	0.32	0.01	0.38	0.01	0.53	0.08	0.11	0.11	0.11	0.11	0.11
Uniform Delay, d1	8.0	8.9	13.1	14.9	16.2	14.0	14.1	14.1	14.1	14.1	14.1	14.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	0.2	0.0	0.5	2.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Delay (s)	8.2	9.1	13.2	15.3	18.7	14.1	14.3	14.3	14.3	14.3	14.3	14.3
Level of Service	A	A	B	B	B	B	B	B	B	B	B	B
Approach Delay (s)	9.0			15.3		17.4		14.3		14.3		14.3
Approach LOS	A			B		B		B		B		B

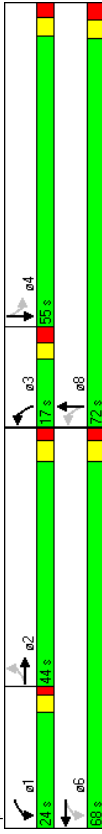
Intersection Summary												
HCM Average Control Delay												
HCM Volume to Capacity ratio	13.0											
Actuated Cycle Length (s)	56.1											
Intersection Capacity Utilization	54.6%											
Analysis Period (min)	15											
c Critical Lane Group												

Timings Existing PM 7/11/2012

4: E Ponce De Leon & Arcadia Ave

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Volume (vph)	161	356	192	198	101	517	18	781	79
Turn Type	Perm	pm+pt	pm+pt	pm+pt	Perm	Perm	Perm	Free	Free
Protected Phases	2	2	1	6	3	8	4	4	Free
Permitted Phases	2	2	6	6	8	8	4	4	Free
Switch Phase	2	2	1	6	3	8	4	4	Free
Minimum Initial (s)	15.0	15.0	5.0	15.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	22.0	22.0	9.4	22.0	12.7	22.2	21.8	21.8	21.8
Total Split (s)	44.0	44.0	24.0	68.0	17.0	72.0	55.0	55.0	0.0
Total Split (%)	31.4%	31.4%	17.1%	48.6%	12.1%	51.4%	39.3%	39.3%	0.0%
Yellow Time (s)	3.6	3.6	3.0	3.6	3.0	3.1	3.1	3.1	3.1
All-Red Time (s)	2.4	2.4	1.4	2.4	2.7	3.1	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.4	6.0	5.7	6.2	5.8	5.8	4.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lag	Lag
Lead/Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Max	None	Max	None	C-Max	C-Max	C-Max	C-Max
Act Effect Green (s)	42.0	42.0	63.6	62.0	66.3	65.8	50.3	50.3	140.0
Actuated g/C Ratio	0.30	0.30	0.45	0.44	0.47	0.47	0.36	0.36	1.00
v/c Ratio	0.54	0.58	0.58	0.16	0.45	0.46	0.10	0.63	0.06
Control Delay	49.1	37.6	30.9	21.8	26.4	24.0	31.9	40.1	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.1	37.6	30.9	21.8	26.4	24.0	31.9	40.1	0.1
LOS	D	D	C	C	C	C	C	D	A
Approach Delay	40.2	25.9	24.4	36.0	D	D	D	D	D
Approach LOS	D	C	C	C	C	C	C	C	C

Splits and Phases: 4: E Ponce De Leon & Arcadia Ave



HCM Signalized Intersection Capacity Analysis Existing PM 7/11/2012

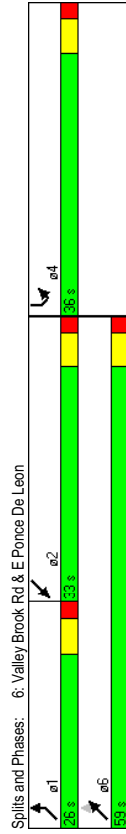
4: E Ponce De Leon & Arcadia Ave

Movement	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Volume (vph)	161	356	192	198	101	517	18	781	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	4.4	6.0	5.7	6.2	5.8	5.8	4.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Flpb. ped/bikes	1.00	0.99	1.00	1.00	1.00	0.99	1.00	1.00	1.00
Flpb. ped/bikes	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.94	1.00	0.98	1.00	0.96	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1788	3349	1787	3483	1805	3424	1798	3610	1593
Flt Permitted	0.60	1.00	0.23	1.00	0.17	1.00	0.36	1.00	1.00
Satd. Flow (perm)	1120	3349	436	3483	319	3424	689	3610	1593
Peak-hour factor, PHF	0.89	0.93	0.87	0.94	0.73	0.87	0.80	0.75	0.95
Adj. Flow (vph)	181	383	244	204	213	40	116	539	219
RTOR Reduction (vph)	0	70	0	0	11	0	31	0	0
Lane Group Flow (vph)	181	557	0	204	242	0	116	727	0
Conf. Peds. (#/hr)	5	4	3	4	4	4	3	4	5
Heavy Vehicles (%)	0%	1%	0%	1%	0%	0%	1%	0%	0%
Turn Type	Perm	2	2	1	6	3	8	4	Free
Protected Phases	2	2	2	1	6	3	8	4	Free
Actuated Green, G (s)	42.0	42.0	62.0	62.0	65.8	65.8	50.3	50.3	140.0
Effective Green, g (s)	42.0	42.0	62.0	62.0	65.8	65.8	50.3	50.3	140.0
Actuated g/C Ratio	0.30	0.30	0.44	0.44	0.47	0.47	0.36	0.36	1.00
Clearance Time (s)	6.0	6.0	4.4	6.0	5.7	6.2	5.8	5.8	4.0
Vehicle Extension (s)	5.0	5.0	3.5	5.0	3.5	3.5	3.0	3.0	3.0
Lane Grp Cap (vph)	336	1005	344	1542	258	1609	248	1297	1593
v/s Ratio Prot	0.17	0.07	0.07	0.07	0.03	0.21	0.03	0.23	0.06
v/s Ratio Perm	0.16	0.55	0.59	0.16	0.45	0.45	0.10	0.63	0.06
v/c Ratio	0.54	0.55	0.59	0.16	0.45	0.45	0.10	0.63	0.06
Uniform Delay, d1	40.9	41.1	26.5	23.4	24.5	25.0	29.8	37.2	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.1	2.2	2.9	0.2	1.5	0.9	0.8	2.4	0.1
Delay (s)	47.0	43.3	29.4	23.6	26.0	25.9	30.5	39.6	0.1
Level of Service	D	D	C	C	C	C	C	D	A
Approach Delay (s)	44.2	26.2	25.9	35.5	D	D	D	D	D
Approach LOS	D	C	C	C	C	C	C	C	C

Intersection Summary			
HCM Average Control Delay	33.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	73.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Timings Existing PM
7/11/2012
6: Valley Brook Rd & E Ponce De Leon

Lane Group	SBL	SBR	NEL	NET	SWT
Lane Configurations	92	342	284	477	425
Volume (vph)	92	342	284	477	425
Turn Type	Free	Free	pm+pt		
Protected Phases	4	1	6	2	2
Permitted Phases		Free	6		
Detector Phase	4		1	6	2
Switch Phase					
Minimum Initial (s)	20.0	5.0	10.0	10.0	
Minimum Split (s)	29.0	11.0	27.0	27.0	
Total Split (s)	36.0	0.0	26.0	59.0	33.0
Total Split (%)	37.9%	0.0%	27.4%	62.1%	34.7%
Yellow Time (s)	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	4.0	6.0	6.0	
Lead/Lag		Lead	Lag		
Lead-Lag Optimizer?		Yes			
Recall Mode	None	None	C-Min	C-Min	
Act Effct Green (s)	20.0	95.0	68.2	69.4	46.2
Actuated g/C Ratio	0.21	1.00	0.72	0.73	0.49
v/c Ratio	0.28	0.23	0.57	0.36	0.62
Control Delay	33.9	0.3	10.3	7.4	25.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	33.9	0.3	10.3	7.4	25.8
LOS	C	A	B	A	C
Approach Delay	8.1		8.5	25.8	
Approach LOS	A		A	C	
Intersection Summary					
Cycle Length: 95					
Actuated Cycle Length: 95					
Offset: 71 (75%), Referenced to phase 2:SWT and 6:NETL Start of Green					
Natural Cycle: 80					
Control Type: Actuated-Coordinated					
Maximum v/c Ratio: 0.62					
Intersection Signal Delay: 13.6					
Intersection Capacity Utilization 74.6%					
Analysis Period (min) 15					



HCM Signalized Intersection Capacity Analysis Existing PM
7/11/2012
6: Valley Brook Rd & E Ponce De Leon

Movement	SBL	SBR	NEL	NET	SWT	SWR
Lane Configurations	92	342	284	477	425	67
Volume (vph)	92	342	284	477	425	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	4.0	6.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	0.99	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Flt	1.00	0.85	1.00	1.00	0.98	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1805	1591	1805	1900	1849	
Flt Permitted	0.95	1.00	0.25	1.00	1.00	
Satd. Flow (perm)	1805	1591	481	1900	1849	
Peak-hour factor, PHF	0.85	0.95	0.87	0.96	0.90	0.76
Adj. Flow (vph)	108	360	326	497	472	88
RTOR Reduction (vph)	0	0	0	0	5	0
Lane Group Flow (vph)	108	360	326	497	555	0
Confl. Peds. (#/hr)	7	10	10			7
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	Free	Free	pm+pt			
Protected Phases	4	1	6	2		
Permitted Phases		Free	6			
Actuated Green, G (s)	16.0	95.0	67.0	67.0	45.0	
Effective Green, g (s)	16.0	95.0	67.0	67.0	45.0	
Actuated g/C Ratio	0.17	1.00	0.71	0.71	0.47	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	4.0	3.0	8.0	8.0		
Lane Grp Cap (vph)	304	1591	562	1340	876	
v/s Ratio Prot	c0.06		c0.10	0.26	c0.30	
v/s Ratio Perm		0.23	0.31			
v/c Ratio	0.36	0.23	0.58	0.37	0.63	
Uniform Delay, d1	34.9	0.0	9.3	5.6	18.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.0	0.3	1.5	0.8	3.5	
Delay (s)	35.9	0.3	10.9	6.4	22.3	
Level of Service	D	A	B	A	C	
Approach Delay (s)	8.5		8.2	22.3		
Approach LOS	A		A	C		
Intersection Summary						
HCM Average Control Delay			12.5		HCM Level of Service	B
HCM Volume to Capacity ratio			0.57			
Actuated Cycle Length (s)			95.0		Sum of lost time (s)	18.0
Intersection Capacity Utilization			74.6%		ICU Level of Service	D
Analysis Period (min)			15			
c Critical Lane Group						

Timings
7: Glendale Rd & E Ponce De Leon

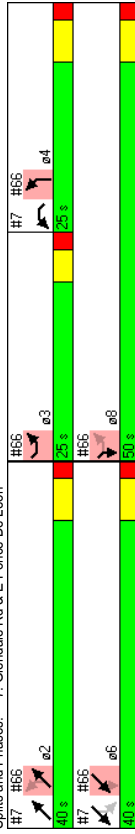
Existing PM
7/11/2012

Lane Group	NWL	NWR	NET	NER	SWL	SWT	ø3	ø8
Lane Configurations	127	172	498	222	82	394		
Volume (vph)	127	172	498	222	82	394		
Turn Type	4	Free	2	Free	6	3	8	
Protected Phases								
Permitted Phases	4	Free	2	Free	6	6		
Detector Phase	4		2		6	6		
Switch Phase								
Minimum Initial (s)	8.0	12.0	12.0	12.0	12.0	8.0	8.0	
Minimum Split (s)	24.5	30.5	30.5	18.5	18.5	13.5	25.5	
Total Split (s)	25.0	0.0	40.0	0.0	40.0	50.0	50.0	
Total Split (%)	27.8%	0.0%	44.4%	0.0%	44.4%	28%	56%	
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	3.5	4.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.5	4.0	6.5	4.0	6.5	6.5		
Lead/Lag	Lag						Lead	
Lead-Lag Optimizer?	Yes						Yes	
Recall Mode	None						None	
Act Effct Green (s)	12.3	90.0	64.7	90.0	64.7	64.7		
Actuated g/C Ratio	0.14	1.00	0.72	1.00	0.72	0.72		
v/c Ratio	0.57	0.15	0.39	0.16	0.17	0.31		
Control Delay	44.7	0.2	6.4	0.2	5.5	5.7		
Queue Delay	5.7	0.0	1.3	0.0	0.0	0.0		
Total Delay	50.4	0.2	7.7	0.2	5.5	5.7		
LOS	D	A	A	A	A	A		
Approach Delay	18.9	5.2			5.7			
Approach LOS	B	A			A			

Intersection Summary

Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2/NET and 6/SWTL, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.57	
Intersection Signal Delay: 8.4	
Intersection Capacity Utilization 60.5%	
Analysis Period (min) 15	
Intersection LOS: A	
ICU Level of Service B	

Splits and Phases: 7: Glendale Rd & E Ponce De Leon



5:00 pm Baseline

HCM Signalized Intersection Capacity Analysis
7: Glendale Rd & E Ponce De Leon

Existing PM
7/11/2012

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations	127	172	498	222	82	394
Volume (vph)	127	172	498	222	82	394
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	4.0	6.5	4.0	6.5	6.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	0.99	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1805	1580	1900	1593	1766	1900
Flt Permitted	0.95	1.00	1.00	1.00	0.43	1.00
Satd. Flow (perm)	1805	1580	1900	1593	808	1900
Peak-hour factor, PHF	0.91	0.73	0.93	0.85	0.85	0.94
Adj. Flow (vph)	140	236	535	261	96	419
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	140	236	535	261	96	419
Confl. Peds. (#/hr)	5	4		5	4	
Heavy Vehicles (%)	0%	0%	0%	0%	2%	0%
Turn Type	Free	Free	2	Free	Perm	6
Protected Phases	4					
Permitted Phases	Free	Free		Free	6	
Actuated Green, G (s)	12.3	90.0	64.7	90.0	64.7	64.7
Effective Green, g (s)	12.3	90.0	64.7	90.0	64.7	64.7
Actuated g/C Ratio	0.14	1.00	0.72	1.00	0.72	0.72
Clearance Time (s)	6.5		6.5		6.5	6.5
Vehicle Extension (s)	3.0		5.5		5.5	5.5
Lane Grp Cap (vph)	247	1580	1366	1593	581	1366
v/s Ratio Prot	c0.08		c0.28		0.12	0.22
v/s Ratio Perm		0.15		0.16	0.12	
v/c Ratio	0.57	0.15	0.39	0.16	0.17	0.31
Uniform Delay, d1	36.4	0.0	4.9	0.0	4.0	4.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.0	0.2	0.8	0.2	0.6	0.6
Delay (s)	39.3	0.2	5.8	0.2	4.6	5.1
Level of Service	D	A	A	A	A	A
Approach Delay (s)	14.8		4.0		5.1	
Approach LOS	B		A		A	

Intersection Summary

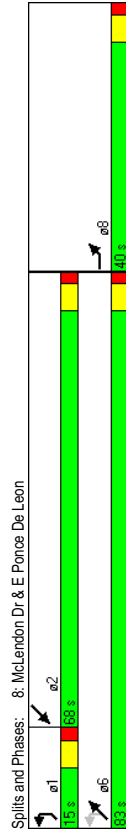
HCM Average Control Delay	6.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	60.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

5:00 pm Baseline

Timings
8: McLendon Dr & E Ponce De Leon

Existing PM
7/11/2012

Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations	EBL	EBR	NEL	NET	SWT	SWR
Volume (vph)	214	87	77	523	478	64
Turn Type	Free	Free	pm+pt	Free	Free	Free
Protected Phases	8	1	6	2	2	Free
Permitted Phases	8	Free	6	Free	Free	Free
Detector Phase	8	Free	6	Free	Free	Free
Switch Phase	8	Free	6	Free	Free	Free
Minimum Initial (s)	8.0	5.0	12.0	12.0	12.0	12.0
Minimum Split (s)	33.0	11.0	18.0	28.0	28.0	28.0
Total Split (s)	40.0	0.0	15.0	83.0	68.0	0.0
Total Split (%)	32.5%	0.0%	12.2%	67.5%	55.3%	0.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	4.0	6.0	6.0	6.0	4.0
Lead/Lag	Lead	Lead	Lag	Lag	Lag	Lag
Lead-Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	C-Min	C-Min	C-Min	C-Min
Act Effct Green (s)	22.2	123.0	88.8	88.8	73.4	123.0
Actuated g/C Ratio	0.18	1.00	0.72	0.72	0.60	1.00
v/c Ratio	0.72	0.07	0.15	0.45	0.46	0.05
Control Delay	58.7	0.1	6.5	9.1	16.6	0.1
Queue Delay	0.0	0.0	0.0	0.0	4.1	0.0
Total Delay	58.7	0.1	6.5	9.1	20.7	0.1
LOS	E	A	A	A	C	A
Approach Delay	41.4	8.7	17.9	17.9	17.9	17.9
Approach LOS	D	A	A	A	B	B
Intersection Summary						
Cycle Length: 123						
Actuated Cycle Length: 123						
Offset: 113 (92%), Referenced to phase 2(SWT) and 6(NETL), Start of Green						
Natural Cycle: 75						
Control Type: Actuated-Coordinated						
Maximum v/c Ratio: 0.72						
Intersection Signal Delay: 18.8						
Intersection Capacity Utilization 57.3%						
Analysis Period (min) 15						



HCM Signalized Intersection Capacity Analysis
8: McLendon Dr & E Ponce De Leon

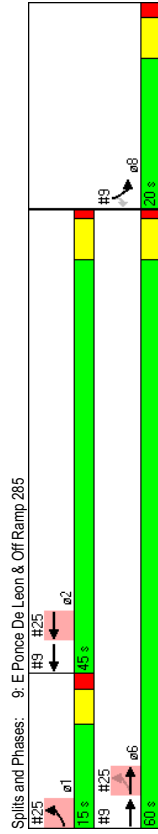
Existing PM
7/11/2012

Movement	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations	EBL	EBR	NEL	NET	SWT	SWR
Volume (vph)	214	87	77	523	478	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	4.0	6.0	6.0	6.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1805	1580	1804	1900	1900	1580
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1805	1580	1804	1900	1900	1580
Peak-hour factor, PHF	0.91	0.84	0.88	0.84	0.92	0.80
Adj. Flow (vph)	235	104	88	623	520	80
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	235	104	88	623	520	80
Confl. Peds. (#/hr)	3	3	3	3	3	3
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	Free	Free	pm+pt	Free	Free	Free
Protected Phases	8	1	6	2	2	Free
Permitted Phases	8	Free	6	Free	Free	Free
Actuated Green, G (s)	22.2	123.0	88.8	88.8	73.4	123.0
Effective Green, g (s)	22.2	123.0	88.8	88.8	73.4	123.0
Actuated g/C Ratio	0.18	1.00	0.72	0.72	0.60	1.00
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	4.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	326	1580	569	1372	1134	1580
v/s Ratio Prot	c0.13	0.01	c0.33	0.27	0.05	0.05
v/s Ratio Perm	0.07	0.07	0.15	0.45	0.46	0.05
v/c Ratio	0.72	0.07	0.15	0.45	0.46	0.05
Uniform Delay, d1	47.5	0.0	6.8	7.1	13.8	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.1	0.1	0.3	1.1	1.3	0.1
Delay (s)	55.6	0.1	7.1	8.2	15.1	0.1
Level of Service	E	A	A	A	B	A
Approach Delay (s)	38.6	8.0	13.1	13.1	13.1	13.1
Approach LOS	D	A	A	A	B	B
Intersection Summary						
HCM Average Control Delay	16.1					
HCM Volume to Capacity ratio	0.51					
Actuated Cycle Length (s)	123.0					
Sum of lost time (s)	12.0					
Intersection Capacity Utilization	57.3%					
ICU Level of Service	B					
Analysis Period (min)	15					
c Critical Lane Group						

Timings Existing PM
7/11/2012

9: E Ponce De Leon & Off Ramp 285

Lane Group	EBT	WBT	SBL	SBR	ø1
Lane Configurations	←	←	←	←	←
Volume (vph)	544	251	308	276	Perm
Turn Type	6	2	8	8	1
Protected Phases					
Permitted Phases	6	2	8	8	
Detector Phase					
Switch Phase					
Minimum Initial (s)	12.0	12.0	7.0	7.0	7.0
Minimum Split (s)	17.0	17.0	12.5	12.5	12.0
Total Split (s)	60.0	45.0	20.0	20.0	15.0
Total Split (%)	75.0%	56.3%	25.0%	25.0%	19%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5
All-Red Time (s)	1.0	1.0	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.5	5.5	
Lead/Lag		Lag		Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	
Recall Mode	C-Min	C-Min	None	None	None
Act Effect Green (s)	46.7	29.7	22.8	22.8	
Actuated g/C Ratio	0.58	0.37	0.28	0.28	
v/c Ratio	0.54	0.24	0.69	0.46	
Control Delay	11.8	11.5	36.4	6.0	
Queue Delay	0.0	0.0	0.0	0.0	
Total Delay	11.8	11.5	36.4	6.0	
LOS	B	B	D	A	
Approach Delay	11.8	11.5	22.0		
Approach LOS	B	B	C		
Intersection Summary					
Cycle Length: 80					
Actuated Cycle Length: 80					
Offset: 38 (48%), Referenced to phase 2/WBT and 6/EBT, Start of Green					
Natural Cycle: 50					
Control Type: Actuated-Coordinated					
Maximum v/c Ratio: 0.72					
Intersection Signal Delay: 16.0					Intersection LOS: B
Intersection Capacity Utilization 72.1%					ICU Level of Service C
Analysis Period (min) 15					



5:00 pm Baseline

HCM Signalized Intersection Capacity Analysis Existing PM
7/11/2012

9: E Ponce De Leon & Off Ramp 285

Movement	EBL	EBT	WBT	SBL	SBR
Lane Configurations		←	←	←	←
Volume (vph)	0	544	251	0	276
Ideal Flow (vphpl)	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.5
Lane Util. Factor		1.00	0.95		1.00
Flt Protected		1.00	1.00		0.95
Satd. Flow (prot)		1900	3610		1805
Flt Permitted		1.00	1.00		0.95
Satd. Flow (perm)		1900	3610		1805
Peak-hour factor, PHF	0.92	0.91	0.78	0.92	0.87
Adj. Flow (vph)	0	598	322	0	354
RTOR Reduction (vph)	0	0	0	0	0
Lane Group Flow (vph)	0	598	322	0	354
Heavy Vehicles (%)	0%	0%	0%	0%	1%
Turn Type					Perm
Protected Phases		6	2	8	
Permitted Phases					8
Actuated Green, G (s)		46.7	29.7		22.8
Effective Green, g (s)		46.7	29.7		22.8
Actuated g/C Ratio		0.58	0.37		0.29
Clearance Time (s)		5.0	5.0		5.5
Vehicle Extension (s)		5.0	5.0		3.5
Lane Grp Cap (vph)		1109	1340		514
v/s Ratio Prot		0.31	0.09		0.20
v/c Ratio		0.54	0.24		0.69
Uniform Delay, d1		10.1	17.4		25.4
Progression Factor		1.00	0.66		1.00
Incremental Delay, d2		1.9	0.4		4.0
Delay (s)		12.0	11.9		29.4
Level of Service		B	B		C
Approach Delay (s)		12.0	11.9		25.9
Approach LOS		B	B		C
Intersection Summary					
HCM Average Control Delay			17.8		HCM Level of Service B
HCM Volume to Capacity ratio			0.59		
Actuated Cycle Length (s)			80.0		Sum of lost time (s)
Intersection Capacity Utilization			72.1%		ICU Level of Service C
Analysis Period (min)			15		
c Critical Lane Group					

5:00 pm Baseline

HCM Unsignalized Intersection Capacity Analysis
10: Church St & On Ramp 285

Existing PM
7/11/2012

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	EB	EB	WB	WB	NB	NB
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Volume (vph)	242	375	232	271	0	0
Peak Hour Factor	0.96	0.97	0.88	0.97	0.92	0.92
Hourly flow rate (vph)	252	387	264	279	0	0
Direction, Lane #	EB 1	WB 1				
Volume Total (vph)	639	543				
Volume Left (vph)	0	264				
Volume Right (vph)	387	0				
Head (s)	-0.35	0.11				
Departure Headway (s)	4.1	4.6				
Degree Utilization, x	0.73	0.69				
Capacity (veh/h)	857	772				
Control Delay (s)	17.4	17.4				
Approach Delay (s)	17.4	17.4				
Approach LOS	C	C				
Intersection Summary						
Delay		17.4				
HCM Level of Service		C				
Intersection Capacity Utilization		69.5%				
Analysis Period (min)		15				
ICU Level of Service						C

HCM Unsignalized Intersection Capacity Analysis
11: Valley Brook Rd & SR 410 On Ramp

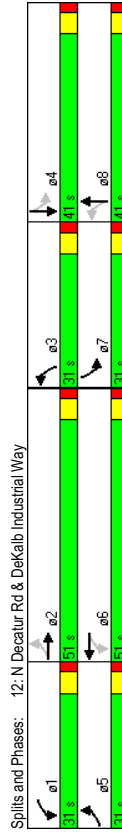
Existing PM
7/11/2012

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations	EB	EB	WB	WB	SW	SW
Volume (veh/h)	0	1680	334	0	150	711
Sign Control	Free	Free	Free	Free	Stop	Stop
Grade		0%	0%	0%	0%	0%
Peak Hour Factor	0.98	0.98	0.97	0.92	0.92	0.98
Hourly flow rate (vph)	0	1714	344	0	163	726
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)			759			
pX, platoon unblocked						
VC, conflicting volume	344			1201	344	
VC1, stage 1 conf vol						
VC2, stage 2 conf vol						
VCu, unblocked vol	344			1201	344	
IC, single (s)	4.1			6.8	6.9	
IC, 2 stage (s)						
IF (s)	2.2			3.5	3.3	
p0 queue free %	100			10	0	
CM capacity (veh/h)	1226			180	658	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SW 2	SW 3
Volume Total	857	857	344	163	363	363
Volume Left	0	0	0	163	0	0
Volume Right	0	0	0	0	363	363
cSH	1700	1700	1700	180	658	658
Volume to Capacity	0.50	0.50	0.20	0.90	0.55	0.55
Queue Length 95th (ft)	0	0	0	170	85	85
Control Delay (s)	0.0	0.0	0.0	96.2	17.0	17.0
Lane LOS				F	C	C
Approach Delay (s)	0.0	0.0	0.0	31.5		
Approach LOS				D		
Intersection Summary						
Average Delay			9.5			
Intersection Capacity Utilization			61.4%			
Analysis Period (min)			15			
ICU Level of Service						B

Timings 12: N Decatur Rd & DeKalb Industrial Way

Existing PM
7/11/2012

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Volume (vph)	273	839	72	368	157	598	163	541
Turn Type	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt
Protected Phases	5	2	1	6	3	8	7	4
Permitted Phases	2	6	6	8	8	4	4	4
Switch Phase	5	2	1	6	3	8	7	4
Minimum Initial (s)	5.0	10.0	5.0	15.0	5.0	7.0	5.0	7.0
Minimum Split (s)	22.0	31.0	11.0	31.0	11.0	31.0	11.0	13.0
Total Split (s)	31.0	51.0	31.0	51.0	31.0	41.0	31.0	41.0
Total Split (%)	20.1%	33.1%	20.1%	33.1%	20.1%	26.6%	20.1%	26.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead/Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	None	None	None	None
Act Effct Green (s)	63.9	48.4	46.9	37.4	46.7	32.0	47.6	32.4
Actuated g/C Ratio	0.49	0.37	0.36	0.29	0.36	0.25	0.37	0.25
v/c Ratio	0.72	0.75	0.42	0.52	0.64	0.85	0.66	0.75
Control Delay	30.7	40.4	26.5	39.8	36.3	56.6	40.9	51.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.7	40.4	26.5	39.8	36.3	56.6	40.9	51.1
LOS	C	D	C	D	D	E	D	D
Approach Delay	37.9		37.8		52.5		48.9	
Approach LOS	D		D		D		D	



HCM Signalized Intersection Capacity Analysis 12: N Decatur Rd & DeKalb Industrial Way

Existing PM
7/11/2012

Movement	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBT
Lane Configurations	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBT
Volume (vph)	273	839	72	368	118	598	88	163	541
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.98	1.00	0.96	1.00	0.98	1.00	0.98	1.00
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1804	3523	1805	3455	1804	3529	1805	3514	3514
Flt Permitted	0.28	1.00	0.16	1.00	0.18	1.00	0.12	1.00	1.00
Satd. Flow (perm)	532	3523	306	3455	351	3529	236	3514	3514
Peak-hour factor, PHF	0.82	0.98	0.86	0.78	0.83	0.89	0.84	0.92	0.91
Adj. Flow (vph)	333	856	144	92	396	133	187	650	569
RTOR Reduction (vph)	0	8	0	0	21	0	8	0	9
Lane Group Flow (vph)	333	992	0	92	508	0	187	738	0
Confl. Peds. (#/hr)	5	7	8	6	7	8	6	6	5
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt
Permitted Phases	2	2	1	6	3	8	7	4	4
Actuated Green, G (s)	63.9	48.4	47.0	37.5	46.8	32.0	47.6	32.4	32.4
Effective Green, g (s)	63.9	48.4	47.0	37.5	46.8	32.0	47.6	32.4	32.4
Actuated g/C Ratio	0.49	0.37	0.36	0.29	0.36	0.25	0.37	0.25	0.25
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	8.0	3.0	8.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	464	1321	222	1004	294	875	272	882	882
v/s Ratio Prot	c0.11	c0.28	0.03	0.15	0.07	c0.21	c0.08	0.19	0.19
v/s Ratio Perm	0.24	0.72	0.12	0.51	0.16	0.64	0.66	0.75	0.75
v/c Ratio	0.72	0.75	0.41	0.51	0.64	0.84	0.66	0.75	0.75
Uniform Delay, d1	22.0	35.1	28.8	38.1	30.8	46.2	31.0	44.6	44.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.2	3.9	1.3	1.7	4.5	7.5	5.7	3.5	3.5
Delay (s)	27.2	39.0	30.0	39.8	35.2	53.7	36.6	48.1	48.1
Level of Service	C	D	C	D	D	D	D	D	D
Approach Delay (s)	36.0		38.4		50.0		45.7		
Approach LOS	D		D		D		D		

Intersection Summary

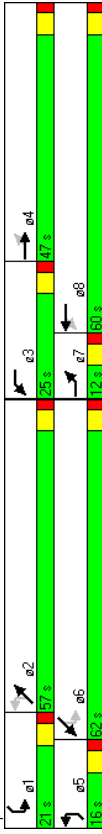
HCM Average Control Delay	42.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	129.1	Sum of lost time (s)	24.0
Intersection Capacity Utilization	80.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Timings 13: N Decatur Rd & Church St W Existing PM 7/11/2012

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	92	698	37	152	434	64	103	867	192	145	560	35
Volume (vph)	pm+pt	Free	Free	pm+pt	Free	Free	pm+pt	Free	Free	pm+pt	Free	Free
Turn Type	7	4	3	8	8	8	5	2	Free	6	1	6
Protected Phases	4	4	Free	8	3	8	2	2	Free	6	1	6
Permitted Phases	7	4	Free	8	3	8	5	2	Free	6	1	6
Detector Phase	4	4	Free	8	3	8	2	2	Free	6	1	6
Switch Phase	7	4	Free	8	3	8	5	2	Free	6	1	6
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	10.0	29.0	10.0	29.0	10.0	29.0	10.0	29.0	10.0	29.0	10.0	29.0
Total Split (s)	12.0	47.0	0.0	25.0	60.0	0.0	16.0	57.0	0.0	21.0	62.0	0.0
Total Split (%)	8.2%	31.3%	0.0%	16.7%	40.0%	0.0%	10.7%	38.0%	0.0%	14.0%	41.3%	0.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	None
Act Eff Green (s)	46.1	37.2	150.0	57.7	44.0	150.0	71.4	60.8	150.0	74.9	62.5	150.0
Actuated g/c Ratio	0.31	0.25	1.00	0.38	0.29	1.00	0.48	0.41	1.00	0.50	0.42	1.00
v/c Ratio	0.36	0.85	0.03	0.81	0.44	0.05	0.40	0.63	0.15	0.56	0.46	0.03
Control Delay	33.9	63.3	0.0	61.5	43.4	0.1	23.7	39.7	0.2	27.7	34.1	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.9	63.3	0.0	61.5	43.4	0.1	23.7	39.7	0.2	27.7	34.1	0.0
LOS	C	E	A	E	D	A	C	D	A	C	C	A
Approach Delay	56.4			43.2			30.5				31.4	
Approach LOS	E			D			C				C	

Splits and Phases: 13: N Decatur Rd & Church St W



HCM Signalized Intersection Capacity Analysis 13: N Decatur Rd & Church St W Existing PM 7/11/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	92	698	37	152	434	64	103	867	192	145	560	35
Volume (vph)	pm+pt	Free	Free	pm+pt	Free	Free	pm+pt	Free	Free	pm+pt	Free	Free
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Flt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.85	1.00	1.00	0.85	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	3610	1615	1805	3610	1583	1805	3610	1615	1805	3610	1524
Flt Permitted	0.44	1.00	1.00	0.99	1.00	1.00	0.30	1.00	1.00	0.17	1.00	1.00
Satd. Flow (perm)	831	3610	1615	176	3610	1583	563	3610	1615	319	3610	1524
Peak-hour factor, PHF	0.82	0.92	0.77	0.79	0.94	0.76	0.72	0.94	0.77	0.93	0.81	0.88
Adj. Flow (vph)	112	759	48	192	462	84	143	922	249	156	691	40
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	112	759	48	192	462	84	143	922	249	156	691	40
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	4	Free	pm+pt	3	8	Free	pm+pt	5	2	Free	pm+pt
Protected Phases	7	4	Free	pm+pt	3	8	Free	pm+pt	5	2	Free	pm+pt
Permitted Phases	4	Free	8	Free	8	Free	2	Free	6	Free	6	Free
Actuated Green, G (s)	46.1	37.2	150.0	58.9	44.0	150.0	71.4	60.8	150.0	74.8	62.5	150.0
Effective Green, g (s)	46.1	37.2	150.0	58.9	44.0	150.0	71.4	60.8	150.0	74.8	62.5	150.0
Actuated g/c Ratio	0.31	0.25	1.00	0.39	0.29	1.00	0.48	0.41	1.00	0.50	0.42	1.00
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	313	895	1615	240	1059	1583	356	1463	1615	281	1504	1524
v/s Ratio Prot	0.02	0.21		c0.08	0.13		0.03	c0.26		c0.05	0.19	
v/s Ratio Perm	0.09		0.03	c0.23		0.05	0.16		c0.15	0.23		0.03
v/c Ratio	0.36	0.85	0.03	0.80	0.44	0.05	0.40	0.63	0.15	0.56	0.46	0.03
Uniform Delay, d1	38.4	53.7	0.0	38.1	42.9	0.0	23.2	35.6	0.0	24.3	31.6	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7	7.5	0.0	17.1	0.3	0.1	0.7	2.1	0.2	2.4	1.0	0.0
Delay (s)	39.1	61.2	0.0	55.2	43.2	0.1	24.0	37.7	0.2	26.7	32.6	0.0
Level of Service	D	E	A	E	D	A	C	D	A	C	C	A
Approach Delay (s)	55.3			41.4			28.1			30.1		
Approach LOS	E			D			C			C		

Intersection Summary

HCM Average Control Delay 37.9 HCM Level of Service D

HCM Volume to Capacity ratio 0.68

Actuated Cycle Length (s) 150.0 Sum of lost time (s) 18.0

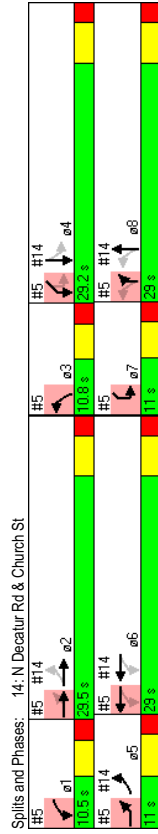
Intersection Capacity Utilization 79.7% ICU Level of Service D

Analysis Period (min) 15

c Critical Lane Group

Timings Existing PM 7/11/2012 14: N Decatur Rd & Church St

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR	ø1	ø3	ø7
Lane Configurations	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR			
Volume (vph)	253	767	2	400	15	121	6	50	107			
Turn Type	pm-pl	Perm	Perm	Perm	Perm	Perm	Perm	Free	Free			
Protected Phases	5	2	6	6	8	8	4	4	4			
Permitted Phases	5	2	6	6	8	8	4	4	4			
Switch Phase	5	2	6	6	8	8	4	4	4			
Minimum Initial (s)	5.0	10.0	10.0	10.0	8.0	8.0	8.0	8.0	8.0	5.0	5.0	5.0
Minimum Split (s)	11.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	10.5	10.5	10.5
Total Split (s)	11.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	29.0	10.5	10.5	10.5
Total Split (%)	13.5%	36.9%	36.3%	36.3%	36.3%	36.3%	36.5%	36.5%	36.5%	0.0%	13%	14%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	C-Min	None	None	None	None	None	None	None	None
Act Effect Green (s)	34.8	34.8	23.0	23.0	22.2	22.2	26.7	80.0	80.0			
Actuated g/C Ratio	0.44	0.44	0.29	0.29	0.28	0.28	0.33	1.00	1.00			
v/c Ratio	0.81	0.57	0.52	0.52	0.47	0.47	0.16	0.09	0.09			
Control Delay	29.5	9.9	25.9	25.9	23.7	23.7	21.3	0.1	0.1			
Queue Delay	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
Total Delay	29.5	10.5	25.9	25.9	23.7	23.7	21.3	0.1	0.1			
LOS	C	B	C	C	C	C	C	A	A			
Approach Delay	14.9	25.9	23.7	23.7	8.6	8.6						
Approach LOS	B	C	C	C	A	A						



HCM Signalized Intersection Capacity Analysis Existing PM 7/11/2012 14: N Decatur Rd & Church St

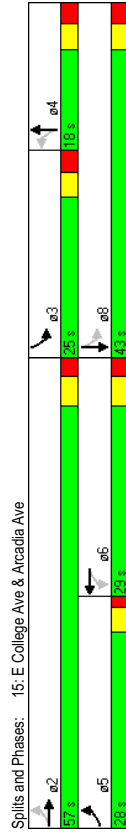
Movement	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Volume (vph)	253	767	2	400	15	121	6	50	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.99	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fit	1.00	0.99	1.00	0.99	1.00	0.99	1.00	0.99	1.00
Fit Protected	0.95	1.00	1.00	1.00	0.99	0.99	1.00	0.99	1.00
Satd. Flow (prot)	1805	3567	3581	3581	1787	1787	1883	1599	1599
Fit Permitted	0.29	1.00	0.93	0.93	0.96	0.96	0.93	1.00	1.00
Satd. Flow (perm)	555	3567	3347	3347	1722	1722	1773	1599	1599
Peak-hour factor, PHF	0.94	0.92	0.62	0.25	0.85	0.45	0.81	0.38	0.76
Adj. Flow (vph)	269	834	60	8	471	20	127	80	16
RTOR Reduction (vph)	0	5	0	0	4	0	23	0	0
Lane Group Flow (vph)	269	889	0	0	495	0	212	0	0
Conf. Peds. (#/hr)	0	0	0	0	0	0	0	0	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm-pl	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Free
Protected Phases	5	2	6	6	8	8	4	4	4
Permitted Phases	5	2	6	6	8	8	4	4	4
Actuated Green, G (s)	32.6	32.6	20.8	20.8	24.4	24.4	26.7	80.0	80.0
Effective Green, g (s)	32.6	32.6	20.8	20.8	24.4	24.4	26.7	80.0	80.0
Actuated g/C Ratio	0.41	0.41	0.26	0.26	0.30	0.30	0.33	1.00	1.00
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	4.0	8.0	8.0	8.0	4.0	4.0	0.2	0.2	0.2
Lane Grp Cap (vph)	317	1454	870	870	525	525	592	1599	1599
v/s Ratio Prot	c0.08	0.25	0.15	0.15	c0.12	c0.12	0.05	c0.09	c0.09
v/s Ratio Perm	c0.28	0.61	0.57	0.57	0.40	0.40	0.16	0.09	0.09
Uniform Delay, d1	20.3	18.7	25.7	25.7	22.0	22.0	18.8	0.0	0.0
Progression Factor	0.62	0.51	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	15.1	1.4	2.7	2.7	0.7	0.7	0.0	0.1	0.1
Delay (s)	27.6	10.9	28.4	28.4	22.7	22.7	18.8	0.1	0.1
Level of Service	C	B	C	C	C	C	B	B	A
Approach Delay (s)	14.8	28.4	28.4	28.4	22.7	22.7	7.6	7.6	A
Approach LOS	B	C	C	C	C	C	A	A	A

Intersection Summary															
HCM Average Control Delay	18.0	HCM Level of Service	B												
HCM Volume to Capacity ratio	0.54														
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	120												
Intersection Capacity Utilization	68.8%	ICU Level of Service	C												
Analysis Period (min)	15														
c Critical Lane Group															

Timings
15: E College Ave & Arcadia Ave

Existing PM
7/11/2012

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Volume (vph)	401	686	29	423	13	201	446	405	334
Turn Type	pm+pt	Perm	Perm	Perm	Perm	pm+pt	pm+pt	Free	Free
Protected Phases	5	2	6	6	4	4	3	8	Free
Permitted Phases	5	2	6	6	4	4	3	8	Free
Detector Phase	5	2	6	6	4	4	3	8	Free
Switch Phase	5	2	6	6	4	4	3	8	Free
Minimum Initial (s)	5.0	15.0	15.0	15.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	9.4	31.0	21.0	21.0	12.8	12.8	12.7	34.8	34.8
Total Split (s)	28.0	57.0	29.0	29.0	18.0	18.0	25.0	43.0	0.0
Total Split (%)	28.0%	57.0%	29.0%	29.0%	18.0%	18.0%	25.0%	43.0%	0.0%
Yellow Time (s)	3.0	3.6	3.6	3.6	3.1	3.1	3.0	3.1	3.1
All-Red Time (s)	1.4	2.4	2.4	2.4	2.7	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.4	6.0	6.0	6.0	5.8	5.8	5.7	5.8	4.0
Lead/Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	C-Min	None	None	None	None	None
Act Effort Green (s)	52.0	50.4	24.8	24.8	11.9	37.9	37.8	100.0	100.0
Actuated g/C Ratio	0.52	0.50	0.25	0.25	0.12	0.38	0.38	1.00	1.00
v/c Ratio	0.86	0.43	0.22	0.73	0.78	1.00	0.61	0.22	0.22
Control Delay	39.5	11.4	35.2	37.8	57.3	70.4	29.9	0.3	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.5	11.4	35.2	37.8	57.3	70.4	29.9	0.3	0.3
LOS	D	B	D	D	E	E	E	C	A
Approach Delay	21.2	37.7	37.7	37.7	57.3	57.3	36.8	D	D
Approach LOS	C	D	D	D	E	E	D	D	D
Intersection Summary									
Cycle Length: 100									
Actuated Cycle Length: 100									
Offset: 49 (49%), Referenced to phase 2EBTL and 6:WBT, Start of Green									
Natural Cycle: 75									
Control Type: Actuated-Coordinated									
Maximum v/c Ratio: 1.00									
Intersection Signal Delay: 33.2									
Intersection Capacity Utilization 88.8%									
Analysis Period (min) 15									



HCM Signalized Intersection Capacity Analysis
15: E College Ave & Arcadia Ave

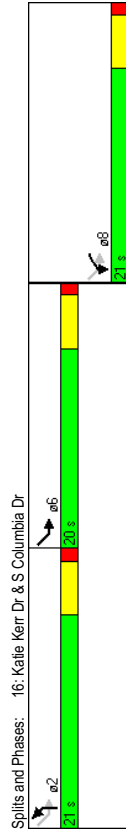
Existing PM
7/11/2012

Movement	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Volume (vph)	401	686	34	29	423	13	201	446	405
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0	6.0	6.0	5.8	5.8	5.7	5.8	4.0
Lane Util. Factor	1.00	0.95	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Fr	1.00	0.99	1.00	0.96	1.00	0.99	1.00	1.00	0.85
Fr Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	3577	1805	3481	1805	3548	1805	1900	1615
Fr Permitted	0.18	1.00	0.35	1.00	0.85	0.85	0.31	1.00	1.00
Satd. Flow (perm)	339	3577	673	3461	3046	3046	596	1900	1615
Peak-hour factor, PHF	0.96	0.93	0.71	0.81	0.89	0.93	0.67	0.95	0.92
Adj. Flow (vph)	418	738	48	36	475	181	28	468	440
RTOR Reduction (vph)	0	5	0	0	39	0	7	0	0
Lane Group Flow (vph)	418	781	0	36	617	0	281	0	469
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	Perm	Perm	Perm	Perm	Perm	pm+pt	pm+pt	Free
Protected Phases	2	6	6	6	4	4	3	8	Free
Permitted Phases	2	6	6	6	4	4	3	8	Free
Actuated Green, G (s)	50.4	50.4	24.8	24.8	11.9	37.8	37.8	100.0	100.0
Effective Green, g (s)	50.4	50.4	24.8	24.8	11.9	37.8	37.8	100.0	100.0
Actuated g/C Ratio	0.50	0.50	0.25	0.25	0.12	0.38	0.38	1.00	1.00
Clearance Time (s)	4.4	6.0	6.0	6.0	5.8	5.8	5.7	5.8	4.0
Vehicle Extension (s)	3.5	5.0	5.0	5.0	3.0	3.0	3.5	3.5	3.5
Lane Grp Cap (vph)	482	1803	167	858	382	382	470	718	1615
v/s Ratio Prot	c0.18	0.22	0.18	0.18	0.09	0.09	c0.20	0.23	0.23
v/s Ratio Perm	c0.25	0.43	0.05	0.22	0.78	0.78	1.00	0.61	0.22
v/c Ratio	0.87	0.43	0.22	0.72	0.78	0.78	1.00	0.61	0.22
Uniform Delay, d1	22.3	15.7	29.9	34.4	42.8	42.8	27.4	25.2	0.0
Progression Factor	1.24	0.70	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	12.5	0.6	2.9	5.2	10.0	10.0	40.7	1.6	0.3
Delay (s)	40.2	11.5	32.8	39.6	52.8	52.8	68.1	26.8	0.3
Level of Service	D	B	C	D	D	D	E	C	A
Approach Delay (s)	21.5	39.2	39.2	39.2	52.8	52.8	34.9	C	C
Approach LOS	C	D	D	D	D	D	C	C	C
Intersection Summary									
HCM Average Control Delay	32.6								
HCM Volume to Capacity ratio	0.87								
Actuated Cycle Length (s)	100.0								
Intersection Capacity Utilization	88.8%								
Analysis Period (min)	15								
c Critical Lane Group									

Timings
16: Katie Kerr Dr & S Columbia Dr

Existing PM
7/11/2012

Lane Group	WBL	NBL	SEL
Lane Configurations	W	W	W
Volume (vph)	285	285	42
Turn Type	8l	2	6
Protected Phases			
Permitted Phases	8	2	6
Detector Phase			
Switch Phase			
Minimum Initial (s)	4.0	4.0	4.0
Minimum Split (s)	21.0	21.0	20.0
Total Split (s)	21.0	21.0	20.0
Total Split (%)	33.9%	33.9%	32.3%
Yellow Time (s)	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0
Lead/Lag			
Lead-Lag Optimize?			
Recall Mode	Min	Min	Min
Act Effct Green (s)	14.1	16.1	56.0
Actuated g/C Ratio	0.25	0.29	1.00
v/c Ratio	0.74	0.87	0.46
Control Delay	31.3	39.8	0.9
Queue Delay	0.0	0.0	0.0
Total Delay	31.3	39.8	0.9
LOS	C	D	A
Approach Delay	31.3	39.8	0.9
Approach LOS	C	D	A
Intersection Summary			
Cycle Length: 62			
Actuated Cycle Length: 56			
Natural Cycle: 65			
Control Type: Semi-Act-Uncoord			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 18.9			
Intersection LOS: B			
ICU Level of Service F			
Intersection Capacity Utilization 93.7%			
Analysis Period (min) 15			
i - Phase conflict between lane groups.			



HCM Signalized Intersection Capacity Analysis
16: Katie Kerr Dr & S Columbia Dr

Existing PM
7/11/2012

Movement	WBL	WBR	NBL	NBR	SEL	SER
Lane Configurations	W	W	W	W	W	W
Volume (vph)	285	14	285	120	42	632
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0		5.0	
Lane Util. Factor	1.00		1.00		1.00	
Flt Protected	0.95		0.96		0.88	
Flt Permitted	0.95		0.97		1.00	
Satd. Flow (perm)	1801		1764		1657	
Peak-hour factor, PHF	0.89	0.79	0.87	0.91	0.70	0.89
Adj. Flow (vph)	320	18	328	132	60	710
RTOR Reduction (vph)	3	0	22	0	0	0
Lane Group Flow (vph)	335	0	438	0	770	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type						
Protected Phases	8l		2		6	
Permitted Phases						
Actuated Green, G (s)	14.1		16.1		45.9	
Effective Green, g (s)	14.1		16.1		45.9	
Actuated g/C Ratio	0.25		0.29		0.82	
Clearance Time (s)	5.0		5.0		5.0	
Vehicle Extension (s)	3.0		3.0		3.0	
Lane Grp Cap (vph)	454		508		1657	
v/s Ratio Prot	c0.19		c0.25		c0.09	
v/s Ratio Perm					0.38	
v/c Ratio	0.74		0.86		0.46	
Uniform Delay, d1	19.2		18.8		1.7	
Progression Factor	1.00		1.00		1.00	
Incremental Delay, d2	6.2		14.0		0.2	
Delay (s)	25.4		32.9		1.9	
Level of Service	C		C		A	
Approach Delay (s)	25.4		32.9		1.9	
Approach LOS	C		C		A	
Intersection Summary						
HCM Average Control Delay			16.0			HCM Level of Service B
HCM Volume to Capacity ratio			0.69			
Actuated Cycle Length (s)			55.9			10.0
Intersection Capacity Utilization			93.7%			F
Analysis Period (min)			15			
i - Phase conflict between lane groups.						
c - Critical Lane Group						

Timings 17: W College Ave & Commerce Dr Existing PM 7/11/2012

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	21	846	34	613	90	178	259	385
Volume (vph)	Perm	Perm	Perm	Perm	Perm	Perm	pm+pt	pm+pt
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	pm+pt	pm+pt
Protected Phases	2	2	6	6	4	4	3	8
Permitted Phases	2	2	6	6	4	4	3	8
Switch Phase	2	2	6	6	4	4	3	8
Minimum Initial (s)	15.0	15.0	15.0	15.0	7.0	7.0	5.0	8.0
Minimum Split (s)	21.7	21.7	20.7	20.7	20.2	20.2	9.5	20.2
Total Split (s)	53.0	53.0	53.0	53.0	25.0	25.0	22.0	47.0
Total Split (%)	53.0%	53.0%	53.0%	53.0%	25.0%	25.0%	22.0%	47.0%
Yellow Time (s)	3.8	3.8	3.8	3.8	3.6	3.6	3.0	3.6
All-Red Time (s)	1.9	1.9	1.9	1.9	1.6	1.6	1.5	1.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	5.7	5.7	5.7	5.2	5.2	4.5	5.2
Lead/Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead
Lead/Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	None	None	None
Act Effect Green (s)	48.2	48.2	40.9	40.9	40.9	40.9	40.9	40.9
Actuated g/C Ratio	0.48	0.48	0.48	0.48	0.41	0.41	0.41	0.41
v/c Ratio	0.60	0.60	0.56	0.56	0.47	0.47	0.80	0.80
Control Delay	14.7	14.7	9.3	9.3	21.9	21.9	32.2	32.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.7	14.7	9.3	9.3	21.9	21.9	32.2	32.2
LOS	B	B	A	A	C	C	C	C
Approach Delay	14.7	14.7	9.3	9.3	21.9	21.9	32.2	32.2
Approach LOS	B	B	A	A	C	C	C	C

Splits and Phases: 17: W College Ave & Commerce Dr



HCM Signalized Intersection Capacity Analysis 17: W College Ave & Commerce Dr Existing PM 7/11/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	21	846	33	34	613	110	90	178	54	259	385	54
Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	5.7	5.7	5.7	5.7	5.7	5.7	5.2	5.2	5.2	5.2	5.2	5.2
Total Lost time (s)	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fltb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	0.99	0.99	0.98	0.98	0.97	0.97	0.99	0.99	0.98	0.98	0.98	0.98
Flt Protected	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (prot)	3577	3577	3508	3508	3437	3437	3487	3487	3487	3487	3487	3487
Flt Permitted	0.91	0.91	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Satd. Flow (perm)	3258	3258	2900	2900	1976	1976	2387	2387	2387	2387	2387	2387
Peak-hour factor, PHF	0.75	0.97	0.83	0.77	0.98	0.89	0.83	0.87	0.75	0.86	0.94	0.75
Adj. Flow (vph)	28	872	40	44	626	124	108	205	72	301	410	72
RTOR Reduction (vph)	0	3	0	0	15	0	0	15	0	0	0	8
Lane Group Flow (vph)	0	937	0	0	779	0	0	370	0	0	775	0
Conf. Peds. (#/hr)	2	10	9	9	1	1	10	9	1	9	1	2
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	2	2	6	6	4	4	3	8	3	8	8	8
Permitted Phases	2	2	6	6	4	4	3	8	3	8	8	8
Actuated Green, G (s)	48.2	48.2	48.2	48.2	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9
Effective Green, g (s)	48.2	48.2	48.2	48.2	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9
Actuated g/C Ratio	0.48	0.48	0.48	0.48	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41
Clearance Time (s)	5.7	5.7	5.7	5.7	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
Vehicle Extension (s)	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	1570	1570	1398	1398	808	808	976	976	976	976	976	976
v/s Ratio Prot	0.29	0.27	0.27	0.27	0.19	0.19	0.32	0.32	0.32	0.32	0.32	0.32
v/s Ratio Perm	0.60	0.60	0.56	0.56	0.46	0.46	0.79	0.79	0.79	0.79	0.79	0.79
Uniform Delay, d1	18.8	18.8	18.3	18.3	21.5	21.5	25.9	25.9	25.9	25.9	25.9	25.9
Progression Factor	0.68	0.68	0.43	0.43	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.4	1.4	1.4	1.4	0.6	0.6	4.8	4.8	4.8	4.8	4.8	4.8
Delay (s)	14.3	14.3	9.3	9.3	22.1	22.1	30.7	30.7	30.7	30.7	30.7	30.7
Level of Service	B	B	A	A	C	C	C	C	C	C	C	C
Approach Delay (s)	14.3	14.3	9.3	9.3	22.1	22.1	30.7	30.7	30.7	30.7	30.7	30.7
Approach LOS	B	B	A	A	C	C	C	C	C	C	C	C

Intersection Summary

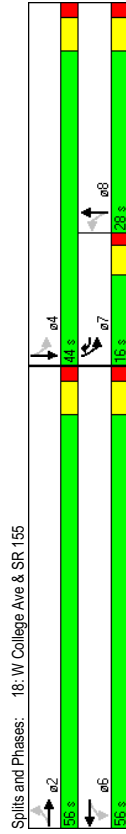
HCM Average Control Delay	18.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.9
Intersection Capacity Utilization	89.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Timings 18: W College Ave & SR 155

Existing PM
7/11/2012

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	38	684	68	462	159	22	173	201
Volume (vph)	Perm	2	6	6	7	8	7	4
Turn Type	Perm	2	6	6	7	8	7	4
Protected Phases	2	2	6	6	7	8	7	4
Permitted Phases	2	2	6	6	7	8	7	4
Detector Phase	2	2	6	6	7	8	7	4
Switch Phase	2	2	6	6	7	8	7	4
Minimum Initial (s)	15.0	15.0	15.0	15.0	7.0	7.0	7.0	7.0
Minimum Split (s)	32.0	32.0	21.0	21.0	12.0	13.0	12.0	31.0
Total Split (s)	56.0	56.0	56.0	56.0	16.0	28.0	16.0	44.0
Total Split (%)	56.0%	56.0%	56.0%	56.0%	16.0%	28.0%	16.0%	44.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	1.5	2.0	1.5	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	5.0	6.0	5.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead/Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	None	None	None
Act Effct Green (s)	47.4	47.4	47.4	47.4	15.5	20.2	20.2	41.6
Actuated g/C Ratio	0.47	0.47	0.47	0.47	0.16	0.20	0.20	0.42
v/c Ratio	0.58	0.34	0.57	0.55	0.16	0.76	0.55	0.68
Control Delay	17.3	34.7	33.5	27.9	34.1	48.6	24.2	29.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.3	34.7	33.5	27.9	34.1	48.6	24.2	29.0
LOS	B	C	C	C	C	D	C	C
Approach Delay	17.3	32.3			47.3		27.6	
Approach LOS	B	C			D		C	
Intersection Summary								
Cycle Length: 100								
Actuated Cycle Length: 100								
Offset: 71 (71%), Referenced to phase 2EBTL and 6:WBTL, Start of Green								
Natural Cycle: 65								
Control Type: Actuated-Coordinated								
Maximum v/c Ratio: 0.76								
Intersection Signal Delay: 28.1								
Intersection Capacity Utilization 98.8%								
Analysis Period (min) 15								



HCM Signalized Intersection Capacity Analysis 18: W College Ave & SR 155

Existing PM
7/11/2012

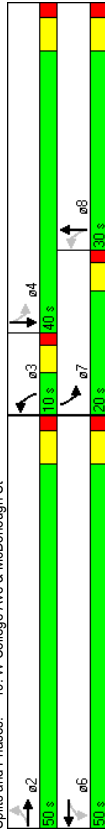
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	38	684	72	68	462	159	22	173	73	201	469	23
Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Total Lost time (s)	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	0.99	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00
Flpb. ped/bikes	1.00	0.99	1.00	1.00	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00
Flt	0.98	1.00	1.00	1.00	1.00	0.85	1.00	0.96	1.00	0.95	1.00	0.99
Flt Protected	1.00	0.95	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3524	1792	1900	1615	1769	1799	1803	1880	1803	1880	1803	1880
Flt Permitted	0.86	0.26	1.00	1.00	0.47	1.00	0.25	1.00	0.25	1.00	0.25	1.00
Satd. Flow (perm)	3040	490	1900	1615	876	1799	483	1880	483	1880	483	1880
Peak-hour factor, PHF	0.86	0.97	0.86	0.85	0.90	0.85	0.79	0.85	0.87	0.91	0.95	0.82
Adj. Flow (vph)	44	705	84	80	513	187	28	204	84	221	494	28
RTOR Reduction (vph)	0	9	0	0	0	87	0	15	0	0	2	0
Lane Group Flow (vph)	0	824	0	80	513	100	28	273	0	221	520	0
Conf. Peds. (#/hr)	14	20	15	9	20	9	20	15	9	20	15	9
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	2	2	6	6	7	8	8	7	7	4	4
Permitted Phases	2	2	2	6	6	7	8	8	7	7	4	4
Actuated Green, G (s)	47.3	47.3	47.3	47.3	15.5	20.2	20.2	20.2	40.7	40.7	40.7	40.7
Effective Green, g (s)	47.3	47.3	47.3	47.3	15.5	20.2	20.2	20.2	40.7	40.7	40.7	40.7
Actuated g/C Ratio	0.47	0.47	0.47	0.47	0.16	0.20	0.20	0.20	0.41	0.41	0.41	0.41
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	1438	899	250	177	363	401	765	401	765	401	765	401
v/s Ratio Prot	0.27	0.16	0.34	0.57	0.40	0.16	0.75	0.55	0.68	0.55	0.68	0.68
v/s Ratio Perm	0.57	0.34	0.57	0.40	0.16	0.75	0.55	0.68	0.55	0.68	0.68	0.68
Uniform Delay, d1	19.0	16.6	19.0	38.1	32.9	37.5	21.3	24.3	21.3	24.3	24.3	24.3
Progression Factor	0.81	1.61	1.54	1.23	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.4	3.4	2.2	1.9	0.9	10.1	2.8	3.2	2.8	3.2	3.2	3.2
Delay (s)	16.8	30.1	31.4	48.5	33.8	47.6	24.1	27.5	24.1	27.5	27.5	27.5
Level of Service	B	C	C	D	C	D	C	C	C	C	C	C
Approach Delay (s)	16.8	35.4			46.4		26.5		26.5		26.5	
Approach LOS	B	D			D		C		C		C	
Intersection Summary												
HCM Average Control Delay	28.4											
HCM Volume to Capacity ratio	0.62											
Actuated Cycle Length (s)	100.0											
Intersection Capacity Utilization	98.8%											
Analysis Period (min)	15											
c Critical Lane Group												

Timings
19: W College Ave & McDonough St

Existing PM
7/11/2012

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Volume (vph)	24	485	72	396	10	136	246	319
Turn Type	Perm	Perm	Perm	Perm	pm+pt	pm+pt	pm+pt	pm+pt
Protected Phases	2	2	6	6	3	8	7	4
Permitted Phases	2	2	6	6	3	8	7	4
Switch Phase	2	2	6	6	3	8	7	4
Minimum Initial (s)	8.0	8.0	8.0	8.0	5.0	8.0	5.0	8.0
Minimum Split (s)	24.0	24.0	14.0	14.0	10.0	23.0	10.0	14.0
Total Split (s)	50.0	50.0	50.0	50.0	10.0	30.0	20.0	40.0
Total Split (%)	50.0%	50.0%	50.0%	50.0%	10.0%	30.0%	20.0%	40.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	1.5	2.0	1.5	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	5.0	6.0	5.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	None	None	None
Act Effect Green (s)	47.8	47.8	47.8	47.8	25.5	18.9	41.2	38.2
Actuated g/C Ratio	0.48	0.48	0.48	0.48	0.26	0.19	0.41	0.38
v/c Ratio	0.16	0.55	0.40	0.57	0.04	0.76	0.59	0.66
Control Delay	19.3	22.3	26.6	21.9	16.6	47.4	25.1	29.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.3	22.3	26.6	21.9	16.6	47.4	25.1	29.9
LOS	B	C	C	C	B	D	C	C
Approach Delay	22.1	22.1	22.6	22.6	46.0	46.0	28.2	28.2
Approach LOS	C	C	C	C	D	D	C	C

Splits and Phases: 19: W College Ave & McDonough St



HCM Signalized Intersection Capacity Analysis
19: W College Ave & McDonough St

Existing PM
7/11/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	24	485	36	72	396	33	10	136	91	246	319	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	16	12	12	12	12	11	11	11	11	11	11
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	5.0	5.0	5.0	5.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.99	0.99	1.00	1.00	1.00	1.00
Frb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.99	0.99	1.00	1.00	1.00	1.00
Frb. Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1800	2112	1800	1866	1800	1866	1731	1693	1742	1782	1782	1782
Flt Permitted	0.30	1.00	0.25	1.00	0.25	1.00	0.50	1.00	0.33	1.00	0.33	1.00
Satd. Flow (perm)	586	2112	479	1866	586	1866	915	1866	613	1782	613	1782
Peak-Hour factor, PHF	0.55	0.96	0.64	0.78	0.87	0.59	0.83	0.87	0.84	0.96	0.85	0.72
Adj. Flow (vph)	44	505	56	92	455	56	12	156	108	256	375	76
RTOR Reduction (vph)	0	4	0	0	4	0	0	25	0	0	7	0
Lane Group Flow (vph)	44	557	0	92	507	0	12	239	0	256	444	0
Confl. Peds. (#/hr)	6	9	7	7	4	9	9	7	4	4	6	6
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	2	Perm	6	6	Perm	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt
Permitted Phases	2	2	Perm	6	6	Perm	3	8	7	4	4	4
Actuated Green, G (s)	43.8	43.8	43.8	43.8	43.8	43.8	23.9	22.9	44.2	38.2	38.2	38.2
Effective Green, g (s)	43.8	43.8	43.8	43.8	43.8	43.8	23.9	22.9	44.2	38.2	38.2	38.2
Actuated g/C Ratio	0.44	0.44	0.44	0.44	0.44	0.44	0.24	0.23	0.44	0.44	0.38	0.38
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	5.0	5.0	5.0	5.0	6.0	6.0
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	5.0	3.0	3.0	3.5	3.5	4.0	4.0
Lane Grp Cap (vph)	248	925	210	817	817	227	388	388	455	681	455	681
v/s Ratio Prot	0.26	0.26	0.19	0.27	0.27	0.09	0.01	0.14	0.09	0.25	0.25	0.25
v/s Ratio Perm	0.08	0.08	0.19	0.19	0.19	0.01	0.01	0.01	0.16	0.16	0.16	0.16
v/c Ratio	0.18	0.60	0.44	0.62	0.62	0.05	0.05	0.61	0.56	0.65	0.65	0.65
Uniform Delay, d1	17.1	21.5	19.5	21.7	21.7	29.2	34.6	34.6	19.2	25.4	25.4	25.4
Progression Factor	1.00	1.00	1.05	0.96	0.96	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.6	2.9	5.8	3.1	3.1	0.1	0.1	0.1	1.7	2.5	2.5	2.5
Delay (s)	18.7	24.3	25.3	24.8	24.8	29.3	34.7	34.7	20.9	27.9	27.9	27.9
Level of Service	B	C	C	C	C	C	D	D	C	C	C	C
Approach Delay (s)	23.9	23.9	24.3	24.3	24.3	37.3	37.3	37.3	25.4	25.4	25.4	25.4
Approach LOS	C	C	C	C	C	D	D	D	C	C	C	C

Intersection Summary

HCM Average Control Delay 26.2 HCM Level of Service C

HCM Volume to Capacity ratio 0.65

Actuated Cycle Length (s) 100.0 Sum of lost time (s) 17.0

Intersection Capacity Utilization 80.2% ICU Level of Service D

Analysis Period (min) 15

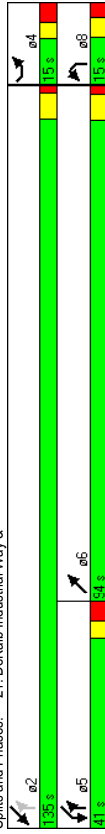
c Critical Lane Group

Timings
21: DeKalb Industrial Way &

Existing PM
7/11/2012

Lane Group	NBL2	NBR	SEL	NET	SWL	SWT	
Lane Configurations	40	982	4	3021	755	1481	
Volume (vph)	40	982	4	3021	755	1481	
Turn Type	Prot	custom			Prot		
Protected Phases	8	5	4	6	5	2	
Permitted Phases	2						
Detector Phase	8	5	4	6	5	2	
Switch Phase							
Minimum Initial (s)	8.6	10.0	7.0	33.0	10.0	10.0	
Minimum Split (s)	15.0	16.6	13.8	39.5	16.6	16.2	
Total Split (s)	15.0	41.0	15.0	94.0	41.0	135.0	
Total Split (%)	10.0%	27.3%	10.0%	62.7%	27.3%	90.0%	
Yellow Time (s)	3.5	3.1	3.0	4.7	3.1	4.7	
All-Red Time (s)	2.9	3.5	3.8	1.8	3.5	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.4	6.6	6.8	6.5	6.6	6.2	
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	
Lead-Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	C-Min	None	C-Min	
Act Effct Green (s)	8.6	131.4	8.0	89.8	35.1	133.0	
Actuated g/C Ratio	0.06	0.88	0.05	0.60	0.23	0.89	
v/c Ratio	0.47	0.41	0.08	1.01	0.96	0.33	
Control Delay	83.6	0.5	69.3	49.2	79.2	2.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	83.6	0.5	69.3	49.2	79.2	2.0	
LOS	F	A	E	D	E	A	
Approach Delay			69.3	49.2		28.2	
Approach LOS			E	D		C	
Intersection Summary							
Cycle Length: 150							
Actuated Cycle Length: 150							
Offset: 100 (67%), Referenced to phase 2(SWT) and 6(NET), Start of Green							
Natural Cycle: 150							
Control Type: Actuated-Coordinated							
Maximum v/c Ratio: 1.01							
Intersection Signal Delay: 34.0							
Intersection LOS: C							
Intersection Capacity Utilization 120.4%							
Analysis Period (min) 15							

Splits and Phases: 21: DeKalb Industrial Way &



5:00 pm Baseline

HCM Signalized Intersection Capacity Analysis
21: DeKalb Industrial Way &

Existing PM
7/11/2012

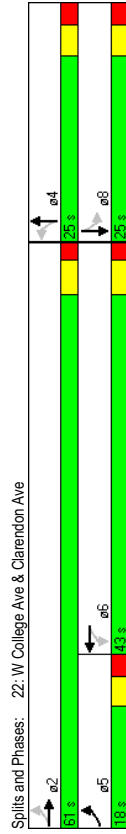
Movement	NBL2	NBL	NBR	SEL	SER	NEL	NET	SWL	SWT	SWR
Lane Configurations	40	0	982	4	3	0	3021	61	755	1481
Volume (vph)	40	0	982	4	3	0	3021	61	755	1481
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	0	6.6	6.8	6.5	0	6.5	6.6	6.2	0
Lane Util. Factor	1.00	1.00	0.88	1.00	0.91	1.00	0.91	0.97	0.91	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp	1.00	1.00	0.85	0.94	1.00	1.00	1.00	1.00	1.00	1.00
Fit Protected	0.95	1.00	1.00	0.97	1.00	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1805	2815	1740	5166	3502	5187				
Fit Permitted	0.95	1.00	0.97	1.00	0.95	1.00				
Satd. Flow (perm)	1805	2815	1740	5166	3502	5187				
Peak-hour factor, PHF	0.83	0.25	0.90	0.92	0.92	0.80	0.96	0.97	0.92	0.92
Adj. Flow (vph)	48	0	1091	4	3	0	3052	76	786	1527
RTOR Reduction (vph)	0	0	143	0	0	0	2	0	0	0
Lane Group Flow (vph)	48	0	948	7	0	0	3126	0	786	1527
Confl. Peds. (#/hr)	3	0	3	2	2	0	3	3	0	0
Heavy Vehicles(%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	custom								
Protected Phases	8	5	4	6	5	2				
Permitted Phases	2									
Actuated Green, G (s)	7.0	130.4	6.6	88.4	35.1	130.4				
Effective Green, g (s)	7.0	130.4	6.6	88.4	35.1	130.4				
Actuated g/C Ratio	0.05	0.87	0.04	0.59	0.23	0.87				
Clearance Time (s)	6.4	6.6	6.8	6.5	6.6	6.2				
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	4.8				
Lane Grp Cap (vph)	84	2447	77	3044	819	4509				
v/s Ratio Prot	c0.03	0.09	0.00	c0.61	c0.22	0.29				
v/s Ratio Perm		0.25								
v/c Ratio	0.57	0.39	0.09	1.03	0.96	0.34				
Uniform Delay, d1	70.0	1.9	68.8	30.8	56.8	1.8				
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00				
Incremental Delay, d2	9.1	0.1	0.5	23.7	21.8	0.2				
Delay (s)	79.1	2.0	69.3	54.5	78.6	2.0				
Level of Service	E	A	E	D	E	A				
Approach Delay (s)		5.3	69.3	54.5		28.0				
Approach LOS		A	E	D		C				
Intersection Summary										
HCM Average Control Delay			36.7	HCM Level of Service		D				
HCM Volume to Capacity ratio			0.98							
Actuated Cycle Length (s)			150.0	Sum of lost time (s)		19.5				
Intersection Capacity Utilization			120.4%	ICU Level of Service		H				
Analysis Period (min)			15							
c Critical Lane Group										

5:00 pm Baseline

Timings 22: W College Ave & Clarendon Ave

Existing PM
7/11/2012

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Volume (vph)	162	846	42	1	360	49	118	232	154
Turn Type	pm-pt	Free	Free	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	5	2	Free	6	6	4	4	8	8
Permitted Phases	2	2	Free	6	6	4	4	8	8
Switch Phase	5	2	Free	6	6	4	4	8	8
Minimum Initial (s)	5.0	15.0	15.0	15.0	15.0	7.0	7.0	7.0	7.0
Minimum Split (s)	10.3	20.5	20.5	20.5	20.5	20.0	20.0	24.6	24.6
Total Split (s)	18.0	61.0	0.0	43.0	43.0	25.0	25.0	25.0	25.0
Total Split (%)	20.9%	70.9%	0.0%	50.0%	50.0%	29.1%	29.1%	29.1%	29.1%
Yellow Time (s)	3.0	3.6	3.6	3.6	3.6	3.2	3.2	3.2	3.2
All-Red Time (s)	2.3	1.9	1.9	1.9	1.9	2.4	2.4	2.4	2.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.3	5.5	4.0	5.5	5.5	5.6	5.6	5.6	5.6
Lead/Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lag
Lead-Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	C-Min	C-Min	None	None	None	None
Act Effct Green (s)	53.4	53.2	86.0	37.3	37.3	21.7	21.7	21.7	21.7
Actuated g/C Ratio	0.62	0.62	1.00	0.43	0.43	0.25	0.25	0.25	0.25
v/c Ratio	0.56	0.76	0.03	0.02	0.68	0.30	0.28	0.82	0.59
Control Delay	12.5	17.2	0.0	15.0	24.3	30.8	27.2	52.5	29.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.5	17.2	0.0	15.0	24.3	30.8	27.2	52.5	29.9
LOS	B	B	A	B	C	C	C	D	C
Approach Delay	15.5	15.5	24.3	24.3	24.3	28.3	28.3	40.9	40.9
Approach LOS	B	B	C	C	C	C	C	D	D
Intersection Summary									
Cycle Length: 86									
Actuated Cycle Length: 86									
Offset: 9 (10%), Referenced to phase 2EBTL and 6WBTL, Start of Green									
Natural Cycle: 65									
Control Type: Actuated-Coordinated									
Maximum v/c Ratio: 0.82									
Intersection Signal Delay: 24.0									
Intersection Capacity Utilization 95.6%									
Analysis Period (min) 15									



HCM Signalized Intersection Capacity Analysis 22: W College Ave & Clarendon Ave

Existing PM
7/11/2012

Movement	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBT	SBT
Lane Configurations	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBT	SBT
Volume (vph)	162	846	42	1	360	49	118	232	154	154	154
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.5	4.0	5.5	5.5	5.6	5.6	5.6	5.6	5.6	5.6
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	1900	1615	1805	1816	1805	1891	1805	1782	1805	1782
Flt Permitted	0.23	1.00	1.00	0.24	1.00	0.42	1.00	0.67	1.00	0.67	1.00
Satd. Flow (perm)	437	1900	1615	451	1816	795	1891	1278	1782	1278	1782
Peak-hour factor, PHF	0.66	0.95	0.81	0.25	0.93	0.79	0.82	0.25	0.88	0.94	0.86
Adj. Flow (vph)	245	891	52	4	387	163	60	128	4	264	164
RTOR Reduction (vph)	0	0	0	0	18	0	0	1	0	0	28
Lane Group Flow (vph)	245	891	52	4	532	0	60	131	0	264	252
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm-pt	Free	Free	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	5	2	Free	6	6	4	4	8	8	8	8
Permitted Phases	2	Free	Free	6	6	4	4	8	8	8	8
Actuated Green, G (s)	53.2	53.2	86.0	37.3	37.3	21.7	21.7	21.7	21.7	21.7	21.7
Effective Green, g (s)	53.2	53.2	86.0	37.3	37.3	21.7	21.7	21.7	21.7	21.7	21.7
Actuated g/C Ratio	0.62	0.62	1.00	0.43	0.43	0.25	0.25	0.25	0.25	0.25	0.25
Clearance Time (s)	5.3	5.5	4.0	5.5	5.5	5.6	5.6	5.6	5.6	5.6	5.6
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	439	1175	1615	196	788	201	477	322	450	322	450
v/s Ratio Prot	0.07	0.47	0.03	0.01	0.29	0.08	0.07	0.21	0.14	0.21	0.14
v/s Ratio Perm	0.28	0.76	0.03	0.02	0.68	0.30	0.27	0.82	0.56	0.82	0.56
v/c Ratio	0.56	0.76	0.03	0.02	0.68	0.30	0.27	0.82	0.56	0.82	0.56
Uniform Delay, d1	10.9	11.8	0.0	13.9	19.5	26.0	25.8	30.3	28.0	30.3	28.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.5	4.6	0.0	0.2	4.6	0.8	0.3	15.0	1.5	15.0	1.5
Delay (s)	12.4	16.4	0.0	14.1	24.1	26.8	26.1	45.3	29.5	45.3	29.5
Level of Service	B	B	A	B	C	C	C	D	C	D	C
Approach Delay (s)	14.9	14.9	24.0	24.0	24.0	26.4	26.4	37.1	37.1	37.1	37.1
Approach LOS	B	B	C	C	C	C	C	D	D	D	D
Intersection Summary											
HCM Average Control Delay	22.7										
HCM Volume to Capacity ratio	0.78										
Actuated Cycle Length (s)	86.0										
Sum of lost time (s)	11.1										
Intersection Capacity Utilization	95.6%										
Analysis Period (min)	15										
c Critical Lane Group											

HCM Unsignalized Intersection Capacity Analysis 23: Clarendon Ave & Laredo Dr Existing PM 7/11/2012

Movement	NBL	NBT	SBT	SEL	SER
Lane Configurations	111	334	296	20	51
Volume (veh/h)	111	334	296	20	51
Sign Control	Free	Free	Free	Stop	Stop
Grade	0.87	0.95	0.95	0.83	0.87
Peak Hour Factor	1.28	352	312	24	76
Hourly flow rate (vph)	128	352	312	24	76
Pedestrians					
Lane Width (ft)					
Walking Speed (ft/s)					
Percent Blockage					
Right turn flare (veh)					
Median type	None	None	None		
Median storage (veh)					
Upstream signal (ft)		545			
pX, platoon unblocked					
vC, conflicting volume	336			930	324
vC1, stage 1 conf vol					
vC2, stage 2 conf vol					
vCu, unblocked vol	336			930	324
IC, single (s)	4.1			6.4	6.2
IC, 2 stage (s)					
IF (s)	2.2			3.5	3.3
p0 queue free %	90			72	68
cM capacity (veh/h)	1235			268	722
Direction, Lane #	NB 1	NB 2	SB 1	SE 1	
Volume Total	128	352	336	307	
Volume Left	128	0	0	76	
Volume Right	0	0	24	231	
cSH	1235	1700	1700	509	
Volume to Capacity	0.10	0.21	0.20	0.60	
Queue Length 95th (ft)	9	0	0	99	
Control Delay (s)	8.3	0.0	0.0	22.3	
Lane LOS	A			C	
Approach Delay (s)	2.2		0.0	22.3	
Approach LOS				C	
Intersection Summary					
Average Delay			7.0		
Intersection Capacity Utilization			49.5%		A
Analysis Period (min)			15		

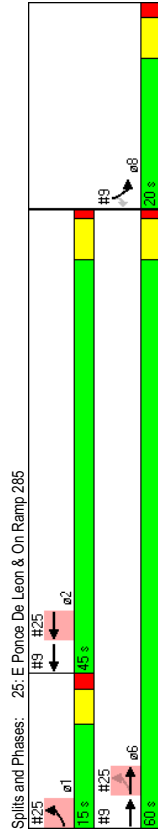
HCM Unsignalized Intersection Capacity Analysis 24: E Ponce De Leon & Annie St Existing PM 7/11/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	4	540	4	1	348	2	5	0	2	5	0	10
Volume (veh/h)	4	540	4	1	348	2	5	0	2	5	0	10
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Grade	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Peak Hour Factor	4	587	4	1	378	2	5	0	2	5	0	11
Hourly flow rate (vph)	4	587	4	1	378	2	5	0	2	5	0	11
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None	None	None	None	None	None						
Median storage (veh)												
Upstream signal (ft)		319										
pX, platoon unblocked												
vC, conflicting volume	380			591			800	980	296	688	982	190
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	380			492			709	897	184	590	898	190
IC, single (s)	4.6			4.1			7.5	6.5	6.9	7.5	6.5	7.3
IC, 2 stage (s)												
IF (s)	2.4			2.2			3.5	4.0	3.3	3.5	4.0	3.5
p0 queue free %	100			100			98	100	100	99	100	99
cM capacity (veh/h)	1026			1039			306	269	800	377	268	766
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	298	298	190	191	8	16						
Volume Left	4	0	1	0	5	5						
Volume Right	0	4	0	2	2	11						
cSH	1026	1700	1039	1700	372	570						
Volume to Capacity	0.00	0.18	0.00	0.11	0.02	0.03						
Queue Length 95th (ft)	0	0	0	0	0	2						
Control Delay (s)	0.2	0.0	0.1	0.0	14.9	11.5						
Lane LOS	A		A		B	B						
Approach Delay (s)	0.1		0.0		14.9	11.5						
Approach LOS					B	B						
Intersection Summary												
Average Delay				0.4								
Intersection Capacity Utilization				27.9%								A
Analysis Period (min)				15								

Timings
25: E Ponce De Leon & On Ramp 285

Existing PM
7/11/2012

Lane Group	EBL	EBT	WBT	ø8
Lane Configurations	↖	↗	↖	
Volume (vph)	369	473	249	
Turn Type	pm-pt			
Protected Phases	1	6	2	8
Permitted Phases	6			
Detector Phase	1	6	2	
Switch Phase				
Minimum Initial (s)	7.0	12.0	12.0	7.0
Minimum Split (s)	12.0	17.0	17.0	12.5
Total Split (s)	15.0	60.0	45.0	20.0
Total Split (%)	18.8%	75.0%	56.3%	25%
Yellow Time (s)	3.5	4.0	4.0	4.0
All-Red Time (s)	1.5	1.0	1.0	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	
Lead/Lag	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	
Recall Mode	None	C-Min	C-Min	None
Act Effct Green (s)	46.7	46.7	29.7	
Actuated g/C Ratio	0.58	0.58	0.37	
v/c Ratio	0.72	0.46	0.35	
Control Delay	16.2	9.8	9.4	
Queue Delay	0.0	0.3	0.0	
Total Delay	16.2	10.1	9.4	
LOS	B	B	A	
Approach Delay		12.8	9.4	
Approach LOS		B	A	
Intersection Summary				
Cycle Length: 80				
Actuated Cycle Length: 80				
Offset: 38 (48%), Referenced to phase 2:WBT and 6:EBT, Start of Green				
Natural Cycle: 50				
Control Type: Actuated-Coordinated				
Maximum v/c Ratio: 0.72				
Intersection Signal Delay: 11.6				
Intersection Capacity Utilization 72.1%				
Analysis Period (min) 15				
Intersection LOS: B				
ICU Level of Service C				



5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis
25: E Ponce De Leon & On Ramp 285

Existing PM
7/11/2012

Movement	EBL	EBT	WBT	SBL	SBR
Lane Configurations	↖	↗	↖		
Volume (vph)	369	473	249	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0		
Lane Util. Factor	1.00	1.00	0.95		
Flt Protected	1.00	1.00	1.00		
Satd. Flow (prot)	1752	1863	3337		
Flt Permitted	0.36	1.00	1.00		
Satd. Flow (perm)	666	1863	3337		
Peak-hour factor, PHF	0.93	0.95	0.97	0.90	0.92
Adj. Flow (vph)	397	498	257	229	0
RTOR Reduction (vph)	0	0	144	0	0
Lane Group Flow (vph)	397	498	342	0	0
Heavy Vehicles (%)	3%	2%	1%	0%	0%
Turn Type	pm-pt				
Protected Phases	1	6	2		
Permitted Phases	6				
Actuated Green, G (s)	46.7	46.7	29.7		
Effective Green, g (s)	46.7	46.7	29.7		
Actuated g/C Ratio	0.58	0.58	0.37		
Clearance Time (s)	5.0	5.0	5.0		
Vehicle Extension (s)	3.0	5.0	5.0		
Lane Grp Cap (vph)	552	1088	1239		
v/s Ratio Prot	c0.11	0.27	0.10		
v/s Ratio Perm	c0.31				
v/c Ratio	0.72	0.46	0.28		
Uniform Delay, d1	9.8	9.5	17.6		
Progression Factor	1.06	0.94	1.00		
Incremental Delay, d2	3.8	1.2	0.6		
Delay (s)	14.2	10.1	18.2		
Level of Service	B	B	B		
Approach Delay (s)	11.9	18.2	0.0		
Approach LOS	B	B	A		
Intersection Summary					
HCM Average Control Delay			14.1	HCM Level of Service	B
HCM Volume to Capacity ratio			0.70		
Actuated Cycle Length (s)			80.0	Sum of lost time (s)	33.3
Intersection Capacity Utilization			72.1%	ICU Level of Service	C
Analysis Period (min)			15		
c Critical Lane Group					

5:00 pm Baseline

Synchro 7 - Report
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HCM Unsignalized Intersection Capacity Analysis
26: Church St & Off Ramp 285

Existing PM
7/11/2012

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	EBT	EBR	WBL	WBT	NBL	NBR
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Volume (vph)	238	0	0	351	156	184
Peak Hour Factor	0.86	0.92	0.92	0.94	0.91	0.90
Hourly flow rate (vph)	277	0	0	373	171	204
Direction, Lane #	EB 1	WB 1	NB 1	NB 2		
Volume Total (vph)	277	373	171	204		
Volume Left (vph)	0	0	171	0		
Volume Right (vph)	0	0	0	204		
Head (s)	0.00	0.02	0.20	-0.60		
Departure Headway (s)	4.9	4.8	5.6	3.2		
Degree Utilization, x	0.38	0.50	0.27	0.18		
Capacity (veh/h)	706	724	574	1121		
Control Delay (s)	10.8	12.4	10.7	6.9		
Approach Delay (s)	10.8	12.4	8.6			
Approach LOS	B	B	A			
Intersection Summary						
Delay				10.6		
HCM Level of Service				B		
Intersection Capacity Utilization				33.8%		
Analysis Period (min)				15		

5:00 pm Baseline

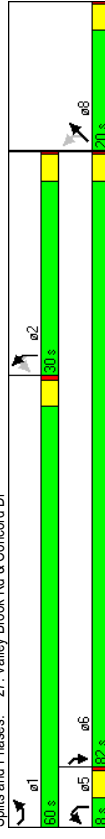
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Timings
27: Valley Brook Rd & Concord Dr

Existing PM
7/11/2012

Lane Group	NBL 2	NBL	SEL	SER	NET
Lane Configurations	1	333	1130	666	0
Volume (vph)	1	333	1130	666	0
Turn Type	pm-rt		custom		
Protected Phases	5	2	1	6	8
Permitted Phases	2			6	
Detector Phase	5	2	1	6	8
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	20.0	20.0	20.0
Total Split (s)	8.0	30.0	60.0	82.0	20.0
Total Split (%)	7.3%	27.3%	54.5%	74.5%	18.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	
Lead/Lag Optimize?	Yes	Yes	Yes	Yes	
Recall Mode	None	Min	None	Min	None
Act Effct Green (s)	18.5	14.1	25.1	46.6	6.4
Actuated g/C Ratio	0.37	0.29	0.51	0.94	0.13
v/c Ratio	0.00	0.50	0.67	0.48	0.04
Control Delay	10.0	17.1	11.9	3.2	26.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	10.0	17.1	11.9	3.2	26.6
LOS	A	B	B	A	C
Approach Delay		17.1	8.6		26.6
Approach LOS		B	A		C
Intersection Summary					
Cycle Length: 110					
Actuated Cycle Length: 49.4					
Natural Cycle: 65					
Control Type: Semi Act-Uncoord					
Maximum v/c Ratio: 0.67					
Intersection Signal Delay: 10.4					
Intersection Capacity Utilization 58.9%					
Analysis Period (min) 15					

Splits and Phases: 27: Valley Brook Rd & Concord Dr



5:00 pm Baseline

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HCM Signalized Intersection Capacity Analysis
 27: Valley Brook Rd & Concord Dr

Existing PM
 7/11/2012

Movement	NBL2	NBL	NBR	SEL	SER	SER2	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	1	333	122	1130	666	7	6	0	1	0	0	0
Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	1.00	0.97	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	1.00	0.96	0.96	1.00	0.96	1.00	0.96	1.00	0.96	1.00	0.96	1.00
Flt Protected	1805	3411	3502	1615	1792	1792	1792	1792	1792	1792	1792	1792
Satd. Flow (prot)	0.39	0.96	0.96	1.00	0.96	1.00	0.96	1.00	0.96	1.00	0.96	1.00
Flt Permitted	738	3411	3502	1615	1792	1792	1792	1792	1792	1792	1792	1792
Satd. Flow (perm)	0.92	0.90	0.87	0.95	0.93	0.58	0.75	0.92	0.92	0.92	0.92	0.92
Peak-hour factor, PHF	1	370	140	1189	716	12	8	0	1	0	0	0
Adj. Flow (vph)	0	33	0	0	0	0	0	0	1	0	0	0
RTOR Reduction (vph)	1	477	0	1189	728	0	0	8	0	0	0	0
Lane Group Flow (vph)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%
Heavy Vehicles (%)	pm-plt	5	2	1	6	8	8	8	8	8	8	8
Turn Type	Protected Phases	2	2	1	6	6	6	6	6	6	6	6
Permitted Phases	Permitted Phases	2	2	1	6	6	6	6	6	6	6	6
Actuated Green, G (s)	18.6	18.1	25.1	42.7	42.7	42.7	42.7	42.7	42.7	42.7	42.7	42.7
Effective Green, g (s)	18.6	18.1	25.1	42.7	42.7	42.7	42.7	42.7	42.7	42.7	42.7	42.7
Actuated g/C Ratio	0.33	0.32	0.45	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	255	1102	1570	1231	1231	1231	1231	1231	1231	1231	1231	1231
v/s Ratio Prot	0.00	0.14	0.34	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
v/s Ratio Perm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
v/c Ratio	0.00	0.43	0.76	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59
Uniform Delay, d1	12.5	14.9	12.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.0	0.3	2.1	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Delay (s)	12.5	15.2	15.0	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
Level of Service	B	B	B	A	A	A	A	A	A	A	A	A
Approach Delay (s)	15.2	10.7	10.7	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0	34.0
Approach LOS	B	B	B	C	C	C	C	C	C	C	C	C

Intersection Summary			
HCM Average Control Delay	11.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	56.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	53.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

5:00 pm Baseline

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HCM Unsignalized Intersection Capacity Analysis
 28: Commerce Dr & S Columbia Dr

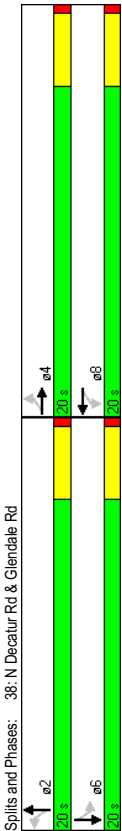
Existing PM
 7/11/2012

Intersection Sign configuration not allowed in HCM analysis.

5:00 pm Baseline

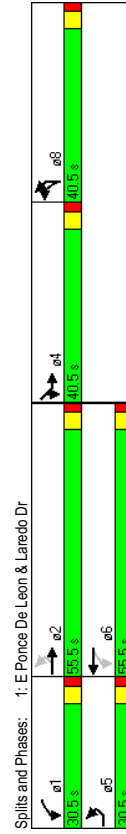
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Lane Group	e2	e4	e6	e8
Lane Configurations				
Volume (vph)				
Turn Type				
Protected Phases	2	4	6	8
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0
Total Split (s)	20.0	20.0	20.0	20.0
Total Split (%)	50%	50%	50%	50%
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)				
Lost Time Adjust (s)	0.5	0.5	0.5	0.5
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode		Max	Max	Max
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Intersection Summary				
Cycle Length: 40				
Actuated Cycle Length: 40				
Offset: 0 (0%), Referenced to phase 2/NBTL and 6/SBTL, Start of Green				
Natural Cycle: 40				
Control Type: Prelimed				
Maximum v/c Ratio: 0.00				
Intersection Signal Delay: 0.0				
Intersection Capacity Utilization 0.0%				
ICU Level of Service A				
Analysis Period (min) 15				



Timings Existing SAT 7/11/2012 1: E Ponce De Leon & Laredo Dr

Lane Group	EBL	EBT	WBL	WBT	NBL2	NBL	SER	SER2
Lane Configurations	335	179	47	181	65	133	357	184
Volume (vph)	335	179	47	181	65	133	357	184
Turn Type	pm+pt	pm+pt	Free	Free	Split	Prot	Free	Free
Protected Phases	5	2	1	6	8	4	4	4
Permitted Phases	2	6	Free	Free	4	4	4	4
Switch Phase	5	2	1	6	8	8	4	4
Minimum Initial (s)	10.0	20.0	10.0	20.0	10.0	10.0	10.0	10.0
Minimum Split (s)	13.5	40.5	15.5	34.5	32.5	30.5	30.5	30.5
Total Split (s)	30.5	55.5	30.5	55.5	0.0	40.5	40.5	40.5
Total Split (%)	18.3%	33.2%	18.3%	33.2%	0.0%	24.3%	24.3%	24.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	4.0	5.5	5.5	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimizer?	Yes	Yes	Yes	Yes	None	None	None	None
Recall Mode	None	Min	None	Min	None	None	None	None
Act Effect Green (s)	49.0	36.7	30.2	20.1	121.5	20.8	35.1	121.5
Actuated g/c Ratio	0.40	0.30	0.25	0.17	1.00	0.17	0.29	0.29
v/c Ratio	0.65	0.27	0.18	0.33	0.25	0.23	0.72	0.74
Control Delay	33.9	29.5	26.8	48.0	0.4	45.2	58.8	49.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.9	29.5	26.8	48.0	0.4	45.2	58.8	49.9
LOS	C	C	C	D	A	D	E	D
Approach Delay	31.9			17.1		55.4	30.0	
Approach LOS	C			B		E	C	



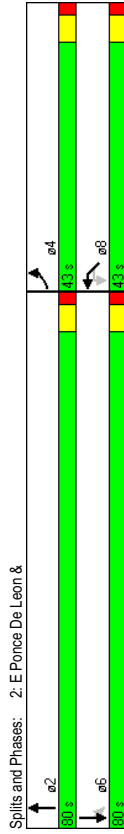
HCM Signalized Intersection Capacity Analysis Existing SAT 7/11/2012 1: E Ponce De Leon & Laredo Dr

Movement	EBL	EBT	WBL	WBT	NBL2	NBL	NBR	SER	SER2
Lane Configurations	335	179	47	181	65	133	58	357	184
Volume (vph)	335	179	47	181	65	133	58	357	184
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	4.0	5.5	5.5	5.5	4.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	0.99	1.00	1.00	1.00	0.99	1.00	1.00	1.00
Flt	1.00	0.95	1.00	1.00	1.00	0.95	1.00	0.95	1.00
Flt Protected	0.95	1.00	0.95	1.00	1.00	0.95	0.97	1.00	1.00
Satd. Flow (prot)	1804	3389	1728	3574	1593	1805	1736	1805	1615
Flt Permitted	0.48	1.00	0.57	1.00	1.00	0.95	0.97	1.00	1.00
Satd. Flow (perm)	917	3389	1045	3574	1593	1805	1736	1805	1615
Peak-hour factor, PHF	0.96	0.91	0.83	0.84	0.92	0.86	0.90	0.88	0.81
Adj. Flow (vph)	349	197	92	56	197	397	72	151	72
RTOR Reduction (vph)	0	33	0	0	0	0	11	0	0
Lane Group Flow (vph)	349	256	0	56	197	397	72	212	0
Conf. Peds. (#/hr)	1	2	7	6	2	7	6	6	1
Heavy Vehicles (%)	0%	1%	0%	4%	1%	0%	0%	0%	0%
Turn Type	pm+pt	pm+pt	pm+pt	pm+pt	Free	Split	Free	Prot	Free
Protected Phases	5	2	1	6	8	8	4	4	4
Permitted Phases	2	6	Free	Free	4	4	4	4	4
Actuated Green, G (s)	50.2	36.7	29.3	21.3	122.6	20.8	20.8	35.1	122.6
Effective Green, g (s)	50.2	36.7	29.3	21.3	122.6	20.8	20.8	35.1	122.6
Actuated g/c Ratio	0.41	0.30	0.24	0.17	1.00	0.17	0.17	0.29	0.29
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Vehicle Extension (s)	3.0	5.0	3.0	5.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	545	1014	294	621	1593	306	295	517	462
v/s Ratio Prot	c0.12	0.08	0.01	0.06	0.04	c0.12	c0.21	0.14	0.22
v/s Ratio Perm	c0.14		0.03		0.25				
v/c Ratio	0.64	0.25	0.19	0.32	0.25	0.24	0.72	0.74	0.49
Uniform Delay, d1	26.7	32.6	36.7	44.3	0.0	44.0	48.1	39.7	36.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.6	0.3	0.3	0.6	0.4	0.5	8.7	6.1	1.1
Delay (s)	29.3	32.8	37.0	44.9	0.4	44.6	56.8	45.7	37.5
Level of Service	C	C	D	D	A	D	E	D	D
Approach Delay (s)		30.9		17.0		53.8	27.4		
Approach LOS		C		B		D	C		

Intersection Summary	
HCM Average Control Delay	28.7
HCM Volume to Capacity ratio	0.68
Actuated Cycle Length (s)	122.6
Intersection Capacity Utilization	87.9%
Analysis Period (min)	15
c Critical Lane Group	

Timings 2: E Ponce De Leon & Existing SAT 7/11/2012

Lane Group	EBL	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations	W	1	454	73	170	454	1
Volume (vph)	1	454	73	170	454	1	199
Turn Type	4i	2	Free	6	8i	6	8i
Protected Phases							
Permitted Phases	4	2	Free	6	6	8	8
Switch Phase							
Minimum Initial (s)	8.0	12.0	12.0	12.0	12.0	8.0	8.0
Minimum Split (s)	33.0	28.0	18.0	18.0	18.0	14.0	14.0
Total Split (s)	43.0	80.0	0.0	80.0	80.0	43.0	43.0
Total Split (%)	35.0%	65.0%	0.0%	65.0%	65.0%	35.0%	35.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.0	6.0	6.0	6.0	6.0
Lead/Lag							
Lead-Lag Optimizer?							
Recall Mode	None	Min	Min	Min	Min	None	None
Act Effct Green (s)	10.6	19.1	42.2	19.1	10.6	10.6	10.6
Actuated g/C Ratio	0.25	0.45	1.00	0.45	0.25	0.25	0.25
v/c Ratio	0.01	0.56	0.05	0.60	0.54	0.54	0.54
Control Delay	14.0	11.4	0.1	11.3	12.2	12.2	12.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.0	11.4	0.1	11.3	12.2	12.2	12.2
LOS	B	B	A	B	B	B	B
Approach Delay	14.0	9.7		11.3	12.2		
Approach LOS	B	A		B	B		
Intersection Summary							
Cycle Length: 123							
Actuated Cycle Length: 42.2							
Natural Cycle: 65							
Control Type: Semi-Act-Uncoord							
Maximum v/c Ratio: 0.60							
Intersection Signal Delay: 10.9							
Intersection LOS: B							
Intersection Capacity Utilization 83.3%							
Analysis Period (min) 15							
i - Phase conflict between lane groups.							



HCM Signalized Intersection Capacity Analysis 2: E Ponce De Leon & Existing SAT 7/11/2012

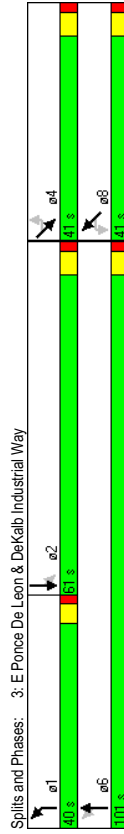
Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	NWL2	NWL	NWR
Lane Configurations	W	1	1	0	454	73	170	454	0	52	1
Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Lane Util. Factor	1.00	0.91	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.90	1.00
Flt Protected	0.98	1.00	1.00	0.85	1.00	0.99	1.00	0.99	1.00	0.90	1.00
Flt Permitted	1701	1701	1863	1615	1863	1615	3485	1670	1670	1670	1670
Satd. Flow (perm)	1701	1701	1863	1615	1863	1615	2445	1670	1670	1670	1670
Peak-hour factor, PHF	0.50	0.25	0.25	0.97	0.87	0.91	0.95	0.92	0.87	0.25	0.91
Adj. Flow (vph)	2	4	0	468	84	187	478	0	60	4	219
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	107
Lane Group Flow (vph)	6	0	0	468	84	0	665	0	0	176	0
Heavy Vehicles (%)	0%	0%	0%	2%	0%	0%	3%	0%	0%	0%	1%
Turn Type	4i			2	Free	Perm	6	Perm	8	8i	
Protected Phases											
Permitted Phases	10.6	19.1	41.7	19.1	41.7	19.1	19.1	10.6	10.6	10.6	10.6
Effective Green, G (s)	10.6	19.1	41.7	19.1	41.7	19.1	19.1	10.6	10.6	10.6	10.6
Actuated g/C Ratio	0.25	0.46	1.00	0.46	1.00	0.46	0.46	0.25	0.25	0.25	0.25
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	432	853	1615	853	1615	1120	425	425	425	425	425
v/s Ratio Prot	0.00	0.25	0.05	0.55	0.05	0.59	0.11	0.11	0.11	0.11	0.11
v/c Ratio	0.01	11.6	8.2	0.0	8.4	8.4	13.0	13.0	13.0	13.0	13.0
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Progression Factor	0.0	0.7	0.1	0.9	0.9	0.7	0.7	0.7	0.7	0.7	0.7
Incremental Delay, d2	11.7	8.9	0.1	9.3	9.3	13.6	13.6	13.6	13.6	13.6	13.6
Delay (s)	B	A	A	A	A	B	B	B	B	B	B
Level of Service	B	A	A	A	A	B	B	B	B	B	B
Approach Delay (s)	11.7	7.6	9.3	9.3	9.3	13.6	13.6	13.6	13.6	13.6	13.6
Approach LOS	B	A	A	A	A	B	B	B	B	B	B
Intersection Summary											
HCM Average Control Delay	9.5	HCM Level of Service	A								
HCM Volume to Capacity ratio	0.53										
Actuated Cycle Length (s)	41.7	Sum of lost time (s)	12.0								
Intersection Capacity Utilization	83.3%	ICU Level of Service	E								
Analysis Period (min)	15										
i - Phase conflict between lane groups.											
c - Critical Lane Group											

Timings Existing SAT
7/11/2012

HCM Signalized Intersection Capacity Analysis Existing SAT
7/11/2012

3: E Ponce De Leon & DeKalb Industrial Way

Lane Group	NBL	NBT	SBL	SBT	SEL	SET	NWL	NWT
Lane Configurations	1	4	4	4	1	1	12	6
Volume (vph)	16	426	8	413	126	5	12	6
Turn Type	pm+pt		Perm		Perm		Perm	
Protected Phases	1	6	2	2	4	4	8	8
Permitted Phases	6	6	2	2	4	4	8	8
Detector Phase	1	6	2	2	4	4	8	8
Switch Phase								
Minimum Initial (s)	5.0	15.0	15.0	15.0	7.0	7.0	7.0	7.0
Minimum Split (s)	10.0	21.0	24.0	24.0	31.0	31.0	14.0	14.0
Total Split (s)	40.0	101.0	61.0	61.0	41.0	41.0	41.0	41.0
Total Split (%)	28.2%	71.1%	43.0%	43.0%	28.9%	28.9%	28.9%	28.9%
Yellow Time (s)	3.5	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lag
Lead-Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	Min	None	None	None	None
Act Effect Green (s)	25.2	24.1	20.5	20.5	17.5	17.5	17.5	17.5
Actuated g/C Ratio	0.46	0.44	0.37	0.37	0.32	0.32	0.32	0.32
v/c Ratio	0.05	0.29	0.03	0.45	0.51	0.07	0.07	0.07
Control Delay	8.7	10.1	15.6	14.9	22.0	9.5	12.7	12.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.7	10.1	15.6	14.9	22.0	9.5	12.7	12.7
LOS	A	B	B	B	C	A	B	B
Approach Delay	10.1	14.9	14.9	14.9	20.2	12.7	12.7	12.7
Approach LOS	B	B	B	B	C	B	B	B



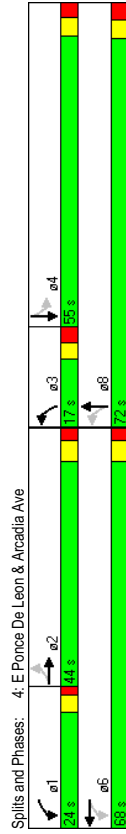
Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations	1	4	4	4	4	1	1	1	1	12	6	6
Volume (vph)	16	426	8	413	139	126	5	17	12	12	6	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	0.99	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fit	1.00	1.00	1.00	1.00	0.96	1.00	0.89	1.00	0.89	0.95	0.95	0.95
Fit Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.98	0.98
Satd. Flow (prot)	1805	3559	1805	3444	1805	1676	1805	1676	1772	1772	1772	1772
Fit Permitted	0.32	1.00	0.49	1.00	0.73	1.00	0.73	1.00	0.91	0.91	0.91	0.91
Satd. Flow (perm)	605	3559	926	3444	1391	1676	1391	1676	1650	1650	1650	1650
Peak-hour factor, PHF	0.80	0.95	0.50	0.67	0.95	0.91	0.56	0.50	0.63	0.83	0.60	0.63
Adj. Flow (vph)	20	448	12	12	435	153	225	10	27	14	10	14
RTOR Reduction (vph)	0	2	0	0	26	0	0	19	0	0	0	10
Lane Group Flow (vph)	20	458	0	12	562	0	225	18	0	0	28	0
Conf. Peds. (#/hr)	1	1	1	1	1	1	1	1	1	1	1	1
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt											
Protected Phases	1	6	6	2	2	4	4	4	4	8	8	8
Actuated Green, G (s)	27.7	27.7	27.7	20.5	20.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Effective Green, g (s)	27.7	27.7	27.7	20.5	20.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Actuated g/C Ratio	0.48	0.48	0.48	0.36	0.36	0.31	0.31	0.31	0.31	0.31	0.31	0.31
Clearance Time (s)	5.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	339	1724	332	1234	426	513	426	513	505	505	505	505
v/s Ratio Prot	0.00	c0.13	0.01	c0.16	c0.16	c0.16	c0.16	c0.16	c0.16	c0.16	c0.16	c0.16
v/s Ratio Perm	0.03	0.06	0.27	0.04	0.46	0.53	0.04	0.53	0.04	0.53	0.04	0.53
Uniform Delay, d1	8.1	8.7	11.9	14.1	14.1	16.4	13.9	16.4	13.9	14.0	14.0	14.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.2	0.1	0.1	0.6	2.2	0.1	2.2	0.1	0.1	0.1	0.1
Delay (s)	8.2	8.9	12.0	14.6	18.7	14.0	14.1	18.7	14.0	14.1	14.1	14.1
Level of Service	A	A	B	B	B	B	B	B	B	B	B	B
Approach Delay (s)	8.9	8.9	14.6	14.6	18.0	14.1	14.1	18.0	14.1	14.1	14.1	14.1
Approach LOS	A	A	B	B	B	B	B	B	B	B	B	B

Intersection Summary												
HCM Average Control Delay	13.2											
HCM Volume to Capacity ratio	0.51											
Actuated Cycle Length (s)	57.2											
Intersection Capacity Utilization	39.7%											
Analysis Period (min)	15											
c Critical Lane Group												

Timings
4: E Ponce De Leon & Arcadia Ave

Existing SAT
7/11/2012

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	4	4	4	4	4	4	4	4	4
Volume (vph)	64	237	158	259	71	364	13	374	79
Turn Type	Perm	pm+pt	pm+pt	pm+pt	Perm	Perm	Perm	Free	Free
Protected Phases	2	2	1	6	3	8	4	4	Free
Permitted Phases	2	2	6	6	8	4	4	4	Free
Switch Phase	2	2	1	6	3	8	4	4	Free
Minimum Initial (s)	15.0	15.0	5.0	15.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	22.0	22.0	9.4	22.0	12.7	22.2	21.8	21.8	21.8
Total Split (s)	44.0	44.0	24.0	68.0	17.0	72.0	55.0	55.0	55.0
Total Split (%)	31.4%	31.4%	17.1%	48.6%	12.1%	51.4%	39.3%	39.3%	39.3%
Yellow Time (s)	3.6	3.6	3.0	3.6	3.0	3.1	3.1	3.1	3.1
All-Red Time (s)	2.4	2.4	1.4	2.4	2.7	3.1	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.4	6.0	5.7	6.2	5.8	5.8	5.8
Lead/Lag	Lag	Lag	Lead	Lead	Lag	Lag	Lag	Lag	Lag
Lead-Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Max	None	Max	None	C-Max	C-Max	C-Max	C-Max
Act Effect Green (s)	43.3	43.3	63.6	62.0	66.3	65.8	51.0	51.0	140.0
Actuated g/C Ratio	0.31	0.31	0.45	0.44	0.47	0.47	0.36	0.36	1.00
v/c Ratio	0.21	0.32	0.37	0.18	0.20	0.35	0.08	0.31	0.06
Control Delay	39.3	34.1	25.6	23.6	21.7	19.8	31.1	32.9	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.3	34.1	25.6	23.6	21.7	19.8	31.1	32.9	0.1
LOS	D	C	C	C	C	B	C	C	A
Approach Delay	35.0	35.0	24.4	24.4	20.0	20.0	27.0	27.0	C
Approach LOS	C	C	C	C	C	C	C	C	C
Intersection Summary									
Cycle Length: 140									
Actuated Cycle Length: 140									
Offset: 49 (35%), Referenced to phase 4:SBTL and 8:NBTL, Start of Green									
Natural Cycle: 70									
Control Type: Actuated-Coordinated									
Maximum v/c Ratio: 0.37									
Intersection Signal Delay: 25.8									
Intersection LOS: C									
Intersection Capacity Utilization 66.7%									
Analysis Period (min) 15									



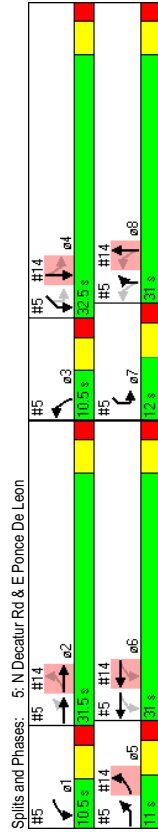
HCM Signalized Intersection Capacity Analysis
4: E Ponce De Leon & Arcadia Ave

Existing SAT
7/11/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	4	4	4	4	4	4	4	4	4	4	4	4
Volume (vph)	64	237	86	158	259	11	71	364	177	13	374	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	4.4	6.0	6.0	5.7	6.2	6.2	5.8	5.8	5.8	4.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00	0.99	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00
Flpb, ped/bikes	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.96	1.00	0.99	1.00	0.99	1.00	0.95	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1795	3427	1802	3580	1800	3392	1805	3610	1594	1594	1594	1594
Flt Permitted	0.57	1.00	0.43	1.00	0.41	1.00	0.44	1.00	1.00	1.00	1.00	1.00
Satd. Flow (perm)	1086	3427	822	3580	773	3392	828	3610	1594	1594	1594	1594
Peak-hour factor, PHF	0.89	0.94	0.86	0.90	0.95	0.89	0.81	0.98	0.87	0.54	0.93	0.86
Adj. Flow (vph)	72	252	100	176	273	16	88	371	203	24	402	92
RTOR Reduction (vph)	0	29	0	0	3	0	0	52	0	0	0	0
Lane Group Flow (vph)	72	323	0	176	286	0	88	522	0	24	402	92
Conf. Peds. (#/hr)	3	7	4	4	4	4	7	4	4	4	4	3
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	2	2	1	6	3	8	8	4	4	4	Free
Protected Phases	2	2	2	2	2	2	2	2	2	2	2	Free
Actuated Green, G (s)	43.3	43.3	43.3	62.0	62.0	65.8	65.8	65.8	51.0	51.0	51.0	140.0
Effective Green, g (s)	43.3	43.3	43.3	62.0	62.0	65.8	65.8	65.8	51.0	51.0	51.0	140.0
Actuated g/C Ratio	0.31	0.31	0.31	0.44	0.44	0.47	0.47	0.47	0.36	0.36	0.36	1.00
Clearance Time (s)	6.0	6.0	6.0	4.4	6.0	5.7	6.2	6.2	5.8	5.8	5.8	3.0
Vehicle Extension (s)	5.0	5.0	5.0	3.5	5.0	3.5	3.5	3.5	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	336	1060	464	1585	433	1594	302	1315	1594	1594	1594	1594
v/s Ratio Prot	0.07	0.09	0.09	0.04	0.08	0.01	0.15	0.08	0.03	0.03	0.03	0.06
v/s Ratio Perm	0.21	0.30	0.30	0.38	0.18	0.20	0.33	0.08	0.08	0.08	0.08	0.06
Uniform Delay, d1	35.8	36.9	36.9	24.5	23.6	21.2	23.2	29.1	31.8	31.8	31.8	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.5	0.7	0.7	0.6	0.3	0.3	0.5	0.5	0.6	0.6	0.6	0.1
Delay (s)	37.2	37.6	37.6	25.1	23.9	21.5	23.8	29.6	32.4	32.4	32.4	0.1
Level of Service	D	D	D	C	C	C	C	C	C	C	C	A
Approach Delay (s)	37.5	37.5	24.3	24.3	23.5	23.5	26.6	26.6	26.6	26.6	26.6	C
Approach LOS	D	D	C	C	C	C	C	C	C	C	C	C
Intersection Summary												
HCM Average Control Delay	27.3											
HCM Volume to Capacity ratio	0.35											
Actuated Cycle Length (s)	140.0											
Intersection Capacity Utilization	66.7%											
Analysis Period (min)	15											
c Critical Lane Group												

Timings 5: N Decatur Rd & E Ponce De Leon Existing SAT 7/11/2012

Lane Group	EBL	EBT	WBL	WBT	NBL	NBR	SWL2	SWL
Lane Configurations	116	422	103	368	79	538	139	504
Volume (vph)	116	422	103	368	79	538	139	504
Turn Type	pm+pt	pm+pt	pm+pt	pm+pt	custom	pm+pt	pm+pt	pm+pt
Protected Phases	5	2	1	6	3	8	7	4
Permitted Phases	2	6	6	6	8	4	4	4
Detector Phase	5	2	1	6	3	8	7	4
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	8.0	5.0	8.0
Minimum Split (s)	10.5	30.5	10.5	30.5	10.5	28.5	10.5	32.5
Minimum Split (s)	11.0	31.5	10.5	31.0	10.5	31.0	12.0	32.5
Total Split (s)	12.9%	37.1%	12.4%	36.5%	12.4%	36.5%	14.1%	38.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	None	None	None	None	None
Act Effect Green (s)	38.0	26.3	29.0	24.0	32.8	27.6		
Actuated g/C Ratio	0.45	0.45	0.31	0.34	0.28	0.39	0.32	
v/c Ratio	0.44	0.34	0.76	0.35	0.80	0.62	0.60	
Control Delay	19.9	15.5	14.0	18.4	35.7	27.3	24.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	19.9	15.5	14.0	18.4	35.7	27.3	24.7	
LOS	B	B	B	B	D	C	C	
Approach Delay	16.4		14.0	33.6		25.2		
Approach LOS	B	B	C	C		C		



HCM Signalized Intersection Capacity Analysis 5: N Decatur Rd & E Ponce De Leon Existing SAT 7/11/2012

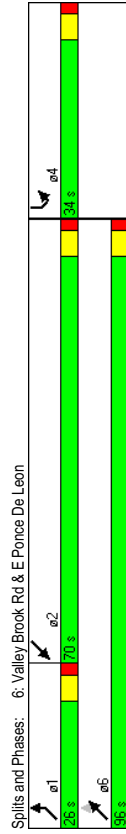
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SWL2	SWL	SWR
Lane Configurations	116	422	85	103	368	121	79	538	139	504	144
Volume (vph)	116	422	85	103	368	121	79	538	139	504	144
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		5.5	5.5		5.5	5.5	5.5	5.5	
Lane Util. Factor	1.00	0.95		0.95	0.95		1.00	0.88	1.00	0.97	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	0.97		0.97	0.97		1.00	0.85	1.00	0.96	
Flt	0.95	1.00		0.99	0.99		0.95	1.00	0.95	0.96	
Flt Protected	1787	3477		3447	3447		1804	2839	1787	3399	
Satd. Flow (prot)	0.22	1.00		0.75	0.75		0.30	1.00	0.21	0.96	
Flt Permitted	421	3477		2610	2610		566	2839	392	3399	
Satd. Flow (perm)	0.91	0.95	0.92	0.92	0.95	0.84	0.86	0.95	0.88	0.87	0.98
Peak-hour factor, PHF	127	444	92	112	387	144	92	566	88	160	176
Adj. Flow (vph)	0	17	0	0	34	0	0	13	0	0	41
RTOR Reduction (vph)	127	519	0	0	609	0	92	641	0	160	649
Lane Group Flow (vph)	1	7	7	7	1	1	7	1	7	1	0
Conf. Peds. (#/hr)	1%	1%	0%	0%	0%	0%	0%	0%	1%	1%	0%
Heavy Vehicles(%)	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt
Turn Type	2	2	2	1	6	3	8	7	4	4	4
Permitted Phases	5	2	1	6	3	8	7	4	4	4	4
Actuated Green, G (s)	36.9	36.9		25.2	29.1	25.1	29.1	25.1	34.1	27.6	
Effective Green, g (s)	36.9	36.9		25.2	29.1	25.1	29.1	25.1	34.1	27.6	
Actuated g/C Ratio	0.43	0.43		0.30	0.30	0.30	0.34	0.30	0.40	0.32	
Clearance Time (s)	5.5	5.5		5.5	5.5		5.5	5.5	5.5	5.5	
Vehicle Extension (s)	282	1509		774	252	838	264	1104			
Lane Grp Cap (vph)	0.03	c0.15		c0.23	0.11		c0.23	0.05	0.19		
v/s Ratio Prot	0.16			0.79	0.37	0.76	0.61	0.59			
v/s Ratio Perm	0.45	0.34		16.0	16.0	27.4	19.6	27.3	17.9	24.0	
Uniform Delay, d1	1.00	1.00		0.29	1.00	1.00	1.00	1.00	1.00	1.00	
Progression Factor	1.1	0.6		4.9	0.9	4.4	3.9	1.0			
Incremental Delay, d2	17.1	16.6		12.8	20.5	31.7	21.8	24.9			
Delay (s)	B	B		B	B	C	C	C	C	C	
Level of Service	16.7			12.8	30.3		24.3				
Approach Delay (s)	B	B		B	B		C				
Approach LOS	B	B		B	B		C				

Intersection Summary			
HCM Average Control Delay	21.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	85.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	85.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Timings
6: Valley Brook Rd & E Ponce De Leon

Existing SAT
7/11/2012

Lane Group	SBL	SBR	NEL	NET	SWT
Lane Configurations	88	303	282	466	478
Volume (vph)	88	303	282	466	478
Turn Type	Free	Free	pm+pt		
Protected Phases	4	1	6	2	2
Permitted Phases	4	Free	6		
Detector Phase	4		1	6	2
Switch Phase					
Minimum Initial (s)	20.0	5.0	10.0	10.0	10.0
Minimum Split (s)	29.0	11.0	27.0	27.0	27.0
Total Split (s)	34.0	0.0	26.0	96.0	70.0
Total Split (%)	26.2%	0.0%	20.0%	73.8%	53.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	4.0	6.0	6.0	6.0
Lead/Lag	Lead	Lead	Lag		
Lead-Lag Optimizer?	Yes	Yes			
Recall Mode	None	None	C-Min	C-Min	Yes
Act Effct Green (s)	20.0	130.0	98.0	98.0	79.7
Actuated g/C Ratio	0.15	1.00	0.75	0.75	0.61
v/c Ratio	0.35	0.21	0.54	0.34	0.51
Control Delay	53.1	0.3	8.5	6.1	16.1
Queue Delay	0.0	0.0	0.0	0.7	0.0
Total Delay	53.1	0.3	8.5	6.8	16.1
LOS	D	A	A	A	B
Approach Delay	12.2		7.4	16.1	
Approach LOS	B		A	B	
Intersection Summary					
Cycle Length: 130					
Actuated Cycle Length: 130					
Offset: 72 (55%), Referenced to phase 2:SWT and 6:NETL Start of Green					
Natural Cycle: 80					
Control Type: Actuated-Coordinated					
Maximum v/c Ratio: 0.54					
Intersection Signal Delay: 11.3					
Intersection Capacity Utilization 77.6%					
Analysis Period (min) 15					



HCM Signalized Intersection Capacity Analysis
6: Valley Brook Rd & E Ponce De Leon

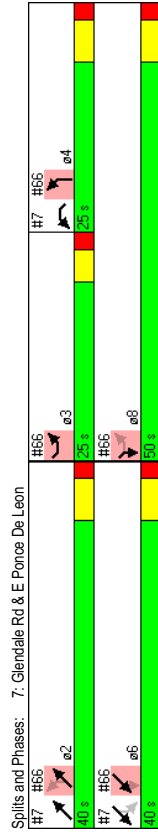
Existing SAT
7/11/2012

Movement	SBL	SBR	NEL	NET	SWT	SWR
Lane Configurations	88	303	282	466	478	77
Volume (vph)	88	303	282	466	478	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	4.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.99	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.85	1.00	1.00	0.98	0.98
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1805	1593	1805	1900	1856	1856
Flt Permitted	0.95	1.00	0.32	1.00	1.00	1.00
Satd. Flow (perm)	1805	1593	613	1900	1856	1856
Peak-hour factor, PHF	0.92	0.92	0.90	0.95	0.96	0.96
Adj. Flow (vph)	96	329	313	491	498	80
RTOR Reduction (vph)	0	0	0	0	3	0
Lane Group Flow (vph)	96	329	313	491	575	0
Confl. Peds. (#/hr)	4	6	6	0	0	4
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	Free	Free	pm+pt			
Protected Phases	4	1	6	2		
Permitted Phases	Free	Free	6			
Actuated Green, G (s)	20.0	130.0	98.0	98.0	79.7	
Effective Green, g (s)	20.0	130.0	98.0	98.0	79.7	
Actuated g/C Ratio	0.15	1.00	0.75	0.75	0.61	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	8.0	8.0	8.0	
Lane Grp Cap (vph)	278	1593	575	1432	1138	
v/s Ratio Prot	c0.05		c0.05	0.26	0.31	
v/s Ratio Perm		0.21				
v/c Ratio	0.35	0.21	0.54	0.34	0.50	
Uniform Delay, d1	49.1	0.0	8.2	5.3	14.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.0	0.3	1.1	0.7	1.6	
Delay (s)	50.2	0.3	9.3	6.0	15.7	
Level of Service	D	A	A	A	B	
Approach Delay (s)	11.6		7.3	15.7		
Approach LOS	B		A	B		
Intersection Summary						
HCM Average Control Delay			11.0			HCM Level of Service B
HCM Volume to Capacity ratio			0.50			
Actuated Cycle Length (s)			130.0			Sum of lost time (s) 12.0
Intersection Capacity Utilization			77.6%			ICU Level of Service D
Analysis Period (min)			15			
c Critical Lane Group						

Timings
7: Glendale Rd & E Ponce De Leon

Existing SAT
7/11/2012

Lane Group	NWL	NWR	NET	NER	SWL	SWT	ø3	ø8
Lane Configurations	85	70	400	89	45	415		
Volume (vph)	85	70	400	89	45	415		
Turn Type	4	Free	2	Free	6	Perm	3	8
Protected Phases								
Permitted Phases	4	Free	2	Free	6	6		
Detector Phase	4		2		6	6		
Switch Phase								
Minimum Initial (s)	8.0	12.0	12.0	12.0	12.0	12.0	8.0	8.0
Minimum Split (s)	24.5	30.5	30.5	18.5	18.5	13.5	13.5	25.5
Total Split (s)	25.0	0.0	40.0	0.0	40.0	50.0	25.0	50.0
Total Split (%)	27.8%	0.0%	44.4%	0.0%	44.4%	28%	28%	56%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	3.5	3.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.5	4.0	6.5	4.0	6.5	6.5		
Lead/Lag	Lag						Lead	
Lead-Lag Optimizer?	Yes						Yes	
Recall Mode	None						None	
Act Effect Green (s)	10.4	90.0	70.8	90.0	70.8	70.8		
Actuated g/C Ratio	0.12	1.00	0.79	1.00	0.79	0.79		
v/c Ratio	0.46	0.06	0.31	0.06	0.10	0.31		
Control Delay	43.7	0.1	4.6	0.1	4.1	4.6		
Queue Delay	1.1	0.0	0.6	0.0	0.0	0.0		
Total Delay	44.8	0.1	5.2	0.1	4.1	4.6		
LOS	D	A	A	A	A	A		
Approach Delay	22.4	4.3			4.6			
Approach LOS	C	A			A			
Intersection Summary								
Cycle Length: 90								
Actuated Cycle Length: 90								
Offset: 0 (0%), Referenced to phase 2/NET and 6/SWTL, Start of Green								
Natural Cycle: 70								
Control Type: Actuated-Coordinated								
Maximum v/c Ratio: 0.46								
Intersection Signal Delay: 7.1								
Intersection Capacity Utilization 55.0%								
Analysis Period (min) 15								



HCM Signalized Intersection Capacity Analysis
7: Glendale Rd & E Ponce De Leon

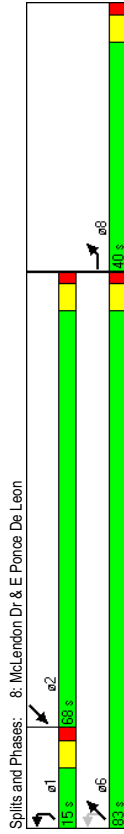
Existing SAT
7/11/2012

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations	85	70	400	89	45	415
Volume (vph)	85	70	400	89	45	415
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	4.0	6.5	4.0	6.5	6.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	0.99	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1805	1580	1900	1593	1801	1900
Flt Permitted	0.95	1.00	1.00	1.00	0.49	1.00
Satd. Flow (perm)	1805	1580	1900	1593	931	1900
Peak-hour factor, PHF	0.89	0.73	0.87	0.89	0.83	0.90
Adj. Flow (vph)	96	96	460	100	71	461
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	96	96	460	100	71	461
Confl. Peds. (#/hr)	5	4		5	4	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	Free	Free	2	Free	Perm	6
Protected Phases	4					6
Permitted Phases		Free		Free		6
Actuated Green, G (s)	8.8	90.0	68.2	90.0	68.2	68.2
Effective Green, g (s)	8.8	90.0	68.2	90.0	68.2	68.2
Actuated g/C Ratio	0.10	1.00	0.76	1.00	0.76	0.76
Clearance Time (s)	6.5		6.5		6.5	6.5
Vehicle Extension (s)	3.0		5.5		5.5	5.5
Lane Grp Cap (vph)	176	1580	1440	1593	705	1440
v/s Ratio Prot	c0.05		0.24		0.06	c0.24
v/s Ratio Perm		0.06		0.06	0.06	0.08
v/c Ratio	0.55	0.06	0.32	0.06	0.10	0.32
Uniform Delay, d1	38.7	0.0	3.5	0.0	2.9	3.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.4	0.1	0.6	0.1	0.3	0.6
Delay (s)	42.1	0.1	4.1	0.1	3.1	4.1
Level of Service	D	A	A	A	A	A
Approach Delay (s)	21.1		3.4		3.9	
Approach LOS	C		A		A	
Intersection Summary						
HCM Average Control Delay			6.3		HCM Level of Service	A
HCM Volume to Capacity ratio			0.35			
Actuated Cycle Length (s)			90.0		Sum of lost time (s)	13.0
Intersection Capacity Utilization			55.0%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

Timings
8: McLendon Dr & E Ponce De Leon

Existing SAT
7/11/2012

Movement	EBL	EBR	NEL	NET	SWT	SWR	
Lane Configurations	EBL	EBR	NEL	NET	SWT	SWR	
Volume (vph)	60	61	64	449	467	52	
Turn Type	Free	Free	pm+pt			Free	
Protected Phases	8		1	6	2		
Permitted Phases	8		6				
Detector Phase	8		1	6	2		
Switch Phase							
Minimum Initial (s)	8.0		5.0	12.0	12.0		
Minimum Split (s)	33.0		11.0	18.0	28.0		
Total Split (s)	40.0	0.0	15.0	83.0	68.0	0.0	
Total Split (%)	32.5%	0.0%	12.2%	67.5%	55.3%	0.0%	
Yellow Time (s)	4.0		4.0	4.0	4.0		
All-Red Time (s)	2.0		2.0	2.0	2.0		
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	4.0	6.0	6.0	6.0	4.0	
Lead/Lag			Lead	Lag			
Lead-Lag Optimizer?			Yes		Yes		
Recall Mode	None		None	C-Min	C-Min		
Act Effct Green (s)	11.9	123.0	101.9	103.1	91.3	123.0	
Actuated g/C Ratio	0.10	1.00	0.83	0.84	0.74	1.00	
v/c Ratio	0.46	0.04	0.10	0.30	0.34	0.04	
Control Delay	60.4	0.0	3.0	3.6	8.6	0.1	
Queue Delay	0.0	0.0	0.0	0.0	1.1	0.0	
Total Delay	60.4	0.0	3.0	3.6	9.7	0.1	
LOS	E	A	A	A	A	A	
Approach Delay	32.7			3.5	8.5		
Approach LOS	C			A	A		
Intersection Summary							
Cycle Length: 123							
Actuated Cycle Length: 123							
Offset: 113 (92%), Referenced to phase 2(SWT) and 6(NETL), Start of Green							
Natural Cycle: 75							
Control Type: Actuated-Coordinated							
Maximum v/c Ratio: 0.46							
Intersection Signal Delay: 9.2							
Intersection Capacity Utilization 50.4%							
Analysis Period (min) 15							



HCM Signalized Intersection Capacity Analysis
8: McLendon Dr & E Ponce De Leon

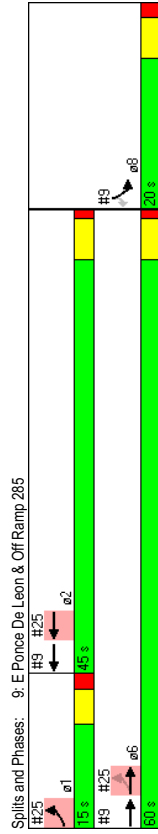
Existing SAT
7/11/2012

Movement	EBL	EBR	NEL	NET	SWT	SWR	
Lane Configurations	EBL	EBR	NEL	NET	SWT	SWR	
Volume (vph)	60	61	64	449	467	52	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	6.0	4.0	6.0	6.0	6.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Fr	1.00	0.85	1.00	1.00	1.00	0.85	
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00	
Satd. Flow (prot)	1805	1815	1805	1900	1900	1815	
Flt Permitted	0.95	1.00	0.42	1.00	1.00	1.00	
Satd. Flow (perm)	1805	1815	805	1900	1900	1815	
Peak-hour factor, PHF	0.75	0.90	0.84	0.94	0.98	0.77	
Adj. Flow (vph)	80	68	76	478	477	68	
RTOR Reduction (vph)	0	0	0	0	0	0	
Lane Group Flow (vph)	80	68	76	478	477	68	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	
Turn Type	Free	Free	pm+pt			Free	
Protected Phases	8		1	6	2		
Permitted Phases	Free		Free			Free	
Actuated Green, G (s)	10.3	123.0	100.7	100.7	87.6	123.0	
Effective Green, g (s)	10.3	123.0	100.7	100.7	87.6	123.0	
Actuated g/C Ratio	0.08	1.00	0.82	0.82	0.71	1.00	
Clearance Time (s)	6.0		6.0	6.0	6.0		
Vehicle Extension (s)	4.0		5.0	5.0	5.0		
Lane Grp Cap (vph)	151	1815	717	1556	1353	1815	
v/s Ratio Prot	0.04		0.01	0.25	0.25		
v/c Ratio Perm	0.53	0.04	0.11	0.31	0.35	0.04	
v/c Ratio	54.0	0.0	2.8	2.7	6.8	0.0	
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	1.00	
Progression Factor	4.3	0.0	0.1	0.5	0.7	0.0	
Incremental Delay, d2	58.3	0.0	3.0	3.2	7.5	0.0	
Delay (s)	E	A	A	A	A	A	
Level of Service	C						
Approach Delay (s)	31.6			3.2	6.6		
Approach LOS	C			A	A		
Intersection Summary							
HCM Average Control Delay			8.0				
HCM Volume to Capacity ratio			0.38				
Actuated Cycle Length (s)			123.0				
Intersection Capacity Utilization			50.4%				
Analysis Period (min)			15				
c Critical Lane Group							

Timings
9: E Ponce De Leon & Off Ramp 285

Existing SAT
7/11/2012

Lane Group	EBT	WBT	SBL	SBR	ø1
Lane Configurations	↑↑	↑↑	↓	↓	↓
Volume (vph)	456	257	293	261	Perm
Turn Type	6	2	8	8	1
Protected Phases					
Permitted Phases	6	2	8	8	
Detector Phase	6	2	8	8	
Switch Phase					
Minimum Initial (s)	12.0	12.0	7.0	7.0	7.0
Minimum Split (s)	17.0	17.0	12.5	12.5	12.0
Total Split (s)	60.0	45.0	20.0	20.0	15.0
Total Split (%)	75.0%	56.3%	25.0%	25.0%	19%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5
All-Red Time (s)	1.0	1.0	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.5	5.5	
Lead/Lag		Lag		Lead	
Lead-Lag Optimizer?	Yes	Yes	Yes	Yes	
Recall Mode	C-Min	C-Min	None	None	None
Act Effct Green (s)	48.9	33.2	20.6	20.6	
Actuated g/C Ratio	0.61	0.42	0.26	0.26	
v/c Ratio	0.45	0.19	0.68	0.45	
Control Delay	10.0	9.2	36.1	5.9	
Queue Delay	0.0	0.0	0.0	0.0	
Total Delay	10.0	9.2	36.1	5.9	
LOS	B	A	D	A	
Approach Delay	10.0	9.2	21.9		
Approach LOS	B	A	C		
Intersection Summary					
Cycle Length: 80					
Actuated Cycle Length: 80					
Offset: 38 (48%), Referenced to phase 2/WBT and 6/EBT, Start of Green					
Natural Cycle: 45					
Control Type: Actuated-Coordinated					
Maximum v/c Ratio: 0.68					
Intersection Signal Delay: 14.9					Intersection LOS: B
Intersection Capacity Utilization 67.6%					ICU Level of Service C
Analysis Period (min) 15					



HCM Signalized Intersection Capacity Analysis
9: E Ponce De Leon & Off Ramp 285

Existing SAT
7/11/2012

Movement	EBL	EBT	WBT	SBL	SBR
Lane Configurations		↑↑	↑↑	↓	↓
Volume (vph)	0	456	257	0	293
Ideal Flow (vphpl)	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0	5.5	5.5
Lane Util. Factor		1.00	0.95	1.00	1.00
Flt Protected		1.00	1.00	0.95	1.00
Satd. Flow (prot)		1881	3610	1805	1615
Flt Permitted		1.00	1.00	0.95	1.00
Satd. Flow (perm)		1881	3610	1805	1615
Peak-hour factor, PHF	0.92	0.88	0.88	0.92	0.92
Adj. Flow (vph)	0	518	292	0	318
RTOR Reduction (vph)	0	0	0	0	0
Lane Group Flow (vph)	0	518	292	0	318
Heavy Vehicles (%)	0%	1%	0%	0%	0%
Turn Type		6	2	8	Perm
Protected Phases					8
Permitted Phases					8
Actuated Green, G (s)		48.9	33.2	20.6	20.6
Effective Green, g (s)		48.9	33.2	20.6	20.6
Actuated g/C Ratio		0.61	0.42	0.26	0.26
Clearance Time (s)		5.0	5.0	5.5	5.5
Vehicle Extension (s)		5.0	5.0	3.5	3.5
Lane Grp Cap (vph)		1150	1498	465	416
v/s Ratio Prot		c0.28	0.08	c0.18	0.05
v/c Ratio		0.45	0.19	0.68	0.18
Uniform Delay, d1		8.3	14.9	26.8	23.1
Progression Factor		1.00	0.57	1.00	1.00
Incremental Delay, d2		1.3	0.3	4.3	0.2
Delay (s)		9.6	8.8	31.1	23.3
Level of Service		A	A	C	C
Approach Delay (s)		9.6	8.8	27.4	
Approach LOS		A	A	C	
Intersection Summary					
HCM Average Control Delay			17.0		HCM Level of Service B
HCM Volume to Capacity ratio			0.52		
Actuated Cycle Length (s)			80.0		Sum of lost time (s) 10.5
Intersection Capacity Utilization			67.6%		ICU Level of Service C
Analysis Period (min)			15		
c Critical Lane Group					

HCM Unsignalized Intersection Capacity Analysis
10: Church St & On Ramp 285

Existing SAT
7/11/2012

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	EBT	EBR	WBL	WBT	NBL	NBR
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Volume (vph)	178	202	157	288	0	0
Peak Hour Factor	0.81	0.89	0.94	0.86	0.92	0.92
Hourly flow rate (vph)	220	227	167	335	0	0
Direction, Lane #	EB 1	WB 1				
Volume Total (vph)	447	502				
Volume Left (vph)	0	167				
Volume Right (vph)	227	0				
Head (s)	-0.30	0.07				
Departure Headway (s)	4.1	4.4				
Degree Utilization, x	0.51	0.61				
Capacity (veh/h)	862	807				
Control Delay (s)	11.3	14.1				
Approach Delay (s)	11.3	14.1				
Approach LOS	B	B				
Intersection Summary						
Delay		12.8				
HCM Level of Service		B				
Intersection Capacity Utilization		52.2%				
Analysis Period (min)		15				
ICU Level of Service						A

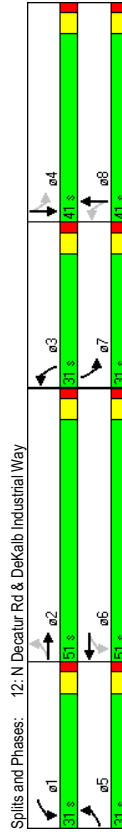
HCM Unsignalized Intersection Capacity Analysis
11: Valley Brook Rd & SR 410 On Ramp

Existing SAT
7/11/2012

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations	EBL	EBT	WBT	WBR	SWL	SWR
Volume (veh/h)	0	1114	358	0	105	695
Sign Control	Free	Free	Free	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.93	0.93	0.93	0.92	0.82	0.97
Hourly flow rate (vph)	0	1198	385	0	128	716
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None	None	None			
Median storage (veh)						
Upstream signal (ft)			759			
pX, platoon unblocked						
VC, conflicting volume	385			984	385	
VC1, stage 1 conf vol						
VC2, stage 2 conf vol						
VCu, unblocked vol	385			984	385	
IC, single (s)	4.1			6.8	6.9	
IC, 2 stage (s)						
IF (s)	2.2			3.5	3.3	
p0 queue free %	100			49	0	
CM capacity (veh/h)	1185			249	619	
Direction, Lane #	EB 1	EB 2	WB 1	SW 1	SW 2	SW 3
Volume Total	599	599	385	128	358	358
Volume Left	0	0	0	128	0	0
Volume Right	0	0	0	0	358	358
cSH	1700	1700	1700	249	619	619
Volume to Capacity	0.35	0.35	0.23	0.51	0.58	0.58
Queue Length 95th (ft)	0	0	0	67	93	93
Control Delay (s)	0.0	0.0	0.0	33.8	18.5	18.5
Lane LOS				D	C	C
Approach Delay (s)	0.0	0.0	0.0	20.8		
Approach LOS				C		
Intersection Summary						
Average Delay			7.2			
Intersection Capacity Utilization			49.8%			
Analysis Period (min)			15			
ICU Level of Service						A

Timings 12: N Decatur Rd & DeKalb Industrial Way Existing SAT 7/11/2012

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	103	443	62	326	155	422	160	353
Volume (vph)	103	443	62	326	155	422	160	353
Turn Type	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt
Protected Phases	5	2	1	6	3	8	7	4
Permitted Phases	2	6	6	6	8	8	4	4
Switch Phase	5	2	1	6	3	8	7	4
Minimum Initial (s)	5.0	10.0	5.0	15.0	5.0	7.0	5.0	7.0
Minimum Split (s)	22.0	31.0	11.0	31.0	11.0	31.0	11.0	13.0
Total Split (s)	31.0	51.0	31.0	51.0	31.0	41.0	31.0	41.0
Total Split (%)	20.1%	33.1%	20.1%	33.1%	20.1%	26.6%	20.1%	26.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead/Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	None	None	None	None
Act Effct Green (s)	44.9	36.7	39.4	31.3	34.6	21.8	37.9	23.4
Actuated g/C Ratio	0.44	0.36	0.38	0.30	0.34	0.21	0.37	0.23
v/c Ratio	0.29	0.51	0.21	0.47	0.49	0.72	0.53	0.54
Control Delay	19.2	29.0	18.9	28.7	25.9	44.0	26.7	38.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.2	29.0	18.9	28.7	25.9	44.0	26.7	38.1
LOS	B	C	B	C	C	D	C	D
Approach Delay	27.5		27.5		39.4		34.7	
Approach LOS	C		C		D		C	



HCM Signalized Intersection Capacity Analysis 12: N Decatur Rd & DeKalb Industrial Way Existing SAT 7/11/2012

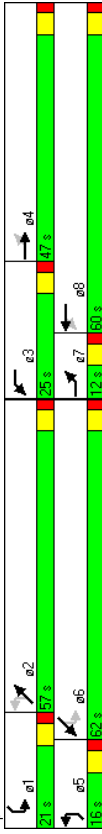
Movement	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBT
Lane Configurations	103	443	62	326	155	422	160	353	51
Volume (vph)	103	443	62	326	155	422	54	160	353
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.97	1.00	0.95	1.00	0.98	1.00	0.98	1.00
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1804	3497	1803	3426	1802	3514	1804	3528	1804
Flt Permitted	0.34	1.00	0.34	1.00	0.40	1.00	0.24	1.00	0.24
Satd. Flow (perm)	647	3497	644	3426	761	3514	453	3528	647
Peak-hour factor, PHF	0.89	0.85	0.86	0.83	0.85	0.82	0.84	0.85	0.92
Adj. Flow (vph)	116	521	120	72	351	152	189	459	84
RTOR Reduction (vph)	0	12	0	30	0	10	0	0	8
Lane Group Flow (vph)	116	629	0	72	473	0	189	533	0
Confl. Peds. (#/hr)	5	7	8	6	7	8	6	6	5
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	1%
Turn Type	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt
Permitted Phases	5	2	1	6	3	8	7	4	4
Actuated Green, G (s)	46.9	36.7	39.3	32.9	34.6	21.8	37.8	23.4	23.4
Effective Green, g (s)	46.9	36.7	39.3	32.9	34.6	21.8	37.8	23.4	23.4
Actuated g/C Ratio	0.45	0.36	0.38	0.32	0.33	0.21	0.37	0.23	0.23
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	8.0	3.0	8.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	408	1242	317	1091	384	742	354	799	408
v/s Ratio Prot	c0.03	c0.18	0.01	0.14	0.06	c0.15	c0.07	0.12	0.12
v/s Ratio Perm	0.10		0.07		0.10		0.12		0.12
v/c Ratio	0.28	0.51	0.23	0.43	0.49	0.72	0.53	0.54	0.54
Uniform Delay, d1	17.0	26.2	20.8	27.8	25.6	37.9	23.9	35.2	35.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	1.4	0.4	1.2	1.0	3.3	1.5	0.8	0.8
Delay (s)	17.4	27.6	21.2	29.0	26.6	41.2	25.5	36.0	36.0
Level of Service	B	C	C	C	C	D	C	D	D
Approach Delay (s)	26.0		28.0		37.5		32.8		32.8
Approach LOS	C		C		D		C		C

Intersection Summary															
HCM Average Control Delay	31.1	HCM Level of Service	C												
HCM Volume to Capacity ratio	0.56														
Actuated Cycle Length (s)	103.3	Sum of lost time (s)	24.0												
Intersection Capacity Utilization	64.5%	ICU Level of Service	C												
Analysis Period (min)	15														
c Critical Lane Group															

Timings 13: N Decatur Rd & Church St W Existing SAT 7/11/2012

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	7	4	Free	3	8	Free	5	2	Free	6	1	6
Volume (vph)	72	400	24	138	308	75	67	357	132	85	333	70
Turn Type	pm+pt			pm+pt			pm+pt		Free	pm+pt		Free
Protected Phases	7	4	Free	3	8	Free	5	2	Free	6	1	6
Permitted Phases	4	4	Free	8	3	8	2	2	Free	6	1	6
Detector Phase	7	4	Free	3	8	Free	5	2	Free	6	1	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	10.0	29.0		10.0	29.0		10.0	29.0		10.0	29.0	29.0
Total Split (s)	12.0	47.0	0.0	25.0	60.0	0.0	16.0	57.0	0.0	21.0	62.0	0.0
Total Split (%)	8.2%	31.3%	0.0%	16.7%	40.0%	0.0%	10.7%	38.0%	0.0%	14.0%	41.3%	0.0%
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0	4.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	None
Act Effect Green (s)	34.3	23.3	150.0	43.4	27.9	150.0	86.4	77.8	150.0	87.9	78.6	150.0
Actuated Cycle Length (s)	0.23	0.16	1.00	0.29	0.19	1.00	0.58	0.52	1.00	0.59	0.52	1.00
Actuated g/C Ratio	0.34	0.76	0.02	0.60	0.52	0.07	0.15	0.21	0.10	0.18	0.21	0.06
v/c Ratio	40.9	69.6	0.0	48.7	57.2	0.1	13.7	21.4	0.1	13.8	20.9	0.1
Control Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.9	69.6	0.0	48.7	57.2	0.1	13.7	21.4	0.1	13.8	20.9	0.1
LOS	D	E	A	D	E	A	B	C	A	B	C	A
Approach Delay	60.3			44.7			15.2				16.4	
Approach LOS	E			D			B				B	

Splits and Phases: 13: N Decatur Rd & Church St W



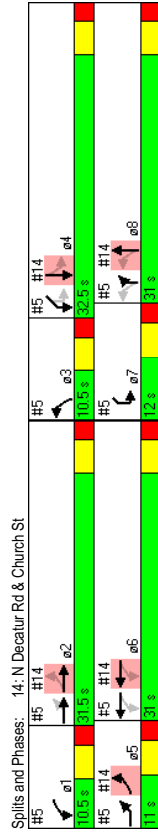
HCM Signalized Intersection Capacity Analysis 13: N Decatur Rd & Church St W Existing SAT 7/11/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	7	4	Free	3	8	Free	5	2	Free	6	1	6
Volume (vph)	72	400	24	138	308	75	67	357	132	85	333	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Flpb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1801	3610	1594	1804	3610	1562	1802	3610	1594	1800	3610	1503
Flt Permitted	0.46	1.00	1.00	0.20	1.00	1.00	0.50	1.00	1.00	0.50	1.00	1.00
Satd. Flow (perm)	881	3610	1594	386	3610	1562	950	3610	1594	940	3610	1503
Peak-hour factor, PHF	0.78	0.94	0.67	0.89	0.88	0.67	0.76	0.92	0.87	0.79	0.84	0.76
Adj. Flow (vph)	92	426	36	155	350	112	88	388	152	108	396	92
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	92	426	36	155	350	112	88	388	152	108	396	92
Conf. Peds. (#/hr)	5	3	4	3	4	6	3	4	6	3	4	6
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	6%
Turn Type	pm+pt	4	4	Free	pm+pt	3	8	Free	pm+pt	5	2	Free
Protected Phases	7	4	Free	3	8	Free	5	2	Free	6	1	6
Permitted Phases	4	4	Free	8	3	8	2	2	Free	6	1	6
Actuated Green, G (s)	34.3	23.3	150.0	43.5	27.9	150.0	86.4	77.8	150.0	87.8	78.5	150.0
Effective Green, g (s)	34.3	23.3	150.0	43.5	27.9	150.0	86.4	77.8	150.0	87.8	78.5	150.0
Actuated g/C Ratio	0.23	0.16	1.00	0.29	0.19	1.00	0.58	0.52	1.00	0.59	0.52	1.00
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	269	561	1594	259	671	1562	596	1872	1594	604	1889	1503
v/s Ratio Prot	0.03	c0.12		c0.06	c0.10		0.01	0.11		c0.10	c0.11	
v/s Ratio Perm	0.05		0.02	0.11		0.07	0.08		0.10	0.09		0.06
v/c Ratio	0.34	0.76	0.02	0.60	0.52	0.07	0.15	0.21	0.10	0.18	0.21	0.06
Uniform Delay, d1	47.1	60.7	0.0	42.5	55.0	0.0	14.2	19.5	0.0	13.8	19.1	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.8	5.9	0.0	3.7	0.7	0.1	0.1	0.3	0.1	0.1	0.3	0.1
Delay (s)	47.8	66.5	0.0	46.2	55.8	0.1	14.3	19.7	0.1	13.9	19.4	0.1
Level of Service	D	E	A	D	E	A	B	C	A	B	C	A
Approach Delay (s)	59.1			43.2			14.2			15.4		
Approach LOS	E			D			B			B		

Intersection Summary		
HCM Average Control Delay	32.4	HCM Level of Service C
HCM Volume to Capacity ratio	0.36	
Actuated Cycle Length (s)	150.0	Sum of lost time (s) 24.0
Intersection Capacity Utilization	63.4%	ICU Level of Service B
Analysis Period (min)	15	
c Critical Lane Group		

Timings 14: N Decatur Rd & Church St Existing SAT 7/11/2012

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR	ø1	ø3	ø7
Lane Configurations	175	440	8	443	5	77	6	42	139			
Volume (vph)	pm-pl		Perm		Perm		Perm		Free			
Turn Type	5	2	6	6	8	8	4	4	Free	1	3	7
Protected Phases	2	2	6	6	8	8	4	4	Free			
Permitted Phases	5	2	6	6	8	8	4	4	Free			
Detector Phase	5	2	6	6	8	8	4	4				
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	10.0	8.0	8.0	8.0	8.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.5	30.5	30.5	30.5	28.5	28.5	32.5	32.5	10.5	10.5	10.5	10.5
Total Split (s)	11.0	31.5	31.0	31.0	31.0	31.0	32.5	32.5	0.0	10.5	10.5	12.0
Total Split (%)	12.9%	37.1%	36.5%	36.5%	36.5%	36.5%	38.2%	38.2%	0.0%	12%	12%	14%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	4.0			
Lead/Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead
Lead-Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	C-Min	None	None	None	None	None	None	None	None
Act Effect Green (s)	38.0	38.0	26.3	26.3	24.0	24.0	27.6	27.6	85.0			
Actuated g/C Ratio	0.45	0.45	0.31	0.31	0.28	0.28	0.32	0.32	1.00			
v/c Ratio	0.59	0.30	0.51	0.51	0.25	0.25	0.11	0.11	0.10			
Control Delay	19.3	11.4	26.3	26.3	20.9	20.9	21.4	21.4	0.1			
Queue Delay	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
Total Delay	19.3	11.8	26.3	26.3	20.9	20.9	21.4	21.4	0.1			
LOS	B	B	C	C	C	C	C	C	A			
Approach Delay	14.0				20.9	20.9	6.4					
Approach LOS	B				C	C	A					

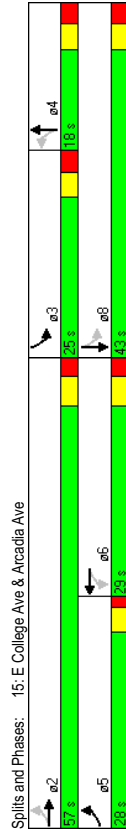


HCM Signalized Intersection Capacity Analysis 14: N Decatur Rd & Church St

Movement	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	175	440	23	8	443	4	5	77	24
Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.99	1.00	1.00	0.97	1.00	0.97	1.00	0.85
Frpb, ped/bikes	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00
Frpb, ped/bikes	1805	3574	3598	1826	1888	1599	1888	1599	1888
Satd. Flow (prot)	0.29	1.00	0.94	0.94	0.99	0.97	0.97	1.00	0.97
Fit Permitted	557	3574	3383	1807	1841	1599	1841	1599	1841
Satd. Flow (perm)	0.88	0.97	0.72	0.67	0.50	0.63	0.84	0.75	0.75
Peak-hour factor, PHF	199	454	32	12	509	8	92	32	8
Adj. Flow (vph)	0	5	0	0	1	0	0	13	0
RTOR Reduction (vph)	199	481	0	0	528	0	0	119	0
Lane Group Flow (vph)	0%	0%	0%	0%	0%	0%	0%	0%	0%
Conf. Peds. (#/hr)	5	2	6	6	8	8	4	4	4
Heavy Vehicles (%)	pm-pl								
Turn Type	2	2	6	6	8	8	4	4	4
Protected Phases	36.9	36.9	25.2	25.2	25.1	25.1	27.6	27.6	85.0
Actuated Green, G (s)	36.9	36.9	25.2	25.2	25.1	25.1	27.6	27.6	85.0
Effective Green, g (s)	0.43	0.43	0.30	0.30	0.30	0.30	0.32	0.32	1.00
Actuated g/C Ratio	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Clearance Time (s)	3.0	8.0	8.0	8.0	4.0	4.0	4.0	4.0	4.0
Vehicular Extension (s)	333	1552	1003	534	598	1599	598	1599	598
Lane Grp Cap (vph)	c0.04	0.13	0.16	0.16	c0.07	0.03	c0.10	0.10	0.10
v/s Ratio Prot	c0.22	0.31	0.53	0.53	0.22	0.11	0.10	0.10	0.10
v/s Ratio Perm	16.2	15.7	24.9	24.9	22.6	20.1	20.1	20.1	20.1
Uniform Delay, d1	0.77	0.72	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Progression Factor	2.6	0.5	2.0	2.0	0.3	0.3	0.1	0.1	0.1
Incremental Delay, d2	15.0	11.7	26.9	26.9	22.9	20.2	20.2	20.2	20.2
Delay (s)	B	B	C	C	C	C	C	C	C
Level of Service	12.7	26.9	26.9	26.9	22.9	22.9	6.0	6.0	6.0
Approach Delay (s)	B				C	C	A	A	A
Approach LOS	B				C	C	A	A	A

Intersection Summary	HCM Level of Service	B
HCM Average Control Delay	17.4	
HCM Volume to Capacity ratio	0.37	
Actuated Cycle Length (s)	85.0	11.0
Intersection Capacity Utilization	49.6%	A
Analysis Period (min)	15	
c Critical Lane Group		

Timings
15: E College Ave & Arcadia Ave
Existing SAT
7/11/2012

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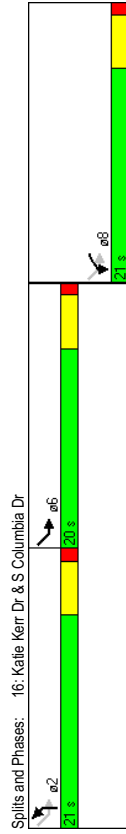
HCM Signalized Intersection Capacity Analysis
15: E College Ave & Arcadia Ave
Existing SAT
7/11/2012

Movement	EBL	EBT	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SEB
Lane Configurations	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖	↖
Volume (vph)	264	332	34	24	353	170	23	171	25	179	203
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0	6.0	6.0	6.0	6.0	5.8	5.8	5.7	5.8	4.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	0.99	1.00
Fibp. ped/bikes	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98	1.00	0.95	1.00	0.98	1.00	0.98	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	0.99	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1805	3518	1793	3418	3418	3494	3494	1805	1900	1595	1595
Flt Permitted	0.28	1.00	0.51	1.00	1.00	0.89	1.00	0.36	1.00	1.00	1.00
Satd. Flow (perm)	533	3518	966	3418	3418	3110	3110	689	1900	1595	1595
Peak-hour factor, PHF	0.92	0.95	0.57	0.86	0.80	0.85	0.82	0.89	0.69	0.93	0.96
Adj. Flow (vph)	287	349	60	28	441	200	28	192	36	192	211
RTOR Reduction (vph)	0	12	0	0	43	0	0	13	0	0	0
Lane Group Flow (vph)	287	397	0	28	598	0	0	243	0	192	211
Conf. Peds. (#/hr)	1	11	10	10	11	11	10	10	10	10	1
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%
Turn Type	pm-pt	pm-pt	pm	pm	pm	pm	pm	pm-pt	pm-pt	pm	pm
Protected Phases	5	2			6		4		3	8	
Permitted Phases	2			6		4			8		
Actuated Green, G (s)	56.3	56.3		36.9	36.9		12.3		31.9	31.9	100.0
Effective Green, g (s)	56.3	56.3		36.9	36.9		12.3		31.9	31.9	100.0
Actuated g/C Ratio	0.56	0.56		0.37	0.37		0.12		0.32	0.32	1.00
Clearance Time (s)	4.4	6.0		6.0	6.0		5.8		5.7	5.8	
Vehicle Extension (s)	3.5	5.0		5.0	5.0		3.0		3.5	3.5	
Lane Grp Cap (vph)	491	1981		356	1261		383		375	606	1595
v/s Ratio Prot	c0.09	0.11			0.18				c0.07	0.11	
v/s Ratio Perm	c0.24			0.03			c0.08		0.09		0.15
v/c Ratio	0.58	0.20		0.08	0.47		0.63		0.51	0.35	0.15
Uniform Delay, d1	12.7	10.8		20.5	24.1		41.7		26.2	26.1	0.0
Progression Factor	1.2	0.97		1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	1.8	0.2		0.4	1.3		3.4		1.4	0.4	0.2
Delay (s)	16.0	10.6		20.9	25.4		45.1		27.6	26.5	0.2
Level of Service	B	B		C	C		D		C	C	A
Approach Delay (s)		12.8			25.2		45.1			17.0	
Approach LOS		B			C		D			B	

Timings
16: Katie Kerr Dr & S Columbia Dr

Existing SAT
7/11/2012

Lane Group	WBL	NBL	SEL	
Lane Configurations	W	W	W	
Volume (vph)	177	257	21	
Turn Type				
Protected Phases	8l	2	6	
Permitted Phases				
Detector Phase	8	2	6	
Switch Phase				
Minimum Initial (s)	4.0	4.0	4.0	
Minimum Split (s)	21.0	21.0	20.0	
Total Split (s)	21.0	21.0	20.0	
Total Split (%)	33.9%	33.9%	32.3%	
Yellow Time (s)	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	Min	Min	Min	
Act Effct Green (s)	11.0	14.6	47.5	
Actuated g/C Ratio	0.23	0.31	1.00	
v/c Ratio	0.54	0.73	0.18	
Control Delay	20.5	23.7	0.2	
Queue Delay	0.0	0.0	0.0	
Total Delay	20.5	23.7	0.2	
LOS	C	C	A	
Approach Delay	20.5	23.7	0.2	
Approach LOS	C	C	A	
Intersection Summary				
Cycle Length: 62				
Actuated Cycle Length: 47.5				
Natural Cycle: 65				
Control Type: Semi-Act-Uncoord				
Maximum v/c Ratio: 0.73				
Intersection Signal Delay: 15.5				
Intersection LOS: B				
ICU Level of Service C				
Intersection Capacity Utilization 64.1%				
Analysis Period (min) 15				
i - Phase conflict between lane groups.				



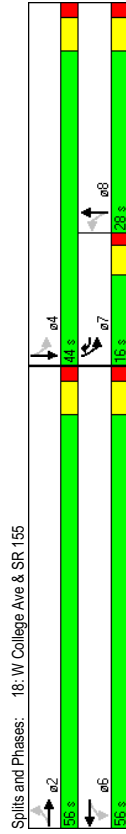
HCM Signalized Intersection Capacity Analysis
16: Katie Kerr Dr & S Columbia Dr

Existing SAT
7/11/2012

Movement	WBL	WBR	NBL	NBR	SEL	SER
Lane Configurations	W	W	W	W	W	W
Volume (vph)	177	26	257	137	21	265
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0		5.0	
Lane Util. Factor	1.00		1.00		1.00	
Frt	0.98		0.95		0.88	
Flt Protected	0.96		0.97		1.00	
Satd. Flow (prot)	1787		1753		1657	
Flt Permitted	0.96		0.97		1.00	
Satd. Flow (perm)	1787		1753		1657	
Peak-hour factor, PHF	0.90	0.81	0.96	0.93	0.88	0.96
Adj. Flow (vph)	197	32	268	147	24	276
RTOR Reduction (vph)	10	0	30	0	0	0
Lane Group Flow (vph)	219	0	385	0	300	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type						
Protected Phases	8l		2		6	
Permitted Phases						
Actuated Green, G (s)	11.0		14.6		37.3	
Effective Green, g (s)	11.0		14.6		37.3	
Actuated g/C Ratio	0.23		0.31		0.79	
Clearance Time (s)	5.0		5.0		5.0	
Vehicle Extension (s)	3.0		3.0		3.0	
Lane Grp Cap (vph)	416		541		1657	
v/s Ratio Prot	c0.12		c0.22		c0.03	
v/s Ratio Perm					0.16	
v/c Ratio	0.53		0.71		0.18	
Uniform Delay, d1	15.9		14.5		1.3	
Progression Factor	1.00		1.00		1.00	
Incremental Delay, d2	1.2		4.4		0.1	
Delay (s)	17.1		18.9		1.3	
Level of Service	B		B		A	
Approach Delay (s)	17.1		18.9		1.3	
Approach LOS	B		B		A	
Intersection Summary						
HCM Average Control Delay			12.9			HCM Level of Service B
HCM Volume to Capacity ratio			0.49			
Actuated Cycle Length (s)			47.3			Sum of lost time (s) 10.0
Intersection Capacity Utilization			64.1%			ICU Level of Service C
Analysis Period (min)			15			
i - Phase conflict between lane groups.						
c - Critical Lane Group						

Timings 18: W College Ave & SR 155 Existing SAT 7/11/2012

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	57	387	90	310	125	20	224	115
Volume (vph)	57	387	90	310	125	20	224	115
Turn Type	Perm	Perm	Over	Perm	Perm	pm+pt	pm+pt	4
Protected Phases	2	2	6	6	7	8	7	4
Permitted Phases	2	2	6	6	7	8	7	4
Switch Phase	2	2	6	6	7	8	7	4
Minimum Initial (s)	15.0	15.0	15.0	15.0	7.0	7.0	7.0	7.0
Minimum Split (s)	32.0	32.0	21.0	21.0	12.0	13.0	12.0	31.0
Total Split (s)	56.0	56.0	56.0	56.0	16.0	28.0	16.0	44.0
Total Split (%)	56.0%	56.0%	56.0%	56.0%	16.0%	28.0%	16.0%	44.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	1.5	2.0	1.5	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	5.0	6.0	5.0	6.0
Lead/Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lead
Lead/Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	None	None	None
Act Effect Green (s)	43.5	43.5	13.9	25.6	25.6	45.5	44.5	44.5
Actuated g/C Ratio	0.44	0.44	0.14	0.26	0.26	0.46	0.44	0.44
v/c Ratio	0.45	0.35	0.41	0.43	0.09	0.74	0.34	0.38
Control Delay	17.2	24.8	22.7	25.8	27.6	41.9	17.0	18.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.2	24.8	22.7	25.8	27.6	41.9	17.0	18.5
LOS	B	C	C	C	C	D	B	B
Approach Delay	17.2	23.9			41.0		18.1	
Approach LOS	B	C			D		B	
Intersection Summary								
Cycle Length: 100								
Actuated Cycle Length: 100								
Offset: 71 (71%), Referenced to phase 2EBTL and 6:WBTL, Start of Green								
Natural Cycle: 65								
Control Type: Actuated-Coordinated								
Maximum v/c Ratio: 0.74								
Intersection Signal Delay: 23.8								
Intersection Capacity Utilization 81.7%								
Analysis Period (min) 15								



HCM Signalized Intersection Capacity Analysis 18: W College Ave & SR 155 Existing SAT 7/11/2012

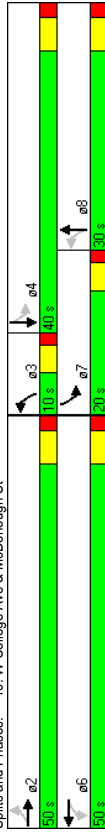
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	57	387	56	90	310	125	20	224	98	115	253	31
Volume (vph)	57	387	56	90	310	125	20	224	98	115	253	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Fltb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Flt	0.98	0.98	1.00	1.00	1.00	0.85	1.00	0.95	1.00	0.95	1.00	0.98
Flt Protected	0.99	0.99	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.98
Satd. Flow (prot)	3488	3488	1784	1900	1615	1757	1793	1803	1857	1803	1857	1803
Flt Permitted	0.82	0.82	0.38	1.00	1.00	0.57	1.00	0.57	1.00	0.57	1.00	0.57
Satd. Flow (perm)	2889	2889	717	1900	1615	1050	1793	1803	1857	1803	1857	1803
Peak-hour factor, PHF	0.79	0.90	0.78	0.83	0.92	0.89	0.83	0.93	0.88	0.85	0.90	0.86
Adj. Flow (vph)	72	430	72	108	337	140	24	241	111	135	281	36
RTOR Reduction (vph)	0	13	0	0	0	102	0	16	0	0	4	0
Lane Group Flow (vph)	0	561	0	108	337	38	24	336	0	135	313	0
Confl. Peds. (#/hr)	14	20	15	9	20	9	20	15	9	20	15	9
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	2	2	2	6	6	7	8	8	7	7	4	4
Permitted Phases	2	2	2	6	6	7	8	8	7	7	4	4
Actuated Green, G (s)	43.5	43.5	43.5	13.9	25.6	25.6	25.6	25.6	25.6	44.5	44.5	44.5
Effective Green, g (s)	43.5	43.5	43.5	13.9	25.6	25.6	25.6	25.6	25.6	44.5	44.5	44.5
Actuated g/C Ratio	0.44	0.44	0.44	0.14	0.26	0.26	0.26	0.26	0.26	0.44	0.44	0.44
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	1257	312	827	224	269	459	392	826	392	826	392	826
v/s Ratio Prot	0.19	0.15	0.15	0.02	0.02	0.02	0.02	0.02	0.02	0.05	0.17	0.11
v/s Ratio Perm	0.45	0.35	0.35	0.41	0.17	0.09	0.73	0.34	0.34	0.38	0.38	0.38
Uniform Delay, d1	19.8	18.8	19.4	38.0	28.3	34.1	18.3	18.3	18.3	18.5	18.5	18.5
Progression Factor	0.78	0.97	0.99	2.17	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.1	2.9	1.4	0.7	0.3	7.2	1.1	1.1	0.6	0.6	0.6	0.6
Delay (s)	16.5	21.1	20.6	38.0	28.6	41.3	19.4	19.4	19.1	19.1	19.1	19.1
Level of Service	B	C	C	F	C	D	B	B	B	B	B	B
Approach Delay (s)	16.5	35.6			40.5		19.2		19.2		19.2	
Approach LOS	B	D			D		B		B		B	
Intersection Summary												
HCM Average Control Delay	27.3	HCM Level of Service										
HCM Volume to Capacity ratio	0.54	C										
Actuated Cycle Length (s)	100.0	Sum of lost time (s)										
Intersection Capacity Utilization	81.7%	ICU Level of Service										
Analysis Period (min)	15	D										
c Critical Lane Group												

Timings
19: W College Ave & McDonough St

Existing SAT
7/11/2012

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Volume (vph)	27	318	38	277	10	90	118	102
Turn Type	Perm	Perm	Perm	Perm	pm+pt	pm+pt	pm+pt	4
Protected Phases	2	2	6	6	3	8	7	4
Permitted Phases	2	2	6	6	3	8	7	4
Switch Phase	2	2	6	6	3	8	7	4
Minimum Initial (s)	8.0	8.0	8.0	8.0	5.0	8.0	5.0	8.0
Minimum Split (s)	24.0	24.0	14.0	14.0	10.0	23.0	10.0	14.0
Total Split (s)	50.0	50.0	50.0	50.0	10.0	30.0	20.0	40.0
Total Split (%)	50.0%	50.0%	50.0%	50.0%	10.0%	30.0%	20.0%	40.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	1.5	2.0	1.5	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	5.0	6.0	5.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead/Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	None	None	None
Act Effect Green (s)	55.0	55.0	55.0	55.0	22.7	15.6	34.0	28.2
Actuated g/C Ratio	0.55	0.55	0.55	0.55	0.23	0.16	0.34	0.28
v/c Ratio	0.06	0.31	0.09	0.32	0.05	0.70	0.37	0.31
Control Delay	13.9	14.5	26.8	24.4	19.5	41.4	24.7	25.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.9	14.5	26.8	24.4	19.5	41.4	24.7	25.8
LOS	B	B	C	C	B	D	C	C
Approach Delay	14.4	14.4	24.7	24.7	39.8	39.8	25.3	25.3
Approach LOS	B	B	C	C	D	D	C	C

Splits and Phases: 19: W College Ave & McDonough St



HCM Signalized Intersection Capacity Analysis
19: W College Ave & McDonough St

Existing SAT
7/11/2012

Movement	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Volume (vph)	27	318	38	277	10	90	118	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	16	12	12	12	11	11	11
Total Lost time (s)	6.0	6.0	6.0	6.0	5.0	6.0	5.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fpb. ped/bikes	1.00	0.99	1.00	1.00	1.00	0.98	1.00	0.99
Fibb. ped/bikes	0.98	1.00	0.99	1.00	0.95	1.00	1.00	1.00
Frt	1.00	0.99	1.00	0.98	1.00	0.92	1.00	0.96
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1768	2107	1795	1861	1662	1661	1745	1748
Flt Permitted	0.51	1.00	0.48	1.00	0.66	1.00	0.36	1.00
Satd. Flow (perm)	958	2107	914	1861	1147	1861	666	1748
Peak-Hour factor, PHF	0.84	0.97	0.66	0.86	0.96	0.81	0.90	0.88
Adj. Flow (vph)	32	328	32	44	289	36	16	100
RTOR Reduction (vph)	0	3	0	0	4	0	0	43
Lane Group Flow (vph)	32	357	0	44	321	0	16	169
Confl. Peds. (#/hr)	22	26	4	26	4	26	4	4
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0
Turn Type	Perm	Perm	Perm	Perm	pm+pt	pm+pt	pm+pt	pm+pt
Protected Phases	2	2	6	6	3	8	7	4
Permitted Phases	2	2	6	6	3	8	7	4
Actuated Green, G (s)	52.1	52.1	52.1	52.1	21.2	18.5	35.9	28.2
Effective Green, g (s)	52.1	52.1	52.1	52.1	21.2	18.5	35.9	28.2
Actuated g/C Ratio	0.52	0.52	0.52	0.52	0.21	0.18	0.36	0.28
Clearance Time (s)	6.0	6.0	6.0	6.0	5.0	6.0	5.0	6.0
Vehicle Extension (s)	5.0	5.0	5.0	5.0	3.0	3.5	3.5	4.0
Lane Grp Cap (vph)	499	1098	476	970	257	307	373	493
v/s Ratio Prot	0.17	0.17	0.05	0.17	0.00	0.10	0.04	0.08
v/s Ratio Perm	0.03	0.03	0.05	0.03	0.01	0.01	0.08	0.08
v/c Ratio	0.06	0.33	0.09	0.33	0.06	0.55	0.36	0.29
Uniform Delay, d1	11.9	13.8	12.1	13.9	31.3	37.0	22.8	28.1
Progression Factor	1.00	1.00	1.92	1.71	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	0.8	0.4	0.9	0.1	2.2	0.7	0.5
Delay (s)	12.1	14.6	23.5	24.5	31.5	39.2	23.5	28.6
Level of Service	B	B	C	C	C	D	C	C
Approach Delay (s)	14.4	14.4	24.4	24.4	38.7	38.7	26.3	26.3
Approach LOS	B	B	C	C	D	D	C	C

Intersection Summary

HCM Average Control Delay	24.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	61.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Timings 20: Driveway & DeKalb Industrial Way

Existing SAT
7/11/2012

Lane Group	EBL	NBL	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations	W	1	425	1	126	427	0	143
Volume (vph)	1	1	425	1	126	427	0	143
Turn Type	pm+pt	Free	pm+pt	Free	pm+pt	Free	Free	Free
Protected Phases	8	2	2	2	6	6	8	8
Permitted Phases	8	2	2	2	6	6	8	8
Switch Phase	8	5	2	2	1	6	8	8
Minimum Initial (s)	7.0	5.0	15.0	4.7	15.0	7.0	7.0	7.0
Minimum Split (s)	25.6	10.6	25.6	10.6	20.6	25.6	25.6	25.6
Total Split (s)	40.4	19.3	54.3	0.0	15.3	50.3	40.4	0.0
Total Split (%)	36.7%	17.5%	49.4%	0.0%	13.9%	45.7%	36.7%	0.0%
Yellow Time (s)	3.6	4.3	4.3	4.3	4.3	4.3	3.6	3.6
All-Red Time (s)	1.9	1.3	1.3	1.3	1.3	1.3	1.9	1.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.6	5.6	4.0	5.6	5.6	5.5	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	Min	None	Min	None	None	None
Act Effect Green (s)	7.2	23.3	20.3	35.7	27.6	31.4	7.2	35.7
Actuated g/c Ratio	0.20	0.65	0.57	1.00	0.77	0.88	0.20	1.00
v/c Ratio	0.00	0.00	0.22	0.01	0.19	0.15	0.02	0.10
Control Delay	14.0	3.0	6.8	0.0	2.5	3.4	14.3	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.0	3.0	6.8	0.0	2.5	3.4	14.3	0.1
LOS	B	A	A	A	A	A	B	A
Approach Delay	14.0	6.5	A	A	A	3.2	0.7	A
Approach LOS	B	A	A	A	A	A	A	A

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 35.7

Natural Cycle: 65

Control Type: Semi-Act-Uncoordinated

Maximum v/c Ratio: 0.22

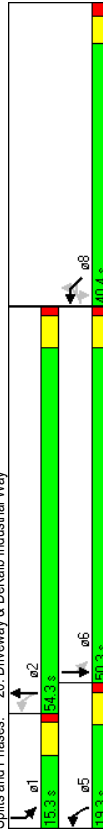
Intersection Signal Delay: 4.2

Intersection LOS: A

Intersection Capacity Utilization 49.6%

Analysis Period (min) 15

Splits and Phases: 20: Driveway & DeKalb Industrial Way



Baseline

HCM Signalized Intersection Capacity Analysis 20: Driveway & DeKalb Industrial Way

Existing SAT
7/11/2012

Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations	W	1	1	425	1	126	427	0	143
Volume (vph)	1	0	1	425	1	126	427	0	143
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.6	5.6	4.0	5.6	5.6	5.5	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Fr	1.00	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00
Fr Protected	0.95	0.95	1.00	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	1805	3610	1615	1805	3610	1805	1615	1805
Fr Permitted	1.00	0.48	1.00	1.00	0.42	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1900	918	3610	1615	802	3610	1805	1615	1805
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.88	0.91	0.92	0.92	0.92
Adj. Flow (vph)	1	0	1	462	24	143	469	0	155
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	1	0	1	462	24	143	469	0	155
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	Free	pm+pt	Free	pm+pt	Free	pm+pt	Free	Free
Protected Phases	8	2	2	2	6	6	8	8	8
Permitted Phases	8	2	2	2	6	6	8	8	8
Actuated Green, G (s)	1.0	23.7	23.0	44.9	30.7	26.5	1.0	44.9	44.9
Effective Green, g (s)	1.0	23.7	23.0	44.9	30.7	26.5	1.0	44.9	44.9
Actuated g/c Ratio	0.02	0.53	0.51	1.00	0.68	0.59	0.02	1.00	1.00
Clearance Time (s)	5.5	5.6	5.6	5.6	5.6	5.6	5.5	5.5	5.5
Vehicle Extension (s)	2.0	2.0	5.0	2.0	2.0	5.0	2.0	2.0	2.0
Lane Grp Cap (vph)	42	498	1849	1615	642	2131	40	1615	1615
v/s Ratio Prot	0.00	0.00	0.13	0.01	0.13	0.00	0.10	0.00	0.10
v/c Ratio	0.02	0.00	0.25	0.01	0.22	0.22	0.17	0.10	0.10
Uniform Delay, d1	21.5	5.0	6.1	0.0	2.6	4.3	21.5	0.0	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.0	0.1	0.0	0.1	0.1	0.8	0.1	0.1
Delay (s)	21.6	5.0	6.3	0.0	2.7	4.4	22.3	0.1	0.1
Level of Service	C	A	A	A	A	A	C	A	A
Approach Delay (s)	21.6	6.0	4.0	4.0	4.0	4.0	1.1	1.1	1.1
Approach LOS	C	A	A	A	A	A	A	A	A

Intersection Summary

HCM Average Control Delay 4.4 HCM Level of Service A

HCM Volume to Capacity ratio 0.22

Actuated Cycle Length (s) 44.9 Sum of lost time (s) 11.2

Intersection Capacity Utilization 49.6% ICU Level of Service A

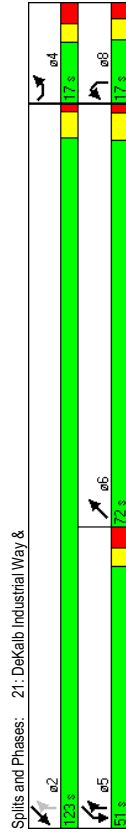
Analysis Period (min) 15

c Critical Lane Group

Baseline

Timings 21: DeKalb Industrial Way & Existing SAT 7/11/2012

Lane Group	NBL2	NBR	SEL	NET	SWL	SWT	
Lane Configurations	34	604	1	1322	563	1269	
Volume (vph)	17.0	51.0	17.0	72.0	51.0	123.0	
Turn Type	Prot	custom			Prot		
Protected Phases	8	5	4	6	5	2	
Permitted Phases	2						
Detector Phase	8	5	4	6	5	2	
Switch Phase							
Minimum Initial (s)	8.6	10.0	7.0	33.0	10.0	10.0	
Minimum Split (s)	15.0	16.6	13.8	39.5	16.6	16.2	
Total Split (s)	17.0	51.0	17.0	72.0	51.0	123.0	
Total Split (%)	12.1%	36.4%	12.1%	51.4%	36.4%	87.9%	
Yellow Time (s)	3.5	3.1	3.0	4.7	3.1	4.7	
All-Red Time (s)	2.9	3.5	3.8	1.8	3.5	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.4	6.6	6.8	6.5	6.6	6.2	
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	
Lead-Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	C-Min	None	C-Min	
Act Effct Green (s)	9.2	120.8	8.6	83.1	31.1	122.4	
Actuated g/C Ratio	0.07	0.86	0.06	0.59	0.22	0.87	
v/c Ratio	0.34	0.25	0.01	0.46	0.76	0.30	
Control Delay	70.1	0.2	61.0	17.8	57.4	2.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	70.1	0.2	61.0	17.8	57.4	2.2	
LOS	E	A	E	B	E	A	
Approach Delay							
Approach LOS							
Intersection Summary							
Cycle Length: 140							
Actuated Cycle Length: 140							
Offset: 0 (0%), Referenced to phase 2SWT and 6:NET, Start of Green							
Natural Cycle: 75							
Control Type: Actuated-Coordinated							
Maximum v/c Ratio: 0.76							
Intersection Signal Delay: 16.0							
Intersection Capacity Utilization 82.6%							
Analysis Period (min) 15							



HCM Signalized Intersection Capacity Analysis 21: DeKalb Industrial Way & Existing SAT 7/11/2012

Movement	NBL2	NBR	SEL	SER	NEL	NET	SWL	SWT	SWR
Lane Configurations	34	604	1	0	0	1322	39	563	1269
Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	6.4	6.6	6.8	6.5	6.6	6.2	6.6	6.2	6.2
Total Lost time (s)	1.00	0.88	1.00	0.91	0.97	0.91	0.97	0.91	0.91
Lane Util. Factor	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp	1.00	0.85	1.00	0.99	1.00	1.00	1.00	1.00	1.00
Fit	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Fit Protected	1805	2815	1805	5157	3502	5187	3502	5187	5187
Satd. Flow (prot)	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Fit Permitted	1805	2815	1805	5157	3502	5187	3502	5187	5187
Satd. Flow (perm)	0.85	0.25	0.90	0.92	0.92	0.98	0.81	0.95	0.94
Peak-hour factor, PHF	40	0	671	1	0	1349	48	593	1350
Adj. Flow (vph)	0	0	97	0	0	2	0	0	0
RTOR Reduction (vph)	40	0	574	1	0	1395	0	593	1350
Lane Group Flow (vph)	3	3	2	2	2	3	3	3	3
Conf. Peds. (#/hr)	0%	0%	0%	0%	0%	0%	0%	0%	0%
Heavy Vehicles(%)	Prot	custom							
Turn Type	8	5	4	6	5	2			
Protected Phases	7.6	119.8	7.2	81.8	31.1	119.8			
Actuated Green, G (s)	7.6	119.8	7.2	81.8	31.1	119.8			
Effective Green, g (s)	0.05	0.86	0.05	0.58	0.22	0.86			
Actuated g/C Ratio	6.4	6.6	6.8	6.5	6.6	6.2			
Clearance Time (s)	3.0	3.0	3.0	3.0	3.0	3.0			
Vehicle Extension (s)	98	2409	93	3013	778	4439			
Lane Grp Cap (vph)	c0.02	0.05	0.00	c0.27	c0.17	0.26			
v/s Ratio Prot	0.41	0.24	0.01	0.46	0.76	0.30			
v/c Ratio	64.0	1.8	63.0	16.6	51.0	2.0			
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	1.00			
Progression Factor	2.8	0.1	0.0	0.5	4.4	0.2			
Incremental Delay, d2	66.8	1.9	63.1	17.1	55.4	2.1			
Delay (s)	E	A	E	B	E	A			
Level of Service	A	5.5	63.1	17.1	18.4	B			
Approach Delay (s)	A		E	B		B			
Approach LOS									
Intersection Summary									
HCM Average Control Delay	15.7	HCM Level of Service	B						
HCM Volume to Capacity ratio	0.54								
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	19.5						
Intersection Capacity Utilization	82.6%	ICU Level of Service	E						
Analysis Period (min)	15								
c Critical Lane Group									

Timings 22: W College Ave & Clarendon Ave

Existing SAT
7/11/2012

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	128	307	22	5	294	45	100	176	123
Volume (vph)	128	307	22	5	294	45	100	176	123
Turn Type	pm-pl	Free	Free	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	5	2	Free	6	6	4	4	8	8
Permitted Phases	2	2	Free	6	6	4	4	8	8
Detector Phase	5	2	Free	6	6	4	4	8	8
Switch Phase									
Minimum Initial (s)	5.0	15.0	15.0	15.0	15.0	7.0	7.0	7.0	7.0
Minimum Split (s)	10.3	20.5	20.5	20.5	20.5	20.0	20.0	24.6	24.6
Total Split (s)	18.0	61.0	0.0	43.0	43.0	25.0	25.0	25.0	25.0
Total Split (%)	20.9%	70.9%	0.0%	50.0%	50.0%	29.1%	29.1%	29.1%	29.1%
Yellow Time (s)	3.0	3.6	3.6	3.6	3.6	3.2	3.2	3.2	3.2
All-Red Time (s)	2.3	1.9	1.9	1.9	1.9	2.4	2.4	2.4	2.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lost Time (s)	5.3	5.5	4.0	5.5	5.5	5.6	5.6	5.6	5.6
Lead/Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lag
Lead-Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	C-Min	C-Min	None	None	None	None
Act Effct Green (s)	57.9	57.7	86.0	44.2	44.2	17.2	17.2	17.2	17.2
Actuated g/c Ratio	0.67	0.67	1.00	0.51	0.51	0.20	0.20	0.20	0.20
v/c Ratio	0.27	0.29	0.02	0.02	0.02	0.32	0.31	0.72	0.66
Control Delay	7.1	7.2	0.0	13.4	16.4	33.5	29.6	47.6	33.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.1	7.2	0.0	13.4	16.4	33.5	29.6	47.6	33.6
LOS	A	A	A	B	B	C	C	D	C
Approach Delay	6.7			16.3			30.7	39.5	
Approach LOS	A			B			C	D	

Intersection Summary

Cycle Length: 86	
Actuated Cycle Length: 86	
Offset: 9 (10%), Referenced to phase 2EBTL and 6WBTL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.72	
Intersection Signal Delay: 20.7	Intersection LOS: C
Intersection Capacity Utilization 66.2%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 22: W College Ave & Clarendon Ave



HCM Signalized Intersection Capacity Analysis 22: W College Ave & Clarendon Ave

Existing SAT
7/11/2012

Movement	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	128	307	22	5	294	45	100	176	123	104
Volume (vph)	128	307	22	5	294	45	100	176	123	104
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.5	4.0	5.5	5.5	5.6	5.6	5.6	5.6	5.6
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.93
Flt Permitted	0.34	1.00	1.00	0.54	1.00	0.40	1.00	0.68	1.00	0.68
Satd. Flow (perm)	653	1900	1615	1028	1808	756	1890	1296	1771	1771
Peak-hour factor, PHF	0.86	0.83	0.61	0.42	0.91	0.92	0.94	0.50	0.94	0.88
Adj. Flow (vph)	149	370	36	12	323	153	48	112	4	187
RTOR Reduction (vph)	0	0	0	0	17	0	0	2	0	36
Lane Group Flow (vph)	149	370	36	12	459	0	48	114	0	187
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm-pl	Free	Free	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	5	2	Free	6	6	4	4	8	8	8
Permitted Phases	2	2	Free	6	6	4	4	8	8	8
Actuated Green, G (s)	57.7	57.7	86.0	44.2	44.2	17.2	17.2	17.2	17.2	17.2
Effective Green, g (s)	57.7	57.7	86.0	44.2	44.2	17.2	17.2	17.2	17.2	17.2
Actuated g/c Ratio	0.67	0.67	1.00	0.51	0.51	0.20	0.20	0.20	0.20	0.20
Clearance Time (s)	5.3	5.5	4.0	5.5	5.5	5.6	5.6	5.6	5.6	5.6
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	548	1275	1615	528	929	151	378	259	354	354
v/s Ratio Prot	0.03	c0.19	0.02	0.01	c0.25	0.06	0.06	c0.14	0.12	0.12
v/s Ratio Perm	0.27	0.29	0.02	0.02	0.49	0.32	0.30	0.72	0.62	0.62
v/c Ratio	6.6	5.8	0.0	10.3	13.6	29.4	29.3	32.2	31.4	31.4
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Progression Factor	0.3	0.6	0.0	0.1	1.9	1.2	0.5	9.5	3.4	3.4
Incremental Delay, d2	6.9	6.4	0.0	10.4	15.5	30.6	29.7	41.7	34.8	34.8
Delay (s)	A	A	A	B	B	C	C	D	C	C
Level of Service	A	A	A	B	B	C	C	D	C	C
Approach Delay (s)	6.1			15.4			30.0	37.7		
Approach LOS	A			B			C	D		

Intersection Summary

HCM Average Control Delay	19.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	86.0	Sum of lost time (s)	16.6
Intersection Capacity Utilization	66.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

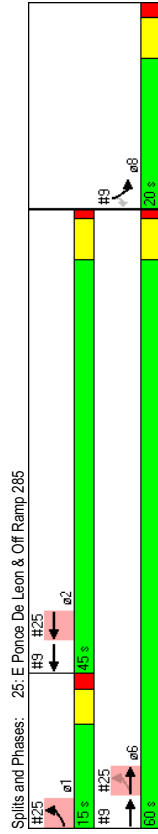
HCM Unsignalized Intersection Capacity Analysis 23: Clarendon Ave & Laredo Dr Existing SAT 7/11/2012

Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations	105	269	254	20	17	189
Volume (veh/h)	105	269	254	20	17	189
Sign Control	Free	Free	Free	Free	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.97	0.83	0.83	0.71	0.61	0.88
Hourly flow rate (vph)	108	324	306	28	28	215
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None	None	None			
Median storage (veh)						
Upstream signal (ft)		545				
pX, platoon unblocked						
vC, conflicting volume	334				861	320
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	334				861	320
IC, single (s)	4.1				6.4	6.2
IC, 2 stage (s)						
IF (s)	2.2				3.5	3.3
p0 queue free %	91				91	70
cM capacity (veh/h)	1236				300	725
Direction, Lane #	NB 1	NB 2	SB 1	SE 1		
Volume Total	108	324	334	243		
Volume Left	108	0	0	28		
Volume Right	1236	1700	1700	624		
cSH	0.09	0.19	0.20	0.39		
Volume to Capacity	7	0	0	46		
Queue Length 95th (ft)	8.2	0.0	0.0	14.4		
Control Delay (s)	A			B		
Lane LOS	A			B		
Approach Delay (s)	2.1		0.0	14.4		
Approach LOS				B		
Intersection Summary						
Average Delay			4.3			
Intersection Capacity Utilization			43.0%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 24: E Ponce De Leon & Annie St Existing SAT 7/11/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	570	6	2	550	10	6	0	2	17	0	5
Volume (veh/h)	7	570	6	2	550	10	6	0	2	17	0	5
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.58	0.97	0.75	0.50	0.97	0.63	0.50	0.50	0.50	0.61	0.25	0.63
Hourly flow rate (vph)	12	588	8	4	567	16	12	0	4	28	0	8
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None	None	None	None	None	None						
Median storage (veh)												
Upstream signal (ft)		319										
pX, platoon unblocked												
vC, conflicting volume	583						915	1207	298	905	1203	291
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	583						879	1176	251	869	1172	291
IC, single (s)	4.6						7.5	6.5	6.9	7.8	6.5	7.2
IC, 2 stage (s)												
IF (s)	2.5						3.5	4.0	3.3	3.7	4.0	3.4
p0 queue free %	99						95	100	99	87	100	99
cM capacity (veh/h)	845						235	186	742	215	187	670
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	306	302	288	299	16	36						
Volume Left	12	0	4	0	12	28						
Volume Right	0	8	0	16	4	8						
cSH	845	1700	1009	1700	283	253						
Volume to Capacity	0.01	0.18	0.00	0.18	0.06	0.14						
Queue Length 95th (ft)	1	0	0	0	4	12						
Control Delay (s)	0.5	0.0	0.2	0.0	18.5	21.6						
Lane LOS	A		A		C	C						
Approach Delay (s)	0.3		0.1		18.5	21.6						
Approach LOS					C	C						
Intersection Summary												
Average Delay					1.0							
Intersection Capacity Utilization					30.9%							
Analysis Period (min)					15							

Lane Group	EBL	EBT	WBT	ø8
Lane Configurations	↩	↗	↗↗	
Volume (vph)	271	490	252	
Turn Type	pm-pt			
Prohibited Phases	1	6	2	8
Permitted Phases	6			
Detector Phase	1	6	2	
Switch Phase				
Minimum Initial (s)	7.0	12.0	12.0	7.0
Minimum Split (s)	12.0	17.0	17.0	12.5
Total Split (s)	15.0	60.0	45.0	20.0
Total Split (%)	18.8%	75.0%	56.3%	25%
Yellow Time (s)	3.5	4.0	4.0	4.0
All-Red Time (s)	1.5	1.0	1.0	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	
Lead/Lag	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	
Recall Mode	None	C-Min	C-Min	None
Act Effct Green (s)	48.9	48.9	33.2	
Actuated g/C Ratio	0.61	0.61	0.42	
v/c Ratio	0.52	0.44	0.34	
Control Delay	10.3	9.7	9.1	
Queue Delay	0.0	0.3	0.0	
Total Delay	10.3	10.0	9.1	
LOS	B	B	A	
Approach Delay		10.1	9.1	
Approach LOS		B	A	
Intersection Summary				
Cycle Length: 80				
Actuated Cycle Length: 80				
Offset: 38 (48%), Referenced to phase 2:WBT and 6:EBT, Start of Green				
Natural Cycle: 45				
Control Type: Actuated-Coordinated				
Maximum v/c Ratio: 0.68				
Intersection Signal Delay: 9.7				
Intersection Capacity Utilization 67.6%				
Analysis Period (min) 15				
Intersection LOS: A				
ICU Level of Service C				



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	271	490	252	232	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0			
Lane Util. Factor	1.00	1.00	0.95			
Frt	1.00	1.00	0.93			
Flt Protected	0.95	1.00	1.00			
Satd. Flow (prot)	1805	1900	3342			
Flt Permitted	0.36	1.00	1.00			
Satd. Flow (perm)	677	1900	3342			
Peak-hour factor, PHF	0.93	0.95	0.90	0.95	0.92	0.92
Adj. Flow (vph)	291	516	280	244	0	0
RTOR Reduction (vph)	0	0	143	0	0	0
Lane Group Flow (vph)	291	516	381	0	0	0
Heavy Vehicles (%)	0%	0%	0%	1%	0%	0%
Turn Type	pm+pt					
Protected Phases	1	6	2			
Permitted Phases	6					
Actuated Green, G (s)	48.9	48.9	33.2			
Effective Green, g (s)	48.9	48.9	33.2			
Actuated g/C Ratio	0.61	0.61	0.42			
Clearance Time (s)	5.0	5.0	5.0			
Vehicle Extension (s)	3.0	5.0	5.0			
Lane Grp Cap (vph)	565	1161	1387			
v/s Ratio Prot	c0.07	0.27	0.11			
v/s Ratio Perm	c0.25					
v/c Ratio	0.52	0.44	0.27			
Uniform Delay, d1	7.9	8.3	15.5			
Progression Factor	0.98	1.00	1.00			
Incremental Delay, d2 (s)	0.7	1.1	0.5			
Level of Service	A	A	B			
Approach Delay (s)		9.0	15.9	0.0		
Approach LOS		A	B	A		
Intersection Summary						
HCM Average Control Delay			11.8		HCM Level of Service	B
HCM Volume to Capacity ratio			0.50			
Actuated Cycle Length (s)			80.0		Sum of lost time (s)	31.1
Intersection Capacity Utilization			67.6%		ICU Level of Service	C
Analysis Period (min)			15			
Critical Lane Group						

HCM Unsignalized Intersection Capacity Analysis
26: Church St & Off Ramp 285

Existing SAT
7/11/2012

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	EBT	EBR	WBL	WBT	NBL	NBR
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Volume (vph)	188	0	0	280	180	151
Peak Hour Factor	0.85	0.92	0.92	0.83	0.80	0.88
Hourly flow rate (vph)	219	0	0	337	200	172
Direction, Lane #	EB 1	WB 1	NB 1	NB 2		
Volume Total (vph)	219	337	200	172		
Volume Left (vph)	0	0	200	0		
Volume Right (vph)	0	0	0	172		
Head (s)	0.00	0.00	0.20	-0.60		
Departure Headway (s)	4.9	4.8	5.4	3.2		
Degree Utilization, x	0.30	0.45	0.30	0.15		
Capacity (veh/h)	697	723	605	1121		
Control Delay (s)	10.0	11.6	10.8	6.8		
Approach Delay (s)	10.0	11.6	8.9			
Approach LOS	A	B	A			
Intersection Summary						
Delay				10.1		
HCM Level of Service				B		
Intersection Capacity Utilization			31.4%			A
Analysis Period (min)			15			

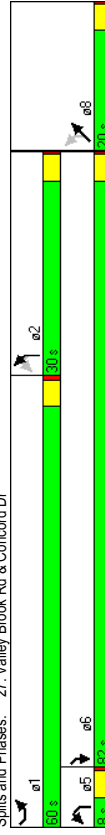
Baseline

Timings
27: Valley Brook Rd & Concord Dr

Existing SAT
7/11/2012

Lane Group	NBL 2	NBL	SEL	SER	NET
Lane Configurations	2	378	745	454	0
Volume (vph)	2	378	745	454	0
Turn Type	pm-tpd		custom		
Protected Phases	5	2	1	6	8
Permitted Phases	2		6		
Detector Phase	5	2	1	6	8
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	8.0	20.0	20.0	20.0	20.0
Total Split (s)	8.0	30.0	60.0	82.0	20.0
Total Split (%)	7.3%	27.3%	54.5%	74.5%	18.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lead	Lag	
Lead/Lag Optimize?	Yes	Yes	Yes	Yes	
Recall Mode	None	Min	None	Min	None
Act Effect Green (s)	17.4	13.0	16.2	36.4	6.1
Actuated g/C Ratio	0.44	0.33	0.41	0.93	0.16
v/c Ratio	0.00	0.53	0.52	0.32	0.03
Control Delay	5.5	12.5	11.1	2.6	17.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	5.5	12.5	11.1	2.6	17.2
LOS	A	B	B	A	B
Approach Delay					
Approach LOS		B	A		B
Intersection Summary					
Cycle Length: 110					
Actuated Cycle Length: 39.2					
Natural Cycle: 60					
Control Type: Semi Act-Uncoordinated					
Maximum v/c Ratio: 0.53					
Intersection Signal Delay: 9.4					
Intersection Capacity Utilization 50.5%					
Analysis Period (min) 15					

Splits and Phases: 27: Valley Brook Rd & Concord Dr



Baseline

HCM Signalized Intersection Capacity Analysis
 27: Valley Brook Rd & Concord Dr

Existing SAT
 7/11/2012

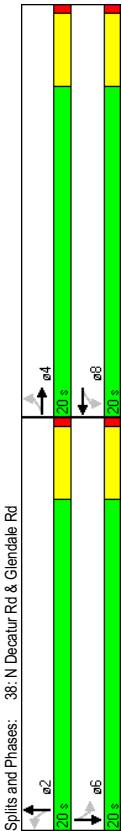
Movement	NBL2	NBL	NBR	SEL	SER	SER2	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Volume (vph)	2	378	163	745	454	2	2	0	4	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.97	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.95	1.00	0.85	0.92	1.00	0.92	0.98	0.95	1.00	0.98	0.98
Flt Protected	0.95	0.97	0.95	1.00	0.92	1.00	0.92	0.98	0.95	1.00	0.98	0.98
Satd. Flow (prot)	1805	3401	3502	1615	1717	1717	1717	1717	1717	1717	1717	1717
Flt Permitted	0.49	0.97	0.95	1.00	0.98	1.00	0.98	0.98	0.95	1.00	0.98	0.98
Satd. Flow (perm)	928	3401	3502	1615	1717	1717	1717	1717	1717	1717	1717	1717
Peak-hour factor, PHF	0.92	0.87	0.87	0.99	0.95	0.58	0.75	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	434	187	753	478	3	3	0	4	0	0	0
RTOR Reduction (vph)	0	38	0	0	0	0	0	4	0	0	0	0
Lane Group Flow (vph)	2	583	0	753	481	0	0	3	0	0	0	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%
Turn Type	pm-pt	custom	perm	perm	perm	perm	perm	perm	perm	perm	perm	perm
Protected Phases	5	2	1	6	6	6	8	8	8	8	8	8
Permitted Phases	2	2	1	6	6	6	8	8	8	8	8	8
Actuated Green, G (s)	17.4	16.9	16.2	32.6	32.6	32.6	32.6	32.6	32.6	32.6	32.6	32.6
Effective Green, g (s)	17.4	16.9	16.2	32.6	32.6	32.6	32.6	32.6	32.6	32.6	32.6	32.6
Actuated g/C Ratio	0.38	0.37	0.35	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	361	1252	1236	1147	1147	1147	1147	1147	1147	1147	1147	1147
v/s Ratio Prot	0.00	0.17	c0.22	c0.30	c0.30	c0.30	c0.30	c0.30	c0.30	c0.30	c0.30	c0.30
v/s Ratio Perm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
v/c Ratio	0.01	0.47	0.61	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
Uniform Delay, d1	8.9	11.1	12.2	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.0	0.3	0.9	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Delay (s)	8.9	11.3	13.1	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Level of Service	A	B	B	A	A	A	A	C	C	C	C	C
Approach Delay (s)	11.3	9.2	9.2	23.7	23.7	23.7	23.7	23.7	23.7	23.7	23.7	23.7
Approach LOS	B	A	A	C	C	C	C	C	C	C	C	C
Intersection Summary												
HCM Average Control Delay	9.9											
HCM Volume to Capacity ratio	0.48											
Actuated Cycle Length (s)	45.9											
Intersection Capacity Utilization	50.5%											
Analysis Period (min)	15											
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis
 28: Commerce Dr & S Columbia Dr

Existing SAT
 7/11/2012

Intersection Sign configuration not allowed in HCM analysis.

Lane Group	e2	e4	e6	e8
Lane Configurations				
Volume (vph)				
Turn Type				
Protected Phases	2	4	6	8
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0
Total Split (s)	20.0	20.0	20.0	20.0
Total Split (%)	50%	50%	50%	50%
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)				
Lost Time Adjust (s)	0.5	0.5	0.5	0.5
Total Lost Time (s)				
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode		Max	Max	Max
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Intersection Summary				
Cycle Length: 40				
Actuated Cycle Length: 40				
Offset: 0 (0%), Referenced to phase 2/NBTL and 6/SBTL, Start of Green				
Natural Cycle: 40				
Control Type: Prelimed				
Maximum v/c Ratio: 0.00				
Intersection Signal Delay: 0.0				
Intersection Capacity Utilization 0.0%				
ICU Level of Service A				
Analysis Period (min) 15				



HCM Signalized Intersection Capacity Analysis 1: E Ponce De Leon & Laredo Dr

No-Build 2015 PM
7/11/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL2	NBL	SBL	SER	SER2
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL2	NBL	SBL	SER	SER2
Volume (vph)	211	316	129	29	218	139	57	60	66	200	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fit Protected	0.95	1.00	0.95	1.00	1.00	1.00	0.95	0.98	0.95	1.00	1.00
Satd. Flow (prot)	1805	3405	1728	3574	1589	1805	1705	1805	1805	1615	1615
Fit Permitted	0.49	1.00	0.47	1.00	1.00	1.00	0.95	0.98	0.95	1.00	1.00
Satd. Flow (perm)	924	3405	860	3574	1589	1805	1705	1805	1805	1615	1615
Peak-hour factor, PHF	0.80	0.97	0.78	0.75	0.92	0.86	0.71	0.79	0.71	0.83	0.69
Adj. Flow (vph)	264	326	165	39	237	162	80	76	93	241	119
RTOR Reduction (vph)	0	35	0	0	0	0	0	28	0	0	0
Lane Group Flow (vph)	264	456	0	39	237	162	80	141	0	241	119
Confl. Peds. (#/hr)	13	13	13	13	13	13	13	13	13	13	13
Heavy Vehicles (%)	0%	1%	0%	4%	1%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	Free Split	Free Split	Prot	Free	Free
Protected Phases	5	2	2	1	6	8	8	8	4	4	4
Permitted Phases	46.8	35.8	28.5	23.0	97.7	14.9	14.9	14.9	19.5	19.5	97.7
Actuated Green, G (s)	46.8	35.8	28.5	23.0	97.7	14.9	14.9	14.9	19.5	19.5	97.7
Effective Green, g (s)	0.48	0.37	0.29	0.24	1.00	0.15	0.15	0.15	0.20	0.20	1.00
Actuated g/C Ratio	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Clearance Time (s)	3.0	5.0	3.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	608	1248	300	841	1589	275	260	c0.08	c0.13	302	1615
Lane Grp Cap (vph)	c0.08	0.13	0.01	0.07	0.10	0.04	0.04	c0.08	c0.13	0.07	0.11
v/s Ratio Prot	c0.13	0.43	0.37	0.13	0.28	0.10	0.29	0.54	0.67	0.37	0.11
v/s Ratio Perm	15.7	22.6	25.1	30.6	0.0	36.7	38.3	36.1	36.1	33.8	0.0
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Progression Factor	0.5	0.4	0.2	0.4	0.1	0.8	2.9	5.1	5.1	1.0	0.1
Incremental Delay, d2	16.2	23.0	25.3	31.0	0.1	37.5	41.1	41.1	41.3	34.8	0.1
Delay (s)	B	C	C	C	A	D	D	D	D	C	A
Level of Service	B	C	C	C	A	D	D	D	D	C	A
Approach Delay (s)	20.6	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1	19.1
Approach LOS	C	B	B	B	B	B	B	B	B	B	B

Intersection Summary											
HCM Average Control Delay	24.2	HCM Level of Service									
HCM Volume to Capacity ratio	0.50	C									
Actuated Cycle Length (s)	97.7	Sum of lost time (s)									
Intersection Capacity Utilization	68.7%	16.5									
Analysis Period (min)	15	C									
c Critical Lane Group											

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis 2: E Ponce De Leon &

No-Build 2015 PM
7/11/2012

Movement	EBL	EBR	NBL	NBR	SBL	SBT	SBR	NWL2	NWL	NWR
Lane Configurations	EBL	EBR	NBL	NBR	SBL	SBT	SBR	NWL2	NWL	NWR
Volume (vph)	1	1	0	472	270	325	0	33	2	192
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	4.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fit Protected	0.93	0.98	1.00	0.85	1.00	1.00	0.98	0.99	0.89	0.99
Fit Permitted	1729	1729	1863	1615	3474	3474	1667	1667	1667	1667
Satd. Flow (perm)	1729	1729	1863	1615	2216	2216	1667	1667	1667	1667
Peak-hour factor, PHF	0.25	0.25	0.25	0.94	0.90	0.95	0.91	0.92	0.65	0.89
Adj. Flow (vph)	4	4	0	502	181	284	357	0	51	8
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	115
Lane Group Flow (vph)	8	0	0	502	161	0	641	0	0	160
Heavy Vehicles (%)	0%	0%	0%	2%	0%	0%	3%	0%	0%	1%
Turn Type	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free
Protected Phases	4!	4!	2	2	6	6	8	8	8	8!
Permitted Phases	10.4	10.4	19.3	41.7	19.3	19.3	10.4	10.4	10.4	10.4
Actuated Green, G (s)	10.4	10.4	19.3	41.7	19.3	19.3	10.4	10.4	10.4	10.4
Effective Green, g (s)	0.25	0.25	0.46	1.00	0.46	0.46	0.25	0.25	0.25	0.25
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	431	862	1615	1026	1026	1026	416	416	416	416
v/s Ratio Prot	0.00	0.27	0.10	c0.29	0.10	c0.29	0.10	0.10	0.10	0.10
v/s Ratio Perm	0.02	0.58	0.10	0.62	0.62	0.62	0.38	0.38	0.38	0.38
Uniform Delay, d1	11.8	8.2	0.0	8.5	8.5	8.5	13.0	13.0	13.0	13.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.0	1.0	0.1	1.2	1.2	1.2	0.6	0.6	0.6	0.6
Delay (s)	11.8	9.2	0.1	9.7	9.7	9.7	13.6	13.6	13.6	13.6
Level of Service	B	A	A	A	A	A	B	B	B	B
Approach Delay (s)	11.8	7.0	9.7	9.7	9.7	9.7	13.6	13.6	13.6	13.6
Approach LOS	B	A	A	A	A	A	B	B	B	B

Intersection Summary																			
HCM Average Control Delay	9.3	HCM Level of Service																	
HCM Volume to Capacity ratio	0.54	A																	
Actuated Cycle Length (s)	41.7	Sum of lost time (s)																	
Intersection Capacity Utilization	82.1%	ICU Level of Service																	
Analysis Period (min)	15	E																	
i Phase conflict between lane groups.																			
c Critical Lane Group																			

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis

3: E Ponce De Leon & Dekalb Industrial Way

No-Build 2015 PM
7/11/2012

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Volume (vph)	538	7	346	86	131	13	40	21	13	11		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0		
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	1.00	1.00	0.99	1.00	1.00		
Flpb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Flt	1.00	1.00	1.00	0.96	1.00	0.89	1.00	0.89	0.96	0.96		
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.98	0.98		
Satd. Flow (prot)	1805	3558	1805	3456	1805	1683	1796					
Flt Permitted	0.38	1.00	0.43	1.00	0.72	1.00	0.88					
Satd. Flow (perm)	717	3558	822	3456	1359	1683	1613					
Peak-hour factor, PHF	0.67	0.95	0.44	0.25	0.97	0.78	0.56	0.50	0.63	0.83	0.60	0.63
Adj. Flow (vph)	61	566	16	4	357	110	234	26	63	25	22	17
RTOR Reduction (vph)	0	2	0	0	22	0	0	43	0	0	8	0
Lane Group Flow (vph)	61	580	0	4	445	0	234	46	0	0	56	0
Confl. Peds. (#/hr)	1		1						1	1		
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm
Protected Phases	1	6	2	2	4	4	8					
Permitted Phases	6	6	2	2	4	4	8					
Actuated Green, G (s)	28.2	28.2	18.8	18.8	18.1	18.1	18.1					
Effective Green, g (s)	28.2	28.2	18.8	18.8	18.1	18.1	18.1					
Actuated g/C Ratio	0.48	0.48	0.32	0.32	0.31	0.31	0.31					
Clearance Time (s)	5.0	6.0	6.0	6.0	6.0	6.0	6.0					
Vehicle Extension (s)	4.0	5.0	5.0	5.0	5.0	5.0	5.0					
Lane Grp Cap (vph)	429	1721	265	1114	422	523	501					
v/s Ratio Prot	0.01	c0.16		c0.13		0.03						
v/s Ratio Perm	0.06		0.00		c0.17		0.03					
v/c Ratio	0.14	0.34	0.02	0.40	0.55	0.09	0.11					
Uniform Delay, d1	8.3	9.3	13.4	15.4	16.7	14.2	14.4					
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00					
Incremental Delay, d2	0.2	0.2	0.0	0.5	2.7	0.2	0.2					
Delay (s)	8.5	9.5	13.5	15.9	19.4	14.4	14.6					
Level of Service	A	A	B	B	B	B	B					
Approach Delay (s)	9.4		15.8		18.0		14.6					
Approach LOS	A		B		B		B					

Intersection Summary			
HCM Average Control Delay	13.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	58.3	Sum of lost time (s)	18.0
Intersection Capacity Utilization	56.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

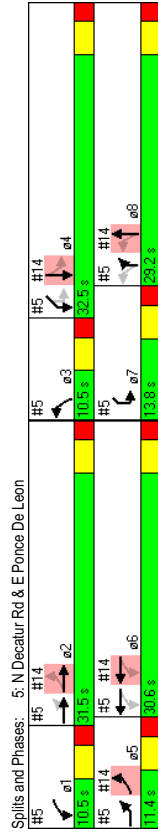
HCM Signalized Intersection Capacity Analysis

4: E Ponce De Leon & Arcadia Ave

No-Build 2015 PM
7/11/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Volume (vph)	171	378	225	204	210	31	107	549	186	19	829	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	4.4	4.4	6.0	5.7	6.2	6.2	5.8	5.8	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Flpb. ped/bikes	1.00	0.99	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00
Flt	1.00	0.94	1.00	0.98	1.00	0.98	1.00	0.96	1.00	1.00	0.85	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1789	3349	1787	3483	1805	3424	1793					
Flt Permitted	0.59	1.00	0.21	1.00	0.14	1.00	0.34	1.00	1.00	1.00	1.00	1.00
Satd. Flow (perm)	1104	3349	388	3483	275	3424	652	3610	1593			
Peak-hour factor, PHF	0.89	0.93	0.87	0.94	0.93	0.73	0.87	0.96	0.80	0.75	0.95	0.86
Adj. Flow (vph)	192	406	259	217	226	42	123	572	232	25	873	98
RTOR Reduction (vph)	0	70	0	0	11	0	0	31	0	0	0	0
Lane Group Flow (vph)	192	595	0	217	257	0	123	773	0	25	873	98
Confl. Peds. (#/hr)	5	4	3	4	4	4	3	4	3	4	5	5
Heavy Vehicles (%)	0%	1%	0%	1%	1%	0%	0%	0%	1%	0%	0%	0%
Turn Type	Perm	Perm	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	Perm	Perm	Free	Free
Protected Phases	2	2	1	6	6	3	8					
Permitted Phases	2	2	1	6	6	3	8					
Actuated Green, G (s)	41.5	41.5	62.0	62.0	62.0	65.8	65.8					
Effective Green, g (s)	41.5	41.5	62.0	62.0	62.0	65.8	65.8					
Actuated g/C Ratio	0.30	0.30	0.44	0.44	0.44	0.47	0.47					
Clearance Time (s)	6.0	6.0	4.4	6.0	6.0	5.7	6.2					
Vehicle Extension (s)	5.0	5.0	3.5	5.0	3.5	3.5	3.0					
Lane Grp Cap (vph)	327	993	333	1542	243	1609	233	1292	1593			
v/s Ratio Prot	0.17	0.18	c0.07	0.07	0.04	c0.23						
v/s Ratio Perm	0.59	0.60	0.65	0.17	0.51	0.48	0.11	0.68	0.06			
Uniform Delay, d1	42.0	42.1	27.2	23.5	25.3	25.4	30.0	38.1	0.0			
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	7.5	2.7	4.7	0.2	2.0	1.0	0.9	2.8	0.1			
Delay (s)	49.5	44.8	31.9	23.7	27.3	26.4	30.9	40.9	0.1			
Level of Service	D	D	C	C	C	C	C	D	A			
Approach Delay (s)	45.8		27.4		26.5		36.6					
Approach LOS	D		C		C		D					

Intersection Summary			
HCM Average Control Delay	34.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	76.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

[illegible]

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	NBR2	SWI2	SWL	
Lane Configurations	↔	↕	↔		↕	↔	↔	↕	↔	↕	↔	↕
Volume (vph)	151	854	59	57	385	111	52	566	81	187	478	152
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		5.5	5.5		5.5	5.5		5.5	5.5	
Lane Util. Factor	1.00	0.95		0.95	1.00		1.00	0.88		1.00	0.97	
Frbp, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.99	
Frbp, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		0.97	1.00		1.00	0.85		1.00	0.95	
Frt Protected	0.95	1.00		0.99	1.00		0.95	1.00		0.95	0.97	
Satd. Flow (prot)	1805	3556		3461	1804		1804	2839		1805	3368	
Frt Permitted	0.23	1.00		0.69	1.00		0.30	1.00		0.16	0.97	
Satd. Flow (perm)	437	3556		2401	569		569	2839		311	3368	
Peak-hour factor, PHF	0.86	0.95	0.67	0.79	0.94	0.85	0.82	0.93	0.91	0.79	0.95	0.66
Adj. Flow (vph)	176	899	88	72	410	131	63	609	89	237	503	230
RTOR Reduction (vph)	0	7	0	0	32	0	0	12	0	0	63	0
Lane Group Flow (vph)	176	980	0	0	581	0	63	686	0	237	670	0
Confl. Peds. (#/hr)	4	5	6	6	5	5	5	5	6	5	5	4
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%
Turn Type	pm+pt			pm+pt			custom			pm+pt		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	35.7	35.7		24.0	24.0		28.5	24.5		37.1	28.8	
Effective Green, g (s)	35.7	35.7		24.0	24.0		28.5	24.5		37.1	28.8	
Actuated g/C Ratio	0.42	0.42		0.28	0.28		0.34	0.29		0.44	0.34	
Clearance Time (s)	5.5	5.5		5.5	5.5		5.5	5.5		5.5	5.5	
Vehicle Extension (s)	3.0	8.0		8.0	8.0		3.0	4.0		3.0	4.0	
Lane Grp Cap (vph)	283	1494		678	678		249	818		282	1141	
v/s Ratio Prot	0.05	c0.28					0.01	0.24		c0.08	0.20	
v/s Ratio Perm	0.22			c0.24			0.07			c0.28		
v/c Ratio	0.62	0.66		0.86	0.86		0.25	0.84		0.84	0.59	
Uniform Delay, d1	17.2	19.7		29.9	29.9		19.6	28.4		17.8	23.2	
Progression Factor	1.00	1.00		0.92	0.92		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.2	2.3		9.6	9.6		0.5	7.9		19.6	0.9	
Delay (s)	21.4	22.0		18.8	18.8		20.2	36.2		37.4	24.1	
Level of Service	C	C		B	B		C	D		D	C	
Approach Delay (s)		21.9					18.8				27.4	
Approach LOS		C		R	R		C				C	

Intersection Summary			
HCM Average Control Delay	25.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	85.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	89.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
6: Valley Brook Rd & E Ponce De Leon

No-Build 2015 PM
7/11/2012

Movement	SBL	SBP	NEL	NET	SWT	SWR	
Lane Configurations	1	1	1	1	1	1	
Volume (vph)	98	363	301	506	451	71	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	6.0	4.0	6.0	6.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	0.99	1.00	1.00	0.99	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	
Flt	1.00	0.85	1.00	1.00	0.98	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00	
Satd. Flow (prot)	1805	1591	1805	1900	1849	1849	
Flt Permitted	0.95	1.00	0.22	1.00	1.00	1.00	
Satd. Flow (perm)	1805	1591	409	1900	1849	1849	
Peak-hour factor, PHF	0.85	0.95	0.87	0.96	0.90	0.76	
Adj. Flow (vph)	115	382	346	527	501	93	
RTOR Reduction (vph)	0	0	0	0	5	0	
Lane Group Flow (vph)	115	382	346	527	589	0	
Confl. Peds. (#/hr)	7	10	10	0	0	7	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	
Turn Type	Free	Free	pm+pt	Free	pm+pt	Free	
Protected Phases	4	1	6	2			
Permitted Phases	Free	Free	6				
Actuated Green, G (s)	16.0	95.0	67.0	67.0	43.6		
Effective Green, g (s)	16.0	95.0	67.0	67.0	43.6		
Actuated g/C Ratio	0.17	1.00	0.71	0.71	0.46		
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		
Vehicle Extension (s)	4.0	3.0	8.0	8.0			
Lane Grp Cap (vph)	304	1591	544	1340	849		
v/s Ratio Prot	c0.06	c0.12	0.28	c0.32			
v/s Ratio Perm		0.24	0.33				
v/c Ratio	0.38	0.24	0.64	0.39	0.69		
Uniform Delay, d1	35.1	0.0	10.9	5.7	20.4		
Progression Factor	1.00	1.00	1.00	1.00	1.00		
Incremental Delay, d2	1.1	0.4	2.4	0.9	4.6		
Delay (s)	36.2	0.4	13.3	6.6	25.0		
Level of Service	D	A	B	A	C		
Approach Delay (s)	8.6		9.2	25.0			
Approach LOS	A		A	C			
Intersection Summary							
HCM Average Control Delay	13.9					HCM Level of Service	B
HCM Volume to Capacity ratio	0.62						
Actuated Cycle Length (s)	95.0					Sum of lost time (s)	18.0
Intersection Capacity Utilization	77.2%					ICU Level of Service	D
Analysis Period (min)	15						
c Critical Lane Group							

HCM Signalized Intersection Capacity Analysis
7: Glendale Rd & E Ponce De Leon

No-Build 2015 PM
7/11/2012

Movement	NWL	NWR	NET	NER	SWL	SWT	
Lane Configurations	1	1	1	1	1	1	
Volume (vph)	135	183	528	236	87	418	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	6.5	4.0	6.5	4.0	6.5	6.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	0.98	1.00	0.99	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	
Flt	1.00	0.85	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1805	1580	1900	1593	1766	1900	
Flt Permitted	0.95	1.00	1.00	1.00	0.41	1.00	
Satd. Flow (perm)	1805	1580	1900	1593	769	1900	
Peak-hour factor, PHF	0.91	0.73	0.93	0.85	0.85	0.94	
Adj. Flow (vph)	148	251	568	278	102	445	
RTOR Reduction (vph)	0	0	0	0	0	0	
Lane Group Flow (vph)	148	251	568	278	102	445	
Confl. Peds. (#/hr)	5	4	0%	0%	5	4	
Heavy Vehicles (%)	0%	0%	0%	0%	2%	0%	
Turn Type	Free	Free	2	Free	Perm	6	
Protected Phases	4						
Permitted Phases	Free	Free		Free		6	
Actuated Green, G (s)	12.7	90.0	64.3	90.0	64.3	64.3	
Effective Green, g (s)	12.7	90.0	64.3	90.0	64.3	64.3	
Actuated g/C Ratio	0.14	1.00	0.71	1.00	0.71	0.71	
Clearance Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	
Vehicle Extension (s)	3.0	5.5	5.5	5.5	5.5	5.5	
Lane Grp Cap (vph)	255	1580	1357	1593	549	1357	
v/s Ratio Prot	c0.08		c0.30		0.17	0.13	
v/s Ratio Perm		0.16		0.17	0.19	0.33	
v/c Ratio	0.58	0.16	0.42	0.17	0.19	0.33	
Uniform Delay, d1	36.2	0.0	5.2	0.0	4.2	4.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	3.3	0.2	1.0	0.2	0.7	0.6	
Delay (s)	39.5	0.2	6.2	0.2	5.0	5.4	
Level of Service	D	A	A	A	A	A	
Approach Delay (s)	14.8		4.2		5.4		
Approach LOS	B		A		A		
Intersection Summary							
HCM Average Control Delay	6.9					HCM Level of Service	A
HCM Volume to Capacity ratio	0.45						
Actuated Cycle Length (s)	90.0					Sum of lost time (s)	13.0
Intersection Capacity Utilization	62.5%					ICU Level of Service	B
Analysis Period (min)	15						
c Critical Lane Group							

HCM Signalized Intersection Capacity Analysis
8: McLondon Dr & E Ponce De Leon

No-Build 2015 PM
7/11/2012

Movement	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations						
Volume (vph)	227	92	82	555	507	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	4.0	6.0	6.0	6.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Fit	1.00	0.85	1.00	1.00	1.00	0.85
Fit Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1805	1580	1805	1900	1900	1580
Fit Permitted	0.95	1.00	0.33	1.00	1.00	1.00
Satd. Flow (perm)	1805	1580	622	1900	1900	1580
Peak-hour factor, PHF	0.91	0.84	0.88	0.84	0.92	0.80
Adj. Flow (vph)	249	110	93	661	551	85
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	249	110	93	661	551	85
Confl. Peds. (#/hr)	3	3	3			3
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	Free	Free	pm+pt			Free
Protected Phases	8	1	6	2		
Permitted Phases	Free	6				Free
Actuated Green, G (s)	23.1	123.0	87.9	87.9	72.3	123.0
Effective Green, g (s)	23.1	123.0	87.9	87.9	72.3	123.0
Actuated g/C Ratio	0.19	1.00	0.71	0.71	0.59	1.00
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	4.0	5.0	5.0	5.0	5.0	
Lane Grp Cap (vph)	339	1580	537	1358	1117	1580
v/s Ratio Prot	c0.14	0.01	c0.35	0.29		
v/s Ratio Perm	0.07	0.11				0.05
v/c Ratio	0.73	0.07	0.17	0.49	0.49	0.05
Uniform Delay, d1	47.1	0.0	7.6	7.7	14.7	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.5	0.1	0.3	1.3	1.6	0.1
Delay (s)	55.6	0.1	7.9	8.9	16.3	0.1
Level of Service	E	A	A	A	B	A
Approach Delay (s)	38.6			8.8	14.1	
Approach LOS	D			A	B	
Intersection Summary						
HCM Average Control Delay	16.8			HCM Level of Service		
HCM Volume to Capacity ratio	0.54			B		
Actuated Cycle Length (s)	123.0			Sum of lost time (s)		
Intersection Capacity Utilization	59.7%			ICU Level of Service		
Analysis Period (min)	15			B		
Critical Lane Group						

HCM Signalized Intersection Capacity Analysis
9: E Ponce De Leon & Off Ramp 285

No-Build 2015 PM
7/11/2012

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	577	266	0	327	293
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.5	5.5	5.5
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00
Fit	1.00	1.00	1.00	1.00	0.85	1.00
Fit Protected	1.00	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1900	3610	1805	1805	1599	1599
Fit Permitted	1.00	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1900	3610	1805	1805	1599	1599
Peak-hour factor, PHF	0.92	0.91	0.78	0.92	0.87	0.87
Adj. Flow (vph)	0	634	341	0	376	337
RTOR Reduction (vph)	0	0	0	0	0	237
Lane Group Flow (vph)	0	634	341	0	376	100
Heavy Vehicles (%)	0%	0%	0%	0%	0%	1%
Turn Type		6	2		8	Perm
Protected Phases						
Permitted Phases		45.8	29.2	23.7	23.7	8
Actuated Green, G (s)		45.8	29.2	23.7	23.7	
Effective Green, g (s)		0.57	0.36	0.30	0.30	
Actuated g/C Ratio		5.0	5.0	5.5	5.5	
Clearance Time (s)		5.0	5.0	3.5	3.5	
Vehicle Extension (s)		1088	1318	535	474	
Lane Grp Cap (vph)		c0.33	0.09	c0.21		
v/s Ratio Prot		0.58	0.26	0.70	0.21	0.06
v/s Ratio Perm		11.0	17.8	25.0	21.1	
Uniform Delay, d1		1.00	0.67	1.00	1.00	
Progression Factor		2.3	0.5	4.3	0.3	
Incremental Delay, d2		13.3	12.4	29.3	21.4	
Delay (s)		B	B	C	C	
Level of Service		B	B	C	C	
Approach Delay (s)		13.3	12.4	25.6		
Approach LOS		B	B	C		
Intersection Summary						
HCM Average Control Delay	18.3			HCM Level of Service		
HCM Volume to Capacity ratio	0.62			B		
Actuated Cycle Length (s)	80.0			Sum of lost time (s)		
Intersection Capacity Utilization	75.6%			ICU Level of Service		
Analysis Period (min)	15			D		
Critical Lane Group						

HCM Unsignalized Intersection Capacity Analysis
10: Church St & On Ramp 285

No-Build 2015 PM
7/11/2012

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	EBT	EBR	WBL	WBT	NBL	NBR
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Volume (vph)	257	398	246	288	0	0
Peak Hour Factor	0.96	0.97	0.88	0.97	0.92	0.92
Hourly flow rate (vph)	268	410	280	297	0	0
Direction, Lane #	EB 1	WB 1				
Volume Total (vph)	678	576				
Volume Left (vph)	0	280				
Volume Right (vph)	410	0				
Head (s)	-0.35	0.11				
Departure Headway (s)	4.2	4.6				
Degree Utilization, x	0.78	0.74				
Capacity (veh/h)	852	766				
Control Delay (s)	20.3	19.9				
Approach Delay (s)	20.3	19.9				
Approach LOS	C	C				
Intersection Summary						
Delay	20.1					
HCM Level of Service	C					
Intersection Capacity Utilization	73.4%					
Analysis Period (min)	15					
ICU Level of Service	D					

5:00 pm Baseline

Synchro 7 - Report
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HCM Unsignalized Intersection Capacity Analysis
11: Valley Brook Rd & SR 410 On Ramp

No-Build 2015 PM
7/11/2012

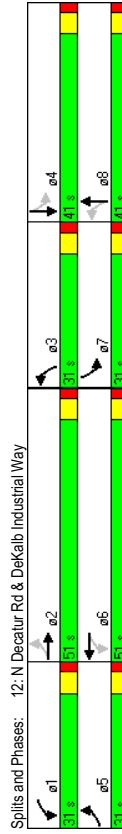
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations	EBL	EBT	WBT	WBR	SWL	SWR
Volume (veh/h)	0	1783	354	0	159	755
Sign Control	Free	Free	Free	Stop	Stop	Stop
Grade	0.98	0.98	0.97	0.92	0.92	0.98
Peak Hour Factor	0.98	0.98	0.97	0.92	0.92	0.98
Hourly flow rate (vph)	0	1819	365	0	173	770
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None	None	None			
Median storage (veh)						
Upstream signal (ft)			759			
pX, platoon unblocked						
VC, conflicting volume	365			1275	365	
VC1, stage 1 conf vol						
VC2, stage 2 conf vol						
VCu, unblocked vol	365			1275	365	
IC, single (s)	4.1			6.8	6.9	
IC, 2 stage (s)						
IF (s)	2.2			3.5	3.3	
p0 queue free %	100			0	0	
CM capacity (veh/h)	1205			162	638	
Direction, Lane #	EB 1	EB 2	WB 1	SW 2	SW 3	
Volume Total	910	910	365	173	385	385
Volume Left	0	0	0	173	0	0
Volume Right	0	0	0	0	385	385
cSH	1700	1700	1700	162	638	638
Volume to Capacity	0.54	0.54	0.21	1.07	0.60	0.60
Queue Length 95th (ft)	0	0	0	220	101	101
Control Delay (s)	0.0	0.0	0.0	147.8	18.9	18.9
Lane LOS				F	C	C
Approach Delay (s)	0.0	0.0	0.0	42.5		
Approach LOS				E		
Intersection Summary						
Average Delay	12.8					
Intersection Capacity Utilization	64.8%					
Analysis Period (min)	15					
ICU Level of Service	C					

5:00 pm Baseline

Synchro 7 - Report
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Timings 12: N Decatur Rd & DeKalb Industrial Way No-Build 2015 PM 7/11/2012

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Volume (vph)	290	890	76	391	167	635	173	574
Turn Type	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt
Protected Phases	5	2	1	6	3	8	7	4
Permitted Phases	2	6	6	8	8	4	4	4
Switch Phase	5	2	1	6	3	8	7	4
Minimum Initial (s)	5.0	10.0	5.0	15.0	5.0	7.0	5.0	7.0
Minimum Split (s)	22.0	31.0	11.0	31.0	11.0	31.0	11.0	13.0
Total Split (s)	31.0	51.0	31.0	51.0	31.0	41.0	31.0	41.0
Total Split (%)	20.1%	33.1%	20.1%	33.1%	20.1%	26.6%	20.1%	26.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead/Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	None	None	None	None
Act Effct Green (s)	65.7	49.7	47.7	37.9	50.7	34.4	50.4	34.3
Actuated g/C Ratio	0.49	0.37	0.35	0.28	0.38	0.26	0.38	0.26
v/c Ratio	0.79	0.81	0.48	0.56	0.68	0.87	0.70	0.78
Control Delay	38.4	44.4	30.2	42.5	39.4	59.2	45.2	54.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.4	44.4	30.2	42.5	39.4	59.2	45.2	54.0
LOS	D	D	C	D	D	E	D	D
Approach Delay	42.4			40.6		55.2		52.2
Approach LOS	D			D		E		D



HCM Signalized Intersection Capacity Analysis 12: N Decatur Rd & DeKalb Industrial Way No-Build 2015 PM 7/11/2012

Movement	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBT
Lane Configurations	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBT
Volume (vph)	290	890	132	76	391	125	167	635	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.98	1.00	0.96	1.00	0.98	1.00	0.98	1.00
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95
Satd. Flow (prot)	1804	3523	1805	3456	1804	3530	1805	3515	1805
Flt Permitted	0.25	1.00	0.13	1.00	0.16	1.00	0.12	1.00	0.12
Satd. Flow (perm)	478	3523	240	3456	298	3530	222	3515	222
Peak-hour factor, PHF	0.82	0.98	0.86	0.78	0.83	0.89	0.84	0.92	0.91
Adj. Flow (vph)	354	908	153	97	420	140	199	690	101
RTOR Reduction (vph)	0	8	0	0	22	0	7	0	0
Lane Group Flow (vph)	354	1053	0	97	538	0	199	784	0
Confl. Peds. (#/hr)	5	7	8	6	7	8	6	6	5
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt
Permitted Phases	5	2	1	6	3	8	7	4	4
Actuated Green, G (s)	65.6	49.7	47.7	37.8	50.6	34.4	50.4	34.3	34.3
Effective Green, g (s)	65.6	49.7	47.7	37.8	50.6	34.4	50.4	34.3	34.3
Actuated g/C Ratio	0.49	0.37	0.36	0.28	0.38	0.26	0.38	0.26	0.26
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	8.0	3.0	8.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	449	1306	201	974	294	906	273	899	273
v/s Ratio Prot	c0.13	c0.30	0.04	0.16	0.08	c0.22	c0.08	0.20	0.18
v/s Ratio Perm	0.26	0.79	0.81	0.48	0.55	0.68	0.86	0.70	0.78
Uniform Delay, d1	24.1	37.9	31.3	41.0	31.3	47.6	32.1	46.4	32.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.9	4.9	1.8	2.1	6.1	8.6	7.5	4.3	4.3
Delay (s)	33.0	42.8	33.1	43.1	37.4	56.3	39.6	50.7	39.6
Level of Service	C	D	C	D	D	E	D	D	D
Approach Delay (s)	40.3			41.6		52.5		48.4	
Approach LOS	D			D		D		D	

Intersection Summary	
HCM Average Control Delay	45.4
HCM Volume to Capacity ratio	0.79
Actuated Cycle Length (s)	134.1
Intersection Capacity Utilization	83.4%
Analysis Period (min)	15
c Critical Lane Group	

HCM Signalized Intersection Capacity Analysis 13: N Decatur Rd & Church St W

No-Build 2015 PM
7/11/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Volume (vph)	98	741	39	161	461	68	109	920	204	154	594	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Flt Protected	0.95	1.00	0.85	1.00	1.00	0.85	1.00	0.85	1.00	0.85	1.00	0.85
Flt ped/bikes	0.95	1.00	0.85	1.00	1.00	0.85	1.00	0.85	1.00	0.85	1.00	0.85
Satd. Flow (prot)	1805	3610	1615	1805	3610	1583	1805	3610	1615	1805	3610	1524
Flt Permitted	0.43	1.00	1.00	0.09	1.00	1.00	0.27	1.00	1.00	0.13	1.00	1.00
Satd. Flow (perm)	823	3610	1615	172	3610	1583	522	3610	1615	246	3610	1524
Peak-hour factor, PHF	0.82	0.92	0.77	0.79	0.94	0.76	0.72	0.94	0.77	0.93	0.81	0.88
Adj. Flow (vph)	120	805	51	204	490	89	151	979	265	166	733	42
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	120	805	51	204	490	89	151	979	265	166	733	42
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	6%
Turn Type	pm+pt	Free	Free	pm+pt	Free	Free	pm+pt	Free	Free	pm+pt	Free	Free
Protected Phases	4	Free	8	Free	2	Free	5	2	Free	1	6	Free
Actuated Green, G (s)	46.8	38.3	150.0	60.9	46.4	150.0	68.1	57.9	150.0	74.1	60.9	150.0
Effective Green, g (s)	46.8	38.3	150.0	60.9	46.4	150.0	68.1	57.9	150.0	74.1	60.9	150.0
Actuated g/C Ratio	0.31	0.26	1.00	0.41	0.31	1.00	0.45	0.39	1.00	0.49	0.41	1.00
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	312	922	1615	251	1117	1583	324	1393	1615	259	1466	1524
v/s Ratio Prot	0.02	c0.22	c0.09	0.14	0.06	0.18	0.03	c0.27	c0.16	0.26	0.20	0.03
v/s Ratio Perm	0.10	0.03	0.81	0.44	0.06	0.47	0.70	0.16	0.64	0.50	0.03	0.03
v/c Ratio	0.38	0.87	0.03	0.81	0.44	0.06	0.47	0.70	0.16	0.64	0.50	0.03
Uniform Delay, d1	38.1	53.5	0.0	39.9	41.4	0.0	25.4	38.8	0.0	26.6	33.2	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.8	9.2	0.0	17.9	0.3	0.1	1.1	3.0	0.2	5.3	1.2	0.0
Delay (s)	38.9	62.7	0.0	57.8	41.7	0.1	26.5	41.8	0.2	32.0	34.4	0.0
Level of Service	D	E	A	E	D	A	C	D	A	C	C	A
Approach Delay (s)	56.5			41.1			32.2				32.5	
Approach LOS	E			D			C				C	
Intersection Summary												
HCM Average Control Delay	39.8											
HCM Volume to Capacity ratio	0.77											
Actuated Cycle Length (s)	150.0											
Intersection Capacity Utilization	83.4%											
Analysis Period (min)	15											
c Critical Lane Group												

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis 14: N Decatur Rd & Church St

No-Build 2015 PM
7/11/2012

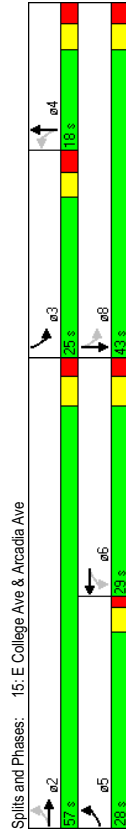
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SWR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SWR
Volume (vph)	268	814	39	2	424	10	16	128	69	6	53	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5			5.5			5.5			5.5	4.0
Lane Util. Factor	1.00	0.95			0.95			1.00			1.00	1.00
Flt Protected	1.00	1.00			1.00			0.99			1.00	1.00
Flt ped/bikes	1.00	1.00			1.00			1.00			1.00	1.00
Satd. Flow (prot)	1805	3568			3581			1789			1884	1599
Flt Permitted	0.28	1.00			0.94			0.96			0.94	1.00
Satd. Flow (perm)	538	3568			3353			1722			1780	1599
Peak-hour factor, PHF	0.94	0.92	0.62	0.25	0.85	0.45	0.54	0.95	0.81	0.38	0.63	0.76
Adj. Flow (vph)	285	885	63	8	499	22	30	135	85	16	84	150
RTOR Reduction (vph)	0	5	0	0	4	0	0	21	0	0	0	0
Lane Group Flow (vph)	285	943	0	0	525	0	0	229	0	0	100	150
Conf. Peds. (#/hr)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Turn Type	pm+pt	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Free
Protected Phases	5	2	6	6	8	8	8	8	8	4	4	Free
Actuated Green, G (s)	35.7	35.7	24.0	24.0	24.5	24.5	24.5	24.5	24.5	28.8	85.0	Free
Effective Green, g (s)	35.7	35.7	24.0	24.0	24.5	24.5	24.5	24.5	24.5	28.8	85.0	Free
Actuated g/C Ratio	0.42	0.42	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.34	1.00	Free
Clearance Time (s)	5.5	5.5			5.5			5.5			5.5	
Vehicle Extension (s)	3.0	8.0			8.0			4.0			4.0	
Lane Grp Cap (vph)	318	1499			947			496			603	1599
v/s Ratio Prot	c0.07	0.26			0.16			c0.13			0.06	c0.09
v/s Ratio Perm	c0.31	0.63			0.55			0.46			0.17	0.09
v/c Ratio	0.90	0.63			0.55			0.46			0.17	0.09
Uniform Delay, d1	21.7	19.4			26.0			24.8			19.7	0.0
Progression Factor	0.65	0.52			1.00			1.00			1.00	1.00
Incremental Delay, d2	20.0	1.4			2.3			0.9			0.2	0.1
Delay (s)	34.1	11.5			28.3			25.8			19.9	0.1
Level of Service	C	B			C			C			B	A
Approach Delay (s)	16.7				28.3			25.8			8.0	
Approach LOS	B				C			C			A	
Intersection Summary												
HCM Average Control Delay	19.4											
HCM Volume to Capacity ratio	0.58											
Actuated Cycle Length (s)	85.0											
Intersection Capacity Utilization	77.2%											
Analysis Period (min)	15											
c Critical Lane Group												

5:00 pm Baseline

Synchro 7 - Report
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Timings 15: E College Ave & Arcadia Ave No-Build 2015 PM 7/11/2012

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	EB	EB	WB	WB	NB	NB	SB	SB	SB
Volume (vph)	426	728	31	449	14	213	473	430	354
Turn Type	pm+pt	pm	Perm	Perm	Perm	pm+pt	pm+pt	Free	Free
Protected Phases	5	2	6	6	4	4	3	8	8
Permitted Phases	5	2	6	6	4	4	3	8	8
Switch Phase	5	2	6	6	4	4	3	8	8
Minimum Initial (s)	5.0	15.0	15.0	15.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	9.4	31.0	21.0	21.0	12.8	12.8	12.7	34.8	34.8
Total Split (s)	28.0	57.0	29.0	29.0	18.0	18.0	25.0	43.0	43.0
Total Split (%)	28.0%	57.0%	29.0%	29.0%	18.0%	18.0%	25.0%	43.0%	43.0%
Yellow Time (s)	3.0	3.6	3.6	3.6	3.1	3.1	3.0	3.1	3.1
All-Red Time (s)	1.4	2.4	2.4	2.4	2.7	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.4	6.0	6.0	6.0	5.8	5.8	5.7	5.8	4.0
Lead/Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	C-Min	None	None	None	None	None
Act Effrt Green (s)	52.4	50.8	24.1	24.1	12.0	12.0	37.5	37.4	100.0
Actuated g/c Ratio	0.52	0.51	0.24	0.24	0.12	0.12	0.38	0.37	1.00
v/c Ratio	0.92	0.46	0.25	0.80	0.83	1.09	0.66	0.23	0.23
Control Delay	50.4	11.0	36.5	41.3	61.3	98.9	31.4	0.3	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.4	11.0	36.5	41.3	61.3	98.9	31.4	0.3	0.3
LOS	D	B	D	D	E	F	C	A	A
Approach Delay	24.7	C	D	D	61.3	E	48.0	D	D
Approach LOS	C	D	D	D	E	E	D	D	D



HCM Signalized Intersection Capacity Analysis 15: E College Ave & Arcadia Ave No-Build 2015 PM 7/11/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Volume (vph)	426	728	36	31	449	178	14	213	17	473	430	354
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0	6.0	6.0	6.0	6.0	5.8	5.8	5.8	5.7	5.8	4.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	3577	1805	3577	1805	3577	1805	3577	1805	3577	1805	1615
Flt Permitted	0.15	1.00	0.34	1.00	0.34	1.00	0.85	0.29	1.00	1.00	1.00	1.00
Satd. Flow (perm)	277	3577	642	3577	642	3577	3027	556	1900	1615	1615	1615
Peak-hour factor, PHF	0.96	0.93	0.71	0.81	0.89	0.93	0.46	0.85	0.67	0.95	0.92	0.96
Adj. Flow (vph)	444	783	51	38	504	191	30	251	25	488	467	369
RTOR Reduction (vph)	0	5	0	0	39	0	0	7	0	0	0	0
Lane Group Flow (vph)	444	829	0	38	656	0	0	299	0	498	467	369
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	2	2	Perm	6	6	Perm	4	4	pm+pt	3	8
Protected Phases	5	2	2	6	6	6	4	4	4	3	8	8
Permitted Phases	5	2	2	6	6	6	4	4	4	3	8	8
Actuated Green, G (s)	50.8	50.8	24.1	24.1	24.1	24.1	12.0	12.0	12.0	37.4	37.4	100.0
Effective Green, g (s)	50.8	50.8	24.1	24.1	24.1	24.1	12.0	12.0	12.0	37.4	37.4	100.0
Actuated g/c Ratio	0.51	0.51	0.24	0.24	0.24	0.24	0.12	0.12	0.12	0.37	0.37	1.00
Clearance Time (s)	4.4	6.0	6.0	6.0	6.0	6.0	5.8	5.8	5.8	5.7	5.8	4.0
Vehicle Extension (s)	3.5	5.0	5.0	5.0	5.0	5.0	3.0	3.0	3.0	3.5	3.5	3.5
Lane Grp Cap (vph)	481	1817	155	834	155	834	363	363	454	711	1615	1615
v/s Ratio Prot	c0.21	0.23	0.06	0.19	0.06	0.19	0.10	0.10	c0.19	0.23	0.23	0.23
v/s Ratio Perm	c0.26	0.46	0.25	0.79	0.25	0.79	0.82	0.82	1.10	0.66	0.23	0.23
v/c Ratio	0.92	0.46	0.25	0.79	0.25	0.79	0.82	0.82	1.10	0.66	0.23	0.23
Uniform Delay, d1	26.3	15.8	30.6	35.5	30.6	35.5	43.0	43.0	27.4	26.0	0.0	0.0
Progression Factor	1.28	0.66	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	18.9	0.6	3.7	7.4	3.7	7.4	14.0	14.0	71.1	2.3	0.3	0.3
Delay (s)	52.4	11.0	34.3	42.9	34.3	42.9	57.0	57.0	98.6	28.3	0.3	0.3
Level of Service	D	B	C	D	C	D	E	E	F	C	A	A
Approach Delay (s)	25.4	C	C	42.5	D	D	57.0	E	46.8	D	D	D
Approach LOS	C	C	C	D	D	D	E	E	D	D	D	D

Intersection Summary												
HCM Average Control Delay	39.3	HCM Level of Service	D									
HCM Volume to Capacity ratio	0.93											
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.1									
Intersection Capacity Utilization	93.1%	ICU Level of Service	F									
Analysis Period (min)	15											

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
16: Katie Kerr Dr & S Columbia Dr
No-Build 2015 PM
7/11/2012

Movement	WBL	WBR	NBL	NBR	SEL	SER
Lane Configurations	 	 	 	 	 	 
Volume (vph)	302	15	302	127	45	671
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.99	0.99	0.96	0.88	0.88	0.88
Flt Protected	0.95	0.95	0.97	1.00	1.00	1.00
Satd. Flow (prot)	1801	1801	1763	1657	1657	1657
Flt Permitted	0.95	0.95	0.97	1.00	1.00	1.00
Satd. Flow (perm)	1801	1801	1763	1657	1657	1657
Peak-hour factor, PHF	0.89	0.79	0.87	0.91	0.70	0.89
Adj. Flow (vph)	339	19	347	140	64	754
RTOR Reduction (vph)	3	0	23	0	0	0
Lane Group Flow (vph)	355	0	464	0	818	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type						
Protected Phases	8!		2		6	
Permitted Phases					2 8!	
Actuated Green, G (s)	14.4		16.1		46.6	
Effective Green, g (s)	14.4		16.1		46.6	
Actuated g/C Ratio	0.25		0.28		0.82	
Clearance Time (s)	5.0		5.0		5.0	
Vehicle Extension (s)	3.0		3.0		3.0	
Lane Grp Cap (vph)	458		501		1657	
v/s Ratio Prot	cd.20		cd.26		cd.10	
v/s Ratio Perm					0.40	
v/c Ratio	0.78		0.93		0.49	
Uniform Delay, d1	19.6		19.7		1.7	
Progression Factor	1.00		1.00		1.00	
Incremental Delay, d2	8.0		23.2		0.2	
Delay (s)	27.6		42.9		2.0	
Level of Service	C		D		A	
Approach Delay (s)	27.6		42.9		2.0	
Approach LOS	C		D		A	
Intersection Summary						
HCM Average Control Delay			19.5		HCM Level of Service	B
HCM Volume to Capacity ratio			0.73			
Actuated Cycle Length (s)			56.6		Sum of lost time (s)	10.0
Intersection Capacity Utilization			98.6%		ICU Level of Service	F
Analysis Period (min)			15			
! Phase conflict between lane groups. Critical Lane Group						

HCM Signalized Intersection Capacity Analysis
17: W College Ave & Commerce Dr

[illegible]

HCM Signalized Intersection Capacity Analysis
18: W College Ave & SR 155

No-Build 2015 PM
7/11/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4T	4T		4T	4T		4T		4T	4T	4T
Volume (vph)	40	726	76	72	490	169	23	184	77	213	498	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.99	1.00	1.00	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00
Fltb, ped/bikes	1.00	0.99	1.00	1.00	1.00	1.00	0.85	1.00	0.96	1.00	0.99	1.00
Flt Protected	1.00	0.95	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3525	1793	1900	1615	1771	1799	1803	1880				
Flt Permitted	0.83	0.24	1.00	1.00	0.44	1.00	0.44	1.00	0.24	1.00	0.24	1.00
Satd. Flow (perm)	2946	451	1900	1615	822	1799	446	1880				
Peak-hour factor, PHF	0.86	0.97	0.86	0.85	0.90	0.85	0.79	0.85	0.87	0.91	0.95	0.82
Adj. Flow (vph)	47	748	88	85	544	199	29	216	89	234	524	29
RTOR Reduction (vph)	0	9	0	0	0	89	0	15	0	0	2	0
Lane Group Flow (vph)	0	874	0	85	544	110	29	290	0	234	551	0
Confl. Peds. (#/hr)	14	20	15	9	20	9	20	15	9	9	14	14
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	Perm	Perm	Over	Perm	Perm	Perm	Perm	pm+pt	pm+pt	pm+pt	pm+pt
Protected Phases	2	2	2	6	7	8	8	8	7	7	4	4
Permitted Phases	Permitted Phases	Permitted Phases	Permitted Phases	Permitted Phases	Permitted Phases	Permitted Phases	Permitted Phases	Permitted Phases	Permitted Phases	Permitted Phases	Permitted Phases	Permitted Phases
Actuated Green, G (s)	47.6	47.6	47.6	14.7	20.7	20.7	20.7	20.7	40.4	40.4	40.4	40.4
Effective Green, g (s)	47.6	47.6	47.6	14.7	20.7	20.7	20.7	20.7	40.4	40.4	40.4	40.4
Actuated g/C Ratio	0.48	0.48	0.48	0.15	0.21	0.21	0.21	0.21	0.40	0.40	0.40	0.40
Clearance Time (s)	6.0	6.0	6.0	5.0	6.0	6.0	6.0	6.0	5.0	5.0	6.0	6.0
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	1402	215	904	237	170	372	380	760				
v/s Ratio Prot	c0.30	0.19	0.29	0.07	0.16	0.16	0.09	c0.29				
v/s Ratio Perm	0.62	0.40	0.60	0.47	0.17	0.78	0.62	0.73				
Uniform Delay, d1	19.5	16.9	19.2	39.1	32.6	37.5	21.9	25.1				
Progression Factor	0.79	1.64	1.60	1.21	1.00	1.00	1.00	1.00				
Incremental Delay, d2	1.7	4.3	2.4	2.4	1.0	11.5	4.2	4.2				
Delay (s)	17.2	32.0	33.1	49.7	33.6	49.0	26.1	29.4				
Level of Service	B	C	C	D	C	D	C	C				
Approach Delay (s)	17.2	37.0				47.6		28.4				
Approach LOS	B	D				D		C				

Intersection Summary				C
HCM Average Control Delay	28.7	HCM Level of Service		
HCM Volume to Capacity ratio	0.67			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)		12.0
Intersection Capacity Utilization	103.2%	ICU Level of Service		G
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
19: W College Ave & McDonough St

No-Build 2015 PM
7/11/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		2T	2T		2T	2T		2T		2T	2T	2T
Volume (vph)	25	515	38	76	420	35	11	144	97	261	339	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	16	12	12	12	12	11	11	11	11	11	11
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	5.0	6.0	5.0	5.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.98	1.00	0.98	1.00	1.00
Fltb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00
Flt Protected	1.00	0.99	1.00	1.00	1.00	1.00	0.98	1.00	0.94	1.00	0.97	1.00
Satd. Flow (prot)	1805	2112	1805	1805	1866	1733	1693	1742	1782			
Flt Permitted	0.26	1.00	0.21	1.00	0.47	1.00	0.47	1.00	0.32	1.00	0.32	1.00
Satd. Flow (perm)	501	2112	407	1866	854	1893						
Peak-hour factor, PHF	0.55	0.96	0.64	0.78	0.87	0.59	0.83	0.87	0.84	0.96	0.85	0.72
Adj. Flow (vph)	45	536	59	97	483	59	13	166	115	272	399	81
RTOR Reduction (vph)	0	4	0	0	5	0	0	25	0	0	7	0
Lane Group Flow (vph)	45	591	0	97	537	0	13	256	0	272	473	0
Confl. Peds. (#/hr)	6	9	7	4	9	7	4	9	7	4	6	6
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt
Protected Phases	2	2	2	6	6	6	3	8	7	7	4	4
Permitted Phases	Permitted Phases	Permitted Phases	Permitted Phases	Permitted Phases	Permitted Phases	Permitted Phases	Permitted Phases	Permitted Phases	Permitted Phases	Permitted Phases	Permitted Phases	Permitted Phases
Actuated Green, G (s)	43.1	43.1	43.1	43.1	43.1	43.1	24.7	23.7	44.9	38.9	38.9	38.9
Effective Green, g (s)	43.1	43.1	43.1	43.1	43.1	43.1	24.7	23.7	44.9	38.9	38.9	38.9
Actuated g/C Ratio	0.43	0.43	0.43	0.43	0.43	0.43	0.25	0.24	0.45	0.39	0.39	0.39
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	5.0	6.0	5.0	5.0	6.0	6.0
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	5.0	3.0	3.5	3.5	3.5	4.0	4.0
Lane Grp Cap (vph)	216	910	175	804	804	804	220	401	450	693		
v/s Ratio Prot	0.28	0.28	0.24	0.29	0.29	0.29	0.00	0.15	c0.10	c0.27		
v/s Ratio Perm	0.09	0.21	0.65	0.55	0.67	0.67	0.06	0.64	0.60	0.68		
Uniform Delay, d1	17.8	22.5	21.3	22.7	28.6	34.3	19.1	25.4				
Progression Factor	1.00	1.00	1.06	1.03	1.00	1.00	1.00	1.00	1.00	1.00		
Incremental Delay, d2	2.2	3.6	10.5	3.8	0.1	3.5	2.4	3.0				
Delay (s)	20.0	26.1	33.2	27.3	28.7	37.8	21.6	28.4				
Level of Service	B	C	C	C	C	D	C	C				
Approach Delay (s)	25.6			28.2			37.4					
Approach LOS	C			C			D					

Approach LOS		C	C	D	C
Intersection Summary					
HCM Average Control Delay		27.9	HCM Level of Service		
HCM Volume to Capacity ratio		0.69	C		
Actuated Cycle Length (s)		100.0	Sum of lost time (s)		
Intersection Capacity Utilization		83.6%	ICU Level of Service		
Analysis Period (min)		15	E		

HCM Signalized Intersection Capacity Analysis
20: Driveway & DeKalb Industrial Way

No-Build 2015 PM
7/11/2012

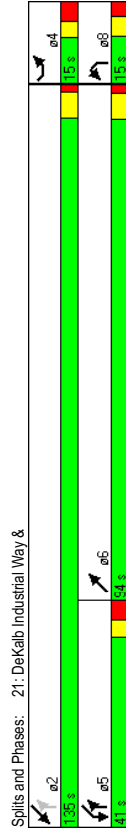
Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	NWL	NWR
Lane Configurations	W		1	1	1	1	1	1	1	1
Volume (vph)	1	0	530	19	168	557	0	5	0	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.6	5.6	4.0	5.6	5.6	5.5	4.0	5.5	4.0
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Flt Protected	0.95	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	1805	3610	1615	1805	3610	1805	1615	1805	1615
Flt Permitted	1.00	0.43	1.00	1.00	0.36	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1900	824	3610	1615	887	3610	1805	1615	1805	1615
Peak-hour factor, PHF	0.92	0.92	0.25	0.91	0.64	0.94	0.96	0.92	0.42	0.92
Adj. Flow (vph)	1	0	4	582	30	179	580	0	12	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	1	0	4	582	30	179	580	0	12	161
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	Free	pm+pt	Free	pm+pt	Free	pm+pt	Free	pm+pt	Free
Permitted Phases	8	2	2	2	2	2	2	2	2	2
Actuated Green, G (s)	1.0	24.2	23.5	46.5	33.4	28.1	1.0	46.5	1.0	46.5
Effective Green, g (s)	1.0	24.2	23.5	46.5	33.4	28.1	1.0	46.5	1.0	46.5
Actuated g/C Ratio	0.02	0.52	0.51	1.00	0.72	0.60	0.02	1.00	0.02	1.00
Clearance Time (s)	5.5	5.6	5.6	5.6	5.6	5.6	5.5	5.5	5.5	5.5
Vehicle Extension (s)	2.0	2.0	5.0	2.0	5.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	41	444	1824	1615	621	2182	39	1615	41	1615
v/s Ratio Prot	0.00	0.00	0.16	0.02	0.17	0.02	0.01	0.16	0.00	0.01
v/c Ratio	0.02	0.01	0.32	0.02	0.29	0.27	0.01	0.29	0.02	0.01
Uniform Delay, d1	22.3	5.4	6.8	0.0	2.3	4.3	22.4	0.0	22.4	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.0	0.2	0.0	0.1	0.1	0.1	0.1	0.1	0.1
Delay (s)	22.4	5.4	7.0	0.0	2.4	4.5	24.0	0.1	24.0	0.1
Level of Service	C	A	A	A	A	A	C	A	C	A
Approach Delay (s)	22.4	6.6	6.6	6.6	6.6	6.6	1.8	6.6	6.6	6.6
Approach LOS	C	A	A	A	A	A	A	A	C	A
Intersection Summary										
HCM Average Control Delay	4.8									
HCM Volume to Capacity ratio	0.33									
Actuated Cycle Length (s)	46.5									
Intersection Capacity Utilization	54.1%									
Analysis Period (min)	15									
c Critical Lane Group										

5:00 pm Baseline

Timings
21: DeKalb Industrial Way &

No-Build 2015 PM
7/11/2012

Lane Group	NBL2	NBR	SEL	NET	SWL	SWT
Lane Configurations	W	W	W	W	W	W
Volume (vph)	42	1042	4	3206	801	1572
Turn Type	Prot	custom	Prot	Prot	Prot	Prot
Permitted Phases	8	5	4	6	5	2
Detector Phase	8	5	4	6	5	2
Switch Phase						
Minimum Initial (s)	8.6	10.0	7.0	33.0	10.0	10.0
Minimum Split (s)	15.0	16.6	13.8	39.5	16.6	16.2
Total Split (s)	15.0	41.0	15.0	94.0	41.0	135.0
Total Split (%)	10.0%	27.3%	10.0%	62.7%	27.3%	90.0%
Yellow Time (s)	3.5	3.1	3.0	4.7	3.1	4.7
All-Red Time (s)	2.9	3.5	3.8	1.8	3.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.6	6.8	6.5	6.6	6.2
Lead/Lag	Lead	Lead	Lag	Lead	Lead	Lead
Lead/Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	C-Min	None	C-Min
Act Effct Green (s)	8.6	131.4	8.0	87.6	37.3	133.0
Actuated g/C Ratio	0.06	0.88	0.05	0.58	0.25	0.89
v/c Ratio	0.50	0.43	0.08	1.10	0.96	0.35
Control Delay	85.3	0.5	69.3	81.7	76.9	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	85.3	0.5	69.3	81.7	76.9	2.1
LOS	F	A	E	F	E	A
Approach Delay						
Approach LOS						
Intersection Summary						
Cycle Length: 150						
Actuated Cycle Length: 150						
Offset: 100 (67%), Referenced to phase 2:SWT and 6:NET, Start of Green						
Natural Cycle: 150						
Control Type: Actuated-Coordinated						
Maximum v/c Ratio: 1.10						
Intersection Signal Delay: 49.2						
Intersection Capacity Utilization 125.3%						
Analysis Period (min) 15						



5:00 pm Baseline

HCM Signalized Intersection Capacity Analysis
21: DeKalb Industrial Way &

No-Build 2015 PM
7/11/2012

Movement	NBL2	NBL	NBR	SEL	SER	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	42	0	1042	4	3	0	3206	65	801	1572	0
Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	6.4	6.6	6.8	6.8	6.5	6.6	6.2	6.6	6.2	6.2	6.2
Total Lost time (s)	1.00	0.88	1.00	0.91	0.97	0.91	0.97	0.91	0.97	0.91	0.97
Lane Util. Factor	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.85	0.94	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (prot)	1805	2816	1740	5165	3502	5187	3502	5187	3502	5187	3502
Flt Permitted	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (perm)	1805	2816	1740	5165	3502	5187	3502	5187	3502	5187	3502
Peak-hour factor, PHF	0.83	0.25	0.90	0.92	0.92	0.92	0.99	0.80	0.96	0.97	0.92
Adj. Flow (vph)	51	0	1158	4	3	0	3238	81	834	1621	0
RTOR Reduction (vph)	0	0	151	0	0	0	2	0	0	0	0
Lane Group Flow (vph)	51	0	1007	7	0	0	3317	0	834	1621	0
Confl. Peds. (#/hr)	3	3	2	2	2	2	3	3	3	3	3
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	custom	custom	Prot	Prot	Prot	Prot	Prot	Prot	Prot	Prot
Protected Phases	8	5	4	6	5	2	6	5	2	2	2
Actuated Green, G (s)	7.0	130.4	6.6	86.2	37.3	130.4	86.2	37.3	130.4	130.4	130.4
Effective Green, g (s)	7.0	130.4	6.6	86.2	37.3	130.4	86.2	37.3	130.4	130.4	130.4
Actuated g/C Ratio	0.05	0.87	0.04	0.57	0.25	0.87	0.57	0.25	0.87	0.87	0.87
Clearance Time (s)	6.4	6.6	6.8	6.5	6.6	6.2	6.5	6.6	6.2	6.2	6.2
Vehicle Extension (s)	3.0	3.0	3.0	5.0	3.0	4.8	5.0	3.0	4.8	4.8	4.8
Lane Grp Cap (vph)	84	2448	77	2968	871	4509	2968	871	4509	4509	4509
v/s Ratio Prot	c0.03	0.10	0.00	c0.64	c0.24	0.31	c0.64	c0.24	0.31	0.31	0.31
v/s Ratio Perm	0.26	0.41	0.09	1.12	0.96	0.36	1.12	0.96	0.36	0.36	0.36
Uniform Delay, d1	70.2	2.0	68.8	31.9	55.6	1.9	31.9	55.6	1.9	1.9	1.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	11.8	0.1	0.5	58.2	20.6	0.2	58.2	20.6	0.2	0.2	0.2
Delay (s)	81.9	2.1	69.3	90.1	76.2	2.1	90.1	76.2	2.1	2.1	2.1
Level of Service	F	A	E	F	E	A	F	E	A	A	A
Approach Delay (s)	5.5	69.3	69.3	90.1	76.2	2.1	90.1	76.2	2.1	2.1	2.1
Approach LOS	A	E	E	F	E	A	F	E	A	A	A
Intersection Summary											
HCM Average Control Delay	53.4										
HCM Volume to Capacity ratio	1.04										
Actuated Cycle Length (s)	150.0										
Intersection Capacity Utilization	125.3%										
Analysis Period (min)	15										
c Critical Lane Group											

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis
22: W College Ave & Clarendon Ave

No-Build 2015 PM
7/11/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SWR
Lane Configurations	172	888	45	1	382	137	52	125	1	246	163	106
Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	5.3	5.5	4.0	5.5	5.5	5.6	5.6	5.6	5.6	5.6	5.6	5.6
Total Lost time (s)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	1900	1615	1805	1816	1805	1805	1892	1805	1805	1782	1782
Flt Permitted	0.19	1.00	1.00	0.18	1.00	0.40	1.00	1.00	0.67	1.00	1.00	1.00
Satd. Flow (perm)	357	1900	1615	341	1816	768	1892	1269	1782	1269	1782	1782
Peak-hour factor, PHF	0.66	0.95	0.81	0.25	0.93	0.79	0.82	0.92	0.25	0.88	0.94	0.86
Adj. Flow (vph)	261	945	56	4	411	173	63	136	4	280	173	123
RTOR Reduction (vph)	0	0	0	0	18	0	0	1	0	0	28	0
Lane Group Flow (vph)	261	945	56	4	566	0	63	139	0	280	268	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	Free	Free	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	5	2	6	6	6	4	4	4	4	8	8	8
Permitted Phases	2	Free	Free	6	6	4	4	4	4	8	8	8
Actuated Green, G (s)	52.2	52.2	86.0	36.0	36.0	22.7	22.7	22.7	22.7	22.7	22.7	22.7
Effective Green, g (s)	52.2	52.2	86.0	36.0	36.0	22.7	22.7	22.7	22.7	22.7	22.7	22.7
Actuated g/C Ratio	0.61	0.61	1.00	0.42	0.42	0.26	0.26	0.26	0.26	0.26	0.26	0.26
Clearance Time (s)	5.3	5.5	5.5	5.5	5.5	5.6	5.6	5.6	5.6	5.6	5.6	5.6
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	400	1153	1615	143	760	203	499	335	470	335	470	470
v/s Ratio Prot	0.08	c0.50	0.31	0.01	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
v/s Ratio Perm	0.31	0.82	0.03	0.03	0.74	0.31	0.28	0.28	0.28	0.28	0.28	0.28
Uniform Delay, d1	12.5	13.2	0.0	14.7	21.1	25.4	25.1	25.1	25.1	25.1	25.1	25.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.8	6.6	0.0	0.4	6.5	0.9	0.3	0.3	0.3	0.3	0.3	0.3
Delay (s)	16.3	19.8	0.0	15.1	27.7	26.2	25.4	25.4	25.4	25.4	25.4	25.4
Level of Service	B	B	A	B	C	C	C	C	C	C	C	C
Approach Delay (s)	18.2	27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6
Approach LOS	B	C	C	C	C	C	C	C	C	C	C	C
Intersection Summary												
HCM Average Control Delay	25.1											
HCM Volume to Capacity ratio	0.82											
Actuated Cycle Length (s)	86.0											
Intersection Capacity Utilization	99.1%											
Analysis Period (min)	15											
c Critical Lane Group												

5:00 pm Baseline

Synchro 7 - Report
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HCM Unsignalized Intersection Capacity Analysis 23: Clarendon Ave & Laredo Dr

No-Build 2015 PM
7/11/2012

Movement	NBL	NBT	SBT	SBL	SER	
Lane Configurations	118	354	314	21	54	236
Volume (veh/h)	118	354	314	21	54	236
Sign Control	Free	Free	Free	Free	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.87	0.95	0.95	0.83	0.87	0.96
Hourly flow rate (vph)	136	373	331	25	81	246
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None	None	None	None	None	None
Median storage (veh)						
Upstream signal (ft)		545				
pX, platoon unblocked						
vC, conflicting volume	356				987	343
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	356				987	343
IC, single (s)	4.1				6.4	6.2
IC, 2 stage (s)						
IF (s)	2.2				3.5	3.3
p0 queue free %	89				67	65
cM capacity (veh/h)	1214				246	704
Direction, Lane #	NB 1	NB 2	SB 1	SE 1		
Volume Total	136	373	356	326		
Volume Left	136	0	0	81		
Volume Right	0	0	25	246		
cSH	1214	1700	1700	482		
Volume to Capacity	0.11	0.22	0.21	0.68		
Queue Length 95th (ft)	9	0	0	125		
Control Delay (s)	8.3	0.0	0.0	26.7		
Lane LOS	A			D		
Approach Delay (s)	2.2		0.0	26.7		
Approach LOS	D			D		
Intersection Summary						
Average Delay			8.3			
Intersection Capacity Utilization		51.9%		ICU Level of Service	A	
Analysis Period (min)		15				

5:00 pm Baseline

HCM Unsignalized Intersection Capacity Analysis 24: E Ponce De Leon & Annie St

No-Build 2015 PM
7/11/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	4	4	4	1	4	4	2	5	0	2	5	0
Volume (veh/h)	4	4	4	1	4	4	2	5	0	2	5	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	623	4	1	401	2	5	0	2	5	0	12
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None	None	None	None	None	None	None	None	None	None	None	None
Median storage (veh)												
Upstream signal (ft)		319										
pX, platoon unblocked												
vC, conflicting volume	403						848	1039	314	727	1040	202
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	403						739	939	176	611	940	202
IC, single (s)	4.6						7.5	6.5	6.9	7.5	6.5	7.3
IC, 2 stage (s)												
IF (s)	2.5						3.5	4.0	3.3	3.5	4.0	3.5
p0 queue free %	100						98	100	100	98	100	98
cM capacity (veh/h)	1004						289	252	802	361	251	753
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	316	316	202	203	8	17						
Volume Left	4	0	1	0	5	5						
Volume Right	0	4	0	2	2	12						
cSH	1004	1700	1017	1700	353	562						
Volume to Capacity	0.00	0.19	0.00	0.12	0.02	0.03						
Queue Length 95th (ft)	0	0	0	0	0	2						
Control Delay (s)	0.2	0.0	0.1	0.0	15.4	11.6						
Lane LOS	A		A		C	B						
Approach Delay (s)	0.1		0.0		15.4	11.6						
Approach LOS	C		C		C	B						
Intersection Summary												
Average Delay			0.4									
Intersection Capacity Utilization			28.8%		ICU Level of Service	A						
Analysis Period (min)			15									

5:00 pm Baseline

HCM Signalized Intersection Capacity Analysis 25: E Ponce De Leon & On Ramp 285

No-Build 2015 PM
7/11/2012

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	EBL	EBT	WBT	WBR	SBL	SBR
Volume (vph)	392	502	264	219	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0		
Lane Util. Factor	1.00	1.00	0.95			
Flt Protected	1.00	1.00	0.93			
Satd. Flow (prot)	0.95	1.00	1.00			
Flt Permitted	1762	1863	3337			
Satd. Flow (perm)	0.34	1.00	1.00			
Peak-hour factor, PHF	0.93	0.95	0.97	0.90	0.92	0.92
Adj. Flow (vph)	422	528	272	243	0	0
RTOR Reduction (vph)	0	0	154	0	0	0
Lane Group Flow (vph)	422	528	361	0	0	0
Heavy Vehicles (%)	3%	2%	1%	0%	0%	0%
Turn Type	pm-pt					
Protected Phases	1	6	2			
Permitted Phases	6					
Actuated Green, G (s)	45.8	45.8	29.2			
Effective Green, g (s)	45.8	45.8	29.2			
Actuated g/C Ratio	0.57	0.57	0.36			
Clearance Time (s)	5.0	5.0	5.0			
Vehicle Extension (s)	3.0	5.0	5.0			
Lane Grp Cap (vph)	523	1067	1218			
v/s Ratio Prot	0.12	0.28	0.11			
v/s Ratio Perm	0.35					
v/c Ratio	0.81	0.49	0.30			
Uniform Delay, d1	10.6	10.2	18.1			
Progression Factor	1.07	0.92	1.00			
Incremental Delay, d2	7.5	1.4	0.6			
Delay (s)	18.8	10.7	18.7			
Level of Service	B	B	B			
Approach Delay (s)		14.3	18.7	0.0		
Approach LOS		B	B	A		
Intersection Summary						
HCM Average Control Delay			15.9	HCM Level of Service		B
HCM Volume to Capacity ratio			0.78			
Actuated Cycle Length (s)			80.0	Sum of lost time (s)		34.2
Intersection Capacity Utilization			75.8%	ICU Level of Service		D
Analysis Period (min)			15			
c Critical Lane Group						

5:00 pm Baseline

Synchro 7 - Report
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HCM Unsignalized Intersection Capacity Analysis 26: Church St & Off Ramp 285

No-Build 2015 PM
7/11/2012

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	EBT	EBR	WBL	WBT	NBL	NBR
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Volume (vph)	253	0	0	372	166	195
Peak Hour Factor	0.86	0.92	0.92	0.94	0.91	0.90
Hourly flow rate (vph)	294	0	0	396	182	217
Direction, Lane #	EB 1	WB 1	NB 1	NB 2		
Volume Total (vph)	294	396	182	217		
Volume Left (vph)	0	0	182	0		
Volume Right (vph)	0	0	0	217		
Head (s)	0.00	0.02	0.20	-0.60		
Departure Headway (s)	5.0	4.9	5.8	3.2		
Degree Utilization, x	0.41	0.54	0.29	0.19		
Capacity (veh/h)	694	714	563	1121		
Control Delay (s)	11.4	13.4	11.1	7.0		
Approach Delay (s)	11.4	13.4	8.9			
Approach LOS	B	B	A			
Intersection Summary						
Delay			11.2			
HCM Level of Service			B			
Intersection Capacity Utilization			35.4%	ICU Level of Service		A
Analysis Period (min)			15			

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis
 27: Valley Brook Rd & Concord Dr

No-Build 2015 PM
 7/11/2012

Movement	NBL2	NBL	NBR	SEL	SER	SER2	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	1	353	129	1199	707	7	6	0	1	0	0	0
Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	1.00	0.97	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	1.00	0.96	1.00	0.85	1.00	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Flt Protected	1805	3411	3502	1615	1792	1792	1792	1792	1792	1792	1792	1792
Satd. Flow (prot)	0.37	0.96	0.96	1.00	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Flt Permitted	709	3411	3502	1615	1792	1792	1792	1792	1792	1792	1792	1792
Satd. Flow (perm)	0.92	0.90	0.87	0.95	0.93	0.58	0.75	0.92	0.92	0.92	0.92	0.92
Peak-hour factor, PHF	1	392	148	1262	760	12	8	0	1	0	0	0
Adj. Flow (vph)	0	33	0	0	0	0	0	1	0	0	0	0
RTOR Reduction (vph)	1	507	0	1262	772	0	0	8	0	0	0	0
Lane Group Flow (vph)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%
Heavy Vehicles (%)	pm-plt	5	2	1	6	8	8	8	8	8	8	8
Turn Type	Protected Phases	2	2	1	6	6	6	6	6	6	6	6
Permitted Phases	Actuated Green, G (s)	19.8	19.3	27.8	46.6	46.6	46.6	46.6	46.6	46.6	46.6	46.6
Effective Green, g (s)	Actuated g/C Ratio	0.33	0.32	0.46	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Clearance Time (s)	Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	244	1099	1625	1256	1256	1256	1256	1256	1256	1256	1256	1256
v/s Ratio Prot	v/s Ratio Perm	0.00	0.15	0.36	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48
v/c Ratio	Uniform Delay, d1	0.00	0.46	0.78	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61
Progression Factor	Incremental Delay, d2	13.4	16.2	13.4	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
Delay (s)	Level of Service	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Approach Delay (s)	Approach LOS	13.4	16.5	15.8	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Level of Service	Level of Service	B	B	B	A	A	D	D	D	D	D	D
Approach Delay (s)	Approach LOS	16.5	11.2	11.2	37.3	37.3	37.3	37.3	37.3	37.3	37.3	37.3
Intersection Summary	HCM Average Control Delay	12.4	HCM Level of Service	B	B	B	B	B	B	B	B	B
HCM Volume to Capacity ratio	Actuated Cycle Length (s)	0.68	59.9	Sum of lost time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Intersection Capacity Utilization	Analysis Period (min)	61.7%	15	ICU Level of Service	B	B	B	B	B	B	B	B
Analysis Period (min)	Analysis Period (min)	15	15	15	15	15	15	15	15	15	15	15
Analysis Period (min)	Analysis Period (min)	15	15	15	15	15	15	15	15	15	15	15

HCM Unsignalized Intersection Capacity Analysis
 28: Commerce Dr & S Columbia Dr

No-Build 2015 PM
 7/11/2012

Intersection Sign configuration not allowed in HCM analysis.

HCM Signalized Intersection Capacity Analysis

1: E Ponce De Leon & Laredo Dr No-Build SAT 2015 7/11/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL2	NBL	NBR	SER	SER2
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL2	NBL	NBR	SER	SER2
Volume (vph)	356	190	81	50	192	362	69	141	62	379	195
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		5.5	5.5	4.0	5.5	5.5	5.5	5.5	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.95		1.00	1.00	0.85	1.00	0.95	1.00	0.85	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	0.97	0.95	1.00	1.00
Satd. Flow (prot)	1805	3400		1721	3574	1589	1805	1748	1805	1615	1615
Flt Permitted	0.46	1.00		0.57	1.00	1.00	0.95	0.97	0.95	1.00	1.00
Satd. Flow (perm)	875	3400		1030	3574	1589	1805	1748	1805	1615	1615
Peak-hour factor, PHF	0.80	0.97	0.78	0.75	0.92	0.86	0.71	0.79	0.71	0.83	0.89
Adj. Flow (vph)	445	196	104	67	209	421	97	178	87	457	283
RTOR Reduction (vph)	0	41	0	0	0	0	0	11	0	0	0
Lane Group Flow (vph)	445	259	0	67	209	421	97	254	0	457	283
Confl. Peds. (#/hr)				13		13				13	
Heavy Vehicles (%)	0%	1%	0%	4%	1%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt			pm+pt			Free	Split	Prot	Free	
Protected Phases	5	2		1	6		8	8		4	4
Permitted Phases	2			6			Free			4	
Actuated Green, G (s)	51.8	38.1		29.5	21.3	127.6	24.2	24.2		35.1	127.6
Effective Green, g (s)	51.8	38.1		29.5	21.3	127.6	24.2	24.2		35.1	127.6
Actuated g/C Ratio	0.41	0.30		0.23	0.17	1.00	0.19	0.19		0.28	0.28
Clearance Time (s)	5.5	5.5		5.5	5.5		5.5	5.5		5.5	5.5
Vehicle Extension (s)	3.0	5.0		3.0	5.0		4.0	4.0		4.0	4.0
Lane Grp Cap (vph)	537	1015		283	597	1589	342	332		497	444
v/s Ratio Prot	c0.16	0.08		0.02	0.06		0.05	c0.15		c0.25	0.18
v/s Ratio Perm	c0.17			0.04		0.26					0.24
v/c Ratio	0.83	0.25		0.24	0.35	0.26	0.28	0.77		0.92	0.64
Uniform Delay, d1	30.2	34.0		39.2	47.0	0.0	44.3	49.0		44.9	40.7
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	10.2	0.3		0.4	0.7	0.4	0.6	10.7		22.4	3.4
Delay (s)	40.4	34.3		39.7	47.8	0.4	44.9	59.7		67.2	44.0
Level of Service	D	C		D	D	A	D	E		E	D
Approach Delay (s)											
Approach LOS											

Intersection Summary			
HCM Average Control Delay	35.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	127.6	Sum of lost time (s)	16.5
Intersection Capacity Utilization	90.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

5:00 pm Baseline

Timings 2: E Ponce De Leon & No-Build SAT 2015 7/11/2012

Lane Group	EBL	NBT	NBR	SBT	NWL	
Lane Configurations	W	1	482	77	180	482 1
Volume (vph)						
Turn Type			Free	Perm		
Protected Phases	4i	2		6	8i	
Permitted Phases						
Detector Phase	4	2		6	8	
Switch Phase						
Minimum Initial (s)	8.0	12.0		12.0	12.0	8.0
Minimum Split (s)	33.0	28.0		18.0	18.0	14.0
Total Split (s)	43.0	80.0	0.0	80.0	80.0	43.0
Total Split (%)	35.0%	65.0%	0.0%	65.0%	65.0%	35.0%
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.0	6.0	6.0	6.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	Min	Min	Min	None	
Act Effct Green (s)	13.3	24.0	50.1	24.0	13.3	
Actuated g/c Ratio	0.27	0.48	1.00	0.48	0.27	
v/c Ratio	0.02	0.58	0.05	0.64	0.62	
Control Delay	16.5	12.6	0.1	13.0	17.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	16.5	12.6	0.1	13.0	17.3	
LOS	B	B	A	B	B	
Approach Delay	16.5	10.8		13.0	17.3	
Approach LOS	B	B		B	B	
Intersection Summary						
Cycle Length: 123						
Actuated Cycle Length: 50.1						
Natural Cycle: 65						
Control Type: Semi-Act-Uncoord						
Maximum v/c Ratio: 0.64						
Intersection Signal Delay: 13.1						Intersection LOS: B
Intersection Capacity Utilization 86.7%						ICU Level of Service E
Analysis Period (min) 15						
i Phase conflict between lane groups.						

Splits and Phases: 2: E Ponce De Leon &

HCM Signalized Intersection Capacity Analysis 2: E Ponce De Leon & No-Build SAT 2015 7/11/2012

Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	NWL2	NWL	NWR
Lane Configurations	W	1	1	0	482	77	180	482	0	55	1
Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	6.0	6.0	4.0	6.0	4.0	6.0	6.0	6.0	6.0	6.0	6.0
Total Lost time (s)											
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00
Frt	0.93	0.98	1.00	0.85	1.00	1.00	0.99	1.00	0.99	0.99	0.99
Flt Protected											
Satd. Flow (prot)	1729	1729	1863	1615	1863	1615	3486	1678	1678	1678	1678
Flt Permitted	0.98	1.00	1.00	1.00	1.00	1.00	0.86	0.99	0.99	0.99	0.99
Satd. Flow (perm)	1729	1729	1863	1615	1863	1615	2338	1678	1678	1678	1678
Peak-hour factor, PHF	0.25	0.25	0.25	0.94	0.90	0.95	0.91	0.92	0.65	0.25	0.89
Adj. Flow (vph)	4	4	0	513	86	189	530	0	85	4	237
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	81	0
Lane Group Flow (vph)	8	0	0	513	86	0	719	0	0	245	0
Heavy Vehicles (%)	0%	0%	0%	2%	0%	0%	3%	0%	0%	0%	1%
Turn Type											
Protected Phases	4i			2		Free	Perm		Perm		
Permitted Phases						Free	6		8		8i
Actuated Green, G (s)	13.3			24.0		49.3	24.0		13.3		13.3
Effective Green, g (s)	13.3			24.0		49.3	24.0		13.3		13.3
Actuated g/c Ratio	0.27			0.49		1.00	0.49		0.27		0.27
Clearance Time (s)	6.0			6.0		6.0	6.0		6.0		6.0
Vehicle Extension (s)	3.0			3.0		3.0	3.0		3.0		3.0
Lane Grp Cap (vph)	466			907		1615	1138		463		463
v/s Ratio Prot	0.00			0.28		0.05	c0.31		0.15		0.15
v/c Ratio	0.02			0.57		0.05	0.63		0.54		0.54
Uniform Delay, d1	13.2			9.0		0.0	9.4		15.4		15.4
Progression Factor	1.00			1.00		1.00	1.00		1.00		1.00
Incremental Delay, d2	0.0			0.8		0.1	1.2		1.3		1.3
Delay (s)	13.2			9.8		0.1	10.5		16.7		16.7
Level of Service	B			A		A	B		B		B
Approach Delay (s)	13.2			8.4		10.5	16.7		16.7		16.7
Approach LOS	B			A		B	B		B		B
Intersection Summary											
HCM Average Control Delay				11.0			HCM Level of Service		B		
HCM Volume to Capacity ratio				0.60							
Actuated Cycle Length (s)				49.3			Sum of lost time (s)		12.0		
Intersection Capacity Utilization				86.7%			ICU Level of Service		E		
Analysis Period (min)				15							
i Phase conflict between lane groups.											
c Critical Lane Group											

HCM Signalized Intersection Capacity Analysis

3: E Ponce De Leon & Dekalb Industrial Way

No-Build SAT 2015
7/11/2012

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SBL	SER	SET	SER	NWL	NWT	NWR
Lane Configurations	17	452	6	8	438	148	134	5	18	13	6	10	
Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Ideal Flow (vphpl)	5.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Total Lost time (s)	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.99	1.00	1.00	1.00	1.00	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Fit	1.00	1.00	1.00	0.96	1.00	0.96	1.00	0.89	1.00	0.89	0.95	0.95	
Fit Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.98	0.98	
Satd. Flow (prot)	1805	3558	1805	3426	1805	1672	1805	1672	1805	1672	1768	1768	
Fit Permitted	0.29	1.00	0.47	1.00	0.73	1.00	0.73	1.00	0.73	1.00	0.91	0.91	
Satd. Flow (perm)	554	3558	899	3426	1386	1672	1386	1672	1386	1672	1642	1642	
Peak-hour factor, PHF	0.67	0.95	0.44	0.25	0.97	0.78	0.56	0.50	0.63	0.83	0.60	0.63	
Adj. Flow (vph)	25	476	14	32	452	190	239	10	29	16	10	16	
RTOR Reduction (vph)	0	2	0	0	33	0	0	20	0	0	11	0	
Lane Group Flow (vph)	25	488	0	32	609	0	239	19	0	0	31	0	
Confl. Peds. (#/hr)	1	1	1	1	1	1	1	1	1	1	1	1	
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	
Turn Type	pm+pt	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	
Protected Phases	1	6	2	2	2	4	4	4	4	4	8	8	
Actuated Green, G (s)	30.0	30.0	22.7	22.7	22.7	19.3	19.3	19.3	19.3	19.3	19.3	19.3	
Effective Green, g (s)	30.0	30.0	22.7	22.7	22.7	19.3	19.3	19.3	19.3	19.3	19.3	19.3	
Actuated g/C Ratio	0.49	0.49	0.37	0.37	0.37	0.31	0.31	0.31	0.31	0.31	0.31	0.31	
Clearance Time (s)	5.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Lane Grp Cap (vph)	318	1741	333	1269	436	526	517						
v/s Ratio Prot	0.00	c0.14		c0.18		0.01							
v/s Ratio Perm	0.04		0.04		c0.17		0.02						
v/c Ratio	0.08	0.28	0.10	0.48	0.55	0.04	0.06						
Uniform Delay, d1	8.6	9.3	12.6	14.8	17.4	14.6	14.7						
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00						
Incremental Delay, d2	0.1	0.2	0.3	0.6	2.5	0.1	0.1						
Delay (s)	8.8	9.4	12.9	15.4	19.9	14.6	14.8						
Level of Service	A	A	B	B	B	B	B						
Approach Delay (s)	9.4		15.3		19.1		14.8						
Approach LOS	A	A	B	B	B	B	B						

Intersection Summary			
HCM Average Control Delay	14.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	61.3	Sum of lost time (s)	18.0
Intersection Capacity Utilization	41.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Timings

4: E Ponce De Leon & Arcadia Ave

No-Build SAT 2015
7/11/2012

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	4P	4P	4P	4P	4P	4P	4P	4P	4P
Volume (vph)	68	252	168	275	75	386	14	397	84
Turn Type	Perm	pm+pt	pm+pt	pm+pt	Perm	Perm	Perm	Free	Free
Protected Phases	2	2	1	6	3	8	4	4	4
Permitted Phases	2	2	2	2	2	2	2	2	2
Detector Phase	2	2	2	2	2	2	2	2	2
Switch Phase	2	2	2	2	2	2	2	2	2
Minimum Initial (s)	15.0	15.0	5.0	15.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	22.0	22.0	9.4	22.0	12.7	22.2	21.8	21.8	21.8
Total Split (s)	44.0	44.0	24.0	68.0	17.0	72.0	55.0	55.0	55.0
Total Split (%)	31.4%	31.4%	17.1%	48.6%	12.1%	51.4%	39.3%	39.3%	39.3%
Yellow Time (s)	3.6	3.6	3.0	3.6	3.0	3.1	3.1	3.1	3.1
All-Red Time (s)	2.4	2.4	1.4	2.4	2.7	3.1	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.4	6.0	5.7	6.2	5.8	5.8	4.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lag	Lag	Lag	Lag
Lead-Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Max	None	Max	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	43.0	43.0	63.6	62.0	66.3	65.8	51.1	51.1	140.0
Actuated g/C Ratio	0.31	0.31	0.45	0.44	0.47	0.47	0.36	0.36	1.00
v/c Ratio	0.23	0.35	0.39	0.20	0.20	0.39	0.07	0.32	0.06
Control Delay	40.0	35.1	26.0	23.8	21.7	20.1	30.9	33.1	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.0	35.1	26.0	23.8	21.7	20.1	30.9	33.1	0.1
LOS	D	D	C	C	C	C	C	C	A
Approach Delay	36.0		24.6		20.3		26.9		C
Approach LOS	D		C		C		C		C

Intersection Summary												
Cycle Length: 140												
Actuated Cycle Length: 140												
Offset: 49 (35%), Referenced to phase 4:SBTL and 8:NBT, Start of Green												
Natural Cycle: 70												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.39												
Intersection Signal Delay: 26.1	Intersection LOS: C											
Intersection Capacity Utilization 68.5%	ICU Level of Service C											
Analysis Period (min) 15												

Splits and Phases: 4: E Ponce De Leon & Arcadia Ave

HCM Signalized Intersection Capacity Analysis 4: E Ponce De Leon & Arcadia Ave

No-Build SAT 2015
7/11/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	68	252	91	168	275	12	75	386	188	14	397	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	4.4	6.0	6.0	4.4	5.7	6.2	5.8	5.8	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Flpb. ped/bikes	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.96	1.00	0.99	1.00	0.99	1.00	0.94	1.00	1.00	0.85	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00
Satd. Flow (prot)	1790	3413	1785	3545	1803	3373	1797	3610	1593	1797	3610	1593
Flt Permitted	0.56	1.00	0.41	1.00	0.41	1.00	0.40	1.00	0.41	1.00	1.00	1.00
Satd. Flow (perm)	1059	3413	776	3545	753	3373	776	3610	1593	776	3610	1593
Peak-hour factor, PHF	0.89	0.93	0.87	0.94	0.93	0.73	0.87	0.96	0.80	0.75	0.95	0.86
Adj. Flow (vph)	76	271	105	179	296	16	86	402	235	19	418	98
RTOR Reduction (vph)	0	28	0	0	3	0	0	60	0	0	0	0
Lane Group Flow (vph)	76	348	0	179	309	0	86	577	0	19	418	98
Confl. Peds. (#/hr)	5	4	3	4	4	4	4	3	3	4	4	5
Heavy Vehicles (%)	0%	1%	0%	1%	0%	1%	0%	0%	1%	0%	0%	0%
Turn Type	Perm	2	2	1	6	1	6	3	8	Perm	4	Free
Protected Phases	2	43.0	43.0	62.0	62.0	65.8	65.8	65.8	65.8	51.1	51.1	140.0
Actuated Green, G (s)	43.0	43.0	43.0	62.0	62.0	65.8	65.8	65.8	65.8	51.1	51.1	140.0
Effective Green, g (s)	0.31	0.31	0.31	0.44	0.44	0.47	0.47	0.47	0.47	0.37	0.37	1.00
Actuated g/C Ratio	6.0	6.0	6.0	4.4	6.0	5.7	6.2	6.2	6.2	5.8	5.8	5.8
Clearance Time (s)	5.0	5.0	5.0	3.5	5.0	3.5	3.5	3.5	3.5	3.0	3.0	3.0
Vehicle Extension (s)	325	1048	449	1570	424	1585	283	1318	1593	283	1318	1593
Lane Grp Cap (vph)	0.10	60.04	0.09	60.04	0.09	60.04	0.09	60.04	0.12	0.02	0.12	0.06
v/s Ratio Prot	0.07	0.33	0.33	0.40	0.20	0.20	0.36	0.36	0.36	0.07	0.32	0.06
v/s Ratio Perm	0.23	36.2	37.4	24.6	23.8	21.2	23.7	28.9	31.9	0.0	31.9	0.0
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Progression Factor	1.7	0.9	0.7	0.3	0.3	0.3	0.6	0.6	0.5	0.6	0.1	0.1
Incremental Delay, d2	37.9	38.3	25.3	24.1	21.5	24.4	29.4	32.6	0.1	26.5	0.1	0.1
Delay (s)	D	D	D	C	C	C	C	C	C	C	C	A
Level of Service	D	D	D	C	C	C	C	C	C	C	C	A
Approach Delay (s)	38.2	24.5	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	26.5	C
Approach LOS	D	D	D	C	C	C	C	C	C	C	C	C

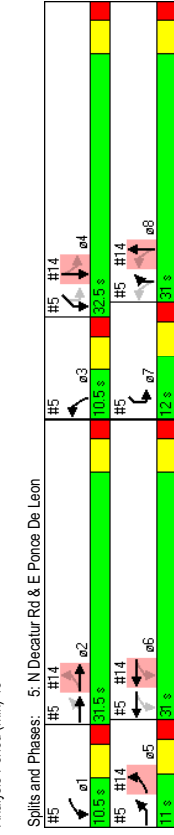
Intersection Summary			
HCM Average Control Delay	27.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	10.6
Intersection Capacity Utilization	68.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

5:00 pm Baseline

Timings 5: N Decatur Rd & E Ponce De Leon

No-Build SAT 2015
7/11/2012

Lane Group	EBL	EBT	WBL	WBT	NBL	NBR	SWL
Lane Configurations	EBL	EBT	WBL	WBT	NBL	NBR	SWL
Volume (vph)	123	448	109	391	84	571	535
Turn Type	pm+pt	pm+pt	pm+pt	pm+pt	custom	pm+pt	pm+pt
Protected Phases	5	2	1	6	3	8	7
Permitted Phases	2	6	6	8	4	4	4
Detector Phase	5	2	1	6	3	8	7
Switch Phase	5	2	1	6	3	8	7
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	8.0	5.0
Minimum Split (s)	10.5	30.5	10.5	30.5	10.5	28.5	10.5
Total Split (s)	11.0	31.5	10.5	31.0	10.5	31.0	12.0
Total Split (%)	12.9%	37.1%	12.4%	36.5%	12.4%	36.5%	14.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead/Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	C-Min	None	None	None
Act Effect Green (s)	37.3	37.3	25.9	29.7	24.7	33.5	28.3
Actuated g/C Ratio	0.44	0.44	0.30	0.35	0.29	0.39	0.33
v/c Ratio	0.56	0.39	0.89	0.43	0.84	0.75	0.68
Control Delay	24.4	16.0	23.4	20.7	38.2	36.9	25.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.4	16.0	23.4	20.7	38.2	36.9	25.6
LOS	C	B	C	C	D	D	C
Approach Delay	17.6	23.4	36.0	27.8	C	C	C
Approach LOS	B	C	D	C	D	C	C



5:00 pm Baseline

HCM Signalized Intersection Capacity Analysis

5: N Decatur Rd & E Ponce De Leon

No-Build SAT 2015
7/11/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	NBR2	SWL2	SWL	SWR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	NBR2	SWL2	SWL	SWR
Volume (vph)	123	448	90	109	391	128	84	571	82	148	535	153
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.88	1.00	0.88	1.00	0.97	1.00	0.97
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96
Fit	1.00	0.97	1.00	0.97	1.00	0.85	1.00	0.85	1.00	0.96	1.00	0.96
Fit Protected	0.95	1.00	0.99	0.99	1.00	0.95	1.00	0.95	1.00	0.95	0.97	0.97
Satd. Flow (prot)	1805	3477	3446	1805	2839	1805	1805	2839	1805	3378	1805	3378
Fit Permitted	0.18	1.00	0.72	0.72	0.24	1.00	0.18	0.97	0.18	0.97	0.18	0.97
Satd. Flow (perm)	351	3477	2499	449	2839	351	3378	351	3378	351	3378	351
Peak-hour factor, PHF	0.86	0.95	0.67	0.79	0.94	0.85	0.82	0.93	0.91	0.79	0.95	0.66
Adj. Flow (vph)	143	472	134	138	416	151	102	614	90	187	563	232
RTOR Reduction (vph)	0	25	0	0	32	0	0	13	0	0	54	0
Lane Group Flow (vph)	143	581	0	0	673	0	102	691	0	187	741	0
Confl. Peds. (#/hr)	4	5	6	6	5	5	5	6	5	5	4	4
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%
Turn Type	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt
Protected Phases	2	2	2	2	2	2	2	2	2	2	2	2
Permitted Phases	2	2	2	2	2	2	2	2	2	2	2	2
Actuated Green, G (s)	36.2	36.2	36.2	24.7	29.8	25.8	29.8	25.8	34.8	28.3	34.8	28.3
Effective Green, g (s)	36.2	36.2	36.2	24.7	29.8	25.8	29.8	25.8	34.8	28.3	34.8	28.3
Actuated g/C Ratio	0.43	0.43	0.43	0.29	0.35	0.30	0.35	0.30	0.41	0.33	0.41	0.33
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Vehicle Extension (s)	3.0	8.0	8.0	8.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
Lane Grp Cap (vph)	252	1481	726	726	221	862	221	862	255	1125	255	1125
v/s Ratio Prot	c0.04	0.17	c0.27	0.14	c0.27	0.14	c0.27	0.14	c0.24	0.06	0.22	0.22
v/s Ratio Perm	0.20	0.39	0.57	0.39	0.57	0.39	0.57	0.39	0.73	0.66	0.73	0.66
Uniform Delay, d1	17.0	16.8	17.0	16.8	29.3	19.5	27.3	19.5	18.1	24.2	18.1	24.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.9	0.8	2.9	0.8	16.4	16.4	1.5	5.7	10.4	1.6	10.4	1.6
Delay (s)	19.9	17.6	19.9	17.6	25.3	21.0	33.0	25.3	28.5	25.8	28.5	25.8
Level of Service	B	B	B	B	C	C	C	C	C	C	C	C
Approach Delay (s)	18.0	18.0	25.3	25.3	31.5	31.5	26.3	26.3	26.3	26.3	26.3	26.3
Approach LOS	B	B	C	C	C	C	C	C	C	C	C	C
Intersection Summary												
HCM Average Control Delay	25.5											
HCM Volume to Capacity ratio	0.76											
Actuated Cycle Length (s)	85.0											
Intersection Capacity Utilization	86.7%											
Analysis Period (min)	15											
c Critical Lane Group												

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis

6: Valley Brook Rd & E Ponce De Leon

No-Build SAT 2015
7/11/2012

Movement	SBL	SBR	NEL	NET	SWT	SWR
Lane Configurations	SBL	SBR	NEL	NET	SWT	SWR
Volume (vph)	93	322	299	495	507	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	4.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.99	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Fit	1.00	0.85	1.00	1.00	0.98	1.00
Fit Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1805	1591	1805	1900	1848	1848
Fit Permitted	0.95	1.00	0.16	1.00	1.00	1.00
Satd. Flow (perm)	1805	1591	303	1900	1848	1848
Peak-hour factor, PHF	0.85	0.95	0.87	0.96	0.90	0.76
Adj. Flow (vph)	109	339	344	516	563	108
RTOR Reduction (vph)	0	0	0	0	5	0
Lane Group Flow (vph)	109	339	344	516	666	0
Confl. Peds. (#/hr)	7	10	10	0%	0%	7
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	Free	Free	pm+pt	pm+pt	pm+pt	pm+pt
Protected Phases	4	1	6	2	2	2
Permitted Phases	4	1	6	2	2	2
Actuated Green, G (s)	16.0	95.0	67.0	67.0	43.8	43.8
Effective Green, g (s)	16.0	95.0	67.0	67.0	43.8	43.8
Actuated g/C Ratio	0.17	1.00	0.71	0.71	0.46	0.46
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	8.0	8.0	8.0	8.0
Lane Grp Cap (vph)	304	1591	486	1340	852	852
v/s Ratio Prot	c0.06	c0.13	0.27	c0.36	c0.36	c0.36
v/s Ratio Perm	0.21	0.21	0.37	0.37	0.37	0.37
Uniform Delay, d1	35.0	0.0	15.9	5.7	21.6	21.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.0	0.3	4.7	0.8	7.0	7.0
Delay (s)	35.9	0.3	20.6	6.5	28.6	28.6
Level of Service	D	A	C	A	C	C
Approach Delay (s)	9.0	12.1	28.6	28.6	28.6	28.6
Approach LOS	A	B	C	C	C	C
Intersection Summary						
HCM Average Control Delay	17.0					
HCM Volume to Capacity ratio	0.68					
Actuated Cycle Length (s)	95.0					
Intersection Capacity Utilization	80.7%					
Analysis Period (min)	15					
c Critical Lane Group						

5:00 pm Baseline

Synchro 7 - Report
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Timings

7: Glendale Rd & E Ponce De Leon

No-Build SAT 2015

7/11/2012

Lane Group	NWL	NWR	NET	NER	SWL	SWT	ø3	ø8
Lane Configurations	90	74	424	94	48	440		
Volume (vph)	Free	Free	Free	Free	Perm		3	8
Turn Type	4	2	2	2	6	6		
Protected Phases								
Permitted Phases	4	Free	2	Free	6	6		
Switch Phase								
Minimum Initial (s)	8.0	12.0	12.0	12.0	12.0	12.0	8.0	8.0
Minimum Split (s)	24.5	30.5	30.5	18.5	18.5	13.5	13.5	25.5
Total Split (s)	25.0	0.0	40.0	0.0	40.0	40.0	25.0	50.0
Total Split (%)	27.8%	0.0%	44.4%	0.0%	44.4%	44.4%	28%	56%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	3.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.5	4.0	6.5	4.0	6.5	6.5		
Lead/Lag	Lag						Lead	
Lead-Lag Optimizer?	Yes						Yes	
Recall Mode	None						None	
Act Effct Green (s)	10.6	90.0	70.6	90.0	70.6	70.6		
Actuated g/C Ratio	0.12	1.00	0.78	1.00	0.78	0.78		
v/c Ratio	0.46	0.06	0.31	0.07	0.08	0.31		
Control Delay	43.7	0.1	4.7	0.1	4.1	4.7		
Queue Delay	1.2	0.0	0.6	0.0	0.0	0.0		
Total Delay	44.9	0.1	5.3	0.1	4.1	4.7		
LOS	D	A	A	A	A	A		
Approach Delay	22.3	4.3	4.3		4.7	4.7		
Approach LOS	C	A	A		A	A		
Intersection Summary								
Cycle Length: 90								
Actuated Cycle Length: 90								
Offset: 0 (0%), Referenced to phase 2/NET and 6/SWTL, Start of Green								
Natural Cycle: 70								
Control Type: Actuated-Coordinated								
Maximum v/c Ratio: 0.46								
Intersection Signal Delay: 7.2							Intersection LOS: A	
Intersection Capacity Utilization 56.3%							ICU Level of Service B	
Analysis Period (min) 15								

Splits and Phases: 7: Glendale Rd & E Ponce De Leon

HCM Signalized Intersection Capacity Analysis

7: Glendale Rd & E Ponce De Leon

No-Build SAT 2015

7/11/2012

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations	90	74	424	94	48	440
Volume (vph)	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	6.5	4.0	6.5	4.0	6.5	6.5
Total Lost time (s)	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	1.00	0.98	1.00	0.99	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1805	1580	1900	1593	1765	1900
Flt Permitted	0.95	1.00	1.00	1.00	0.49	1.00
Satd. Flow (perm)	1805	1580	1900	1593	916	1900
Peak-hour factor, PHF	0.91	0.73	0.93	0.85	0.85	0.94
Adj. Flow (vph)	99	101	456	111	56	468
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	99	101	456	111	56	468
Confl. Peds. (#/hr)	5	4		5	4	
Heavy Vehicles (%)	0%	0%	0%	0%	2%	0%
Turn Type	Free	Free	2	Free	Perm	6
Protected Phases	4					6
Permitted Phases		Free		Free		6
Actuated Green, G (s)	9.0	90.0	68.0	90.0	68.0	68.0
Effective Green, g (s)	9.0	90.0	68.0	90.0	68.0	68.0
Actuated g/C Ratio	0.10	1.00	0.76	1.00	0.76	0.76
Clearance Time (s)	6.5		6.5		6.5	6.5
Vehicle Extension (s)	3.0		5.5		5.5	5.5
Lane Grp Cap (vph)	181	1580	1436	1593	692	1436
v/s Ratio Prot	c0.05		0.24		0.07	c0.25
v/s Ratio Perm		0.06		0.07		
v/c Ratio	0.55	0.06	0.32	0.07	0.08	0.33
Uniform Delay, d1	38.6	0.0	3.5	0.0	2.9	3.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.4	0.1	0.6	0.1	0.2	0.6
Delay (s)	41.9	0.1	4.1	0.1	3.1	4.2
Level of Service	D	A	A	A	A	A
Approach Delay (s)	20.8		3.3		4.1	
Approach LOS	C		A		A	
Intersection Summary						
HCM Average Control Delay			6.3		HCM Level of Service	A
HCM Volume to Capacity ratio			0.35			
Actuated Cycle Length (s)			90.0		Sum of lost time (s)	13.0
Intersection Capacity Utilization			56.3%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis
8: McLendon Dr & E Ponce De Leon

No-Build SAT 2015
7/11/2012

Movement	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations	↔	↔	↔	↔	↔	↔
Volume (vph)	64	65	68	476	496	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	4.0	6.0	6.0	6.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1805	1580	1803	1900	1900	1580
Flt Permitted	0.95	1.00	0.41	1.00	1.00	1.00
Satd. Flow (perm)	1805	1580	770	1900	1900	1580
Peak-hour factor, PHF	0.75	0.90	0.84	0.94	0.98	0.77
Adj. Flow (vph)	85	72	81	506	506	71
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	85	72	81	506	506	71
Confl. Peds. (#/hr)	3	3	3			3
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	Free	Free	pm+pt			Free
Protected Phases	8	1	6	2		Free
Permitted Phases	Free	Free	6			Free
Actuated Green, G (s)	10.6	123.0	100.4	100.4	87.2	123.0
Effective Green, g (s)	10.6	123.0	100.4	100.4	87.2	123.0
Actuated g/C Ratio	0.09	1.00	0.82	0.82	0.71	1.00
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	4.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	156	1580	689	1551	1347	1580
v/s Ratio Prot	c0.05		0.01	c0.27	c0.27	
v/s Ratio Perm		0.05	0.09			0.04
v/c Ratio	0.54	0.05	0.12	0.33	0.38	0.04
Uniform Delay, d1	53.9	0.0	3.0	2.8	7.1	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.8	0.1	0.2	0.6	0.8	0.1
Delay (s)	58.7	0.1	3.2	3.4	7.9	0.1
Level of Service	E	A	A	A	A	A
Approach Delay (s)	31.8			3.4	6.9	
Approach LOS	C			A	A	

Intersection Summary			
HCM Average Control Delay	8.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	123.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	53.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

5:00 pm Baseline

Timings
9: E Ponce De Leon & Off Ramp 285

No-Build SAT 2015
7/11/2012

Lane Group	EBT	WBT	SBL	SBR	ø1
Lane Configurations	↔	↔	↔	↔	
Volume (vph)	484	273	311	277	
Turn Type	Perm				
Protected Phases	6	2	8	8	1
Permitted Phases					
Detector Phase	6	2	8	8	
Switch Phase					
Minimum Initial (s)	12.0	12.0	7.0	7.0	7.0
Minimum Split (s)	17.0	17.0	12.5	12.5	12.0
Total Split (s)	60.0	45.0	20.0	20.0	15.0
Total Split (%)	75.0%	56.3%	25.0%	25.0%	19%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5
All-Red Time (s)	1.0	1.0	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.5	5.5	
Lead/Lag	Lag	Lag	Lead	Lead	
Lead-Lag Optimizer?	Yes	Yes	None	None	Yes
Recall Mode	C-Min	C-Min	None	None	None
Act Effct Green (s)	45.7	29.9	23.8	23.8	
Actuated g/C Ratio	0.57	0.37	0.30	0.30	
v/c Ratio	0.49	0.26	0.66	0.45	
Control Delay	11.7	11.9	34.1	5.6	
Queue Delay	0.0	0.0	0.0	0.0	
Total Delay	11.7	11.9	34.1	5.6	
LOS	B	B	C	A	
Approach Delay	11.7	11.9	20.7		
Approach LOS	B	B	C		

Intersection Summary			
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 38 (48%), Referenced to phase 2/WBT and 6/EBT, Start of Green			
Natural Cycle: 45			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay: 15.7			Intersection LOS: B
Intersection Capacity Utilization 70.9%			ICU Level of Service C
Analysis Period (min) 15			

Splits and Phases: 9: E Ponce De Leon & Off Ramp 285

5:00 pm Baseline

HCM Signalized Intersection Capacity Analysis
9: E Ponce De Leon & Off Ramp 285

No-Build SAT 2015
7/11/2012

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		←	←	←	←	←
Volume (vph)	0	484	273	0	311	277
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.5	5.5
Lane Util. Factor		1.00	0.95	1.00	1.00	1.00
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		1900	3610		1805	1599
Flt Permitted		1.00	1.00		0.95	1.00
Satd. Flow (perm)		1900	3610		1805	1599
Peak-hour factor, PHF	0.92	0.91	0.78	0.92	0.87	0.87
Adj. Flow (vph)	0	532	350	0	357	318
RTOR Reduction (vph)	0	0	0	0	0	223
Lane Group Flow (vph)	0	532	350	0	357	95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	1%
Turn Type		6	2		8	Perm
Protected Phases						
Permitted Phases					8	
Actuated Green, G (s)		45.7	30.0		23.8	23.8
Effective Green, g (s)		45.7	30.0		23.8	23.8
Actuated g/C Ratio		0.57	0.38		0.30	0.30
Clearance Time (s)		5.0	5.0		5.5	5.5
Vehicle Extension (s)		5.0	5.0		3.5	3.5
Lane Grp Cap (vph)		1085	1354		537	476
v/s Ratio Prot		c0.28	0.10		c0.20	
v/c Ratio		0.49	0.26		0.66	0.20
Uniform Delay, d1		10.2	17.3		24.6	21.0
Progression Factor		1.00	0.67		1.00	1.00
Incremental Delay, d2		1.6	0.5		3.2	0.2
Delay (s)		11.8	12.1		27.8	21.2
Level of Service		B	B		C	C
Approach Delay (s)		11.8	12.1		24.7	
Approach LOS		B	B		C	
Intersection Summary						
HCM Average Control Delay			17.5		HCM Level of Service	B
HCM Volume to Capacity ratio			0.55			
Actuated Cycle Length (s)			80.0		Sum of lost time (s)	10.5
Intersection Capacity Utilization			70.3%		ICU Level of Service	C
Analysis Period (min)			15			
c Critical Lane Group						

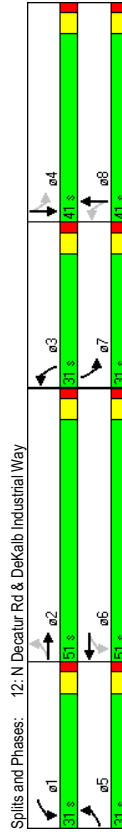
HCM Unsignalized Intersection Capacity Analysis
11: Valley Brook Rd & SR 410 On Ramp

No-Build SAT 2015
7/11/2012

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		←	←	←	←	←
Volume (veh/h)	0	1182	380	0	111	738
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.93	0.92	0.82	0.97
Hourly flow rate (vph)	0	1271	409	0	135	761
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None				
Median storage (veh)						
Upstream signal (ft)			759			
pX, platoon unblocked						
vC, conflicting volume	409				1044	409
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	409				1044	409
IC, single (s)	4.1				6.8	6.9
IC, 2 stage (s)						
IF (s)	2.2				3.5	3.3
p0 queue free %	100				41	0
cM capacity (veh/h)	1161				228	598
Direction, Lane #	EB 1	EB 2	WB 1	SW 1	SW 2	SW 3
Volume Total	635	635	409	135	380	380
Volume Left	0	0	0	135	0	0
Volume Right	0	0	0	0	380	380
cSH	1700	1700	1700	228	598	598
Volume to Capacity	0.37	0.37	0.24	0.59	0.64	0.64
Queue Length 95th (ft)	0	0	0	85	113	113
Control Delay (s)	0.0	0.0	0.0	41.6	21.0	21.0
Lane LOS			E	C	C	C
Approach Delay (s)	0.0	0.0	0.0	24.1		
Approach LOS			C			
Intersection Summary						
Average Delay			8.4			
Intersection Capacity Utilization			52.5%		ICU Level of Service	A
Analysis Period (min)			15			

Timings 12: N Decatur Rd & DeKalb Industrial Way No-Build SAT 2015 7/11/2012

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	109	470	66	346	164	448	170	375
Volume (vph)	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt
Turn Type	5	2	1	6	3	8	7	4
Protected Phases	2	2	6	6	8	4	4	4
Permitted Phases	5	2	1	6	3	8	7	4
Switch Phase	5	2	1	6	3	8	7	4
Minimum Initial (s)	5.0	10.0	5.0	15.0	5.0	7.0	5.0	7.0
Minimum Split (s)	22.0	31.0	11.0	31.0	11.0	31.0	11.0	13.0
Total Split (s)	31.0	51.0	31.0	51.0	31.0	41.0	31.0	41.0
Total Split (%)	20.1%	33.1%	20.1%	33.1%	20.1%	26.6%	20.1%	26.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead/Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	None	None	None	None
Act Effect Green (s)	44.9	36.0	38.8	30.3	35.0	22.1	38.0	23.6
Actuated g/C Ratio	0.44	0.35	0.38	0.30	0.34	0.22	0.37	0.23
v/c Ratio	0.34	0.49	0.24	0.51	0.51	0.71	0.53	0.56
Control Delay	19.9	29.0	19.3	30.4	26.1	43.9	26.4	38.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.9	29.0	19.3	30.4	26.1	43.9	26.4	38.3
LOS	B	C	B	C	C	D	C	D
Approach Delay	27.4		28.9		39.2		34.9	
Approach LOS	C		C		D		C	



HCM Signalized Intersection Capacity Analysis 12: N Decatur Rd & DeKalb Industrial Way No-Build SAT 2015 7/11/2012

Movement	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	109	470	66	346	164	448	170	375	54
Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Total Lost time (s)	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	0.95
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.97	1.00	0.96	1.00	0.98	1.00	0.98	0.98
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1804	3484	1803	3432	1802	3540	1804	3522	3522
Flt Permitted	0.32	1.00	0.36	1.00	0.38	1.00	0.24	1.00	1.00
Satd. Flow (perm)	600	3484	691	3432	723	3540	451	3522	3522
Peak-hour factor, PHF	0.82	0.98	0.86	0.78	0.83	0.89	0.84	0.92	0.91
Adj. Flow (vph)	133	480	126	85	372	154	195	487	62
RTOR Reduction (vph)	0	14	0	0	28	0	6	0	0
Lane Group Flow (vph)	133	592	0	85	498	0	195	543	0
Confl. Peds. (#/hr)	5	7	8	6	7	8	6	6	5
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	1%
Turn Type	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt
Permitted Phases	5	2	1	6	3	8	7	4	4
Actuated Green, G (s)	47.0	36.0	38.8	31.9	35.0	22.1	38.0	23.6	23.6
Effective Green, g (s)	47.0	36.0	38.8	31.9	35.0	22.1	38.0	23.6	23.6
Actuated g/C Ratio	0.45	0.35	0.38	0.31	0.34	0.21	0.37	0.23	0.23
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	8.0	3.0	8.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	401	1213	333	1059	379	757	354	804	804
v/s Ratio Prot	c0.04	c0.17	0.02	0.15	0.06	c0.15	c0.07	0.13	0.13
v/s Ratio Perm	0.12		0.08		0.11		0.12		
v/c Ratio	0.33	0.49	0.26	0.47	0.51	0.72	0.53	0.56	0.56
Uniform Delay, d1	17.3	26.5	21.3	28.9	25.5	37.7	23.8	35.3	35.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	1.3	0.4	1.4	1.2	3.3	1.4	0.8	0.8
Delay (s)	17.8	27.8	21.7	30.3	26.7	41.0	25.3	36.1	36.1
Level of Service	B	C	C	C	C	D	C	D	D
Approach Delay (s)	26.0		29.1		37.2		33.0		
Approach LOS	C		C		D		C		

Intersection Summary									
HCM Average Control Delay	31.4	HCM Level of Service	C						
HCM Volume to Capacity ratio	0.56								
Actuated Cycle Length (s)	103.4	Sum of lost time (s)	24.0						
Intersection Capacity Utilization	66.6%	ICU Level of Service	C						
Analysis Period (min)	15								
c Critical Lane Group									

HCM Signalized Intersection Capacity Analysis 13: N Decatur Rd & Church St W

No-Build SAT 2015
7/11/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Volume (vph)	76	424	25	146	327	80	71	379	140	90	353	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Flt Protected	0.95	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1805	3610	1615	1805	3610	1583	1805	3610	1615	1805	3610	1524
Satd. Flow (perm)	998	3610	1615	341	3610	1583	882	3610	1615	926	3610	1524
Peak-hour factor, PHF	0.82	0.92	0.77	0.79	0.94	0.76	0.72	0.94	0.77	0.93	0.81	0.88
Adj. Flow (vph)	93	461	32	185	348	105	99	403	182	97	436	84
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	93	461	32	185	348	105	99	403	182	97	436	84
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	6%
Turn Type	pm+pt	Free	Free	pm+pt	Free	Free	pm+pt	Free	Free	pm+pt	Free	Free
Protected Phases	4	Free	8	3	8	Free	5	2	Free	1	6	Free
Permitted Phases	35.7	24.9	150.0	48.3	31.5	150.0	83.8	74.6	150.0	83.6	74.5	150.0
Actuated Green, G (s)	35.7	24.9	150.0	48.3	31.5	150.0	83.8	74.6	150.0	83.6	74.5	150.0
Effective Green, g (s)	0.24	0.17	1.00	0.32	0.21	1.00	0.36	0.50	1.00	0.56	0.50	1.00
Actuated g/C Ratio	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Clearance Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Vehicle Extension (s)	296	599	1615	280	758	1583	549	1795	1615	589	1793	1524
Lane Grp Cap (vph)	0.02	c0.13	c0.08	0.10	0.10	0.07	0.01	0.11	c0.11	0.01	c0.12	0.06
v/s Ratio Prot	0.05	0.31	0.77	0.02	0.66	0.46	0.07	0.18	0.22	0.11	0.17	0.24
v/c Ratio	45.9	59.8	0.0	40.0	51.8	0.0	15.6	21.3	0.0	15.6	21.6	0.0
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Progression Factor	0.6	5.9	0.0	5.7	0.4	0.1	0.2	0.3	0.1	0.1	0.3	0.1
Incremental Delay, d2	46.5	65.7	0.0	45.7	52.2	0.1	15.7	21.6	0.1	15.7	21.9	0.1
Delay (s)	D	E	A	D	D	A	B	C	A	B	C	A
Level of Service	59.1	E	A	D	D	A	B	C	A	B	C	A
Approach Delay (s)	E			41.8			15.1		B		18.0	
Approach LOS				D			B		B		B	
Intersection Summary												
HCM Average Control Delay	32.7											
HCM Volume to Capacity ratio	0.39											
Actuated Cycle Length (s)	150.0											
Intersection Capacity Utilization	55.3%											
Analysis Period (min)	15											
c Critical Lane Group												

5:00 pm Baseline

Synchro 7 - Report
Page 24

HCM Signalized Intersection Capacity Analysis 14: N Decatur Rd & Church St

No-Build SAT 2015
7/11/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SWR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Volume (vph)	186	467	24	8	470	4	5	92	25	6	45	148
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		5.5	5.5		5.5	5.5		5.5	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Permitted	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (prot)	1805	3565	1615	3590	3590	1821	1805	3565	1615	1882	1599	1599
Satd. Flow (perm)	471	3565		3227		1796	471	3565		1797	1599	1599
Peak-hour factor, PHF	0.94	0.92	0.62	0.25	0.85	0.45	0.54	0.95	0.81	0.38	0.63	0.76
Adj. Flow (vph)	198	508	39	32	553	9	86	31	16	71	195	195
RTOR Reduction (vph)	0	6	0	0	1	0	0	14	0	0	0	0
Lane Group Flow (vph)	198	541	0	0	593	0	0	112	0	0	87	195
Conf. Peds. (#/hr)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	Free	Free	pm+pt	Free	Free	pm+pt	Free	Free	pm+pt	Free	Free
Protected Phases	5	2	2	6	6	8	8	8	8	4	4	4
Permitted Phases	36.2	36.2	36.2	24.7	24.7	25.8	25.8	25.8	25.8	28.3	85.0	85.0
Actuated Green, G (s)	36.2	36.2	36.2	24.7	24.7	25.8	25.8	25.8	25.8	28.3	85.0	85.0
Effective Green, g (s)	0.43	0.43	0.43	0.29	0.29	0.30	0.30	0.30	0.30	0.33	1.00	1.00
Actuated g/C Ratio	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Clearance Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Vehicle Extension (s)	295	1518		938		545		545		598	1599	1599
Lane Grp Cap (vph)	c0.05	0.15		0.18		c0.06		c0.06		0.05	c0.12	c0.12
v/s Ratio Prot	c0.24	0.67	0.36	0.63	0.63	0.21	0.21	0.21	0.21	0.15	0.12	0.12
v/c Ratio	17.0	16.5	0.0	26.2	26.2	22.0	22.0	22.0	22.0	19.9	0.0	0.0
Uniform Delay, d1	0.80	0.74	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Progression Factor	5.1	0.6		3.2		0.3		0.3		0.2	0.2	0.2
Incremental Delay, d2	18.6	12.8		29.4		22.2		22.2		20.0	0.2	0.2
Delay (s)	B	B		C		C		C		C	C	C
Level of Service	B	B		C		C		C		C	C	C
Approach Delay (s)	14.3			29.4		22.2		22.2		6.3		
Approach LOS	B			C		C		C		A		
Intersection Summary												
HCM Average Control Delay	18.7											
HCM Volume to Capacity ratio	0.40											
Actuated Cycle Length (s)	85.0											
Intersection Capacity Utilization	67.5%											
Analysis Period (min)	15											
c Critical Lane Group												

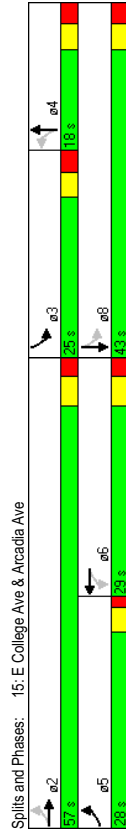
5:00 pm Baseline

Synchro 7 - Report
Page 26

Timings 15: E College Ave & Arcadia Ave

No-Build SAT 2015
7/11/2012

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	EB	EB	WB	WB	NB	NB	SB	SB	SB
Volume (vph)	280	352	25	375	24	181	190	215	225
Turn Type	pm+pt	pm+pt	Perm	Perm	Perm	pm+pt	pm+pt	Free	Free
Protected Phases	5	2	6	6	4	4	3	8	8
Permitted Phases	5	2	6	6	4	4	3	8	8
Switch Phase	5	2	6	6	4	4	3	8	8
Minimum Initial (s)	5.0	15.0	15.0	15.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	9.4	31.0	21.0	21.0	12.8	12.8	12.7	34.8	34.8
Total Split (s)	28.0	57.0	29.0	29.0	18.0	18.0	25.0	43.0	0.0
Total Split (%)	28.0%	57.0%	29.0%	29.0%	18.0%	18.0%	25.0%	43.0%	0.0%
Yellow Time (s)	3.0	3.6	3.6	3.6	3.1	3.1	3.0	3.1	3.1
All-Red Time (s)	1.4	2.4	2.4	2.4	2.7	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.4	6.0	6.0	6.0	5.8	5.8	5.7	5.8	4.0
Lead/Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	C-Min	None	None	None	None	None
Act Effct Green (s)	56.3	54.7	35.1	35.1	13.7	13.7	33.6	33.5	100.0
Actuated g/C Ratio	0.56	0.55	0.35	0.35	0.14	0.14	0.34	0.34	1.00
v/c Ratio	0.59	0.22	0.09	0.49	0.72	0.53	0.37	0.14	0.14
Control Delay	17.8	11.7	27.6	25.8	50.2	29.6	26.3	26.3	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.8	11.7	27.6	25.8	50.2	29.6	26.3	26.3	0.2
LOS	B	B	C	C	D	D	C	C	A
Approach Delay	14.2	25.9	25.9	25.9	50.2	50.2	18.1	18.1	B
Approach LOS	B	C	C	C	D	D	B	B	B
Intersection Summary									
Cycle Length: 100									
Actuated Cycle Length: 100									
Offset: 49 (49%), Referenced to phase 2EBTL and 6:WBTL, Start of Green									
Natural Cycle: 70									
Control Type: Actuated-Coordinated									
Maximum v/c Ratio: 0.72									
Intersection Signal Delay: 23.2									
Intersection Capacity Utilization 67.8%									
Analysis Period (min) 15									



HCM Signalized Intersection Capacity Analysis 15: E College Ave & Arcadia Ave

No-Build SAT 2015
7/11/2012

Movement	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	EB	EB	WB	WB	NB	NB	SB	SB	SB
Volume (vph)	280	352	25	375	180	24	181	190	215
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0	6.0	6.0	5.8	5.8	5.7	5.8	4.0
Lane Util. Factor	1.00	0.95	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Flt Protected	1.00	0.98	1.00	0.95	0.98	0.98	1.00	1.00	0.85
Flt Permitted	0.95	1.00	0.95	1.00	0.98	0.98	0.95	1.00	1.00
Satd. Flow (prot)	1805	3546	1805	3439	3509	3509	1805	1900	1615
Satd. Flow (perm)	541	3546	954	3439	2996	2996	613	1900	1615
Peak-hour factor, PHF	0.96	0.93	0.71	0.81	0.93	0.46	0.67	0.95	0.92
Adj. Flow (vph)	292	378	51	31	421	194	52	213	40
RTOR Reduction (vph)	0	10	0	0	45	0	12	0	0
Lane Group Flow (vph)	292	419	0	31	570	0	293	0	234
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	2	Perm	6	Perm	4	pm+pt	3	8
Protected Phases	5	2	6	6	4	4	3	8	8
Permitted Phases	5	2	6	6	4	4	3	8	8
Actuated Green, G (s)	54.7	54.7	35.1	35.1	13.7	13.7	33.5	33.5	100.0
Effective Green, g (s)	54.7	54.7	35.1	35.1	13.7	13.7	33.5	33.5	100.0
Actuated g/C Ratio	0.55	0.55	0.35	0.35	0.14	0.14	0.34	0.34	1.00
Clearance Time (s)	4.4	6.0	6.0	6.0	5.8	5.8	5.7	5.8	4.0
Vehicle Extension (s)	3.5	5.0	5.0	5.0	3.0	3.0	3.5	3.5	3.5
Lane Grp Cap (vph)	488	1940	335	1207	410	410	373	637	1615
v/s Ratio Prot	c0.09	0.12	0.03	0.17	c0.10	c0.10	0.10	0.12	0.14
v/s Ratio Perm	c0.24	0.22	0.09	0.47	0.71	0.71	0.54	0.37	0.14
v/c Ratio	0.60	0.22	0.09	0.47	0.71	0.71	0.54	0.37	0.14
Uniform Delay, d1	13.5	11.6	21.8	25.2	41.3	41.3	25.3	25.2	0.0
Progression Factor	1.05	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.0	0.2	0.5	1.3	5.8	5.8	1.7	0.4	0.2
Delay (s)	16.1	11.6	22.3	26.6	47.1	47.1	27.0	25.6	0.2
Level of Service	B	B	C	C	D	D	C	C	A
Approach Delay (s)	13.4	26.4	26.4	26.4	47.1	47.1	17.1	17.1	B
Approach LOS	B	C	C	C	D	D	B	B	B
Intersection Summary									
HCM Average Control Delay	22.4								
HCM Volume to Capacity ratio	0.59								
Actuated Cycle Length (s)	100.0								
Intersection Capacity Utilization	67.8%								
Analysis Period (min)	15								
c Critical Lane Group									

16: Katie Kerr Dr & S Columbia Dr

No-Build SAT 2015
7/11/2012

HCM Signalized Intersection Capacity Analysis

Movement	WBL	WBR	NBL	NBR	SBL	SBR
Lane Configurations	W		W		W	
Volume (vph)	188	28	273	145	22	281
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.98	0.95	0.97	0.88	1.00	1.00
Satd. Flow (prot)	1787	1756	1756	1659	1787	1756
Flt Permitted	0.96	0.97	0.97	1.00	1.00	1.00
Peak-hour factor, PHF	0.89	0.79	0.87	0.91	0.70	0.89
Adj. Flow (vph)	211	35	314	159	31	316
RTOR Reduction (vph)	10	0	27	0	0	0
Lane Group Flow (vph)	236	0	446	0	347	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type						
Protected Phases	8!		2		6	
Permitted Phases						
Actuated Green, G (s)	11.5		16.1		39.4	
Effective Green, g (s)	11.5		16.1		39.4	
Actuated g/C Ratio	0.23		0.33		0.80	
Clearance Time (s)	5.0		5.0		5.0	
Vehicle Extension (s)	3.0		3.0		3.0	
Lane Grp Cap (vph)	416		572		1659	
v/s Ratio Prot	0.13		0.25		0.03	
v/s Ratio Perm					0.18	
v/c Ratio	0.57		0.78		0.21	
Uniform Delay, d1	16.8		15.0		1.3	
Progression Factor	1.00		1.00		1.00	
Incremental Delay, d2	1.8		6.7		0.1	
Delay (s)	18.5		21.7		1.3	
Level of Service	B		C		A	
Approach Delay (s)	18.5		21.7		1.3	
Approach LOS	B		C		A	
Intersection Summary						
HCM Average Control Delay			14.3		HCM Level of Service	B
HCM Volume to Capacity ratio			0.55			
Actuated Cycle Length (s)			49.4		Sum of lost time (s)	10.0
Intersection Capacity Utilization			67.2%		ICU Level of Service	C
Analysis Period (min)			15			
! Phase conflict between lane groups.						
c Critical Lane Group						

5:00 pm Baseline

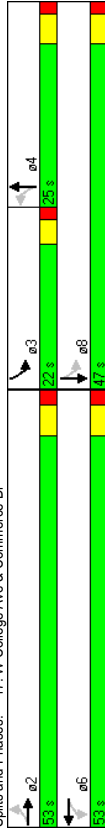
17: W College Ave & Commerce Dr

No-Build SAT 2015
7/11/2012

Timings

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	4P	4P	4P	4P	4P	4P	4P	4P
Volume (vph)	32	538	50	519	65	167	97	190
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	pm+pt	pm+pt
Protected Phases	2	2	6	6	4	4	3	8
Permitted Phases	2	2	6	6	4	4	3	8
Detector Phase	2	2	6	6	4	4	3	8
Switch Phase								
Minimum Initial (s)	15.0	15.0	15.0	15.0	7.0	7.0	5.0	8.0
Minimum Split (s)	21.7	21.7	20.7	20.7	20.2	20.2	9.5	20.2
Total Split (s)	53.0	53.0	53.0	53.0	25.0	25.0	22.0	47.0
Total Split (%)	53.0%	53.0%	53.0%	53.0%	25.0%	25.0%	22.0%	47.0%
Yellow Time (s)	3.8	3.8	3.8	3.8	3.6	3.6	3.0	3.6
All-Red Time (s)	1.9	1.9	1.9	1.9	1.6	1.6	1.5	1.6
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.7	5.7	5.7	5.7	5.2	5.2	4.5	5.2
Lead/Lag					Lag	Lag	Lead	Lead
Lead-Lag Optimizer?					Yes	Yes	Yes	Yes
Recall Mode					None	None	None	None
Act Effct Green (s)		67.9		67.9	21.2	21.2		21.2
Actuated g/C Ratio		0.68		0.68	0.21	0.21		0.21
v/c Ratio		0.31		0.36	0.65	0.65		0.67
Control Delay		6.1		5.2	38.0	39.7		39.7
Queue Delay		0.0		0.0	0.0	0.0		0.0
Total Delay		6.1		5.2	38.0	39.7		39.7
LOS		A		A	D	D		D
Approach Delay		6.1		5.2	38.0	39.7		39.7
Approach LOS		A		A	D	D		D
Intersection Summary								
Cycle Length: 100								
Actuated Cycle Length: 100								
Offset: 87 (87%), Referenced to phase 2EBTL and 6:WBTL, Start of Green								
Natural Cycle: 35								
Control Type: Actuated-Coordinated								
Maximum v/c Ratio: 0.67								
Intersection Signal Delay: 16.8								
Intersection Capacity Utilization 73.2%								
Analysis Period (min) 15								
Intersection LOS: B								
ICU Level of Service D								

Splits and Phases: 17: W College Ave & Commerce Dr



5:00 pm Baseline

HCM Signalized Intersection Capacity Analysis
17: W College Ave & Commerce Dr

No-Build SAT 2015
7/11/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	32	538	22	50	519	109	65	167	57	97	190	42
Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	5.7	5.7	5.7	5.7	5.7	5.7	5.2	5.2	5.2	5.2	5.2	5.2
Total Lost time (s)	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.99	0.99	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	0.99	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.98	0.98	0.98	0.98
Flt Protected	1.00	1.00	1.00	1.00	1.00	1.00	0.99	0.99	0.99	0.99	0.99	0.99
Satd. Flow (prot)	3569	3492	3416	3416	3416	3416	3472	3472	3472	3472	3472	3472
Flt Permitted	0.86	0.84	0.84	0.84	0.84	0.84	0.68	0.68	0.69	0.69	0.69	0.69
Satd. Flow (perm)	3083	2941	2941	2941	2941	2941	2372	2372	2372	2372	2372	2372
Peak-hour factor, PHF	0.75	0.93	0.75	0.84	0.96	0.86	0.69	0.69	0.79	0.91	0.95	0.83
Adj. Flow (vph)	43	578	29	60	541	127	94	174	72	107	200	51
RTOR Reduction (vph)	0	2	0	0	11	0	0	24	0	0	18	0
Lane Group Flow (vph)	0	648	0	0	717	0	0	316	0	0	340	0
Confl. Peds. (#/hr)	2	10	9	0	10	1	10	10	9	1	1	2
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	2	2	2	6	6	6	4	4	4	4	8	8
Permitted Phases	2	2	2	6	6	6	4	4	4	4	8	8
Actuated Green, G (s)	67.9	67.9	67.9	67.9	67.9	67.9	21.2	21.2	21.2	21.2	21.2	21.2
Effective Green, g (s)	67.9	67.9	67.9	67.9	67.9	67.9	21.2	21.2	21.2	21.2	21.2	21.2
Actuated g/C Ratio	0.68	0.68	0.68	0.68	0.68	0.68	0.21	0.21	0.21	0.21	0.21	0.21
Clearance Time (s)	5.7	5.7	5.7	5.7	5.7	5.7	5.2	5.2	5.2	5.2	5.2	5.2
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	2093	1997	1997	1997	1997	1997	503	503	503	503	515	515
v/s Ratio Prot	0.21	0.21	0.21	0.24	0.24	0.24	0.13	0.13	0.13	0.13	0.14	0.14
v/s Ratio Perm	0.31	0.31	0.31	0.36	0.36	0.36	0.63	0.63	0.63	0.66	0.66	0.66
Uniform Delay, d1	6.5	6.5	6.5	6.8	6.8	6.8	35.8	35.8	35.8	36.1	36.1	36.1
Progression Factor	0.81	0.81	0.81	0.65	0.65	0.65	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	0.4	0.4	0.5	0.5	0.5	2.8	2.8	2.8	3.4	3.4	3.4
Delay (s)	5.6	5.6	5.6	4.9	4.9	4.9	38.6	38.6	38.6	39.5	39.5	39.5
Level of Service	A	A	A	A	A	A	D	D	D	D	D	D
Approach Delay (s)	5.6	5.6	5.6	4.9	4.9	4.9	38.6	38.6	38.6	39.5	39.5	39.5
Approach LOS	A	A	A	A	A	A	D	D	D	D	D	D
Intersection Summary												
HCM Average Control Delay	16.6											
HCM Volume to Capacity ratio	0.43											
Actuated Cycle Length (s)	100.0											
Intersection Capacity Utilization	73.2%											
Analysis Period (min)	15											
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
18: W College Ave & SR 155

No-Build SAT 2015
7/11/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	60	411	59	96	329	133	21	238	104	122	268	33
Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Total Lost time (s)	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.97	1.00	1.00	1.00	1.00
Flt	0.98	0.98	0.98	0.98	0.98	0.98	0.95	0.95	1.00	0.98	0.98	0.98
Flt Protected	0.99	0.99	0.99	0.99	0.99	0.99	0.95	0.95	1.00	0.95	1.00	0.95
Satd. Flow (prot)	3491	1784	1900	1615	1757	1800	1804	1853	1804	1853	1804	1853
Flt Permitted	0.78	0.38	0.38	0.38	0.38	0.38	0.57	0.57	1.00	0.23	1.00	0.23
Satd. Flow (perm)	2757	706	1900	1615	1046	1800	435	1853	435	1853	435	1853
Peak-hour factor, PHF	0.86	0.97	0.86	0.85	0.90	0.85	0.79	0.85	0.87	0.91	0.95	0.82
Adj. Flow (vph)	70	424	69	113	366	156	27	280	120	134	282	40
RTOR Reduction (vph)	0	13	0	0	0	104	0	14	0	0	4	0
Lane Group Flow (vph)	0	550	0	113	366	52	27	386	0	134	318	0
Confl. Peds. (#/hr)	14	20	15	9	20	9	20	15	9	15	9	14
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	2	2	2	6	6	7	8	8	8	8	8	8
Permitted Phases	2	2	2	6	6	7	8	8	8	8	8	8
Actuated Green, G (s)	39.8	39.8	39.8	39.8	39.8	14.1	29.1	29.1	29.1	48.2	48.2	48.2
Effective Green, g (s)	39.8	39.8	39.8	39.8	39.8	14.1	29.1	29.1	29.1	48.2	48.2	48.2
Actuated g/C Ratio	0.40	0.40	0.40	0.40	0.40	0.14	0.29	0.29	0.29	0.48	0.48	0.48
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	1097	281	756	228	304	524	403	893	403	893	403	893
v/s Ratio Prot	c0.20	0.16	0.19	0.03	0.03	0.03	0.05	0.17	0.05	0.17	0.11	0.11
v/s Ratio Perm	0.50	0.40	0.48	0.23	0.09	0.74	0.33	0.36	0.33	0.36	0.36	0.36
Uniform Delay, d1	22.6	21.6	22.4	38.1	25.8	32.0	16.6	16.2	16.6	16.2	16.2	16.2
Progression Factor	0.74	0.98	0.99	1.94	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.5	4.0	2.1	1.0	0.3	6.5	1.0	0.5	1.0	0.5	1.0	0.5
Delay (s)	18.3	25.1	24.3	74.9	26.1	38.4	17.7	16.7	17.7	16.7	16.7	16.7
Level of Service	B	C	C	E	C	D	B	B	B	B	B	B
Approach Delay (s)	18.3	36.9	37.7	37.7	37.7	37.7	17.0	17.0	17.0	17.0	17.0	17.0
Approach LOS	B	D	D	D	D	D	B	B	B	B	B	B
Intersection Summary												
HCM Average Control Delay	27.6											
HCM Volume to Capacity ratio	0.58											
Actuated Cycle Length (s)	100.0											
Intersection Capacity Utilization	84.2%											
Analysis Period (min)	15											
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
19: W College Ave & McDonough St

No-Build SAT 2015
7/11/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EB	EB	EB	EB	EB	EB	EB	EB	EB	EB	EB	EB
Volume (vph)	29	337	22	40	294	31	11	96	107	125	108	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	16	12	12	12	12	11	11	11	11	11	11
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	5.0	6.0	5.0	5.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.98	1.00	0.98	1.00	0.99	1.00
Frb. ped/bikes	1.00	1.00	1.00	0.99	1.00	0.98	1.00	0.98	1.00	1.00	1.00	1.00
Frb. Protected	1.00	0.99	1.00	0.98	1.00	0.98	1.00	0.92	1.00	0.95	1.00	0.95
Satd. Flow (prot)	1797	2116	1789	1858	1718	1649	1741	1737	1741	1737	1737	1737
Flt Permitted	0.44	1.00	0.45	1.00	0.64	1.00	0.35	1.00	0.35	1.00	0.35	1.00
Satd. Flow (perm)	842	2116	848	1858	1161	1649	650	1737	650	1737	650	1737
Peak-hour factor, PHF	0.55	0.96	0.64	0.78	0.87	0.59	0.83	0.87	0.84	0.96	0.85	0.72
Adj. Flow (vph)	53	351	34	51	338	53	13	110	127	130	127	56
RTOR Reduction (vph)	0	3	0	0	5	0	0	43	0	0	16	0
Lane Group Flow (vph)	53	382	0	51	386	0	13	194	0	130	167	0
Conf. Ped. (#/hr)	6	9	7	4	9	7	4	7	4	7	4	6
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	2	Perm	6	Perm	6	pm+pt	8	pm+pt	7	pm+pt	4
Protected Phases	2	49.5	49.5	49.5	49.5	49.5	22.5	21.1	38.5	32.1	38.5	32.1
Actuated Green, G (s)	49.5	49.5	49.5	49.5	49.5	49.5	22.5	21.1	38.5	32.1	38.5	32.1
Effective Green, g (s)	0.50	0.50	0.50	0.50	0.50	0.50	0.22	0.21	0.38	0.32	0.38	0.32
Actuated G/C Ratio	6.0	6.0	6.0	6.0	6.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	3.0	3.5	3.5	3.5	3.5	4.0
Vehicle Extension (s)	417	1047	420	920	269	348	386	558	386	558	386	558
Lane Grp Cap (vph)	0.18	0.18	0.18	0.21	0.21	0.21	0.00	0.12	0.04	0.10	0.10	0.10
v/s Ratio Prot	0.13	0.36	0.12	0.42	0.01	0.01	0.01	0.01	0.09	0.09	0.09	0.09
v/s Ratio Perm	13.6	15.6	13.6	16.1	13.6	16.1	30.3	35.3	21.1	25.5	21.1	25.5
Uniform Delay, d1	1.00	1.00	1.74	1.58	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Progression Factor	0.6	1.0	0.6	1.3	0.6	1.3	0.1	2.1	0.6	0.4	0.6	0.4
Incremental Delay, d2	14.2	16.5	24.2	26.8	14.2	16.5	30.3	37.4	21.7	25.9	21.7	25.9
Delay (s)	B	B	C	C	C	C	C	D	C	C	C	C
Level of Service	B	B	C	C	C	C	C	D	C	C	C	C
Approach Delay (s)	16.3	16.3	26.5	26.5	16.3	16.3	37.0	24.2	16.3	16.3	24.2	16.3
Approach LOS	B	B	C	C	B	B	D	C	B	B	C	C
Intersection Summary												
HCM Average Control Delay	24.7											
HCM Volume to Capacity ratio	0.45											
Actuated Cycle Length (s)	100.0											
Intersection Capacity Utilization	63.9%											
Analysis Period (min)	15											
c Critical Lane Group	B											

5:00 pm Baseline

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HCM Signalized Intersection Capacity Analysis
20: Driveway & Dekab Industrial Way

No-Build SAT 2015
7/11/2012

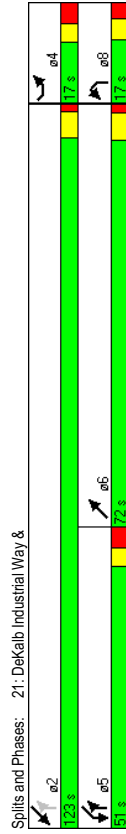
Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	NWL	NWR
Lane Configurations										
Volume (vph)	1	0	1	451	16	134	453	0	3	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.6	5.6	4.0	5.6	5.6	5.5	4.0	5.5
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00
Frt	1.00	1.00	1.00	1.00	0.85	1.00	1.00	1.00	0.85	1.00
Flt Protected	0.95	0.95	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95
Satd. Flow (prot)	1805	1805	3610	3610	1615	1805	3610	1805	1615	1805
Flt Permitted	1.00	0.48	1.00	1.00	0.41	1.00	1.00	0.95	1.00	0.95
Satd. Flow (perm)	1900	915	3610	3610	1615	777	3610	1805	1615	1805
Peak-hour factor, PHF	0.92	0.92	0.25	0.91	0.64	0.94	0.96	0.92	0.92	0.93
Adj. Flow (vph)	1	0	4	496	25	143	472	0	7	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	1	0	4	496	25	143	472	0	0	7
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	pm+pt	5	2	Free	pm+pt	6	Perm	8	Free
Protected Phases	8	2	23.3	45.2	31.0	26.8	8	8	Free	Free
Permitted Phases	1.0	24.0	23.3	45.2	31.0	26.8	1.0	45.2	31.0	45.2
Actuated Green, G (s)	1.0	24.0	23.3	45.2	31.0	26.8	1.0	45.2	31.0	45.2
Effective Green, g (s)	0.02	0.53	0.52	1.00	0.69	0.59	0.02	1.00	0.69	0.59
Actuated g/C Ratio	5.5	5.6	5.6	5.6	5.6	5.6	5.5	5.5	5.5	5.5
Clearance Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Vehicle Extension (s)	42	500	1861	1615	628	2140	40	1615	628	2140
Lane Grp Cap (vph)	0.00	0.00	0.14	0.02	0.13	0.13	0.00	0.10	0.13	0.13
v/s Ratio Prot	0.02	0.01	0.27	0.02	0.23	0.22	0.17	0.10	0.17	0.10
v/s Ratio Perm	21.6	5.0	6.2	0.0	2.6	4.3	21.7	0.0	2.6	4.3
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Progression Factor	0.1	0.0	0.2	0.0	0.1	0.1	0.8	0.1	0.1	0.1
Incremental Delay, d2	21.7	5.0	6.3	0.0	2.7	4.4	22.5	0.1	2.7	4.4
Delay (s)	C	A	A	A	A	A	C	A	C	A
Level of Service	C	A	A	A	A	A	C	A	C	A
Approach Delay (s)	21.7	6.0	6.0	4.0	4.0	4.0	1.0	4.0	4.0	4.0
Approach LOS	C	A	A	A	A	A	A	A	A	A
Intersection Summary										
HCM Average Control Delay	4.4									
HCM Volume to Capacity ratio	0.24									
Actuated Cycle Length (s)	45.2									
Intersection Capacity Utilization	50.1%									
Analysis Period (min)	15									
c Critical Lane Group										

5:00 pm Baseline

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Timings 21: DeKalb Industrial Way & No-Build SAT 2015 7/11/2012

Lane Group	NBL2	NBR	SEL	NET	SWL	SWT	
Lane Configurations	36	641	1	1403	597	1347	
Volume (vph)	17.0	51.0	17.0	72.0	51.0	123.0	
Turn Type	Prot	custom			Prot		
Protected Phases	8	5	4	6	5	2	
Permitted Phases	2						
Detector Phase	8	5	4	6	5	2	
Switch Phase							
Minimum Initial (s)	8.6	10.0	7.0	33.0	10.0	10.0	
Minimum Split (s)	15.0	16.6	13.8	39.5	16.6	16.2	
Total Split (s)	17.0	51.0	17.0	72.0	51.0	123.0	
Total Split (%)	12.1%	36.4%	12.1%	51.4%	36.4%	87.9%	
Yellow Time (s)	3.5	3.1	3.0	4.7	3.1	4.7	
All-Red Time (s)	2.9	3.5	3.8	1.8	3.5	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.4	6.6	6.8	6.5	6.6	6.2	
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	
Lead-Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	C-Min	None	C-Min	
Act Effct Green (s)	9.3	120.7	8.6	81.6	32.6	122.4	
Actuated g/C Ratio	0.07	0.86	0.06	0.58	0.23	0.87	
v/c Ratio	0.35	0.26	0.01	0.49	0.77	0.32	
Control Delay	70.6	0.2	61.0	19.2	56.5	2.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	70.6	0.2	61.0	19.2	56.5	2.2	
LOS	E	A	E	B	E	A	
Approach Delay							
Approach LOS							
Intersection Summary							
Cycle Length: 140							
Actuated Cycle Length: 140							
Offset: 0 (0%), Referenced to phase 2SWT and 6:NET, Start of Green							
Natural Cycle: 75							
Control Type: Actuated-Coordinated							
Maximum v/c Ratio: 0.77							
Intersection Signal Delay: 16.4							
Intersection Capacity Utilization 84.1%							
Analysis Period (min) 15							



HCM Signalized Intersection Capacity Analysis 21: DeKalb Industrial Way & No-Build SAT 2015 7/11/2012

Movement	NBL2	NBR	SEL	SER	NEL	NET	SWL	SWT	SWR
Lane Configurations	36	641	1	0	0	1403	41	597	1347
Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	6.4	6.6	6.8	6.5	6.6	6.2	6.6	6.2	6.2
Total Lost time (s)	1.00	0.99	1.00	0.91	0.97	0.91	0.97	0.91	0.91
Lane Util. Factor	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp	1.00	0.95	1.00	0.99	1.00	0.95	1.00	1.00	1.00
Fit Protected	0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1805	2815	1805	5157	3502	5187	3502	5187	5187
Fit Permitted	0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1805	2815	1805	5157	3502	5187	3502	5187	5187
Peak-hour factor, PHF	0.85	0.25	0.90	0.92	0.92	0.98	0.81	0.95	0.94
Adj. Flow (vph)	42	0	712	1	0	1432	51	628	1433
RTOR Reduction (vph)	0	0	103	0	0	2	0	0	0
Lane Group Flow (vph)	42	0	609	1	0	1481	0	628	1433
Conf. Peds. (#/hr)	3	3	2	2	2	3	3	3	3
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	custom				Prot			
Protected Phases	8	5	4	6	5	2			
Permitted Phases	2								
Actuated Green, G (s)	7.6	119.8	7.2	80.3	32.6	119.8			
Effective Green, g (s)	7.6	119.8	7.2	80.3	32.6	119.8			
Actuated g/C Ratio	0.05	0.86	0.05	0.57	0.23	0.86			
Clearance Time (s)	6.4	6.6	6.8	6.5	6.6	6.2			
Vehicle Extension (s)	3.0	3.0	3.0	5.0	3.0	4.8			
Lane Grp Cap (vph)	98	2409	93	2958	815	4439			
v/s Ratio Prot	c0.02	0.06	0.00	c0.29	c0.18	0.28			
v/s Ratio Perm		0.16							
v/c Ratio	0.43	0.25	0.01	0.50	0.77	0.32			
Uniform Delay, d1	64.1	1.9	63.0	17.9	50.2	2.0			
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	3.0	0.1	0.0	0.6	4.5	0.2			
Delay (s)	67.1	1.9	63.1	18.5	54.7	2.2			
Level of Service	E	A	E	B	D	A			
Approach Delay (s)									
Approach LOS									
Intersection Summary									
HCM Average Control Delay		16.1		HCM Level of Service		B			
HCM Volume to Capacity ratio		0.57							
Actuated Cycle Length (s)		140.0		Sum of lost time (s)		19.5			
Intersection Capacity Utilization		84.1%		ICU Level of Service		E			
Analysis Period (min)		15							
c Critical Lane Group									

HCM Signalized Intersection Capacity Analysis
22: W College Ave & Clarendon Ave

No-Build SAT 2015
7/11/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SEB
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SEB
Volume (vph)	136	326	23	5	312	150	48	106	2	187	131	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.5	4.0	5.5	5.5	5.5	5.6	5.6	5.6	5.6	5.6	5.6
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.95	1.00	0.85	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.93	1.00
Satd. Flow (prot)	1805	1900	1615	1805	1797	1805	1805	1881	1805	1805	1763	1805
Flt Permitted	0.29	1.00	1.00	0.55	1.00	0.55	0.39	1.00	0.68	1.00	0.68	1.00
Satd. Flow (perm)	551	1900	1615	1054	1797	1054	748	1881	1288	1763	1288	1763
Peak-hour factor, PHF	0.66	0.95	0.81	0.25	0.93	0.79	0.82	0.92	0.25	0.88	0.94	0.86
Adj. Flow (vph)	206	343	28	20	335	190	59	115	8	212	139	128
RTOR Reduction (vph)	0	0	0	0	22	0	0	3	0	0	0	39
Lane Group Flow (vph)	206	343	28	20	503	0	59	120	0	212	228	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm-plt	5	2	Free	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	2	Free	6	4	4	4	4	4	4	4	4	4
Actuated Green, G (s)	56.6	56.6	86.0	41.8	41.8	41.8	18.3	18.3	18.3	18.3	18.3	18.3
Effective Green, g (s)	56.6	56.6	86.0	41.8	41.8	41.8	18.3	18.3	18.3	18.3	18.3	18.3
Actuated g/C Ratio	0.66	0.66	1.00	0.49	0.49	0.49	0.21	0.21	0.21	0.21	0.21	0.21
Clearance Time (s)	5.3	5.5	5.5	5.5	5.5	5.5	5.6	5.6	5.6	5.6	5.6	5.6
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	501	1250	1615	512	873	159	400	274	375	274	375	375
v/s Ratio Prot	0.05	0.18	0.02	0.02	0.02	0.02	0.06	0.06	0.06	0.06	0.13	0.13
v/s Ratio Perm	0.23	0.27	0.02	0.04	0.58	0.37	0.30	0.30	0.30	0.30	0.61	0.61
v/c Ratio	0.41	0.27	0.02	0.04	0.58	0.37	0.30	0.30	0.30	0.30	0.61	0.61
Uniform Delay, d1	8.1	6.1	0.0	11.6	15.8	28.9	28.5	28.5	31.9	30.6	30.6	30.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.6	0.5	0.0	0.1	2.8	1.5	0.4	0.4	12.7	2.8	2.8	2.8
Delay (s)	8.7	6.7	0.0	11.7	18.5	30.4	28.9	28.9	44.6	33.4	33.4	33.4
Level of Service	A	A	A	B	B	C	C	C	D	D	C	C
Approach Delay (s)	7.1	6.1	0.0	11.7	18.5	30.4	28.9	28.9	44.6	33.4	33.4	33.4
Approach LOS	A	A	A	B	B	C	C	C	D	D	C	C
Intersection Summary												
HCM Average Control Delay	21.2											
HCM Volume to Capacity ratio	0.61											
Actuated Cycle Length (s)	86.0											
Intersection Capacity Utilization	70.3%											
Analysis Period (min)	15											
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis
23: Clarendon Ave & Laredo Dr

No-Build SAT 2015
7/11/2012

Movement	NBL	NBT	SBT	SEL	SER
Lane Configurations	NBL	NBT	SBT	SEL	SER
Volume (veh/h)	111	285	270	21	18
Sign Control	Free	Free	Free	Stop	Stop
Grade	0%	0%	0%	0%	0%
Peak Hour Factor	0.97	0.83	0.83	0.71	0.81
Hourly flow rate (vph)	114	343	325	30	228
Pedestrians					
Lane Width (ft)					
Walking Speed (ft/s)					
Percent Blockage					
Right turn flare (veh)					
Median type	None	None	None	None	None
Median storage (veh)					
Upstream signal (ft)		545			
pX, platoon unblocked					
vC, conflicting volume	355			912	340
vC1, stage 1 conf vol					
vC2, stage 2 conf vol					
vCu, unblocked vol	355			912	340
IC, single (s)	4.1			6.4	6.2
IC, 2 stage (s)					
IF (s)	2.2			3.5	3.3
p0 queue free %	91			89	68
cM capacity (veh/h)	1215			278	707
Direction, Lane #	NB 1	NB 2	SB 1	SE 1	
Volume Total	114	343	355	258	
Volume Left	114	0	0	30	
Volume Right	0	0	30	228	
cSH	1215	1700	1700	601	
Volume to Capacity	0.09	0.20	0.21	0.43	
Queue Length 95th (ft)	8	0	0	54	
Control Delay (s)	8.3	0.0	0.0	15.4	
Lane LOS	A	A	C	C	
Approach Delay (s)	2.1	0.0	0.0	15.4	
Approach LOS				C	
Intersection Summary					
Average Delay	4.6				
Intersection Capacity Utilization	45.1%				
Analysis Period (min)	15				
ICU Level of Service	A				

HCM Unsignalized Intersection Capacity Analysis 24: E Ponce De Leon & Annie St

No-Build SAT 2015
7/11/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	605	6	2	584	11	6	0	2	18	0	5
Volume (veh/h)												
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.58	0.97	0.75	0.50	0.97	0.63	0.50	0.50	0.50	0.61	0.25	0.63
Hourly flow rate (vph)	12	624	8	4	602	17	12	0	4	30	0	8
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None											
Median storage (veh)												
Upstream signal (ft)	319											
pX platoon unblocked												
vC conflicting volume	620			632			969	1279	316	959	1275	310
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vC3, unblocked vol	620			632			969	1279	316	959	1275	310
IC, single (s)	4.6			4.1			7.5	6.5	6.9	7.5	6.5	7.3
IC, 2 stage (s)												
IC (s)	2.5			2.2			3.5	4.0	3.3	3.5	4.0	3.5
p0 queue free %	99			100			94	100	99	86	100	99
cM capacity (veh/h)	816			961			205	164	686	210	165	636
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	324	320	305	318	16	37						
Volume Left	12	0	4	0	12	30						
Volume Right	0	8	0	17	4	8						
cSH	816	1700	961	1700	249	245						
Volume to Capacity	0.01	0.19	0.00	0.19	0.06	0.15						
Queue Length 95th (ft)	1	0	0	0	5	13						
Control Delay (s)	0.5	0.0	0.2	0.0	20.5	22.3						
Lane LOS	A	A	A	A	C	C						
Approach Delay (s)	0.3		0.1		20.5	22.3						
Approach LOS					C	C						
Intersection Summary												
Average Delay	1.0						ICU Level of Service					
Intersection Capacity Utilization	31.9%						A					
Analysis Period (min)	15											

5:00 pm Baseline

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HCM Signalized Intersection Capacity Analysis 25: E Ponce De Leon & On Ramp 285

No-Build SAT 2015
7/11/2012

Movement	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Volume (vph)	288	520	267	246	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0		
Lane Util. Factor	1.00	1.00	0.95		
Flt Protected	1.00	1.00	0.93		
Satd. Flow (prot)	1752	1863	3324		
Flt Permitted	0.33	1.00	1.00		
Satd. Flow (perm)	600	1863	3324		
Peak-hour factor, PHF	0.93	0.95	0.97	0.90	0.92
Adj. Flow (vph)	310	547	275	273	0
RTOR Reduction (vph)	0	0	171	0	0
Lane Group Flow (vph)	310	547	377	0	0
Heavy Vehicles (%)	3%	2%	1%	0%	0%
Turn Type	pm+pt				
Protected Phases	1	6	2		
Permitted Phases	6				
Actuated Green, G (s)	45.7	45.7	30.0		
Effective Green, g (s)	45.7	45.7	30.0		
Actuated g/C Ratio	0.57	0.57	0.38		
Clearance Time (s)	5.0	5.0	5.0		
Vehicle Extension (s)	3.0	5.0	5.0		
Lane Grp Cap (vph)	497	1064	1247		
v/s Ratio Prot	c0.08	0.29	0.11		
v/s Ratio Perm	c0.27				
v/c Ratio	0.62	0.51	0.30		
Uniform Delay, d1	9.8	10.4	17.6		
Progression Factor	1.04	1.01	1.00		
Incremental Delay, d2	2.1	1.5	0.6		
Delay (s)	12.3	12.1	18.3		
Level of Service	B	B	B		
Approach Delay (s)	12.2	18.3	0.0		
Approach LOS	B	B	A		
Intersection Summary					
HCM Average Control Delay	14.5			HCM Level of Service	
HCM Volume to Capacity ratio	0.60			B	
Actuated Cycle Length (s)	80.0			Sum of lost time (s)	
Intersection Capacity Utilization	70.9%			ICU Level of Service	
Analysis Period (min)	15			C	
c Critical Lane Group					

5:00 pm Baseline

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HCM Unsignalized Intersection Capacity Analysis 26: Church St & Off Ramp 285

No-Build SAT 2015
7/11/2012

Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	EBT	EBR	WBL	WBT	NBL	NBR	
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	
Volume (vph)	197	0	0	237	191	160	
Peak Hour Factor	0.85	0.92	0.92	0.83	0.80	0.88	
Hourly flow rate (vph)	232	0	0	358	212	182	
Direction, Lane #	EB 1	WB 1	NB 1	NB 2			
Volume Total (vph)	232	358	212	182			
Volume Left (vph)	0	0	212	0			
Volume Right (vph)	0	0	0	182			
Head (s)	0.00	0.02	0.20	-0.60			
Departure Headway (s)	5.0	4.9	5.5	3.2			
Degree Utilization, x	0.32	0.48	0.33	0.16			
Capacity (veh/h)	684	711	595	1121			
Control Delay (s)	10.3	12.3	11.2	6.8			
Approach Delay (s)	10.3	12.3	9.2				
Approach LOS	B	B	A				
Intersection Summary							
Delay			10.6				
HCM Level of Service			B				
Intersection Capacity Utilization			32.9%				
Analysis Period (min)			15				

5:00 pm Baseline

HCM Signalized Intersection Capacity Analysis 27: Valley Brook Rd & Concord Dr

No-Build SAT 2015
7/11/2012

Movement	NBL2	NBL	NBR	SEL	SER	SER2	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	NBL2	NBL	NBR	SEL	SER	SER2	NEL	NET	NER	SWL	SWT	SWR
Volume (vph)	2	401	173	791	482	2	2	0	4	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.97	0.97	1.00	0.85	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.95	0.97	0.95	1.00	0.95	1.00	0.98	0.98	0.98	0.98	0.98	0.98
Satd. Flow (prot)	1805	3398	3502	1615	1615	1717	1717	1717	1717	1717	1717	1717
Flt Permitted	0.47	0.97	0.95	1.00	0.95	1.00	0.98	0.98	0.98	0.98	0.98	0.98
Satd. Flow (perm)	895	3398	3502	1615	1615	1717	1717	1717	1717	1717	1717	1717
Peak-hour factor, PHF	0.92	0.90	0.87	0.95	0.93	0.58	0.75	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	446	199	833	518	3	3	0	4	0	0	0
RTOR Reduction (vph)	0	41	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	2	604	0	833	521	0	0	3	0	0	0	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt			custom			Perm					
Protected Phases	5	2	1	6			8					
Permitted Phases	2						8					
Actuated Green, G (s)	18.3	17.8	18.2	35.5			0.8					
Effective Green, g (s)	18.3	17.8	18.2	35.5			0.8					
Actuated g/C Ratio	0.38	0.36	0.37	0.73			0.02					
Clearance Time (s)	4.0	4.0	4.0	4.0			4.0					
Vehicle Extension (s)	3.0	3.0	3.0	3.0			3.0					
Lane Grp Cap (vph)	345	1239	1306	1175			28					
v/s Ratio Prot	0.00	0.18	c0.24	c0.32			0.00					
v/c Ratio	0.01	0.49	0.64	0.44			0.11					
Uniform Delay, d1	9.6	12.0	12.6	2.7			23.6					
Progression Factor	1.00	1.00	1.00	1.00			1.00					
Incremental Delay, d2	0.0	0.3	1.0	0.3			1.7					
Delay (s)	9.6	12.3	13.6	2.9			25.4					
Level of Service	A	B	B	A			C					
Approach Delay (s)	12.3		9.5				25.4					
Approach LOS	B		A				C					
Intersection Summary												
HCM Average Control Delay			10.5				HCM Level of Service					
HCM Volume to Capacity ratio			0.51				B					
Actuated Cycle Length (s)			48.8				Sum of lost time (s)					
Intersection Capacity Utilization			52.8%				ICU Level of Service					
Analysis Period (min)			15				A					
c Critical Lane Group												

5:00 pm Baseline

[Intersection Sign configuration not allowed in HCM analysis.](#)

HCM Signalized Intersection Capacity Analysis
1: E Ponce De Leon & Laredo Dr

No-Build PM 2023
7/11/2012

7/11/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL2	NBL	NBR	SEL	SER	SER2
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Volume (vph)	247	371	152	34	255	163	67	71	77	234	96	188
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5	4.0	5.5	5.5	5.5	5.5	5.5	4.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.95	1.00	1.00	1.00	0.85	1.00	0.92	1.00	0.85	0.85	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.98	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1805	3404	1729	3574	1589	1805	1805	1706	1805	1615	1615	1615
Flt Permitted	0.43	1.00	0.43	1.00	0.43	1.00	0.95	0.98	0.95	1.00	1.00	1.00
Satd. Flow (perm)	812	3404	791	3574	1589	1805	1805	1706	1805	1615	1615	1615
Peak-hour factor, PHF	0.80	0.97	0.78	0.75	0.92	0.86	0.71	0.79	0.71	0.83	0.69	0.88
Adj. Flow (vph)	309	382	195	45	277	190	94	90	108	282	139	214
RTOR Reduction (vph)	0	37	0	0	0	0	0	28	0	0	0	0
Lane Group Flow (vph)	309	540	0	45	277	190	94	170	0	282	139	214
Confl. Peds. (#/hr)				13		13				13		
Heavy Vehicles (%)	0%	1%	0%	4%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt			pm+pt			Free	Split		Prot	Free	
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases	2			6			Free			4		Free
Actuated Green, G (s)	48.3	35.1	29.9	29.9	22.2	105.6	17.4	17.4	23.4	23.4	105.6	
Effective Green, g (s)	48.3	35.1	29.9	22.2	22.2	105.6	17.4	17.4	23.4	23.4	105.6	
Actuated g/C Ratio	0.46	0.33	0.28	0.21	0.21	1.00	0.16	0.16	0.22	0.22	1.00	
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	
Vehicle Extension (s)	3.0	5.0	3.0	3.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Group Cap (vph)	565	1131	292	751	1589	297	281	400	358	1615		
v/s Ratio Prot	c0.11	0.16		0.01	0.08		0.05	c0.10	0.09			
v/s Ratio Perm	c0.14			0.03		0.12						
v/c Ratio	0.55	0.48	0.15	0.37	0.12	0.32	0.61	0.70	0.39	0.13		
Uniform Factor, d1	19.1	28.0	27.9	35.7	0.0	38.9	40.9	37.9	35.0	0.0		
Progression Delay, d1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2 (s)	1.1	0.7	0.2	0.6	0.2	0.8	4.2	6.0	1.0	0.2		
Level of Service	C	C	C	C	C	D	A	D	D	D	A	
Approach Delay (s)	25.7			22.2		43.4		27.4				
Approach LOS	C			C		D		C				
Intersection Summary												
HCM Average Control Delay			27.6	HCM Level of Service								
HCM Volume to Capacity ratio			0.59					C				
Actuated Cycle Length (s)			105.6	Sum of lost time (s)								
Intersection Capacity Utilization			72.9%					16.5				
Analysis Period (min)			15					C				
Critical Lane Group												

5:00 pm Baseline

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HCM Signalized Intersection Capacity Analysis

2: E Ponce De Leon &

No-Build PM 2023
7/11/2012

7/11/2012

[illegible]

5:00 pm Baseline

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HCM Signalized Intersection Capacity Analysis 3: E Ponce De Leon & Dekalb Industrial Way

No-Build PM 2023
7/11/2012

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations	48	630	9	1	405	101	153	15	47	25	15	12
Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	5.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Total Lost time (s)	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.99	1.00	1.00	1.00	1.00
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	1.00	1.00	0.96	1.00	0.96	1.00	0.89	0.97	0.97	0.97	0.97
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.98	0.98	0.98	0.98
Satd. Flow (prot)	1805	3557	1805	3456	1805	3456	1805	1681	1797	1797	1797	1797
Flt Permitted	0.31	1.00	0.39	1.00	0.39	1.00	0.71	1.00	0.87	0.87	0.87	0.87
Satd. Flow (perm)	598	3557	745	3456	598	3456	1347	1681	1599	1599	1599	1599
Peak-hour factor, PHF	0.67	0.95	0.44	0.25	0.97	0.78	0.56	0.50	0.63	0.83	0.60	0.63
Adj. Flow (vph)	72	663	20	4	418	129	273	30	75	30	25	19
RTOR Reduction (vph)	0	3	0	0	23	0	0	50	0	0	8	0
Lane Group Flow (vph)	72	680	0	4	524	0	273	55	0	0	66	0
Confl. Peds. (#/hr)	1	0	1	0	0	0	0	0	1	1	1	0
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm
Protected Phases	1	6	6	2	2	4	4	4	4	8	8	8
Permitted Phases	6	6	6	2	2	4	4	4	4	8	8	8
Actuated Green, G (s)	32.6	32.6	21.2	21.2	21.2	22.7	22.7	22.7	22.7	22.7	22.7	22.7
Effective Green, g (s)	32.6	32.6	21.2	21.2	21.2	22.7	22.7	22.7	22.7	22.7	22.7	22.7
Actuated g/C Ratio	0.48	0.48	0.32	0.32	0.32	0.34	0.34	0.34	0.34	0.34	0.34	0.34
Clearance Time (s)	5.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	404	1723	235	1089	454	567	567	567	567	539	539	539
v/s Ratio Prot	0.02	c0.19	0.01	c0.15	0.01	c0.20	0.03	0.03	0.03	0.04	0.04	0.04
v/s Ratio Perm	0.07	0.39	0.02	0.48	0.02	0.48	0.10	0.10	0.10	0.12	0.12	0.12
Uniform Delay, d1	9.8	11.1	15.9	18.6	18.5	15.3	15.3	15.3	15.4	15.4	15.4	15.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3	0.3	0.1	0.7	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Delay (s)	10.1	11.4	15.9	19.3	21.8	15.4	15.4	15.4	15.6	15.6	15.6	15.6
Level of Service	B	B	B	B	B	C	B	B	B	B	B	B
Approach Delay (s)	11.3	19.3	19.3	19.3	19.3	20.1	20.1	20.1	20.1	15.6	15.6	15.6
Approach LOS	B	B	B	B	B	C	B	B	B	B	B	B

Intersection Summary			
HCM Average Control Delay	15.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.55	Sum of lost time (s)	18.0
Actuated Cycle Length (s)	67.3	ICU Level of Service	B
Intersection Capacity Utilization	60.5%	Analysis Period (min)	15
c Critical Lane Group			

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis 4: E Ponce De Leon & Arcadia Ave

No-Build PM 2023
7/11/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	48	443	264	239	246	36	126	643	218	22	971	98
Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	6.0	6.0	6.0	4.4	6.0	5.7	6.2	6.2	5.8	5.8	5.8	4.0
Total Lost time (s)	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Lane Util. Factor	1.00	0.99	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00
Flpb. ped/bikes	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.94	1.00	0.98	1.00	0.98	1.00	0.96	1.00	1.00	0.85	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1790	3349	1787	3484	1805	3424	1801	3610	1593	1593	1593	1593
Flt Permitted	0.56	1.00	0.13	1.00	0.13	1.00	0.08	1.00	0.27	1.00	0.27	1.00
Satd. Flow (perm)	1057	3349	245	3484	161	3424	512	3610	1593	1593	1593	1593
Peak-hour factor, PHF	0.89	0.93	0.87	0.94	0.93	0.73	0.87	0.96	0.80	0.75	0.95	0.86
Adj. Flow (vph)	225	476	303	254	265	49	145	670	272	29	1022	114
RTOR Reduction (vph)	0	72	0	0	11	0	0	31	0	0	0	0
Lane Group Flow (vph)	225	707	0	254	303	0	145	911	0	29	1022	114
Confl. Peds. (#/hr)	5	4	3	4	4	4	4	4	3	4	4	5
Heavy Vehicles (%)	0%	1%	0%	1%	1%	0%	0%	0%	1%	0%	0%	0%
Turn Type	Perm	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	Perm	pm	pm	Free
Protected Phases	2	2	1	6	6	3	8	8	4	4	4	4
Permitted Phases	2	2	1	6	6	3	8	8	4	4	4	4
Actuated Green, G (s)	39.7	39.7	62.0	62.0	62.0	65.8	65.8	65.8	49.7	49.7	49.7	140.0
Effective Green, g (s)	39.7	39.7	62.0	62.0	62.0	65.8	65.8	65.8	49.7	49.7	49.7	140.0
Actuated g/C Ratio	0.28	0.28	0.44	0.44	0.44	0.47	0.47	0.47	0.36	0.36	0.36	1.00
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	5.7	6.2	6.2	5.8	5.8	5.8	3.0
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	3.5	3.5	3.5	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	300	950	0.21	c0.11	0.09	c0.06	0.27	182	1282	1593	1593	1593
v/s Ratio Prot	0.21	0.74	0.83	0.20	0.72	0.28	0.06	0.06	0.06	0.06	0.07	0.07
v/s Ratio Perm	0.75	0.74	0.83	0.20	0.72	0.28	0.06	0.06	0.06	0.06	0.07	0.07
Uniform Delay, d1	45.6	45.5	30.8	23.8	28.6	28.6	28.6	28.6	30.9	40.6	40.6	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	15.8	5.3	17.5	0.3	11.9	1.4	1.9	5.2	0.1	5.2	0.1	0.1
Delay (s)	61.4	50.8	48.3	24.1	40.5	28.2	32.7	45.8	0.1	45.8	0.1	0.1
Level of Service	E	D	D	C	D	C	C	D	C	D	D	A
Approach Delay (s)	53.2	34.9	29.9	34.9	29.9	29.9	29.9	41.0	41.0	41.0	41.0	41.0
Approach LOS	D	C	C	C	C	C	C	D	D	D	D	D

Intersection Summary			
HCM Average Control Delay	40.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.79	Sum of lost time (s)	15.9
Actuated Cycle Length (s)	140.0	ICU Level of Service	E
Intersection Capacity Utilization	86.2%	Analysis Period (min)	15
c Critical Lane Group			

5:00 pm Baseline

Synchro 7 - Report
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Timings

5: N Decatur Rd & E Ponce De Leon

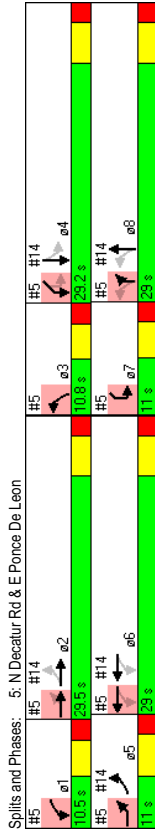
No-Build PM 2023

7/11/2012

Lane Group	EBL	EBT	WBL	WBT	NBL	NBR	SWL2	SWL
Lane Configurations	177	1001	67	451	61	663	219	560
Volume (vph)	177	1001	67	451	61	663	219	560
Turn Type	pm+pt	pm+pt	pm+pt	pm+pt	custom	pm+pt	pm+pt	pm+pt
Protected Phases	5	2	1	6	3	8	7	4
Permitted Phases	2	6	6	8	8	4	4	4
Detector Phase	5	2	1	6	3	8	7	4
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	8.0	5.0	8.0
Minimum Split (s)	11.0	29.0	10.5	29.0	10.5	29.0	10.5	29.0
Total Split (s)	11.0	29.5	10.5	29.0	10.8	29.0	11.0	29.2
Total Split (%)	13.8%	36.9%	13.1%	36.3%	13.5%	36.3%	13.8%	36.5%
Yellow Time (s)	4.0	4.0	3.5	4.0	3.5	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	5.5	6.0	5.5	6.0	5.5	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	None	None	None	None	None
Act Effect Green (s)	34.0	34.0	23.0	28.8	23.0	30.3	25.4	25.4
Actuated g/C Ratio	0.42	0.42	0.29	0.36	0.29	0.38	0.32	0.32
v/c Ratio	0.90	0.76	1.17	0.33	0.98	1.28	0.76	0.76
Control Delay	59.6	23.4	105.8	17.9	57.3	180.1	27.7	27.7
Queue Delay	0.0	0.6	0.0	0.0	53.3	32.9	0.0	0.0
Total Delay	59.6	24.0	105.8	17.9	110.6	213.1	27.7	27.7
LOS	E	C	F	B	F	F	F	C
Approach Delay	29.4		105.8	102.9			72.9	
Approach LOS	C		F	F			E	

Intersection Summary

Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 0 (0%), Referenced to phase 2EBTL and 6:WBTL, Start of Green	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.28	
Intersection Signal Delay: 70.7	Intersection LOS: E
Intersection Capacity Utilization 95.7%	ICU Level of Service F
Analysis Period (min) 15	



5:00 pm Baseline

HCM Signalized Intersection Capacity Analysis

5: N Decatur Rd & E Ponce De Leon

No-Build PM 2023

7/11/2012

Movement	EBL	EBT	EBR	WBL	WBT	NBL	NBR	SWL2	SWL	SWR
Lane Configurations	177	1001	70	67	451	61	663	94	219	560
Volume (vph)	177	1001	70	67	451	131	61	663	94	560
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0			5.5	6.0	6.0
Lane Util. Factor	1.00	0.95			0.95			1.00	0.88	1.00
Frpb, ped/bikes	1.00	1.00			1.00			1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00			1.00			1.00	1.00	1.00
Frft	1.00	0.99			0.97			1.00	0.85	1.00
Flt Protected	0.95	1.00			0.99			0.95	1.00	0.95
Satd. Flow (prot)	1805	3555			3459			1805	2839	1805
Flt Permitted	0.17	1.00			0.58			0.19	1.00	0.16
Satd. Flow (perm)	320	3555			2022			359	2839	299
Peak-hour factor, PHF	0.86	0.95	0.67	0.79	0.94	0.85	0.82	0.93	0.91	0.79
Adj. Flow (vph)	206	1054	104	85	480	154	74	713	103	277
RTOR Reduction (vph)	0	8	0	0	34	0	0	13	0	68
Lane Group Flow (vph)	206	1150	0	0	685	0	74	803	0	277
Confl. Peds. (#/hr)	4	5	6	5	5	5	5	6	5	5
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%
Turn Type	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	custom	pm+pt	pm+pt	pm+pt	pm+pt
Protected Phases	5	2	2	1	6	3	8	7	4	4
Permitted Phases	2	6	6	8	8	4	4	4	4	4
Actuated Green, G (s)	32.9	32.9			21.9	28.3	24.1	30.9	25.4	25.4
Effective Green, g (s)	32.9	32.9			21.9	28.3	24.1	30.9	25.4	25.4
Actuated g/C Ratio	0.41	0.41			0.27	0.35	0.30	0.39	0.32	0.32
Clearance Time (s)	6.0	6.0			6.0	5.5	6.0	5.5	6.0	6.0
Vehicle Extension (s)	4.0	8.0			8.0	3.0	4.0	3.0	0.2	0.2
Lane Grp Cap (vph)	224	1462			554	203	855	219	1069	
v/s Ratio Prot	0.06	0.32			0.34	0.02	0.28	0.09	0.23	
v/s Ratio Perm	0.32				0.34	0.11		0.40		
v/c Ratio	0.92	0.79			1.24	0.36	0.94	1.26	0.74	
Uniform Delay, d1	20.1	20.5			29.1	18.2	27.2	21.7	24.4	
Progression Factor	1.00	1.00			0.32	1.00	1.00	1.00	1.00	
Incremental Delay, d2	38.8	4.3			119.4	1.1	17.8	150.3	2.4	
Delay (s)	58.9	24.8			128.7	19.3	45.1	172.0	26.8	
Level of Service	E	C			F	B	D	F	C	
Approach Delay (s)	30.0				128.7	42.9		62.2		
Approach LOS	C				F	D		E		

Intersection Summary									
HCM Average Control Delay	59.0	HCM Level of Service	E						
HCM Volume to Capacity ratio	1.17								
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	17.5						
Intersection Capacity Utilization	95.7%	ICU Level of Service	F						
Analysis Period (min)	15								
c Critical Lane Group									

5:00 pm Baseline

HCM Signalized Intersection Capacity Analysis
6: Valley Brook Rd & E Ponce De Leon

No-Build PM 2023
7/11/2012

Movement	SBL	SBR	NEL	NET	SWT	SWR	
Lane Configurations							
Volume (vph)	114	425	353	593	528	83	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	6.0	4.0	6.0	6.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Flpb. ped/bikes	1.00	0.99	1.00	1.00	0.99	1.00	
Flpb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	
Flt	1.00	0.85	1.00	1.00	0.98	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00	
Satd. Flow (prot)	1805	1591	1805	1900	1849		
Flt Permitted	0.95	1.00	0.10	1.00	1.00		
Satd. Flow (perm)	1805	1591	185	1900	1849		
Peak-hour factor, PHF	0.85	0.95	0.87	0.96	0.90	0.76	
Adj. Flow (vph)	134	447	406	618	587	109	
RTOR Reduction (vph)	0	0	0	0	6	0	
Lane Group Flow (vph)	134	447	406	618	690	0	
Confl. Peds. (#/hr)	7	10	10			7	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	
Turn Type	Free						pm+pt
Protected Phases	4		1	6	2		
Permitted Phases	Free						
Actuated Green, G (s)	20.0	95.0	63.0	63.0	35.0		
Effective Green, g (s)	20.0	95.0	63.0	63.0	35.0		
Actuated g/C Ratio	0.21	1.00	0.66	0.66	0.37		
Clearance Time (s)	6.0		6.0	6.0	6.0		
Vehicle Extension (s)	4.0		3.0	8.0	8.0		
Lane Grp Cap (vph)	380	1591	498	1260	681		
v/s Ratio Prot	0.07		c0.19	0.33	c0.37		
v/s Ratio Perm		c0.28	0.35				
v/s Ratio	0.35	0.28	0.82	0.49	1.01		
Uniform Delay, d1	32.0	0.0	25.8	8.0	30.0		
Progression Factor	1.00	1.00	1.00	1.00	1.00		
Incremental Delay, d2	0.8	0.4	9.9	1.4	37.7		
Delay (s)	32.8	0.4	35.8	9.4	67.7		
Level of Service	C	A	D	A	E		
Approach Delay (s)	7.9		19.8	67.7			
Approach LOS	A		B	E			
Intersection Summary							
HCM Average Control Delay	31.3			HCM Level of Service			C
HCM Volume to Capacity ratio	0.73						
Actuated Cycle Length (s)	95.0			Sum of lost time (s)			12.0
Intersection Capacity Utilization	84.9%			ICU Level of Service			E
Analysis Period (min)	15						
Critical Lane Group							

HCM Signalized Intersection Capacity Analysis
7: Glendale Rd & E Ponce De Leon

No-Build PM 2023
7/11/2012

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	158	214	619	276	102	490
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	4.0	6.5	4.0	6.5	6.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Flpb. ped/bikes	1.00	0.98	1.00	0.99	1.00	1.00
Flpb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1805	1580	1900	1593	1767	1900
Flt Permitted	0.95	1.00	1.00	1.00	0.35	1.00
Satd. Flow (perm)	1805	1580	1900	1593	653	1900
Peak-hour factor, PHF	0.91	0.73	0.93	0.85	0.85	0.94
Adj. Flow (vph)	174	293	666	325	120	521
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	174	293	666	325	120	521
Confl. Peds. (#/hr)	5	4		5	4	
Heavy Vehicles (%)	0%	0%	0%	0%	2%	0%
Turn Type	Free	Free	2	Free	Perm	Perm
Protected Phases	4		2		6	6
Permitted Phases	Free	Free		Free	6	
Actuated Green, G (s)	13.9	90.0	63.1	90.0	63.1	63.1
Effective Green, g (s)	13.9	90.0	63.1	90.0	63.1	63.1
Actuated g/C Ratio	0.15	1.00	0.70	1.00	0.70	0.70
Clearance Time (s)	6.5		6.5		6.5	6.5
Vehicle Extension (s)	3.0		5.5		5.5	5.5
Lane Grp Cap (vph)	279	1580	1332	1593	458	1332
v/s Ratio Prot	c0.10		c0.35		0.27	
v/s Ratio Perm		0.19		0.20	0.18	
v/c Ratio	0.62	0.19	0.50	0.20	0.26	0.39
Uniform Delay, d1	35.6	0.0	6.2	0.0	4.9	5.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.3	0.3	1.3	0.3	1.4	0.9
Delay (s)	39.9	0.3	7.5	0.3	6.3	6.4
Level of Service	D	A	A	A	A	A
Approach Delay (s)	15.0		5.2		6.4	
Approach LOS	B		A		A	
Intersection Summary						
HCM Average Control Delay	7.7			HCM Level of Service		
HCM Volume to Capacity ratio	0.52			A		
Actuated Cycle Length (s)	90.0			Sum of lost time (s)		
Intersection Capacity Utilization	68.4%			ICU Level of Service		
Analysis Period (min)	15			C		
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis
8: McLendon Dr & E Ponce De Leon

No-Build PM 2023
7/11/2012

Movement	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations						
Volume (vph)	266	108	96	650	594	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	4.0	6.0	6.0	6.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1805	1580	1805	1900	1900	1580
Flt Permitted	0.95	1.00	0.25	1.00	1.00	1.00
Satd. Flow (perm)	1805	1580	482	1900	1900	1580
Peak-hour factor, PHF	0.91	0.84	0.88	0.84	0.92	0.80
Adj. Flow (vph)	292	129	109	774	646	100
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	292	129	109	774	646	100
Confl. Peds. (#/hr)	3	3	3			3
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	Free	Free	pm+pt			Free
Protected Phases	8	1	6	2		
Permitted Phases	Free	6				Free
Actuated Green, G (s)	25.9	123.0	85.1	85.1	69.6	123.0
Effective Green, g (s)	25.9	123.0	85.1	85.1	69.6	123.0
Actuated g/C Ratio	0.21	1.00	0.69	0.69	0.57	1.00
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	4.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	380	1580	436	1315	1075	1580
v/s Ratio Prot	c0.16		0.02	c0.41	0.34	
v/s Ratio Perm		0.08	0.15			0.06
v/c Ratio	0.77	0.08	0.25	0.59	0.60	0.06
Uniform Delay, d1	45.7	0.0	10.4	9.9	17.6	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.6	0.1	0.6	1.9	2.5	0.1
Delay (s)	55.3	0.1	11.1	11.8	20.1	0.1
Level of Service	E	A	B	B	C	A
Approach Delay (s)	38.4			11.7	17.4	
Approach LOS	D			B	B	
Intersection Summary						
HCM Average Control Delay	19.2					HCM Level of Service
HCM Volume to Capacity ratio	0.63					B
Actuated Cycle Length (s)	123.0					Sum of lost time (s)
Intersection Capacity Utilization	67.1%					12.0
Analysis Period (min)	15					C
Critical Lane Group						

HCM Signalized Intersection Capacity Analysis
9: E Ponce De Leon & Off Ramp 285

No-Build PM 2023
7/11/2012

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↖	↗		↖	↗
Volume (vph)	0	676	312	0	383	343
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.5	5.5
Lane Util. Factor		1.00	0.95		1.00	1.00
Flt		1.00	1.00		1.00	0.85
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		1900	3610		1805	1599
Flt Permitted		1.00	1.00		0.95	1.00
Satd. Flow (perm)		1900	3610		1805	1599
Peak-hour factor, PHF		0.92	0.91	0.78	0.92	0.87
Adj. Flow (vph)		0	743	400	0	440
RTOR Reduction (vph)		0	0	0	0	0
Lane Group Flow (vph)		0	743	400	0	440
Heavy Vehicles (%)		0%	0%	0%	0%	1%
Turn Type			6	2		8
Protected Phases						Perm
Permitted Phases						8
Actuated Green, G (s)			48.0	33.0		21.5
Effective Green, g (s)			48.0	33.0		21.5
Actuated g/C Ratio			0.60	0.41		0.27
Clearance Time (s)			5.0	5.0		5.5
Vehicle Extension (s)			5.0	5.0		3.5
Lane Grp Cap (vph)			1140	1489		485
v/s Ratio Prot			c0.39	0.11		c0.24
v/s Ratio Perm						0.07
v/c Ratio			0.65	0.27		0.91
Uniform Delay, d1			10.5	15.5		28.3
Progression Factor			1.00	0.67		1.00
Incremental Delay, d2			2.9	0.4		20.8
Delay (s)			13.4	10.9		49.1
Level of Service			B	B		D
Approach Delay (s)			13.4	10.9		36.9
Approach LOS			B	B		D
Intersection Summary						
HCM Average Control Delay	22.8			HCM Level of Service		
HCM Volume to Capacity ratio	0.73			C		
Actuated Cycle Length (s)	80.0			Sum of lost time (s)		
Intersection Capacity Utilization	86.5%			ICU Level of Service		
Analysis Period (min)	15			E		
Critical Lane Group						

HCM Unsignalized Intersection Capacity Analysis
10: Church St & On Ramp 285

No-Build PM 2023
7/11/2012

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	EBT	EBR	WBL	WBT	NBL	NBR
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Volume (vph)	301	466	288	337	0	0
Peak Hour Factor	0.96	0.97	0.88	0.97	0.92	0.92
Hourly flow rate (vph)	314	480	327	347	0	0
Direction, Lane #	EB 1	WB 1				
Volume Total (vph)	794	675				
Volume Left (vph)	0	327				
Volume Right (vph)	480	0				
Head (s)	-0.35	0.11				
Departure Headway (s)	4.3	4.8				
Degree Utilization, x	0.94	0.90				
Capacity (veh/h)	830	746				
Control Delay (s)	39.0	34.1				
Approach Delay (s)	39.0	34.1				
Approach LOS	E	D				
Intersection Summary						
Delay		36.7				
HCM Level of Service		E				
Intersection Capacity Utilization		84.8%			ICU Level of Service	E
Analysis Period (min)		15				

5:00 pm Baseline

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HCM Unsignalized Intersection Capacity Analysis
11: Valley Brook Rd & SR 410 On Ramp

No-Build PM 2023
7/11/2012

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations	EBL	EBT	WBT	WBR	SWL	SWR
Volume (veh/h)	0	2089	415	0	187	884
Sign Control	Free	Free	Free	Stop	Stop	Stop
Grade	0.98	0.98	0.97	0.92	0.92	0.98
Peak Hour Factor	0	2132	428	0	203	902
Hourly flow rate (vph)	0	2132	428	0	203	902
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None	None	None			
Median storage (veh)						
Upstream signal (ft)		759				
pX, platoon unblocked						
VC, conflicting volume	428			1494	428	
VC1, stage 1 conf vol						
VC2, stage 2 conf vol						
VCu, unblocked vol	428			1494	428	
IC, single (s)	4.1			6.8	6.9	
IC, 2 stage (s)						
IF (s)	2.2			3.5	3.3	
p0 queue free %	100			0	0	
CM capacity (veh/h)	1142			116	581	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SW 2	SW 3
Volume Total	1066	1066	428	203	451	451
Volume Left	0	0	0	203	0	0
Volume Right	0	0	0	0	451	451
cSH	1700	1700	1700	116	581	581
Volume to Capacity	0.63	0.63	0.25	1.75	0.78	0.78
Queue Length 95th (ft)	0	0	0	394	180	180
Control Delay (s)	0.0	0.0	0.0	435.2	29.4	29.4
Lane LOS				F	D	D
Approach Delay (s)	0.0	0.0	0.0	104.0		
Approach LOS				F		
Intersection Summary						
Average Delay			31.4			
Intersection Capacity Utilization			74.8%		ICU Level of Service	D
Analysis Period (min)			15			

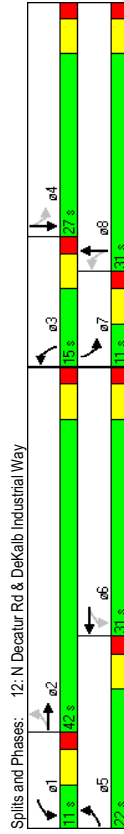
5:00 pm Baseline

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Timings
12: N Decatur Rd & DeKalb Industrial Way

No-Build PM 2023
7/11/2012

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Volume (vph)	339	1043	90	458	195	744	203	673
Turn Type	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt
Protected Phases	5	2	1	6	3	8	7	4
Permitted Phases	2	6	6	8	8	4	4	4
Switch Phase	5	2	1	6	3	8	7	4
Minimum Initial (s)	5.0	10.0	5.0	15.0	5.0	7.0	5.0	7.0
Minimum Split (s)	22.0	31.0	11.0	31.0	11.0	31.0	11.0	13.0
Total Split (s)	22.0	42.0	11.0	31.0	15.0	31.0	11.0	27.0
Total Split (%)	23.2%	44.2%	11.6%	32.6%	15.8%	32.6%	11.6%	28.4%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead/Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	None	None	None	None
Act Effect Green (s)	47.0	36.0	30.0	25.0	34.0	25.0	26.0	21.0
Actuated g/C Ratio	0.49	0.38	0.32	0.26	0.36	0.26	0.27	0.22
v/c Ratio	0.99	0.92	0.66	0.70	0.92	0.99	1.27	1.05
Control Delay	62.9	40.1	35.7	33.8	65.8	61.3	186.9	82.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.9	40.1	35.7	33.8	65.8	61.3	186.9	82.3
LOS	E	D	D	C	E	E	F	F
Approach Delay	45.8	34.1	62.2	104.4				
Approach LOS	D	C	E	F				



HCM Signalized Intersection Capacity Analysis
12: N Decatur Rd & DeKalb Industrial Way

No-Build PM 2023
7/11/2012

Movement	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Volume (vph)	339	1043	90	458	195	744	203	673	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.98	1.00	0.96	1.00	0.98	1.00	0.98	1.00
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	3523	1805	3458	1805	3532	1805	3514	1805
Flt Permitted	0.19	1.00	0.16	1.00	0.16	1.00	0.19	1.00	1.00
Satd. Flow (perm)	354	3523	304	3458	304	3532	362	3514	3514
Peak-hour factor, PHF	0.82	0.98	0.86	0.78	0.83	0.89	0.84	0.92	0.91
Adj. Flow (vph)	413	1064	179	115	492	165	232	809	118
RTOR Reduction (vph)	0	14	0	0	35	0	12	0	0
Lane Group Flow (vph)	413	1229	0	115	622	0	232	915	0
Confl. Peds. (#/hr)	5	7	8	6	7	8	6	6	5
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt
Permitted Phases	5	2	1	6	3	8	7	4	4
Actuated Green, G (s)	47.0	36.0	30.0	25.0	34.0	25.0	26.0	21.0	21.0
Effective Green, g (s)	47.0	36.0	30.0	25.0	34.0	25.0	26.0	21.0	21.0
Actuated g/C Ratio	0.49	0.38	0.32	0.26	0.36	0.26	0.27	0.22	0.22
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	8.0	3.0	8.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	420	1335	175	910	251	929	175	777	777
v/s Ratio Prot	c0.17	0.35	0.03	0.18	c0.09	c0.26	0.07	0.23	0.23
v/s Ratio Perm	c0.32	0.92	0.17	0.68	0.24	0.99	0.28	0.99	0.99
v/c Ratio	0.98	0.92	0.66	0.68	0.92	0.99	1.27	1.05	1.05
Uniform Delay, d1	21.7	28.1	25.4	31.4	25.1	34.8	33.6	37.0	37.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	39.3	11.7	8.6	4.2	36.7	25.7	160.2	46.7	46.7
Delay (s)	61.0	39.9	34.0	35.6	61.9	60.5	193.8	83.7	83.7
Level of Service	E	D	C	D	E	E	F	F	F
Approach Delay (s)	45.1	35.4	60.8	107.0					
Approach LOS	D	D	E	F					

Intersection Summary

HCM Average Control Delay	61.5	HCM Level of Service	E
HCM Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	94.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis 13: N Decatur Rd & Church St W

No-Build PM 2023
7/11/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Volume (vph)	114	868	46	189	540	80	128	1078	239	180	696	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Flt Protected	0.95	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Permitted	0.95	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Satd. Flow (prot)	1805	3610	1615	1805	3610	1583	1805	3610	1615	1805	3610	1524
Fit Permitted	0.41	1.00	1.00	0.09	1.00	1.00	0.20	1.00	1.00	0.07	1.00	1.00
Satd. Flow (perm)	784	3610	1615	162	3610	1583	379	3610	1615	133	3610	1524
Peak-hour factor, PHF	0.82	0.92	0.77	0.79	0.94	0.76	0.72	0.94	0.77	0.93	0.81	0.88
Adj. Flow (vph)	139	943	60	239	574	105	178	1147	310	194	859	50
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	139	943	60	239	574	105	178	1147	310	194	859	50
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	6%
Turn Type	pm+pt	7	4	Free	pm+pt	Free	pm+pt	Free	pm+pt	Free	pm+pt	Free
Protected Phases	4	Free	8	Free	2	Free	5	2	Free	1	6	Free
Permitted Phases	4	Free	8	Free	2	Free	5	2	Free	1	6	Free
Actuated Green, G (s)	47.5	40.9	150.0	65.0	52.4	150.0	62.6	52.6	150.0	71.4	57.0	150.0
Effective Green, g (s)	47.5	40.9	150.0	65.0	52.4	150.0	62.6	52.6	150.0	71.4	57.0	150.0
Actuated g/C Ratio	0.32	0.27	1.00	0.43	0.35	1.00	0.42	0.35	1.00	0.48	0.38	1.00
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	293	984	1615	268	1261	1583	253	1266	1615	224	1372	1524
v/s Ratio Prot	0.02	c0.26	0.11	0.16	0.07	0.05	0.05	0.32	0.19	c0.08	c0.24	0.03
v/s Ratio Perm	0.13	0.04	0.28	0.07	0.07	0.25	0.19	0.07	0.19	0.87	0.63	0.03
v/c Ratio	0.47	0.96	0.04	0.89	0.46	0.07	0.70	0.91	0.19	0.87	0.63	0.03
Uniform Delay, d1	38.6	53.7	0.0	44.5	37.8	0.0	30.3	46.3	0.0	43.3	37.8	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.2	19.1	0.0	28.7	0.3	0.1	8.6	10.9	0.3	27.6	2.2	0.0
Delay (s)	39.8	72.9	0.0	73.2	38.0	0.1	38.8	57.2	0.3	70.9	40.0	0.0
Level of Service	D	E	A	E	D	A	D	E	A	E	D	A
Approach Delay (s)	65.0			42.8			44.4				43.6	
Approach LOS	E			D			D				D	
Intersection Summary												
HCM Average Control Delay	48.8											
HCM Volume to Capacity ratio	0.92											
Actuated Cycle Length (s)	150.0											
Intersection Capacity Utilization	94.2%											
Analysis Period (min)	15											
c Critical Lane Group												

5:00 pm Baseline

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HCM Signalized Intersection Capacity Analysis 14: N Decatur Rd & Church St

No-Build PM 2023
7/11/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SWR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Volume (vph)	315	954	46	2	497	11	19	150	81	7	62	133
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.99	1.00	1.00	1.00	1.00
Flt Protected	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00
Flt Permitted	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00
Satd. Flow (prot)	1805	3567	1805	3583	1787	1885	1599	1885	1599	1885	1599	1524
Fit Permitted	0.23	1.00	0.93	0.93	0.93	0.95	0.93	0.95	0.93	0.93	1.00	1.00
Satd. Flow (perm)	430	3567	430	3567	3344	1711	1711	1711	1711	1760	1599	1524
Peak-hour factor, PHF	0.94	0.92	0.62	0.25	0.85	0.45	0.54	0.95	0.81	0.38	0.63	0.76
Adj. Flow (vph)	335	1037	74	8	585	24	35	158	100	18	98	175
RTOR Reduction (vph)	0	5	0	0	4	0	0	23	0	0	0	0
Lane Group Flow (vph)	335	1106	0	0	613	0	0	270	0	0	116	175
Conf. Peds. (#/hr)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	5	2	Perm	6	6	Perm	8	Perm	4	4	Free
Protected Phases	5	2	Perm	6	6	6	Perm	8	Perm	4	4	Free
Permitted Phases	5	2	Perm	6	6	6	Perm	8	Perm	4	4	Free
Actuated Green, G (s)	32.9	32.9	32.9	21.9	21.9	21.9	24.1	24.1	24.1	25.4	80.0	80.0
Effective Green, g (s)	32.9	32.9	32.9	21.9	21.9	21.9	24.1	24.1	24.1	25.4	80.0	80.0
Actuated g/C Ratio	0.41	0.41	0.41	0.27	0.27	0.27	0.30	0.30	0.30	0.32	1.00	1.00
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	4.0	8.0	8.0	8.0	8.0	8.0	4.0	4.0	4.0	0.2	0.2	0.2
Lane Grp Cap (vph)	263	1467	263	915	915	915	515	515	515	559	1599	1599
v/s Ratio Prot	c0.08	0.31	c0.08	0.18	0.18	0.18	c0.16	c0.16	c0.16	0.07	c0.11	0.11
v/s Ratio Perm	c0.44	0.75	c0.44	0.67	0.67	0.67	0.52	0.52	0.52	0.21	0.11	0.11
v/c Ratio	1.27	0.75	1.27	0.67	0.67	0.67	0.52	0.52	0.52	0.21	0.11	0.11
Uniform Delay, d1	22.6	20.1	22.6	20.1	20.1	20.1	23.2	23.2	23.2	19.9	0.0	0.0
Progression Factor	0.82	0.51	0.82	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	136.5	1.7	136.5	3.9	3.9	3.9	1.3	1.3	1.3	0.1	0.1	0.1
Delay (s)	155.1	11.9	155.1	29.7	29.7	29.7	24.4	24.4	24.4	20.0	0.1	0.1
Level of Service	F	B	F	C	C	C	C	C	C	C	C	A
Approach Delay (s)	45.1		45.1	29.7		29.7	24.4		24.4	8.1		
Approach LOS	D		D	C		C	C		C	A		
Intersection Summary												
HCM Average Control Delay	35.2											
HCM Volume to Capacity ratio	0.77											
Actuated Cycle Length (s)	80.0											
Intersection Capacity Utilization	77.8%											
Analysis Period (min)	15											
c Critical Lane Group												

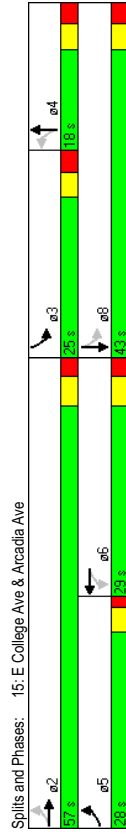
5:00 pm Baseline

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Timings
15: E College Ave & Arcadia Ave

No-Build PM 2023
7/11/2012

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	499	853	36	526	16	250	555	504	415
Volume (vph)	pm+pt	pm+pt	Perm	Perm	Perm	pm+pt	pm+pt	Free	Free
Turn Type	5	2	6	6	4	4	3	8	8
Protected Phases	2	2	6	6	4	4	8	8	8
Permitted Phases	5	2	6	6	4	4	3	8	8
Detector Phase	5	2	6	6	4	4	3	8	8
Switch Phase									
Minimum Initial (s)	5.0	15.0	15.0	15.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	9.4	31.0	21.0	21.0	12.8	12.8	12.7	34.8	
Total Split (s)	28.0	57.0	29.0	29.0	18.0	18.0	25.0	43.0	0.0
Total Split (%)	28.0%	57.0%	29.0%	29.0%	18.0%	18.0%	25.0%	43.0%	0.0%
Yellow Time (s)	3.0	3.6	3.6	3.6	3.1	3.1	3.0	3.1	
All-Red Time (s)	1.4	2.4	2.4	2.4	2.7	2.7	2.7	2.7	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.4	6.0	6.0	6.0	5.8	5.8	5.7	5.8	4.0
Lead/Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	
Lead-Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Min	C-Min	C-Min	None	None	None	None	
Act Effort Green (s)	52.6	51.0	23.0	23.0	12.2	37.3	37.2	100.0	
Actuated g/C Ratio	0.53	0.51	0.23	0.23	0.12	0.37	0.37	1.00	
v/c Ratio	1.03	0.53	0.34	0.98	0.97	1.37	0.78	0.27	
Control Delay	71.9	12.2	40.9	62.5	83.9	205.6	36.7	0.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	71.9	12.2	40.9	62.5	83.9	205.6	36.7	0.4	
LOS	E	B	D	E	F	F	F	D	A
Approach Delay	32.9							89.8	
Approach LOS	C							F	
Intersection Summary									
Cycle Length: 100									
Actuated Cycle Length: 100									
Offset: 49 (49%), Referenced to phase 2EBTL and 6:WBTL, Start of Green									
Natural Cycle: 100									
Control Type: Actuated-Coordinated									
Maximum v/c Ratio: 1.37									
Intersection Signal Delay: 63.7									
Intersection Capacity Utilization 106.0%									
Analysis Period (min) 15									



HCM Signalized Intersection Capacity Analysis
15: E College Ave & Arcadia Ave

No-Build PM 2023
7/11/2012

Movement	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	499	853	36	526	16	250	555	504	415
Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.4	6.0	6.0	6.0	5.8	5.8	5.7	5.8	4.0
Total Lost time (s)	1.00	0.95	1.00	0.95	0.95	1.00	1.00	1.00	0.85
Fr	1.00	0.99	1.00	0.96	0.99	1.00	0.95	1.00	0.85
Fr Protected	0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.85
Satd. Flow (prot)	1805	3577	1805	3481	1805	3547	1805	1900	1615
Fr Permitted	0.15	1.00	0.29	1.00	0.83	0.23	0.23	1.00	1.00
Satd. Flow (perm)	277	3577	558	3461	2974	439	1900	1615	
Peak-hour factor, PHF	0.96	0.93	0.71	0.81	0.89	0.93	0.46	0.85	0.92
Adj. Flow (vph)	520	917	59	44	591	225	35	294	30
RTOR Reduction (vph)	0	5	0	0	40	0	7	0	0
Lane Group Flow (vph)	520	917	0	44	776	0	352	0	584
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	2	Perm	6	Perm	4	pm+pt	3	8
Protected Phases	5	2	Perm	6	Perm	4	3	8	Free
Permitted Phases	2	6	Free	4	Free	4	3	8	Free
Actuated Green, G (s)	51.0	51.0	23.0	23.0	12.2	37.2	37.2	100.0	
Effective Green, g (s)	51.0	51.0	23.0	23.0	12.2	37.2	37.2	100.0	
Actuated g/C Ratio	0.51	0.51	0.23	0.23	0.12	0.37	0.37	1.00	
Clearance Time (s)	4.4	6.0	6.0	6.0	5.8	5.8	5.7	5.8	
Vehicle Extension (s)	3.5	5.0	5.0	5.0	3.0	3.0	3.5	3.5	
Lane Grp Cap (vph)	502	1824	128	796	363	427	707	1615	
v/s Ratio Prot	c0.24	0.27	0.08	0.22	0.12	c0.24	0.26	0.29	
v/s Ratio Perm	c0.28		0.34	0.97	0.97	1.37	0.78	0.27	
v/c Ratio	1.04	0.53	0.32	38.2	43.7	26.8	27.7	0.0	
Uniform Delay, d1	28.6	16.5	1.00	1.00	1.00	1.00	1.00	1.00	
Progression Factor	1.36	0.70	7.2	26.3	38.7	179.9	5.5	0.4	
Incremental Delay, d2	38.7	0.6	39.4	64.5	82.4	206.7	33.2	0.4	
Delay (s)	77.8	12.1	D	E	F	F	F	C	A
Level of Service	E	B	D	E	F	F	F	C	A
Approach Delay (s)	34.9		63.3		82.4		88.9		
Approach LOS	C		E		F		F		
Intersection Summary									
HCM Average Control Delay	64.3		HCM Level of Service		E				
HCM Volume to Capacity ratio	1.10								
Actuated Cycle Length (s)	100.0		Sum of lost time (s)		10.1				
Intersection Capacity Utilization	106.0%		ICU Level of Service		G				
Analysis Period (min)	15								
c Critical Lane Group									

HCM Signalized Intersection Capacity Analysis 16: Katie Kerr Dr & S Columbia Dr

No-Build PM 2023
7/11/2012

Movement	WBL	WBR	NBL	NBR	SBL	SBR
Lane Configurations	W		W		W	
Volume (vph)	354	17	354	149	52	786
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0		5.0	
Lane Util. Factor	1.00		1.00		1.00	
Frb. ped/bikes	0.95		0.96		0.88	
Frb. ped/bikes	0.95		0.97		1.00	
Satd. Flow (prot)	1801		1763		1657	
Fit Permitted	0.95		0.97		1.00	
Satd. Flow (perm)	1801		1763		1657	
Peak-hour factor, PHF	0.89	0.79	0.87	0.91	0.70	0.89
Adj. Flow (vph)	398	22	407	164	74	883
RTOR Reduction (vph)	3	0	23	0	0	0
Lane Group Flow (vph)	417	0	548	0	957	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type						
Protected Phases	8!		2		6	
Permitted Phases						
Actuated Green, G (s)	15.6		16.0		49.2	
Effective Green, g (s)	15.6		16.0		49.2	
Actuated g/C Ratio	0.26		0.27		0.83	
Clearance Time (s)	5.0		5.0		5.0	
Vehicle Extension (s)	3.0		3.0		3.0	
Lane Grp Cap (vph)	475		476		1657	
v/s Ratio Prot	c0.23		c0.31		c0.12	
v/c Ratio	0.88		1.15		0.58	
Uniform Delay, d1	20.9		21.6		2.0	
Progression Factor	1.00		1.00		1.00	
Incremental Delay, d2	16.6		89.6		0.5	
Delay (s)	37.5		111.2		2.5	
Level of Service	D		F		A	
Approach Delay (s)	37.5		111.2		2.5	
Approach LOS	D		F		A	
Intersection Summary						
HCM Average Control Delay			41.9		HCM Level of Service	D
HCM Volume to Capacity ratio			0.86			
Actuated Cycle Length (s)			59.2		Sum of lost time (s)	10.0
Intersection Capacity Utilization			113.3%		ICU Level of Service	H
Analysis Period (min)			15			
i Phase conflict between lane groups.						
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis 17: W College Ave & Commerce Dr

No-Build PM 2023
7/11/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4P	4P		4P	4P		4P		4P	4P	4P
Volume (vph)	26	1052	41	42	762	137	112	221	67	322	479	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7			5.7			5.2			5.2	
Lane Util. Factor		0.95			0.95			0.95			0.95	
Frb. ped/bikes		1.00			1.00			1.00			1.00	
Frb. ped/bikes		1.00			1.00			1.00			1.00	
Frb. ped/bikes		0.99			0.98			0.97			0.99	
Fit Protected		1.00			1.00			0.99			0.98	
Satd. Flow (prot)		3577			3509			3441			3487	
Fit Permitted		0.87			0.70			0.51			0.63	
Satd. Flow (perm)		3116			2454			1794			2252	
Peak-hour factor, PHF		0.75			0.83			0.83			0.86	
Adj. Flow (vph)		35			1085			154			254	
RTOR Reduction (vph)		0			3			0			14	
Lane Group Flow (vph)		0			1166			0			464	
Conf. Peds. (#/hr)		2			10			9			1	
Heavy Vehicles (%)		0%			0%			0%			0%	
Turn Type												
Protected Phases		2			6			4			3	
Permitted Phases												
Actuated Green, G (s)		46.6			46.6			42.5			42.5	
Effective Green, g (s)		46.6			46.6			42.5			42.5	
Actuated g/C Ratio		0.47			0.47			0.42			0.42	
Clearance Time (s)		5.7			5.7			5.2			5.2	
Vehicle Extension (s)		5.0			5.0			4.0			4.0	
Lane Grp Cap (vph)		1452			1144			762			957	
v/s Ratio Prot												
v/c Ratio Perm		0.37			c0.40			0.26			c0.43	
v/c Ratio		0.80			0.85			0.88d1			1.05d1	
Uniform Delay, d1		22.8			23.6			22.3			28.8	
Progression Factor		0.82			0.42			1.00			1.00	
Incremental Delay, d2		3.0			5.8			1.6			31.3	
Delay (s)		21.7			15.8			23.9			60.0	
Level of Service		C			B			C			E	
Approach Delay (s)		21.7			15.8			23.9			60.0	
Approach LOS		C			B			C			E	
Intersection Summary												
HCM Average Control Delay					30.7			HCM Level of Service			C	
HCM Volume to Capacity ratio					0.93							
Actuated Cycle Length (s)					100.0			Sum of lost time (s)			10.9	
Intersection Capacity Utilization					107.1%			ICU Level of Service			G	
Analysis Period (min)					15							
d1 Defacto Left Lane. Recode with 1 though lane as a left lane.												
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis 18: W College Ave & SR 155

No-Build PM 2023
7/11/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	47	850	90	85	574	198	27	215	91	250	583	29
Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Total Lost time (s)	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	0.99	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fltb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.95	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Flt Protected	3524	1797	1900	1615	1781	1799	1804	1880				
Satd. Flow (prot)	0.76	0.18	1.00	1.00	0.23	1.00	0.17	1.00				
Flt Permitted	2668	345	1900	1615	427	1799	314	1880				
Satd. Flow (perm)	0.86	0.97	0.86	0.85	0.90	0.85	0.79	0.85	0.87	0.91	0.95	0.82
Peak-hour factor, PHF	55	876	105	100	638	233	34	253	105	275	614	35
Adj. Flow (vph)	0	9	0	0	0	89	0	15	0	0	2	0
RTOR Reduction (vph)	0	1027	0	100	638	144	34	343	0	275	647	0
Lane Group Flow (vph)	14	20	15	9	20	9	20	15	9	9	14	0
Confl. Peds. (#/hr)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Heavy Vehicles (%)	Perm	Perm	Perm	Over	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Turn Type	2	2	2	6	6	7	8	8	7	7	4	4
Protected Phases	2	2	2	6	6	7	8	8	7	7	4	4
Permitted Phases	48.3	48.3	48.3	48.3	48.3	13.2	21.5	21.5	39.7	39.7	39.7	39.7
Actuated Green, G (s)	48.3	48.3	48.3	48.3	48.3	13.2	21.5	21.5	39.7	39.7	39.7	39.7
Effective Green, g (s)	0.48	0.48	0.48	0.48	0.48	0.13	0.22	0.22	0.40	0.40	0.40	0.40
Actuated g/C Ratio	6.0	6.0	6.0	6.0	6.0	5.0	6.0	6.0	5.0	5.0	6.0	6.0
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	1289	167	918	213	92	387	321	746				
Lane Grp Cap (vph)	c0.38	0.29	0.34	0.09	0.08	0.08	0.23	0.23	0.23	0.23	0.34	0.34
v/s Ratio Prot	0.80	0.60	0.69	0.67	0.37	0.89	0.86	0.87	0.86	0.87	0.87	0.87
v/s Ratio Perm	21.7	18.8	20.1	41.4	33.5	38.1	23.8	27.7	23.8	27.7	27.7	27.7
Uniform Delay, d1	0.79	1.60	1.64	1.10	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Progression Factor	3.4	8.6	2.5	6.1	5.2	22.2	21.2	11.3	21.2	11.3	11.3	11.3
Incremental Delay, d2	20.5	38.7	35.4	51.6	38.7	60.3	45.0	39.0	45.0	39.0	39.0	39.0
Delay (s)	C	D	D	D	D	D	E	D	D	D	D	D
Level of Service	C	C	C	D	D	D	E	D	D	D	D	D
Approach Delay (s)	20.5	39.7	35.4	51.6	38.7	60.3	45.0	39.0	45.0	39.0	39.0	39.0
Approach LOS	C	C	C	D	D	D	E	D	D	D	D	D

Intersection Summary												
HCM Average Control Delay	36.2	HCM Level of Service										
HCM Volume to Capacity ratio	0.83	D										
Actuated Cycle Length (s)	100.0	Sum of lost time (s)										
Intersection Capacity Utilization	116.5%	H										
Analysis Period (min)	15	12.0										
c Critical Lane Group		15										

HCM Signalized Intersection Capacity Analysis 19: W College Ave & McDonough St

No-Build PM 2023
7/11/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	30	603	45	90	492	41	12	169	113	306	397	68
Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	12	16	12	12	12	12	11	11	11	11	11	11
Lane Width	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Total Lost time (s)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fltb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.98	1.00	1.00	1.00	1.00	0.98	1.00	0.94	1.00	0.97	1.00
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	2111	1805	1866	1739	1692	1745	1782				
Flt Permitted	0.17	1.00	0.11	1.00	0.32	1.00	0.27	1.00				
Satd. Flow (perm)	323	2111	213	1866	592	1892	505	1782				
Peak-hour factor, PHF	0.55	0.96	0.64	0.78	0.87	0.59	0.83	0.87	0.84	0.96	0.85	0.72
Adj. Flow (vph)	55	628	70	115	566	69	14	194	135	319	467	94
RTOR Reduction (vph)	0	4	0	0	5	0	0	25	0	0	7	0
Lane Group Flow (vph)	55	694	0	115	630	0	14	304	0	319	554	0
Confl. Peds. (#/hr)	6	9	7	4	9	7	4	7	4	4	6	6
Heavy Vehicles (%)	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Turn Type	2	2	2	6	6	6	8	8	7	7	4	4
Protected Phases	2	2	2	6	6	6	8	8	7	7	4	4
Permitted Phases	42.4	42.4	42.4	42.4	42.4	26.6	25.6	25.6	45.6	45.6	39.6	39.6
Actuated Green, G (s)	42.4	42.4	42.4	42.4	42.4	26.6	25.6	25.6	45.6	45.6	39.6	39.6
Effective Green, g (s)	0.42	0.42	0.42	0.42	0.42	0.27	0.26	0.26	0.46	0.46	0.40	0.40
Actuated g/C Ratio	6.0	6.0	6.0	6.0	6.0	5.0	6.0	6.0	5.0	5.0	6.0	6.0
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	137	895	90	791	169	433	416	706				
Lane Grp Cap (vph)	0.17	0.33	0.34	0.02	0.02	0.02	0.23	0.23	0.23	0.23	0.31	0.31
v/s Ratio Prot	0.40	0.78	1.28	0.80	0.02	0.02	0.77	0.79	0.77	0.79	0.79	0.79
v/s Ratio Perm	20.0	24.7	28.8	25.1	27.4	33.8	19.9	26.5	19.9	26.5	26.5	26.5
Uniform Delay, d1	1.00	1.00	0.98	0.92	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Progression Factor	8.5	6.5	175.8	6.5	0.2	5.3	8.5	6.1	8.5	6.1	6.1	6.1
Incremental Delay, d2	28.5	31.2	204.2	29.5	27.6	39.1	28.4	32.5	28.4	32.5	32.5	32.5
Delay (s)	C	C	F	C	C	D	C	C	C	C	C	C
Level of Service	C	C	F	C	C	D	C	C	C	C	C	C
Approach Delay (s)	31.0	56.2	56.2	38.6	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0
Approach LOS	C	C	E	D	C	C	D	C	C	C	C	C

Intersection Summary												
HCM Average Control Delay	38.9	HCM Level of Service										
HCM Volume to Capacity ratio	0.99	D										
Actuated Cycle Length (s)	100.0	Sum of lost time (s)										
Intersection Capacity Utilization	93.4%	F										
Analysis Period (min)	15	11.0										
c Critical Lane Group		15										

HCM Signalized Intersection Capacity Analysis
20: Driveway & DeKalb Industrial Way

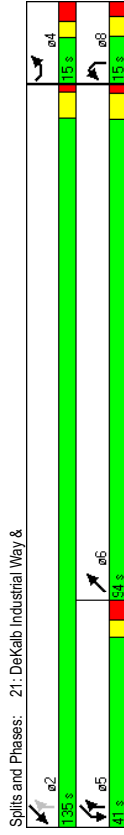
No-Build PM 2023
7/11/2012

Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	NWL	NWR
Lane Configurations	↖		↖	↖	↖	↖	↖		↖	↖
Volume (vph)	1	0	1	620	22	196	653	0	6	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.6	5.6	4.0	5.6	5.6	5.6	5.5	4.0	5.5
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00
Flt Protected	0.95	0.95	1.00	1.00	0.85	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1805	1805	1615	3610	1615	1805	3610	1805	1615	1805
Flt Permitted	1.00	0.39	1.00	1.00	1.00	0.33	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1900	747	3610	1615	619	3610	1615	1805	1615	1805
Peak-hour factor, PHF	0.92	0.92	0.25	0.91	0.64	0.94	0.96	0.92	0.42	0.92
Adj. Flow (vph)	1	0	4	681	34	209	680	0	14	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	1	0	4	681	34	209	680	0	0	14
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	Free	pm+pt	Free	pm+pt	Free	pm+pt	Perm	Free	Free
Protected Phases	8	2	2	Free	6	8	8	8	8	8
Permitted Phases	8	2	2	Free	6	8	8	8	8	8
Actuated Green, G (s)	0.9	24.3	23.6	46.6	33.7	28.3	28.3	0.9	46.6	46.6
Effective Green, g (s)	0.9	24.3	23.6	46.6	33.7	28.3	28.3	0.9	46.6	46.6
Actuated g/C Ratio	0.02	0.52	0.51	1.00	0.72	0.61	0.61	0.02	1.00	1.00
Clearance Time (s)	5.5	5.6	5.6	5.6	5.6	5.6	5.6	5.5	5.5	5.5
Vehicle Extension (s)	2.0	2.0	5.0	2.0	2.0	5.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	37	405	1828	1615	585	2192	2192	35	1615	1615
v/s Ratio Prot	0.00	0.00	0.19	0.02	c0.04	0.19	0.19	0.01	c0.12	0.01
v/s Ratio Perm	0.03	0.01	0.37	0.02	0.36	0.31	0.31	0.40	0.12	0.12
Uniform Delay, d1	22.4	5.3	7.0	0.0	2.4	4.4	4.4	22.6	0.0	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.0	0.3	0.0	0.1	0.2	0.2	2.7	0.1	0.1
Delay (s)	22.5	5.4	7.3	0.0	2.5	4.6	4.6	25.3	0.1	0.1
Level of Service	C	A	A	A	A	A	A	C	A	A
Approach Delay (s)	22.5	6.9	6.9	4.1	4.1	4.1	4.1	1.9	4.1	4.1
Approach LOS	C	A	A	A	A	A	A	A	A	A
Intersection Summary										
HCM Average Control Delay	5.0 HCM Level of Service									
HCM Volume to Capacity ratio	0.35 A									
Actuated Cycle Length (s)	46.6									
Intersection Capacity Utilization	58.2% Sum of lost time (s)									
Analysis Period (min)	15 ICU Level of Service									
c Critical Lane Group										

Timings
21: DeKalb Industrial Way &

No-Build PM 2023
7/11/2012

Lane Group	NBL2	NBR	SEL	NET	SWL	SWT
Lane Configurations	W	W	W	W	W	W
Volume (vph)	50	1221	5	3756	939	1841
Turn Type	Prot	custom	Prot	Prot	Prot	Prot
Protected Phases	8	5	4	6	5	2
Permitted Phases	2	2	2	2	2	2
Detector Phase	8	5	4	6	5	2
Switch Phase	8	5	4	6	5	2
Minimum Initial (s)	8.6	10.0	7.0	33.0	10.0	10.0
Minimum Split (s)	15.0	16.6	13.8	39.5	16.6	16.2
Total Split (s)	15.0	41.0	15.0	94.0	41.0	135.0
Total Split (%)	10.0%	27.3%	10.0%	62.7%	27.3%	90.0%
Yellow Time (s)	3.5	3.1	3.0	4.7	3.1	4.7
All-Red Time (s)	2.9	3.5	3.8	1.8	3.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.6	6.8	6.5	6.6	6.2
Lead/Lag	Lead	Lead	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	C-Min	None	C-Min
Act Effct Green (s)	8.6	131.4	8.0	87.5	37.4	133.0
Actuated g/C Ratio	0.06	0.88	0.05	0.58	0.25	0.89
v/c Ratio	0.58	0.51	0.10	1.29	1.12	0.41
Control Delay	91.2	0.7	69.9	162.4	119.0	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	91.2	0.7	69.9	162.4	119.0	2.3
LOS	F	A	E	F	F	A
Approach Delay	69.9	162.4	69.9	162.4	42.0	42.0
Approach LOS	E	F	E	F	D	D
Intersection Summary						
Cycle Length: 150						
Actuated Cycle Length: 150						
Offset: 100 (67%), Referenced to phase 2:SWT and 6:NET, Start of Green						
Natural Cycle: 150						
Control Type: Actuated-Coordinated						
Maximum v/c Ratio: 1.29						
Intersection Signal Delay: 92.7						
Intersection Capacity Utilization 140.1%						
Analysis Period (min) 15						



HCM Signalized Intersection Capacity Analysis
21: DeKalb Industrial Way &

No-Build PM 2023
7/11/2012

Movement	NBL2	NBL	NBR	SEL	SER	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	5	0	1221	5	4	0	3756	76	339	1841	0
Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	6.4	6.6	6.8	6.8	6.5	6.5	6.5	6.6	6.2	6.2	6.2
Total Lost time (s)	0.95	0.88	1.00	0.97	0.91	0.97	0.91	0.97	0.91	0.91	0.91
Lane Util. Factor	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fltb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.85	0.94	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	2816	1738	5165	3502	5187	3502	5187	3502	5187	3502
Flt Permitted	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1805	2816	1738	5165	3502	5187	3502	5187	3502	5187	3502
Peak-hour factor, PHF	0.83	0.25	0.90	0.92	0.92	0.92	0.99	0.80	0.96	0.97	0.92
Adj. Flow (vph)	60	0	1357	5	4	0	3794	95	978	1898	0
RTOR Reduction (vph)	0	0	177	0	0	0	2	0	0	0	0
Lane Group Flow (vph)	60	0	1180	9	0	0	3887	0	978	1898	0
Confl. Peds. (#/hr)	3	3	2	2	2	2	3	3	3	3	3
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	custom	Prot	Prot	Prot	Prot	Prot	Prot	Prot	Prot	Prot
Permitted Phases	8	5	4	6	5	2	6	5	2	2	2
Actuated Green, G (s)	7.0	130.4	6.6	86.1	37.4	130.4	86.1	37.4	130.4	130.4	130.4
Effective Green, g (s)	7.0	130.4	6.6	86.1	37.4	130.4	86.1	37.4	130.4	130.4	130.4
Actuated g/C Ratio	0.05	0.87	0.04	0.57	0.25	0.87	0.57	0.25	0.87	0.87	0.87
Clearance Time (s)	6.4	6.6	6.8	6.5	6.6	6.2	6.5	6.6	6.2	6.2	6.2
Vehicle Extension (s)	3.0	3.0	3.0	5.0	3.0	4.8	5.0	3.0	4.8	4.8	4.8
Lane Grp Cap (vph)	84	2448	76	2965	873	4509	2965	873	4509	4509	4509
v/s Ratio Prot	c0.03	0.12	0.01	c0.75	c0.28	0.37	c0.75	c0.28	0.37	0.37	0.37
v/s Ratio Perm	0.30	0.48	0.12	1.31	1.12	0.42	1.31	1.12	0.42	0.42	0.42
Uniform Delay, d1	70.5	2.2	68.9	32.0	56.3	2.0	32.0	56.3	2.0	2.0	2.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	24.9	0.2	0.7	142.5	69.2	0.3	142.5	69.2	0.3	0.3	0.3
Delay (s)	95.4	2.4	69.6	174.4	125.5	2.3	174.4	125.5	2.3	2.3	2.3
Level of Service	F	A	E	F	F	A	F	F	A	A	A
Approach Delay (s)	6.3	69.6	174.4	174.4	44.2	44.2	174.4	44.2	44.2	44.2	44.2
Approach LOS	A	E	E	F	F	D	F	F	D	D	D

Intersection Summary			
HCM Average Control Delay	99.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.22		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	140.1%	ICU Level of Service	
Analysis Period (min)	15		
c Critical Lane Group			

5:00 pm Baseline

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HCM Signalized Intersection Capacity Analysis
22: W College Ave & Clarendon Ave

No-Build PM 2023
7/11/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SWR
Lane Configurations	201	1052	52	1	448	160	61	147	1	288	191	124
Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	5.3	5.5	4.0	5.5	5.5	5.6	5.6	5.6	5.6	5.6	5.6	5.6
Total Lost time (s)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	1.00	1.00	0.85	1.00	0.96	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	1900	1615	1805	1816	1805	1805	1893	1805	1805	1782	1782
Flt Permitted	0.12	1.00	1.00	0.11	1.00	0.29	1.00	0.62	1.00	0.62	1.00	1.00
Satd. Flow (perm)	220	1900	1615	207	1816	550	1893	1186	1782	1186	1782	1782
Peak-hour factor, PHF	0.66	0.95	0.81	0.25	0.93	0.79	0.82	0.92	0.25	0.88	0.94	0.86
Adj. Flow (vph)	305	1107	64	4	482	203	74	160	4	327	203	144
RTOR Reduction (vph)	0	0	0	0	18	0	0	1	0	0	29	0
Lane Group Flow (vph)	305	1107	64	4	667	0	74	163	0	327	318	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm-prot	Free	Perm	Free	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Permitted Phases	5	2	6	6	6	4	4	8	8	8	8	8
Actuated Green, G (s)	54.0	54.0	86.0	36.8	36.8	20.9	20.9	20.9	20.9	20.9	20.9	20.9
Effective Green, g (s)	54.0	54.0	86.0	36.8	36.8	20.9	20.9	20.9	20.9	20.9	20.9	20.9
Actuated g/C Ratio	0.63	0.63	1.00	0.43	0.43	0.24	0.24	0.24	0.24	0.24	0.24	0.24
Clearance Time (s)	5.3	5.5	5.5	5.5	5.5	5.6	5.6	5.6	5.6	5.6	5.6	5.6
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	357	1193	1615	89	777	134	460	288	433	288	433	433
v/s Ratio Prot	0.12	c0.58	0.04	0.02	0.13	0.13	0.13	c0.28	0.18	c0.28	0.18	0.18
v/s Ratio Perm	0.85	0.93	0.04	0.04	0.86	0.55	0.35	1.14	0.73	1.14	0.73	0.73
Uniform Delay, d1	20.7	14.3	0.0	14.3	22.2	28.5	27.0	32.5	30.0	32.5	30.0	30.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	17.7	13.7	0.0	0.9	11.9	4.9	0.5	94.7	6.4	94.7	6.4	6.4
Delay (s)	38.4	27.9	0.0	15.3	34.1	33.3	27.4	127.2	36.4	127.2	36.4	36.4
Level of Service	D	C	A	B	C	C	C	F	D	F	D	D
Approach Delay (s)	28.9	C	34.0	C	C	29.3	C	80.4	80.4	80.4	80.4	80.4
Approach LOS	C	C	C	C	C	C	C	F	F	F	F	F

Intersection Summary				
HCM Average Control Delay	41.4	HCM Level of Service		D
HCM Volume to Capacity ratio	0.99			
Actuated Cycle Length (s)	86.0	Sum of lost time (s)		11.1
Intersection Capacity Utilization	110.1%	ICU Level of Service		H
Analysis Period (min)	15			
c Critical Lane Group				

5:00 pm Baseline

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HCM Unsignalized Intersection Capacity Analysis 23: Clarendon Ave & Laredo Dr

No-Build PM 2023
7/11/2012

Movement	NBL	NBT	SBT	SEL	SER	
Lane Configurations	138	415	368	25	63	276
Volume (veh/h)						
Sign Control	Free	Free	Free	Stop	Stop	
Grade						
Peak Hour Factor	0.87	0.95	0.95	0.83	0.87	0.96
Hourly flow rate (vph)	159	437	387	30	94	288
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None	None	None			
Median storage (veh)						
Upstream signal (ft)		545				
pX, platoon unblocked						
vC, conflicting volume	417		1157		402	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol	417		1157		402	
vCu, unblocked vol	4.1		6.4		6.2	
IC, single (s)						
IC, 2 stage (s)	2.2		3.5		3.3	
IF (s)	86		50		56	
p0 queue free %						
cM capacity (veh/h)	1152		189		652	
Direction, Lane #	NB 1	NB 2	SB 1	SE 1		
Volume Total	159	437	417	382		
Volume Left	159	0	0	94		
Volume Right	0	0	30	288		
cSH	1152	1700	1700	407		
Volume to Capacity	0.14	0.26	0.25	0.94		
Queue Length 95th (ft)	12	0	0	262		
Control Delay (s)	8.6	0.0	0.0	62.6		
Lane LOS	A		F	F		
Approach Delay (s)	2.3		0.0	62.6		
Approach LOS				F		
Intersection Summary						
Average Delay			18.1			
Intersection Capacity Utilization			59.0%		ICU Level of Service	B
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis 24: E Ponce De Leon & Annie St

No-Build PM 2023
7/11/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	671	5	1	433	2	6	0	2	6	0	12
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Grade												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	729	5	1	471	2	7	0	2	7	0	13
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None	None	None	None	None	None						
Median storage (veh)												
Upstream signal (ft)		319										
pX, platoon unblocked												
vC, conflicting volume	473		735		993		1218		367	852		236
vC1, stage 1 conf vol												
vC2, stage 2 conf vol	473		532		814		1059		132	660		236
vCu, unblocked vol	4.6		4.1		7.5		6.5		6.9	7.5		7.3
IC, single (s)												
IC, 2 stage (s)												
IF (s)	2.5		2.2		3.5		4.0		3.3	3.5		4.0
p0 queue free %	99		100		97		100		100	98		98
cM capacity (veh/h)	939		960		245		206		825	321		713
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	370	370	236	238	9	20						
Volume Left	5	0	1	0	7	7						
Volume Right	0	5	0	2	2	13						
cSH	939	1700	960	1700	297	507						
Volume to Capacity	0.01	0.22	0.00	0.14	0.03	0.04						
Queue Length 95th (ft)	0	0	0	0	0	2						
Control Delay (s)	0.2	0.0	0.1	0.0	17.5	12.4						
Lane LOS	A		A		C	B						
Approach Delay (s)	0.1		0.0		17.5	12.4						
Approach LOS					C	B						
Intersection Summary												
Average Delay				0.4								
Intersection Capacity Utilization				32.2%		ICU Level of Service						
Analysis Period (min)				15								

HCM Signalized Intersection Capacity Analysis 25: E Ponce De Leon & On Ramp 285

No-Build PM 2023
7/11/2012

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	EB	EB	WB	WB	SB	SB
Volume (vph)	459	588	310	256	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0		
Lane Util. Factor	1.00	1.00	0.95			
Flt Protected	1.00	1.00	0.93			
Satd. Flow (prot)	1752	1863	3338			
Flt Permitted	0.31	1.00	1.00			
Satd. Flow (perm)	574	1863	3338			
Peak-hour factor, PHF	0.93	0.95	0.97	0.90	0.92	0.92
Adj. Flow (vph)	494	619	320	284	0	0
RTOR Reduction (vph)	0	0	167	0	0	0
Lane Group Flow (vph)	494	619	437	0	0	0
Heavy Vehicles (%)	3%	2%	1%	0%	0%	0%
Turn Type	pm-pt					
Protected Phases	1	6	2			
Permitted Phases	6					
Actuated Green, G (s)	48.0	48.0	33.0			
Effective Green, g (s)	48.0	48.0	33.0			
Actuated g/C Ratio	0.60	0.60	0.41			
Clearance Time (s)	5.0	5.0	5.0			
Vehicle Extension (s)	3.0	5.0	5.0			
Lane Grp Cap (vph)	492	1118	1377			
v/s Ratio Prot	0.13	0.33	0.13			
v/s Ratio Perm	0.48					
v/c Ratio	1.00	0.55	0.32			
Uniform Delay, d1	13.1	9.6	15.9			
Progression Factor	1.16	0.95	1.00			
Incremental Delay, d2	35.1	1.4	0.6			
Delay (s)	50.4	10.5	16.5			
Level of Service	D	B	B			
Approach Delay (s)		28.2	16.5	0.0		
Approach LOS		C	B	A		
Intersection Summary						
HCM Average Control Delay			24.1		HCM Level of Service	C
HCM Volume to Capacity ratio			0.97			
Actuated Cycle Length (s)			80.0		Sum of lost time (s)	32.0
Intersection Capacity Utilization			86.5%		ICU Level of Service	E
Analysis Period (min)			15			
c Critical Lane Group						

5:00 pm Baseline

HCM Unsignalized Intersection Capacity Analysis 26: Church St & Off Ramp 285

No-Build PM 2023
7/11/2012

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	EB	EB	WB	WB	NB	NB
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Volume (vph)	236	0	0	436	194	229
Peak Hour Factor	0.86	0.92	0.92	0.94	0.91	0.90
Hourly flow rate (vph)	344	0	0	464	213	254
Direction, Lane #	EB 1	WB 1	NB 1	NB 2		
Volume Total (vph)	344	464	213	254		
Volume Left (vph)	0	0	213	0		
Volume Right (vph)	0	0	0	254		
Head (s)	0.00	0.02	0.20	-0.60		
Departure Headway (s)	5.3	5.1	6.1	3.2		
Degree Utilization, x	0.50	0.66	0.36	0.23		
Capacity (veh/h)	650	685	534	1122		
Control Delay (s)	13.4	17.4	12.5	7.1		
Approach Delay (s)	13.4	17.4	9.6			
Approach LOS	B	C	A			
Intersection Summary						
Delay			13.5			
HCM Level of Service			B			
Intersection Capacity Utilization			40.4%		ICU Level of Service	A
Analysis Period (min)			15			

5:00 pm Baseline

HCM Signalized Intersection Capacity Analysis 27: Valley Brook Rd & Concord Dr

No-Build PM 2023
7/11/2012

Movement	NBL2	NBL	NBR	SEL	SER	SER2	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	1	414	152	1405	828	9	7	0	1	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.97	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fit	1.00	0.96	1.00	0.85	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Flt Protected	0.95	0.97	0.95	1.00	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Satd. Flow (prot)	1805	3410	3502	1615	1615	1794	1794	1794	1794	1794	1794	1794
Flt Permitted	0.33	0.97	0.95	1.00	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Satd. Flow (perm)	625	3410	3502	1615	1615	1794	1794	1794	1794	1794	1794	1794
Peak-hour factor, PHF	0.92	0.90	0.87	0.95	0.93	0.58	0.75	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	460	175	1479	890	16	9	0	1	0	0	0
RTOR Reduction (vph)	0	33	0	0	0	0	0	1	0	0	0	0
Lane Group Flow (vph)	1	602	0	1479	906	0	0	9	0	0	0	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%
Turn Type	pm-pt	custom Perm										
Protected Phases	5	2	1	6	8							
Permitted Phases	2	22.7	36.0	58.2	0.9							
Actuated Green, G (s)	23.2	22.7	36.0	58.2	0.9							
Effective Green, g (s)	23.2	22.7	36.0	58.2	0.9							
Actuated g/C Ratio	0.32	0.32	0.50	0.81	0.01							
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0							
Lane Grp Cap (vph)	211	1081	1761	1313	23							
v/s Ratio Prot	0.00	0.18	c0.42	c0.56	0.01							
v/s Ratio Perm	0.00	0.00	0.84	0.69	0.39							
v/c Ratio	0.00	0.56	0.84	0.69	0.39							
Uniform Delay, d1	16.4	20.3	15.3	2.9	35.1							
Progression Factor	1.00	1.00	1.00	1.00	1.00							
Incremental Delay, d2	0.0	0.6	3.7	1.5	10.7							
Delay (s)	16.4	20.9	19.0	4.4	45.8							
Level of Service	B	C	B	A	D							
Approach Delay (s)	20.9	13.5		45.8	0.0							
Approach LOS	C	B		D	A							
Intersection Summary												
HCM Average Control Delay	15.1				HCM Level of Service				B			
HCM Volume to Capacity ratio	0.75											
Actuated Cycle Length (s)	71.6				Sum of lost time (s)				8.0			
Intersection Capacity Utilization	70.0%				ICU Level of Service				C			
Analysis Period (min)	15											
Critical Lane Group												

HCM Signalized Intersection Capacity Analysis 5: N Decatur Rd & E Ponce De Leon

7/9/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	NBR2	SWL2	SWL	SWR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	NBR2	SWL2	SWL	SWR
Volume (vph)	177	1001	70	67	451	131	61	663	94	219	560	178
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5			5.5		5.5	5.5	4.0	5.5	5.5	
Lane Util. Factor	1.00	0.95			0.95		1.00	1.00	1.00	1.00	0.97	
Flpb. ped/bikes	1.00	1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Flpb. ped/bikes	1.00	1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Flt	1.00	0.99			0.97		1.00	0.85	0.85	1.00	0.95	
Flt Protected	0.95	1.00			0.99		0.95	1.00	1.00	0.95	0.97	
Satd. Flow (prot)	1805	3555			3459		1805	1615	1577	1805	3366	
Flt Permitted	0.20	1.00			0.59		0.95	1.00	1.00	0.95	0.97	
Satd. Flow (perm)	379	3555			2049		1805	1615	1577	1805	3366	
Peak-hour factor, PHF	0.86	0.95	0.67	0.79	0.94	0.85	0.82	0.93	0.91	0.79	0.95	0.66
Adj. Flow (vph)	206	1054	104	85	480	154	74	713	103	277	589	270
RTOR Reduction (vph)	0	6	0	0	24	0	0	0	0	0	0	51
Lane Group Flow (vph)	206	1152	0	0	695	0	74	713	103	277	808	0
Confl. Peds. (#/hr)	4	5	6	5	5	5	5	6	6	5	5	4
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%
Turn Type	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt
Permitted Phases	5	2					8	8	Free	Split	Split	4!
Actuated Green, G (s)	50.5	50.5			36.1		48.5	48.5	110.0	48.5	48.5	
Effective Green, g (s)	50.5	50.5			36.1		48.5	48.5	110.0	48.5	48.5	
Actuated g/C Ratio	0.46	0.46			0.33		0.44	0.44	1.00	0.44	0.44	
Clearance Time (s)	5.5	5.5			5.5		5.5	5.5	5.5	5.5	5.5	
Vehicle Extension (s)	3.0	8.0			8.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	289	1632			672		796	712	1577	796	1484	
v/s Ratio Prot	0.06	c0.32			c0.34		0.04	c0.44	0.07	0.15	0.24	
v/s Ratio Perm	0.27				1.03		0.09	1.00	0.07	0.35	0.54	
Uniform Delay, d1	20.6	23.8			37.0		17.9	30.8	0.0	20.3	22.6	
Progression Factor	1.00	1.00			0.38		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	8.1	2.6			42.1		0.1	34.1	0.1	0.4	0.5	
Delay (s)	28.7	26.4			56.1		18.0	64.8	0.1	20.7	23.1	
Level of Service	C	C			E		B	E	A	C	C	
Approach Delay (s)					56.1		53.4				22.5	
Approach LOS					E		D				C	

Intersection Summary			
HCM Average Control Delay	36.5	HCM Level of Service	D
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	105.6%	ICU Level of Service	G
Analysis Period (min)	15		
i Phase conflict between lane groups.			
c Critical Lane Group			

5:00 pm Baseline

HCM Signalized Intersection Capacity Analysis 12: N Decatur Rd & Dekalb Industrial Way

7/9/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SWR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SWR
Volume (vph)	339	1043	154	90	458	147	195	744	109	203	673	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0		6.0	6.0	6.0	6.0	6.0	
Lane Util. Factor	1.00	0.95			1.00		1.00	0.95	1.00	0.95	1.00	
Flpb. ped/bikes	1.00	1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Flpb. ped/bikes	1.00	1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Flt	1.00	0.98			1.00		1.00	0.98	1.00	0.98	1.00	
Flt Protected	0.95	1.00			0.95		0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1805	3523			1805		1805	3531	1805	3610	1570	
Flt Permitted	0.16	1.00			0.15		0.15	1.00	0.15	1.00	1.00	
Satd. Flow (perm)	307	3523			281		262	3531	288	3610	1570	
Peak-hour factor, PHF	0.82	0.98	0.86	0.78	0.93	0.89	0.84	0.92	0.92	0.91	0.95	0.86
Adj. Flow (vph)	413	1064	179	115	492	165	232	809	118	223	708	124
RTOR Reduction (vph)	0	12	0	0	30	0	0	10	0	0	0	94
Lane Group Flow (vph)	413	1231	0	115	627	0	232	917	0	223	708	30
Confl. Peds. (#/hr)	5	7	8	6	6	7	8	7	6	6	5	5
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Turn Type	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt
Permitted Phases	5	2					3	8	0%	0%	0%	4
Actuated Green, G (s)	53.0	42.0			32.0		41.7	29.0	36.3	26.3	26.3	
Effective Green, g (s)	53.0	42.0			32.0		41.7	29.0	36.3	26.3	26.3	
Actuated g/C Ratio	0.48	0.38			0.29		0.38	0.26	0.33	0.24	0.24	
Clearance Time (s)	6.0	6.0			6.0		6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	8.0			3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	420	1345			151		277	931	233	863	375	
v/s Ratio Prot	c0.18	0.35			0.03		c0.10	c0.26	0.09	0.20	0.20	
v/s Ratio Perm	c0.29				0.19		0.22		0.23			
v/c Ratio	0.98	0.91			0.76		0.84	0.98	0.96	0.82	0.08	
Uniform Delay, d1	28.4	32.3			32.1		26.6	40.3	31.2	39.6	32.5	
Progression Factor	1.00	1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	39.3	11.2			20.0		19.3	25.5	45.5	6.3	0.1	
Delay (s)	67.7	43.5			52.1		45.9	65.8	77.7	45.9	32.5	
Level of Service	E	D			D		D	E	E	D	C	
Approach Delay (s)					45.2		61.8			51.1		
Approach LOS					D		E			D		

Intersection Summary			
HCM Average Control Delay	52.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	94.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

5:00 pm Baseline

HCM Signalized Intersection Capacity Analysis 15: E College Ave & Arcadia Ave

7/9/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	HT	HT	HT	HT	HT	HT	HT	HT	HT	HT	HT	HT
Volume (vph)	490	853	42	36	526	209	16	250	20	555	504	415
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0	6.0	6.0	6.0	6.0	5.8	5.8	5.7	5.8	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00
Fr	1.00	0.99	1.00	0.96	1.00	0.96	1.00	0.99	1.00	1.00	0.85	0.85
Frpb, ped/bikes	0.95	1.00	0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00
Satd. Flow (prot)	3502	3577	1805	3461	3547	3547	1805	3547	1805	1900	1615	1615
FrP	0.15	1.00	0.28	1.00	0.28	1.00	0.83	0.26	1.00	1.00	1.00	1.00
Satd. Flow (perm)	554	3577	538	3461	2976	2976	499	1900	1615	1615	1615	1615
Peak-hour factor, PHF	0.96	0.93	0.71	0.81	0.89	0.93	0.46	0.85	0.67	0.95	0.92	0.96
Adj. Flow (vph)	520	917	59	44	591	225	35	294	30	584	548	432
RTOR Reduction (vph)	0	5	0	0	44	0	0	8	0	0	0	0
Lane Group Flow (vph)	520	917	0	44	772	0	0	351	0	584	548	432
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm
Protected Phases	5	2										
Permitted Phases	2											
Actuated Green, G (s)	36.7	36.7	22.2	22.2	22.2	22.2	12.0	41.5	41.5	41.5	90.0	90.0
Effective Green, g (s)	36.7	36.7	22.2	22.2	22.2	22.2	12.0	41.5	41.5	41.5	90.0	90.0
Actuated g/C Ratio	0.41	0.41	0.25	0.25	0.25	0.25	0.13	0.46	0.46	0.46	1.00	1.00
Clearance Time (s)	4.4	6.0	6.0	6.0	6.0	6.0	5.8	5.7	5.8	5.7	5.8	5.8
Vehicle Extension (s)	3.5	5.0	5.0	5.0	5.0	5.0	3.0	3.5	3.5	3.5	3.5	3.5
Lane Grp Cap (vph)	557	1459	133	854	397	397	575	876	1615	1615	1615	1615
v/s Ratio Prot	c0.10	0.27					c0.27	0.29				
v/s Ratio Perm	0.93	0.67	0.33	0.90	0.88	1.02	0.63	0.27				
v/c Ratio	21.4	21.7	27.8	32.9	38.3	22.0	18.4	0.0				
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	23.1	2.4	6.5	14.7	20.2	20.2	41.5	1.5	0.4			
Delay (s)	44.5	24.1	34.4	47.6	58.5	58.5	63.6	19.8	0.4			
Level of Service	D	C	C	D	E	E	E	B	A			
Approach Delay (s)	31.2		46.9		58.5			30.8				
Approach LOS	C		D		E			C				
Intersection Summary												
HCM Average Control Delay	36.5											
HCM Volume to Capacity ratio	0.91											
Actuated Cycle Length (s)	90.0											
Intersection Capacity Utilization	95.8%											
Analysis Period (min)	15											
c Critical Lane Group												

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis 21: Dekalb Industrial Way &

7/9/2012

Movement	NBL2	NBL	NBR	SEL	SER	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	↰	↰	↰	↰	↰	↰	↰	↰	↰	↰	↰
Volume (vph)	50	0	1221	5	4	0	3756	76	939	1841	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.4	6.6	6.8			6.5		6.6	6.2	
Lane Util. Factor	1.00		0.88	1.00			0.86		0.97	0.91	
Frpb, ped/bikes	1.00		0.99	1.00			1.00		1.00	1.00	
Fpb, ped/bikes	1.00	1.00	1.00	1.00			1.00		1.00	1.00	1.00
Frt	1.00	0.85	0.94	1.00			1.00		1.00	1.00	1.00
Flt Protected	0.95	1.00	0.97				1.00		0.95	1.00	
Satd. Flow (prot)	1805	2816	1738				6509		3502	5187	
Flt Permitted	0.95	1.00	0.97				1.00		0.95	1.00	
Satd. Flow (perm)	1805	2816	1738				6509		3502	5187	
Peak-hour factor, PHF	0.83	0.90	0.90	0.92	0.92	0.92	0.99	0.80	0.96	0.97	0.92
Adj. Flow (vph)	60	0	1357	5	4	0	3794	95	978	1898	0
RTOR Reduction (vph)	0	0	216	0	0	0	2	0	0	0	0
Lane Group Flow (vph)	60	0	1141	9	0	0	3887	0	978	1898	0
Confl. Peds. (#/hr)	3	3	2	2	2	2	3	3	3	3	3
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	custom	5	4			6		5	2	
Protected Phases	8										
Permitted Phases	2										
Actuated Green, G (s)	11.3	126.1	10.9	10.9			83.7		35.5	126.1	
Effective Green, g (s)	11.3	126.1	10.9	10.9			83.7		35.5	126.1	
Actuated g/C Ratio	0.08	0.84	0.07	0.07			0.56		0.24	0.84	
Clearance Time (s)	6.4	6.6	6.8	6.8			6.5		6.6	6.2	
Vehicle Extension (s)	3.0	3.0	3.0	3.0			5.0		3.0	4.8	
Lane Grp Cap (vph)	136	2367	126	126			3632		829	4361	
v/s Ratio Prot	c0.03	0.11	0.01	0.01			c0.60		c0.28	0.37	
v/s Ratio Perm		0.29									
v/c Ratio	0.44	0.48	0.07	0.07			1.07		1.18	0.44	
Uniform Delay, d1	66.3	3.2	64.8	64.8			33.2		57.3	3.0	
Progression Factor	1.00	1.00	1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	2.3	0.2	0.2	0.2			37.9		93.2	0.3	
Delay (s)	68.6	3.4	65.1	65.1			71.0		150.5	3.3	
Level of Service	E	A	E	E			E		F	A	
Approach Delay (s)	6.1		65.1				71.0		53.4		
Approach LOS	A		E				E		D		
Intersection Summary											
HCM Average Control Delay	53.6										
HCM Volume to Capacity ratio	1.05										
Actuated Cycle Length (s)	150.0										
Intersection Capacity Utilization	121.6%										
Analysis Period (min)	15										
c Critical Lane Group											

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis 1: E Ponce De Leon & Laredo Dr

No-Build SAT 2023
7/11/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL2	NBL	NBR	SBL	SER	SER2
Lane Configurations	4	4	4	4	4	4	4	4	4	4	4	4
Volume (vph)	417	223	94	58	225	424	81	165	72	444	229	407
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95
Frb. ped/bikes	1.00	0.99	1.00	1.00	0.99	1.00	0.99	1.00	0.99	1.00	0.99	1.00
Frb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frb. ped/bikes	1.00	0.95	1.00	1.00	0.85	1.00	0.95	1.00	0.95	1.00	0.85	0.85
Fit Protected	0.95	1.00	0.95	1.00	1.00	0.95	0.97	0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1804	3390	1729	3574	1593	1805	1736	1805	1615	1595	1805	1615
Fit Permitted	0.41	1.00	0.54	1.00	1.00	0.95	0.97	0.95	1.00	1.00	0.95	1.00
Satd. Flow (perm)	783	3390	979	3574	1593	1805	1736	1805	1615	1595	1805	1615
Peak-hour factor, PHF	0.96	0.91	0.83	0.84	0.92	0.86	0.90	0.88	0.81	0.93	0.81	0.95
Adj. Flow (vph)	434	245	113	69	245	493	90	188	89	477	283	428
RTOR Reduction (vph)	0	32	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	434	326	0	69	245	493	90	267	0	477	283	428
Confl. Peds. (#/hr)	1	2	7	7	6	2	2	7	6	6	6	1
Heavy Vehicles (%)	0%	1%	0%	4%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	Free Split	Free Split	Prot	Free	Prot	Free
Protected Phases	5	2	1	6	8	8	8	8	4	4	4	4
Permitted Phases	2	6	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free
Actuated Green, G (s)	51.7	38.0	29.3	21.1	128.7	25.4	25.4	25.4	35.1	35.1	128.7	128.7
Effective Green, g (s)	51.7	38.0	29.3	21.1	128.7	25.4	25.4	25.4	35.1	35.1	128.7	128.7
Actuated g/C Ratio	0.40	0.30	0.23	0.16	1.00	0.20	0.20	0.20	0.27	0.27	1.00	1.00
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	514	1001	271	586	1593	356	343	492	440	1595	492	440
v/s Ratio Prot	c0.16	0.10	0.02	0.07	0.31	0.05	c0.15	c0.26	0.18	0.27	0.18	0.27
v/s Ratio Perm	c0.17	0.10	0.02	0.07	0.31	0.05	c0.15	c0.26	0.18	0.27	0.18	0.27
Uniform Delay, d1	0.84	0.33	0.25	0.42	0.31	0.25	0.78	0.97	0.64	0.27	0.64	0.27
Progression Factor	30.8	35.4	40.0	48.3	0.0	43.6	49.0	46.3	41.3	0.0	46.3	41.3
Incremental Delay, d2	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Level of Service	12.1	0.4	0.5	1.0	0.5	0.5	11.2	32.6	3.6	0.4	32.6	3.6
Approach Delay (s)	42.8	35.8	40.5	49.3	0.5	44.1	60.1	78.8	44.9	0.4	78.8	44.9
Approach LOS	D	D	D	D	A	D	E	E	D	A	E	D
Intersection Summary												
HCM Average Control Delay	37.3											
HCM Volume to Capacity ratio	0.86											
Actuated Cycle Length (s)	128.7											
Intersection Capacity Utilization	99.3%											
Analysis Period (min)	15											
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis 2: E Ponce De Leon &

No-Build SAT 2023
7/11/2012

Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	NWL	NWR
Lane Configurations										
Volume (vph)	1	1	0	564	91	211	564	0	65	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	4.0	4.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00
Flt Protected	0.91	0.91	1.00	0.85	1.00	1.00	1.00	0.99	0.99	0.99
Satd. Flow (prot)	1701	1701	1863	1615	1615	3485	3485	1689	1689	1689
Flt Permitted	0.98	0.98	1.00	1.00	1.00	1.00	0.62	0.62	0.99	0.99
Satd. Flow (perm)	1701	1701	1863	1615	1615	2193	2193	1689	1689	1689
Peak-hour factor, PHF	0.50	0.25	0.25	0.97	0.87	0.91	0.95	0.92	0.87	0.25
Adj. Flow (vph)	2	4	0	581	105	232	594	0	75	4
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	107
Lane Group Flow (vph)	6	0	0	581	105	0	826	0	0	243
Heavy Vehicles (%)	0%	0%	0%	2%	0%	0%	3%	0%	0%	1%
Turn Type				Free	Free	Perm	Perm	Perm		
Protected Phases	4!		2			6			8	8!
Permitted Phases				Free	Free					
Actuated Green, G (s)	14.9		30.6	57.5	30.6		30.6		14.9	
Effective Green, g (s)	14.9		30.6	57.5	30.6		30.6		14.9	
Actuated g/C Ratio	0.26		0.53	1.00	0.53		0.53		0.26	
Clearance Time (s)	6.0		6.0	6.0	6.0		6.0		6.0	
Vehicle Extension (s)	3.0		3.0				3.0		3.0	
Lane Grp Cap (vph)	441		991	1615	1615		1167		432	
v/s Ratio Prot	0.00		0.31		0.07		c0.38		0.15	
v/s Ratio Perm			0.59	0.07	0.71		0.71		0.56	
Uniform Delay, d1	15.8		9.1	0.0	10.1		10.1		18.5	
Progression Factor	1.00		1.00	1.00	1.00		1.00		1.00	
Incremental Delay, d2	0.0		0.9	0.1	2.0		2.0		1.7	
Delay (s)	15.8		10.0	0.1	12.1		12.1		20.2	
Level of Service	B		B	A	B		B		C	
Approach Delay (s)	15.8		8.5		12.1		12.1		20.2	
Approach LOS	B		A		B		B		C	
Intersection Summary										
HCM Average Control Delay	12.3									
HCM Volume to Capacity ratio	0.66									
Actuated Cycle Length (s)	57.5									
Intersection Capacity Utilization	97.0%									
Analysis Period (min)	15									
i Phase conflict between lane groups.										
c Critical Lane Group										

HCM Signalized Intersection Capacity Analysis

3: E Ponce De Leon & Dekalb Industrial Way

No-Build SAT 2023
7/11/2012

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations	2	4	4	4	4	4	4	4	4	4	4	4
Volume (vph)	20	530	7	10	514	173	157	6	21	15	7	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.99	1.00	1.00	1.00	1.00
Flpb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	1.00	1.00	0.96	1.00	0.96	1.00	0.89	0.95	0.95	0.95	0.95
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.98	0.98	0.98	0.98
Satd. Flow (prot)	1805	3560	1805	3444	1805	3444	1805	1675	1773	1773	1773	1773
Flt Permitted	0.24	1.00	0.44	1.00	0.44	1.00	0.73	1.00	0.91	0.91	0.91	0.91
Satd. Flow (perm)	463	3560	830	3444	1380	1675	1675	1675	1648	1648	1648	1648
Peak-hour factor, PHF	0.80	0.95	0.50	0.67	0.95	0.91	0.56	0.50	0.63	0.83	0.60	0.63
Adj. Flow (vph)	25	558	14	15	541	190	280	12	33	18	12	17
RTOR Reduction (vph)	0	2	0	0	25	0	0	21	0	0	0	11
Lane Group Flow (vph)	25	570	0	15	706	0	280	24	0	0	36	0
Confl. Peds. (#/hr)	1	1	1	1	1	1	1	1	1	1	1	1
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm
Protected Phases	6	6	2	2	4	4	4	4	4	4	4	4
Actuated Green, G (s)	33.6	33.6	26.3	26.3	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4
Effective Green, g (s)	33.6	33.6	26.3	26.3	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4
Actuated g/C Ratio	0.48	0.48	0.38	0.38	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35
Clearance Time (s)	5.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	266	1709	312	1294	481	584	584	584	574	574	574	574
v/s Ratio Prot	0.00	c0.16	0.02	c0.21	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02
v/s Ratio Perm	0.09	0.33	0.05	0.55	0.58	0.58	0.58	0.58	0.04	0.06	0.06	0.06
Uniform Delay, d1	10.5	11.3	13.9	17.2	18.6	15.1	15.1	15.2	15.2	15.2	15.2	15.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	0.2	0.1	0.8	2.8	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Delay (s)	10.7	11.5	14.0	18.0	21.4	15.1	15.1	15.3	15.3	15.3	15.3	15.3
Level of Service	B	B	B	B	C	B	B	B	B	B	B	B
Approach Delay (s)	11.5	17.9	17.9	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5
Approach LOS	B	B	B	C	C	C	C	C	C	C	C	C

Intersection Summary				B
HCM Average Control Delay	16.1	HCM Level of Service		
HCM Volume to Capacity ratio	0.98			
Actuated Cycle Length (s)	70.0	Sum of lost time (s)		18.0
Intersection Capacity Utilization	45.3%	ICU Level of Service		A
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis

4: E Ponce De Leon & Arcadia Ave

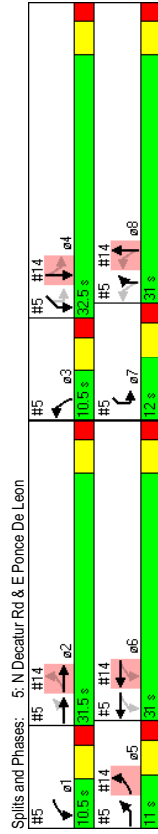
No-Build SAT 2023
7/11/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	4	4	4	4	4	4	4	4	4	4	4	4
Volume (vph)	80	295	107	196	322	14	88	453	220	16	465	98
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	4.4	6.0	6.0	5.7	6.2	5.8	5.8	5.8	4.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95
Flpb. ped/bikes	1.00	0.99	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	0.99
Flt	1.00	0.96	1.00	0.99	1.00	0.99	1.00	0.95	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	0.95
Satd. Flow (prot)	1796	3427	1803	3580	1802	3391	1802	3391	1805	3610	1594	1594
Flt Permitted	0.54	1.00	0.36	1.00	0.36	1.00	0.34	1.00	0.38	1.00	0.38	1.00
Satd. Flow (perm)	1016	3427	680	3580	646	3391	646	3391	722	3610	1594	1594
Peak-hour factor, PHF	0.89	0.94	0.86	0.90	0.95	0.89	0.81	0.98	0.87	0.54	0.93	0.86
Adj. Flow (vph)	90	314	124	218	339	20	109	462	253	30	500	114
RTOR Reduction (vph)	0	29	0	0	3	0	0	53	0	0	0	0
Lane Group Flow (vph)	90	409	0	218	356	0	109	662	0	30	500	114
Confl. Peds. (#/hr)	3	7	4	4	4	4	7	4	4	4	4	3
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	Perm	Perm	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	Perm	Perm	Perm	Free
Protected Phases	2	2	2	1	6	6	3	8	4	4	4	4
Actuated Green, G (s)	41.5	41.5	41.5	62.0	62.0	62.0	65.8	65.8	50.4	50.4	50.4	140.0
Effective Green, g (s)	41.5	41.5	41.5	62.0	62.0	62.0	65.8	65.8	50.4	50.4	50.4	140.0
Actuated g/C Ratio	0.30	0.30	0.30	0.44	0.44	0.44	0.47	0.47	0.36	0.36	0.36	1.00
Clearance Time (s)	6.0	6.0	6.0	4.4	6.0	6.0	5.7	6.2	5.8	5.8	5.8	3.0
Vehicle Extension (s)	5.0	5.0	5.0	3.5	5.0	5.0	3.5	3.5	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	301	1016	0.12	430	1585	0.10	387	1594	280	1300	1594	1594
v/s Ratio Prot	0.09	0.40	0.40	c0.17	0.51	0.22	0.11	0.11	0.04	0.12	0.38	0.07
v/s Ratio Perm	0.30	0.40	0.40	0.51	0.22	0.28	0.28	0.42	0.12	0.38	0.38	0.07
Uniform Delay, d1	38.0	39.3	39.3	25.5	24.1	24.1	21.9	24.4	29.9	33.3	33.3	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.5	1.2	1.2	1.1	0.3	0.3	0.5	0.8	0.9	0.9	0.9	0.1
Delay (s)	40.6	40.5	40.5	26.6	24.5	24.5	22.3	25.2	30.8	34.1	34.1	0.1
Level of Service	D	D	D	C	C	C	C	C	C	C	C	A
Approach Delay (s)	40.5	40.5	40.5	25.3	25.3	25.3	24.9	24.9	28.0	28.0	28.0	28.0
Approach LOS	D	D	D	C	C	C	C	C	C	C	C	C

Intersection Summary			
HCM Average Control Delay	28.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	10.6
Intersection Capacity Utilization	70.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Timings 5: N Decatur Rd & E Ponce De Leon No-Build SAT 2023 7/11/2012

Lane Group	EBL	EBT	WBL	WBT	NBL	NBR	SWL2	SWL
Lane Configurations	144	525	128	458	98	669	173	627
Volume (vph)	144	525	128	458	98	669	173	627
Turn Type	pm+pt	pm+pt	pm+pt	pm+pt	custom	pm+pt	pm+pt	pm+pt
Protected Phases	5	2	1	6	3	8	7	4
Permitted Phases	2	6	6	6	8	4	4	4
Detector Phase	5	2	1	6	3	8	7	4
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	8.0	5.0	8.0
Minimum Split (s)	10.5	30.5	10.5	30.5	10.5	28.5	10.5	32.5
Minimum Split (s)	11.0	31.5	10.5	31.0	10.5	31.0	12.0	32.5
Total Split (s)	12.9%	37.1%	12.4%	36.5%	12.4%	36.5%	14.1%	38.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	None	None	None	None	None
Act Effect Green (s)	36.5	36.5	25.5	30.5	25.5	34.3	29.1	29.1
Actuated g/C Ratio	0.43	0.43	0.30	0.36	0.30	0.40	0.34	0.34
v/c Ratio	0.76	0.44	1.02	0.51	0.94	0.90	0.71	0.71
Control Delay	41.5	17.4	48.2	23.6	48.8	60.0	27.2	27.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.5	17.4	48.2	23.6	48.8	60.0	27.2	27.2
LOS	D	B	D	C	D	E	C	C
Approach Delay	22.0	48.2	45.7	33.4				
Approach LOS	C	D	D	C				



HCM Signalized Intersection Capacity Analysis 5: N Decatur Rd & E Ponce De Leon No-Build SAT 2023 7/11/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SWL2	SWL	SWR
Lane Configurations	144	525	106	128	458	150	98	669	173	627	179
Volume (vph)	144	525	106	128	458	150	98	669	173	627	179
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		5.5	5.5		5.5	5.5	5.5	5.5	5.5
Lane Util. Factor	1.00	0.95		0.95	0.95		1.00	0.88	1.00	0.97	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	
Flt	1.00	0.97		0.97	1.00		1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00		0.99	1.00		0.95	1.00	0.95	0.96	
Satd. Flow (prot)	1787	3476		3447	1805		2839	1787	3399		
Flt Permitted	0.13	1.00		0.72	0.21		1.00	0.14	0.96		
Satd. Flow (perm)	252	3476		2494	393		2839	259	3399		
Peak-hour factor, PHF	0.91	0.95	0.92	0.92	0.84		0.86	0.95	0.88	0.87	0.98
Adj. Flow (vph)	158	553	115	139	482		179	704	109	640	218
RTOR Reduction (vph)	0	18	0	0	35		0	13	0	0	39
Lane Group Flow (vph)	158	650	0	0	765		0	114	800	0	199
Conf. Peds. (#/hr)	1	7	7	7	1		7	1	1	1	0
Heavy Vehicles (%)	1%	1%	0%	0%	0%		0%	1%	1%	0%	0%
Turn Type	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt		pm+pt	pm+pt	pm+pt	pm+pt	pm+pt
Protected Phases	2	2	1	6	6		3	8	7	4	
Permitted Phases	5	35.4	35.4	24.4	30.6		26.6	35.6	29.1		
Actuated Green, G (s)	35.4	35.4	35.4	24.4	30.6		26.6	35.6	29.1		
Effective Green, g (s)	35.4	35.4	35.4	24.4	30.6		26.6	35.6	29.1		
Actuated g/C Ratio	0.42	0.42	0.42	0.29	0.36		0.31	0.42	0.34		
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5		5.5	5.5	5.5		
Vehicle Extension (s)	3.0	8.0	8.0	8.0	8.0		3.0	4.0	4.0		
Lane Grp Cap (vph)	204	1448		716	208		888	225	1164		
v/s Ratio Prot	c0.05	0.19		c0.31	0.17		0.03	0.28	c0.07	0.24	
v/s Ratio Perm	0.27			0.77	0.45		0.55	0.90	0.88	0.70	
v/c Ratio	18.5	17.8		30.3	27.9		19.3	27.9	18.7	24.2	
Uniform Delay, d1	1.00	1.00		0.28	1.00		1.00	1.00	1.00	1.00	
Progression Factor	1.00	1.00		51.2	2.9		12.4	31.0	2.1		
Incremental Delay, d2	16.6	1.0		59.7	22.3		40.3	49.7	26.3		
Delay (s)	35.1	18.8		59.7	22.3		40.3	49.7	26.3		
Level of Service	D	B		E	C		D	D	C		
Approach Delay (s)	21.9			59.7	38.1				30.7		
Approach LOS	C			E	D				C		

Intersection Summary											
HCM Average Control Delay	37.0	HCM Level of Service	D								
HCM Volume to Capacity ratio	0.91										
Actuated Cycle Length (s)	85.0	Sum of lost time (s)	16.5								
Intersection Capacity Utilization	91.0%	ICU Level of Service	E								
Analysis Period (min)	15										
c Critical Lane Group											

HCM Signalized Intersection Capacity Analysis
6: Valley Brook Rd & E Ponce De Leon

No-Build SAT 2023
7/11/2012

Movement	SBL	SBR	NEL	NET	SWT	SWR	
Lane Configurations	109	377	351	579	594	96	
Volume (vph)	1900	1900	1900	1900	1900	1900	
Ideal Flow (vphpl)	6.0	4.0	6.0	6.0	6.0	6.0	
Total Lost time (s)	1.00	1.00	1.00	1.00	1.00	1.00	
Lane Util. Factor	1.00	0.99	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	
Flt	1.00	0.85	1.00	1.00	0.98		
Flt Protected	0.95	1.00	0.95	1.00	1.00		
Satd. Flow (prot)	1805	1593	1805	1900	1856		
Flt Permitted	0.95	1.00	0.18	1.00	1.00		
Satd. Flow (perm)	1805	1593	335	1900	1856		
Peak-hour factor, PHF	0.92	0.92	0.90	0.95	0.96	0.96	
Adj. Flow (vph)	118	410	390	609	619	100	
RTOR Reduction (vph)	0	0	0	0	4	0	
Lane Group Flow (vph)	118	410	390	609	715	0	
Confl. Peds. (#/hr)	4	6	6			4	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	
Turn Type	Free	Free	pm-pt				
Protected Phases	4	1	6	2			
Permitted Phases	Free	Free	6				
Actuated Green, G (s)	20.0	130.0	98.0	98.0	68.4		
Effective Green, g (s)	20.0	130.0	98.0	98.0	68.4		
Actuated g/C Ratio	0.15	1.00	0.75	0.75	0.53		
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		
Vehicle Extension (s)	4.0	3.0	8.0	8.0			
Lane Grp Cap (vph)	278	1593	519	1432	977		
v/s Ratio Prot	c0.07	c0.14	0.32	0.39			
v/s Ratio Perm		0.26	c0.43				
v/c Ratio	0.42	0.26	0.75	0.43	0.73		
Uniform Delay, d1	49.8	0.0	21.5	5.8	23.7		
Progression Factor	1.00	1.00	1.00	1.00	1.00		
Incremental Delay, d2	1.4	0.4	6.1	0.9	4.8		
Delay (s)	51.2	0.4	27.6	6.7	28.6		
Level of Service	D	A	C	A	C		
Approach Delay (s)	11.7		14.9	28.6			
Approach LOS	B		B	C			

Intersection Summary			
HCM Average Control Delay	18.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	88.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
7: Glendale Rd & E Ponce De Leon

No-Build SAT 2023
7/11/2012

Movement	NWL	NWR	NET	NER	SWL	SWT	
Lane Configurations	106	87	497	111	56	516	
Volume (vph)	1900	1900	1900	1900	1900	1900	
Ideal Flow (vphpl)	6.5	4.0	6.5	4.0	6.5	6.5	
Total Lost time (s)	1.00	1.00	1.00	1.00	1.00	1.00	
Lane Util. Factor	1.00	0.98	1.00	0.99	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	
Flt	1.00	0.85	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1805	1580	1900	1593	1802	1900	
Flt Permitted	0.95	1.00	1.00	1.00	0.42	1.00	
Satd. Flow (perm)	1805	1580	1900	1593	790	1900	
Peak-hour factor, PHF	0.89	0.73	0.87	0.89	0.83	0.90	
Adj. Flow (vph)	119	119	571	125	89	573	
RTOR Reduction (vph)	0	0	0	0	0	0	
Lane Group Flow (vph)	119	119	571	125	89	573	
Confl. Peds. (#/hr)	5	4		5	4		
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	
Turn Type	Free	Free	2	Free	Perm	6	
Protected Phases	4						
Permitted Phases	Free	Free	6	Free	6		
Actuated Green, G (s)	11.4	90.0	65.6	90.0	65.6	65.6	
Effective Green, g (s)	11.4	90.0	65.6	90.0	65.6	65.6	
Actuated g/C Ratio	0.13	1.00	0.73	1.00	0.73	0.73	
Clearance Time (s)	6.5		6.5		6.5	6.5	
Vehicle Extension (s)	3.0	5.5		5.5		5.5	
Lane Grp Cap (vph)	229	1580	1385	1593	576	1385	
v/s Ratio Prot	c0.07		0.30		0.08	c0.30	
v/s Ratio Perm		0.08		0.08	0.15		
v/c Ratio	0.52	0.08	0.41	0.08	0.15	0.41	
Uniform Delay, d1	36.7	0.0	4.7	0.0	3.7	4.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.0	0.1	0.9	0.1	0.6	0.9	
Delay (s)	38.7	0.1	5.6	0.1	4.3	5.6	
Level of Service	D	A	A	A	A	A	
Approach Delay (s)	19.4		4.6		5.5		
Approach LOS	B		A		A		

Intersection Summary			
HCM Average Control Delay	7.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	60.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
8: McLendon Dr & E Ponce De Leon

No-Build SAT 2023
7/11/2012

Movement	EBL	EBR	NEL	NET	SWT	SWR	
Lane Configurations	EBL	EBR	NEL	NET	SWT	SWR	
Volume (vph)	75	76	80	558	581	65	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	6.0	4.0	6.0	6.0	6.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00	
Satd. Flow (prot)	1805	1615	1805	1900	1900	1615	
Flt Permitted	0.95	1.00	0.94	1.00	1.00	1.00	
Satd. Flow (perm)	1805	1615	652	1900	1900	1615	
Peak-hour factor, PHF	0.75	0.90	0.84	0.94	0.98	0.77	
Adj. Flow (vph)	100	84	95	594	593	84	
RTOR Reduction (vph)	0	0	0	0	0	0	
Lane Group Flow (vph)	100	84	95	594	593	84	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	
Turn Type	Free	Free	pm+pt			Free	
Protected Phases	8	1	6	2			
Permitted Phases	Free	Free	6		Free		
Actuated Green, G (s)	13.1	123.0	97.9	97.9	83.0	123.0	
Effective Green, g (s)	13.1	123.0	97.9	97.9	83.0	123.0	
Actuated g/C Ratio	0.11	1.00	0.80	0.80	0.67	1.00	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	4.0	5.0	5.0	5.0	5.0	5.0	
Lane Grp Cap (vph)	192	1615	602	1512	1282	1615	
v/s Ratio Prot	c0.06		0.01	c0.31	c0.31		
v/c Ratio	0.52	0.05	0.16	0.39	0.46	0.05	
Uniform Delay, d1	52.0	0.0	4.5	3.7	9.5	0.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	3.3	0.1	0.3	0.8	1.2	0.1	
Delay (s)	55.3	0.1	4.7	4.5	10.7	0.1	
Level of Service	E	A	A	A	B	A	
Approach Delay (s)	30.1			4.5	9.3		
Approach LOS	C			A	A		
Intersection Summary							
HCM Average Control Delay			9.7		HCM Level of Service		A
HCM Volume to Capacity ratio			0.48				
Actuated Cycle Length (s)			123.0		Sum of lost time (s)		18.0
Intersection Capacity Utilization			56.7%		ICU Level of Service		B
Analysis Period (min)			15				
c Critical Lane Group							

HCM Signalized Intersection Capacity Analysis
9: E Ponce De Leon & Off Ramp 285

No-Build SAT 2023
7/11/2012

Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations	EBL	EBT	WBT	WBR	SBL	SBR	
Volume (vph)	0	567	320	0	364	325	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		5.0	5.0		5.5	5.5	
Lane Util. Factor		1.00	0.95		1.00	1.00	
Flt Protected		1.00	1.00		0.95	1.00	
Satd. Flow (prot)		1881	3610		1805	1615	
Flt Permitted		1.00	1.00		0.95	1.00	
Satd. Flow (perm)		1881	3610		1805	1615	
Peak-hour factor, PHF		0.92	0.88		0.92	0.92	
Adj. Flow (vph)		0	644		396	353	
RTOR Reduction (vph)		0	0		0	248	
Lane Group Flow (vph)		0	644		396	105	
Heavy Vehicles (%)		0%	1%		0%	0%	
Turn Type		Perm			Perm		
Protected Phases		6	2		8		
Permitted Phases						8	
Actuated Green, G (s)		45.8	30.0		23.7	23.7	
Effective Green, g (s)		45.8	30.0		23.7	23.7	
Actuated g/C Ratio		0.57	0.38		0.30	0.30	
Clearance Time (s)		5.0	5.0		5.5	5.5	
Vehicle Extension (s)		5.0	5.0		3.5	3.5	
Lane Grp Cap (vph)		1077	1354		535	478	
v/s Ratio Prot		c0.34	0.10		c0.22		
v/c Ratio		0.60	0.27		0.74	0.22	
Uniform Delay, d1		11.1	17.4		25.4	21.2	
Progression Factor		1.00	0.60		1.00	1.00	
Incremental Delay, d2		2.5	0.5		5.6	0.3	
Delay (s)		13.6	10.9		31.0	21.5	
Level of Service		B	B		C	C	
Approach Delay (s)		13.6	10.9		26.5		
Approach LOS		B	B		C		
Intersection Summary							
HCM Average Control Delay			18.5		HCM Level of Service		B
HCM Volume to Capacity ratio			0.65				
Actuated Cycle Length (s)			80.0		Sum of lost time (s)		10.5
Intersection Capacity Utilization			80.8%		ICU Level of Service		D
Analysis Period (min)			15				
c Critical Lane Group							

HCM Unsignalized Intersection Capacity Analysis
10: Church St & On Ramp 285

No-Build SAT 2023
7/11/2012

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	EBT	EBR	WBL	WBT	NBL	NBR
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Volume (vph)	221	251	195	358	0	0
Peak Hour Factor	0.81	0.89	0.94	0.86	0.92	0.92
Hourly flow rate (vph)	273	282	207	416	0	0
Direction, Lane #	EB 1	WB 1				
Volume Total (vph)	555	624				
Volume Left (vph)	0	207				
Volume Right (vph)	282	0				
Head (s)	-0.30	0.07				
Departure Headway (s)	4.2	4.5				
Degree Utilization, x	0.65	0.78				
Capacity (veh/h)	838	791				
Control Delay (s)	14.9	21.6				
Approach Delay (s)	14.9	21.6				
Approach LOS	B	C				
Intersection Summary						
Delay		18.4				
HCM Level of Service		C				
Intersection Capacity Utilization		63.3%				
Analysis Period (min)		15				
ICU Level of Service		B				

Baseline

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HCM Unsignalized Intersection Capacity Analysis
11: Valley Brook Rd & SR 410 On Ramp

No-Build SAT 2023
7/11/2012

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations	EBL	EBT	WBT	WBR	SWL	SWR
Volume (veh/h)	0	1385	445	0	131	864
Sign Control	Free	Free	Free	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.93	0.93	0.93	0.92	0.82	0.97
Hourly flow rate (vph)	0	1489	478	0	160	891
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None	None	None			
Median storage (veh)						
Upstream signal (ft)			759			
pX, platoon unblocked						
VC, conflicting volume	478			1223	478	
VC1, stage 1 conf vol						
VC2, stage 2 conf vol						
VCu, unblocked vol	478			1223	478	
IC, single (s)	4.1			6.8	6.9	
IC, 2 stage (s)						
IF (s)	2.2			3.5	3.3	
p0 queue free %	100			8	0	
CM capacity (veh/h)	1084			174	539	
Direction, Lane #	EB 1	EB 2	WB 1	SW 2	SW 3	
Volume Total	745	745	478	160	445	445
Volume Left	0	0	0	160	0	0
Volume Right	0	0	0	0	445	445
cSH	1700	1700	1700	174	539	539
Volume to Capacity	0.44	0.44	0.28	0.92	0.83	0.83
Queue Length 95th (ft)	0	0	0	172	209	209
Control Delay (s)	0.0	0.0	0.0	100.8	36.0	36.0
Lane LOS				F	E	E
Approach Delay (s)	0.0	0.0	0.0	45.9		
Approach LOS				E		
Intersection Summary						
Average Delay			16.0			
Intersection Capacity Utilization			60.3%			
Analysis Period (min)			15			
ICU Level of Service			B			

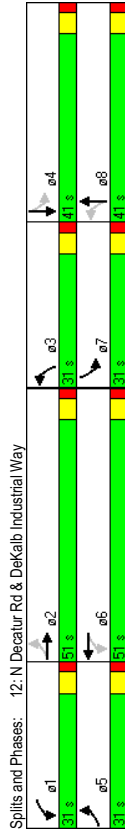
Baseline

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Timings
12: N Decatur Rd & DeKalb Industrial Way

No-Build SAT 2023
7/11/2012

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	128	551	77	405	193	525	199	439
Volume (vph)	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt
Turn Type	5	2	1	6	3	8	7	4
Protected Phases	5	2	1	6	3	8	7	4
Permitted Phases	2	6	6	8	8	4	4	4
Switch Phase	5	2	1	6	3	8	7	4
Minimum Initial (s)	5.0	10.0	5.0	15.0	5.0	7.0	5.0	7.0
Minimum Split (s)	22.0	31.0	11.0	31.0	11.0	31.0	11.0	13.0
Total Split (s)	31.0	51.0	31.0	51.0	31.0	41.0	31.0	41.0
Total Split (%)	20.1%	33.1%	20.1%	33.1%	20.1%	26.6%	20.1%	26.6%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	None	None	None	None
Act Effct Green (s)	54.7	42.8	49.4	40.1	45.3	29.2	50.1	31.5
Actuated g/C Ratio	0.44	0.34	0.40	0.32	0.36	0.23	0.40	0.25
v/c Ratio	0.41	0.66	0.34	0.55	0.63	0.81	0.69	0.60
Control Delay	24.5	37.9	24.4	35.6	32.2	53.8	37.3	44.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.5	37.9	24.4	35.6	32.2	53.8	37.3	44.3
LOS	C	D	C	D	C	D	D	D
Approach Delay	35.8		34.1		48.2		42.2	
Approach LOS	D		C		D		D	



HCM Signalized Intersection Capacity Analysis
12: N Decatur Rd & DeKalb Industrial Way

No-Build SAT 2023
7/11/2012

Movement	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	128	551	77	405	193	525	199	439	63
Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Total Lost time (s)	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.97	1.00	0.95	1.00	0.98	1.00	0.98	1.00
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95
Satd. Flow (prot)	1804	3497	1804	3425	1803	3513	1805	3529	1805
Flt Permitted	0.27	1.00	0.21	1.00	0.31	1.00	0.15	1.00	0.15
Satd. Flow (perm)	507	3497	402	3425	582	3513	284	3529	582
Peak-hour factor, PHF	0.89	0.85	0.85	0.83	0.85	0.82	0.84	0.85	0.92
Adj. Flow (vph)	144	648	149	90	435	188	235	571	105
RTOR Reduction (vph)	0	12	0	0	30	0	10	0	0
Lane Group Flow (vph)	144	785	0	90	593	0	235	666	0
Conf. Peds. (#/hr)	5	7	8	6	7	8	6	6	5
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	1%
Turn Type	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt
Protected Phases	5	2	1	6	3	8	7	4	4
Permitted Phases	2	6	6	8	8	4	4	4	4
Actuated Green, G (s)	54.7	42.8	49.3	40.1	45.4	29.2	50.0	31.5	31.5
Effective Green, g (s)	54.7	42.8	49.3	40.1	45.4	29.2	50.0	31.5	31.5
Actuated g/C Ratio	0.44	0.35	0.40	0.32	0.37	0.24	0.40	0.25	0.25
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	8.0	3.0	8.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	349	1210	264	1110	374	829	342	899	342
v/s Ratio Prot	c0.04	c0.22	0.03	0.17	0.08	c0.19	c0.10	0.15	0.15
v/s Ratio Perm	0.14		0.11		0.15		0.17		
v/c Ratio	0.41	0.65	0.34	0.53	0.63	0.80	0.68	0.60	0.60
Uniform Delay, d1	22.1	34.1	24.7	34.2	29.0	44.5	27.5	40.5	40.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.8	2.6	0.8	1.7	3.3	5.7	5.6	1.1	1.1
Delay (s)	22.9	36.7	25.5	35.9	32.3	50.2	33.1	41.6	41.6
Level of Service	C	D	C	D	C	D	C	D	D
Approach Delay (s)	34.6		34.6		45.6		39.1		
Approach LOS	C		C		D		D		

Intersection Summary															
HCM Average Control Delay	38.6	HCM Level of Service	D												
HCM Volume to Capacity ratio	0.69														
Actuated Cycle Length (s)	123.7	Sum of lost time (s)	24.0												
Intersection Capacity Utilization	73.1%	ICU Level of Service	D												
Analysis Period (min)	15														
c Critical Lane Group															

HCM Signalized Intersection Capacity Analysis 13: N Decatur Rd & Church St W

No-Build SAT 2023
7/11/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR	
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Volume (vph)	90	497	30	172	383	93	83	444	164	106	414	87	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Flpb. ped/bikes	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.99	
Flpb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1802	3610	1594	1805	3610	1562	1803	3610	1594	1802	3610	1503	
Flt Permitted	0.40	1.00	1.00	0.16	1.00	1.00	0.43	1.00	1.00	0.42	1.00	1.00	
Satd. Flow (perm)	764	3610	1594	299	3610	1562	815	3610	1594	797	3610	1503	
Peak-hour factor, PHF	0.78	0.94	0.67	0.89	0.88	0.67	0.76	0.92	0.87	0.79	0.84	0.76	
Adj. Flow (vph)	115	529	45	193	435	139	109	483	189	134	493	114	
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	115	529	45	193	435	139	109	483	189	134	493	114	
Confl. Peds. (#/hr)	5	3	4	3	4	6	3	4	4	6	3	5	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	6%	
Turn Type	pm+pt	Free	Free	pm+pt	Free	Free	pm+pt	Free	Free	pm+pt	Free	Free	
Protected Phases	7	4	3	8	8	3	5	2	Free	1	6	Free	
Permitted Phases	4	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	
Actuated Green, G (s)	39.9	27.9	150.0	51.1	33.5	150.0	79.4	69.6	150.0	81.6	70.7	150.0	
Effective Green, g (s)	39.9	27.9	150.0	51.1	33.5	150.0	79.4	69.6	150.0	81.6	70.7	150.0	
Actuated g/C Ratio	0.27	0.19	1.00	0.34	0.22	1.00	0.53	0.46	1.00	0.54	0.47	1.00	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	286	671	1594	279	806	1562	496	1675	1594	507	1702	1503	
v/s Ratio Prot	0.03	c0.15	c0.08	0.12	0.01	0.13	0.01	0.13	c0.12	0.12	c0.14	0.08	
v/s Ratio Perm	0.07	0.03	0.03	0.09	0.09	0.10	0.10	0.10	0.12	0.26	0.29	0.08	
Uniform Delay, d1	43.3	58.2	0.0	38.6	51.4	0.0	17.8	24.9	0.0	17.1	24.3	0.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.9	6.1	0.0	7.2	0.7	0.1	0.2	0.4	0.2	0.3	0.4	0.1	
Delay (s)	44.2	64.4	0.0	45.8	52.1	0.1	18.1	25.3	0.2	17.4	24.7	0.1	
Level of Service	D	E	A	D	D	A	B	C	A	B	C	A	
Approach Delay (s)	56.8												
Approach LOS	E												

Intersection Summary			HCM Level of Service			C		
HCM Average Control Delay	33.4		HCM Level of Service			C		
HCM Volume to Capacity ratio	0.46							
Actuated Cycle Length (s)	150.0		Sum of lost time (s)	24.0				
Intersection Capacity Utilization	68.8%		ICU Level of Service			C		
Analysis Period (min)	15							
c Critical Lane Group								

HCM Signalized Intersection Capacity Analysis 14: N Decatur Rd & Church St

No-Build SAT 2023
7/11/2012

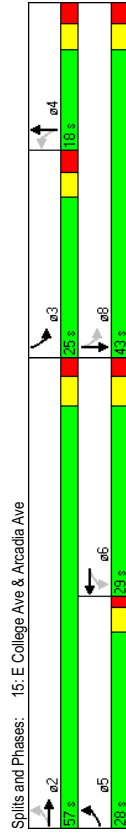
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SWR	
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Volume (vph)	218	547	29	10	551	5	6	96	30	7	52	173	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	4.0	
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flpb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flt	1.00	0.99	1.00	1.00	1.00	0.97	1.00	0.97	1.00	0.85	1.00	0.85	
Flt Protected	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.99	1.00	0.99	
Satd. Flow (prot)	1805	3574	3598	3598	1825	1825	1825	1889	1599	1889	1599	1889	
Flt Permitted	0.21	1.00	0.93	0.93	0.93	0.93	0.93	0.99	0.97	1.00	0.97	1.00	
Satd. Flow (perm)	395	3574	3362	3362	1804	1804	1804	1839	1599	1839	1599	1839	
Peak-hour factor, PHF	0.88	0.97	0.72	0.67	0.87	0.50	0.63	0.84	0.75	0.75	0.75	0.91	
Adj. Flow (vph)	248	564	40	15	633	10	10	114	40	9	69	190	
RTOR Reduction (vph)	0	5	0	0	1	0	0	14	0	0	0	0	
Lane Group Flow (vph)	248	599	0	0	657	0	0	150	0	0	78	190	
Confl. Peds. (#/hr)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2	0%	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	
Turn Type	pm+pt	Free	Free	pm+pt	Free	Free	pm+pt	Free	Free	pm+pt	Free	Free	
Protected Phases	5	2	6	6	8	8	8	8	8	4	4	Free	
Permitted Phases	2	35.4	24.4	24.4	26.6	26.6	26.6	29.1	85.0	29.1	85.0	85.0	
Actuated Green, G (s)	35.4	35.4	24.4	24.4	26.6	26.6	26.6	29.1	85.0	29.1	85.0	85.0	
Effective Green, g (s)	35.4	35.4	24.4	24.4	26.6	26.6	26.6	29.1	85.0	29.1	85.0	85.0	
Actuated g/C Ratio	0.42	0.42	0.29	0.29	0.31	0.31	0.31	0.34	1.00	0.34	1.00	1.00	
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	
Vehicle Extension (s)	3.0	8.0	8.0	8.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	256	1488	965	965	565	565	565	630	1599	630	1599	1599	
v/s Ratio Prot	c0.06	0.17	0.20	0.20	c0.08	c0.08	c0.08	0.04	c0.12	0.04	c0.12	c0.12	
v/s Ratio Perm	c0.34	0.40	0.68	0.68	0.27	0.27	0.27	0.12	0.12	0.12	0.12	0.12	
Uniform Delay, d1	22.8	17.4	26.8	26.8	21.9	21.9	21.9	19.2	0.0	19.2	0.0	0.0	
Progression Factor	0.80	0.69	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	41.2	0.6	3.9	3.9	0.3	0.3	0.3	0.1	0.2	0.1	0.2	0.1	
Delay (s)	59.5	12.6	30.7	30.7	22.2	22.2	22.2	19.3	0.2	19.3	0.2	0.2	
Level of Service	E	B	C	C	C	C	C	B	B	B	B	A	
Approach Delay (s)	26.2												
Approach LOS	C												

Intersection Summary			HCM Level of Service			C		
HCM Average Control Delay	24.6		HCM Level of Service			C		
HCM Volume to Capacity ratio	0.55							
Actuated Cycle Length (s)	85.0		Sum of lost time (s)	11.0				
Intersection Capacity Utilization	57.9%		ICU Level of Service			B		
Analysis Period (min)	15							
c Critical Lane Group								

Timings
15: E College Ave & Arcadia Ave

No-Build SAT 2023
7/11/2012

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Volume (vph)	328	413	30	439	29	213	223	252	264
Turn Type	pm+pt	pm+pt	Perm	Perm	Perm	pm+pt	pm+pt	Free	Free
Protected Phases	5	2	6	6	4	4	3	8	8
Permitted Phases	2	2	6	6	4	4	8	8	8
Switch Phase	5	2	6	6	4	4	3	8	8
Minimum Initial (s)	5.0	15.0	15.0	15.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	9.4	31.0	21.0	21.0	12.8	12.8	12.7	34.8	34.8
Total Split (s)	28.0	57.0	29.0	29.0	18.0	18.0	25.0	43.0	43.0
Total Split (%)	28.0%	57.0%	29.0%	29.0%	18.0%	18.0%	25.0%	43.0%	43.0%
Yellow Time (s)	3.0	3.6	3.6	3.6	3.1	3.1	3.0	3.1	3.1
All-Red Time (s)	1.4	2.4	2.4	2.4	2.7	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.4	6.0	6.0	6.0	5.8	5.8	5.7	5.8	4.0
Lead/Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	C-Min	None	None	None	None	None
Act Effect Green (s)	55.2	53.6	30.6	30.6	13.3	13.3	34.7	34.6	100.0
Actuated g/C Ratio	0.55	0.54	0.31	0.31	0.13	0.13	0.35	0.35	1.00
v/c Ratio	0.81	0.27	0.13	0.73	0.76	0.62	0.40	0.19	0.19
Control Delay	35.0	11.2	31.3	35.1	52.4	31.3	26.3	0.3	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.0	11.2	31.3	35.1	52.4	31.3	26.3	0.3	0.3
LOS	D	B	C	D	D	D	C	C	A
Approach Delay	21.0	35.0	35.0	35.0	52.4	52.4	18.1	B	B
Approach LOS	C	C	C	C	D	D	B	B	B
Intersection Summary									
Cycle Length: 100									
Actuated Cycle Length: 100									
Offset: 49 (49%), Referenced to phase 2EBTL and 6:WBTL, Start of Green									
Natural Cycle: 80									
Control Type: Actuated-Coordinated									
Maximum v/c Ratio: 0.81									
Intersection Signal Delay: 27.8									
Intersection LOS: C									
Intersection Capacity Utilization 78.4%									
Analysis Period (min) 15									



HCM Signalized Intersection Capacity Analysis
15: E College Ave & Arcadia Ave

No-Build SAT 2023
7/11/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	328	413	42	439	211	213	29	213	31	223	252	264
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0	6.0	6.0	6.0	6.0	5.8	5.8	5.8	5.7	5.8	4.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fltb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.98	1.00	0.95	1.00	0.95	0.98	1.00	1.00	1.00	0.85	1.00
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.99	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1805	3518	1794	3418	3494	1805	1805	1805	1805	1805	1805	1805
Flt Permitted	0.16	1.00	0.46	1.00	0.87	0.30	1.00	1.00	0.87	0.30	1.00	1.00
Satd. Flow (perm)	285	3518	877	3418	3074	568	1900	1595	568	1900	1595	1595
Peak-hour factor, PHF	0.92	0.95	0.57	0.86	0.80	0.85	0.82	0.89	0.69	0.93	0.96	0.88
Adj. Flow (vph)	357	435	74	35	549	248	35	239	45	240	262	300
RTOR Reduction (vph)	0	13	0	0	47	0	0	13	0	0	0	0
Lane Group Flow (vph)	357	496	0	35	750	0	0	306	0	240	262	300
Conf. Peds. (#/hr)	1	11	10	10	10	10	10	10	10	10	10	10
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	pm+pt	pm+pt	Perm	Perm	Perm	Perm	pm+pt	pm+pt	pm+pt	pm+pt	Free
Protected Phases	5	2	6	6	6	4	4	3	8	8	8	Free
Actuated Green, G (s)	53.6	53.6	30.6	30.6	30.6	13.3	13.3	34.6	34.6	34.6	100.0	100.0
Effective Green, g (s)	53.6	53.6	30.6	30.6	30.6	13.3	13.3	34.6	34.6	34.6	100.0	100.0
Actuated g/C Ratio	0.54	0.54	0.31	0.31	0.31	0.13	0.13	0.35	0.35	0.35	1.00	1.00
Clearance Time (s)	4.4	6.0	6.0	6.0	6.0	5.8	5.8	5.7	5.8	5.7	5.8	4.0
Vehicle Extension (s)	3.5	5.0	5.0	5.0	5.0	3.0	3.0	3.5	3.5	3.5	3.5	3.5
Lane Grp Cap (vph)	439	1886	268	1046	409	390	657	1595	390	657	1595	1595
v/s Ratio Prot	c0.15	0.14	0.22	0.04	0.13	c0.10	0.12	0.19	c0.10	0.12	0.19	0.19
v/s Ratio Perm	c0.28	0.81	0.26	0.13	0.72	0.62	0.40	0.19	0.62	0.40	0.19	0.19
v/c Ratio	0.81	0.26	0.13	0.72	0.62	0.40	0.19	0.19	0.62	0.40	0.19	0.19
Uniform Delay, d1	20.9	12.5	25.1	30.8	41.7	25.2	24.8	0.0	25.2	24.8	0.0	0.0
Progression Factor	1.15	0.88	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	10.5	0.3	1.0	4.2	7.3	3.0	0.5	0.3	3.0	0.5	0.3	0.3
Delay (s)	34.5	11.3	26.1	35.1	49.1	28.2	25.3	0.3	28.2	25.3	0.3	0.3
Level of Service	C	B	C	D	D	C	C	C	C	C	C	A
Approach Delay (s)	20.8	34.7	49.1	49.1	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8
Approach LOS	C	C	D	D	B	B	B	B	B	B	B	B
Intersection Summary												
HCM Average Control Delay	27.0											
HCM Volume to Capacity ratio	0.74											
Actuated Cycle Length (s)	100.0											
Intersection Capacity Utilization	78.4%											
Analysis Period (min)	15											
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis 16: Katie Kerr Dr & S Columbia Dr

No-Build SAT 2023
7/11/2012

Movement	WBL	WBR	NBL	NBR	SBL	SBR
Lane Configurations	W		W		W	
Volume (vph)	220	32	320	170	26	329
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frb. ped/bikes	0.98	0.95	0.88	0.88	1.00	1.00
Flt Protected	0.96	0.97	1.00	1.00	1.00	1.00
Satd. Flow (prot)	1787	1752	1657	1657	1657	1657
Flt Permitted	0.96	0.97	1.00	1.00	1.00	1.00
Satd. Flow (perm)	1787	1752	1657	1657	1657	1657
Peak-hour factor, PHF	0.90	0.81	0.96	0.93	0.88	0.96
Adj. Flow (vph)	244	40	333	183	30	343
RTOR Reduction (vph)	10	0	29	0	0	0
Lane Group Flow (vph)	274	0	487	0	373	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	8!	2	6			
Protected Phases						
Permitted Phases						
Actuated Green, G (s)	12.3	16.1	40.3			
Effective Green, g (s)	12.3	16.1	40.3			
Actuated g/C Ratio	0.24	0.32	0.80			
Clearance Time (s)	5.0	5.0	5.0			
Vehicle Extension (s)	3.0	3.0	3.0			
Lane Grp Cap (vph)	437	561	1657			
v/s Ratio Prot	c0.15	c0.28	c0.03			
v/s Ratio	0.63	0.87	0.19			
Uniform Delay, d1	17.0	16.1	1.3			
Progression Factor	1.00	1.00	1.00			
Incremental Delay, d2	2.8	13.3	0.1			
Delay (s)	19.8	29.4	1.4			
Level of Service	B	C	A			
Approach Delay (s)	19.8	29.4	1.4			
Approach LOS	B	C	A			
Intersection Summary						
HCM Average Control Delay		18.2		HCM Level of Service		B
HCM Volume to Capacity ratio		0.60				
Actuated Cycle Length (s)		50.3		Sum of lost time (s)		10.0
Intersection Capacity Utilization		76.5%		ICU Level of Service		D
Analysis Period (min)		15				
i Phase conflict between lane groups.						
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis 17: W College Ave & Commerce Dr

No-Build SAT 2023
7/11/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4P	4P		4P	4P		4P			4P	
Volume (vph)	37	630	26	58	608	128	76	195	67	113	223	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7		5.7			5.2				5.2	
Lane Util. Factor		0.95		0.95			0.95				0.95	
Frb. ped/bikes		1.00		1.00			1.00				1.00	
Flt Protected		0.99		0.97			0.97				0.98	
Flt Permitted		1.00		1.00			0.99				0.99	
Satd. Flow (prot)		3571		3492			3402				3472	
Flt Permitted		0.84		0.81			0.66				0.67	
Satd. Flow (perm)		3007		2848			2286				2354	
Peak-hour factor, PHF		0.75		0.84			0.86				0.91	
Adj. Flow (vph)		49		677			633				124	
RTOR Reduction (vph)		0		3			0				23	
Lane Group Flow (vph)		0		758			0				375	
Heavy Vehicles (%)		0%		0%			0%				2%	
Conf. Peds. (#/hr)		0%		0%			0%				0%	
Heavy Vehicles (%)		0%		0%			0%				0%	
Turn Type		Perm		Perm			Perm				pm+pt	
Protected Phases		2		6			4				3	
Permitted Phases		2		6			4				8	
Actuated Green, G (s)		63.2		63.2			25.9				25.9	
Effective Green, g (s)		63.2		63.2			25.9				25.9	
Actuated g/C Ratio		0.63		0.63			0.26				0.26	
Clearance Time (s)		5.7		5.7			5.2				5.2	
Vehicle Extension (s)		5.0		5.0			4.0				4.0	
Lane Grp Cap (vph)		1900		1800			592				610	
v/s Ratio Prot												
v/s Ratio Perm		0.25		c0.29			0.16				c0.17	
v/c Ratio		0.40		0.47			0.63				0.66	
Uniform Delay, d1		9.1		9.6			32.8				33.1	
Progression Factor		1.03		0.54			1.00				1.00	
Incremental Delay, d2		0.5		0.7			2.5				2.9	
Delay (s)		9.9		5.9			35.3				36.0	
Level of Service		A		A			D				D	
Approach Delay (s)		9.9		5.9			35.3				36.0	
Approach LOS		A		A			D				D	
Intersection Summary												
HCM Average Control Delay			17.2		HCM Level of Service					B		
HCM Volume to Capacity ratio			0.52									
Actuated Cycle Length (s)			100.0		Sum of lost time (s)					10.9		
Intersection Capacity Utilization			81.8%		ICU Level of Service					D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis 18: W College Ave & SR 155

No-Build SAT 2023
7/11/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	71	481	70	112	385	155	25	279	122	143	315	39
Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Total Lost time (s)	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Util. Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Flpb. ped/bikes	1.00	0.99	1.00	1.00	0.98	1.00	0.98	1.00	1.00	1.00	1.00	1.00
Flt	0.98	1.00	1.00	0.85	1.00	0.95	1.00	0.95	1.00	0.98	1.00	0.98
Flt Protected	0.99	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3489	1789	1900	1615	1762	1794	1804	1857	1804	1857	1804	1857
Flt Permitted	0.70	0.28	1.00	1.00	0.53	1.00	0.20	1.00	0.20	1.00	0.20	1.00
Satd. Flow (perm)	2461	527	1900	1615	981	1794	372	1857	372	1857	372	1857
Peak-hour factor, PHF	0.79	0.90	0.78	0.83	0.92	0.89	0.83	0.93	0.88	0.85	0.90	0.86
Adj. Flow (vph)	90	534	90	135	418	174	30	300	139	168	350	45
RTOR Reduction (vph)	0	14	0	0	0	101	0	15	0	0	4	0
Lane Group Flow (vph)	0	700	0	135	418	73	30	424	0	168	391	0
Confl. Peds. (#/hr)	14	20	15	15	9	20	15	9	15	9	14	14
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	Perm	Perm	Over	Perm	Over	Perm	Perm	Over	Perm	Perm	Perm
Permitted Phases	2	2	2	6	6	7	8	8	7	7	4	4
Actuated Green, G (s)	38.6	38.6	38.6	14.3	30.1	30.1	30.1	30.1	30.1	49.4	49.4	49.4
Effective Green, g (s)	38.6	38.6	38.6	14.3	30.1	30.1	30.1	30.1	30.1	49.4	49.4	49.4
Actuated g/C Ratio	0.39	0.39	0.39	0.14	0.30	0.30	0.30	0.30	0.30	0.49	0.49	0.49
Clearance Time (s)	6.0	6.0	6.0	5.0	6.0	6.0	6.0	6.0	6.0	5.0	5.0	6.0
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	950	733	733	231	295	540	389	917	389	917	389	917
v/s Ratio Prot		0.22	0.22	0.05	0.03	0.03	0.06	0.21	0.06	0.21	0.06	0.21
v/s Ratio Perm		0.26	0.26	0.07	0.32	0.32	0.10	0.79	0.32	0.79	0.32	0.79
Uniform Delay, d1	26.3	25.4	25.4	24.2	38.5	25.2	32.0	16.9	32.0	16.9	16.2	16.2
Progression Factor	0.85	1.10	1.11	1.62	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.7	14.4	2.9	1.5	0.3	8.5	1.6	0.7	8.5	1.6	0.7	0.7
Delay (s)	26.9	42.1	29.7	63.6	25.5	40.5	18.5	16.9	40.5	18.5	16.9	16.9
Level of Service	C	D	C	E	C	D	B	B	D	B	B	B
Approach Delay (s)	26.9	42.1	29.7	63.6	25.5	40.5	18.5	16.9	40.5	18.5	16.9	16.9
Approach LOS	C	D	C	E	C	D	B	B	D	B	B	B

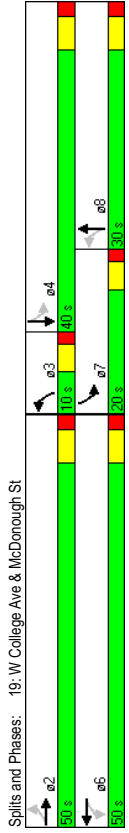
Intersection Summary												
HCM Average Control Delay	31.0	HCM Level of Service C										
HCM Volume to Capacity ratio	0.72											
Actuated Cycle Length (s)	100.0	Sum of lost time (s) 18.0										
Intersection Capacity Utilization	91.6%	ICU Level of Service F										
Analysis Period (min)	15											
c Critical Lane Group												

Timings 19: W College Ave & McDonough St

No-Build SAT 2023
7/11/2012

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	4	4	4	4	4	4	4	4
Volume (vph)	34	395	47	344	12	112	147	127
Turn Type	Perm	Perm	Perm	Perm	pm+pt	pm+pt	pm+pt	pm+pt
Permitted Phases	2	2	6	6	3	8	7	4
Detected Phase	2	2	6	6	3	8	7	4
Switch Phase	2	2	6	6	3	8	7	4
Minimum Initial (s)	8.0	8.0	8.0	8.0	5.0	8.0	5.0	8.0
Minimum Split (s)	24.0	24.0	14.0	14.0	10.0	23.0	10.0	14.0
Total Split (s)	50.0	50.0	50.0	50.0	10.0	30.0	20.0	40.0
Total Split (%)	50.0%	50.0%	50.0%	50.0%	10.0%	30.0%	20.0%	40.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5	4.0	3.5	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	1.5	2.0	1.5	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	5.0	6.0	5.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead/Lag Optimize?	Yes	Yes	Yes	Yes	None	None	Yes	Yes
Recall Mode	C-Min	C-Min	C-Min	C-Min	None	None	None	None
Act Effct Green (s)	50.3	50.3	50.3	50.3	18.7	38.7	33.0	33.0
Actuated g/C Ratio	0.50	0.50	0.50	0.50	0.26	0.19	0.39	0.33
v/c Ratio	0.10	0.42	0.15	0.43	0.06	0.75	0.42	0.34
Control Delay	17.5	18.9	32.9	37.2	16.8	43.1	22.4	23.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.5	18.9	32.9	37.2	16.8	43.1	22.4	23.6
LOS	B	B	C	D	B	D	C	C
Approach Delay	18.8	36.7	41.3	41.3	23.1	23.1	23.1	23.1
Approach LOS	B	D	D	D	C	C	C	C

Intersection Summary												
Cycle Length: 100												
Actuated Cycle Length: 100												
Offset: 71 (71%), Referenced to phase 2 EBT and 6:WBT, Start of Green												
Natural Cycle: 60												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.75												
Intersection Signal Delay: 28.9	Intersection LOS: C											
Intersection Capacity Utilization 70.3%	ICU Level of Service C											
Analysis Period (min) 15												



HCM Signalized Intersection Capacity Analysis 19: W College Ave & McDonough St

No-Build SAT 2023
7/11/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	34	395	26	47	344	36	12	112	126	147	127	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	16	12	12	12	12	11	11	11	11	11	11
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	5.0	6.0	5.0	5.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frb. ped/bikes	1.00	0.99	1.00	1.00	1.00	1.00	1.00	0.98	1.00	0.99	1.00	0.99
Frb. ped/bikes	0.98	1.00	1.00	1.00	1.00	1.00	0.96	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99	1.00	0.98	1.00	1.00	0.96	1.00	0.92	1.00	0.96	1.00
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1777	2108	1798	1861	1798	1861	1669	1660	1745	1748	1748	1748
Flt Permitted	0.42	1.00	0.38	1.00	0.38	1.00	0.63	1.00	0.32	1.00	0.32	1.00
Satd. Flow (perm)	793	2108	726	1861	726	1861	1112	1660	584	1748	584	1748
Peak-hour factor, PHF	0.84	0.97	0.66	0.86	0.96	0.81	0.63	0.90	0.90	0.89	0.88	0.86
Adj. Flow (vph)	40	407	39	55	358	44	19	124	140	165	144	55
RTOR Reduction (vph)	0	3	0	0	4	0	0	41	0	0	14	0
Lane Group Flow (vph)	40	443	0	55	398	0	19	223	0	165	185	0
Confl. Peds. (#/hr)	22	28	4	26	4	26	4	26	4	165	185	4
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	1	0	0	0	0	1	0	0
Turn Type	Perm	2	2	Perm	6	6	3	8	3	7	4	4
Protected Phases	2	2	2	6	6	6	3	8	3	7	4	4
Permitted Phases	2	2	2	6	6	6	3	8	3	7	4	4
Actuated Green, G (s)	47.3	47.3	47.3	47.3	47.3	47.3	24.4	21.7	24.4	40.7	33.0	33.0
Effective Green, g (s)	47.3	47.3	47.3	47.3	47.3	47.3	24.4	21.7	24.4	40.7	33.0	33.0
Actuated g/C Ratio	0.47	0.47	0.47	0.47	0.47	0.47	0.24	0.22	0.24	0.41	0.33	0.33
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	5.0	6.0	5.0	5.0	6.0	6.0
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	5.0	3.0	3.5	3.0	3.5	4.0	4.0
Lane Grp Cap (vph)	375	997	343	880	880	880	286	360	286	400	577	577
v/s Ratio Prot	0.21	0.21	0.21	c0.21	0.00	c0.21	0.00	c0.13	0.06	0.11	0.11	0.11
v/s Ratio Perm	0.05	0.11	0.44	0.16	0.45	0.07	0.07	0.62	0.41	0.32	0.25	0.25
Uniform Delay, d1	14.6	17.6	15.0	17.7	15.0	17.7	28.9	35.4	20.3	25.1	25.1	25.1
Progression Factor	1.00	1.00	1.84	2.02	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.6	1.4	0.9	1.6	0.1	3.3	0.1	3.3	0.8	0.4	0.4	0.4
Delay (s)	15.2	19.0	28.6	37.2	29.0	38.7	29.0	38.7	21.2	25.5	25.5	25.5
Level of Service	B	B	C	D	C	D	C	D	C	C	C	C
Approach Delay (s)	18.7	18.7	36.2	36.2	36.2	36.2	38.1	38.1	23.6	23.6	23.6	23.6
Approach LOS	B	B	D	D	D	D	D	D	C	C	C	C
Intersection Summary												
HCM Average Control Delay	28.3											
HCM Volume to Capacity ratio	0.49											
Actuated Cycle Length (s)	100.0											
Intersection Capacity Utilization	70.3%											
Analysis Period (min)	15											
c Critical Lane Group												

Baseline

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HCM Signalized Intersection Capacity Analysis 20: Driveway & Dekab Industrial Way

No-Build SAT 2023
7/11/2012

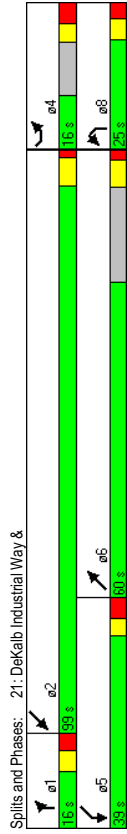
Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	NWL	NWR
Lane Configurations										
Volume (vph)	1	0	1	528	19	157	531	0	4	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.6	5.6	4.0	5.6	5.6	5.5	4.0	5.5
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00
Flt Protected	0.95	1.00	1.00	0.85	1.00	1.00	0.95	1.00	0.85	1.00
Satd. Flow (prot)	1805	1805	1805	3610	1615	1805	3610	1805	1615	1805
Flt Permitted	1.00	0.43	1.00	1.00	0.36	1.00	0.36	0.95	1.00	0.95
Satd. Flow (perm)	1900	820	3610	1615	693	3610	693	1805	1615	1805
Peak-hour factor, PHF	0.92	0.92	0.92	0.63	0.88	0.91	0.92	0.42	0.92	0.92
Adj. Flow (vph)	1	0	1	574	30	178	584	0	10	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	1	0	1	574	30	178	584	0	0	10
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	pm+pt	Free	pm+pt	Free	pm+pt	Perm	pm+pt	Free	Free
Protected Phases	8	2	Free	6	1	6	8	8	8	Free
Permitted Phases	8	2	Free	6	1	6	8	8	8	Free
Actuated Green, G (s)	1.0	24.3	23.6	46.6	33.5	28.2	28.2	1.0	46.6	46.6
Effective Green, g (s)	1.0	24.3	23.6	46.6	33.5	28.2	28.2	1.0	46.6	46.6
Actuated g/C Ratio	0.02	0.52	0.51	1.00	0.72	0.61	0.61	0.02	1.00	1.00
Clearance Time (s)	5.5	5.6	5.6	5.6	5.6	5.6	5.6	5.5	5.5	5.5
Vehicle Extension (s)	2.0	2.0	5.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	41	442	1828	1615	625	2185	38	1615	38	1615
v/s Ratio Prot	0.00	0.00	0.16	0.02	c0.03	0.16	0.01	c0.12	0.01	c0.12
v/s Ratio Perm	0.02	0.00	0.31	0.02	0.28	0.27	0.28	0.12	0.26	0.12
Uniform Delay, d1	22.3	5.3	6.7	0.0	2.3	4.3	22.4	0.0	22.4	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.0	0.2	0.0	0.1	0.1	0.1	0.0	1.3	0.2
Delay (s)	22.4	5.3	7.0	0.0	2.4	4.5	23.7	0.0	23.7	0.2
Level of Service	C	A	A	A	A	A	A	C	A	A
Approach Delay (s)	22.4	5.3	6.6	4.0	4.0	4.0	1.3	4.0	1.3	4.0
Approach LOS	C	A	A	A	A	A	A	A	A	A
Intersection Summary										
HCM Average Control Delay	4.7									
HCM Volume to Capacity ratio	0.28									
Actuated Cycle Length (s)	46.6									
Intersection Capacity Utilization	53.5%									
Analysis Period (min)	15									
Critical Lane Group										

Baseline

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Timings 21: DeKalb Industrial Way & No-Build SAT 2023 7/11/2012

Movement	NBL2	NBL	NBR	SEL	NET	SWL	SWT
Lane Configurations	42	751	1	1644	700	1578	0
Volume (vph)	1900	1900	1900	1900	1900	1900	1900
Turn Type	Prot	custom	Prot	Prot	Prot	Prot	Prot
Protected Phases	8	1!	4	6!	5	2	
Permitted Phases							
Detector Phase	8	1	4	6	5	2	
Switch Phase							
Minimum Initial (s)	14.0	9.6	7.0	33.0	10.0	10.0	
Minimum Split (s)	20.4	16.0	13.8	39.5	16.6	16.2	
Total Split (s)	25.0	16.0	16.0	60.0	39.0	99.0	
Total Split (%)	17.9%	11.4%	11.4%	42.9%	27.9%	70.7%	
Yellow Time (s)	3.5	3.5	3.0	4.7	3.1	4.7	
All-Red Time (s)	2.9	2.9	3.8	1.8	3.5	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.4	6.4	6.8	6.5	6.6	6.2	
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lag	
Lead-Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	C-Min	None	C-Min	
Act Effort Green (s)	14.0	17.2	12.3	76.4	34.2	93.9	
Actuated g/C Ratio	0.10	0.12	0.09	0.55	0.24	0.67	
v/c Ratio	0.27	0.91	0.01	0.62	0.86	0.48	
Control Delay	62.6	28.4	57.0	24.4	61.6	12.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	62.6	28.4	57.0	24.4	61.6	12.0	
LOS	E	C	E	C	E	B	
Approach Delay							
Approach LOS							



HCM Signalized Intersection Capacity Analysis 21: DeKalb Industrial Way & No-Build SAT 2023 7/11/2012

Movement	NBL2	NBL	NBR	SEL	SER	NEL	NET	SWL	SWT	SWR
Lane Configurations	42	751	1	1644	700	1578	0			
Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.4	6.8	6.5	6.5	6.2				
Lane Util. Factor	1.00	0.88	1.00	0.91	0.91	0.97	0.91			
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp	1.00	0.85	1.00	0.99	0.99	1.00	1.00	1.00	1.00	1.00
Fit Protected	0.95	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	2842	1805	5157	3502	5187				
Fit Permitted	0.95	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1805	2842	1805	5157	3502	5187				
Peak-hour factor, PHF	0.85	0.25	0.90	0.92	0.92	0.98	0.81	0.95	0.94	0.92
Adj. Flow (vph)	49	0	834	1	0	1678	59	737	1679	0
RTOR Reduction (vph)	0	0	568	0	0	2	0	0	0	0
Lane Group Flow (vph)	49	0	266	1	0	1735	0	737	1679	0
Conf. Peds. (#/hr)	3	3	2	2	2	3				
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	custom	Prot	Prot	Prot	Prot	Prot	Prot	Prot	Prot
Protected Phases	8		1!	4		6!		5		2
Permitted Phases										
Actuated Green, G (s)	11.3	17.2	10.9	75.0	34.2	92.5				
Effective Green, g (s)	11.3	17.2	10.9	75.0	34.2	92.5				
Actuated g/C Ratio	0.08	0.12	0.08	0.54	0.24	0.66				
Clearance Time (s)	6.4	6.4	6.8	6.5	6.5	6.2				
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	4.8				
Lane Grp Cap (vph)	146	349	141	2763	855	3427				
v/s Ratio Prot	c0.03	0.09	0.00	c0.34	c0.21	0.32				
v/s Ratio Perm										
v/c Ratio	0.34	0.76	0.01	0.63	0.86	0.49				
Uniform Delay, d1	60.8	59.4	59.6	22.7	50.6	11.9				
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00				
Incremental Delay, d2	1.4	9.5	0.0	1.1	8.9	0.5				
Delay (s)	62.2	69.0	59.6	23.8	59.6	12.4				
Level of Service	E	E	E	C	E	B				
Approach Delay (s)										
Approach LOS										

Intersection Summary									
HCM Average Control Delay									
HCM Volume to Capacity ratio	33.1								
Actuated Cycle Length (s)	140.0								
Intersection Capacity Utilization	82.8%								
Analysis Period (min)	15								
i Phase conflict between lane groups.									
c Critical Lane Group									

HCM Signalized Intersection Capacity Analysis 22: W College Ave & Clarendon Ave

No-Build SAT 2023
7/11/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Volume (vph)	159	382	27	6	366	175	56	124	2	219	153	129
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.5	4.0	5.5	5.5	5.5	5.6	5.6	5.6	5.6	5.6	5.6
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	1.00	1.00	0.85	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.93	1.00
Satd. Flow (prot)	1805	1900	1615	1805	1809	1809	1805	1892	1805	1892	1771	1771
Flt Permitted	0.23	1.00	1.00	0.50	1.00	1.00	0.32	1.00	0.66	1.00	1.00	1.00
Satd. Flow (perm)	442	1900	1615	947	1809	1809	603	1892	1256	1771	1771	1771
Peak-hour factor, PHF	0.86	0.83	0.61	0.42	0.91	0.92	0.94	0.89	0.50	0.94	0.88	0.90
Adj. Flow (vph)	185	460	44	14	402	190	60	139	4	233	174	143
RTOR Reduction (vph)	0	0	0	0	18	0	0	2	0	0	34	0
Lane Group Flow (vph)	185	460	44	14	574	0	60	141	0	233	283	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm-plt	Free	Free	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	5	2	Free	6	6	4	4	4	4	8	8	8
Permitted Phases	2	Free	6	6	4	4	4	4	4	8	8	8
Actuated Green, G (s)	55.4	55.4	86.0	41.0	41.0	41.0	19.5	19.5	19.5	19.5	19.5	19.5
Effective Green, g (s)	55.4	55.4	86.0	41.0	41.0	41.0	19.5	19.5	19.5	19.5	19.5	19.5
Actuated g/C Ratio	0.64	0.64	1.00	0.48	0.48	0.48	0.23	0.23	0.23	0.23	0.23	0.23
Clearance Time (s)	5.3	5.5	5.5	5.5	5.5	5.5	5.6	5.6	5.6	5.6	5.6	5.6
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	429	1224	1615	451	862	862	137	429	285	402	402	402
v/s Ratio Prot	0.05	c0.24	0.03	0.01	c0.32	c0.32	0.10	0.07	0.07	c0.19	c0.19	0.16
v/s Ratio Perm	0.23	0.38	0.03	0.03	0.67	0.44	0.44	0.33	0.82	0.82	0.70	0.70
v/c Ratio	0.43	0.38	0.03	0.03	0.67	0.44	0.44	0.33	0.82	0.82	0.70	0.70
Uniform Delay, d1	9.6	7.2	0.0	12.0	17.2	28.5	28.5	27.8	31.6	31.6	30.6	30.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7	0.9	0.0	0.1	4.0	2.2	0.5	0.5	16.4	16.4	5.5	5.5
Delay (s)	10.3	8.1	0.0	12.1	21.3	30.8	30.8	28.2	48.0	48.0	36.1	36.1
Level of Service	B	A	A	B	C	C	C	C	D	D	D	D
Approach Delay (s)	8.2	21.1	21.1	21.1	21.1	21.1	29.0	29.0	41.1	41.1	41.1	41.1
Approach LOS	A	A	A	C	C	C	C	C	D	D	D	D
Intersection Summary												
HCM Average Control Delay	22.9											
HCM Volume to Capacity ratio	0.69											
Actuated Cycle Length (s)	86.0											
Intersection Capacity Utilization	78.8%											
Analysis Period (min)	15											
Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis 23: Clarendon Ave & Laredo Dr

No-Build SAT 2023
7/11/2012

Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Volume (veh/h)	131	334	316	25	21	235
Sign Control	Free	Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.97	0.83	0.83	0.71	0.61	0.88
Hourly flow rate (vph)	135	402	381	35	34	267
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)		545				
pX, platoon unblocked						
vC, conflicting volume	416			1071	398	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	416			1071	398	
IC, single (s)	4.1			6.4	6.2	
IC, 2 stage (s)						
IF (s)	2.2			3.5	3.3	
p0 queue free %	88			84	59	
dM capacity (veh/h)	1154			218	656	
Direction, Lane #	NB 1	NB 2	SB 1	SE 1		
Volume Total	135	402	416	301		
Volume Left	135	0	0	34		
Volume Right	0	0	35	267		
cSH	1154	1700	1700	533		
Volume to Capacity	0.12	0.24	0.24	0.57		
Queue Length 95th (ft)	10	0	0	87		
Control Delay (s)	8.5	0.0	0.0	20.2		
Lane LOS	A	A	C	C		
Approach Delay (s)	2.1	0.0	0.0	20.2		
Approach LOS				C		
Intersection Summary						
Average Delay	5.8					
Intersection Capacity Utilization	51.1%					
Analysis Period (min)	15					
				ICU Level of Service		
				A		

HCM Unsignalized Intersection Capacity Analysis 24: E Ponce De Leon & Annie St No-Build SAT 2023 7/11/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4T		4T			4T				4T	
Volume (veh/h)	9	709	7	2	684	12	7	0	2	21	0	6
Sign Control		Free		Free			Stop				Stop	
Grade		0%		0%			0%				0%	
Peak Hour Factor	0.58	0.97	0.75	0.50	0.97	0.63	0.50	0.50	0.50	0.61	0.25	0.63
Hourly flow rate (vph)	16	731	9	4	705	19	14	0	4	34	0	10
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		319										
pX platoon unblocked												
vC conflicting volume	724			0.96			0.96	0.96	0.96	0.96	0.96	
vC1, stage 1 conf vol		740					1137	1499	370	1123	1494	362
vC2, stage 2 conf vol												
vCu, unblocked vol	724			648			1061	1438	263	1047	1433	362
IC, single (s)	4.6			4.1			7.5	6.5	6.9	7.8	6.5	7.2
IC, 2 stage (s)												
IC (s)	2.5			2.2			3.5	4.0	3.3	3.7	4.0	3.4
p0 queue free %	98			100			92	100	99	77	100	98
cM capacity (veh/h)	738			910			168	126	712	153	127	601
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	381	375	357	372	18	44						
Volume Left	16	0	4	0	14	34						
Volume Right	0	9	0	19	4	10						
cSH	738	1700	910	1700	202	182						
Volume to Capacity	0.02	0.22	0.00	0.22	0.09	0.24						
Queue Length 95th (ft)	2	0	0	0	7	23						
Control Delay (s)	0.7	0.0	0.1	0.0	24.6	30.9						
Lane LOS	A	A	A	A	C	D						
Approach Delay (s)					24.6	30.9						
Approach LOS					C	D						

Intersection Summary												
Average Delay												
Intersection Capacity Utilization												
Analysis Period (min)												

HCM Signalized Intersection Capacity Analysis 25: E Ponce De Leon & Off Ramp 285 No-Build SAT 2023 7/11/2012

Movement	EBL	EBT	WBT	SBL	SBR
Lane Configurations		4T			
Volume (veh/h)	337	609	313	288	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0		
Lane Util. Factor	1.00	1.00	0.95		
Flt Protected	0.95	1.00	1.00		
Satd. Flow (prot)	1805	1900	3342		
Flt Permitted	0.27	1.00	1.00		
Satd. Flow (perm)	510	1900	3342		
Peak-hour factor, PHF	0.93	0.95	0.90	0.95	0.92
Adj. Flow (vph)	362	641	348	303	0
RTOR Reduction (vph)	0	0	189	0	0
Lane Group Flow (vph)	362	641	462	0	0
Heavy Vehicles (%)	0%	0%	0%	1%	0%
Turn Type	pm+pt				
Protected Phases	1	6	2		
Permitted Phases	6				
Actuated Green, G (s)	45.8	45.8	30.0		
Effective Green, g (s)	45.8	45.8	30.0		
Actuated g/C Ratio	0.57	0.57	0.38		
Clearance Time (s)	5.0	5.0	5.0		
Vehicle Extension (s)	3.0	5.0	5.0		
Lane Grp Cap (vph)	467	1088	1253		
v/s Ratio Prot	c0.10	0.34	0.14		
v/s Ratio Perm	c0.34				
v/c Ratio	0.78	0.59	0.37		
Uniform Delay, d1	10.8	11.0	18.1		
Progression Factor	1.09	0.96	1.00		
Incremental Delay, d2	6.5	1.9	0.8		
Delay (s)	18.2	12.5	19.0		
Level of Service	B	B	B		
Approach Delay (s)		14.5	19.0	0.0	
Approach LOS		B	B	A	
Intersection Summary					
HCM Average Control Delay			16.3	HCM Level of Service	B
HCM Volume to Capacity ratio			0.75		
Actuated Cycle Length (s)			80.0	Sum of lost time (s)	34.2
Intersection Capacity Utilization			80.8%	ICU Level of Service	D
Analysis Period (min)			15		
c Critical Lane Group					

HCM Unsignalized Intersection Capacity Analysis 26: Church St & Off Ramp 285

No-Build SAT 2023
7/11/2012

Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	EBT	EBR	WBL	WBT	NBL	NBR	
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	
Volume (vph)	231	0	348	224	188	188	
Peak Hour Factor	0.85	0.92	0.82	0.83	0.80	0.88	
Hourly flow rate (vph)	272	0	419	249	214	214	
Direction, Lane #	EB 1	WB 1	NB 1	NB 2			
Volume Total (vph)	272	419	249	214			
Volume Left (vph)	0	0	249	0			
Volume Right (vph)	0	0	0	214			
Head (s)	0.00	0.00	0.20	-0.60			
Departure Headway (s)	5.3	5.1	5.9	3.2			
Degree Utilization, x	0.40	0.59	0.40	0.19			
Capacity (veh/h)	650	684	565	1121			
Control Delay (s)	11.7	15.2	12.8	6.9			
Approach Delay (s)	11.7	15.2	10.1				
Approach LOS	B	C	B				
Intersection Summary							
Delay			12.3				
HCM Level of Service			B				
Intersection Capacity Utilization			37.4%				
Analysis Period (min)			15				

HCM Signalized Intersection Capacity Analysis 27: Valley Brook Rd & Concord Dr

No-Build SAT 2023
7/11/2012

Movement	NBL2	NBL	NBR	SEL	SER	SER2	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	NBL2	NBL	NBR	SEL	SER	SER2	NEL	NET	NER	SWL	SWT	SWR
Volume (vph)	2	470	203	926	564	2	2	0	5	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.97	0.97	1.00	0.85	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fit	1.00	0.95	1.00	0.95	1.00	0.85	0.92	0.92	0.92	0.92	0.92	0.92
Fit Protected	0.95	0.97	0.95	1.00	1.00	0.85	0.98	0.98	0.98	0.98	0.98	0.98
Satd. Flow (prot)	1805	3401	3502	1615	1708	1708	1708	1708	1708	1708	1708	1708
Fit Permitted	0.44	0.97	0.95	1.00	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Satd. Flow (perm)	834	3401	3502	1615	1708	1708	1708	1708	1708	1708	1708	1708
Peak-hour factor, PHF	0.92	0.87	0.87	0.99	0.95	0.58	0.75	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	540	233	935	594	3	3	0	5	0	0	0
RTOR Reduction (vph)	0	37	0	0	0	0	0	5	0	0	0	0
Lane Group Flow (vph)	2	736	0	935	597	0	3	0	0	0	0	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	custom	Perm									
Protected Phases	5	2	1	6	8							
Permitted Phases	2	22.5	21.0	43.0	0.9							
Actuated Green, G (s)	23.0	22.5	21.0	43.0	0.9							
Effective Green, g (s)	23.0	22.5	21.0	43.0	0.9							
Actuated g/C Ratio	0.41	0.40	0.37	0.76	0.02							
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0							
Lane Grp Cap (vph)	349	1357	1304	1231	27							
v/s Ratio Prot	0.00	c0.22	c0.27	0.37								
v/c Ratio Perm	0.00	0.01	0.54	0.72	0.48							
v/c Ratio	9.9	13.0	15.2	2.5	27.4							
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00							
Progression Factor	0.0	0.4	1.9	0.3	1.9							
Incremental Delay, d2	9.9	13.4	17.1	2.8	29.2							
Delay (s)	A	B	B	A	C							
Level of Service	A	B	B	A	C							
Approach Delay (s)	13.4	11.5	11.5	29.2	0.0							
Approach LOS	B	B	B	C	A							
Intersection Summary												
HCM Average Control Delay			12.2	HCM Level of Service	B							
HCM Volume to Capacity ratio			0.62									
Actuated Cycle Length (s)			56.4	Sum of lost time (s)	12.0							
Intersection Capacity Utilization			59.5%	ICU Level of Service	B							
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
5: N Decatur Rd & E Ponce De Leon

7/9/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	NBL	NBR	SWL2	SWL
Lane Configurations												
Lane Configurations	144	525	106	128	458	150	98	669	96	173	627	179
Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Total Lost time (s)	1.00	0.95	1.00	0.95	1.00	0.88	1.00	0.88	1.00	0.97	1.00	0.97
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fltb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.97	1.00	0.97	1.00	0.85	1.00	0.85	1.00	0.96	1.00	0.96
Flt Protected	0.95	1.00	0.99	0.99	1.00	0.95	1.00	0.95	1.00	0.95	0.96	0.96
Satd. Flow (prot)	1787	3477	3447	3447	1805	2839	1787	3399	1787	3399	1787	3399
Satd. Flow (perm)	0.19	1.00	0.72	0.72	0.95	1.00	0.95	1.00	0.95	1.00	0.95	0.96
Peak-hour factor, PHF	0.91	0.95	0.92	0.92	0.95	0.84	0.86	0.95	0.88	0.87	0.98	0.82
Adj. Flow (vph)	158	553	115	139	482	179	114	704	109	199	640	218
RTOR Reduction (vph)	0	18	0	0	39	0	0	15	0	0	48	0
Lane Group Flow (vph)	158	650	0	0	761	0	114	798	0	199	810	0
Conf. Peds. (#/hr)	1	7	7	7	1	1	7	7	1	1	7	1
Heavy Vehicles (%)	1%	1%	0%	0%	0%	0%	0%	0%	1%	1%	0%	0%
Turn Type	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt
Protected Phases	5	2	1	6	8	8	1	8	1	8	4	4
Permitted Phases	2	6	6	6	6	6	6	6	6	6	6	6
Actuated Green, G (s)	38.0	38.0	38.0	26.5	26.5	26.0	26.0	26.0	26.0	26.0	26.0	26.0
Effective Green, g (s)	38.0	38.0	38.0	26.5	26.5	26.0	26.0	26.0	26.0	26.0	26.0	26.0
Actuated g/C Ratio	0.51	0.51	0.51	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Vehicle Extension (s)	3.0	8.0	8.0	8.0	8.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	294	1762	879	879	879	626	984	619	1178	619	1178	619
v/s Ratio Prot	c0.04	0.19										
v/s Ratio Perm	0.23			c0.31								
v/c Ratio	0.54	0.37		0.87								
Uniform Delay, d1	11.9	11.2		22.6								
Progression Factor	1.00	1.00		0.31								
Incremental Delay, d2	1.9	0.6		8.2								
Delay (s)	13.8	11.8		15.2								
Level of Service	B	B		B								
Approach Delay (s)	12.2			15.2								
Approach LOS	B	B		B								
Intersection Summary												
HCM Average Control Delay	19.4					HCM Level of Service					B	
HCM Volume to Capacity ratio	0.81					Sum of lost time (s)					16.5	
Actuated Cycle Length (s)	75.0					ICU Level of Service					F	
Intersection Capacity Utilization	93.2%					Analysis Period (min)					15	
! Phase conflict between lane groups.												
c Critical Lane Group												

5:00 pm Baseline

HCM Signalized Intersection Capacity Analysis 12: N Decatur Rd & DeKalb Industrial Way

7/9/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	128	551	127	77	405	160	193	525	67	199	439	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	4.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Flpb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.97	1.00	0.95	1.00	0.95	1.00	0.98	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1804	3497	1804	3428	1804	3428	1804	3515	1804	3610	1577	1577
Flt Permitted	0.27	1.00	0.28	1.00	0.28	1.00	0.26	1.00	0.24	1.00	1.00	1.00
Satd. Flow (perm)	505	3497	534	3428	502	3515	502	3515	460	3610	1577	1577
Peak-hour factor, PHF	0.89	0.85	0.85	0.86	0.93	0.85	0.82	0.92	0.64	0.85	0.92	0.91
Adj. Flow (vph)	144	648	149	90	435	188	235	571	105	234	477	69
RTOR Reduction (vph)	0	20	0	0	46	0	0	17	0	0	0	0
Lane Group Flow (vph)	144	777	0	90	577	0	235	659	0	234	477	69
Confl. Peds. (#/hr)	5	7	8	7	8	6	7	8	6	6	5	5
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Turn Type	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	Free
Protected Phases	5	2	2	1	6	3	8	8	3	7	4	Free
Permitted Phases	2	34.6	34.2	34.2	29.6	30.8	21.7	22.8	17.7	90.0	90.0	Free
Actuated Green, G (s)	44.2	34.6	34.2	34.2	29.6	30.8	21.7	22.8	17.7	90.0	90.0	Free
Effective Green, g (s)	44.2	34.6	34.2	34.2	29.6	30.8	21.7	22.8	17.7	90.0	90.0	Free
Actuated g/C Ratio	0.49	0.38	0.38	0.38	0.33	0.34	0.24	0.25	0.20	1.00	1.00	1.00
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	8.0	3.0	8.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	387	1344	268	1127	303	848	c0.08	c0.19	0.07	0.13	0.13	1577
v/s Ratio Prot	c0.04	c0.22	0.02	0.17	0.11	0.19	0.19	0.19	0.07	0.13	0.13	0.13
v/s Ratio Perm	0.14	0.37	0.58	0.34	0.51	0.78	0.78	0.78	1.21	0.67	0.04	0.04
Uniform Delay, d1	13.7	21.9	18.4	24.4	23.1	31.9	31.9	31.9	31.7	33.5	0.0	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.6	1.7	0.7	1.6	1.7	1.6	1.7	4.5	133.7	2.5	0.1	0.1
Delay (s)	14.3	23.6	19.2	25.9	34.8	36.4	36.4	36.4	165.4	36.0	0.1	0.1
Level of Service	B	C	B	C	C	C	D	D	F	D	A	A
Approach Delay (s)	22.2	25.1	25.1	25.1	25.1	25.1	36.0	36.0	71.6	71.6	E	E
Approach LOS	C	C	C	C	C	C	D	D	D	D	E	E

Intersection Summary			
HCM Average Control Delay	38.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.87	Sum of lost time (s)	30.0
Actuated Cycle Length (s)	90.0	ICU Level of Service	D
Intersection Capacity Utilization	73.1%	Analysis Period (min)	15
Critical Lane Group			

5:00 pm Baseline

HCM Signalized Intersection Capacity Analysis 15: E College Ave & Arcadia Ave

7/9/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	328	413	42	30	439	211	29	213	31	223	252	264
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0	6.0	6.0	6.0	6.0	5.8	5.8	5.8	5.7	5.8	4.0
Lane Util. Factor	0.97	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00
Flpb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.98	1.00	0.95	1.00	0.95	0.98	0.98	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.99	0.99	0.95	1.00	1.00	1.00
Satd. Flow (prot)	3502	3520	1798	3418	3497	3497	1805	1900	1595	1805	1900	1595
Flt Permitted	0.17	1.00	0.46	1.00	0.46	1.00	0.88	0.88	0.37	1.00	1.00	1.00
Satd. Flow (perm)	619	3520	879	3418	3087	3087	689	1900	1595	689	1900	1595
Peak-hour factor, PHF	0.92	0.95	0.57	0.86	0.80	0.85	0.82	0.89	0.69	0.93	0.96	0.88
Adj. Flow (vph)	357	435	74	35	549	248	35	239	45	240	262	300
RTOR Reduction (vph)	0	19	0	0	73	0	0	19	0	0	0	0
Lane Group Flow (vph)	357	490	0	35	724	0	0	300	0	240	262	300
Confl. Peds. (#/hr)	1	11	10	10	11	10	11	10	10	0	0	1
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	Free
Protected Phases	5	2	2	6	6	6	4	4	3	8	8	Free
Permitted Phases	2	31.6	31.6	19.4	19.4	19.4	11.6	11.6	26.6	26.6	26.6	70.0
Actuated Green, G (s)	31.6	31.6	31.6	19.4	19.4	19.4	11.6	11.6	26.6	26.6	26.6	70.0
Effective Green, g (s)	31.6	31.6	31.6	19.4	19.4	19.4	11.6	11.6	26.6	26.6	26.6	70.0
Actuated g/C Ratio	0.45	0.45	0.45	0.28	0.28	0.28	0.17	0.17	0.38	0.38	0.38	1.00
Clearance Time (s)	4.4	6.0	6.0	6.0	6.0	6.0	5.8	5.8	5.7	5.8	5.8	5.8
Vehicle Extension (s)	3.0	5.0	5.0	3.5	5.0	5.0	3.0	3.0	3.5	3.5	3.5	3.5
Lane Grp Cap (vph)	601	1589	244	947	947	947	512	512	413	722	1595	1595
v/s Ratio Prot	c0.07	0.14	0.04	0.21	0.21	0.21	0.10	0.10	0.14	0.14	0.14	0.14
v/s Ratio Perm	0.20	0.59	0.31	0.14	0.14	0.14	0.09	0.09	0.08	0.08	0.08	0.09
Uniform Delay, d1	13.5	12.2	19.0	23.2	23.2	23.2	27.0	27.0	15.8	15.6	15.6	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.53	1.50	1.50	1.00
Incremental Delay, d2	1.7	0.5	1.2	5.8	5.8	5.8	1.7	1.7	2.1	0.3	0.2	0.2
Delay (s)	15.2	12.7	20.3	29.1	29.1	29.1	28.7	28.7	26.3	23.7	0.2	0.2
Level of Service	B	B	C	C	C	C	C	C	C	C	C	A
Approach Delay (s)	13.8	28.7	28.7	28.7	28.7	28.7	28.7	28.7	15.7	15.7	B	B
Approach LOS	B	B	C	C	C	C	C	C	C	C	B	B

Intersection Summary				
HCM Average Control Delay	20.4	HCM Level of Service		C
HCM Volume to Capacity ratio	0.63	Sum of lost time (s)		16.1
Actuated Cycle Length (s)	70.0	ICU Level of Service		D
Intersection Capacity Utilization	76.0%	Analysis Period (min)		15
c Critical Lane Group				

5:00 pm Baseline

HCM Signalized Intersection Capacity Analysis

21: DeKalb Industrial Way &

7/9/2012

Movement	NBL2	NBL	NBR	SEL	SER	NEL	NET	NER	SWL	SWT	SWR	
Lane Configurations												
Volume (vph)	42	0	751	W	1	0	1644	48	700	1578	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	6.4	6.6	6.8	6.8	6.5	6.5	6.5	6.6	6.2	6.2		
Lane Util. Factor	1.00	0.88	1.00	1.00	0.86	0.86	0.97	0.91				
Flpb. ped/bikes	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Flt	1.00	0.85	1.00	1.00	0.99	0.99	1.00	1.00	1.00	1.00		
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00	0.95	1.00				
Satd. Flow (prot)	1805	2818	1805	1805	6499	3502	5187					
Flt Permitted	0.95	1.00	0.95	1.00	1.00	0.95	1.00					
Satd. Flow (perm)	1805	2818	1805	1805	6499	3502	5187					
Peak-hour factor, PHF	0.85	0.25	0.90	0.92	0.92	0.92	0.81	0.95	0.94	0.92		
Adj. Flow (vph)	49	0	834	1	0	0	1678	59	737	1679	0	
RTOR Reduction (vph)	0	0	221	0	0	0	6	0	0	0	0	
Lane Group Flow (vph)	49	0	613	1	0	0	1731	0	737	1679	0	
Confl. Peds. (#/hr)	3	3	2	2	2	2	3	3				
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Turn Type	Prot	custom	5	4	6	5	2					
Permitted Phases	8	2										
Actuated Green, G (s)	8.6	58.8	8.2	31.0	20.9	58.8						
Effective Green, g (s)	8.6	58.8	8.2	31.0	20.9	58.8						
Actuated g/C Ratio	0.11	0.74	0.10	0.39	0.26	0.74						
Clearance Time (s)	6.4	6.6	6.8	6.5	6.6	6.2						
Vehicle Extension (s)	3.0	3.0	3.0	5.0	3.0	4.8						
Lane Grp Cap (vph)	194	2071	185	2518	915	3812						
v/s Ratio Prot	c0.03	0.08	0.00	c0.27	c0.21	0.32						
v/s Ratio Perm		0.14										
v/c Ratio	0.25	0.30	0.01	0.69	0.81	0.44						
Uniform Delay, d1	32.8	3.6	32.2	20.5	27.6	4.2						
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00						
Incremental Delay, d2	0.7	0.1	0.0	1.6	5.2	0.4						
Delay (s)	33.4	3.7	32.2	22.0	32.9	4.5						
Level of Service	C	A	C	C	C	A						
Approach Delay (s)		5.3	32.2	22.0		13.2						
Approach LOS		A	C	C		B						

Intersection Summary			
HCM Average Control Delay	14.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.67	Sum of lost time (s)	19.5
Actuated Cycle Length (s)	80.0	ICU Level of Service	E
Intersection Capacity Utilization	86.6%		
Analysis Period (min)	15		
c Critical Lane Group			

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis

1: E Ponce De Leon & Laredo Dr

Future PM 2015 Phase I
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL2	NBL	NBR	SEL	SER	SER2
Lane Configurations												
Volume (vph)	117	346	129	29	241	197	57	83	66	274	112	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5	4.0	5.5	5.5	5.5	5.5	5.5	4.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.95	1.00	1.00	1.00	0.85	1.00	0.93	1.00	0.85	0.85	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1805	3415	1729	3574	1589	1805	1721	1805	1615	1615	1615	1615
Flt Permitted	0.46	1.00	0.46	1.00	1.00	0.95	0.97	0.95	1.00	1.00	1.00	1.00
Satd. Flow (perm)	878	3415	834	3574	1589	1805	1721	1805	1615	1615	1615	1615
Peak-hour factor, PHF	0.80	0.97	0.78	0.75	0.92	0.86	0.71	0.79	0.71	0.83	0.69	0.88
Adj. Flow (vph)	146	357	165	39	262	229	80	105	93	330	162	199
RTOR Reduction (vph)	0	32	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	146	490	0	39	262	229	80	178	0	330	162	199
Confl. Peds. (#/hr)	13	13	13	13	13	13	13	13	13	13	13	13
Heavy Vehicles (%)	0%	1%	0%	4%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	2	pm+pt	1	6	8	8	8	8	4	4	4
Permitted Phases	5	2	6	6	6	6	6	6	6	4	4	4
Actuated Green, G (s)	43.5	32.5	30.5	30.5	25.0	104.7	17.6	17.6	17.6	27.1	27.1	104.7
Effective Green, g (s)	43.5	32.5	30.5	30.5	25.0	104.7	17.6	17.6	17.6	27.1	27.1	104.7
Actuated g/C Ratio	0.42	0.31	0.29	0.24	1.00	0.17	0.17	0.17	0.17	0.26	0.26	1.00
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Vehicle Extension (s)	3.0	5.0	3.0	5.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	480	1060	290	853	1589	303	289	467	418	1615	1615	1615
v/s Ratio Prot	c0.04	c0.14	0.01	0.07	0.04	c0.10	c0.18	0.10	0.10	0.12	0.12	0.12
v/s Ratio Perm	0.09	0.30	0.46	0.13	0.31	0.14	0.26	0.62	0.71	0.39	0.12	0.12
v/c Ratio	0.30	0.46	0.13	0.31	0.14	0.26	0.62	0.71	0.39	0.12	0.12	0.12
Uniform Delay, d1	19.7	29.1	26.9	32.7	0.0	37.9	40.4	35.2	32.0	0.0	0.0	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	0.7	0.2	0.4	0.2	0.6	4.4	5.2	0.8	0.2	0.2	0.2
Delay (s)	20.1	29.7	27.1	33.2	0.2	38.6	44.8	40.4	32.8	0.2	0.2	0.2
Level of Service	C	C	C	C	A	D	D	D	D	C	C	A
Approach Delay (s)		27.6	18.5			43.0		27.0				
Approach LOS		C	B			D		C				

Intersection Summary			
HCM Average Control Delay	27.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	104.7	Sum of lost time (s)	22.0
Intersection Capacity Utilization	69.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis 2: E Ponce De Leon &

Future PM 2015 Phase I
7/12/2012

Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	NWL2	NWL	NWR
Lane Configurations											
Volume (vph)	1	1	0	588	148	270	414	0	35	2	192
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	4.0	6.0	4.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.90	1.00	1.00
Fr	0.93	0.98	1.00	0.85	1.00	0.85	1.00	0.98	0.99	0.99	1.00
Fr Protected	0.98	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00	1.00	1.00
Satd. Flow (prot)	1729	1729	1863	1615	3478	1869	1869	1869	1869	1869	1869
Fr Permitted	0.98	1.00	1.00	1.00	1.00	1.00	0.58	1.00	0.99	0.99	1.00
Satd. Flow (perm)	1729	1729	1863	1615	2054	1869	1869	1869	1869	1869	1869
Peak-hour factor, PHF	0.25	0.25	0.25	0.94	0.90	0.95	0.91	0.92	0.65	0.25	0.89
Adj. Flow (vph)	4	4	0	626	164	284	455	0	54	8	216
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	112	0
Lane Group Flow (vph)	8	0	0	626	164	0	739	0	0	166	0
Heavy Vehicles (%)	0%	0%	0%	2%	0%	0%	3%	0%	0%	0%	1%
Turn Type				Free	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	4!			2		6			8		8!
Permitted Phases					Free	6	25.2	25.2		11.5	
Actuated Green, G (s)	11.5	0.02	0.02	25.2	48.7	25.2	25.2	25.2	11.5	11.5	
Effective Green, g (s)	11.5	0.02	0.02	25.2	48.7	25.2	25.2	25.2	11.5	11.5	
Actuated g/C Ratio	0.24	0.00	0.00	0.52	1.00	0.52	0.52	0.52	0.24	0.24	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	408	964	1615	1063	1063	1063	1063	1063	394	394	
v/s Ratio Prot	0.00	0.34	0.10	0.36	0.36	0.36	0.36	0.36	0.10	0.10	
v/s Ratio Perm	0.02	0.65	0.10	0.93d	0.93d	0.93d	0.93d	0.93d	0.42	0.42	
Uniform Delay, d1	14.3	8.5	0.0	8.9	8.9	8.9	8.9	8.9	15.8	15.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.0	1.5	0.1	2.0	2.0	2.0	2.0	2.0	0.7	0.7	
Delay (s)	14.3	10.1	0.1	10.9	10.9	10.9	10.9	10.9	16.5	16.5	
Level of Service	B	B	A	B	A	B	B	B	B	B	
Approach Delay (s)	14.3	8.0	0.1	10.9	10.9	10.9	10.9	10.9	16.5	16.5	
Approach LOS	B	A	A	B	B	B	B	B	B	B	
Intersection Summary											
HCM Average Control Delay	10.5										
HCM Volume to Capacity ratio	0.61										
Actuated Cycle Length (s)	48.7										
Intersection Capacity Utilization	90.8%										
Analysis Period (min)	15										
d1 Defacto Left Lane. Recode with 1 though lane as a left lane.											
i Phase conflict between lane groups.											
Critical Lane Group											

HCM Signalized Intersection Capacity Analysis 3: E Ponce De Leon & DeKalb Industrial Way

Future PM 2015 Phase I
7/12/2012

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations	↰	↰↱	↱	↰	↰↱	↱	↰	↰↱	↱	↰	↰↱	↱
Volume (vph)	41	596	7	1	420	86	131	13	40	21	13	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	0.99	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	0.97	1.00	0.89	1.00	0.89	1.00	0.96	0.96
Flt	1.00	1.00	1.00	0.95	1.00	0.95	1.00	1.00	0.98	1.00	0.98	0.98
Flt Protected	0.95	1.00	1.00	0.95	1.00	0.95	1.00	1.00	0.98	1.00	0.98	0.98
Satd. Flow (prot)	1805	3560	1805	3473	1805	3473	1805	1883	1796	1796	1796	1796
Flt Permitted	0.33	1.00	1.00	0.41	1.00	1.00	0.72	1.00	0.88	1.00	0.88	0.88
Satd. Flow (perm)	623	3560	774	3473	1359	1883	1612	1612	1612	1612	1612	1612
Peak-hour factor, PHF	0.67	0.95	0.44	0.25	0.97	0.78	0.56	0.50	0.63	0.83	0.60	0.63
Adj. Flow (vph)	61	627	16	4	433	110	234	26	63	25	22	17
RTOR Reduction (vph)	0	2	0	0	17	0	0	44	0	0	8	0
Lane Group Flow (vph)	61	641	0	4	526	0	234	45	0	0	56	0
Confl. Peds. (#/hr)	1	1	1	1	1	1	1	1	1	1	1	1
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt			Perm			Perm			Perm		
Protected Phases	1	6	6	2	2	4	4	4	8	8	8	8
Permitted Phases	6	6	6	2	2	4	4	4	8	8	8	8
Actuated Green, G (s)	31.6	31.6	20.5	20.5	20.5	18.7	18.7	18.7	18.7	18.7	18.7	18.7
Effective Green, g (s)	31.6	31.6	20.5	20.5	20.5	18.7	18.7	18.7	18.7	18.7	18.7	18.7
Actuated g/C Ratio	0.51	0.51	0.33	0.33	0.33	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Clearance Time (s)	5.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	432	1806	255	1143	408	505	484	484	484	484	484	484
v/s Ratio Prot	0.01	c0.18	0.01	c0.15	c0.15	c0.17	c0.17	c0.17	c0.17	c0.17	c0.17	c0.17
v/s Ratio Perm	0.06	0.14	0.35	0.02	0.46	0.57	0.09	0.11	0.11	0.11	0.11	0.11
Uniform Delay, d1	8.2	9.2	14.1	16.5	18.4	15.7	15.8	15.8	15.8	15.8	15.8	15.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	0.3	0.1	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Delay (s)	8.4	9.5	14.1	17.1	21.5	18.7	18.7	18.7	18.7	18.7	18.7	18.7
Level of Service	A	A	A	B	B	C	B	B	B	B	B	B
Approach Delay (s)	9.4	17.1	17.1	20.0	20.0	20.0	16.0	16.0	16.0	16.0	16.0	16.0
Approach LOS	A	A	A	B	B	B	B	B	B	B	B	B
Intersection Summary												
HCM Average Control Delay	14.3											
HCM Volume to Capacity ratio	0.52											
Actuated Cycle Length (s)	62.3											
Intersection Capacity Utilization	57.9%											
Analysis Period (min)	15											
Critical Lane Group	Critical Lane Group											

HCM Signalized Intersection Capacity Analysis 4: E Ponce De Leon & Arcadia Ave

Future PM 2015 Phase I
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	178	378	225	278	210	31	107	565	243	19	850	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	4.4	4.4	6.0	4.4	5.7	6.2	5.8	5.8	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Flpb. ped/bikes	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb. ped/bikes	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.94	1.00	0.98	1.00	0.98	1.00	0.95	1.00	1.00	0.85	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1789	3349	1787	3483	1787	3483	1805	3391	1800	3610	1593	1593
Flt Permitted	0.59	1.00	0.19	1.00	0.19	1.00	0.14	1.00	0.29	1.00	1.00	1.00
Satd. Flow (perm)	1104	3349	354	3483	354	3483	258	3391	557	3610	1593	1593
Peak-hour factor, PHF	0.89	0.93	0.87	0.94	0.93	0.73	0.87	0.96	0.80	0.75	0.95	0.86
Adj. Flow (vph)	200	406	259	296	226	42	123	589	304	25	895	108
RTOR Reduction (vph)	0	72	0	0	11	0	0	47	0	0	0	0
Lane Group Flow (vph)	200	593	0	296	257	0	123	846	0	25	895	108
Confl. Peds. (#/hr)	5	4	3	4	4	4	4	4	3	4	4	5
Heavy Vehicles (%)	0%	1%	0%	1%	0%	1%	0%	0%	1%	0%	0%	0%
Turn Type	Perm	2	2	pm+pt	1	6	pm+pt	3	8	Perm	4	Free
Protected Phases	2	2	2	6	6	6	8	8	8	4	4	Free
Actuated Green, G (s)	38.8	38.8	62.0	62.0	62.0	65.8	65.8	65.8	50.1	50.1	140.0	140.0
Effective Green, g (s)	38.8	38.8	62.0	62.0	62.0	65.8	65.8	65.8	50.1	50.1	140.0	140.0
Actuated g/C Ratio	0.28	0.28	0.44	0.44	0.44	0.47	0.47	0.47	0.36	0.36	1.00	1.00
Clearance Time (s)	6.0	6.0	4.4	6.0	4.4	6.0	5.7	6.2	5.8	5.8	5.8	5.8
Vehicle Extension (s)	5.0	5.0	3.5	5.0	3.5	5.0	3.5	3.5	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	306	928	349	1542	1542	236	1594	199	1292	1593	1593	1593
v/s Ratio Prot	0.18	0.18	0.11	0.07	0.04	0.04	0.04	0.25	0.04	0.25	0.07	0.07
v/s Ratio Perm	0.85	0.64	0.85	0.17	0.52	0.52	0.52	0.53	0.13	0.69	0.07	0.07
Uniform Delay, d1	44.7	44.4	29.1	23.5	25.6	26.2	30.2	38.4	0.0	38.4	0.0	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	10.4	3.4	17.5	0.2	2.4	1.3	2.4	1.3	1.3	3.1	0.1	0.1
Delay (s)	55.1	47.8	46.6	23.7	28.0	27.5	31.5	41.5	0.1	41.5	0.1	0.1
Level of Service	E	D	D	C	C	C	C	C	D	D	A	A
Approach Delay (s)	49.5	49.5	35.7	35.7	27.5	27.5	36.9	36.9	36.9	36.9	36.9	36.9
Approach LOS	D	D	D	D	D	D	D	D	D	D	D	D

Intersection Summary			
HCM Average Control Delay	37.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	81.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis 5: N Decatur Rd & E Ponce De Leon

Future PM 2015 Phase I
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	NBR2	SWL2	SWL	SWR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	NBR2	SWL2	SWL	SWR
Volume (vph)	151	854	71	78	385	111	67	640	107	187	535	152
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.88	1.00	0.97	0.97	0.97
Flpb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.98	1.00	0.97	1.00	0.97	1.00	0.85	1.00	0.96	0.96	0.96
Flt Protected	0.95	1.00	0.95	1.00	0.99	1.00	0.95	1.00	0.95	0.96	0.97	0.97
Satd. Flow (prot)	1805	3547	1804	3459	1804	3459	1804	2838	1805	3379	3379	3379
Flt Permitted	0.22	1.00	0.61	0.61	0.26	1.00	0.26	1.00	0.14	0.14	0.14	0.14
Satd. Flow (perm)	411	3547	411	2141	2141	494	2838	261	3379	3379	3379	3379
Peak-hour factor, PHF	0.86	0.95	0.67	0.79	0.94	0.85	0.82	0.93	0.91	0.79	0.95	0.66
Adj. Flow (vph)	176	889	106	99	410	131	82	688	118	237	563	230
RTOR Reduction (vph)	0	9	0	0	30	0	0	14	0	0	53	0
Lane Group Flow (vph)	176	996	0	0	610	0	82	792	0	237	740	0
Confl. Peds. (#/hr)	4	5	6	5	5	5	5	6	6	5	5	4
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%
Turn Type	pm+pt	2	2	pm+pt	1	6	3	8	custom	7	4	4
Protected Phases	5	2	2	6	6	6	8	8	8	4	4	4
Actuated Green, G (s)	35.4	35.4	35.4	24.2	24.2	24.2	29.0	25.0	37.2	29.1	29.1	29.1
Effective Green, g (s)	35.4	35.4	35.4	24.2	24.2	24.2	29.0	25.0	37.2	29.1	29.1	29.1
Actuated g/C Ratio	0.42	0.42	0.42	0.28	0.28	0.28	0.34	0.28	0.44	0.34	0.34	0.34
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	265	1477	610	610	610	610	230	835	261	1157	1157	1157
v/s Ratio Prot	0.04	0.28	0.02	0.02	0.02	0.02	0.02	0.28	0.09	0.22	0.22	0.22
v/s Ratio Perm	0.23	0.66	0.67	0.10	0.36	0.36	0.36	0.95	0.91	0.64	0.64	0.64
Uniform Delay, d1	17.5	20.1	30.4	30.4	19.6	29.4	19.6	29.4	18.6	23.5	23.5	23.5
Progression Factor	1.00	1.00	1.00	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.1	2.5	34.5	34.5	1.0	19.6	1.0	19.6	32.2	1.3	1.3	1.3
Delay (s)	23.7	22.6	44.6	44.6	20.6	49.0	20.6	49.0	50.8	24.9	24.9	24.9
Level of Service	C	C	C	D	C	C	C	D	D	D	D	C
Approach Delay (s)	22.8	22.8	44.6	44.6	46.4	46.4	46.4	46.4	30.8	30.8	30.8	30.8
Approach LOS	C	C	C	D	D	D	D	D	C	C	C	C

Intersection Summary			
HCM Average Control Delay	34.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	85.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	91.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis
6: Valley Brook Rd & E Ponce De Leon

Future PM 2015 Phase I
7/12/2012

Movement	SBL	SBP	NEL	NET	SWT	SWR
Lane Configurations	1	1	1	1	1	1
Volume (vph)	98	377	319	563	495	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	4.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.99	1.00	1.00	0.99	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.85	1.00	1.00	0.98	1.00
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1805	1591	1805	1900	1852	1805
Flt Permitted	0.95	1.00	0.26	1.00	1.00	1.00
Satd. Flow (perm)	1805	1591	492	1900	1852	1805
Peak-hour factor, PHF	0.85	0.95	0.87	0.96	0.90	0.76
Adj. Flow (vph)	115	397	367	586	550	93
RTOR Reduction (vph)	0	0	0	0	4	0
Lane Group Flow (vph)	115	397	367	586	639	0
Confl. Peds. (#/hr)	7	10	10	10	10	7
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	Free	Free	pm+pt	Free	pm+pt	Free
Protected Phases	4	1	6	2		
Permitted Phases	Free	Free	6			
Actuated Green, G (s)	20.0	130.0	98.0	98.0	74.4	20.0
Effective Green, g (s)	20.0	130.0	98.0	98.0	74.4	20.0
Actuated g/C Ratio	0.15	1.00	0.75	0.75	0.57	0.15
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	4.0	3.0	8.0	8.0	8.0	4.0
Lane Grp Cap (vph)	278	1591	549	1432	1060	278
v/s Ratio Prot	c0.06	c0.09	0.31	0.35		c0.06
v/s Ratio Perm	0.41	0.25	0.67	0.41	0.60	0.41
Uniform Delay, d1	49.7	0.0	11.7	5.7	18.2	49.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.4	0.4	3.1	0.9	2.5	1.4
Delay (s)	51.1	0.4	14.8	6.6	20.7	51.1
Level of Service	D	A	B	A	C	D
Approach Delay (s)	11.8		9.7	20.7		11.8
Approach LOS	B		A	C		B
Intersection Summary						
HCM Average Control Delay	13.6					HCM Level of Service B
HCM Volume to Capacity ratio	0.61					
Actuated Cycle Length (s)	130.0					Sum of lost time (s) 12.0
Intersection Capacity Utilization	80.5%					ICU Level of Service D
Analysis Period (min)	15					
c Critical Lane Group						

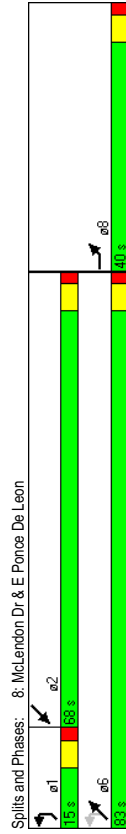
HCM Signalized Intersection Capacity Analysis
7: Glendale Rd & E Ponce De Leon

Future PM 2015 Phase I
7/12/2012

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations	1	1	1	1	1	1
Volume (vph)	155	183	555	262	87	439
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	4.0	6.5	4.0	6.5	6.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	0.99	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1805	1580	1900	1593	1767	1900
Flt Permitted	0.95	1.00	1.00	1.00	0.35	1.00
Satd. Flow (perm)	1805	1580	1900	1593	651	1900
Peak-hour factor, PHF	0.91	0.73	0.93	0.85	0.85	0.94
Adj. Flow (vph)	170	251	597	308	102	467
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	170	251	597	308	102	467
Confl. Peds. (#/hr)	5	4	5	5	4	5
Heavy Vehicles (%)	0%	0%	0%	0%	2%	0%
Turn Type	Free	Free	2	Free	Perm	6
Protected Phases	4					6
Permitted Phases	Free	Free		Free		6
Actuated Green, G (s)	13.7	90.0	54.6	90.0	54.6	54.6
Effective Green, g (s)	13.7	90.0	54.6	90.0	54.6	54.6
Actuated g/C Ratio	0.15	1.00	0.61	1.00	0.61	0.61
Clearance Time (s)	6.5	6.5	6.5	6.5	6.5	6.5
Vehicle Extension (s)	3.0	5.5	5.5	5.5	5.5	5.5
Lane Grp Cap (vph)	275	1580	1153	1593	395	1153
v/s Ratio Prot	c0.09		c0.31		0.16	0.25
v/s Ratio Perm	0.62	0.16	0.52	0.19	0.26	0.41
Uniform Delay, d1	35.7	0.0	10.2	0.0	8.3	9.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.1	0.2	1.7	0.3	1.6	1.1
Delay (s)	39.8	0.2	11.8	0.3	9.8	10.3
Level of Service	D	A	B	A	A	B
Approach Delay (s)	16.2		7.9		10.2	
Approach LOS	B		A		B	
Intersection Summary						
HCM Average Control Delay	10.4					HCM Level of Service B
HCM Volume to Capacity ratio	0.50					
Actuated Cycle Length (s)	90.0					Sum of lost time (s) 13.0
Intersection Capacity Utilization	64.8%					ICU Level of Service C
Analysis Period (min)	15					
c Critical Lane Group						

Timings 8: McLendon Dr & E Ponce De Leon Future PM 2015 Phase I 7/12/2012

Movement	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations	227	95	85	609	549	68
Volume (vph)	1900	1900	1900	1900	1900	1900
Turn Type	Free	Free	pm+pt	Free	Free	Free
Protected Phases	8	1	6	2	2	Free
Permitted Phases	8	Free	6	6	Free	Free
Detector Phase	8	1	6	2	2	
Switch Phase						
Minimum Initial (s)	8.0	5.0	12.0	12.0		
Minimum Split (s)	33.0	11.0	18.0	28.0		
Total Split (s)	40.0	0.0	15.0	83.0	68.0	0.0
Total Split (%)	32.5%	0.0%	12.2%	67.5%	55.3%	0.0%
Yellow Time (s)	4.0	4.0	4.0	4.0		
All-Red Time (s)	2.0	2.0	2.0	2.0		
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	4.0	6.0	6.0	6.0	4.0
Lead/Lag	Lead	Lead	Lag	Lag		
Lead-Lag Optimizer?	Yes	Yes	Yes	Yes		
Recall Mode	None	None	C-Min	C-Min		
Act Effct Green (s)	23.1	123.0	87.9	72.3	123.0	
Actuated g/C Ratio	0.19	1.00	0.71	0.71	0.59	1.00
v/c Ratio	0.73	0.07	0.19	0.53	0.53	0.05
Control Delay	59.5	0.1	7.1	10.7	18.8	0.1
Queue Delay	0.0	0.0	0.0	0.0	8.2	0.0
Total Delay	59.5	0.1	7.1	10.7	27.0	0.1
LOS	E	A	A	B	C	A
Approach Delay	41.0		10.3	23.6		
Approach LOS	D		B	C		
Intersection Summary						
Cycle Length: 123						
Actuated Cycle Length: 123						
Offset: 113 (92%), Referenced to phase 2(SWT) and 6(NETL), Start of Green						
Natural Cycle: 75						
Control Type: Actuated-Coordinated						
Maximum v/c Ratio: 0.73						
Intersection Signal Delay: 21.1						
Intersection Capacity Utilization 62.1%						
Analysis Period (min) 15						



HCM Signalized Intersection Capacity Analysis 8: McLendon Dr & E Ponce De Leon Future PM 2015 Phase I 7/12/2012

Movement	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations	227	95	85	609	549	68
Volume (vph)	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	6.0	4.0	6.0	6.0	6.0	4.0
Total Lost time (s)	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	1.00	0.98	1.00	1.00	1.00	0.98
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Fltb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1805	1580	1805	1900	1900	1580
Flt Permitted	0.95	1.00	0.30	1.00	1.00	1.00
Satd. Flow (perm)	1805	1580	566	1900	1900	1580
Peak-hour factor, PHF	0.91	0.84	0.88	0.84	0.92	0.80
Adj. Flow (vph)	249	113	97	725	597	85
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	249	113	97	725	597	85
Confl. Peds. (#/hr)	3	3	3	0%	0%	3
Heavy Vehicles(%)	0%	0%	0%	0%	0%	0%
Turn Type	Free	Free	pm+pt	Free	Free	Free
Protected Phases	8	1	6	2		
Permitted Phases	Free	Free	6	6	Free	Free
Actuated Green, G (s)	23.1	123.0	87.9	72.3	123.0	
Effective Green, g (s)	23.1	123.0	87.9	87.9	72.3	123.0
Actuated g/C Ratio	0.19	1.00	0.71	0.71	0.59	1.00
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	4.0	5.0	5.0	5.0	5.0	
Lane Grp Cap (vph)	339	1580	501	1358	1117	1580
v/s Ratio Prot	c0.14		0.02	c0.38	0.31	
v/s Ratio Perm	0.07	0.07	0.12			0.05
v/c Ratio	0.73	0.07	0.19	0.53	0.53	0.05
Uniform Delay, d1	47.1	0.0	8.2	8.1	15.2	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.5	0.1	0.4	1.5	1.8	0.1
Delay (s)	55.6	0.1	8.6	9.6	17.1	0.1
Level of Service	E	A	A	A	B	A
Approach Delay (s)	38.3		9.5	15.0		
Approach LOS	D		A	B		
Intersection Summary						
HCM Average Control Delay			17.1		HCM Level of Service	B
HCM Volume to Capacity ratio			0.58			
Actuated Cycle Length (s)			123.0		Sum of lost time (s)	12.0
Intersection Capacity Utilization			62.1%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis
9: E Ponce De Leon & Off Ramp 285

Future PM 2015 Phase I
7/12/2012

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		←	←	←	←	←
Volume (vph)	0	604	271	0	327	309
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.5	5.5
Lane Util. Factor		1.00	0.95	1.00	1.00	1.00
Frt		1.00	1.00	1.00	0.85	1.00
Flt Protected		1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		1900	3610	1805	1599	1599
Flt Permitted		1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1900	3610	1805	1599	1599
Peak-hour factor, PHF	0.92	0.91	0.78	0.92	0.87	0.87
Adj. Flow (vph)	0	664	347	0	376	355
RTOR Reduction (vph)	0	0	0	0	0	252
Lane Group Flow (vph)	0	664	347	0	376	103
Heavy Vehicles (%)	0%	0%	0%	0%	0%	1%
Turn Type		6	2		8	Perm
Protected Phases						
Permitted Phases					8	
Actuated Green, G (s)		46.4	29.8		23.1	23.1
Effective Green, g (s)		46.4	29.8		23.1	23.1
Actuated g/C Ratio		0.58	0.37		0.29	0.29
Clearance Time (s)		5.0	5.0		5.5	5.5
Vehicle Extension (s)		5.0	5.0		3.5	3.5
Lane Grp Cap (vph)		1102	1345		521	462
v/s Ratio Prot		0.35	0.10		0.21	
v/s Ratio Perm						0.06
v/c Ratio		0.60	0.26		0.72	0.22
Uniform Delay, d1		10.8	17.4		25.6	21.6
Progression Factor		1.00	0.67		1.00	1.00
Incremental Delay, d2		2.4	0.5		5.1	0.3
Delay (s)		13.3	12.1		30.6	21.9
Level of Service		B	B		C	C
Approach Delay (s)		13.3	12.1		26.4	
Approach LOS		B	B		C	
Intersection Summary						
HCM Average Control Delay			18.6		HCM Level of Service	B
HCM Volume to Capacity ratio			0.64			
Actuated Cycle Length (s)			80.0		Sum of lost time (s)	10.5
Intersection Capacity Utilization			78.3%		ICU Level of Service	D
Analysis Period (min)			15			
c Critical Lane Group						

5:00 pm Baseline

Synchro 7 - Report
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HCM Unsignalized Intersection Capacity Analysis
10: Church St & On Ramp 285

Future PM 2015 Phase I
7/12/2012

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	←	←	←	←	←	←
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Volume (vph)	269	413	246	308	0	0
Peak Hour Factor	0.96	0.97	0.88	0.97	0.92	0.92
Hourly flow rate (vph)	280	426	280	318	0	0
Direction, Lane #	EB 1	WB 1				
Volume Total (vph)	706	597				
Volume Left (vph)	0	280				
Volume Right (vph)	426	0				
Head (s)	-0.35	0.10				
Departure Headway (s)	4.2	4.7				
Degree Utilization, x	0.82	0.78				
Capacity (veh/h)	849	753				
Control Delay (s)	23.1	21.8				
Approach Delay (s)	23.1	21.8				
Approach LOS	C	C				
Intersection Summary						
Delay			22.5			
HCM Level of Service			C			
Intersection Capacity Utilization			76.0%		ICU Level of Service	D
Analysis Period (min)			15			

5:00 pm Baseline

Synchro 7 - Report
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HCM Unsignalized Intersection Capacity Analysis 11: Valley Brook Rd & SR 410 On Ramp

Future PM 2015 Phase I
7/12/2012

Movement	EBL	EBT	WBT	WBR	SWL	SWR	
Lane Configurations		↔↔	↔		↔	↔↔	
Volume (veh/h)	0	1787	360	0	168	755	
Sign Control		Free	Free		Stop		
Grade		0%	0%		0%		
Peak Hour Factor	0.98	0.98	0.97	0.92	0.92	0.98	
Hourly flow rate (vph)	0	1823	371	0	183	770	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type		None	None				
Median storage (veh)							
Upstream signal (ft)			759				
pX platoon unblocked							
vC conflicting volume	371				1283	371	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol	371				1283	371	
vCu, unblocked vol	4.1				6.8	6.9	
IC, single (s)							
IC, 2 stage (s)							
IF (s)	2.2		3.5		3.3		
p0 queue free %	100		0		0		
cM capacity (veh/h)	1198		160		632		
Direction, Lane #	EB 1	EB 2	WB 1	SW 1	SW 2	SW 3	
Volume Total	912	912	371	183	385	385	
Volume Left	0	0	0	183	0	0	
Volume Right	0	0	0	0	385	385	
cSH	1700	1700	1700	160	632	632	
Volume to Capacity	0.54	0.54	0.22	1.14	0.61	0.61	
Queue Length 95th (ft)	0	0	0	246	103	103	
Control Delay (s)	0.0	0.0	0.0	172.7	19.2	19.2	
Lane LOS			F	C	C	C	
Approach Delay (s)	0.0		0.0	48.6			
Approach LOS				E			
Intersection Summary							
Average Delay	14.7						
Intersection Capacity Utilization	65.4%						C
Analysis Period (min)	15						

HCM Signalized Intersection Capacity Analysis 12: N Decatur Rd & DeKalb Industrial Way

Future PM 2015 Phase I
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SWR
Lane Configurations	↔	↔↔	↔↔	↔	↔↔	↔	↔	↔↔	↔	↔	↔	↔
Volume (vph)	290	880	155	76	391	140	196	650	93	184	586	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.98	1.00	0.96	1.00	0.96	1.00	0.98	1.00	0.98	1.00	0.98
Flt Protected	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95
Satd. Flow (prot)	1804	3510	1805	3442	1805	3442	1805	3531	1805	3516	1805	3516
Flt Permitted	0.24	1.00	0.11	1.00	0.11	1.00	0.14	1.00	0.11	1.00	0.11	1.00
Satd. Flow (perm)	450	3510	205	3442	268	3531	217	3516	217	3516	217	3516
Peak-hour factor, PHF	0.82	0.98	0.86	0.78	0.93	0.89	0.84	0.92	0.92	0.91	0.95	0.86
Adj. Flow (vph)	354	908	180	97	420	157	233	707	101	202	617	106
RTOR Reduction (vph)	0	10	0	0	25	0	0	7	0	0	9	0
Lane Group Flow (vph)	354	1078	0	97	552	0	233	801	0	202	714	0
Confl. Peds. (#/hr)	5	7	8	0	0	6	7	8	6	6	5	1
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Turn Type	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	
Protected Phases	5	2	1	6	3	8	7	4	7	4	4	
Permitted Phases	2		6			8						
Actuated Green, G (s)	66.4	50.4	48.3	38.3	38.3	54.2	36.1	52.0	35.0	52.0	35.0	
Effective Green, g (s)	66.4	50.4	48.3	38.3	38.3	54.2	36.1	52.0	35.0	52.0	35.0	
Actuated g/C Ratio	0.48	0.37	0.35	0.28	0.39	0.26	0.38	0.25	0.38	0.25	0.38	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	8.0	3.0	8.0	3.0	8.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	435	1287	188	959	308	927	278	895	278	895	278	
v/s Ratio Prot	c0.13	c0.31	0.04	0.16	c0.10	c0.23	0.09	0.20	0.09	0.20	0.09	
v/s Ratio Perm	0.26		0.14		0.20		0.18		0.18		0.18	
v/c Ratio	0.81	0.84	0.52	0.58	0.76	0.86	0.73	0.80	0.73	0.80	0.73	
Uniform Delay, d1	25.4	39.8	32.9	42.6	31.7	48.4	32.9	47.9	32.9	47.9	32.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	11.1	6.2	2.4	2.3	10.1	8.4	9.1	5.0	9.1	5.0	9.1	
Delay (s)	36.6	46.1	35.3	44.9	41.9	56.8	42.0	53.0	42.0	53.0	42.0	
Level of Service	D	D	D	D	D	D	D	D	D	D	D	
Approach Delay (s)	43.7		43.5		53.5		50.6		50.6		50.6	
Approach LOS	D		D		D		D		D		D	
Intersection Summary												
HCM Average Control Delay	47.7						D					
HCM Volume to Capacity ratio	0.82						D					
Actuated Cycle Length (s)	137.5						18.0					
Intersection Capacity Utilization	85.1%						E					
Analysis Period (min)	15											
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

Future PM 2015 Phase I
7/12/2012

13: N Decatur Rd & Church St W

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Volume (vph)	98	752	39	164	475	71	109	920	206	156	594	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	4.0	6.0	4.0	6.0	6.0	6.0	4.0	6.0	6.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Flt Protected	0.95	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Satd. Flow (prot)	1805	3610	1615	1805	3610	1583	1805	3610	1615	1805	3610	1524
Flt Permitted	0.43	1.00	1.00	0.09	1.00	1.00	0.27	1.00	1.00	0.13	1.00	1.00
Satd. Flow (perm)	810	3610	1615	170	3610	1583	519	3610	1615	240	3610	1524
Peak-hour factor, PHF	0.82	0.92	0.77	0.79	0.94	0.76	0.72	0.94	0.77	0.93	0.81	0.88
Adj. Flow (vph)	120	817	51	208	505	93	151	979	268	168	733	42
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	120	817	51	208	505	93	151	979	268	168	733	42
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	6%
Turn Type	pm+pt	Free	Free	pm+pt	Free	Free	pm+pt	Free	Free	pm+pt	Free	Free
Protected Phases	4	Free	Free	8	Free	Free	2	Free	Free	1	6	Free
Actuated Green, G (s)	47.0	38.6	150.0	61.5	47.1	150.0	67.4	57.2	150.0	73.6	60.3	150.0
Effective Green, g (s)	47.0	38.6	150.0	61.5	47.1	150.0	67.4	57.2	150.0	73.6	60.3	150.0
Actuated g/C Ratio	0.31	0.26	1.00	0.41	0.31	1.00	0.45	0.38	1.00	0.49	0.40	1.00
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	310	929	1615	254	1134	1583	321	1377	1615	257	1451	1524
v/s Ratio Prot	0.02	c0.23	c0.09	0.14	0.03	c0.27	0.03	c0.17	c0.06	0.20	0.03	0.03
v/s Ratio	0.39	0.88	0.03	0.82	0.45	0.06	0.47	0.71	0.17	0.65	0.51	0.03
Uniform Delay, d1	37.9	53.5	0.0	40.4	41.0	0.0	25.8	39.4	0.0	27.1	33.7	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.8	9.5	0.0	18.2	0.3	0.1	1.1	3.1	0.2	5.9	1.3	0.0
Delay (s)	38.7	63.0	0.0	58.6	41.3	0.1	26.9	42.5	0.2	32.9	34.9	0.0
Level of Service	D	E	A	E	D	A	C	D	A	C	C	A
Approach Delay (s)	56.8			41.0			32.7				33.0	
Approach LOS	E			D			C				C	
Intersection Summary												
HCM Average Control Delay	40.2											
HCM Volume to Capacity ratio	0.78											
Actuated Cycle Length (s)	150.0											
Intersection Capacity Utilization	83.9%											
Analysis Period (min)	15											
c Critical Lane Group												

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis

Future PM 2015 Phase I
7/12/2012

14: N Decatur Rd & Church St

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SWR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Volume (vph)	271	835	42	2	441	10	18	128	69	6	53	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	4.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00
Flt Protected	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00
Flt Protected	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00
Satd. Flow (prot)	1805	3566	1805	3582	3582	1789	1789	1884	1599	1884	1599	1599
Flt Permitted	0.27	1.00	1.00	0.94	1.00	0.95	0.95	0.94	1.00	0.94	1.00	1.00
Satd. Flow (perm)	517	3566	517	3354	3354	1715	1715	1779	1599	1779	1599	1599
Peak-hour factor, PHF	0.94	0.92	0.62	0.25	0.85	0.45	0.54	0.95	0.81	0.38	0.63	0.76
Adj. Flow (vph)	288	908	68	8	519	22	33	135	85	16	84	153
RTOR Reduction (vph)	0	5	0	0	4	0	0	21	0	0	0	0
Lane Group Flow (vph)	288	971	0	0	545	0	0	232	0	0	100	153
Conf. Peds. (#/hr)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	Free	Free	pm+pt	Free	Free	pm+pt	Free	Free	pm+pt	Free	Free
Protected Phases	5	2	2	6	6	8	8	8	8	4	4	4
Actuated Green, G (s)	35.4	35.4	35.4	24.2	24.2	25.0	25.0	25.0	25.0	29.1	29.1	85.0
Effective Green, g (s)	35.4	35.4	35.4	24.2	24.2	25.0	25.0	25.0	25.0	29.1	29.1	85.0
Actuated g/C Ratio	0.42	0.42	0.42	0.28	0.28	0.28	0.28	0.28	0.28	0.34	0.34	1.00
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	302	1485	302	955	955	504	504	504	504	609	1599	1599
v/s Ratio Prot	c0.06	0.27	c0.06	0.16	0.16	c0.14	c0.14	c0.14	c0.14	0.06	c0.10	0.06
v/s Ratio Perm	c0.33		c0.33	0.57	0.57	0.46	0.46	0.46	0.46	0.16	0.10	0.10
v/c Ratio	0.95	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65
Uniform Delay, d1	23.2	19.9	23.2	19.9	19.9	24.5	24.5	24.5	24.5	19.5	19.5	0.0
Progression Factor	0.64	0.53	0.64	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	30.4	1.5	30.4	2.5	2.5	0.9	0.9	0.9	0.9	0.2	0.1	0.1
Delay (s)	45.2	12.1	45.2	28.4	28.4	25.4	25.4	25.4	25.4	19.7	19.7	0.1
Level of Service	D	B	D	C	C	C	C	C	C	B	B	A
Approach Delay (s)	19.6		19.6	28.4	28.4	25.4	25.4	25.4	25.4	7.8	7.8	A
Approach LOS	B		B	C	C	C	C	C	C	A	A	A
Intersection Summary												
HCM Average Control Delay	21.1											
HCM Volume to Capacity ratio	0.60											
Actuated Cycle Length (s)	85.0											
Intersection Capacity Utilization	77.9%											
Analysis Period (min)	15											
c Critical Lane Group												

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis 15: E College Ave & Arcadia Ave

Future PM 2015 Phase I
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	←	←	←	←	←	←	←	←	←	←	←	←
Volume (vph)	478	728	36	31	449	185	14	227	17	482	448	423
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0	6.0	6.0	6.0	6.0	5.8	5.8	5.7	5.8	5.8	4.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	0.85
Satd. Flow (prot)	1805	3577	1805	3457	1805	3457	3551	3551	1805	1900	1615	1615
Flt Permitted	0.15	1.00	0.34	1.00	0.34	1.00	0.85	0.28	1.00	1.00	1.00	1.00
Satd. Flow (perm)	279	3577	642	3457	3030	3030	525	1900	1615			
Peak-hour factor, PHF	0.96	0.93	0.71	0.81	0.89	0.93	0.46	0.85	0.67	0.95	0.92	0.96
Adj. Flow (vph)	498	783	51	38	504	199	30	267	25	507	487	441
RTOR Reduction (vph)	0	5	0	0	42	0	0	6	0	0	0	0
Lane Group Flow (vph)	498	829	0	38	661	0	0	316	0	507	487	441
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm	Free
Protected Phases	5	2		6	6		4		3	8		Free
Permitted Phases	2			6			4		8			Free
Actuated Green, G (s)	50.8	50.8	22.8	22.8	22.8	22.8	12.2	12.2	37.4	37.4	100.0	
Effective Green, g (s)	50.8	50.8	22.8	22.8	22.8	22.8	12.2	12.2	37.4	37.4	100.0	
Actuated g/C Ratio	0.51	0.51	0.23	0.23	0.23	0.23	0.12	0.12	0.37	0.37	1.00	
Clearance Time (s)	4.4	6.0	6.0	6.0	6.0	6.0	5.8	5.8	5.7	5.8		
Vehicle Extension (s)	3.5	5.0	5.0	5.0	5.0	5.0	3.0	3.0	3.5	3.5		
Lane Grp Cap (vph)	502	1817	146	788	370	370	446	711	1615			
v/s Ratio Prot	0.23	0.23		0.19			0.22	0.26				
v/s Ratio Perm	0.27		0.06	0.19	0.10	0.10	0.20	0.27				
v/c Ratio	0.99	0.46	0.26	0.84	0.26	0.84	0.85	1.14	0.68	0.27		
Uniform Delay, d1	28.1	15.8	31.7	36.9	43.0	43.0	27.2	26.3	0.0	0.0		
Progression Factor	1.25	0.66	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Incremental Delay, d2	31.7	0.6	4.3	10.4	17.1	17.1	85.7	2.8	0.4	0.4		
Delay (s)	66.7	11.0	36.0	47.3	60.1	60.1	112.9	29.2	0.4	0.4		
Level of Service	E	B	D	D	E	E	F	C	A	A		
Approach Delay (s)	31.9		46.7		60.1		49.9					
Approach LOS	C		D		E		D					
Intersection Summary												
HCM Average Control Delay	43.9				HCM Level of Service				D			
HCM Volume to Capacity ratio	0.99											
Actuated Cycle Length (s)	100.0				Sum of lost time (s)				10.1			
Intersection Capacity Utilization	97.1%				ICU Level of Service				F			
Analysis Period (min)	15											
Critical Lane Group												

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis 16: Katie Kerr Dr & S Columbia Dr

Future PM 2015 Phase I
7/12/2012

Movement	WBL	WBR	NBL	NBR	SBL	SBR						
Lane Configurations												
Volume (vph)	308	15	302	132	45	671						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900						
Total Lost time (s)	5.0				5.0							
Lane Util. Factor	1.00		1.00		1.00							
Flt	0.99		0.96		0.88							
Flt Protected	0.95		0.97		1.00							
Satd. Flow (prot)	1801		1762		1657							
Flt Permitted	0.95		0.97		1.00							
Satd. Flow (perm)	1801		1762		1657							
Peak-hour factor, PHF	0.89	0.79	0.87	0.91	0.70	0.89						
Adj. Flow (vph)	346	19	347	145	64	754						
RTOR Reduction (vph)	3	0	23	0	0	0						
Lane Group Flow (vph)	362	0	469	0	818	0						
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%						
Turn Type												
Protected Phases	8I		2		6							
Permitted Phases					28I							
Actuated Green, G (s)	14.9		18.2		49.2							
Effective Green, g (s)	14.9		18.2		49.2							
Actuated g/C Ratio	0.25		0.31		0.83							
Clearance Time (s)	5.0		5.0		5.0							
Vehicle Extension (s)	3.0		3.0		3.0							
Lane Grp Cap (vph)	453		542		1657							
v/s Ratio Prot	0.20		0.27		0.09							
v/s Ratio Perm					0.40							
v/c Ratio	0.80		0.87		0.49							
Uniform Delay, d1	20.7		19.3		1.7							
Progression Factor	1.00		1.00		1.00							
Incremental Delay, d2	9.5		13.6		0.2							
Delay (s)	30.3		32.9		1.9							
Level of Service	C		C		A							
Approach Delay (s)	30.3		32.9		1.9							
Approach LOS	C		C		A							
Intersection Summary												
HCM Average Control Delay	17.2		HCM Level of Service		B							
HCM Volume to Capacity ratio	0.72											
Actuated Cycle Length (s)	59.2		Sum of lost time (s)		10.0							
Intersection Capacity Utilization	99.3%		ICU Level of Service		F							
Analysis Period (min)	15											
i Phase conflict between lane groups.												
c Critical Lane Group												

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis 17: W College Ave & Commerce Dr

Future PM 2015 Phase I
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	22	932	35	42	695	123	96	189	62	279	409	57
Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	5.7	5.7	5.7	5.7	5.7	5.7	5.2	5.2	5.2	5.2	5.2	5.2
Total Lost time (s)	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	0.99	0.99	0.99	0.99	0.99	0.99	0.97	0.97	0.99	0.99	0.99	0.99
Flt	1.00	1.00	1.00	1.00	1.00	1.00	0.99	0.99	0.98	0.98	0.98	0.98
Flt Protected	3578	3510	3430	3487	3487	3487	3487	3487	3487	3487	3487	3487
Satd. Flow (prot)	0.90	0.74	0.74	0.74	0.74	0.74	0.55	0.55	0.66	0.66	0.66	0.66
Flt Permitted	3238	2622	1903	2337	2337	2337	1903	1903	2337	2337	2337	2337
Satd. Flow (perm)	0.75	0.97	0.83	0.77	0.98	0.89	0.83	0.87	0.75	0.86	0.94	0.75
Peak-hour factor, PHF	29	961	42	55	709	138	116	217	83	324	435	76
Adj. Flow (vph)	0	3	0	0	15	0	0	16	0	0	8	0
RTOR Reduction (vph)	0	1029	0	0	887	0	0	400	0	0	827	0
Lane Group Flow (vph)	2	10	9	0	9	1	10	10	9	1	2	2
Confl. Peds. (#/hr)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Heavy Vehicles (%)	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Turn Type	2	2	2	6	6	6	4	4	3	8	8	8
Protected Phases	2	2	2	6	6	6	4	4	3	8	8	8
Permitted Phases	2	2	2	6	6	6	4	4	3	8	8	8
Actuated Green, G (s)	47.5	47.5	47.5	47.5	47.5	47.5	41.6	41.6	41.6	41.6	41.6	41.6
Effective Green, g (s)	47.5	47.5	47.5	47.5	47.5	47.5	41.6	41.6	41.6	41.6	41.6	41.6
Actuated g/C Ratio	0.48	0.48	0.48	0.48	0.48	0.48	0.42	0.42	0.42	0.42	0.42	0.42
Clearance Time (s)	5.7	5.7	5.7	5.7	5.7	5.7	5.2	5.2	5.2	5.2	5.2	5.2
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	1538	1245	1245	1245	1245	1245	792	792	792	972	972	972
v/s Ratio Prot	0.32	0.32	0.32	0.32	0.32	0.32	0.21	0.21	0.21	0.35	0.35	0.35
v/s Ratio Perm	0.67	0.67	0.67	0.67	0.67	0.67	0.51	0.51	0.51	0.85	0.85	0.85
Uniform Delay, d1	20.2	20.2	20.2	20.2	20.2	20.2	21.6	21.6	21.6	26.4	26.4	26.4
Progression Factor	0.70	0.70	0.70	0.70	0.70	0.70	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.8	1.8	1.8	1.8	1.8	1.8	0.7	0.7	0.7	7.5	7.5	7.5
Delay (s)	15.9	15.9	15.9	12.2	12.2	12.2	22.3	22.3	22.3	33.9	33.9	33.9
Level of Service	B	B	B	B	B	B	C	C	C	C	C	C
Approach Delay (s)	15.9	15.9	15.9	12.2	12.2	12.2	22.3	22.3	22.3	33.9	33.9	33.9
Approach LOS	B	B	B	B	B	B	C	C	C	C	C	C

Intersection Summary	
HCM Average Control	
HCM Volume to Capacity	
Actuated Cycle Length	
Intersection Capacity Util	
Analysis Period (min)	
c Critical Lane Group	

5:00 pm Baseline

HCM Signalized Intersection Capacity Analysis 18: W College Ave & SR 155

Future PM 2015 Phase I
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	40	749	76	78	520	175	23	184	82	218	498	24
Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Total Lost time (s)	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Util. Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.98	0.98	0.99	0.99	0.99	0.99
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.98	0.98	1.00	1.00	1.00	1.00
Flt	0.99	0.99	0.99	0.99	0.99	0.99	0.95	0.95	0.95	0.95	0.95	0.95
Flt Protected	3527	3527	3527	3527	3527	3527	3527	3527	3527	3527	3527	3527
Satd. Flow (prot)	0.81	0.23	0.23	0.23	0.23	0.23	0.44	0.44	0.23	0.23	0.23	0.23
Flt Permitted	2877	433	433	433	433	433	1815	1815	433	433	1880	1880
Satd. Flow (perm)	0.86	0.97	0.86	0.85	0.90	0.85	0.79	0.85	0.87	0.91	0.95	0.82
Peak-hour factor, PHF	47	772	88	92	578	206	29	216	94	240	524	29
Adj. Flow (vph)	0	8	0	0	0	86	0	16	0	0	2	0
RTOR Reduction (vph)	0	899	0	92	578	120	29	294	0	240	551	0
Lane Group Flow (vph)	14	20	15	9	9	20	0	15	9	9	14	14
Confl. Peds. (#/hr)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Heavy Vehicles (%)	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Turn Type	2	2	2	6	6	6	7	7	8	7	4	4
Protected Phases	2	2	2	6	6	6	7	7	8	7	4	4
Permitted Phases	2	2	2	6	6	6	7	7	8	7	4	4
Actuated Green, G (s)	47.7	47.7	47.7	47.7	47.7	47.7	41.5	41.5	41.5	40.3	40.3	40.3
Effective Green, g (s)	47.7	47.7	47.7	47.7	47.7	47.7	41.5	41.5	41.5	40.3	40.3	40.3
Actuated g/C Ratio	0.48	0.48	0.48	0.48	0.48	0.48	0.42	0.42	0.42	0.40	0.40	0.40
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	1372	906	906	906	906	906	373	373	373	758	758	758
v/s Ratio Prot	0.31	0.21	0.21	0.21	0.21	0.21	0.04	0.04	0.09	0.29	0.29	0.29
v/s Ratio Perm	0.65	0.44	0.44	0.44	0.44	0.44	0.51	0.51	0.64	0.73	0.73	0.73
Uniform Delay, d1	19.9	17.4	17.4	17.4	17.4	17.4	39.5	39.5	37.5	22.1	25.2	25.2
Progression Factor	0.77	1.66	1.66	1.66	1.66	1.66	1.13	1.13	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.9	5.0	5.0	5.0	5.0	5.0	2.7	2.7	1.0	12.1	5.1	4.3
Delay (s)	17.2	33.9	33.9	34.5	34.5	34.5	47.2	47.2	33.5	49.7	27.2	29.5
Level of Service	B	C	C	C	C	C	D	D	C	C	C	C
Approach Delay (s)	17.2	33.9	33.9	34.5	34.5	34.5	47.2	47.2	33.5	49.7	27.2	29.5
Approach LOS	B	C	C	C	C	C	D	D	C	C	C	C

Intersection Summary	
HCM Average Control Delay	30.0
HCM Volume to Capacity Ratio	0.69
Actuated Cycle Length	100.0
Intersection Capacity Utilization	105.4%
Analysis Period (min)	15
c Critical Lane Group	

5:00 pm Baseline

HCM Signalized Intersection Capacity Analysis
19: W College Ave & McDonough St

Future PM 2015 Phase I
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	25	519	38	82	426	41	11	144	101	266	339	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	16	12	12	12	12	11	11	11	11	11	11
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	5.0	6.0	5.0	5.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00	1.00	1.00
Frb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00
Frb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	2112	1805	1861	1733	1689	1733	1689	1742	1782	1782	1782
Flt Permitted	0.25	1.00	0.21	1.00	0.46	1.00	0.46	1.00	0.31	1.00	0.31	1.00
Satd. Flow (perm)	472	2112	400	1861	842	1689	842	1689	576	1782	576	1782
Peak-hour factor, PHF	0.55	0.96	0.64	0.78	0.87	0.59	0.83	0.87	0.84	0.96	0.85	0.72
Adj. Flow (vph)	45	541	59	105	490	69	13	166	120	277	399	81
RTOR Reduction (vph)	0	4	0	0	5	0	0	26	0	0	7	0
Lane Group Flow (vph)	45	596	0	105	554	0	13	260	0	277	473	0
Confl. Peds. (#/hr)	6	9	7	4	9	4	9	7	4	4	6	6
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	2	Perm	6	6	Perm	3	8	Perm	7	4	Perm
Protected Phases	2	43.2	43.2	43.2	43.2	24.9	23.9	23.9	44.8	38.8	4	4
Actuated Green, G (s)	43.2	43.2	43.2	43.2	43.2	24.9	23.9	23.9	44.8	38.8	4	4
Effective Green, g (s)	0.43	0.43	0.43	0.43	0.43	0.25	0.24	0.25	0.45	0.39	0.45	0.39
Actuated G/C Ratio	6.0	6.0	6.0	6.0	6.0	5.0	5.0	5.0	5.0	6.0	5.0	6.0
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	3.0	3.5	3.5	3.5	4.0	3.5	4.0
Vehicle Extension (s)	204	912	173	804	219	404	219	404	443	691	443	691
Lane Grp Cap (vph)	0.28	0.28	0.26	0.30	0.30	0.01	0.01	0.15	0.10	0.27	0.10	0.27
v/s Ratio Prot	0.10	0.22	0.65	0.61	0.69	0.06	0.06	0.64	0.63	0.68	0.63	0.68
v/s Ratio Perm	17.8	22.5	21.9	23.0	28.4	28.4	34.2	34.2	19.3	25.5	19.3	25.5
Uniform Delay, d1	1.00	1.00	1.11	1.10	1.10	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Progression Factor	2.5	3.6	12.5	4.0	4.0	0.1	3.7	3.7	2.9	3.1	2.9	3.1
Incremental Delay, d2	20.3	26.1	36.8	29.2	28.5	28.5	37.9	37.9	22.2	28.6	22.2	28.6
Delay (s)	C	C	D	C	C	C	D	D	C	C	C	C
Level of Service	25.7	30.4	30.4	30.4	30.4	37.5	37.5	37.5	26.2	26.2	26.2	26.2
Approach Delay (s)	C	C	C	C	C	D	D	D	C	C	C	C
Approach LOS	C	C	C	C	C	D	D	D	C	C	C	C
Intersection Summary												
HCM Average Control Delay	28.7											
HCM Volume to Capacity ratio	0.70											
Actuated Cycle Length (s)	100.0											
Intersection Capacity Utilization	84.3%											
Analysis Period (min)	15											
c Critical Lane Group												

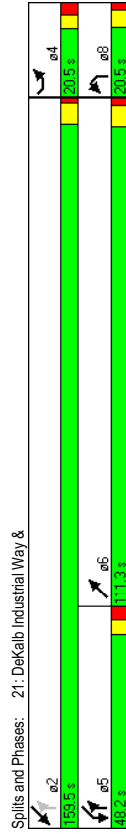
HCM Signalized Intersection Capacity Analysis
20: Driveway & Dekab Industrial Way

Future PM 2015 Phase I
7/12/2012

Movement	EBL	EBR	NBL	NBR	SBL	SBT	NWL	NWR
Lane Configurations	EBL	EBR	NBL	NBR	SBL	SBT	NWL	NWR
Volume (vph)	1	0	1	553	19	168	5	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.6	5.6	4.0	5.6	5.6	5.5	4.0
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00
Flt Protected	0.95	1.00	1.00	0.85	1.00	1.00	1.00	0.85
Satd. Flow (prot)	1805	1805	1805	1615	1805	1805	1805	1615
Flt Permitted	1.00	0.42	1.00	1.00	0.35	1.00	0.95	1.00
Satd. Flow (perm)	1900	799	3610	1615	671	3610	1805	1615
Peak-hour factor, PHF	0.92	0.92	0.25	0.91	0.64	0.94	0.92	0.92
Adj. Flow (vph)	1	0	4	608	30	179	611	12
RTOR Reduction (vph)	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	1	0	4	608	30	179	611	12
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	2	Free	pm+pt	1	6	Perm	Free
Protected Phases	8	2	Free	6	8	8	Free	Free
Actuated Green, G (s)	1.0	24.4	23.7	46.7	33.6	28.3	1.0	46.7
Effective Green, g (s)	1.0	24.4	23.7	46.7	33.6	28.3	1.0	46.7
Actuated G/C Ratio	0.02	0.52	0.51	1.00	0.72	0.61	0.02	1.00
Clearance Time (s)	5.5	5.6	5.6	5.6	5.6	5.6	5.5	5.5
Vehicle Extension (s)	2.0	2.0	5.0	2.0	2.0	5.0	2.0	2.0
Lane Grp Cap (vph)	41	433	1832	1615	611	2188	39	1615
v/s Ratio Prot	0.00	0.00	0.02	0.18	0.03	0.17	0.01	0.10
v/s Ratio Perm	0.02	0.01	0.33	0.02	0.29	0.28	0.31	0.10
Uniform Delay, d1	22.4	5.3	6.8	0.0	2.3	4.4	22.5	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.0	0.2	0.0	0.1	0.1	1.6	0.1
Delay (s)	22.5	5.3	7.0	0.0	2.4	4.5	24.1	0.1
Level of Service	C	A	A	A	A	A	C	A
Approach Delay (s)	22.5	6.7	A	A	4.0	1.8	A	A
Approach LOS	C	A	A	A	A	A	A	A
Intersection Summary								
HCM Average Control Delay	4.9							
HCM Volume to Capacity ratio	0.34							
Actuated Cycle Length (s)	46.7							
Intersection Capacity Utilization	54.8%							
Analysis Period (min)	15							
c Critical Lane Group								

Timings
21: DeKalb Industrial Way & Future PM 2015 Phase I
7/12/2012

Lane Group	NBL2	NBR	SEL	NET	SWL	SWT
Lane Configurations	42	1072	4	3206	824	1572
Volume (vph)	42	1072	4	3206	824	1572
Turn Type	Prot	custom			Prot	
Protected Phases	8	5	4	6	5	2
Permitted Phases	2					
Detector Phase	8	5	4	6	5	2
Switch Phase						
Minimum Initial (s)	14.0	10.0	7.0	33.0	10.0	10.0
Minimum Split (s)	20.4	16.6	13.8	39.7	16.6	16.2
Total Split (s)	20.5	48.2	20.5	111.3	48.2	159.5
Total Split (%)	11.4%	26.8%	11.4%	61.8%	26.8%	88.6%
Yellow Time (s)	3.5	3.1	3.0	4.7	3.1	4.7
All-Red Time (s)	2.0	3.0	3.0	2.0	3.0	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	6.1	6.0	6.7	6.1	6.2
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	C-Min	None	C-Min
Act Effct Green (s)	14.1	158.2	12.3	105.0	46.5	159.3
Actuated g/C Ratio	0.08	0.88	0.07	0.58	0.26	0.88
v/c Ratio	0.36	0.44	0.06	1.10	0.95	0.35
Control Delay	86.3	0.5	78.3	87.2	84.3	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	86.3	0.5	78.3	87.2	84.3	2.5
LOS	F	A	E	F	F	A
Approach Delay			78.3	87.2		30.8
Approach LOS			E	F		C
Intersection Summary						
Cycle Length: 180						
Actuated Cycle Length: 180						
Offset: 0 (0%), Referenced to phase 2SWT and 6:NET, Start of Green						
Natural Cycle: 150						
Control Type: Actuated-Coordinated						
Maximum v/c Ratio: 1.10						
Intersection Signal Delay: 52.7						Intersection LOS: D
Intersection Capacity Utilization 125.1%						ICU Level of Service H
Analysis Period (min) 15						



HCM Signalized Intersection Capacity Analysis
21: DeKalb Industrial Way & Future PM 2015 Phase I
7/12/2012

Movement	NBL2	NBR	SEL	SER	NEL	NET	SWL	SWT	SWR
Lane Configurations	42	1072	4	3	0	3206	824	1572	0
Volume (vph)	42	1072	4	3	0	3206	824	1572	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	6.1	6.0			6.7	6.1	6.2	
Lane Util. Factor	1.00	0.88	1.00			0.91	0.97	0.91	
Frbp, ped/bikes	1.00	1.00	1.00			1.00	1.00	1.00	
Frbp, ped/bikes	1.00	1.00	1.00			1.00	1.00	1.00	
Frbp, ped/bikes	1.00	1.00	1.00			1.00	1.00	1.00	
Fit	1.00	0.85	0.94			1.00	1.00	1.00	
Fit Protected	0.95	1.00	0.97			1.00	0.95	1.00	
Satd. Flow (prot)	1805	2816	1740			5165	3502	5187	
Fit Permitted	0.95	1.00	0.97			1.00	0.95	1.00	
Satd. Flow (perm)	1805	2816	1740			5165	3502	5187	
Peak-hour factor, PHF	0.83	0.25	0.90	0.92	0.92	0.99	0.80	0.96	0.97
Adj. Flow (vph)	51	0	1191	4	3	0	3238	81	858
RTOR Reduction (vph)	0	0	153	0	0	0	1	0	0
Lane Group Flow (vph)	51	0	1038	7	0	0	3318	0	858
Conf. Peds. (#/hr)	3	3	2			2	3		3
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	custom					Prot		
Protected Phases	8	5	4			6	5	2	
Permitted Phases									
Actuated Green, G (s)	11.4	156.9	10.9			103.8	46.5	156.9	
Effective Green, g (s)	11.4	156.9	10.9			103.8	46.5	156.9	
Actuated g/C Ratio	0.06	0.87	0.06			0.58	0.26	0.87	
Clearance Time (s)	5.5	6.1	6.0			6.7	6.1	6.2	
Vehicle Extension (s)	3.0	3.0	3.0			5.0	3.0	4.8	
Lane Grp Cap (vph)	114	2455	105			2978	905	4521	
v/s Ratio Prot	c0.03	0.11	0.00			c0.64	c0.25	0.31	
v/s Ratio Perm		0.26							
v/c Ratio	0.45	0.42	0.07			1.11	0.95	0.36	
Uniform Delay, d1	81.3	2.3	79.8			38.1	65.6	2.2	
Progression Factor	1.00	1.00	1.00			1.00	1.00	1.00	
Incremental Delay, d2	2.8	0.1	0.3			56.7	18.4	0.2	
Delay (s)	84.0	2.5	80.0			94.8	83.9	2.4	
Level of Service	F	A	F			F	F	A	
Approach Delay (s)		5.8	80.0			94.8		30.6	
Approach LOS		A	F			F		C	
Intersection Summary									
HCM Average Control Delay		56.5							E
HCM Volume to Capacity ratio		1.02							
Actuated Cycle Length (s)		180.0							18.3
Intersection Capacity Utilization		125.1%							H
Analysis Period (min)		15							
c Critical Lane Group									

HCM Signalized Intersection Capacity Analysis
22: W College Ave & Clarendon Ave

Future PM 2015 Phase I
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Volume (vph)	172	898	45	1	382	144	52	132	1	255	172	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.5	4.0	5.5	5.5	5.5	5.6	5.6	5.6	5.6	5.6	5.6
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fit	1.00	1.00	0.85	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.94	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	1900	1615	1805	1813	1805	1805	1892	1805	1805	1785	1785
Flt Permitted	0.16	1.00	1.00	0.16	1.00	0.41	1.00	0.41	1.00	0.66	1.00	0.66
Satd. Flow (perm)	304	1900	1615	298	1813	775	1892	1260	1785	1260	1785	1785
Peak-hour factor, PHF	0.66	0.95	0.81	0.25	0.93	0.79	0.82	0.92	0.25	0.88	0.94	0.86
Adj. Flow (vph)	261	945	56	4	411	182	63	143	4	290	183	123
RTOR Reduction (vph)	0	0	0	0	20	0	0	1	0	0	26	0
Lane Group Flow (vph)	261	945	56	4	573	0	63	146	0	290	280	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
pm-plt	Free	Free	Free	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	5	2	Free	6	6	4	4	4	4	8	8	8
Permitted Phases	2	Free	6	34.3	34.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3
Actuated Green, G (s)	50.6	50.6	86.0	34.3	34.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3
Effective Green, g (s)	50.6	50.6	86.0	34.3	34.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3
Actuated g/C Ratio	0.59	0.59	1.00	0.40	0.40	0.40	0.28	0.28	0.28	0.28	0.28	0.28
Clearance Time (s)	5.3	5.5	5.5	5.5	5.5	5.6	5.6	5.6	5.6	5.6	5.6	5.6
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	371	1118	1615	119	723	219	535	356	504	356	504	504
v/s Ratio Prot	0.09	c0.50	0.03	0.01	0.32	0.08	0.08	c0.23	0.16	c0.23	0.16	0.16
v/s Ratio Perm	0.70	0.85	0.03	0.03	0.79	0.29	0.27	0.81	0.56	0.81	0.56	0.56
v/c Ratio	13.9	14.5	0.0	15.8	22.7	24.1	24.0	28.8	26.3	28.8	26.3	26.3
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.0	7.9	0.0	0.5	8.7	0.7	0.3	13.3	1.3	13.3	1.3	1.3
Delay (s)	19.8	22.4	0.0	16.3	31.4	24.8	24.3	42.1	27.6	42.1	27.6	27.6
Level of Service	B	C	A	B	C	C	C	D	C	D	C	C
Approach Delay (s)	20.9	C	A	B	C	C	C	24.4	34.6	C	C	C
Approach LOS	C	C	C	C	C	C	C	C	C	C	C	C
Intersection Summary												
HCM Average Control Delay	26.6											
HCM Volume to Capacity ratio	0.84											
Actuated Cycle Length (s)	86.0											
Intersection Capacity Utilization	99.6%											
Analysis Period (min)	15											
Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis
23: Clarendon Ave & Laredo Dr

Future PM 2015 Phase I
7/12/2012

Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Volume (veh/h)	136	354	314	26	60	259
Sign Control	Free	Free	Free	Sop	Sop	Sop
Grade		0%	0%	0%	0%	0%
Peak Hour Factor	0.87	0.95	0.95	0.83	0.67	0.96
Hourly flow rate (vph)	156	373	331	31	90	270
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)		545				
pX, platoon unblocked						
vC, conflicting volume	362			1031	346	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	362			1031	346	
IC, single (s)	4.1			6.4	6.2	
IC, 2 stage (s)						
IF (s)	2.2			3.5	3.3	
p0 queue free %	87			60	62	
cM capacity (veh/h)	1208			227	701	
Direction, Lane #						
	NB 1	NB 2	SB 1	SE 1		
Volume Total	156	373	362	359		
Volume Left	156	0	0	90		
Volume Right	0	0	31	270		
cSH	1208	1700	1700	461		
Volume to Capacity	0.13	0.22	0.21	0.78		
Queue Length 95th (ft)	11	0	0	172		
Control Delay (s)	8.4	0.0	0.0	35.3		
Lane LOS	A			E		
Approach Delay (s)	2.5	0.0	0.0	35.3		
Approach LOS	E			E		
Intersection Summary						
Average Delay	11.2					
Intersection Capacity Utilization	54.9%					
Analysis Period (min)	15					
				ICU Level of Service		
				A		

HCM Unsignalized Intersection Capacity Analysis
 24: E Ponce De Leon & Annie St

Future PM 2015 Phase I
 7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4T	4T	4T	4T	4T	4T	4T	4T	4T	4T	4T
Volume (veh/h)	4	677	4	1	450	14	5	0	2	20	0	11
Sign Control		Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Grade		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	736	4	1	489	15	5	0	2	22	0	12
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		319										
pX platoon unblocked												
vC conflicting volume	504			740			1005	1253	370	878	1248	252
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	504			549			837	1106	148	698	1100	252
IC, single (s)	4.6			4.1			7.5	6.5	6.9	7.5	6.5	7.3
IC, 2 stage (s)												
IC (s)	2.4			2.2			3.5	4.0	3.3	3.5	4.0	3.5
pO queue free %	100			100			98	100	100	93	100	98
cM capacity (veh/h)	911			950			237	195	810	303	196	696
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	372	372	246	260	8	34						
Volume Left	4	0	1	0	5	22						
Volume Right	0	4	0	15	2	12						
cSH	911	1700	950	1700	297	379						
Volume to Capacity	0.00	0.22	0.00	0.15	0.03	0.09						
Queue Length 95th (ft)	0	0	0	0	0	2						
Control Delay (s)	0.2	0.0	0.1	0.0	17.4	15.4						
Lane LOS	A	A	A	A	C	C						
Approach Delay (s)	0.1		0.0		17.4	15.4						
Approach LOS					C	C						
Intersection Summary												
Average Delay						0.6						
Intersection Capacity Utilization						31.6%				ICU Level of Service	A	
Analysis Period (min)						15						

HCM Signalized Intersection Capacity Analysis
 25: E Ponce De Leon & Off Ramp 285

Future PM 2015 Phase I
 7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR
Lane Configurations	4T	4T	4T	4T	4T	4T	4T	4T
Volume (veh)	412	508	269	219	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	0.95				
Flt Protected	0.95	1.00	1.00	1.00				
Satd. Flow (prot)	1752	1863	3339					
Flt Permitted	0.34	1.00	1.00					
Satd. Flow (perm)	629	1863	3339					
Peak-hour factor, PHF	0.93	0.95	0.97	0.90	0.92	0.92		
Adj. Flow (vph)	443	535	277	243	0	0		
RTOR Reduction (vph)	0	0	152	0	0	0		
Lane Group Flow (vph)	443	535	368	0	0	0		
Heavy Vehicles (%)	3%	2%	1%	0%	0%	0%		
Turn Type	pm+pt	1	6	2				
Protected Phases								
Permitted Phases	6							
Actuated Green, G (s)	46.4	46.4	29.8					
Effective Green, g (s)	46.4	46.4	29.8					
Actuated g/C Ratio	0.58	0.58	0.37					
Clearance Time (s)	5.0	5.0	5.0					
Vehicle Extension (s)	3.0	5.0	5.0					
Lane Grp Cap (vph)	528	1081	1244					
v/s Ratio Prot	c0.12	0.29	0.11					
v/s Ratio Perm	c0.37							
v/c Ratio	0.84	0.49	0.30					
Uniform Delay, d1	10.5	9.9	17.7					
Progression Factor	1.05	0.90	1.00					
Incremental Delay, d2	9.3	1.3	0.6					
Delay (s)	20.4	10.3	18.3					
Level of Service	C	B	B					
Approach Delay (s)		14.9	18.3	0.0				
Approach LOS		B	B	A				
Intersection Summary								
HCM Average Control Delay				16.1			HCM Level of Service	B
HCM Volume to Capacity ratio				0.81				
Actuated Cycle Length (s)				80.0			Sum of lost time (s)	33.6
Intersection Capacity Utilization				78.3%			ICU Level of Service	D
Analysis Period (min)				15				
c Critical Lane Group								

HCM Unsignalized Intersection Capacity Analysis
26: Church St & Off Ramp 285

Future PM 2015 Phase I
7/12/2012

Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	EBT	EBR	WBL	WBT	NBL	NBR	
Volume (veh/h)	264	0	0	382	177	195	
Sign Control	Free	Free	Free	Stop	Stop	Stop	
Grade	0%	0%	0%	0%	0%	0%	
Peak Hour Factor	0.86	0.92	0.92	0.94	0.91	0.90	
Hourly flow rate (vph)	307	0	0	406	195	217	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	None						
Median storage (veh)							
Upstream signal (ft)							
pX, platoon unblocked							
vC, conflicting volume	307				713	307	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vC3, unblocked vol	307				713	307	
IC, single (s)	4.1				6.4	6.2	
IC, 2 stage (s)							
IF (s)	2.2				3.5	3.3	
p0 queue free %	100				52	71	
cM capacity (veh/h)	1265				401	738	
Direction, Lane #	EB 1	WB 1	NB 1	NB 2			
Volume Total	307	406	195	217			
Volume Left	0	0	195	0			
Volume Right	0	0	0	217			
cSH	1700	1700	401	738			
Volume to Capacity	0.18	0.24	0.48	0.29			
Queue Length 95th (ft)	0	0	64	31			
Control Delay (s)	0.0	0.0	22.1	11.9			
Lane LOS	C	C	B	B			
Approach Delay (s)	0.0	0.0	16.7	C			
Approach LOS	C	C	C	C			
Intersection Summary							
Average Delay	6.1				ICU Level of Service		
Intersection Capacity Utilization	38.6%				A		
Analysis Period (min)	15						

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis
27: Valley Brook Rd & Concord Dr

Future PM 2015 Phase I
7/12/2012

Movement	NBL2	NBL	NBR	SEL	SER	SER2	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	  	  	  	  	  	  	  	  	  	  	  	  
Volume (vph)	1	359	141	1999	721	7	6	0	1	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.97	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fit	1.00	0.96	1.00	0.85	1.00	0.85	0.98	0.98	0.98	0.98	0.98	0.98
Fit Protected	0.95	0.97	0.95	1.00	0.95	1.00	0.96	0.96	0.96	0.96	0.96	0.96
Satd. Flow (prot)	1805	3405	3502	1615	1615	1792	1792	1792	1792	1792	1792	1792
Fit Permitted	0.37	0.97	0.95	1.00	0.95	1.00	0.96	0.96	0.96	0.96	0.96	0.96
Satd. Flow (perm)	699	3405	3502	1615	1615	1792	1792	1792	1792	1792	1792	1792
Peak-hour factor, PHF	0.92	0.90	0.87	0.95	0.93	0.58	0.75	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	399	162	1262	775	12	8	0	1	0	0	0
RTOR Reduction (vph)	0	37	0	0	0	0	0	1	0	0	0	0
Lane Group Flow (vph)	1	524	0	1262	787	0	0	8	0	0	0	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%
Turn Type	pm+pt	custom	Perm									
Protected Phases	5	2	1	6				8				
Permitted Phases	2		6	6			8					
Actuated Green, G (s)	20.3	19.8	28.1	47.4			0.8					
Effective Green, g (s)	20.3	19.8	28.1	47.4			0.8					
Actuated g/C Ratio	0.33	0.33	0.46	0.78			0.01					
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	243	1111	1621	1261			24					
v/s Ratio Prot	0.00	0.15	c0.36	c0.49				0.00				
v/s Ratio Perm	0.00	0.47	0.78	0.62			0.33					
v/c Ratio	0.00	0.47	0.78	0.62			0.33					
Uniform Delay, d1	13.5	16.3	13.7	2.8			29.7					
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.0	0.3	2.4	1.0			8.1					
Delay (s)	13.5	16.6	16.1	3.8			37.7					
Level of Service	B	B	B	A			D					
Approach Delay (s)	16.6	11.4					37.7				0.0	
Approach LOS	B	B					D				A	
Intersection Summary												
HCM Average Control Delay	12.6				HCM Level of Service							
HCM Volume to Capacity ratio	0.68				B							
Actuated Cycle Length (s)	60.7				Sum of lost time (s)							
Intersection Capacity Utilization	62.2%				ICU Level of Service							
Analysis Period (min)	15				B							
Critical Lane Group												

5:00 pm Baseline

Synchro 7 - Report
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Intersection Sign configuration not allowed in HCM analysis.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	3	0	3	0	0	0	2	0	0	0	0	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0					4.0					4.0
Lane Util. Factor	1.00	0.95					1.00	0.95				1.00
Frt	1.00	0.85					1.00	0.85				0.86
Flt Protected	0.95	1.00					0.95	1.00				1.00
Satd. Flow (prot)	1770	3008					1770	3008				1611
Flt Permitted	0.76	1.00					0.76	1.00				1.00
Satd. Flow (perm)	1410	3008					1409	3008				1611
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	0	3	0	0	0	2	0	0	0	0	2
RTOR Reduction (vph)	0	2	0	0	0	0	0	0	0	0	0	1
Lane Group Flow (vph)	3	1	0	0	0	0	2	0	0	0	1	0
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	4			8			2					6
Permitted Phases	4			8			2					6
Actuated Green, G (s)	16.0	16.0					16.0					16.0
Effective Green, g (s)	16.0	16.0					16.0					16.0
Actuated g/C Ratio	0.40	0.40					0.40					0.40
Clearance Time (s)	4.0	4.0					4.0					4.0
Lane Grp Cap (vph)	564	1203					564					644
v/s Ratio Prot	0.00						0.00					0.00
v/s Ratio Perm	0.01	0.00					0.00					0.00
Uniform Delay, d1	7.2	7.2					7.2					7.2
Progression Factor	1.00	1.00					1.00					1.00
Incremental Delay, d2	0.0	0.0					0.0					0.0
Delay (s)	7.2	7.2					7.2					7.2
Level of Service	A	A					A					A
Approach Delay (s)	7.2			0.0			7.2					7.2
Approach LOS	A	A		A			A					A
Intersection Summary												
HCM Average Control Delay	7.2						HCM Level of Service					
HCM Volume to Capacity ratio	0.00						A					
Actuated Cycle Length (s)	40.0						Sum of lost time (s)					
Intersection Capacity Utilization	13.3%						8.0					
Analysis Period (min)	15						A					
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis
43: DeKalb Industrial Way &

Future PM 2015 Phase I
7/12/2012

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	30	45	681	23	35	725
Sign Control	Stop	Free	Free	Free	Free	Free
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	33	49	740	25	38	788
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLT		TWLT	
Median storage (veh)			2		2	
Upstream signal (ft)			455			
pX, platoon unblocked	0.91	0.91			0.91	
vC, conflicting volume	1223	383			765	
vC1, stage 1 conf vol	753					
vC2, stage 2 conf vol	470					
vCu, unblocked vol	1049	127			547	
IC, single (s)	6.8	6.9			4.1	
IC, 2 stage (s)	5.8					
IF (s)	3.5	3.3			2.2	
p0 queue free %	92	94			96	
cM capacity (veh/h)	410	820			928	
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	33	49	493	272	38	394
Volume Left	33	0	0	0	38	0
Volume Right	0	49	0	25	0	0
cSH	410	820	1700	1700	928	1700
Volume to Capacity	0.08	0.06	0.29	0.16	0.04	0.23
Queue Length 95th (ft)	6	5	0	0	3	0
Control Delay (s)	14.5	9.7	0.0	0.0	9.0	0.0
Lane LOS	B	A			A	
Approach Delay (s)	11.6		0.0		0.4	
Approach LOS	B					
Intersection Summary						
Average Delay				0.8		
Intersection Capacity Utilization				36.2%	ICU Level of Service	
Analysis Period (min)				15	A	

HCM Unsignalized Intersection Capacity Analysis
59: W College Ave & S Columbia Dr

Future PM 2015 Phase I
7/12/2012

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔↔			↔↔	↔	
Volume (veh/h)	1019	32	34	814	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1108	35	37	885	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)	1136			400		
pX, platoon unblocked			0.87		0.91	0.87
vC, conflicting volume			1142		1641	571
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			864		860	207
IC, single (s)			4.1		6.8	6.9
IC, 2 stage (s)						
IF (s)			2.2		3.5	3.3
p0 queue free %			95		100	100
cM capacity (veh/h)			674		254	695
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	
Volume Total	738	404	332	590	0	
Volume Left	0	0	37	0	0	
Volume Right	0	35	0	0	0	
cSH	1700	1700	674	1700	1700	
Volume to Capacity	0.43	0.24	0.05	0.35	0.00	
Queue Length 95th (ft)	0	0	4	0	0	
Control Delay (s)	0.0	0.0	1.8	0.0	0.0	
Lane LOS			A		A	
Approach Delay (s)	0.0		0.7		0.0	
Approach LOS					A	
Intersection Summary						
Average Delay				0.3		
Intersection Capacity Utilization				50.8%	ICU Level of Service	
Analysis Period (min)				15	A	

HCM Signalized Intersection Capacity Analysis
66: Glendale Rd & Church St

Future PM 2015 Phase I
7/12/2012

Movement	NBL	NBR	SEL	SER	NEL	NET	NER	SWL	SWT	SWR					
Lane Configurations	  	  	  	  	  	  	  	  	  	  	  				
Volume (vph)	0	0	27	0	0	406	3	0	0	21					
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900					
Total Lost time (s)	6.5														
Lane Util. Factor	1.00														
Frt	1.00														
Flt Protected	0.95														
Satd. Flow (prot)	1770														
Flt Permitted	0.94														
Satd. Flow (perm)	1006														
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92					
Adj. Flow (vph)	0	0	29	0	0	441	3	0	0	23					
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0					
Lane Group Flow (vph)	0	0	29	0	0	444	0	0	14	0					
Turn Type	custom Perm														
Protected Phases	4	3	8	2	2	6									
Permitted Phases	8					6									
Actuated Green, G (s)	22.4					54.6					54.6				
Effective Green, g (s)	22.4					54.6					54.6				
Actuated g/C Ratio	0.25					0.61					0.61				
Clearance Time (s)	5.5					6.5					6.5				
Vehicle Extension (s)	3.0					5.5					5.5				
Lane Grp Cap (vph)	278					1129					977				
v/s Ratio Prot	c0.00					c0.24					0.01				
v/s Ratio Perm	c0.02														
v/c Ratio	0.10					0.39					0.01				
Uniform Delay, d1	26.0					9.1					7.0				
Progression Factor	1.16					1.00					1.00				
Incremental Delay, d2	0.2					1.0					0.0				
Delay (s)	30.3					10.2					7.0				
Level of Service	C					B					A				
Approach Delay (s)	0.0					10.2					7.0				
Approach LOS	A					B					A				
Intersection Summary															
HCM Average Control Delay	11.2					HCM Level of Service					B				
HCM Volume to Capacity ratio	0.30														
Actuated Cycle Length (s)	90.0					Sum of lost time (s)					12.0				
Intersection Capacity Utilization	38.2%					ICU Level of Service					A				
Analysis Period (min)	15														
Critical Lane Group															

5:00 pm Baseline

HCM Signalized Intersection Capacity Analysis
73: E Ponce De Leon &

Future PM 2015 Phase I
7/12/2012

Movement	NBL	NBR	SEL	SER	SWL	SWR
Lane Configurations						
Volume (vph)	152	586	30	60	450	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.88	1.00	1.00	0.97	1.00
Frt	1.00	0.85	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3433	2787	1770	1583	3433	1583
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3433	2787	1770	1583	3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	165	637	33	65	489	25
RTOR Reduction (vph)	0	382	0	39	0	15
Lane Group Flow (vph)	165	255	33	26	489	10
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	2i	6i			8	
Permitted Phases		2		6		8
Actuated Green, G (s)	16.0	16.0	16.0	16.0	16.0	16.0
Effective Green, g (s)	16.0	16.0	16.0	16.0	16.0	16.0
Actuated g/C Ratio	0.40	0.40	0.40	0.40	0.40	0.40
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	1373	1115	708	633	1373	633
v/s Ratio Prot	0.05		0.02		c0.14	
v/s Ratio Perm		c0.09		0.02		0.01
v/c Ratio	0.12	0.23	0.05	0.04	0.36	0.02
Uniform Delay, d1	7.6	7.9	7.3	7.3	8.4	7.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	0.5	0.1	0.1	0.7	0.0
Delay (s)	7.7	8.4	7.5	7.4	9.1	7.3
Level of Service	A	A	A	A	A	A
Approach Delay (s)	8.3		7.4		9.0	
Approach LOS	A		A		A	
Intersection Summary						
HCM Average Control Delay	8.5			HCM Level of Service		
HCM Volume to Capacity ratio	0.29			A		
Actuated Cycle Length (s)	40.0			Sum of lost time (s)		
Intersection Capacity Utilization	30.5%			8.0		
Analysis Period (min)	15			ICU Level of Service		
i Phase conflict between lane groups.						
c Critical Lane Group						

5:00 pm Baseline

HCM Signalized Intersection Capacity Analysis Future PM 2015 Phase I With Recommendations
21: DeKalb Industrial Way &

7/12/2012

Movement	NBL2	NBL	NBR	SEL	SER	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations											
Volume (vph)	42	0	1072	4	3	0	3206	65	824	1572	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	6.1	6.0	6.0	6.7	6.7	6.7	6.7	6.1	6.2	6.2
Lane Util. Factor	1.00	0.88	1.00	0.91	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Frpb, ped/bikes	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.85	0.94	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	2816	1740	5165	3502	5187	3502	5187	3502	5187	3502
Flt Permitted	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1805	2816	1740	5165	3502	5187	3502	5187	3502	5187	3502
Peak-hour factor, PHF	0.83	0.25	0.90	0.92	0.92	0.92	0.99	0.80	0.96	0.97	0.92
Adj. Flow (vph)	51	0	1191	4	3	0	3238	81	858	1621	0
RTOR Reduction (vph)	0	0	153	0	0	0	2	0	0	0	0
Lane Group Flow (vph)	51	0	1038	7	0	0	3317	0	858	1621	0
Confl. Peds. (#/hr)	3	3	2	2	2	2	3	3	3	3	3
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	custom	custom	Prot	Prot	Prot	Prot	Prot	Prot	Prot	Prot
Protected Phases	8	5	4	6	5	2					
Permitted Phases	2										
Actuated Green, G (s)	11.4	156.9	10.9	106.6	43.7	156.9					
Effective Green, g (s)	11.4	156.9	10.9	106.6	43.7	156.9					
Actuated g/C Ratio	0.06	0.87	0.06	0.59	0.24	0.87					
Clearance Time (s)	5.5	6.1	6.0	6.7	6.1	6.2					
Vehicle Extension (s)	3.0	3.0	3.0	5.0	3.0	4.8					
Lane Grp Cap (vph)	114	2455	105	3059	850	4521					
v/s Ratio Prot	c0.03	0.10	0.00	c0.64	c0.25	0.31					
v/s Ratio Perm		0.27									
v/c Ratio	0.45	0.42	0.07	1.08	1.01	0.36					
Uniform Delay, d1	81.3	2.3	79.8	36.7	68.2	2.2					
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00					
Incremental Delay, d2	2.8	0.1	0.3	44.5	33.2	0.2					
Delay (s)	84.0	2.5	80.0	81.2	101.4	2.4					
Level of Service	F	A	F	F	F	A					
Approach Delay (s)		5.8	80.0	81.2		36.6					
Approach LOS		A	F	F		D					

Intersection Summary		
HCM Average Control Delay	52.2	HCM Level of Service
HCM Volume to Capacity ratio	1.02	
Actuated Cycle Length (s)	180.0	Sum of lost time (s)
Intersection Capacity Utilization	125.1%	ICU Level of Service
Analysis Period (min)	15	
Critical Lane Group		

5:00 pm Baseline

Synchro 7 - Report
Page 1

HCM Signalized Intersection Capacity Analysis
1: E Ponce De Leon & Laredo Dr

Future SAT 2015 Phase I
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL2	NBL	NBR	SEL	SER	SER2
Lane Configurations												
Volume (vph)	191	212	81	50	216	422	69	165	62	435	218	358
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5	4.0	5.5	5.5	5.5	5.5	5.5	4.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.95	1.00	1.00	1.00	0.85	1.00	0.96	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	3413	1722	3574	1589	1805	1754	1805	1615	1805	1615	1615
Flt Permitted	0.44	1.00	0.56	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (perm)	827	3413	1008	3574	1589	1805	1754	1805	1615	1805	1615	1615
Peak-hour factor, PHF	0.80	0.97	0.78	0.75	0.92	0.86	0.71	0.79	0.71	0.83	0.69	0.88
Adj. Flow (vph)	239	219	104	67	235	491	97	209	87	524	316	407
RTOR Reduction (vph)	0	35	0	0	0	0	0	9	0	0	0	0
Lane Group Flow (vph)	239	288	0	67	235	491	97	287	0	524	316	407
Confl. Peds. (#/hr)	13	13	13	13	13	13	13	13	13	13	13	13
Heavy Vehicles (%)	0%	1%	0%	4%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	Free	Split	Free	Prot	Free	Free
Protected Phases	5	2	2	1	6	8	8	8	8	4	4	4
Permitted Phases	2			6								
Actuated Green, G (s)	46.2	32.6	29.5	29.5	21.4	124.0	26.1	26.1	26.1	35.2	35.2	124.0
Effective Green, g (s)	46.2	32.6	29.5	29.5	21.4	124.0	26.1	26.1	26.1	35.2	35.2	124.0
Actuated g/C Ratio	0.37	0.26	0.24	0.24	0.17	1.00	0.21	0.21	0.21	0.28	0.28	1.00
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Vehicle Extension (s)	3.0	5.0	3.0	3.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	460	887	286	617	1589	380	369	512	458	1615		
v/s Ratio Prot	c0.08	0.08	0.02	0.02	0.07	0.05	c0.16	c0.29	0.20			
v/s Ratio Perm	c0.11		0.04	0.04	0.31	0.31						
v/c Ratio	0.52	0.32	0.23	0.23	0.38	0.31	0.26	0.78	1.02	0.69	0.25	0.25
Uniform Delay, d1	28.4	36.8	37.5	45.4	0.0	40.8	46.2	44.4	39.5	0.0		
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.0	0.4	0.4	0.8	0.5	0.5	10.5	45.9	4.7	0.4		
Delay (s)	29.4	37.2	37.9	46.3	0.5	41.3	56.7	90.3	44.2	0.4		
Level of Service	C	D	D	D	A	D	E	F	D	A		
Approach Delay (s)		33.9		17.2		52.9		49.3				
Approach LOS		C		B		D		D				

Intersection Summary		
HCM Average Control Delay	38.4	HCM Level of Service
HCM Volume to Capacity ratio	0.74	
Actuated Cycle Length (s)	124.0	Sum of lost time (s)
Intersection Capacity Utilization	85.2%	ICU Level of Service
Analysis Period (min)	15	
Critical Lane Group		

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis
2: E Ponce De Leon & Future SAT 2015 Phase I
7/12/2012

Movement	EBL	EBR	NBL	NBT	SBL	SBT	SBR	NWL2	NWL	NWR
Lane Configurations	1	1	0	569	80	180	575	0	58	1
Volume (vph)	1	1	0	569	80	180	575	0	58	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	4.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.93	0.93	1.00	0.85	1.00	0.99	0.99	0.99	0.99	0.99
Flt Protected	0.98	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (prot)	1729	1729	1863	1615	3488	3488	1680	1680	1680	1680
Flt Permitted	0.98	0.98	1.00	1.00	1.00	0.63	0.99	0.99	0.99	0.99
Satd. Flow (perm)	1729	1729	1863	1615	2209	2209	1680	1680	1680	1680
Peak-hour factor, PHF	0.25	0.25	0.25	0.94	0.90	0.95	0.91	0.92	0.65	0.25
Adj. Flow (vph)	4	4	0	605	89	189	632	0	89	4
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	8	0	0	605	89	0	821	0	0	251
Heavy Vehicles (%)	0%	0%	0%	2%	0%	0%	3%	0%	0%	0%
Turn Type	41	2	Free	Perm	Perm	Perm	Perm	Perm	Perm	81
Protected Phases	41	2	Free	Perm	Perm	Perm	Perm	Perm	Perm	81
Permitted Phases	41	2	Free	Perm	Perm	Perm	Perm	Perm	Perm	81
Actuated Green, G (s)	15.1	30.4	30.4	57.5	30.4	30.4	30.4	15.1	15.1	15.1
Effective Green, g (s)	15.1	30.4	30.4	57.5	30.4	30.4	30.4	15.1	15.1	15.1
Actuated g/C Ratio	0.26	0.53	1.00	0.53	1.00	0.53	0.53	0.26	0.26	0.26
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	454	985	1615	1168	1168	1168	441	441	441	441
v/s Ratio Prot	0.00	0.32	0.06	0.06	0.37	0.37	0.15	0.15	0.15	0.15
v/s Ratio Perm	0.02	0.61	0.06	0.06	0.70	0.70	0.57	0.57	0.57	0.57
Uniform Delay, d1	15.7	9.5	0.0	10.2	10.2	10.2	18.4	18.4	18.4	18.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.0	1.1	0.1	1.9	1.9	1.9	1.7	1.7	1.7	1.7
Delay (s)	15.7	10.6	0.1	12.1	12.1	12.1	20.1	20.1	20.1	20.1
Level of Service	B	B	A	B	B	B	C	C	C	C
Approach Delay (s)	15.7	9.3	A	12.1	12.1	12.1	20.1	20.1	20.1	20.1
Approach LOS	B	A	A	B	B	B	C	C	C	C
Intersection Summary										
HCM Average Control Delay	12.5									
HCM Volume to Capacity ratio	0.66									
Actuated Cycle Length (s)	57.5									
Intersection Capacity Utilization	94.0%									
Analysis Period (min)	15									
i Phase conflict between lane groups.										
c Critical Lane Group										

HCM Signalized Intersection Capacity Analysis
3: E Ponce De Leon & DeKalb Industrial Way
Future SAT 2015 Phase I
7/12/2012

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Volume (vph)	17	512	6	8	484	148	134	5	18	13	6	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	0.99	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	0.96	1.00	1.00	0.89	1.00	0.89	0.95	0.95
Frt	1.00	1.00	1.00	1.00	0.96	1.00	1.00	0.89	1.00	0.89	0.95	0.95
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.98	0.98
Satd. Flow (prot)	1805	3559	1805	3438	1805	1672	1805	1672	1768	1768	1768	1768
Flt Permitted	0.27	1.00	0.45	1.00	0.45	1.00	0.73	1.00	0.73	1.00	0.91	0.91
Satd. Flow (perm)	509	3559	846	3438	846	3438	1386	1672	1386	1672	1643	1643
Peak-hour factor, PHF	0.67	0.95	0.44	0.25	0.97	0.78	0.56	0.50	0.63	0.83	0.60	0.63
Adj. Flow (vph)	25	539	14	32	509	190	239	10	29	16	10	16
RTOR Reduction (vph)	0	2	0	0	27	0	0	20	0	0	11	0
Lane Group Flow (vph)	25	551	0	32	672	0	239	19	0	0	31	0
Conf. Peds. (#/hr)	1	1	1	1	1	1	1	1	1	1	1	1
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	1	6	6	2	2	4	4	4	4	8	8	8
Permitted Phases	6	6	6	2	2	4	4	4	4	8	8	8
Actuated Green, G (s)	32.1	32.1	32.1	24.8	24.8	20.1	20.1	20.1	20.1	20.1	20.1	20.1
Effective Green, g (s)	32.1	32.1	32.1	24.8	24.8	20.1	20.1	20.1	20.1	20.1	20.1	20.1
Actuated g/C Ratio	0.50	0.50	0.50	0.39	0.39	0.31	0.31	0.31	0.31	0.31	0.31	0.31
Clearance Time (s)	5.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	301	1780	327	1328	1328	434	523	514	514	514	514	514
v/s Ratio Prot	0.00	0.15	0.04	0.04	0.04	0.17	0.02	0.02	0.02	0.02	0.02	0.02
v/s Ratio Perm	0.04	0.31	0.10	0.51	0.51	0.55	0.04	0.04	0.04	0.06	0.06	0.06
Uniform Delay, d1	8.8	9.5	9.5	12.6	15.0	18.3	15.3	15.3	15.3	15.4	15.4	15.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	0.2	0.2	0.3	0.6	2.6	0.1	0.1	0.1	0.1	0.1	0.1
Delay (s)	9.0	9.7	12.8	15.7	20.9	15.4	15.4	15.5	15.5	15.5	15.5	15.5
Level of Service	A	A	B	B	B	C	B	B	B	B	B	B
Approach Delay (s)	9.7	15.5	15.5	15.5	15.5	20.1	15.5	15.5	15.5	15.5	15.5	15.5
Approach LOS	A	A	B	B	B	C	B	B	B	B	B	B
Intersection Summary												
HCM Average Control Delay	14.2											
HCM Volume to Capacity ratio	0.54											
Actuated Cycle Length (s)	64.2											
Intersection Capacity Utilization	42.7%											
Analysis Period (min)	15											
Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
4: E Ponce De Leon & Arcadia Ave

Future SAT 2015 Phase I
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EB	EB	EB	EB	EB	EB	EB	EB	EB	EB	EB	EB
Volume (vph)	75	252	91	224	275	12	75	403	248	14	413	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	4.4	6.0	6.0	5.7	6.2	5.8	5.8	5.8	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00	0.99	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00
Fltb, ped/bikes	0.99	1.00	1.00	1.00	1.00	1.00	1.00	0.94	1.00	1.00	0.85	1.00
Flt	1.00	0.96	1.00	0.99	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Flt Protected	0.95	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1790	3413	1785	3545	1803	3338	1798	3610	1593	3610	1593	1593
Flt Permitted	0.56	1.00	0.40	1.00	0.40	1.00	0.39	1.00	0.37	1.00	1.00	1.00
Satd. Flow (perm)	1059	3413	758	3545	731	3338	708	3610	1593	3610	1593	1593
Peak-hour factor, PHF	0.89	0.93	0.87	0.94	0.93	0.73	0.87	0.96	0.80	0.75	0.95	0.86
Adj. Flow (vph)	84	271	105	238	296	16	86	420	310	19	435	106
RTOR Reduction (vph)	0	28	0	0	3	0	0	95	0	0	0	0
Lane Group Flow (vph)	84	348	0	238	309	0	86	635	0	19	435	106
Confl. Peds. (#/hr)	5	4	3	4	4	4	4	3	4	4	5	5
Heavy Vehicles (%)	0%	1%	0%	1%	0%	0%	0%	1%	0%	0%	0%	0%
Turn Type	Perm	2	2	1	6	1	3	8	3	8	4	4
Protected Phases	2	2	2	1	6	1	3	8	3	8	4	4
Permitted Phases	2	2	2	1	6	1	3	8	3	8	4	4
Actuated Green, G (s)	40.7	40.7	62.0	62.0	62.0	65.8	65.8	65.8	51.1	51.1	140.0	140.0
Effective Green, g (s)	40.7	40.7	62.0	62.0	62.0	65.8	65.8	65.8	51.1	51.1	140.0	140.0
Actuated g/C Ratio	0.29	0.29	0.44	0.44	0.44	0.47	0.47	0.47	0.36	0.36	1.00	1.00
Clearance Time (s)	6.0	6.0	4.4	6.0	6.0	5.7	6.2	5.8	5.8	5.8	5.8	5.8
Vehicle Extension (s)	5.0	5.0	3.5	5.0	3.5	3.5	3.5	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	308	992	460	1570	416	1569	258	1318	1593	1318	1593	1593
v/s Ratio Prot	0.08	0.10	0.06	0.09	0.01	0.01	0.01	0.12	0.03	0.03	0.07	0.07
v/s Ratio Perm	0.27	0.35	0.52	0.20	0.21	0.21	0.40	0.07	0.07	0.07	0.07	0.07
Uniform Delay, d1	38.2	39.2	25.6	23.8	21.3	24.3	29.0	32.1	0.0	0.0	32.1	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.2	1.0	1.1	0.3	0.3	0.8	0.6	0.7	0.1	0.1	0.1	0.1
Delay (s)	40.4	40.2	26.7	24.1	21.6	25.1	29.6	32.8	0.1	0.1	32.8	0.1
Level of Service	D	D	C	C	C	C	C	C	C	C	C	A
Approach Delay (s)	40.2	40.2	25.2	24.7	24.7	24.7	24.7	26.5	0.1	0.1	26.5	0.1
Approach LOS	D	D	C	C	C	C	C	C	C	C	C	C

Intersection Summary			
HCM Average Control Delay	28.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	10.6
Intersection Capacity Utilization	70.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
5: N Decatur Rd & E Ponce De Leon

Future SAT 2015 Phase I
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	NBR2	SWL2	SWL	SWR
Lane Configurations	EB	EB	EB	EB	EB	EB	EB	EB	EB	EB	EB	EB
Volume (vph)	123	448	102	131	391	128	95	627	102	148	595	153
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.88	1.00	0.97	1.00	0.97
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fltb, ped/bikes	1.00	0.96	1.00	0.97	1.00	0.85	1.00	0.85	1.00	0.96	1.00	0.96
Flt	0.95	1.00	0.99	1.00	0.99	0.95	1.00	0.95	1.00	0.95	0.96	0.96
Flt Protected	1805	3464	1805	3445	1805	2838	1805	2838	1805	3388	1805	3388
Satd. Flow (prot)	1805	3464	1805	3445	1805	2838	1805	2838	1805	3388	1805	3388
Flt Permitted	0.17	1.00	0.70	1.00	0.21	1.00	0.15	0.96	0.15	0.96	0.15	0.96
Satd. Flow (perm)	325	3464	2422	391	2838	277	3388	277	3388	277	3388	3388
Peak-hour factor, PHF	0.86	0.95	0.67	0.79	0.94	0.85	0.82	0.93	0.91	0.79	0.95	0.86
Adj. Flow (vph)	143	472	152	166	416	151	116	674	112	187	626	232
RTOR Reduction (vph)	0	31	0	0	30	0	0	14	0	0	45	0
Lane Group Flow (vph)	143	593	0	0	703	0	116	772	0	187	813	0
Confl. Peds. (#/hr)	4	5	6	5	5	5	5	6	5	5	5	4
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%
Turn Type	pm+pt	2	2	1	6	1	3	8	3	8	7	4
Protected Phases	2	2	2	1	6	1	3	8	3	8	7	4
Permitted Phases	2	2	2	1	6	1	3	8	3	8	7	4
Actuated Green, G (s)	35.5	35.5	35.5	24.8	24.8	30.5	26.5	26.5	35.5	35.5	29.0	29.0
Effective Green, g (s)	35.5	35.5	35.5	24.8	24.8	30.5	26.5	26.5	35.5	35.5	29.0	29.0
Actuated g/C Ratio	0.42	0.42	0.42	0.29	0.29	0.36	0.31	0.31	0.42	0.42	0.34	0.34
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	226	1447	707	707	885	207	885	233	1156	233	1156	1156
v/s Ratio Prot	0.04	0.17	0.03	0.29	0.17	0.03	0.27	0.06	0.24	0.06	0.24	0.24
v/s Ratio Perm	0.23	0.41	0.41	0.99	0.56	0.87	0.80	0.70	0.80	0.70	0.70	0.70
Uniform Delay, d1	17.6	17.4	30.0	30.0	19.4	27.7	18.3	24.3	18.3	24.3	24.3	24.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.7	0.9	30.1	30.1	3.4	9.7	17.8	2.1	17.8	2.1	17.8	2.1
Delay (s)	23.3	18.3	39.6	39.6	22.9	37.4	36.1	26.4	36.1	26.4	26.4	26.4
Level of Service	C	B	D	D	C	D	D	D	D	D	D	C
Approach Delay (s)	19.2	39.6	39.6	39.6	35.5	35.5	28.1	28.1	28.1	28.1	28.1	28.1
Approach LOS	B	D	D	D	D	D	D	D	D	D	D	C

Intersection Summary			
HCM Average Control Delay	30.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	85.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	88.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
6: Valley Brook Rd & E Ponce De Leon

Future SAT 2015 Phase I
7/12/2012

Movement	SBL	SBR	NEL	NET	SWT	SWR	
Lane Configurations							
Volume (vph)	93	336	313	537	553	82	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	6.0	4.0	6.0	6.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	0.99	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	
Flt	1.00	0.85	1.00	1.00	1.00	0.98	
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00	
Satd. Flow (prot)	1805	1591	1805	1900	1850		
Flt Permitted	0.95	1.00	0.19	1.00	1.00	1.00	
Satd. Flow (perm)	1805	1591	364	1900	1850		
Peak-hour factor, PHF	0.85	0.95	0.87	0.96	0.90	0.76	
Adj. Flow (vph)	109	354	360	559	614	108	
RTOR Reduction (vph)	0	0	0	0	5	0	
Lane Group Flow (vph)	109	354	360	559	717	0	
Confl. Peds. (#/hr)	7	10	10			7	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	
Turn Type	Free						pm+pt
Protected Phases	4	1	6	2			
Permitted Phases	Free						
Actuated Green, G (s)	20.0	130.0	98.0	98.0	71.2		
Effective Green, g (s)	20.0	130.0	98.0	98.0	71.2		
Actuated g/C Ratio	0.15	1.00	0.75	0.75	0.55		
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		
Vehicle Extension (s)	4.0	3.0	8.0	8.0			
Lane Grp Cap (vph)	278	1591	505	1432	1013		
v/s Ratio Prot	c0.06	c0.11	0.29	0.39			
v/s Ratio Perm	0.22	c0.42					
v/c Ratio	0.39	0.22	0.71	0.39	0.71		
Uniform Delay, d1	49.5	0.0	16.5	5.6	21.7		
Progression Factor	1.00	1.00	1.00	1.00	1.00		
Incremental Delay, d2	1.2	0.3	4.7	0.8	4.2		
Delay (s)	50.8	0.3	21.2	6.4	25.9		
Level of Service	D	A	C	A	C		
Approach Delay (s)	12.2		12.2	25.9			
Approach LOS	B		B	C			
Intersection Summary							
HCM Average Control Delay	16.9			HCM Level of Service			B
HCM Volume to Capacity ratio	0.64			Sum of lost time (s)			12.0
Actuated Cycle Length (s)	130.0			ICU Level of Service			E
Intersection Capacity Utilization	83.9%			Analysis Period (min)			15
Critical Lane Group							

HCM Signalized Intersection Capacity Analysis
7: Glendale Rd & E Ponce De Leon

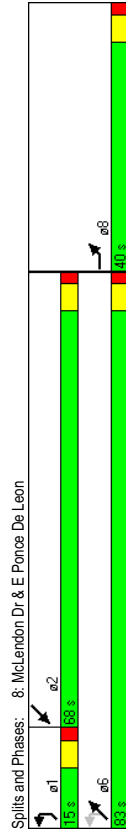
Future SAT 2015 Phase I
7/12/2012

Movement	NWL	NWR	NET	NER	SWL	SWT	
Lane Configurations	112	74	445	115	48	462	↖ ↗
Volume (vph)	1900	1900	1900	1900	1900	1900	
Ideal Flow (vphpl)	6.5	4.0	6.5	4.0	6.5	6.5	
Total Lost time (s)	1.00	1.00	1.00	1.00	1.00	1.00	
Lane Util. Factor	1.00	0.98	1.00	0.99	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	0.85	1.00	0.85	1.00	1.00	
Flt	0.95	1.00	1.00	1.00	0.95	1.00	
Flt Protected	1805	1580	1900	1593	1766	1900	
Satd. Flow (prot)	0.95	1.00	1.00	1.00	0.44	1.00	
Flt Permitted	1805	1580	1900	1593	822	1900	
Satd. Flow (perm)	0.91	0.73	0.93	0.85	0.85	0.94	
Peak-hour factor, PHF	123	101	478	135	56	491	
Adj. Flow (vph)	0	0	0	0	0	0	
RTOR Reduction (vph)	123	101	478	135	56	491	
Lane Group Flow (vph)	5	4	0%	0%	5	4	
Confl. Peds. (#/hr)	0%	0%	0%	0%	2%	0%	
Heavy Vehicles (%)	Turn Type	Free	Free	Free	Perm	Perm	
Protected Phases	4	Free	2	Free	6	6	
Permitted Phases	11.6	90.0	56.7	90.0	56.7	56.7	
Aduated Green, G (s)	11.6	90.0	56.7	90.0	56.7	56.7	
Effective Green, g (s)	Aduated g/C Ratio	0.13	1.00	0.63	1.00	0.63	
Aduated g/C Ratio	6.5	6.5	6.5	6.5	6.5	6.5	
Clearance Time (s)	Vehicle Extension (s)	3.0	5.5	5.5	5.5	5.5	
Vehicle Extension (s)	Lane Grp Cap (vph)	233	1580	1197	1593	518	
Lane Grp Cap (vph)	v/s Ratio Prot	c0.07	0.25	c0.08	0.07	c0.26	
v/s Ratio Prot	v/s Ratio Perm	0.53	0.06	0.40	0.08	0.11	
v/s Ratio Perm	w/c Ratio	36.6	0.0	8.2	0.0	6.6	
w/c Ratio	Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	
Uniform Delay, d1	Progression Factor	2.2	0.1	1.0	0.1	0.4	
Progression Factor	Incremental Delay, d2	38.8	0.1	9.2	0.1	7.0	
Incremental Delay, d2	Delay (s)	D	A	A	A	A	
Delay (s)	Level of Service	21.3	A	7.2	A	9.1	
Level of Service	Approach Delay (s)	C	A	A	A	A	
Approach Delay (s)	Approach LOS						
Approach LOS	Intersection Summary						
HCM Average Control Delay							B
HCM Volume to Capacity ratio							13.0
Aduated Cycle Length (s)							B
Intersection Capacity Utilization							
Analysis Period (min)							15
c Critical Lane Group							

Timings
8: McLendon Dr & E Ponce De Leon

Future SAT 2015 Phase I
7/12/2012

Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations	64	67	70	517	539	55
Volume (vph)						
Turn Type	Free	Free	pm+pt			Free
Protected Phases	8		1	6	2	
Permitted Phases		Free	6			Free
Detector Phase	8		1	6	2	
Switch Phase						
Minimum Initial (s)	8.0		5.0	12.0	12.0	
Minimum Split (s)	33.0		11.0	18.0	28.0	
Total Split (s)	40.0	0.0	15.0	83.0	68.0	0.0
Total Split (%)	32.5%	0.0%	12.2%	67.5%	55.3%	0.0%
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	2.0		2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	4.0	6.0	6.0	6.0	4.0
Lead/Lag		Lead	Lag			
Lead-Lag Optimizer?		Yes				
Recall Mode	None		None	C-Min	C-Min	
Act Effct Green (s)	11.3	123.0	102.5	103.7	91.9	123.0
Actuated g/C Ratio	0.09	1.00	0.83	0.84	0.75	1.00
v/c Ratio	0.42	0.05	0.12	0.38	0.41	0.04
Control Delay	60.0	0.1	2.9	4.0	9.2	0.1
Queue Delay	0.0	0.0	0.0	0.0	1.6	0.0
Total Delay	60.0	0.1	2.9	4.0	10.8	0.1
LOS	E	A	A	A	B	A
Approach Delay	28.0			3.8	9.6	
Approach LOS	C			A	A	
Intersection Summary						
Cycle Length: 123						
Actuated Cycle Length: 123						
Offset: 113 (92%), Referenced to phase 2(SWT) and 6(NETL), Start of Green						
Natural Cycle: 75						
Control Type: Actuated-Coordinated						
Maximum v/c Ratio: 0.42						
Intersection Signal Delay: 8.8						Intersection LOS: A
Intersection Capacity Utilization 55.7%						ICU Level of Service B
Analysis Period (min) 15						



HCM Signalized Intersection Capacity Analysis
8: McLendon Dr & E Ponce De Leon

Future SAT 2015 Phase I
7/12/2012

Movement	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations	64	67	70	517	539	55
Volume (vph)						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	4.0	6.0	6.0	6.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1805	1580	1804	1900	1900	1580
Flt Permitted	0.95	1.00	0.36	1.00	1.00	1.00
Satd. Flow (perm)	1805	1580	682	1900	1900	1580
Peak-hour factor, PHF	0.91	0.84	0.88	0.84	0.92	0.80
Adj. Flow (vph)	70	80	80	615	586	69
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	70	80	80	615	586	69
Confl. Peds. (#/hr)	3	3	3			3
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	Free	Free	pm+pt			Free
Protected Phases	8		1	6	2	
Permitted Phases		Free	6			Free
Actuated Green, G (s)	9.7	123.0	101.3	101.3	88.2	123.0
Effective Green, g (s)	9.7	123.0	101.3	101.3	88.2	123.0
Actuated g/C Ratio	0.08	1.00	0.82	0.82	0.72	1.00
Clearance Time (s)	6.0		6.0	6.0	6.0	
Vehicle Extension (s)	4.0		5.0	5.0	5.0	
Lane Grp Cap (vph)	142	1580	634	1565	1362	1580
v/s Ratio Prot	c0.04		0.01	c0.32	c0.31	
v/s Ratio Perm		0.05	0.10			0.04
v/c Ratio	0.49	0.05	0.13	0.39	0.43	0.04
Uniform Delay, d1	54.3	0.0	3.3	2.8	7.1	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.6	0.1	0.2	0.7	1.0	0.1
Delay (s)	57.9	0.1	3.5	3.6	8.1	0.1
Level of Service	E	A	A	A	A	A
Approach Delay (s)	27.1			3.6	7.3	
Approach LOS	C			A	A	
Intersection Summary						
HCM Average Control Delay			7.5			HCM Level of Service A
HCM Volume to Capacity ratio			0.45			
Actuated Cycle Length (s)			123.0			Sum of lost time (s) 18.0
Intersection Capacity Utilization			55.7%			ICU Level of Service B
Analysis Period (min)			15			
c Critical Lane Group						

HCM Unsignalized Intersection Capacity Analysis 11: Valley Brook Rd & SR 410 On Ramp

Future SAT 2015 Phase I
7/12/2012

Movement	EBL	EBT	WBT	WBR	SWL	SWR	
Lane Configurations		↔↔	↔		↔	↔↔	
Volume (veh/h)	0	1187	384	0	121	738	
Sign Control		Free	Free		Stop		
Grade		0%	0%		0%		
Peak Hour Factor	0.98	0.98	0.97	0.92	0.92	0.98	
Hourly flow rate (vph)	0	1211	396	0	132	753	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type		None	None				
Median storage (veh)							
Upstream signal (ft)			759				
pX platoon unblocked							
vC conflicting volume	396				1001	396	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	396				1001	396	
IC, single (s)	4.1				6.8	6.9	
IC, 2 stage (s)							
IF (s)	2.2				3.5	3.3	
p0 queue free %	100				46	0	
cM capacity (veh/h)	1174				243	609	
Direction, Lane #	EB 1	EB 2	WB 1	SW 1	SW 2	SW 3	
Volume Total	606	606	396	132	377	377	
Volume Left	0	0	0	132	0	0	
Volume Right	0	0	0	0	377	377	
cSH	1700	1700	1700	243	609	609	
Volume to Capacity	0.36	0.36	0.23	0.54	0.62	0.62	
Queue Length 95th (ft)	0	0	0	73	106	106	
Control Delay (s)	0.0	0.0	0.0	36.1	20.0	20.0	
Lane LOS			E	C	C	C	
Approach Delay (s)	0.0		0.0	22.4			
Approach LOS				C			
Intersection Summary							
Average Delay	7.9						
Intersection Capacity Utilization	52.7%						A
Analysis Period (min)	15						

HCM Signalized Intersection Capacity Analysis 12: N Decatur Rd & Dekalb Industrial Way

Future SAT 2015 Phase I
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔↔	↔	↔	↔↔	↔	↔	↔↔	↔	↔	↔	↔
Volume (vph)	109	470	132	66	346	148	187	459	57	182	387	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Flt	1.00	0.96		1.00	0.95		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1804	3464		1803	3422		1803	3542		1804	3524	
Flt Permitted	0.31	1.00		0.34	1.00		0.35	1.00		0.24	1.00	
Satd. Flow (perm)	583	3464		650	3422		662	3542		453	3524	
Peak-hour factor, PHF	0.82	0.98	0.86	0.78	0.93	0.89	0.84	0.92	0.92	0.91	0.95	0.86
Adj. Flow (vph)	133	480	153	85	372	166	223	499	62	200	407	63
RTOR Reduction (vph)	0	18	0	0	32	0	0	6	0	0	8	0
Lane Group Flow (vph)	133	615	0	85	506	0	223	555	0	200	462	0
Conf. Peds. (#/hr)	5		7	8		6	7		8	6		5
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Turn Type	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8					
Actuated Green, G (s)	48.4	37.3		40.0	33.1		37.7	23.3		39.1	24.0	
Effective Green, g (s)	48.4	37.3		40.0	33.1		37.7	23.3		39.1	24.0	
Actuated g/C Ratio	0.45	0.35		0.38	0.31		0.35	0.22		0.37	0.23	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	8.0		3.0	8.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	392	1212		319	1063		388	774		358	793	
v/s Ratio Prot	c0.04	c0.18		0.02	0.15		0.08	c0.16		c0.08	0.13	
v/s Ratio Perm	0.12			0.08			0.13			0.13		
v/c Ratio	0.34	0.51		0.27	0.48		0.57	0.72		0.56	0.58	
Uniform Delay, d1	17.9	27.4		22.0	29.7		25.7	38.6		24.8	36.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	1.4		0.5	1.4		2.1	3.2		1.9	1.1	
Delay (s)	18.5	28.8		22.4	31.2		27.7	41.8		26.7	37.9	
Level of Service	B	C		C	C		C	D		C	D	
Approach Delay (s)		27.0			30.0			37.8			34.6	
Approach LOS		C			C			D			C	
Intersection Summary												
HCM Average Control Delay	32.4						HCM Level of Service					
HCM Volume to Capacity ratio	0.58						C					
Actuated Cycle Length (s)	106.6						Sum of lost time (s)					
Intersection Capacity Utilization	67.8%						ICU Level of Service					
Analysis Period (min)	15						C					
Critical Lane Group												

HCM Signalized Intersection Capacity Analysis 13: N Decatur Rd & Church St W

Future SAT 2015 Phase I
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Volume (vph)	76	436	25	149	338	82	71	379	142	93	353	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Flt Protected	0.95	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1805	3610	1615	1805	3610	1583	1805	3610	1615	1805	3610	1524
Fit Permitted	0.52	1.00	1.00	0.17	1.00	1.00	0.46	1.00	1.00	0.48	1.00	1.00
Satd. Flow (perm)	982	3610	1615	330	3610	1583	883	3610	1615	921	3610	1524
Peak-hour factor, PHF	0.82	0.92	0.77	0.79	0.94	0.76	0.72	0.94	0.77	0.93	0.81	0.88
Adj. Flow (vph)	93	474	32	189	360	108	99	403	184	100	436	84
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	93	474	32	189	360	108	99	403	184	100	436	84
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	6%
Turn Type	pm+pt	Free	Free	pm+pt	Free	Free	pm+pt	Free	Free	pm+pt	Free	Free
Protected Phases	4	Free	8	Free	2	Free	5	2	Free	1	6	Free
Actuated Green, G (s)	36.2	25.4	150.0	49.1	32.3	150.0	82.8	73.6	150.0	83.0	73.7	150.0
Effective Green, g (s)	36.2	25.4	150.0	49.1	32.3	150.0	82.8	73.6	150.0	83.0	73.7	150.0
Actuated g/C Ratio	0.24	0.17	1.00	0.33	0.22	1.00	0.35	0.49	1.00	0.55	0.49	1.00
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	296	611	1615	282	777	1583	544	1771	1615	584	1774	1524
v/s Ratio Prot	0.02	c0.13	c0.08	0.10	0.01	0.11	0.01	0.11	c0.11	0.09	c0.12	0.06
v/c Ratio	0.31	0.78	0.02	0.67	0.46	0.07	0.18	0.23	0.11	0.18	0.25	0.06
Uniform Delay, d1	45.5	59.6	0.0	39.6	51.3	0.0	16.0	21.9	0.0	15.9	22.1	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.6	6.1	0.0	6.1	0.4	0.1	0.2	0.3	0.1	0.2	0.3	0.1
Delay (s)	46.1	65.7	0.0	45.7	51.7	0.1	16.2	22.2	0.1	16.1	22.4	0.1
Level of Service	D	E	A	D	D	A	B	C	A	B	C	A
Approach Delay (s)	59.2			41.5			15.4				18.4	
Approach LOS	E			D			B				B	
Intersection Summary												
HCM Average Control Delay				33.0			HCM Level of Service			C		
HCM Volume to Capacity ratio				0.38								
Actuated Cycle Length (s)				150.0			Sum of lost time (s)			12.0		
Intersection Capacity Utilization				55.9%			ICU Level of Service			B		
Analysis Period (min)				15								
c Critical Lane Group												

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis 14: N Decatur Rd & Church St

Future SAT 2015 Phase I
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SWR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Volume (vph)	188	483	27	8	487	4	8	92	25	6	45	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		5.5	5.5		5.5	5.5		5.5	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00
Flt Protected	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Permitted	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (prot)	1805	3561	1805	3590	3590	1820	1820	1599	1882	1599	1882	1599
Fit Permitted	0.24	1.00	0.24	1.00	0.90	0.90	0.97	0.95	1.00	0.95	1.00	1.00
Satd. Flow (perm)	450	3561	450	3226	3226	1774	1774	1796	1599	1796	1599	1599
Peak-hour factor, PHF	0.94	0.92	0.82	0.25	0.85	0.45	0.54	0.95	0.81	0.38	0.63	0.76
Adj. Flow (vph)	200	525	44	32	573	9	15	86	31	16	71	197
RTOR Reduction (vph)	0	6	0	0	1	0	0	13	0	0	0	0
Lane Group Flow (vph)	200	563	0	0	613	0	0	119	0	0	87	197
Conf. Peds. (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Turn Type	pm+pt	Free	Free	pm+pt	Free	Free	pm+pt	Free	Free	pm+pt	Free	Free
Protected Phases	5	2	2	6	6	8	8	8	8	4	4	4
Actuated Green, G (s)	35.5	35.5	35.5	24.8	24.8	26.5	26.5	26.5	26.5	29.0	85.0	85.0
Effective Green, g (s)	35.5	35.5	35.5	24.8	24.8	26.5	26.5	26.5	26.5	29.0	85.0	85.0
Actuated g/C Ratio	0.42	0.42	0.42	0.29	0.29	0.31	0.31	0.31	0.31	0.34	1.00	1.00
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Vehicle Extension (s)	3.0	8.0	8.0	8.0	8.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	271	1487		941	941	553	553	613	1599			
v/s Ratio Prot	c0.05	0.16		0.19	0.19	c0.07	c0.07	0.05	c0.12			
v/c Ratio	0.74	0.38		0.65	0.65	0.22	0.22	0.14	0.12			
Uniform Delay, d1	19.3	17.1		26.3	26.3	21.6	21.6	19.4	0.0			
Progression Factor	0.81	0.75		1.00	1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	8.3	0.6		3.5	3.5	0.3	0.3	0.1	0.2			
Delay (s)	23.9	13.5		29.8	29.8	21.8	21.8	19.5	0.2			
Level of Service	C	B		C	C	C	C	B	A			
Approach Delay (s)	16.2			29.8				6.1				
Approach LOS	B			C				A				
Intersection Summary												
HCM Average Control Delay				19.7			HCM Level of Service			B		
HCM Volume to Capacity ratio				0.43								
Actuated Cycle Length (s)				85.0			Sum of lost time (s)			11.0		
Intersection Capacity Utilization				69.5%			ICU Level of Service			C		
Analysis Period (min)				15								
c Critical Lane Group												

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis
15: E College Ave & Arcadia Ave

Future SAT 2015 Phase I
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	←	←	←	←	←	←	←	←	←	←	←	←
Volume (vph)	335	352	36	25	375	188	24	196	27	197	229	276
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0	6.0	6.0	6.0	6.0	5.8	5.8	5.7	5.8	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.99	0.99	0.95	1.00	1.00	0.85
Satd. Flow (prot)	1805	3546	1805	3434	1805	3434	3515	3515	1805	1900	1615	1615
Flt Permitted	0.26	1.00	0.50	1.00	0.50	1.00	0.85	0.85	0.31	1.00	1.00	1.00
Satd. Flow (perm)	498	3546	954	3434	3003	3003	584	1900	1615	1615	1615	1615
Peak-hour factor, PHF	0.96	0.93	0.71	0.81	0.89	0.93	0.46	0.85	0.67	0.95	0.92	0.96
Adj. Flow (vph)	349	378	51	31	421	202	52	231	40	207	249	288
RTOR Reduction (vph)	0	10	0	0	51	0	0	11	0	0	0	0
Lane Group Flow (vph)	349	419	0	31	572	0	0	312	0	207	249	288
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	pm	pm	pm	pm	pm	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	Free
Protected Phases	5	2	6	6	4	4	3	8	8	8	8	Free
Permitted Phases	2	6	32.2	32.2	32.2	32.2	34.2	34.2	34.2	34.2	100.0	Free
Actuated Green, G (s)	54.0	54.0	32.2	32.2	32.2	32.2	14.1	14.1	14.1	34.2	100.0	100.0
Effective Green, g (s)	54.0	54.0	32.2	32.2	32.2	32.2	14.1	14.1	14.1	34.2	34.2	100.0
Actuated g/C Ratio	0.54	0.54	0.32	0.32	0.32	0.32	0.14	0.14	0.14	0.34	0.34	1.00
Clearance Time (s)	4.4	6.0	6.0	6.0	6.0	6.0	5.8	5.8	5.7	5.8	5.8	5.8
Vehicle Extension (s)	3.5	5.0	5.0	5.0	5.0	5.0	3.0	3.0	3.0	3.5	3.5	3.5
Lane Grp Cap (vph)	496	1915	307	1106	423	423	376	650	1615	1615	1615	1615
v/s Ratio Prot	0.12	0.12	0.17	0.17	0.17	0.17	0.08	0.13	0.08	0.13	0.18	0.18
v/s Ratio Perm	0.70	0.22	0.10	0.52	0.10	0.52	0.74	0.55	0.38	0.18	0.18	0.18
v/c Ratio	14.7	12.0	23.8	27.6	14.7	14.7	41.2	24.9	24.9	24.9	0.0	0.0
Uniform Delay, d1	1.28	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.0	0.0
Progression Factor	4.4	0.3	0.7	1.7	0.7	1.7	6.6	1.9	0.4	0.2	0.2	0.2
Incremental Delay, d2	23.3	12.1	24.4	29.3	47.8	47.8	26.9	25.4	0.2	0.2	0.2	0.2
Delay (s)	C	B	C	C	C	C	D	C	C	C	A	A
Level of Service	C	B	C	C	C	C	D	C	C	C	C	A
Approach Delay (s)	17.1	29.1	29.1	29.1	29.1	29.1	16.1	16.1	16.1	16.1	16.1	16.1
Approach LOS	B	B	C	C	C	C	B	B	B	B	B	B
Intersection Summary												
HCM Average Control Delay	23.9											
HCM Volume to Capacity ratio	0.66											
Actuated Cycle Length (s)	100.0											
Intersection Capacity Utilization	72.3%											
Analysis Period (min)	15											
c Critical Lane Group												

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis
16: Katie Kerr Dr & S Columbia Dr

Future SAT 2015 Phase I
7/12/2012

Movement	WBL	WBR	NBL	NBR	SEL	SER
Lane Configurations	←	←	←	←	←	←
Volume (vph)	192	28	273	150	22	281
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.96	0.98	0.95	0.88	0.88	0.88
Satd. Flow (prot)	1787	1787	1754	1659	1659	1659
Flt Permitted	0.96	0.96	0.97	1.00	1.00	1.00
Satd. Flow (perm)	1787	1787	1754	1659	1659	1659
Peak-hour factor, PHF	0.89	0.79	0.87	0.91	0.70	0.89
Adj. Flow (vph)	216	35	314	165	31	316
RTOR Reduction (vph)	9	0	27	0	170	0
Lane Group Flow (vph)	242	0	452	0	177	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	pm	pm	pm	pm	pm
Protected Phases	8	2	2	6	6	6
Permitted Phases	2	6	32.2	32.2	32.2	32.2
Actuated Green, G (s)	11.8	11.8	17.3	23.1	23.1	23.1
Effective Green, g (s)	11.8	11.8	17.3	23.1	23.1	23.1
Actuated g/C Ratio	0.24	0.24	0.35	0.46	0.46	0.46
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	423	608	608	934	934	934
v/s Ratio Prot	0.14	0.26	0.26	0.02	0.02	0.02
v/s Ratio Perm	0.57	0.74	0.74	0.19	0.19	0.19
v/c Ratio	16.8	14.3	14.3	7.9	7.9	7.9
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	1.00
Progression Factor	1.9	4.9	4.9	0.1	0.1	0.1
Incremental Delay, d2	18.7	19.3	19.3	8.0	8.0	8.0
Delay (s)	B	B	B	A	A	A
Level of Service	B	B	B	A	A	A
Approach Delay (s)	18.7	19.3	19.3	8.0	8.0	8.0
Approach LOS	B	B	B	A	A	A
Intersection Summary						
HCM Average Control Delay	15.5					
HCM Volume to Capacity ratio	0.53					
Actuated Cycle Length (s)	49.9					
Intersection Capacity Utilization	67.7%					
Analysis Period (min)	15					
c Critical Lane Group						

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis 17: W College Ave & Commerce Dr

Future SAT 2015 Phase I
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	32	574	22	54	553	114	65	167	62	101	190	42
Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	5.7	5.7	5.7	5.7	5.7	5.7	5.2	5.2	5.2	5.2	5.2	5.2
Total Lost time (s)	0.95	0.95	0.95	0.95	0.95	0.95	0.99	0.99	0.99	0.99	0.99	0.95
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	0.99	0.99	0.99	0.99	0.99	0.99	0.96	0.96	0.96	0.96	0.98	0.98
Flt	1.00	1.00	1.00	1.00	1.00	1.00	0.99	0.99	0.99	0.99	0.98	0.98
Flt Protected	3572	3494	3413	3466	3466	3466	3413	3413	3413	3466	3466	3466
Satd. Flow (prot)	0.86	0.86	0.86	0.86	0.86	0.86	0.70	0.70	0.70	0.68	0.68	0.68
Flt Permitted	3074	2872	2423	2401	2401	2401	2423	2423	2423	2401	2401	2401
Satd. Flow (perm)	0.75	0.97	0.83	0.77	0.98	0.89	0.83	0.87	0.75	0.86	0.94	0.75
Peak-hour factor, PHF	43	592	27	70	564	128	78	192	83	117	202	56
Adj. Flow (vph)	0	2	0	0	11	0	0	28	0	0	19	0
RTOR Reduction (vph)	0	660	0	0	751	0	0	325	0	0	356	0
Lane Group Flow (vph)	2	10	9	1	10	1	10	9	1	10	9	2
Confl. Peds. (#/hr)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	2	2	2	2	2	2	2	2	2	2	2	2
Permitted Phases	2	2	2	2	2	2	2	2	2	2	2	2
Actuated Green, G (s)	66.1	66.1	66.1	66.1	66.1	66.1	23.0	23.0	23.0	23.0	23.0	23.0
Effective Green, g (s)	0.66	0.66	0.66	0.66	0.66	0.66	0.23	0.23	0.23	0.23	0.23	0.23
Actuated g/C Ratio	5.7	5.7	5.7	5.7	5.7	5.7	5.2	5.2	5.2	5.2	5.2	5.2
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	2032	1898	557	557	557	557	557	557	557	557	557	557
Lane Grp Cap (vph)	0.21	0.32	0.32	0.32	0.32	0.32	0.13	0.13	0.13	0.15	0.15	0.15
v/s Ratio Prot	0.40	0.40	0.40	0.40	0.40	0.40	0.58	0.58	0.58	0.64	0.64	0.64
v/s Ratio Perm	7.3	7.3	7.3	7.3	7.3	7.3	34.2	34.2	34.2	34.8	34.8	34.8
Uniform Delay, d1	0.81	0.81	0.81	0.81	0.81	0.81	1.00	1.00	1.00	1.00	1.00	1.00
Progression Factor	0.4	0.4	0.4	0.4	0.4	0.4	1.9	1.9	1.9	2.9	2.9	2.9
Incremental Delay, d2	6.3	6.3	6.3	6.3	6.3	6.3	36.1	36.1	36.1	37.7	37.7	37.7
Delay (s)	A	A	A	A	A	A	D	D	D	D	D	D
Level of Service	A	A	A	A	A	A	D	D	D	D	D	D
Approach Delay (s)	6.3	6.3	6.3	6.3	6.3	6.3	36.1	36.1	36.1	37.7	37.7	37.7
Approach LOS	A	A	A	A	A	A	D	D	D	D	D	D
Intersection Summary												
HCM Average Control Delay	16.3											
HCM Volume to Capacity ratio	0.46											
Actuated Cycle Length (s)	100.0											
Intersection Capacity Utilization	75.6%											
Analysis Period (min)	15											
c Critical Lane Group												

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis 18: W College Ave & SR 155

Future SAT 2015 Phase I
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	60	435	59	100	137	137	21	238	109	127	268	33
Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Total Lost time (s)	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	0.99	0.99	0.99	0.99	0.99	0.99	0.97	0.97	0.97	0.97	0.97	0.97
Flt	0.98	0.98	0.98	0.98	0.98	0.98	0.95	0.95	0.95	0.95	0.98	0.98
Flt Protected	3496	1785	1900	1615	1757	1797	1804	1853	1804	1853	1804	1853
Satd. Flow (prot)	0.77	0.36	0.36	0.36	0.36	0.36	0.57	0.57	0.57	0.57	0.57	0.57
Flt Permitted	2697	674	1900	1615	1046	1797	429	1853	429	1853	429	1853
Satd. Flow (perm)	0.86	0.97	0.86	0.85	0.85	0.85	0.79	0.85	0.87	0.91	0.95	0.82
Peak-hour factor, PHF	70	448	69	118	390	161	27	280	125	140	282	40
Adj. Flow (vph)	0	13	0	0	0	100	0	15	0	0	4	0
RTOR Reduction (vph)	0	574	0	118	390	61	27	390	0	140	318	0
Lane Group Flow (vph)	14	20	15	9	20	0	15	9	15	9	14	14
Confl. Peds. (#/hr)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	2	2	2	2	2	2	2	2	2	2	2	2
Permitted Phases	2	2	2	2	2	2	2	2	2	2	2	2
Actuated Green, G (s)	39.3	39.3	39.3	39.3	39.3	39.3	29.3	29.3	48.7	48.7	48.7	48.7
Effective Green, g (s)	0.39	0.39	0.39	0.39	0.39	0.39	0.29	0.29	0.49	0.49	0.49	0.49
Actuated g/C Ratio	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	1060	747	233	306	527	407	902	407	902	407	902	407
Lane Grp Cap (vph)	0.21	0.18	0.18	0.18	0.18	0.18	0.03	0.03	0.05	0.05	0.17	0.17
v/s Ratio Prot	0.54	0.54	0.54	0.54	0.54	0.54	0.74	0.74	0.34	0.34	0.35	0.35
v/s Ratio Perm	23.4	23.4	23.4	23.4	23.4	23.4	25.7	25.7	16.5	16.5	15.9	15.9
Uniform Delay, d1	0.76	0.76	0.76	0.76	0.76	0.76	1.00	1.00	1.00	1.00	1.00	1.00
Progression Factor	1.9	1.9	1.9	1.9	1.9	1.9	6.6	6.6	1.1	1.1	0.5	0.5
Incremental Delay, d2	19.7	26.6	25.0	68.2	25.9	38.5	17.5	16.4	17.5	16.4	16.4	16.4
Delay (s)	B	B	B	C	C	C	D	D	B	B	B	B
Level of Service	B	B	B	C	C	C	D	D	B	B	B	B
Approach Delay (s)	19.7	35.7	35.7	37.8	37.8	37.8	16.7	16.7	16.7	16.7	16.7	16.7
Approach LOS	B	B	B	D	D	D	B	B	B	B	B	B
Intersection Summary												
HCM Average Control Delay	27.7											
HCM Volume to Capacity ratio	0.60											
Actuated Cycle Length (s)	100.0											
Intersection Capacity Utilization	86.0%											
Analysis Period (min)	15											
c Critical Lane Group												

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis
19: W College Ave & McDonough St

Future SAT 2015 Phase I
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EB	EB	EB	EB	EB	EB	EB	EB	EB	EB	EB	EB
Volume (vph)	29	342	22	45	298	35	11	96	112	130	108	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	16	12	12	12	12	11	11	11	11	11	11
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	5.0	6.0	5.0	5.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	1.00	1.00	1.00	1.00	1.00	1.00	0.98	1.00	0.98	1.00	1.00	1.00
Flt Permitted	1.00	0.99	1.00	0.98	1.00	0.98	1.00	0.92	1.00	0.95	1.00	0.95
Satd. Flow (prot)	1797	2117	1789	1854	1718	1645	1741	1737	1741	1737	1737	1737
Flt Permitted	0.43	1.00	0.44	1.00	0.64	1.00	0.64	1.00	0.35	1.00	0.35	1.00
Satd. Flow (perm)	817	2117	834	1854	1161	1645	639	1737	639	1737	639	1737
Peak-hour factor, PHF	0.55	0.96	0.64	0.78	0.87	0.59	0.83	0.87	0.84	0.96	0.85	0.72
Adj. Flow (vph)	53	356	34	58	343	59	13	110	133	135	127	56
RTOR Reduction (vph)	0	3	0	0	6	0	0	45	0	0	16	0
Lane Group Flow (vph)	53	387	0	58	396	0	13	198	0	135	167	0
Conf. Peds. (#/hr)	6	9	7	4	9	4	9	7	4	9	4	6
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	2	Perm	6	Perm	6	pm+pt	3	8	pm+pt	7	4
Protected Phases	2	48.9	48.9	48.9	48.9	48.9	22.8	21.4	22.8	21.4	39.1	32.7
Actuated Green, G (s)	48.9	48.9	48.9	48.9	48.9	48.9	22.8	21.4	22.8	21.4	39.1	32.7
Effective Green, g (s)	0.49	0.49	0.49	0.49	0.49	0.49	0.23	0.21	0.23	0.21	0.39	0.33
Actuated G/C Ratio	6.0	6.0	6.0	6.0	6.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	3.0	3.5	3.0	3.5	3.5	4.0
Vehicle Extension (s)	400	1035	408	907	408	907	273	352	273	352	390	568
Lane Grp Cap (vph)	0.18	0.18	0.18	0.21	0.21	0.21	0.00	0.12	0.00	0.12	0.04	0.10
v/s Ratio Prot	0.06	0.13	0.37	0.14	0.44	0.01	0.01	0.05	0.56	0.35	0.29	0.29
v/c Ratio	14.0	16.0	14.0	16.0	16.0	16.0	30.0	35.1	30.0	35.1	20.8	25.1
Uniform Delay, d1	1.00	1.00	1.85	1.72	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Progression Factor	0.7	1.0	0.7	1.4	0.7	1.4	0.1	2.2	0.6	0.4	0.6	0.4
Incremental Delay, d2	14.6	17.0	26.7	30.0	14.6	30.0	30.1	37.4	21.5	25.4	21.5	25.4
Delay (s)	B	B	C	C	C	C	C	D	C	C	C	C
Level of Service	B	B	C	C	C	C	C	D	C	C	C	C
Approach Delay (s)	16.7	16.7	29.6	29.6	16.7	29.6	37.0	37.0	23.8	23.8	23.8	23.8
Approach LOS	B	B	C	C	B	C	D	D	C	C	C	C
Intersection Summary												
HCM Average Control Delay	25.8											
HCM Volume to Capacity ratio	0.46											
Actuated Cycle Length (s)	100.0											
Intersection Capacity Utilization	64.7%											
Analysis Period (min)	15											
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
20: Driveway & Dekab Industrial Way

Future SAT 2015 Phase I
7/12/2012

Movement	EBL	EBR	NBL	NBR	SBL	SBT	NWL	NWR
Lane Configurations	EB	EB	EB	EB	EB	EB	EB	EB
Volume (vph)	1	0	1	475	16	134	476	152
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.6	5.6	4.0	5.6	5.6	5.5	4.0
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Flt Protected	0.95	1.00	1.00	0.85	1.00	1.00	0.85	1.00
Flt Permitted	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	1805	1805	1615	1805	1805	1615	1805
Flt Permitted	1.00	0.47	1.00	1.00	0.40	1.00	0.95	1.00
Satd. Flow (perm)	1900	894	3610	1615	758	3610	1805	1615
Peak-hour factor, PHF	0.92	0.92	0.25	0.91	0.64	0.94	0.96	0.92
Adj. Flow (vph)	1	0	4	522	25	143	496	7
RTOR Reduction (vph)	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	1	0	4	522	25	143	496	7
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	pm+pt	5	2	Free	pm+pt	1	6
Protected Phases	8	2	24.1	23.4	45.3	31.1	26.9	8
Actuated Green, G (s)	1.0	24.1	24.1	23.4	45.3	31.1	26.9	1.0
Effective Green, g (s)	0.02	0.53	0.52	1.00	0.69	0.59	0.02	45.3
Actuated G/C Ratio	5.5	5.6	5.6	5.6	5.6	5.6	5.6	5.5
Clearance Time (s)	2.0	2.0	2.0	5.0	2.0	5.0	2.0	2.0
Vehicle Extension (s)	42	400	1865	1615	617	2144	40	1615
Lane Grp Cap (vph)	0.00	0.00	0.14	0.02	0.14	0.02	0.00	0.10
v/s Ratio Prot	0.02	0.01	0.28	0.02	0.23	0.23	0.18	0.10
v/c Ratio	21.7	5.0	6.2	0.0	2.6	4.3	21.7	0.0
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Progression Factor	0.1	0.0	0.2	0.0	0.1	0.1	0.8	0.1
Incremental Delay, d2	21.8	5.0	6.4	0.0	2.6	4.4	22.5	0.1
Delay (s)	C	A	A	A	A	A	C	A
Level of Service	C	A	A	A	A	A	C	A
Approach Delay (s)	21.8	6.1	6.1	4.0	4.0	4.0	1.0	4.0
Approach LOS	C	A	A	A	A	A	A	A
Intersection Summary								
HCM Average Control Delay	4.5							
HCM Volume to Capacity ratio	0.25							
Actuated Cycle Length (s)	45.3							
Intersection Capacity Utilization	50.7%							
Analysis Period (min)	15							
c Critical Lane Group								

HCM Signalized Intersection Capacity Analysis
21: DeKalb Industrial Way &

Future SAT 2015 Phase I
7/12/2012

Movement	NBL2	NBL	NBR	SEL	SER	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	36	0	663	1	0	0	1403	41	621	1347	0
Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	6.4	6.6	6.8	6.8	6.5	6.6	6.2	6.2	6.6	6.2	6.2
Total Lost time (s)	0.95	0.88	1.00	0.91	1.00	0.97	0.91	1.00	0.95	1.00	1.00
Lane Util. Factor	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.85	1.00	0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Flt Protected	0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	2815	1805	5156	5156	3502	5187	3502	5187	3502	5187
Flt Permitted	0.95	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1805	2815	1805	5156	5156	3502	5187	3502	5187	3502	5187
Peak-hour factor, PHF	0.83	0.25	0.90	0.92	0.92	0.92	0.99	0.80	0.96	0.97	0.92
Adj. Flow (vph)	43	0	737	1	0	0	1417	51	647	1389	0
RTOR Reduction (vph)	0	0	98	0	0	0	2	0	0	0	0
Lane Group Flow (vph)	43	0	639	1	0	0	1466	0	647	1389	0
Confl. Peds. (#/hr)	3	3	2	2	2	2	3	3	3	3	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	custom	custom	Prot	Prot	Prot	Prot	Prot	Prot	Prot	Prot
Protected Phases	8	5	4	6	5	2	5	2	5	2	2
Actuated Green, G (s)	11.3	156.1	10.9	107.6	41.6	156.1	107.6	41.6	156.1	156.1	156.1
Effective Green, g (s)	11.3	156.1	10.9	107.6	41.6	156.1	107.6	41.6	156.1	156.1	156.1
Actuated g/C Ratio	0.06	0.87	0.06	0.60	0.23	0.87	0.60	0.23	0.87	0.87	0.87
Clearance Time (s)	6.4	6.6	6.8	6.5	6.6	6.2	6.5	6.6	6.2	6.2	6.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	113	2441	109	3082	809	4498	3082	809	4498	4498	4498
v/s Ratio Prot	c0.02	0.06	0.00	c0.28	c0.18	0.27	c0.28	c0.18	0.27	0.27	0.27
v/s Ratio Perm	0.17	0.26	0.01	0.48	0.80	0.31	0.48	0.80	0.31	0.31	0.31
Uniform Delay, d1	81.0	2.1	79.5	20.3	65.3	2.2	20.3	65.3	2.2	2.2	2.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.1	0.1	0.0	0.5	5.6	0.2	0.5	5.6	0.2	0.2	0.2
Delay (s)	83.1	2.1	79.5	20.9	70.8	2.3	20.9	70.8	2.3	2.3	2.3
Level of Service	F	A	E	C	E	A	C	E	A	A	A
Approach Delay (s)	6.6	79.5	20.9	20.9	20.9	24.1	20.9	20.9	24.1	24.1	24.1
Approach LOS	A	E	E	C	E	C	C	E	C	C	C

Intersection Summary			
HCM Average Control Delay	19.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	84.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

5:00 pm Baseline

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HCM Signalized Intersection Capacity Analysis
22: W College Ave & Clarendon Ave

Future SAT 2015 Phase I
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SEB
Lane Configurations	136	326	23	5	312	157	48	113	2	193	137	110
Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	5.3	5.5	4.0	5.5	5.5	5.6	5.6	5.6	5.6	5.6	5.6	5.6
Total Lost time (s)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	1.00	1.00	0.85	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	1900	1615	1805	1794	1805	1883	1883	1805	1805	1767	1767
Flt Permitted	0.28	1.00	1.00	0.55	1.00	0.39	1.00	0.39	1.00	0.67	1.00	1.00
Satd. Flow (perm)	530	1900	1615	1054	1794	737	1883	1883	1279	1767	1767	1767
Peak-hour factor, PHF	0.66	0.95	0.81	0.25	0.93	0.79	0.82	0.92	0.25	0.88	0.94	0.86
Adj. Flow (vph)	206	343	28	20	335	199	59	123	8	219	146	128
RTOR Reduction (vph)	0	0	0	0	23	0	0	3	0	0	37	0
Lane Group Flow (vph)	206	343	28	20	511	0	59	128	0	219	237	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	Free	Free	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	5	2	6	6	4	8	4	8	4	8	8	8
Permitted Phases	2	Free	Free	6	4	18.8	18.8	18.8	18.8	18.8	18.8	18.8
Actuated Green, G (s)	56.1	56.1	86.0	41.3	41.3	41.3	18.8	18.8	18.8	18.8	18.8	18.8
Effective Green, g (s)	56.1	56.1	86.0	41.3	41.3	41.3	18.8	18.8	18.8	18.8	18.8	18.8
Actuated g/C Ratio	0.65	0.65	1.00	0.48	0.48	0.48	0.22	0.22	0.22	0.22	0.22	0.22
Clearance Time (s)	5.3	5.5	5.5	5.5	5.5	5.6	5.6	5.6	5.6	5.6	5.6	5.6
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	487	1239	1615	506	862	161	412	412	280	386	386	386
v/s Ratio Prot	c0.05	0.18	0.02	0.02	0.08	0.08	0.07	0.07	0.07	0.17	0.13	0.13
v/s Ratio Perm	0.42	0.28	0.02	0.04	0.59	0.37	0.31	0.31	0.31	0.78	0.61	0.61
Uniform Delay, d1	8.5	6.3	0.0	11.8	16.2	28.5	28.2	28.2	31.7	30.3	30.3	30.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.6	0.6	0.0	0.1	3.0	1.4	0.4	0.4	1.3	2.9	2.9	2.9
Delay (s)	9.1	6.9	0.0	12.0	19.2	30.0	28.6	28.6	44.9	33.2	33.2	33.2
Level of Service	A	A	A	B	B	C	C	C	D	D	D	D
Approach Delay (s)	7.4	A	A	B	B	19.0	29.0	29.0	38.4	38.4	38.4	38.4
Approach LOS	A	A	A	B	B	C	C	C	D	D	D	D

Intersection Summary			
HCM Average Control Delay	21.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	86.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	71.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

5:00 pm Baseline

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HCM Unsignalized Intersection Capacity Analysis
 23: Clarendon Ave & Laredo Dr
 Future SAT 2015 Phase I
 7/12/2012

Movement	NBL	NBT	SBT	SEL	SER	
Lane Configurations	131	285	270	23	218	
Volume (veh/h)						
Sign Control	Free	Free	Free	Stop	Stop	
Grade						
Peak Hour Factor	0.87	0.95	0.95	0.83	0.87	0.96
Hourly flow rate (vph)	151	300	284	31	34	227
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None	None				
Median storage (veh)						
Upstream signal (ft)		545				
pX, platoon unblocked						
vC, conflicting volume	316			901	300	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol	316			901	300	
vCu, unblocked vol	4.1			6.4	6.2	
IC, single (s)						
IC, 2 stage (s)	2.2			3.5	3.3	
IF (s)	88			87	69	
p0 queue free %						
cM capacity (veh/h)	1256			274	744	
Direction, Lane #	NB 1	NB 2	SB 1	SE 1		
Volume Total	151	300	316	261		
Volume Left	151	0	0	34		
Volume Right	0	0	31	227		
cSH	1256	1700	1700	607		
Volume to Capacity	0.12	0.18	0.19	0.43		
Queue Length 95th (ft)	10	0	0	54		
Control Delay (s)	8.3	0.0	0.0	15.3		
Lane LOS	A			C		
Approach Delay (s)	2.8		0.0	15.3		
Approach LOS				C		
Intersection Summary						
Average Delay			5.1			
Intersection Capacity Utilization			47.8%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 24: E Ponce De Leon & Annie St
 Future SAT 2015 Phase I
 7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	683	6	2	668	23	6	0	2	29	0	5
Volume (veh/h)												
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Grade												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	8	742	7	2	726	25	7	0	2	32	0	5
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None	None										
Median storage (veh)												
Upstream signal (ft)		319										
pX, platoon unblocked												
vC, conflicting volume	751			749			1134	1516	374	1132	1507	376
vC1, stage 1 conf vol												
vC2, stage 2 conf vol	751			693			1088	1480	309	1085	1470	376
vCu, unblocked vol	4.6			4.1			7.5	6.5	6.9	7.5	6.5	7.3
IC, single (s)												
IC, 2 stage (s)	2.4			2.2			3.5	4.0	3.3	3.5	4.0	3.5
IF (s)	99			100			96	100	100	81	100	99
p0 queue free %												
cM capacity (veh/h)	719			889			165	122	676	167	124	573
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	379	378	365	388	9	37						
Volume Left	8	0	2	0	7	32						
Volume Right	0	7	0	25	2	5						
cSH	719	1700	889	1700	204	187						
Volume to Capacity	0.01	0.22	0.00	0.23	0.04	0.20						
Queue Length 95th (ft)	1	0	0	0	3	18						
Control Delay (s)	0.3	0.0	0.1	0.0	23.4	29.0						
Lane LOS	A		A	A	C	D						
Approach Delay (s)	0.2		0.0	23.4	29.0							
Approach LOS				C	D							
Intersection Summary												
Average Delay				0.9								
Intersection Capacity Utilization				34.0%		ICU Level of Service						A
Analysis Period (min)				15								

HCM Signalized Intersection Capacity Analysis
25: E Ponce De Leon & Off Ramp 285

Future SAT 2015 Phase I
7/12/2012

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	EBL	EBT	WBT	WBR	SBL	SBR
Volume (vph)	303	524	272	246	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0		
Lane Util. Factor	1.00	1.00	0.95			
Flt Protected	0.95	1.00	1.00			
Satd. Flow (prot)	1752	1863	3326			
Flt Permitted	0.32	1.00	1.00			
Satd. Flow (perm)	596	1863	3326			
Peak-hour factor, PHF	0.93	0.95	0.97	0.90	0.92	0.92
Adj. Flow (vph)	326	552	280	273	0	0
RTOR Reduction (vph)	0	0	170	0	0	0
Lane Group Flow (vph)	326	552	383	0	0	0
Heavy Vehicles (%)	3%	2%	1%	0%	0%	0%
Turn Type	pm+pt					
Protected Phases	1	6	2			
Permitted Phases	6					
Actuated Green, G (s)	46.1	46.1	30.1			
Effective Green, g (s)	46.1	46.1	30.1			
Actuated g/C Ratio	0.98	0.98	0.38			
Clearance Time (s)	5.0	5.0	5.0			
Vehicle Extension (s)	3.0	5.0	5.0			
Lane Grp Cap (vph)	502	1074	1251			
v/s Ratio Prot	0.09	0.30	0.12			
v/s Ratio Perm	0.28					
v/c Ratio	0.65	0.51	0.31			
Uniform Delay, d1	9.8	10.2	17.6			
Progression Factor	1.04	1.00	1.00			
Incremental Delay, d2	2.5	1.5	0.6			
Delay (s)	12.7	11.7	18.2			
Level of Service	B	B	B			
Approach Delay (s)	12.1	18.2	0.0			
Approach LOS	B	B	A			
Intersection Summary						
HCM Average Control Delay			14.4	HCM Level of Service		B
HCM Volume to Capacity ratio			0.63			
Actuated Cycle Length (s)			80.0	Sum of lost time (s)		33.9
Intersection Capacity Utilization			73.1%	ICU Level of Service		D
Analysis Period (min)			15			
c Critical Lane Group						

5:00 pm Baseline

Synchro 7 - Report
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HCM Unsignalized Intersection Capacity Analysis
26: Church St & Off Ramp 285

Future SAT 2015 Phase I
7/12/2012

Movement	EBT	EBR	WBT	WBR	NBL	NBR
Lane Configurations	EBT	EBR	WBT	WBR	NBL	NBR
Volume (veh/h)	206	0	0	307	203	160
Sign Control	Free	Free	Free	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.86	0.92	0.92	0.94	0.91	0.90
Hourly flow rate (vph)	240	0	0	327	223	178
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume		240			566	240
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol		240			566	240
IC, single (s)		4.1			6.4	6.2
IC, 2 stage (s)						
IF (s)		2.2			3.5	3.3
p0 queue free %		100			54	78
dM capacity (veh/h)		1339			489	804
Direction, Lane #	EB 1	WB 1	NB 1	NB 2		
Volume Total	240	327	223	178		
Volume Left	0	0	223	0		
Volume Right	0	0	0	178		
cSH	1700	1700	489	804		
Volume to Capacity	0.14	0.19	0.46	0.22		
Queue Length 95th (ft)	0	0	59	21		
Control Delay (s)	0.0	0.0	18.4	10.7		
Lane LOS			C	B		
Approach Delay (s)	0.0	0.0	15.0			
Approach LOS			C			
Intersection Summary						
Average Delay			6.2			
Intersection Capacity Utilization			34.1%	ICU Level of Service		A
Analysis Period (min)			15			

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis
 27: Valley Brook Rd & Concord Dr
 Future SAT 2015 Phase I
 7/12/2012

Movement	NBL2	NBL	NBR	SEL	SER	SER2	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Volume (vph)	2	406	182	791	496	2	2	4	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.97	0.97	1.00	0.97	1.00	1.00	0.92	0.98	0.98	0.98	0.98
Flt Protected	1.00	0.95	1.00	0.85	1.00	0.85	1.00	0.92	0.98	0.98	0.98	0.98
Satd. Flow (prot)	1805	3395	3502	1615	1615	1615	1717	1717	1717	1717	1717	1717
Flt Permitted	0.46	0.97	0.95	1.00	0.95	1.00	0.98	0.98	0.98	0.98	0.98	0.98
Satd. Flow (perm)	882	3395	3502	1615	1615	1615	1717	1717	1717	1717	1717	1717
Peak-hour factor, PHF	0.92	0.90	0.87	0.95	0.93	0.58	0.75	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	451	209	833	533	3	3	0	4	0	0	0
RTOR Reduction (vph)	0	43	0	0	0	0	0	4	0	0	0	0
Lane Group Flow (vph)	2	617	0	833	536	0	0	3	0	0	0	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%
Turn Type	pm-pt			custom		Perm						
Protected Phases	5	2	1	6		8						
Permitted Phases	2			6		8						
Actuated Green, G (s)	18.7	18.2	18.3	36.0		0.8						
Effective Green, g (s)	18.7	18.2	18.3	36.0		0.8						
Actuated g/C Ratio	0.38	0.37	0.37	0.73		0.02						
Clearance Time (s)	4.0	4.0	4.0	4.0		4.0						
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0						
Lane Grp Cap (vph)	344	1253	1300	1179		28						
v/s Ratio Prot	0.00	0.18	c0.24	c0.33		0.00						
v/s Ratio Perm	0.00					0.11						
v/c Ratio	0.01	0.49	0.64	0.45		0.11						
Uniform Delay, d1	9.5	12.0	12.8	2.7		23.9						
Progression Factor	1.00	1.00	1.00	1.00		1.00						
Incremental Delay, d2	0.0	0.3	1.1	0.3		1.7						
Delay (s)	9.5	12.3	13.9	3.0		25.6						
Level of Service	A	B	B	A		C						
Approach Delay (s)		12.3	9.6			25.6						
Approach LOS		B	A			C						
Intersection Summary												
HCM Average Control Delay			10.5		HCM Level of Service		B					
HCM Volume to Capacity ratio			0.51									
Actuated Cycle Length (s)			49.3		Sum of lost time (s)		8.0					
Intersection Capacity Utilization			53.2%		ICU Level of Service		A					
Analysis Period (min)			15									
c Critical Lane Group												

5:00 pm Baseline

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HCM Unsignalized Intersection Capacity Analysis
 28: Commerce Dr & S Columbia Dr
 Future SAT 2015 Phase I
 7/12/2012

Intersection Sign configuration not allowed in HCM analysis.

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis 38: N Decatur Rd & Glendale Rd

Future SAT 2015 Phase I
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	2	0	2	0	0	0	2	0	0	0	0	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1770	3008	1770	3008	1770	3008	1770	3008	1770	3008	1770	3008
Flt Permitted	0.76	1.00	0.76	1.00	0.76	1.00	0.76	1.00	0.76	1.00	0.76	1.00
Satd. Flow (perm)	1410	3008	1410	3008	1410	3008	1410	3008	1410	3008	1410	3008
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	0	2	0	0	0	2	0	0	0	0	2
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	0	0	0	1
Lane Group Flow (vph)	2	1	0	0	0	0	2	0	0	0	1	0
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	4	4	4	8	8	8	2	2	2	2	6	6
Permitted Phases	4	4	4	8	8	8	2	2	2	2	6	6
Actuated Green, G (s)	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
Effective Green, g (s)	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
Actuated g/C Ratio	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	564	1203	564	564	564	564	564	564	564	564	564	564
v/s Ratio Prot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
v/s Ratio Perm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
v/c Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay, d1	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay (s)	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2
Level of Service	A	A	A	A	A	A	A	A	A	A	A	A
Approach Delay (s)	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2
Approach LOS	A	A	A	A	A	A	A	A	A	A	A	A

Intersection Summary		
HCM Average Control Delay	7.2	HCM Level of Service
HCM Volume to Capacity ratio	0.00	
Actuated Cycle Length (s)	40.0	Sum of lost time (s)
Intersection Capacity Utilization	13.3%	ICU Level of Service
Analysis Period (min)	15	

c Critical Lane Group

5:00 pm Baseline

Synchro 7 - Report
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HCM Unsignalized Intersection Capacity Analysis 43: DeKalb Industrial Way &

Future SAT 2015 Phase I
7/12/2012

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	WBL	WBR	NBT	NBR	SBL	SBT
Volume (veh/h)	22	34	604	24	36	588
Sign Control	Stop	Free	Free	Free	Free	Free
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	24	37	657	26	39	639
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
Median storage (veh)						
Upstream signal (ft)	0.94	0.94	455	0.94	0.94	0.94
pX, platoon unblocked	1067	341	683	1067	341	683
vC, conflicting volume	670	670	670	670	670	670
vC2, stage 1 conf vol	398	398	398	398	398	398
vCu, unblocked vol	933	157	522	933	157	522
IC, single (s)	6.8	6.9	4.1	6.8	6.9	4.1
IC, 2 stage (s)	5.8	5.8	2.2	5.8	5.8	2.2
IF (s)	3.5	3.3	95	3.5	3.3	95
p0 queue free %	95	95	95	95	95	95
dM capacity (veh/h)	448	805	973	448	805	973
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 3
Volume Total	24	37	438	245	39	320
Volume Left	24	0	0	0	39	0
Volume Right	0	37	0	26	0	0
cSH	448	805	1700	973	1700	1700
Volume to Capacity	0.05	0.05	0.26	0.14	0.04	0.19
Queue Length 95th (ft)	4	4	0	0	3	0
Control Delay (s)	13.5	9.7	0.0	0.0	8.9	0.0
Lane LOS	B	A	A	A	A	A
Approach Delay (s)	11.2	0.0	0.0	0.5		
Approach LOS	B					

Intersection Summary		
Average Delay	0.7	ICU Level of Service
Intersection Capacity Utilization	34.1%	A
Analysis Period (min)	15	

5:00 pm Baseline

Synchro 7 - Report
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HCM Unsignalized Intersection Capacity Analysis
59: W College Ave & S Columbia Dr

Future SAT 2015 Phase I
7/12/2012

Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	4P	4P	4P	4P	4P	4P	
Volume (veh/h)	628	45	69	591	0	0	
Sign Control	Free	Free	Free	Stop	0%	0%	
Grade	0%	0%	0%	0%	0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	683	49	75	642	0	0	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	None			None			
Median storage (veh)							
Upstream signal (ft)	1136			400	0.95	0.98	
pX, platoon unblocked							
vC, conflicting volume	732			1178	366		
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	687			996	314		
IC, single (s)	4.1			6.8	6.9		
IC, 2 stage (s)							
IF (s)	2.2			3.5	3.3		
p0 queue free %	92			100	100		
cM capacity (veh/h)	885			210	668		
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1		
Volume Total	455	276	289	428	0		
Volume Left	0	0	75	0	0		
Volume Right	0	49	0	0	0		
cSH	1700	1700	885	1700	1700		
Volume to Capacity	0.27	0.16	0.08	0.25	0.00		
Queue Length 95th (ft)	0	0	7	0	0		
Control Delay (s)	0.0	0.0	3.1	0.0	0.0		
Lane LOS	A	A	A	A	A		
Approach Delay (s)	0.0	1.3		0.0			
Approach LOS					A		
Intersection Summary							
Average Delay	0.6						
Intersection Capacity Utilization	43.8%					ICU Level of Service	A
Analysis Period (min)	15						

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis
66: Glendale Rd & Church St

Future SAT 2015 Phase I
7/12/2012

Movement	NBL	NBR	SEL	SER	NEL	NET	NER	SWL	SWT	SWR	
Lane Configurations											
Volume (vph)	0	0	20	0	0	0	2	0	0	22	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	5.5							6.5	6.5		
Lane Util. Factor	1.00							1.00	1.00		
Frt	1.00							0.86	0.86		
Flt Protected	0.95							1.00	1.00		
Satd. Flow (prot)	1770							1611	1611		
Flt Permitted	0.51							1.00	1.00		
Satd. Flow (perm)	957							1611	1611		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	0	0	22	0	0	0	2	0	0	24	
RTOR Reduction (vph)	0	0	0	0	0	0	1	0	0	9	
Lane Group Flow (vph)	0	0	22	0	0	0	1	0	0	15	
Turn Type	custom Perm										
Protected Phases	4	3	8	2	2	6					
Permitted Phases	8 6										
Actuated Green, G (s)	20.3 56.7										
Effective Green, g (s)	20.3 56.7										
Actuated g/C Ratio	0.23 0.63										
Clearance Time (s)	5.5 6.5										
Vehicle Extension (s)	3.0 5.5										
Lane Grp Cap (vph)	245 1015										
v/s Ratio Prot	c0.00 0.00										
v/s Ratio Perm	c0.02 0.01										
v/c Ratio	0.09 0.01										
Uniform Delay, d1	27.5 6.2										
Progression Factor	1.19 1.00										
Incremental Delay, d2	0.2 0.0										
Delay (s)	32.9 6.2										
Level of Service	C A										
Approach Delay (s)	0.0 32.9 6.2										
Approach LOS	A A										
Intersection Summary											
HCM Average Control Delay	18.5 HCM Level of Service										
HCM Volume to Capacity ratio	0.03 B										
Actuated Cycle Length (s)	90.0 Sum of lost time (s)										
Intersection Capacity Utilization	26.7% ICU Level of Service										
Analysis Period (min)	15 A										
Critical Lane Group											

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis
73: E Ponce De Leon & Future SAT 2015 Phase I
7/12/2012

Movement	NBL	NBR	SEL	SER	SWL	SWR
Lane Configurations	↔↔	↔↔	↔	↔	↔↔	↔
Volume (vph)	225	431	22	45	619	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.88	1.00	1.00	0.97	1.00
Frt	1.00	0.85	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3433	2787	1770	1583	3433	1583
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3433	2787	1770	1583	3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	245	468	24	49	673	26
RTOR Reduction (vph)	0	281	0	29	0	16
Lane Group Flow (vph)	245	187	24	20	673	10
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	2!	6!			8	
Permitted Phases		2		6		8
Actuated Green, G (s)	16.0	16.0	16.0	16.0	16.0	16.0
Effective Green, g (s)	16.0	16.0	16.0	16.0	16.0	16.0
Actuated g/C Ratio	0.40	0.40	0.40	0.40	0.40	0.40
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	1373	1115	708	633	1373	633
v/s Ratio Prot	c0.07		0.01		c0.20	
v/s Ratio Perm		0.07		0.01		0.01
v/c Ratio	0.18	0.17	0.03	0.03	0.49	0.02
Uniform Delay, d1	7.8	7.7	7.3	7.3	9.0	7.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3	0.3	0.1	0.1	1.3	0.0
Delay (s)	8.0	8.0	7.4	7.4	10.2	7.3
Level of Service	A	A	A	A	B	A
Approach Delay (s)	8.0		7.4		10.1	
Approach LOS	A		A		B	
Intersection Summary						
HCM Average Control Delay	9.0			HCM Level of Service		
HCM Volume to Capacity ratio	0.33			A		
Actuated Cycle Length (s)	40.0			Sum of lost time (s)		
Intersection Capacity Utilization	37.4%			ICU Level of Service		
Analysis Period (min)	15			A		
i Phase conflict between lane groups.						
c Critical Lane Group						

5:00 pm Baseline

HCM Signalized Intersection Capacity Analysis
21: Dekalb Industrial Way & Future Sat 2015 Phase I with Recommendations
7/12/2012

Movement	NBL2	NBL	NBR	SEL	SER	NEL	NET	SWL	SWT	SWR
Lane Configurations										
Volume (vph)	36	0	663	1	0	0	1403	41	621	1347
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4		6.6	6.8			6.5	6.6	6.2	
Lane Util. Factor	1.00		0.88	1.00			0.91	0.97	0.91	
Frbp, ped/bikes	1.00		0.99	1.00			1.00	1.00	1.00	
Fipb, ped/bikes	1.00		1.00	1.00			1.00	1.00	1.00	
Frt	1.00		0.85	1.00			0.99	1.00	1.00	
Flt Protected	0.95		1.00	0.95			1.00	0.95	1.00	
Satd. Flow (prot)	1805		2816	1805			5157	3502	5187	
Flt Permitted	0.95		1.00	0.95			1.00	0.95	1.00	
Satd. Flow (perm)	1805		2816	1805			5157	3502	5187	
Peak-hour factor, PHF	0.83	0.25	0.90	0.92	0.92	0.92	0.99	0.80	0.96	0.97
Adj. Flow (vph)	43	0	737	1	0	0	1417	51	647	1389
RTOR Reduction (vph)	0	0	195	0	0	0	5	0	0	0
Lane Group Flow (vph)	43	0	542	1	0	0	1463	0	647	1389
Confl. Peds. (#/hr)	3		3	2		2	3	3		
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	Prot	custom					Prot		
Protected Phases	8		5	4			6	5	2	
Permitted Phases			2							
Actuated Green, G (s)	8.6		58.8	8.2			33.7	18.2	58.8	
Effective Green, g (s)	8.6		58.8	8.2			33.7	18.2	58.8	
Actuated g/C Ratio	0.11		0.74	0.10			0.42	0.23	0.74	
Clearance Time (s)	6.4		6.6	6.8			6.5	6.6	6.2	
Vehicle Extension (s)	3.0		3.0	3.0			5.0	3.0	4.8	
Lane Grp Cap (vph)	194		2070	185			2172	797	3812	
v/s Ratio Prot	c0.02		0.06	0.00			c0.28	c0.18	0.27	
v/s Ratio Perm			0.13							
v/c Ratio	0.22		0.26	0.01			0.67	0.81	0.36	
Uniform Delay, d1	32.6		3.5	32.2			18.7	29.3	3.8	
Progression Factor	1.00		1.00	1.00			1.00	1.00	1.00	
Incremental Delay, d2	0.6		0.1	0.0			1.7	6.3	0.3	
Delay (s)	33.2		3.5	32.2			20.4	35.6	4.1	
Level of Service	C		A	C			C	D	A	
Approach Delay (s)	5.2		32.2				20.4		14.1	
Approach LOS	A		C				C		B	
Intersection Summary										
HCM Average Control Delay	14.6					HCM Level of Service				
HCM Volume to Capacity ratio	0.65					B				
Actuated Cycle Length (s)	80.0					Sum of lost time (s)				
Intersection Capacity Utilization	84.8%					ICU Level of Service				
Analysis Period (min)	15					E				
c Critical Lane Group										

5:00 pm Baseline

HCM Signalized Intersection Capacity Analysis
 Future PM 2023 Phase II
 7/12/2012
 1: E Ponce De Leon & Laredo Dr

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL2	NBL	SBL	SER	SER2	
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL2	NBL	SBL	SER	SER2	
Volume (vph)	136	406	152	34	280	225	67	96	77	322	131	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp. ped/bikes	1.00	0.95	1.00	1.00	1.00	0.85	1.00	0.93	1.00	0.85	0.85	0.85
Fit Protected	0.95	1.00	0.95	1.00	1.00	0.95	0.97	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	3415	1732	3574	1589	1805	1721	1805	1615	1615	1615	1615
Fit Permitted	0.41	1.00	0.31	1.00	1.00	0.95	0.97	0.95	1.00	1.00	1.00	1.00
Satd. Flow (perm)	772	3415	564	3574	1589	1805	1721	1805	1615	1615	1615	1615
Peak-hour factor, PHF	0.80	0.97	0.78	0.75	0.92	0.86	0.71	0.79	0.71	0.83	0.69	0.88
Adj. Flow (vph)	170	419	195	45	304	262	94	122	108	388	190	233
RTOR Reduction (vph)	0	34	0	0	0	0	0	0	20	0	0	0
Lane Group Flow (vph)	170	580	0	45	304	262	94	210	0	388	190	233
Confl. Peds. (#/hr)	0	13	0	13	0	0	0	0	0	13	0	0
Heavy Vehicles (%)	0%	1%	0%	4%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	Free Split	Free Split	Prot	Free	Prot	Free
Permitted Phases	5	2	1	6	6	8	8	8	4	4	4	4
Actuated Green, G (s)	46.1	32.8	34.2	26.4	118.8	20.8	20.8	20.8	35.4	35.4	118.8	118.8
Effective Green, g (s)	46.1	32.8	34.2	26.4	118.8	20.8	20.8	20.8	35.4	35.4	118.8	118.8
Actuated g/C Ratio	0.39	0.28	0.29	0.22	1.00	0.18	0.18	0.18	0.30	0.30	1.00	1.00
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Vehicle Extension (s)	3.0	5.0	3.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	423	943	239	794	1589	316	301	538	481	1615	1615	1615
v/s Ratio Prot	c0.05	c0.17	0.01	0.09	0.16	0.05	c0.12	0.21	0.12	0.12	0.12	0.12
v/s Ratio Perm	0.11	0.40	0.62	0.19	0.38	0.16	0.30	0.70	0.72	0.40	0.14	0.14
Uniform Delay, d1	25.0	37.5	31.1	39.3	0.0	42.6	46.1	37.3	33.2	0.0	33.2	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.6	1.7	0.4	0.6	0.2	0.7	7.4	5.1	0.7	0.2	0.2	0.2
Delay (s)	25.6	39.2	31.5	39.9	0.2	43.4	53.5	42.3	33.9	0.2	33.9	0.2
Level of Service	C	D	C	D	A	D	D	D	D	C	A	A
Approach Delay (s)	36.3	22.3	22.3	50.5	28.3	28.3	28.3	28.3	28.3	28.3	28.3	28.3
Approach LOS	D	D	D	C	C	C	D	D	D	C	C	C

Intersection Summary				C
HCM Average Control Delay	32.1	HCM Level of Service		C
HCM Volume to Capacity ratio	0.67			
Actuated Cycle Length (s)	118.8	Sum of lost time (s)		22.0
Intersection Capacity Utilization	73.8%	ICU Level of Service		D
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
 Future PM 2023 Phase II
 7/12/2012
 2: E Ponce De Leon &

Movement	EBL	EBR	NBL	NBR	SBL	SBT	SBR	NWL2	NWL	NWR	
Lane Configurations	EBL	EBR	NBL	NBR	SBL	SBT	SBR	NWL2	NWL	NWR	
Volume (vph)	1	1	0	691	174	316	477	0	41	2	225
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	4.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00
Fit Protected	0.93	0.98	1.00	0.85	1.00	1.00	0.98	1.00	0.89	0.99	0.99
Fit Permitted	0.98	1.00	1.00	1.00	1.00	1.00	0.98	1.00	0.99	0.99	0.99
Satd. Flow (prot)	1729	1863	1615	1863	1615	3477	1668	1668	1668	1668	1668
Fit Permitted	0.98	1.00	1.00	1.00	1.00	0.54	0.99	0.99	0.99	0.99	0.99
Satd. Flow (perm)	1729	1863	1615	1863	1615	1911	1668	1668	1668	1668	1668
Peak-hour factor, PHF	0.25	0.25	0.25	0.94	0.90	0.95	0.91	0.92	0.65	0.25	0.89
Adj. Flow (vph)	4	4	0	735	193	333	524	0	63	8	253
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	114	0
Lane Group Flow (vph)	8	0	0	735	193	0	857	0	0	210	0
Heavy Vehicles (%)	0%	0%	0%	2%	0%	0%	3%	0%	0%	0%	1%
Turn Type	4!	2	Free	Free	6	6	8!	8	8!	8!	8!
Permitted Phases	15.2	36.9	64.1	36.9	64.1	36.9	15.2	15.2	15.2	15.2	15.2
Actuated Green, G (s)	15.2	36.9	64.1	36.9	64.1	36.9	15.2	15.2	15.2	15.2	15.2
Effective Green, g (s)	0.24	0.58	1.00	0.58	1.00	0.58	0.24	0.24	0.24	0.24	0.24
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	410	1072	1615	1072	1615	1100	386	386	386	386	386
v/s Ratio Prot	0.00	0.39	0.12	c0.45	1.23d!	0.53	0.53	0.53	0.53	0.53	0.53
v/s Ratio Perm	0.02	0.69	0.12	1.23d!	1.23d!	1.05	21.3	21.3	21.3	21.3	21.3
Uniform Delay, d1	18.7	9.5	0.0	10.5	10.5	10.5	21.3	21.3	21.3	21.3	21.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.0	1.8	0.2	3.6	3.6	3.6	1.4	1.4	1.4	1.4	1.4
Delay (s)	18.8	11.4	0.2	14.0	14.0	14.0	22.7	22.7	22.7	22.7	22.7
Level of Service	B	B	A	B	B	B	C	C	C	C	C
Approach Delay (s)	18.8	9.0	14.0	14.0	14.0	22.7	22.7	22.7	22.7	22.7	22.7
Approach LOS	B	A	A	B	B	C	C	C	C	C	C

Intersection Summary			
HCM Average Control Delay	13.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	64.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	101.7%	ICU Level of Service	G
Analysis Period (min)	15		
d Defacto Left Lane. Recode with 1 though lane as a left lane.			
l Phase conflict between lane groups.			
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

3: E Ponce De Leon & Dekalb Industrial Way

Future PM 2023 Phase II
7/12/2012

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations	48	692	9	1	493	101	153	15	47	25	15	12
Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	5.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Total Lost time (s)	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.99	1.00	1.00	1.00	1.00
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.99	1.00	1.00	1.00	1.00
Flpb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	1.00	1.00	0.97	1.00	0.89	1.00	0.89	0.97	0.97	0.97	0.97
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.98	0.98	0.98	0.98
Satd. Flow (prot)	1805	3559	1805	3473	1805	1681	1797	1797	1797	1797	1797	1797
Flt Permitted	0.27	1.00	0.37	1.00	0.37	1.00	0.71	1.00	0.87	0.87	0.87	0.87
Satd. Flow (perm)	517	3559	699	3473	1347	1681	1599	1599	1599	1599	1599	1599
Peak-hour factor, PHF	0.67	0.95	0.44	0.25	0.97	0.78	0.56	0.50	0.63	0.83	0.60	0.63
Adj. Flow (vph)	72	728	20	4	508	129	273	30	75	30	25	19
RTOR Reduction (vph)	0	2	0	0	17	0	0	50	0	0	8	0
Lane Group Flow (vph)	72	746	0	4	620	0	273	55	0	0	66	0
Confl. Peds. (#/hr)	1	1	1	1	1	1	1	1	1	1	1	1
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	pm+pt	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	1	6	6	2	2	4	4	4	4	8	8	8
Permitted Phases	6	6	6	2	2	4	4	4	4	8	8	8
Actuated Green, G (s)	35.5	35.5	24.1	24.1	24.1	23.8	23.8	23.8	23.8	23.8	23.8	23.8
Effective Green, g (s)	35.5	35.5	24.1	24.1	24.1	23.8	23.8	23.8	23.8	23.8	23.8	23.8
Actuated g/C Ratio	0.50	0.50	0.34	0.34	0.34	0.33	0.33	0.33	0.33	0.33	0.33	0.33
Clearance Time (s)	5.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	373	1772	236	1174	450	561	534	534	534	534	534	534
v/s Ratio Prot	0.02	c0.21	0.01	c0.18	0.01	c0.20	0.03	0.03	0.03	0.04	0.04	0.04
v/s Ratio Perm	0.08	0.19	0.42	0.02	0.53	0.10	0.10	0.10	0.12	0.12	0.12	0.12
Uniform Delay, d1	10.1	11.4	15.7	19.0	19.8	16.4	16.4	16.4	16.5	16.5	16.5	16.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3	0.3	0.1	0.8	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Delay (s)	10.4	11.7	15.8	19.8	20.1	16.6	16.6	16.6	16.7	16.7	16.7	16.7
Level of Service	B	B	B	B	B	B	B	B	B	B	B	B
Approach Delay (s)	11.6	11.6	19.8	19.8	21.4	21.4	21.4	21.4	21.4	16.7	16.7	16.7
Approach LOS	B	B	B	B	B	C	C	C	C	B	B	B

Intersection Summary			
HCM Average Control Delay	16.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	71.3	Sum of lost time (s)	18.0
Intersection Capacity Utilization	62.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

4: E Ponce De Leon & Arcadia Ave

Future PM 2023 Phase II
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SEB
Lane Configurations	48	443	264	327	246	36	126	660	280	22	996	109
Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	6.0	6.0	6.0	4.4	6.0	6.0	5.7	6.2	5.8	5.8	5.8	4.0
Total Lost time (s)	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Lane Util. Factor	1.00	0.99	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00
Flpb. ped/bikes	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.94	1.00	0.98	1.00	0.98	1.00	0.95	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1790	3349	1787	3484	1805	3393	1802	3610	1593	1593	1593	1593
Flt Permitted	0.56	1.00	0.12	1.00	0.07	1.00	0.22	1.00	0.22	1.00	1.00	1.00
Satd. Flow (perm)	1057	3349	220	3484	142	3393	423	3610	1593	1593	1593	1593
Peak-hour factor, PHF	0.89	0.93	0.87	0.94	0.93	0.73	0.87	0.96	0.80	0.75	0.95	0.86
Adj. Flow (vph)	234	476	303	348	265	49	145	688	350	29	1048	127
RTOR Reduction (vph)	0	73	0	0	11	0	0	46	0	0	0	0
Lane Group Flow (vph)	234	706	0	348	303	0	145	992	0	29	1048	127
Confl. Peds. (#/hr)	5	4	3	4	4	4	4	4	3	4	4	5
Heavy Vehicles (%)	0%	1%	0%	1%	0%	0%	0%	0%	1%	0%	0%	0%
Turn Type	Perm	Perm	2	2	1	6	pm+pt	pm+pt	Perm	Perm	Perm	Free
Protected Phases	2	2	1	6	6	3	8	8	4	4	4	4
Permitted Phases	2	2	1	6	6	3	8	8	4	4	4	4
Actuated Green, G (s)	38.0	38.0	62.0	62.0	62.0	65.8	65.8	65.8	49.6	49.6	49.6	140.0
Effective Green, g (s)	38.0	38.0	62.0	62.0	62.0	65.8	65.8	65.8	49.6	49.6	49.6	140.0
Actuated g/C Ratio	0.27	0.27	0.44	0.44	0.44	0.47	0.47	0.47	0.35	0.35	0.35	1.00
Clearance Time (s)	6.0	6.0	4.4	6.0	6.0	5.7	6.2	6.2	5.8	5.8	5.8	3.0
Vehicle Extension (s)	5.0	5.0	3.5	5.0	5.0	3.5	3.5	3.5	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	287	909	317	1543	1543	196	1595	150	1279	1593	1593	1593
v/s Ratio Prot	0.22	0.21	c0.15	0.09	0.09	0.06	c0.29	0.07	0.07	0.07	0.07	0.08
v/s Ratio Perm	0.82	0.78	1.10	0.20	0.20	0.74	0.62	0.62	0.19	0.82	0.82	0.08
Uniform Delay, d1	47.7	47.1	40.3	23.8	23.8	29.8	27.8	27.8	31.3	41.1	41.1	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	21.9	6.5	79.4	0.3	0.3	14.0	1.8	1.8	2.9	5.9	5.9	0.1
Delay (s)	69.6	53.6	119.6	24.1	24.1	43.8	29.6	29.6	34.2	47.1	47.1	0.1
Level of Service	E	D	F	C	C	D	C	C	C	D	D	A
Approach Delay (s)	57.3	57.3	74.3	74.3	74.3	31.4	31.4	31.4	41.8	41.8	41.8	41.8
Approach LOS	E	E	E	E	E	C	C	C	D	D	D	D

Intersection Summary			
HCM Average Control Delay	47.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	91.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
5: N Decatur Rd & E Ponce De Leon

Future PM 2023 Phase II
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	NBR2	SWL2	SWL	SWR
Lane Configurations	4	4	4	4	4	4	4	4	4	4	4	4
Volume (vph)	177	1001	82	89	451	131	79	751	126	219	622	178
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.88	1.00	0.88	1.00	0.97	1.00	0.97
Flpb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99
Flpb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96
Flt	1.00	0.98	1.00	0.99	1.00	0.95	1.00	0.85	1.00	0.96	1.00	0.96
Flt Protected	0.95	1.00	0.99	0.99	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.97
Satd. Flow (prot)	1805	3548	3460	3460	1805	2838	1805	2838	1805	3378	1805	3378
Flt Permitted	0.22	1.00	0.60	0.60	0.95	1.00	0.95	1.00	0.95	0.97	0.95	0.97
Satd. Flow (perm)	415	3548	2086	2086	1805	2838	1805	2838	1805	3378	1805	3378
Peak-hour factor, PHF	0.86	0.95	0.67	0.79	0.94	0.85	0.82	0.93	0.91	0.79	0.95	0.66
Adj. Flow (vph)	206	1054	122	113	480	154	96	808	138	277	655	270
RTOR Reduction (vph)	0	9	0	0	28	0	0	16	0	0	58	0
Lane Group Flow (vph)	206	1167	0	0	719	0	96	930	0	277	867	0
Confl. Peds. (#/hr)	4	5	6	5	5	5	5	6	5	5	5	4
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%
Turn Type	pm-pt	pm-pt	pm-pt	pm-pt	pm-pt	pm-pt	Prot	Prot	custom	custom	4!	4!
Protected Phases	5	2	1	6	8!	8!	8!	8!	4!	4!	4!	4!
Permitted Phases	2	41.5	41.5	29.3	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5
Actuated Green, G (s)	41.5	41.5	29.3	29.3	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5
Effective Green, g (s)	41.5	41.5	29.3	29.3	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5
Actuated g/C Ratio	0.52	0.52	0.37	0.37	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Vehicle Extension (s)	3.0	8.0	8.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	332	1841	764	620	976	620	976	620	1161	620	1161	620
v/s Ratio Prot	0.05	c0.33	0.05	c0.33	0.05	c0.33	0.05	c0.33	0.15	0.15	0.26	0.26
v/s Ratio Perm	0.27	0.62	0.63	0.94	0.94	0.15	0.95	0.95	0.45	0.45	0.75	0.75
Uniform Delay, d1	12.2	13.8	12.2	13.8	12.2	13.8	12.2	13.8	20.4	23.2	23.2	23.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.6	1.7	18.5	18.5	0.2	18.6	0.2	18.6	0.7	2.8	2.8	2.8
Delay (s)	15.8	15.5	28.2	28.2	18.4	44.2	18.4	44.2	21.1	26.0	26.0	26.0
Level of Service	B	B	C	C	B	D	B	D	C	C	C	C
Approach Delay (s)	15.5	28.2	28.2	28.2	41.8	24.9	41.8	24.9	24.9	24.9	24.9	24.9
Approach LOS	B	B	C	C	D	C	D	C	C	C	C	C
Intersection Summary												
HCM Average Control Delay	26.5											
HCM Volume to Capacity ratio	0.94											
Actuated Cycle Length (s)	80.0											
Intersection Capacity Utilization	101.9%											
Analysis Period (min)	15											
i Phase conflict between lane groups.												
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
6: Valley Brook Rd & E Ponce De Leon

Future PM 2023 Phase II
7/12/2012

Movement	SBL	SBR	NEL	NET	SWT	SWR
Lane Configurations	4	4	4	4	4	4
Volume (vph)	114	440	374	660	576	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	4.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Flpb. ped/bikes	1.00	0.99	1.00	1.00	1.00	0.99
Flpb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.85	1.00	1.00	0.98	1.00
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1805	1591	1805	1900	1851	1851
Flt Permitted	0.95	1.00	0.11	1.00	1.00	1.00
Satd. Flow (perm)	1805	1591	208	1900	1851	1851
Peak-hour factor, PHF	0.85	0.95	0.87	0.96	0.90	0.76
Adj. Flow (vph)	134	463	430	688	640	109
RTOR Reduction (vph)	0	0	0	0	5	0
Lane Group Flow (vph)	134	463	430	688	744	0
Confl. Peds. (#/hr)	7	10	10	10	7	7
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	Free	Free	pm-pt	pm-pt	pm-pt	pm-pt
Protected Phases	4	1	6	2	2	2
Permitted Phases	Free	Free	6	6	6	6
Actuated Green, G (s)	20.3	130.0	97.7	97.7	62.0	62.0
Effective Green, g (s)	20.3	130.0	97.7	97.7	62.0	62.0
Actuated g/C Ratio	0.16	1.00	0.75	0.75	0.48	0.48
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	8.0	8.0	8.0	8.0
Lane Grp Cap (vph)	282	1591	521	1428	883	883
v/s Ratio Prot	c0.07	c0.19	0.36	0.40	0.40	0.40
v/s Ratio Perm	0.29	0.29	0.83	0.48	0.84	0.84
Uniform Delay, d1	50.0	0.0	33.5	6.3	29.7	29.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.7	0.5	10.3	1.2	9.6	9.6
Delay (s)	51.7	0.5	43.8	7.5	39.4	39.4
Level of Service	D	A	D	A	D	D
Approach Delay (s)	12.0	21.4	21.4	39.4	39.4	39.4
Approach LOS	B	C	C	D	D	D
Intersection Summary						
HCM Average Control Delay	24.6					
HCM Volume to Capacity ratio	0.74					
Actuated Cycle Length (s)	130.0					
Intersection Capacity Utilization	88.5%					
Analysis Period (min)	15					
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis
7: Glendale Rd & E Ponce De Leon
Future PM 2023 Phase II
7/12/2012

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations	↔	↔	↔	↔	↔	↔
Volume (vph)	180	214	651	308	102	512
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	4.0	6.5	4.0	6.5	6.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	0.99	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1805	1580	1900	1593	1768	1900
Flt Permitted	0.95	1.00	1.00	1.00	0.26	1.00
Satd. Flow (perm)	1805	1580	1900	1593	486	1900
Peak-hour factor, PHF	0.91	0.73	0.93	0.85	0.85	0.94
Adj. Flow (vph)	198	293	700	362	120	545
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	198	293	700	362	120	545
Confl. Peds. (#/hr)	5	4	5	5	4	4
Heavy Vehicles (%)	0%	0%	0%	0%	2%	0%
Turn Type	Free	Free	2	Free	Perm	Perm
Protected Phases	4	2	2	6	6	6
Permitted Phases	Free	Free	Free	Free	6	6
Actuated Green, G (s)	15.0	90.0	51.7	90.0	51.7	51.7
Effective Green, g (s)	15.0	90.0	51.7	90.0	51.7	51.7
Actuated g/C Ratio	0.17	1.00	0.57	1.00	0.57	0.57
Clearance Time (s)	6.5	6.5	6.5	6.5	6.5	6.5
Vehicle Extension (s)	3.0	5.5	5.5	5.5	5.5	5.5
Lane Grp Cap (vph)	301	1580	1091	1593	279	1091
v/s Ratio Prot	c0.11	c0.37	c0.37	c0.23	0.25	0.29
v/s Ratio Perm	0.66	0.19	0.64	0.23	0.43	0.50
Uniform Delay, d1	35.1	0.0	12.9	0.0	10.8	11.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.1	0.3	2.9	0.3	4.8	1.6
Delay (s)	40.2	0.3	15.8	0.3	15.6	13.1
Level of Service	D	A	B	A	B	B
Approach Delay (s)	16.4	10.5	10.5	13.5	13.5	13.5
Approach LOS	B	B	B	B	B	B
Intersection Summary						
HCM Average Control Delay	12.7			HCM Level of Service		
HCM Volume to Capacity ratio	0.59			B		
Actuated Cycle Length (s)	90.0			Sum of lost time (s)		
Intersection Capacity Utilization	71.1%			ICU Level of Service		
Analysis Period (min)	15			C		
Critical Lane Group						

HCM Signalized Intersection Capacity Analysis
8: McLendon Dr & E Ponce De Leon
Future PM 2023 Phase II
7/12/2012

Movement	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations	↔	↔	↔	↔	↔	↔
Volume (vph)	266	111	99	714	639	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	4.0	6.0	6.0	6.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1805	1580	1805	1900	1900	1580
Flt Permitted	0.95	1.00	0.22	1.00	1.00	1.00
Satd. Flow (perm)	1805	1580	423	1900	1900	1580
Peak-hour factor, PHF	0.91	0.84	0.88	0.84	0.92	0.80
Adj. Flow (vph)	292	132	112	850	695	100
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	292	132	112	850	695	100
Confl. Peds. (#/hr)	3	3	3			3
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	Free	Free	pm+pt			Free
Protected Phases	8	1	6	2		
Permitted Phases	Free	Free				Free
Actuated Green, G (s)	25.9	123.0	85.1	85.1	69.6	123.0
Effective Green, g (s)	25.9	123.0	85.1	85.1	69.6	123.0
Actuated g/C Ratio	0.21	1.00	0.69	0.69	0.57	1.00
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	4.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	380	1580	399	1315	1075	1580
v/s Ratio Prot	c0.16	0.02	0.02	c0.45	0.37	
v/s Ratio Perm	0.08	0.08	0.17			0.06
v/c Ratio	0.77	0.08	0.28	0.65	0.65	0.06
Uniform Delay, d1	45.7	0.0	11.6	10.6	18.3	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.6	0.1	0.8	2.5	3.0	0.1
Delay (s)	55.3	0.1	12.4	13.0	21.3	0.1
Level of Service	E	A	B	B	C	A
Approach Delay (s)	38.1			13.0	18.6	
Approach LOS	D			B	B	
Intersection Summary						
HCM Average Control Delay	19.9			HCM Level of Service		
HCM Volume to Capacity ratio	0.67			B		
Actuated Cycle Length (s)	123.0			Sum of lost time (s)		
Intersection Capacity Utilization	69.6%			12.0		
Analysis Period (min)	15			C		
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis
9: E Ponce De Leon & Off Ramp 285

Future PM 2023 Phase II
7/12/2012

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		←	←	←	←	←
Volume (vph)	0	708	317	0	383	361
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.5	5.5
Lane Util. Factor		1.00	0.95	1.00	1.00	1.00
Frt		1.00	1.00	1.00	0.85	1.00
Satd. Flow (prot)		1900	3610		1805	1599
Flt Permitted		1.00	1.00		0.95	1.00
Satd. Flow (perm)		1900	3610		1805	1599
Peak-hour factor, PHF	0.92	0.91	0.78	0.92	0.87	0.87
Adj. Flow (vph)	0	778	406	0	440	415
RTOR Reduction (vph)	0	0	0	0	0	308
Lane Group Flow (vph)	0	778	406	0	440	107
Heavy Vehicles (%)	0%	0%	0%	0%	0%	1%
Turn Type		6	2		8	Perm
Protected Phases						
Permitted Phases						8
Actuated Green, G (s)		48.9	33.9		20.6	20.6
Effective Green, g (s)		48.9	33.9		20.6	20.6
Actuated g/C Ratio		0.61	0.42		0.26	0.26
Clearance Time (s)		5.0	5.0		5.5	5.5
Vehicle Extension (s)		5.0	5.0		3.5	3.5
Lane Grp Cap (vph)		1161	1530		465	412
v/s Ratio Prot		0.41	0.11		0.24	
v/c Ratio		0.67	0.27		0.95	0.07
Uniform Delay, d1		10.2	15.0		29.2	23.6
Progression Factor		1.00	0.67		1.00	1.00
Incremental Delay, d2		3.1	0.4		28.6	0.4
Delay (s)		13.3	10.4		57.8	24.0
Level of Service		B	B		E	C
Approach Delay (s)		13.3	10.4		41.4	
Approach LOS		B	B		D	
Intersection Summary						
HCM Average Control Delay			24.5		HCM Level of Service	C
HCM Volume to Capacity ratio			0.75			
Actuated Cycle Length (s)			80.0		Sum of lost time (s)	10.5
Intersection Capacity Utilization			89.5%		ICU Level of Service	E
Analysis Period (min)			15			
c Critical Lane Group						

5:00 pm Baseline

Synchro 7 - Report
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HCM Unsignalized Intersection Capacity Analysis
10: Church St & On Ramp 285

Future PM 2023 Phase II
7/12/2012

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	←	←	←	←	←	←
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Volume (vph)	315	484	288	359	0	0
Peak Hour Factor	0.96	0.97	0.88	0.97	0.92	0.92
Hourly flow rate (vph)	328	499	327	370	0	0
Direction, Lane #	EB 1	WB 1				
Volume Total (vph)	827	697				
Volume Left (vph)	0	327				
Volume Right (vph)	489	0				
Head (s)	-0.35	0.10				
Departure Headway (s)	4.3	4.8				
Degree Utilization, x	0.99	0.93				
Capacity (veh/h)	827	735				
Control Delay (s)	48.8	40.1				
Approach Delay (s)	48.8	40.1				
Approach LOS	E	E				
Intersection Summary						
Delay			44.8			
HCM Level of Service			E			E
Intersection Capacity Utilization			87.8%			
Analysis Period (min)			15			

5:00 pm Baseline

Synchro 7 - Report
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HCM Unsignalized Intersection Capacity Analysis 11: Valley Brook Rd & SR 410 On Ramp

Future PM 2023 Phase II
7/12/2012

Movement	EBL	EBT	WBT	WBR	SWL	SWR	
Lane Configurations		↔↔	↔		↔	↔↔	
Volume (veh/h)	0	2094	422	0	196	884	
Sign Control		Free	Free		Stop		
Grade		0%	0%		0%		
Peak Hour Factor	0.98	0.98	0.97	0.92	0.92	0.98	
Hourly flow rate (vph)	0	2137	435	0	213	902	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type		None	None				
Median storage (veh)							
Upstream signal (ft)			759				
pX platoon unblocked							
vC conflicting volume	435				1503	435	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	435				1503	435	
IC, single (s)	4.1				6.8	6.9	
IC, 2 stage (s)							
IF (s)	2.2				3.5	3.3	
p0 queue free %	100				0	0	
cM capacity (veh/h)	1135				114	575	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SW 2	SW 3	
Volume Total	1068	1068	435	213	451	451	
Volume Left	0	0	0	213	0	0	
Volume Right	0	0	0	0	451	451	
cSH	1700	1700	1700	114	575	575	
Volume to Capacity	0.63	0.63	0.26	1.86	0.78	0.78	
Queue Length 95th (ft)	0	0	0	426	185	185	
Control Delay (s)	0.0	0.0	0.0	483.7	30.4	30.4	
Lane LOS				F	D	D	
Approach Delay (s)	0.0		0.0	117.0			
Approach LOS				F			
Intersection Summary							
Average Delay				35.4			
Intersection Capacity Utilization				75.4%		ICU Level of Service	D
Analysis Period (min)				15			

HCM Signalized Intersection Capacity Analysis 12: N Decatur Rd & Dekalb Industrial Way

Future PM 2023 Phase II
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SWR	SWR
Lane Configurations	↔	↔↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Volume (veh)	339	1043	179	90	458	164	230	761	109	215	685	107	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	0.98	1.00	0.96	1.00	0.96	1.00	0.98	1.00	1.00	0.98	1.00	0.98
Fit Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	3511	1805	3443	1805	3532	1805	3532	1805	3610	1577	1577	1577
Fit Permitted	0.14	1.00	0.14	1.00	0.14	1.00	0.14	1.00	0.13	1.00	0.13	1.00	1.00
Satd. Flow (perm)	268	3511	268	3443	268	3532	268	3532	268	3610	1577	1577	1577
Peak-hour factor, PHF	0.82	0.98	0.86	0.78	0.93	0.89	0.84	0.92	0.92	0.91	0.95	0.96	0.96
Adj. Flow (vph)	413	1064	208	115	492	184	274	827	118	236	721	124	124
RTOR Reduction (vph)	0	14	0	0	32	0	0	9	0	0	0	0	0
Lane Group Flow (vph)	413	1258	0	115	644	0	274	936	0	236	721	124	124
Conf. Peds. (#/hr)	5	7	8	0	0	6	7	8	6	6	5	5	5
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Turn Type	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	Free	Free
Protected Phases	5	2	2	1	6	3	8	8	7	4	4	4	4
Permitted Phases	2	6	6	6	6	6	6	6	6	6	6	6	6
Actuated Green, G (s)	56.5	45.5	45.5	36.0	29.5	50.2	33.0	46.2	31.0	118.2	118.2	118.2	118.2
Effective Green, g (s)	56.5	45.5	45.5	36.0	29.5	50.2	33.0	46.2	31.0	118.2	118.2	118.2	118.2
Actuated g/C Ratio	0.48	0.38	0.38	0.30	0.25	0.42	0.28	0.39	0.26	1.00	1.00	1.00	1.00
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	8.0	8.0	3.0	8.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	421	1352	164	859	164	859	337	986	296	947	1577	1577	1577
v/s Ratio Prot	c0.19	0.36	0.04	0.19	c0.12	c0.26	0.10	0.20	0.20	0.20	0.20	0.20	0.20
v/s Ratio Perm	c0.28		0.18		0.23		0.21		0.21		0.21	0.21	0.21
v/c Ratio	0.98	0.93	0.70	0.75	0.81	0.95	0.80	0.76	0.76	0.76	0.76	0.76	0.76
Uniform Delay, d1	32.9	34.8	32.9	40.9	26.7	41.8	28.6	40.2	0.0	0.0	0.0	0.0	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	38.7	12.7	12.7	5.9	13.9	17.4	13.8	3.7	0.1	0.1	0.1	0.1	0.1
Delay (s)	71.6	47.6	45.6	46.8	40.6	59.2	42.4	43.8	0.1	0.1	0.1	0.1	0.1
Level of Service	E	D	D	D	D	E	D	D	D	D	D	D	D
Approach Delay (s)	53.4		46.6		55.0		38.5		38.5		38.5	38.5	38.5
Approach LOS	D		D		E		D		D		D	D	D
Intersection Summary													
HCM Average Control Delay				49.3		HCM Level of Service							
HCM Volume to Capacity ratio				0.91									
Actuated Cycle Length (s)				118.2		Sum of lost time (s)							
Intersection Capacity Utilization				91.2%		ICU Level of Service							
Analysis Period (min)				15									
c Critical Lane Group													

HCM Signalized Intersection Capacity Analysis
13: N Decatur Rd & Church St W

Future PM 2023 Phase II
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Volume (vph)	114	880	46	193	557	83	128	1078	241	183	696	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Flt Protected	0.95	1.00	0.85	1.00	1.00	0.85	1.00	0.85	1.00	0.95	1.00	0.85
Flt Permitted	0.95	1.00	0.85	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	3610	1615	1805	3610	1583	1805	3610	1615	1805	3610	1524
Satd. Flow (perm)	761	3610	1615	161	3610	1583	375	3610	1615	134	3610	1524
Peak-hour factor, PHF	0.82	0.92	0.77	0.79	0.94	0.76	0.72	0.94	0.77	0.93	0.81	0.88
Adj. Flow (vph)	139	957	60	244	593	109	178	1147	313	197	859	50
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	139	957	60	244	593	109	178	1147	313	197	859	50
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	6%
Turn Type	pm+pt	Free	Free	pm+pt	Free	Free	pm+pt	Free	Free	pm+pt	Free	Free
Protected Phases	4	Free	8	Free	2	Free	6	Free	6	Free	6	Free
Actuated Green, G (s)	47.7	41.2	150.0	65.4	52.9	150.0	62.2	52.2	150.0	71.0	56.6	150.0
Effective Green, g (s)	47.7	41.2	150.0	65.4	52.9	150.0	62.2	52.2	150.0	71.0	56.6	150.0
Actuated g/C Ratio	0.32	0.27	1.00	0.44	0.35	1.00	0.41	0.35	1.00	0.47	0.38	1.00
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	287	992	1615	270	1273	1583	251	1256	1615	224	1362	1524
v/s Ratio Prot	0.02	c0.27	c0.11	0.16	0.07	0.05	0.32	0.19	c0.33	c0.08	c0.24	0.03
v/c Ratio	0.48	0.96	0.04	0.90	0.47	0.07	0.71	0.91	0.19	0.88	0.63	0.03
Uniform Delay, d1	38.6	53.7	0.0	45.1	37.6	0.0	30.5	46.7	0.0	43.7	38.2	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.3	20.4	0.0	30.7	0.3	0.1	8.8	11.6	0.3	29.9	2.2	0.0
Delay (s)	39.9	74.0	0.0	75.8	37.9	0.1	39.4	58.4	0.3	73.6	40.4	0.0
Level of Service	D	E	A	E	D	A	D	E	A	E	D	A
Approach Delay (s)	66.1			43.3			45.2				44.5	
Approach LOS	E			D			D				D	
Intersection Summary												
HCM Average Control Delay	49.6											
HCM Volume to Capacity ratio	0.93											
Actuated Cycle Length (s)	150.0											
Intersection Capacity Utilization	95.0%											
Analysis Period (min)	15											
c Critical Lane Group												

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis
14: N Decatur Rd & Church St

Future PM 2023 Phase II
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SWR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SWR
Volume (vph)	318	978	50	2	515	11	21	150	81	7	62	136
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5			5.5		5.5				5.5	4.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	1.00	0.99	1.00	0.99	1.00	1.00	0.99	1.00	0.99	1.00	0.99	1.00
Flt Permitted	1.00	0.99	1.00	0.99	1.00	1.00	0.99	1.00	0.99	1.00	0.99	1.00
Satd. Flow (prot)	1805	3665	1805	3584	3584	1789	1789	1885	1599	1885	1599	1599
Satd. Flow (perm)	518	3565	518	3359	3359	1710	1710	1767	1599	1767	1599	1599
Peak-hour factor, PHF	0.94	0.92	0.62	0.25	0.85	0.45	0.54	0.95	0.81	0.38	0.63	0.76
Adj. Flow (vph)	338	1063	81	8	606	24	39	158	100	18	98	179
RTOR Reduction (vph)	0	5	0	0	3	0	0	23	0	0	0	0
Lane Group Flow (vph)	338	1139	0	0	635	0	0	274	0	0	116	179
Conf. Peds. (#/hr)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Free
Protected Phases	5	2	6	6	6	8	8	8	8	4	4	Free
Actuated Green, G (s)	41.5	41.5	29.3	29.3	29.3	27.5	27.5	27.5	27.5	27.5	27.5	80.0
Effective Green, g (s)	41.5	41.5	29.3	29.3	29.3	27.5	27.5	27.5	27.5	27.5	27.5	80.0
Actuated g/C Ratio	0.52	0.52	0.37	0.37	0.37	0.34	0.34	0.34	0.34	0.34	0.34	1.00
Clearance Time (s)	5.5	5.5			5.5		5.5				5.5	
Vehicle Extension (s)	3.0	8.0	8.0	8.0	8.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	376	1849			1230		588				607	1599
v/s Ratio Prot	c0.08	0.32			0.19		c0.16				0.07	0.11
v/c Ratio	c0.39	0.62			0.52		0.47				0.19	0.11
Uniform Delay, d1	15.6	13.6			19.8		20.5				18.4	0.0
Progression Factor	0.77	0.65			1.00		1.00				1.00	1.00
Incremental Delay, d2	19.2	1.2			1.5		0.8				0.2	0.1
Delay (s)	31.2	10.0			21.4		21.3				18.6	0.1
Level of Service	C	B			C		C				B	A
Approach Delay (s)	14.9				21.4		21.3				7.4	
Approach LOS	B				C		C				A	
Intersection Summary												
HCM Average Control Delay	16.3											
HCM Volume to Capacity ratio	0.70											
Actuated Cycle Length (s)	80.0											
Intersection Capacity Utilization	84.1%											
Analysis Period (min)	15											
c Critical Lane Group												

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis
 15: E College Ave & Arcadia Ave
 Future PM 2023 Phase II
 7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	W	W	W	W	W	W	W	W	W	W	W	W
Volume (vph)	556	853	42	36	526	216	16	265	20	565	525	496
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0	6.0	6.0	6.0	6.0	5.8	5.8	5.7	5.8	5.8	4.0
Lane Util. Factor	0.97	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.95	1.00	0.95	1.00	0.96	1.00	0.99	1.00	1.00	1.00	1.00	0.85
Satd. Flow (prot)	3502	3577	1805	3457	3550	3457	3550	3457	1805	1805	1900	1615
Flt Permitted	0.15	1.00	0.29	1.00	0.29	1.00	0.83	0.25	1.00	1.00	1.00	1.00
Satd. Flow (perm)	567	3577	558	3457	2977	3457	2977	469	1900	1615	1615	1615
Peak-hour factor, PHF	0.96	0.93	0.71	0.81	0.89	0.93	0.46	0.85	0.67	0.95	0.92	0.96
Adj. Flow (vph)	579	917	59	44	591	232	35	312	30	595	571	517
RTOR Reduction (vph)	0	5	0	0	46	0	0	7	0	0	0	0
Lane Group Flow (vph)	579	971	0	44	777	0	0	370	0	595	571	517
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm
Protected Phases	5	2	6	6	6	6	4	4	3	8	8	Free
Permitted Phases	2	6	Free	4	4	4	4	4	8	8	8	Free
Actuated Green, G (s)	37.0	37.0	21.6	21.6	21.6	21.6	12.2	12.2	41.2	41.2	41.2	90.0
Effective Green, g (s)	37.0	37.0	21.6	21.6	21.6	21.6	12.2	12.2	41.2	41.2	41.2	90.0
Actuated g/C Ratio	0.41	0.41	0.24	0.24	0.24	0.24	0.14	0.14	0.46	0.46	0.46	1.00
Clearance Time (s)	4.4	6.0	6.0	6.0	6.0	6.0	5.8	5.8	5.7	5.8	5.8	5.8
Vehicle Extension (s)	3.5	5.0	5.0	5.0	5.0	5.0	3.0	3.0	3.5	3.5	3.5	3.5
Lane Grp Cap (vph)	592	1471	134	830	830	830	404	404	561	870	1615	1615
v/s Ratio Prot	c0.12	0.27	0.08	0.22	0.22	0.22	0.12	0.12	c0.27	0.30	0.32	0.32
v/s Ratio Perm	c0.28	0.98	0.33	0.94	0.94	0.94	0.92	0.92	1.06	0.66	0.32	0.32
v/c Ratio	0.98	0.66	0.22	0.33	0.33	0.33	0.38	0.38	0.46	0.32	0.32	0.32
Uniform Delay, d1	22.0	21.4	28.2	33.5	33.5	33.5	38.4	38.4	22.6	18.9	0.0	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	31.2	2.3	6.4	19.0	19.0	19.0	25.0	25.0	55.1	1.9	0.5	0.5
Delay (s)	53.2	23.8	34.6	52.6	52.6	52.6	63.4	63.4	77.7	20.8	0.5	0.5
Level of Service	D	C	C	D	D	D	E	E	E	C	A	A
Approach Delay (s)	34.7	34.7	51.6	51.6	51.6	51.6	63.4	63.4	34.7	34.7	34.7	34.7
Approach LOS	C	C	D	D	D	D	E	E	C	C	C	C
Intersection Summary												
HCM Average Control Delay	40.4											
HCM Volume to Capacity ratio	0.95											
Actuated Cycle Length (s)	90.0											
Intersection Capacity Utilization	96.8%											
Analysis Period (min)	15											
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
 16: Katie Kerr Dr & S Columbia Dr
 Future PM 2023 Phase II
 7/12/2012

Movement	WBL	WBR	NBL	NBR	SBL	SBR
Lane Configurations	W	W	W	W	W	W
Volume (vph)	361	17	354	154	52	786
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.95	0.96	0.97	0.88	0.88	0.88
Satd. Flow (prot)	1801	1762	1762	1657	1657	1657
Flt Permitted	0.95	0.97	0.97	1.00	1.00	1.00
Satd. Flow (perm)	1801	1762	1762	1657	1657	1657
Peak-hour factor, PHF	0.89	0.79	0.87	0.91	0.70	0.89
Adj. Flow (vph)	406	22	407	169	74	883
RTOR Reduction (vph)	3	0	23	0	0	0
Lane Group Flow (vph)	425	0	553	0	957	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	pm	pm	pm	pm	pm
Protected Phases	8	2	2	6	6	6
Permitted Phases	2	6	6	4	4	4
Actuated Green, G (s)	15.7	16.0	16.0	49.3	49.3	49.3
Effective Green, g (s)	15.7	16.0	16.0	49.3	49.3	49.3
Actuated g/C Ratio	0.26	0.27	0.27	0.83	0.83	0.83
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	477	475	475	1657	1657	1657
v/s Ratio Prot	c0.24	c0.31	c0.31	c0.12	c0.12	c0.12
v/s Ratio Perm	0.89	1.16	1.16	0.58	0.58	0.58
v/c Ratio	21.0	21.7	21.7	2.0	2.0	2.0
Uniform Delay, d1	21.0	21.7	21.7	2.0	2.0	2.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	18.5	94.5	94.5	0.5	0.5	0.5
Delay (s)	39.5	116.2	116.2	2.5	2.5	2.5
Level of Service	D	F	F	A	A	A
Approach Delay (s)	39.5	116.2	116.2	2.5	2.5	2.5
Approach LOS	D	F	F	A	A	A
Intersection Summary						
HCM Average Control Delay	44.0					
HCM Volume to Capacity ratio	0.87					
Actuated Cycle Length (s)	59.3					
Intersection Capacity Utilization	114.0%					
Analysis Period (min)	15					
i Phase conflict between lane groups.						
c Critical Lane Group						

17: W College Ave & Commerce Dr

HCM Signalized Intersection Capacity Analysis

Future PM 2023 Phase II
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	26	1089	41	49	815	144	112	221	72	327	479	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7			5.7			5.2				5.2	
Lane Util. Factor		0.95		0.95			0.95				0.95	
Frpb, ped/bikes	1.00	1.00		1.00			0.99				1.00	
Flpb, ped/bikes	1.00	1.00		1.00			1.00				1.00	
Flt	0.99	0.98		0.98			0.97				0.99	
Flt Protected	1.00	1.00		1.00			0.99				0.98	
Satd. Flow (prot)	3578	3510		3510			3434				3487	
Flt Permitted	0.85	0.66		0.66			0.51				0.63	
Satd. Flow (perm)	3049	2323		2323			1784				2236	
Peak-hour factor, PHF	0.75	0.97	0.83	0.77	0.98	0.89	0.83	0.87	0.75	0.86	0.94	0.75
Adj. Flow (vph)	35	1123	49	64	832	162	135	254	96	380	510	89
RTOR Reduction (vph)	0	3	0	0	15	0	0	16	0	0	8	0
Lane Group Flow (vph)	0	1204	0	0	1043	0	0	469	0	0	971	0
Confl. Peds. (#/hr)	2	10	9	1	10	1	10	9	1	9	1	2
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	2	Perm	2	Perm	6	Perm	4	Perm	3	Perm	8
Protected Phases	2											
Permitted Phases	2	47.2		47.2		47.2	41.9		41.9		41.9	
Actuated Green, G (s)		47.2		47.2		47.2	41.9		41.9		41.9	
Effective Green, g (s)		47.2		47.2		47.2	41.9		41.9		41.9	
Actuated g/C Ratio		0.47		0.47		0.47	0.42		0.42		0.42	
Clearance Time (s)		5.7		5.7		5.7	5.2		5.2		5.2	
Vehicle Extension (s)		5.0		5.0		5.0	4.0		4.0		4.0	
Lane Grp Cap (vph)		1439		1096		747					937	
v/s Ratio Prot												
v/s Ratio Perm		0.39		c0.45		0.26			0.26		c0.43	
v/c Ratio		0.84		0.95		0.92d			1.00d		1.00d	
Uniform Delay, d1		23.0		25.3		22.9			29.0		29.0	
Progression Factor		0.80		1.00		1.00			1.00		1.00	
Incremental Delay, d2		3.4		17.8		1.9			39.3		39.3	
Delay (s)		21.8		43.1		24.8			68.4		68.4	
Level of Service		C		D		C			E		E	
Approach Delay (s)		21.8		43.1		24.8			68.4		68.4	
Approach LOS		C		D		C			E		E	
Intersection Summary												
HCM Average Control Delay		40.5				HCM Level of Service			D			
HCM Volume to Capacity ratio		0.99										
Actuated Cycle Length (s)		100.0				Sum of lost time (s)			10.9			
Intersection Capacity Utilization		114.5%				ICU Level of Service			H			
Analysis Period (min)		15										
d1 Defacto Left Lane. Recode with 1 though lane as a left lane.												
c Critical Lane Group												

5:00 pm Baseline

Synchro 7 - Report
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18: W College Ave & SR 155

HCM Signalized Intersection Capacity Analysis

Future PM 2023 Phase II
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	47	875	90	92	610	205	27	215	96	255	583	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0			6.0			6.0				6.0	
Lane Util. Factor		0.95		1.00			1.00				1.00	
Frpb, ped/bikes	0.99	1.00		1.00			0.99				1.00	
Flpb, ped/bikes	1.00	1.00		1.00			1.00				1.00	
Flt	0.99	1.00		1.00			0.85				1.00	
Flt Protected	1.00	0.95		1.00			0.95				0.95	
Satd. Flow (prot)	3526	1797		1900			1615				1796	
Flt Permitted	0.73	0.17		1.00			0.23				0.16	
Satd. Flow (perm)	2572	326		1900			1615				303	
Peak-hour factor, PHF	0.86	0.97	0.86	0.85	0.90	0.85	0.79	0.85	0.87	0.91	0.95	0.82
Adj. Flow (vph)	55	902	105	108	678	241	34	253	110	280	614	35
RTOR Reduction (vph)	0	9	0	0	0	88	0	16	0	0	2	0
Lane Group Flow (vph)	0	1053	0	108	678	153	34	347	0	280	647	0
Confl. Peds. (#/hr)	14	20	15	9	20	9	20	15	9	9	14	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	2	Perm	2	Perm	6	Perm	7	Perm	8	Perm	4
Protected Phases	2											
Permitted Phases	2	48.2		48.2		48.2	21.6		21.6		39.8	
Actuated Green, G (s)		48.2		48.2		48.2	21.6		21.6		39.8	
Effective Green, g (s)		48.2		48.2		48.2	21.6		21.6		39.8	
Actuated g/C Ratio		0.48		0.48		0.48	0.13		0.22		0.40	
Clearance Time (s)		6.0		6.0		6.0	6.0		6.0		6.0	
Vehicle Extension (s)		5.0		5.0		5.0	5.0		5.0		5.0	
Lane Grp Cap (vph)		1240		157		916	213		93		319	
v/s Ratio Prot												
v/s Ratio Perm		c0.41		0.33		0.36	0.09		0.19		c0.34	
v/c Ratio		0.85		0.69		0.74	0.72		0.37		0.88	
Uniform Delay, d1		22.7		20.1		20.9	41.6		33.4		23.9	
Progression Factor		0.79		1.59		1.62	1.06		1.00		1.00	
Incremental Delay, d2		4.9		9.9		2.3	6.0		5.0		24.3	
Delay (s)		22.9		41.9		36.1	50.0		38.4		48.2	
Level of Service		C		D		D	D		E		D	
Approach Delay (s)		22.9		40.0		40.0	59.6		41.6		41.6	
Approach LOS		C		D		D	E		D		D	
Intersection Summary												
HCM Average Control Delay		37.4				HCM Level of Service			D			
HCM Volume to Capacity ratio		0.86										
Actuated Cycle Length (s)		100.0				Sum of lost time (s)			12.0			
Intersection Capacity Utilization		119.0%				ICU Level of Service			H			
Analysis Period (min)		15										
c Critical Lane Group												

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis
19: W College Ave & McDonough St

Future PM 2023 Phase II
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	3	6	6	3	6	6	3	6	6	3	6	6
Volume (vph)	30	608	45	97	499	48	12	169	118	311	397	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	16	12	12	12	12	11	11	11	11	11	11
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	5.0	6.0	5.0	5.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00	1.00	1.00
Frb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	1.00	0.99	1.00	0.98	1.00	0.98	1.00	0.94	1.00	0.97	1.00	0.97
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	2112	1805	1861	1739	1689	1739	1689	1745	1782	1782	1782
Flt Permitted	0.15	1.00	0.11	1.00	0.33	1.00	0.33	1.00	0.27	1.00	0.27	1.00
Satd. Flow (perm)	283	2112	200	1861	597	1689	597	1689	487	1782	487	1782
Peak-hour factor, PHF	0.55	0.96	0.64	0.78	0.87	0.59	0.83	0.87	0.84	0.96	0.85	0.72
Adj. Flow (vph)	55	633	70	124	574	81	14	194	140	324	467	94
RTOR Reduction (vph)	0	4	0	0	5	0	0	25	0	0	7	0
Lane Group Flow (vph)	55	699	0	124	650	0	14	309	0	324	554	0
Confl. Peds. (#/hr)	6	9	7	4	9	4	7	4	7	4	6	6
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	2	Perm	6	Perm	6	3	8	Perm	7	Perm	4
Protected Phases	2	42.2	42.2	42.2	42.2	42.2	26.8	25.8	45.8	39.8	45.8	39.8
Actuated Green, G (s)	42.2	42.2	42.2	42.2	42.2	42.2	26.8	25.8	45.8	39.8	45.8	39.8
Effective Green, g (s)	42.2	42.2	42.2	42.2	42.2	42.2	26.8	25.8	45.8	39.8	45.8	39.8
Actuated G/C Ratio	0.42	0.42	0.42	0.42	0.42	0.42	0.27	0.26	0.46	0.40	0.46	0.40
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	5.0	3.0	3.5	3.5	4.0	3.5	4.0
Lane Grp Cap (vph)	119	891	84	785	171	436	415	709	415	709	415	709
v/s Ratio Prot	0.33	0.33	0.35	0.35	0.00	0.18	0.12	0.31	0.12	0.31	0.12	0.31
v/s Ratio Perm	0.19	0.78	1.48	0.83	0.08	0.71	0.78	0.78	0.78	0.78	0.78	0.78
v/c Ratio	20.8	25.0	28.9	25.7	27.3	33.7	19.9	26.3	19.9	26.3	19.9	26.3
Uniform Delay, d1	1.00	1.00	1.03	0.96	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	12.4	6.9	285.0	7.3	0.2	5.4	29.4	32.2	29.4	32.2	29.4	32.2
Delay (s)	33.1	31.8	284.6	32.0	0%	39.1	29.4	32.2	29.4	32.2	29.4	32.2
Level of Service	C	C	F	C	C	D	C	D	C	C	C	C
Approach Delay (s)	31.9	31.9	72.2	38.6	31.2	31.2	31.2	31.2	31.2	31.2	31.2	31.2
Approach LOS	C	C	E	D	C	C	C	C	C	C	C	C
Intersection Summary												
HCM Average Control Delay	43.8											
HCM Volume to Capacity ratio	1.08											
Actuated Cycle Length (s)	11.0											
Intersection Capacity Utilization	94.3%											
Analysis Period (min)	15											
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
20: Driveway & Dekalb Industrial Way

Future PM 2023 Phase II
7/12/2012

Movement	EBL	EBR	NBL	NBR	SBL	SBT	NWL	NWR
Lane Configurations	W	W	1	1	1	1	1	1
Volume (vph)	1	0	1	645	22	196	688	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.6	5.6	4.0	5.6	5.5	4.0
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Flt Protected	0.95	1.00	1.00	0.85	1.00	1.00	0.85	1.00
Flt Permitted	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	1805	1805	1615	1805	1805	1615	1805
Flt Permitted	1.00	0.38	1.00	1.00	0.31	1.00	0.95	1.00
Satd. Flow (perm)	1900	720	3610	1615	597	3610	1805	1615
Peak-hour factor, PHF	0.92	0.92	0.25	0.91	0.64	0.94	0.96	0.92
Adj. Flow (vph)	1	0	4	709	34	209	717	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	1	0	4	709	34	209	717	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	1	Free	pm+pt	1	6	Perm	8
Protected Phases	8	2	Free	6	8	8	Free	8
Actuated Green, G (s)	0.9	24.8	24.1	34.2	28.8	0.9	47.1	0.9
Effective Green, g (s)	0.9	24.8	24.1	34.2	28.8	0.9	47.1	0.9
Actuated G/C Ratio	0.02	0.53	0.51	1.00	0.73	0.61	0.02	1.00
Clearance Time (s)	5.5	5.6	5.6	5.6	5.6	5.6	5.5	5.5
Vehicle Extension (s)	2.0	2.0	5.0	2.0	5.0	2.0	2.0	2.0
Lane Grp Cap (vph)	36	395	1847	1615	572	2207	34	1615
v/s Ratio Prot	0.00	0.01	0.02	0.02	0.04	0.20	0.01	0.12
v/s Ratio Perm	0.03	0.01	0.38	0.02	0.37	0.32	0.41	0.12
v/c Ratio	22.7	5.3	7.0	0.0	2.4	4.4	22.8	0.0
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Progression Factor	0.1	0.0	0.3	0.0	0.1	0.2	2.9	0.1
Incremental Delay, d2	22.8	5.3	7.3	0.0	2.5	4.6	25.8	0.1
Delay (s)	22.8	5.3	7.3	0.0	2.5	4.6	25.8	0.1
Level of Service	C	A	A	A	A	A	C	A
Approach Delay (s)	22.8	6.9	4.1	1.9	4.1	1.9	25.8	0.1
Approach LOS	C	A	A	A	A	A	C	A
Intersection Summary								
HCM Average Control Delay	5.0							
HCM Volume to Capacity ratio	0.35							
Actuated Cycle Length (s)	47.1							
Intersection Capacity Utilization	58.9%							
Analysis Period (min)	15							
c Critical Lane Group								

HCM Signalized Intersection Capacity Analysis
21: DeKalb Industrial Way & 7/12/2012

HCM Signalized Intersection Capacity Analysis
22: W College Ave & Clarendon Ave 7/12/2012

Movement	NBL2	NBL	NBR	SEL	SER	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	5	0	1256	5	4	0	3756	76	964	1841	0
Volume (vph)	50	0	1256	5	4	0	3756	76	964	1841	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.6	6.8	6.8	6.5	6.5	6.5	6.5	6.6	6.2	6.2
Lane Util. Factor	1.00	0.88	1.00	0.97	0.86	0.97	0.91	0.97	0.91	0.97	0.91
Fltb. ped/bikes	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.85	0.94	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.95	1.00	0.97	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.94
Satd. Flow (prot)	1805	2817	1738	6509	3502	5187	6509	3502	5187	6509	3502
Flt Permitted	0.95	1.00	0.97	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.94
Satd. Flow (perm)	1805	2817	1738	6509	3502	5187	6509	3502	5187	6509	3502
Peak-hour factor, PHF	0.83	0.25	0.90	0.92	0.92	0.92	0.99	0.80	0.96	0.97	0.92
Adj. Flow (vph)	60	0	1396	5	4	0	3794	95	1004	1898	0
RTOR Reduction (vph)	0	0	0	0	0	0	2	0	0	0	0
Lane Group Flow (vph)	60	0	1396	9	0	0	3887	0	1004	1898	0
Confl. Peds. (#/hr)	3	3	2	2	2	2	3	3	3	3	3
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	custom	5	4	6	5	2	5	2	5	2
Protected Phases	8	2.8	143.6	5.8	80.5	43.8	131.2	43.8	131.2	43.8	131.2
Actuated Green, G (s)	6.2	137.4	5.8	80.5	43.8	131.2	43.8	131.2	43.8	131.2	43.8
Effective Green, g (s)	6.2	137.4	5.8	80.5	43.8	131.2	43.8	131.2	43.8	131.2	43.8
Actuated g/C Ratio	0.04	0.92	0.04	0.54	0.29	0.87	0.29	0.87	0.29	0.87	0.29
Clearance Time (s)	6.4	6.6	6.8	6.5	6.5	6.2	6.5	6.5	6.6	6.2	6.2
Vehicle Extension (s)	3.0	3.0	3.0	5.0	5.0	3.0	4.8	4.8	3.0	4.8	3.0
Lane Grp Cap (vph)	75	2580	67	3493	1023	4537	3493	1023	4537	3493	1023
v/s Ratio Prot	c0.03	0.16	0.01	0.60	c0.60	c0.29	0.37	c0.29	0.37	c0.29	0.37
v/s Ratio Perm	0.34	0.54	0.13	1.11	0.98	0.42	0.98	0.42	0.98	0.42	0.98
Uniform Delay, d1	71.3	1.0	69.7	34.8	52.7	1.9	52.7	1.9	52.7	1.9	52.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	43.9	0.2	0.9	55.4	23.6	0.3	23.6	0.3	23.6	0.3	23.6
Delay (s)	115.2	1.3	70.6	90.1	76.3	2.1	76.3	2.1	76.3	2.1	76.3
Level of Service	F	A	E	F	E	A	F	E	A	F	E
Approach Delay (s)	6.0	70.6	90.1	90.1	76.3	2.1	76.3	2.1	76.3	2.1	76.3
Approach LOS	A	E	E	F	F	A	F	E	A	F	E
Intersection Summary											
HCM Average Control Delay	53.4										
HCM Volume to Capacity ratio	1.05										
Actuated Cycle Length (s)	150.0										
Intersection Capacity Utilization	122.3%										
Analysis Period (min)	15										
c Critical Lane Group											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SWR
Lane Configurations	201	1052	52	1	448	168	61	154	1	299	202	124
Volume (vph)	201	1052	52	1	448	168	61	154	1	299	202	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.5	4.0	5.5	5.5	5.6	5.6	5.6	5.6	5.6	5.6	5.6
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.95	1.00	0.85	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.94	0.94
Flt Permitted	0.95	1.00	0.85	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.94	0.94
Satd. Flow (prot)	1805	1900	1615	1805	1813	1805	1805	1893	1805	1805	1786	1786
Flt Permitted	0.10	1.00	1.00	0.11	1.00	0.27	1.00	0.61	1.00	0.61	1.00	1.00
Satd. Flow (perm)	198	1900	1615	208	1813	515	1893	1161	1786	1161	1786	1786
Peak-hour factor, PHF	0.66	0.95	0.81	0.25	0.93	0.79	0.82	0.92	0.25	0.88	0.94	0.86
Adj. Flow (vph)	305	1107	64	4	482	213	74	167	4	340	215	144
RTOR Reduction (vph)	0	0	0	0	19	0	0	1	0	0	27	0
Lane Group Flow (vph)	305	1107	64	4	482	213	74	167	4	340	215	144
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm-prot	Free	Perm	Free	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	5	2	6	6	6	4	4	8	4	8	8	8
Permitted Phases	2	Free	Free	6	6	4	4	8	4	8	8	8
Actuated Green, G (s)	53.9	53.9	86.0	36.5	36.5	21.0	21.0	21.0	21.0	21.0	21.0	21.0
Effective Green, g (s)	53.9	53.9	86.0	36.5	36.5	21.0	21.0	21.0	21.0	21.0	21.0	21.0
Actuated g/C Ratio	0.63	0.63	1.00	0.42	0.42	0.24	0.24	0.24	0.24	0.24	0.24	0.24
Clearance Time (s)	5.3	5.5	5.5	5.5	5.5	5.6	5.6	5.6	5.6	5.6	5.6	5.6
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	350	1191	1615	88	769	126	482	284	436	284	436	436
v/s Ratio Prot	0.12	c0.58	0.04	0.02	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
v/s Ratio Perm	0.87	0.93	0.04	0.05	0.88	0.59	0.37	0.59	0.37	0.59	0.37	0.37
Uniform Delay, d1	22.5	14.4	0.0	14.5	22.7	28.7	27.0	28.7	27.0	28.7	27.0	27.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	20.4	13.9	0.0	1.0	13.6	6.8	0.5	117.7	7.7	117.7	7.7	7.7
Delay (s)	42.9	28.2	0.0	15.5	36.3	35.5	27.5	150.2	37.8	150.2	37.8	37.8
Level of Service	D	C	A	B	D	D	C	F	D	F	D	D
Approach Delay (s)	30.0	C	A	B	D	29.9	C	29.9	C	29.9	C	C
Approach LOS	C	C	A	B	D	C	C	C	C	C	C	C
Intersection Summary												
HCM Average Control Delay	45.4											
HCM Volume to Capacity ratio	1.01											
Actuated Cycle Length (s)	86.0											
Intersection Capacity Utilization	111.1%											
Analysis Period (min)	15											
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis 23: Clarendon Ave & Laredo Dr

Future PM 2023 Phase II
7/12/2012

Movement	NBL	NBT	SBT	SEL	SER	
Lane Configurations	158	415	368	70	304	
Volume (veh/h)	158	415	368	70	304	
Sign Control	Free	Free	Free	Stop	Stop	
Grade	0%	0%	0%	0%	0%	
Peak Hour Factor	0.87	0.95	0.95	0.83	0.87	0.96
Hourly flow rate (vph)	182	437	387	36	104	317
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None	None	None			
Median storage (veh)						
Upstream signal (ft)		545				
pX, platoon unblocked						
vC, conflicting volume	424			1206	405	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	424			1206	405	
IC, single (s)	4.1			6.4	6.2	
IC, 2 stage (s)						
IF (s)	2.2			3.5	3.3	
p0 queue free %	84			39	51	
cM capacity (veh/h)	1147			172	650	
Direction, Lane #	NB 1	NB 2	SB 1	SE 1		
Volume Total	182	437	424	421		
Volume Left	182	0	0	104		
Volume Right	0	0	36	317		
cSH	1147	1700	1700	385		
Volume to Capacity	0.16	0.26	0.25	1.09		
Queue Length 95th (ft)	14	0	0	375		
Control Delay (s)	8.7	0.0	0.0	106.4		
Lane LOS	A			F		
Approach Delay (s)	2.6		0.0	106.4		
Approach LOS				F		
Intersection Summary						
Average Delay			31.7			
Intersection Capacity Utilization			62.6%		ICU Level of Service	B
Analysis Period (min)			15			

5:00 pm Baseline

HCM Unsignalized Intersection Capacity Analysis 24: E Ponce De Leon & Annie St

Future PM 2023 Phase II
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4T		4T				4T			4T	
Volume (veh/h)	5	795	5	1	519	15	6	0	2	24	0	12
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	864	5	1	564	16	7	0	2	26	0	13
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None	None	None	None	None	None						
Median storage (veh)												
Upstream signal (ft)		319										
pX, platoon unblocked												
vC, conflicting volume	580			0.88			0.88	0.88	0.88	0.88	0.88	0.88
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	580			586			932	1255	93	756	1249	290
IC, single (s)	4.6			4.1			7.5	6.5	6.9	7.5	6.5	7.3
IC, 2 stage (s)												
IF (s)	2.4			2.2			3.5	4.0	3.3	3.5	4.0	3.5
p0 queue free %	99			100			97	100	100	90	100	98
cM capacity (veh/h)	847			882			193	152	840	263	153	655
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	438	438	283	298	9	39						
Volume Left	5	0	1	0	7	26						
Volume Right	0	5	0	16	2	13						
cSH	847	1700	882	1700	239	329						
Volume to Capacity	0.01	0.26	0.00	0.18	0.04	0.12						
Queue Length 95th (ft)	0	0	0	0	0	3						
Control Delay (s)	0.2	0.0	0.0	0.0	20.6	17.4						
Lane LOS	A		A	A	C	C						
Approach Delay (s)	0.1		0.0	20.6	17.4							
Approach LOS				C	C							
Intersection Summary												
Average Delay				0.6								
Intersection Capacity Utilization				35.6%		ICU Level of Service						A
Analysis Period (min)				15								

5:00 pm Baseline

HCM Signalized Intersection Capacity Analysis
25: E Ponce De Leon & Off Ramp 285

Future PM 2023 Phase II
7/12/2012

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	EBL	EBT	WBT	WBR	SBL	SBR
Volume (vph)	483	595	315	256	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0		
Lane Util. Factor	1.00	1.00	0.95			
Flt	1.00	1.00	0.93			
Flt Protected	0.95	1.00	1.00			
Satd. Flow (prot)	1752	1863	3340			
Flt Permitted	0.31	1.00	1.00			
Satd. Flow (perm)	578	1863	3340			
Peak-hour factor, PHF	0.93	0.95	0.97	0.90	0.92	0.92
Adj. Flow (vph)	519	626	325	284	0	0
RTOR Reduction (vph)	0	0	164	0	0	0
Lane Group Flow (vph)	519	626	445	0	0	0
Heavy Vehicles (%)	3%	2%	1%	0%	0%	0%
Turn Type	pm-pt					
Protected Phases	1	6	2			
Permitted Phases	6					
Actuated Green, G (s)	48.9	48.9	33.9			
Effective Green, g (s)	48.9	48.9	33.9			
Actuated g/C Ratio	0.61	0.61	0.42			
Clearance Time (s)	5.0	5.0	5.0			
Vehicle Extension (s)	3.0	5.0	5.0			
Lane Grp Cap (vph)	500	1139	1415			
v/s Ratio Prot	0.13	0.34	0.13			
v/s Ratio Perm	0.50					
v/c Ratio	1.04	0.55	0.31			
Uniform Delay, d1	12.6	9.1	15.3			
Progression Factor	1.16	0.94	1.00			
Incremental Delay, d2	43.3	1.3	0.6			
Delay (s)	58.0	9.9	15.9			
Level of Service	E	A	B			
Approach Delay (s)	31.7	15.9	0.0			
Approach LOS	C	B	A			
Intersection Summary						
HCM Average Control Delay			26.2		HCM Level of Service	C
HCM Volume to Capacity ratio			1.00			
Actuated Cycle Length (s)			80.0		Sum of lost time (s)	31.1
Intersection Capacity Utilization			89.3%		ICU Level of Service	E
Analysis Period (min)			15			
c Critical Lane Group						

5:00 pm Baseline

HCM Unsignalized Intersection Capacity Analysis
26: Church St & Off Ramp 285

Future PM 2023 Phase II
7/12/2012

Movement	EBT	EBR	WBT	WBL	NBL	NBR
Lane Configurations	EBT	EBR	WBT	WBL	NBL	NBR
Volume (veh/h)	310	0	0	446	206	229
Sign Control	Free		Free	Stop		
Grade	0%		0%	0%		
Peak Hour Factor	0.86	0.92	0.92	0.94	0.91	0.90
Hourly flow rate (vph)	360	0	0	474	226	254
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume		360			835	360
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol		360			835	360
IC, single (s)		4.1			6.4	6.2
IC, 2 stage (s)						
IF (s)		2.2			3.5	3.3
p0 queue free %		100			34	63
dm capacity (veh/h)		1209			340	689
Direction, Lane #	EB 1	WB 1	NB 1	NB 2		
Volume Total	360	474	226	254		
Volume Left	0	0	226	0		
Volume Right	0	0	0	254		
cSH	1700	1700	340	689		
Volume to Capacity	0.21	0.28	0.66	0.37		
Queue Length 95th (ft)	0	0	113	43		
Control Delay (s)	0.0	0.0	34.3	13.3		
Lane LOS			D	B		
Approach Delay (s)	0.0	0.0	23.1			
Approach LOS			C			
Intersection Summary						
Average Delay			8.5			
Intersection Capacity Utilization			41.6%		ICU Level of Service	A
Analysis Period (min)			15			

5:00 pm Baseline

HCM Signalized Intersection Capacity Analysis
 27: Valley Brook Rd & Concord Dr

Future PM 2023 Phase II
 7/12/2012

Movement	NBL2	NBL	NBR	SEL	SER	SER2	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		  		 	 	 		 				
Volume (vph)	1	421	166	1405	843	9	7	0	1	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.97	1.00	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fit	1.00	0.96	1.00	1.00	0.85	1.00	0.85	0.99	1.00	0.96	0.96	0.96
Flt Protected	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	0.96	0.96	0.96	0.96
Satd. Flow (prot)	1805	3405	3502	3502	1615	1615	1794	1794	1794	1794	1794	1794
Flt Permitted	0.32	0.97	0.96	0.95	1.00	1.00	0.96	0.96	0.96	0.96	0.96	0.96
Satd. Flow (perm)	616	3405	3502	3502	1615	1615	1794	1794	1794	1794	1794	1794
Peak-hour factor, PHF	0.92	0.90	0.87	0.95	0.93	0.58	0.75	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	468	191	1479	906	16	9	0	1	0	0	0
RTOR Reduction (vph)	0	37	0	0	0	0	0	1	0	0	0	0
Lane Group Flow (vph)	1	622	0	1479	922	0	0	9	0	0	0	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%
Turn Type	pm-pt	Perm										
Protected Phases	5	2	1	6	8	8	8	8	8	8	8	8
Permitted Phases	2	23.2	23.2	36.3	59.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Actuated Green, G (s)	23.7	23.2	23.2	36.3	59.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Effective Green, g (s)	23.7	23.2	23.2	36.3	59.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Actuated g/C Ratio	0.33	0.32	0.32	0.50	0.81	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	210	1091	1756	1316	1316	22	22	22	22	22	22	22
v/s Ratio Prot	0.00	0.18	c0.42	c0.57	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
v/s Ratio Perm	0.00	0.57	0.84	0.70	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41
Uniform Delay, d1	16.4	20.5	15.6	2.9	35.5	35.5	35.5	35.5	35.5	35.5	35.5	35.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.0	0.7	3.9	1.7	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Delay (s)	16.4	21.1	19.4	4.6	47.4	47.4	47.4	47.4	47.4	47.4	47.4	47.4
Level of Service	B	C	B	A	D	D	D	D	D	D	D	D
Approach Delay (s)	21.1	13.7	13.7	47.4	47.4	47.4	47.4	47.4	47.4	47.4	47.4	47.4
Approach LOS	C	B	B	D	D	D	D	D	D	D	D	D
Intersection Summary												
HCM Average Control Delay	HCM Level of Service											
HCM Volume to Capacity ratio	B											
Actuated Cycle Length (s)	Sum of lost time (s)											
Intersection Capacity Utilization	8.0											
Analysis Period (min)	C											
Critical Lane Group												

5:00 pm Baseline

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HCM Unsignalized Intersection Capacity Analysis
 28: Commerce Dr & S Columbia Dr

Future PM 2023 Phase II
 7/12/2012

Intersection Sign configuration not allowed in HCM analysis.

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis 38: N Decatur Rd & Glendale Rd

Future PM 2023 Phase II
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Volume (vph)	4	0	4	0	0	0	2	0	0	0	0	2	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	4.0		4.0			4.0				4.0		
Lane Util. Factor	1.00	0.95					1.00				1.00		
Flt	1.00	0.85					1.00				0.86		
Flt Protected	0.95	1.00					0.95				1.00		
Satd. Flow (prot)	1770	3008					1770				1811		
Flt Permitted	0.76	1.00					1.00				1.00		
Satd. Flow (perm)	1410	3008					1409				1811		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	4	0	4	0	0	0	2	0	0	0	0	2	
RTOR Reduction (vph)	0	2	0	0	0	0	0	0	0	0	1	0	
Lane Group Flow (vph)	4	2	0	0	0	0	2	0	0	0	1	0	
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	
Protected Phases	4	4	8	8	8	8	2	2	2	6	6	6	
Permitted Phases	4	16.0					16.0				16.0		
Actuated Green, G (s)	16.0	16.0					16.0				16.0		
Effective Green, g (s)	16.0	16.0					16.0				16.0		
Actuated g/C Ratio	0.40	0.40					0.40				0.40		
Clearance Time (s)	4.0	4.0					4.0				4.0		
Lane Grp Cap (vph)	564	1203					564				644		
v/s Ratio Prot	0.00						v/s Ratio Prot				0.00		
v/s Ratio Perm	0.01	0.00					0.00				0.00		
v/c Ratio	0.01	0.00					0.00				0.00		
Uniform Delay, d1	7.2	7.2					7.2				7.2		
Progression Factor	0.79	1.00					1.00				1.00		
Incremental Delay, d2	0.0	0.0					0.0				0.0		
Delay (s)	5.7	7.2					7.2				7.2		
Level of Service	A	A					A				A		
Approach Delay (s)	6.5			0.0			7.2				7.2		
Approach LOS	A	A		A			A				A		
Intersection Summary													
HCM Average Control Delay	6.7										HCM Level of Service		A
HCM Volume to Capacity ratio	0.01												
Actuated Cycle Length (s)	40.0										Sum of lost time (s)		8.0
Intersection Capacity Utilization	13.3%										ICU Level of Service		A
Analysis Period (min)	15												
Critical Lane Group													

5:00 pm Baseline

Synchro 7 - Report
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HCM Unsignalized Intersection Capacity Analysis 43: DeKalb Industrial Way &

Future PM 2023 Phase II
7/12/2012

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	WBL	WBR	NBT	NBR	SBL	SBT
Volume (veh/h)	35	53	796	25	37	849
Sign Control	Free	Free	Free	Free	Free	Free
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	38	58	865	27	40	923
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLT	TWLT	TWLT	TWLT
Median storage (veh)			2			2
Upstream signal (ft)			455			
pX, platoon unblocked	0.89	0.89			0.89	
vC, conflicting volume	1421	446			892	
vC1, stage 1 conf vol	879					
vC2, stage 2 conf vol	542					
vCu, unblocked vol	1219	120			623	
IC, single (s)	6.8	6.9			4.1	
IC, 2 stage (s)	5.8					
IF (s)	3.5	3.3			2.2	
p0 queue free %	89	93			95	
dM capacity (veh/h)	360	806			846	
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 3
Volume Total	38	58	577	316	40	461
Volume Left	38	0	0	0	40	0
Volume Right	0	58	0	27	0	0
cSH	360	806	1700	1700	846	1700
Volume to Capacity	0.11	0.07	0.34	0.19	0.05	0.27
Queue Length 95th (ft)	9	6	0	0	4	0
Control Delay (s)	16.2	9.8	0.0	0.0	9.5	0.0
Lane LOS	C	A			A	
Approach Delay (s)	12.3		0.0		0.4	
Approach LOS	B					
Intersection Summary						
Average Delay	0.8					
Intersection Capacity Utilization	39.5%					
Analysis Period (min)	15					
	ICU Level of Service					
	A					

5:00 pm Baseline

Synchro 7 - Report
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HCM Unsignalized Intersection Capacity Analysis
59: W College Ave & S Columbia Dr

Future PM 2023 Phase II
7/12/2012

Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	1191	37	40	954	0	0	
Volume (veh/h)	Free	Free	Free	Stop	0%	0%	
Sign Control	0%	0%	0%	0%	0%	0%	
Grade	0.92	0.92	0.92	0.92	0.92	0.92	
Peak Hour Factor	1295	40	43	1037	0	0	
Hourly flow rate (vph)							
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	None			None			
Median storage (veh)							
Upstream signal (ft)	1136			400	0.89	0.82	
pX, platoon unblocked							
vC, conflicting volume	1335			1920	667		
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	968			866	153		
IC, single (s)	4.1			6.8	6.9		
IC, 2 stage (s)							
IF (s)	2.2			3.5	3.3		
p0 queue free %	93			100	100		
cM capacity (veh/h)	580			240	709		
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1		
Volume Total	863	472	389	691	0		
Volume Left	0	0	43	0	0		
Volume Right	0	40	0	0	0		
cSH	1700	1700	580	1700	1700		
Volume to Capacity	0.51	0.28	0.07	0.41	0.00		
Queue Length 95th (ft)	0	0	6	0	0		
Control Delay (s)	0.0	0.0	2.3	0.0	0.0		
Lane LOS	A	A	A	A	A		
Approach Delay (s)	0.0	0.8	0.0				
Approach LOS				A			
Intersection Summary							
Average Delay	0.4						B
Intersection Capacity Utilization	59.0%						
Analysis Period (min)	15						

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis
66: Glendale Rd & Church St

Future PM 2023 Phase II
7/12/2012

Movement	NBL	NBR	SEL	SER	NEL	NET	NER	SWL	SWT	SWR	
Lane Configurations											
Volume (vph)	0	0	32	0	0	476	4	0	0	22	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)			5.5			6.5			6.5		
Lane Util. Factor			1.00			1.00			1.00		
Frt			1.00			1.00			0.86		
Flt Protected			0.95			1.00			1.00		
Satd. Flow (prot)			1770			1861			1611		
Flt Permitted			0.55			1.00			1.00		
Satd. Flow (perm)			1032			1861			1611		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	0	0	35	0	0	517	4	0	0	24	
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	10	0	
Lane Group Flow (vph)	0	0	35	0	0	521	0	0	14	0	
Turn Type			custom		Perm			Perm			
Protected Phases	4	3	8		2				6		
Permitted Phases			8		2			6			
Actuated Green, G (s)			25.3		51.7				51.7		
Effective Green, g (s)			25.3		51.7				51.7		
Actuated g/C Ratio			0.28		0.57				0.57		
Clearance Time (s)			5.5		6.5				6.5		
Vehicle Extension (s)			3.0		5.5				5.5		
Lane Grp Cap (vph)			329		1069				925		
v/s Ratio Prot			c0.01		c0.28				0.01		
v/s Ratio Perm			c0.02								
v/c Ratio			0.11		0.49				0.01		
Uniform Delay, d1			23.9		11.3				8.2		
Progression Factor			1.15		1.00				1.00		
Incremental Delay, d2			0.1		1.6				0.0		
Delay (s)			27.7		12.9				8.2		
Level of Service			C		B				A		
Approach Delay (s)	0.0		27.7		12.9				8.2		
Approach LOS	A		C		B				A		
Intersection Summary											
HCM Average Control Delay	13.6					HCM Level of Service					
HCM Volume to Capacity ratio	0.36					B					
Actuated Cycle Length (s)	90.0					Sum of lost time (s)					
Intersection Capacity Utilization	42.0%					ICU Level of Service					
Analysis Period (min)	15					A					
c Critical Lane Group											

5:00 pm Baseline

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HCM Signalized Intersection Capacity Analysis
73: E Ponce De Leon & 7/12/2012

HCM Signalized Intersection Capacity Analysis
1: E Ponce De Leon & Laredo Dr 7/12/2012

Movement	NBL	NBR	SEL	SER	SWL	SMR	
Lane Configurations	174	683	35	70	527	25	
Volume (vph)	1900	1900	1900	1900	1900	1900	
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	
Total Lost time (s)	0.97	0.88	1.00	1.00	0.97	1.00	
Lane Util. Factor	1.00	0.85	1.00	0.85	1.00	0.85	
Friction	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (prot)	3433	2787	1770	1583	3433	1583	
Fit Permitted	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (perm)	3433	2787	1770	1583	3433	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	189	742	38	76	573	27	
RTOR Reduction (vph)	0	445	0	46	0	16	
Lane Group Flow (vph)	189	297	38	30	573	11	
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	
Protected Phases	21	61	8				
Permitted Phases	16.0	16.0	16.0	16.0	16.0	16.0	
Actuated Green, G (s)	16.0	16.0	16.0	16.0	16.0	16.0	
Effective Green, g (s)	0.40	0.40	0.40	0.40	0.40	0.40	
Actuated g/C Ratio	4.0	4.0	4.0	4.0	4.0	4.0	
Clearance Time (s)	0.06	0.02					
Lane Grp Cap (vph)	1373	1115	708	633	1373	633	
v/s Ratio Prot	0.14	0.27	0.05	0.05	0.42	0.02	
v/s Ratio Perm	7.6	8.1	7.4	7.3	8.6	7.2	
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	1.00	
Progression Factor	0.2	0.6	0.1	0.1	0.9	0.0	
Incremental Delay, d2	7.8	8.6	7.5	7.5	9.8	7.3	
Delay (s)	A	A	A	A	A	A	
Level of Service	8.5	7.5			9.5		
Approach Delay (s)	A	A	A	A	A	A	
Approach LOS	A	A	A	A	A	A	
Intersection Summary							
HCM Average Control Delay	8.8				HCM Level of Service	A	
HCM Volume to Capacity ratio	0.34						
Actuated Cycle Length (s)	40.0				Sum of lost time (s)	8.0	
Intersection Capacity Utilization	33.3%				ICU Level of Service	A	
Analysis Period (min)	15						
c Critical Lane Group							

! Phase conflict between lane groups.

c Critical Lane Group

5:00 pm Baseline

Synchro 7 - Report
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER	SE2	
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Volume (vph)	220	246	94	58	251	489	81	191	72	503	252	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5	4.0	5.5	5.5	5.5	5.5	4.0	
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Friction, ped/bikes	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Friction	1.00	0.95	1.00	1.00	1.00	0.85	1.00	0.96	1.00	0.85	0.85	
Fit Protected	0.95	1.00	0.95	1.00	1.00	0.95	0.97	0.95	1.00	0.95	1.00	
Satd. Flow (prot)	1805	3412	1722	3574	1589	1805	1754	1805	1615	1615	1615	
Fit Permitted	0.36	1.00	0.53	1.00	1.00	0.95	0.97	0.95	1.00	1.00	1.00	
Satd. Flow (perm)	680	3412	959	3574	1589	1805	1754	1805	1615	1615	1615	
Peak-hour factor, PHF	0.80	0.97	0.78	0.75	0.92	0.86	0.71	0.79	0.71	0.83	0.89	
Adj. Flow (vph)	275	254	121	77	273	569	114	242	101	606	365	
RTOR Reduction (vph)	0	42	0	0	0	0	0	10	0	0	0	
Lane Group Flow (vph)	275	333	0	77	273	569	114	333	0	606	365	
Conf. Peds. (#/hr)	0%	1%	0%	4%	1%	0%	0%	0%	0%	0%	0%	
Heavy Vehicles (%)	0%	1%	0%	4%	1%	0%	0%	0%	0%	0%	0%	
Turn Type	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	Free	Split	Free	Prot	Free	Free	
Protected Phases	5	2	2	1	6	8	8	4	4	4	4	
Permitted Phases	2	2	2	6	6	Free	Free	Free	Free	Free	Free	
Actuated Green, G (s)	47.7	32.2	30.6	20.6	20.6	137.1	27.0	27.0	45.9	45.9	137.1	
Effective Green, g (s)	47.7	32.2	30.6	20.6	20.6	137.1	27.0	27.0	45.9	45.9	137.1	
Actuated g/C Ratio	0.35	0.23	0.22	0.15	0.15	1.00	0.20	0.20	0.33	0.33	1.00	
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	
Vehicle Extension (s)	3.0	5.0	3.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	414	801	270	537	1589	355	345	604	541	1615	1615	
v/s Ratio Prot	c0.10	0.10	0.02	0.08	0.06	c0.19	c0.34	0.23	0.23	0.23	0.23	
v/s Ratio Perm	c0.13		0.04		0.36							
v/c Ratio	0.66	0.42	0.29	0.51	0.36	0.32	0.97	1.00	0.67	0.29	0.29	
Uniform Delay, d1	34.9	44.5	43.3	53.6	0.0	47.2	54.6	45.6	39.2	0.0	0.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.0	0.7	0.6	1.6	0.6	0.7	39.3	37.4	3.6	0.5	0.5	
Delay (s)	38.9	45.2	43.9	55.2	0.6	47.9	93.9	83.0	42.8	0.5	0.5	
Level of Service	D	D	D	E	A	D	F	F	D	D	A	
Approach Delay (s)	42.5			20.5		C						
Approach LOS	D											
Intersection Summary												
HCM Average Control Delay	43.3					HCM Level of Service	D					
HCM Volume to Capacity ratio	0.85											
Actuated Cycle Length (s)	137.1					Sum of lost time (s)	16.5					
Intersection Capacity Utilization	92.7%					ICU Level of Service	F					
Analysis Period (min)	15											
c Critical Lane Group												

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis
2: E Ponce De Leon & DeKalb Industrial Way

Future SAT 2023 Phase II
7/12/2012

Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	NWL2	NWL	NWR
Lane Configurations											
Volume (vph)	1	1	0	656	93	211	666	0	67	1	247
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0			6.0	4.0	6.0	6.0			6.0	
Lane Util. Factor	1.00			1.00	1.00	1.00	0.95			1.00	
Frt	0.93			1.00	0.85	1.00	0.90			0.90	
Flt Protected	0.98			1.00	1.00	1.00	0.99			0.99	
Satd. Flow (prot)	1729			1863	1615		3488			1679	
Flt Permitted	0.98			1.00	1.00	1.00	0.58			0.99	
Satd. Flow (perm)	1729			1863	1615		2047			1679	
Peak-hour factor, PHF	0.25	0.25	0.25	0.94	0.90	0.95	0.91	0.92	0.65	0.25	0.89
Adj. Flow (vph)	4	4	0	698	103	222	732	0	103	4	278
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	80	0
Lane Group Flow (vph)	8	0	0	698	103	0	954	0	0	305	0
Heavy Vehicles (%)	0%	0%	0%	2%	0%	0%	3%	0%	0%	0%	1%
Turn Type				2	Free	Perm	6		Perm		
Protected Phases	4!				Free	6	45.3	8		21.2	
Permitted Phases					Free	6	45.3	8		21.2	
Actuated Green, G (s)	21.2			45.3	78.5		45.3			21.2	
Effective Green, g (s)	21.2			45.3	78.5		45.3			21.2	
Actuated g/C Ratio	0.27			0.58	1.00		0.58			0.27	
Clearance Time (s)	6.0			6.0			6.0			6.0	
Vehicle Extension (s)	3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)	467			1075	1615		1181			463	
v/s Ratio Prot	0.00			0.37			c0.47			0.18	
v/s Ratio Perm	0.02			0.65	0.06		0.81			0.67	
Uniform Delay, d1	21.0			11.2	0.0		13.2			25.6	
Progression Factor	1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2	0.0			1.4	0.1		4.2			3.9	
Delay (s)	21.0			12.6	0.1		17.3			29.5	
Level of Service	C			B	A		B			C	
Approach Delay (s)	21.0			11.0			17.3			29.5	
Approach LOS	C			B			B			C	
Intersection Summary											
HCM Average Control Delay	17.1			HCM Level of Service			B				
HCM Volume to Capacity ratio	0.76										
Actuated Cycle Length (s)	78.5			Sum of lost time (s)			12.0				
Intersection Capacity Utilization	104.7%			ICU Level of Service			G				
Analysis Period (min)	15										
! Phase conflict between lane groups.											
c Critical Lane Group											

HCM Signalized Intersection Capacity Analysis
3: E Ponce De Leon & DeKalb Industrial Way

Future SAT 2023 Phase II
7/12/2012

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations	↖	↖↗	↗	↖	↖↗	↗	↖	↖	↖	↖	↖↗	↗
Volume (vph)	20	594	7	10	572	173	157	6	21	15	7	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	0.96	1.00	1.00	0.89	1.00	0.98	0.95	0.95
Frt	1.00	1.00	1.00	1.00	0.96	1.00	0.95	1.00	1.00	0.98	0.98	0.98
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.98	0.98	0.98
Satd. Flow (prot)	1805	3560	1805	1805	3437	1805	1805	1675	1773	1773	1773	1773
Flt Permitted	0.21	1.00	0.41	1.00	0.41	1.00	0.73	1.00	0.73	1.00	0.91	0.91
Satd. Flow (perm)	407	3560	776	776	3437	1380	1380	1675	1647	1647	1647	1647
Peak-hour factor, PHF	0.67	0.95	0.44	0.25	0.97	0.78	0.56	0.50	0.63	0.83	0.60	0.63
Adj. Flow (vph)	30	625	16	40	590	222	280	12	33	18	12	17
RTOR Reduction (vph)	0	2	0	0	27	0	0	22	0	0	11	0
Lane Group Flow (vph)	30	639	0	40	785	0	280	23	0	0	36	0
Conf. Peds. (#/hr)	1		1					1		1		
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type		pm+pt		Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	1	6		2	2	4	4	8	8	8	8	8
Permitted Phases	6	6		2	2	4	4	8	8	8	8	8
Actuated Green, G (s)	39.0	39.0	30.2	30.2	30.2	25.4	25.4	25.4	25.4	25.4	25.4	25.4
Effective Green, g (s)	39.0	39.0	30.2	30.2	30.2	25.4	25.4	25.4	25.4	25.4	25.4	25.4
Actuated g/C Ratio	0.51	0.51	0.40	0.40	0.40	0.33	0.33	0.33	0.33	0.33	0.33	0.33
Clearance Time (s)	5.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	277	1817	307	1359	307	459	557	548	548	548	548	548
v/s Ratio Prot	0.01	c0.18		c0.23	c0.23	0.01	0.01	0.01	0.01	0.01	0.01	0.01
v/s Ratio Perm	0.05	0.11	0.35	0.13	0.58	0.61	0.61	0.61	0.61	0.61	0.61	0.61
v/c Ratio	0.11	0.35	0.13	0.58	0.61	0.61	0.61	0.61	0.61	0.61	0.61	0.61
Uniform Delay, d1	10.5	11.2	14.7	18.1	21.4	17.3	17.3	17.3	17.3	17.3	17.3	17.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	0.2	0.4	1.0	3.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Delay (s)	10.8	11.4	15.1	19.1	24.8	17.3	17.3	17.3	17.3	17.3	17.3	17.3
Level of Service	B	B	B	B	B	C	C	B	B	B	B	B
Approach Delay (s)	11.4	18.9		18.9	23.8	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Approach LOS	B	B		B	C	B	B	B	B	B	B	B
Intersection Summary												
HCM Average Control Delay	17.0			HCM Level of Service			B					
HCM Volume to Capacity ratio	0.60			Sum of lost time (s)			18.0					
Actuated Cycle Length (s)	76.4			ICU Level of Service			A					
Intersection Capacity Utilization	46.9%			Analysis Period (min)			15					
Analysis Period (min)	15			Critical Lane Group								

HCM Signalized Intersection Capacity Analysis 4: E Ponce De Leon & Arcadia Ave

Future SAT 2023 Phase II
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Volume (vph)	87	295	107	255	322	14	88	471	285	16	481	105	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	6.0	6.0	4.4	6.0	6.0	5.7	6.2	6.2	5.8	5.8	4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	
Flpb. ped/bikes	1.00	0.99	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	
Flpb. ped/bikes	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flt	1.00	0.96	1.00	0.99	1.00	0.99	1.00	0.94	1.00	1.00	0.85	1.00	
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00	
Satd. Flow (prot)	1791	3412	1786	3544	1804	3340	1800	3610	1593	3610	1593	1593	
Flt Permitted	0.53	1.00	0.35	1.00	0.35	1.00	0.34	1.00	0.32	1.00	1.00	1.00	
Satd. Flow (perm)	1007	3412	654	3544	640	3340	589	3610	1593	3610	1593	1593	
Peak-hour factor, PHF	0.89	0.93	0.87	0.94	0.93	0.73	0.87	0.96	0.80	0.75	0.95	0.86	
Adj. Flow (vph)	98	317	123	271	346	19	101	491	356	21	506	122	
RTOR Reduction (vph)	0	29	0	0	3	0	0	93	0	0	0	0	
Lane Group Flow (vph)	98	411	0	271	362	0	101	754	0	21	506	122	
Confl. Peds. (#/hr)	5	4	3	4	4	4	4	3	4	4	5	5	
Heavy Vehicles (%)	0%	1%	0%	1%	0%	0%	0%	1%	0%	0%	0%	0%	
Turn Type	Perm	2	2	1	6	1	6	3	8	3	8	4	Free
Protected Phases	2	2	2	1	6	1	6	3	8	3	8	4	Free
Permitted Phases	2	2	2	1	6	1	6	3	8	3	8	4	Free
Actuated Green, G (s)	39.7	39.7	62.0	62.0	62.0	65.8	65.8	65.8	65.8	50.6	50.6	140.0	
Effective Green, g (s)	39.7	39.7	62.0	62.0	62.0	65.8	65.8	65.8	65.8	50.6	50.6	140.0	
Actuated g/C Ratio	0.28	0.28	0.44	0.44	0.44	0.47	0.47	0.47	0.47	0.36	0.36	1.00	
Clearance Time (s)	6.0	6.0	4.4	6.0	6.0	5.7	6.2	6.2	5.8	5.8	5.8	5.8	
Vehicle Extension (s)	5.0	5.0	3.5	5.0	3.5	3.5	3.5	3.5	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	286	968	434	1569	383	1570	216	1305	1593	216	1305	1593	
v/s Ratio Prot	0.10	0.12	0.08	0.10	0.02	0.02	0.02	0.23	0.04	0.04	0.14	0.08	
v/s Ratio Perm	0.34	0.42	0.62	0.23	0.62	0.26	0.48	0.10	0.39	0.08	0.08	0.08	
Uniform Delay, d1	39.8	40.9	26.5	24.2	21.8	25.4	29.6	33.2	0.0	0.0	0.0	0.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	0.80	0.76	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	3.2	1.4	2.9	0.3	0.3	0.3	0.8	0.9	0.9	0.9	0.1	0.1	
Delay (s)	43.0	42.2	29.4	24.5	17.8	20.1	30.5	34.1	0.1	0.1	0.1	0.1	
Level of Service	D	D	C	C	C	B	C	C	C	C	C	A	
Approach Delay (s)	42.4	42.4	26.6	26.6	19.8	19.8	27.6	27.6	0.1	0.1	0.1	0.1	
Approach LOS	D	D	C	C	C	B	C	C	C	C	C	C	

Intersection Summary			
HCM Average Control Delay	27.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	10.6
Intersection Capacity Utilization	74.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis 5: N Decatur Rd & E Ponce De Leon

Future SAT 2023 Phase II
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	NBR2	SWL2	SWL	SWR	
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	NBR2	SWL2	SWL	SWR	
Volume (vph)	144	525	119	151	458	150	110	728	117	173	691	179	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.88	1.00	0.88	1.00	0.97	
Flpb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flpb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flt	1.00	0.96	1.00	0.97	1.00	0.97	1.00	0.85	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00	0.99	1.00	0.99	1.00	0.95	1.00	0.95	1.00	0.95	0.96	
Satd. Flow (prot)	1805	3464	1805	3447	1805	2838	1805	2838	1805	2838	1805	3388	
Flt Permitted	0.16	1.00	0.67	1.00	0.67	1.00	0.95	1.00	0.95	1.00	0.95	0.96	
Satd. Flow (perm)	305	3464	305	2330	305	2838	1805	2838	1805	2838	1805	3388	
Peak-hour factor, PHF	0.86	0.95	0.87	0.79	0.94	0.85	0.82	0.93	0.91	0.79	0.95	0.86	
Adj. Flow (vph)	167	553	178	191	487	176	134	783	129	219	727	271	
RTOR Reduction (vph)	0	32	0	0	35	0	0	16	0	0	0	55	
Lane Group Flow (vph)	167	699	0	0	819	0	134	896	0	219	943	0	
Confl. Peds. (#/hr)	4	5	6	6	5	5	5	5	6	5	5	4	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	
Turn Type	pm+pt	2	2	1	6	1	6	8	1	6	4	4	
Protected Phases	5	2	2	1	6	1	6	8	1	6	4	4	
Permitted Phases	2	2	2	1	6	1	6	8	1	6	4	4	
Actuated Green, G (s)	36.8	36.8	36.8	25.9	25.9	26.7	26.7	26.7	26.7	26.7	26.7	26.7	
Effective Green, g (s)	36.8	36.8	36.8	25.9	25.9	26.7	26.7	26.7	26.7	26.7	26.7	26.7	
Actuated g/C Ratio	0.49	0.49	0.49	0.35	0.35	0.36	0.36	0.36	0.36	0.36	0.36	0.36	
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	
Vehicle Extension (s)	3.0	8.0	8.0	8.0	8.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	259	1711	259	810	810	647	1017	647	1214	647	1214	1214	
v/s Ratio Prot	0.05	0.20	0.27	0.35	0.35	0.07	0.32	0.12	0.28	0.12	0.28	0.28	
v/s Ratio Perm	0.64	0.41	0.64	1.01	1.01	0.21	0.88	0.34	0.78	0.34	0.78	0.78	
Uniform Delay, d1	12.9	11.9	12.9	24.3	24.3	16.6	22.4	17.5	21.3	17.5	21.3	21.3	
Progression Factor	1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	5.4	0.7	5.4	32.4	32.4	0.2	9.3	0.4	3.4	0.4	3.4	3.4	
Delay (s)	18.3	12.7	18.3	40.4	40.4	16.8	31.7	17.9	24.6	17.9	24.6	24.6	
Level of Service	B	B	B	D	D	B	C	B	C	B	C	C	
Approach Delay (s)	13.7	13.7	13.7	40.4	40.4	29.8	29.8	23.4	23.4	23.4	23.4	23.4	
Approach LOS	B	B	B	D	D	C	C	C	C	C	C	C	

Intersection Summary			
HCM Average Control Delay	26.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	74.5	Sum of lost time (s)	16.5
Intersection Capacity Utilization	95.5%	ICU Level of Service	F
Analysis Period (min)	15		
i Phase conflict between lane groups.			
c Critical Lane Group			

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis
6: Valley Brook Rd & E Ponce De Leon

Future SAT 2023 Phase II
7/12/2012

Movement	SBL	SBP	NEL	NET	SWT	SWR
Lane Configurations						
Volume (vph)	109	392	365	624	644	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	4.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.99	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.85	1.00	1.00	1.00	0.98
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1805	1591	1805	1900	1850	
Flt Permitted	0.95	1.00	0.06	1.00	1.00	1.00
Satd. Flow (perm)	1805	1591	110	1900	1850	
Peak-hour factor, PHF	0.85	0.95	0.87	0.96	0.90	0.76
Adj. Flow (vph)	128	413	420	650	716	126
RTOR Reduction (vph)	0	0	0	0	5	0
Lane Group Flow (vph)	128	413	420	650	837	0
Confl. Peds. (#/hr)	7	10	10			7
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	Free	Free	pm+pt			
Protected Phases	4	1	6	2		
Permitted Phases	Free	6				
Actuated Green, G (s)	20.2	130.0	97.8	97.8	63.4	
Effective Green, g (s)	20.2	130.0	97.8	97.8	63.4	
Actuated g/C Ratio	0.16	1.00	0.75	0.75	0.49	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	4.0	3.0	8.0	8.0		
Lane Grp Cap (vph)	280	1591	453	1429	902	
v/s Ratio Prot	c0.07	c0.20	0.34	0.45		
v/s Ratio Perm	0.26	0.26	c0.50			
v/c Ratio	0.46	0.26	0.93	0.45	0.93	
Uniform Delay, d1	49.9	0.0	42.6	6.1	31.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.6	0.4	25.0	1.0	16.9	
Delay (s)	51.5	0.4	67.6	7.1	48.0	
Level of Service	D	A	E	A	D	
Approach Delay (s)	12.5		30.9	48.0		
Approach LOS	B		C	D		
Intersection Summary						
HCM Average Control Delay	32.7			HCM Level of Service		
HCM Volume to Capacity ratio	0.82			C		
Actuated Cycle Length (s)	130.0			Sum of lost time (s)		
Intersection Capacity Utilization	92.4%			12.0		
Analysis Period (min)	15			F		
Critical Lane Group						

HCM Signalized Intersection Capacity Analysis
7: Glendale Rd & E Ponce De Leon

Future SAT 2023 Phase II
7/12/2012

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	129	87	518	132	56	539
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	4.0	6.5	4.0	6.5	6.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	0.99	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1805	1580	1900	1593	1767	1900
Flt Permitted	0.95	1.00	1.00	1.00	0.38	1.00
Satd. Flow (perm)	1805	1580	1900	1593	714	1900
Peak-hour factor, PHF	0.91	0.73	0.93	0.85	0.85	0.94
Adj. Flow (vph)	142	119	557	155	66	573
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	142	119	557	155	66	573
Confl. Peds. (#/hr)	5	4		5	4	
Heavy Vehicles (%)	0%	0%	0%	0%	2%	0%
Turn Type	Free	Free	2	Free	Perm	Perm
Protected Phases	4		2			6
Permitted Phases		Free		Free	6	
Actuated Green, G (s)	12.4	90.0	55.9	90.0	55.9	55.9
Effective Green, g (s)	12.4	90.0	55.9	90.0	55.9	55.9
Actuated g/C Ratio	0.14	1.00	0.62	1.00	0.62	0.62
Clearance Time (s)	6.5		6.5		6.5	6.5
Vehicle Extension (s)	3.0		5.5		5.5	5.5
Lane Grp Cap (vph)	249	1580	1180	1593	443	1180
v/s Ratio Prot	c0.08		0.29		c0.10	c0.30
v/s Ratio Perm		0.08		c0.10	0.09	
v/c Ratio	0.57	0.08	0.47	0.10	0.15	0.49
Uniform Delay, d1	36.3	0.0	9.1	0.0	7.1	9.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.1	0.1	1.4	0.1	0.7	1.4
Delay (s)	39.4	0.1	10.5	0.1	7.8	10.7
Level of Service	D	A	B	A	A	B
Approach Delay (s)	21.5		8.2		10.4	
Approach LOS	C		A		B	
Intersection Summary						
HCM Average Control Delay	11.2			HCM Level of Service		
HCM Volume to Capacity ratio	0.46			B		
Actuated Cycle Length (s)	90.0			Sum of lost time (s)		
Intersection Capacity Utilization	61.6%			13.0		
Analysis Period (min)	15			B		
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis
8: McLendon Dr & E Ponce De Leon

Future SAT 2023 Phase II
7/12/2012

Movement	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations	↰	↱	↰	↱	↱	↰
Volume (vph)	75	78	82	601	627	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	4.0	6.0	6.0	6.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Flpb. ped/bikes	1.00	0.98	1.00	1.00	1.00	0.98
Flpb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1805	1580	1805	1900	1900	1580
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1805	1580	580	1900	1900	1580
Peak-hour factor, PHF	0.91	0.84	0.88	0.84	0.92	0.80
Adj. Flow (vph)	82	93	93	715	682	81
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	82	93	93	715	682	81
Confl. Peds. (#/hr)	3	3	3			3
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	Free	Free	pm+pt			Free
Protected Phases	8	1	6	2		
Permitted Phases	Free	6				Free
Actuated Green, G (s)	10.4	123.0	100.6	100.6	85.8	123.0
Effective Green, g (s)	10.4	123.0	100.6	100.6	85.8	123.0
Actuated g/C Ratio	0.08	1.00	0.82	0.82	0.70	1.00
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	4.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	153	1580	562	1554	1325	1580
v/s Ratio Prot	c0.05		0.01	c0.38	c0.36	
v/s Ratio Perm		0.06	0.12			0.05
v/c Ratio	0.54	0.06	0.17	0.46	0.51	0.05
Uniform Delay, d1	54.0	0.0	4.5	3.3	8.8	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.5	0.1	0.3	1.0	1.4	0.1
Delay (s)	58.5	0.1	4.8	4.3	10.2	0.1
Level of Service	E	A	A	A	B	A
Approach Delay (s)	27.5			4.3	9.1	
Approach LOS	C			A	A	
Intersection Summary						
HCM Average Control Delay	8.7			HCM Level of Service		
HCM Volume to Capacity ratio	0.53			A		
Actuated Cycle Length (s)	123.0			Sum of lost time (s)		
Intersection Capacity Utilization	60.7%			B		
Analysis Period (min)	15			ICU Level of Service		
Critical Lane Group						

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis
9: E Ponce De Leon & Off Ramp 285

Future SAT 2023 Phase II
7/12/2012

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕↕			↕
Volume (vph)	0	588	325	0	364	343
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.5	5.5
Lane Util. Factor		1.00	0.95		1.00	1.00
Flt		1.00	1.00		1.00	0.85
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)	1900	3610			1805	1599
Flt Permitted	1.00	1.00			0.95	1.00
Satd. Flow (perm)	1900	3610			1805	1599
Peak-hour factor, PHF	0.92	0.91	0.78	0.92	0.87	0.87
Adj. Flow (vph)	0	646	417	0	418	394
RTOR Reduction (vph)	0	0	0	0	0	273
Lane Group Flow (vph)	0	646	417	0	418	121
Heavy Vehicles (%)	0%	0%	0%	0%	0%	1%
Turn Type		6	2		8	Perm
Protected Phases						
Permitted Phases						8
Actuated Green, G (s)		44.9	29.9		24.6	24.6
Effective Green, g (s)		44.9	29.9		24.6	24.6
Actuated g/C Ratio		0.56	0.37		0.31	0.31
Clearance Time (s)		5.0	5.0		5.5	5.5
Vehicle Extension (s)		5.0	5.0		3.5	3.5
Lane Grp Cap (vph)	1066	1349			555	492
v/s Ratio Prot	c0.34	0.12			c0.23	
v/s Ratio Perm						0.08
v/c Ratio	0.61	0.31			0.75	0.25
Uniform Delay, d1	11.7	17.7			25.0	20.8
Progression Factor	1.00	0.69			1.00	1.00
Incremental Delay, d2	2.6	0.6			5.9	0.3
Delay (s)	14.2	12.8			30.9	21.1
Level of Service	B	B			C	C
Approach Delay (s)	14.2	12.8			26.1	
Approach LOS	B	B			C	
Intersection Summary						
HCM Average Control Delay	19.1			HCM Level of Service		
HCM Volume to Capacity ratio	0.66			B		
Actuated Cycle Length (s)	80.0			Sum of lost time (s)		
Intersection Capacity Utilization	83.2%			E		
Analysis Period (min)	15					
c Critical Lane Group						

5:00 pm Baseline

Synchro 7 - Report
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HCM Unsignalized Intersection Capacity Analysis
10: Church St & On Ramp 285

Future SAT 2023 Phase II
7/12/2012

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	EBT	EBR	WBL	WBT	NBL	NBR
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Volume (vph)	231	263	195	381	0	0
Peak Hour Factor	0.96	0.97	0.88	0.97	0.92	0.92
Hourly flow rate (vph)	241	271	222	393	0	0
Direction, Lane #	EB 1	WB 1				
Volume Total (vph)	512	614				
Volume Left (vph)	0	222				
Volume Right (vph)	271	0				
Head (s)	-0.31	0.08				
Departure Headway (s)	4.2	4.5				
Degree Utilization, x	0.60	0.76				
Capacity (veh/h)	841	796				
Control Delay (s)	13.3	20.4				
Approach Delay (s)	13.3	20.4				
Approach LOS	B	C				
Intersection Summary						
Delay		17.2				
HCM Level of Service		C				
Intersection Capacity Utilization		65.8%				
Analysis Period (min)		15				
ICU Level of Service						C

5:00 pm Baseline

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HCM Unsignalized Intersection Capacity Analysis
11: Valley Brook Rd & SR 410 On Ramp

Future SAT 2023 Phase II
7/12/2012

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations	EBL	EBT	WBT	WBR	SWL	SWR
Volume (veh/h)	0	1390	450	0	141	864
Sign Control	Free	Free	Free	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.98	0.98	0.97	0.92	0.92	0.98
Hourly flow rate (vph)	0	1418	464	0	153	882
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None	None	None			
Median storage (veh)						
Upstream signal (ft)		759				
pX, platoon unblocked						
VC, conflicting volume	464			1173	464	
VC1, stage 1 conf vol						
VC2, stage 2 conf vol						
VCu, unblocked vol	464			1173	464	
IC, single (s)	4.1			6.8	6.9	
IC, 2 stage (s)						
IF (s)	2.2			3.5	3.3	
p0 queue free %	100			18	0	
CM capacity (veh/h)	1108			188	550	
Direction, Lane #	EB 1	EB 2	WB 1	SW 2	SW 3	
Volume Total	709	709	464	153	441	
Volume Left	0	0	0	153	0	
Volume Right	0	0	0	0	441	
cSH	1700	1700	1700	188	550	
Volume to Capacity	0.42	0.42	0.27	0.82	0.80	
Queue Length 95th (ft)	0	0	0	143	193	
Control Delay (s)	0.0	0.0	0.0	76.1	32.8	
Lane LOS			F	D	D	
Approach Delay (s)	0.0	0.0	0.0	39.2		
Approach LOS			E			
Intersection Summary						
Average Delay			13.9			
Intersection Capacity Utilization			60.6%			
Analysis Period (min)			15			
ICU Level of Service						B

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis
12: N Decatur Rd & DeKalb Industrial Way

Future SAT 2023 Phase II
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	128	551	153	77	405	172	216	536	67	212	452	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95
Flt Protected	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.98
Flt Permitted	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	1.00	0.96	1.00	0.95	1.00	0.95	1.00	0.98	1.00	0.95	1.00	0.85
Satd. Flow (prot)	1804	3465	1803	3424	1804	3542	1804	3610	1567	1804	3610	1567
Satd. Flow (perm)	471	3465	628	3424	416	3542	590	3610	1567	471	3465	628
Peak-hour factor, PHF	0.82	0.98	0.86	0.78	0.93	0.89	0.84	0.92	0.92	0.91	0.95	0.86
Adj. Flow (vph)	156	562	178	99	435	193	257	583	73	233	476	73
RTOR Reduction (vph)	0	31	0	0	49	0	0	11	0	0	0	60
Lane Group Flow (vph)	156	709	0	99	579	0	257	645	0	233	476	13
Conf. Ped. (#/hr)	5	7	8	8	6	6	7	8	6	6	6	5
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Turn Type	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt
Protected Phases	5	2	2	1	6	1	3	8	8	7	4	4
Actuated Green, G (s)	44.5	34.7	32.3	28.5	33.5	22.4	21.1	16.0	16.0	16.0	16.0	16.0
Effective Green, g (s)	44.5	34.7	32.3	28.5	33.5	22.4	21.1	16.0	16.0	16.0	16.0	16.0
Actuated g/C Ratio	0.49	0.39	0.36	0.32	0.37	0.25	0.23	0.18	0.18	0.18	0.18	0.18
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	8.0	3.0	8.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	381	1336	275	1084	332	882	207	642	279	207	642	279
v/s Ratio Prot	c0.05	c0.20	0.02	0.17	c0.10	0.18	0.06	0.13	0.06	0.13	0.06	0.13
v/s Ratio Perm	0.16	0.11	0.11	0.11	0.19	0.19	0.20	0.20	0.20	0.20	0.20	0.20
v/c Ratio	0.41	0.53	0.36	0.53	0.77	0.73	1.13	0.74	0.74	0.74	0.74	0.74
Uniform Delay, d1	13.9	21.4	19.6	25.3	21.8	31.0	32.7	35.0	30.7	32.7	35.0	30.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7	1.4	0.8	1.8	10.7	3.2	100.4	4.6	0.1	100.4	4.6	0.1
Delay (s)	14.6	22.8	20.4	27.1	32.5	34.2	133.1	39.7	30.7	133.1	39.7	30.7
Level of Service	B	C	C	C	C	C	F	D	C	F	D	C
Approach Delay (s)	21.4	21.4	21.4	26.2	26.2	26.2	33.7	33.7	33.7	33.7	33.7	33.7
Approach LOS	C	C	C	C	C	C	C	C	C	C	C	C

Intersection Summary			
HCM Average Control Delay	36.5	HCM Level of Service	
HCM Volume to Capacity ratio	0.74	D	
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	
Intersection Capacity Utilization	74.4%	D	
Analysis Period (min)	15	ICU Level of Service	
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
13: N Decatur Rd & Church St W

Future SAT 2023 Phase II
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Volume (vph)	90	510	30	174	395	96	83	444	167	108	414	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Flt Protected	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	3610	1615	1805	3610	1583	1805	3610	1615	1805	3610	1524
Satd. Flow (perm)	891	3610	1615	282	3610	1583	771	3610	1615	816	3610	1524
Peak-hour factor, PHF	0.82	0.92	0.77	0.79	0.94	0.76	0.72	0.94	0.77	0.93	0.81	0.88
Adj. Flow (vph)	110	554	39	220	420	126	115	472	217	116	511	99
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	110	554	39	220	420	126	115	472	217	116	511	99
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	pm+pt	Free	pm+pt	Free	pm+pt	Free	pm+pt	Free	pm+pt	Free	pm+pt
Protected Phases	7	4	Free	3	8	Free	5	2	Free	1	6	Free
Actuated Green, G (s)	40.6	29.1	150.0	54.3	36.8	150.0	77.6	67.4	150.0	77.8	67.5	150.0
Effective Green, g (s)	40.6	29.1	150.0	54.3	36.8	150.0	77.6	67.4	150.0	77.8	67.5	150.0
Actuated g/C Ratio	0.27	0.19	1.00	0.36	0.25	1.00	0.52	0.45	1.00	0.52	0.45	1.00
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	311	700	1615	297	886	1583	469	1622	1615	491	1625	1524
v/s Ratio Prot	0.03	0.15	c0.09	0.12	c0.02	0.13	c0.13	0.11	c0.13	0.11	c0.14	0.06
v/s Ratio Perm	0.07	0.02	0.02	0.17	0.08	0.11	0.29	0.13	0.24	0.31	0.06	0.06
v/c Ratio	0.35	0.79	0.02	0.74	0.47	0.08	0.25	0.29	0.13	0.24	0.31	0.06
Uniform Delay, d1	42.5	57.6	0.0	37.2	48.3	0.0	18.9	26.2	0.0	18.8	26.4	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7	6.1	0.0	9.5	0.4	0.1	0.3	0.5	0.2	0.2	0.5	0.1
Delay (s)	43.2	63.7	0.0	46.8	48.7	0.1	19.2	26.6	0.2	19.0	26.9	0.1
Level of Service	D	E	A	D	D	A	B	C	A	B	C	A
Approach Delay (s)	56.9	E	A	D	D	A	B	C	A	B	C	A
Approach LOS	E	E	A	D	D	A	B	C	A	B	C	A

Intersection Summary			
HCM Average Control Delay	33.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	62.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

14: N Decatur Rd & Church St

Future SAT 2023 Phase II
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EB	EB	EB	EB	EB	EB	EB	EB	EB	EB	EB	EB
Volume (vph)	220	564	31	10	569	5	9	96	30	7	52	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	4.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.99	1.00	1.00	1.00	1.00	0.97	0.99	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	1.00	1.00	0.99	0.99	1.00	0.99	1.00	1.00
Satd. Flow (prot)	1805	3562	1805	3590	1820	1599	1882	1599	1882	1599	1882	1599
Flt Permitted	0.22	1.00	0.88	0.88	0.88	0.88	0.97	0.94	1.00	0.94	1.00	0.94
Satd. Flow (perm)	422	3562	3172	3172	3172	3172	1773	1773	1773	1790	1599	1599
Peak-hour factor, PHF	0.94	0.92	0.62	0.25	0.85	0.45	0.54	0.95	0.81	0.38	0.63	0.76
Adj. Flow (vph)	234	613	50	40	669	11	17	101	37	18	83	230
RTOR Reduction (vph)	0	6	0	0	1	0	0	15	0	0	0	0
Lane Group Flow (vph)	234	657	0	0	719	0	0	140	0	0	101	230
Confl. Peds. (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Turn Type	pm-pt	pm-pt	pm-pt	pm-pt	pm-pt	pm-pt	pm-pt	pm-pt	pm-pt	pm-pt	pm-pt	pm-pt
Protected Phases	5	2	2	6	6	6	8	8	8	4	4	Free
Actuated Green, G (s)	36.8	36.8	36.8	25.9	25.9	25.9	26.7	26.7	26.7	26.7	26.7	74.5
Effective Green, g (s)	36.8	36.8	36.8	25.9	25.9	25.9	26.7	26.7	26.7	26.7	26.7	74.5
Actuated g/C Ratio	0.49	0.49	0.49	0.35	0.35	0.35	0.36	0.36	0.36	0.36	0.36	1.00
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Vehicle Extension (s)	3.09	1759	1103	8.0	8.0	8.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	309	1759	1103	635	635	635	642	642	642	642	1599	1599
v/s Ratio Prot	c0.05	0.18	0.23	0.23	0.23	0.23	c0.08	0.06	0.06	0.06	0.14	0.14
v/s Ratio Perm	c0.32	0.76	0.37	0.65	0.65	0.65	0.22	0.16	0.16	0.16	0.14	0.14
Uniform Delay, d1	13.0	11.7	20.5	13.0	11.7	20.5	16.6	16.3	16.3	16.3	0.0	0.0
Progression Factor	0.97	0.88	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.2	0.5	3.0	3.0	3.0	3.0	0.2	0.2	0.2	0.2	0.2	0.2
Delay (s)	21.8	10.8	23.5	23.5	23.5	23.5	16.9	16.4	16.4	16.4	0.2	0.2
Level of Service	C	B	C	C	C	C	B	B	B	B	A	A
Approach Delay (s)	13.7	13.7	23.5	23.5	23.5	23.5	16.9	16.9	16.9	16.9	5.1	5.1
Approach LOS	B	B	C	C	C	C	B	B	B	B	A	A
Intersection Summary												
HCM Average Control Delay	15.9											
HCM Volume to Capacity ratio	0.50											
Actuated Cycle Length (s)	74.5											
Intersection Capacity Utilization	70.7%											
Analysis Period (min)	15											
c Critical Lane Group												

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis

15: E College Ave & Arcadia Ave

Future SAT 2023 Phase II
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EB	EB	EB	EB	EB	EB	EB	EB	EB	EB	EB	EB
Volume (vph)	388	413	42	30	439	219	29	228	31	230	267	318
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0	6.0	6.0	6.0	6.0	5.8	5.8	5.8	5.7	5.8	4.0
Lane Util. Factor	0.97	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00	0.85
Flt Permitted	0.18	1.00	0.47	1.00	0.47	1.00	0.84	0.32	1.00	1.00	1.00	1.00
Satd. Flow (perm)	655	3546	888	3435	888	3435	2967	616	1900	1615	1615	1615
Peak-hour factor, PHF	0.96	0.93	0.71	0.81	0.89	0.93	0.46	0.85	0.67	0.95	0.92	0.96
Adj. Flow (vph)	404	444	59	37	493	235	63	288	46	242	290	331
RTOR Reduction (vph)	0	14	0	0	80	0	0	16	0	0	0	0
Lane Group Flow (vph)	404	489	0	37	648	0	0	361	0	242	290	331
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm-pt	pm-pt	pm-pt	pm-pt	pm-pt	pm-pt	pm-pt	pm-pt	pm-pt	pm-pt	pm-pt	pm-pt
Protected Phases	5	2	2	6	6	6	4	4	4	3	8	Free
Actuated Green, G (s)	30.5	30.5	30.5	18.1	18.1	18.1	12.5	12.5	12.5	27.7	27.7	70.0
Effective Green, g (s)	30.5	30.5	30.5	18.1	18.1	18.1	12.5	12.5	12.5	27.7	27.7	70.0
Actuated g/C Ratio	0.44	0.44	0.44	0.26	0.26	0.26	0.18	0.18	0.18	0.40	0.40	1.00
Clearance Time (s)	4.4	6.0	6.0	6.0	6.0	6.0	5.8	5.8	5.8	5.7	5.8	5.8
Vehicle Extension (s)	3.5	5.0	5.0	5.0	5.0	5.0	3.0	3.0	3.0	3.5	3.5	3.5
Lane Grp Cap (vph)	611	1545	230	888	888	888	530	405	752	1615	1615	1615
v/s Ratio Prot	c0.08	0.14	0.04	0.16	0.73	0.68	0.12	0.08	0.15	0.15	0.15	0.15
v/s Ratio Perm	c0.21	0.66	0.32	0.16	0.73	0.68	0.08	0.08	0.39	0.39	0.39	0.39
Uniform Delay, d1	14.1	12.9	20.1	23.7	23.7	23.7	26.9	15.2	15.1	15.1	0.0	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.52	1.50	1.50	1.00	1.00
Incremental Delay, d2	2.8	0.5	1.5	5.2	5.2	5.2	3.6	2.3	0.4	0.3	0.3	0.3
Delay (s)	16.9	13.5	21.6	29.0	29.0	29.0	30.5	25.4	22.9	0.3	0.3	0.3
Level of Service	B	B	C	C	C	C	C	C	C	C	C	A
Approach Delay (s)	15.0	15.0	28.6	28.6	28.6	28.6	30.5	14.9	14.9	14.9	14.9	14.9
Approach LOS	B	B	C	C	C	C	C	B	B	B	B	B
Intersection Summary												
HCM Average Control Delay	20.6											
HCM Volume to Capacity ratio	0.57											
Actuated Cycle Length (s)	70.0											
Intersection Capacity Utilization	70.7%											
Analysis Period (min)	15											
c Critical Lane Group												

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis
16: Katie Kerr Dr & S Columbia Dr

Future SAT 2023 Phase II
7/12/2012

Movement	WBL	WBR	NBL	NBR	SBL	SBR
Lane Configurations	W		W		W	
Volume (vph)	225	32	320	176	26	329
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.98	0.95	0.95	0.88	0.88	0.88
Flt Protected	0.96	0.97	1.00	1.00	1.00	1.00
Satd. Flow (prot)	1787	1787	1754	1659	1659	1659
Flt Permitted	0.96	0.97	0.97	1.00	1.00	1.00
Satd. Flow (perm)	1787	1787	1754	1659	1659	1659
Peak-hour factor, PHF	0.89	0.79	0.87	0.91	0.70	0.89
Adj. Flow (vph)	253	41	368	193	37	370
RTOR Reduction (vph)	9	0	27	0	0	0
Lane Group Flow (vph)	285	0	534	0	407	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type						
Protected Phases	8!		2		6	
Permitted Phases						
Actuated Green, G (s)	13.0		19.1		44.2	
Effective Green, g (s)	13.0		19.1		44.2	
Actuated g/C Ratio	0.24		0.35		0.82	
Clearance Time (s)	5.0		5.0		5.0	
Vehicle Extension (s)	3.0		3.0		3.0	
Lane Grp Cap (vph)	429		618		1659	
v/s Ratio Prot	c0.16		c0.30		c0.03	
v/s Ratio Perm					0.21	
v/c Ratio	0.66		0.86		0.25	
Uniform Delay, d1	18.6		16.3		1.2	
Progression Factor	1.00		1.00		1.00	
Incremental Delay, d2	3.8		12.1		0.1	
Delay (s)	22.5		28.4		1.3	
Level of Service	C		C		A	
Approach Delay (s)	22.5		28.4		1.3	
Approach LOS	C		C		A	
Intersection Summary						
HCM Average Control Delay	18.3					
HCM Volume to Capacity ratio	0.64					
Actuated Cycle Length (s)	54.2					
Intersection Capacity Utilization	77.2%					
Analysis Period (min)	15					
! Phase conflict between lane groups.						
Critical Lane Group						

HCM Signalized Intersection Capacity Analysis
17: W College Ave & Commerce Dr

Future SAT 2023 Phase II
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4P	4P	4P	4P			4P	4P		4P	4P
Volume (vph)	37	669	26	63	643	133	76	195	72	118	223	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Frb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	0.99	0.99	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Flt Protected	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (prot)	3572	3572	3494	3415	3415	3415	3415	3415	3415	3415	3415	3415
Flt Permitted	0.83	0.79	0.79	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68
Satd. Flow (perm)	2892	2758	2758	2337	2337	2337	2337	2337	2337	2337	2337	2337
Peak-hour factor, PHF	0.75	0.97	0.83	0.77	0.98	0.89	0.83	0.87	0.75	0.86	0.94	0.75
Adj. Flow (vph)	49	690	31	82	656	149	92	224	96	137	237	67
RTOR Reduction (vph)	0	2	0	0	12	0	0	26	0	0	18	0
Lane Group Flow (vph)	0	768	0	0	875	0	0	386	0	0	423	0
Conf. Peds. (#/hr)	2	10	9	0	10	1	10	9	1	9	1	2
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	2	2	2	6	6	4	4	3	8	8	8	8
Permitted Phases	2	2	2	6	6	4	4	3	8	8	8	8
Actuated Green, G (s)	61.6	61.6	61.6	61.6	61.6	27.5	27.5	27.5	27.5	27.5	27.5	27.5
Effective Green, g (s)	61.6	61.6	61.6	61.6	61.6	27.5	27.5	27.5	27.5	27.5	27.5	27.5
Actuated g/C Ratio	0.62	0.62	0.62	0.62	0.62	0.28	0.28	0.28	0.28	0.28	0.28	0.28
Clearance Time (s)	5.7	5.7	5.7	5.7	5.7	5.2	5.2	5.2	5.2	5.2	5.2	5.2
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	1843	1843	1843	1699	1699	643	643	643	643	643	643	643
v/s Ratio Prot												
v/s Ratio Perm	0.26	0.26	0.26	c0.32	c0.32	0.17	0.17	0.17	0.17	0.17	0.17	0.17
v/c Ratio	0.42	0.42	0.42	0.51	0.51	0.60	0.60	0.60	0.60	0.60	0.60	0.60
Uniform Delay, d1	9.9	9.9	9.9	10.8	10.8	31.5	31.5	31.5	31.5	31.5	31.5	31.5
Progression Factor	1.05	1.05	1.05	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.6	0.6	0.6	1.1	1.1	1.8	1.8	1.8	1.8	1.8	1.8	1.8
Delay (s)	11.0	11.0	11.0	11.9	11.9	33.3	33.3	33.3	33.3	33.3	33.3	33.3
Level of Service	B	B	B	B	B	C	C	C	C	C	C	C
Approach Delay (s)	11.0	11.0	11.0	11.9	11.9	33.3	33.3	33.3	33.3	33.3	33.3	33.3
Approach LOS	B	B	B	B	B	C	C	C	C	C	C	C
Intersection Summary												
HCM Average Control Delay	19.2						B					
HCM Volume to Capacity ratio	0.56						10.9					
Actuated Cycle Length (s)	100.0						E					
Intersection Capacity Utilization	84.5%						15					
Analysis Period (min)	15											
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis 18: W College Ave & SR 155

Future SAT 2023 Phase II
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4T	T		T			T		T	T	
Volume (vph)	71	507	70	117	409	160	25	279	127	148	315	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	0.99	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00	1.00	1.00	0.99
Fltb, ped/bikes	0.98	1.00	1.00	0.85	1.00	0.85	1.00	0.95	1.00	1.00	0.98	1.00
Flt Protected	0.99	0.95	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95
Satd. Flow (prot)	3497	1789	1900	1615	1761	1798	1804	1853				
Flt Permitted	0.66	0.28	1.00	1.00	0.54	1.00	0.19	1.00				
Satd. Flow (perm)	2327	529	1900	1615	994	1798	365	1853				
Peak-hour factor, PHF	0.86	0.97	0.86	0.85	0.90	0.85	0.79	0.85	0.87	0.91	0.95	0.82
Adj. Flow (vph)	83	523	81	138	454	188	32	328	146	163	332	48
RTOR Reduction (vph)	0	13	0	0	0	100	0	14	0	0	4	0
Lane Group Flow (vph)	0	674	0	138	454	88	32	460	0	163	376	0
Confl. Peds. (#/hr)	14	20	15	9	9	20	15	9	15	9	14	14
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	2	Perm	6	7	Perm	8	Perm	7	pm+pt	7	4
Protected Phases												
Permitted Phases	2	6	36.0	36.0	14.2	32.8	32.8	32.8	52.0	52.0	52.0	4
Actuated Green, G (s)	36.0	36.0	36.0	36.0	14.2	32.8	32.8	32.8	52.0	52.0	52.0	4
Effective Green, g (s)	36.0	36.0	36.0	36.0	14.2	32.8	32.8	32.8	52.0	52.0	52.0	4
Actuated g/C Ratio	0.36	0.36	0.36	0.36	0.14	0.33	0.33	0.33	0.52	0.52	0.52	0.52
Clearance Time (s)	6.0	6.0	6.0	6.0	5.0	6.0	6.0	6.0	5.0	5.0	6.0	6.0
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	838	190	684	229	326	590	394	964				
v/s Ratio Prot		0.24	0.05	0.05	0.03	0.03	0.06	0.20				
v/s Ratio Perm	c0.29	0.26	0.73	0.66	0.38	0.10	0.78	0.41	0.39			
Uniform Delay, d1	28.8	27.7	26.9	38.9	23.3	30.3	30.3	15.9	14.5			
Progression Factor	0.81	1.06	1.03	0.68	1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	7.3	19.3	4.5	2.0	0.3	7.5	37.9	17.3	15.0			
Delay (s)	30.6	48.6	32.1	28.3	23.6	37.9	57.8	32.8	29.5			
Level of Service	C	D	C	C	C	C	D	D	B	B	B	B
Approach Delay (s)	30.6			34.1			37.0				15.7	
Approach LOS	C			C			D				B	
Intersection Summary												
HCM Average Control Delay		28.7								C		
HCM Volume to Capacity ratio		0.74										
Actuated Cycle Length (s)		100.0							18.0			
Intersection Capacity Utilization		93.4%							F			
Analysis Period (min)		15										
c Critical Lane Group												

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis 19: W College Ave & McDonough St

Future SAT 2023 Phase II
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4T	T		T			T		T	T	
Volume (vph)	34	401	26	52	349	41	12	112	131	152	127	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	16	12	12	12	12	11	11	11	11	11	11
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	5.0	6.0	5.0	5.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.98	1.00	0.99	1.00	0.99
Fltb, ped/bikes	1.00	1.00	1.00	0.99	1.00	0.99	1.00	0.99	1.00	1.00	1.00	1.00
Flt Protected	1.00	0.99	1.00	1.00	0.98	1.00	1.00	0.92	1.00	0.95	1.00	0.95
Satd. Flow (prot)	1799	2116	1793	1854	1720	1645	1742	1738				
Flt Permitted	0.36	1.00	0.37	1.00	0.62	1.00	0.30	1.00				
Satd. Flow (perm)	673	2116	689	1854	1130	1645	559	1738				
Peak-hour factor, PHF	0.55	0.96	0.64	0.78	0.87	0.59	0.83	0.87	0.84	0.96	0.85	0.72
Adj. Flow (vph)	62	418	41	67	401	69	14	129	156	158	149	65
RTOR Reduction (vph)	0	3	0	0	6	0	0	44	0	0	15	0
Lane Group Flow (vph)	62	456	0	67	464	0	14	241	0	158	199	0
Confl. Peds. (#/hr)	6	9	7	4	9	7	4	7	4	4	6	6
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	2	Perm	6	6	Perm+pt	8	Perm+pt	7	pm+pt	7	4
Protected Phases												
Permitted Phases	2	46.3	46.3	46.3	46.3	24.2	23.1	24.2	41.7	35.6		
Actuated Green, G (s)	46.3	46.3	46.3	46.3	46.3	24.2	23.1	24.2	41.7	35.6		
Effective Green, g (s)	46.3	46.3	46.3	46.3	46.3	24.2	23.1	24.2	41.7	35.6		
Actuated g/C Ratio	0.46	0.46	0.46	0.46	0.46	0.24	0.23	0.24	0.42	0.36		
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	5.0	5.0	5.0	5.0	6.0		
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	3.0	3.5	3.0	3.5	4.0		
Lane Grp Cap (vph)	312	980	319	858	280	380	394	619				
v/s Ratio Prot		0.22		c0.25		0.00	c0.15		c0.05	0.11		
v/s Ratio Perm	0.09	0.20	0.47	0.21	0.54	0.05	0.63	0.40	0.40	0.32		
Uniform Delay, d1	15.9	18.4	16.0	19.2	29.0	34.6	19.8	23.4				
Progression Factor	1.00	1.00	1.55	1.68	1.00	1.00	1.00	1.00	1.00	1.00		
Incremental Delay, d2	1.4	1.6	1.4	2.2	0.1	3.6	0.8	0.4				
Delay (s)	17.3	20.0	26.1	34.6	29.0	38.3	20.5	23.8				
Level of Service	B	B	C	C	C	D	C	C	C	C		
Approach Delay (s)	19.6			33.5		37.8		22.4				
Approach LOS	B			C		D		C				
Intersection Summary												
HCM Average Control Delay		27.7							C			
HCM Volume to Capacity ratio		0.55										
Actuated Cycle Length (s)		100.0							17.0			
Intersection Capacity Utilization		71.3%							C			
Analysis Period (min)		15										
c Critical Lane Group												

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis
20: Driveway & Dekalb Industrial Way

Future SAT 2023 Phase II
7/12/2012

Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	NWL2	NWR
Lane Configurations	W		1	554	19	157	554	0	4	0
Volume (vph)	1	0	1	554	19	157	554	0	4	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.6	5.6	4.0	5.6	5.6	5.6	5.5	4.0	5.5
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00	0.85	1.00	0.95	1.00	0.95	1.00	0.85
Satd. Flow (prot)	1805	1805	3610	1615	1805	3610	1805	1805	1805	1815
Flt Permitted	1.00	0.43	1.00	1.00	1.00	0.35	1.00	0.95	1.00	0.95
Satd. Flow (perm)	1900	826	3610	1615	1805	673	3610	1805	1805	1815
Peak-hour factor, PHF	0.92	0.92	0.25	0.91	0.64	0.94	0.96	0.92	0.42	0.92
Adj. Flow (vph)	1	0	4	609	30	167	577	0	10	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	1	0	4	609	30	167	577	0	0	10
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	pm+pt	Free	Free	pm+pt	pm+pt	Free	Perm	Perm	Free
Protected Phases	8	2	2	Free	6	8	8	8	8	Free
Permitted Phases	1.0	25.0	24.3	47.3	34.2	28.9	1.0	47.3	1.0	47.3
Actuated Green, G (s)	1.0	25.0	24.3	47.3	34.2	28.9	1.0	47.3	1.0	47.3
Effective Green, g (s)	0.02	0.53	0.51	1.00	0.72	0.61	0.02	1.00	0.02	1.00
Actuated g/C Ratio	5.5	5.6	5.6	5.6	5.6	5.6	5.6	5.5	5.5	5.5
Clearance Time (s)	2.0	2.0	5.0	2.0	5.0	2.0	5.0	2.0	2.0	2.0
Vehicle Extension (s)	40	451	1855	1615	613	2206	38	1615	38	1615
Lane Grp Cap (vph)	0.00	0.00	c0.17	c0.17	c0.03	0.16	0.01	c0.12	0.01	c0.12
v/s Ratio Prot	0.02	0.01	0.33	0.02	0.27	0.26	0.26	0.12	0.26	0.12
v/c Ratio	22.7	5.3	6.7	0.0	2.3	4.3	22.8	0.0	22.8	0.0
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Progression Factor	0.1	0.0	0.2	0.0	0.1	0.1	1.3	0.1	1.3	0.1
Incremental Delay, d2	22.8	5.3	6.9	0.0	2.4	4.4	24.1	0.1	24.1	0.1
Delay (s)	C	A	A	A	A	A	C	A	C	A
Level of Service	22.8	C	6.6	A	3.9	A	1.3	A	1.3	A
Approach Delay (s)	C	C	A	A	A	A	A	A	A	A
Approach LOS	C	C	A	A	A	A	A	A	A	A
Intersection Summary										
HCM Average Control Delay	4.7							HCM Level of Service	A	
HCM Volume to Capacity ratio	0.34									
Actuated Cycle Length (s)	47.3							Sum of lost time (s)	16.8	
Intersection Capacity Utilization	54.2%							ICU Level of Service	A	
Analysis Period (min)	15									
c Critical Lane Group										

HCM Signalized Intersection Capacity Analysis
21: Dekalb Industrial Way &

Future SAT 2023 Phase II
7/12/2012

Movement	NBL2	NBL	NBR	SEL	SER	NEL	NET	SWL	SWT	SWR
Lane Configurations	42		774	1	0	0	1644	48	726	1578
Volume (vph)	42	0	774	1	0	0	1644	48	726	1578
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.6	6.8	6.8	6.5	6.5	6.5	6.6	6.2	6.2
Lane Util. Factor	1.00	0.88	1.00	0.86	0.97	0.91	0.97	0.97	0.91	0.91
Flt Protected	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Permitted	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (prot)	1805	2817	1805	6497	3502	5187	3502	5187	3502	5187
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1805	2817	1805	6497	3502	5187	3502	5187	3502	5187
Peak-hour factor, PHF	0.83	0.25	0.90	0.92	0.92	0.92	0.99	0.80	0.96	0.97
Adj. Flow (vph)	51	0	860	1	0	0	1661	60	756	1627
RTOR Reduction (vph)	0	0	115	0	0	0	2	0	0	0
Lane Group Flow (vph)	51	0	745	1	0	0	1719	0	756	1627
Conf. Peds. (#/hr)	3	3	2	0%	0%	0%	0%	0%	0%	0%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	custom	5	4	6	6	5	2	5	2
Protected Phases	8									
Permitted Phases	11.4	156.0	11.0	100.9	48.2	156.0	100.9	48.2	156.0	100.9
Actuated Green, G (s)	11.4	156.0	11.0	100.9	48.2	156.0	100.9	48.2	156.0	100.9
Effective Green, g (s)	0.06	0.87	0.06	0.56	0.27	0.87	0.56	0.27	0.87	0.56
Actuated g/C Ratio	6.4	6.6	6.8	6.5	6.6	6.2	6.5	6.6	6.2	6.2
Clearance Time (s)	3.0	3.0	3.0	5.0	3.0	4.8	5.0	3.0	4.8	4.8
Vehicle Extension (s)	114	2441	110	3642	938	4495	3642	938	4495	3642
Lane Grp Cap (vph)	c0.03	0.08	0.00	c0.26	c0.22	0.31	c0.26	c0.22	0.31	0.31
v/s Ratio Prot	0.45	0.31	0.01	0.47	0.81	0.36	0.47	0.81	0.36	0.36
v/c Ratio	81.3	2.2	79.4	23.6	61.5	2.3	23.6	61.5	2.3	2.3
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Progression Factor	2.8	0.1	0.0	0.4	5.1	0.2	0.4	5.1	0.2	0.2
Incremental Delay, d2	84.0	2.2	79.4	24.1	66.7	2.6	24.1	66.7	2.6	2.6
Delay (s)	F	A	E	C	E	A	C	E	A	A
Level of Service	6.8	A	79.4	24.1	22.9	C	24.1	22.9	C	C
Approach Delay (s)	A									
Approach LOS	A									
Intersection Summary										
HCM Average Control Delay	20.4							HCM Level of Service	C	
HCM Volume to Capacity ratio	0.57									
Actuated Cycle Length (s)	180.0							Sum of lost time (s)	19.5	
Intersection Capacity Utilization	87.3%							ICU Level of Service	E	
Analysis Period (min)	15									
c Critical Lane Group										

HCM Signalized Intersection Capacity Analysis
22: W College Ave & Clarendon Ave

Future SAT 2023 Phase II
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	159	382	27	6	366	183	56	132	2	226	160	129
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.5	4.0	5.5	5.5	5.5	5.6	5.6	5.6	5.6	5.6	5.6
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.95	1.00	0.85	1.00	0.94	1.00	0.99	1.00	0.95	1.00	0.93	1.00
Satd. Flow (prot)	1805	1900	1615	1805	1794	1805	1805	1885	1805	1805	1766	1766
Flt Permitted	0.18	1.00	1.00	0.53	1.00	0.34	1.00	0.65	1.00	0.65	1.00	0.65
Satd. Flow (perm)	346	1900	1615	998	1794	637	1885	1234	1766	1234	1766	1766
Peak-hour factor, PHF	0.66	0.95	0.81	0.25	0.93	0.79	0.82	0.92	0.25	0.88	0.94	0.86
Adj. Flow (vph)	241	402	33	24	394	232	68	143	8	257	170	150
RTOR Reduction (vph)	0	0	0	0	24	0	0	2	0	0	36	0
Lane Group Flow (vph)	241	402	33	24	602	0	68	149	0	257	284	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm-pt	Free	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	5	2	Free	6	6	6	4	4	4	8	8	8
Permitted Phases	2	Free	6	6	6	6	4	4	4	8	8	8
Actuated Green, G (s)	54.1	54.1	86.0	38.5	38.5	38.5	20.8	20.8	20.8	20.8	20.8	20.8
Effective Green, g (s)	54.1	54.1	86.0	38.5	38.5	38.5	20.8	20.8	20.8	20.8	20.8	20.8
Actuated g/C Ratio	0.63	0.63	1.00	0.45	0.45	0.45	0.24	0.24	0.24	0.24	0.24	0.24
Clearance Time (s)	5.3	5.5	5.5	5.5	5.5	5.5	5.6	5.6	5.6	5.6	5.6	5.6
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	392	1195	1615	447	803	154	456	298	427	298	427	427
v/s Ratio Prot	0.07	0.21	0.02	0.02	0.34	0.08	0.11	0.08	0.21	0.08	0.16	0.16
v/s Ratio Perm	0.31	0.34	0.02	0.05	0.75	0.44	0.33	0.33	0.86	0.33	0.66	0.66
v/c Ratio	0.61	0.34	0.02	0.05	0.75	0.44	0.33	0.33	0.86	0.33	0.66	0.66
Uniform Delay, d1	12.0	7.5	0.0	13.4	19.7	27.7	26.8	31.2	29.4	31.2	29.4	29.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.9	0.8	0.0	0.2	6.3	2.0	0.4	21.7	3.9	21.7	3.9	3.9
Delay (s)	14.9	8.3	0.0	13.7	26.1	29.7	27.3	53.0	33.3	53.0	33.3	33.3
Level of Service	B	A	A	B	C	C	C	D	D	D	C	C
Approach Delay (s)	10.2	25.6	25.6	25.6	25.6	25.6	28.0	42.1	42.1	42.1	42.1	42.1
Approach LOS	B	B	B	C	C	C	C	D	D	D	D	D
Intersection Summary												
HCM Average Control Delay	25.4											
HCM Volume to Capacity ratio	0.77											
Actuated Cycle Length (s)	86.0											
Intersection Capacity Utilization	79.7%											
Analysis Period (min)	15											
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis
23: Clarendon Ave & Laredo Dr

Future SAT 2023 Phase II
7/12/2012

Movement	NBL	NBT	SBT	SEL	SER
Lane Configurations	NBL	NBT	SBT	SEL	SER
Volume (veh/h)	151	334	316	26	254
Sign Control	Free	Free	Free	Stop	Stop
Grade	0%	0%	0%	0%	0%
Peak Hour Factor	0.87	0.95	0.95	0.83	0.87
Hourly flow rate (vph)	174	352	333	36	265
Pedestrians					
Lane Width (ft)					
Walking Speed (ft/s)					
Percent Blockage					
Right turn flare (veh)					
Median type	None	None	None	None	None
Median storage (veh)					
Upstream signal (ft)		545			
pX, platoon unblocked					
vC, conflicting volume	369			1049	351
vC1, stage 1 conf vol					
vC2, stage 2 conf vol					
vCu, unblocked vol	369			1049	351
IC, single (s)	4.1			6.4	6.2
IC, 2 stage (s)					
IF (s)	2.2			3.5	3.3
p0 queue free %	86			82	62
qM capacity (veh/h)	1201			217	697
Direction, Lane #	NB 1	NB 2	SB 1	SE 1	
Volume Total	174	352	369	303	
Volume Left	174	0	0	39	
Volume Right	0	0	36	265	
cSH	1201	1700	1700	544	
Volume to Capacity	0.14	0.21	0.22	0.56	
Queue Length 95th (ft)	13	0	0	85	
Control Delay (s)	8.5	0.0	0.0	19.7	
Lane LOS	A	A	C	C	
Approach Delay (s)	2.8	0.0	0.0	19.7	
Approach LOS				C	
Intersection Summary					
Average Delay	6.2				
Intersection Capacity Utilization	54.0%				
Analysis Period (min)	15				
ICU Level of Service	A				

HCM Unsignalized Intersection Capacity Analysis 24: E Ponce De Leon & Annie St

Future SAT 2023 Phase II
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	9	4P	7	2	4P	25	7	0	2	33	0	6
Volume (veh/h)	791	775	7	2	775	25	7	0	2	33	0	6
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	10	860	8	2	842	27	8	0	2	36	0	7
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type												
Median storage (veh)												
Upstream signal (ft)												
pX platoon unblocked												
vC conflicting volume	870	0.95	867	1315	1757	434	1312	1747	435			
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	870	762	1232	1696	307	1229	1686	435				
IC, single (s)	4.6	4.1	7.5	6.5	6.9	7.5	6.5	7.3				
IC, 2 stage (s)												
IC (s)	2.4	2.2	3.5	4.0	3.3	3.5	4.0	3.5				
p0 queue free %	98	100	94	100	100	72	100	99				
cM capacity (veh/h)	641	819	126	88	662	128	89	522				
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	440	438	423	448	10	42						
Volume Left	10	0	2	0	8	36						
Volume Right	0	8	0	27	2	7						
cSH	641	1700	819	1700	153	144						
Volume to Capacity	0.02	0.26	0.00	0.26	0.06	0.29						
Queue Length 95th (ft)	1	0	0	0	5	29						
Control Delay (s)	0.5	0.0	0.1	0.0	30.1	40.0						
Lane LOS	A	A	A	D	E	E						
Approach Delay (s)	0.2	0.0	0.0	30.1	40.0	E						
Approach LOS				D	E							
Intersection Summary												
Average Delay	1.2											
Intersection Capacity Utilization	38.4%											
Analysis Period (min)	15											

HCM Signalized Intersection Capacity Analysis 25: E Ponce De Leon & Off Ramp 285

Future SAT 2023 Phase II
7/12/2012

Movement	EBL	EBT	WBT	SBL	SBR
Lane Configurations	4P	4P	4P	0	0
Volume (veh)	353	614	319	288	0
Ideal Flow (vph)	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0		
Lane Util. Factor	1.00	1.00	0.95		
Flt Protected	0.95	1.00	1.00		
Satd. Flow (prot)	1752	1863	3326		
Flt Permitted	0.27	1.00	1.00		
Satd. Flow (perm)	496	1863	3326		
Peak-hour factor, PHF	0.93	0.95	0.97	0.90	0.92
Adj. Flow (vph)	380	646	329	320	0
RTOR Reduction (vph)	0	0	200	0	0
Lane Group Flow (vph)	380	646	449	0	0
Heavy Vehicles (%)	3%	2%	1%	0%	0%
Turn Type	pm+pt	1	6	2	
Protected Phases					
Permitted Phases	6				
Actuated Green, G (s)	44.9	44.9	29.9		
Effective Green, g (s)	44.9	44.9	29.9		
Actuated g/C Ratio	0.56	0.56	0.37		
Clearance Time (s)	5.0	5.0	5.0		
Vehicle Extension (s)	3.0	5.0	5.0		
Lane Grp Cap (vph)	435	1046	1243		
v/s Ratio Prot	c0.11	0.35	0.13		
v/s Ratio Perm	c0.38				
v/c Ratio	0.87	0.62	0.36		
Uniform Delay, d1	11.6	11.8	18.1		
Progression Factor	1.11	0.97	1.00		
Incremental Delay, d2	14.5	2.2	0.8		
Delay (s)	27.4	13.6	18.9		
Level of Service	C	B	B		
Approach Delay (s)	18.7	18.9	0.0		
Approach LOS	B	B	A		
Intersection Summary					
HCM Average Control Delay	18.8				
HCM Volume to Capacity ratio	0.84				
Actuated Cycle Length (s)	80.0				
Intersection Capacity Utilization	83.2%				
Analysis Period (min)	15				
c Critical Lane Group					

HCM Unsignalized Intersection Capacity Analysis
26: Church St & Off Ramp 285

Future SAT 2023 Phase II
7/12/2012

Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	EBT	EBR	WBL	WBT	NBL	NBR	
Volume (veh/h)	241	0	0	359	237	188	
Sign Control	Free	Free	Free	Stop	Stop	Stop	
Grade	0%	0%	0%	0%	0%	0%	
Peak Hour Factor	0.86	0.92	0.92	0.94	0.91	0.90	
Hourly flow rate (vph)	280	0	0	382	260	209	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	None			None			
Median storage (veh)							
Upstream signal (ft)							
pX, platoon unblocked							
vC, conflicting volume	280			662		280	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	280			662		280	
IC, single (s)	4.1			6.4		6.2	
IC, 2 stage (s)							
IF (s)	2.2			3.5		3.3	
pO queue free %	100			39		73	
cM capacity (veh/h)	1294			430		763	
Direction, Lane #	EB 1	WB 1	NB 1	NB 2			
Volume Total	280	382	260	209			
Volume Left	0	0	260	0			
Volume Right	0	0	0	209			
cSH	1700	1700	430	763			
Volume to Capacity	0.16	0.22	0.61	0.27			
Queue Length 95th (ft)	0	0	97	28			
Control Delay (s)	0.0	0.0	25.4	11.5			
Lane LOS	D	D	B	B			
Approach Delay (s)	0.0	0.0	19.2	C			
Approach LOS							
Intersection Summary							
Average Delay	8.0				ICU Level of Service		
Intersection Capacity Utilization	38.7%				A		
Analysis Period (min)	15						

HCM Signalized Intersection Capacity Analysis
27: Valley Brook Rd & Concord Dr

Future SAT 2023 Phase II
7/12/2012

Movement	NBL2	NBL	NBR	SEL	SER	SER2	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	  	  	  	  	  	  	  	  	  	  	  	  
Volume (vph)	2	475	212	926	580	2	2	2	0	5	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.97	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.95	1.00	1.00	0.85	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Flt Protected	0.95	0.97	0.95	1.00	0.95	1.00	0.98	0.98	0.98	0.98	0.98	0.98
Satd. Flow (prot)	1805	3395	3502	1615	1615	1708	1708	1708	1708	1708	1708	1708
Flt Permitted	0.43	0.97	0.95	1.00	0.95	1.00	0.98	0.98	0.98	0.98	0.98	0.98
Satd. Flow (perm)	811	3395	3502	1615	1615	1708	1708	1708	1708	1708	1708	1708
Peak-hour factor, PHF	0.92	0.90	0.87	0.95	0.93	0.58	0.75	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	528	244	975	624	3	3	0	5	0	0	0
RTOR Reduction (vph)	0	41	0	0	0	0	0	5	0	0	0	0
Lane Group Flow (vph)	2	731	0	975	627	0	0	3	0	0	0	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%
Turn Type	pm+pt			custom			Perm					
Protected Phases	5	2	1	6	6	8	8	8	8	8	8	8
Permitted Phases	2	22.5	22.1	44.1	44.1	44.1	44.1	44.1	44.1	44.1	44.1	44.1
Actuated Green, G (s)	23.0	22.5	22.1	44.1	44.1	44.1	44.1	44.1	44.1	44.1	44.1	44.1
Effective Green, g (s)	23.0	22.5	22.1	44.1	44.1	44.1	44.1	44.1	44.1	44.1	44.1	44.1
Actuated g/C Ratio	0.40	0.39	0.38	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	333	1328	1346	1239	1239	27	27	27	27	27	27	27
v/s Ratio Prot	0.00	0.22	c0.28	c0.39	c0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00
v/c Ratio	0.01	0.55	0.72	0.51	0.51	0.11	0.11	0.11	0.11	0.11	0.11	0.11
Uniform Delay, d1	10.4	13.6	15.1	2.6	2.6	27.9	27.9	27.9	27.9	27.9	27.9	27.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.0	0.5	2.0	0.3	0.3	1.9	1.9	1.9	1.9	1.9	1.9	1.9
Delay (s)	10.4	14.1	17.1	2.9	2.9	29.8	29.8	29.8	29.8	29.8	29.8	29.8
Level of Service	B	B	B	A	A	C	C	C	C	C	C	C
Approach Delay (s)	14.1	11.5	11.5	29.8	29.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Approach LOS	B	B	B	A	A	A	A	A	A	A	A	A
Intersection Summary												
HCM Average Control Delay	12.4				HCM Level of Service				B			
HCM Volume to Capacity ratio	0.58											
Actuated Cycle Length (s)	57.5				Sum of lost time (s)				8.0			
Intersection Capacity Utilization	60.0%				ICU Level of Service				B			
Analysis Period (min)	15											
c Critical Lane Group												

Intersection Sign configuration not allowed in HCM analysis.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SEB
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Volume (vph)	2	0	2	0	0	0	3	0	0	0	0	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0					4.0					4.0
Lane Util. Factor	1.00	0.95					1.00					1.00
Frt	1.00	0.85					1.00					0.86
Flt Protected	0.95	1.00					0.95					1.00
Satd. Flow (prot)	1770	3008					1770					1611
Flt Permitted	0.76	1.00					0.76					1.00
Satd. Flow (perm)	1410	3008					1408					1611
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	0	2	0	0	0	3	0	0	0	0	3
RTOR Reduction (vph)	0	1	0	0	0	0	0	0	0	0	0	2
Lane Group Flow (vph)	2	1	0	0	0	0	3	0	0	0	1	0
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	4			8			2				6	
Permitted Phases	4			8			2				6	
Actuated Green, G (s)	16.0	16.0					16.0				16.0	
Effective Green, g (s)	16.0	16.0					16.0				16.0	
Actuated g/C Ratio	0.40	0.40					0.40				0.40	
Clearance Time (s)	4.0	4.0					4.0				4.0	
Lane Grp Cap (vph)	564	1203					563				644	
v/s Ratio Prot		0.00									0.00	
v/s Ratio Perm	c0.00	0.00					c0.00				0.00	
v/c Ratio	0.00	0.00					0.01				0.00	
Uniform Delay, d1	7.2	7.2					7.2				7.2	
Progression Factor	1.00	1.00					1.00				1.00	
Incremental Delay, d2	0.0	0.0					0.0				0.0	
Delay (s)	7.2	7.2					7.2				7.2	
Level of Service	A	A					A				A	
Approach Delay (s)	7.2			0.0			7.2				7.2	
Approach LOS	A	A		A			A				A	
Intersection Summary												
HCM Average Control Delay			7.2				HCM Level of Service				A	
HCM Volume to Capacity ratio			0.00									
Actuated Cycle Length (s)			40.0				Sum of lost time (s)				8.0	
Intersection Capacity Utilization			13.3%				ICU Level of Service				A	
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis
43: DeKalb Industrial Way &

Future SAT 2023 Phase II
7/12/2012

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↩	↩	↕	↕	↩	↕
Volume (veh/h)	24	35	707	26	39	687
Sign Control	Stop	Free	Free	Free	Free	Free
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	26	38	768	28	42	747
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLT		TWLT	
Median storage (veh)			2		2	
Upstream signal (ft)	0.91	0.91	455		0.91	
pX, platoon unblocked	1241	398			797	
vC, conflicting volume	783					
vC1, stage 1 conf vol	458					
vC2, stage 2 conf vol	1071	147			584	
vCu, unblocked vol	6.8	6.9			4.1	
IC, single (s)	5.8					
IC, 2 stage (s)	3.5	3.3			2.2	
IF (s)	93	95			95	
p0 queue free %	400	797			900	
cM capacity (veh/h)						
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	26	38	512	284	42	373
Volume Left	26	0	0	0	42	0
Volume Right	0	38	0	28	0	0
cSH	400	797	1700	1700	900	1700
Volume to Capacity	0.07	0.05	0.30	0.17	0.05	0.22
Queue Length 95th (ft)	5	4	0	0	4	0
Control Delay (s)	14.6	9.7	0.0	0.0	9.2	0.0
Lane LOS	B	A			A	
Approach Delay (s)	11.7		0.0		0.5	
Approach LOS	B					
Intersection Summary						
Average Delay				0.7		
Intersection Capacity Utilization				37.0%		A
Analysis Period (min)				15		

HCM Unsignalized Intersection Capacity Analysis
59: W College Ave & S Columbia Dr

Future SAT 2023 Phase II
7/12/2012

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↕	↕	↕	↕	↕	↕
Volume (veh/h)	733	52	81	688	0	0
Sign Control	Free	Free	Free	Stop		
Grade	0%	0%	0%	0%		
Peak Hour Factor	0.92	0.92	0.92	0.92		
Hourly flow rate (vph)	797	57	88	748	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None		
Median storage (veh)						
Upstream signal (ft)	1136			400		
pX, platoon unblocked			0.94		0.94	
vC, conflicting volume	853			1375		
vC1, stage 1 conf vol						
vC2, stage 2 conf vol			712		966	
vCu, unblocked vol			4.1		6.8	
IC, single (s)					6.9	
IC, 2 stage (s)			2.2		3.5	
IF (s)			89		100	
p0 queue free %			829		211	
cM capacity (veh/h)						
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2
Volume Total	531	322	337	499	0	0
Volume Left	0	0	88	0	0	0
Volume Right	0	57	0	0	0	0
cSH	1700	1700	829	1700	1700	1700
Volume to Capacity	0.31	0.19	0.11	0.29	0.00	0.00
Queue Length 95th (ft)	0	0	9	0	0	0
Control Delay (s)	0.0	0.0	3.5	0.0	0.0	0.0
Lane LOS			A		A	
Approach Delay (s)	0.0		1.4		0.0	
Approach LOS					A	
Intersection Summary						
Average Delay				0.7		
Intersection Capacity Utilization				50.0%		A
Analysis Period (min)				15		

HCM Signalized Intersection Capacity Analysis
66: Glendale Rd & Church St

Future SAT 2023 Phase II
7/12/2012

Movement	NBL	NBR	SEL	SER	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations										
Volume (vph)	0	0	21	0	0	0	2	0	0	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			5.5			6.5				6.5
Lane Util. Factor			1.00			1.00				1.00
Frt			1.00			0.86				0.86
Flt Protected			0.95			1.00				1.00
Satd. Flow (prot)			1770			1811				1811
Flt Permitted			0.52			1.00				1.00
Satd. Flow (perm)			977			1811				1811
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	23	0	0	2	0	0	0	25
RTOR Reduction (vph)	0	0	0	0	0	1	0	0	0	9
Lane Group Flow (vph)	0	0	23	0	0	1	0	0	0	16
Turn Type			custom			Perm				Perm
Protected Phases	4	3	8		2		2		6	
Permitted Phases			8		2				6	
Actuated Green, G (s)			21.1		55.9		55.9		55.9	
Effective Green, g (s)			21.1		55.9		55.9		55.9	
Actuated g/C Ratio			0.23		0.62		0.62		0.62	
Clearance Time (s)			5.5		6.5		6.5		6.5	
Vehicle Extension (s)			3.0		5.5		5.5		5.5	
Lane Grp Cap (vph)			257		1001		1001		1001	
v/s Ratio Prot			c0.00		0.00		0.00		c0.01	
v/s Ratio Perm			c0.02		0.00		0.00		0.02	
v/c Ratio			0.09		0.00		0.00		0.02	
Uniform Delay, d1			26.9		6.5		6.5		6.5	
Progression Factor			1.19		1.00		1.00		1.00	
Incremental Delay, d2			0.2		0.0		0.0		0.0	
Delay (s)			32.3		6.5		6.6		6.6	
Level of Service			C		A		A		A	
Approach Delay (s)	0.0		32.3		6.5		6.6		6.6	
Approach LOS	A		C		A		A		A	
Intersection Summary										
HCM Average Control Delay			18.4					HCM Level of Service		B
HCM Volume to Capacity ratio			0.03							
Actuated Cycle Length (s)			90.0					Sum of lost time (s)		12.0
Intersection Capacity Utilization			26.7%					ICU Level of Service		A
Analysis Period (min)			15							
c Critical Lane Group										

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis
73: E Ponce De Leon &

Future SAT 2023 Phase II
7/12/2012

Movement	NBL	NBR	SEL	SER	SWL	SWR	
Lane Configurations							
Volume (vph)	261	501	24	47	724	26	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.88	1.00	1.00	0.97	1.00	
Frt	1.00	0.85	1.00	0.85	1.00	0.85	
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (prot)	3433	2787	1770	1583	3433	1583	
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (perm)	3433	2787	1770	1583	3433	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	284	545	26	51	787	28	
RTOR Reduction (vph)	0	327	0	31	0	17	
Lane Group Flow (vph)	284	218	26	20	787	11	
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	
Protected Phases	21	61			8		
Permitted Phases		2		6		8	
Actuated Green, G (s)	16.0	16.0	16.0	16.0	16.0	16.0	
Effective Green, g (s)	16.0	16.0	16.0	16.0	16.0	16.0	
Actuated g/C Ratio	0.40	0.40	0.40	0.40	0.40	0.40	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	1373	1115	708	633	1373	633	
v/s Ratio Prot	c0.08			c0.23			
v/s Ratio Perm		0.08		0.01		0.01	
v/c Ratio	0.21	0.20	0.04	0.03	0.57	0.02	
Uniform Delay, d1	7.8	7.8	7.3	7.3	9.3	7.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.3	0.4	0.1	0.1	1.7	0.1	
Delay (s)	8.2	8.2	7.4	7.4	11.1	7.3	
Level of Service	A	A	A	A	B	A	
Approach Delay (s)	8.2		7.4		11.0		
Approach LOS	A		A		B		
Intersection Summary							
HCM Average Control Delay				9.5	HCM Level of Service		A
HCM Volume to Capacity ratio				0.39			
Actuated Cycle Length (s)				40.0	Sum of lost time (s)		8.0
Intersection Capacity Utilization				41.4%	ICU Level of Service		A
Analysis Period (min)				15			
i Phase conflict between lane groups.							
c Critical Lane Group							

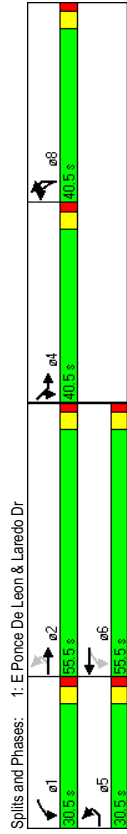
5:00 pm Baseline

Synchro 7 - Report
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Timings
1: E Ponce De Leon & Laredo Dr

Future PM 2023 Phase III
7/12/2012

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL2	NBL	SER	SER2
Lane Configurations	154	450	34	317	67	133	431	175	227
Volume (vph)	154	450	34	317	67	133	431	175	227
Turn Type	pm+pt	pm+pt	Free	Split	Split	Split	Prot	Free	Free
Protected Phases	5	2	1	6	6	8	4	4	4
Permitted Phases	2	6	6	6	6	8	4	4	4
Switch Phase	5	2	1	6	6	8	4	4	4
Minimum Initial (s)	10.0	20.0	10.0	20.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	13.5	40.5	15.5	34.5	32.5	32.5	30.5	30.5	30.5
Total Split (s)	30.5	55.5	30.5	55.5	0.0	40.5	40.5	40.5	0.0
Total Split (%)	18.3%	33.2%	18.3%	33.2%	0.0%	24.3%	24.3%	24.3%	0.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	4.0	5.5	5.5	5.5	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	None	None	None	None	None
Act Effect Green (s)	47.4	35.9	36.6	26.5	125.1	25.0	25.0	35.5	125.1
Actuated g/C Ratio	0.38	0.29	0.29	0.21	1.00	0.20	0.20	0.28	1.00
v/c Ratio	0.48	0.65	0.18	0.46	0.23	0.26	0.76	1.01	0.55
Control Delay	31.5	41.5	28.0	46.3	0.3	45.0	59.3	88.8	46.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.5	41.5	28.0	46.3	0.3	45.0	59.3	88.8	46.8
LOS	C	D	C	D	A	D	E	F	D
Approach Delay	39.3	22.9				55.6	56.3		
Approach LOS	D	C				E	E		



HCM Signalized Intersection Capacity Analysis
1: E Ponce De Leon & Laredo Dr

Future PM 2023 Phase III
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL2	NBL	NBR	SER	SER2
Lane Configurations	154	450	152	34	317	67	133	77	431	175	227
Volume (vph)	154	450	152	34	317	67	133	77	431	175	227
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5	4.0	5.5	5.5	5.5	5.5	4.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.96	1.00	1.00	1.00	0.85	1.00	0.94	1.00	0.85	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	0.95	0.97	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	3426	1732	3574	1589	1805	1736	1805	1615	1615	1615
Flt Permitted	0.36	1.00	0.29	1.00	1.00	0.95	0.97	0.95	1.00	1.00	1.00
Satd. Flow (perm)	692	3426	523	3574	1589	1805	1736	1805	1615	1615	1615
Peak-hour factor, PHF	0.80	0.97	0.78	0.75	0.92	0.86	0.71	0.79	0.71	0.83	0.89
Adj. Flow (vph)	192	464	195	45	345	369	94	168	108	519	254
RTOR Reduction (vph)	0	28	0	0	0	0	0	14	0	0	0
Lane Group Flow (vph)	192	631	0	45	345	369	94	262	0	519	254
Confl. Peds. (#/hr)	0%	1%	0%	4%	1%	0%	0%	0%	0%	0%	0%
Heavy Vehicles (%)	0%	1%	0%	4%	1%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	Free	Split	Free	Prot	Free	Free
Protected Phases	5	2	1	6	6	8	8	4	4	4	4
Permitted Phases	2	6	6	6	6	8	8	4	4	4	4
Actuated Green, G (s)	49.1	35.9	35.5	27.8	126.1	25.0	25.0	35.5	35.5	35.5	126.1
Effective Green, g (s)	49.1	35.9	35.5	27.8	126.1	25.0	25.0	35.5	35.5	35.5	126.1
Actuated g/C Ratio	0.39	0.28	0.28	0.22	1.00	0.20	0.20	0.28	0.28	0.28	1.00
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Vehicle Extension (s)	3.0	5.0	3.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	409	975	221	788	1589	358	344	508	455	1615	1615
v/s Ratio Prot	0.06	0.18	0.01	0.10	0.10	0.05	0.15	0.29	0.16	0.16	0.16
v/s Ratio Perm	0.12	0.65	0.20	0.44	0.23	0.26	0.76	1.02	0.56	0.16	0.16
v/c Ratio	0.47	0.65	0.20	0.44	0.23	0.26	0.76	1.02	0.56	0.16	0.16
Uniform Delay, d1	26.9	39.5	33.7	42.4	0.0	42.8	47.7	45.3	38.6	0.0	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.9	2.0	0.5	0.8	0.3	0.5	10.1	45.5	1.8	0.2	0.2
Delay (s)	27.8	41.6	34.1	43.2	0.3	43.3	57.8	90.8	40.4	0.2	0.2
Level of Service	C	D	C	D	A	D	E	F	D	A	A
Approach Delay (s)	38.5	D	21.8	C	54.1	55.7	E				
Approach LOS	D		C		D	E					

Intersection Summary	
HCM Average Control Delay	42.1
HCM Level of Service	D
HCM Volume to Capacity ratio	0.80
Actuated Cycle Length (s)	126.1
Intersection Capacity Utilization	82.1%
Analysis Period (min)	15
c Critical Lane Group	

HCM Signalized Intersection Capacity Analysis
2: E Ponce De Leon & DeKalb Industrial Way

Future PM 2023 Phase III
7/12/2012

Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	NWL2	NWL	NWR								
Lane Configurations																			
Volume (vph)	1	1	0	861	178	316	621	0	45	2	225								
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900								
Total Lost time (s)	6.0	6.0	4.0	6.0	4.0	6.0	6.0	6.0	6.0	6.0	6.0								
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00								
Fit	0.93	0.98	1.00	0.85	1.00	0.85	1.00	1.00	0.90	1.00	0.90								
Fit Protected	0.98	1.00	1.00	1.00	1.00	1.00	0.98	1.00	0.99	1.00	0.99								
Satd. Flow (prot)	1729	1729	1863	1615	3482	1615	3482	1615	1671	1671	1671								
Fit Permitted	0.98	1.00	1.00	1.00	1.00	1.00	0.51	1.00	0.99	1.00	0.99								
Satd. Flow (perm)	1729	1729	1863	1615	3482	1615	1813	1615	1671	1671	1671								
Peak-hour factor, PHF	0.25	0.25	0.25	0.94	0.90	0.95	0.91	0.92	0.65	0.25	0.89								
Adj. Flow (vph)	4	4	0	916	198	333	682	0	69	8	253								
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	111	0								
Lane Group Flow (vph)	8	0	0	916	198	0	1015	0	0	219	0								
Heavy Vehicles (%)	0%	0%	0%	2%	0%	0%	3%	0%	0%	0%	1%								
Turn Type				Free	Perm	Perm	Perm	Perm	Perm	Perm	Perm								
Protected Phases	41			2		6			8		81								
Permitted Phases					Free	6	60.4			17.8									
Actuated Green, G (s)	17.8			60.4	90.2	60.4	60.4			17.8									
Effective Green, g (s)	17.8			60.4	90.2	17.8	60.4			17.8									
Actuated g/C Ratio	0.20			0.67	1.00	0.67	0.67			0.20									
Clearance Time (s)	6.0			6.0	6.0	6.0	6.0			6.0									
Vehicle Extension (s)	3.0			3.0	3.0	3.0	3.0			3.0									
Lane Grp Cap (vph)	341			1248	1615	1214	1214			330									
v/s Ratio Prot	0.00			0.49															
v/s Ratio Perm					0.12		c0.56			0.13									
v/c Ratio	0.02			0.73	0.12		1.38d1			0.66									
Uniform Delay, d1	29.2			9.7	0.0		11.2			33.4									
Progression Factor	1.00			1.00	1.00	1.00	1.00			1.00									
Incremental Delay, d2	0.0			2.3	0.2		5.1			5.0									
Delay (s)	29.2			12.0	0.2		16.3			38.4									
Level of Service	C			B	A		B			D									
Approach Delay (s)	29.2			9.9			16.3			38.4									
Approach LOS	C			A			B			D									
Intersection Summary																			
HCM Average Control Delay	16.4			HCM Level of Service			B												
HCM Volume to Capacity ratio	0.80			Sum of lost time (s)			12.0												
Actuated Cycle Length (s)	90.2			ICU Level of Service			H												
Intersection Capacity Utilization	114.8%			Analysis Period (min)			15												
Defacto Left Lane. Recode with 1 though lane as a left lane.																			
Phase conflict between lane groups.																			
Critical Lane Group																			

HCM Signalized Intersection Capacity Analysis
3: E Ponce De Leon & DeKalb Industrial Way

Future PM 2023 Phase III
7/12/2012

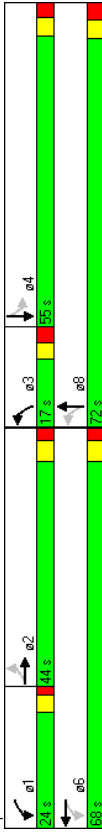
Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations	↰	↰		↰	↰		↰	↰			↰	↰
Volume (vph)	48	785	9	1	603	101	153	15	47	25	15	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	1.00	
Fpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.97		1.00	0.89		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.98	0.98	
Satd. Flow (prot)	1805	3560		1805	3488		1805	1881		1797	1797	
Flt Permitted	0.23	1.00		0.33	1.00		0.71	1.00		0.87	0.87	
Satd. Flow (perm)	435	3560		634	3488		1347	1681		1598	1598	
Peak-hour factor, PHF	0.67	0.95	0.44	0.25	0.97	0.78	0.56	0.50	0.63	0.83	0.60	0.63
Adj. Flow (vph)	72	826	20	4	622	129	273	30	75	30	25	19
RTOR Reduction (vph)	0	2	0	0	13	0	0	51	0	0	8	0
Lane Group Flow (vph)	72	844	0	4	738	0	273	54	0	0	66	0
Confl. Peds. (#/hr)	1		1						1	1		
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt			Perm		Perm	Perm			Perm		
Protected Phases	1	6		2	2		4	4		8	8	
Permitted Phases	6	6		2								
Actuated Green, G (s)	39.8	39.8		28.4	28.4		24.8	24.8		24.8	24.8	
Effective Green, g (s)	39.8	39.8		28.4	28.4		24.8	24.8		24.8	24.8	
Actuated g/C Ratio	0.52	0.52		0.37	0.37		0.32	0.32		0.32	0.32	
Clearance Time (s)	5.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	340	1850		235	1293		436	544		517	517	
v/s Ratio Prot	0.02	c0.24			c0.21			0.03				
v/s Ratio Perm	0.09			0.01			c0.20			0.04		
v/c Ratio	0.21	0.46		0.02	0.57		0.63	0.10		0.13		
Uniform Delay, d1	10.4	11.6		15.3	19.2		22.0	18.1		18.3		
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	0.4		0.1	1.0		3.9	0.2		0.2	0.2	
Delay (s)	10.8	12.0		15.3	20.2		25.9	18.3		18.5	18.5	
Level of Service	B	B		B	C		C	B		B	B	
Approach Delay (s)		11.9			20.2		23.8			18.5		
Approach LOS		B			C		C			B		
Intersection Summary												
HCM Average Control Delay	17.2			HCM Level of Service			B					
HCM Volume to Capacity ratio	0.61			Sum of lost time (s)			18.0					
Actuated Cycle Length (s)	76.6			ICU Level of Service			C					
Intersection Capacity Utilization	64.8%			Analysis Period (min)			15					
Analysis Period (min)	15			Critical Lane Group			C					

Timings
4: E Ponce De Leon & Arcadia Ave

Future PM 2023 Phase III
7/12/2012

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Volume (vph)	219	443	436	246	126	686	22	1026	122
Turn Type	Perm	pm+pt	pm+pt	pm+pt	Perm	Perm	Perm	Free	Free
Protected Phases	2	2	1	6	3	8	4	4	Free
Permitted Phases	2	2	6	6	8	4	4	4	Free
Switch Phase	2	2	1	6	3	8	4	4	Free
Minimum Initial (s)	15.0	15.0	5.0	15.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	22.0	22.0	9.4	22.0	12.7	22.2	21.8	21.8	21.8
Total Split (s)	44.0	44.0	24.0	68.0	17.0	72.0	55.0	55.0	0.0
Total Split (%)	31.4%	31.4%	17.1%	48.6%	12.1%	51.4%	39.3%	39.3%	0.0%
Yellow Time (s)	3.6	3.6	3.0	3.6	3.0	3.1	3.1	3.1	3.1
All-Red Time (s)	2.4	2.4	1.4	2.4	2.7	3.1	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.4	6.0	5.7	6.2	5.8	5.8	4.0
Lead/Lag	Lag	Lag	Lead	Lead	Lag	Lag	Lag	Lag	Lag
Lead/Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Max	None	Max	None	C-Max	C-Max	C-Max	C-Max
Act Effect Green (s)	38.0	38.0	63.6	62.0	66.3	65.8	49.6	49.6	140.0
Actuated g/C Ratio	0.27	0.27	0.45	0.44	0.47	0.47	0.35	0.35	1.00
v/c Ratio	0.86	0.79	1.45	0.20	0.74	0.71	0.27	0.84	0.09
Control Delay	75.8	47.9	251.5	22.8	51.1	28.5	40.8	49.1	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0
Total Delay	75.8	47.9	251.5	22.8	51.1	29.9	40.8	49.1	0.1
LOS	E	D	F	C	D	C	D	D	A
Approach Delay	54.6	159.2	F	F	32.3	C	C	43.3	D
Approach LOS	D	F	F	F	C	C	C	D	D

Splits and Phases: 4: E Ponce De Leon & Arcadia Ave



HCM Signalized Intersection Capacity Analysis
4: E Ponce De Leon & Arcadia Ave

Future PM 2023 Phase III
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	219	443	264	436	246	36	126	686	372	22	1026
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	4.4	6.0	6.0	5.7	6.2	5.8	5.8	5.8	4.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.99	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00
Flpb, ped/bikes	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.94	1.00	0.98	1.00	0.94	1.00	0.94	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1790	3349	1787	3484	1805	3357	1805	3610	1593	1805	3610
Flt Permitted	0.56	1.00	0.12	1.00	0.07	1.00	0.16	1.00	1.00	1.00	1.00
Satd. Flow (perm)	1057	3349	220	3484	138	3357	306	3610	1593	1805	3610
Peak-hour factor, PHF	0.89	0.93	0.87	0.94	0.93	0.73	0.87	0.96	0.80	0.75	0.95
Adj. Flow (vph)	246	476	303	464	265	49	145	715	465	29	1080
RTOR Reduction (vph)	0	73	0	0	11	0	0	77	0	0	0
Lane Group Flow (vph)	246	706	0	464	303	0	145	1103	0	29	1080
Conf. Peds. (#/hr)	5	4	3	4	4	4	3	4	4	4	5
Heavy Vehicles (%)	0%	1%	0%	1%	0%	0%	0%	1%	0%	0%	0%
Turn Type	Perm	2	2	1	6	3	8	1	Perm	4	Free
Protected Phases	2	2	2	1	6	3	8	1	Perm	4	Free
Permitted Phases	2	2	2	1	6	3	8	1	Perm	4	Free
Actuated Green, G (s)	38.0	38.0	38.0	62.0	62.0	65.8	65.8	49.6	49.6	49.6	140.0
Effective Green, g (s)	38.0	38.0	38.0	62.0	62.0	65.8	65.8	49.6	49.6	49.6	140.0
Actuated g/C Ratio	0.27	0.27	0.27	0.44	0.44	0.47	0.47	0.35	0.35	0.35	1.00
Clearance Time (s)	6.0	6.0	6.0	4.4	6.0	5.7	6.2	5.8	5.8	5.8	4.0
Vehicle Extension (s)	5.0	5.0	5.0	3.5	5.0	3.5	3.5	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	287	909	317	1543	0.09	195	1578	108	1279	1593	60.30
v/s Ratio Prot	0.23	0.21	0.21	0.21	0.09	0.06	0.33	0.09	0.09	0.09	0.09
v/s Ratio Perm	0.86	0.78	0.78	1.46	0.20	0.74	0.70	0.27	0.84	0.09	0.09
Uniform Delay, d1	48.4	47.1	40.3	23.8	40.3	31.1	29.3	32.3	41.6	0.0	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	26.6	6.5	225.3	0.3	0.3	14.6	2.6	6.0	6.9	0.1	0.1
Delay (s)	75.0	53.6	265.5	24.1	45.7	31.9	38.3	48.6	0.1	0.1	0.1
Level of Service	E	D	F	C	C	D	C	D	D	D	A
Approach Delay (s)	58.7	168.1	F	F	33.4	C	C	42.9	D	D	D
Approach LOS	E	F	F	F	C	C	C	D	D	D	D

Intersection Summary			
HCM Average Control Delay	66.0	HCM Level of Service	E
HCM Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	100.5%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis 5: N Decatur Rd & E Ponce De Leon

Future PM 2023 Phase III
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	NBR2	SWL2	SWL	SWR
Lane Configurations	←	←	←	←	←	←	←	←	←	←	←	←
Volume (vph)	177	1001	101	123	451	131	100	860	166	219	714	178
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.88	1.00	0.88	1.00	0.97	1.00	0.97
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96
Flt	0.95	1.00	0.99	0.99	1.00	0.95	1.00	0.85	1.00	0.96	1.00	0.96
Flt Protected	1805	3535	3458	1805	2838	1805	1805	2838	1805	3391	1805	3391
Satd. Flow (prot)	0.20	1.00	0.57	0.95	1.00	0.95	1.00	0.95	0.96	0.95	0.96	0.96
Flt Permitted	377	3535	1973	1805	2838	1805	1805	2838	1805	3391	1805	3391
Satd. Flow (perm)	0.86	0.95	0.67	0.79	0.94	0.85	0.82	0.93	0.91	0.79	0.95	0.66
Peak-hour factor, PHF	206	1054	151	156	480	154	122	925	182	277	752	270
Adj. Flow (vph)	0	11	0	0	17	0	0	18	0	0	47	0
RTOR Reduction (vph)	206	1194	0	0	773	0	122	1089	0	277	975	0
Lane Group Flow (vph)	4	5	6	0	5	5	5	5	6	5	5	4
Confl. Peds. (#/hr)	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt
Protected Phases	5	2	2	1	6	8	8	8	8	8	4	4
Permitted Phases	2	41.5	41.5	29.3	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5
Actuated Green, G (s)	41.5	41.5	41.5	29.3	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5
Effective Green, g (s)	0.52	0.52	0.37	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34
Actuated g/C Ratio	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Clearance Time (s)	3.0	8.0	8.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	315	1834	723	620	976	620	976	620	1166	620	1166	620
Lane Grp Cap (vph)	0.05	c0.34	0.05	c0.39	0.07	c0.38	0.07	c0.38	0.15	0.29	0.15	0.29
v/s Ratio Prot	0.28	0.65	0.65	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
v/s Ratio Perm	12.6	14.0	14.0	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4
Uniform Delay, d1	1.00	1.00	1.00	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
Progression Factor	4.8	1.8	1.8	52.0	52.0	52.0	52.0	52.0	52.0	52.0	52.0	52.0
Incremental Delay, d2	17.4	15.8	15.8	62.7	62.7	62.7	62.7	62.7	62.7	62.7	62.7	62.7
Delay (s)	B	B	B	E	E	E	B	F	F	C	C	C
Level of Service	B	B	B	E	E	E	B	F	F	C	C	C
Approach Delay (s)	16.0	62.7	62.7	84.9	84.9	84.9	84.9	84.9	84.9	84.9	84.9	84.9
Approach LOS	B	B	B	E	E	E	B	F	F	C	C	C
Intersection Summary												
HCM Average Control Delay	45.0											
HCM Volume to Capacity ratio	1.08											
Actuated Cycle Length (s)	80.0											
Intersection Capacity Utilization	105.1%											
Analysis Period (min)	15											
i Phase conflict between lane groups.												
c Critical Lane Group												

5:00 pm Baseline

HCM Signalized Intersection Capacity Analysis 6: Valley Brook Rd & E Ponce De Leon

Future PM 2023 Phase III
7/12/2012

Movement	SBL	SBR	NEL	NET	SWT	SWR
Lane Configurations	←	←	←	←	←	←
Volume (vph)	114	462	401	743	646	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	4.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.99	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.85	1.00	1.00	0.98	1.00
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1805	1591	1805	1900	1856	1856
Flt Permitted	0.95	1.00	0.06	1.00	1.00	1.00
Satd. Flow (perm)	1805	1591	121	1900	1856	1856
Peak-hour factor, PHF	0.85	0.95	0.87	0.96	0.90	0.76
Adj. Flow (vph)	134	486	461	774	718	109
RTOR Reduction (vph)	0	0	0	0	4	0
Lane Group Flow (vph)	134	486	461	774	823	0
Confl. Peds. (#/hr)	7	10	10	0%	0%	7
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	Free	Free	pm+pt	Free	Free	Free
Protected Phases	4	1	6	2	2	2
Permitted Phases	Free	Free	6	6	6	6
Actuated Green, G (s)	20.3	130.0	97.7	97.7	63.2	63.2
Effective Green, g (s)	20.3	130.0	97.7	97.7	63.2	63.2
Actuated g/C Ratio	0.16	1.00	0.75	0.75	0.49	0.49
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	282	1591	460	1428	902	902
Lane Grp Cap (vph)	c0.07	c0.22	0.41	0.44	0.44	0.44
v/s Ratio Prot	0.48	0.31	1.00	0.54	0.91	0.91
v/s Ratio Perm	50.0	0.0	43.4	6.8	30.8	30.8
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	1.00
Progression Factor	1.7	0.5	42.5	1.5	15.0	15.0
Incremental Delay, d2	51.7	0.5	85.9	8.3	45.9	45.9
Delay (s)	D	A	F	A	D	D
Level of Service	D	A	F	A	D	D
Approach Delay (s)	11.6	37.2	45.9	37.2	45.9	45.9
Approach LOS	B	D	D	D	D	D
Intersection Summary						
HCM Average Control Delay	34.0					
HCM Volume to Capacity ratio	0.88					
Actuated Cycle Length (s)	130.0					
Intersection Capacity Utilization	93.7%					
Analysis Period (min)	15					
c Critical Lane Group						

5:00 pm Baseline

HCM Signalized Intersection Capacity Analysis
7: Glendale Rd & E Ponce De Leon

Future PM 2023 Phase III
7/12/2012

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	214	214	690	347	102	546
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	4.0	6.5	4.0	6.5	6.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	0.99	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1805	1580	1900	1593	1768	1900
Flt Permitted	0.95	1.00	1.00	1.00	0.20	1.00
Satd. Flow (perm)	1805	1580	1900	1593	369	1900
Peak-hour factor, PHF	0.91	0.73	0.93	0.85	0.85	0.94
Adj. Flow (vph)	235	293	742	408	120	581
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	235	293	742	408	120	581
Confl. Peds. (#/hr)	5	4		5	4	
Heavy Vehicles (%)	0%	0%	0%	0%	2%	0%
Turn Type	Free	Free	2	Free	Perm	Perm
Protected Phases	4		2		6	6
Permitted Phases	Free	Free		Free	6	
Actuated Green, G (s)	16.7	90.0	47.8	90.0	47.8	47.8
Effective Green, g (s)	16.7	90.0	47.8	90.0	47.8	47.8
Actuated g/C Ratio	0.19	1.00	0.53	1.00	0.53	0.53
Clearance Time (s)	6.5		6.5		6.5	6.5
Vehicle Extension (s)	3.0		5.5		5.5	5.5
Lane Grp Cap (vph)	335	1580	1009	1593	196	1009
v/s Ratio Prot	c0.13		c0.39			0.31
v/s Ratio Perm		0.19		c0.26	0.33	
v/c Ratio	0.70	0.19	0.74	0.26	0.61	0.58
Uniform Delay, d1	34.3	0.0	16.2	0.0	14.7	14.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.5	0.3	4.8	0.4	13.5	2.4
Delay (s)	40.8	0.3	21.0	0.4	28.1	16.6
Level of Service	D	A	C	A	C	B
Approach Delay (s)	18.3		13.7		18.6	
Approach LOS	B		B		B	
Intersection Summary						
HCM Average Control Delay	16.2			HCM Level of Service		
HCM Volume to Capacity ratio	0.65			B		
Actuated Cycle Length (s)	90.0			Sum of lost time (s)		
Intersection Capacity Utilization	74.8%			ICU Level of Service		
Analysis Period (min)	15			D		
Critical Lane Group						

HCM Signalized Intersection Capacity Analysis
8: McLendon Dr & E Ponce De Leon

Future PM 2023 Phase III
7/12/2012

Movement	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations	↔	↔	↔	↕	↕	↔
Volume (vph)	266	114	104	792	706	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	4.0	6.0	6.0	6.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1805	1580	1805	1900	1900	1580
Flt Permitted	0.95	1.00	0.18	1.00	1.00	1.00
Satd. Flow (perm)	1805	1580	337	1900	1900	1580
Peak-hour factor, PHF	0.91	0.84	0.88	0.84	0.92	0.80
Adj. Flow (vph)	292	136	118	943	767	100
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	292	136	118	943	767	100
Confl. Peds. (#/hr)	3	3	3			3
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	Free	Free	pm+pt			Free
Protected Phases	8	1	6	2		
Permitted Phases	Free	Free				Free
Actuated Green, G (s)	25.9	123.0	85.1	85.1	69.5	123.0
Effective Green, g (s)	25.9	123.0	85.1	85.1	69.5	123.0
Actuated g/C Ratio	0.21	1.00	0.69	0.69	0.57	1.00
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	4.0	5.0	5.0	5.0		
Lane Grp Cap (vph)	380	1580	348	1315	1074	1580
v/s Ratio Prot	c0.16		0.03	c0.50	0.40	
v/s Ratio Perm	0.09	0.09	0.21			0.06
w/c Ratio	0.77	0.09	0.34	0.72	0.71	0.06
Uniform Delay, d1	45.7	0.0	13.9	11.6	19.5	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.6	0.1	1.2	3.4	4.1	0.1
Delay (s)	55.3	0.1	15.2	15.0	23.6	0.1
Level of Service	E	A	B	B	C	A
Approach Delay (s)	37.8			15.0	20.9	
Approach LOS	D			B	C	
Intersection Summary						
HCM Average Control Delay	21.3			HCM Level of Service		
HCM Volume to Capacity ratio	0.73			C		
Actuated Cycle Length (s)	123.0			Sum of lost time (s)		
Intersection Capacity Utilization	73.4%			ICU Level of Service		
Analysis Period (min)	15			D		
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis
9: E Ponce De Leon & Off Ramp 285

Future PM 2023 Phase III
7/12/2012

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	747	324	0	383	386
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.5	5.5
Lane Util. Factor		1.00	0.95	1.00	1.00	1.00
Frt		1.00	1.00	1.00	0.85	1.00
Satd. Flow (prot)		1900	3610		1805	1599
Flt Permitted		1.00	1.00		0.95	1.00
Satd. Flow (perm)		1900	3610		1805	1599
Peak-hour factor, PHF	0.92	0.91	0.78	0.92	0.87	0.87
Adj. Flow (vph)	0	821	415	0	440	444
RTOR Reduction (vph)	0	0	0	0	0	337
Lane Group Flow (vph)	0	821	415	0	440	107
Heavy Vehicles (%)	0%	0%	0%	0%	0%	1%
Turn Type		6	2		8	Perm
Protected Phases						
Permitted Phases						8
Actuated Green, G (s)		50.3	35.3		19.2	19.2
Effective Green, g (s)		50.3	35.3		19.2	19.2
Actuated g/C Ratio		0.63	0.44		0.24	0.24
Clearance Time (s)		5.0	5.0		5.5	5.5
Vehicle Extension (s)		5.0	5.0		3.5	3.5
Lane Grp Cap (vph)		1195	1593		433	384
v/s Ratio Prot		0.43	0.11		0.24	
v/s Ratio Perm						0.07
v/c Ratio		0.69	0.26		1.02	0.28
Uniform Delay, d1		9.7	14.1		30.4	24.8
Progression Factor		1.00	0.66		1.00	1.00
Incremental Delay, d2		3.2	0.4		47.4	0.5
Delay (s)		12.9	9.7		77.8	25.2
Level of Service		B	A		E	C
Approach Delay (s)		12.9	9.7		51.4	
Approach LOS		B	A		D	
Intersection Summary						
HCM Average Control Delay			28.3		HCM Level of Service	C
HCM Volume to Capacity ratio			0.78			
Actuated Cycle Length (s)			80.0		Sum of lost time (s)	10.5
Intersection Capacity Utilization			93.2%		ICU Level of Service	F
Analysis Period (min)			15			
c Critical Lane Group						

5:00 pm Baseline

Synchro 7 - Report
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HCM Unsignalized Intersection Capacity Analysis
10: Church St & On Ramp 285

Future PM 2023 Phase III
7/12/2012

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Volume (vph)	332	506	288	393	0	0
Peak Hour Factor	0.96	0.97	0.88	0.97	0.92	0.92
Hourly flow rate (vph)	346	522	327	405	0	0
Direction, Lane #	EB 1	WB 1				
Volume Total (vph)	867	732				
Volume Left (vph)	0	327				
Volume Right (vph)	522	0				
Head (s)	-0.35	0.10				
Departure Headway (s)	4.4	4.8				
Degree Utilization, x	1.05	0.97				
Capacity (veh/h)	837	748				
Control Delay (s)	65.0	47.9				
Approach Delay (s)	65.0	47.9				
Approach LOS	F	E				
Intersection Summary						
Delay			57.2			
HCM Level of Service			F			
Intersection Capacity Utilization			91.8%			
Analysis Period (min)			15			
ICU Level of Service						
F						

5:00 pm Baseline

Synchro 7 - Report
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HCM Unsignalized Intersection Capacity Analysis
11: Valley Brook Rd & SR 410 On Ramp

Future PM 2023 Phase III
7/12/2012

Movement	EBL	EBT	WBT	WBR	SWL	SWR	
Lane Configurations		↔↔	↔		↔	↔↔	
Volume (veh/h)	0	2101	431	0	211	884	
Sign Control		Free	Free		Stop		
Grade		0%	0%		0%		
Peak Hour Factor	0.98	0.98	0.97	0.92	0.92	0.98	
Hourly flow rate (vph)	0	2144	444	0	229	902	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type		None					
Median storage (veh)							
Upstream signal (ft)			789				
pX platoon unblocked							
vC conflicting volume	444				1516	444	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	444				1516	444	
IC, single (s)	4.1				6.8	6.9	
IC, 2 stage (s)							
IF (s)	2.2				3.5	3.3	
p0 queue free %	100				0	0	
cM capacity (veh/h)	1127				112	567	
Direction, Lane #	EB 1	EB 2	WB 1	SW 1	SW 2	SW 3	
Volume Total	1072	1072	444	229	451	451	
Volume Left	0	0	0	229	0	0	
Volume Right	0	0	0	0	451	451	
cSH	1700	1700	1700	112	567	567	
Volume to Capacity	0.63	0.63	0.26	2.04	0.80	0.80	
Queue Length 95th (ft)	0	0	0	479	191	191	
Control Delay (s)	0.0	0.0	0.0	563.3	31.6	31.6	
Lane LOS				F	D	D	
Approach Delay (s)	0.0		0.0	139.4			
Approach LOS				F			

Intersection Summary

Average Delay	42.4	
Intersection Capacity Utilization	76.4%	ICU Level of Service D
Analysis Period (min)	15	

5:00 pm Baseline

12: N Decatur Rd & DeKalb Industrial Way

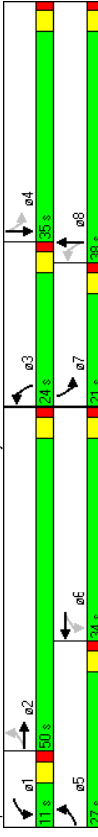
Future PM 2023 Phase III
7/12/2012

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↔↔	↔↔	↔↔	↔↔	↔↔	↔↔	↔↔	↔↔	↔↔
Volume (vph)	339	1043	90	458	274	783	234	704	107
Turn Type	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	Free
Protected Phases	5	2	1	6	3	8	7	4	
Permitted Phases	2	6			8		4		Free
Detector Phase	5	2	1	6	3	8	7	4	
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	15.0	5.0	7.0	5.0	7.0	
Minimum Split (s)	22.0	31.0	11.0	31.0	11.0	31.0	11.0	13.0	
Total Split (s)	27.0	50.0	11.0	34.0	24.0	38.0	21.0	35.0	0.0
Total Split (%)	22.5%	41.7%	9.2%	28.3%	20.0%	31.7%	17.5%	29.2%	0.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min	None	Min	None	None	None	None	
Act Eff Green (s)	56.5	45.5	36.0	29.5	52.5	33.5	46.1	30.3	119.3
Actuated g/C Ratio	0.47	0.38	0.30	0.25	0.44	0.28	0.39	0.25	1.00
v/c Ratio	1.01	0.97	0.71	0.79	0.93	0.97	0.85	0.81	0.08
Control Delay	82.6	55.0	47.1	46.4	66.0	63.7	54.9	49.8	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	82.6	55.0	47.1	46.4	66.0	63.7	54.9	49.8	0.1
LOS	F	E	D	D	E	E	D	D	A
Approach Delay	61.6		46.5		64.3		45.5		
Approach LOS	E		D		E		D		

Intersection Summary

Cycle Length: 120	
Actuated Cycle Length: 119.3	
Natural Cycle: 95	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.01	
Intersection Signal Delay: 56.2	Intersection LOS: E
Intersection Capacity Utilization 94.0%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 12: N Decatur Rd & DeKalb Industrial Way



5:00 pm Baseline

HCM Signalized Intersection Capacity Analysis
12: N Decatur Rd & DeKalb Industrial Way

Future PM 2023 Phase III
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	339	1043	216	90	458	186	274	783	109	234	704	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95
Fltb. ped/bikes	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fltb. ped/bikes	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fltb. ped/bikes	1.00	0.97	1.00	0.96	1.00	0.96	1.00	0.98	1.00	1.00	1.00	0.85
Fltb. Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1805	3495	1805	3428	1805	3428	1805	3534	1805	3610	1577	1577
Fltb. Permitted	0.12	1.00	0.14	1.00	0.12	1.00	0.12	1.00	0.13	1.00	1.00	1.00
Satd. Flow (perm)	233	3495	258	3428	227	3534	251	3610	1577	1577	1577	1577
Peak-hour factor, PHF	0.82	0.98	0.86	0.78	0.93	0.89	0.84	0.92	0.92	0.91	0.95	0.86
Adj. Flow (vph)	413	1064	251	115	492	209	326	851	118	257	741	124
RTOR Reduction (vph)	0	17	0	0	39	0	0	9	0	0	0	0
Lane Group Flow (vph)	413	1298	0	115	662	0	326	960	0	257	741	124
Confl. Peds. (#/hr)	5	7	8	0	0	6	7	8	6	6	5	5
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Turn Type	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	Free
Protected Phases	5	2	1	6	3	8	7	4	7	4	4	Free
Permitted Phases	5	2	1	6	3	8	7	4	7	4	4	Free
Actuated Green, G (s)	56.5	45.5	36.0	29.5	52.5	33.5	52.5	33.5	46.1	30.3	119.3	119.3
Effective Green, g (s)	56.5	45.5	36.0	29.5	52.5	33.5	52.5	33.5	46.1	30.3	119.3	119.3
Actuated g/C Ratio	0.47	0.38	0.30	0.25	0.44	0.28	0.44	0.28	0.39	0.25	1.00	1.00
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	8.0	3.0	8.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	407	1333	162	848	351	992	303	917	1577	1577	1577	1577
v/s Ratio Prot	c0.19	0.37	0.04	0.19	c0.15	c0.27	0.11	0.21	0.22	0.11	0.21	0.21
v/s Ratio Perm	c0.29	0.18	0.71	0.78	0.93	0.97	0.85	0.81	0.85	0.81	0.81	0.81
Uniform Delay, d1	35.4	36.3	34.0	41.9	33.6	42.4	30.0	41.8	0.0	41.8	0.0	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	48.4	19.1	13.3	6.6	30.1	20.8	19.3	5.3	0.1	19.3	5.3	0.1
Delay (s)	83.8	55.4	47.3	48.4	63.7	63.2	49.3	47.1	0.1	49.3	47.1	0.1
Level of Service	F	E	D	D	E	E	D	D	D	D	D	A
Approach Delay (s)	62.2	E	E	48.3	E	63.3	E	E	E	E	42.4	D
Approach LOS	E	E	E	D	D	E	E	E	E	E	D	D

Intersection Summary			
HCM Average Control Delay	55.7	HCM Level of Service	E
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	119.3	Sum of lost time (s)	13.5
Intersection Capacity Utilization	94.0%	ICU Level of Service	F
Analysis Period (min)	15		
Critical Lane Group			
c			

5:00 pm Baseline

HCM Signalized Intersection Capacity Analysis
13: N Decatur Rd & Church St W

Future PM 2023 Phase III
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Volume (vph)	114	889	46	197	579	87	128	1078	245	186	696	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0	4.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95
Fltb. Protected	0.95	1.00	0.85	1.00	0.95	1.00	0.85	1.00	0.95	1.00	0.95	1.00
Fltb. Permitted	0.38	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	3610	1615	1805	3610	1583	1805	3610	1615	1805	3610	1524
Fltb. Permitted	0.38	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (perm)	731	3610	1615	159	3610	1583	370	3610	1615	136	3610	1524
Peak-hour factor, PHF	0.82	0.92	0.77	0.79	0.94	0.76	0.72	0.94	0.77	0.93	0.81	0.88
Adj. Flow (vph)	139	977	60	249	616	114	178	1147	318	200	859	50
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	139	977	60	249	616	114	178	1147	318	200	859	50
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	6%
Turn Type	pm+pt	pm+pt	Free	pm+pt	Free	pm+pt	Free	pm+pt	Free	pm+pt	Free	Free
Protected Phases	7	4	Free	3	8	Free	5	2	Free	1	6	Free
Permitted Phases	7	4	Free	3	8	Free	5	2	Free	1	6	Free
Actuated Green, G (s)	48.3	41.8	150.0	66.1	53.6	150.0	61.4	51.4	150.0	70.4	55.9	150.0
Effective Green, g (s)	48.3	41.8	150.0	66.1	53.6	150.0	61.4	51.4	150.0	70.4	55.9	150.0
Actuated g/C Ratio	0.32	0.28	1.00	0.44	0.36	1.00	0.41	0.34	1.00	0.47	0.37	1.00
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	282	1006	1615	271	1290	1583	247	1237	1615	225	1345	1524
v/s Ratio Prot	0.02	0.27	0.04	c0.11	0.17	0.07	0.05	0.32	0.20	c0.09	c0.24	0.03
v/s Ratio Perm	0.14	0.04	0.92	0.48	0.48	0.07	0.25	0.93	0.20	0.89	0.64	0.03
Uniform Delay, d1	38.3	53.5	0.0	45.7	37.3	0.0	31.1	47.5	0.0	44.0	38.7	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.4	21.6	0.0	33.5	0.3	0.1	9.9	13.2	0.3	31.7	2.3	0.0
Delay (s)	39.6	75.1	0.0	79.3	37.6	0.1	41.0	60.7	0.3	75.7	41.1	0.0
Level of Service	D	E	A	E	D	A	D	E	A	E	D	A
Approach Delay (s)	67.0	E	A	E	D	A	D	E	A	E	D	A
Approach LOS	E	E	A	E	D	A	D	E	A	E	D	A

Intersection Summary				D
HCM Average Control Delay	50.8	HCM Level of Service		D
HCM Volume to Capacity ratio	0.90			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)		18.0
Intersection Capacity Utilization	95.9%	ICU Level of Service		F
Analysis Period (min)	15			
c Critical Lane Group				

5:00 pm Baseline

HCM Signalized Intersection Capacity Analysis

14: N Decatur Rd & Church St

Future PM 2023 Phase III
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	322	1009	54	2	541	11	25	150	81	7	62	139
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.99	1.00	1.00	1.00	1.00
Flpb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.99	1.00	0.99	1.00	0.99	1.00	0.96	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.99	1.00	0.99	1.00	0.99	1.00	0.99	1.00
Satd. Flow (prot)	1805	3563	1805	3563	1805	3563	1790	1885	1599	1885	1599	1885
Flt Permitted	0.26	1.00	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Satd. Flow (perm)	488	3563	488	3563	488	3563	1694	1694	1694	1694	1694	1599
Peak-hour factor, PHF	0.94	0.92	0.62	0.25	0.85	0.45	0.54	0.95	0.81	0.38	0.63	0.76
Adj. Flow (vph)	343	1097	87	8	636	24	46	158	100	18	98	183
RTOR Reduction (vph)	0	6	0	0	3	0	0	22	0	0	0	0
Lane Group Flow (vph)	343	1178	0	0	665	0	0	282	0	0	116	183
Confl. Peds. (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Turn Type	pm-pt	pm-pt	pm-pt	pm-pt	pm-pt	pm-pt	pm-pt	pm-pt	pm-pt	pm-pt	pm-pt	pm-pt
Permitted Phases	2	2	2	2	2	2	2	2	2	2	2	2
Actuated Green, G (s)	41.5	41.5	41.5	29.3	29.3	29.3	27.5	27.5	27.5	27.5	27.5	80.0
Effective Green, g (s)	41.5	41.5	41.5	29.3	29.3	29.3	27.5	27.5	27.5	27.5	27.5	80.0
Actuated g/C Ratio	0.52	0.52	0.52	0.37	0.37	0.37	0.34	0.34	0.34	0.34	0.34	1.00
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Vehicle Extension (s)	3.0	8.0	8.0	8.0	8.0	8.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	363	1848	363	1848	363	1848	582	582	582	582	582	1599
v/s Ratio Prot	c0.08	0.33	c0.08	0.33	c0.08	0.33	c0.17	c0.17	c0.17	c0.17	c0.17	0.11
v/s Ratio Perm	c0.41	0.64	c0.41	0.64	c0.41	0.64	0.48	0.48	0.48	0.48	0.48	0.11
Uniform Delay, d1	16.3	13.8	16.3	13.8	16.3	13.8	20.7	20.7	20.7	20.7	20.7	18.4
Progression Factor	0.79	0.68	0.79	0.68	0.79	0.68	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	27.2	1.3	27.2	1.3	27.2	1.3	0.9	0.9	0.9	0.9	0.9	0.1
Delay (s)	40.0	10.7	40.0	10.7	40.0	10.7	21.5	21.5	21.5	21.5	21.5	18.6
Level of Service	D	B	D	B	D	B	C	C	C	C	C	A
Approach Delay (s)	17.3	17.3	17.3	17.3	17.3	17.3	21.5	21.5	21.5	21.5	21.5	7.3
Approach LOS	B	B	B	B	B	B	C	C	C	C	C	A

Intersection Summary				
HCM Average Control Delay	17.7	HCM Level of Service		B
HCM Volume to Capacity ratio	0.73	Sum of lost time (s)		11.0
Actuated Cycle Length (s)	80.0	ICU Level of Service		E
Intersection Capacity Utilization	85.3%			
Analysis Period (min)	15			
c Critical Lane Group				

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis

15: E College Ave & Arcadia Ave

Future PM 2023 Phase III
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	641	863	42	36	526	227	16	287	20	578	551	597
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0	6.0	6.0	6.0	6.0	5.8	5.8	5.8	5.7	5.8	4.0
Lane Util. Factor	0.97	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	1.00	0.99	1.00	1.00	1.00	0.85
Flt Permitted	0.15	1.00	0.29	1.00	0.29	1.00	0.84	0.84	0.22	1.00	1.00	1.00
Satd. Flow (perm)	567	3577	567	3577	567	3577	2984	2984	425	1900	1615	1615
Peak-hour factor, PHF	0.96	0.93	0.71	0.81	0.89	0.93	0.46	0.85	0.67	0.95	0.92	0.96
Adj. Flow (vph)	688	917	59	44	591	244	35	338	30	608	599	622
RTOR Reduction (vph)	0	5	0	0	50	0	0	7	0	0	0	0
Lane Group Flow (vph)	688	971	0	44	785	0	0	396	0	608	599	622
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm-pt	pm-pt	pm-pt	pm-pt	pm-pt	pm-pt	pm-pt	pm-pt	pm-pt	pm-pt	pm-pt	pm-pt
Permitted Phases	2	2	2	2	2	2	2	2	2	2	2	2
Actuated Green, G (s)	37.0	37.0	37.0	21.6	21.6	21.6	12.2	12.2	12.2	41.2	41.2	90.0
Effective Green, g (s)	37.0	37.0	37.0	21.6	21.6	21.6	12.2	12.2	12.2	41.2	41.2	90.0
Actuated g/C Ratio	0.41	0.41	0.41	0.24	0.24	0.24	0.14	0.14	0.14	0.46	0.46	1.00
Clearance Time (s)	4.4	6.0	6.0	6.0	6.0	6.0	5.8	5.8	5.7	5.7	5.8	5.8
Vehicle Extension (s)	3.5	5.0	5.0	5.0	5.0	5.0	3.0	3.0	3.0	3.5	3.5	3.5
Lane Grp Cap (vph)	582	1471	134	828	828	828	404	404	562	870	1615	1615
v/s Ratio Prot	c0.14	0.27	c0.14	0.23	0.23	0.23	c0.22	c0.22	c0.22	0.39	0.39	0.39
v/s Ratio Perm	1.13	0.66	1.13	0.33	0.33	0.33	0.98	0.98	1.10	0.69	0.69	0.39
Uniform Delay, d1	22.6	21.4	28.2	33.6	33.6	33.6	38.8	38.8	23.5	19.3	19.3	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	77.7	2.3	6.4	20.9	20.9	20.9	39.4	39.4	69.1	2.4	0.7	0.7
Delay (s)	100.2	23.8	34.6	54.5	54.5	54.5	78.2	78.2	92.6	21.7	0.7	0.7
Level of Service	F	C	C	D	D	D	E	E	F	C	C	A
Approach Delay (s)	54.8	54.8	54.8	53.6	53.6	53.6	78.2	78.2	38.1	38.1	38.1	38.1
Approach LOS	D	D	D	D	D	D	E	E	D	D	D	D

Intersection Summary			
HCM Average Control Delay	50.1	HCM Level of Service	D
HCM Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.1
Intersection Capacity Utilization	99.5%	ICU Level of Service	F
Analysis Period (min)	15		
Critical Lane Group			

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis
16: Katie Kerr Dr & S Columbia Dr

Future PM 2023 Phase III
7/12/2012

Movement	WBL	WBR	NBL	NBR	SER	
Lane Configurations	W		W		W	
Volume (vph)	370	17	354	162	52	786
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frb, ped/bikes	0.98	0.98	0.98	0.88	1.00	1.00
Frb, ped/bikes	0.95	0.97	1.00	1.00	1.00	1.00
Satd. Flow (prot)	1802	1761	1657	1657	1657	1657
Fit Permitted	0.95	0.97	1.00	1.00	1.00	1.00
Satd. Flow (perm)	1802	1761	1657	1657	1657	1657
Peak-hour factor, PHF	0.89	0.79	0.87	0.91	0.70	0.89
Adj. Flow (vph)	416	22	407	178	74	883
RTOR Reduction (vph)	3	0	25	0	0	0
Lane Group Flow (vph)	435	0	560	0	957	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	81	2	6			
Protected Phases						
Permitted Phases						
Actuated Green, G (s)	15.9	16.0	49.5			
Effective Green, g (s)	15.9	16.0	49.5			
Actuated g/C Ratio	0.27	0.27	0.83			
Clearance Time (s)	5.0	5.0	5.0			
Vehicle Extension (s)	3.0	3.0	3.0			
Lane Grp Cap (vph)	482	474	1657			
v/s Ratio Prot	c0.24	c0.32	c0.12			
v/s Ratio Perm	0.90	1.18	0.58			
v/s Ratio	21.1	21.8	2.0			
Progression Factor	1.00	1.00	1.00			
Incremental Delay, d1	20.0	101.6	0.5			
Delay (s)	41.0	123.4	2.5			
Level of Service	D	F	A			
Approach Delay (s)	41.0	123.4	2.5			
Approach LOS	D	F	A			
Intersection Summary						
HCM Average Control Delay	46.7			HCM Level of Service	D	
HCM Volume to Capacity ratio	0.88					
Actuated Cycle Length (s)	59.5			Sum of lost time (s)	10.0	
Intersection Capacity Utilization	115.0%			ICU Level of Service	H	
Analysis Period (min)	15					
i Phase conflict between lane groups.						
c Critical Lane Group						

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis
17: W College Ave & Commerce Dr

Future PM 2023 Phase III
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4P	4P		4P		4P			4P	
Volume (vph)	26	1145	41	58	881	153	112	221	80	334	479
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Frb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fit	0.99	0.98	0.98	0.97	0.99	0.97	0.99	0.97	0.99	0.98	0.98
Fit Protected	1.00	1.00	1.00	0.99	1.00	0.99	1.00	0.99	1.00	0.98	0.98
Satd. Flow (prot)	3580	3511	3424	3424	3486	3486	3486	3486	3486	3486	3486
Fit Permitted	0.82	0.82	0.61	0.51	0.62	0.62	0.62	0.62	0.62	0.62	0.62
Satd. Flow (perm)	2948	2158	1777	1777	2216	2216	2216	2216	2216	2216	2216
Peak-hour factor, PHF	0.75	0.97	0.83	0.77	0.98	0.83	0.87	0.75	0.86	0.94	0.75
Adj. Flow (vph)	35	1180	49	75	899	172	135	254	107	388	510
RTOR Reduction (vph)	0	3	0	0	14	0	0	18	0	0	8
Lane Group Flow (vph)	0	1261	0	0	1132	0	0	478	0	0	979
Conf. Peds. (#/hr)	2	10	9	1	10	1	10	9	1	1	2
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	2	2	2	6	6	4	4	3	8	8	8
Permitted Phases	2	47.3	47.3	47.3	47.3	41.8	41.8	41.8	41.8	41.8	41.8
Actuated Green, G (s)	47.3	47.3	47.3	47.3	47.3	41.8	41.8	41.8	41.8	41.8	41.8
Effective Green, g (s)	47.3	47.3	47.3	47.3	47.3	41.8	41.8	41.8	41.8	41.8	41.8
Actuated g/C Ratio	0.47	0.47	0.47	0.47	0.47	0.42	0.42	0.42	0.42	0.42	0.42
Clearance Time (s)	5.7	5.7	5.7	5.7	5.7	5.2	5.2	5.2	5.2	5.2	5.2
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	1394	1021	1021	1021	1021	743	743	926	926	926	926
v/s Ratio Prot	0.43	0.43	0.43	0.52	0.52	0.27	0.27	0.44	0.44	0.44	0.44
v/s Ratio Perm	0.90	1.11	1.11	0.92d	0.92d	1.14d	1.14d	1.14d	1.14d	1.14d	1.14d
Uniform Delay, d1	24.3	26.4	26.4	23.2	23.2	29.1	29.1	29.1	29.1	29.1	29.1
Progression Factor	0.81	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.2	62.8	62.8	89.2	89.2	2.1	2.1	46.1	46.1	46.1	46.1
Delay (s)	24.8	89.2	89.2	25.3	25.3	75.2	75.2	75.2	75.2	75.2	75.2
Level of Service	C	F	F	F	F	E	E	E	E	E	E
Approach Delay (s)	24.8	89.2	89.2	25.3	25.3	75.2	75.2	75.2	75.2	75.2	75.2
Approach LOS	C	F	F	F	F	E	E	E	E	E	E
Intersection Summary											
HCM Average Control Delay	56.6			HCM Level of Service	E						
HCM Volume to Capacity ratio	1.08										
Actuated Cycle Length (s)	100.0			Sum of lost time (s)	10.9						
Intersection Capacity Utilization	120.1%			ICU Level of Service	H						
Analysis Period (min)	15										
d1 Defacto Left Lane. Recode with 1 though lane as a left lane.											
c Critical Lane Group											

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis
18: W College Ave & SR 155

Future PM 2023 Phase III
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↔↔↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	
Volume (vph)	47	912	90	100	653	213	27	215	103	262	583	29	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		6.0		6.0	6.0	5.0	6.0	6.0		5.0	6.0		
Lane Util. Factor		0.95		1.00	1.00	1.00	1.00	1.00		1.00	1.00		
Frpb, ped/bikes		0.99		1.00	1.00	1.00	1.00	0.99		1.00	1.00		
Fltb, ped/bikes		1.00		1.00	1.00	1.00	0.99	1.00		1.00	1.00		
Flt		0.99		1.00	1.00	0.85	1.00	0.95		1.00	0.99		
Flt Protected		1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00		
Satd. Flow (prot)		3530		1798	1900	1615	1782	1791		1804	1880		
Flt Permitted		0.70		0.16	1.00	1.00	0.20	1.00		0.15	1.00		
Satd. Flow (perm)		2495		310	1900	1615	376	1791		287	1880		
Peak-hour factor, PHF		0.86		0.85	0.90	0.85	0.79	0.85		0.87	0.91		
Adj. Flow (vph)		55		940	105	118	726	251		34	253		
RTOR Reduction (vph)		0		0	0	0	86	0		17	0		
Lane Group Flow (vph)		0		0	118	726	165	34		354	0		
Confl. Peds. (#/hr)		14		20	15	9	20	15		9	14		
Heavy Vehicles (%)		0%		0%	0%	0%	0%	0%		0%	0%		
Turn Type		Perm		Perm	Over	Perm	Perm	Perm		pm+pt	pm+pt		
Protected Phases		2		6	6	7	8	8		7	4		
Permitted Phases		2		6			8			4			
Actuated Green, G (s)		49.1		49.1	49.1	12.1	21.8	21.8		38.9	38.9		
Effective Green, g (s)		49.1		49.1	49.1	12.1	21.8	21.8		38.9	38.9		
Actuated g/C Ratio		0.49		0.49	0.49	0.12	0.22	0.22		0.39	0.39		
Clearance Time (s)		6.0		6.0	6.0	5.0	6.0	6.0		5.0	6.0		
Vehicle Extension (s)		5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0		
Lane Grp Cap (vph)		1225		152	933	195	82	390		295	731		
v/s Ratio Prot		c0.44		0.38	0.38	0.10	0.09	0.20		0.12	c0.34		
v/s Ratio Perm		0.89		0.78	0.78	0.85	0.41	0.91		0.98	0.89		
Uniform Delay, d1		23.0		20.9	21.0	43.0	33.6	38.1		24.8	28.5		
Progression Factor		0.80		1.59	1.63	1.08	1.00	1.00		1.00	1.00		
Incremental Delay, d2		6.5		3.6	0.6	3.6	7.0	25.3		45.9	13.2		
Delay (s)		24.9		36.9	34.8	50.2	40.6	63.4		70.8	41.7		
Level of Service		C		D	C	D	D	E		E	D		
Approach Delay (s)		24.9		38.6	38.6	61.5	61.5	50.7		50.7	D		
Approach LOS		C		D	D	E	E	D		D			
Intersection Summary													
HCM Average Control Delay		40.2		HCM Level of Service								D	
HCM Volume to Capacity ratio		0.91											
Actuated Cycle Length (s)		100.0		Sum of lost time (s)								12.0	
Intersection Capacity Utilization		122.3%		ICU Level of Service								H	
Analysis Period (min)		15											
c Critical Lane Group													

HCM Signalized Intersection Capacity Analysis
19: W College Ave & McDonough St

Future PM 2023 Phase III
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	615	45	105	508	57	12	169	126	318	397	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	16	12	12	12	12	11	11	11	11	11	11
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	5.0	6.0	5.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.99	1.00	0.98	1.00	0.98	1.00	0.93	1.00	0.97	1.00	0.97
Flt Protected	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	2112	1805	1855	1739	1683	1739	1883	1745	1782	1782	1782
Flt Permitted	0.12	1.00	0.10	1.00	0.33	1.00	0.33	1.00	0.26	1.00	0.26	1.00
Satd. Flow (perm)	233	2112	181	1855	602	1883	602	1883	477	1782	477	1782
Peak-hour factor, PHF	0.55	0.96	0.64	0.78	0.87	0.59	0.83	0.87	0.84	0.96	0.85	0.72
Adj. Flow (vph)	55	641	70	135	584	97	14	194	150	331	467	94
RTOR Reduction (vph)	0	4	0	0	6	0	0	27	0	0	7	0
Lane Group Flow (vph)	55	707	0	135	675	0	14	317	0	331	554	0
Confl. Peds. (#/hr)	6	9	7	4	9	4	9	7	4	7	4	6
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt
Protected Phases	2	2		6	6	6	3	8	7	7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	42.0	42.0		42.0	42.0	42.0	27.0	26.0	46.0	46.0	40.0	
Effective Green, g (s)	42.0	42.0		42.0	42.0	42.0	27.0	26.0	46.0	46.0	40.0	
Actuated g/C Ratio	0.42	0.42		0.42	0.42	0.42	0.27	0.26	0.46	0.46	0.40	
Clearance Time (s)	6.0	6.0		6.0	6.0	6.0	5.0	6.0	5.0	6.0	6.0	
Vehicle Extension (s)	5.0	5.0		5.0	5.0	5.0	3.0	3.5	3.5	4.0	4.0	
Lane Grp Cap (vph)	98	887		76	779	0.36	174	438	410	713	713	
v/s Ratio Prot	0.33			c0.76		0.02	0.02	0.19	c0.12	0.31	0.31	
v/s Ratio Perm	0.56	0.80		1.78	0.87	0.87	0.08	0.72	0.81	0.78	0.78	
v/c Ratio	22.0	25.3		29.0	26.4	27.1	33.7	33.7	20.0	26.1	26.1	
Uniform Delay, d1	1.00	1.00		1.07	1.05	1.00	1.00	1.00	1.00	1.00	1.00	
Progression Factor	1.00	1.00		1.07	1.05	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	21.2	7.4		382.0	8.6	0.2	6.0	11.4	5.7	5.7	5.7	
Delay (s)	43.2	32.7		413.0	36.3	27.3	39.7	39.7	31.4	31.8	31.8	
Level of Service	D	C		F	D	D	C	D	C	C	C	
Approach Delay (s)	33.4	98.6		39.2	31.6							
Approach LOS	C	F		D	D							
Intersection Summary												
HCM Average Control Delay	52.4	HCM Level of Service										D
HCM Volume to Capacity ratio	1.24											
Actuated Cycle Length (s)	100.0	Sum of lost time (s)										11.0
Intersection Capacity Utilization	95.5%	ICU Level of Service										F
Analysis Period (min)	15											
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
20: Driveway & Dekalb Industrial Way

Future PM 2023 Phase III
7/12/2012

Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	NWL2	NWL	NWR
Lane Configurations											
Volume (vph)	1	0	1	682	22	196	732	0	6	0	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.6	5.6	4.0	5.6	5.6	5.6	5.5	4.0	5.5	4.0
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	0.85
Fit	1.00	1.00	1.00	0.85	1.00	1.00	0.95	1.00	1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00	1.00	0.85	1.00	0.95	1.00	0.95	1.00	0.85
Satd. Flow (prot)	1805	1805	3610	1615	1805	3610	3610	1805	1615	1805	1615
Flt Permitted	1.00	0.36	1.00	1.00	1.00	0.30	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1900	689	3610	1615	568	3610	3610	1805	1615	1805	1615
Peak-hour factor, PHF	0.92	0.92	0.25	0.91	0.64	0.94	0.96	0.92	0.42	0.92	0.93
Adj. Flow (vph)	1	0	4	749	34	209	762	0	14	0	188
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	1	0	4	749	34	209	762	0	0	14	188
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	Free	pm+pt	Free	pm+pt	Free	pm+pt	Free	pm	Free	Free
Protected Phases	8	2	5	2	6	1	6	8	8	8	8
Permitted Phases	0.9	25.8	25.1	48.1	35.2	29.8	29.8	0.9	48.1	0.9	48.1
Actuated Green, G (s)	0.9	25.8	25.1	48.1	35.2	29.8	29.8	0.9	48.1	0.9	48.1
Effective Green, g (s)	0.02	0.54	0.52	1.00	0.73	0.62	0.62	0.02	1.00	0.02	1.00
Actuated g/C Ratio	5.5	5.6	5.6	5.6	5.6	5.6	5.6	5.5	5.5	5.5	5.5
Clearance Time (s)	2.0	2.0	5.0	5.0	2.0	5.0	5.0	2.0	2.0	2.0	2.0
Vehicle Extension (s)	2.0	2.0	5.0	5.0	2.0	5.0	5.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	36	386	1884	1615	555	2237	2237	34	1615	34	1615
v/s Ratio Prot	0.00	0.00	0.21	0.02	c0.04	0.21	c0.12	0.01	c0.12	0.01	c0.12
v/s Ratio Perm	0.00	0.01	0.40	0.02	0.38	0.34	0.41	0.12	0.41	0.12	0.41
v/c Ratio	0.03	0.01	0.40	0.02	0.38	0.34	0.41	0.12	0.41	0.12	0.41
Uniform Delay, d1	23.2	5.2	6.9	0.0	2.4	4.4	23.3	0.0	23.3	0.0	23.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.0	0.3	0.0	0.2	0.2	0.2	2.9	0.1	2.9	0.1
Delay (s)	23.3	5.2	7.2	0.0	2.6	4.6	26.3	0.1	26.3	0.1	26.3
Level of Service	C	A	A	A	A	A	A	C	A	C	A
Approach Delay (s)	23.3	6.9	A	A	4.2	A	2.0	A	A	2.0	A
Approach LOS	C	A	A	A	A	A	A	A	A	A	A
Intersection Summary											
HCM Average Control Delay	5.0 HCM Level of Service										
HCM Volume to Capacity ratio	0.36 A										
Actuated Cycle Length (s)	48.1										
Intersection Capacity Utilization	59.9% Sum of lost time (s)										
Analysis Period (min)	15 ICU Level of Service										
c Critical Lane Group	B										

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis
21: Dekalb Industrial Way &

Future PM 2023 Phase III
7/12/2012

Movement	NBL2	NBL	NBR	SEL	SER	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations											
Volume (vph)	50	0	1300	5	4	0	3756	76	1001	1841	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4		6.6	6.8			6.5		6.6	6.2	
Lane Util. Factor	1.00		0.88	1.00			0.86		0.97	0.91	
Flt. ped/bikes	1.00		0.99	1.00			1.00		1.00	1.00	
Flt. ped/bikes	1.00		1.00	1.00			1.00		1.00	1.00	
Flt	1.00		0.85	0.94			1.00		1.00	1.00	
Flt Protected	0.95		1.00	0.97			1.00		0.95	1.00	
Satd. Flow (prot)	1805		2817	1738			6509		3502	5187	
Flt Permitted	0.95		1.00	0.97			1.00		0.95	1.00	
Satd. Flow (perm)	1805		2817	1738			6509		3502	5187	
Peak-hour factor, PHF	0.83	0.25	0.90	0.92	0.82	0.92	0.99	0.80	0.96	0.97	0.92
Adj. Flow (vph)	60	0	1444	5	4	0	3794	95	1043	1898	0
RTOR Reduction (vph)	0	0	0	0	0	0	2	0	0	0	0
Lane Group Flow (vph)	60	0	1444	9	0	0	3887	0	1043	1898	0
Confl. Peds. (#/hr)	3	3	2	2	2	2	3	3	3	3	3
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	custom	5	4	6	6	5	2	5	2	2
Protected Phases	8		2.8								
Permitted Phases			173.6	7.4	101.3	101.3	51.4	159.6	51.4	159.6	
Actuated Green, G (s)	7.8		167.4	7.4	101.3	101.3	51.4	159.6	51.4	159.6	
Effective Green, g (s)	7.8		167.4	7.4	101.3	101.3	51.4	159.6	51.4	159.6	
Actuated g/C Ratio	0.04		0.93	0.04	0.56	0.56	0.29	0.89	0.29	0.89	
Clearance Time (s)	6.4		6.6	6.8	6.5	6.5	6.6	6.2	6.6	6.2	
Vehicle Extension (s)	3.0		3.0	3.0	5.0	5.0	3.0	4.8	3.0	4.8	
Lane Grp Cap (vph)	78	2620	71		3663	3663	1000	4599	1000	4599	
v/s Ratio Prot	c0.03	0.16	0.01		c0.60	c0.60	c0.30	0.37	c0.30	0.37	
v/s Ratio Perm		0.36									
v/c Ratio	0.77	0.55	0.13		1.06	1.06	1.04	0.41	1.04	0.41	
Uniform Delay, d1	85.2	0.9	83.2		39.4	39.4	64.3	1.8	64.3	1.8	
Progression Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	35.7	0.3	0.8		34.4	34.4	40.3	0.3	40.3	0.3	
Delay (s)	120.9	1.2	84.0	F	73.7	73.7	104.6	2.1	104.6	2.1	
Level of Service	F	A	F	F	E	E	F	A	F	A	
Approach Delay (s)	5.9	84.0	73.7	F	38.5	38.5	38.5	D	38.5	D	
Approach LOS	A	A	F	F	E	E	E	D	E	D	
Intersection Summary											
HCM Average Control Delay	49.1 HCM Level of Service										
HCM Volume to Capacity ratio	1.04 D										
Actuated Cycle Length (s)	180.0 Sum of lost time (s)										
Intersection Capacity Utilization	123.3% ICU Level of Service										
Analysis Period (min)	15 H										
Critical Lane Group											

5:00 pm Baseline

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HCM Signalized Intersection Capacity Analysis
22: W College Ave & Clarendon Ave

Future PM 2023 Phase III
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱	↱	↰	↰	↰	↰	↰	↰	↰	↱	↱
Volume (vph)	201	1052	52	1	448	179	61	165	1	312	215	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.5	4.0	5.5	5.5	5.5	5.6	5.6	5.6	5.6	5.6	5.6
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	1.00	1.00	0.85	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.94	1.00
Satd. Flow (prot)	1805	1900	1615	1805	1809	1809	1805	1894	1805	1805	1790	1790
Flt Permitted	0.10	1.00	1.00	0.11	1.00	0.26	1.00	0.26	1.00	0.59	1.00	1.00
Satd. Flow (perm)	185	1900	1615	212	1809		488	1894		1123	1790	
Peak-hour factor, PHF	0.66	0.95	0.81	0.25	0.93	0.79	0.82	0.92	0.25	0.88	0.94	0.86
Adj. Flow (vph)	305	1107	64	4	482	227	74	179	4	355	229	144
RTOR Reduction (vph)	0	0	0	0	20	0	0	1	0	0	26	0
Lane Group Flow (vph)	305	1107	64	4	689	0	74	182	0	355	348	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm-pt	Free	Free	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	5	2			6	6		4			8	8
Permitted Phases	2		Free	6			4			8		
Actuated Green, G (s)	53.4	53.4	86.0	35.8	35.8		21.5	21.5		21.5	21.5	21.5
Effective Green, g (s)	53.4	53.4	86.0	35.8	35.8		21.5	21.5		21.5	21.5	21.5
Actuated g/C Ratio	0.62	0.62	1.00	0.42	0.42		0.25	0.25		0.25	0.25	0.25
Clearance Time (s)	5.3	5.5		5.5	5.5		5.6	5.6		5.6	5.6	5.6
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	347	1180	1615	88	753		122	474		281	448	
v/s Ratio Prot	0.13	c0.58		0.04	0.02	0.38		0.10		c0.32		0.19
v/s Ratio Perm	0.42	0.94	0.04	0.05	0.91		0.15			0.38	0.78	
v/c Ratio	0.88	23.7	14.8	0.0	14.9	23.7		28.5	26.8	32.2	30.0	
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Progression Factor	2.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.00	21.4	15.0	0.0	1.0	17.5		8.3	0.5	143.8	8.2	
Delay (s)	45.1	29.8	0.0	15.9	41.2		36.8	27.3		176.1	38.2	
Level of Service	D	C	A	B	D	D		D	C	F	D	
Approach Delay (s)		31.7			41.1			30.0			105.4	
Approach LOS		C			D			C			F	
Intersection Summary												
HCM Average Control Delay	50.6						HCM Level of Service					
HCM Volume to Capacity ratio	1.03						D					
Actuated Cycle Length (s)	86.0						Sum of lost time (s)					
Intersection Capacity Utilization	112.4%						ICU Level of Service					
Analysis Period (min)	15						H					
Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis
23: Clarendon Ave & Laredo Dr

Future PM 2023 Phase III
7/12/2012

Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Volume (veh/h)	187	415	368	37	79	339
Sign Control	Free	Free	Free	Stop	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.87	0.95	0.95	0.83	0.67	0.96
Hourly flow rate (vph)	215	437	387	45	118	353
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)		545				
pX, platoon unblocked						
vC, conflicting volume	432			1276	410	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	432			1276	410	
IC, single (s)	4.1			6.4	6.2	
IC, 2 stage (s)						
IF (s)	2.2			3.5	3.3	
p0 queue free %	81			22	45	
cM capacity (veh/h)	1138			151	646	
Direction, Lane #						
	NB 1	NB 2	SB 1	SE 1		
Volume Total	215	437	432	471		
Volume Left	215	0	0	118		
Volume Right	0	0	45	353		
cSH	1138	1700	1700	354		
Volume to Capacity	0.19	0.26	0.25	1.33		
Queue Length 95th (ft)	17	0	0	561		
Control Delay (s)	8.9	0.0	0.0	196.8		
Lane LOS	A			F		
Approach Delay (s)	2.9		0.0	196.8		
Approach LOS				F		
Intersection Summary						
Average Delay	60.9					
Intersection Capacity Utilization	67.3%					
Analysis Period (min)	15					
					ICU Level of Service	
					C	

HCM Unsignalized Intersection Capacity Analysis
26: Church St & Off Ramp 285

Future PM 2023 Phase III
7/12/2012

Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	328	0	0	461	225	229	
Volume (veh/h)	Free	Free	Free	Stop	0%	0%	
Sign Control	0%	0.92	0.92	0.94	0.91	0.90	
Grade	0.86	0.92	0.92	0.94	0.91	0.90	
Peak Hour Factor	381	0	0	490	247	254	
Hourly flow rate (vph)							
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	None						
Median storage (veh)							
Upstream signal (ft)							
pX, platoon unblocked							
vC, conflicting volume	381	872	381				
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	381	872	381				
IC, single (s)	4.1	6.4	6.2				
IC, 2 stage (s)							
IF (s)	2.2	3.5	3.3				
pO queue free %	100	24	62				
cM capacity (veh/h)	1188	324	670				
Direction, Lane #	EB 1	WB 1	NB 1	NB 2			
Volume Total	381	490	247	254			
Volume Left	0	0	247	0			
Volume Right	0	0	0	254			
cSH	1700	1700	324	670			
Volume to Capacity	0.22	0.29	0.76	0.38			
Queue Length 95th (ft)	0	0	149	44			
Control Delay (s)	0.0	0.0	44.5	13.6			
Lane LOS	E	E	B	B			
Approach Delay (s)	0.0	0.0	28.8	D			
Approach LOS							
Intersection Summary							
Average Delay			10.5				
Intersection Capacity Utilization			43.4%		ICU Level of Service	A	
Analysis Period (min)			15				

5:00 pm Baseline

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HCM Signalized Intersection Capacity Analysis
27: Valley Brook Rd & Concord Dr

Future PM 2023 Phase III
7/12/2012

Movement	NBL2	NBL	NBR	SEL	SER	SER2	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	1	430	183	1405	865	9	7	0	1	0	0	0
Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Total Lost time (s)	1.00	0.97	0.97	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	1.00	0.95	0.95	1.00	0.85	1.00	0.99	0.99	0.99	0.99	0.99	0.99
Fit Protected	0.95	0.97	0.95	1.00	0.95	1.00	0.96	0.96	0.96	0.96	0.96	0.96
Satd. Flow (prot)	1805	3399	3502	1615	1794							
Fit Permitted	0.32	0.97	0.95	1.00	0.96							
Satd. Flow (perm)	602	3399	3502	1615	1794							
Peak-hour factor, PHF	0.92	0.90	0.87	0.95	0.93	0.58	0.75	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	478	210	1479	930	16	9	0	1	0	0	0
RTOR Reduction (vph)	0	42	0	0	0	0	0	1	0	0	0	0
Lane Group Flow (vph)	1	646	0	1479	946	0	0	9	0	0	0	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt			custom								
Protected Phases	5	2	1	6	8							
Permitted Phases	2			6	8							
Actuated Green, G (s)	24.4	23.9	36.7	60.1	1.0							
Effective Green, g (s)	24.4	23.9	36.7	60.1	1.0							
Actuated g/C Ratio	0.33	0.32	0.50	0.82	0.01							
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0							
Lane Grp Cap (vph)	208	1104	1746	1319	24							
v/s Ratio Prot	0.00	0.19	c0.42	c0.59								
v/c Ratio Perm	0.00	0.59	0.85	0.72	0.01							
v/c Ratio	0.00	0.59	0.85	0.72	0.38							
Uniform Delay, d1	16.5	20.7	16.0	3.0	36.0							
Progression Factor	1.00	1.00	1.00	1.00	1.00							
Incremental Delay, d2	0.0	0.8	4.0	1.9	9.6							
Delay (s)	16.5	21.5	20.0	4.9	45.6							
Level of Service	B	C	C	A	D							
Approach Delay (s)	21.5	14.1			45.6							
Approach LOS	C	B			D							
Intersection Summary												
HCM Average Control Delay			15.8		HCM Level of Service	B						
HCM Volume to Capacity ratio			0.77									
Actuated Cycle Length (s)			73.6		Sum of lost time (s)	8.0						
Intersection Capacity Utilization			71.4%		ICU Level of Service	C						
Analysis Period (min)			15									
c Critical Lane Group												

5:00 pm Baseline

Synchro 7 - Report
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Intersection Sign configuration not allowed in HCM analysis.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	8	0	8	0	0	0	6	0	0	0	0	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.86
Flt	1.00	0.85	1.00	0.85	1.00	0.85	1.00	0.95	1.00	0.85	1.00	0.86
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1770	3008	1770	3008	1770	3008	1770	3008	1770	3008	1770	1611
Flt Permitted	0.76	1.00	0.76	1.00	0.76	1.00	0.76	1.00	0.76	1.00	0.76	1.00
Satd. Flow (perm)	1410	3008	1410	3008	1410	3008	1403	3008	1403	3008	1403	1611
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	9	0	9	0	0	0	7	0	0	0	0	7
RTOR Reduction (vph)	0	5	0	0	0	0	0	0	0	0	0	4
Lane Group Flow (vph)	9	4	0	0	0	0	0	7	0	0	3	0
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	4	4	4	8	8	8	2	2	2	6	6	6
Permitted Phases	4	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
Actuated Green, G (s)	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
Effective Green, g (s)	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
Actuated g/C Ratio	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Clearance Time (s)	564	1203	564	1203	564	1203	561	644	644	561	644	644
Lane Grp Cap (vph)	c0.01	0.02	0.00	0.02	0.00	0.02	c0.00	0.01	0.00	0.00	0.00	0.00
v/s Ratio Prot	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2
v/s Ratio Perm	0.83	1.00	0.83	1.00	0.83	1.00	0.83	1.00	0.83	1.00	0.83	1.00
Uniform Delay, d1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Progression Factor	6.1	7.2	6.1	7.2	6.1	7.2	7.3	7.3	7.2	7.2	7.2	7.2
Incremental Delay, d2	A	A	A	A	A	A	A	A	A	A	A	A
Delay (s)	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6
Level of Service	A	A	A	A	A	A	A	A	A	A	A	A
Approach Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Approach LOS	A	A	A	A	A	A	A	A	A	A	A	A
Intersection Summary												
HCM Average Control Delay	6.9						HCM Level of Service					
HCM Volume to Capacity ratio	0.01						A					
Actuated Cycle Length (s)	40.0						Sum of lost time (s)					
Intersection Capacity Utilization	15.0%						8.0					
Analysis Period (min)	15						A					
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis
43: DeKalb Industrial Way &

Future PM 2023 Phase III
7/12/2012

Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	↔	↔	↔	↔	↔	↔	
Volume (veh/h)	79	119	796	62	93	849	
Sign Control	Stop	Free	Free	Free	Free	Free	
Grade	0%	0%	0%	0%	0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	86	129	865	67	101	923	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type			TWLT		TWLT		
Median storage (veh)			2		2		
Upstream signal (ft)	0.88	0.88	455		0.88		
pX, platoon unblocked	1562	466			933		
vC, conflicting volume	899						
vC1, stage 1 conf vol	664						
vC2, stage 2 conf vol	1365	118			648		
vCu, unblocked vol	6.8	6.9			4.1		
IC, single (s)	5.8						
IC, 2 stage (s)	3.5	3.3			2.2		
IF (s)	73	84			88		
p0 queue free %	314	802			821		
cM capacity (veh/h)							
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	86	129	577	356	101	461	461
Volume Left	86	0	0	0	101	0	0
Volume Right	0	129	0	67	0	0	0
cSH	314	802	1700	1700	821	1700	1700
Volume to Capacity	0.27	0.16	0.34	0.21	0.12	0.27	0.27
Queue Length 95th (ft)	27	14	0	0	10	0	0
Control Delay (s)	20.7	10.4	0.0	0.0	10.0	0.0	0.0
Lane LOS	C	B	B	B	B		
Approach Delay (s)	14.5		0.0		1.0		
Approach LOS	B						
Intersection Summary							
Average Delay	1.9			43.5%			A
Intersection Capacity Utilization							
Analysis Period (min)	15						

HCM Unsignalized Intersection Capacity Analysis
59: W College Ave & S Columbia Dr

Future PM 2023 Phase III
7/12/2012

Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	↔	↔	↔	↔	↔	↔	
Volume (veh/h)	1247	37	40	1020	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
Grade	0%	0%	0%	0%	0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	1355	40	43	1109	0	0	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type			None				
Median storage (veh)							
Upstream signal (ft)	1136		0.81	400	0.86	0.81	
pX, platoon unblocked			1396		2017	698	
vC, conflicting volume							
vC1, stage 1 conf vol							
vC2, stage 2 conf vol			1016		865	153	
vCu, unblocked vol			4.1		6.8	6.9	
IC, single (s)			2.2		3.5	3.3	
IC, 2 stage (s)			92		100	100	
IF (s)			549		233	700	
p0 queue free %							
cM capacity (veh/h)							
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1		
Volume Total	904	492	413	739	0		
Volume Left	0	0	43	0	0		
Volume Right	1700	1700	549	1700	1700		
cSH	0.53	0.29	0.08	0.43	0.00		
Volume to Capacity	0	0	6	0	0		
Queue Length 95th (ft)	0	0	2.4	0.0	0.0		
Control Delay (s)	0.0	0.0	0.9	0.0	0.0		
Lane LOS	A	A	A	A	A		
Approach Delay (s)	0.0	0.9					
Approach LOS		A					
Intersection Summary							
Average Delay	0.4			60.8%			B
Intersection Capacity Utilization							
Analysis Period (min)	15						

HCM Signalized Intersection Capacity Analysis
66: Glendale Rd & Church St

Future PM 2023 Phase III
7/12/2012

Movement	NBL	NBR	SEL	SER	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations										
Volume (vph)	0	0	71	0	0	476	8	0	0	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			5.5			6.5				6.5
Lane Util. Factor			1.00			1.00				1.00
Frt			1.00			1.00				0.86
Flt Protected			0.95			1.00				1.00
Satd. Flow (prot)			1770			1858				1611
Flt Permitted			0.57			1.00				1.00
Satd. Flow (perm)			1061			1858				1611
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	77	0	0	517	9	0	0	61
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	29
Lane Group Flow (vph)	0	0	77	0	0	526	0	0	32	0
Turn Type			custom			Perm				
Protected Phases	4	3	8		2				6	
Permitted Phases		8			2				6	
Actuated Green, G (s)		29.2			47.8				47.8	
Effective Green, g (s)		29.2			47.8				47.8	
Actuated g/C Ratio		0.32			0.53				0.53	
Clearance Time (s)		5.5			6.5				6.5	
Vehicle Extension (s)		3.0			5.5				5.5	
Lane Grp Cap (vph)		399			987				856	
v/s Ratio Prot		c0.01			c0.28				0.02	
v/s Ratio Perm		c0.05								
v/c Ratio		0.19			0.53				0.04	
Uniform Delay, d1		21.6			13.8				10.1	
Progression Factor		1.15			1.00				1.00	
Incremental Delay, d2		0.2			2.1				0.1	
Delay (s)		25.1			15.9				10.2	
Level of Service		C			B				B	
Approach Delay (s)	0.0		25.1		15.9				10.2	
Approach LOS	A		C		B				B	
Intersection Summary										
HCM Average Control Delay			16.4						HCM Level of Service	B
HCM Volume to Capacity ratio			0.40							
Actuated Cycle Length (s)			90.0						Sum of lost time (s)	12.0
Intersection Capacity Utilization			42.2%						ICU Level of Service	A
Analysis Period (min)			15							
c Critical Lane Group										

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis
73: E Ponce De Leon &

Future PM 2023 Phase III
7/12/2012

Movement	NBL	NBR	SEL	SER	SWL	SWR
Lane Configurations	  	  	  	  	  	  
Volume (vph)	248	702	79	158	549	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.88	1.00	1.00	0.97	1.00
Frt	1.00	0.85	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3433	2787	1770	1583	3433	1583
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3433	2787	1770	1583	3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	270	763	86	172	597	67
RTOR Reduction (vph)	0	458	0	92	0	40
Lane Group Flow (vph)	270	305	86	80	597	27
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	2i		6i		8	
Permitted Phases		2		6		8
Actuated Green, G (s)	16.0	16.0	16.0	16.0	16.0	16.0
Effective Green, g (s)	16.0	16.0	16.0	16.0	16.0	16.0
Actuated g/C Ratio	0.40	0.40	0.40	0.40	0.40	0.40
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	1373	1115	708	633	1373	633
v/s Ratio Prot	0.08		0.05		c0.17	
v/s Ratio Perm		c0.11		0.05		0.02
v/c Ratio	0.20	0.27	0.12	0.13	0.43	0.04
Uniform Delay, d1	7.8	8.1	7.6	7.6	8.7	7.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3	0.6	0.4	0.4	1.0	0.1
Delay (s)	8.1	8.7	7.9	8.0	9.7	7.4
Level of Service	A	A	A	A	A	A
Approach Delay (s)	8.5		8.0		9.5	
Approach LOS	A		A		A	
Intersection Summary						
HCM Average Control Delay			8.8		HCM Level of Service	A
HCM Volume to Capacity ratio			0.35			
Actuated Cycle Length (s)			40.0		Sum of lost time (s)	8.0
Intersection Capacity Utilization			37.1%		ICU Level of Service	A
Analysis Period (min)			15			
i Phase conflict between lane groups.						
c Critical Lane Group						

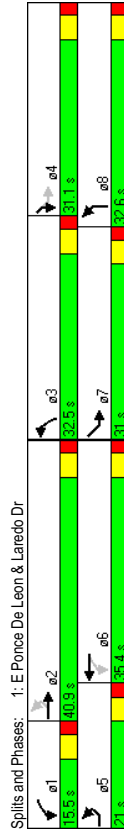
5:00 pm Baseline

Synchro 7 - Report
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Timings
1: E Ponce De Leon & Laredo Dr

Future PM 2023 Phase III with Recommendations
7/12/2012

Lane Group	EBL	EBT	WBL	WBT	NBL2	NBL	SER	SER2
Lane Configurations	154	450	34	317	67	133	431	175
Volume (vph)	154	450	34	317	67	133	431	175
Turn Type	pm+pt	pm+pt	Free	Free	Prot	Free	custom	Free
Protected Phases	5	2	1	6	3	8	7	4
Permitted Phases	2	6	6	6	4	4	4	4
Switch Phase	5	2	1	6	3	8	7	4
Minimum Initial (s)	10.0	20.0	10.0	20.0	10.0	10.0	10.0	10.0
Minimum Split (s)	13.5	40.5	15.5	34.5	32.5	32.5	30.5	30.5
Total Split (s)	21.0	40.9	15.5	35.4	0.0	32.5	31.0	31.1
Total Split (%)	17.5%	34.1%	12.9%	29.5%	0.0%	27.1%	25.8%	25.9%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	4.0	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead/Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	None	None	None	None
Act Effect Green (s)	42.9	34.7	34.5	24.4	106.8	12.5	21.0	52.3
Actuated g/c Ratio	0.40	0.32	0.32	0.23	1.00	0.12	0.20	0.49
v/c Ratio	0.45	0.57	0.15	0.42	0.23	0.44	0.76	0.94
Control Delay	25.2	31.6	21.9	37.6	0.3	52.9	51.9	32.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.2	31.6	21.9	37.6	0.3	52.9	51.9	32.8
LOS	C	C	C	D	A	D	D	C
Approach Delay	30.2	18.6			52.2	33.3		
Approach LOS	C	B			D	C		



HCM Signalized Intersection Capacity Analysis
1: E Ponce De Leon & Laredo Dr

Future PM 2023 Phase III with Recommendations
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL2	NBL	NBR	SER	SER2
Lane Configurations	154	450	152	34	317	317	67	133	77	431	175
Volume (vph)	154	450	152	34	317	317	67	133	77	431	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Flpb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.96	1.00	1.00	0.85	1.00	0.94	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	0.95	0.97	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	3426	1732	3574	1589	1805	1736	1802	1615	1615	1615
Flt Permitted	0.39	1.00	0.33	1.00	1.00	0.95	0.97	1.00	0.25	1.00	1.00
Satd. Flow (perm)	737	3426	600	3574	1589	1805	1736	477	1615	1615	1615
Peak-hour factor, PHF	0.80	0.97	0.78	0.75	0.92	0.86	0.71	0.79	0.71	0.83	0.89
Adj. Flow (vph)	192	464	195	45	345	369	94	168	108	519	254
RTOR Reduction (vph)	0	38	0	0	0	0	0	20	0	0	0
Lane Group Flow (vph)	192	621	0	45	345	369	94	266	0	519	254
Confl. Peds. (#/hr)	13	13	13	13	13	13	13	13	13	13	13
Heavy Vehicles (%)	0%	1%	0%	4%	1%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	pm+pt	pm+pt	Free	Free	Free	Prot	Free	custom	Free	Free
Protected Phases	5	2	1	6	3	8	8	7	4	4	4
Permitted Phases	2	6	6	6	4	4	4	4	4	4	4
Actuated Green, G (s)	45.8	34.7	32.6	27.0	110.4	10.2	22.3	53.6	37.9	110.4	110.4
Effective Green, g (s)	45.8	34.7	32.6	27.0	110.4	10.2	22.3	53.6	37.9	110.4	110.4
Actuated g/c Ratio	0.41	0.31	0.30	0.24	1.00	0.09	0.20	0.49	0.34	1.00	1.00
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Vehicle Extension (s)	3.0	5.0	3.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	434	1077	235	874	1589	167	351	541	554	1615	1615
v/s Ratio Prot	0.05	0.18	0.01	0.10	0.05	0.15	0.05	0.22	0.16	0.16	0.16
v/s Ratio Perm	0.13	0.44	0.05	0.19	0.39	0.23	0.56	0.73	0.96	0.46	0.16
v/c Ratio	21.6	31.7	28.3	34.9	0.0	48.0	41.2	24.3	28.3	0.0	0.0
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Progression Factor	0.7	1.2	0.4	0.6	0.3	5.2	7.9	28.5	0.8	0.2	0.2
Incremental Delay, d2	22.4	32.9	28.7	35.5	0.3	53.2	49.1	52.8	29.1	0.2	0.2
Delay (s)	C	C	C	D	A	D	D	D	D	C	A
Level of Service	C	C	C	D	A	D	D	D	D	C	A
Approach Delay (s)	30.5	18.0			50.1	33.8					
Approach LOS	C	B			D	C					

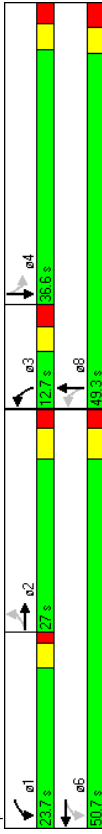
Intersection Summary	
HCM Average Control Delay	30.9
HCM Volume to Capacity ratio	0.78
Actuated Cycle Length (s)	110.4
Intersection Capacity Utilization	82.1%
Analysis Period (min)	15
c Critical Lane Group	

Timings 4: E Ponce De Leon & Arcadia Ave

Future PM 2023 Phase III with Recommendations
7/12/2012

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Volume (vph)	219	443	436	246	126	686	22	1026	122
Turn Type	Perm	pm+pt	pm+pt	pm+pt	Perm	Perm	Perm	Free	Free
Protected Phases	2	2	1	6	3	8	4	4	Free
Permitted Phases	2	2	1	6	3	8	4	4	Free
Switch Phase	2	2	1	6	3	8	4	4	Free
Minimum Initial (s)	15.0	15.0	5.0	15.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	22.0	22.0	9.4	22.0	12.7	22.2	21.8	21.8	21.8
Total Split (s)	27.0	27.0	23.7	50.7	12.7	49.3	36.6	36.6	0.0
Total Split (%)	27.0%	27.0%	23.7%	50.7%	12.7%	49.3%	36.6%	36.6%	0.0%
Yellow Time (s)	3.6	3.6	3.0	3.6	3.0	3.1	3.1	3.1	3.1
All-Red Time (s)	2.4	2.4	1.4	2.4	2.7	3.1	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.4	6.0	5.7	6.2	5.8	5.8	4.0
Lead/Lag	Lag	Lag	Lead	Lead	Lag	Lag	Lag	Lag	Lag
Lead/Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Max	None	Max	None	C-Max	C-Max	C-Max	C-Max
Act Effect Green (s)	21.0	21.0	46.3	44.7	43.6	43.1	30.8	30.8	100.0
Actuated g/C Ratio	0.21	0.21	0.46	0.45	0.44	0.43	0.31	0.31	1.00
v/c Ratio	1.11	0.97	1.09	0.20	0.71	0.76	0.33	0.33	0.97
Control Delay	131.1	58.1	98.0	15.7	38.5	23.7	38.7	55.9	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	131.1	58.1	98.0	15.7	38.5	23.7	38.7	55.9	0.1
LOS	F	E	F	B	D	C	D	E	A
Approach Delay	75.6	64.7	64.7	25.3	49.2	D	D	D	D
Approach LOS	E	E	E	C	C	D	D	D	D

Splits and Phases: 4: E Ponce De Leon & Arcadia Ave



HCM Signalized Intersection Capacity Analysis 4: E Ponce De Leon & Arcadia Ave

Future PM 2023 Phase III with Recommendations
7/12/2012

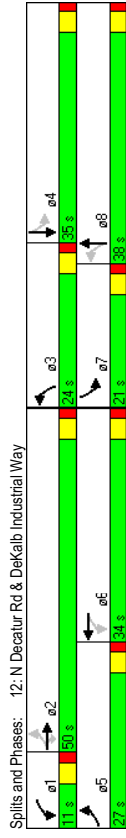
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	219	443	264	436	246	36	126	686	372	22	1026	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	4.4	6.0	6.0	5.7	6.2	6.2	5.8	5.8	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95
Flpb, ped/bikes	1.00	0.99	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00
Flpb, ped/bikes	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.94	1.00	0.98	1.00	0.98	1.00	0.94	1.00	1.00	0.85	1.00
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1794	3353	1787	3485	1805	3360	1803	3610	1593	3610	1593	1593
Flt Permitted	0.56	1.00	0.16	1.00	0.11	1.00	0.15	1.00	0.15	1.00	1.00	1.00
Satd. Flow (perm)	1060	3353	296	3485	211	3360	291	3610	1593	3610	1593	1593
Peak-hour factor, PHF	0.89	0.93	0.87	0.94	0.93	0.73	0.87	0.96	0.80	0.75	0.95	0.86
Adj. Flow (vph)	246	476	303	464	265	49	145	715	465	29	1080	142
RTOR Reduction (vph)	0	102	0	0	15	0	0	108	0	0	0	0
Lane Group Flow (vph)	246	677	0	464	299	0	145	1072	0	29	1080	142
Conf. Peds. (#/hr)	5	4	3	4	4	4	4	3	4	4	5	5
Heavy Vehicles (%)	0%	1%	0%	1%	0%	0%	0%	0%	1%	0%	0%	0%
Turn Type	Perm	2	2	1	6	3	8	8	4	4	4	4
Permitted Phases	2	2	2	1	6	3	8	8	4	4	4	4
Actuated Green, G (s)	21.0	21.0	44.7	44.7	44.7	43.1	43.1	43.1	30.8	30.8	100.0	100.0
Effective Green, g (s)	21.0	21.0	44.7	44.7	44.7	43.1	43.1	43.1	30.8	30.8	100.0	100.0
Actuated g/C Ratio	0.21	0.21	0.45	0.45	0.45	0.43	0.43	0.43	0.31	0.31	1.00	1.00
Clearance Time (s)	6.0	6.0	4.4	6.0	6.0	5.7	6.2	6.2	5.8	5.8	4.0	4.0
Vehicle Extension (s)	5.0	5.0	3.5	5.0	3.5	3.5	3.5	3.5	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	223	704	420	1558	203	1448	90	1112	1593	1593	1593	1593
v/s Ratio Prot	0.20	0.20	0.21	0.09	0.05	0.32	0.10	0.30	0.09	0.09	0.09	0.09
v/s Ratio Perm	0.23	0.23	0.28	0.10	0.19	0.71	0.74	0.74	0.32	0.32	0.97	0.97
v/c Ratio	1.10	0.96	1.10	0.19	0.71	0.71	0.71	0.71	0.32	0.32	0.97	0.97
Uniform Delay, d1	39.5	39.1	28.4	16.7	23.1	23.8	26.6	34.2	0.0	0.0	0.0	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	90.6	25.8	75.4	0.3	11.7	3.4	9.2	20.9	0.1	0.1	0.1	0.1
Delay (s)	130.1	64.9	103.8	17.0	34.8	27.2	35.8	55.1	0.1	0.1	0.1	0.1
Level of Service	F	E	F	B	C	C	D	E	A	A	A	A
Approach Delay (s)	80.5	68.7	68.7	28.1	48.4	48.4	48.4	48.4	48.4	48.4	48.4	48.4
Approach LOS	F	F	F	E	C	C	D	E	A	A	A	A

Intersection Summary			
HCM Average Control Delay	53.4	HCM Level of Service	D
HCM Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	100.5%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Timings 12: N Decatur Rd & DeKalb Industrial Way

Future PM 2023 Phase III with Recommendations
7/12/2012

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	339	1043	216	90	458	274	783	234	704	107
Volume (vph)	pm+pt	pm+pt	Perm	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	Free
Turn Type	5	2	2	2	2	1	6	3	8	7
Protected Phases	2	2	2	2	2	1	6	3	8	7
Permitted Phases	5	2	2	2	2	1	6	3	8	7
Switch Phase	5	2	2	2	2	1	6	3	8	7
Minimum Initial (s)	5.0	10.0	10.0	5.0	15.0	5.0	7.0	5.0	7.0	7.0
Minimum Split (s)	22.0	31.0	31.0	11.0	31.0	11.0	31.0	11.0	13.0	13.0
Total Split (s)	27.0	50.0	50.0	11.0	34.0	24.0	38.0	21.0	35.0	0.0
Total Split (%)	22.5%	41.7%	41.7%	9.2%	28.3%	20.0%	31.7%	17.5%	29.2%	0.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.0
Lead/Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	None	None	None	None	None
Act Effect Green (s)	56.5	45.5	45.5	36.0	29.5	52.5	33.5	46.1	30.3	119.3
Actuated g/C Ratio	0.47	0.38	0.38	0.30	0.25	0.44	0.28	0.39	0.25	1.00
v/c Ratio	1.01	0.77	0.35	0.68	0.79	0.93	0.97	0.85	0.81	0.08
Control Delay	82.6	37.1	8.1	42.4	46.4	66.0	63.7	54.9	49.8	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	82.6	37.1	8.1	42.4	46.4	66.0	63.7	54.9	49.8	0.1
LOS	F	D	A	D	D	E	E	D	D	A
Approach Delay	43.8			45.8			64.3		45.5	
Approach LOS	D			D			E		D	



HCM Signalized Intersection Capacity Analysis 12: N Decatur Rd & DeKalb Industrial Way

Future PM 2023 Phase III with Recommendations
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	339	1043	216	90	458	274	783	234	704	107
Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.0
Total Lost time (s)	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Lane Util. Factor	1.00	1.00	0.98	1.00	0.99	1.00	1.00	1.00	1.00	0.99
Fltb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	1.00	0.85	1.00	0.96	1.00	0.98	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	3610	1587	1805	3428	1805	3534	1805	3610	1577
Flt Permitted	0.12	1.00	1.00	0.15	1.00	0.12	1.00	0.13	1.00	1.00
Satd. Flow (perm)	233	3610	1587	289	3428	227	3534	251	3610	1577
Peak-hour factor, PHF	0.82	0.98	0.86	0.78	0.93	0.89	0.84	0.92	0.91	0.95
Adj. Flow (vph)	413	1064	251	115	492	209	326	851	118	257
RTOR Reduction (vph)	0	0	121	0	39	0	9	0	0	0
Lane Group Flow (vph)	413	1064	130	115	662	0	326	960	0	257
Conf. Peds. (#/hr)	5	7	8	6	7	8	6	7	8	6
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	pm+pt	Perm	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	Free
Protected Phases	5	2	2	1	6	3	8	7	4	4
Permitted Phases	5	2	2	2	6	3	8	7	4	4
Actuated Green, G (s)	56.5	45.5	45.5	36.0	29.5	52.5	33.5	46.1	30.3	119.3
Effective Green, g (s)	56.5	45.5	45.5	36.0	29.5	52.5	33.5	46.1	30.3	119.3
Actuated g/C Ratio	0.47	0.38	0.38	0.30	0.25	0.44	0.28	0.39	0.25	1.00
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	8.0	8.0	3.0	8.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	407	1377	605	170	848	351	992	303	917	1577
v/s Ratio Prot	c0.19	0.29	0.08	0.04	0.19	c0.15	c0.27	0.11	0.21	0.08
v/s Ratio Perm	c0.29	1.01	0.77	0.22	0.68	0.78	0.93	0.97	0.85	0.08
v/c Ratio	35.4	32.4	24.9	32.0	41.9	33.6	42.4	30.0	41.8	0.0
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Progression Factor	48.4	4.0	0.8	10.2	6.6	30.1	20.8	19.3	5.3	0.1
Incremental Delay, d2	83.8	36.4	25.6	42.1	48.4	63.7	63.2	49.3	47.1	0.1
Delay (s)	F	D	C	D	D	E	E	D	D	A
Level of Service	F	D	C	D	D	E	E	D	D	A
Approach Delay (s)	46.2			47.6			63.3		42.4	
Approach LOS	D			D			E		D	

Intersection Summary

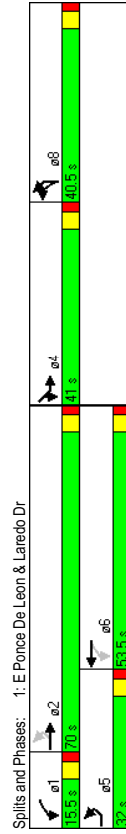
HCM Average Control Delay	50.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	119.3	Sum of lost time (s)	13.5
Intersection Capacity Utilization	91.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Timings

1: E Ponce De Leon & Laredo Dr Future SAT 2023 Phase III
7/12/2012

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL2	NBL	SEL	SER	SER2
Lane Configurations	EBL	EBT	WBL	WBT	WBR	NBL2	NBL	SEL	SER	SER2
Volume (vph)	242	288	58	294	596	81	234	606	294	439
Turn Type	pm+pt	pm+pt	pm+pt	pm+pt	Free	Split	Split	Prot	Free	Free
Protected Phases	5	2	1	6	6	8	8	4	4	4
Permitted Phases	2	6	6	6	Free	Free	Free	4	4	Free
Detector Phase	5	2	1	6	6	8	8	4	4	4
Switch Phase										
Minimum Initial (s)	10.0	20.0	10.0	20.0	35.0	32.5	30.5	30.5	30.5	30.5
Minimum Split (s)	13.5	40.5	15.5	31.5	40.5	40.5	41.0	41.0	41.0	41.0
Total Split (s)	32.0	70.0	15.5	53.5	0.0	24.3%	24.3%	24.6%	24.6%	0.0%
Total Split (%)	19.2%	41.9%	9.3%	32.0%	0.0%	24.3%	24.3%	24.6%	24.6%	0.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	4.0	5.5	5.5	5.5	5.5	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	None	None	None	None	None	None
Act Effect Green (s)	50.0	34.5	31.2	21.2	137.1	35.0	35.0	35.5	35.5	137.1
Actuated g/C Ratio	0.36	0.25	0.23	0.15	1.00	0.26	0.26	0.26	0.26	1.00
v/c Ratio	0.72	0.47	0.29	0.58	0.44	0.25	0.87	1.56	1.02	0.31
Control Delay	43.4	40.3	33.1	58.8	0.9	43.5	68.2	297.1	98.6	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.4	40.3	33.1	58.8	0.9	43.5	68.2	297.1	98.6	0.5
LOS	D	D	C	E	A	D	E	F	F	A
Approach Delay	41.6			20.2		62.7	156.6			
Approach LOS	D			C		E	F			



5:00 pm Baseline

HCM Signalized Intersection Capacity Analysis

1: E Ponce De Leon & Laredo Dr Future SAT 2023 Phase III
7/12/2012

Movement	EBL	EBT	WBL	WBT	WBR	NBL2	NBL	SER	SER2
Lane Configurations	EBL	EBT	WBL	WBT	WBR	NBL2	NBL	SER	SER2
Volume (vph)	242	288	58	294	596	81	234	606	294
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	4.0	5.5	5.5	5.5	4.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.96	1.00	1.00	0.85	1.00	0.96	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	0.96	0.95	1.00	1.00
Satd. Flow (prot)	1805	3429	1724	3574	1589	1805	1762	1805	1615
Flt Permitted	0.31	1.00	0.51	1.00	1.00	0.95	0.96	0.95	1.00
Satd. Flow (perm)	585	3429	921	3574	1589	1805	1762	1805	1615
Peak-hour factor, PHF	0.80	0.97	0.78	0.75	0.92	0.86	0.71	0.79	0.83
Adj. Flow (vph)	302	297	121	77	320	693	114	296	101
RTOR Reduction (vph)	0	32	0	0	0	0	0	7	0
Lane Group Flow (vph)	302	386	0	77	320	693	114	390	0
Confl. Peds. (#/hr)	0	13	0	13	0	0	0	13	0
Heavy Vehicles (%)	0%	1%	0%	4%	1%	0%	0%	0%	0%
Turn Type	pm+pt	pm+pt	pm+pt	pm+pt	Free	Split	Free	Prot	Free
Protected Phases	5	2	1	6	6	8	8	4	4
Permitted Phases	2	6	6	6	Free	Free	Free	4	Free
Actuated Green, G (s)	50.0	34.5	31.2	21.2	137.0	35.0	35.0	35.5	137.0
Effective Green, g (s)	50.0	34.5	31.2	21.2	137.0	35.0	35.0	35.5	137.0
Actuated g/C Ratio	0.36	0.25	0.23	0.15	1.00	0.26	0.26	0.26	1.00
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Vehicle Extension (s)	3.0	5.0	3.0	5.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	421	864	268	553	1589	461	450	488	1615
v/s Ratio Prot	c0.12	0.11	0.02	0.09	0.06	c0.22	c0.40	0.26	0.31
v/s Ratio Perm	c0.14		0.04		0.44				
v/c Ratio	0.72	0.45	0.29	0.58	0.44	0.25	0.87	1.56	1.02
Uniform Delay, d1	33.9	43.2	42.8	53.8	0.0	40.5	48.8	50.8	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.8	0.8	0.6	2.3	0.9	0.4	16.5	262.2	49.0
Delay (s)	39.7	44.0	43.4	56.1	0.9	40.9	65.3	313.0	99.7
Level of Service	D	D	D	E	A	D	E	F	F
Approach Delay (s)	42.2			20.1		59.8	163.9		
Approach LOS	D			C		E	F		

Intersection Summary			
HCM Average Control Delay	88.0	HCM Level of Service	F
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	137.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	102.0%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

5:00 pm Baseline

HCM Signalized Intersection Capacity Analysis
 2: E Ponce De Leon & DeKalb Industrial Way

Future SAT 2023 Phase III
 7/12/2012

Movement	EBL	EBR	NBL	NBT	SBL	SBT	SBR	NWL2	NWL	NWR
Lane Configurations	W			↑	↑	↑	↑		↑	
Volume (vph)	1	1	0	818	97	211	834	0	72	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	4.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00
Frt	0.93	0.98	1.00	0.85	1.00	0.99	0.99	0.99	0.99	0.99
Flt Protected	0.98	1.00	1.00	0.99	1.00	0.99	0.99	0.99	0.99	0.99
Satd. Flow (prot)	1729	1729	1863	1615	3491	1682	1682	1682	1682	1682
Flt Permitted	0.98	1.00	1.00	0.99	1.00	0.95	1.00	1.00	1.00	1.00
Satd. Flow (perm)	1729	1729	1863	1615	1930	1682	1682	1682	1682	1682
Peak-hour factor, PHF	0.25	0.25	0.25	0.94	0.90	0.95	0.91	0.92	0.65	0.25
Adj. Flow (vph)	4	4	0	870	108	222	916	0	111	4
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	8	0	0	870	108	0	1138	0	0	315
Heavy Vehicles (%)	0%	0%	0%	2%	0%	0%	3%	0%	0%	0%
Turn Type	4!		2	Free	Perm	Perm	Perm	Perm	Perm	8!
Protected Phases										
Permitted Phases										
Actuated Green, G (s)	25.4			74.3	111.7	74.3	74.3		8	25.4
Effective Green, g (s)	25.4			74.3	111.7	74.3	74.3		25.4	25.4
Actuated g/C Ratio	0.23			0.67	1.00	0.67	0.67		0.23	0.23
Clearance Time (s)	6.0			6.0	6.0	6.0	6.0		6.0	6.0
Vehicle Extension (s)	3.0			3.0	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	393			1239	1615	1284	1284		382	382
v/s Ratio Prot	0.00			0.47						
v/s Ratio Perm	0.02			0.70	0.07	c0.59	0.89		0.19	0.82
v/c Ratio	33.5			11.7	0.0	15.3	15.3		41.0	1.00
Uniform Delay, d1	33.5			1.00	1.00	1.00	1.00		1.00	1.00
Progression Factor	1.00			1.8	0.1	7.7	7.7		13.5	13.5
Incremental Delay, d2	0.0			13.6	0.1	22.9	22.9		54.5	54.5
Delay (s)	33.5			13.6	0.1	22.9	22.9		54.5	54.5
Level of Service	C			B	A	C	C		D	D
Approach Delay (s)	33.5			12.1		22.9			54.5	
Approach LOS	C			B		C			D	
Intersection Summary										
HCM Average Control Delay	23.7									C
HCM Volume to Capacity ratio	0.87									
Actuated Cycle Length (s)	111.7								12.0	
Intersection Capacity Utilization	118.2%								H	
Analysis Period (min)	15									
i Phase conflict between lane groups.										
c Critical Lane Group										

HCM Signalized Intersection Capacity Analysis
 3: E Ponce De Leon & DeKalb Industrial Way

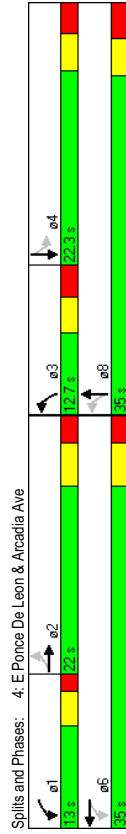
Future SAT 2023 Phase III
 7/12/2012

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations	↖	↖↗	↗	↖	↖↗	↗	↖	↖	↖		↖↗	↗
Volume (vph)	20	702	7	10	676	173	157	6	21	15	7	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	0.99	1.00	1.00
Frb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fib. ped/bikes	1.00	1.00	1.00	1.00	0.96	1.00	1.00	0.89	1.00	0.89	0.95	0.95
Frt	1.00	1.00	1.00	1.00	0.96	1.00	1.00	0.89	1.00	0.89	0.95	0.95
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.98	0.98	0.98
Satd. Flow (prot)	1805	3562	1805	3453	1805	1675	1805	1675	1773	1773	1773	1773
Flt Permitted	0.18	1.00	0.37	1.00	0.37	1.00	0.73	1.00	0.73	1.00	0.91	0.91
Satd. Flow (perm)	349	3562	694	3453	1360	1675	1360	1675	1645	1645	1645	1645
Peak-hour factor, PHF	0.67	0.95	0.44	0.25	0.97	0.78	0.56	0.50	0.63	0.83	0.60	0.63
Adj. Flow (vph)	30	739	16	40	697	222	280	12	33	18	12	17
RTOR Reduction (vph)	0	1	0	0	20	0	0	22	0	0	12	0
Lane Group Flow (vph)	30	754	0	40	899	0	280	23	0	0	35	0
Conf. Peds. (#/hr)	1		1						1		1	
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt			Perm			Perm			Perm		
Protected Phases	1	6		2	2		4	4		8	8	
Permitted Phases	6	6		2			4					
Actuated Green, G (s)	44.0	44.0		35.2	35.2		26.6	26.6		26.6	26.6	
Effective Green, g (s)	44.0	44.0		35.2	35.2		26.6	26.6		26.6	26.6	
Actuated g/C Ratio	0.53	0.53		0.43	0.43		0.32	0.32		0.32	0.32	
Clearance Time (s)	5.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	4.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lane Grp Cap (vph)	253	1887		296	1471		444	539		530	530	
v/s Ratio Prot	0.01	c0.21			c0.26			0.01				
v/s Ratio Perm	0.06			0.06			c0.20			0.02		
v/c Ratio	0.12	0.40		0.14	0.61		0.63	0.04		0.07		
Uniform Delay, d1	10.9	11.4		14.4	18.4		23.8	19.2		19.4		
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00		
Incremental Delay, d2	0.3	0.3		0.4	1.1		4.0	0.1		0.1		
Delay (s)	11.2	11.7		14.9	19.5		27.8	19.3		19.5		
Level of Service	B	B		B	B		C	B		B		
Approach Delay (s)		11.7			19.3			26.7		19.5		
Approach LOS		B			B			C		B		
Intersection Summary												
HCM Average Control Delay	17.6 HCM Level of Service B											
HCM Volume to Capacity ratio	0.63											
Actuated Cycle Length (s)	82.6 Sum of lost time (s) 18.0											
Intersection Capacity Utilization	49.8% ICU Level of Service A											
Analysis Period (min)	15											
Critical Lane Group												

Timings
4: E Ponce De Leon & Arcadia Ave

Future SAT 2023 Phase III
7/12/2012

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Volume (vph)	100	295	359	322	88	501	16	511	118
Turn Type	Perm	pm+pt	pm+pt	pm+pt	Perm	Perm	Perm	Free	Free
Protected Phases	2	2	1	6	3	8	4	4	4
Permitted Phases	2	2	6	6	8	4	4	4	4
Switch Phase	2	2	1	6	3	8	4	4	4
Minimum Initial (s)	15.0	15.0	5.0	15.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	22.0	22.0	9.4	22.0	12.7	22.2	21.8	21.8	21.8
Total Split (s)	22.0	22.0	13.0	35.0	12.7	35.0	22.3	22.3	0.0
Total Split (%)	31.4%	31.4%	18.6%	50.0%	18.1%	50.0%	31.9%	31.9%	0.0%
Yellow Time (s)	3.6	3.6	3.0	3.6	3.0	3.1	3.1	3.1	3.1
All-Red Time (s)	2.4	2.4	1.4	2.4	2.7	3.1	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.4	6.0	5.7	6.2	5.8	5.8	4.0
Lead/Lag	Lag	Lag	Lead	Lead	Lag	Lag	Lag	Lag	Lag
Lead/Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Max	None	Max	None	C-Max	C-Max	C-Max	C-Max
Act Effect Green (s)	16.0	16.0	30.6	29.0	29.3	28.8	19.0	19.0	70.0
Actuated g/C Ratio	0.23	0.23	0.44	0.41	0.42	0.41	0.27	0.27	1.00
v/c Ratio	0.48	0.52	0.91	0.25	0.30	0.63	0.14	0.55	0.09
Control Delay	31.7	22.1	44.8	13.6	12.9	8.5	24.4	25.4	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.7	22.1	44.8	13.6	12.9	8.5	24.4	25.4	0.1
LOS	C	C	D	B	B	A	C	C	A
Approach Delay	24.0	24.0	29.6	29.6	8.9	8.9	20.4	20.4	C
Approach LOS	C	C	C	C	A	A	C	C	C



HCM Signalized Intersection Capacity Analysis
4: E Ponce De Leon & Arcadia Ave

Future SAT 2023 Phase III
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	100	295	107	359	322	14	88	501	393	16	511	118
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	4.4	6.0	6.0	5.7	6.2	5.8	5.8	5.8	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00
Fit	1.00	0.96	1.00	0.99	1.00	0.99	1.00	0.93	1.00	1.00	0.95	1.00
Fit Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1798	3417	1786	3545	1804	3306	1803	3610	1593	1803	3610	1593
Fit Permitted	0.53	1.00	0.34	1.00	0.34	1.00	0.26	1.00	0.28	1.00	0.28	1.00
Satd. Flow (perm)	1011	3417	642	3545	642	3545	502	3306	537	3610	537	3610
Peak-hour factor, PHF	0.89	0.93	0.87	0.94	0.93	0.73	0.87	0.96	0.80	0.75	0.95	0.86
Adj. Flow (vph)	112	317	123	382	346	19	101	522	491	21	538	137
RTOR Reduction (vph)	0	58	0	0	6	0	0	243	0	0	0	0
Lane Group Flow (vph)	112	382	0	382	359	0	101	770	0	21	538	137
Conf. Peds. (#/hr)	5	4	3	4	3	4	4	4	3	4	4	5
Heavy Vehicles (%)	0%	1%	0%	1%	1%	0%	0%	0%	1%	0%	0%	0%
Turn Type	Perm	2	2	1	6	6	3	8	8	4	4	4
Permitted Phases	2	2	2	2	2	2	2	2	2	2	2	2
Actuated Green, G (s)	16.0	16.0	16.0	29.0	29.0	28.8	28.8	28.8	17.9	17.9	17.9	70.0
Effective Green, g (s)	16.0	16.0	16.0	29.0	29.0	28.8	28.8	28.8	17.9	17.9	17.9	70.0
Actuated g/C Ratio	0.23	0.23	0.23	0.41	0.41	0.41	0.41	0.41	0.26	0.26	0.26	1.00
Clearance Time (s)	6.0	6.0	6.0	4.4	6.0	6.0	5.7	6.2	5.8	5.8	5.8	4.0
Vehicle Extension (s)	5.0	5.0	5.0	3.5	5.0	3.5	3.5	3.5	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	231	781	407	1469	1469	311	1360	137	923	1593	923	1593
v/s Ratio Prot	0.11	0.11	0.11	0.12	0.10	0.10	0.03	0.23	0.15	0.15	0.15	0.09
v/s Ratio Perm	0.48	0.49	0.49	0.94	0.24	0.24	0.32	0.57	0.15	0.15	0.15	0.09
Uniform Delay, d1	23.4	23.5	23.5	17.5	13.4	13.6	15.8	20.2	22.8	22.8	22.8	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	0.89	0.77	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.1	2.2	2.2	29.5	0.4	0.5	1.2	2.4	2.7	2.7	0.1	0.1
Delay (s)	30.5	25.6	25.6	47.0	13.8	12.5	13.3	22.5	25.5	25.5	0.1	0.1
Level of Service	C	C	C	D	B	B	B	C	C	C	C	A
Approach Delay (s)	26.6	26.6	26.6	30.7	30.7	13.2	13.2	20.4	20.4	20.4	20.4	C
Approach LOS	C	C	C	C	C	B	B	C	C	C	C	C

Intersection Summary			
HCM Average Control Delay	21.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	10.6
Intersection Capacity Utilization	84.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Timings
5: N Decatur Rd & E Ponce De Leon

Future SAT 2023 Phase III
7/12/2012

Lane Group	EBL	EBT	WBL	WBT	NBL	NBR	SWL2	SWL
Lane Configurations	144	525	190	458	131	831	173	799
Volume (vph)	pm+pt					Prot	custom	
Turn Type	5	2	1	6	8	8	4	4
Protected Phases	2	6						
Permitted Phases	5	2	1	6	8	8	4	4
Switch Phase								
Minimum Initial (s)	5.0	10.0	5.0	10.0	8.0	8.0	8.0	8.0
Minimum Split (s)	10.5	30.5	10.5	30.5	28.5	28.5	32.5	32.5
Total Split (s)	11.0	34.1	10.5	33.6	35.4	35.4	35.4	35.4
Total Split (%)	13.8%	42.6%	13.1%	42.0%	44.3%	44.3%	44.3%	44.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	C-Min	None	None	None	None
Act Effect Green (s)	39.1	28.1	29.9	29.9	29.9	29.9	29.9	29.9
Actuated g/C Ratio	0.49	0.49	0.35	0.37	0.37	0.37	0.37	0.37
v/c Ratio	0.71	0.44	1.12	0.24	0.99	0.32	0.85	0.85
Control Delay	30.8	12.8	80.7	18.4	50.2	19.6	29.3	29.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.8	12.9	80.7	18.4	50.2	19.6	29.3	29.3
LOS	C	B	F	B	D	B	C	C
Approach Delay	16.1	80.7	46.0				27.7	
Approach LOS	B	F	D				C	
Intersection Summary								
Cycle Length: 80								
Actuated Cycle Length: 80								
Offset: 0 (0%), Referenced to phase 2EBTL and 6:WBTL, Start of Green								
Natural Cycle: 80								
Control Type: Actuated-Coordinated								
Maximum v/c Ratio: 1.12								
Intersection Signal Delay: 41.3								
Intersection Capacity Utilization 100.1%								
Analysis Period (min) 15								
! Phase conflict between lane groups.								

Splits and Phases: 5: N Decatur Rd & E Ponce De Leon

HCM Signalized Intersection Capacity Analysis
5: N Decatur Rd & E Ponce De Leon

Future SAT 2023 Phase III
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	NBR2	SWL2	SWL	SWR
Lane Configurations												
Volume (vph)	144	525	140	190	458	150	131	831	154	173	799	179
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		5.5	5.5		5.5	5.5	5.5	5.5	5.5	
Lane Util. Factor	1.00	0.95		0.95	0.95		1.00	0.88	1.00	0.97		
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Flt	1.00	0.96		0.97	1.00		0.85	1.00	0.96	1.00	0.96	
Flt Protected	0.95	1.00		0.99	1.00		0.95	1.00	0.95	0.96	0.96	
Satd. Flow (prot)	1805	3446		3445	1805		2838	1805	3400	3400		
Flt Permitted	0.14	1.00		0.64	0.95		1.00	0.95	0.95	0.96	0.96	
Satd. Flow (perm)	267	3446		2228	1805		2838	1805	3400	3400		
Peak-hour factor, PHF	0.86	0.95	0.67	0.79	0.94	0.85	0.82	0.93	0.91	0.79	0.95	0.66
Adj. Flow (vph)	167	553	209	241	487	176	160	894	169	219	841	271
RTOR Reduction (vph)	0	39	0	0	27	0	0	18	0	0	40	0
Lane Group Flow (vph)	167	723	0	0	877	0	160	1045	0	219	1072	0
Conf. Peds. (#/hr)	4	5	6	6	5	5	5	6	5	5	4	4
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%
Turn Type	pm+pt			pm+pt			Prot	custom				
Protected Phases	5	2		1	6		8	8	4	4		
Permitted Phases	2			6			8	8	4	4		
Actuated Green, G (s)	39.1	39.1		28.1	29.9		29.9	29.9	29.9	29.9		
Effective Green, g (s)	39.1	39.1		28.1	29.9		29.9	29.9	29.9	29.9		
Actuated g/C Ratio	0.49	0.49		0.35	0.37		0.37	0.37	0.37	0.37	0.37	
Clearance Time (s)	5.5	5.5		5.5	5.5		5.5	5.5	5.5	5.5	5.5	
Vehicle Extension (s)	3.0	8.0		8.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	236	1684		783			675	1061	675	1271		
v/s Ratio Prot	c0.05	0.21		c0.39			0.09	c0.37	0.12	0.32		
v/s Ratio Perm	0.30											
v/c Ratio	0.71	0.43		1.12	0.24		0.99	0.32	0.84			
Uniform Delay, d1	14.5	13.2		25.9	17.2		24.8	17.9	22.9			
Progression Factor	1.00	1.00		0.35	1.00		1.00	1.00	1.00	1.00		
Incremental Delay, d2	9.3	0.8		68.3	0.2		23.9	0.4	5.5			
Delay (s)	23.8	14.0		77.4	17.5		48.8	18.2	28.4			
Level of Service	C	B		E	B		D	B	C			
Approach Delay (s)	15.8			77.4			44.7		26.7			
Approach LOS	B			E			D		C			
Intersection Summary												
HCM Average Control Delay	39.9				HCM Level of Service				D			
HCM Volume to Capacity ratio	1.03											
Actuated Cycle Length (s)	80.0				Sum of lost time (s)				16.5			
Intersection Capacity Utilization	100.1%				ICU Level of Service				G			
Analysis Period (min)	15											
! Phase conflict between lane groups.												
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
6: Valley Brook Rd & E Ponce De Leon

Future SAT 2023 Phase III
7/12/2012

Movement	SBL	SBP	NEL	NET	SWT	SWR	
Lane Configurations	109	418	390	703	725	96	
Volume (vph)	1900	1900	1900	1900	1900	1900	
Ideal Flow (vphpl)	6.0	4.0	6.0	6.0	6.0	6.0	
Total Lost time (s)	1.00	1.00	1.00	1.00	1.00	1.00	
Lane Util. Factor	1.00	0.99	1.00	1.00	0.99	1.00	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	0.85	1.00	1.00	0.98	1.00	
Flt	0.95	1.00	0.95	1.00	1.00	1.00	
Flt Protected	1805	1591	1805	1900	1855		
Satd. Flow (prot)	0.95	1.00	0.06	1.00	1.00		
Flt Permitted	1805	1591	109	1900	1855		
Satd. Flow (perm)	0.85	0.95	0.87	0.96	0.90	0.76	
Peak-hour factor, PHF	128	440	448	732	806	126	
Adj. Flow (vph)	0	0	0	0	0	5	
RTOR Reduction (vph)	128	440	448	732	927	0	
Lane Group Flow (vph)	7	10	10			7	
Confl. Peds. (#/hr)	0%	0%	0%	0%	0%	0%	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	
Turn Type	4	Free	pm+pt	1	6	2	
Protected Phases	20.2	130.0	97.8	97.8	64.0		
Permitted Phases	20.2	130.0	97.8	97.8	64.0		
Actuated Green, G (s)	0.16	1.00	0.75	0.75	0.49		
Effective Green, g (s)	6.0	6.0	6.0	6.0	6.0		
Actuated g/C Ratio	280	1591	445	1429	913		
Clearance Time (s)	c0.07	c0.22	0.39	0.50			
Vehicle Extension (s)	0.46	0.28	1.01	0.51	1.02		
Lane Grp Cap (vph)	49.9	0.0	44.8	6.5	33.0		
v/s Ratio Prot	1.00	1.00	1.00	1.00	1.00		
v/s Ratio Perm	1.6	0.4	44.4	1.3	33.8		
Uniform Delay, d1	51.5	0.4	89.1	7.8	66.8		
Progression Factor	D	A	F	A	E		
Incremental Delay, d2	11.9		38.7	66.8			
Delay (s)	B		D	E	E		
Level of Service							
Approach Delay (s)							
Approach LOS							
Intersection Summary							
HCM Average Control Delay	42.8					HCM Level of Service	D
HCM Volume to Capacity ratio	0.89						
Actuated Cycle Length (s)	130.0					Sum of lost time (s)	12.0
Intersection Capacity Utilization	98.1%					ICU Level of Service	F
Analysis Period (min)	15						
c Critical Lane Group							

HCM Signalized Intersection Capacity Analysis
7: Glendale Rd & E Ponce De Leon

Future SAT 2023 Phase III
7/12/2012

Movement	NWL	NWR	NET	NER	SWL	SWT	
Lane Configurations	168	87	556	169	56	578	
Volume (vph)	1900	1900	1900	1900	1900	1900	
Ideal Flow (vphpl)	6.5	4.0	6.5	4.0	6.5	6.5	
Total Lost time (s)	1.00	1.00	1.00	1.00	1.00	1.00	
Lane Util. Factor	1.00	0.98	1.00	0.99	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	0.85	1.00	0.85	1.00	1.00	
Flt	0.95	1.00	1.00	1.00	0.95	1.00	
Flt Protected	1805	1580	1900	1593	1767	1900	
Satd. Flow (prot)	0.95	1.00	1.00	1.00	0.32	1.00	
Flt Permitted	1805	1580	1900	1593	600	1900	
Satd. Flow (perm)	0.91	0.73	0.93	0.85	0.85	0.94	
Peak-hour factor, PHF	185	119	598	199	66	615	
Adj. Flow (vph)	0	0	0	0	0	0	
RTOR Reduction (vph)	185	119	598	199	66	615	
Lane Group Flow (vph)	5	4					
Confl. Peds. (#/hr)	0%	0%	0%	0%	2%	0%	
Heavy Vehicles (%)	0%	0%	0%	0%	2%	0%	
Turn Type	4	Free	2	Free	Perm	6	
Protected Phases	14.4	90.0	50.2	90.0	50.2	50.2	
Permitted Phases	14.4	90.0	50.2	90.0	50.2	50.2	
Actuated Green, G (s)	0.16	1.00	0.56	1.00	0.56	0.56	
Effective Green, g (s)	6.5	6.5	6.5	6.5	6.5	6.5	
Actuated g/C Ratio	289	1580	1060	1593	335	1060	
Clearance Time (s)	c0.10	0.08	0.31	c0.12	0.11		
Vehicle Extension (s)	0.64	0.08	0.56	0.12	0.20	0.58	
Lane Grp Cap (vph)	35.4	0.0	12.8	0.0	9.9	13.0	
v/s Ratio Prot	1.00	1.00	1.00	1.00	1.00	1.00	
v/s Ratio Perm	4.8	0.1	2.2	0.2	1.3	2.3	
Uniform Delay, d1	40.2	0.1	15.0	0.2	11.2	15.3	
Progression Factor	D	A	B	A	B	B	
Incremental Delay, d2	24.5		11.3		14.9		
Delay (s)	C		B		B		
Level of Service							
Approach Delay (s)							
Approach LOS							
Intersection Summary							
HCM Average Control Delay	14.9					HCM Level of Service	B
HCM Volume to Capacity ratio	0.52						
Actuated Cycle Length (s)	90.0					Sum of lost time (s)	13.0
Intersection Capacity Utilization	65.5%					ICU Level of Service	C
Analysis Period (min)	15						
c Critical Lane Group							

HCM Signalized Intersection Capacity Analysis
8: McLendon Dr & E Ponce De Leon

Future SAT 2023 Phase III
7/12/2012

Movement	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations	↔	↔	↔	↔	↔	↔
Volume (vph)	75	83	86	675	705	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	4.0	6.0	6.0	6.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1805	1580	1805	1900	1900	1580
Flt Permitted	0.95	1.00	0.26	1.00	1.00	1.00
Satd. Flow (perm)	1805	1580	498	1900	1900	1580
Peak-hour factor, PHF	0.91	0.84	0.88	0.84	0.92	0.80
Adj. Flow (vph)	82	99	98	804	766	81
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	82	99	98	804	766	81
Confl. Peds. (#/hr)	3	3	3			3
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	Free	Free	pm+pt			Free
Protected Phases	8	1	6	2		
Permitted Phases	Free	6				Free
Actuated Green, G (s)	10.4	123.0	100.6	100.6	85.7	123.0
Effective Green, g (s)	10.4	123.0	100.6	100.6	85.7	123.0
Actuated g/C Ratio	0.08	1.00	0.82	0.82	0.70	1.00
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	4.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	153	1580	502	1554	1324	1580
v/s Ratio Prot	c0.05		0.01	c0.42	c0.40	
v/s Ratio Perm		0.06	0.15			0.05
v/c Ratio	0.54	0.06	0.20	0.52	0.58	0.05
Uniform Delay, d1	54.0	0.0	5.8	3.5	9.5	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.5	0.1	0.4	1.2	1.8	0.1
Delay (s)	58.5	0.1	6.2	4.8	11.3	0.1
Level of Service	E	A	A	A	B	A
Approach Delay (s)	26.6			4.9	10.2	
Approach LOS	C			A	B	
Intersection Summary						
HCM Average Control Delay	9.3			HCM Level of Service		
HCM Volume to Capacity ratio	0.59			A		
Actuated Cycle Length (s)	123.0			Sum of lost time (s)		
Intersection Capacity Utilization	65.0%			ICU Level of Service		
Analysis Period (min)	15			C		
Critical Lane Group						

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis
9: E Ponce De Leon & Off Ramp 285

Future SAT 2023 Phase III
7/12/2012

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↖	↖↗		↗	↖↗
Volume (vph)	0	625	333	0	364	373
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.5	5.5
Lane Util. Factor		1.00	0.95		1.00	1.00
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		1900	3610		1805	1599
Flt Permitted		1.00	1.00		0.95	1.00
Satd. Flow (perm)		1900	3610		1805	1599
Peak-hour factor, PHF		0.92	0.91	0.78	0.92	0.87
Adj. Flow (vph)		687	427	0	418	429
RTOR Reduction (vph)		0	0	0	0	303
Lane Group Flow (vph)		687	427	0	418	126
Heavy Vehicles (%)		0%	0%	0%	0%	1%
Turn Type		6	2		8	Perm
Protected Phases						
Permitted Phases						8
Actuated Green, G (s)		46.0	31.0		23.5	23.5
Effective Green, g (s)		46.0	31.0		23.5	23.5
Actuated g/C Ratio		0.57	0.39		0.29	0.29
Clearance Time (s)		5.0	5.0		5.5	5.5
Vehicle Extension (s)		5.0	5.0		3.5	3.5
Lane Grp Cap (vph)		1093	1399		530	470
v/s Ratio Prot		c0.36	0.12		c0.23	
v/c Ratio Perm		0.63	0.31		0.79	0.27
Uniform Delay, d1		11.3	17.0		26.0	21.7
Progression Factor		1.00	0.68		1.00	1.00
Incremental Delay, d2		2.7	0.5		7.9	0.4
Delay (s)		14.1	12.2		33.8	22.0
Level of Service		B	B		C	C
Approach Delay (s)		14.1	12.2		27.9	
Approach LOS		B	B		C	
Intersection Summary						
HCM Average Control Delay	19.6			HCM Level of Service		
HCM Volume to Capacity ratio	0.68			B		
Actuated Cycle Length (s)	80.0			Sum of lost time (s)		
Intersection Capacity Utilization	87.2%			ICU Level of Service		
Analysis Period (min)	15			E		
c Critical Lane Group						

5:00 pm Baseline

Synchro 7 - Report
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HCM Unsignalized Intersection Capacity Analysis
 10: Church St & On Ramp 285
 Future SAT 2023 Phase III
 7/12/2012

Movement	EBT	EBR	WBL	WBT	NBL	NBR
→↵↵↵						

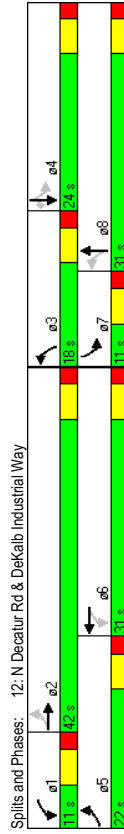
HCM Unsignalized Intersection Capacity Analysis
 11: Valley Brook Rd & SR 410 On Ramp
 Future SAT 2023 Phase III
 7/12/2012

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↕↕	↕		↕	↕↕
Volume (veh/h)	0	1399	458	0	158	864
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.98	0.98	0.97	0.92	0.92	0.98
Hourly flow rate (vph)	0	1428	472	0	172	882
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None				
Median storage (veh)						
Upstream signal (ft)			759			
pX, platoon unblocked						
VC, conflicting volume	472				1186	472
VC1, stage 1 conf vol						
VC2, stage 2 conf vol						
VCu, unblocked vol	472				1186	472
IC, single (s)	4.1				6.8	6.9
IC, 2 stage (s)						
IF (s)	2.2				3.5	3.3
p0 queue free %	100				7	0
dM capacity (veh/h)	1100				184	544
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SW 2	SW 3
Volume Total	714	714	472	172	441	441
Volume Left	0	0	0	172	0	0
Volume Right	0	0	0	0	441	441
cSH	1700	1700	1700	184	544	544
Volume to Capacity	0.42	0.42	0.28	0.93	0.81	0.81
Queue Length 95th (ft)	0	0	0	182	199	199
Control Delay (s)	0.0	0.0	0.0	100.7	34.1	34.1
Lane LOS			F	D	D	D
Approach Delay (s)	0.0	0.0	0.0	44.9		
Approach LOS			E			
Intersection Summary						
Average Delay	16.0					
Intersection Capacity Utilization	61.0%					
Analysis Period (min)	15					
			ICU Level of Service			
			B			

Timings 12: N Decatur Rd & DeKalb Industrial Way

Future SAT 2023 Phase III
7/12/2012

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	128	551	77	405	258	557	233	473	63
Volume (vph)	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	Perm
Turn Type	5	2	1	6	3	8	7	4	4
Protected Phases	5	2	1	6	3	8	7	4	4
Permitted Phases	5	2	1	6	3	8	7	4	4
Switch Phase	5	2	1	6	3	8	7	4	4
Minimum Initial (s)	5.0	10.0	5.0	15.0	5.0	7.0	5.0	7.0	7.0
Minimum Split (s)	22.0	31.0	11.0	31.0	11.0	31.0	11.0	13.0	13.0
Total Split (s)	22.0	42.0	11.0	31.0	18.0	31.0	11.0	24.0	24.0
Total Split (%)	23.2%	44.2%	11.6%	32.6%	18.9%	32.6%	11.6%	25.3%	25.3%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	None	Min	None	None	None	None	None
Act Effect Green (s)	43.0	35.2	32.6	27.6	34.4	23.4	21.3	16.3	16.3
Actuated g/C Ratio	0.48	0.39	0.36	0.31	0.38	0.26	0.24	0.18	0.18
v/c Ratio	0.43	0.57	0.37	0.59	0.91	0.73	1.25	0.76	0.21
Control Delay	17.1	22.1	18.1	25.6	56.7	173.5	44.1	10.0	10.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.1	22.1	18.1	25.6	56.7	173.5	44.1	10.0	10.0
LOS	B	C	B	C	E	D	F	D	A
Approach Delay	21.3	24.6	24.6	42.3	81.1	F			
Approach LOS	C	C	C	D	D	F			



HCM Signalized Intersection Capacity Analysis 12: N Decatur Rd & DeKalb Industrial Way

Future SAT 2023 Phase III
7/12/2012

Movement	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	128	551	77	405	258	557	233	473	63
Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Total Lost time (s)	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Lane Util. Factor	1.00	0.99	1.00	0.99	1.00	0.99	1.00	0.99	1.00
Flpb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.96	1.00	0.95	1.00	0.98	1.00	0.95	1.00
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1804	3436	1804	3409	1804	3544	1804	3610	1567
Flt Permitted	0.23	1.00	0.29	1.00	0.20	1.00	0.30	1.00	1.00
Satd. Flow (perm)	446	3436	559	3409	379	3544	576	3610	1567
Peak-hour factor, PHF	0.82	0.98	0.86	0.78	0.83	0.89	0.84	0.92	0.91
Adj. Flow (vph)	156	562	228	99	435	217	307	605	498
RTOR Reduction (vph)	0	46	0	0	61	0	10	0	0
Lane Group Flow (vph)	156	744	0	99	591	0	307	668	0
Conf. Peds. (#/hr)	5	7	8	6	7	8	6	6	5
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	1%
Turn Type	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	Perm
Permitted Phases	5	2	1	6	3	8	7	4	4
Actuated Green, G (s)	45.1	35.2	33.0	29.1	34.4	23.4	21.3	16.3	16.3
Effective Green, g (s)	45.1	35.2	33.0	29.1	34.4	23.4	21.3	16.3	16.3
Actuated g/C Ratio	0.49	0.38	0.36	0.32	0.38	0.26	0.23	0.18	0.18
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	8.0	3.0	8.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	368	1322	255	1084	331	906	201	643	279
v/s Ratio Prot	c0.05	c0.22	0.02	0.17	c0.12	0.19	0.07	0.14	0.01
v/s Ratio Perm	0.16	0.42	0.56	0.39	0.55	0.93	0.74	1.27	0.77
Uniform Delay, d1	14.4	22.1	19.9	25.7	22.8	31.2	33.3	35.8	31.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.8	1.6	1.0	1.8	31.1	3.2	156.0	5.8	0.1
Delay (s)	15.1	23.7	20.9	27.6	53.9	34.4	189.4	41.7	31.2
Level of Service	B	C	C	C	D	C	F	D	C
Approach Delay (s)	22.3	26.7	26.7	40.5	86.5	F			
Approach LOS	C	C	C	D	D	F			

Intersection Summary			
HCM Average Control Delay	43.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	91.5	Sum of lost time (s)	24.0
Intersection Capacity Utilization	77.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
 13: N Decatur Rd & Church St W
 Future SAT 2023 Phase III
 7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Volume (vph)	90	532	30	178	415	100	83	444	171	113	414	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Flt Protected	0.95	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Ped/Bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (prot)	1805	3610	1615	1805	3610	1583	1805	3610	1615	1805	3610	1524
Flt Permitted	0.45	1.00	1.00	0.14	1.00	1.00	0.40	1.00	1.00	0.42	1.00	1.00
Satd. Flow (perm)	863	3610	1615	270	3610	1583	768	3610	1615	807	3610	1524
Peak-hour factor, PHF	0.82	0.92	0.77	0.79	0.94	0.76	0.72	0.94	0.77	0.93	0.81	0.88
Adj. Flow (vph)	110	578	39	225	441	132	115	472	222	122	511	99
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	110	578	39	225	441	132	115	472	222	122	511	99
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	6%
Turn Type	pm+pt	Free	Free	pm+pt	Free	Free	pm+pt	Free	Free	pm+pt	Free	Free
Protected Phases	7	4	Free	3	8	Free	5	2	Free	1	6	Free
Permitted Phases	4	Free	Free	8	Free	Free	2	Free	Free	6	Free	Free
Actuated Green, G (s)	41.6	30.2	150.0	55.6	38.2	150.0	76.1	65.8	150.0	76.7	66.1	150.0
Effective Green, g (s)	41.6	30.2	150.0	55.6	38.2	150.0	76.1	65.8	150.0	76.7	66.1	150.0
Actuated g/C Ratio	0.28	0.20	1.00	0.37	0.25	1.00	0.51	0.44	1.00	0.51	0.44	1.00
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	311	727	1615	299	919	1583	461	1584	1615	483	1591	1524
v/s Ratio Prot	0.03	0.16	c0.10	0.12	0.02	0.13	0.02	0.13	c0.14	c0.02	c0.14	0.06
v/s Ratio Perm	0.07	0.02	c0.18	0.08	0.11	0.08	0.11	c0.14	0.11	0.11	0.11	0.06
v/c Ratio	0.35	0.80	0.02	0.75	0.48	0.08	0.25	0.30	0.14	0.25	0.32	0.06
Uniform Delay, d1	41.7	57.0	0.0	36.7	47.5	0.0	19.7	27.2	0.0	19.4	27.3	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7	6.0	0.0	10.2	0.4	0.1	0.3	0.5	0.2	0.3	0.5	0.1
Delay (s)	42.4	63.0	0.0	46.9	47.9	0.1	20.0	27.7	0.2	19.7	27.9	0.1
Level of Service	D	E	A	D	D	A	C	C	A	B	C	A
Approach Delay (s)	56.5			39.7			19.0				22.8	
Approach LOS	E			D			B				C	
Intersection Summary												
HCM Average Control Delay	34.2						HCM Level of Service					
HCM Volume to Capacity ratio	0.46						C					
Actuated Cycle Length (s)	150.0						Sum of lost time (s)					
Intersection Capacity Utilization	63.1%						ICU Level of Service					
Analysis Period (min)	15						B					
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
 14: N Decatur Rd & Church St
 Future SAT 2023 Phase III
 7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SWR
Lane Configurations	↰	↰↱	↱	↰↱	↰↱	↰↱		↰↱	↰↱	↰	↱	↰↱
Volume (vph)	224	593	35	10	599	5	13	96	30	7	52	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5			5.5			5.5			5.5	4.0
Lane Util. Factor	1.00	0.95			0.95			1.00			1.00	1.00
Fltb. ped/bikes	1.00	1.00			1.00			1.00			1.00	1.00
Fib. ped/bikes	1.00	1.00			1.00			1.00			1.00	1.00
Frt	1.00	0.99			1.00			0.97			1.00	0.85
Flt Protected	0.95	1.00			1.00			0.99			0.99	1.00
Satd. Flow (prot)	1905	3559			3591			1819			1882	1599
Flt Permitted	0.20	1.00			0.88			0.95			0.94	1.00
Satd. Flow (perm)	389	3559			3165			1749			1790	1599
Peak-hour factor, PHF	0.94	0.92	0.62	0.25	0.85	0.45	0.54	0.95	0.81	0.38	0.63	0.76
Adj. Flow (vph)	238	645	56	40	705	11	24	101	37	18	83	237
RTOR Reduction (vph)	0	7	0	0	1	0	0	13	0	0	0	0
Lane Group Flow (vph)	238	694	0	0	755	0	0	149	0	0	101	237
Conf. Peds. (#/hr)			4	7		3	4		7	3		
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Turn Type	pm+pt	Free	Free	Perm	Free	Free	Perm	Free	Free	Perm	Free	Free
Protected Phases	5	2		6		6	8	8		4		
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	39.1	39.1		28.1		28.1	29.9	29.9		29.9	80.0	
Effective Green, g (s)	39.1	39.1		28.1		28.1	29.9	29.9		29.9	80.0	
Actuated g/C Ratio	0.49	0.49		0.35		0.35	0.37	0.37		0.37	1.00	
Clearance Time (s)	5.5	5.5		5.5		5.5	5.5	5.5		5.5		
Vehicle Extension (s)	3.0	8.0		8.0		8.0	4.0	4.0		4.0		
Lane Grp Cap (vph)	287	1739		1112		1122	654	654		669	1599	
v/s Ratio Prot	c0.06	0.20		0.24		0.24	c0.09	0.06		0.06	0.15	
v/s Ratio Perm	c0.35			0.40		0.68	0.23	0.15		0.15	0.15	
v/c Ratio	0.83			0.40		0.68	0.23	0.15		0.15	0.15	
Uniform Delay, d1	15.5	13.0		22.1		22.1	17.1	16.6		16.6	0.0	
Progression Factor	1.01	0.92		1.00		1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	15.7	0.6		3.3		3.3	0.2	0.1		0.2	0.2	
Delay (s)	31.2	12.6		25.6		25.6	17.4	16.8		16.8	0.2	
Level of Service	C	B		C		C	B	B		B	A	
Approach Delay (s)	17.3			25.6		25.6	17.4	5.1		A		
Approach LOS	B			C		C	B					
Intersection Summary												
HCM Average Control Delay	18.3						HCM Level of Service					
HCM Volume to Capacity ratio	0.54						B					
Actuated Cycle Length (s)	80.0						Sum of lost time (s)					
Intersection Capacity Utilization	70.8%						ICU Level of Service					
Analysis Period (min)	15						C					
Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
15: E College Ave & Arcadia Ave

Future SAT 2023 Phase III
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SEB
Lane Configurations	↔↔↔	↔↔↔	↔	↔↔↔	↔↔↔	↔↔↔	↔↔↔	↔↔↔	↔↔↔	↔↔↔	↔↔↔	↔↔↔
Volume (vph)	487	413	42	30	439	232	29	254	31	242	291	413
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0	6.0	6.0	6.0	6.0	5.8	5.8	5.7	5.8	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.99	1.00	0.99	1.00	1.00	0.85
Satd. Flow (prot)	3502	3546	1805	3428	3522	1805	3522	1805	1805	1900	1615	1615
Flt Permitted	0.18	1.00	0.47	1.00	0.84	0.30	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (perm)	670	3546	888	3428	2974	568	1900	1615				
Peak-hour factor, PHF	0.96	0.93	0.71	0.81	0.89	0.93	0.46	0.85	0.67	0.95	0.92	0.96
Adj. Flow (vph)	507	444	59	37	493	249	63	299	46	255	316	430
RTOR Reduction (vph)	0	14	0	0	90	0	0	14	0	0	0	0
Lane Group Flow (vph)	507	489	0	37	652	0	0	394	0	255	316	430
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm-pt	pm	pm	pm	pm	pm	pm	pm	pm	pm	pm	Free
Protected Phases	5	2		6			4			3	8	
Permitted Phases	2		6		4					8		Free
Actuated Green, G (s)	30.3	30.3	17.6	17.6	30.3	17.6	12.7	12.7	27.9	27.9	70.0	
Effective Green, g (s)	30.3	30.3	17.6	17.6	30.3	17.6	12.7	12.7	27.9	27.9	70.0	
Actuated g/C Ratio	0.43	0.43	0.25	0.25	0.43	0.25	0.18	0.18	0.40	0.40	1.00	
Clearance Time (s)	4.4	6.0	6.0	6.0	6.0	6.0	5.8	5.8	5.7	5.8		
Vehicle Extension (s)	3.5	5.0	5.0	5.0	5.0	5.0	3.0	3.0	3.5	3.5		
Lane Grp Cap (vph)	626	1535	223	862	540	394	757	1615				
v/s Ratio Prot	c0.10	0.14		0.19			c0.09	0.17				
v/s Ratio Perm	c0.25		0.04		0.13		c0.17					
v/c Ratio	0.81	0.32	0.17	0.76	0.73	0.65	0.42	0.27				
Uniform Delay, d1	14.9	13.1	20.5	24.2	27.0	15.3	15.2	0.0				
Progression Factor	1.00	1.00	1.00	1.00	1.00	0.78	0.79	1.00				
Incremental Delay, d2	7.9	0.5	1.6	6.1	4.9	2.8	0.3	0.3				
Delay (s)	22.8	13.6	22.1	30.4	31.9	14.7	12.3	0.3				
Level of Service	C	B	C	C	C	B	B	A				
Approach Delay (s)	18.2		30.0		31.9		7.8					
Approach LOS	B		C		C		A					
Intersection Summary												
HCM Average Control Delay	19.6					HCM Level of Service					B	
HCM Volume to Capacity ratio	0.67											
Actuated Cycle Length (s)	70.0					Sum of lost time (s)					10.1	
Intersection Capacity Utilization	76.0%					ICU Level of Service					D	
Analysis Period (min)	15											
Critical Lane Group												

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis
16: Katie Kerr Dr & S Columbia Dr

Future SAT 2023 Phase III
7/12/2012

Movement	WBL	WBR	NBL	NBR	SEL	SER
Lane Configurations						
Volume (vph)	233	32	320	184	26	329
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0		5.0	
Lane Util. Factor	1.00		1.00		1.00	
Flt	0.98		0.95		0.88	
Flt Protected	0.96		0.97		1.00	
Satd. Flow (prot)	1788		1753		1659	
Flt Permitted	0.96		0.97		1.00	
Satd. Flow (perm)	1788		1753		1659	
Peak-hour factor, PHF	0.89	0.79	0.87	0.91	0.70	0.89
Adj. Flow (vph)	262	41	368	202	37	370
RTOR Reduction (vph)	9	0	30	0	311	0
Lane Group Flow (vph)	294	0	540	0	96	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type						
Protected Phases	8		2		6	
Permitted Phases						
Actuated Green, G (s)	12.8		16.2		8.4	
Effective Green, g (s)	12.8		16.2		8.4	
Actuated g/C Ratio	0.24		0.31		0.16	
Clearance Time (s)	5.0		5.0		5.0	
Vehicle Extension (s)	3.0		3.0		3.0	
Lane Grp Cap (vph)	437		542		266	
v/s Ratio Prot	c0.16		c0.31		c0.06	
v/c Ratio	0.67		1.00		0.36	
Uniform Delay, d1	17.9		18.1		19.6	
Progression Factor	1.00		1.00		1.00	
Incremental Delay, d2	4.1		37.6		0.8	
Delay (s)	22.0		55.7		20.5	
Level of Service	C		E		C	
Approach Delay (s)	22.0		55.7		20.5	
Approach LOS	C		E		C	
Intersection Summary						
HCM Average Control Delay	36.5			HCM Level of Service		
HCM Volume to Capacity ratio	0.74			D		
Actuated Cycle Length (s)	52.4			Sum of lost time (s)		
Intersection Capacity Utilization	78.1%			15.0		
Analysis Period (min)	15			D		
c Critical Lane Group						

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis
17: W College Ave & Commerce Dr

Future SAT 2023 Phase III
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	37	734	28	71	706	141	76	195	81	127	223	50
Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	5.7	5.7	5.7	5.7	5.7	5.7	5.2	5.2	5.2	5.2	5.2	5.2
Total Lost time (s)	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.99	0.99	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	0.99	0.98	0.98	0.98	0.98	0.98	0.96	0.96	0.98	0.98	0.98	0.98
Flt	1.00	1.00	1.00	1.00	1.00	1.00	0.99	0.99	1.00	1.00	1.00	1.00
Flt Protected	3575	3497	3402	3464	3464	3464	3464	3464	3464	3464	3464	3464
Satd. Flow (prot)	0.83	0.75	0.75	0.68	0.68	0.65	0.65	0.65	0.65	0.65	0.65	0.65
Flt Permitted	2977	2634	2326	2326	2326	2326	2326	2326	2326	2326	2326	2326
Satd. Flow (perm)	0.75	0.97	0.83	0.77	0.98	0.89	0.83	0.87	0.75	0.86	0.94	0.75
Peak-hour factor, PHF	49	757	31	92	720	158	92	224	108	148	237	67
Adj. Flow (vph)	0	2	0	0	12	0	0	30	0	0	17	0
RTOR Reduction (vph)	0	835	0	0	958	0	0	394	0	0	435	0
Lane Group Flow (vph)	2	10	9	10	9	1	10	10	9	1	2	2
Confl. Peds. (#/hr)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	2	2	2	6	6	6	4	4	4	3	8	8
Permitted Phases	2	2	2	6	6	6	4	4	4	3	8	8
Actuated Green, G (s)	60.7	60.7	60.7	60.7	60.7	60.7	28.4	28.4	28.4	28.4	28.4	28.4
Effective Green, g (s)	60.7	60.7	60.7	60.7	60.7	60.7	28.4	28.4	28.4	28.4	28.4	28.4
Actuated g/C Ratio	0.61	0.61	0.61	0.61	0.61	0.61	0.28	0.28	0.28	0.28	0.28	0.28
Clearance Time (s)	5.7	5.7	5.7	5.7	5.7	5.7	5.2	5.2	5.2	5.2	5.2	5.2
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	1807	1807	1807	1599	1599	1599	661	661	661	661	661	661
v/s Ratio Prot	0.28	0.28	0.28	0.36	0.36	0.36	0.17	0.17	0.17	0.19	0.19	0.19
v/s Ratio Perm	0.46	0.46	0.46	0.60	0.60	0.60	0.60	0.60	0.60	0.67	0.67	0.67
Uniform Delay, d1	10.7	10.7	10.7	12.1	12.1	12.1	30.9	30.9	30.9	31.6	31.6	31.6
Progression Factor	0.86	0.86	0.86	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7	0.7	0.7	1.7	1.7	1.7	1.7	1.7	1.7	2.9	2.9	2.9
Delay (s)	9.9	9.9	9.9	13.8	13.8	13.8	32.6	32.6	32.6	34.5	34.5	34.5
Level of Service	A	A	A	B	B	B	C	C	C	C	C	C
Approach Delay (s)	9.9	9.9	9.9	13.8	13.8	13.8	32.6	32.6	32.6	34.5	34.5	34.5
Approach LOS	A	A	A	B	B	B	C	C	C	C	C	C
Intersection Summary												
HCM Average Control Delay	19.0											
HCM Volume to Capacity ratio	0.62											
Actuated Cycle Length (s)	100.0											
Intersection Capacity Utilization	89.0%											
Analysis Period (min)	15											
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
18: W College Ave & SR 155

Future SAT 2023 Phase III
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	71	550	70	125	450	168	25	279	136	157	315	39
Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Total Lost time (s)	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.99	0.99	1.00	1.00	1.00	0.98	0.98	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	0.99	0.99	1.00	1.00	1.00	0.98	0.98	1.00	1.00	1.00	1.00
Flt	0.98	0.98	0.98	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	0.98
Flt Protected	0.99	0.99	0.99	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	0.95
Satd. Flow (prot)	3504	3504	3504	1790	1900	1615	1761	1793	1805	1853	1853	1853
Flt Permitted	0.66	0.66	0.66	0.27	1.00	1.00	0.54	1.00	0.15	1.00	1.00	0.15
Satd. Flow (perm)	2312	2312	2312	509	1900	1615	994	1793	285	1853	1853	1853
Peak-hour factor, PHF	0.86	0.97	0.86	0.85	0.90	0.85	0.79	0.85	0.87	0.91	0.95	0.82
Adj. Flow (vph)	83	567	81	147	500	198	32	328	156	173	332	48
RTOR Reduction (vph)	0	12	0	0	0	96	0	15	0	0	4	0
Lane Group Flow (vph)	0	719	0	147	500	102	32	469	0	173	376	0
Confl. Peds. (#/hr)	14	20	15	9	9	20	0	15	9	9	14	14
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	2	2	2	6	6	7	8	8	7	7	4	4
Permitted Phases	2	2	2	6	6	7	8	8	7	7	4	4
Actuated Green, G (s)	38.6	38.6	38.6	38.6	38.6	13.9	30.5	30.5	30.5	49.4	49.4	49.4
Effective Green, g (s)	38.6	38.6	38.6	38.6	38.6	13.9	30.5	30.5	30.5	49.4	49.4	49.4
Actuated g/C Ratio	0.39	0.39	0.39	0.39	0.39	0.14	0.30	0.30	0.30	0.49	0.49	0.49
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	882	882	882	733	224	303	547	547	352	915	915	915
v/s Ratio Prot	0.31	0.31	0.31	0.29	0.29	0.06	0.26	0.26	0.26	0.17	0.17	0.17
v/s Ratio Perm	0.81	0.81	0.81	0.75	0.75	0.88	0.45	0.45	0.45	0.49	0.49	0.49
Uniform Delay, d1	27.4	27.4	27.4	26.5	26.5	39.6	25.0	32.7	32.7	17.9	16.1	16.1
Progression Factor	0.80	0.80	0.80	1.21	1.17	0.72	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.9	6.9	6.9	19.7	4.3	2.5	0.3	13.7	2.3	0.6	0.6	0.6
Delay (s)	28.9	28.9	28.9	51.8	34.3	31.0	25.3	46.4	20.1	16.7	16.7	16.7
Level of Service	C	C	C	D	C	C	C	D	C	C	C	C
Approach Delay (s)	28.9	28.9	28.9	51.8	34.3	31.0	25.3	46.4	20.1	16.7	16.7	16.7
Approach LOS	C	C	C	D	C	C	C	D	C	C	C	C
Intersection Summary												
HCM Average Control Delay	32.2											
HCM Volume to Capacity ratio	0.77											
Actuated Cycle Length (s)	100.0											
Intersection Capacity Utilization	96.7%											
Analysis Period (min)	15											
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
19: W College Ave & McDonough St

Future SAT 2023 Phase III
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Volume (vph)	34	409	28	60	357	49	12	112	139	161	127
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	16	12	12	12	12	11	11	11	11	11
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	5.0	6.0	5.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	0.99	1.00
Flpb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00
Flt Protected	1.00	0.99	1.00	0.97	1.00	0.97	1.00	0.92	1.00	0.95	1.00
Satd. Flow (prot)	1800	2117	1793	1847	1720	1640	1743	1738	1743	1738	1738
Flt Permitted	0.33	1.00	0.35	1.00	0.62	1.00	0.30	1.00	0.30	1.00	1.00
Satd. Flow (perm)	625	2117	668	1847	1130	1640	541	1738	541	1738	1738
Peak-hour factor, PHF	0.55	0.96	0.64	0.78	0.87	0.59	0.83	0.87	0.84	0.96	0.85
Adj. Flow (vph)	62	426	41	77	410	83	14	129	165	168	149
RTOR Reduction (vph)	0	3	0	0	7	0	0	47	0	0	15
Lane Group Flow (vph)	62	464	0	77	486	0	14	247	0	168	199
Confl. Peds. (#/hr)	6	9	7	7	4	9	7	4	7	4	6
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	2	Perm	6	Perm	6	pm+pt	3	8	pm+pt	7
Protected Phases	2	45.7	45.7	45.7	45.7	45.7	24.4	23.4	42.3	42.3	36.3
Actuated Green, G (s)	45.7	45.7	45.7	45.7	45.7	45.7	24.4	23.4	42.3	42.3	36.3
Effective Green, g (s)	0.46	0.46	0.46	0.46	0.46	0.46	0.24	0.23	0.42	0.36	0.36
Actuated G/C Ratio	6.0	6.0	6.0	6.0	6.0	6.0	5.0	6.0	5.0	6.0	6.0
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	3.0	3.5	3.5	4.0	4.0
Vehicle Extension (s)	286	967	305	844	282	384	386	631	386	631	631
Lane Grp Cap (vph)	0.22	0.12	0.25	0.58	0.12	0.01	0.01	0.12	0.06	0.11	0.11
v/s Ratio Prot	0.10	0.22	0.12	0.25	0.58	0.12	0.01	0.12	0.06	0.11	0.11
v/s Ratio Perm	0.22	0.48	0.25	0.58	0.12	0.01	0.01	0.12	0.06	0.11	0.11
v/c Ratio	16.4	18.9	16.7	20.0	16.7	20.0	28.8	34.5	19.6	22.9	22.9
Uniform Delay, d1	1.00	1.00	1.53	1.64	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Progression Factor	1.7	1.7	1.8	2.5	0.1	3.8	0.9	0.4	20.4	23.3	23.3
Incremental Delay, d2	18.1	20.6	27.3	35.3	28.9	38.4	20.4	23.3	20.4	23.3	23.3
Delay (s)	B	C	C	D	C	D	C	D	C	C	C
Level of Service	B	C	C	D	C	D	C	D	C	C	C
Approach Delay (s)	20.3	34.2	34.2	34.2	34.2	34.2	38.0	38.0	22.0	22.0	22.0
Approach LOS	C	C	C	C	C	C	D	D	C	C	C
Intersection Summary											
HCM Average Control Delay	28.1										
HCM Volume to Capacity ratio	0.57										
Actuated Cycle Length (s)	100.0										
Sum of lost time (s)	17.0										
Intersection Capacity Utilization	72.7%										
Analysis Period (min)	15										
c Critical Lane Group											

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis
20: Driveway & Dekalb Industrial Way

Future SAT 2023 Phase III
7/12/2012

Movement	EBL	EBR	NBL	NBR	SBL	SBT	NWL	NWR
Lane Configurations	EBL	EBR	NBL	NBR	SBL	SBT	NWL	NWR
Volume (vph)	1	0	1	597	19	157	4	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.6	5.6	4.0	5.6	5.5	4.0
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.85	1.00	1.00	0.85
Satd. Flow (prot)	1805	1805	1805	1615	1805	3610	1805	1615
Flt Permitted	1.00	0.42	1.00	1.00	0.34	1.00	0.95	1.00
Satd. Flow (perm)	1900	791	3610	1615	647	3610	1805	1615
Peak-hour factor, PHF	0.92	0.92	0.25	0.91	0.64	0.94	0.92	0.92
Adj. Flow (vph)	1	0	4	656	30	167	621	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	1	0	4	656	30	167	621	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	pm+pt	5	2	Free	pm+pt	6	8
Protected Phases	8	2	Free	6	Free	8	8	8
Actuated Green, G (s)	1.0	25.9	25.2	48.2	35.1	29.8	1.0	48.2
Effective Green, g (s)	1.0	25.9	25.2	48.2	35.1	29.8	1.0	48.2
Actuated G/C Ratio	0.02	0.54	0.52	1.00	0.73	0.62	0.02	1.00
Clearance Time (s)	5.5	5.6	5.6	5.6	5.6	5.6	5.5	5.5
Vehicle Extension (s)	2.0	2.0	5.0	5.0	2.0	5.0	2.0	2.0
Lane Grp Cap (vph)	39	440	1887	1615	598	2232	37	1615
v/s Ratio Prot	0.00	0.00	0.18	0.02	0.03	0.17	0.01	0.12
v/s Ratio Perm	0.03	0.01	0.35	0.02	0.28	0.28	0.27	0.12
Uniform Delay, d1	23.1	5.2	6.7	0.0	2.2	4.2	23.2	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.0	0.2	0.0	0.1	0.1	1.4	0.1
Delay (s)	23.2	5.2	6.9	0.0	2.3	4.4	24.7	0.1
Level of Service	C	A	A	A	A	A	C	A
Approach Delay (s)	23.2	6.6	6.6	4.0	4.0	4.0	1.4	1.4
Approach LOS	C	A	A	A	A	A	A	A
Intersection Summary								
HCM Average Control Delay	4.8							
HCM Volume to Capacity ratio	0.36							
Actuated Cycle Length (s)	48.2							
Sum of lost time (s)	16.8							
Intersection Capacity Utilization	55.4%							
Analysis Period (min)	15							
c Critical Lane Group								

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis
21: DeKalb Industrial Way & 7/12/2012

Future SAT 2023 Phase III

Movement	NBL2	NBL	NBR	SEL	SER	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	42	0	816	1	0	0	1844	48	769	1578	0
Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	6.4	6.4	6.8	6.8	6.5	6.6	6.2	6.6	6.2	6.2	6.2
Total Lost time (s)	0.95	0.88	1.00	0.95	0.86	0.97	0.91	1.00	1.00	1.00	1.00
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fltb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.85	1.00	0.99	1.00	0.95	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00
Satd. Flow (prot)	1805	2842	1805	6498	3502	5187	1805	2842	1805	6498	3502
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00
Satd. Flow (perm)	1805	2842	1805	6498	3502	5187	1805	2842	1805	6498	3502
Peak-hour factor, PHF	0.83	0.25	0.90	0.92	0.92	0.99	0.80	0.96	0.97	0.92	0.92
Adj. Flow (vph)	51	0	907	1	0	0	1661	60	801	1627	0
RTOR Reduction (vph)	0	0	490	0	0	0	6	0	0	0	0
Lane Group Flow (vph)	51	0	417	1	0	0	1715	0	801	1627	0
Confl. Peds. (#/hr)	3	3	2	2	2	2	3	3	3	3	3
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	custom	11	4	61	Prot	5	2	2	2	2
Protected Phases	8	8	8	8	8	8	8	8	8	8	8
Actuated Green, G (s)	8.6	14.5	8.2	30.8	21.1	37.9	8.6	14.5	8.2	30.8	21.1
Effective Green, g (s)	8.6	14.5	8.2	30.8	21.1	37.9	8.6	14.5	8.2	30.8	21.1
Actuated g/C Ratio	0.11	0.18	0.10	0.38	0.26	0.47	0.11	0.18	0.10	0.38	0.26
Clearance Time (s)	6.4	6.4	6.8	6.5	6.6	6.2	6.4	6.4	6.8	6.5	6.6
Vehicle Extension (s)	3.0	3.0	3.0	5.0	3.0	4.8	3.0	3.0	3.0	5.0	3.0
Lane Grp Cap (vph)	194	515	185	2502	924	2457	194	515	185	2502	924
v/s Ratio Prot	c0.03	0.15	0.00	0.26	c0.23	c0.31	c0.03	0.15	0.00	0.26	c0.23
v/s Ratio Perm	0.26	0.81	0.01	0.69	0.87	0.66	0.26	0.81	0.01	0.69	0.87
Uniform Delay, d1	32.8	31.4	32.2	20.6	28.1	16.1	32.8	31.4	32.2	20.6	28.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7	9.4	0.0	1.6	8.6	1.4	0.7	9.4	0.0	1.6	8.6
Delay (s)	33.5	40.8	32.2	22.1	36.7	17.6	33.5	40.8	32.2	22.1	36.7
Level of Service	C	D	C	C	D	B	C	D	C	D	B
Approach Delay (s)	40.4	32.2	22.1	22.1	36.7	17.6	40.4	32.2	22.1	22.1	36.7
Approach LOS	D	C	C	C	D	B	D	C	C	C	D
Intersection Summary											
HCM Average Control Delay	26.4										
HCM Volume to Capacity ratio	0.71										
Actuated Cycle Length (s)	80.0										
Intersection Capacity Utilization	79.5%										
Analysis Period (min)	15										
i Phase conflict between lane groups.											
c Critical Lane Group											

HCM Signalized Intersection Capacity Analysis
22: W College Ave & Clarendon Ave

Future SAT 2023 Phase III
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SWR
Lane Configurations	↰	↗	↘	↰	↗	↘	↰	↗	↘	↰	↗	↘
Volume (vph)	159	382	27	6	366	196	56	145	2	238	172	129
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.5	4.0	5.5	5.5	5.5	5.6	5.6	5.6	5.6	5.6	5.6
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	0.94	1.00	0.99	1.00	0.93	1.00	0.93
Flt Permitted	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95
Satd. Flow (prot)	1805	1900	1615	1805	1790	1805	1805	1886	1805	1886	1772	1772
Flt Permitted	0.14	1.00	1.00	0.53	1.00	0.35	1.00	0.35	1.00	0.63	1.00	1.00
Satd. Flow (perm)	269	1900	1615	998	1790	661	1886	661	1886	1196	1772	1772
Peak-hour factor, PHF	0.66	0.95	0.81	0.25	0.93	0.79	0.82	0.92	0.25	0.88	0.94	0.86
Adj. Flow (vph)	241	402	33	24	394	248	68	158	8	270	183	150
RTOR Reduction (vph)	0	0	0	0	27	0	0	2	0	0	32	0
Lane Group Flow (vph)	241	402	33	24	615	0	68	164	0	270	301	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm-rt	Free	Free	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	5	2	2	6	6	4	4	4	4	8	8	8
Permitted Phases	2	Free	Free	6	6	4	4	4	4	8	8	8
Actuated Green, G (s)	51.9	51.9	86.0	36.1	36.1	23.0	23.0	23.0	23.0	23.0	23.0	23.0
Effective Green, g (s)	51.9	51.9	86.0	36.1	36.1	23.0	23.0	23.0	23.0	23.0	23.0	23.0
Actuated g/C Ratio	0.60	0.60	1.00	0.42	0.42	0.27	0.27	0.27	0.27	0.27	0.27	0.27
Clearance Time (s)	5.3	5.5	5.5	5.5	5.5	5.6	5.6	5.6	5.6	5.6	5.6	5.6
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	350	1147	1615	419	751	177	504	320	474	320	474	474
v/s Ratio Prot	c0.08	0.21	0.02	0.02	c0.34	0.10	0.09	0.17	0.09	c0.23	0.17	0.17
v/s Ratio Perm	0.33	0.35	0.02	0.06	0.82	0.38	0.33	0.33	0.33	0.33	0.33	0.33
v/c Ratio	0.69	0.35	0.02	0.06	0.82	0.38	0.33	0.33	0.33	0.33	0.33	0.33
Uniform Delay, d1	14.1	8.6	0.0	14.8	22.1	25.7	25.3	25.3	25.3	25.3	25.3	25.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.6	0.8	0.0	0.3	9.7	1.4	0.4	0.4	0.4	0.4	0.4	0.4
Delay (s)	19.6	9.4	0.0	15.1	31.7	27.1	25.7	25.7	25.7	25.7	25.7	25.7
Level of Service	B	A	A	B	C	C	C	C	C	D	D	C
Approach Delay (s)	12.6	31.1	31.1	26.1	31.1	31.1	26.1	31.1	31.1	31.1	31.1	31.1
Approach LOS	B	B	C	C	C	C	C	C	C	D	D	D
Intersection Summary												
HCM Average Control Delay	26.8											
HCM Volume to Capacity ratio	0.81											
Actuated Cycle Length (s)	86.0											
Intersection Capacity Utilization	81.1%											
Analysis Period (min)	15											
Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis 23: Clarendon Ave & Laredo Dr Future SAT 2023 Phase III 7/12/2012

Movement	NBL	NBT	SBT	SBR	SEL	SER	
Lane Configurations	186	334	316	39	34	287	
Volume (veh/h)							
Sign Control	Free	Free	Free	Free	Stop	Stop	
Grade							
Peak Hour Factor	0.87	0.95	0.95	0.83	0.87	0.96	
Hourly flow rate (vph)	214	352	333	47	51	299	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	None	None	None				
Median storage (veh)							
Upstream signal (ft)		545					
pX, platoon unblocked							
vC, conflicting volume	380				1135	356	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol	380				1135	356	
vCu, unblocked vol	4.1				6.4	6.2	
IC, single (s)							
IC, 2 stage (s)	2.2				3.5	3.3	
IF (s)	82				73	57	
p0 queue free %							
cM capacity (veh/h)	1190				185	692	
Direction, Lane #	NB 1	NB 2	SB 1	SE 1			
Volume Total	214	352	380	350			
Volume Left	214	0	0	51			
Volume Right	0	0	47	299			
cSH	1190	1700	1700	495			
Volume to Capacity	0.18	0.21	0.22	0.71			
Queue Length 95th (ft)	16	0	0	138			
Control Delay (s)	8.7	0.0	0.0	27.9			
Lane LOS	A			D			
Approach Delay (s)	3.3		0.0	27.9			
Approach LOS				D			
Intersection Summary							
Average Delay			9.0				
Intersection Capacity Utilization		58.9%				ICU Level of Service	B
Analysis Period (min)		15					

HCM Unsignalized Intersection Capacity Analysis 24: E Ponce De Leon & Annie St Future SAT 2023 Phase III 7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	9	936	7	2	925	47	7	0	2	54	0	6
Volume (veh/h)												
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
Grade												
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	10	1017	8	2	1005	51	8	0	2	59	0	7
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None	None	None	None	None	None						
Median storage (veh)												
Upstream signal (ft)		319					0.93	0.93	0.93	0.93	0.93	0.93
pX, platoon unblocked												
vC, conflicting volume	1057			1025			1554	2102	512	1566	2080	528
vC1, stage 1 conf vol												
vC2, stage 2 conf vol	1057			879			1448	2035	329	1460	2012	528
vCu, unblocked vol	4.6			4.1			7.5	6.5	6.9	7.5	6.5	7.3
IC, single (s)												
IC, 2 stage (s)	2.4			2.2			3.5	4.0	3.3	3.5	4.0	3.5
IF (s)	98			100			91	100	100	30	100	99
p0 queue free %												
cM capacity (veh/h)	534			724			85	53	627	84	54	451
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	518	516	505	554	10	65						
Volume Left	10	0	2	0	8	59						
Volume Right	0	8	0	51	2	7						
cSH	534	1700	724	1700	105	91						
Volume to Capacity	0.02	0.30	0.00	0.33	0.09	0.71						
Queue Length 95th (ft)	1	0	0	0	8	89						
Control Delay (s)	0.5	0.0	0.1	0.0	42.8	109.5						
Lane LOS	A		A		E	F						
Approach Delay (s)	0.3		0.0		42.8	109.5						
Approach LOS					E	F						
Intersection Summary												
Average Delay				3.6								
Intersection Capacity Utilization				42.9%								A
Analysis Period (min)				15								

HCM Signalized Intersection Capacity Analysis
25: E Ponce De Leon & Off Ramp 285

Future SAT 2023 Phase III
7/12/2012

Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations	EBL	EBT	WBT	WBR	SBL	SBR	
Volume (vph)	382	622	327	288	0	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	5.0	5.0	5.0	5.0			
Lane Util. Factor	1.00	1.00	0.95				
Flt	1.00	1.00	0.93				
Flt Protected	0.95	1.00	1.00				
Satd. Flow (prot)	1752	1863	3329				
Flt Permitted	0.27	1.00	1.00				
Satd. Flow (perm)	502	1863	3329				
Peak-hour factor, PHF	0.93	0.95	0.97	0.90	0.92	0.92	
Adj. Flow (vph)	411	655	337	320	0	0	
RTOR Reduction (vph)	0	0	196	0	0	0	
Lane Group Flow (vph)	411	655	461	0	0	0	
Heavy Vehicles (%)	3%	2%	1%	0%	0%	0%	
Turn Type	pm+pt						
Protected Phases	1	6	2				
Permitted Phases	6						
Actuated Green, G (s)	46.0	46.0	31.0				
Effective Green, g (s)	46.0	46.0	31.0				
Actuated g/C Ratio	0.57	0.57	0.39				
Clearance Time (s)	5.0	5.0	5.0				
Vehicle Extension (s)	3.0	5.0	5.0				
Lane Grp Cap (vph)	445	1071	1290				
v/s Ratio Prot	0.12	0.35	0.14				
v/s Ratio Perm	0.42						
v/c Ratio	0.92	0.61	0.36				
Uniform Delay, d1	11.8	11.1	17.4				
Progression Factor	1.13	0.95	1.00				
Incremental Delay, d2	20.7	2.0	0.8				
Delay (s)	34.1	12.6	18.2				
Level of Service	C	B	B				
Approach Delay (s)		20.9	18.2	0.0			
Approach LOS		C	B	A			
Intersection Summary							
HCM Average Control Delay			19.9		HCM Level of Service		B
HCM Volume to Capacity ratio			0.89				
Actuated Cycle Length (s)			80.0		Sum of lost time (s)		34.0
Intersection Capacity Utilization			87.2%		ICU Level of Service		E
Analysis Period (min)			15				
c Critical Lane Group							

HCM Unsignalized Intersection Capacity Analysis
26: Church St & Off Ramp 285

Future SAT 2023 Phase III
7/12/2012

Movement	EBT	EBR	WBT	WBR	NBL	NBR	
Lane Configurations	EBT	EBR	WBT	WBR	NBL	NBR	
Volume (veh/h)	257	0	0	376	258	188	
Sign Control	Free			Free	Stop		
Grade	0%			0%	0%		
Peak Hour Factor	0.86	0.92	0.92	0.94	0.91	0.90	
Hourly flow rate (vph)	299	0	0	400	284	209	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	None			None			
Median storage (veh)							
Upstream signal (ft)							
pX, platoon unblocked							
vC, conflicting volume		299			699	299	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol		299			699	299	
IC, single (s)		4.1			6.4	6.2	
IC, 2 stage (s)							
IF (s)		2.2			3.5	3.3	
p0 queue free %		100			31	72	
cM capacity (veh/h)		1274			409	745	
Direction, Lane #	EB 1	WB 1	NB 1	NB 2			
Volume Total	299	400	284	209			
Volume Left	0	0	284	0			
Volume Right	0	0	0	209			
cSH	1700	1700	409	745			
Volume to Capacity	0.18	0.24	0.69	0.28			
Queue Length 95th (ft)	0	0	128	29			
Control Delay (s)	0.0	0.0	31.4	11.7			
Lane LOS			D	B			
Approach Delay (s)		0.0	0.0	23.0			
Approach LOS			C				
Intersection Summary							
Average Delay			9.5				
Intersection Capacity Utilization			40.7%		ICU Level of Service		A
Analysis Period (min)			15				

HCM Signalized Intersection Capacity Analysis
27: Valley Brook Rd & Concord Dr

Future SAT 2023 Phase III
7/12/2012

Movement	NBL2	NBL	NBR	SER	SER2	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1
Volume (vph)	2	483	229	926	606	2	0	5	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.97	0.97	1.00	1.00	1.00	0.98	0.98	0.98	0.98	0.98
Flt Protected	0.95	0.97	0.95	1.00	1.00	0.98	0.98	0.98	0.98	0.98	0.98
Satd. Flow (prot)	1805	3390	3502	1615	1615	1708	1708	1708	1708	1708	1708
Flt Permitted	0.42	0.97	0.95	1.00	1.00	0.98	0.98	0.98	0.98	0.98	0.98
Satd. Flow (perm)	790	3390	3502	1615	1615	1708	1708	1708	1708	1708	1708
Peak-hour factor, PHF	0.92	0.90	0.87	0.95	0.93	0.58	0.75	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	537	263	975	652	3	0	5	0	0	0
RTOR Reduction (vph)	0	46	0	0	0	0	0	5	0	0	0
Lane Group Flow (vph)	2	754	0	975	655	0	0	3	0	0	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%
Turn Type	pm-pt	custom	perm	perm	perm	perm	perm	perm	perm	perm	perm
Protected Phases	5	2	1	6	6	8	8	8	8	8	8
Permitted Phases	2	2	1	6	6	8	8	8	8	8	8
Actuated Green, G (s)	23.9	23.4	22.1	45.0	45.0	0.9	0.9	0.9	0.9	0.9	0.9
Effective Green, g (s)	23.9	23.4	22.1	45.0	45.0	0.9	0.9	0.9	0.9	0.9	0.9
Actuated g/C Ratio	0.41	0.40	0.38	0.77	0.77	0.02	0.02	0.02	0.02	0.02	0.02
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	332	1358	1325	1244	1244	26	26	26	26	26	26
v/s Ratio Prot	0.00	0.22	c0.28	c0.41	c0.41	0.00	0.00	0.00	0.00	0.00	0.00
v/s Ratio Perm	0.01	0.56	0.74	0.53	0.53	0.12	0.12	0.12	0.12	0.12	0.12
Uniform Delay, d1	10.2	13.5	15.6	2.6	2.6	28.4	28.4	28.4	28.4	28.4	28.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.0	0.5	2.2	0.4	0.4	2.0	2.0	2.0	2.0	2.0	2.0
Delay (s)	10.2	14.0	17.8	3.0	3.0	30.4	30.4	30.4	30.4	30.4	30.4
Level of Service	B	B	B	A	A	C	C	C	C	C	C
Approach Delay (s)	14.0	11.8	11.8	30.4	30.4	0.0	0.0	0.0	0.0	0.0	0.0
Approach LOS	B	B	B	C	C	A	A	A	A	A	A
Intersection Summary											
HCM Average Control Delay											
HCM Volume to Capacity ratio											
Actuated Cycle Length (s)											
Intersection Capacity Utilization											
Analysis Period (min)											
c Critical Lane Group											

HCM Unsignalized Intersection Capacity Analysis
28: Commerce Dr & S Columbia Dr

Future SAT 2023 Phase III
7/12/2012

Intersection Sign configuration not allowed in HCM analysis.

HCM Signalized Intersection Capacity Analysis 38: N Decatur Rd & Glendale Rd

Future SAT 2023 Phase III
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	7	0	7	0	0	0	7	0	0	0	0	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.85	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1770	3008	1770	3008	1770	3008	1770	3008	1770	3008	1770	3008
Flt Permitted	0.76	1.00	0.76	1.00	0.76	1.00	0.76	1.00	0.76	1.00	0.76	1.00
Satd. Flow (perm)	1410	3008	1410	3008	1410	3008	1410	3008	1410	3008	1410	3008
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	8	0	8	0	0	0	8	0	0	0	0	8
RTOR Reduction (vph)	0	5	0	0	0	0	0	0	0	0	0	5
Lane Group Flow (vph)	8	3	0	0	0	0	8	0	0	0	3	0
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	4	4	4	8	8	8	2	2	2	2	2	6
Permitted Phases	4	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
Actuated Green, G (s)	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
Effective Green, g (s)	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
Actuated g/C Ratio	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	564	1203	564	561	561	561	561	561	561	561	561	644
v/s Ratio Prot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
v/s Ratio Perm	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
Uniform Delay, d1	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2
Progression Factor	0.37	1.00	0.37	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay (s)	2.7	7.2	2.7	7.2	7.2	7.2	7.3	7.3	7.3	7.2	7.2	7.2
Level of Service	A	A	A	A	A	A	A	A	A	A	A	A
Approach Delay (s)	5.0	5.0	5.0	0.0	0.0	0.0	7.3	7.3	7.3	7.2	7.2	7.2
Approach LOS	A	A	A	A	A	A	A	A	A	A	A	A
Intersection Summary												
HCM Average Control Delay	6.1											
HCM Volume to Capacity ratio	0.01											
Actuated Cycle Length (s)	40.0											
Intersection Capacity Utilization	15.8%											
Analysis Period (min)	15											
Critical Lane Group	c											

HCM Unsignalized Intersection Capacity Analysis 43: DeKalb Industrial Way &

Future SAT 2023 Phase III
7/12/2012

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	←	←	←	←	←	←
Volume (veh/h)	65	98	707	69	104	688
Sign Control	Stop	Free	Free	Free	Free	Free
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	71	107	768	75	113	748
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLT		TWLT	
Median storage (veh)			2		2	
Upstream signal (ft)			455			
pX, platoon unblocked	0.90	0.90			0.90	
vC, conflicting volume	1406	422			843	
vC1, stage 1 conf vol	806					
vC2, stage 2 conf vol	600					
vCu, unblocked vol	1233	142			609	
IC, single (s)	6.8	6.9			4.1	
IC, 2 stage (s)	5.8					
IF (s)	3.5	3.3			2.2	
p0 queue free %	79	87			87	
dM capacity (veh/h)	343	794			871	
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 3
Volume Total	71	107	512	331	113	374
Volume Left	71	0	0	0	113	0
Volume Right	0	107	0	75	0	0
cSH	343	794	1700	1700	871	1700
Volume to Capacity	0.21	0.13	0.30	0.19	0.13	0.22
Queue Length 95th (ft)	19	12	0	0	11	0
Control Delay (s)	18.2	10.2	0.0	0.0	9.7	0.0
Lane LOS	C	B			A	
Approach Delay (s)	13.4		0.0		1.3	
Approach LOS	B					
Intersection Summary						
Average Delay	1.8					
Intersection Capacity Utilization	41.1%					
Analysis Period (min)	15					
	ICU Level of Service					
	A					

HCM Unsignalized Intersection Capacity Analysis
59: W College Ave & S Columbia Dr

Future SAT 2023 Phase III
7/12/2012

Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	↑↑	↑		↑↑	↑		
Volume (veh/h)	797	52	81	750	0	0	
Sign Control	Free	Free	Free	Stop			
Grade	0%	0%	0%	0%			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	866	57	88	815	0	0	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	None			None			
Median storage (veh)							
Upstream signal (ft)	1136			400	0.92	0.92	
pX, platoon unblocked					1478	461	
vC, conflicting volume	923						
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	753			979	254		
IC, single (s)	4.1			6.8	6.9		
IC, 2 stage (s)							
IF (s)	2.2			3.5	3.3		
p0 queue free %	89			100	100		
cM capacity (veh/h)	788			202	689		
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1		
Volume Total	578	345	360	543	0		
Volume Left	0	0	88	0	0		
Volume Right	0	57	0	0	0		
cSH	1700	1700	788	1700	1700		
Volume to Capacity	0.34	0.20	0.11	0.32	0.00		
Queue Length 95th (ft)	0	0	9	0	0		
Control Delay (s)	0.0	0.0	3.5	0.0	0.0		
Lane LOS	A	A	A	A	A		
Approach Delay (s)	0.0	1.4		0.0			
Approach LOS				A			
Intersection Summary							
Average Delay	0.7						
Intersection Capacity Utilization	53.4%						A
Analysis Period (min)	15						

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis
66: Glendale Rd & Church St

Future SAT 2023 Phase III
7/12/2012

Movement	NBL	NBR	SEL	SER	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	↑↑	↑↑	↑	↑		↑↑	↑↑		↑↑	↑↑
Volume (vph)	0	0	59	0	0	0	7	0	0	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			5.5			6.5			6.5	
Lane Util. Factor			1.00			1.00			1.00	
Frt			1.00			0.86			0.86	
Flt Protected			0.95			1.00			1.00	
Satd. Flow (prot)			1770			1611			1611	
Flt Permitted			0.55			1.00			1.00	
Satd. Flow (perm)			1021			1611			1611	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	64	0	0	0	8	0	0	67
RTOR Reduction (vph)	0	0	0	0	0	4	0	0	30	0
Lane Group Flow (vph)	0	0	64	0	0	4	0	0	37	0
Turn Type				custom	Perm		Perm			
Protected Phases	4	3	8		2		2		6	
Permitted Phases			8		2				6	
Actuated Green, G (s)			26.8		50.2		50.2		50.2	
Effective Green, g (s)			26.8		50.2		50.2		50.2	
Actuated g/C Ratio			0.30		0.56		0.56		0.56	
Clearance Time (s)			5.5		6.5		6.5		6.5	
Vehicle Extension (s)			3.0		5.5		5.5		5.5	
Lane Grp Cap (vph)			361		899		899		899	
v/s Ratio Prot			c0.01		0.00		0.00		c0.02	
v/s Ratio Perm			c0.04							
v/c Ratio			0.18		0.00		0.00		0.04	
Uniform Delay, d1			23.2		8.8		8.8		9.0	
Progression Factor			1.22		1.00		1.00		1.00	
Incremental Delay, d2			0.2		0.0		0.0		0.1	
Delay (s)			28.5		8.8		8.8		9.1	
Level of Service			C		A		A		A	
Approach Delay (s)	0.0		28.5		8.8		8.8		9.1	
Approach LOS	A		C		A		A		A	
Intersection Summary										
HCM Average Control Delay	18.0						HCM Level of Service			
HCM Volume to Capacity ratio	0.08						B			
Actuated Cycle Length (s)	90.0						Sum of lost time (s)			
Intersection Capacity Utilization	26.7%						ICU Level of Service			
Analysis Period (min)	15						A			
c Critical Lane Group	C						Critical Lane Group			

5:00 pm Baseline

Synchro 7 - Report
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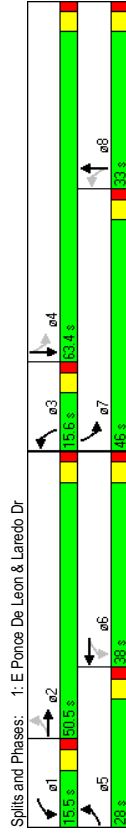
HCM Signalized Intersection Capacity Analysis
73: E Ponce De Leon &
Future SAT 2023 Phase III
7/12/2012

Movement	NBL	NBR	SEL	SER	SWL	SWR	
Lane Configurations	  	  	  	  	  	  	  
Volume (vph)	347	523	65	130	745	69	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	0.97	0.88	1.00	1.00	0.97	1.00	
Flt	1.00	0.85	1.00	0.85	1.00	0.85	
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (prot)	3433	2787	1770	1583	3433	1583	
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	
Satd. Flow (perm)	3433	2787	1770	1583	3433	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	377	568	71	141	810	75	
RTOR Reduction (vph)	0	341	0	44	0	45	
Lane Group Flow (vph)	377	227	71	97	810	30	
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	
Protected Phases	21	61			8		
Permitted Phases		2		6		8	
Actuated Green, G (s)	16.0	16.0	16.0	16.0	16.0	16.0	
Effective Green, g (s)	16.0	16.0	16.0	16.0	16.0	16.0	
Actuated g/C Ratio	0.40	0.40	0.40	0.40	0.40	0.40	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Grp Cap (vph)	1373	1115	708	633	1373	633	
v/s Ratio Prot	c0.11		0.04		c0.24		
v/s Ratio Perm		0.08		0.06		0.02	
v/c Ratio	0.27	0.20	0.10	0.15	0.59	0.05	
Uniform Delay, d1	8.1	7.8	7.5	7.7	9.4	7.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.5	0.4	0.3	0.5	1.9	0.1	
Delay (s)	8.6	8.3	7.8	8.2	11.3	7.5	
Level of Service	A	A	A	A	B	A	
Approach Delay (s)	8.4	8.1			11.0		
Approach LOS	A	A	A		B		
Intersection Summary							
HCM Average Control Delay	9.5					HCM Level of Service	A
HCM Volume to Capacity ratio	0.43						
Actuated Cycle Length (s)	40.0					Sum of lost time (s)	8.0
Intersection Capacity Utilization	44.8%					ICU Level of Service	A
Analysis Period (min)	15						
i Phase conflict between lane groups.							
c Critical Lane Group							

5:00 pm Baseline

Timings
1: E Ponce De Leon & Laredo Dr
Future SAT 2023 Phase III with Recommendations
7/12/2012

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	242	288	58	294	586	234	0	606	294
Turn Type	pm-pt		pm-pt		Free	pm-pt		pm-pt	Free
Protected Phases	5	2	1	6	3	8	7	4	
Permitted Phases	2	6		6	Free	8	4		Free
Detector Phase	5	2	1	6	3	8	7	4	
Switch Phase									
Minimum Initial (s)	10.0	20.0	10.0	20.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	15.5	40.5	15.5	34.5	15.5	32.5	15.5	30.5	
Total Split (s)	28.0	50.5	15.5	38.0	0.0	15.6	33.0	46.0	0.0
Total Split (%)	19.3%	34.8%	10.7%	26.2%	0.0%	10.8%	22.8%	31.7%	43.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	0.0%
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	4.0	5.5	5.5	5.5	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min	None	Min	None	None	None	None	
Act Effct Green (s)	46.1	33.8	30.5	20.5	113.5	20.5	10.4	56.4	40.8
Actuated g/C Ratio	0.41	0.30	0.27	0.18	1.00	0.18	0.09	0.50	0.36
v/c Ratio	0.63	0.40	0.24	0.49	0.44	1.32	0.23	0.97	0.62
Control Delay	30.6	30.4	24.2	45.2	0.9	196.5	1.3	51.8	35.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.6	30.4	24.2	45.2	0.9	196.5	1.3	51.8	35.4
LOS	C	C	C	D	A	F	A	D	A
Approach Delay	30.5					150.7			
Approach LOS	C					F			
Intersection Summary									
Cycle Length: 145									
Actuated Cycle Length: 113.5									
Natural Cycle: 125									
Control Type: Actuated-Uncoordinated									
Maximum v/c Ratio: 1.32									
Intersection Signal Delay: 40.3									
Intersection Capacity Utilization 93.0%									
Analysis Period (min) 15									
Intersection LOS: D									
ICU Level of Service F									



5:00 pm Baseline

HCM Signalized Intersection Capacity Analysis Future SAT 2023 Phase III with Recommendations
1: E Ponce De Leon & Laredo Dr

7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	242	288	94	58	294	596	234	0	72	606	294	439
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5	4.0	5.5	5.5	5.5	5.5	5.5	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb. ped/bikes	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00
Flt	1.00	0.96	1.00	1.00	1.00	0.85	1.00	0.85	1.00	1.00	0.85	1.00
Flt Protected	0.95	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	3429	1726	3574	1589	1805	1615	1795	1900	1615	1900	1615
Flt Permitted	0.36	1.00	0.51	1.00	1.00	0.51	1.00	0.42	1.00	1.00	0.42	1.00
Satd. Flow (perm)	688	3429	922	3574	1589	977	1615	788	1900	1615	788	1900
Peak-hour factor, PHF	0.80	0.97	0.78	0.75	0.92	0.86	0.71	0.79	0.71	0.83	0.69	0.88
Adj. Flow (vph)	302	297	121	77	320	693	330	0	101	730	426	499
RTOR Reduction (vph)	0	31	0	0	0	0	0	92	0	0	0	0
Lane Group Flow (vph)	302	387	0	77	320	693	330	9	0	730	426	499
Confl. Peds. (#/hr)	13	13	13	13	13	13	13	13	13	13	13	13
Heavy Vehicles (%)	0%	1%	0%	4%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt
Permitted Phases	5	2	1	6	1	6	3	8	7	7	4	Free
Actuated Green, G (s)	47.2	33.8	29.6	21.7	114.6	20.5	10.4	56.4	40.8	114.6	40.8	114.6
Effective Green, g (s)	47.2	33.8	29.6	21.7	114.6	20.5	10.4	56.4	40.8	114.6	40.8	114.6
Actuated g/C Ratio	0.41	0.29	0.26	0.19	1.00	0.18	0.09	0.49	0.36	1.00	0.36	1.00
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Vehicle Extension (s)	3.0	5.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0	3.0	4.0	3.0
Lane Grp Cap (vph)	478	1011	294	677	1589	248	147	745	676	1615	745	676
v/s Ratio Prot	c0.11	0.11	0.02	0.09	c0.12	0.01	0.01	c0.35	0.22	0.14	c0.35	0.22
v/s Ratio Perm	c0.15	0.15	0.05	0.44	0.44	0.06	0.06	0.98	0.63	0.31	0.98	0.63
v/c Ratio	0.63	0.38	0.26	0.47	0.44	1.33	0.06	0.98	0.63	0.31	0.98	0.63
Uniform Delay, d1	24.4	32.1	33.0	41.4	0.0	45.5	47.6	25.3	30.6	0.0	25.3	30.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.7	0.5	0.5	1.1	0.9	173.8	0.2	27.6	2.2	0.5	27.6	2.2
Delay (s)	27.1	32.6	33.5	42.4	0.9	219.3	47.9	52.9	32.8	0.5	52.9	32.8
Level of Service	C	C	C	D	A	F	D	D	C	A	D	C
Approach Delay (s)	30.3	30.3	30.3	15.4	15.4	179.2	F	179.2	31.9	31.9	179.2	31.9
Approach LOS	C	C	C	B	B	F	F	F	C	C	F	C

Intersection Summary			
HCM Average Control Delay	43.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	114.6	Sum of lost time (s)	16.5
Intersection Capacity Utilization	93.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

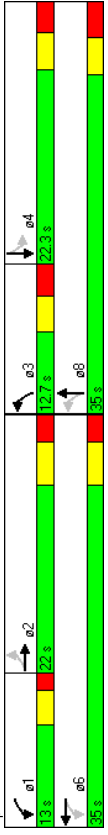
5:00 pm Baseline

Timings
4: E Ponce De Leon & Arcadia Ave

7/12/2012

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Volume (vph)	100	295	359	322	44	501	16	511	118
Turn Type	Perm	pm+pt	pm+pt	pm+pt	pm+pt	Perm	Perm	Free	Free
Protected Phases	2	2	1	6	3	8	4	4	4
Permitted Phases	2	2	1	6	3	8	4	4	4
Detector Phase	2	2	1	6	3	8	4	4	4
Switch Phase	2	2	1	6	3	8	4	4	4
Minimum Initial (s)	15.0	15.0	5.0	15.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	22.0	22.0	9.4	22.0	12.7	22.2	21.8	21.8	21.8
Total Split (s)	22.0	22.0	13.0	35.0	12.7	35.0	22.3	22.3	22.3
Total Split (%)	31.4%	31.4%	18.6%	50.0%	18.1%	50.0%	31.9%	31.9%	31.9%
Yellow Time (s)	3.6	3.6	3.0	3.6	3.0	3.1	3.1	3.1	3.1
All-Red Time (s)	2.4	2.4	1.4	2.4	2.7	3.1	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.4	6.0	5.7	6.2	5.8	5.8	4.0
Lead/Lag	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lead-Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Max	None	Max	None	C-Max	C-Max	C-Max	C-Max
Act Effect Green (s)	16.0	16.0	30.6	29.3	28.8	19.0	19.0	19.0	70.0
Actuated g/C Ratio	0.23	0.23	0.44	0.41	0.42	0.41	0.27	0.27	1.00
v/c Ratio	0.48	0.52	0.91	0.25	0.30	0.63	0.14	0.55	0.09
Control Delay	31.7	22.1	44.8	13.6	12.9	8.5	24.4	25.4	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.7	22.1	44.8	13.6	12.9	8.5	24.4	25.4	0.1
LOS	C	C	D	B	B	A	C	C	A
Approach Delay	24.0	24.0	29.6	8.9	8.9	20.4	20.4	20.4	C
Approach LOS	C	C	C	A	A	C	C	C	C

Spits and Phases: 4: E Ponce De Leon & Arcadia Ave



5:00 pm Baseline

HCM Signalized Intersection Capacity Analysis Future SAT 2023 Phase III with Recommendations
4: E Ponce De Leon & Arcadia Ave

7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	100	295	107	359	322	14	88	501	393	16	511	118
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	4.4	6.0	6.0	5.7	6.2	5.8	5.8	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.99	1.00	0.95	1.00	0.95	1.00
Frbp. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frbp. ped/bikes	1.00	0.96	1.00	0.99	1.00	0.99	1.00	0.93	1.00	1.00	0.85	1.00
Fit Protected	0.95	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00
Satd. Flow (prot)	1798	3417	1786	3545	1804	3306	1803	3610	1593	1803	3610	1593
Fit Permitted	0.53	1.00	0.34	1.00	0.34	1.00	0.26	1.00	0.28	1.00	1.00	1.00
Satd. Flow (perm)	1011	3417	642	3545	502	3306	537	3610	1593	537	3610	1593
Peak-hour factor, PHF	0.89	0.93	0.87	0.94	0.93	0.73	0.87	0.96	0.80	0.75	0.95	0.86
Adj. Flow (vph)	112	317	123	382	346	19	101	522	491	21	538	137
RTOR Reduction (vph)	0	58	0	0	6	0	0	243	0	0	0	0
Lane Group Flow (vph)	112	382	0	382	359	0	101	770	0	21	538	137
Confl. Peds. (#/hr)	5	4	3	4	4	4	4	3	4	4	5	5
Heavy Vehicles (%)	0%	1%	0%	1%	0%	0%	0%	0%	1%	0%	0%	0%
Turn Type	Perm	2	2	1	6	1	6	3	8	Perm	4	Free
Permitted Phases	2	2	2	1	6	1	6	3	8	Perm	4	Free
Actuated Green, G (s)	16.0	16.0	29.0	29.0	29.0	28.8	28.8	28.8	17.9	17.9	70.0	70.0
Effective Green, g (s)	16.0	16.0	29.0	29.0	29.0	28.8	28.8	28.8	17.9	17.9	70.0	70.0
Actuated g/C Ratio	0.23	0.23	0.41	0.41	0.41	0.41	0.41	0.41	0.26	0.26	1.00	1.00
Clearance Time (s)	6.0	6.0	4.4	6.0	6.0	5.7	6.2	6.2	5.8	5.8	5.8	5.8
Vehicle Extension (s)	5.0	5.0	3.5	5.0	3.5	5.0	3.5	3.5	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	231	781	407	1469	311	1360	60.23	923	1593	137	923	1593
v/s Ratio Prot	0.11	0.11	0.12	0.10	0.10	0.03	0.03	0.23	0.15	0.15	0.15	0.15
v/s Ratio Perm	0.11	0.11	0.12	0.10	0.10	0.03	0.03	0.23	0.15	0.15	0.15	0.15
v/c Ratio	0.48	0.49	0.94	0.24	0.32	0.32	0.32	0.57	0.15	0.58	0.09	0.09
Uniform Delay, d1	23.4	23.5	17.5	13.4	13.6	15.8	15.8	20.2	22.8	0.0	22.8	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	0.89	0.77	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.1	2.2	29.5	0.4	0.5	1.2	1.2	2.4	2.7	0.1	2.7	0.1
Delay (s)	30.5	25.6	47.0	13.8	12.5	13.3	13.3	22.5	25.5	0.1	25.5	0.1
Level of Service	C	C	D	B	B	B	B	C	C	C	A	A
Approach Delay (s)	26.6	26.6	30.7	13.2	13.2	13.2	13.2	20.4	20.4	20.4	20.4	20.4
Approach LOS	C	C	C	B	B	B	B	C	C	C	C	C

Intersection Summary				
HCM Average Control Delay	21.4	HCM Level of Service		C
HCM Volume to Capacity ratio	0.71			
Actuated Cycle Length (s)	70.0	Sum of lost time (s)		10.6
Intersection Capacity Utilization	84.3%	ICU Level of Service		E
Analysis Period (min)	15			
c Critical Lane Group				

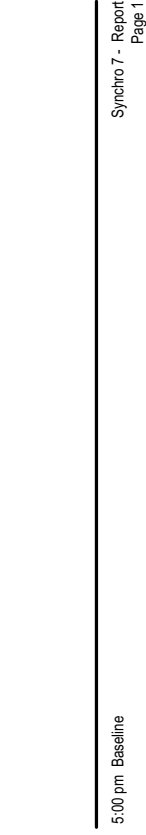
5:00 pm Baseline

Timings
12: N Decatur Rd & DeKalb Industrial Way

7/12/2012

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Volume (vph)	128	551	196	77	405	258	557	233	473	63
Turn Type	pm+pt	Perm	Perm	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	Perm
Protected Phases	5	2	2	1	6	3	8	7	4	4
Permitted Phases	5	2	2	2	6	8	8	7	4	4
Detector Phase	5	2	2	1	6	3	8	7	4	4
Minimum Initial (s)	5.0	10.0	10.0	5.0	15.0	5.0	7.0	5.0	7.0	7.0
Minimum Split (s)	22.0	31.0	31.0	11.0	31.0	11.0	31.0	11.0	13.0	13.0
Total Split (s)	22.0	41.0	41.0	12.0	31.0	11.0	31.0	11.0	23.0	23.0
Total Split (%)	23.2%	43.2%	43.2%	12.6%	32.6%	20.0%	32.6%	11.6%	24.2%	24.2%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead/Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	None	None	None	None	None	None
Act Effct Green (s)	41.7	33.6	33.6	32.8	26.8	34.8	23.8	20.8	15.7	15.7
Actuated g/C Ratio	0.46	0.37	0.37	0.37	0.30	0.39	0.27	0.23	0.17	0.17
v/c Ratio	0.44	0.42	0.31	0.27	0.60	0.87	0.72	1.21	0.79	0.22
Control Delay	17.5	22.8	4.1	15.7	26.0	49.3	34.9	160.3	46.1	10.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.5	22.8	4.1	15.7	26.0	49.3	34.9	160.3	46.1	10.3
LOS	B	C	A	B	C	D	C	F	D	B
Approach Delay	17.4	24.7	24.7	39.4	78.3	78.3	78.3	78.3	78.3	78.3
Approach LOS	B	C	C	D	E	E	E	E	E	E

Intersection Summary												
Cycle Length: 95												
Actuated Cycle Length: 89.8												
Natural Cycle: 95												
Control Type: Actuated-Uncoordinated												
Maximum v/c Ratio: 1.21												
Intersection Signal Delay: 39.5												
Intersection Capacity Utilization 76.5%												
Analysis Period (min) 15												



5:00 pm Baseline

HCM Signalized Intersection Capacity Analysis Future SAT 2023 Phase III with Recommendations
12: N Decatur Rd & DeKalb Industrial Way

7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	128	551	196	77	405	193	258	557	67	233	473	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	1.00	0.85	1.00	0.95	1.00	0.98	1.00	0.98	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1804	3610	1587	1802	3409	1804	3544	1804	3610	1587	1804	1566
Flt Permitted	0.23	1.00	1.00	0.44	1.00	0.44	1.00	0.19	1.00	0.33	1.00	1.00
Satd. Flow (perm)	440	3610	1587	837	3409	837	3409	364	3544	628	3610	1566
Peak-hour factor, PHF	0.82	0.98	0.86	0.78	0.93	0.89	0.84	0.92	0.92	0.91	0.95	0.86
Adj. Flow (vph)	156	562	228	99	435	217	307	605	73	256	498	73
RTOR Reduction (vph)	0	0	144	0	62	0	0	10	0	0	0	60
Lane Group Flow (vph)	156	562	84	99	590	0	307	668	0	256	498	13
Confl. Peds. (#/hr)	5	7	8	7	8	6	7	8	6	6	6	5
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Turn Type	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	Perm
Permitted Phases	5	2	2	1	6	1	3	8	0%	7	4	4
Actuated Green, G (s)	43.7	33.6	33.6	32.7	28.1	34.8	23.8	23.8	20.7	15.7	15.7	15.7
Effective Green, g (s)	43.7	33.6	33.6	32.7	28.1	34.8	23.8	23.8	20.7	15.7	15.7	15.7
Actuated g/C Ratio	0.48	0.37	0.37	0.36	0.31	0.38	0.26	0.26	0.23	0.17	0.17	0.17
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	8.0	8.0	3.0	8.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	363	1333	586	350	1053	346	927	927	207	623	270	270
v/s Ratio Prot	c0.05	c0.16	0.05	0.01	c0.17	c0.13	0.19	0.07	0.07	0.14	0.01	0.01
v/s Ratio Perm	0.16	0.43	0.42	0.14	0.28	0.56	0.89	0.72	1.24	0.80	0.05	0.05
Uniform Delay, d1	14.9	21.4	19.1	19.8	26.3	22.3	30.6	30.6	33.3	36.1	31.4	31.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.8	0.9	0.5	0.4	2.0	22.8	2.8	2.8	140.9	7.1	0.1	0.1
Delay (s)	15.7	22.4	19.6	20.2	28.3	45.1	33.4	33.4	174.2	43.2	31.5	31.5
Level of Service	B	C	B	C	C	D	C	C	F	D	C	C
Approach Delay (s)	20.6	27.2	27.2	27.2	27.2	27.2	27.2	27.2	27.2	27.2	27.2	27.2
Approach LOS	C	C	C	C	C	C	C	C	D	D	F	F

Intersection Summary				HCM Level of Service			
HCM Average Control Delay	41.3			HCM Level of Service	D		
HCM Volume to Capacity ratio	0.85						
Actuated Cycle Length (s)	91.0			Sum of lost time (s)	30.0		
Intersection Capacity Utilization	76.5%			ICU Level of Service	D		
Analysis Period (min)	15						
Critical Lane Group							

HCM Signalized Intersection Capacity Analysis
1: E Ponce De Leon & Laredo Dr

Future PM 2023 Phase IV
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SEB	SEB2
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SEB	SEB2
Volume (vph)	165	472	152	34	338	370	67	154	77	487	197	238	238
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.96	1.00	1.00	1.00	0.85	1.00	0.95	1.00	0.95	1.00	0.85	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.97	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	3431	1733	3574	1589	1805	1742	1803	1615	1615	1615	1615	1615
Flt Permitted	0.39	1.00	1.00	0.25	1.00	1.00	0.58	0.97	1.00	0.23	1.00	1.00	1.00
Satd. Flow (perm)	742	3431	463	3574	1589	1110	1742	430	1615	1615	1615	1615	1615
Peak-hour factor, PHF	0.80	0.97	0.78	0.75	0.92	0.86	0.71	0.79	0.71	0.83	0.69	0.88	0.88
Adj. Flow (vph)	206	487	195	45	367	430	94	195	108	587	286	270	270
RTOR Reduction (vph)	0	36	0	0	0	0	0	17	0	0	0	0	0
Lane Group Flow (vph)	206	646	0	45	367	430	94	286	0	587	286	270	270
Confl. Peds. (#/hr)	13	13	13	13	13	13	13	13	13	13	13	13	13
Heavy Vehicles (%)	0%	1%	0%	4%	1%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	Free
Permitted Phases	5	2	2	1	6	1	3	8	0%	7	4	4	4
Actuated Green, G (s)	44.6	32.7	32.7	36.2	28.5	112.0	32.3	23.9	55.1	41.2	112.0	112.0	112.0
Effective Green, g (s)	44.6	32.7	32.7	36.2	28.5	112.0	32.3	23.9	55.1	41.2	112.0	112.0	112.0
Actuated g/C Ratio	0.40	0.29	0.29	0.32	0.25	1.00	0.29	0.21	0.49	0.37	1.00	1.00	1.00
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Vehicle Extension (s)	3.0	5.0	5.0	3.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	408	1002	1002	237	909	1589	372	372	527	594	1615	1615	1615
v/s Ratio Prot	c0.05	c0.19	0.05	0.01	0.10	0.02	0.02	0.16	c0.26	0.18	0.17	0.17	0.17
v/s Ratio Perm	0.15	0.50	0.64	0.19	0.40	0.27	0.25	0.77	1.11	0.48	0.17	0.17	0.17
Uniform Delay, d1	23.3	34.6	34.6	26.8	34.7	0.0	29.9	41.5	27.0	27.2	0.0	0.0	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.0	2.0	2.0	0.4	0.6	0.4	0.5	10.0	74.3	0.8	0.2	0.2	0.2
Delay (s)	24.3	36.5	36.5	27.2	35.3	0.4	30.4	51.5	101.3	28.0	0.2	0.2	0.2
Level of Service	C	D	D	C	D	A	C	D	F	C	A	A	A
Approach Delay (s)	33.7	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1
Approach LOS	C	B	B	B	B	B	B	B	D	D	E	E	E

Intersection Summary				HCM Level of Service			
HCM Average Control Delay	39.8			HCM Level of Service	D		
HCM Volume to Capacity ratio	0.85						
Actuated Cycle Length (s)	112.0			Sum of lost time (s)	11.0		
Intersection Capacity Utilization	87.0%			ICU Level of Service	E		
Analysis Period (min)	15						
Critical Lane Group							

HCM Signalized Intersection Capacity Analysis

2: E Ponce De Leon & 7/12/2012

HCM Signalized Intersection Capacity Analysis

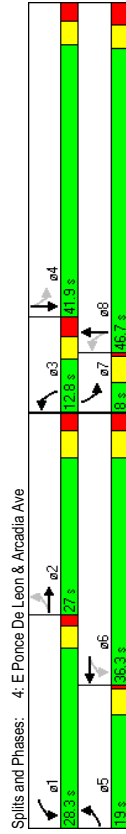
3: E Ponce De Leon & DeKalb Industrial Way 7/12/2012

Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	NWL2	NWL	NWR
Lane Configurations											
Volume (vph)	1	1	0	949	180	316	703	0	47	2	225
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	4.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00
Frt	0.93	0.98	1.00	0.85	1.00	0.85	1.00	0.99	0.90	0.99	0.90
Flt Protected	0.98	0.98	1.00	1.00	1.00	1.00	0.99	0.99	0.99	0.99	0.99
Satd. Flow (prot)	1729	1729	1863	1615	3483	1615	1766	1672	1672	1672	1672
Flt Permitted	0.98	0.98	1.00	1.00	1.00	1.00	0.50	0.50	0.99	0.99	0.99
Satd. Flow (perm)	1729	1729	1863	1615	3483	1615	1766	1672	1672	1672	1672
Peak-hour factor, PHF	0.25	0.25	0.25	0.94	0.90	0.95	0.91	0.92	0.65	0.25	0.89
Adj. Flow (vph)	4	4	0	1010	200	333	773	0	72	8	253
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	97
Lane Group Flow (vph)	8	0	0	1010	200	0	1106	0	0	236	0
Heavy Vehicles (%)	0%	0%	0%	2%	0%	0%	3%	0%	0%	0%	1%
Turn Type				Free	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	4!		2		6		6		8		8!
Permitted Phases				Free			74.3		8		19.7
Actuated Green, G (s)	19.7		74.3	106.0			74.3		19.7		19.7
Effective Green, g (s)	19.7		74.3	106.0			74.3		19.7		19.7
Actuated g/C Ratio	0.19		0.70	1.00			0.70		0.19		0.19
Clearance Time (s)	6.0		6.0				6.0		6.0		6.0
Vehicle Extension (s)	3.0		3.0				3.0		3.0		3.0
Lane Grp Cap (vph)	321		1306	1615			1238		311		311
v/s Ratio Prot	0.00		0.54								
v/s Ratio Perm	0.02		0.77	0.12			0.63		0.14		0.14
v/c Ratio	1.56d1		1.56d1				1.56d1		0.76		0.76
Uniform Delay, d1	35.3		10.4	0.0			12.7		40.9		40.9
Progression Factor	1.00		1.00	1.00			1.00		1.00		1.00
Incremental Delay, d2	0.0		2.9	0.2			8.5		10.2		10.2
Delay (s)	35.3		13.3	0.2			21.2		51.1		51.1
Level of Service	D		B	A			C		D		D
Approach Delay (s)	35.3		11.1				21.2		51.1		51.1
Approach LOS	D		B				C		D		D
Intersection Summary											
HCM Average Control Delay	20.4		HCM Level of Service		C						
HCM Volume to Capacity ratio	0.87										
Actuated Cycle Length (s)	106.0		Sum of lost time (s)		12.0		H				
Intersection Capacity Utilization	121.8%		ICU Level of Service								
Analysis Period (min)	15										
d1	Defacto Left Lane. Recode with 1 though lane as a left lane.										
Phase conflict between lane groups.											
Critical Lane Group											

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations	↰	↰↱	↱	↰	↰↱	↱	↰	↰	↱	↰	↰↱	↱
Volume (vph)	48	837	9	1	659	101	153	15	47	25	15	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	0.99	1.00	1.00	1.00
Frb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frb, ped/bikes	1.00	1.00	1.00	1.00	0.98	1.00	1.00	0.89	1.00	0.97	0.97	0.97
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.98	0.98	0.98	0.98
Satd. Flow (prot)	1805	3561	1805	3494	1805	1805	1805	1881	1797	1797	1797	1797
Flt Permitted	0.21	1.00	0.32	1.00	0.32	1.00	0.71	1.00	0.71	1.00	0.87	0.87
Satd. Flow (perm)	400	3561	601	3494	601	3494	1347	1881	1347	1881	1597	1597
Peak-hour factor, PHF	0.67	0.95	0.44	0.25	0.97	0.78	0.56	0.50	0.63	0.83	0.60	0.63
Adj. Flow (vph)	72	881	20	4	679	129	273	30	75	30	25	19
RTOR Reduction (vph)	0	1	0	0	11	0	0	51	0	0	8	0
Lane Group Flow (vph)	72	900	0	4	797	0	273	54	0	0	66	0
Conf. Peds. (#/hr)	1		1					1		1		
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type		pm+pt			Perm		Perm		Perm		Perm	
Protected Phases	1	6		2	2		4		4		8	
Permitted Phases	6	6		2			4					
Actuated Green, G (s)	42.4	42.4	31.0	31.0	31.0	25.5	25.5	25.5	25.5	25.5	25.5	25.5
Effective Green, g (s)	42.4	42.4	31.0	31.0	31.0	25.5	25.5	25.5	25.5	25.5	25.5	25.5
Actuated g/C Ratio	0.53	0.53	0.39	0.39	0.39	0.32	0.32	0.32	0.32	0.32	0.32	0.32
Clearance Time (s)	5.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	325	1890	233	1356	430	536						
v/s Ratio Prot	0.02	c0.25		c0.23		c0.20						
v/s Ratio Perm	0.10		0.01			0.63			0.10		0.04	
v/c Ratio	0.22	0.48	0.02	0.59	0.19	23.2			19.1		19.3	
Uniform Delay, d1	10.6	11.8	15.1	19.4	23.2	19.1			19.3		19.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00			1.00		1.00	
Incremental Delay, d2	0.5	0.4	0.1	1.0	4.2	0.2			0.2		0.2	
Delay (s)	11.0	12.2	15.1	20.4	27.5	19.3			19.6		19.6	
Level of Service	B	B	B	C	C	C			B		B	
Approach Delay (s)	12.1		20.4		25.2				19.6		19.6	
Approach LOS	B		C		C				B		B	
Intersection Summary												
HCM Average Control Delay	17.6 HCM Level of Service B											
HCM Volume to Capacity ratio	0.62											
Actuated Cycle Length (s)	79.9 Sum of lost time (s) 18.0											
Intersection Capacity Utilization	65.2% ICU Level of Service C											
Analysis Period (min)	15											
Critical Lane Group												

Timings 4: E Ponce De Leon & Arcadia Ave Future PM 2023 Phase IV 7/12/2012

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Volume (vph)	225	443	492	246	126	701	22	1042	129
Turn Type	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	Free
Protected Phases	5	2	1	6	3	8	7	4	Free
Permitted Phases	2	6	6	8	8	4	4	4	Free
Switch Phase	5	2	1	6	3	8	7	4	Free
Minimum Initial (s)	4.0	15.0	5.0	15.0	7.0	7.0	4.0	7.0	7.0
Minimum Split (s)	8.0	22.0	9.4	22.0	12.7	22.2	8.0	21.8	21.8
Total Split (s)	19.0	27.0	28.3	36.3	12.8	46.7	8.0	41.9	0.0
Total Split (%)	17.3%	24.5%	25.7%	33.0%	11.6%	42.5%	7.3%	38.1%	0.0%
Yellow Time (s)	3.5	3.6	3.0	3.6	3.0	3.1	3.5	3.1	3.1
All-Red Time (s)	0.5	2.4	1.4	2.4	2.7	3.1	0.5	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.0	4.4	6.0	5.7	6.2	4.0	5.8	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lag
Lead/Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	None	Max	None	C-Max	None	C-Max	None
Act Effect Green (s)	36.6	21.0	50.9	31.7	48.5	43.7	41.9	36.1	110.0
Actuated g/C Ratio	0.33	0.19	0.46	0.29	0.44	0.40	0.38	0.33	1.00
v/c Ratio	0.57	1.08	1.13	0.31	0.78	0.87	0.21	0.93	0.09
Control Delay	25.0	92.9	113.9	30.1	48.6	34.7	20.3	49.7	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.0	92.9	113.9	30.1	48.6	34.7	20.3	49.7	0.1
LOS	C	F	F	C	D	C	C	D	A
Approach Delay	76.3	82.5	82.5	36.1	43.2	D	D	D	D
Approach LOS	E	F	F	D	D	D	D	D	D
Intersection Summary									
Cycle Length: 110									
Actuated Cycle Length: 110									
Offset: 0 (0%), Referenced to phase 4:SBTL and 8:NBT, Start of Green									
Natural Cycle: 110									
Control Type: Actuated-Coordinated									
Maximum v/c Ratio: 1.13									
Intersection Signal Delay: 55.7									
Intersection LOS: E									
Intersection Capacity Utilization 102.2%									
Analysis Period (min) 15									



HCM Signalized Intersection Capacity Analysis 4: E Ponce De Leon & Arcadia Ave Future PM 2023 Phase IV 7/12/2012

Movement	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Volume (vph)	225	443	492	246	126	701	22	1042	129
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	6.0	4.4	6.0	5.7	6.2	4.0	5.8	4.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.99	1.00	1.00	1.00	0.99	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.94	1.00	0.98	1.00	0.94	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1799	3352	1787	3485	1805	3342	1805	3610	1593
Flt Permitted	0.56	1.00	0.16	1.00	0.10	1.00	0.11	1.00	1.00
Satd. Flow (perm)	1062	3352	296	3485	184	3342	211	3610	1593
Peak-hour factor, PHF	0.89	0.93	0.87	0.93	0.73	0.87	0.80	0.75	0.95
Adj. Flow (vph)	253	476	303	523	265	49	145	730	29
RTOR Reduction (vph)	0	84	0	14	0	0	116	0	0
Lane Group Flow (vph)	253	695	0	523	300	0	145	1144	0
Confl. Peds. (#/hr)	5	4	3	4	4	4	3	4	5
Heavy Vehicles (%)	0%	1%	0%	1%	0%	0%	1%	0%	0%
Turn Type	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	Free
Protected Phases	2	2	1	6	3	8	7	4	Free
Permitted Phases	2	6	6	8	8	4	4	4	Free
Actuated Green, G (s)	34.6	21.0	49.3	31.7	48.5	42.1	38.5	36.1	110.0
Effective Green, g (s)	34.6	21.0	49.3	31.7	48.5	42.1	38.5	36.1	110.0
Actuated g/C Ratio	0.31	0.19	0.45	0.29	0.44	0.38	0.35	0.33	1.00
Clearance Time (s)	4.0	6.0	4.4	6.0	5.7	6.2	4.0	5.8	4.0
Vehicle Extension (s)	3.0	3.5	3.5	5.0	3.5	3.5	3.0	3.0	3.0
Lane Grp Cap (vph)	425	640	457	1004	186	1279	109	1185	1593
v/s Ratio Prot	0.07	0.21	0.25	0.09	0.05	0.34	0.01	0.30	0.09
v/s Ratio Perm	0.11	0.26	0.26	0.09	0.05	0.34	0.01	0.30	0.09
v/c Ratio	0.60	1.09	1.14	0.30	0.78	0.89	0.27	0.93	0.09
Uniform Delay, d1	30.1	44.5	31.9	30.5	25.0	31.9	27.1	35.7	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.2	61.1	88.0	0.8	18.9	9.9	1.3	13.5	0.1
Delay (s)	32.3	105.6	119.9	31.3	43.9	41.7	28.4	49.1	0.1
Level of Service	C	F	F	C	D	D	C	D	A
Approach Delay (s)	87.6	86.7	86.7	42.0	42.0	42.0	42.9	42.9	D
Approach LOS	F	F	F	D	D	D	D	D	D
Intersection Summary									
HCM Average Control Delay	60.8								
HCM Volume to Capacity ratio	1.02								
Actuated Cycle Length (s)	110.0								
Sum of lost time (s)	16.3								
Intersection Capacity Utilization	102.2%								
ICU Level of Service	G								
Analysis Period (min)	15								
c Critical Lane Group									

HCM Signalized Intersection Capacity Analysis
5: N Decatur Rd & E Ponce De Leon

Future PM 2023 Phase IV
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	NBR2	SWL2	SWL	SWR
Lane Configurations	4	4	4	4	4	4	4	4	4	4	4	4
Volume (vph)	177	1001	111	142	451	131	112	916	186	219	766	178
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.88	1.00	0.97	1.00	0.97
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96
Flt	1.00	0.98	1.00	0.97	1.00	0.95	1.00	0.85	1.00	0.96	1.00	0.96
Flt Protected	0.95	1.00	0.99	0.95	1.00	0.95	1.00	0.95	0.95	0.96	1.00	0.96
Satd. Flow (prot)	1805	3528	3457	1805	2838	1805	2838	1805	3396	3396	3396	3396
Flt Permitted	0.19	1.00	0.53	0.95	1.00	0.95	1.00	0.95	0.95	0.96	1.00	0.96
Satd. Flow (perm)	353	3528	1838	1805	2838	1805	2838	1805	3396	3396	3396	3396
Peak-hour factor, PHF	0.86	0.95	0.67	0.79	0.94	0.85	0.82	0.93	0.91	0.79	0.95	0.66
Adj. Flow (vph)	206	1054	166	180	480	154	137	985	204	277	806	270
RTOR Reduction (vph)	0	11	0	0	22	0	0	16	0	0	34	0
Lane Group Flow (vph)	206	1209	0	0	792	0	137	1173	0	277	1042	0
Confl. Peds. (#/hr)	4	5	6	5	5	5	5	6	5	5	4	4
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%
Turn Type	pm-pt	pm-pt	pm-pt	pm-pt	pm-pt	pm-pt	Prot	custom				
Protected Phases	5	2	1	6	8	8	8	4				
Permitted Phases	2		6					4				
Actuated Green, G (s)	49.5	49.5	37.1	39.5	39.5	39.5	39.5	39.5	39.5	39.5	39.5	39.5
Effective Green, g (s)	49.5	49.5	37.1	39.5	39.5	39.5	39.5	39.5	39.5	39.5	39.5	39.5
Actuated g/C Ratio	0.50	0.50	0.37	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Vehicle Extension (s)	3.0	8.0	8.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	275	1746	682	713	1121	682	713	1121	713	1341	1341	1341
v/s Ratio Prot	0.05	c0.34		0.08	c0.41		0.15	0.31				
v/s Ratio Perm	0.32											
v/c Ratio	0.75	0.69	1.29d	0.19	1.05	0.39	0.78	0.78				
Uniform Delay, d1	17.2	19.4	31.4	17.8	30.2	21.6	26.4	26.4				
Progression Factor	1.00	1.00	0.43	1.00	1.00	1.00	1.00	1.00				
Incremental Delay, d2	10.6	2.3	87.0	0.2	39.9	0.5	3.1	3.1				
Delay (s)	27.9	21.7	100.4	20.0	70.2	22.1	29.5	29.5				
Level of Service	C	C	F	B	E	C	C	C				
Approach Delay (s)	22.6	100.4		65.0			28.0	28.0				
Approach LOS	C	F		E			C	C				

Intersection Summary											
HCM Average Control Delay	48.4	HCM Level of Service	D								
HCM Volume to Capacity ratio	1.09										
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.5								
Intersection Capacity Utilization	106.9%	ICU Level of Service	G								
Analysis Period (min)	15										
d1 Defacto Left Lane. Record with 1 though lane as a left lane.											
i Phase conflict between lane groups.											
c Critical Lane Group											

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis
6: Valley Brook Rd & E Ponce De Leon

Future PM 2023 Phase IV
7/12/2012

Movement	SBL	SBR	NEL	NET	SWT	SWR
Lane Configurations	4	4	4	4	4	4
Volume (vph)	114	475	414	786	686	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	4.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.99	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.85	1.00	1.00	0.98	1.00
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1805	1591	1805	1900	1858	1858
Flt Permitted	0.95	1.00	0.06	1.00	1.00	1.00
Satd. Flow (perm)	1805	1591	109	1900	1858	1858
Peak-hour factor, PHF	0.85	0.95	0.87	0.96	0.90	0.76
Adj. Flow (vph)	134	500	476	819	762	109
RTOR Reduction (vph)	0	0	0	0	4	0
Lane Group Flow (vph)	134	500	476	819	867	0
Confl. Peds. (#/hr)	7	10	10	10	7	7
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	Free	Free	pm-pt			
Protected Phases	4	1	6	2		
Permitted Phases		Free				
Actuated Green, G (s)	20.3	130.0	97.7	64.0		
Effective Green, g (s)	20.3	130.0	97.7	64.0		
Actuated g/C Ratio	0.16	1.00	0.75	0.75	0.49	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	8.0	8.0	8.0	
Lane Grp Cap (vph)	282	1591	443	1428	915	
v/s Ratio Prot	c0.07		c0.23	0.43	0.47	
v/s Ratio Perm		0.31				
v/c Ratio	0.48	0.31	1.07	0.57	0.95	
Uniform Delay, d1	50.0	0.0	44.5	7.1	31.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.7	0.5	64.1	1.7	19.5	
Delay (s)	51.7	0.5	108.7	8.7	50.9	
Level of Service	D	A	F	A	D	
Approach Delay (s)	11.3		45.5	50.9		
Approach LOS	B		D	D		

Intersection Summary						
HCM Average Control Delay	39.4	HCM Level of Service	D			
HCM Volume to Capacity ratio	0.94					
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0			
Intersection Capacity Utilization	96.5%	ICU Level of Service	F			
Analysis Period (min)	15					
c Critical Lane Group						

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis
7: Glendale Rd & E Ponce De Leon

Future PM 2023 Phase IV
7/12/2012

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations	↔	↔	↔	↔	↔	↔
Volume (vph)	232	214	710	367	102	564
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	4.0	6.5	4.0	6.5	6.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	0.99	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1805	1580	1900	1593	1770	1900
Flt Permitted	0.95	1.00	1.00	1.00	0.17	1.00
Satd. Flow (perm)	1805	1580	1900	1593	311	1900
Peak-hour factor, PHF	0.91	0.73	0.93	0.85	0.85	0.94
Adj. Flow (vph)	255	293	763	432	120	600
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	255	293	763	432	120	600
Confl. Peds. (#/hr)	5	4		5	4	
Heavy Vehicles (%)	0%	0%	0%	0%	2%	0%
Turn Type	Free	Free	2	Free	Perm	Perm
Protected Phases	4		2		6	6
Permitted Phases	Free	Free		Free	6	
Actuated Green, G (s)	17.8	90.0	46.2	90.0	46.2	46.2
Effective Green, g (s)	17.8	90.0	46.2	90.0	46.2	46.2
Actuated g/C Ratio	0.20	1.00	0.51	1.00	0.51	0.51
Clearance Time (s)	6.5		6.5		6.5	6.5
Vehicle Extension (s)	3.0		5.5		5.5	5.5
Lane Grp Cap (vph)	357	1580	975	1593	160	975
v/s Ratio Prot	c0.14		c0.40			0.32
v/s Ratio Perm		0.19		c0.27	0.39	
v/c Ratio	0.71	0.19	0.78	0.27	0.75	0.62
Uniform Delay, d1	33.7	0.0	17.8	0.0	17.3	15.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.6	0.3	6.2	0.4	27.2	2.9
Delay (s)	40.4	0.3	24.1	0.4	44.5	18.5
Level of Service	D	A	C	A	D	B
Approach Delay (s)	18.9		15.5		22.8	
Approach LOS	B		B		C	
Intersection Summary						
HCM Average Control Delay	18.4			HCM Level of Service		
HCM Volume to Capacity ratio	0.68			B		
Actuated Cycle Length (s)	90.0			Sum of lost time (s)		
Intersection Capacity Utilization	76.7%			ICU Level of Service		
Analysis Period (min)	15			D		
Critical Lane Group						

HCM Signalized Intersection Capacity Analysis
8: McLendon Dr & E Ponce De Leon

Future PM 2023 Phase IV
7/12/2012

Movement	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations	↔	↔	↔	↔	↔	↔
Volume (vph)	266	116	106	833	743	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	4.0	6.0	6.0	6.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1805	1580	1805	1900	1900	1580
Flt Permitted	0.95	1.00	0.15	1.00	1.00	1.00
Satd. Flow (perm)	1805	1580	289	1900	1900	1580
Peak-hour factor, PHF	0.91	0.84	0.88	0.84	0.92	0.80
Adj. Flow (vph)	292	138	120	992	808	100
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	292	138	120	992	808	100
Confl. Peds. (#/hr)	3	3	3			3
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	Free	Free	pm+pt			Free
Protected Phases	8	1	6	2		
Permitted Phases	Free	Free				Free
Actuated Green, G (s)	25.9	123.0	85.1	85.1	69.4	123.0
Effective Green, g (s)	25.9	123.0	85.1	85.1	69.4	123.0
Actuated g/C Ratio	0.21	1.00	0.69	0.69	0.56	1.00
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	4.0	5.0	5.0	5.0		
Lane Grp Cap (vph)	380	1580	320	1315	1072	1580
v/s Ratio Prot	c0.16		0.03	c0.52	0.43	
v/s Ratio Perm	0.09	0.09	0.23			0.06
v/c Ratio	0.77	0.09	0.38	0.75	0.75	0.06
Uniform Delay, d1	45.7	0.0	15.6	12.2	20.3	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.6	0.1	1.5	4.1	4.9	0.1
Delay (s)	55.3	0.1	17.2	16.3	25.2	0.1
Level of Service	E	A	B	B	C	A
Approach Delay (s)	37.6			16.4	22.5	
Approach LOS	D			B	C	
Intersection Summary						
HCM Average Control Delay	22.4			HCM Level of Service		
HCM Volume to Capacity ratio	0.76			C		
Actuated Cycle Length (s)	123.0			Sum of lost time (s)		
Intersection Capacity Utilization	75.5%			ICU Level of Service		
Analysis Period (min)	15			D		
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis
9: E Ponce De Leon & Off Ramp 285

Future PM 2023 Phase IV
7/12/2012

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		←	←	←	←	←
Volume (vph)	0	768	329	0	383	401
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.5	5.5
Lane Util. Factor		1.00	0.95	1.00	1.00	1.00
Flt Protected		1.00	1.00	1.00	0.85	1.00
Satd. Flow (prot)		1900	3610		1805	1599
Flt Permitted		1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)		1900	3610		1805	1599
Peak-hour factor, PHF	0.92	0.91	0.78	0.92	0.87	0.87
Adj. Flow (vph)	0	844	422	0	440	461
RTOR Reduction (vph)	0	0	0	0	0	354
Lane Group Flow (vph)	0	844	422	0	440	107
Heavy Vehicles (%)	0%	0%	0%	0%	0%	1%
Turn Type		6	2		8	Perm
Protected Phases						
Permitted Phases						8
Actuated Green, G (s)		50.9	35.9		18.6	18.6
Effective Green, g (s)		50.9	35.9		18.6	18.6
Actuated g/C Ratio		0.64	0.45		0.23	0.23
Clearance Time (s)		5.0	5.0		5.5	5.5
Vehicle Extension (s)		5.0	5.0		3.5	3.5
Lane Grp Cap (vph)		1209	1620		420	372
v/s Ratio Prot		0.44	0.12		0.24	
v/s Ratio Perm						0.07
v/c Ratio		0.70	0.26		1.05	0.29
Uniform Delay, d1		9.5	13.8		30.7	25.3
Progression Factor		1.00	0.66		1.00	1.00
Incremental Delay, d2		3.4	0.4		56.9	0.5
Delay (s)		12.9	9.5		87.6	25.8
Level of Service		B	A		F	C
Approach Delay (s)		12.9	9.5		56.0	
Approach LOS		B	A		E	
Intersection Summary						
HCM Average Control Delay						
HCM Volume to Capacity ratio			30.1		HCM Level of Service	C
Actuated Cycle Length (s)			0.79			
Intersection Capacity Utilization			80.0		Sum of lost time (s)	10.5
Analysis Period (min)			95.4%		ICU Level of Service	F
c Critical Lane Group			15			

5:00 pm Baseline

Synchro 7 - Report
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HCM Unsignalized Intersection Capacity Analysis
10: Church St & On Ramp 285

Future PM 2023 Phase IV
7/12/2012

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	←	←	←	←	←	←
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Volume (vph)	341	517	288	411	0	0
Peak Hour Factor	0.96	0.97	0.88	0.97	0.92	0.92
Hourly flow rate (vph)	355	533	327	424	0	0
Direction, Lane #	EB 1	WB 1				
Volume Total (vph)	888	751				
Volume Left (vph)	0	327				
Volume Right (vph)	533	0				
Head (s)	-0.35	0.10				
Departure Headway (s)	4.4	4.8				
Degree Utilization, x	1.08	1.00				
Capacity (veh/h)	828	751				
Control Delay (s)	74.2	53.5				
Approach Delay (s)	74.2	53.5				
Approach LOS	F	F				
Intersection Summary						
Delay			64.7			
HCM Level of Service			F			
Intersection Capacity Utilization			93.9%		ICU Level of Service	F
Analysis Period (min)			15			

5:00 pm Baseline

Synchro 7 - Report
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HCM Unsignalized Intersection Capacity Analysis
 11: Valley Brook Rd & SR 410 On Ramp

Future PM 2023 Phase IV
 7/12/2012

Movement	EBL	EBT	WBT	WBR	SWL	SWR	
Lane Configurations		↔↔	↔		↔	↔↔	
Volume (veh/h)	0	2105	436	0	220	884	
Sign Control		Free	Free		Stop		
Grade		0%	0%		0%		
Peak Hour Factor	0.98	0.98	0.97	0.92	0.92	0.98	
Hourly flow rate (vph)	0	2148	449	0	239	902	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type		None					
Median storage (veh)							
Upstream signal (ft)			759				
pX platoon unblocked							
vC conflicting volume	449				1523	449	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol	449				1523	449	
vCU, unblocked vol	4.1				6.8	6.9	
IC, single (s)							
IC, 2 stage (s)							
IF (s)	2.2				3.5	3.3	
pO queue free %	100				0	0	
cM capacity (veh/h)	1122				111	562	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SW 2	SW 3	
Volume Total	1074	1074	449	239	451	451	
Volume Left	0	0	0	239	0	0	
Volume Right	0	0	0	0	451	451	
cSH	1700	1700	1700	111	562	562	
Volume to Capacity	0.63	0.63	0.26	2.16	0.80	0.80	
Queue Length 95th (ft)	0	0	0	510	195	195	
Control Delay (s)	0.0	0.0	0.0	612.1	32.4	32.4	
Lane LOS				F	D	D	
Approach Delay (s)	0.0		0.0	153.9			
Approach LOS				F			

Intersection Summary						
Average Delay	47.0					
Intersection Capacity Utilization	77.0%					
Analysis Period (min)	15					

HCM Signalized Intersection Capacity Analysis
 12: N Decatur Rd & Dekalb Industrial Way

Future PM 2023 Phase IV
 7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SWR
Lane Configurations	↔	↔↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Volume (veh/h)	339	1043	237	90	458	197	297	794	109	244	714	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	0.99
Frft	1.00	1.00	0.85	1.00	0.95	1.00	0.98	1.00	0.98	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	3610	1587	1805	3420	1805	3535	1805	3610	1577	1805	1577
Flt Permitted	0.12	1.00	1.00	0.15	1.00	0.12	1.00	0.12	1.00	0.13	1.00	1.00
Satd. Flow (perm)	224	3610	1587	288	3420	227	3535	227	3535	254	3610	1577
Peak-hour factor, PHF	0.82	0.98	0.86	0.78	0.93	0.89	0.84	0.92	0.92	0.91	0.95	0.86
Adj. Flow (vph)	413	1064	276	115	492	221	354	863	118	268	752	124
RTOR Reduction (vph)	0	0	132	0	43	0	0	9	0	0	0	0
Lane Group Flow (vph)	413	1064	144	115	670	0	354	972	0	268	752	124
Conf. Peds. (#/hr)	5		7	8	6	7		8	6		5	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Turn Type	pm+pt	pm+pt	Perm	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	Free
Protected Phases	5	2	2	1	6	3	8	8	7	4	4	Free
Permitted Phases	2			6								Free
Actuated Green, G (s)	56.5	45.5	45.5	36.0	29.5	53.0	33.5	45.8	29.9	119.4	45.8	119.4
Effective Green, g (s)	56.5	45.5	45.5	36.0	29.5	53.0	33.5	45.8	29.9	119.4	45.8	119.4
Actuated g/C Ratio	0.47	0.38	0.38	0.30	0.25	0.44	0.28	0.38	0.25	1.00	0.38	1.00
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	3.0
Vehicle Extension (s)	3.0	8.0	8.0	3.0	8.0	3.0	3.0	3.0	3.0	3.0	3.0	4.5
Lane Grp Cap (vph)	404	1376	605	169	845	358	992	304	904	1577	304	1577
v/s Ratio Prot	c0.19	0.29	0.09	0.04	0.20	c0.16	0.28	0.12	0.21	0.21	0.12	0.21
v/s Ratio Perm	c0.29		0.09	0.17		c0.28		0.22		0.22		0.08
v/c Ratio	1.02	0.77	0.24	0.68	0.79	0.99	0.98	0.88	0.83	0.83	0.88	0.08
Uniform Delay, d1	36.0	32.4	25.1	32.0	42.1	35.3	42.6	31.0	42.4	42.4	31.0	42.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	50.6	4.0	0.9	10.7	6.9	44.1	23.7	24.4	6.6	6.6	24.4	0.1
Delay (s)	86.5	36.5	26.0	42.7	49.0	79.4	66.4	55.4	49.0	49.0	55.4	0.1
Level of Service	F	D	C	D	D	E	E	E	D	D	E	A
Approach Delay (s)		46.6		48.2								45.2
Approach LOS		D		D								D

Intersection Summary						
HCM Average Control Delay	52.7					
HCM Volume to Capacity ratio	1.01					
Actuated Cycle Length (s)	119.4					
Intersection Capacity Utilization	92.3%					
Analysis Period (min)	15					
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

13: N Decatur Rd & Church St W

Future PM 2023 Phase IV
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Volume (vph)	114	909	46	199	590	90	128	1078	247	189	696	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Flt Protected	0.95	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Satd. Flow (prot)	1805	3610	1615	1805	3610	1583	1805	3610	1615	1805	3610	1524
Flt Permitted	0.38	1.00	1.00	0.08	1.00	1.00	0.19	1.00	1.00	0.07	1.00	1.00
Satd. Flow (perm)	716	3610	1615	157	3610	1583	366	3610	1615	137	3610	1524
Peak-hour factor, PHF	0.82	0.92	0.77	0.79	0.94	0.76	0.72	0.94	0.77	0.93	0.81	0.88
Adj. Flow (vph)	139	988	60	252	628	118	178	1147	321	203	859	50
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	139	988	60	252	628	118	178	1147	321	203	859	50
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	6%
Turn Type	pm+pt	Free	Free	pm+pt	Free	Free	pm+pt	Free	Free	pm+pt	Free	Free
Protected Phases	4	Free	8	Free	5	2	Free	6	1	6	Free	Free
Actuated Green, G (s)	48.8	42.3	150.0	66.6	54.1	150.0	60.8	50.8	150.0	70.0	55.4	150.0
Effective Green, g (s)	48.8	42.3	150.0	66.6	54.1	150.0	60.8	50.8	150.0	70.0	55.4	150.0
Actuated g/C Ratio	0.33	0.28	1.00	0.44	0.36	1.00	0.41	0.34	1.00	0.47	0.37	1.00
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	280	1018	1615	271	1302	1583	244	1223	1615	226	1333	1524
v/s Ratio Prot	0.02	0.27	0.14	0.04	0.30	0.17	0.05	0.32	0.20	0.09	0.24	0.03
v/s Ratio	0.50	0.97	0.04	0.93	0.48	0.07	0.73	0.94	0.20	0.90	0.64	0.03
Uniform Delay, d1	38.0	53.2	0.0	46.2	37.1	0.0	31.5	48.1	0.0	44.4	39.1	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.4	21.3	0.0	35.9	0.3	0.1	10.4	14.6	0.3	33.5	2.4	0.0
Delay (s)	39.4	74.5	0.0	82.1	37.4	0.1	41.9	62.7	0.3	77.8	41.6	0.0
Level of Service	D	E	A	F	D	A	D	E	A	E	D	A
Approach Delay (s)	66.6			44.3			48.3			46.3		
Approach LOS	E			D			D			D		
Intersection Summary												
HCM Average Control Delay	51.4											
HCM Volume to Capacity ratio	0.91											
Actuated Cycle Length (s)	150.0											
Intersection Capacity Utilization	96.4%											
Analysis Period (min)	15											
c Critical Lane Group												

5:00 pm Baseline

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HCM Signalized Intersection Capacity Analysis

14: N Decatur Rd & Church St

Future PM 2023 Phase IV
7/12/2012

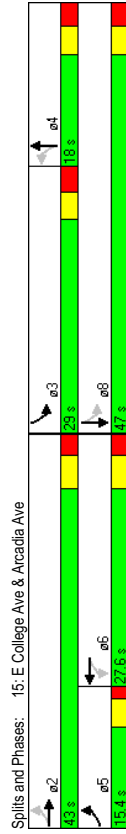
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SWR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Volume (vph)	325	1025	56	555	11	27	150	81	7	62	141	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	5.5	5.5		5.5								
Lane Util. Factor	1.00	0.95		0.95								
Flt Protected	1.00	1.00		1.00								
Flt Protected	1.00	1.00		1.00								
Satd. Flow (prot)	1805	3562		3586								
Flt Permitted	0.25	1.00		0.94								
Satd. Flow (perm)	468	3562		3359								
Peak-hour factor, PHF	0.94	0.92	0.62	0.25	0.85	0.45	0.54	0.95	0.81	0.38	0.63	0.76
Adj. Flow (vph)	346	1114	90	8	663	24	50	158	100	18	98	186
RTOR Reduction (vph)	0	5	0	0	3	0	0	18	0	0	0	0
Lane Group Flow (vph)	346	1199	0	0	682	0	0	290	0	0	116	186
Conf. Peds. (#/hr)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	Free	Free	pm+pt	Free	Free	pm+pt	Free	Free	pm+pt	Free	Free
Protected Phases	5	2	6	6	8	8	8	8	8	4	4	4
Actuated Green, G (s)	49.5	49.5		37.1			39.5			39.5	100.0	
Effective Green, g (s)	49.5	49.5		37.1			39.5			39.5	100.0	
Actuated g/C Ratio	0.50	0.50		0.37			0.40			0.40	1.00	
Clearance Time (s)	5.5	5.5		5.5			5.5			5.5	5.5	
Vehicle Extension (s)	3.0	8.0		8.0			4.0			4.0	4.0	
Lane Grp Cap (vph)	324	1763		1246			666			698	1599	
v/s Ratio Prot	0.07	0.34		0.20			0.17			0.07	0.12	
v/s Ratio Perm	0.45			0.55			0.44			0.17	0.12	
v/s Ratio	1.07	0.68		0.55			0.44			0.17	0.12	
Uniform Delay, d1	24.0	19.2		24.8			22.1			19.6	0.0	
Progression Factor	0.71	0.69		1.00			1.00			1.00	1.00	
Incremental Delay, d2	61.8	1.6		1.7			0.6			0.2	0.1	
Delay (s)	78.8	14.8		26.6			22.7			19.7	0.1	
Level of Service	E	B		C			C			B	A	
Approach Delay (s)	29.1			26.6			22.7			7.7		
Approach LOS	C			C			C			A		
Intersection Summary												
HCM Average Control Delay	25.5											
HCM Volume to Capacity ratio	0.76											
Actuated Cycle Length (s)	100.0											
Intersection Capacity Utilization	85.9%											
Analysis Period (min)	15											
c Critical Lane Group												

5:00 pm Baseline

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Timings 15: E College Ave & Arcadia Ave Future PM 2023 Phase IV 7/12/2012

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	4T	4T	4T	4T	4T	4T	4T	4T	4T
Volume (vph)	689	853	36	526	16	300	585	564	649
Turn Type	pm+pt	pm+pt	Perm	Perm	Perm	pm+pt	pm+pt	Free	Free
Protected Phases	5	2	6	6	4	4	3	8	Free
Permitted Phases	5	2	6	6	4	4	3	8	Free
Switch Phase	5	2	6	6	4	4	3	8	Free
Minimum Initial (s)	5.0	15.0	15.0	15.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	9.4	31.0	21.0	21.0	12.8	12.8	12.7	34.8	0.0
Total Split (s)	15.4	43.0	27.6	27.6	18.0	18.0	29.0	47.0	0.0
Total Split (%)	17.1%	47.8%	30.7%	30.7%	20.0%	20.0%	32.2%	52.2%	0.0%
Yellow Time (s)	3.0	3.6	3.6	3.6	3.1	3.1	3.0	3.1	3.1
All-Red Time (s)	1.4	2.4	2.4	2.4	2.7	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.4	6.0	6.0	6.0	5.8	5.8	5.7	5.8	4.0
Lead/Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	C-Min	None	None	None	None	None
Act Effct Green (s)	38.6	37.0	21.6	21.6	12.2	12.2	41.3	41.2	90.0
Actuated g/c Ratio	0.43	0.41	0.24	0.24	0.14	0.14	0.46	0.46	1.00
v/c Ratio	1.19	0.66	0.33	0.33	0.96	1.02	1.12	0.70	0.42
Control Delay	124.6	23.9	36.3	36.3	53.9	88.5	98.9	25.0	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	124.6	23.9	36.3	36.3	53.9	88.5	98.9	25.0	0.8
LOS	F	C	D	D	D	F	F	C	A
Approach Delay	66.6	53.0	53.0	53.0	88.5	88.5	40.3	D	D
Approach LOS	E	D	D	D	F	F	D	D	D
Intersection Summary									
Cycle Length: 90									
Actuated Cycle Length: 90									
Offset: 0 (0%), Referenced to phase 2EBTL and 6:WBT, Start of Green									
Natural Cycle: 100									
Control Type: Actuated-Coordinated									
Maximum v/c Ratio: 1.19									
Intersection Signal Delay: 55.8									
Intersection Capacity Utilization 101.8%									
Analysis Period (min) 15									



HCM Signalized Intersection Capacity Analysis 15: E College Ave & Arcadia Ave Future PM 2023 Phase IV 7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	4T	4T	4T	4T	4T	4T	4T	4T	4T	4T	4T	4T
Volume (vph)	689	853	42	36	526	234	16	300	20	585	564	649
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0	6.0	6.0	6.0	6.0	5.8	5.8	5.7	5.8	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.95	1.00	0.95	1.00	0.99	1.00	1.00	0.85	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	3502	3577	1805	3448	3556	1805	3556	1805	1900	1615	1615	1615
Flt Permitted	0.15	1.00	0.29	1.00	0.84	0.22	1.00	1.00	0.22	1.00	1.00	1.00
Satd. Flow (perm)	567	3577	558	3448	2988	425	1900	1615	425	1900	1615	1615
Peak-hour factor, PHF	0.96	0.93	0.71	0.81	0.89	0.93	0.46	0.85	0.67	0.95	0.92	0.96
Adj. Flow (vph)	718	917	59	44	591	252	35	353	30	616	613	676
RTOR Reduction (vph)	0	5	0	0	52	0	0	6	0	0	0	0
Lane Group Flow (vph)	718	971	0	44	791	0	0	412	0	616	613	676
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	2	2	Perm	6	Perm	4	4	pm+pt	3	8	Free
Protected Phases	2	2	2	6	6	6	4	4	4	8	8	Free
Actuated Green, G (s)	37.0	37.0	37.0	21.6	21.6	21.6	12.2	12.2	41.2	41.2	90.0	90.0
Effective Green, g (s)	37.0	37.0	37.0	21.6	21.6	21.6	12.2	12.2	41.2	41.2	90.0	90.0
Actuated g/c Ratio	0.41	0.41	0.41	0.24	0.24	0.24	0.14	0.14	0.46	0.46	1.00	1.00
Clearance Time (s)	4.4	6.0	6.0	6.0	6.0	6.0	5.8	5.8	5.7	5.8	4.0	4.0
Vehicle Extension (s)	3.5	5.0	5.0	5.0	5.0	5.0	3.0	3.0	3.5	3.5	3.5	3.5
Lane Grp Cap (vph)	582	1471	134	828	405	405	552	870	1615	1615	1615	1615
v/s Ratio Prot	0.15	0.27	0.08	0.33	0.95	1.02	0.14	0.14	0.22	0.32	0.42	0.42
v/s Ratio Perm	0.35	0.66	0.33	0.95	1.02	1.02	0.14	0.14	0.22	0.32	0.42	0.42
v/c Ratio	1.21	0.66	0.33	0.95	1.02	1.02	0.14	0.14	0.22	0.32	0.42	0.42
Uniform Delay, d1	22.6	21.4	28.2	33.7	38.9	23.6	19.5	0.0	0.0	0.0	0.0	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	110.8	2.3	6.4	22.0	49.1	74.2	2.7	0.8	0.8	0.8	0.8	0.8
Delay (s)	133.3	23.8	34.6	55.8	88.0	97.8	2.2	0.8	0.8	0.8	0.8	0.8
Level of Service	F	C	C	E	F	F	F	C	C	F	C	A
Approach Delay (s)	70.2	54.7	88.0	54.7	88.0	39.1	D	D	D	D	D	D
Approach LOS	E	E	F	D	D	D	D	D	D	D	D	D
Intersection Summary												
HCM Average Control Delay	56.8											
HCM Volume to Capacity ratio	1.08											
Actuated Cycle Length (s)	90.0											
Intersection Capacity Utilization	101.8%											
Analysis Period (min)	15											
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
16: Katie Kerr Dr & S Columbia Dr

Future PM 2023 Phase IV
7/12/2012

Movement	WBL	WBR	NBL	NBR	SER	
Lane Configurations	W		W		W	
Volume (vph)	375	17	354	166	52	786
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0		5.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	0.98	0.96	0.96	0.88		
Flt Protected	0.95	0.97	1.00			
Satd. Flow (prot)	1802	1760	1657			
Flt Permitted	0.95	0.97	1.00			
Satd. Flow (perm)	1802	1760	1657			
Peak-hour factor, PHF	0.89	0.79	0.87	0.91	0.70	0.89
Adj. Flow (vph)	421	22	407	182	74	883
RTOR Reduction (vph)	2	0	17	0	0	0
Lane Group Flow (vph)	441	0	572	0	957	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	8l		2		6	
Protected Phases						
Permitted Phases						
Actuated Green, G (s)	20.1		28.1		67.3	
Effective Green, g (s)	20.1		28.1		67.3	
Actuated g/C Ratio	0.26		0.36		0.87	
Clearance Time (s)	5.0		5.0		5.0	
Vehicle Extension (s)	3.0		3.0		3.0	
Lane Grp Cap (vph)	469		640		1657	
v/s Ratio Prot	c0.24		c0.33		c0.11	
v/c Ratio	0.94		0.89		0.58	
Uniform Delay, d1	28.0		23.2		1.5	
Progression Factor	1.00		1.00		1.00	
Incremental Delay, d2	26.8		14.9		0.5	
Delay (s)	54.8		38.1		2.0	
Level of Service	D		D		A	
Approach Delay (s)	54.8		38.1		2.0	
Approach LOS	D		D		A	
Intersection Summary						
HCM Average Control Delay			24.5		HCM Level of Service	C
HCM Volume to Capacity ratio			0.82			
Actuated Cycle Length (s)			77.3		Sum of lost time (s)	10.0
Intersection Capacity Utilization			115.0%		ICU Level of Service	H
Analysis Period (min)			15			
i Phase conflict between lane groups.						
c Critical Lane Group						

5:00 pm Baseline

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HCM Signalized Intersection Capacity Analysis
17: W College Ave & Commerce Dr

Future PM 2023 Phase IV
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4P	4P	4P	4P		4P		4P	4P	
Volume (vph)	26	1176	41	63	914	157	112	221	84	339	479
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7		5.7		5.2		5.2		5.2	
Lane Util. Factor		0.95		0.95		0.95		0.95		0.95	
Frb, ped/bikes		1.00		1.00		1.00		1.00		1.00	
Frt		0.99		0.98		0.97		0.99		0.99	
Flt Protected		1.00		1.00		0.99		0.98		0.98	
Satd. Flow (prot)		3581		3511		3421		3487		3487	
Flt Permitted		0.85		0.63		0.54		0.63		0.63	
Satd. Flow (perm)		3063		2217		1857		2241		2241	
Peak-hour factor, PHF		0.75		0.83		0.77		0.83		0.75	
Adj. Flow (vph)		35		1212		49		933		176	
RTOR Reduction (vph)		0		4		0		19		0	
Lane Group Flow (vph)		0		1292		0		1172		0	
Conf. Peds. (#/hr)		2		10		9		1		10	
Heavy Vehicles (%)		0%		0%		0%		0%		0%	
Turn Type		Perm		Perm		Perm		Perm		pm+pt	
Protected Phases		2		6		4		4		3	
Permitted Phases		2		6		4		4		8	
Actuated Green, G (s)		36.3		36.3		27.8		27.8		27.8	
Effective Green, g (s)		36.3		36.3		27.8		27.8		27.8	
Actuated g/C Ratio		0.48		0.48		0.37		0.37		0.37	
Clearance Time (s)		5.7		5.7		5.2		5.2		5.2	
Vehicle Extension (s)		5.0		5.0		4.0		4.0		4.0	
Lane Grp Cap (vph)		1482		1073		688		688		831	
v/s Ratio Prot											
v/s Ratio Perm		0.42		c0.53		0.25		0.25		c0.44	
v/c Ratio		0.87		1.09		1.04d		1.04d		1.29d	
Uniform Delay, d1		17.3		19.4		19.9		19.9		23.6	
Progression Factor		1.00		1.00		1.00		1.00		1.00	
Incremental Delay, d2		7.3		56.3		3.1		3.1		94.5	
Delay (s)		24.6		75.7		23.0		23.0		118.1	
Level of Service		C		E		C		C		F	
Approach Delay (s)		24.6		75.7		23.0		23.0		118.1	
Approach LOS		C		E		C		C		F	
Intersection Summary											
HCM Average Control Delay				63.0		HCM Level of Service		E			
HCM Volume to Capacity ratio				1.13							
Actuated Cycle Length (s)				75.0		Sum of lost time (s)		10.9			
Intersection Capacity Utilization				122.4%		ICU Level of Service		H			
Analysis Period (min)				15							
d Defacto Left Lane. Recode with 1 though lane as a left lane.											
c Critical Lane Group											

5:00 pm Baseline

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HCM Signalized Intersection Capacity Analysis
18: W College Ave & SR 155

Future PM 2023 Phase IV
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	47	933	90	105	676	218	27	215	107	266	583	29
Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Satd. Flow (prot)	3531	1798	1900	1615	1782	1788	1804	1880				
Flt Permitted	0.69	0.16	1.00	1.00	0.19	1.00	0.15	1.00				
Satd. Flow (perm)	2447	298	1900	1615	358	1788	282	1880				
Peak-hour factor, PHF	0.86	0.97	0.86	0.85	0.90	0.85	0.79	0.85	0.87	0.91	0.95	0.82
Adj. Flow (vph)	55	962	105	124	751	256	34	253	123	292	614	35
RTOR Reduction (vph)	0	8	0	0	0	86	0	17	0	0	2	0
Lane Group Flow (vph)	0	1114	0	124	751	170	34	359	0	292	647	0
Confl. Peds. (#/hr)	14	20	15	9	9	20	15	9	15	9	14	14
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	Perm	Perm	Over	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	2	2	2	6	7	8	8	8	8	8	8	8
Permitted Phases	2	2	2	6	7	8	8	8	8	8	8	8
Actuated Green, G (s)	49.4	49.4	49.4	49.4	11.7	21.9	21.9	21.9	38.6	38.6	38.6	38.6
Effective Green, g (s)	49.4	49.4	49.4	49.4	11.7	21.9	21.9	21.9	38.6	38.6	38.6	38.6
Actuated g/C Ratio	0.49	0.49	0.49	0.49	0.12	0.22	0.22	0.22	0.39	0.39	0.39	0.39
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	1209	147	939	189	78	392	287	726				
v/s Ratio Prot			0.40	0.11	0.10	0.20	0.12	0.34				
v/s Ratio Perm		0.46	0.84	0.80	0.90	0.44	0.92	1.02	0.27			
v/c Ratio		0.92	2.19	2.12	43.6	33.7	38.1	25.4	28.7			
Uniform Delay, d1		23.5	21.9	21.2	43.6	33.7	38.1	25.4	28.7			
Progression Factor		0.80	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2		8.5	41.5	7.1	40.8	8.0	26.6	57.6	14.0			
Delay (s)		27.3	63.5	28.3	84.4	41.7	64.7	83.0	42.8			
Level of Service		C	E	C	F	D	E	F	D			
Approach Delay (s)		27.3		44.8		62.8		55.3				
Approach LOS		C		D		E		E				
Intersection Summary												
HCM Average Control Delay		44.1							D			
HCM Volume to Capacity ratio		0.94										
Actuated Cycle Length (s)		100.0							12.0			
Intersection Capacity Utilization		124.1%							H			
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
19: W College Ave & McDonough St

Future PM 2023 Phase IV
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	30	620	45	110	513	61	12	169	130	322	397	68
Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	16	12	12	12	12	11	11	11	11	11	11
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	5.0	6.0	5.0	5.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.99	1.00	1.00	0.98	1.00	1.00	0.93	1.00	0.97	1.00	0.97
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	2113	1805	1854	1739	1680	1745	1782				
Flt Permitted	0.11	1.00	0.10	1.00	0.33	1.00	0.25	1.00				
Satd. Flow (perm)	210	2113	181	1854	604	1680	467	1782				
Peak-hour factor, PHF	0.55	0.96	0.64	0.78	0.87	0.59	0.83	0.87	0.84	0.96	0.85	0.72
Adj. Flow (vph)	55	646	70	141	590	103	14	194	155	335	467	94
RTOR Reduction (vph)	0	4	0	0	6	0	0	28	0	0	7	0
Lane Group Flow (vph)	55	712	0	141	687	0	14	321	0	335	554	0
Confl. Peds. (#/hr)	6	9	7	4	9	7	4	7	4	4	6	6
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	2	2	2	6	6	6	3	8	7	4	4	4
Permitted Phases	2	2	2	6	6	6	3	8	7	4	4	4
Actuated Green, G (s)	41.9	41.9	41.9	41.9	41.9	41.9	27.1	26.1	46.1	40.1	40.1	40.1
Effective Green, g (s)	41.9	41.9	41.9	41.9	41.9	41.9	27.1	26.1	46.1	40.1	40.1	40.1
Actuated g/C Ratio	0.42	0.42	0.42	0.42	0.42	0.42	0.27	0.26	0.46	0.40	0.40	0.40
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	5.0	6.0	5.0	6.0	6.0	6.0
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	5.0	3.0	3.5	3.5	4.0	4.0	4.0
Lane Grp Cap (vph)	88	885	76	777	175	438	407	715				
v/s Ratio Prot		0.34		0.37		0.00	0.19	0.12	0.31			
v/s Ratio Perm		0.26		0.78		0.02	0.08	0.26	0.78			
v/c Ratio		0.62		1.86		0.08	0.07	0.82	0.78			
Uniform Delay, d1		22.9	25.5	29.0	26.8	27.0	33.8	20.1	26.0			
Progression Factor		1.00	1.00	1.06	1.06	1.00	1.00	1.00	1.00			
Incremental Delay, d2		29.1	7.7	414.4	9.3	0.2	6.4	13.0	5.6			
Delay (s)		51.9	33.2	445.3	37.7	27.2	40.2	33.0	31.6			
Level of Service		D	C	F	D	C	D	C	C			
Approach Delay (s)		34.5		106.6		39.7		32.1				
Approach LOS		C		F		D		C				
Intersection Summary												
HCM Average Control Delay		55.4						E				
HCM Volume to Capacity ratio		1.28										
Actuated Cycle Length (s)		100.0						11.0				
Intersection Capacity Utilization		96.3%						F				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
20: Driveway & Dekalb Industrial Way

Future PM 2023 Phase IV
7/12/2012

Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	NWL2	NWL	NWR
Lane Configurations											
Volumes (vph)	1	0	1	703	22	196	754	0	6	0	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.6	5.6	4.0	5.6	5.6	5.6	5.6	5.5	4.0	5.5
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00	1.00	0.85	1.00	0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1805	1805	3610	1615	1805	3610	3610	1805	1805	1615	1805
Flt Permitted	1.00	0.35	1.00	1.00	1.00	0.29	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1900	674	3610	1615	550	3610	3610	1805	1805	1615	1805
Peak-hour factor, PHF	0.92	0.92	0.25	0.91	0.64	0.94	0.96	0.92	0.42	0.92	0.93
Adj. Flow (vph)	1	0	4	773	34	209	785	0	14	0	188
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	1	0	4	773	34	209	785	0	0	14	188
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt		Free		pm+pt		Perm		Free		Free
Protected Phases	8		2		Free		6		8		8
Permitted Phases	0.9		26.1		25.4		48.4		35.5		30.1
Actuated Green, G (s)	0.9		26.1		25.4		48.4		35.5		30.1
Effective Green, g (s)	0.02		0.54		0.52		1.00		0.73		0.62
Actuated g/C Ratio	5.5		5.6		5.6		5.6		5.6		5.5
Clearance Time (s)	2.0		2.0		2.0		2.0		2.0		5.0
Vehicle Extension (s)	35		380		1895		1615		543		2245
Lane Grp Cap (vph)	0.00		0.00		0.21		0.02		c0.04		0.22
v/s Ratio Prot	0.00		0.01		0.41		0.02		0.38		0.35
v/c Ratio	0.03		0.01		0.41		0.02		0.38		0.35
Uniform Delay, d1	23.3		5.1		7.0		0.0		2.4		4.4
Progression Factor	1.00		1.00		1.00		1.00		1.00		1.00
Incremental Delay, d2	0.1		0.0		0.3		0.0		0.2		0.2
Delay (s)	23.4		5.2		7.3		0.0		2.6		4.6
Level of Service	C		A		A		A		A		C
Approach Delay (s)	23.4		A		A		A		A		2.0
Approach LOS	C		A		A		A		A		A
Intersection Summary											
HCM Average Control Delay	5.1		HCM Level of Service		A		A		A		A
HCM Volume to Capacity ratio	0.37		Sum of lost time (s)		11.2		B		B		B
Actuated Cycle Length (s)	48.4		ICU Level of Service		15		H		H		H
Intersection Capacity Utilization	60.5%		Analysis Period (min)		15		c		Critical Lane Group		Critical Lane Group

5:00 pm Baseline

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HCM Signalized Intersection Capacity Analysis
21: Dekalb Industrial Way &

Future PM 2023 Phase IV
7/12/2012

Movement	NBL2	NBL	NBR	SEL	SER	NEL	NET	SWL	SWT	SWR
Lane Configurations	↵		↵↵	↵			↵↵↵	↵	↵↵	↵
Volume (vph)	50	0	1322	5	4	0	3756	76	1021	1841
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.6	6.8	6.8	6.5	6.5	6.5	6.6	6.2	6.2
Lane Util. Factor	1.00	0.88	1.00	0.86	1.00	0.86	0.86	0.97	0.91	0.91
Flt _{pb} , ped/bikes	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt _{pb} , ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.85	0.94	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.95	1.00	0.97	1.00	1.00	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	2815	1738	6509	6509	3502	5187	3502	5187	3502
Flt Permitted	0.95	1.00	0.97	1.00	1.00	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1805	2815	1738	6509	6509	3502	5187	3502	5187	3502
Peak-hour factor, PHF	0.83	0.25	0.90	0.92	0.92	0.92	0.99	0.80	0.96	0.97
Adj. Flow (vph)	60	0	1469	5	4	0	3794	95	1064	1898
RTOR Reduction (vph)	0	0	0	0	0	0	2	0	0	0
Lane Group Flow (vph)	60	0	1469	9	0	0	3887	0	1064	1898
Conf. Peds. (#/hr)	3	3	2	2	2	2	3	3	3	3
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	custom					Prot			
Protected Phases	8	5	4			6		5	2	
Permitted Phases		2.8								
Actuated Green, G (s)	7.6	143.6	7.2			88.1		34.8	129.8	
Effective Green, g (s)	7.6	137.4	7.2			88.1		34.8	129.8	
Actuated g/C Ratio	0.05	0.92	0.05			0.59		0.23	0.87	
Clearance Time (s)	6.4	6.6	6.8			6.5		6.6	6.2	
Vehicle Extension (s)	3.0	3.0	3.0			5.0		3.0	4.8	
Lane Grp Cap (vph)	91	2579	83			3823		812	4488	
v/s Ratio Prot	c0.03	0.13	0.01			c0.60		c0.30	0.37	
v/c Ratio Perm		0.39								
v/c Ratio	0.66	0.57	0.11			1.02		1.31	0.42	
Uniform Delay, d1	69.9	1.1	68.3			31.0		57.6	2.1	
Progression Factor	1.00	1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	16.0	0.3	0.6			18.9		148.5	0.3	
Delay (s)	85.9	1.4	68.9			49.9		206.1	2.4	
Level of Service	F	A	E			D		F	A	
Approach Delay (s)	4.7	68.9				49.9		75.6		
Approach LOS	A	E				D		E		
Intersection Summary										
HCM Average Control Delay	50.7			HCM Level of Service			D			
HCM Volume to Capacity ratio	1.07									
Actuated Cycle Length (s)	150.0			Sum of lost time (s)			19.5			
Intersection Capacity Utilization	123.9%			ICU Level of Service			H			
Analysis Period (min)	15									
c Critical Lane Group										

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis
22: W College Ave & Clarendon Ave

Future PM 2023 Phase IV
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	201	1052	52	1	448	185	61	172	1	319	222	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.5	4.0	5.5	5.5	5.5	5.6	5.6	5.6	5.6	5.6	5.6
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.95	1.00	0.85	1.00	0.95	1.00	0.95	1.00	1.00	0.95	1.00	0.94
Satd. Flow (prot)	1805	1900	1615	1805	1807	1805	1805	1894	1805	1805	1792	1792
Flt Permitted	0.10	1.00	1.00	0.11	1.00	0.24	1.00	0.58	1.00	0.58	1.00	1.00
Satd. Flow (perm)	184	1900	1615	211	1807	459	1894	1083	1792	1083	1792	1792
Peak-hour factor, PHF	0.66	0.95	0.81	0.25	0.93	0.79	0.82	0.92	0.25	0.88	0.94	0.86
Adj. Flow (vph)	305	1107	64	4	482	234	74	187	4	382	236	144
RTOR Reduction (vph)	0	0	0	0	21	0	0	1	0	0	25	0
Lane Group Flow (vph)	305	1107	64	4	695	0	74	190	0	362	355	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm-pt	Free	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	5	2	Free	6	6	6	4	4	4	8	8	8
Permitted Phases	2	Free	6	6	6	6	4	4	4	8	8	8
Actuated Green, G (s)	53.6	53.6	86.0	36.0	36.0	36.0	21.3	21.3	21.3	21.3	21.3	21.3
Effective Green, g (s)	53.6	53.6	86.0	36.0	36.0	36.0	21.3	21.3	21.3	21.3	21.3	21.3
Actuated g/C Ratio	0.62	0.62	1.00	0.42	0.42	0.42	0.25	0.25	0.25	0.25	0.25	0.25
Clearance Time (s)	5.3	5.5	5.5	5.5	5.5	5.5	5.6	5.6	5.6	5.6	5.6	5.6
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	347	1184	1615	88	756	114	469	271	444	271	444	444
v/s Ratio Prot	0.13	c0.58	0.04	0.02	0.38	0.16	0.10	0.20	0.20	c0.33	0.20	0.20
v/s Ratio Perm	0.88	0.93	0.04	0.05	0.92	0.65	0.41	1.34	0.80	1.34	0.80	0.80
v/c Ratio	23.8	14.6	0.0	14.8	23.6	29.0	27.1	32.4	30.4	32.4	30.4	30.4
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Progression Factor	21.4	14.6	0.0	1.0	18.1	12.0	0.6	174.0	9.7	174.0	9.7	9.7
Incremental Delay, d2	45.2	29.2	0.0	15.8	41.7	41.0	27.6	206.4	40.1	206.4	40.1	40.1
Delay (s)	D	C	A	B	D	D	C	F	D	F	D	D
Level of Service	D	C	A	B	D	D	C	F	D	F	D	D
Approach Delay (s)	31.3	C	A	B	D	41.6	31.4	121.2	121.2	41.6	31.4	121.2
Approach LOS	C	C	A	B	D	D	C	F	F	D	F	F
Intersection Summary												
HCM Average Control Delay	54.4											
HCM Volume to Capacity ratio	1.05											
Actuated Cycle Length (s)	86.0											
Intersection Capacity Utilization	113.2%											
Analysis Period (min)	15											
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis
23: Clarendon Ave & Laredo Dr

Future PM 2023 Phase IV
7/12/2012

Movement	NBL	NBT	SBT	SEL	SER
Lane Configurations	NBL	NBT	SBT	SEL	SER
Volume (veh/h)	204	415	368	41	84
Sign Control	Free	Free	Free	Stop	Stop
Grade	0%	0%	0%	0%	0%
Peak Hour Factor	0.87	0.95	0.95	0.83	0.87
Hourly flow rate (vph)	234	437	387	49	125
Pedestrians					
Lane Width (ft)					
Walking Speed (ft/s)					
Percent Blockage					
Right turn flare (veh)					
Median type	None	None	None	None	None
Median storage (veh)					
Upstream signal (ft)		545			
pX, platoon unblocked					
vC, conflicting volume	437			1318	412
vC1, stage 1 conf vol					
vC2, stage 2 conf vol					
vCu, unblocked vol	437			1318	412
IC, single (s)	4.1			6.4	6.2
IC, 2 stage (s)					
IF (s)	2.2			3.5	3.3
p0 queue free %	79			10	42
cM capacity (veh/h)	1134			139	644
Direction, Lane #	NB 1	NB 2	SB 1	SE 1	
Volume Total	234	437	437	497	
Volume Left	234	0	0	125	
Volume Right	0	0	49	372	
cSH	1134	1700	1700	336	
Volume to Capacity	0.21	0.26	0.26	1.48	
Queue Length 95th (ft)	19	0	0	676	
Control Delay (s)	9.0	0.0	0.0	260.5	
Lane LOS	A	F	F	F	
Approach Delay (s)	3.1	0.0	0.0	260.5	
Approach LOS	F	F	F	F	
Intersection Summary					
Average Delay	82.0				
Intersection Capacity Utilization	69.8%				
Analysis Period (min)	15				
ICU Level of Service	C				

HCM Unsignalized Intersection Capacity Analysis
24: E Ponce De Leon & Annie St

Future PM 2023 Phase IV
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4T		4T				4T			4T	
Volume (veh/h)	5	1026	5	1	722	44	6	0	2	57	0	12
Sign Control		Free		Free				Stop			Stop	
Grade		0%		0%				0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	1115	5	1	785	48	7	0	2	62	0	13
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		319										
pX platoon unblocked												
vC1, conflicting volume	833			0.86			0.86	0.86	0.86	0.86	0.86	
vC1, stage 1 conf vol				1121			1536	1964	560	1382	1942	416
vC2, stage 2 conf vol												
vC1, unblocked vol	833			814			1298	1795	162	1118	1770	416
IC, single (s)	4.6			4.1			7.5	6.5	6.9	7.5	6.5	7.3
IC, 2 stage (s)												
IC (s)	2.4			2.2			3.5	4.0	3.3	3.5	4.0	3.5
p0 queue free %	99			100			94	100	100	56	100	98
cM capacity (veh/h)	664			707			101	69	739	140	72	538
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	563	563	393	440	9	75						
Volume Left	5	0	1	0	7	62						
Volume Right	0	5	0	48	2	13						
cSH	664	1700	707	1700	129	161						
Volume to Capacity	0.01	0.33	0.00	0.26	0.07	0.47						
Queue Length 95th (ft)	1	0	0	0	5	55						
Control Delay (s)	0.2	0.0	0.0	0.0	35.0	45.7						
Lane LOS	A	A	A	A	D	E						
Approach Delay (s)	0.1		0.0		35.0	45.7						
Approach LOS			D		D	E						
Intersection Summary												
Average Delay						1.9						
Intersection Capacity Utilization						43.1%					A	
Analysis Period (min)						15						

5:00 pm Baseline

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HCM Signalized Intersection Capacity Analysis
25: E Ponce De Leon & Off Ramp 285

Future PM 2023 Phase IV
7/12/2012

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		4T		4T		
Volume (vph)	530	608	326	256	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0			
Lane Util. Factor	1.00	1.00	0.95			
Flt Protected	0.95	1.00	1.00			
Satd. Flow (prot)	1752	1863	3344			
Flt Permitted	0.32	1.00	1.00			
Satd. Flow (perm)	585	1863	3344			
Peak-hour factor, PHF	0.93	0.95	0.97	0.90	0.92	0.92
Adj. Flow (vph)	570	640	336	284	0	0
RTOR Reduction (vph)	0	0	157	0	0	0
Lane Group Flow (vph)	570	640	463	0	0	0
Heavy Vehicles (%)	3%	2%	1%	0%	0%	0%
Turn Type	pm+pt					
Protected Phases	1	6	2			
Permitted Phases	6					
Actuated Green, G (s)	50.9	50.9	35.9			
Effective Green, g (s)	50.9	50.9	35.9			
Actuated g/C Ratio	0.64	0.64	0.45			
Clearance Time (s)	5.0	5.0	5.0			
Vehicle Extension (s)	3.0	5.0	5.0			
Lane Grp Cap (vph)	518	1185	1501			
v/s Ratio Prot	c0.14	0.34	0.14			
v/s Ratio Perm	c0.56					
v/c Ratio	1.10	0.54	0.31			
Uniform Delay, d1	11.6	8.1	14.1			
Progression Factor	1.16	0.93	1.00			
Incremental Delay, d2	61.8	1.1	0.5			
Delay (s)	75.2	8.6	14.6			
Level of Service	E	A	B			
Approach Delay (s)		39.9	14.6	0.0		
Approach LOS		D	B	A		
Intersection Summary						
HCM Average Control Delay			31.4		HCM Level of Service	C
HCM Volume to Capacity ratio			1.06			
Actuated Cycle Length (s)			80.0		Sum of lost time (s)	29.1
Intersection Capacity Utilization			95.4%		ICU Level of Service	F
Analysis Period (min)			15			
c Critical Lane Group						

5:00 pm Baseline

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HCM Unsignalized Intersection Capacity Analysis 26: Church St & Off Ramp 285

Future PM 2023 Phase IV
7/12/2012

Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	336	0	0	470	235	229	
Volume (veh/h)	336	0	0	470	235	229	
Sign Control	Free	Free	Free	Free	Stop	Stop	
Grade	0%	0%	0%	0%	0%	0%	
Peak Hour Factor	0.86	0.92	0.92	0.94	0.91	0.90	
Hourly flow rate (vph)	391	0	0	500	258	254	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	None						
Median storage (veh)							
Upstream signal (ft)							
pX, platoon unblocked							
vC, conflicting volume	391				891	391	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	391				891	391	
IC, single (s)	4.1				6.4	6.2	
IC, 2 stage (s)							
IF (s)	2.2				3.5	3.3	
p0 queue free %	100				18	62	
cM capacity (veh/h)	1179				316	662	
Direction, Lane #	EB 1	WB 1	NB 1	NB 2			
Volume Total	391	500	258	254			
Volume Left	0	0	258	0			
Volume Right	0	0	0	254			
cSH	1700	1700	316	662			
Volume to Capacity	0.23	0.29	0.82	0.38			
Queue Length 95th (ft)	0	0	172	45			
Control Delay (s)	0.0	0.0	52.2	13.8			
Lane LOS	F	F	B	B			
Approach Delay (s)	0.0	0.0	33.1				
Approach LOS			D				
Intersection Summary							
Average Delay			12.1				
Intersection Capacity Utilization			44.4%			ICU Level of Service	A
Analysis Period (min)			15				

HCM Signalized Intersection Capacity Analysis 27: Valley Brook Rd & Concord Dr

Future PM 2023 Phase IV
7/12/2012

Movement	NBL2	NBL	NBR	SEL	SER	SER2	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	1	434	192	1405	878	9	7	0	1	0	0	0
Volume (vph)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.97	0.97	1.00	0.85	1.00	0.99	0.99	0.99	0.99	0.99	0.99
Fit Protected	0.95	0.97	0.95	1.00	0.85	1.00	0.96	0.96	0.96	0.96	0.96	0.96
Satd. Flow (prot)	1805	3396	3502	1615	1615	1794	1794	1794	1794	1794	1794	1794
Fit Permitted	0.31	0.97	0.95	1.00	0.85	1.00	0.96	0.96	0.96	0.96	0.96	0.96
Satd. Flow (perm)	594	3396	3502	1615	1615	1794	1794	1794	1794	1794	1794	1794
Peak-hour factor, PHF	0.92	0.90	0.87	0.95	0.93	0.58	0.75	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1	482	221	1479	944	16	9	0	1	0	0	0
RTOR Reduction (vph)	0	45	0	0	0	0	0	1	0	0	0	0
Lane Group Flow (vph)	1	658	0	1479	960	0	0	9	0	0	0	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt			custom								
Protected Phases	5	2	1	6				8				
Permitted Phases	2			6				8				
Actuated Green, G (s)	24.8	24.3	36.8	60.6				1.0				
Effective Green, g (s)	24.8	24.3	36.8	60.6				1.0				
Actuated g/C Ratio	0.33	0.33	0.50	0.82				0.01				
Clearance Time (s)	4.0	4.0	4.0	4.0				4.0				
Vehicle Extension (s)	3.0	3.0	3.0	3.0				3.0				
Lane Grp Cap (vph)	207	1114	1739	1321				24				
v/s Ratio Prot	0.00	0.19	c0.42	c0.59				0.01				
v/s Ratio Perm	0.00	0.59	0.85	0.73				0.38				
v/c Ratio	0.00	0.59	0.85	0.73				0.38				
Uniform Delay, d1	16.4	20.8	16.3	3.0				36.2				
Progression Factor	1.00	1.00	1.00	1.00				1.00				
Incremental Delay, d2	0.0	0.8	4.2	2.0				9.6				
Delay (s)	16.4	21.6	20.5	5.1				45.8				
Level of Service	B	C	C	A				D				
Approach Delay (s)	21.6		14.4					45.8				
Approach LOS	C		B					D				
Intersection Summary												
HCM Average Control Delay			16.1					HCM Level of Service				B
HCM Volume to Capacity ratio			0.77									
Actuated Cycle Length (s)			74.1					Sum of lost time (s)				8.0
Intersection Capacity Utilization			71.8%					ICU Level of Service				C
Analysis Period (min)			15									
c Critical Lane Group												

Intersection Sign configuration not allowed in HCM analysis.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SEB
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Volume (vph)	10	0	10	0	0	0	0	8	0	0	0	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0						4.0				4.0
Lane Util. Factor	1.00	0.95						1.00				1.00
Frt	1.00	0.85						1.00				0.86
Flt Protected	0.95	1.00						0.95				1.00
Satd. Flow (prot)	1770	3008						1770				1811
Flt Permitted	0.76	1.00						0.75				1.00
Satd. Flow (perm)	1410	3008						1400				1811
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	0	11	0	0	0	9	0	0	0	0	9
RTOR Reduction (vph)	0	7	0	0	0	0	0	0	0	0	0	5
Lane Group Flow (vph)	11	4	0	0	0	0	0	9	0	0	0	4
Turn Type	Perm			Perm			Perm					Perm
Protected Phases	4			8			2					6
Permitted Phases												
Actuated Green, G (s)	16.0	16.0					16.0					16.0
Effective Green, g (s)	16.0	16.0					16.0					16.0
Actuated g/C Ratio	0.40	0.40					0.40					0.40
Clearance Time (s)	4.0	4.0					4.0					4.0
Lane Grp Cap (vph)	564	1203					560					644
v/s Ratio Prot		0.00										0.00
v/s Ratio Perm	c0.01						c0.01					
v/c Ratio	0.02	0.00					0.02					0.01
Uniform Delay, d1	7.3	7.2					7.2					7.2
Progression Factor	1.00	1.00					1.00					1.00
Incremental Delay, d2	0.1	0.0					0.1					0.0
Delay (s)	7.3	7.2					7.3					7.2
Level of Service	A	A					A					A
Approach Delay (s)		7.3			0.0		7.3					7.2
Approach LOS		A			A		A					A
Intersection Summary												
HCM Average Control Delay			7.3								A	
HCM Volume to Capacity ratio			0.02									
Actuated Cycle Length (s)			40.0								8.0	
Intersection Capacity Utilization			16.6%								A	
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis 43: DeKalb Industrial Way &

Future PM 2023 Phase IV
7/12/2012

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↰	↰	↰	↰	↰
Volume (veh/h)	101	152	796	83	124	849
Sign Control	Stop	Stop	Free	Free	Free	Free
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	110	165	865	90	135	923
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLT		TWLT	
Median storage (veh)			2		2	
Upstream signal (ft)	0.87	0.87	455		0.87	
pX, platoon unblocked	1641	478			955	
vC, conflicting volume	910					
vC1, stage 1 conf vol	731					
vC2, stage 2 conf vol	1445	114			660	
vCu, unblocked vol	6.8	6.9			4.1	
IC, single (s)	5.8					
IC, 2 stage (s)	3.5	3.3			2.2	
IF (s)	62	79			83	
p0 queue free %	287	802			807	
cM capacity (veh/h)						
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 2	SB 3
Volume Total	110	165	577	379	135	461
Volume Left	110	0	0	0	135	0
Volume Right	0	165	0	90	0	0
cSH	287	802	1700	1700	807	1700
Volume to Capacity	0.38	0.21	0.34	0.22	0.17	0.27
Queue Length 95th (ft)	43	19	0	0	15	0
Control Delay (s)	25.1	10.7	0.0	0.0	10.4	0.0
Lane LOS	D	B	B	B	B	
Approach Delay (s)	16.4		0.0		1.3	
Approach LOS	C					

Intersection Summary					
Average Delay	2.6				
Intersection Capacity Utilization	47.1%				
Analysis Period (min)	15				
	ICU Level of Service				
	A				

HCM Unsignalized Intersection Capacity Analysis 59: W College Ave & S Columbia Dr

Future PM 2023 Phase IV
7/12/2012

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰	↰	↰	↰	↰	↰
Volume (veh/h)	1278	37	40	1054	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1389	40	43	1146	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
Upstream signal (ft)	1136			400		
pX, platoon unblocked			0.80		0.87	0.80
vC, conflicting volume	1429			2069	715	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol			1040		892	148
vCu, unblocked vol			4.1		6.8	6.9
IC, single (s)						
IC, 2 stage (s)			2.2		3.5	3.3
IF (s)			92		100	100
p0 queue free %			532		224	699
cM capacity (veh/h)						
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2
Volume Total	926	503	425	764	0	0
Volume Left	0	0	43	0	0	0
Volume Right	0	40	0	0	0	0
cSH	1700	1700	532	1700	1700	1700
Volume to Capacity	0.54	0.30	0.08	0.45	0.00	0.00
Queue Length 95th (ft)	0	0	7	0	0	0
Control Delay (s)	0.0	0.0	2.4	0.0	0.0	0.0
Lane LOS	A	A	A	A	A	A
Approach Delay (s)	0.0		0.9		0.0	
Approach LOS			A		A	

Intersection Summary					
Average Delay	0.4				
Intersection Capacity Utilization	61.7%				
Analysis Period (min)	15				
	ICU Level of Service				
	B				

HCM Signalized Intersection Capacity Analysis
66: Glendale Rd & Church St

Future PM 2023 Phase IV
7/12/2012

Movement	NBL	NBR	SEL	SER	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	 	 		 	 	 	 	 	 	 
Volume (vph)	0	0	91	0	0	476	10	0	0	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5									
Lane Util. Factor	1.00									
Fit	1.00									
Fit Protected	0.95									
Satd. Flow (prot)	1770									
Fit Permitted	0.98									
Satd. Flow (perm)	1078									
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	99	0	0	517	11	0	0	80
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	39
Lane Group Flow (vph)	0	0	99	0	0	528	0	0	41	0
Turn Type	custom									
Protected Phases	4	3	8	2	2	6	Perm			
Permitted Phases	8									
Actuated Green, G (s)	30.8									
Effective Green, g (s)	30.8									
Actuated g/C Ratio	0.34									
Clearance Time (s)	5.5									
Vehicle Extension (s)	3.0									
Lane Grp Cap (vph)	427									
v/s Ratio Prot	c0.02									
v/s Ratio Perm	c0.06									
v/c Ratio	0.23									
Uniform Delay, d1	14.9									
Progression Factor	1.14									
Incremental Delay, d2	0.3									
Delay (s)	24.0									
Level of Service	C									
Approach Delay (s)	0.0	24.0	17.2							
Approach LOS	A	C	B							
Intersection Summary										
HCM Average Control Delay	17.5									
HCM Volume to Capacity ratio	0.42									
Actuated Cycle Length (s)	90.0									
Intersection Capacity Utilization	42.3%									
Analysis Period (min)	15									
c Critical Lane Group										

5:00 pm Baseline

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HCM Signalized Intersection Capacity Analysis
73: E Ponce De Leon &

Future PM 2023 Phase IV
7/12/2012

Movement	NBL	NBR	SEL	SER	SWL	SWR
Lane Configurations						
Volume (vph)	289	713	101	203	560	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.88	1.00	1.00	0.97	1.00
Frt	1.00	0.85	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3433	2787	1770	1583	3433	1583
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3433	2787	1770	1583	3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	314	775	110	221	609	90
RTOR Reduction (vph)	0	395	0	75	0	62
Lane Group Flow (vph)	314	380	110	146	609	28
Turn Type	Perm		Perm		Perm	
Protected Phases	2i	6i		8		8
Permitted Phases	2		6		8	
Actuated Green, G (s)	19.6	19.6	19.6	19.6	12.4	12.4
Effective Green, g (s)	19.6	19.6	19.6	19.6	12.4	12.4
Actuated g/C Ratio	0.49	0.49	0.49	0.49	0.31	0.31
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1682	1366	867	776	1064	491
v/s Ratio Prot	0.09	0.06		c0.18		0.09
v/s Ratio Perm	c0.14		0.09		0.02	
v/c Ratio	0.19	0.28	0.13	0.19	0.57	0.06
Uniform Delay, d1	5.7	6.0	5.5	5.7	11.6	9.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	0.5	0.3	0.5	0.7	0.0
Delay (s)	6.0	6.5	5.8	6.3	12.3	9.7
Level of Service	A	A	A	A	B	A
Approach Delay (s)	6.4	6.1		12.0		
Approach LOS	A	A		B		
Intersection Summary						
HCM Average Control Delay	8.2		HCM Level of Service		A	
HCM Volume to Capacity ratio	0.39					
Actuated Cycle Length (s)	40.0		Sum of lost time (s)		8.0	
Intersection Capacity Utilization	39.8%		ICU Level of Service		A	
Analysis Period (min)	15					
i Phase conflict between lane groups.						
c Critical Lane Group						

5:00 pm Baseline

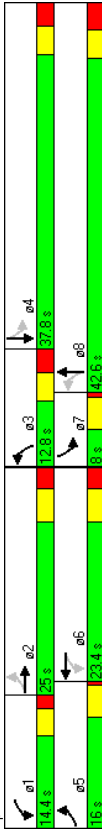
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Timings 4: E Ponce De Leon & Arcadia Ave

Future PM 2023 Phase IV with Recommendations
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Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	4	4	4	4	4	4	4	4	4
Volume (vph)	225	443	492	246	126	701	22	1042	129
Turn Type	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	Free
Protected Phases	5	2	1	6	3	8	7	4	Free
Permitted Phases	5	2	6	6	8	4	4	4	Free
Switch Phase	5	2	1	6	3	8	7	4	
Minimum Initial (s)	4.0	15.0	5.0	15.0	7.0	7.0	4.0	7.0	
Minimum Split (s)	8.0	22.0	9.4	22.0	12.7	22.2	8.0	21.8	
Total Split (s)	16.0	25.0	14.4	23.4	12.8	42.6	8.0	37.8	0.0
Total Split (%)	17.8%	27.8%	16.0%	26.0%	14.2%	47.3%	8.9%	42.0%	0.0%
Yellow Time (s)	3.5	3.6	3.0	3.6	3.0	3.1	3.5	3.1	
All-Red Time (s)	0.5	2.4	1.4	2.4	2.7	3.1	0.5	2.7	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	6.0	4.4	6.0	5.7	6.2	4.0	5.8	4.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	
Lead/Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Max	None	Max	None	Max	None	C-Max	
Act Effect Green (s)	32.5	19.0	29.5	17.9	44.4	39.6	37.8	32.0	90.0
Actuated g/C Ratio	0.36	0.21	0.33	0.20	0.49	0.44	0.42	0.36	1.00
v/c Ratio	0.57	0.98	0.93	0.44	0.64	0.78	0.17	0.85	0.09
Control Delay	25.1	59.4	47.7	32.0	27.8	22.1	13.5	34.9	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.1	59.4	47.7	32.0	27.8	22.1	13.5	34.9	0.1
LOS	C	E	D	C	C	C	B	C	A
Approach Delay	51.0		41.8		22.7		30.3		
Approach LOS	D		D		C		C		

Splits and Phases: 4: E Ponce De Leon & Arcadia Ave



HCM Signalized Intersection Capacity Analysis 4: E Ponce De Leon & Arcadia Ave

Future PM 2023 Phase IV with Recommendations
7/12/2012

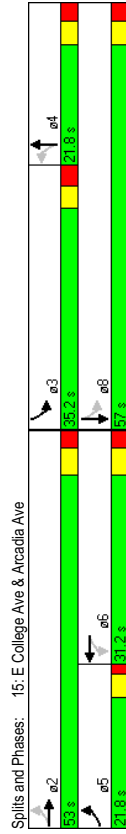
Movement	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	4	4	4	4	4	4	4	4	4
Volume (vph)	225	443	492	246	126	701	22	1042	129
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	6.0	4.4	6.0	5.7	6.2	4.0	5.8	4.0
Lane Util. Factor	1.00	0.95	0.97	0.95	1.00	0.95	1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.99	1.00	1.00	1.00	0.99	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.94	1.00	0.98	1.00	0.94	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1801	3354	3466	3486	1805	3344	1805	3610	1593
Flt Permitted	0.49	1.00	0.22	1.00	0.11	1.00	0.12	1.00	1.00
Satd. Flow (perm)	930	3354	815	3486	204	3344	238	3610	1593
Peak-hour factor, PHF	0.89	0.93	0.87	0.93	0.73	0.87	0.80	0.75	0.95
Adj. Flow (vph)	253	476	303	265	145	730	530	29	1097
RTOR Reduction (vph)	0	86	0	17	0	141	0	0	0
Lane Group Flow (vph)	253	693	0	523	297	0	145	1119	0
Conf. Peds. (#/hr)	5	4	3	4	4	4	3	4	5
Heavy Vehicles (%)	0%	1%	0%	1%	0%	0%	1%	0%	0%
Turn Type	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	Free
Protected Phases	5	2	1	6	3	8	7	4	Free
Permitted Phases	5	2	6	6	8	4	4	4	Free
Actuated Green, G (s)	30.5	19.0	27.9	17.9	44.4	38.0	34.4	32.0	90.0
Effective Green, g (s)	30.5	19.0	27.9	17.9	44.4	38.0	34.4	32.0	90.0
Actuated g/C Ratio	0.34	0.21	0.31	0.20	0.49	0.42	0.38	0.36	1.00
Clearance Time (s)	4.0	6.0	4.4	6.0	5.7	6.2	4.0	5.8	
Vehicle Extension (s)	3.0	5.0	3.5	5.0	3.5	3.5	3.0	3.0	
Lane Grp Cap (vph)	426	708	547	693	227	1412	133	1284	1593
v/s Ratio Prot	0.08	c0.21	c0.11	0.09	c0.05	c0.33	0.01	c0.30	
v/s Ratio Perm	0.13		0.19		0.27		0.08		c0.09
v/c Ratio	0.59	0.98	0.96	0.43	0.64	0.79	0.22	0.85	0.09
Uniform Delay, d1	22.9	35.3	27.5	31.6	17.7	22.6	19.3	26.8	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.2	29.0	27.7	1.9	6.1	4.6	0.8	7.4	0.1
Delay (s)	25.1	64.3	55.3	33.5	23.7	27.2	20.1	34.2	0.1
Level of Service	C	E	E	C	C	C	C	C	A
Approach Delay (s)	54.7		47.1		26.9		29.9		
Approach LOS	D		D		C		C		

Intersection Summary	
HCM Average Control Delay	37.8
HCM Volume to Capacity ratio	0.90
Actuated Cycle Length (s)	90.0
Intersection Capacity Utilization	88.9%
Analysis Period (min)	15
c Critical Lane Group	

Timings
15: E College Ave & Arcadia Ave

Future PM 2023 Phase IV with Recommendations
7/12/2012

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	EB	EB	EB	EB	EB	EB	EB	EB	EB
Volume (vph)	689	853	36	526	16	300	585	564	649
Turn Type	pm+pt	Perm	Perm	Perm	Perm	pm+pt	pm+pt	Free	Free
Protected Phases	5	2	6	6	4	4	3	8	8
Permitted Phases	5	2	6	6	4	4	3	8	8
Switch Phase	5	2	6	6	4	4	3	8	8
Minimum Initial (s)	5.0	15.0	15.0	15.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	9.4	31.0	21.0	21.0	12.8	12.8	12.7	34.8	34.8
Total Split (s)	21.8	53.0	31.2	31.2	21.8	21.8	35.2	57.0	0.0
Total Split (%)	19.5%	48.2%	28.4%	28.4%	19.8%	19.8%	32.0%	51.8%	0.0%
Yellow Time (s)	3.0	3.6	3.6	3.6	3.1	3.1	3.0	3.1	3.1
All-Red Time (s)	1.4	2.4	2.4	2.4	2.7	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.4	6.0	6.0	6.0	5.8	5.8	5.7	5.8	4.0
Lead/Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	C-Min	None	None	None	None	None
Act Effct Green (s)	48.6	47.0	25.2	25.2	16.0	51.3	51.2	110.0	110.0
Actuated g/c Ratio	0.44	0.43	0.23	0.23	0.15	0.47	0.47	1.00	1.00
v/c Ratio	1.03	0.64	0.34	1.01	0.95	1.10	0.89	0.42	0.42
Control Delay	72.3	26.9	44.5	74.0	79.2	96.7	28.3	0.8	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0
Total Delay	72.3	26.9	44.5	74.0	79.2	96.7	29.5	0.8	0.8
LOS	E	C	D	E	E	F	C	A	A
Approach Delay	46.2								
Approach LOS	D								
Intersection Summary									
Cycle Length: 110									
Actuated Cycle Length: 110									
Offset: 0 (0%), Referenced to phase 2EBTL and 6:WBT, Start of Green									
Natural Cycle: 100									
Control Type: Actuated-Coordinated									
Maximum v/c Ratio: 1.10									
Intersection Signal Delay: 51.8									
Intersection Capacity Utilization 101.8%									
Analysis Period (min) 15									



HCM Signalized Intersection Capacity Analysis
15: E College Ave & Arcadia Ave

Future PM 2023 Phase IV with Recommendations
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EB	EB	EB	EB	EB	EB	EB	EB	EB	EB	EB	EB
Volume (vph)	689	853	42	36	526	234	16	300	20	585	564	649
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0	6.0	6.0	6.0	6.0	5.8	5.8	5.7	5.8	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	1.00	0.99	1.00	0.96	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	3502	3577	1805	3448	3556	3556	1805	1805	1805	1805	1805	1805
Satd. Flow (perm)	498	3577	558	3448	2986	387	1900	1615	1615	1615	1615	1615
Peak-hour factor, PHF	0.96	0.93	0.71	0.81	0.89	0.93	0.46	0.85	0.67	0.95	0.92	0.96
Adj. Flow (vph)	718	917	59	44	591	252	35	353	30	616	613	676
RTOR Reduction (vph)	0	4	0	0	43	0	0	5	0	0	0	0
Lane Group Flow (vph)	718	972	0	44	800	0	0	413	0	616	613	676
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	2	2	Perm	6	Perm	4	4	pm+pt	3	8	Free
Protected Phases	5	2	2	6	6	6	4	4	4	3	8	Free
Permitted Phases	5	2	2	6	6	6	4	4	4	3	8	Free
Actuated Green, G (s)	47.0	47.0	25.2	25.2	25.2	25.2	16.0	16.0	51.2	51.2	110.0	110.0
Effective Green, g (s)	47.0	47.0	25.2	25.2	25.2	25.2	16.0	16.0	51.2	51.2	110.0	110.0
Actuated g/c Ratio	0.43	0.43	0.23	0.23	0.23	0.23	0.15	0.15	0.47	0.47	1.00	1.00
Clearance Time (s)	4.4	6.0	6.0	6.0	6.0	6.0	5.8	5.8	5.7	5.8	4.0	4.0
Vehicle Extension (s)	3.5	5.0	5.0	5.0	5.0	5.0	3.0	3.0	3.5	3.5	3.5	3.5
Lane Grp Cap (vph)	688	1528	128	790	434	434	560	884	1615	1615	1615	1615
v/s Ratio Prot	c0.17	0.27	0.08	0.34	1.01	0.95	1.10	0.69	0.42	0.42	0.42	0.42
v/s Ratio Perm	1.04	0.64	0.34	1.01	0.95	1.10	0.69	0.42	0.42	0.42	0.42	0.42
v/c Ratio	1.04	0.64	0.34	1.01	0.95	1.10	0.69	0.42	0.42	0.42	0.42	0.42
Uniform Delay, d1	31.9	24.8	35.5	42.4	48.6	29.6	23.2	0.0	0.0	0.0	0.0	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	46.2	2.0	7.2	35.1	30.9	68.3	2.5	0.8	0.8	0.8	0.8	0.8
Delay (s)	78.2	26.8	42.7	77.5	77.5	97.9	25.7	0.8	0.8	0.8	0.8	0.8
Level of Service	E	C	D	E	E	F	C	A	A	A	A	A
Approach Delay (s)	48.6											
Approach LOS	D											
Intersection Summary												
HCM Average Control Delay	52.7											
HCM Volume to Capacity ratio	1.01											
Actuated Cycle Length (s)	110.0											
Intersection Capacity Utilization	101.8%											
Analysis Period (min)	15											
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: E Ponce De Leon & Dekalb Industrial Way

Future SAT 2023 Phase IV
7/12/2012

Movement	NBL	NBT	NBR	SBL	SBT	SBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations	2	4	4	4	4	4	4	4	4	4	4	4
Volume (vph)	20	763	7	10	736	173	157	6	21	15	7	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.99	1.00	1.00	1.00	1.00
Flpb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	1.00	1.00	0.97	1.00	0.97	1.00	0.89	1.00	0.95	1.00	0.95
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.98	0.98
Satd. Flow (prot)	1805	3563	1805	3461	1805	3461	1805	1675	1805	1773	1773	1773
Flt Permitted	0.17	1.00	0.34	1.00	0.34	1.00	0.73	1.00	0.73	1.00	0.91	0.91
Satd. Flow (perm)	321	3563	651	3461	651	3461	1380	1675	1675	1645	1645	1645
Peak-hour factor, PHF	0.67	0.95	0.44	0.25	0.97	0.78	0.56	0.50	0.63	0.83	0.60	0.63
Adj. Flow (vph)	30	803	16	40	759	222	280	12	33	18	12	17
RTOR Reduction (vph)	0	1	0	0	17	0	0	23	0	0	12	0
Lane Group Flow (vph)	30	818	0	40	964	0	280	22	0	0	35	0
Confl. Peds. (#/hr)	1	1	1	1	1	1	1	1	1	1	1	1
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt
Permitted Phases	1	6	6	2	2	4	4	4	4	4	4	4
Actuated Green, G (s)	47.4	47.4	38.6	38.6	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3
Effective Green, g (s)	47.4	47.4	38.6	38.6	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3
Actuated g/C Ratio	0.55	0.55	0.45	0.45	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31
Clearance Time (s)	5.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	241	1948	290	1541	435	527	518	518	518	518	518	518
v/s Ratio Prot	0.01	c0.23	0.01	c0.28	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
v/s Ratio Perm	0.06	0.12	0.14	0.63	0.14	0.64	0.04	0.04	0.04	0.07	0.07	0.07
Uniform Delay, d1	11.1	11.6	14.2	18.5	25.5	20.6	20.6	20.6	20.6	20.6	20.6	20.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3	0.3	0.5	1.1	4.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Delay (s)	11.4	11.9	14.7	19.6	29.9	20.7	20.7	20.7	20.7	20.7	20.7	20.7
Level of Service	B	B	B	B	B	B	B	B	B	B	B	B
Approach Delay (s)	11.9	11.9	19.4	19.4	28.7	20.9	20.9	20.9	20.9	20.9	20.9	20.9
Approach LOS	B	B	B	B	B	B	B	B	B	B	B	B

Intersection Summary

HCM Average Control Delay	17.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	86.7	Sum of lost time (s)	18.0
Intersection Capacity Utilization	51.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

5:00 pm Baseline

Synchro 7 - Report
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Timings

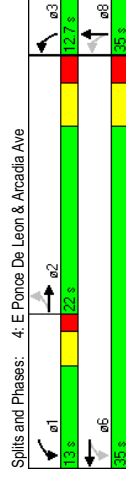
4: E Ponce De Leon & Arcadia Ave

Future SAT 2023 Phase IV
7/12/2012

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	4	4	4	4	4	4	4	4	4
Volume (vph)	108	295	419	322	88	518	16	527	125
Turn Type	Perm	pm+pt	pm+pt	pm+pt	Perm	Perm	Perm	Free	Free
Protected Phases	2	2	1	6	3	8	4	4	4
Permitted Phases	2	2	6	6	8	8	4	4	4
Detector Phase	2	2	1	6	3	8	4	4	4
Switch Phase									
Minimum Initial (s)	15.0	15.0	5.0	15.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	22.0	22.0	9.4	22.0	12.7	22.2	21.8	21.8	21.8
Total Split (s)	22.0	22.0	13.0	35.0	12.7	35.0	22.3	22.3	22.3
Total Split (%)	31.4%	31.4%	18.6%	50.0%	18.1%	50.0%	31.9%	31.9%	31.9%
Yellow Time (s)	3.6	3.6	3.0	3.6	3.0	3.1	3.1	3.1	3.1
All-Red Time (s)	2.4	2.4	1.4	2.4	2.7	3.1	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.4	6.0	5.7	6.2	5.8	5.8	4.0
Lead/Lag	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lead-Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Max	None	Max	C-Max	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	16.0	16.0	30.6	29.0	29.3	28.8	19.0	19.0	70.0
Actuated g/C Ratio	0.23	0.23	0.44	0.41	0.42	0.41	0.27	0.27	1.00
v/c Ratio	0.52	0.52	1.06	0.25	0.30	0.68	0.18	0.57	0.09
Control Delay	33.1	22.1	81.4	13.6	12.8	8.8	26.4	25.7	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.1	22.1	81.4	13.6	12.8	8.8	26.4	25.7	0.1
LOS	C	C	F	B	B	A	C	C	A
Approach Delay	24.5	24.5	50.9	9.1	9.1	20.6	20.6	20.6	20.6
Approach LOS	C	C	D	D	A	A	C	C	C

Intersection Summary

Cycle Length: 70	
Actuated Cycle Length: 70	
Offset: 0 (0%), Referenced to phase 4:SBTL and 8:NBT, Start of Green	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.06	
Intersection Signal Delay: 24.5	
Intersection Capacity Utilization 90.1%	
Analysis Period (min) 15	
ICU Level of Service E	



Splits and Phases: 4: E Ponce De Leon & Arcadia Ave

5:00 pm Baseline

Synchro 7 - Report
Page 7

HCM Signalized Intersection Capacity Analysis
4: E Ponce De Leon & Arcadia Ave

Future SAT 2023 Phase IV
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	108	295	107	419	322	14	88	518	454	16	527	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	4.4	6.0	4.4	6.0	5.7	6.2	5.8	5.8	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.96	1.00	0.99	1.00	0.99	1.00	0.92	1.00	1.00	0.85	1.00
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1798	3417	1786	3545	1804	3288	1803	3610	1593	3610	1593	1593
Flt Permitted	0.53	1.00	0.34	1.00	0.34	1.00	0.25	1.00	0.23	1.00	1.00	1.00
Satd. Flow (perm)	1011	3417	642	3545	480	3288	427	3610	1593	3610	1593	1593
Peak-hour factor, PHF	0.89	0.93	0.87	0.94	0.93	0.73	0.87	0.96	0.80	0.75	0.95	0.86
Adj. Flow (vph)	121	317	123	446	346	19	101	540	568	21	555	145
RTOR Reduction (vph)	0	58	0	0	6	0	0	271	0	0	0	0
Lane Group Flow (vph)	121	382	0	446	359	0	101	837	0	21	555	145
Confl. Peds. (#/hr)	5	4	3	4	4	4	4	3	4	4	5	5
Heavy Vehicles (%)	0%	1%	0%	1%	0%	0%	0%	0%	1%	0%	0%	0%
Turn Type	Perm	2	2	1	6	1	3	8	1	Perm	4	Free
Protected Phases	2	2	2	1	6	1	3	8	1	4	4	Free
Actuated Green, G (s)	16.0	16.0	29.0	29.0	29.0	29.0	28.8	28.8	17.9	17.9	70.0	70.0
Effective Green, g (s)	16.0	16.0	29.0	29.0	29.0	29.0	28.8	28.8	17.9	17.9	70.0	70.0
Actuated g/C Ratio	0.23	0.23	0.41	0.41	0.41	0.41	0.41	0.41	0.26	0.26	1.00	1.00
Clearance Time (s)	6.0	6.0	4.4	6.0	4.4	6.0	5.7	6.2	5.8	5.8	5.8	5.8
Vehicle Extension (s)	5.0	5.0	3.5	5.0	3.5	5.0	3.5	3.5	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	231	781	407	1469	303	1353	109	923	1593	1593	1593	1593
v/s Ratio Prot	0.12	0.11	c0.13	0.10	0.03	c0.25	0.05	0.05	0.05	0.05	0.09	0.09
v/s Ratio Perm	0.52	0.49	1.10	0.24	0.33	0.33	0.11	0.11	0.19	0.60	0.09	0.09
Uniform Delay, d1	23.7	23.5	18.5	13.4	13.7	16.3	20.4	22.9	0.0	22.9	0.0	0.0
Progression Factor	1.00	1.00	1.00	1.00	0.88	0.77	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.3	2.2	73.0	0.4	0.5	1.3	3.9	2.9	0.1	2.9	0.1	0.1
Delay (s)	31.9	25.6	91.5	13.8	12.6	13.8	24.3	25.8	0.1	25.8	0.1	0.1
Level of Service	C	C	F	B	B	B	C	C	C	C	A	A
Approach Delay (s)	27.0	27.0	56.5	13.7	13.7	13.7	20.6	20.6	0.1	20.6	0.1	0.1
Approach LOS	C	C	E	B	B	B	C	C	C	C	C	C

Intersection Summary			
HCM Average Control Delay	28.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	10.6
Intersection Capacity Utilization	90.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
5: N Decatur Rd & E Ponce De Leon

Future SAT 2023 Phase IV
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	NBR2	SWL2	SWL	SWR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	NBR2	SWL2	SWL	SWR
Volume (vph)	144	525	152	212	458	150	143	892	176	173	860	179
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.88	1.00	0.88	1.00	0.97	1.00	0.97
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.96	1.00	0.97	1.00	0.85	1.00	0.85	1.00	0.97	1.00	0.97
Flt Protected	0.95	1.00	0.95	1.00	0.99	1.00	0.95	1.00	0.95	0.96	1.00	0.96
Satd. Flow (prot)	1805	3435	1805	3444	1805	2838	1805	2838	1805	3406	1805	3406
Flt Permitted	0.14	1.00	0.62	0.62	0.95	1.00	0.95	1.00	0.95	0.96	0.95	0.96
Satd. Flow (perm)	266	3435	2171	1805	2838	1805	2838	1805	2838	3406	1805	3406
Peak-hour factor, PHF	0.86	0.95	0.67	0.79	0.94	0.85	0.82	0.93	0.91	0.79	0.95	0.86
Adj. Flow (vph)	167	553	227	268	487	176	174	959	193	219	905	271
RTOR Reduction (vph)	0	40	0	0	23	0	0	17	0	0	33	0
Lane Group Flow (vph)	167	740	0	0	908	0	174	1135	0	219	1143	0
Confl. Peds. (#/hr)	4	5	6	5	5	5	5	6	5	5	5	4
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%
Turn Type	pm+pt	2	2	1	6	1	8	8	1	custom	4	4
Protected Phases	2	2	2	1	6	1	8	8	1	4	4	4
Actuated Green, G (s)	44.3	44.3	44.3	33.4	33.4	34.7	34.7	34.7	34.7	34.7	34.7	34.7
Effective Green, g (s)	44.3	44.3	44.3	33.4	33.4	34.7	34.7	34.7	34.7	34.7	34.7	34.7
Actuated g/C Ratio	0.49	0.49	0.49	0.37	0.37	0.39	0.39	0.39	0.39	0.39	0.39	0.39
Clearance Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Vehicle Extension (s)	3.0	8.0	8.0	8.0	8.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	223	1691	806	806	806	696	1094	696	1313	696	1313	1313
v/s Ratio Prot	c0.04	0.22	c0.04	0.22	c0.42	0.10	c0.40	0.12	0.34	0.12	0.34	0.34
v/s Ratio Perm	0.32	0.75	0.44	1.13	1.13	0.25	1.04	0.31	0.87	0.31	0.87	0.87
Uniform Delay, d1	16.3	14.8	16.3	14.8	28.3	18.8	27.6	19.3	25.6	19.3	25.6	25.6
Progression Factor	1.00	1.00	1.00	0.38	0.38	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	12.9	0.8	70.9	0.8	70.9	0.3	37.5	0.4	6.8	0.4	6.8	6.8
Delay (s)	29.2	15.6	81.5	15.6	81.5	19.1	65.2	19.7	32.3	19.7	32.3	32.3
Level of Service	C	B	B	F	F	B	E	B	C	B	C	C
Approach Delay (s)	18.0	81.5	81.5	81.5	81.5	59.1	59.1	59.1	30.4	59.1	30.4	30.4
Approach LOS	B	B	B	F	F	E	E	E	C	E	C	C

Intersection Summary				
HCM Average Control Delay	46.5	HCM Level of Service		D
HCM Volume to Capacity ratio	1.06			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)		16.5
Intersection Capacity Utilization	103.1%	ICU Level of Service		G
Analysis Period (min)	15			
i Phase conflict between lane groups.				

HCM Signalized Intersection Capacity Analysis
6: Valley Brook Rd & E Ponce De Leon

Future SAT 2023 Phase IV
7/12/2012

Movement	SBL	SBP	NEL	NET	SWT	SWR
Lane Configurations	109	433	404	749	772	96
Volume (vph)	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	6.0	4.0	6.0	6.0	6.0	6.0
Total Lost time (s)	1.00	1.00	1.00	1.00	1.00	1.00
Lane Util. Factor	1.00	0.99	1.00	1.00	0.99	1.00
Flpb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.85	1.00	1.00	0.98	1.00
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1805	1591	1805	1900	1857	1857
Flt Permitted	0.95	1.00	0.06	1.00	1.00	1.00
Satd. Flow (perm)	1805	1591	109	1900	1857	1857
Peak-hour factor, PHF	0.85	0.95	0.87	0.96	0.90	0.76
Adj. Flow (vph)	128	456	464	780	858	126
RTOR Reduction (vph)	0	0	0	0	4	0
Lane Group Flow (vph)	128	456	464	780	980	0
Confl. Peds. (#/hr)	7	10	10	0%	0%	7
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	Free	pm+pt	Free	pm+pt	Free	pm+pt
Protected Phases	4	1	6	2	2	2
Permitted Phases	Free	Free	6	6	6	6
Actuated Green, G (s)	20.2	130.0	97.8	97.8	64.0	64.0
Effective Green, g (s)	20.2	130.0	97.8	97.8	64.0	64.0
Actuated g/C Ratio	0.16	1.00	0.75	0.75	0.49	0.49
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	4.0	3.0	8.0	8.0	8.0	8.0
Lane Grp Cap (vph)	280	1591	445	1429	914	914
v/s Ratio Prot	c0.07	c0.22	0.41	0.53	0.53	0.53
v/s Ratio Perm	0.29	c0.56	0.29	1.04	0.55	1.07
v/c Ratio	0.46	0.29	1.04	0.55	1.07	1.07
Uniform Delay, d1	49.9	0.0	44.8	6.8	33.0	33.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.6	0.5	54.2	1.5	51.1	51.1
Delay (s)	51.5	0.5	99.0	8.3	84.1	84.1
Level of Service	D	A	F	A	F	F
Approach Delay (s)	11.6		42.1	84.1		
Approach LOS	B		D	F		

Intersection Summary

HCM Average Control Delay	50.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	101.3%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

5:00 pm Baseline

Timings
7: Glendale Rd & E Ponce De Leon

Future SAT 2023 Phase IV
7/12/2012

Lane Group	NWL	NWR	NET	NER	SWL	SWT	ø3	ø8
Lane Configurations	190	87	578	191	56	600		
Volume (vph)	Free	Free	Free	Free	Perm	Perm		
Turn Type	4	2	2	2	6	3	8	8
Protected Phases	Free	Free	Free	Free	6	6		
Permitted Phases	4	2	2	2	6	6		
Detector Phase								
Switch Phase								
Minimum Initial (s)	8.0	12.0	12.0	12.0	12.0	12.0	8.0	8.0
Minimum Split (s)	24.5	30.5	30.5	30.5	18.5	18.5	13.5	25.5
Total Split (s)	25.0	0.0	40.0	0.0	40.0	40.0	25.0	50.0
Total Split (%)	27.8%	0.0%	44.4%	0.0%	44.4%	44.4%	28%	56%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	3.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	4.0	6.5	4.0	6.5	6.5		
Lead/Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None
Act Effct Green (s)	15.5	90.0	49.7	90.0	49.7	49.7		
Actuated g/C Ratio	0.17	1.00	0.55	1.00	0.55	0.55		
v/c Ratio	0.67	0.08	0.59	0.14	0.22	0.61		
Control Delay	45.1	0.1	18.9	0.2	16.4	19.3		
Queue Delay	175.3	0.0	2.6	0.0	0.1	0.0		
Total Delay	220.3	0.1	21.5	0.2	16.5	19.3		
LOS	F	A	C	A	B	B		
Approach Delay	140.4	15.8			19.0			
Approach LOS	F	B			B			

Intersection Summary

Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2NET and 6SWTL, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.67	
Intersection Signal Delay: 38.8	Intersection LOS: D
Intersection Capacity Utilization 67.8%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 7: Glendale Rd & E Ponce De Leon

5:00 pm Baseline

HCM Signalized Intersection Capacity Analysis
7: Glendale Rd & E Ponce De Leon

Future SAT 2023 Phase IV
7/12/2012

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations	↱	↱	↱	↱	↱	↱
Volume (vph)	190	87	578	191	56	600
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	4.0	6.5	4.0	6.5	6.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fltb. ped/bikes	1.00	0.98	1.00	0.99	1.00	1.00
Fltb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1805	1580	1900	1593	1767	1900
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1805	1580	1900	1593	1546	1900
Peak-hour factor, PHF	0.91	0.73	0.93	0.85	0.85	0.94
Adj. Flow (vph)	209	119	622	225	66	638
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	209	119	622	225	66	638
Confl. Peds. (#/hr)	5	4	0	5	4	0
Heavy Vehicles (%)	0%	0%	0%	0%	2%	0%
Turn Type	Free	Free	2	Free	Perm	6
Protected Phases	4	Free	Free	Free	6	6
Permitted Phases	15.5	90.0	48.6	90.0	48.6	48.6
Actuated Green, G (s)	15.5	90.0	48.6	90.0	48.6	48.6
Effective Green, g (s)	0.17	1.00	0.54	1.00	0.54	0.54
Actuated g/C Ratio	6.5	6.5	6.5	6.5	6.5	6.5
Clearance Time (s)	3.0	5.5	5.5	5.5	5.5	5.5
Vehicle Extension (s)	3.11	1580	1026	1593	295	1026
Lane Grp Cap (vph)	c0.12	c0.33	c0.14	c0.14	c0.34	c0.34
v/s Ratio Prot	0.67	0.08	0.61	0.14	0.22	0.62
v/s Ratio Perm	34.9	0.0	14.2	0.0	10.8	14.3
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	1.00
Progression Factor	5.6	0.1	2.7	0.2	1.7	2.8
Incremental Delay, d2	40.5	0.1	16.8	0.2	12.6	17.2
Delay (s)	D	A	B	A	B	B
Level of Service	D	A	B	A	B	B
Approach Delay (s)	25.8	12.4	12.4	16.7	16.7	16.7
Approach LOS	C	B	B	B	B	B

Intersection Summary			
HCM Average Control Delay	16.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	67.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Timings
8: McLendon Dr & E Ponce De Leon

Future SAT 2023 Phase IV
7/12/2012

Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations	↱	↱	↱	↱	↱	↱
Volume (vph)	75	85	88	719	749	65
Turn Type	Free	Free	pm+pt	Free	Free	Free
Protected Phases	8	Free	1	6	2	Free
Permitted Phases	8	Free	6	6	Free	Free
Detector Phase	8	Free	1	6	2	Free
Switch Phase	8	Free	1	6	2	Free
Minimum Initial (s)	8.0	8.0	5.0	12.0	12.0	12.0
Minimum Split (s)	33.0	11.0	18.0	28.0	28.0	28.0
Total Split (s)	40.0	0.0	15.0	83.0	88.0	0.0
Total Split (%)	32.5%	0.0%	12.2%	67.5%	55.3%	0.0%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	4.0	6.0	6.0	6.0	4.0
Lead/Lag	Lead	Lead	Lag	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	C-Min	C-Min	C-Min	C-Min
Act Effct Green (s)	12.0	123.0	101.8	103.0	86.8	123.0
Actuated g/C Ratio	0.10	1.00	0.83	0.84	0.71	1.00
v/c Ratio	0.47	0.06	0.21	0.54	0.61	0.05
Control Delay	60.3	0.1	3.8	5.7	13.4	0.1
Queue Delay	0.0	0.0	0.0	0.0	9.7	0.0
Total Delay	60.3	0.1	3.8	5.7	23.1	0.1
LOS	E	A	A	A	C	A
Approach Delay	27.1	5.5	5.5	21.0	21.0	21.0
Approach LOS	C	A	A	C	C	C

Intersection Summary						
Cycle Length: 123						
Actuated Cycle Length: 123						
Offset: 113 (92%), Referenced to phase 2:SWT and 6:NETL, Start of Green						
Natural Cycle: 90						
Control Type: Actuated-Coordinated						
Maximum v/c Ratio: 0.61						
Intersection Signal Delay: 14.3						
Intersection Capacity Utilization 67.5%						
Analysis Period (min) 15						

Splits and Phases: 8: McLendon Dr & E Ponce De Leon

HCM Signalized Intersection Capacity Analysis
8: McLeodon Dr & E Ponce De Leon

Future SAT 2023 Phase IV
7/12/2012

Movement	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations	↔	↔	↔	↔	↔	↔
Volume (vph)	75	85	719	749	65	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	4.0	6.0	6.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	0.98	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1805	1580	1805	1900	1900	1580
Flt Permitted	0.95	1.00	0.24	1.00	1.00	1.00
Satd. Flow (perm)	1805	1580	452	1900	1900	1580
Peak-hour factor, PHF	0.91	0.84	0.88	0.84	0.92	0.80
Adj. Flow (vph)	82	101	100	856	814	81
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	82	101	100	856	814	81
Confl. Peds. (#/hr)	3	3	3			3
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	Free	Free	pm+pt			Free
Permitted Phases	8	1	6	2		Free
Actuated Green, G (s)	10.4	123.0	100.6	100.6	85.6	123.0
Effective Green, g (s)	10.4	123.0	100.6	100.6	85.6	123.0
Actuated g/C Ratio	0.08	1.00	0.82	0.82	0.70	1.00
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	4.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	153	1580	469	1554	1322	1580
v/s Ratio Prot	c0.05	0.02	c0.45	c0.43		
v/s Ratio Perm		0.06	0.16			
v/c Ratio	0.54	0.06	0.21	0.55	0.62	0.05
Uniform Delay, d1	54.0	0.0	6.7	3.7	9.9	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.5	0.1	0.5	1.4	2.2	0.1
Delay (s)	58.5	0.1	7.2	5.1	12.1	0.1
Level of Service	E	A	A	A	B	A
Approach Delay (s)	26.3			5.3	11.0	
Approach LOS	C			A	B	

Intersection Summary

HCM Average Control Delay	9.7	HCM Level of Service	A
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	123.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	67.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

5:00 pm Baseline

Timings
9: E Ponce De Leon & Off Ramp 285

Future SAT 2023 Phase IV
7/12/2012

Lane Group	EBT	WBT	SBL	SBR	ø1
Lane Configurations	↔	↔	↔	↔	
Volume (vph)	647	338	364	390	
Turn Type			Perm		
Protected Phases	6	2	8	8	1
Permitted Phases					
Detector Phase	6	2	8	8	
Switch Phase					
Minimum Initial (s)	12.0	12.0	7.0	7.0	7.0
Minimum Split (s)	17.0	17.0	12.5	12.5	12.0
Total Split (s)	60.0	45.0	20.0	20.0	15.0
Total Split (%)	75.0%	56.3%	25.0%	25.0%	19%
Yellow Time (s)	4.0	4.0	4.0	4.0	3.5
All-Red Time (s)	1.0	1.0	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.5	5.5	
Lead/Lag		Lag		Lead	
Lead-Lag Optimize?	Yes	Yes	None	None	Yes
Recall Mode	C-Min	C-Min	None	None	None
Act Effct Green (s)	47.3	32.3	22.2	22.2	
Actuated g/C Ratio	0.59	0.40	0.28	0.28	
v/c Ratio	0.63	0.30	0.83	0.58	
Control Delay	12.7	10.8	48.9	6.8	
Queue Delay	0.0	0.0	0.0	0.0	
Total Delay	12.8	10.8	48.9	6.8	
LOS	B	B	D	A	
Approach Delay	12.8	10.8	27.1		
Approach LOS	B	B	C		

Intersection Summary

Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 38 (48%), Referenced to phase 2/WBT and 6/EBT, Start of Green	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.94	
Intersection Signal Delay: 18.5	Intersection LOS: B
Intersection Capacity Utilization 89.5%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 9: E Ponce De Leon & Off Ramp 285

5:00 pm Baseline

HCM Signalized Intersection Capacity Analysis
9: E Ponce De Leon & Off Ramp 285

Future SAT 2023 Phase IV
7/12/2012

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		←	←	←	←	←
Volume (vph)	0	647	338	0	364	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		5.5	5.5
Lane Util. Factor		1.00	0.95	1.00	1.00	1.00
Flt Protected		1.00	1.00	1.00	0.85	1.00
Satd. Flow (prot)		1900	3610	1805	1599	1599
Flt Permitted		1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		1900	3610	1805	1599	1599
Peak-hour factor, PHF	0.92	0.91	0.78	0.92	0.87	0.87
Adj. Flow (vph)	0	711	433	0	418	448
RTOR Reduction (vph)	0	0	0	0	0	324
Lane Group Flow (vph)	0	711	433	0	418	124
Heavy Vehicles (%)	0%	0%	0%	0%	0%	1%
Turn Type		6	2		8	Perm
Protected Phases						
Permitted Phases						8
Actuated Green, G (s)		47.3	32.3		22.2	22.2
Effective Green, g (s)		47.3	32.3		22.2	22.2
Actuated g/C Ratio		0.59	0.40		0.28	0.28
Clearance Time (s)		5.0	5.0		5.5	5.5
Vehicle Extension (s)		5.0	5.0		3.5	3.5
Lane Grp Cap (vph)		1123	1458		501	444
v/s Ratio Prot		0.37	0.12		0.23	
v/c Ratio Perm		0.63	0.30		0.83	0.28
Uniform Delay, d1		10.7	16.2		27.2	22.6
Progression Factor		1.00	0.68		1.00	1.00
Incremental Delay, d2		2.7	0.5		11.7	0.4
Delay (s)		13.4	11.5		38.9	23.0
Level of Service		B	B		D	C
Approach Delay (s)		13.4	11.5		30.7	
Approach LOS		B	B		C	
Intersection Summary						
HCM Average Control Delay			20.4		HCM Level of Service	C
HCM Volume to Capacity ratio			0.70			
Actuated Cycle Length (s)			80.0		Sum of lost time (s)	10.5
Intersection Capacity Utilization			89.5%		ICU Level of Service	E
Analysis Period (min)			15			
c Critical Lane Group						

5:00 pm Baseline

Synchro 7 - Report
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HCM Unsignalized Intersection Capacity Analysis
10: Church St & On Ramp 285

Future SAT 2023 Phase IV
7/12/2012

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	←	←	←	←	←	←
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Volume (vph)	257	296	195	442	0	0
Peak Hour Factor	0.96	0.97	0.88	0.97	0.92	0.92
Hourly flow rate (vph)	268	305	222	456	0	0
Direction, Lane #	EB 1	WB 1				
Volume Total (vph)	573	677				
Volume Left (vph)	0	222				
Volume Right (vph)	305	0				
Head (s)	-0.31	0.08				
Departure Headway (s)	4.3	4.5				
Degree Utilization, x	0.68	0.85				
Capacity (veh/h)	829	788				
Control Delay (s)	16.0	27.8				
Approach Delay (s)	16.0	27.8				
Approach LOS	C	D				
Intersection Summary						
Delay		22.3				
HCM Level of Service		C				C
Intersection Capacity Utilization		72.4%				
Analysis Period (min)		15				

5:00 pm Baseline

Synchro 7 - Report
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HCM Unsignalized Intersection Capacity Analysis
 11: Valley Brook Rd & SR 410 On Ramp

Future SAT 2023 Phase IV
 7/12/2012

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↔↔	↕		↕	↔↔
Volume (veh/h)	0	1404	463	0	168	864
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.98	0.98	0.97	0.92	0.92	0.98
Hourly flow rate (vph)	0	1433	477	0	183	882
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)			759			
pX, platoon unblocked						
vC, conflicting volume	477				1194	477
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	477				1194	477
IC, single (s)	4.1				6.8	6.9
IC, 2 stage (s)						
IF (s)	2.2				3.5	3.3
p0 queue free %	100				0	0
cM capacity (veh/h)	1095				182	540
Direction, Lane #	EB 1	EB 2	WB 1	SW 1	SW 2	SW 3
Volume Total	716	716	477	183	441	441
Volume Left	0	0	0	183	0	0
Volume Right	0	0	0	0	441	441
cSH	1700	1700	1700	182	540	540
Volume to Capacity	0.42	0.42	0.28	1.00	0.82	0.82
Queue Length 95th (ft)	0	0	0	207	202	202
Control Delay (s)	0.0	0.0	0.0	119.4	34.9	34.9
Lane LOS				F	D	D
Approach Delay (s)	0.0		0.0	49.4		
Approach LOS			E			
Intersection Summary						
Average Delay	17.7					
Intersection Capacity Utilization	61.3%					
Analysis Period (min)	15					
				ICU Level of Service		B

HCM Signalized Intersection Capacity Analysis
 12: N Decatur Rd & Dekalb Industrial Way

Future SAT 2023 Phase IV
 7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SEB
Lane Configurations	↔	↔↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Volume (vph)	128	551	220	77	405	205	282	569	67	246	486	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	0.98
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.85	1.00	0.95	1.00	0.98	1.00	0.98	1.00	1.00	0.85
Frpb, ped/bikes	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1805	3610	1587	1802	3401	1804	3545	1804	3610	1587	1804	3545
Fit Permitted	0.22	1.00	1.00	0.44	1.00	0.19	1.00	0.30	1.00	1.00	0.30	1.00
Satd. Flow (perm)	423	3610	1587	837	3401	364	3545	561	3610	1587	3610	1587
Peak-hour factor, PHF	0.82	0.98	0.86	0.78	0.93	0.89	0.84	0.92	0.92	0.91	0.95	0.86
Adj. Flow (vph)	156	562	256	99	435	230	336	618	73	270	512	73
RTOR Reduction (vph)	0	0	159	0	68	0	0	10	0	0	0	60
Lane Group Flow (vph)	156	562	97	99	597	0	336	681	0	270	512	13
Conf. Peds. (#/hr)	5	7	8	7	6	7	8	6	7	6	8	5
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Turn Type	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt	pm+pt
Protected Phases	5	2	2	1	6	3	8	7	4	4	4	4
Permitted Phases	2	34.3	34.3	32.0	28.1	34.4	23.4	23.4	21.3	16.3	16.3	16.3
Actuated Green, G (s)	44.2	34.3	34.3	32.0	28.1	34.4	23.4	23.4	21.3	16.3	16.3	16.3
Effective Green, g (s)	44.2	34.3	34.3	32.0	28.1	34.4	23.4	23.4	21.3	16.3	16.3	16.3
Actuated g/C Ratio	0.49	0.38	0.38	0.35	0.31	0.38	0.26	0.26	0.24	0.18	0.18	0.18
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	8.0	8.0	3.0	8.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	360	1367	601	337	1055	331	916	200	649	282	649	282
v/s Ratio Prot	c0.05	0.16	0.01	c0.18	c0.18	c0.14	0.19	0.07	0.14	0.07	0.14	0.01
v/s Ratio Perm	0.16	0.06	0.06	0.09	0.09	0.25	0.25	0.24	0.24	0.24	0.24	0.01
v/c Ratio	0.43	0.41	0.16	0.29	0.57	1.02	0.74	1.35	0.79	0.05	0.05	0.05
Uniform Delay, d1	14.6	20.7	18.6	20.1	26.1	23.4	30.8	32.8	35.5	30.7	30.7	30.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.8	0.9	0.5	0.5	2.0	53.4	3.3	186.8	6.3	0.1	0.1	0.1
Delay (s)	15.4	21.6	19.2	20.5	28.2	76.8	34.2	219.6	41.8	30.8	30.8	30.8
Level of Service	B	C	B	C	C	E	C	F	D	C	D	C
Approach Delay (s)	20.0						27.2	48.1	97.0	F		
Approach LOS	B						C	D	F	F		
Intersection Summary												
HCM Average Control Delay	47.7						HCM Level of Service					
HCM Volume to Capacity ratio	0.83						D					
Actuated Cycle Length (s)	90.6						Sum of lost time (s)					
Intersection Capacity Utilization	77.8%						24.0					
Analysis Period (min)	15						D					
Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
13: N Decatur Rd & Church St W

Future SAT 2023 Phase IV
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Volume (vph)	90	544	30	180	428	102	83	444	173	115	414	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Flt Protected	0.95	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.95	1.00
Flt ped/bikes	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1805	3610	1615	1805	3610	1583	1805	3610	1615	1805	3610	1524
Flt Permitted	0.44	1.00	1.00	0.14	1.00	1.00	0.40	1.00	1.00	0.42	1.00	1.00
Satd. Flow (perm)	840	3610	1615	261	3610	1583	766	3610	1615	803	3610	1524
Peak-hour factor, PHF	0.82	0.92	0.77	0.79	0.94	0.76	0.72	0.94	0.77	0.93	0.81	0.88
Adj. Flow (vph)	110	591	39	228	455	134	115	472	225	124	511	99
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	110	591	39	228	455	134	115	472	225	124	511	99
Heavy Vehicles (%)	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	6%
Turn Type	pm+pt	Free	Free	pm+pt	Free	Free	pm+pt	Free	Free	pm+pt	Free	Free
Protected Phases	4	Free	8	3	8	Free	5	2	Free	1	6	Free
Permitted Phases	4	Free	8	3	8	Free	5	2	Free	1	6	Free
Actuated Green, G (s)	42.1	30.7	150.0	56.2	38.8	150.0	75.4	65.0	150.0	76.2	65.4	150.0
Effective Green, g (s)	42.1	30.7	150.0	56.2	38.8	150.0	75.4	65.0	150.0	76.2	65.4	150.0
Actuated g/C Ratio	0.28	0.20	1.00	0.37	0.26	1.00	0.50	0.43	1.00	0.51	0.44	1.00
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	309	739	1615	299	934	1583	457	1564	1615	480	1574	1524
v/s Ratio Prot	0.03	0.16	c0.10	0.13	0.08	0.11	0.02	0.13	c0.14	0.02	c0.14	0.06
v/s Ratio Perm	0.07	0.02	0.02	0.76	0.49	0.08	0.25	0.30	0.14	0.26	0.32	0.06
v/c Ratio	0.36	0.80	0.02	0.76	0.49	0.08	0.25	0.30	0.14	0.26	0.32	0.06
Uniform Delay, d1	41.4	56.7	0.0	36.4	47.2	0.0	20.1	27.7	0.0	19.7	27.8	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7	6.1	0.0	10.9	0.4	0.1	0.3	0.5	0.2	0.3	0.5	0.1
Delay (s)	42.1	62.8	0.0	47.4	47.6	0.1	20.4	28.2	0.2	20.0	28.3	0.1
Level of Service	D	E	A	D	D	A	C	C	A	C	C	A
Approach Delay (s)	56.4			39.7			19.3				23.1	
Approach LOS	E			D			B				C	
Intersection Summary												
HCM Average Control Delay	34.4											
HCM Volume to Capacity ratio	0.47											
Actuated Cycle Length (s)	150.0											
Intersection Capacity Utilization	63.7%											
Analysis Period (min)	15											
c Critical Lane Group												

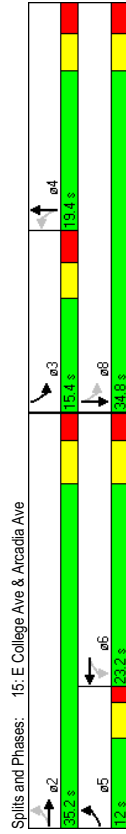
HCM Signalized Intersection Capacity Analysis
14: N Decatur Rd & Church St

Future SAT 2023 Phase IV
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SWR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Volume (vph)	227	609	38	10	616	5	16	96	30	7	52	182
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5			5.5			5.5			5.5	4.0
Lane Util. Factor	1.00	0.95	1.00		0.95			1.00			1.00	1.00
Flt Protected	1.00	1.00	1.00		1.00			1.00			1.00	1.00
Flt ped/bikes	1.00	1.00	1.00		1.00			1.00			1.00	1.00
Satd. Flow (prot)	1805	3557	1805		3591			1819			1882	1599
Flt Permitted	0.20	1.00	0.88		0.88			0.94			0.94	1.00
Satd. Flow (perm)	371	3557	3166		3166			1728			1787	1599
Peak-hour factor, PHF	0.94	0.92	0.82		0.85			0.95			0.81	0.76
Adj. Flow (vph)	241	662	61		725			30			18	83
RTOR Reduction (vph)	0	7	0		0			0			0	0
Lane Group Flow (vph)	241	716	0		775			155			0	101
Conf. Peds. (#/hr)	0%	0%	0%		0%			0%			0%	0%
Heavy Vehicles (%)	0%	0%	0%		0%			0%			0%	1%
Turn Type	pm+pt	Free	Free		Free			Free			Free	Free
Protected Phases	5	2	6		6			8			4	4
Permitted Phases	5	2	6		6			8			4	4
Actuated Green, G (s)	36.5	36.5	25.9		25.9			27.0			27.0	74.5
Effective Green, g (s)	36.5	36.5	25.9		25.9			27.0			27.0	74.5
Actuated g/C Ratio	0.49	0.49	0.35		0.35			0.36			0.36	1.00
Clearance Time (s)	5.5	5.5			5.5			5.5			5.5	
Vehicle Extension (s)	3.0	8.0			8.0			4.0			4.0	
Lane Grp Cap (vph)	280	1743			1101			626			648	1599
v/s Ratio Prot	c0.06	0.20			0.24			c0.09			0.06	0.15
v/s Ratio Perm	c0.36				0.70			0.25			0.16	0.15
v/c Ratio	0.86	0.41			0.70			0.25			0.16	0.15
Uniform Delay, d1	14.8	12.1			21.0			16.6			16.0	0.0
Progression Factor	1.01	0.93			1.00			1.00			1.00	1.00
Incremental Delay, d2	19.7	0.6			3.8			0.3			0.2	0.2
Delay (s)	34.7	11.9			24.8			16.9			16.2	0.2
Level of Service	C	B			C			B			B	A
Approach Delay (s)	17.6				24.8			16.9			5.0	
Approach LOS	B				C			B			A	
Intersection Summary												
HCM Average Control Delay	18.1											
HCM Volume to Capacity ratio	0.57											
Actuated Cycle Length (s)	74.5											
Intersection Capacity Utilization	71.0%											
Analysis Period (min)	15											
c Critical Lane Group												

Timings 15: E College Ave & Arcadia Ave Future SAT 2023 Phase IV 7/12/2012

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	4T	4T	4T	4T	4T	4T	4T	4T	4T
Volume (vph)	543	413	30	439	29	269	249	306	469
Turn Type	pm+pt	pm+pt	Perm	Perm	Perm	pm+pt	pm+pt	Free	Free
Protected Phases	5	2	6	6	4	4	3	8	Free
Permitted Phases	5	2	6	6	4	4	3	8	Free
Switch Phase	5	2	6	6	4	4	3	8	Free
Minimum Initial (s)	5.0	15.0	15.0	15.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	9.4	31.0	21.0	21.0	12.8	12.8	12.7	34.8	0.0
Total Split (s)	12.0	35.2	23.2	23.2	19.4	19.4	15.4	34.8	0.0
Total Split (%)	17.1%	50.3%	33.1%	33.1%	27.7%	27.7%	22.0%	49.7%	0.0%
Yellow Time (s)	3.0	3.6	3.6	3.6	3.1	3.1	3.0	3.1	3.1
All-Red Time (s)	1.4	2.4	2.4	2.4	2.7	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.4	6.0	6.0	6.0	5.8	5.8	5.7	5.8	4.0
Lead/Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	C-Min	None	None	None	None	None
Act Effect Green (s)	31.6	30.0	17.1	17.1	12.9	28.3	28.2	70.0	0.0
Actuated g/c Ratio	0.45	0.43	0.24	0.24	0.18	0.40	0.40	1.00	0.00
v/c Ratio	0.87	0.33	0.17	0.80	0.76	0.67	0.44	0.30	0.30
Control Delay	31.0	13.5	23.3	28.5	35.7	17.6	13.3	0.3	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.0	13.5	23.3	28.5	35.7	17.6	13.3	0.3	0.3
LOS	C	B	C	C	D	D	B	A	A
Approach Delay	22.8	C	C	C	35.7	35.7	8.5	A	A
Approach LOS	C	C	C	C	D	D	A	A	A



HCM Signalized Intersection Capacity Analysis 15: E College Ave & Arcadia Ave Future SAT 2023 Phase IV 7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	4T	4T	4T	4T	4T	4T	4T	4T	4T	4T	4T	4T
Volume (vph)	543	413	42	439	239	239	29	269	31	249	306	469
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0	6.0	6.0	6.0	6.0	5.8	5.8	5.7	5.8	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.95	1.00	0.95	0.98	0.98	1.00	0.95	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.98	0.98	1.00	0.95	1.00	0.85
Satd. Flow (prot)	3502	3546	1805	3424	3424	3424	3525	3525	1805	1900	1615	1615
Flt Permitted	0.19	1.00	0.47	1.00	0.47	1.00	0.84	0.84	0.29	1.00	1.00	1.00
Satd. Flow (perm)	686	3546	888	3424	888	3424	2975	2975	546	1900	1615	1615
Peak-hour factor, PHF	0.96	0.93	0.71	0.81	0.89	0.93	0.46	0.85	0.67	0.95	0.92	0.96
Adj. Flow (vph)	566	444	59	37	493	257	63	316	46	262	333	489
RTOR Reduction (vph)	0	14	0	0	96	0	0	13	0	0	0	0
Lane Group Flow (vph)	566	489	0	37	654	0	0	412	0	262	333	489
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	2	2	Perm	6	6	Perm	4	4	pm+pt	3	8
Protected Phases	5	2	2	Perm	6	6	Perm	4	4	pm+pt	3	8
Permitted Phases	5	2	2	Perm	6	6	Perm	4	4	pm+pt	3	8
Actuated Green, G (s)	30.0	30.0	30.0	17.1	17.1	17.1	12.9	28.2	28.2	28.2	70.0	70.0
Effective Green, g (s)	30.0	30.0	30.0	17.1	17.1	17.1	12.9	28.2	28.2	28.2	70.0	70.0
Actuated g/c Ratio	0.43	0.43	0.43	0.24	0.24	0.24	0.18	0.40	0.40	0.40	1.00	1.00
Clearance Time (s)	4.4	6.0	6.0	6.0	6.0	6.0	5.8	5.7	5.8	5.7	5.8	5.8
Vehicle Extension (s)	3.5	5.0	5.0	5.0	5.0	5.0	3.0	3.0	3.5	3.5	3.5	3.5
Lane Grp Cap (vph)	636	1520	217	836	836	836	548	548	383	765	1615	1615
v/s Ratio Prot	0.11	0.14	0.04	0.17	0.78	0.78	0.14	0.14	0.09	0.18	0.30	0.30
v/s Ratio Perm	0.27	0.32	0.32	0.17	0.78	0.78	0.75	0.75	0.67	0.44	0.30	0.30
v/c Ratio	0.89	0.32	0.32	0.17	0.78	0.78	0.75	0.75	0.67	0.44	0.30	0.30
Uniform Delay, d1	15.5	13.3	13.3	20.9	24.7	27.0	27.0	27.0	15.2	15.1	0.0	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.78	0.79	1.00	1.00
Incremental Delay, d2	14.6	0.6	0.6	1.7	7.2	7.2	5.8	5.8	2.8	0.3	0.3	0.3
Delay (s)	30.1	13.8	13.8	22.6	31.9	34.2	32.8	32.8	14.7	12.3	0.3	0.3
Level of Service	C	B	B	C	C	C	C	C	B	B	A	A
Approach Delay (s)	22.4	C	C	31.5	C	C	32.8	C	7.5	A	A	A
Approach LOS	C	C	C	C	C	C	C	C	A	A	A	A

Intersection Summary												
HCM Average Control Delay	21.0	HCM Level of Service	C									
HCM Volume to Capacity ratio	0.71											
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	10.1									
Intersection Capacity Utilization	79.0%	ICU Level of Service	D									
Analysis Period (min)	15											

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
16: Katie Kerr Dr & S Columbia Dr

Future SAT 2023 Phase IV
7/12/2012

Movement	WBL	WBR	NBL	NBR	SBL	SBR
Lane Configurations						
Volume (vph)	238	32	320	189	26	329
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0		5.0		5.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Flt	0.96	0.96	0.95	0.88		
Flt Protected	0.96		0.97	1.00		
Satd. Flow (prot)	1788		1751	1659		
Flt Permitted	0.96		0.97	1.00		
Satd. Flow (perm)	1788		1751	1659		
Peak-hour factor, PHF	0.89	0.79	0.87	0.91	0.70	0.89
Adj. Flow (vph)	267	41	368	208	37	370
RTOR Reduction (vph)	9	0	30	0	311	0
Lane Group Flow (vph)	299	0	546	0	96	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type						
Protected Phases	8		2		6	
Permitted Phases						
Actuated Green, G (s)	12.9		16.2		8.4	
Effective Green, g (s)	12.9		16.2		8.4	
Actuated g/C Ratio	0.25		0.31		0.16	
Clearance Time (s)	5.0		5.0		5.0	
Vehicle Extension (s)	3.0		3.0		3.0	
Lane Grp Cap (vph)	439		540		265	
v/s Ratio Prot	c0.17		c0.31		c0.06	
v/s Ratio Perm						
v/c Ratio	0.68		1.01		0.36	
Uniform Delay, d1	17.9		18.2		19.7	
Progression Factor	1.00		1.00		1.00	
Incremental Delay, d2	4.3		41.3		0.8	
Delay (s)	22.3		59.5		20.5	
Level of Service	C		E		C	
Approach Delay (s)	22.3		59.5		20.5	
Approach LOS	C		E		C	
Intersection Summary						
HCM Average Control Delay			38.3	HCM Level of Service		D
HCM Volume to Capacity ratio			0.75			
Actuated Cycle Length (s)			52.5	Sum of lost time (s)		15.0
Intersection Capacity Utilization			78.7%	ICU Level of Service		D
Analysis Period (min)			15			
c Critical Lane Group						

5:00 pm Baseline

HCM Signalized Intersection Capacity Analysis
17: W College Ave & Commerce Dr

Future SAT 2023 Phase IV
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4TB		4TB			4TB			4TB	
Volume (vph)	37	771	26	76	742	146	76	195	86	132	223
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7			5.7		5.2			5.2	
Lane Util. Factor		0.95			0.95		0.95			0.95	
Frb. ped/bikes		1.00			1.00		0.99			1.00	
Flb. ped/bikes		1.00			1.00		1.00			1.00	
Frt		0.99			0.98		0.96			0.98	
Flt Protected		1.00			1.00		0.99			0.98	
Satd. Flow (prot)		3577			3498		3396			3463	
Flt Permitted		0.83			0.72		0.68			0.65	
Satd. Flow (perm)		2967			2540		2322			2272	
Peak-hour factor, PHF	0.75	0.97	0.83	0.77	0.98	0.89	0.83	0.87	0.75	0.86	0.94
Adj. Flow (vph)	49	795	31	99	757	164	92	224	115	153	237
RTOR Reduction (vph)	0	2	0	0	12	0	0	33	0	17	0
Lane Group Flow (vph)	0	873	0	0	1008	0	0	398	0	440	0
Conf. Peds. (#/hr)	2	10	9	9	1	10	9	9	1	2	2
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm			Perm		Perm			pm+pt		
Protected Phases	2	2		6	6	4	4	3	8		
Permitted Phases											
Actuated Green, G (s)		60.3		60.3	60.3		28.8		28.8		
Effective Green, g (s)		60.3		60.3	60.3		28.8		28.8		
Actuated g/C Ratio		0.60		0.60	0.60		0.29		0.29		
Clearance Time (s)		5.7		5.7	5.7		5.2		5.2		
Vehicle Extension (s)		5.0		5.0	5.0		4.0		4.0		
Lane Grp Cap (vph)		1789			1532		669		654		
v/s Ratio Prot											
v/s Ratio Perm		0.29		c0.40	0.40		0.17		c0.19		
v/c Ratio		0.49		0.66	0.66		0.60		0.67		
Uniform Delay, d1		11.2		13.1	13.1		30.6		31.4		
Progression Factor		0.76		1.00	1.00		1.00		1.00		
Incremental Delay, d2		0.7		2.2	2.2		1.7		3.0		
Delay (s)		9.2		15.3	15.3		32.3		34.4		
Level of Service		A		B	B		C		C		
Approach Delay (s)		9.2		15.3	15.3		32.3		34.4		
Approach LOS		A		B	B		C		C		
Intersection Summary											
HCM Average Control Delay			19.1	HCM Level of Service		B					
HCM Volume to Capacity ratio			0.66								
Actuated Cycle Length (s)			100.0	Sum of lost time (s)		10.9					
Intersection Capacity Utilization			91.6%	ICU Level of Service		F					
Analysis Period (min)			15								
c Critical Lane Group											

5:00 pm Baseline

HCM Signalized Intersection Capacity Analysis
18: W College Ave & SR 155

Future SAT 2023 Phase IV
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4T			4T			4T			4T	
Volume (vph)	71	575	70	130	475	173	25	279	141	162	315	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	0.99	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	0.99	1.00	1.00	0.85	1.00	0.95	1.00	0.95	1.00	0.98	1.00
Flt	0.98	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00
Flt Protected	0.99	0.95	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3508	1791	1900	1615	1761	1790	1805	1853				
Flt Permitted	0.65	0.26	1.00	1.00	0.54	1.00	0.12	1.00				
Satd. Flow (perm)	2297	497	1900	1615	994	1790	232	1853				
Peak-hour factor, PHF	0.86	0.97	0.86	0.85	0.90	0.85	0.79	0.85	0.87	0.91	0.95	0.82
Adj. Flow (vph)	83	593	81	153	528	204	32	328	162	178	332	48
RTOR Reduction (vph)	0	11	0	0	0	94	0	16	0	0	4	0
Lane Group Flow (vph)	0	746	0	153	528	110	32	474	0	178	376	0
Confl. Peds. (#/hr)	14	20	15	9	9	20	15	9	15	9	14	14
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	2	Perm	6	7	Perm	8	Perm	7	pm+pt	4	4
Protected Phases	2	6	40.0	40.0	13.9	29.1	8	40.0	40.0	13.9	29.1	8
Actuated Green, G (s)	40.0	40.0	40.0	40.0	13.9	29.1	29.1	40.0	40.0	13.9	29.1	40.0
Effective Green, G (s)	40.0	40.0	40.0	40.0	13.9	29.1	29.1	40.0	40.0	13.9	29.1	40.0
Actuated g/C Ratio	0.40	0.40	0.40	0.40	0.14	0.29	0.29	0.48	0.48	0.14	0.29	0.48
Clearance Time (s)	6.0	6.0	6.0	6.0	5.0	6.0	6.0	5.0	6.0	5.0	6.0	6.0
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	919	199	760	224	289	521	330	889				
v/s Ratio Prot	c0.32	0.31	0.28	0.07	0.03	0.03	0.26	c0.07	0.20	0.18	0.18	0.20
v/s Ratio Perm	0.81	0.77	0.69	0.49	0.11	0.91	0.54	0.42	0.42	0.54	0.42	0.42
Uniform Delay, d1	26.7	26.0	24.9	39.8	26.0	34.2	19.0	17.0	17.0	34.2	19.0	17.0
Progression Factor	0.79	1.30	1.26	0.75	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.9	20.2	4.2	2.8	0.4	20.7	3.1	0.7	0.7	20.7	3.1	0.7
Delay (s)	28.0	53.8	35.6	32.8	26.3	54.9	22.1	17.6	17.6	54.9	22.1	17.6
Level of Service	C	D	D	C	C	D	C	D	C	D	C	B
Approach Delay (s)	28.0		38.1		53.1		19.1		19.1		19.1	
Approach LOS	C		D		D		B		B		B	
Intersection Summary												
HCM Average Control Delay	34.3											
HCM Volume to Capacity ratio	0.80											
Actuated Cycle Length (s)	100.0											
Intersection Capacity Utilization	98.6%											
Analysis Period (min)	15											
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
19: W College Ave & McDonough St

Future SAT 2023 Phase IV
7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4T			4T			4T			4T	
Volume (vph)	34	414	26	65	362	54	12	112	144	165	127	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	16	12	12	12	12	11	11	11	11	11	11
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	0.97	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	0.99	1.00	0.99	1.00	1.00	1.00	1.00
Flt	1.00	0.99	1.00	1.00	0.97	1.00	0.91	1.00	0.91	1.00	0.95	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95
Satd. Flow (prot)	1800	2117	1794	1843	1720	1637	1745	1738				
Flt Permitted	0.31	1.00	0.35	1.00	0.62	1.00	0.29	1.00				
Satd. Flow (perm)	594	2117	654	1843	1130	1637	531	1738				
Peak-hour factor, PHF	0.55	0.96	0.64	0.78	0.87	0.59	0.87	0.84	0.96	0.85	0.72	0.72
Adj. Flow (vph)	62	431	41	83	416	92	14	129	171	172	149	65
RTOR Reduction (vph)	0	3	0	0	8	0	0	48	0	0	15	0
Lane Group Flow (vph)	62	469	0	83	500	0	14	252	0	172	199	0
Confl. Peds. (#/hr)	6	9	7	4	9	7	4	7	4	7	4	6
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	2	Perm	6	6	pm+pt	3	8	pm+pt	7	4	4
Protected Phases	2	6	45.3	45.3	24.6	23.6	42.7	36.7	42.7	36.7	36.7	36.7
Actuated Green, G (s)	45.3	45.3	45.3	45.3	24.6	23.6	42.7	36.7	42.7	36.7	36.7	36.7
Effective Green, g (s)	45.3	45.3	45.3	45.3	24.6	23.6	42.7	36.7	42.7	36.7	36.7	36.7
Actuated g/C Ratio	0.45	0.45	0.45	0.45	0.25	0.24	0.43	0.37	0.43	0.37	0.37	0.37
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Vehicle Extension (s)	5.0	5.0	5.0	5.0	5.0	5.0	3.0	3.5	3.5	3.5	4.0	4.0
Lane Grp Cap (vph)	269	959	296	835	284	386	388	638				
v/s Ratio Prot	0.10	0.22	0.13	0.13	0.01	0.01	0.12	0.11	0.12	0.11	0.11	0.11
v/s Ratio Perm	0.23	0.49	0.28	0.60	0.05	0.05	0.43	0.31	0.43	0.31	0.31	0.31
Uniform Delay, d1	16.7	19.2	17.1	20.5	28.7	34.5	19.4	22.6	22.6	19.4	22.6	22.6
Progression Factor	1.00	1.00	1.50	1.58	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.0	1.8	2.0	2.7	0.1	0.1	0.9	0.4	0.4	0.9	0.4	0.4
Delay (s)	18.7	21.0	27.7	35.3	28.7	38.6	20.3	23.0	23.0	20.3	23.0	23.0
Level of Service	B	C	C	D	C	D	C	C	C	C	C	C
Approach Delay (s)	20.7		34.2		38.2		21.8		21.8		21.8	
Approach LOS	C		D		D		C		C		C	
Intersection Summary												
HCM Average Control Delay	28.3											
HCM Volume to Capacity ratio	0.59											
Actuated Cycle Length (s)	100.0											
Intersection Capacity Utilization	73.5%											
Analysis Period (min)	15											
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
20: Driveway & Dekalb Industrial Way

Future SAT 2023 Phase IV
7/12/2012

Movement	EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR	NWL	NWR
Lane Configurations	W		1	1	1	1	1	1	1	1
Volume (vph)	1	0	1	622	19	157	620	0	4	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.6	5.6	4.0	5.6	5.6	5.6	5.5	4.0	5.5
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00	0.85	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1805	1805	3610	1615	1805	3610	1615	1805	1805	1615
Flt Permitted	1.00	0.41	1.00	1.00	0.33	1.00	0.33	1.00	0.95	1.00
Satd. Flow (perm)	1900	772	3610	1615	624	3610	1615	1805	1805	1615
Peak-hour factor, PHF	0.92	0.92	0.25	0.91	0.64	0.94	0.96	0.92	0.42	0.92
Adj. Flow (vph)	1	0	4	684	30	167	646	0	10	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	1	0	4	684	30	167	646	0	10	191
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	pm+pt	Free	Free	pm+pt	pm+pt	Free	Perm	Perm	Free
Protected Phases	8	2	2	25.5	48.6	35.6	30.2	8	8	Free
Actuated Green, G (s)	1.0	26.2	25.5	48.6	35.6	30.2	30.2	1.0	48.6	1.0
Effective Green, g (s)	1.0	26.2	25.5	48.6	35.6	30.2	30.2	1.0	48.6	1.0
Actuated g/C Ratio	0.02	0.54	0.52	1.00	0.73	0.62	0.62	0.02	1.00	0.02
Clearance Time (s)	5.5	5.6	5.6	5.6	5.6	5.6	5.6	5.5	5.5	5.5
Vehicle Extension (s)	2.0	2.0	5.0	5.0	2.0	5.0	5.0	2.0	2.0	2.0
Lane Grp Cap (vph)	39	431	1894	1615	588	2243	1615	37	1615	37
v/s Ratio Prot	0.00	0.00	c0.19	0.02	0.18	c0.03	0.18	0.01	c0.12	0.01
v/c Ratio	0.03	0.01	0.36	0.02	0.28	0.29	0.29	0.27	0.12	0.01
Uniform Delay, d1	23.3	5.2	6.8	0.0	2.2	4.2	4.2	23.4	0.0	23.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.0	0.2	0.0	0.1	0.1	0.1	1.4	0.1	0.1
Delay (s)	23.4	5.2	7.0	0.0	2.3	4.4	4.4	24.9	0.1	24.9
Level of Service	C	A	A	A	A	A	A	C	A	A
Approach Delay (s)	23.4		6.7		4.0		4.0		1.4	
Approach LOS	C		A		A		A		A	
Intersection Summary										
HCM Average Control Delay	4.8						HCM Level of Service		A	
HCM Volume to Capacity ratio	0.37									
Actuated Cycle Length (s)	48.6						Sum of lost time (s)		16.8	
Intersection Capacity Utilization	56.1%						ICU Level of Service		B	
Analysis Period (min)	15									
c Critical Lane Group										

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis
21: Dekalb Industrial Way &

Future SAT 2023 Phase IV
7/12/2012

Movement	NBL2	NBL	NBR	SEL	SER	NEL	NET	SWL	SWT	SWR
Lane Configurations	W		1	1	1	1	1	1	1	1
Volume (vph)	42	0	840	1	0	0	1644	48	794	1578
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.4	6.8	6.8	6.5	6.5	6.5	6.6	6.2	6.2
Lane Util. Factor	1.00	1.00	0.88	1.00	0.86	0.86	0.97	0.97	0.91	0.91
Flt Protected	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Permitted	0.95	0.95	1.00	0.95	1.00	0.99	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	1805	2842	1805	6498	3502	5187	3502	5187	5187
Flt Permitted	0.95	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1805	1805	2842	1805	6498	3502	5187	3502	5187	5187
Peak-hour factor, PHF	0.83	0.25	0.90	0.92	0.92	0.92	0.99	0.80	0.96	0.97
Adj. Flow (vph)	51	0	933	1	0	0	1661	60	827	1627
RTOR Reduction (vph)	0	0	487	0	0	0	6	0	0	0
Lane Group Flow (vph)	51	0	446	1	0	0	1715	0	827	1627
Conf. Peds. (#/hr)	3	3	2	2	2	2	3	3	3	3
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Prot	Prot	custom	4	61	Prot	Prot	5	2	2
Protected Phases	8									
Actuated Green, G (s)	8.6		14.9	8.2	30.4		30.4	21.5	37.5	37.5
Effective Green, g (s)	8.6		14.9	8.2	30.4		30.4	21.5	37.5	37.5
Actuated g/C Ratio	0.11		0.19	0.10	0.38		0.38	0.27	0.47	0.47
Clearance Time (s)	6.4		6.4	6.8	6.5		6.5	6.6	6.2	6.2
Vehicle Extension (s)	3.0		3.0	3.0	5.0		5.0	3.0	4.8	4.8
Lane Grp Cap (vph)	194		529	185	2469		2469	941	2431	2431
v/s Ratio Prot	c0.03		0.16	0.00	0.26		0.26	c0.24	c0.31	c0.31
v/c Ratio	0.26		0.84	0.01	0.69		0.69	0.88	0.67	0.67
Uniform Delay, d1	32.8		31.4	32.2	20.9		20.9	28.0	16.4	16.4
Progression Factor	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7		11.7	0.0	1.6		1.6	9.4	1.5	1.5
Delay (s)	33.5		43.1	32.2	22.5		22.5	37.4	17.9	17.9
Level of Service	C		D	C	C		C	D	B	B
Approach Delay (s)	42.6		32.2		22.5		22.5		24.5	
Approach LOS	D		C		C		C		C	
Intersection Summary										
HCM Average Control Delay	27.3						HCM Level of Service		C	
HCM Volume to Capacity ratio	0.72									
Actuated Cycle Length (s)	80.0						Sum of lost time (s)		19.2	
Intersection Capacity Utilization	80.2%						ICU Level of Service		D	
Analysis Period (min)	15									
i Phase conflict between lane groups.										
c Critical Lane Group										

5:00 pm Baseline

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis
 22: W College Ave & Clarendon Ave
 Future SAT 2023 Phase IV
 7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Volume (vph)	159	382	27	6	366	203	56	152	2	246	180	129
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.5	4.0	5.5	5.5	5.5	5.6	5.6	5.6	5.6	5.6	5.6
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt Protected	0.95	1.00	1.00	0.95	1.00	0.94	1.00	0.99	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	1900	1615	1805	1787	1787	1805	1887	1805	1887	1775	1775
Flt Permitted	0.12	1.00	1.00	0.53	1.00	0.35	1.00	0.35	1.00	0.62	1.00	1.00
Satd. Flow (perm)	231	1900	1615	998	1787	1787	662	1887	1779	1779	1775	1775
Peak-hour factor, PHF	0.66	0.95	0.81	0.25	0.93	0.79	0.82	0.92	0.25	0.88	0.94	0.86
Adj. Flow (vph)	241	402	33	24	394	257	68	165	8	280	191	150
RTOR Reduction (vph)	0	0	0	0	28	0	0	2	0	0	30	0
Lane Group Flow (vph)	241	402	33	24	623	0	68	171	0	280	311	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm-plt	Free	Free	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	5	2	Free	6	6	4	4	4	8	8	8	8
Permitted Phases	2	Free	6	6	35.1	35.1	23.9	23.9	23.9	23.9	23.9	23.9
Actuated Green, G (s)	51.0	51.0	86.0	35.1	35.1	35.1	23.9	23.9	23.9	23.9	23.9	23.9
Effective Green, g (s)	51.0	51.0	86.0	35.1	35.1	35.1	23.9	23.9	23.9	23.9	23.9	23.9
Actuated g/C Ratio	0.59	0.59	1.00	0.41	0.41	0.41	0.28	0.28	0.28	0.28	0.28	0.28
Clearance Time (s)	5.3	5.5	5.5	5.5	5.5	5.5	5.6	5.6	5.6	5.6	5.6	5.6
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	331	1127	1615	407	729	184	524	328	493	328	493	493
v/s Ratio Prot	c0.09	0.21	0.02	0.02	c0.35	0.10	0.09	0.09	0.18	c0.24	0.18	0.18
v/s Ratio Perm	0.34	0.36	0.02	0.06	0.85	0.37	0.33	0.33	0.85	0.63	0.63	0.63
v/c Ratio	0.73	0.90	0.00	0.02	1.54	0.23	0.25	0.24	0.25	0.29	0.27	0.27
Uniform Delay, d1	15.9	9.0	0.00	15.4	23.1	23.1	25.0	24.7	29.4	27.2	27.2	27.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.8	0.9	0.00	0.3	12.2	1.3	0.4	18.9	2.6	18.9	2.6	2.6
Delay (s)	23.6	9.9	0.00	15.7	35.3	26.2	25.0	48.3	29.8	48.3	29.8	29.8
Level of Service	C	A	A	B	D	C	C	C	D	D	C	C
Approach Delay (s)	14.3	34.6	25.4	38.1	38.1	38.1	38.1	38.1	38.1	38.1	38.1	38.1
Approach LOS	B	C	C	D	D	D	D	D	D	D	D	D
Intersection Summary												
HCM Average Control Delay	28.4											
HCM Volume to Capacity ratio	0.84											
Actuated Cycle Length (s)	86.0											
Intersection Capacity Utilization	82.0%											
Analysis Period (min)	15											
Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis
 23: Clarendon Ave & Laredo Dr
 Future SAT 2023 Phase IV
 7/12/2012

Movement	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Volume (veh/h)	205	334	316	44	39	306
Sign Control	Free	Free	Free		Sop	
Grade		0%	0%		0%	
Peak Hour Factor	0.87	0.95	0.95	0.83	0.67	0.96
Hourly flow rate (vph)	236	352	333	53	58	319
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)		545				
pX, platoon unblocked						
vC, conflicting volume	386			1182	359	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	386			1182	359	
IC, single (s)	4.1			6.4	6.2	
IC, 2 stage (s)						
IF (s)	2.2			3.5	3.3	
p0 queue free %	80			66	54	
dM capacity (veh/h)	1184			169	690	
Direction, Lane #	NB 1	NB 2	SB 1	SE 1		
Volume Total	236	352	386	377		
Volume Left	236	0	0	58		
Volume Right	0	0	53	319		
cSH	1184	1700	1700	468		
Volume to Capacity	0.20	0.21	0.23	0.81		
Queue Length 95th (ft)	19	0	0	187		
Control Delay (s)	8.8	0.0	0.0	37.5		
Lane LOS	A		E	E		
Approach Delay (s)	3.5	0.0	0.0	37.5		
Approach LOS	E		E	E		
Intersection Summary						
Average Delay	12.0					
Intersection Capacity Utilization	61.7%					
Analysis Period (min)	15					
	B					

HCM Unsignalized Intersection Capacity Analysis
 24: E Ponce De Leon & Annie St

Future SAT 2023 Phase IV
 7/12/2012

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4P		4P				4P			4P	
Volume (veh/h)	9	1021	7	2	1011	59	7	0	2	66	0	6
Sign Control		Free		Free			Stop	Stop			Stop	
Grade		0%		0%			0%	0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	10	1110	8	2	1099	64	8	0	2	72	0	7
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		319										
pX, platoon unblocked												
vC, conflicting volume	1163			0.91	0.91	0.91	1693	2301	559	1712	2272	582
vC1, stage 1 conf vol				1117								
vC2, stage 2 conf vol												
vC3, unblocked vol	1163			933			1566	2232	320	1586	2201	582
IC, single (s)	4.6			4.1			7.5	6.5	6.9	7.5	6.5	7.3
IC, 2 stage (s)												
ICF (s)	2.4			2.2			3.5	4.0	3.3	3.5	4.0	3.5
p0 queue free %	98			100			89	100	100	0	100	98
cM capacity (veh/h)	481			676			68	39	621	66	40	414
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1						
Volume Total	565	562	552	614	10	78						
Volume Left	10	0	2	0	8	72						
Volume Right	0	8	0	64	2	7						
cSH	481	1700	676	1700	84	71						
Volume to Capacity	0.02	0.33	0.00	0.36	0.12	1.10						
Queue Length 95th (ft)	2	0	0	0	9	147						
Control Delay (s)	0.6	0.0	0.1	0.0	53.3	238.7						
Lane LOS	A	A	A	F	F	F						
Approach Delay (s)	0.3	0.0	0.0	53.3	238.7	F						
Approach LOS				F	F	F						
Intersection Summary												
Average Delay	8.2											
Intersection Capacity Utilization	46.1%											
Analysis Period (min)	15											
	ICU Level of Service											
	A											

HCM Signalized Intersection Capacity Analysis
 25: E Ponce De Leon & Off Ramp 285

Future SAT 2023 Phase IV
 7/12/2012

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		4P				
Volume (veh/h)	399	627	332	288	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0	5.0			
Lane Util. Factor	1.00	1.00	0.95			
Flt Protected	0.95	1.00	1.00			
Satd. Flow (prot)	1752	1863	3331			
Flt Permitted	0.28	1.00	1.00			
Satd. Flow (perm)	512	1863	3331			
Peak-hour factor, PHF	0.93	0.95	0.97	0.90	0.92	0.92
Adj. Flow (vph)	429	660	342	320	0	0
RTOR Reduction (vph)	0	0	191	0	0	0
Lane Group Flow (vph)	429	660	471	0	0	0
Heavy Vehicles (%)	3%	2%	1%	0%	0%	0%
Turn Type	pm+pt					
Protected Phases	1	6	2			
Permitted Phases	6					
Actuated Green, G (s)	47.3	47.3	32.3			
Effective Green, g (s)	47.3	47.3	32.3			
Actuated g/C Ratio	0.59	0.59	0.40			
Clearance Time (s)	5.0	5.0	5.0			
Vehicle Extension (s)	3.0	5.0	5.0			
Lane Grp Cap (vph)	458	1101	1345			
v/s Ratio Prot	c0.12	0.35	0.14			
v/s Ratio Perm	c0.44					
v/c Ratio	0.94	0.60	0.35			
Uniform Delay, d1	11.5	10.4	16.6			
Progression Factor	1.16	0.95	1.00			
Incremental Delay, d2	22.0	1.8	0.7			
Delay (s)	35.2	11.7	17.3			
Level of Service	D	B	B			
Approach Delay (s)	21.0	17.3	0.0			
Approach LOS	C	B	A			
Intersection Summary						
HCM Average Control Delay	19.6					
HCM Volume to Capacity ratio	0.90					
Actuated Cycle Length (s)	80.0					
Intersection Capacity Utilization	89.5%					
Analysis Period (min)	15					
c Critical Lane Group	E					

HCM Unsignalized Intersection Capacity Analysis
26: Church St & Off Ramp 285

Future SAT 2023 Phase IV
7/12/2012

Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	EBT	EBR	WBL	WBT	NBL	NBR	
Volume (veh/h)	267	0	0	386	271	188	
Sign Control	Free	Free	Free	Stop	Stop	Stop	
Grade	0%	0%	0%	0%	0%	0%	
Peak Hour Factor	0.86	0.92	0.92	0.94	0.91	0.90	
Hourly flow rate (vph)	310	0	0	411	298	209	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	None						
Median storage (veh)							
Upstream signal (ft)							
pX platoon unblocked							
vC conflicting volume	310	721	310				
vC1 stage 1 conf vol							
vC2 stage 2 conf vol							
vCu unblocked vol	310	721	310				
IC single (s)	4.1	6.4	6.2				
IC 2 stage (s)							
IF (s)	2.2	3.5	3.3				
pO queue free %	100	25	72				
cM capacity (veh/h)	1261	397	734				
Direction, Lane #	EB 1	WB 1	NB 1	NB 2			
Volume Total	310	411	298	209			
Volume Left	0	0	288	0			
Volume Right	0	0	0	209			
cSH	1700	1700	397	734			
Volume to Capacity	0.18	0.24	0.75	0.28			
Queue Length 95th (ft)	0	0	151	29			
Control Delay (s)	0.0	0.0	36.7	11.8			
Lane LOS	E	E	B	B			
Approach Delay (s)	0.0	0.0	26.5	D			
Approach LOS							
Intersection Summary							
Average Delay	10.9				ICU Level of Service		
Intersection Capacity Utilization	42.0%				A		
Analysis Period (min)	15						

5:00 pm Baseline

HCM Signalized Intersection Capacity Analysis
27: Valley Brook Rd & Concord Dr

Future SAT 2023 Phase IV
7/12/2012

Movement	NBL2	NBL	NBR	SEL	SER	SER2	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	2	488	238	926	621	2	2	0	5	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.97	0.97	1.00	0.85	1.00	1.00	0.92	0.98	1.00	1.00	1.00
Flt Protected	1.00	0.95	1.00	0.95	1.00	0.85	1.00	0.92	0.98	1.00	1.00	1.00
Satd. Flow (prot)	1805	3388	3502	1615	1615	1708	1708	1708	1708	1708	1708	1708
Flt Permitted	0.41	0.97	0.95	1.00	1.00	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Satd. Flow (perm)	779	3388	3502	1615	1615	1708	1708	1708	1708	1708	1708	1708
Peak-hour factor, PHF	0.92	0.90	0.87	0.95	0.93	0.58	0.75	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	542	274	975	688	3	3	0	5	0	0	0
RTOR Reduction (vph)	0	48	0	0	0	0	0	5	0	0	0	0
Lane Group Flow (vph)	2	768	0	975	671	0	0	3	0	0	0	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%
Turn Type	pm+pt			custom			Perm					
Protected Phases	5	2	1	6	6	8		8				
Permitted Phases	2						8					
Actuated Green, G (s)	24.5	24.0		22.2	45.7			0.9				
Effective Green, g (s)	24.5	24.0		22.2	45.7			0.9				
Actuated g/C Ratio	0.41	0.41		0.38	0.77			0.02				
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	332	1376		1315	1249			26				
v/s Ratio Prot	0.00	0.23		c0.28	c0.42			0.00				
v/s Ratio Perm	0.00			0.74	0.54			0.00				
v/c Ratio	0.01	0.56		0.74	0.54			0.12				
Uniform Delay, d1	10.2	13.5		16.0	2.6			28.7				
Progression Factor	1.00	1.00		1.00	1.00			1.00				
Incremental Delay, d2	0.0	0.5		2.3	0.4			2.0				
Delay (s)	10.2	14.0		18.3	3.0			30.7				
Level of Service	B	B		B	A			C				
Approach Delay (s)	14.0			12.1				30.7			0.0	
Approach LOS	B	B		B				C			A	
Intersection Summary												
HCM Average Control Delay	12.7				HCM Level of Service							
HCM Volume to Capacity ratio	0.60				B							
Actuated Cycle Length (s)	59.1				Sum of lost time (s)							
Intersection Capacity Utilization	61.2%				ICU Level of Service							
Analysis Period (min)	15				B							
c Critical Lane Group												

5:00 pm Baseline

Intersection Sign configuration not allowed in HCM analysis.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	9	0	9	0	0	0	9	0	0	0	0	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95
Flt	1.00	0.85	1.00	0.85	1.00	0.85	1.00	0.85	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1770	3008	1770	3008	1770	3008	1770	3008	1770	3008	1770	3008
Flt Permitted	0.76	1.00	0.76	1.00	0.76	1.00	0.76	1.00	0.76	1.00	0.76	1.00
Satd. Flow (perm)	1410	3008	1410	3008	1410	3008	1410	3008	1410	3008	1410	3008
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	10	0	10	0	0	0	10	0	0	0	0	10
RTOR Reduction (vph)	0	6	0	0	0	0	0	0	0	0	0	6
Lane Group Flow (vph)	10	4	0	0	0	0	0	10	0	0	4	0
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	4	4	4	4	4	4	4	4	4	4	4	4
Permitted Phases	4	4	4	4	4	4	4	4	4	4	4	4
Actuated Green, G (s)	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
Effective Green, g (s)	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
Actuated g/C Ratio	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	564	1203	564	1203	564	1203	564	1203	564	1203	564	1203
v/s Ratio Prot	c0.01	0.00	c0.01	0.00	c0.01	0.00	c0.01	0.00	c0.01	0.00	c0.01	0.00
v/s Ratio Perm	0.02	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02	0.00
Uniform Delay, d1	7.3	7.2	7.3	7.2	7.3	7.2	7.3	7.2	7.3	7.2	7.3	7.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0
Delay (s)	7.3	7.2	7.3	7.2	7.3	7.2	7.3	7.2	7.3	7.2	7.3	7.2
Level of Service	A	A	A	A	A	A	A	A	A	A	A	A
Approach Delay (s)	7.3	7.2	7.3	7.2	7.3	7.2	7.3	7.2	7.3	7.2	7.3	7.2
Approach LOS	A	A	A	A	A	A	A	A	A	A	A	A
Intersection Summary												
HCM Average Control Delay	7.3						HCM Level of Service					
HCM Volume to Capacity ratio	0.02						A					
Actuated Cycle Length (s)	40.0						Sum of lost time (s)					
Intersection Capacity Utilization	17.2%						8.0					
Analysis Period (min)	15						A					
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis
43: DeKalb Industrial Way &

Future SAT 2023 Phase IV
7/12/2012

Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	88	134	707	94	140	688	
Volume (veh/h)	88	134	707	94	140	688	
Sign Control	Stop	Free	Free	Free	Free	Free	
Grade	0%	0%	0%	0%	0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	97	146	768	102	152	748	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type							
Median storage (veh)							
Upstream signal (ft)	0.90	0.90	455		0.90		
pX, platoon unblocked	1498	435			871		
vC, conflicting volume	820						
vC1, stage 1 conf vol							
vC2, stage 2 conf vol	678						
vCu, unblocked vol	1323	137			623		
IC, single (s)	6.8	6.9			4.1		
IC, 2 stage (s)	5.8						
IF (s)	3.5	3.3			2.2		
p0 queue free %	69	82			82		
cM capacity (veh/h)	309	794			855		
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	97	146	512	358	152	374	374
Volume Left	97	0	0	0	152	0	0
Volume Right	0	146	0	102	0	0	0
cSH	309	794	1700	1700	855	1700	1700
Volume to Capacity	0.31	0.18	0.30	0.21	0.18	0.22	0.22
Queue Length 95th (ft)	33	17	0	0	16	0	0
Control Delay (s)	21.9	10.5	0.0	0.0	10.1	0.0	0.0
Lane LOS	C	B	B	B	B	B	
Approach Delay (s)	15.1		0.0		1.7		
Approach LOS	C						

Intersection Summary						
Average Delay		2.6				
Intersection Capacity Utilization		45.2%		ICU Level of Service		A
Analysis Period (min)		15				

HCM Unsignalized Intersection Capacity Analysis
59: W College Ave & S Columbia Dr

Future SAT 2023 Phase IV
7/12/2012

Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	↔↔			↔↔	↔		
Volume (veh/h)	834	52	81	766	0	0	
Sign Control	Free			Free	Stp		
Grade	0%			0%	0%		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	907	57	88	854	0	0	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	None			None			
Median storage (veh)							
Upstream signal (ft)	1136			400			
pX, platoon unblocked			0.92		0.91	0.92	
vC, conflicting volume			963		1538	482	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol			778		986	253	
tC, single (s)			4.1		6.8	6.9	
tC, 2 stage (s)							
tF (s)			2.2		3.5	3.3	
p0 queue free %			88		100	100	
cM capacity (veh/h)			765		198	684	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 1	
Volume Total	604	359	373	570	0	0	
Volume Left	0	0	88	0	0	0	
Volume Right	0	57	0	0	0	0	
cSH	1700	1700	765	1700	1700	1700	
Volume to Capacity	0.36	0.21	0.12	0.34	0.00	0.00	
Queue Length 95th (ft)	0	0	10	0	0	0	
Control Delay (s)	0.0	0.0	3.5	0.0	0.0	0.0	
Lane LOS			A		A	A	
Approach Delay (s)	0.0		1.4		0.0	0.0	
Approach LOS					A	A	
Intersection Summary							

HCM Signalized Intersection Capacity Analysis
 66: Glendale Rd & Church St

Future SAT 2023 Phase IV
 7/12/2012

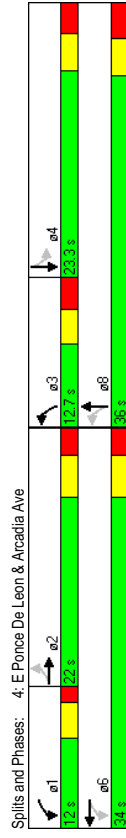
Movement	NBL	NBR	SEL	SER	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	 	 			 	 	 	 	 	 
Volume (vph)	0	0	80	0	0	0	9	0	0	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5									
Lane Util. Factor	1.00									
Frt	1.00									
Flt Protected	0.95									
Satd. Flow (prot)	1770									
Flt Permitted	1.00									
Satd. Flow (perm)	1041									
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	87	0	0	0	10	0	0	91
RTOR Reduction (vph)	0	0	0	0	0	5	0	0	42	0
Lane Group Flow (vph)	0	0	87	0	0	5	0	0	49	0
Turn Type	custom Perm									
Protected Phases	4	3	8	2	2	2	6	6	6	6
Permitted Phases	8									
Actuated Green, G (s)	28.4									
Effective Green, g (s)	28.4									
Actuated g/C Ratio	0.32									
Clearance Time (s)	5.5									
Vehicle Extension (s)	3.0									
Lane Grp Cap (vph)	388									
v/s Ratio Prot	c0.02									
v/s Ratio Perm	c0.05									
v/c Ratio	0.22									
Uniform Delay, d1	22.3									
Progression Factor	1.20									
Incremental Delay, d2	0.3									
Delay (s)	27.1									
Level of Service	C									
Approach Delay (s)	27.1									
Approach LOS	C									
Intersection Summary										
HCM Average Control Delay	17.9									
HCM Volume to Capacity ratio	0.11									
Actuated Cycle Length (s)	90.0									
Intersection Capacity Utilization	26.7%									
Analysis Period (min)	15									
Critical Lane Group	HCM Level of Service									
B										
Sum of lost time (s)										
12.0										
A										
ICU Level of Service										
A										
Critical Lane Group										

HCM Signalized Intersection Capacity Analysis
 73: E Ponce De Leon &

Future SAT 2023 Phase IV
 7/12/2012

Movement	NBL	NBR	SEL	SER	SWL	SWR
Lane Configurations	W	W	W	W	W	W
Volume (vph)	396	535	89	178	757	94
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	0.88	1.00	1.00	0.97	1.00
Frt	1.00	0.85	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3433	2787	1770	1583	3433	1583
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3433	2787	1770	1583	3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	430	582	97	193	823	102
RTOR Reduction (vph)	0	349	0	42	0	61
Lane Group Flow (vph)	430	233	97	151	823	41
Turn Type	Perm Perm					
Protected Phases	2i	6i	6i	8	8	8
Permitted Phases	2					
Actuated Green, G (s)	16.0	16.0	16.0	16.0	16.0	16.0
Effective Green, g (s)	16.0	16.0	16.0	16.0	16.0	16.0
Actuated g/C Ratio	0.40	0.40	0.40	0.40	0.40	0.40
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	1373	1115	708	633	1373	633
v/s Ratio Prot	c0.13	0.05	0.05	c0.24	0.03	0.03
v/s Ratio Perm	0.08	0.21	0.14	0.24	0.80	0.06
Uniform Delay, d1	8.2	7.9	7.6	8.0	9.5	7.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.6	0.4	0.4	0.9	1.9	0.2
Delay (s)	8.8	8.3	8.0	8.8	11.4	7.6
Level of Service	A	A	A	A	B	A
Approach Delay (s)	8.5	8.6	8.6	11.0		
Approach LOS	A	A	A	B		
Intersection Summary						
HCM Average Control Delay	9.5					
HCM Volume to Capacity ratio	0.46					
Actuated Cycle Length (s)	40.0					
Intersection Capacity Utilization	47.8%					
Analysis Period (min)	15					
i Phase conflict between lane groups.						
c Critical Lane Group						

Timings
4: E Ponce De Leon & Arcadia Ave
Future SAT 2023 Phase IV with Recommendations
7/12/2012

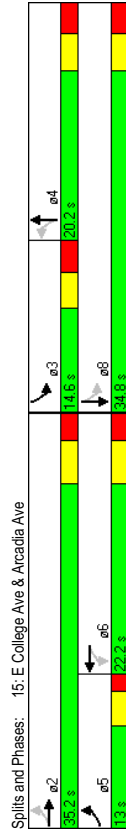
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HCM Signalized Intersection Capacity Analysis
4: E Ponce De Leon & Arcadia Ave

Movement	EBL	EBS	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗		↖	↗	↖↗
Volume (vph)	108	295	107	419	322	14	88	518	454	16	527	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	4.4	6.0	4.4	6.0	5.7	6.2	5.8	5.8	4.0	4.0
Lane Util. Factor	1.00	0.95	0.97	0.95	1.00	1.00	1.00	0.95	1.00	0.95	1.00	0.99
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00	0.99
Frbp, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.92	1.00	1.00	1.00	0.85
Frt	1.00	0.96	1.00	0.99	1.00	1.00	1.00	0.92	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	0.95
Satd. Flow (prot)	1798	3417		3664	3545		1804	3288	1803	3610	1593	
Flt Permitted	0.53	1.00	0.34	1.00	0.34	1.00	0.26	1.00	0.23	1.00	1.00	0.23
Satd. Flow (perm)	1011	3417		1245	3545		502	3288	443	3610	1593	
Peak-hour factor, PHF	0.89	0.93	0.87	0.94	0.93	0.73	0.87	0.96	0.80	0.75	0.95	0.86
Adj. Flow (vph)	121	317	123	446	346	19	101	540	568	21	555	145
RTOR Reduction (vph)	0	58	0	0	5	0	0	267	0	0	0	0
Lane Group Flow (vph)	121	382	0	446	360	0	101	841	0	21	555	145
Conf. Peds. (#/hr)	5		4	3		4	4		3	4		5
Heavy Vehicles (%)	0%	1%	0%	1%	1%	0%	0%	0%	1%	0%	0%	0%
Turn Type	Perm	2		pm+pt			pm+pt		Perm		Free	Free
Protected Phases				1	6		3	8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G(s)	16.0	16.0		28.0	28.0		29.8	29.8		18.9	18.9	70.0
Effective Green, g(s)	16.0	16.0		28.0	28.0		29.8	29.8		18.9	18.9	70.0
Actuated g/C Ratio	0.23	0.23		0.40	0.40		0.43	0.43		0.27	0.27	1.00
Clearance Time (s)	6.0	6.0		4.4	6.0		5.7	6.2		5.8	5.8	
Vehicle Extension (s)	5.0	5.0		3.5	5.0		3.5	3.5		3.0	3.0	
Lane Grp Cap (vph)	231	781		739	1418		318	1400		120	975	1593
v/s Ratio Prot	0.11			c0.07	0.10		0.03	c0.26		0.15		
v/s Ratio Perm	0.12			c0.18			0.11			0.05		
v/c Ratio	0.52	0.49		0.60	0.25		0.32	0.60		0.18	0.57	0.09
Uniform Delay, d1	23.7	23.5		14.8	14.0		13.0	15.5		19.6	22.0	0.0
Progression Factor	1.00	1.00		1.00	1.00		0.94	0.70		1.00	1.00	1.00
Incremental Delay, d2	8.3	2.2		1.5	0.4		0.4	1.3		3.2	2.4	0.1
Delay (s)	31.9	25.6		16.3	14.5		11.4	12.2		22.7	24.4	0.1
Level of Service	C	C		B	B		B	B		C	C	A
Approach Delay (s)		27.0		15.5				12.1		19.5		
Approach LOS		C		B				B		B		

Timings
Future SAT 2023 Phase IV with Recommendations
15: E College Ave & Arcadia Ave

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	4T	4T	4T	4T	4T	4T	4T	4T	4T
Volume (vph)	543	413	30	439	29	269	249	306	469
Turn Type	pm+pt	pm+pt	Perm	Perm	Perm	pm+pt	pm+pt	Free	Free
Protected Phases	5	2	6	6	4	4	3	8	8
Permitted Phases	2	6	6	6	4	4	8	8	8
Switch Phase	5	2	6	6	4	4	3	8	8
Minimum Initial (s)	5.0	15.0	15.0	15.0	7.0	7.0	7.0	7.0	7.0
Minimum Split (s)	9.4	31.0	21.0	12.8	12.8	12.7	34.8	34.8	0.0
Total Split (s)	13.0	35.2	22.2	20.2	20.2	14.6	34.8	34.8	0.0
Total Split (%)	18.6%	50.3%	31.7%	31.7%	28.9%	20.9%	49.7%	49.7%	0.0%
Yellow Time (s)	3.0	3.6	3.6	3.6	3.1	3.1	3.0	3.1	3.1
All-Red Time (s)	1.4	2.4	2.4	2.4	2.7	2.7	2.7	2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.4	6.0	6.0	6.0	5.8	5.8	5.7	5.8	4.0
Lead/Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimizer?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	C-Min	None	None	None	None	None	None
Act Effect Green (s)	31.9	30.3	16.6	16.6	13.3	28.0	27.9	70.0	70.0
Actuated g/c Ratio	0.46	0.43	0.24	0.24	0.19	0.40	0.40	1.00	1.00
v/c Ratio	0.82	0.33	0.18	0.83	0.73	0.69	0.44	0.30	0.30
Control Delay	25.4	13.4	24.2	30.9	33.6	20.4	12.5	0.4	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.4	13.4	24.2	30.9	33.6	20.4	12.5	0.4	0.4
LOS	C	B	C	C	C	C	C	B	A
Approach Delay	19.8	30.6	30.6	33.6	33.6	33.6	9.0	A	A
Approach LOS	B	C	C	C	C	C	A	A	A
Intersection Summary									
Cycle Length: 70									
Actuated Cycle Length: 70									
Offset: 0 (0%), Referenced to phase 2EBTL and 6:WBT, Start of Green									
Natural Cycle: 70									
Control Type: Actuated-Coordinated									
Maximum v/c Ratio: 0.83									
Intersection Signal Delay: 20.6									
Intersection Capacity Utilization 79.0%									
Analysis Period (min) 15									



HCM Signalized Intersection Capacity Analysis
15: E College Ave & Arcadia Ave

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	4T	4T	4T	4T	4T	4T	4T	4T	4T	4T	4T	4T
Volume (vph)	543	413	42	30	439	239	29	269	31	249	306	469
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.4	6.0	6.0	6.0	6.0	6.0	5.8	5.8	5.7	5.8	4.0	4.0
Lane Util. Factor	0.97	0.95	1.00	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00
Flt Protected	1.00	0.98	1.00	0.95	1.00	0.95	0.98	1.00	1.00	1.00	0.85	0.85
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	0.98	1.00	1.00	1.00	0.95	0.95
Satd. Flow (prot)	3502	3546	1805	3424	3525	3525	1805	1805	1805	1805	1615	1615
Satd. Flow (perm)	702	3546	888	3424	2973	2973	888	3424	557	1900	1615	1615
Peak-hour factor, PHF	0.96	0.93	0.71	0.81	0.89	0.93	0.46	0.85	0.67	0.95	0.92	0.96
Adj. Flow (vph)	566	444	59	37	493	257	63	316	46	262	333	489
RTOR Reduction (vph)	0	14	0	0	95	0	0	14	0	0	0	0
Lane Group Flow (vph)	566	489	0	37	665	0	0	411	0	262	333	489
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	2	2	Perm	6	Perm	4	4	pm+pt	3	8	Free
Protected Phases	5	2	2	6	6	6	4	4	3	8	Free	Free
Permitted Phases	2	30.3	30.3	16.6	16.6	16.6	13.3	13.3	27.9	27.9	70.0	70.0
Actuated Green, G (s)	30.3	30.3	30.3	16.6	16.6	16.6	13.3	13.3	27.9	27.9	70.0	70.0
Effective Green, g (s)	30.3	30.3	30.3	16.6	16.6	16.6	13.3	13.3	27.9	27.9	70.0	70.0
Actuated g/c Ratio	0.43	0.43	0.43	0.24	0.24	0.24	0.19	0.19	0.40	0.40	1.00	1.00
Clearance Time (s)	4.4	6.0	6.0	6.0	6.0	6.0	5.8	5.8	5.7	5.8	4.0	4.0
Vehicle Extension (s)	3.5	5.0	5.0	5.0	5.0	5.0	3.0	3.0	3.5	3.5	3.5	3.5
Lane Grp Cap (vph)	676	1535	211	812	812	565	381	757	1615	1615	1615	1615
v/s Ratio Prot	c0.11	0.14	0.04	0.18	0.81	0.73	0.69	0.44	0.30	0.30	0.30	0.30
v/s Ratio Perm	0.84	0.32	0.18	0.81	0.81	0.73	0.69	0.44	0.30	0.30	0.30	0.30
v/c Ratio	15.2	13.1	21.3	25.2	26.6	15.4	15.4	15.4	15.4	15.4	15.4	15.4
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	1.00	0.76	0.71	1.00	1.00	1.00	1.00
Progression Factor	9.1	0.5	1.8	8.4	4.7	4.5	0.4	0.4	0.4	0.4	0.4	0.4
Incremental Delay, d2	24.4	13.6	23.1	33.6	31.3	16.2	11.3	0.4	0.4	0.4	0.4	0.4
Delay (s)	C	B	C	C	C	C	B	B	B	B	B	B
Level of Service	C	B	C	C	C	C	B	B	B	B	B	B
Approach Delay (s)	19.3	33.1	33.1	33.1	33.1	33.1	7.6	7.6	7.6	7.6	7.6	7.6
Approach LOS	B	C	C	C	C	C	A	A	A	A	A	A
Intersection Summary												
HCM Average Control Delay	20.3											
HCM Volume to Capacity ratio	0.70											
Actuated Cycle Length (s)	70.0											
Intersection Capacity Utilization	79.0%											
Analysis Period (min)	15											
c Critical Lane Group												

APPENDIX E

Corridor Study Analysis

Arterial Level of Service

Existing PM
7/11/2012

Arterial Level of Service: NB DeKalb Industrial Way

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
E Ponce De Leon	II	30	11.4	13.9	25.3	0.08	11.5	F
DeKalb Industrial Wa	II	30	25.1	0.1	25.2	0.20	28.3	B
N Decatur Rd	II	45	57.5	56.6	114.1	0.72	22.7	C
SR 8	II	45	45.5	0.5	46.0	0.52	40.4	A
Total	II		139.5	71.1	210.6	1.51	25.9	C

Arterial Level of Service: SB DeKalb Industrial Way

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
N Decatur Rd	II	45	45.5	51.1	96.6	0.52	19.3	D
Driveway	II	45	57.5	3.1	60.6	0.72	42.7	A
E Ponce De Leon	II	30	25.1	8.1	33.2	0.20	21.5	D
Total	II		128.1	62.3	190.4	1.43	27.1	C

Arterial Level of Service: EB E College Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Arcadia Ave	III	35	61.2	11.4	72.6	0.51	25.3	B
Total	III		61.2	11.4	72.6	0.51	25.3	B

Arterial Level of Service: WB E College Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Arcadia Ave	III	35	72.8	37.8	110.6	0.71	23.0	C
Total	III		72.8	37.8	110.6	0.71	23.0	C

Arterial Level of Service: NB E Ponce De Leon

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Arcadia Ave	II	40	8.2	37.6	45.8	0.07	5.6	F
DeKalb Industrial Wa	II	40	46.2	10.3	56.5	0.50	31.7	B
Laredo Dr	II	40	39.3	22.3	61.6	0.41	23.9	C
Clarendon Ave	II	40	48.2	11.4	59.6	0.54	32.4	B
N Decatur Rd	II	40	28.0	35.9	63.9	0.25	14.3	E
Valley Brook Rd	II	40	14.0	7.4	21.4	0.12	20.5	D
McLendon Dr	II	40	40.7	9.1	49.8	0.43	30.9	B
Glendale Rd	II	40	8.8	6.4	15.2	0.08	18.1	D
Off Ramp 285	II	40	40.2	11.8	52.0	0.42	29.0	B
On Ramp 285	II	40	8.1	9.8	17.9	0.07	14.2	E
Total	II		281.7	162.0	443.7	2.88	23.4	C

5:00 pm Baseline

Synchro 7 - Report
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Arterial Level of Service

Existing PM
7/11/2012

Arterial Level of Service: WB E Ponce De Leon

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
On Ramp 285	II	40	8.0	9.4	17.4	0.07	14.4	E
Off Ramp 285	II	40	8.1	11.5	19.6	0.07	13.0	E
Glendale Rd	II	40	40.2	5.7	45.9	0.42	32.8	B
McLendon Dr	II	40	8.8	16.6	25.4	0.08	10.8	F
Valley Brook Rd	II	40	40.7	25.8	66.5	0.43	23.2	C
N Decatur Rd	II	40	14.0	21.8	35.8	0.12	12.3	F
Laredo Dr	II	40	28.0	11.1	39.1	0.25	23.4	C
DeKalb Industrial Wa	II	40	48.2	34.2	82.4	0.54	23.4	C
Arcadia Ave	II	40	39.3	16.5	55.8	0.41	26.4	C
Total	II		46.2	21.8	68.0	0.50	26.3	C
Total	II		281.5	174.4	455.9	2.88	22.8	C

Arterial Level of Service: EB N Decatur Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Church StW	III	35	16.7	63.3	80.0	0.12	5.6	F
DeKalb Industrial Wa	III	35	60.0	40.4	100.4	0.50	17.9	D
E Ponce De Leon	III	35	73.6	19.3	92.9	0.72	27.7	B
Church St	III	35	6.4	9.9	16.3	0.04	9.8	F
Total	III		156.7	132.9	289.6	1.38	17.2	D

Arterial Level of Service: WB N Decatur Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Church St	III	35	68.9	25.9	94.8	0.67	25.4	B
E Ponce De Leon	III	35	6.4	15.3	21.7	0.04	7.4	F
DeKalb Industrial Wa	III	35	73.6	39.8	113.4	0.72	22.7	C
Church StW	III	35	60.0	43.4	103.4	0.50	17.4	D
Total	III		208.9	124.4	333.3	1.93	20.8	C

5:00 pm Baseline

Synchro 7 - Report
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Arterial Level of Service

Existing SAT
7/11/2012

Arterial Level of Service: NB DeKalb Industrial Way

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
E Ponce De Leon	II	30	11.4	12.7	24.1	0.08	12.1	F
DeKalb Industrial Wa	II	30	25.1	0.1	25.2	0.20	28.3	B
N Decatur Rd	II	45	57.5	44.0	101.5	0.72	25.5	C
SR 8	II	45	45.5	0.2	45.7	0.52	40.7	A
Total	II		139.5	57.0	196.5	1.51	27.7	C

Arterial Level of Service: SB DeKalb Industrial Way

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
N Decatur Rd	II	45	45.5	38.1	83.6	0.52	22.2	C
Driveway	II	45	57.5	3.4	60.9	0.72	42.5	A
E Ponce De Leon	II	30	25.1	9.5	34.6	0.20	20.6	D
Total	II		128.1	51.0	179.1	1.43	28.8	B

Arterial Level of Service: EB E College Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Arcadia Ave	III	35	61.2	10.7	71.9	0.51	25.5	B
Total	III		61.2	10.7	71.9	0.51	25.5	B

Arterial Level of Service: WB E College Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Arcadia Ave	III	35	72.8	25.2	98.0	0.71	26.0	B
Total	III		72.8	25.2	98.0	0.71	26.0	B

Arterial Level of Service: NB E Ponce De Leon

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Arcadia Ave	II	40	8.2	34.1	42.3	0.07	6.1	F
DeKalb Industrial Wa	II	40	46.2	10.1	56.3	0.50	31.8	B
Laredo Dr	II	40	39.3	29.5	68.8	0.41	21.4	D
Clarendon Ave	II	40	48.2	11.4	59.6	0.54	32.4	B
N Decatur Rd	II	40	28.0	35.7	63.7	0.25	14.4	E
Valley Brook Rd	II	40	14.0	6.1	20.1	0.12	21.8	D
McLendon Dr	II	40	40.7	3.6	44.3	0.43	34.8	B
Glendale Rd	II	40	8.8	4.6	13.4	0.08	20.6	D
Off Ramp 285	II	40	40.2	10.0	50.2	0.42	30.0	B
Off Ramp 285	II	40	8.1	9.7	17.8	0.07	14.3	E
Total	II		281.7	154.8	436.5	2.88	23.8	C

Baseline

Synchro 7 - Report
Page 1

Arterial Level of Service

Existing SAT
7/11/2012

Arterial Level of Service: WB E Ponce De Leon

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Off Ramp 285	II	40	8.0	9.1	17.1	0.07	14.7	E
Off Ramp 285	II	40	8.1	9.2	17.3	0.07	14.7	E
Glendale Rd	II	40	40.2	4.6	44.8	0.42	33.6	B
McLendon Dr	II	40	8.8	8.6	17.4	0.08	15.8	E
Valley Brook Rd	II	40	40.7	16.1	56.8	0.43	27.1	C
N Decatur Rd	II	40	14.0	24.7	38.7	0.12	11.3	F
Laredo Dr	II	40	28.0	11.3	39.3	0.25	23.3	C
DeKalb Industrial Wa	II	40	48.2	48.0	96.2	0.54	20.1	D
Arcadia Ave	II	40	39.3	14.9	54.2	0.41	27.2	C
Total	II		281.5	170.1	451.6	2.88	23.0	C

Arterial Level of Service: EB N Decatur Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Church StW	III	35	16.7	69.6	86.3	0.12	5.2	F
DeKalb Industrial Wa	III	35	60.0	29.0	89.0	0.50	20.2	C
E Ponce De Leon	III	35	73.6	15.5	89.1	0.72	28.9	B
Church St	III	35	6.5	11.4	17.9	0.04	9.0	F
Total	III		156.8	125.5	282.3	1.38	17.6	D

Arterial Level of Service: WB N Decatur Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Church St	III	35	68.9	26.3	95.2	0.67	25.3	B
E Ponce De Leon	III	35	6.5	14.0	20.5	0.04	7.8	F
DeKalb Industrial Wa	III	35	73.6	28.7	102.3	0.72	25.2	B
Church StW	III	35	60.0	57.2	117.2	0.50	15.4	D
Total	III		209.0	126.2	335.2	1.93	20.7	C

Baseline

Synchro 7 - Report
Page 2

Arterial Level of Service: NB DeKalb Industrial Way

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
E Ponce De Leon	II	30	11.4	15.3	26.7	0.08	10.9	F
DeKalb Industrial Wa	II	30	25.1	0.1	25.2	0.20	28.3	B
N Decatur Rd	II	45	57.5	66.2	123.7	0.72	20.9	D
SR 8	II	45	45.5	0.7	46.2	0.52	40.3	A
Total	II		139.5	82.3	221.8	1.51	24.6	C

Arterial Level of Service: SB DeKalb Industrial Way

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
N Decatur Rd	II	45	45.5	48.7	94.2	0.52	19.7	D
Driveway	II	45	57.5	3.0	60.5	0.72	42.8	A
E Ponce De Leon	II	30	25.1	7.8	32.9	0.20	21.7	D
Total	II		128.1	59.5	187.6	1.43	27.5	C

Arterial Level of Service: EB E College Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Arcadia Ave	III	35	61.2	24.2	85.4	0.51	21.5	C
Total	III		61.2	24.2	85.4	0.51	21.5	C

Arterial Level of Service: WB E College Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Arcadia Ave	III	35	72.8	46.1	118.9	0.71	21.4	C
Total	III		72.8	46.1	118.9	0.71	21.4	C

Arterial Level of Service: NB E Ponce De Leon

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Arcadia Ave	II	40	8.2	45.8	54.0	0.07	4.8	F
DeKalb Industrial Wa	II	40	46.2	12.8	59.0	0.50	30.3	B
Laredo Dr	II	40	39.3	29.6	68.9	0.41	21.4	D
Clarendon Ave	II	40	48.2	12.6	60.8	0.54	31.8	B
N Decatur Rd	II	40	28.0	65.8	93.8	0.25	9.8	F
Valley Brook Rd	II	40	14.0	9.6	23.6	0.12	18.6	D
McLendon Dr	II	40	40.7	13.2	53.9	0.43	28.6	B
Glendale Rd	II	40	8.8	8.4	17.2	0.08	16.0	E
Off Ramp 285	II	40	40.2	12.8	53.0	0.42	28.4	B
Off Ramp 285	II	40	8.1	9.9	18.0	0.07	14.2	E
Total	II		281.7	220.5	502.2	2.88	20.7	D

Arterial Level of Service: WB E Ponce De Leon

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Off Ramp 285	II	40	8.0	8.1	16.1	0.07	15.6	E
Off Ramp 285	II	40	8.1	10.2	18.3	0.07	13.9	E
Glendale Rd	II	40	40.2	7.2	47.4	0.42	31.8	B
McLendon Dr	II	40	8.8	21.9	30.7	0.08	9.0	F
Valley Brook Rd	II	40	40.7	70.1	110.8	0.43	13.9	E
N Decatur Rd	II	40	14.0	21.8	35.8	0.12	12.3	F
Laredo Dr	II	40	28.0	14.5	42.5	0.25	21.6	D
DeKalb Industrial Wa	II	40	48.2	41.5	89.7	0.54	21.5	D
Arcadia Ave	II	40	39.3	21.0	60.3	0.41	24.4	C
Total	II	40	46.2	22.8	69.0	0.50	25.9	C
Total	II		281.5	239.1	520.6	2.88	19.9	D

Arterial Level of Service: EB N Decatur Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Church StW	III	35	16.7	73.4	90.1	0.12	4.9	F
DeKalb Industrial Wa	III	35	60.0	43.5	103.5	0.50	17.4	D
E Ponce De Leon	III	35	73.6	26.5	100.1	0.72	25.7	B
Church St	III	35	5.9	13.8	19.7	0.04	7.4	F
Total	III		156.2	157.2	313.4	1.38	15.9	D

Arterial Level of Service: WB N Decatur Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Church St	III	35	69.2	32.6	101.8	0.67	23.8	C
E Ponce De Leon	III	35	5.9	57.7	63.6	0.04	2.3	F
DeKalb Industrial Wa	III	35	73.6	42.1	115.7	0.72	22.3	C
Church StW	III	35	60.0	38.8	98.8	0.50	18.2	C
Total	III		208.7	171.2	379.9	1.93	18.3	C

Arterial Level of Service

No-Build 2023 SAT
7/11/2012

Arterial Level of Service: NB DeKalb Industrial Way

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
E Ponce De Leon	II	30	11.4	13.2	24.6	0.08	11.8	F
DeKalb Industrial Wa	II	30	25.1	0.2	25.3	0.20	28.2	B
N Decatur Rd	II	45	57.5	37.3	94.8	0.72	27.3	C
SR 8	II	45	45.5	0.3	45.8	0.52	40.6	A
Total	II		139.5	51.0	190.5	1.51	28.6	B

Arterial Level of Service: SB DeKalb Industrial Way

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
N Decatur Rd	II	45	45.5	38.2	83.7	0.52	22.2	C
Driveway	II	45	57.5	3.1	60.6	0.72	42.7	A
E Ponce De Leon	II	30	25.1	9.4	34.5	0.20	20.7	D
Total	II		128.1	50.7	178.8	1.43	28.9	B

Arterial Level of Service: EB E College Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
DeKalb Industrial Wa	III	35	61.2	12.5	73.7	0.51	24.9	B
Total	III		61.2	12.5	73.7	0.51	24.9	B

Arterial Level of Service: WB E College Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
DeKalb Industrial Wa	III	35	72.8	27.5	100.3	0.71	25.4	B
Total	III		72.8	27.5	100.3	0.71	25.4	B

Arterial Level of Service: NB E Ponce De Leon

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
DeKalb Industrial Wa	II	40	8.2	37.7	45.9	0.07	5.6	F
Laredo Dr	II	40	46.2	12.9	59.1	0.50	30.3	B
Clarendon Ave	II	40	39.3	33.6	72.9	0.41	20.2	D
N Decatur Rd	II	40	48.2	12.9	61.1	0.54	31.6	B
Valley Brook Rd	II	40	28.0	29.2	57.2	0.25	16.0	E
McLendon Dr	II	40	14.0	6.9	20.9	0.12	21.0	D
Glendale Rd	II	40	40.7	4.9	45.6	0.43	33.8	B
Off Ramp 285	II	40	8.8	6.2	15.0	0.08	18.4	D
Off Ramp 285	II	40	40.2	12.9	53.1	0.42	28.4	B
Total	II		8.1	11.8	19.9	0.07	12.8	F
	II		281.7	169.0	450.7	2.88	23.0	C

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Arterial Level of Service

No-Build 2023 SAT
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Arterial Level of Service: WB E Ponce De Leon

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Off Ramp 285	II	40	8.0	9.5	17.5	0.07	14.3	E
Off Ramp 285	II	40	8.1	10.2	18.3	0.07	13.9	E
Glendale Rd	II	40	40.2	6.2	46.4	0.42	32.5	B
McLendon Dr	II	40	8.8	11.6	20.4	0.08	13.5	E
Valley Brook Rd	II	40	40.7	29.9	70.6	0.43	21.8	D
N Decatur Rd	II	40	14.0	22.6	36.6	0.12	12.0	F
Laredo Dr	II	40	28.0	15.1	43.1	0.25	21.3	D
DeKalb Industrial Wa	II	40	48.2	52.5	100.7	0.54	19.2	D
Arcadia Ave	II	40	39.3	18.4	57.7	0.41	25.5	C
Total	II		46.2	24.3	70.5	0.50	25.4	C
	II		281.5	200.3	481.8	2.88	21.5	D

Arterial Level of Service: EB N Decatur Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Church StW	III	35	16.7	66.9	83.6	0.12	5.3	F
DeKalb Industrial Wa	III	35	60.0	23.5	83.5	0.50	21.6	C
E Ponce De Leon	III	35	73.6	11.6	85.2	0.72	30.2	A
Church St	III	35	6.2	9.8	16.0	0.04	9.7	F
Total	III		156.5	111.8	268.3	1.38	18.5	C

Arterial Level of Service: WB N Decatur Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Church St	III	35	69.0	21.8	90.8	0.67	26.6	B
E Ponce De Leon	III	35	6.2	19.0	25.2	0.04	6.1	F
DeKalb Industrial Wa	III	35	73.6	24.8	98.4	0.72	26.2	B
Church StW	III	35	60.0	53.4	113.4	0.50	15.9	D
Total	III		208.8	119.0	327.8	1.93	21.2	C

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Arterial Level of Service

Future PM 2023 Phase IV
7/12/2012

Arterial Level of Service: NB DeKalb Industrial Way

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
E Ponce De Leon	II	30	11.4	19.5	30.9	0.08	9.4	F
DeKalb Industrial Wa	II	30	25.1	0.1	25.2	0.20	28.3	B
N Decatur Rd	II	45	57.6	66.6	124.2	0.72	20.8	D
SR 8	II	45	45.5	1.1	46.6	0.52	39.9	A
Total	II		139.6	87.3	226.9	1.51	24.0	C

Arterial Level of Service: SB DeKalb Industrial Way

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
N Decatur Rd	II	45	45.5	51.5	97.0	0.52	19.2	D
Driveway	II	45	57.6	2.9	60.5	0.72	42.8	A
E Ponce De Leon	II	30	25.1	9.7	34.8	0.20	20.5	D
Total	II		128.2	64.1	192.3	1.43	26.8	C

Arterial Level of Service: EB E College Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Arcaadia Ave	III	35	61.2	26.9	88.1	0.51	20.8	C
Total	III		61.2	26.9	88.1	0.51	20.8	C

Arterial Level of Service: WB E College Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Arcaadia Ave	III	35	72.8	74.0	146.8	0.71	17.3	D
Total	III		72.8	74.0	146.8	0.71	17.3	D

Arterial Level of Service: NB E Ponce De Leon

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Arcaadia Ave	II	40	8.2	59.4	67.6	0.07	3.8	F
DeKalb Industrial Wa	II	40	46.2	13.5	59.7	0.50	30.0	B
E Ponce De Leon	II	40	21.0	1.8	22.8	0.18	28.9	B
Laredo Dr	II	40	25.1	35.4	60.5	0.23	13.6	E
Clarendon Ave	II	40	48.2	17.4	65.6	0.54	29.4	B
N Decatur Rd	II	40	28.0	69.6	97.6	0.25	9.4	F
Valley Brook Rd	II	40	14.0	9.0	23.0	0.12	19.1	D
McLendon Dr	II	40	40.7	18.3	59.0	0.43	26.1	C
Glendale Rd	II	40	8.8	26.7	35.5	0.08	7.8	F
Off Ramp 285	II	40	40.2	12.6	52.8	0.42	28.5	B
Off Ramp 285	II	40	8.1	8.2	16.3	0.07	15.6	E
Total	II		288.5	271.9	560.4	2.89	18.5	D

5:00 pm Baseline

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Arterial Level of Service

Future PM 2023 Phase IV
7/12/2012

Arterial Level of Service: SW E Ponce De Leon

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Off Ramp 285	II	40	8.0	7.5	15.5	0.07	16.2	E
Off Ramp 285	II	40	8.1	9.1	17.2	0.07	14.8	E
Glendale Rd	II	40	40.2	20.8	61.0	0.42	24.7	C
McLendon Dr	II	40	8.8	27.5	36.3	0.08	7.6	F
Valley Brook Rd	II	40	40.7	51.2	91.9	0.43	16.8	E
N Decatur Rd	II	40	14.0	29.9	43.9	0.12	10.0	F
Laredo Dr	II	40	28.0	25.9	53.9	0.25	17.0	D
DeKalb Industrial Wa	II	40	48.2	36.3	84.5	0.54	22.9	C
Arcaadia Ave	II	40	25.1	13.3	38.4	0.23	21.4	D
Arcaadia Ave	II	40	21.0	22.4	43.4	0.18	15.2	E
Total	II		46.2	32.0	78.2	0.50	22.9	C
Total	II		288.3	275.9	564.2	2.88	18.4	D

Arterial Level of Service: EB N Decatur Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Church StW	III	35	16.7	74.9	91.6	0.12	4.9	F
DeKalb Industrial Wa	III	35	60.0	37.2	97.2	0.50	18.5	C
E Ponce De Leon	III	35	73.6	21.7	95.3	0.72	27.0	B
Church St	III	35	6.3	14.9	21.2	0.04	7.4	F
Glendale Rd	III	35	68.9	7.5	76.4	0.67	31.6	A
Total	III		225.5	156.2	381.7	2.05	19.4	C

Arterial Level of Service: WB N Decatur Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Church St	III	35	68.9	26.7	95.6	0.67	25.2	B
E Ponce De Leon	III	35	6.3	102.1	108.4	0.04	1.5	F
DeKalb Industrial Wa	III	35	73.6	46.8	120.4	0.72	21.4	C
Church StW	III	35	60.0	38.7	98.7	0.50	18.3	C
Total	III		208.8	214.3	423.1	1.93	16.4	D

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Arterial Level of Service

Future SAT 2023 Phase IV
7/12/2012

Arterial Level of Service: NB Dekalb Industrial Way

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
E Ponce De Leon	II	30	11.4	18.6	30.0	0.08	9.7	F
Dekalb Industrial Wa	II	30	25.1	0.2	25.3	0.20	28.2	B
N Decatur Rd	II	45	57.6	35.6	93.2	0.72	27.8	C
SR 8	II	45	45.5	26.2	71.7	0.52	25.9	C
Total	II		139.6	80.6	220.2	1.51	24.8	C

Arterial Level of Service: SB Dekalb Industrial Way

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
N Decatur Rd	II	45	45.5	44.4	89.9	0.52	20.7	D
Driveway	II	45	57.6	2.9	60.5	0.72	42.8	A
E Ponce De Leon	II	30	25.1	12.7	37.8	0.20	18.8	D
Total	II		128.2	60.0	188.2	1.43	27.4	C

Arterial Level of Service: EB E College Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Arcadia Ave	III	35	61.2	13.4	74.6	0.51	24.6	B
Total	III		61.2	13.4	74.6	0.51	24.6	B

Arterial Level of Service: WB E College Ave

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Arcadia Ave	III	35	72.8	30.9	103.7	0.71	24.6	B
Total	III		72.8	30.9	103.7	0.71	24.6	B

Arterial Level of Service: NB E Ponce De Leon

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Arcadia Ave	II	40	8.2	22.1	30.3	0.07	8.5	F
Dekalb Industrial Wa	II	40	46.2	12.9	59.1	0.50	30.3	B
E Ponce De Leon	II	40	21.0	1.9	22.9	0.18	28.8	B
Laredo Dr	II	40	25.1	52.8	77.9	0.23	10.5	F
Clarendon Ave	II	40	48.2	21.0	69.2	0.54	27.9	C
N Decatur Rd	II	40	28.0	65.2	93.2	0.25	9.8	F
Valley Brook Rd	II	40	14.0	7.6	21.6	0.12	20.3	D
McLendon Dr	II	40	40.7	7.0	47.7	0.43	32.3	B
Glendale Rd	II	40	8.8	15.1	23.9	0.08	11.5	F
Off Ramp 285	II	40	40.2	12.7	52.9	0.42	28.5	B
Off Ramp 285	II	40	8.1	11.0	19.1	0.07	13.4	E
Total	II		288.5	229.3	517.8	2.89	20.1	D

5:00 pm Baseline

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Arterial Level of Service

Future SAT 2023 Phase IV
7/12/2012

Arterial Level of Service: SW E Ponce De Leon

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Off Ramp 285	II	40	8.0	8.3	16.3	0.07	15.4	E
Off Ramp 285	II	40	8.1	10.8	18.9	0.07	13.5	E
Glendale Rd	II	40	40.2	19.3	59.5	0.42	25.3	C
McLendon Dr	II	40	8.8	8.7	17.5	0.08	15.7	E
Valley Brook Rd	II	40	40.7	76.8	117.5	0.43	13.1	E
N Decatur Rd	II	40	14.0	33.3	47.3	0.12	9.3	F
Laredo Dr	II	40	28.0	54.9	82.9	0.25	11.1	F
	II	40	48.2	60.0	108.2	0.54	17.8	D
	II	40	25.1	11.7	36.8	0.23	22.3	C
Dekalb Industrial Wa	II	40	21.0	20.5	41.5	0.18	15.9	E
Arcadia Ave	II	40	46.2	14.3	60.5	0.50	29.6	B
Total	II		288.3	318.6	606.9	2.88	17.1	D

Arterial Level of Service: EB N Decatur Rd

Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Church StW	III	35	16.7	65.1	81.8	0.12	5.4	F
Dekalb Industrial Wa	III	35	60.0	22.0	82.0	0.50	22.0	C
E Ponce De Leon	III	35	73.6	14.2	87.8	0.72	29.3	B
Church St	III	35	6.8	14.6	21.4	0.05	7.9	F
Glendale Rd	III	35	68.6	7.4	76.0	0.67	31.6	A
Total	III		225.7	123.3	349.0	2.05	21.2	C

Arterial Level of Service: WB N Decatur Rd

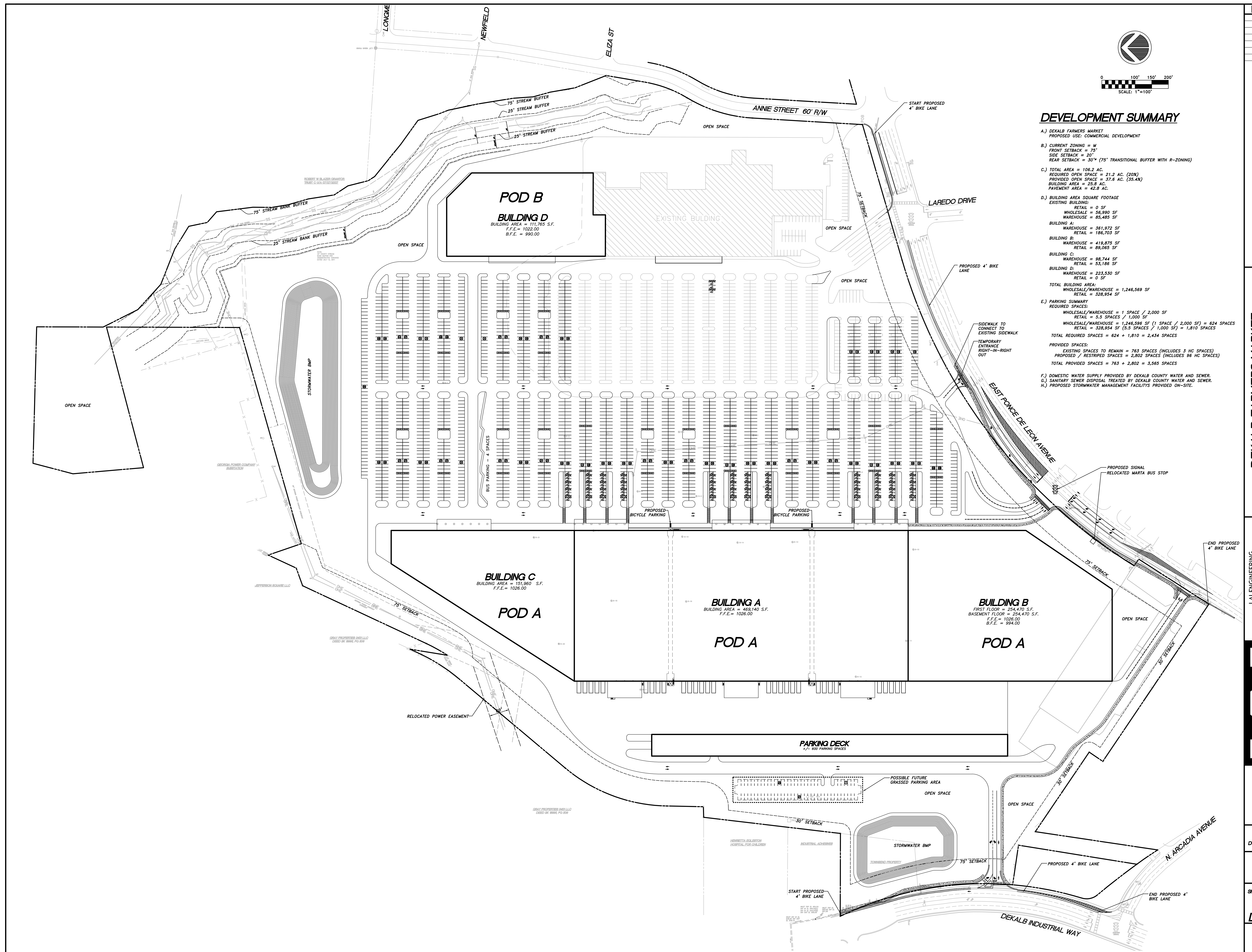
Cross Street	Arterial Class	Flow Speed	Running Time	Signal Delay	Travel Time (s)	Dist (mi)	Arterial Speed	Arterial LOS
Church St	III	35	68.6	26.9	95.5	0.67	25.2	B
E Ponce De Leon	III	35	6.8	84.8	91.6	0.05	1.8	F
Dekalb Industrial Wa	III	35	73.6	25.7	99.3	0.72	25.9	B
Church StW	III	35	60.0	48.2	108.2	0.50	16.6	D
Total	III		209.0	185.6	394.6	1.93	17.6	D

5:00 pm Baseline

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APPENDIX F

Full Size Site Plan



APPENDIX G
Signal Warrant Analysis
E Ponce De Leon Ave & New Entrance

24-Hour Volume
22,674

Hourly Variation in Farmers Market

Time	Average Weekday	
	% of 24 Hr. Entering	% of 24 Hr. Exiting
10-11 AM	7.5	3.7
11-12 Noon	8.6	5.9
12-1 PM	9.5	7.9
1-2 PM	8.7	8.2
2-3 PM	7.9	8.8
3-4 PM	7.7	8.9
4-5 PM	8.2	9.1
5-6 PM	8.3	9.5
6-7 PM	7.8	7.7
7-8 PM	8.4	7.0
8-9 PM	4.7	7.7
9-10 PM	1.8	9.1

Volume	
Entering	Exiting
850	419
975	669
1077	896
986	930
896	998
873	1009
930	1032
941	1077
884	873
952	794
533	873
204	1032

North	South	East
0.25	0.1	0
0	0.05	0.3

Time	Existing Condition - 2011			Background Condition - 2023			Site Generated Traffic			Future Condition - 2023		
	Northbound	Southbound	Eastbound	Northbound	Southbound	Eastbound	Northbound	Southbound	Eastbound	Northbound	Southbound	Eastbound
12 -1 AM	83	41	0	103	51	0				103	51	0
1-2 AM	40	28	0	50	35	0				50	35	0
2-3 AM	44	15	0	55	19	0				55	19	0
3-4 AM	44	34	0	55	42	0				55	42	0
4-5 AM	53	81	0	66	101	0				66	101	0
5-6 AM	49	143	0	61	178	0				61	178	0
6-7 AM	83	297	0	103	369	0				103	369	0
7-8 AM	131	516	0	163	642	0				163	642	0
8-9 AM	192	403	0	239	501	0				239	501	0
9-10 AM	322	391	0	400	486	0				400	486	0
10-11 AM	365	421	0	454	523	0	213	106	126	666	629	126
11-12 Noon	456	545	0	567	678	0	244	131	201	811	809	201
12-1 PM	477	493	0	593	613	0	269	153	269	862	765	269
1-2 PM	529	461	0	658	573	0	247	145	279	904	718	279
2-3 PM	512	488	0	637	607	0	224	140	299	861	746	299
3-4 PM	612	480	0	761	597	0	218	138	303	979	735	303
4-5 PM	587	427	0	730	531	0	233	145	310	962	676	310
5-6 PM	601	402	0	747	500	0	235	148	323	983	648	323
6-7 PM	476	328	0	592	408	0	221	132	262	813	540	262
7-8 PM	391	293	0	486	364	0	238	135	238	724	499	238
8-9 PM	267	175	0	332	218	0	133	97	262	465	315	262
9-10 PM	140	85	0	174	106	0	51	72	310	225	178	310
10-11 PM	90	56	0	112	70	0				112	70	0
11-12 PM	111	47	0	138	58	0				138	58	0

10800 9809 3181

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Study Name : **Signal Warrant Analysis**

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Signal Warrants - Summary

Major Street Approaches

Northbound: E Ponce

Number of Lanes: 2

Approach Speed: 40

Total Approach Volume: 11,704

Southbound: E Ponce

Number of Lanes: 2

Approach Speed: 40

Total Approach Volume: 9,810

Minor Street Approaches

Eastbound: New Entrance

Number of Lanes: 2

Total Approach Volume: 3,182

Westbound: -

Number of Lanes: 1

Total Approach Volume: 0

Warrant Summary (Urban values apply.)

Warrant 1 - Eight Hour Vehicular Volumes	Satisfied
Warrant 1A - Minimum Vehicular Volume Satisfied	
Required volumes reached for 10 hours, 8 are needed	
Warrant 1B - Interruption of Continuous Traffic Satisfied	
Required volumes reached for 10 hours, 8 are needed	
Warrant 1 A&B - Combination of Warrants Satisfied	
Required volumes reached for 9 hours, 8 are needed	
Warrant 2 - Four Hour Volumes	Satisfied
Number of hours (11) volumes exceed minimum >= minimum required (4).	
Warrant 3 - Peak Hour	Satisfied
Warrant 3A - Peak Hour Delay Not Satisfied	
Total approach volumes and delays on minor street do not exceed minimums for any hour.	
Warrant 3B - Peak Hour Volumes Satisfied	
Volumes exceed minimums for at least one hour.	
Warrant 4 - Pedestrian Volumes	Not Evaluated
Warrant 5 - School Crossing	Not Evaluated
Warrant 6 - Coordinated Signal System	Not Evaluated
Warrant 7 - Crash Experience	Not Evaluated
Warrant 8 - Roadway Network	Not Evaluated

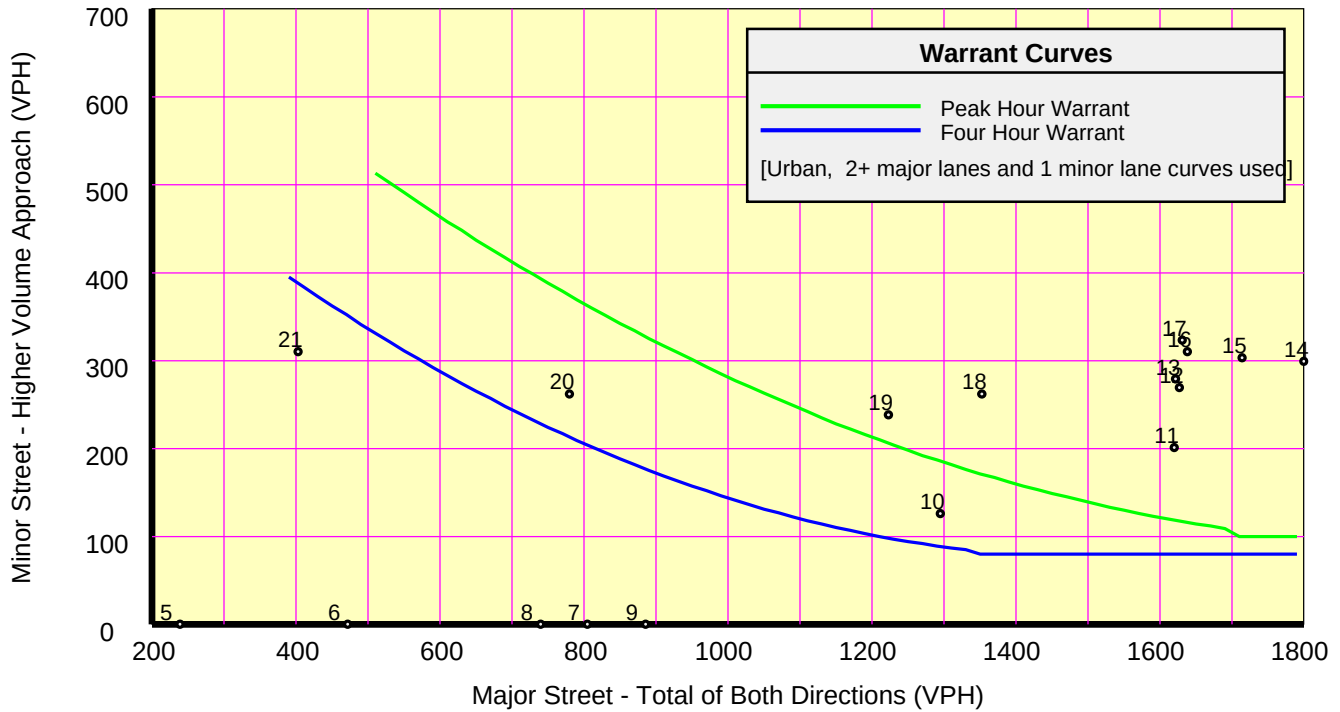
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Study Name : **Signal Warrant Analysis**

GPS : **00.00, 00.00**

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Signal Warrants - Summary



Analysis of 8-Hour Volume Warrants:

Hour	Major	Higher Minor	War-1A			War-1B			War-1A&B		
Begin	Total	Vol Dir	Major Crit	Minor Crit	Meets?	Major Crit	Minor Crit	Meets?	Major Crit	Minor Crit	Meets?
00:00	154	0 EB	600-No	200-No	---	900-No	100-No	---	900-No	200-No	---
01:00	85	0 EB	600-No	200-No	---	900-No	100-No	---	900-No	200-No	---
02:00	74	0 EB	600-No	200-No	---	900-No	100-No	---	900-No	200-No	---
03:00	97	0 EB	600-No	200-No	---	900-No	100-No	---	900-No	200-No	---
04:00	167	0 EB	600-No	200-No	---	900-No	100-No	---	900-No	200-No	---
05:00	239	0 EB	600-No	200-No	---	900-No	100-No	---	900-No	200-No	---
06:00	472	0 EB	600-No	200-No	---	900-No	100-No	---	900-No	200-No	---
07:00	805	0 EB	600-Yes	200-No	Major	900-No	100-No	---	900-No	200-No	---
08:00	740	0 EB	600-Yes	200-No	Major	900-No	100-No	---	900-No	200-No	---
09:00	886	0 EB	600-Yes	200-No	Major	900-No	100-No	---	900-No	200-No	---
10:00	1,295	126 EB	600-Yes	150-No	Major	900-Yes	75-Yes	Both	900-Yes	150-No	Major
11:00	1,620	201 EB	600-Yes	150-Yes	Both	900-Yes	75-Yes	Both	900-Yes	150-Yes	Both
12:00	1,627	269 EB	600-Yes	150-Yes	Both	900-Yes	75-Yes	Both	900-Yes	150-Yes	Both
13:00	1,622	279 EB	600-Yes	150-Yes	Both	900-Yes	75-Yes	Both	900-Yes	150-Yes	Both
14:00	2,511	299 EB	600-Yes	150-Yes	Both	900-Yes	75-Yes	Both	900-Yes	150-Yes	Both
15:00	1,714	303 EB	600-Yes	150-Yes	Both	900-Yes	75-Yes	Both	900-Yes	150-Yes	Both
16:00	1,638	310 EB	600-Yes	150-Yes	Both	900-Yes	75-Yes	Both	900-Yes	150-Yes	Both
17:00	1,631	323 EB	600-Yes	150-Yes	Both	900-Yes	75-Yes	Both	900-Yes	150-Yes	Both
18:00	1,353	262 EB	600-Yes	150-Yes	Both	900-Yes	75-Yes	Both	900-Yes	150-Yes	Both
19:00	1,223	238 EB	600-Yes	150-Yes	Both	900-Yes	75-Yes	Both	900-Yes	150-Yes	Both
20:00	780	262 EB	600-Yes	150-Yes	Both	900-No	75-Yes	Minor	900-No	150-Yes	Minor
21:00	403	310 EB	600-No	150-Yes	Minor	900-No	75-Yes	Minor	900-No	150-Yes	Minor
22:00	182	0 EB	600-No	200-No	---	900-No	100-No	---	900-No	200-No	---
23:00	196	0 EB	600-No	200-No	---	900-No	100-No	---	900-No	200-No	---