

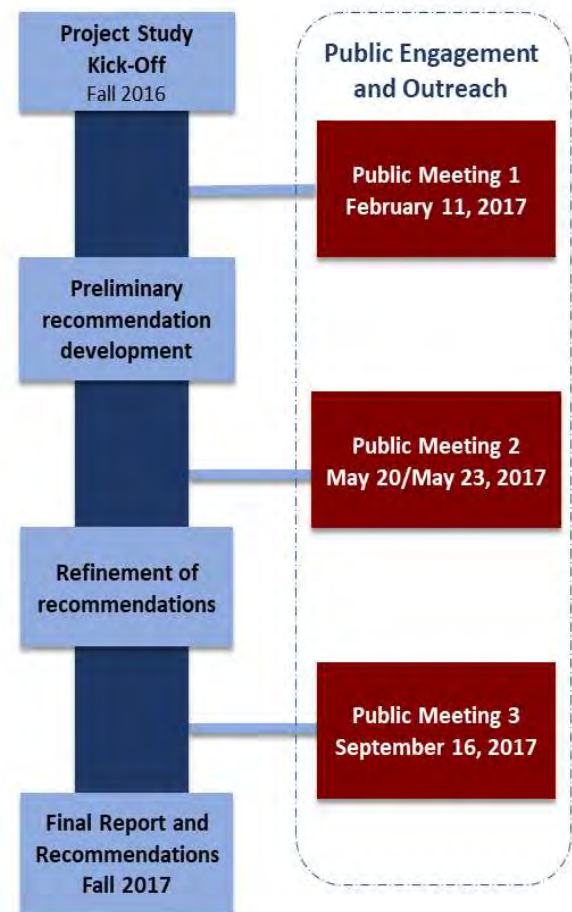
Appendix A Public Engagement

PUBLIC ENGAGEMENT

The Alabama Avenue Corridor Safety Study was built on a foundation of active and ongoing public engagement. Throughout the study process, the community was engaged to share information, gain insights, gather feedback and refine recommendations. The community was invited at each step of the project to participate through public meetings, a Citizens Advisory Group (CAG), the project website, and direct communication.

Three public meetings were held at locations along the Alabama Avenue corridor to maximize community involvement. DDOT also hosted two CAG meetings with elected officials and community leaders prior to public meetings. Other methods of public engagement included utilizing a project website, Advisory Neighborhood Commissions (ANC), and other major stakeholders. These groups were responsible for providing the study team with useful information and feedback.

The information gathered through these communication techniques was used to develop, refine, and assist in the recommendations for the Alabama Avenue safety improvements.



1.1. Project Website

The Study Team maintained a website that posted available resources regarding the project including maps, informational documents, data presented at public meetings, preliminary recommendations, and notices of all upcoming public meetings. The website also provided an opportunity for community members to submit comments, questions, or suggestions they had about the study.

1.2. Citizens Advisory Group

A CAG was formed to help extend the planning process and expand community outreach. CAG members included representatives from each ANC in the study area. To maximize the effectiveness of public meetings, DDOT hosted two CAG meetings with Ward 7 and 8 elected officials and community leaders prior to official public meetings. All CAG meetings were open to the public and listed on the project website. At each meeting, CAG members were given information to share with their constituents regarding the project and upcoming events. Invitations and reminders were sent to CAG members as each event approached.

1.3. Community Organizations

Neighborhood and civic organizations were also contacted and sent information about each public workshop. These organizations included:

- Anacostia Coordinating Council
- Anacostia Economic Development Corporation
- Congress Heights Community Association
- Congress Heights on the Rise
- East of the River Community Development Corporation
- Fairlawn Citizens Association
- Fort Davis Civic Association
- MPD – Sixth District (6D) and Seventh District (7D)
- Dupont Park Civic Association
- Hillcrest Civic Association
- Penn Branch Civic Association

Alabama Avenue SE Corridor Safety Study

Public Meeting 1

The Boys and Girls Club of Greater Washington at THEARC
February 11, 2017



Public Meeting 1

On Saturday, February 11, 2017, DDOT held Public Meeting 1 for the Alabama Avenue Study. The purpose of the meeting was used to introduce the study to the community and stakeholders, as well as explain the engagement process.

Meeting Information	
Date	Saturday, February 11, 2017
Location	Boys and Girls Club of Greater Washington (BGCGW) at the Town Hall Education Arts Recreation Campus (THEARC), Ward 8
# Attendees	21 Members of the Public

1.0 Getting the Word Out

Outreach for Public Meeting 1 for Alabama Avenue SE was key to connecting with the community and ensuring they were informed of the project and the meeting. Outreach efforts included the community, civic organizations, and key stakeholders.

Some of the methods of communication included:

- Distributed over 2,000 door-knockers
- Posted 50+ flyers
- Sent out emails to community leaders and civic/neighborhood organizations
- Posted public meeting notice on DDOT social media (Twitter and Facebook) accounts

2.0 Meeting Materials

Boards were developed to provide attendees an overview of existing conditions along the corridor relative to safety. Roll Maps were used to gather information from the community about specific locations and concerns on the corridor. The following is a list of the boards presented in **Table 1**.

Table 1 | Public Meeting 1 Materials

Public Meeting 1 Materials	
Welcome Board	Provided the title of the project and a District of Columbia map highlighting the study corridor
Project Area Board	Highlighted corridor limits on a map, with major streets to provide better orientation
Purpose and Need Board	Stated the intentions, goals and intended outcomes of the study
Project Schedule Board	Presented study schedule and milestones, highlighting where public involvement would take place
Crash Data Board	Illustrated the concentration of crashes along the corridor using a “heat map”, and a table with the number and type of crashes reported from 2013-2015
Vehicular Speed Board	Illustrated traffic speeds at select locations on a map
Traffic Volumes Board	Displayed average daily traffic volumes at select locations on a map
Peak Hour Pedestrian Volumes 1 Board	Displayed a table with the amount of pedestrian activity recorded, highlighting intersections with the highest volumes during AM and PM peak times
Peak Hour Pedestrian Volumes 2 Board	Displayed the amount of pedestrian activity recorded at existing crosswalks during vehicular AM and PM peak hours
Multi-modal Board	Presented a graphic highlighting the existing transit network and connections along the corridor, including bus stops, bus routes, metro stations and bikeshare locations
Existing Conditions Board	Showed pictures of existing conditions, including missing sidewalks and crosswalks, and asked participants to note similar conditions and concerns on the roll maps provided
Roll Maps	Displayed aerial photos of Alabama Avenue in five (5) segments on 30”x72” roll maps to give attendees a clear view of streets and current conditions. Post-It notes, pens, and colored stickers were provided to allow attendees to comment directly to a specific location or area. The corridor was broken up as follows: • R Street – Ridge Road, SE • 31st Street – Pennsylvania Avenue, SE • 24th Street – 30th Street, SE • Congress Street, SE – Suitland Parkway • Martin Luther King Jr., Avenue – 13th Street, SE

3.0 How We Heard

The public meeting had a combination of corridor data displays and interactive activities. There was a presentation of the project overview that included a project map, purpose, and schedule that highlighted public meetings. Team members from the study engaged with participants by using boards and project area roll maps. DDOT staff was also present to answer any questions or concerns that participants may have had. Participants were encouraged to comment directly on the roll maps or by using comment cards.

4.0 What We Heard

Comments, feedback, and other input were received at the corridor segment roll maps, meeting boards, and comment cards.

Key Themes

Based on meeting discussions, questions, and comments received, key themes that emerged include:

- Vehicular speed - creates challenges for pedestrians at various locations along the corridor to safely cross Alabama Avenue
- Lack of crosswalks to safely cross Alabama Avenue
- Traffic operations – turning movements, lack of stop signs/signals at heavy pedestrian crossing areas

Specific Comments

Specific comments captured during the open-house discussions and comment cards are summarized below:

- Crosswalk needs traffic calming devices to protect school children, seniors, and bus passengers. Cars routinely travel at high rates of speed.
- Install more stop signs along corridor to slow traffic.
- Install visible neon crosswalks.
- Media strategy and PSAs to urge safe driving and compliance with speed limits.
- Install more traffic lights.
- Multiple speeding-related crashes have occurred along a curve.



Alabama Avenue SE Corridor Safety Study Public Meeting 2 Summary May 20 and 23, 2017

Public Meeting 2

On Saturday, May 20 and then again on Tuesday, May 23, 2017, DDOT held Public Meeting 2 for the Alabama Avenue Study. The purpose of the meeting was to share information with the community and stakeholders and receive feedback on initial safety concepts suggested for the corridor.



Meeting Information

Date	Saturday, May 20 and Tuesday, May 23, 2017
Location	East Washington Heights Baptist Church (Ward 7) and Petey Greene Community Service Center (Ward 8)
# Attendees	23 Members of the Public

1.0 Getting the Word Out

A combination of outreach methods was utilized for Public Meeting 2 to expand the population of residents and stakeholders involved. Outreach efforts included the community, civic organizations, and key stakeholders. Some of the methods of communication included:

- Distributed over 2,000 door-knockers
- Posted 50+ flyers
- Sent out emails to community leaders and civic/neighborhood organizations
- Posted public meeting notice on DDOT social media (Twitter and Facebook) accounts
- Automated calls to residents providing meeting information

2.0 Meeting Boards and Activities

Boards and Roll Maps were developed to provide attendees an overview of existing conditions, the project, and potential safety recommendations along the corridor. **Table 2** presents a list of the boards presented.

Table 2 | Public Meeting 2 Materials

Public Meeting 2 Materials	
Welcome Board	Provided the title of the project and a District of Columbia map highlighting the study corridor
Project Area Board	Highlighted corridor limits on a map, with major streets to provide better orientation
Purpose and Need Board	Stated the intentions, goals and intended outcomes of the study
Project Schedule Board	Presented study schedule and milestones, highlighting where public involvement would take place
Crash Data Board	Illustrated the concentration of crashes along the corridor using a “heat map”, and a table with the number and type of crashes reported from 2013-2015
Vehicular Speed Board	Illustrated traffic speeds at select locations on a map
Traffic Volumes Board	Displayed average daily traffic volumes at select locations on a map
Recommendations Overview	Highlighted the recommended corridor improvement/upgrade locations for crosswalks, signal timing, and recommendations for complex intersections
Comparison of Alternatives	The focus was placed on the concepts developed related to mid-block sections of the corridor, providing graphics for existing conditions and the three (3) alternative concepts
High-Volume Intersections	Graphically showed the 2-lane and 4-lane corridor locations where high-volume occurs
Alternatives	This series of boards visually displayed the alternative concepts highlighting travel lane, median upgrade, bike/shared use paths, crosswalks and parking options
Roll Maps	Displayed aerial photos of Alabama Avenue in five (5) segments on 30”x72” roll maps to give attendees a clear view of streets and current conditions. Post-It notes and pens were provided to allow attendees to comment directly to a specific location or area. Attendees were given stickers of certain colors to indicate either: Green (Like), Yellow (Neither Like/Dislike), and Red (Dislike) to indicate their preference related to the alternative concept boards shared during the meeting considering the recommended upgrades

3.0 How We Heard

This public meeting was set-up with a combination of existing corridor data, roll maps, and alternative concept exhibits. An overview presentation was given highlighting stakeholder feedback from Public Meeting 1 and preliminary recommendations. DDOT and Study team members engaged with attendees

Alabama Avenue SE Corridor Safety Study

at meeting exhibits, maps, and answered any questions or concerns that the participants may have had. Participants were encouraged to comment directly on the roll maps and boards using sticky notes or by using comment cards.

4.0 What We Heard

Comments, feedback, and other input were received at the corridor segment roll maps and meeting boards. The sections below summarize the input received from the meetings.

Key Themes

Based on meeting discussions, questions, and comments received, key themes that emerged include:

- Parking impacts relative to alternative concepts developed; concern of parking in the neighborhood versus on Alabama Avenue SE.
- Addition of signals along the corridor and improved signal timing.
- Strategies to promote corridor safety.
- Methods to reduce speed and errant turning movements.
- Preference of medians to bulb outs along the corridor - want to keep parking option on Alabama Avenue SE.

Specific Comments

Specific comments captured during the open-house discussions and comment cards are summarized below:

- If parking is removed, cars will be parked in the neighborhood.
- Police parking around Metropolitan Police Department station is a problem.
- Need (left turn) arrow for traffic signal at James McGee Jr. Street
- Public education/awareness campaign needed.
- Need better signal timing at Pennsylvania Ave.
- Measures needed at Branch Ave to prevent motorists in left turn lane from cutting into thru lane.
- Prefer medians instead of curb extensions.
- Parking should be retained between Q & R streets due to heavy demand from the Social Services center located in the shopping center.

- Speeding vehicles crash into parked cars between Pennsylvania Ave and Massachusetts Ave, especially between Q and R streets.
- Would like to see Leading Pedestrian Intervals.
- Widening of sidewalks along the corridor.
- In favor of the addition of medians and bulb-outs to slow traffic
- Addition of crosswalks at key intersections, particularly near schools and senior citizen housing and activity centers.
- Improved pick-up/drop-off access at Congress Heights Metro station
- Would like to have input on greenspace proposed at Suitland Road.
- Bike lanes are really needed in some sections of the corridor, i.e., 23rd to Police Station (near Turner Elementary School at Alabama Avenue and Naylor Road).
- Bicycle facility consideration for connections to the Suitland Parkway trail.

Alabama Avenue SE Corridor Safety Study

Public Meeting 3

September 16, 2017

Giant at the Shops at Park Village





Public Meeting 3

1.0 Meeting Purpose

On Saturday, September 16, 2017, DDOT held Public Meeting 3 for the Alabama Avenue Study. The purpose of the meeting was to share final draft safety recommendations developed by the DDOT Study Team.

Meeting Information	
Date	Saturday, September 16, 2017
Location	Giant Grocery Store at the Shops at Park Village (Ward 8)
# Attendees	68 Members of the Public

2.0 Getting the Word Out

A combination of outreach methods was utilized for Public Meeting 3 to expand the population of residents and stakeholders involved. Outreach efforts included the community, civic organizations, and key stakeholders. Some of the methods of communication included:

- Distributed over 2,000 door-knockers
- Posted 50+ flyers
- Sent out emails to community leaders and civic/neighborhood organizations
- Posted public meeting notice on DDOT social media (Twitter and Facebook) accounts
- Automated calls to residents providing meeting information

3.0 Meeting Exhibits

Project exhibits were developed to provide attendees a detailed overview of recommendations for the corridor developed. The following is a list of the exhibits presented:

Table 3 | Public Meeting 3 Materials

Public Meeting 3	
Overall Recommendations Board	Graphic display of overall recommendations for the Alabama Avenue corridor including location specific intersection designs – recommendations tailored to local conditions
Cross-Section Board	Graphic detail of cross-section recommendations including lane widths and types, curb extensions and median, parking, and bicycle accommodations
Location Specific Intersection Design Board	Graphic detail of proposed corridor intersection recommendations highlighting new and improved sidewalk upgrades, simplified intersection design, and turning (traffic) movements
Project Information Board	Proposed corridor treatments shown graphically to provide details of recommendations to improve pedestrian visibility, reduce speeds along the corridor and increase lighting for safety
Project Pamphlet	Outlined the study process and draft recommendations and were distributed to participants

4.0 How We Heard

For the final meeting of this phase, the DDOT team set up the project table and exhibits near the entrance of the Giant. At this event, project pamphlets outlining the study process and draft recommendations were distributed to the event participants. Over the course of the event, DDOT and Study Team members actively engaged with attendees at project exhibits by answering questions and concerns. Participants were encouraged to comment directly by using comment cards.

5.0 What We Heard

Key Themes

Based on meeting discussions, questions, and comments received, key themes that emerged include:

- Crosswalk safety – consideration for extended timing and better visibility for pedestrians
- Traffic calming measures to reduce speeding
- More street lights along the corridor to improve safety for pedestrians
- Parking impacts – no reduction
- Bike lanes

Specific Comments

Specific comments captured during the open-house discussions and comment cards are summarized below:

- Stop sign suggested at 15th Street in front of IHOP.
- Concerned about construction impacts, especially during peak hours and near school crossings. Also concerned about construction workers taking parking spaces.
- More lighting needed, especially if there will be more bikes.
- Crossing guards needed for traffic light at Wheeler Road.
- Drivers do not respect pedestrians.
- Extend time for pedestrians to cross.
- Medians to protect pedestrians while crossing the street.
- More police/speed enforcement needed.
- Speed bumps to slow down traffic.
- Concern for bike lanes.
- Parking is a major concern in the 1400 block of Alabama Ave.
- Speeds too high for bike lanes.
- Advance signing needed at Wheeler Road to designate right-turn lane.
- New Wizards practice facility will have no parking; removing street parking will be a problem.
- Traffic calming measures needed between 36th Street and Pennsylvania Ave (Anne Beers Schools and Gregory Library).
- Traffic safety concerns near schools, shopping centers, library, etc. Lots of kids, seniors, and disabled persons cross Alabama Ave.
- Lighting needed at Suitland Parkway.
- Speed humps/stripes needed to slow down traffic.
- Savannah near school at bottom of hill – no stop sign.
- Crossing guards needed at Congress St. Suggest installing No Parking Signs to help drivers see pedestrians.
- Speed cameras needed especially near Anne Beers Schools and Gregory Library.

Appendix B Crash Analysis

CRASH ANALYSIS

To focus safety improvement planning efforts for this project on crashes with serious injuries, the study team examined patterns of more severe crashes along Alabama Avenue using electronic data from the DC Open Data Portal, which includes a variable for “Major Injury”. Analyzing locations with major injury crashes provides a larger and more robust data set than simply looking at locations where fatalities occurred.

During 2013-2015 a total of 68 crashes along the Alabama Avenue study corridor were coded as “Major Injury”. Examination of the crash locations indicated that about half of the 68 major injury crashes occurred within three relatively small clusters, as shown in **Table 1** and **Figure 1**:

Table 1 | Clusters of Major Injury Crashes

Cluster	Boundaries	Number of Crashes with “Major Injuries”
1	15th Street and Stanton Road	9
2	24th Street and Irving Street	11
3	Pennsylvania Avenue and Burns Street	13

These three clusters of major injury crashes were selected for more detailed crash analysis. Cluster analysis allows for examination of concentrated numbers of more severe crashes occurring within relatively small segments of the Alabama Avenue corridor, which can identify collision patterns and contributing factors that might not be apparent from a broader review of overall crash data.

Understanding collision patterns and contributing factors for major injury crashes can help identify potential safety improvements, with the goal of preventing fatal and serious injury crashes. Findings from the cluster analysis can be applied to locations along the entire study corridor.

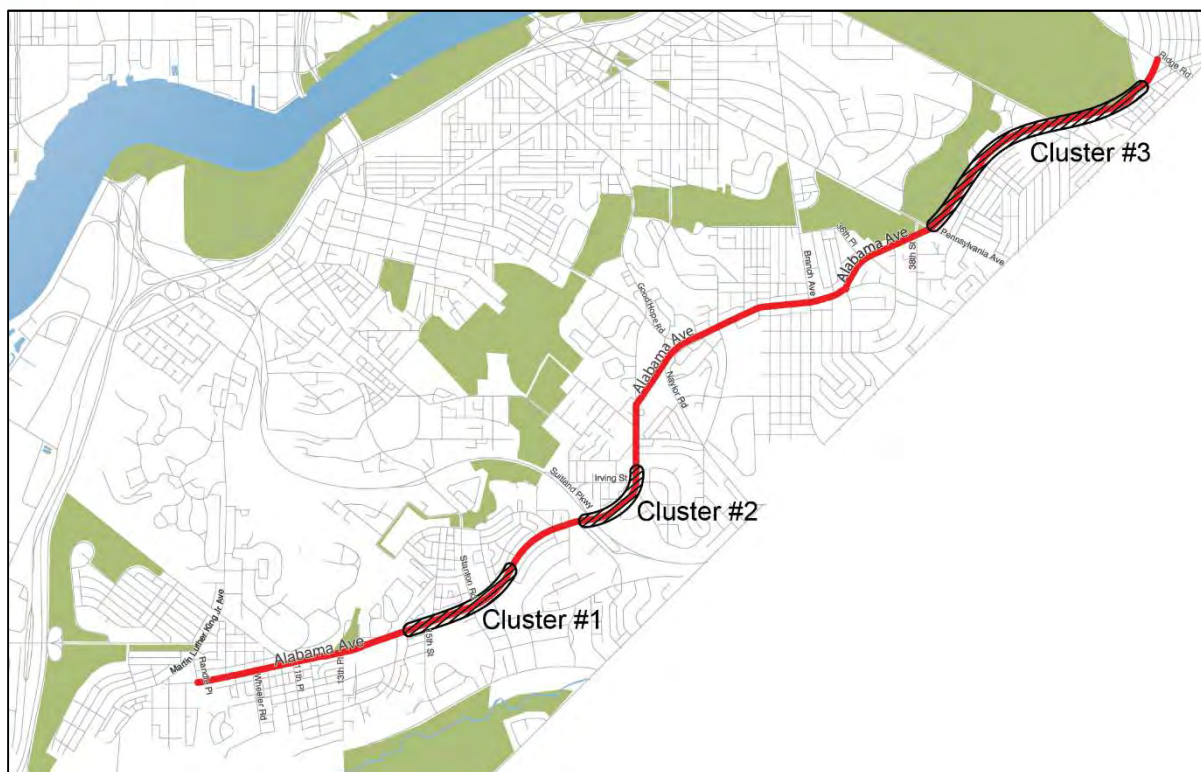


Figure 1 – Clusters of Major Injury Crashes

For the three clusters indicated above, the detailed PD10 crash reports were reviewed to glean additional information regarding the crashes and contributing factors. This step also allowed reports with erroneous locations to be excluded from the crash analysis for this study. These reports were aggregated in several ways to provide detailed crash information.

1.1. Crash Severity

The detailed crash reports were aggregated to examine the three analysis clusters and the crash severity at these locations. Results are shown in **Table 2**. During the three-year analysis period (2013 through 2015), there were 208 reported crashes. One of these crashes was fatal and occurred between Pennsylvania Avenue and Burns Street. Approximately 47 percent of these crashes were injury crashes, resulting in 136 total injuries over a three-year period. The remainder of the crashes involved property damage only.

Table 2 | Crash Severity

Cluster	Crashes by Year				Fatal Crashes	Injury Crashes	Number of Injuries	Property Damage Only Crashes
	2013	2014	2015	Total				
#1 –15th St to Stanton Rd	8	17	21	46	0	32	44	14
#2 –24th St to Irving St	13	16	23	52	0	17	24	35
#3 – Pennsylvania Ave to Burns St	33	45	32	110	1	49	68	60
Total	54	78	76	208	1	98	136	109

1.2. Crash Type

Crash types were analyzed for the three crash analysis clusters combined. Results are shown in **Table 3**. The two most common crash types, accounting for half of all reported crashes, were Rear-End and Sideswipe. Ten (10) percent of crashes involved a pedestrian, and most of these were from vehicles traveling straight and turning left before the collision. Six (6) percent of crashes were Fixed Object Collisions, which were Single-Vehicle Collisions such as running off the roadway into a fence.

Table 3 | Crash Type

Crash Type	#	%
Rear End	63	30%
Sideswiped	43	21%
Pedestrian Struck	22	10%
Straight Hit Pedestrian	10	5%
Left Turn Hit Pedestrian	9	4%
Right Turn Hit Pedestrian	3	1%
Left Turn	21	10%
Head On	14	7%
Fixed Object	13	6%
Right Angle	12	6%
Right Turn	10	5%

Alabama Avenue SE Safety Study

Parked Vehicle	4	2%
U Turn	3	1%
Backing Hit Parked Vehicle	2	1%
Straight Hit Bicycle	1	<1%
Total	208	100%

1.3. Crash Contributing Factors

Crash contributing factors were analyzed for all three crash analysis clusters for the three-year analysis period. Results are shown in **Table 4**. Thirty-five (35) percent of the crashes did not have a contributing factor recorded, but rather were marked as “Unknown” or “Other.” This can occur when the officer responding to the crash is unsure of what happened (for example, due to conflicting stories from involved parties), or in the case of a hit-and-run crash. After these unknown crashes, the most commonly cited contributing factors were “driver inattention” and “following too close.” Notably, five percent of the crashes were attributed to Alcohol/Drug Influence.

Table 4 | Crash Contributing Factors

Crash Contributing Factor	#	%
Driver Inattention	30	14%
Following Too Close	20	10%
Changing Lanes without Caution	12	6%
Speed	11	5%
Alcohol/Drug Influence	10	5%
Auto/Ped Right-of-way	10	5%
Improper Passing	8	4%
No Violation	7	3%
Red Light Violation	7	3%
Other Distraction	6	3%
Improper Turn	4	2%
Failed to keep in proper lane	3	1%
Pedestrian Violation	2	1%
Making U-Turn	1	<1%
Failed to Yield Right-of-way	1	<1%
Defective Brakes, Lights, Etc.	1	<1%
Stop Sign	1	<1%
Cell Phone/Other Electronic Device	1	<1%
Other	32	15%
Unknown	41	20%
Total	208	100%

1.4. Crash Environmental Conditions

Environmental conditions were analyzed for the three crash analysis clusters combined. This includes the roadway surface, illumination, and weather at the time of the crash. Results are shown in **Table 5**. Most of the crashes occurred on a dry roadway surface (80 percent) and during clear weather conditions (77 percent). While just over half of the crashes occurred during daylight conditions (55 percent), more than one-third occurred during hours of darkness.

Table 5 | Crash Environmental Conditions

Factor	Condition	Percentage
Road Surface	Dry	80%
	Wet	14%
	Snow	2%
	Ice	0%
	Unknown	4%
Weather	Clear	77%
	Rain	12%
	Fog/Mist	0%
	Snow	2%
	Sleet/Hail	0%
	Other	0%
	Unknown	8%
Illumination	Daylight	55%
	Dark (Not Lighted)	1%
	Dark (Lighted)	35%
	Dawn	0%
	Dusk	3%
	Unknown	5%

1.5. Crash Analysis by Location

Collision diagrams that map crashes with documented injuries and fatalities for the three analysis clusters are provided on the following pages.

Appendix C Intersection Count and ATR Summaries

TURNING MOVEMENT COUNT

Weekday Traffic Data Collection

Location:

Alabama Avenue and Randle Place, SE
District of Columbia

Prepared For:



District of Department
of Transportation (DDOT)

Prepared By:



SAMMAT
ENGINEERING SERVICES, LLC

SAMMAT Engineering Services, LLC
P.O. Box 780
Mount Airy, MD 21771
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December 14th, 2016

SUMMARY

This report provides DDOT with turning movement count data obtained on November 3rd 2016 at the intersection of Alabama Avenue and Randle Place, SE. Figure 1 presents a map indicating the study location.



Figure 1: Turning Movement Count Location

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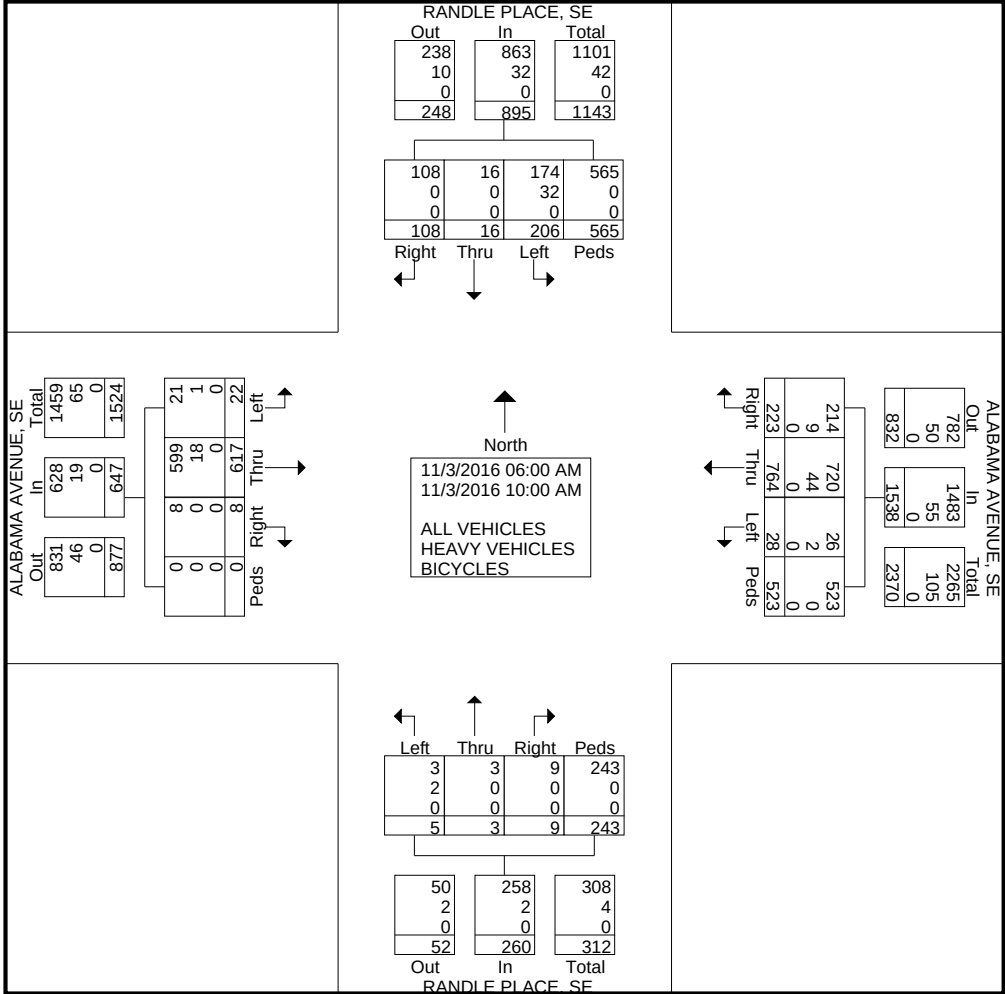
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ALABAMA AVENUE & RANDLE PLACE, SE - AM PEAK



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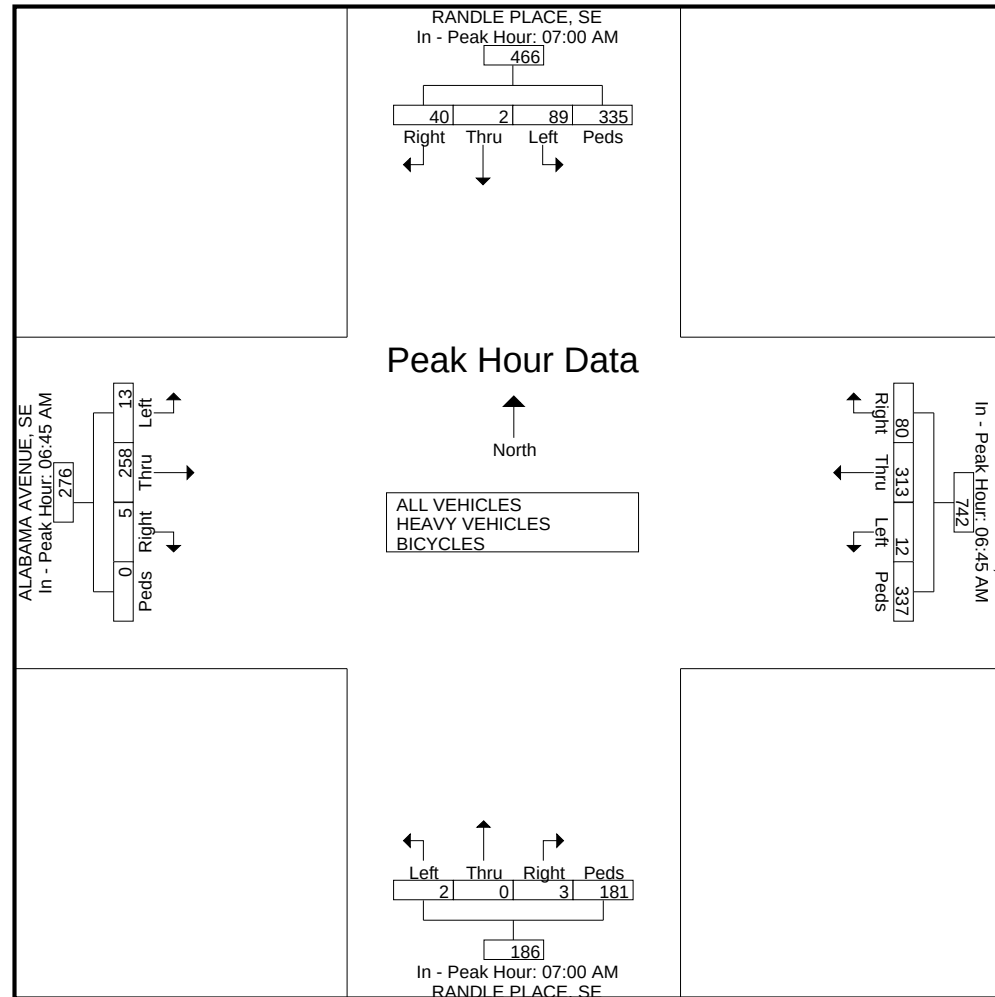
ALABAMA AVENUE & RANDLE PLACE, SE - AM PEAK

	RANDLE PLACE, SE From North					ALABAMA AVENUE, SE From East					RANDLE PLACE, SE From South					ALABAMA AVENUE, SE From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 10:00 AM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	07:00 AM					06:45 AM					07:00 AM					06:45 AM					
+0 mins.	12	1	31	62	106	28	73	7	52	160	2	0	2	57	61	2	57	7	0	66	
+15 mins.	18	0	19	104	141	24	84	3	72	183	1	0	0	53	54	3	67	1	0	71	
+30 mins.	3	0	24	70	97	16	87	2	129	234	0	0	0	42	42	0	73	3	0	76	
+45 mins.	7	1	15	99	122	12	69	0	84	165	0	0	0	29	29	0	61	2	0	63	
Total Volume	40	2	89	335	466	80	313	12	337	742	3	0	2	181	186	5	258	13	0	276	
% App. Total	8.6	0.4	19.1	71.9		10.8	42.2	1.6	45.4		1.6	0	1.1	97.3		1.8	93.5	4.7	0		
PHF	.556	.500	.718	.805	.826	.714	.899	.429	.653	.793	.375	.000	.250	.794	.762	.417	.884	.464	.000	.908	

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ALABAMA AVENUE & RANDLE PLACE, SE - AM PEAK



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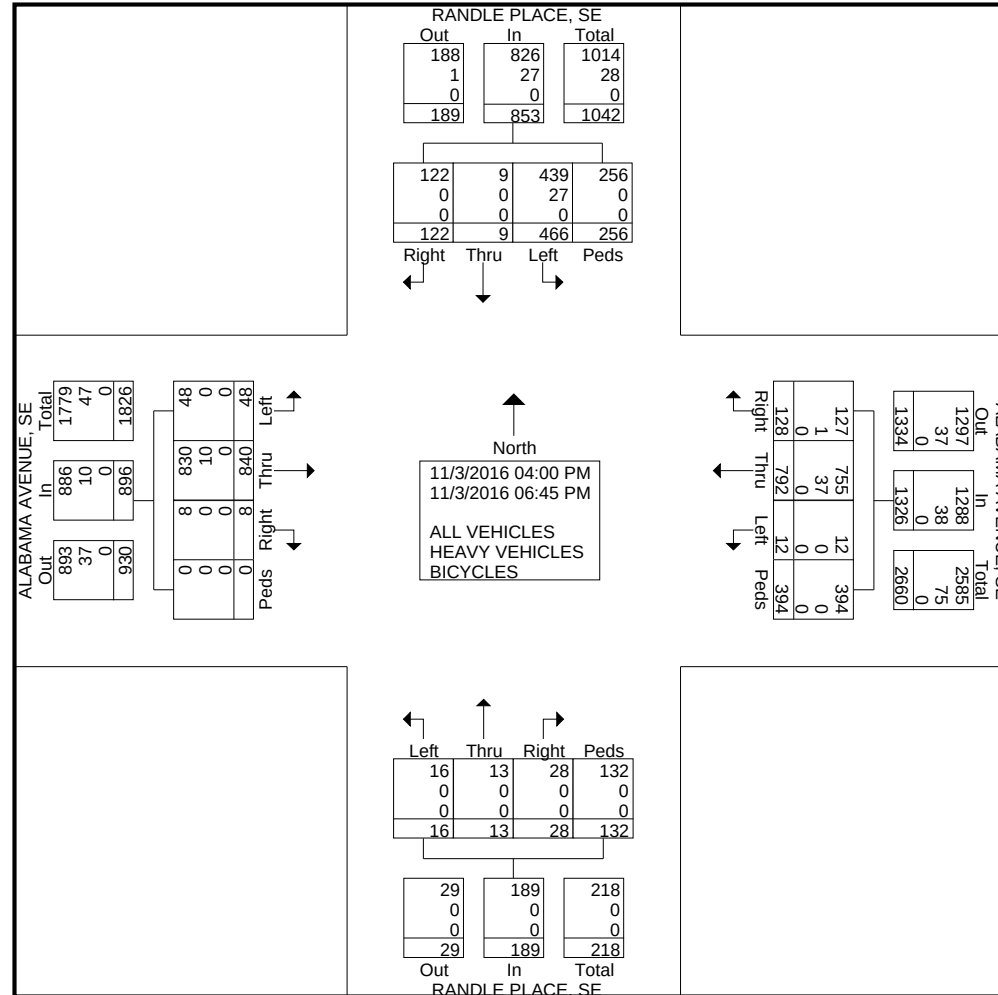
ALABAMA AVENUE & RANDLE PLACE, SE - PM PEAK

Groups Printed- ALL VEHICLES - HEAVY VEHICLES - BICYCLES																					
	RANDLE PLACE, SE From North					ALABAMA AVENUE, SE From East					RANDLE PLACE, SE From South					ALABAMA AVENUE, SE From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	15	1	24	17	57	9	50	2	31	92	1	0	2	6	9	0	56	5	0	61	219
04:15 PM	15	2	34	59	110	13	58	2	52	125	4	2	2	6	14	0	94	7	0	101	350
04:30 PM	14	1	48	18	81	8	67	2	21	98	2	2	1	7	12	0	71	4	0	75	266
04:45 PM	9	0	45	16	70	7	59	1	22	89	3	4	2	5	14	2	75	6	0	83	256
Total	53	4	151	110	318	37	234	7	126	404	10	8	7	24	49	2	296	22	0	320	1091
05:00 PM	10	1	63	23	97	8	76	1	30	115	3	0	3	5	11	3	83	2	0	88	311
05:15 PM	12	0	43	26	81	13	62	0	25	100	2	1	2	5	10	1	74	5	0	80	271
05:30 PM	9	1	53	31	94	8	78	0	50	136	4	0	1	13	18	1	73	1	0	75	323
05:45 PM	8	1	68	18	95	10	79	1	39	129	3	3	0	18	24	1	66	0	0	67	315
Total	39	3	227	98	367	39	295	2	144	480	12	4	6	41	63	6	296	8	0	310	1220
06:00 PM	7	0	28	21	56	14	80	2	65	161	1	0	0	30	31	0	73	6	0	79	327
06:15 PM	4	2	26	8	40	14	70	1	24	109	2	1	2	12	17	0	74	3	0	77	243
06:30 PM	9	0	21	4	34	10	56	0	20	86	2	0	1	14	17	0	60	7	0	67	204
06:45 PM	10	0	13	15	38	14	57	0	15	86	1	0	0	11	12	0	41	2	0	43	179
Total	30	2	88	48	168	52	263	3	124	442	6	1	3	67	77	0	248	18	0	266	953
Grand Total	122	9	466	256	853	128	792	12	394	1326	28	13	16	132	189	8	840	48	0	896	3264
Apprch %	14.3	1.1	54.6	30		9.7	59.7	0.9	29.7		14.8	6.9	8.5	69.8		0.9	93.8	5.4	0		
Total %	3.7	0.3	14.3	7.8	26.1	3.9	24.3	0.4	12.1	40.6	0.9	0.4	0.5	4	5.8	0.2	25.7	1.5	0	27.5	
ALL VEHICLES	122	9	439	256	826	127	755	12	394	1288	28	13	16	132	189	8	830	48	0	886	3189
% ALL VEHICLES	100	100	94.2	100	96.8	99.2	95.3	100	100	97.1	100	100	100	100	100	100	98.8	100	0	98.9	97.7
HEAVY VEHICLES	0	0	27	0	27	1	37	0	0	38	0	0	0	0	0	0	10	0	0	10	75
% HEAVY VEHICLES	0	0	5.8	0	3.2	0.8	4.7	0	0	2.9	0	0	0	0	0	0	1.2	0	0	1.1	2.3
BICYCLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% BICYCLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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ALABAMA AVENUE & RANDLE PLACE, SE - PM PEAK



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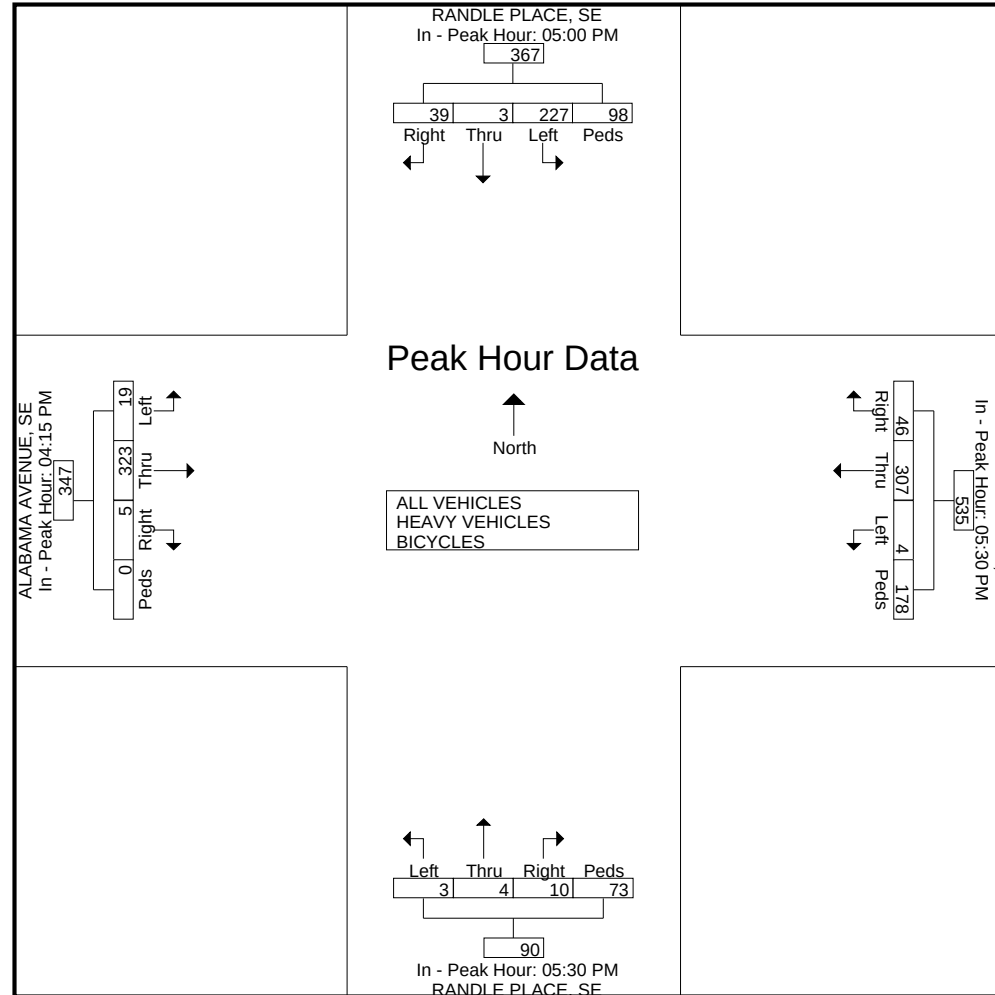
ALABAMA AVENUE & RANDLE PLACE, SE - PM PEAK

	RANDLE PLACE, SE From North					ALABAMA AVENUE, SE From East					RANDLE PLACE, SE From South					ALABAMA AVENUE, SE From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	05:00 PM					05:30 PM					05:30 PM					04:15 PM					
+0 mins.	10	1	63	23	97	8	78	0	50	136	4	0	1	13	18	0	94	7	0	101	
+15 mins.	12	0	43	26	81	10	79	1	39	129	3	3	0	18	24	0	71	4	0	75	
+30 mins.	9	1	53	31	94	14	80	2	65	161	1	0	0	30	31	2	75	6	0	83	
+45 mins.	8	1	68	18	95	14	70	1	24	109	2	1	2	12	17	3	83	2	0	88	
Total Volume	39	3	227	98	367	46	307	4	178	535	10	4	3	73	90	5	323	19	0	347	
% App. Total	10.6	0.8	61.9	26.7		8.6	57.4	0.7	33.3		11.1	4.4	3.3	81.1		1.4	93.1	5.5	0		
PHF	.813	.750	.835	.790	.946	.821	.959	.500	.685	.831	.625	.333	.375	.608	.726	.417	.859	.679	.000	.859	

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ALABAMA AVENUE & RANDLE PLACE, SE - PM PEAK



TURNING MOVEMENT COUNT

Weekday Traffic Data Collection

Location:

Alabama Avenue and 11th Place, SE
District of Columbia

Prepared For:



District of Department
of Transportation (DDOT)

Prepared By:



SAMMAT

ENGINEERING SERVICES, LLC

SAMMAT Engineering Services, LLC

P.O. Box 780

Mount Airy, MD 21771

www.sammateng.com

November 10th, 2016

SUMMARY

This report provides DDOT with turning movement count data obtained on November 3rd, 2016 at the intersection of Alabama Avenue and 11th Place, SE. Figure 1 presents a map indicating the study location.

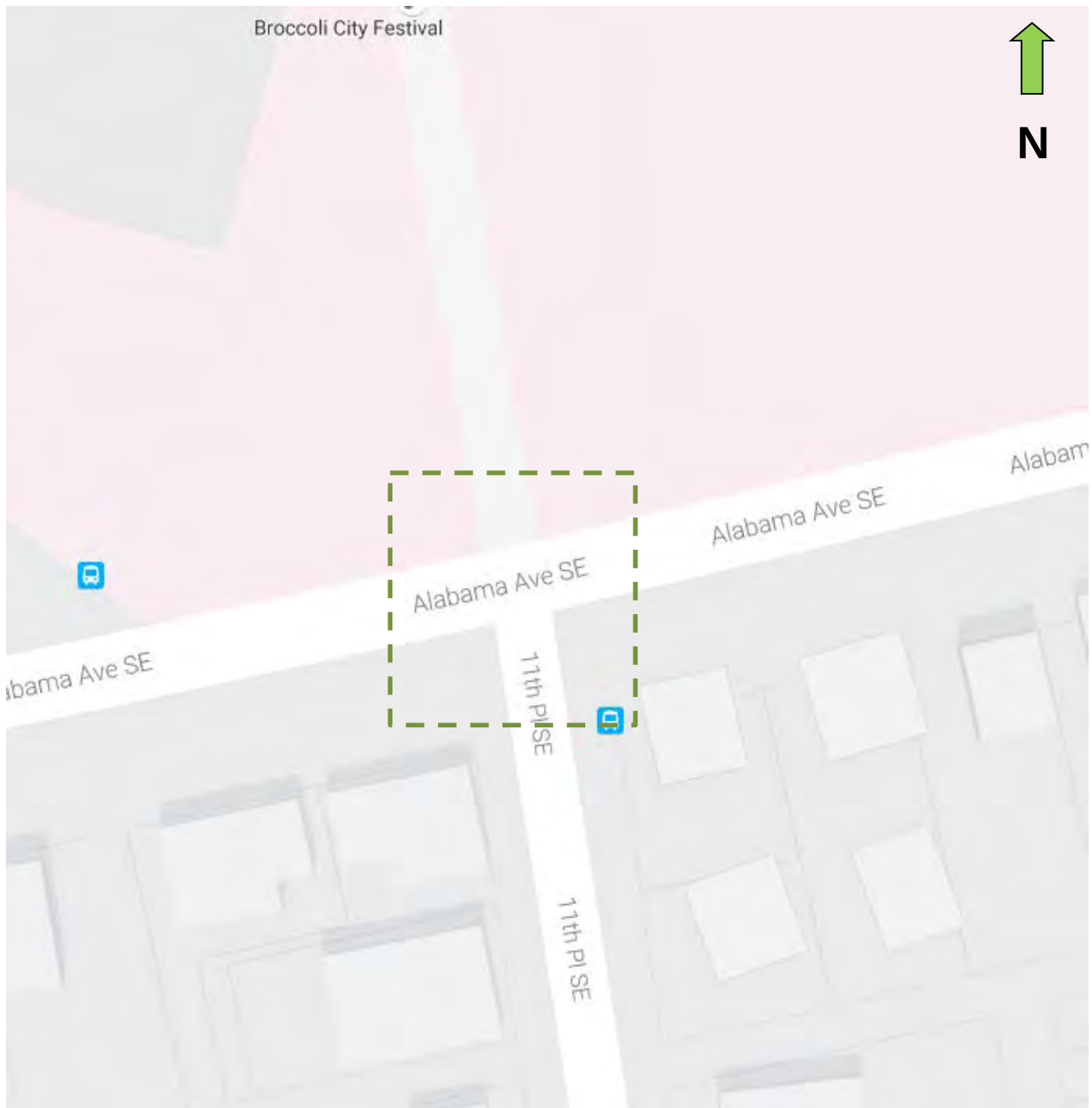


Figure 1: Turning Movement Count Location

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ALABAMA AVENUE & 11TH STREET, SE - AM PEAK

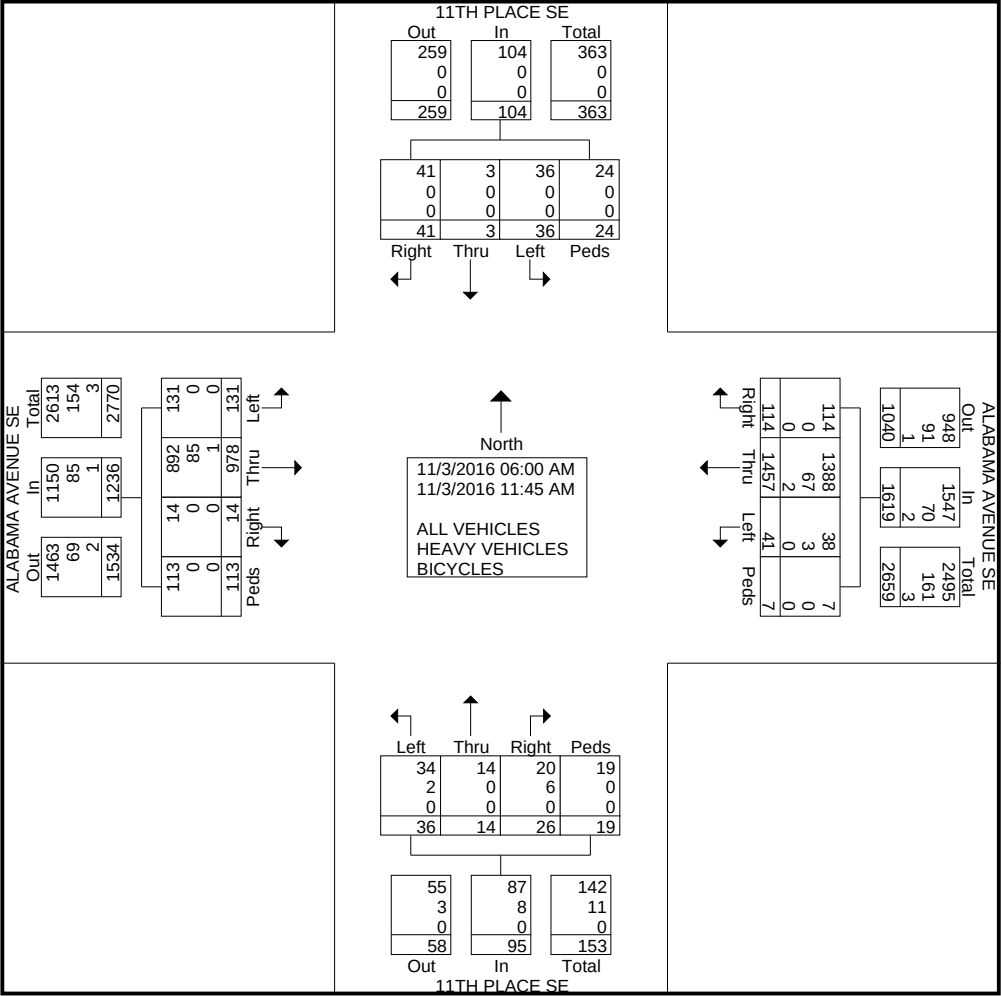
Groups Printed- ALL VEHICLES - HEAVY VEHICLES - BICYCLES

	11TH PLACE SE From North					ALABAMA AVENUE SE From East					11TH PLACE SE From South					ALABAMA AVENUE SE From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
06:00 AM	0	0	0	1	1	1	47	0	0	48	1	0	2	0	3	0	22	2	5	29	81
06:15 AM	2	0	0	0	2	5	53	2	0	60	1	0	2	0	3	0	46	5	1	52	117
06:30 AM	3	0	1	0	4	5	64	2	0	71	1	0	0	0	1	1	50	7	2	60	136
06:45 AM	0	0	0	0	0	21	88	2	0	111	1	1	0	0	2	0	61	17	0	78	191
Total	5	0	1	1	7	32	252	6	0	290	4	1	4	0	9	1	179	31	8	219	525
07:00 AM	3	0	3	2	8	13	112	0	0	125	2	0	3	1	6	1	60	18	7	86	225
07:15 AM	8	0	8	2	18	9	133	1	2	145	2	2	4	3	11	3	77	4	5	89	263
07:30 AM	8	2	8	7	25	5	174	7	0	186	4	0	5	0	9	0	90	13	5	108	328
07:45 AM	5	1	7	2	15	14	188	5	0	207	1	3	4	4	12	0	114	16	23	153	387
Total	24	3	26	13	66	41	607	13	2	663	9	5	16	8	38	4	341	51	40	436	1203
08:00 AM	3	0	7	3	13	9	187	3	0	199	1	3	2	0	6	2	130	12	13	157	375
08:15 AM	4	0	0	4	8	9	140	3	1	153	5	2	5	3	15	1	105	7	18	131	307
08:30 AM	5	0	1	0	6	11	131	6	0	148	5	3	6	2	16	4	106	15	23	148	318
08:45 AM	0	0	1	3	4	12	140	10	4	166	2	0	3	6	11	2	117	15	11	145	326
Total	12	0	9	10	31	41	598	22	5	666	13	8	16	11	48	9	458	49	65	581	1326
*** BREAK ***																					
Grand Total	41	3	36	24	104	114	1457	41	7	1619	26	14	36	19	95	14	978	131	113	1236	3054
Apprch %	39.4	2.9	34.6	23.1		7	90	2.5	0.4		27.4	14.7	37.9	20		1.1	79.1	10.6	9.1		
Total %	1.3	0.1	1.2	0.8	3.4	3.7	47.7	1.3	0.2	53	0.9	0.5	1.2	0.6	3.1	0.5	32	4.3	3.7	40.5	
ALL VEHICLES	41	3	36	24	104	114	1388	38	7	1547	20	14	34	19	87	14	892	131	113	1150	2888
% ALL VEHICLES	100	100	100	100	100	100	95.3	92.7	100	95.6	76.9	100	94.4	100	91.6	100	91.2	100	100	93	94.6
HEAVY VEHICLES	0	0	0	0	0	0	67	3	0	70	6	0	2	0	8	0	85	0	0	85	163
% HEAVY VEHICLES	0	0	0	0	0	0	4.6	7.3	0	4.3	23.1	0	5.6	0	8.4	0	8.7	0	0	6.9	5.3
BICYCLES	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
% BICYCLES	0	0	0	0	0	0	0.1	0	0	0.1	0	0	0	0	0	0	0.1	0	0	0.1	0.1

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P.O. BOX 780
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ALABAMA AVENUE & 11TH STREET, SE - AM PEAK



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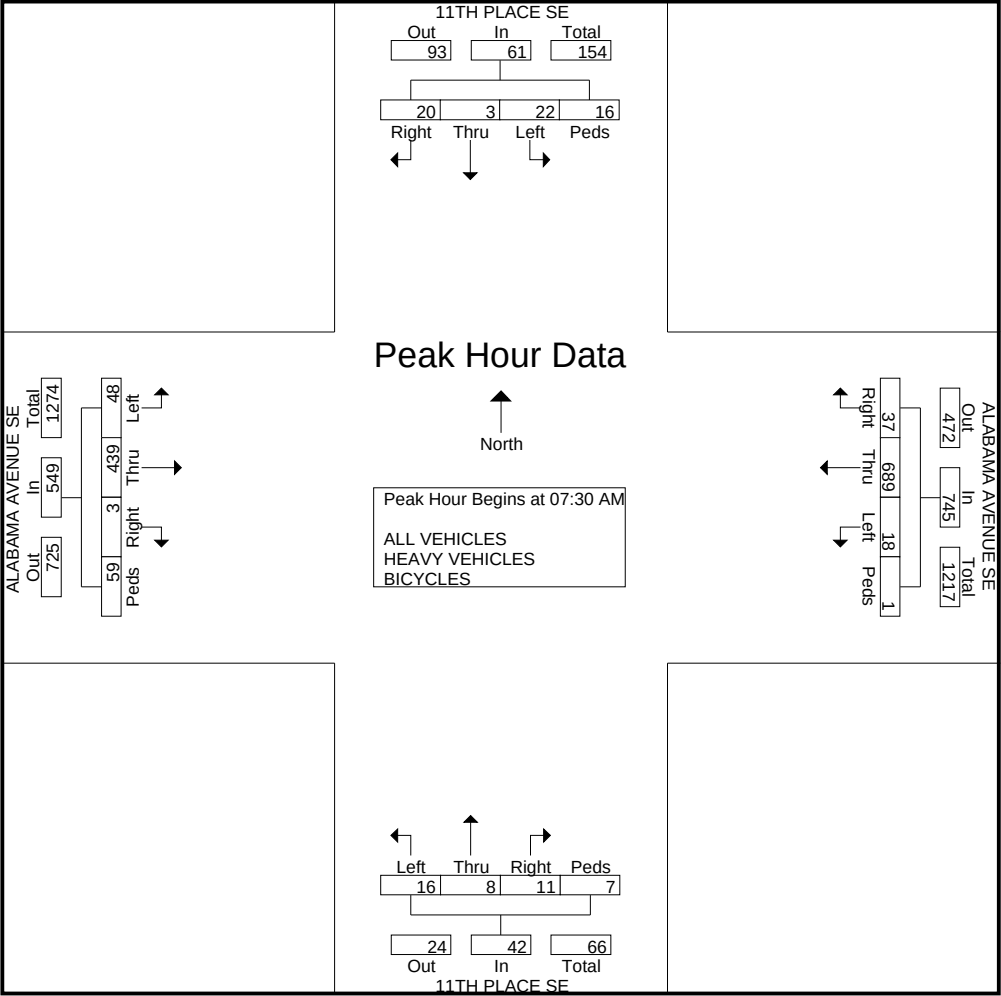
ALABAMA AVENUE & 11TH STREET, SE - AM PEAK

	11TH PLACE SE From North					ALABAMA AVENUE SE From East					11TH PLACE SE From South					ALABAMA AVENUE SE From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	8	2	8	7	25	5	174	7	0	186	4	0	5	0	9	0	90	13	5	108	328
07:45 AM	5	1	7	2	15	14	188	5	0	207	1	3	4	4	12	0	114	16	23	153	387
08:00 AM	3	0	7	3	13	9	187	3	0	199	1	3	2	0	6	2	130	12	13	157	375
08:15 AM	4	0	0	4	8	9	140	3	1	153	5	2	5	3	15	1	105	7	18	131	307
Total Volume	20	3	22	16	61	37	689	18	1	745	11	8	16	7	42	3	439	48	59	549	1397
% App. Total	32.8	4.9	36.1	26.2		5	92.5	2.4	0.1		26.2	19	38.1	16.7		0.5	80	8.7	10.7		
PHF	.625	.375	.688	.571	.610	.661	.916	.643	.250	.900	.550	.667	.800	.438	.700	.375	.844	.750	.641	.874	.902

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ALABAMA AVENUE & 11TH STREET, SE - AM PEAK



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ALABAMA AVENUE & 11TH STREET, SE - PM PEAK

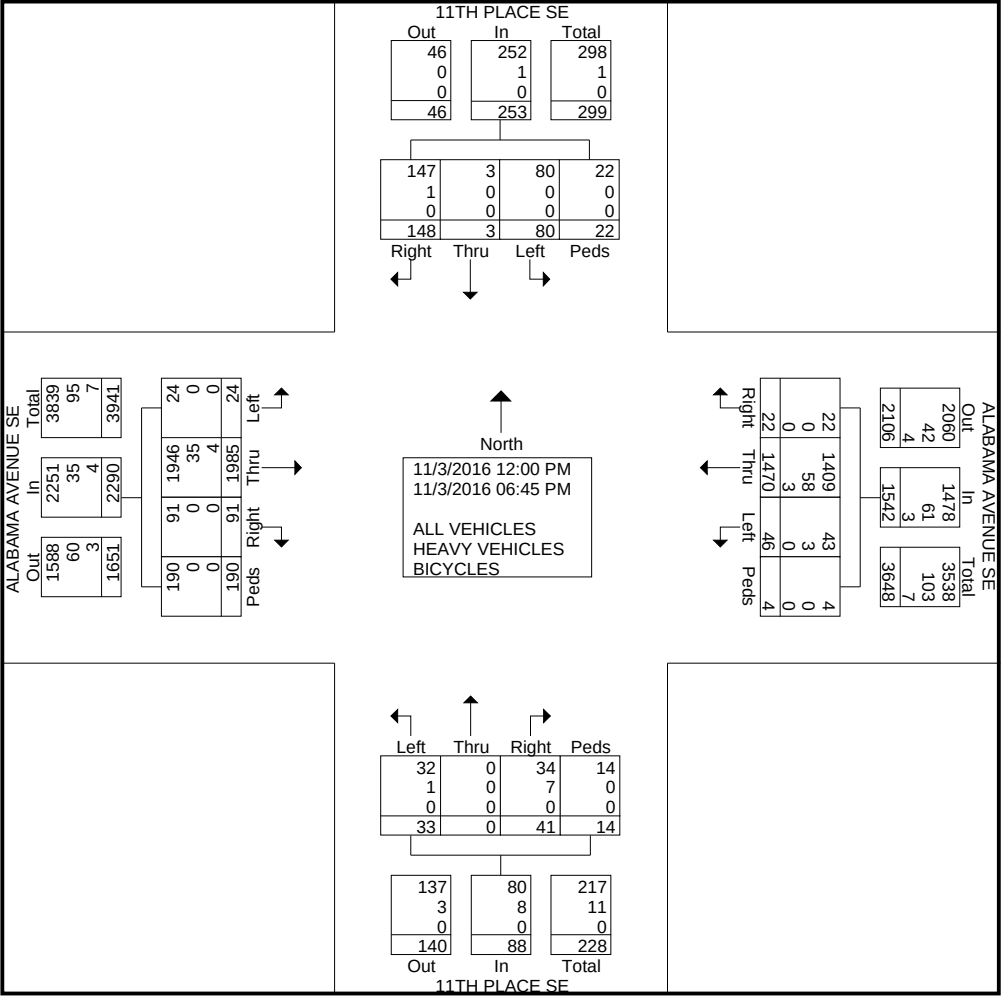
Groups Printed- ALL VEHICLES - HEAVY VEHICLES - BICYCLES

	11TH PLACE SE From North					ALABAMA AVENUE SE From East					11TH PLACE SE From South					ALABAMA AVENUE SE From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
*** BREAK ***																					
04:00 PM	12	1	15	4	32	0	122	7	1	130	3	0	5	0	8	5	168	2	13	188	358
04:15 PM	17	0	7	2	26	1	116	1	0	118	3	0	2	6	11	4	183	1	27	215	370
04:30 PM	26	0	9	1	36	0	103	4	0	107	8	0	4	0	12	10	176	1	22	209	364
04:45 PM	10	0	8	1	19	3	135	2	0	140	4	0	1	3	8	4	169	0	7	180	347
Total	65	1	39	8	113	4	476	14	1	495	18	0	12	9	39	23	696	4	69	792	1439
05:00 PM	17	0	12	2	31	1	122	4	0	127	2	0	2	0	4	6	185	2	23	216	378
05:15 PM	18	1	11	0	30	1	143	3	0	147	5	0	2	0	7	14	166	2	15	197	381
05:30 PM	10	0	4	1	15	1	118	5	0	124	2	0	5	0	7	11	176	1	15	203	349
05:45 PM	11	0	6	2	19	3	117	7	2	129	5	0	2	2	9	11	172	0	10	193	350
Total	56	1	33	5	95	6	500	19	2	527	14	0	11	2	27	42	699	5	63	809	1458
06:00 PM	7	0	4	5	16	1	134	5	1	141	3	0	5	1	9	11	179	3	20	213	379
06:15 PM	5	1	0	1	7	1	146	3	0	150	2	0	2	0	4	11	168	1	17	197	358
06:30 PM	9	0	3	2	14	3	103	1	0	107	2	0	1	2	5	4	131	7	11	153	279
06:45 PM	6	0	1	1	8	7	111	4	0	122	2	0	2	0	4	0	112	4	10	126	260
Total	27	1	8	9	45	12	494	13	1	520	9	0	10	3	22	26	590	15	58	689	1276
Grand Total	148	3	80	22	253	22	1470	46	4	1542	41	0	33	14	88	91	1985	24	190	2290	4173
Apprch %	58.5	1.2	31.6	8.7		1.4	95.3	3	0.3		46.6	0	37.5	15.9		4	86.7	1	8.3		
Total %	3.5	0.1	1.9	0.5	6.1	0.5	35.2	1.1	0.1	37	1	0	0.8	0.3	2.1	2.2	47.6	0.6	4.6	54.9	
ALL VEHICLES	147	3	80	22	252	22	1409	43	4	1478	34	0	32	14	80	91	1946	24	190	2251	4061
% ALL VEHICLES	99.3	100	100	100	99.6	100	95.9	93.5	100	95.8	82.9	0	97	100	90.9	100	98	100	100	98.3	97.3
HEAVY VEHICLES	1	0	0	0	1	0	58	3	0	61	7	0	1	0	8	0	35	0	0	35	105
% HEAVY VEHICLES	0.7	0	0	0	0.4	0	3.9	6.5	0	4	17.1	0	3	0	9.1	0	1.8	0	0	1.5	2.5
BICYCLES	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	4	0	0	4	7
% BICYCLES	0	0	0	0	0	0	0.2	0	0	0.2	0	0	0	0	0	0	0.2	0	0	0.2	0.2

SAMMAT ENGINEERING SERVICES, LLC

P.O. BOX 780
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ALABAMA AVENUE & 11TH STREET, SE - PM PEAK



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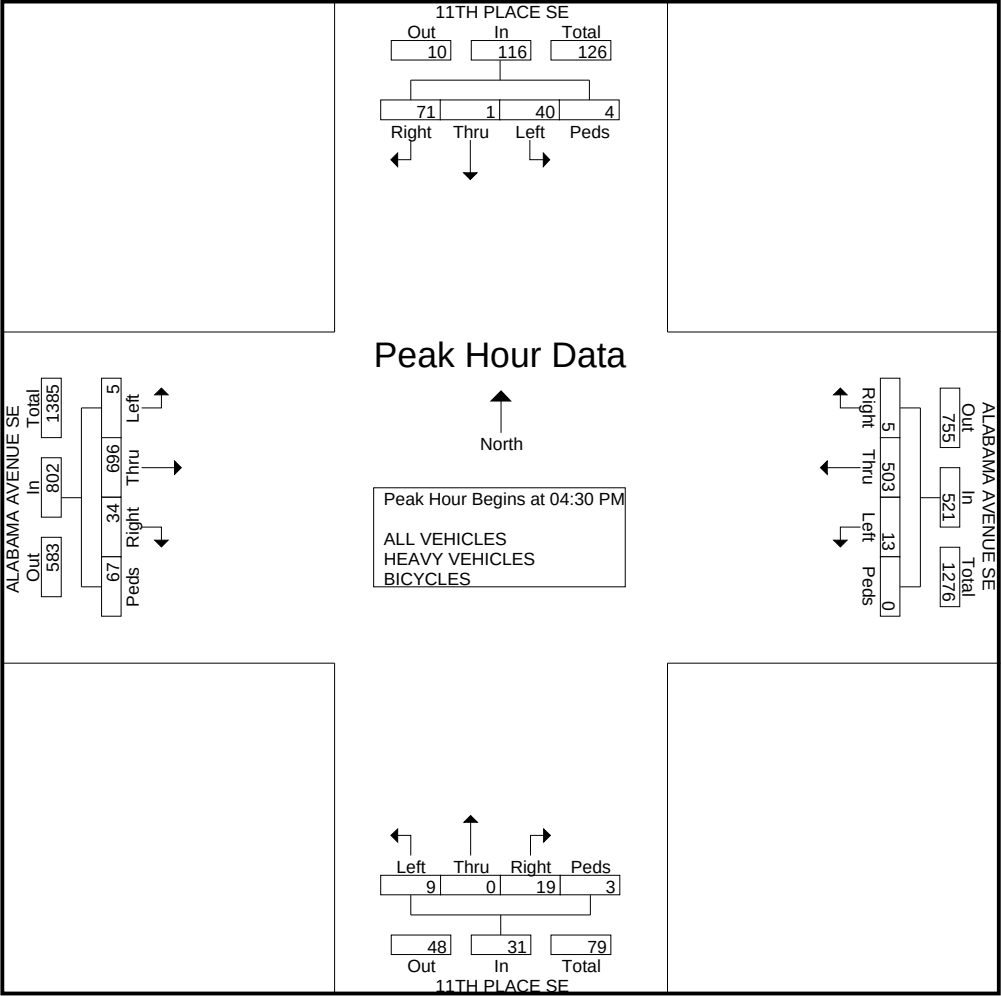
ALABAMA AVENUE & 11TH STREET, SE - PM PEAK

	11TH PLACE SE From North					ALABAMA AVENUE SE From East					11TH PLACE SE From South					ALABAMA AVENUE SE From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	26	0	9	1	36	0	103	4	0	107	8	0	4	0	12	10	176	1	22	209	364
04:45 PM	10	0	8	1	19	3	135	2	0	140	4	0	1	3	8	4	169	0	7	180	347
05:00 PM	17	0	12	2	31	1	122	4	0	127	2	0	2	0	4	6	185	2	23	216	378
05:15 PM	18	1	11	0	30	1	143	3	0	147	5	0	2	0	7	14	166	2	15	197	381
Total Volume	71	1	40	4	116	5	503	13	0	521	19	0	9	3	31	34	696	5	67	802	1470
% App. Total	61.2	0.9	34.5	3.4		1	96.5	2.5	0		61.3	0	29	9.7		4.2	86.8	0.6	8.4		
PHF	.683	.250	.833	.500	.806	.417	.879	.813	.000	.886	.594	.000	.563	.250	.646	.607	.941	.625	.728	.928	.965

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P.O. BOX 780
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ALABAMA AVENUE & 11TH STREET, SE - PM PEAK



TURNING MOVEMENT COUNT

Weekday Traffic Data Collection

Location:

Alabama Avenue and 13th Street, SE
District of Columbia

Prepared For:



District of Department
of Transportation (DDOT)

Prepared By:



SAMMAT
ENGINEERING SERVICES, LLC

SAMMAT Engineering Services, LLC
P.O. Box 780
Mount Airy, MD 21771
www.sammateng.com

November 10th, 2016

SUMMARY

This report provides DDOT with turning movement count data obtained on November 3rd, 2016 at the intersection of Alabama Avenue and 13th Street, SE. Figure 1 presents a map indicating the study location.

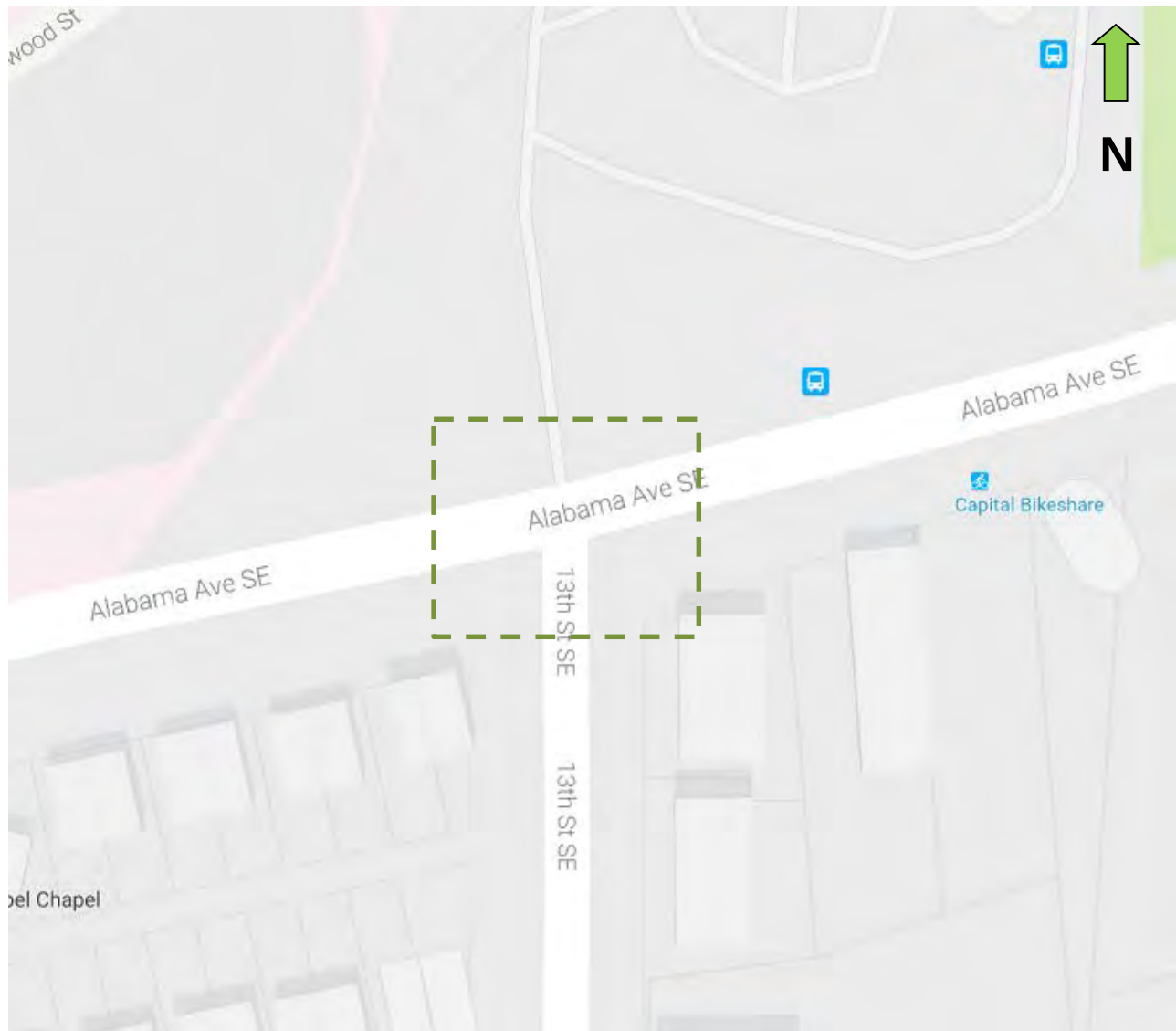


Figure 1: Turning Movement Count Location

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ALABAMA AVENUE & 13TH STREET, SE - AM PEAK

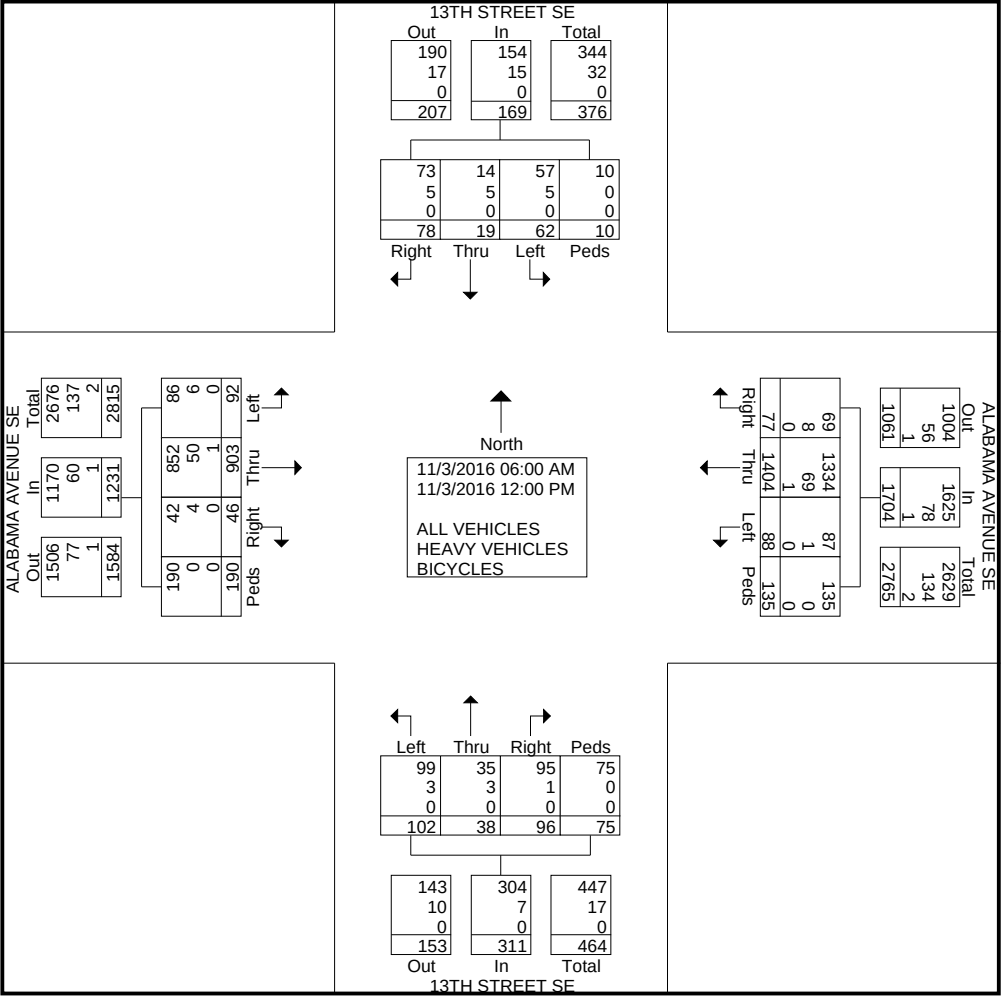
Groups Printed- ALL VEHICLES - HEAVY VEHICLES - BICYCLES

	13TH STREET SE From North					ALABAMA AVENUE SE From East					13TH STREET SE From South					ALABAMA AVENUE SE From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
06:00 AM	0	1	1	0	2	3	53	2	3	61	5	0	1	2	8	1	23	4	7	35	106
06:15 AM	10	0	3	0	13	6	43	8	9	66	3	5	2	3	13	2	30	8	4	44	136
06:30 AM	4	2	6	0	12	5	64	3	3	75	6	3	8	2	19	1	48	9	5	63	169
06:45 AM	12	1	6	0	19	7	84	4	12	107	5	3	8	1	17	2	46	10	5	63	206
Total	26	4	16	0	46	21	244	17	27	309	19	11	19	8	57	6	147	31	21	205	617
07:00 AM	4	2	5	4	15	7	125	3	16	151	7	3	5	10	25	5	55	10	8	78	269
07:15 AM	9	3	5	2	19	4	109	6	20	139	7	4	15	8	34	5	63	13	13	94	286
07:30 AM	8	2	9	0	19	6	178	11	7	202	10	3	9	10	32	8	93	8	15	124	377
07:45 AM	9	2	5	1	17	8	164	5	14	191	11	7	14	10	42	2	114	5	25	146	396
Total	30	9	24	7	70	25	576	25	57	683	35	17	43	38	133	20	325	36	61	442	1328
08:00 AM	10	1	5	0	16	11	172	12	13	208	14	4	16	14	48	6	124	9	30	169	441
08:15 AM	4	2	8	1	15	9	131	12	19	171	13	0	10	6	29	4	97	6	28	135	350
08:30 AM	2	2	4	2	10	6	144	7	6	163	10	4	8	7	29	5	112	5	37	159	361
08:45 AM	6	1	5	0	12	5	137	15	13	170	5	2	6	2	15	5	98	5	13	121	318
Total	22	6	22	3	53	31	584	46	51	712	42	10	40	29	121	20	431	25	108	584	1470
*** BREAK ***																					
Grand Total	78	19	62	10	169	77	1404	88	135	1704	96	38	102	75	311	46	903	92	190	1231	3415
Apprch %	46.2	11.2	36.7	5.9		4.5	82.4	5.2	7.9		30.9	12.2	32.8	24.1		3.7	73.4	7.5	15.4		
Total %	2.3	0.6	1.8	0.3	4.9	2.3	41.1	2.6	4	49.9	2.8	1.1	3	2.2	9.1	1.3	26.4	2.7	5.6	36	
ALL VEHICLES	73	14	57	10	154	69	1334	87	135	1625	95	35	99	75	304	42	852	86	190	1170	3253
% ALL VEHICLES	93.6	73.7	91.9	100	91.1	89.6	95	98.9	100	95.4	99	92.1	97.1	100	97.7	91.3	94.4	93.5	100	95	95.3
HEAVY VEHICLES	5	5	5	0	15	8	69	1	0	78	1	3	3	0	7	4	50	6	0	60	160
% HEAVY VEHICLES	6.4	26.3	8.1	0	8.9	10.4	4.9	1.1	0	4.6	1	7.9	2.9	0	2.3	8.7	5.5	6.5	0	4.9	4.7
BICYCLES	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
% BICYCLES	0	0	0	0	0	0	0.1	0	0	0.1	0	0	0	0	0	0	0.1	0	0	0.1	0.1

SAMMAT ENGINEERING SERVICES, LLC

P.O. BOX 780
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ALABAMA AVENUE & 13TH STREET, SE - AM PEAK



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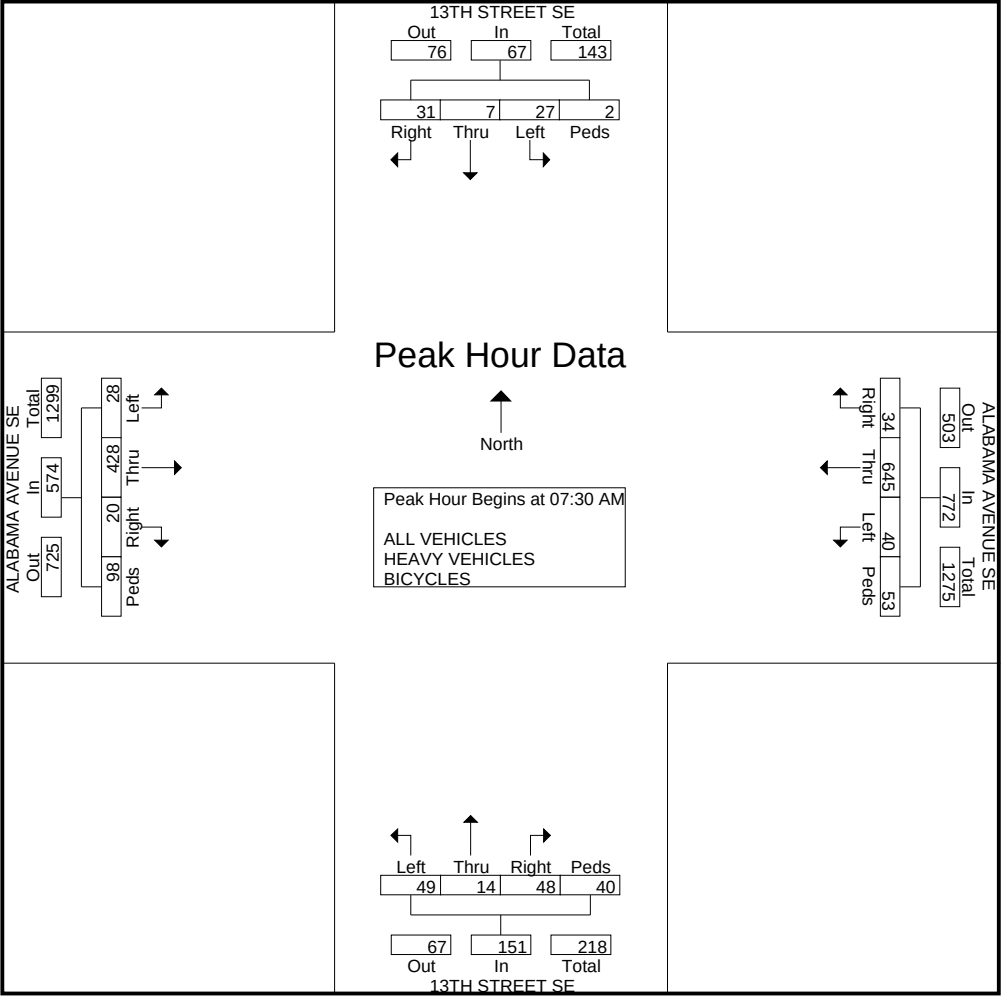
ALABAMA AVENUE & 13TH STREET, SE - AM PEAK

	13TH STREET SE From North					ALABAMA AVENUE SE From East					13TH STREET SE From South					ALABAMA AVENUE SE From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 12:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	8	2	9	0	19	6	178	11	7	202	10	3	9	10	32	8	93	8	15	124	377
07:45 AM	9	2	5	1	17	8	164	5	14	191	11	7	14	10	42	2	114	5	25	146	396
08:00 AM	10	1	5	0	16	11	172	12	13	208	14	4	16	14	48	6	124	9	30	169	441
08:15 AM	4	2	8	1	15	9	131	12	19	171	13	0	10	6	29	4	97	6	28	135	350
Total Volume	31	7	27	2	67	34	645	40	53	772	48	14	49	40	151	20	428	28	98	574	1564
% App. Total	46.3	10.4	40.3	3		4.4	83.5	5.2	6.9		31.8	9.3	32.5	26.5		3.5	74.6	4.9	17.1		
PHF	.775	.875	.750	.500	.882	.773	.906	.833	.697	.928	.857	.500	.766	.714	.786	.625	.863	.778	.817	.849	.887

SAMMAT ENGINEERING SERVICES, LLC

P.O. BOX 780
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ALABAMA AVENUE & 13TH STREET, SE - AM PEAK



SAMMAT ENGINEERING SERVICES, LLC

P.O. BOX 780
MT. AIRY, MD 21771

ALABAMA AVENUE & 13TH STREET, SE - PM PEAK

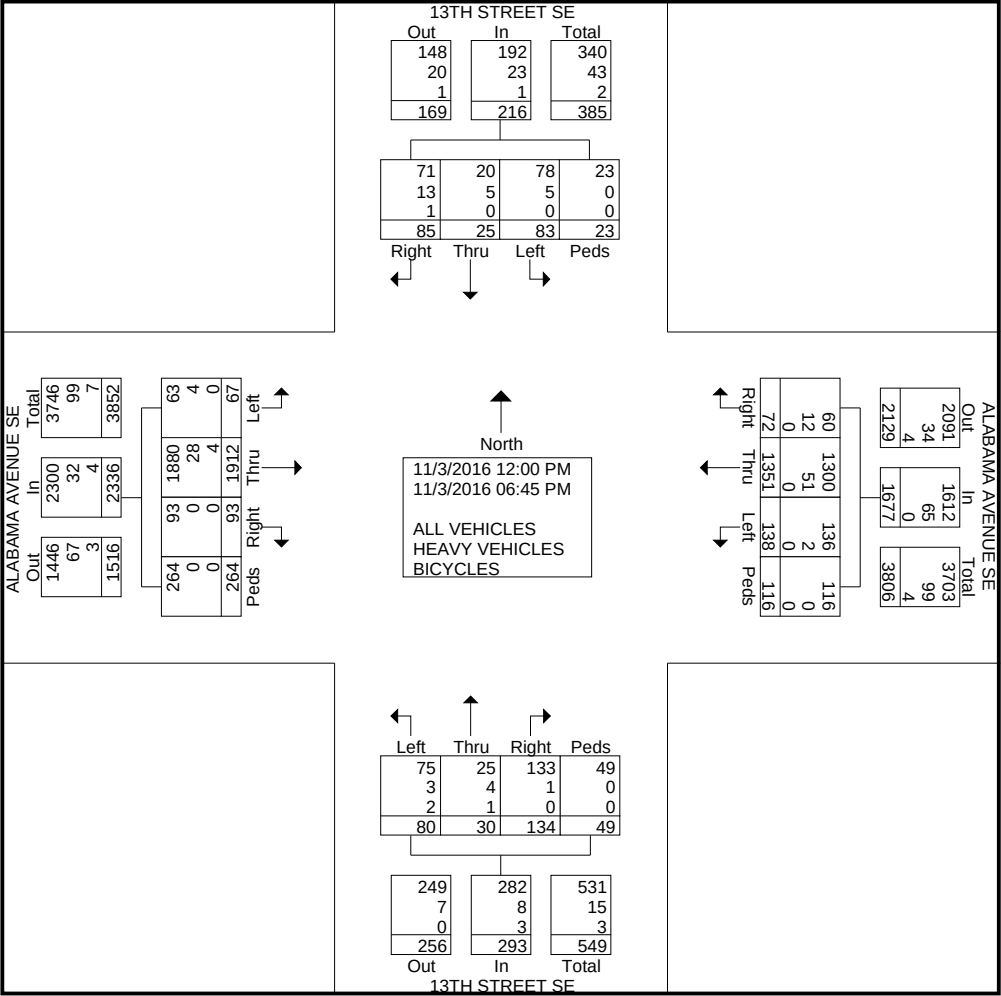
Groups Printed- ALL VEHICLES - HEAVY VEHICLES - BICYCLES

	13TH STREET SE From North					ALABAMA AVENUE SE From East					13TH STREET SE From South					ALABAMA AVENUE SE From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
*** BREAK ***																					
04:00 PM	5	2	4	0	11	4	116	10	11	141	14	1	9	2	26	6	176	2	13	197	375
04:15 PM	4	2	6	3	15	7	107	14	18	146	8	3	7	7	25	9	189	5	34	237	423
04:30 PM	9	5	9	5	28	7	84	7	15	113	15	3	5	1	24	7	141	5	41	194	359
04:45 PM	6	3	8	5	22	6	119	13	15	153	12	2	12	4	30	10	158	7	20	195	400
Total	24	12	27	13	76	24	426	44	59	553	49	9	33	14	105	32	664	19	108	823	1557
05:00 PM	8	1	6	1	16	9	115	13	3	140	6	6	7	3	22	5	179	8	17	209	387
05:15 PM	6	2	8	3	19	8	132	7	7	154	8	3	7	5	23	4	170	4	27	205	401
05:30 PM	4	0	7	2	13	7	115	12	8	142	14	3	4	2	23	10	175	4	13	202	380
05:45 PM	7	3	6	0	16	5	111	11	8	135	9	2	11	6	28	8	162	5	18	193	372
Total	25	6	27	6	64	29	473	43	26	571	37	14	29	16	96	27	686	21	75	809	1540
06:00 PM	8	6	14	1	29	8	114	12	13	147	12	3	4	6	25	7	180	6	24	217	418
06:15 PM	14	0	5	2	21	4	126	14	9	153	12	1	4	3	20	15	152	11	26	204	398
06:30 PM	6	0	5	0	11	3	102	8	2	115	9	1	5	8	23	5	130	5	17	157	306
06:45 PM	8	1	5	1	15	4	110	17	7	138	15	2	5	2	24	7	100	5	14	126	303
Total	36	7	29	4	76	19	452	51	31	553	48	7	18	19	92	34	562	27	81	704	1425
Grand Total	85	25	83	23	216	72	1351	138	116	1677	134	30	80	49	293	93	1912	67	264	2336	4522
Apprch %	39.4	11.6	38.4	10.6		4.3	80.6	8.2	6.9		45.7	10.2	27.3	16.7		4	81.8	2.9	11.3		
Total %	1.9	0.6	1.8	0.5	4.8	1.6	29.9	3.1	2.6	37.1	3	0.7	1.8	1.1	6.5	2.1	42.3	1.5	5.8	51.7	
ALL VEHICLES	71	20	78	23	192	60	1300	136	116	1612	133	25	75	49	282	93	1880	63	264	2300	4386
% ALL VEHICLES	83.5	80	94	100	88.9	83.3	96.2	98.6	100	96.1	99.3	83.3	93.8	100	96.2	100	98.3	94	100	98.5	97
HEAVY VEHICLES	13	5	5	0	23	12	51	2	0	65	1	4	3	0	8	0	28	4	0	32	128
% HEAVY VEHICLES	15.3	20	6	0	10.6	16.7	3.8	1.4	0	3.9	0.7	13.3	3.8	0	2.7	0	1.5	6	0	1.4	2.8
BICYCLES	1	0	0	0	1	0	0	0	0	0	0	1	2	0	3	0	4	0	0	4	8
% BICYCLES	1.2	0	0	0	0.5	0	0	0	0	0	0	3.3	2.5	0	1	0	0.2	0	0	0.2	0.2

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ALABAMA AVENUE & 13TH STREET, SE - PM PEAK



SAMMAT ENGINEERING SERVICES, LLC

P.O. BOX 780
MT. AIRY, MD 21771

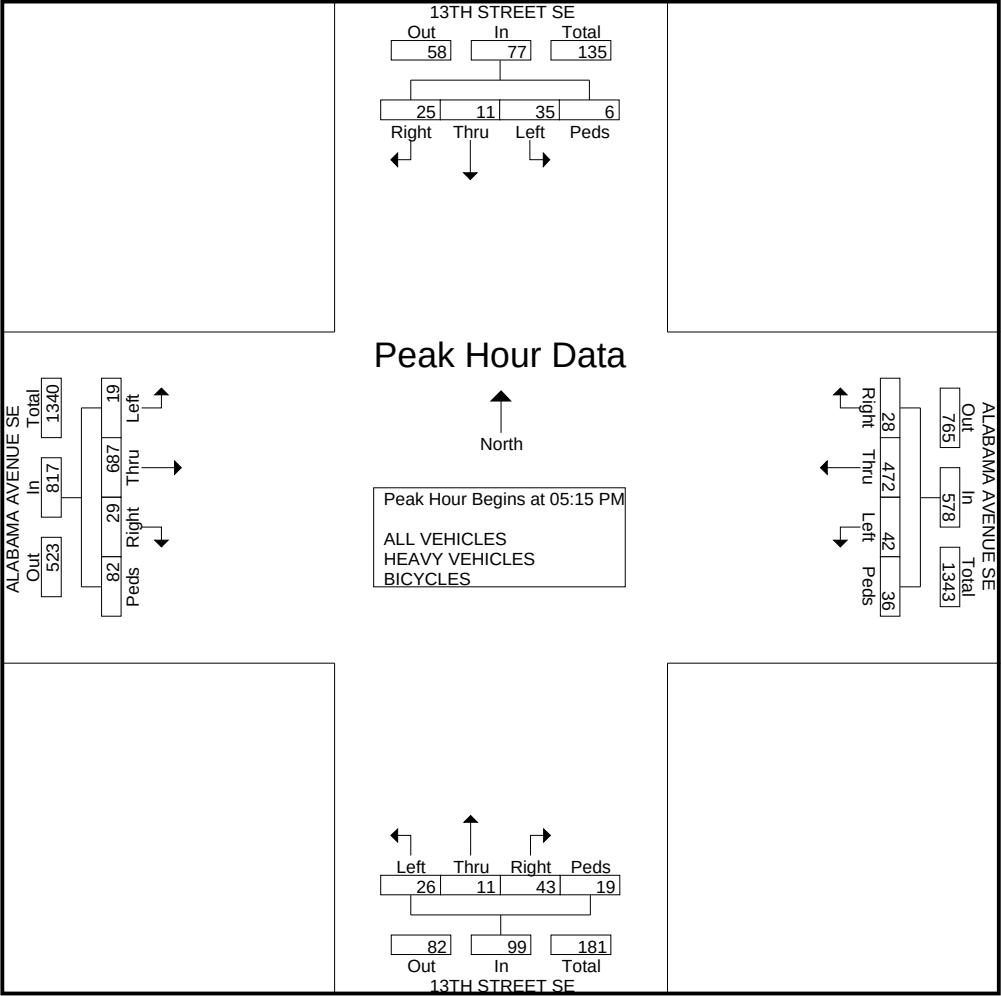
ALABAMA AVENUE & 13TH STREET, SE - PM PEAK

	13TH STREET SE From North					ALABAMA AVENUE SE From East					13TH STREET SE From South					ALABAMA AVENUE SE From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:15 PM																					
05:15 PM	6	2	8	3	19	8	132	7	7	154	8	3	7	5	23	4	170	4	27	205	401
05:30 PM	4	0	7	2	13	7	115	12	8	142	14	3	4	2	23	10	175	4	13	202	380
05:45 PM	7	3	6	0	16	5	111	11	8	135	9	2	11	6	28	8	162	5	18	193	372
06:00 PM	8	6	14	1	29	8	114	12	13	147	12	3	4	6	25	7	180	6	24	217	418
Total Volume	25	11	35	6	77	28	472	42	36	578	43	11	26	19	99	29	687	19	82	817	1571
% App. Total	32.5	14.3	45.5	7.8		4.8	81.7	7.3	6.2		43.4	11.1	26.3	19.2		3.5	84.1	2.3	10		
PHF	.781	.458	.625	.500	.664	.875	.894	.875	.692	.938	.768	.917	.591	.792	.884	.725	.954	.792	.759	.941	.940

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ALABAMA AVENUE & 13TH STREET, SE - PM PEAK



TURNING MOVEMENT COUNT

Weekday Traffic Data Collection

Location:

Alabama Avenue and Stanton Road, SE
District of Columbia

Prepared For:



District of Department
of Transportation (DDOT)

Prepared By:



SAMMAT Engineering Services, LLC
P.O. Box 780
Mount Airy, MD 21771
www.sammateng.com

January 23rd, 2016

SUMMARY

This report provides DDOT with turning movement count data obtained on November 3rd 2016 at the intersection of Alabama Avenue and Stanton Road, SE. Figure 1 presents a map indicating the study location.

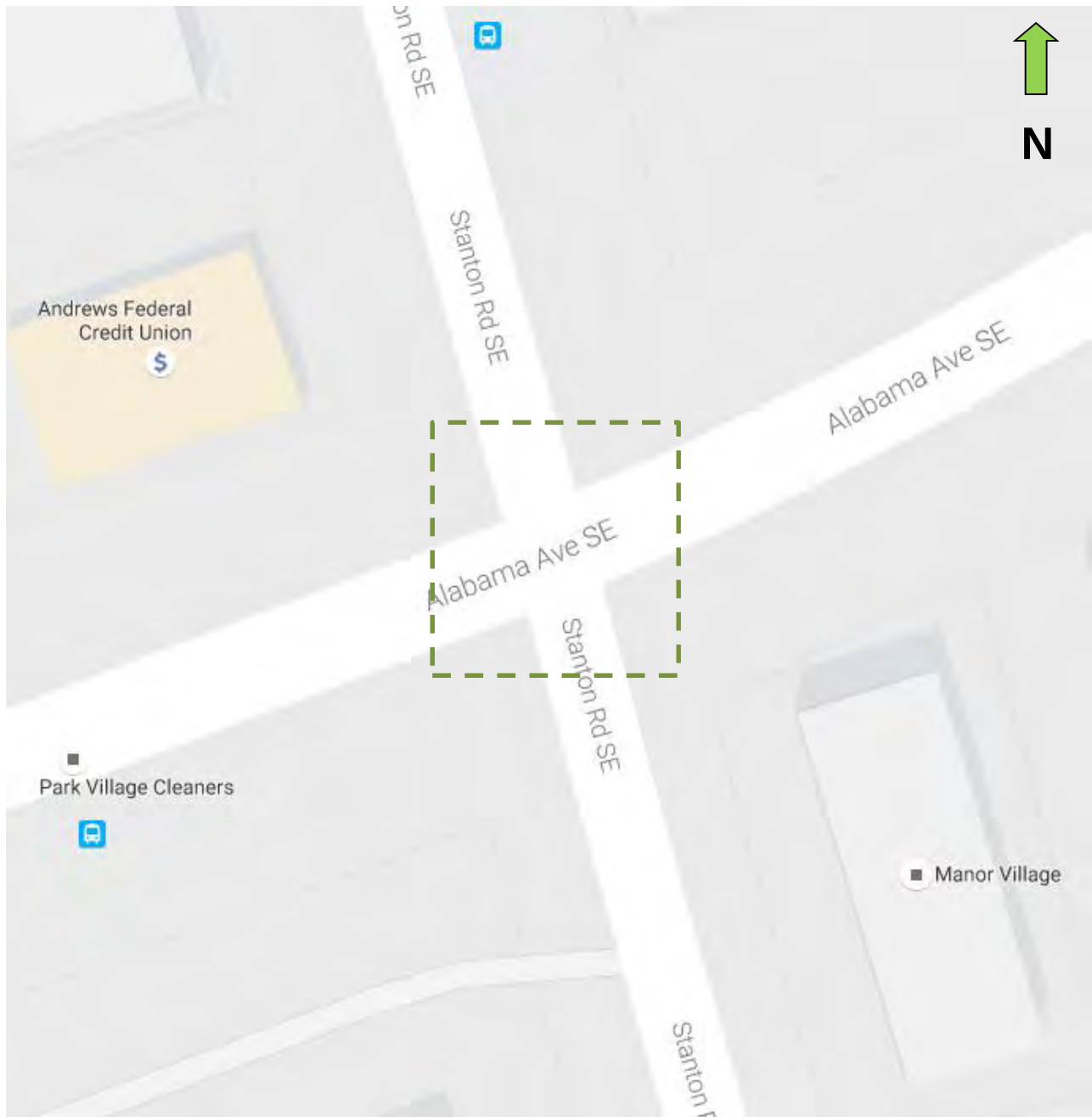


Figure 1: Turning Movement Count Location

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Alabama Ave & Stanton Rd SE - AM

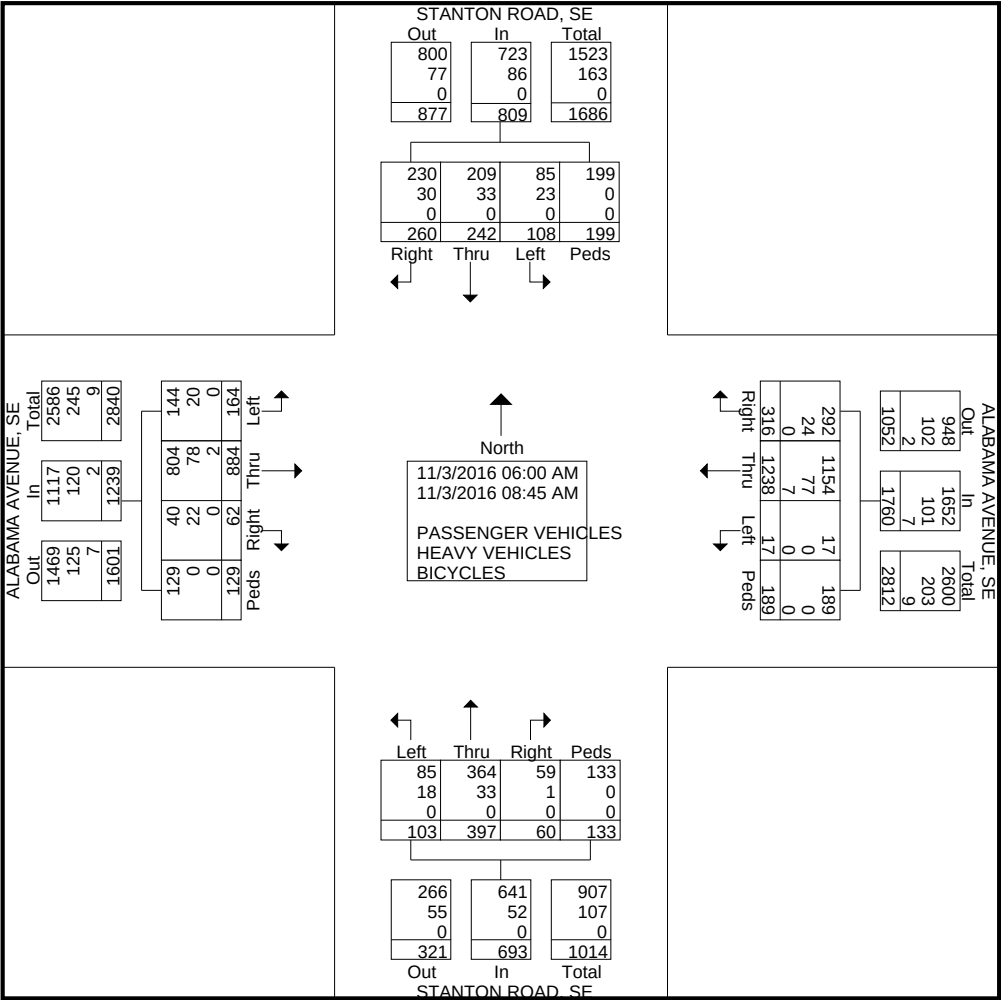
Groups Printed- PASSENGER VEHICLES - HEAVY VEHICLES - BICYCLES

	STANTON ROAD, SE From North					ALABAMA AVENUE, SE From East					STANTON ROAD, SE From South					ALABAMA AVENUE, SE From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
06:00 AM	8	10	6	1	25	13	40	0	4	57	3	9	5	3	20	3	21	4	4	32	134
06:15 AM	16	13	5	2	36	21	49	0	8	78	3	20	0	3	26	2	34	7	8	51	191
06:30 AM	17	4	5	1	27	17	52	0	5	74	3	15	8	7	33	2	41	10	6	59	193
06:45 AM	19	14	9	9	51	30	83	1	9	123	3	26	11	2	42	5	44	15	3	67	283
Total	60	41	25	13	139	81	224	1	26	332	12	70	24	15	121	12	140	36	21	209	801
07:00 AM	14	15	7	15	51	30	106	2	3	141	7	39	6	1	53	7	53	12	4	76	321
07:15 AM	16	24	10	13	63	36	112	2	12	162	7	56	13	8	84	5	73	12	10	100	409
07:30 AM	22	28	10	18	78	25	139	1	17	182	5	48	9	1	63	7	91	23	2	123	446
07:45 AM	33	25	13	26	97	25	141	3	21	190	3	47	11	12	73	5	115	14	19	153	513
Total	85	92	40	72	289	116	498	8	53	675	22	190	39	22	273	24	332	61	35	452	1689
08:00 AM	29	20	13	24	86	37	122	3	24	186	10	37	14	27	88	2	112	20	8	142	502
08:15 AM	30	37	15	41	123	33	119	4	63	219	7	45	10	36	98	8	101	13	35	157	597
08:30 AM	26	28	8	22	84	25	132	0	17	174	4	29	8	21	62	5	92	16	17	130	450
08:45 AM	30	24	7	27	88	24	143	1	6	174	5	26	8	12	51	11	107	18	13	149	462
Total	115	109	43	114	381	119	516	8	110	753	26	137	40	96	299	26	412	67	73	578	2011
Grand Total	260	242	108	199	809	316	1238	17	189	1760	60	397	103	133	693	62	884	164	129	1239	4501
Apprch %	32.1	29.9	13.3	24.6		18	70.3	1	10.7		8.7	57.3	14.9	19.2		5	71.3	13.2	10.4		
Total %	5.8	5.4	2.4	4.4	18	7	27.5	0.4	4.2	39.1	1.3	8.8	2.3	3	15.4	1.4	19.6	3.6	2.9	27.5	
PASSENGER VEHICLES	230	209	85	199	723	292	1154	17	189	1652	59	364	85	133	641	40	804	144	129	1117	4133
% PASSENGER VEHICLES	88.5	86.4	78.7	100	89.4	92.4	93.2	100	100	93.9	98.3	91.7	82.5	100	92.5	64.5	91	87.8	100	90.2	91.8
HEAVY VEHICLES	30	33	23	0	86	24	77	0	0	101	1	33	18	0	52	22	78	20	0	120	359
% HEAVY VEHICLES	11.5	13.6	21.3	0	10.6	7.6	6.2	0	0	5.7	1.7	8.3	17.5	0	7.5	35.5	8.8	12.2	0	9.7	8
BICYCLES	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	2	0	0	2	9
% BICYCLES	0	0	0	0	0	0	0.6	0	0	0.4	0	0	0	0	0	0	0.2	0	0	0.2	0.2

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Alabama Ave & Stanton Rd SE - AM



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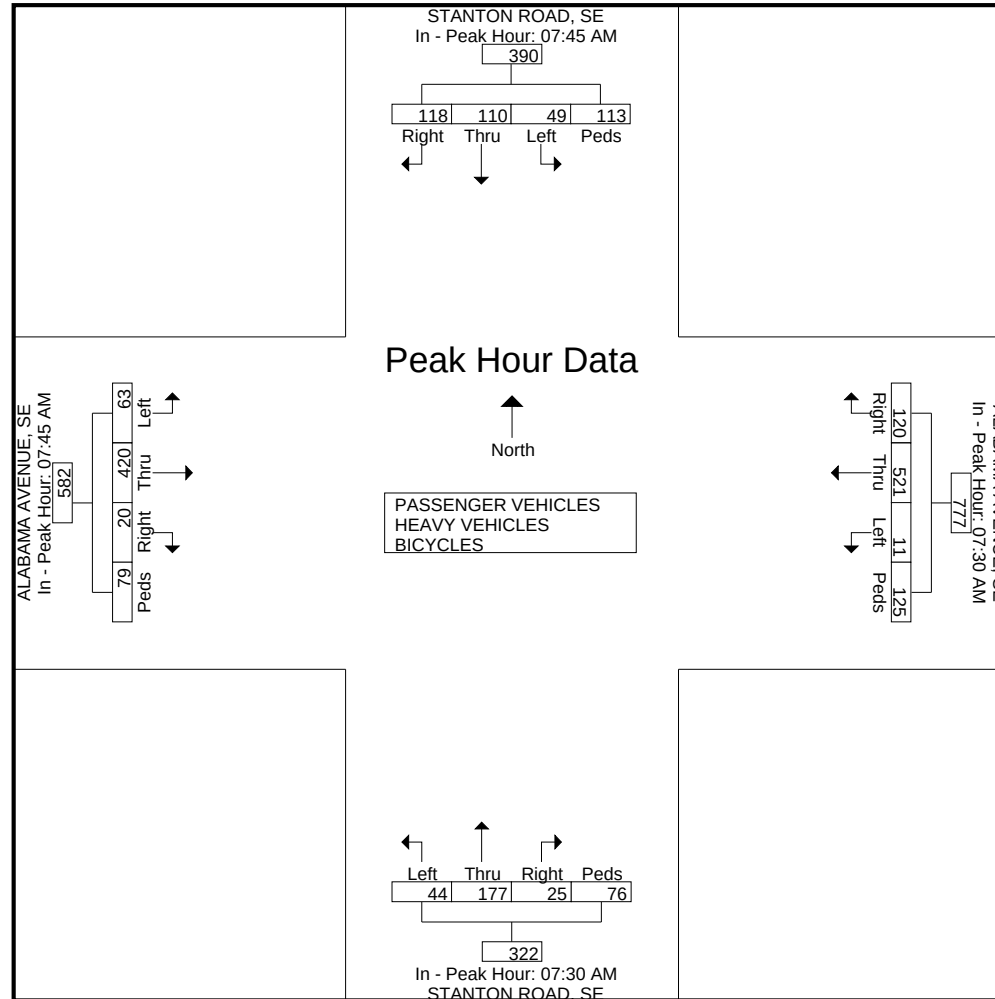
Alabama Ave & Stanton Rd SE - AM

	STANTON ROAD, SE From North					ALABAMA AVENUE, SE From East					STANTON ROAD, SE From South					ALABAMA AVENUE, SE From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	07:45 AM					07:30 AM					07:30 AM					07:45 AM					
+0 mins.	33	25	13	26	97	25	139	1	17	182	5	48	9	1	63	5	115	14	19	153	
+15 mins.	29	20	13	24	86	25	141	3	21	190	3	47	11	12	73	2	112	20	8	142	
+30 mins.	30	37	15	41	123	37	122	3	24	186	10	37	14	27	88	8	101	13	35	157	
+45 mins.	26	28	8	22	84	33	119	4	63	219	7	45	10	36	98	5	92	16	17	130	
Total Volume	118	110	49	113	390	120	521	11	125	777	25	177	44	76	322	20	420	63	79	582	
% App. Total	30.3	28.2	12.6	29		15.4	67.1	1.4	16.1		7.8	55	13.7	23.6		3.4	72.2	10.8	13.6		
PHF	.894	.743	.817	.689	.793	.811	.924	.688	.496	.887	.625	.922	.786	.528	.821	.625	.913	.788	.564	.927	

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Alabama Ave & Stanton Rd SE - PM

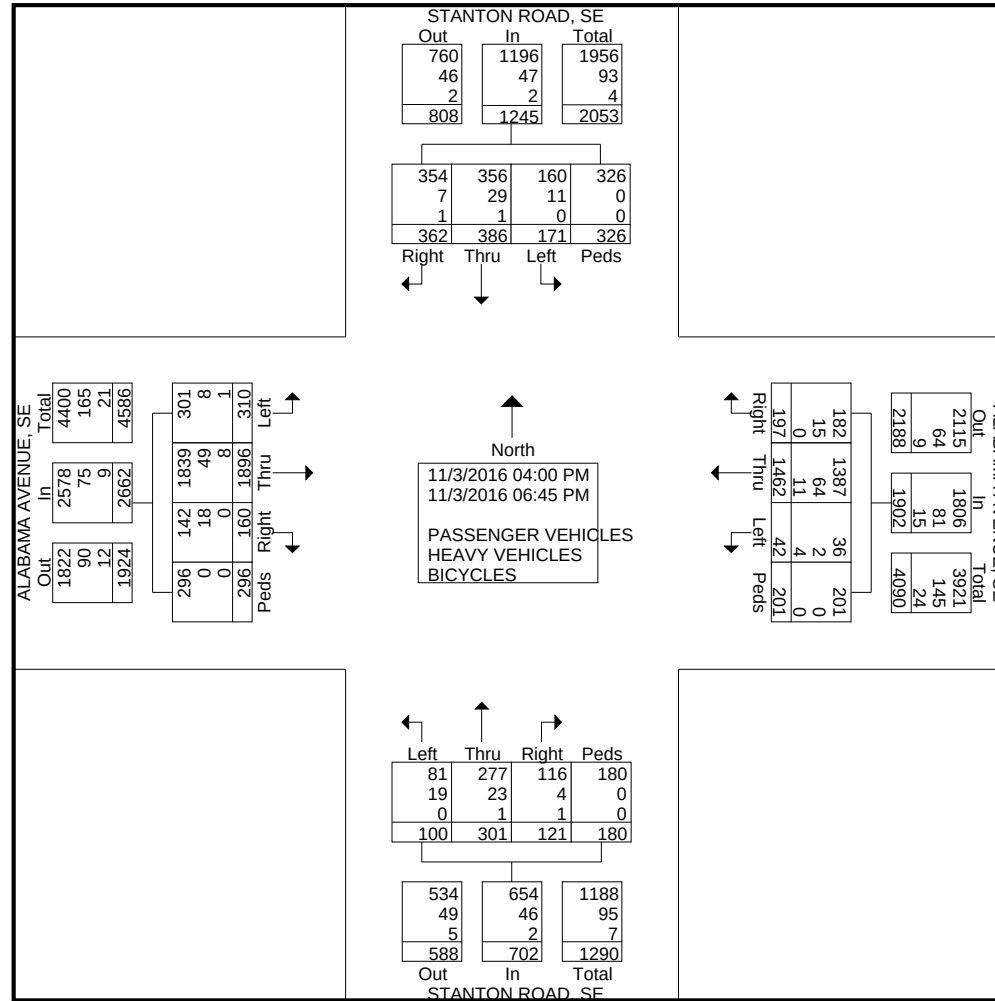
Groups Printed- PASSENGER VEHICLES - HEAVY VEHICLES - BICYCLES

	STANTON ROAD, SE From North					ALABAMA AVENUE, SE From East					STANTON ROAD, SE From South					ALABAMA AVENUE, SE From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	32	21	11	29	93	13	114	0	14	141	13	21	8	19	61	13	168	18	13	212	507
04:15 PM	32	26	14	35	107	15	133	8	14	170	8	20	10	5	43	13	148	29	32	222	542
04:30 PM	27	24	9	32	92	14	108	7	26	155	6	27	11	18	62	8	182	25	32	247	556
04:45 PM	30	39	15	34	118	17	131	1	23	172	17	30	5	18	70	14	158	28	33	233	593
Total	121	110	49	130	410	59	486	16	77	638	44	98	34	60	236	48	656	100	110	914	2198
05:00 PM	36	37	12	17	102	22	127	3	6	158	7	29	9	20	65	9	165	21	30	225	550
05:15 PM	24	32	16	29	101	14	122	0	13	149	6	25	5	10	46	18	178	23	24	243	539
05:30 PM	33	29	22	21	105	19	109	5	25	158	11	19	6	25	61	17	165	32	21	235	559
05:45 PM	36	38	9	28	111	16	120	7	16	159	11	28	9	25	73	13	147	34	26	220	563
Total	129	136	59	95	419	71	478	15	60	624	35	101	29	80	245	57	655	110	101	923	2211
06:00 PM	17	51	20	21	109	12	136	5	13	166	11	23	8	7	49	15	174	30	16	235	559
06:15 PM	36	20	17	31	104	21	124	2	19	166	7	26	12	12	57	18	159	31	28	236	563
06:30 PM	29	32	16	23	100	21	113	3	20	157	15	19	12	15	61	12	134	23	31	200	518
06:45 PM	30	37	10	26	103	13	125	1	12	151	9	34	5	6	54	10	118	16	10	154	462
Total	112	140	63	101	416	67	498	11	64	640	42	102	37	40	221	55	585	100	85	825	2102
Grand Total	362	386	171	326	1245	197	1462	42	201	1902	121	301	100	180	702	160	1896	310	296	2662	6511
Apprch %	29.1	31	13.7	26.2		10.4	76.9	2.2	10.6		17.2	42.9	14.2	25.6		6	71.2	11.6	11.1		
Total %	5.6	5.9	2.6	5	19.1	3	22.5	0.6	3.1	29.2	1.9	4.6	1.5	2.8	10.8	2.5	29.1	4.8	4.5	40.9	
PASSENGER VEHICLES	354	356	160	326	1196	182	1387	36	201	1806	116	277	81	180	654	142	1839	301	296	2578	6234
% PASSENGER VEHICLES	97.8	92.2	93.6	100	96.1	92.4	94.9	85.7	100	95	95.9	92	81	100	93.2	88.8	97	97.1	100	96.8	95.7
HEAVY VEHICLES	7	29	11	0	47	15	64	2	0	81	4	23	19	0	46	18	49	8	0	75	249
% HEAVY VEHICLES	1.9	7.5	6.4	0	3.8	7.6	4.4	4.8	0	4.3	3.3	7.6	19	0	6.6	11.2	2.6	2.6	0	2.8	3.8
BICYCLES	1	1	0	0	2	0	11	4	0	15	1	1	0	0	2	0	8	1	0	9	28
% BICYCLES	0.3	0.3	0	0	0.2	0	0.8	9.5	0	0.8	0.8	0.3	0	0	0.3	0	0.4	0.3	0	0.3	0.4

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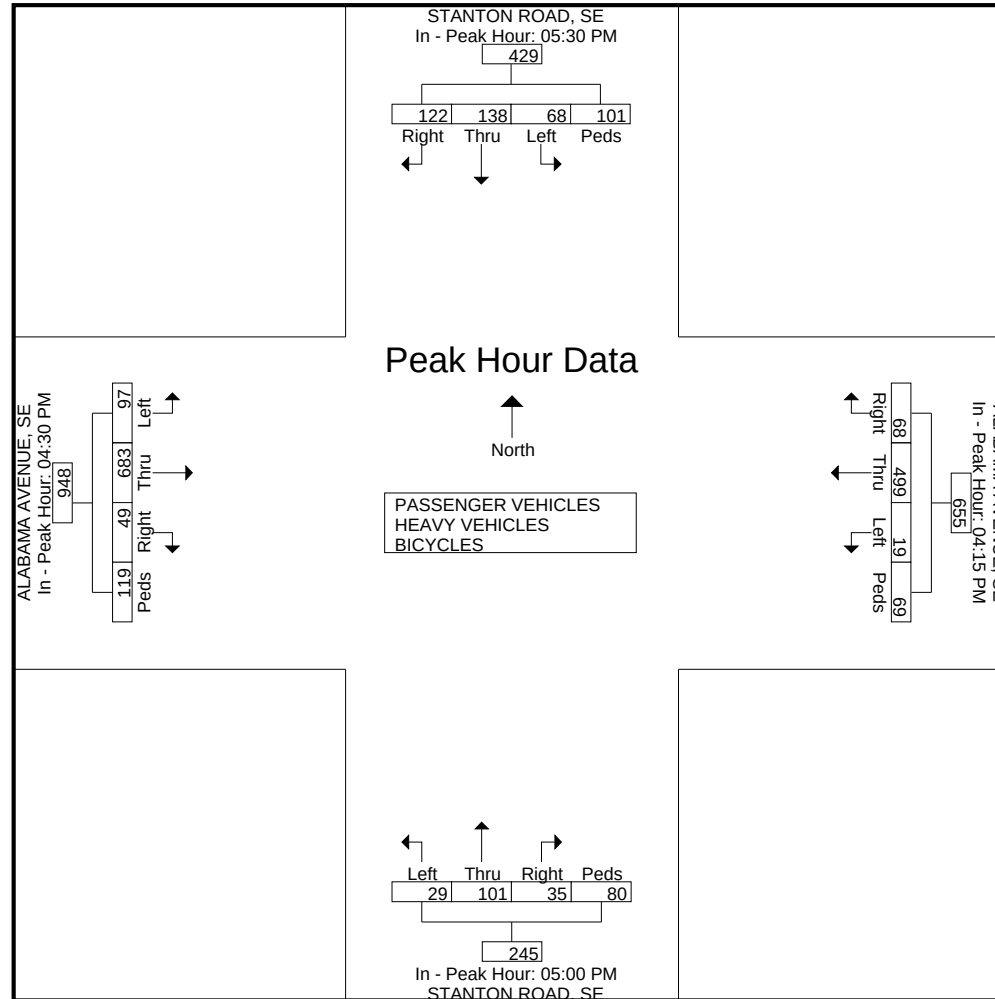
Alabama Ave & Stanton Rd SE - PM

	STANTON ROAD, SE From North					ALABAMA AVENUE, SE From East					STANTON ROAD, SE From South					ALABAMA AVENUE, SE From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	05:30 PM					04:15 PM					05:00 PM					04:30 PM					
+0 mins.	33	29	22	21	105	15	133	8	14	170	7	29	9	20	65	8	182	25	32	247	
+15 mins.	36	38	9	28	111	14	108	7	26	155	6	25	5	10	46	14	158	28	33	233	
+30 mins.	17	51	20	21	109	17	131	1	23	172	11	19	6	25	61	9	165	21	30	225	
+45 mins.	36	20	17	31	104	22	127	3	6	158	11	28	9	25	73	18	178	23	24	243	
Total Volume	122	138	68	101	429	68	499	19	69	655	35	101	29	80	245	49	683	97	119	948	
% App. Total	28.4	32.2	15.9	23.5		10.4	76.2	2.9	10.5		14.3	41.2	11.8	32.7		5.2	72	10.2	12.6		
PHF	.847	.676	.773	.815	.966	.773	.938	.594	.663	.952	.795	.871	.806	.800	.839	.681	.938	.866	.902	.960	

SAMMAT ENGINEERING SERVICES, LLC

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Alabama Ave & Stanton Rd SE - PM



TURNING MOVEMENT COUNT

Weekday Traffic Data Collection

Location:

Alabama Avenue and Irving Street, SE
District of Columbia

Prepared For:



District of Department
of Transportation (DDOT)

Prepared By:



SAMMAT

ENGINEERING SERVICES, LLC

SAMMAT Engineering Services, LLC

P.O. Box 780

Mount Airy, MD 21771

www.sammateng.com

November 10th, 2016

SUMMARY

This report provides DDOT with turning movement count data obtained on November 3rd 2016 at the intersection of Alabama Avenue and Irving Street, SE. Figure 1 presents a map indicating the study location.

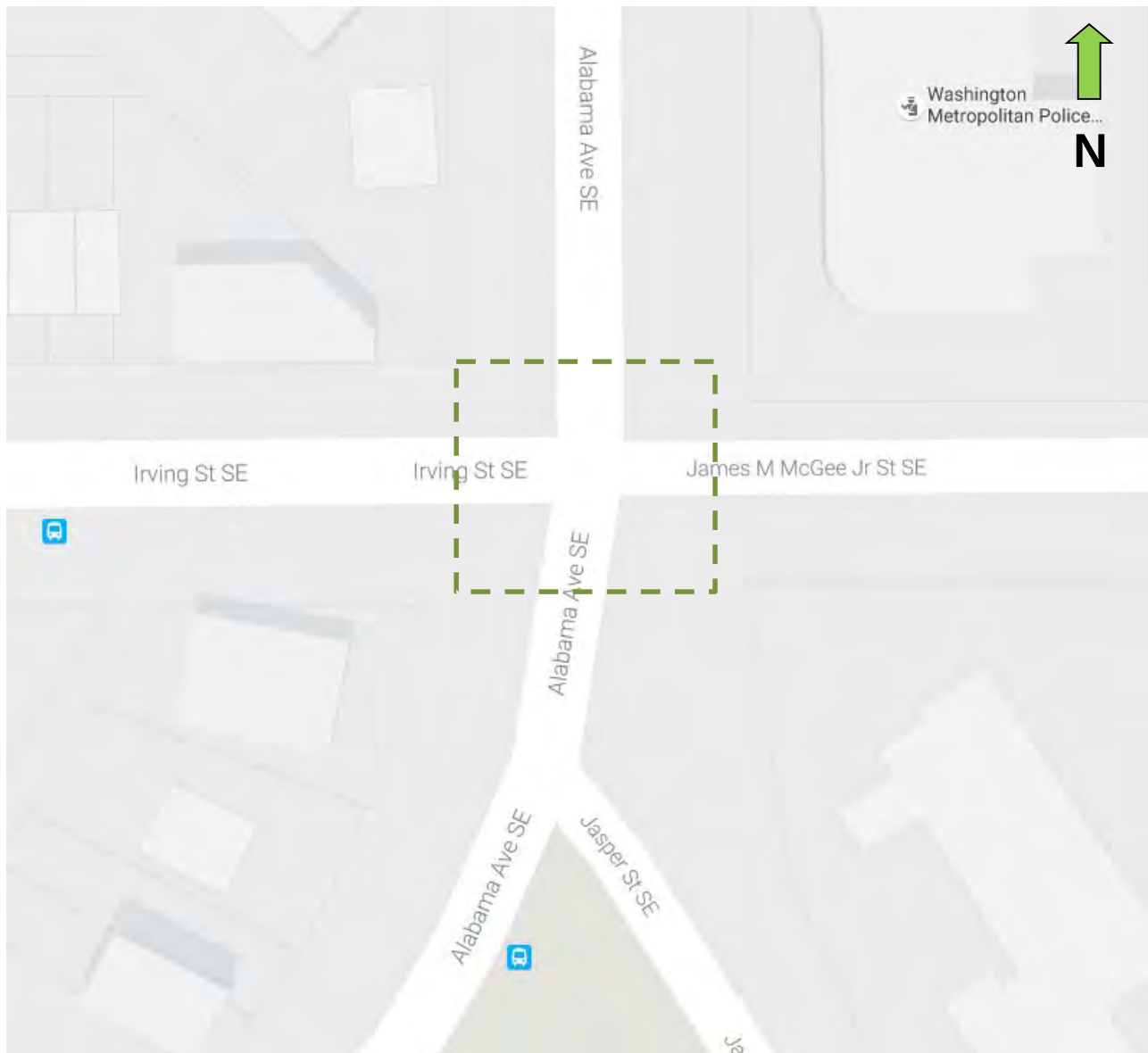
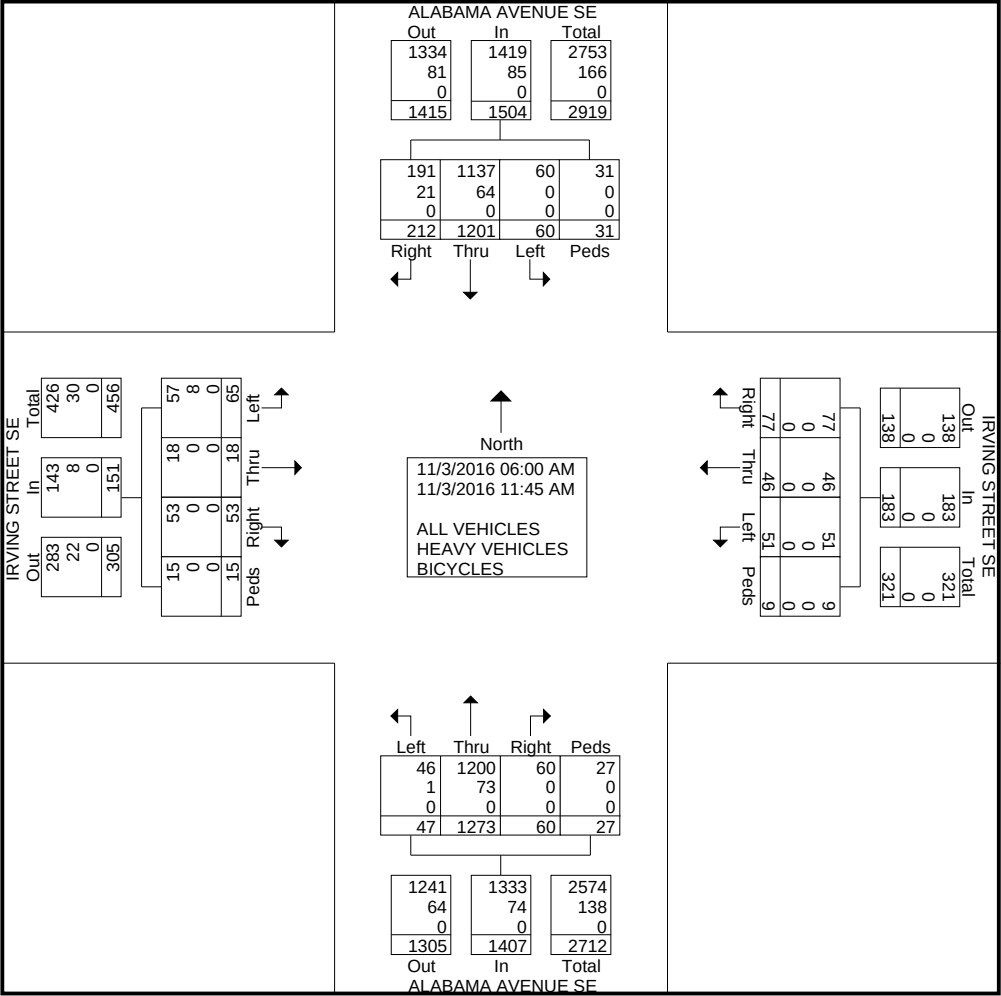


Figure 1: Turning Movement Count Location

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ALABAMA AVENUE & IRVING STREET, SE - AM PEAK



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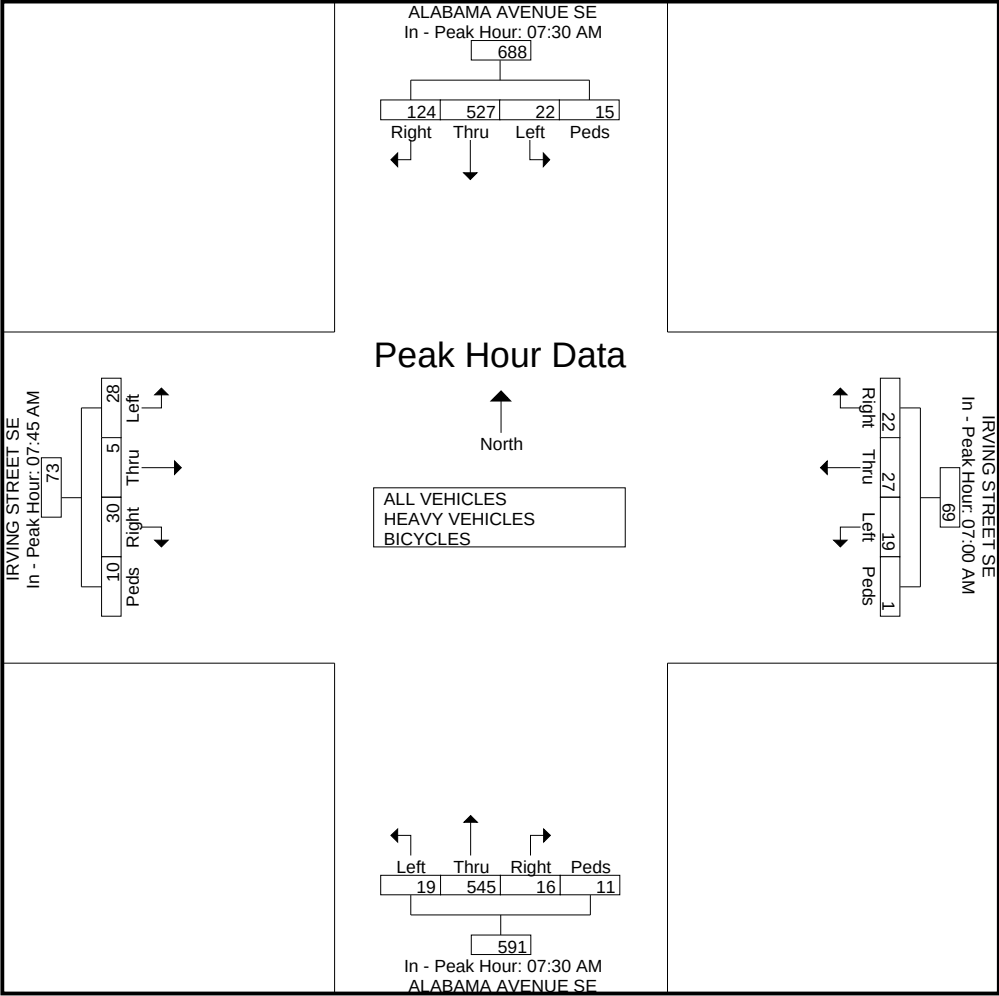
ALABAMA AVENUE & IRVING STREET, SE - AM PEAK

	ALABAMA AVENUE SE From North					IRVING STREET SE From East					ALABAMA AVENUE SE From South					IRVING STREET SE From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	07:30 AM					07:00 AM					07:30 AM					07:45 AM					
+0 mins.	49	135	6	1	191	8	9	7	0	24	5	140	6	6	157	10	1	8	2	21	
+15 mins.	27	135	6	4	172	4	6	1	0	11	3	132	7	1	143	5	2	5	3	15	
+30 mins.	27	126	3	5	161	4	8	6	1	19	3	135	4	3	145	4	0	6	1	11	
+45 mins.	21	131	7	5	164	6	4	5	0	15	5	138	2	1	146	11	2	9	4	26	
Total Volume	124	527	22	15	688	22	27	19	1	69	16	545	19	11	591	30	5	28	10	73	
% App. Total	18	76.6	3.2	2.2		31.9	39.1	27.5	1.4		2.7	92.2	3.2	1.9		41.1	6.8	38.4	13.7		
PHF	.633	.976	.786	.750	.901	.688	.750	.679	.250	.719	.800	.973	.679	.458	.941	.682	.625	.778	.625	.702	

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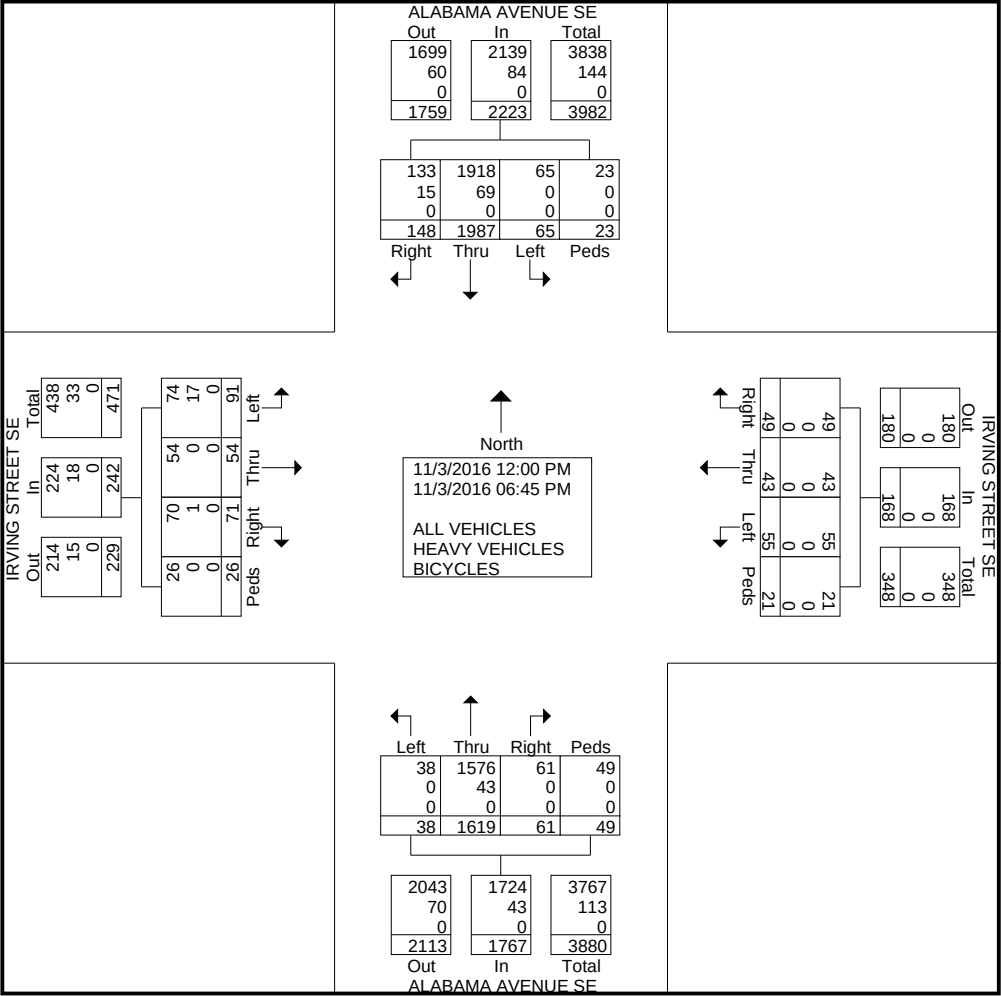
ALABAMA AVENUE & IRVING STREET, SE - AM PEAK



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ALABAMA AVENUE & IRVING STREET, SE - PM PEAK



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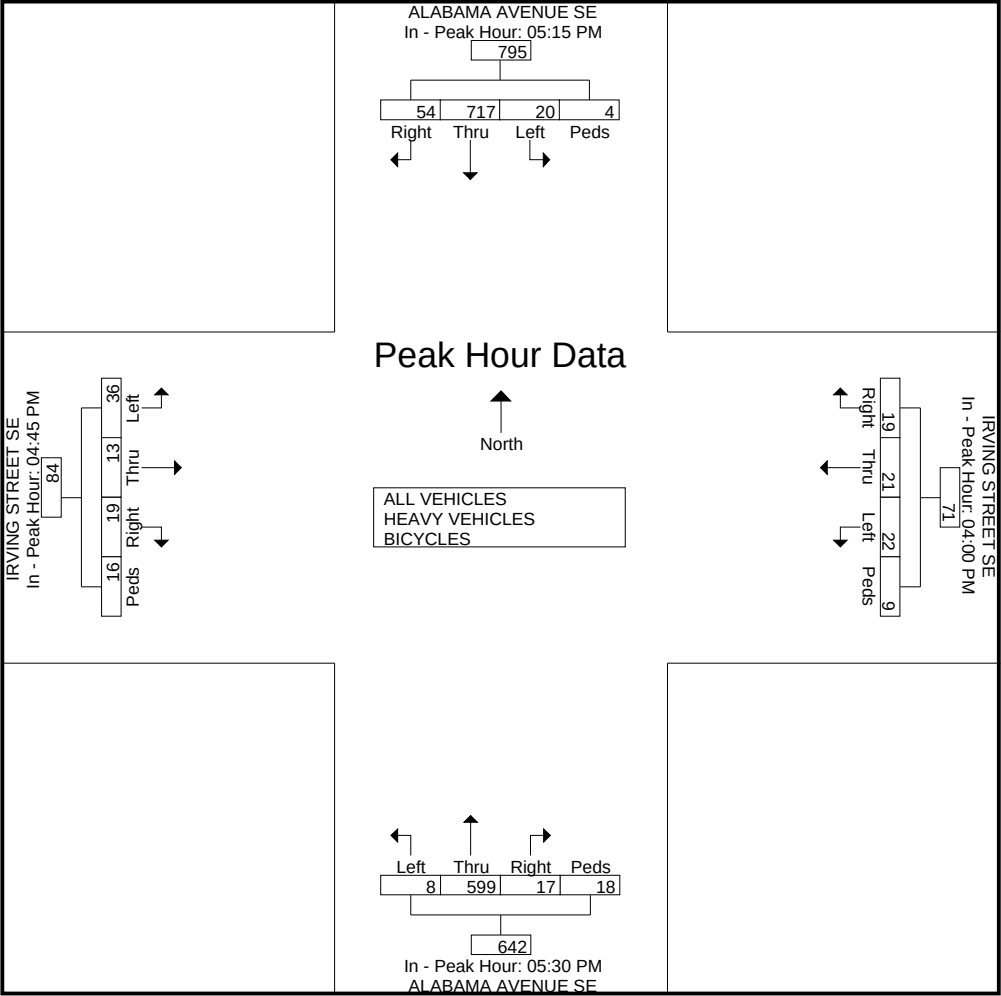
ALABAMA AVENUE & IRVING STREET, SE - PM PEAK

	ALABAMA AVENUE SE From North					IRVING STREET SE From East					ALABAMA AVENUE SE From South					IRVING STREET SE From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	05:15 PM					04:00 PM					05:30 PM					04:45 PM					
+0 mins.	16	182	5	1	204	7	8	4	2	21	2	154	0	3	159	4	2	9	1	16	
+15 mins.	16	192	5	1	214	1	3	3	0	7	6	142	3	12	163	6	3	8	7	24	
+30 mins.	10	178	5	0	193	5	3	3	4	15	2	151	4	3	160	4	3	9	3	19	
+45 mins.	12	165	5	2	184	6	7	12	3	28	7	152	1	0	160	5	5	10	5	25	
Total Volume	54	717	20	4	795	19	21	22	9	71	17	599	8	18	642	19	13	36	16	84	
% App. Total	6.8	90.2	2.5	0.5		26.8	29.6	31	12.7		2.6	93.3	1.2	2.8		22.6	15.5	42.9	19		
PHF	.844	.934	1.000	.500	.929	.679	.656	.458	.563	.634	.607	.972	.500	.375	.985	.792	.650	.900	.571	.840	

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ALABAMA AVENUE & IRVING STREET, SE - PM PEAK



TURNING MOVEMENT COUNT

Weekday Traffic Data Collection

Location:

Alabama Avenue and Jasper Street, SE
District of Columbia

Prepared For:



District of Department
of Transportation (DDOT)

Prepared By:



SAMMAT

ENGINEERING SERVICES, LLC

SAMMAT Engineering Services, LLC

P.O. Box 780

Mount Airy, MD 21771

www.sammateng.com

January 11th, 2017

SUMMARY

This report provides DDOT with turning movement count data obtained on January 10th, 2017 at the intersection of Alabama Avenue and Jasper Street, SE. Figure 1 presents a map indicating the study location.

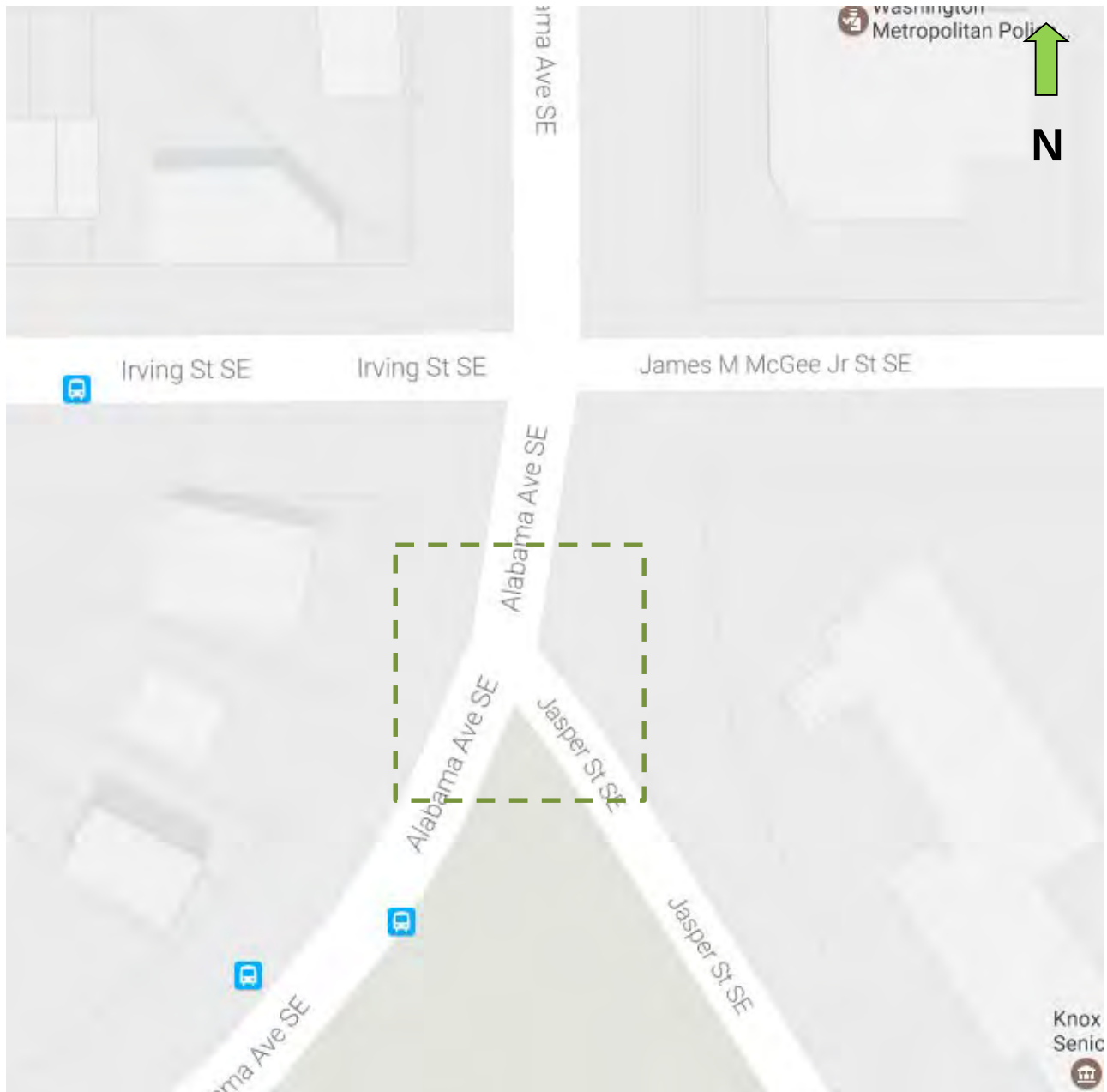


Figure 1: Turning Movement Count Location

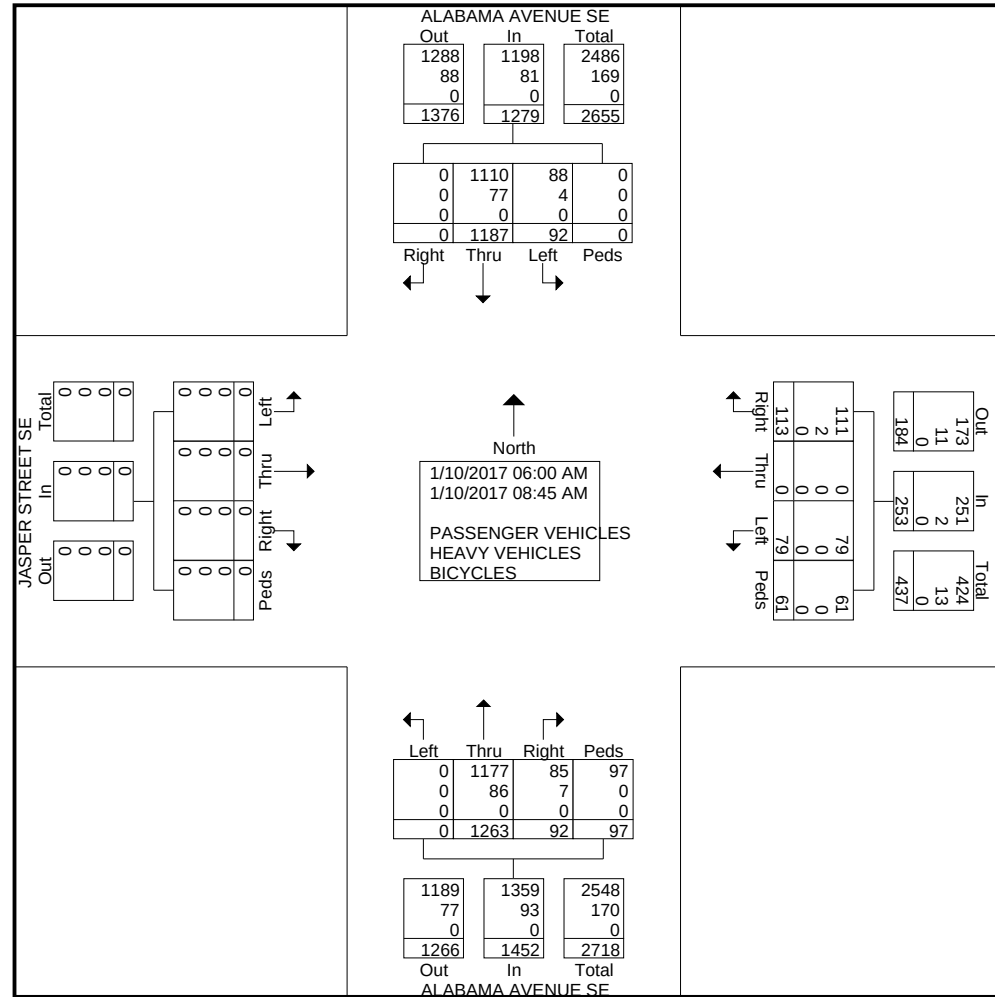
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Groups Printed- PASSENGER VEHICLES - HEAVY VEHICLES - BICYCLES																						
	ALABAMA AVENUE SE From North					JASPER STREET SE From East					ALABAMA AVENUE SE From South					JASPER STREET SE From West						
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total	
06:00 AM	0	27	4	0	31	6	0	3	3	12	2	34	0	3	39	0	0	0	0	0	82	
06:15 AM	0	43	4	0	47	7	0	3	0	10	4	55	0	3	62	0	0	0	0	0	119	
06:30 AM	0	55	3	0	58	7	0	2	0	9	5	62	0	2	69	0	0	0	0	0	136	
06:45 AM	0	75	4	0	79	7	0	2	3	12	5	70	0	8	83	0	0	0	0	0	174	
Total	0	200	15	0	215	27	0	10	6	43	16	221	0	16	253	0	0	0	0	0	511	
07:00 AM	0	87	4	0	91	15	0	7	1	23	9	101	0	7	117	0	0	0	0	0	231	
07:15 AM	0	111	9	0	120	9	0	6	1	16	9	121	0	21	151	0	0	0	0	0	287	
07:30 AM	0	159	6	0	165	13	0	16	5	34	12	127	0	10	149	0	0	0	0	0	348	
07:45 AM	0	102	8	0	110	12	0	7	8	27	10	132	0	6	148	0	0	0	0	0	285	
Total	0	459	27	0	486	49	0	36	15	100	40	481	0	44	565	0	0	0	0	0	1151	
08:00 AM	0	123	16	0	139	16	0	10	9	35	7	141	0	10	158	0	0	0	0	0	332	
08:15 AM	0	147	10	0	157	6	0	6	14	26	9	132	0	9	150	0	0	0	0	0	333	
08:30 AM	0	125	15	0	140	7	0	10	16	33	11	151	0	12	174	0	0	0	0	0	347	
08:45 AM	0	133	9	0	142	8	0	7	1	16	9	137	0	6	152	0	0	0	0	0	310	
Total	0	528	50	0	578	37	0	33	40	110	36	561	0	37	634	0	0	0	0	0	1322	
Grand Total	0	1187	92	0	1279	113	0	79	61	253	92	1263	0	97	1452	0	0	0	0	0	2984	
Apprch %	0	92.8	7.2	0		44.7	0	31.2	24.1		6.3	87	0	6.7		0	0	0	0			
Total %	0	39.8	3.1	0	42.9	3.8	0	2.6	2	8.5	3.1	42.3	0	3.3	48.7	0	0	0	0	0		
PASSENGER VEHICLES	0	1110	88	0	1198	111	0	79	61	251	85	1177	0	97	1359	0	0	0	0	0	2808	
% PASSENGER VEHICLES	0	93.5	95.7	0	93.7	98.2	0	100	100	99.2	92.4	93.2	0	100	93.6	0	0	0	0	0	94.1	
HEAVY VEHICLES	0	77	4	0	81	2	0	0	0	2	7	86	0	0	93	0	0	0	0	0	176	
% HEAVY VEHICLES	0	6																				

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ALABAMA AVENUE & JASPER STREET, SE- AM PEAK



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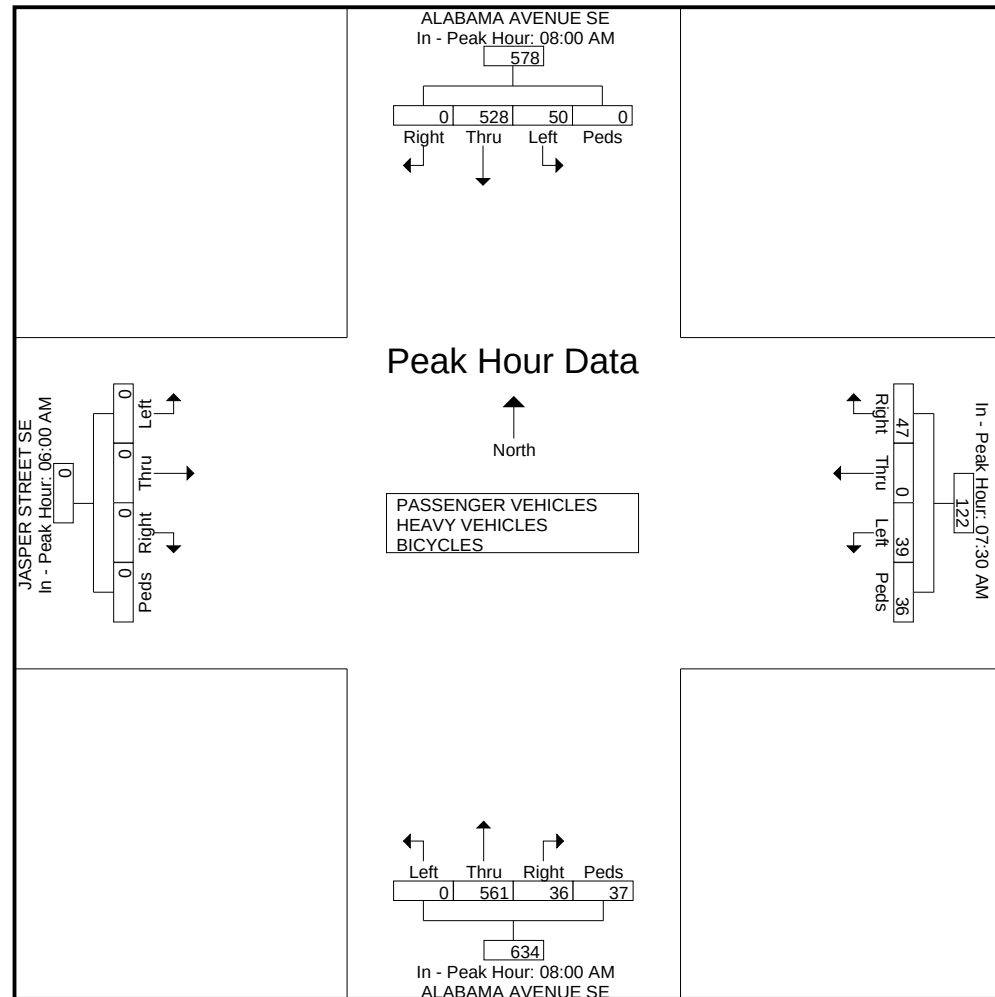
ALABAMA AVENUE & JASPER STREET, SE- AM PEAK

	ALABAMA AVENUE SE From North					JASPER STREET SE From East					ALABAMA AVENUE SE From South					JASPER STREET SE From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	08:00 AM					07:30 AM					08:00 AM					06:00 AM					
+0 mins.	0	123	16	0	139	13	0	16	5	34	7	141	0	10	158	0	0	0	0	0	
+15 mins.	0	147	10	0	157	12	0	7	8	27	9	132	0	9	150	0	0	0	0	0	
+30 mins.	0	125	15	0	140	16	0	10	9	35	11	151	0	12	174	0	0	0	0	0	
+45 mins.	0	133	9	0	142	6	0	6	14	26	9	137	0	6	152	0	0	0	0	0	
Total Volume	0	528	50	0	578	47	0	39	36	122	36	561	0	37	634	0	0	0	0	0	
% App. Total	0	91.3	8.7	0		38.5	0	32	29.5		5.7	88.5	0	5.8		0	0	0	0		
PHF	.000	.898	.781	.000	.920	.734	.000	.609	.643	.871	.818	.929	.000	.771	.911	.000	.000	.000	.000	.000	

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ALABAMA AVENUE & JASPER STREET, SE- AM PEAK



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ALABAMA AVENUE & JASPER STREET, SE- PM PEAK

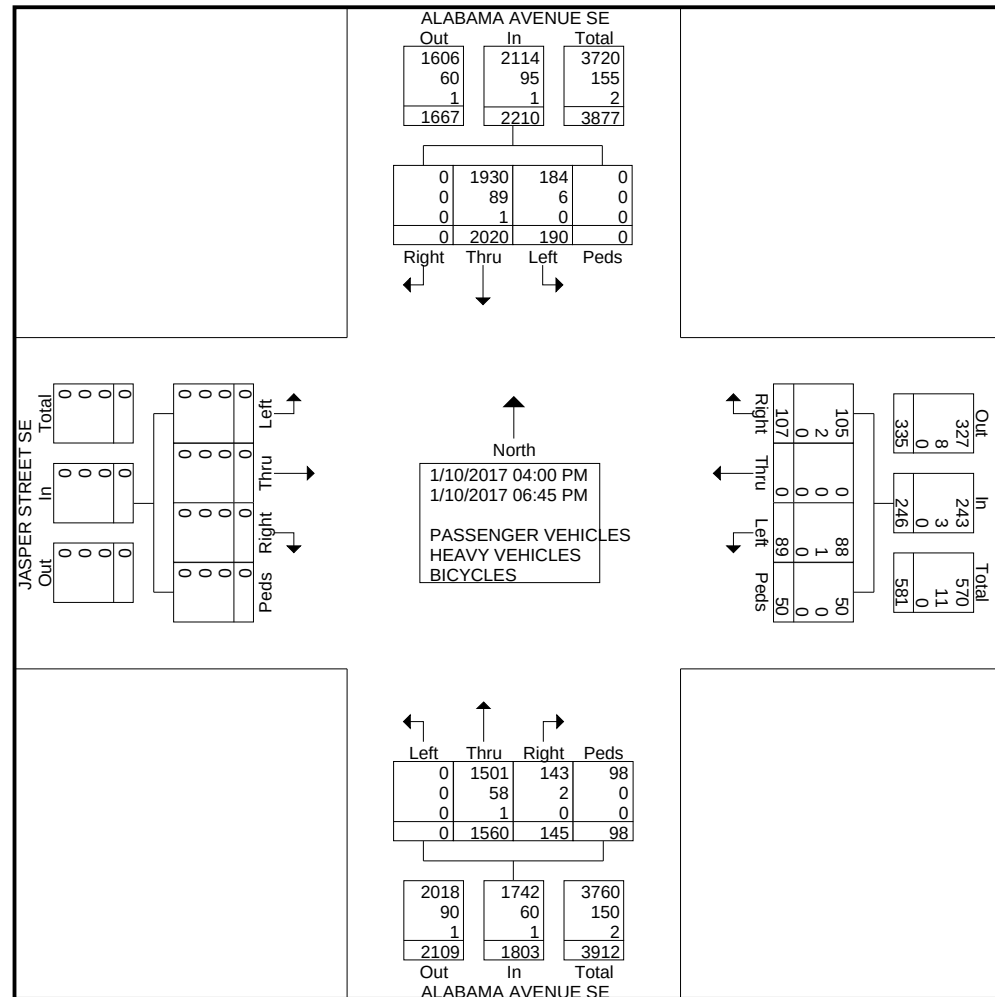
Groups Printed- PASSENGER VEHICLES - HEAVY VEHICLES - BICYCLES

	ALABAMA AVENUE SE From North					JASPER STREET SE From East					ALABAMA AVENUE SE From South					JASPER STREET SE From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	0	165	14	0	179	12	0	6	2	20	8	105	0	9	122	0	0	0	0	0	321
04:15 PM	0	200	27	0	227	16	0	4	6	26	10	136	0	12	158	0	0	0	0	0	411
04:30 PM	0	217	15	0	232	9	0	8	5	22	17	148	0	9	174	0	0	0	0	0	428
04:45 PM	0	161	13	0	174	10	0	8	3	21	5	123	0	4	132	0	0	0	0	0	327
Total	0	743	69	0	812	47	0	26	16	89	40	512	0	34	586	0	0	0	0	0	1487
05:00 PM	0	197	12	0	209	10	0	7	5	22	5	129	0	14	148	0	0	0	0	0	379
05:15 PM	0	164	15	0	179	5	0	7	14	26	19	162	0	6	187	0	0	0	0	0	392
05:30 PM	0	156	18	0	174	13	0	5	1	19	9	132	0	5	146	0	0	0	0	0	339
05:45 PM	0	212	15	0	227	6	0	11	3	20	20	119	0	13	152	0	0	0	0	0	399
Total	0	729	60	0	789	34	0	30	23	87	53	542	0	38	633	0	0	0	0	0	1509
06:00 PM	0	144	16	0	160	5	0	6	4	15	17	144	0	6	167	0	0	0	0	0	342
06:15 PM	0	131	17	0	148	9	0	10	6	25	15	120	0	9	144	0	0	0	0	0	317
06:30 PM	0	136	17	0	153	7	0	12	1	20	9	127	0	4	140	0	0	0	0	0	313
06:45 PM	0	137	11	0	148	5	0	5	0	10	11	115	0	7	133	0	0	0	0	0	291
Total	0	548	61	0	609	26	0	33	11	70	52	506	0	26	584	0	0	0	0	0	1263
Grand Total	0	2020	190	0	2210	107	0	89	50	246	145	1560	0	98	1803	0	0	0	0	0	4259
Apprch %	0	91.4	8.6	0		43.5	0	36.2	20.3		8	86.5	0	5.4		0	0	0	0		
Total %	0	47.4	4.5	0	51.9	2.5	0	2.1	1.2	5.8	3.4	36.6	0	2.3	42.3	0	0	0	0	0	
PASSENGER VEHICLES	0	1930	184	0	2114	105	0	88	50	243	143	1501	0	98	1742	0	0	0	0	0	4099
% PASSENGER VEHICLES	0	95.5	96.8	0	95.7	98.1	0	98.9	100	98.8	98.6	96.2	0	100	96.6	0	0	0	0	0	96.2
HEAVY VEHICLES	0	89	6	0	95	2	0	1	0	3	2	58	0	0	60	0	0	0	0	0	158
% HEAVY VEHICLES	0	4.4	3.2	0	4.3	1.9	0	1.1	0	1.2	1.4	3.7	0	0	3.3	0	0	0	0	0	3.7
BICYCLES	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
% BICYCLES	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0.1	0	0	0	0	0	0

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ALABAMA AVENUE & JASPER STREET, SE- PM PEAK



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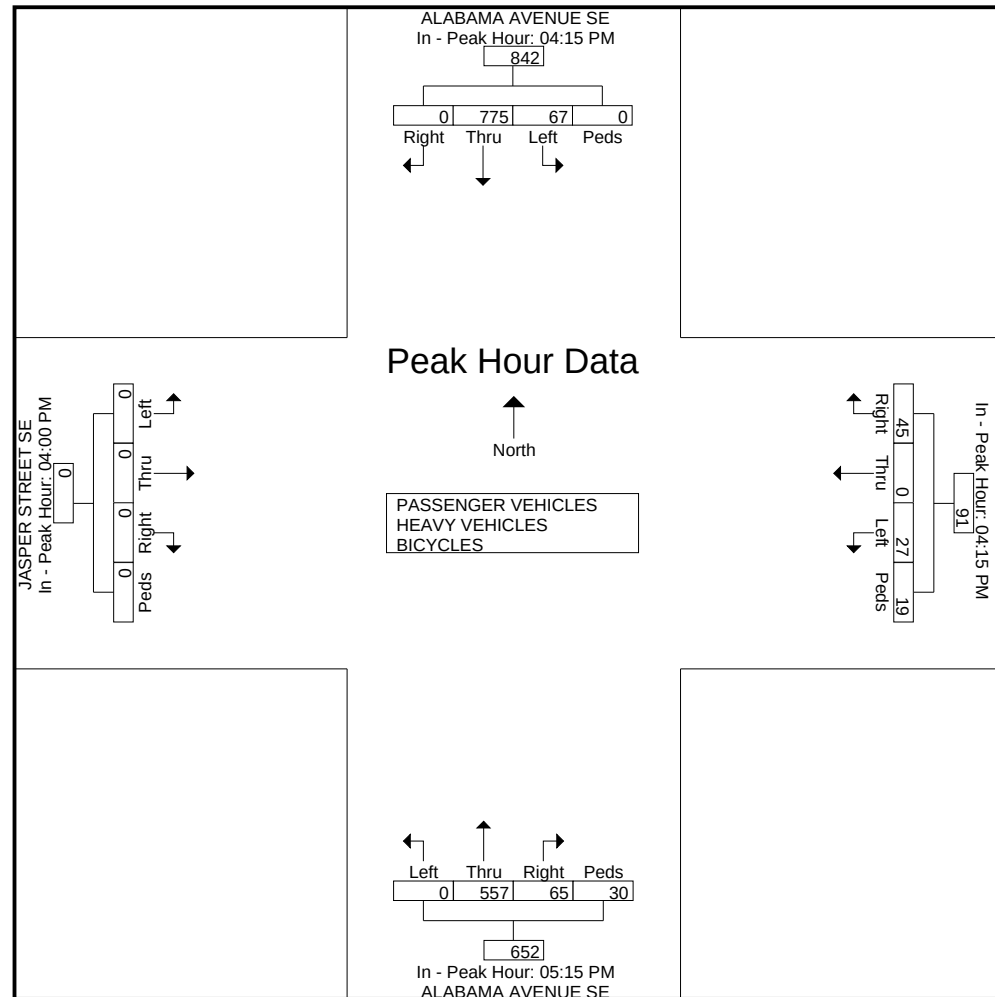
ALABAMA AVENUE & JASPER STREET, SE- PM PEAK

	ALABAMA AVENUE SE From North					JASPER STREET SE From East					ALABAMA AVENUE SE From South					JASPER STREET SE From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	04:15 PM					04:15 PM					05:15 PM					04:00 PM					
+0 mins.	0	200	27	0	227	16	0	4	6	26	19	162	0	6	187	0	0	0	0	0	
+15 mins.	0	217	15	0	232	9	0	8	5	22	9	132	0	5	146	0	0	0	0	0	
+30 mins.	0	161	13	0	174	10	0	8	3	21	20	119	0	13	152	0	0	0	0	0	
+45 mins.	0	197	12	0	209	10	0	7	5	22	17	144	0	6	167	0	0	0	0	0	
Total Volume	0	775	67	0	842	45	0	27	19	91	65	557	0	30	652	0	0	0	0	0	
% App. Total	0	92	8	0		49.5	0	29.7	20.9		10	85.4	0	4.6		0	0	0	0		
PHF	.000	.893	.620	.000	.907	.703	.000	.844	.792	.875	.813	.860	.000	.577	.872	.000	.000	.000	.000	.000	

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ALABAMA AVENUE & JASPER STREET, SE- PM PEAK



TURNING MOVEMENT COUNT

Weekday Traffic Data Collection

Location:

Alabama Avenue and Naylor Road, SE
District of Columbia

Prepared For:



District of Department
of Transportation (DDOT)

Prepared By:



SAMMAT

ENGINEERING SERVICES, LLC

SAMMAT Engineering Services, LLC

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November 10th, 2016

SUMMARY

This report provides DDOT with turning movement count data obtained on November 3rd 2016 at the intersection of Alabama Avenue and Naylor Road, SE. Figure 1 presents a map indicating the study location.



Figure 1: Turning Movement Count Location

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ALABAMA AVENUE & NAYLOR ROAD, SE - AM PEAK

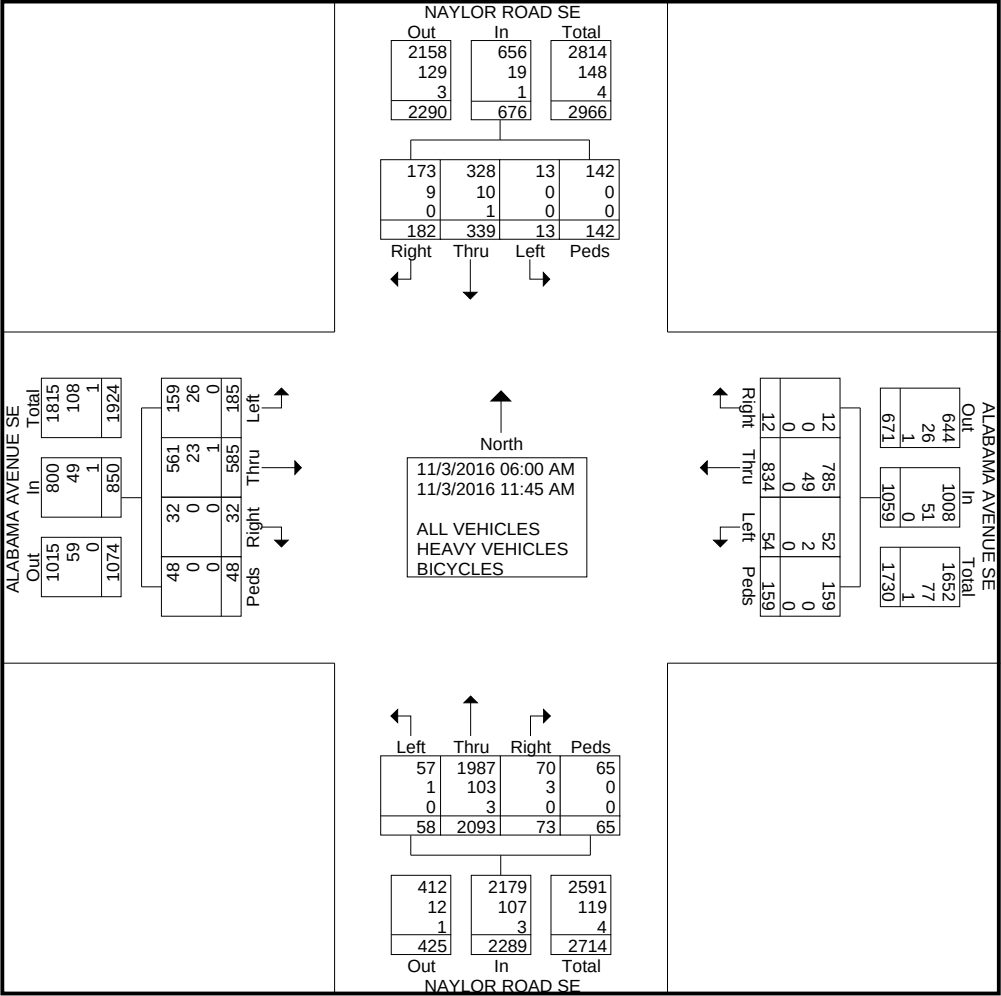
Groups Printed- ALL VEHICLES - HEAVY VEHICLES - BICYCLES

	NAYLOR ROAD SE From North					ALABAMA AVENUE SE From East					NAYLOR ROAD SE From South					ALABAMA AVENUE SE From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
06:00 AM	7	19	0	1	27	0	18	4	1	23	3	73	1	2	79	0	10	13	0	23	152
06:15 AM	8	24	0	2	34	1	29	1	3	34	7	129	1	1	138	1	14	15	0	30	236
06:30 AM	9	23	0	2	34	0	33	1	5	39	3	143	0	0	146	2	28	7	0	37	256
06:45 AM	10	30	0	2	42	0	53	6	4	63	6	168	5	1	180	3	32	10	2	47	332
Total	34	96	0	7	137	1	133	12	13	159	19	513	7	4	543	6	84	45	2	137	976
07:00 AM	12	31	0	8	51	1	60	5	3	69	6	174	3	0	183	1	42	13	1	57	360
07:15 AM	10	20	0	3	33	2	93	4	4	103	4	222	7	3	236	3	55	18	4	80	452
07:30 AM	16	21	0	15	52	1	97	3	16	117	10	213	7	6	236	3	62	14	6	85	490
07:45 AM	12	29	1	7	49	1	117	4	9	131	4	222	7	4	237	1	57	23	6	87	504
Total	50	101	1	33	185	5	367	16	32	420	24	831	24	13	892	8	216	68	17	309	1806
08:00 AM	24	33	2	20	79	3	94	7	10	114	7	221	6	10	244	9	71	16	11	107	544
08:15 AM	11	35	2	24	72	1	79	5	30	115	8	214	8	15	245	4	68	15	3	90	522
08:30 AM	37	39	3	27	106	1	75	9	31	116	6	173	11	13	203	0	71	20	4	95	520
08:45 AM	26	35	5	31	97	1	86	5	43	135	9	141	2	10	162	5	75	21	11	112	506
Total	98	142	12	102	354	6	334	26	114	480	30	749	27	48	854	18	285	72	29	404	2092
*** BREAK ***																					
Grand Total	182	339	13	142	676	12	834	54	159	1059	73	2093	58	65	2289	32	585	185	48	850	4874
Apprch %	26.9	50.1	1.9	21		1.1	78.8	5.1	15		3.2	91.4	2.5	2.8		3.8	68.8	21.8	5.6		
Total %	3.7	7	0.3	2.9	13.9	0.2	17.1	1.1	3.3	21.7	1.5	42.9	1.2	1.3	47	0.7	12	3.8	1	17.4	
ALL VEHICLES	173	328	13	142	656	12	785	52	159	1008	70	1987	57	65	2179	32	561	159	48	800	4643
% ALL VEHICLES	95.1	96.8	100	100	97	100	94.1	96.3	100	95.2	95.9	94.9	98.3	100	95.2	100	95.9	85.9	100	94.1	95.3
HEAVY VEHICLES	9	10	0	0	19	0	49	2	0	51	3	103	1	0	107	0	23	26	0	49	226
% HEAVY VEHICLES	4.9	2.9	0	0	2.8	0	5.9	3.7	0	4.8	4.1	4.9	1.7	0	4.7	0	3.9	14.1	0	5.8	4.6
BICYCLES	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	0	1	0	0	1	5
% BICYCLES	0	0.3	0	0	0.1	0	0	0	0	0	0	0.1	0	0	0.1	0	0.2	0	0	0.1	0.1

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ALABAMA AVENUE & NAYLOR ROAD, SE - AM PEAK



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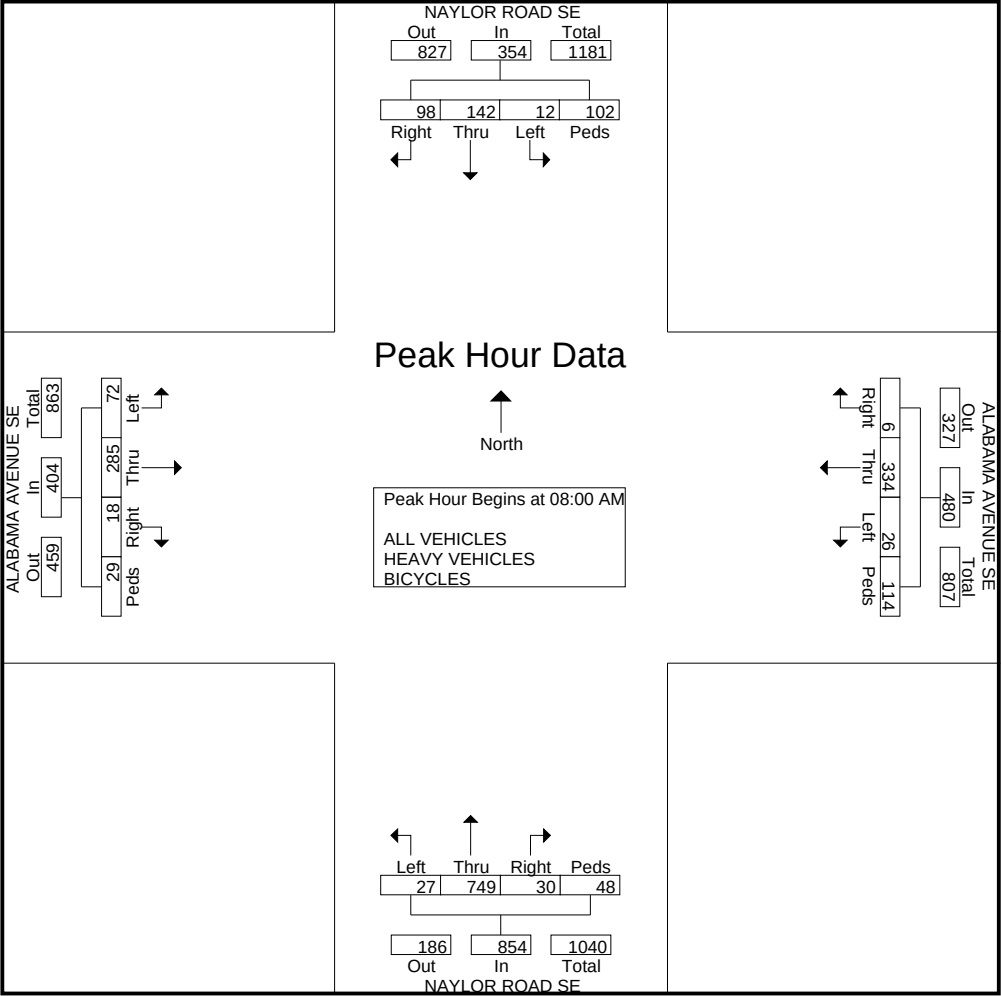
ALABAMA AVENUE & NAYLOR ROAD, SE - AM PEAK

	NAYLOR ROAD SE From North					ALABAMA AVENUE SE From East					NAYLOR ROAD SE From South					ALABAMA AVENUE SE From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	24	33	2	20	79	3	94	7	10	114	7	221	6	10	244	9	71	16	11	107	544
08:15 AM	11	35	2	24	72	1	79	5	30	115	8	214	8	15	245	4	68	15	3	90	522
08:30 AM	37	39	3	27	106	1	75	9	31	116	6	173	11	13	203	0	71	20	4	95	520
08:45 AM	26	35	5	31	97	1	86	5	43	135	9	141	2	10	162	5	75	21	11	112	506
Total Volume	98	142	12	102	354	6	334	26	114	480	30	749	27	48	854	18	285	72	29	404	2092
% App. Total	27.7	40.1	3.4	28.8		1.2	69.6	5.4	23.8		3.5	87.7	3.2	5.6		4.5	70.5	17.8	7.2		
PHF	.662	.910	.600	.823	.835	.500	.888	.722	.663	.889	.833	.847	.614	.800	.871	.500	.950	.857	.659	.902	.961

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ALABAMA AVENUE & NAYLOR ROAD, SE - AM PEAK



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ALABAMA AVENUE & NAYLOR ROAD, SE - PM PEAK

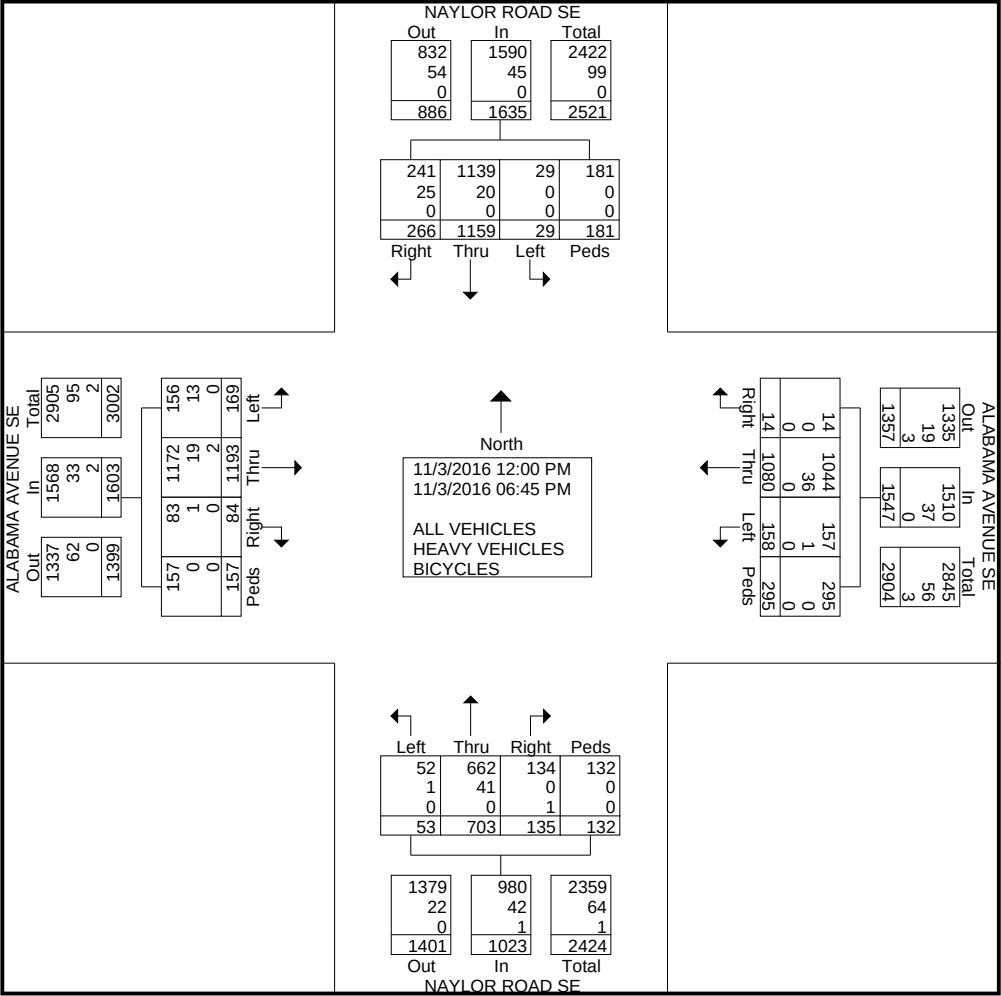
Groups Printed- ALL VEHICLES - HEAVY VEHICLES - BICYCLES

	NAYLOR ROAD SE From North					ALABAMA AVENUE SE From East					NAYLOR ROAD SE From South					ALABAMA AVENUE SE From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
*** BREAK ***																					
04:00 PM	32	55	4	56	147	0	94	13	47	154	8	52	4	10	74	7	95	16	27	145	520
04:15 PM	22	85	2	15	124	0	87	13	35	135	5	66	5	12	88	7	99	10	13	129	476
04:30 PM	27	86	2	18	133	3	80	15	34	132	10	54	7	25	96	9	83	12	13	117	478
04:45 PM	21	109	0	7	137	4	88	12	32	136	15	47	4	15	81	4	94	9	16	123	477
Total	102	335	8	96	541	7	349	53	148	557	38	219	20	62	339	27	371	47	69	514	1951
05:00 PM	14	109	3	10	136	0	100	13	33	146	19	64	3	27	113	12	90	17	13	132	527
05:15 PM	21	107	4	12	144	2	94	16	12	124	7	65	4	5	81	9	106	13	14	142	491
05:30 PM	22	115	4	6	147	1	106	6	30	143	13	56	9	15	93	5	116	13	3	137	520
05:45 PM	21	124	0	5	150	1	98	14	18	131	12	50	2	12	76	6	104	14	4	128	485
Total	78	455	11	33	577	4	398	49	93	544	51	235	18	59	363	32	416	57	34	539	2023
06:00 PM	22	104	6	18	150	2	95	17	14	128	18	63	5	7	93	6	110	23	19	158	529
06:15 PM	25	88	2	10	125	1	95	10	15	121	8	71	4	3	86	7	117	10	16	150	482
06:30 PM	22	86	2	15	125	0	65	16	11	92	11	57	6	0	74	6	82	18	12	118	409
06:45 PM	17	91	0	9	117	0	78	13	14	105	9	58	0	1	68	6	97	14	7	124	414
Total	86	369	10	52	517	3	333	56	54	446	46	249	15	11	321	25	406	65	54	550	1834
Grand Total	266	1159	29	181	1635	14	1080	158	295	1547	135	703	53	132	1023	84	1193	169	157	1603	5808
Apprch %	16.3	70.9	1.8	11.1		0.9	69.8	10.2	19.1		13.2	68.7	5.2	12.9		5.2	74.4	10.5	9.8		
Total %	4.6	20	0.5	3.1	28.2	0.2	18.6	2.7	5.1	26.6	2.3	12.1	0.9	2.3	17.6	1.4	20.5	2.9	2.7	27.6	
ALL VEHICLES	241	1139	29	181	1590	14	1044	157	295	1510	134	662	52	132	980	83	1172	156	157	1568	5648
% ALL VEHICLES	90.6	98.3	100	100	97.2	100	96.7	99.4	100	97.6	99.3	94.2	98.1	100	95.8	98.8	98.2	92.3	100	97.8	97.2
HEAVY VEHICLES	25	20	0	0	45	0	36	1	0	37	0	41	1	0	42	1	19	13	0	33	157
% HEAVY VEHICLES	9.4	1.7	0	0	2.8	0	3.3	0.6	0	2.4	0	5.8	1.9	0	4.1	1.2	1.6	7.7	0	2.1	2.7
BICYCLES	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	0	0	2	3
% BICYCLES	0	0	0	0	0	0	0	0	0	0	0.7	0	0	0	0.1	0	0.2	0	0	0.1	0.1

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ALABAMA AVENUE & NAYLOR ROAD, SE - PM PEAK



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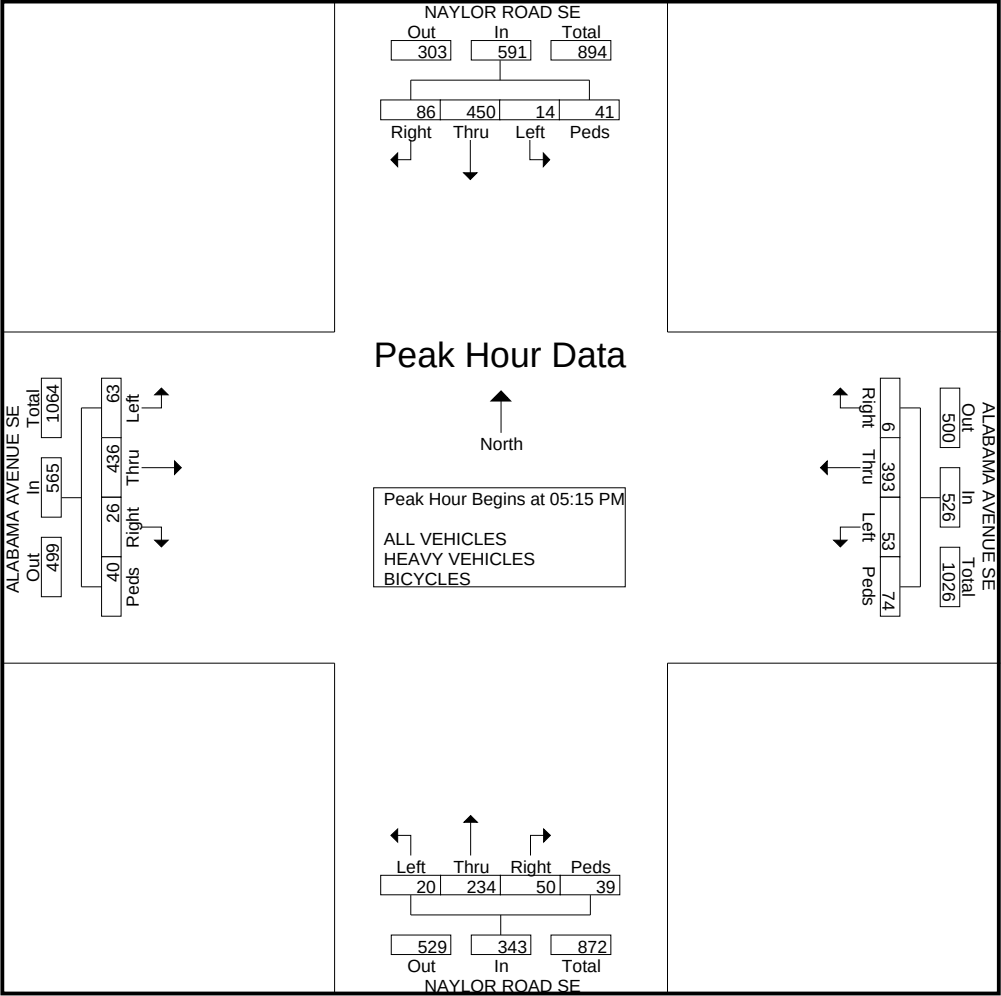
ALABAMA AVENUE & NAYLOR ROAD, SE - PM PEAK

	NAYLOR ROAD SE From North					ALABAMA AVENUE SE From East					NAYLOR ROAD SE From South					ALABAMA AVENUE SE From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:15 PM																					
05:15 PM	21	107	4	12	144	2	94	16	12	124	7	65	4	5	81	9	106	13	14	142	491
05:30 PM	22	115	4	6	147	1	106	6	30	143	13	56	9	15	93	5	116	13	3	137	520
05:45 PM	21	124	0	5	150	1	98	14	18	131	12	50	2	12	76	6	104	14	4	128	485
06:00 PM	22	104	6	18	150	2	95	17	14	128	18	63	5	7	93	6	110	23	19	158	529
Total Volume	86	450	14	41	591	6	393	53	74	526	50	234	20	39	343	26	436	63	40	565	2025
% App. Total	14.6	76.1	2.4	6.9		1.1	74.7	10.1	14.1		14.6	68.2	5.8	11.4		4.6	77.2	11.2	7.1		
PHF	.977	.907	.583	.569	.985	.750	.927	.779	.617	.920	.694	.900	.556	.650	.922	.722	.940	.685	.526	.894	.957

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ALABAMA AVENUE & NAYLOR ROAD, SE - PM PEAK



TURNING MOVEMENT COUNT

Weekday Traffic Data Collection

Location:

Alabama Avenue and Good Hope Road, SE
District of Columbia

Prepared For:



District of Department
of Transportation (DDOT)

Prepared By:



SAMMAT

ENGINEERING SERVICES, LLC

SAMMAT Engineering Services, LLC

P.O. Box 780

Mount Airy, MD 21771

www.sammateng.com

November 10th, 2016

SUMMARY

This report provides DDOT with turning movement count data obtained on November 3rd 2016 at the intersection of Alabama Avenue and Good Hope Road, SE. Figure 1 presents a map indicating the study location.

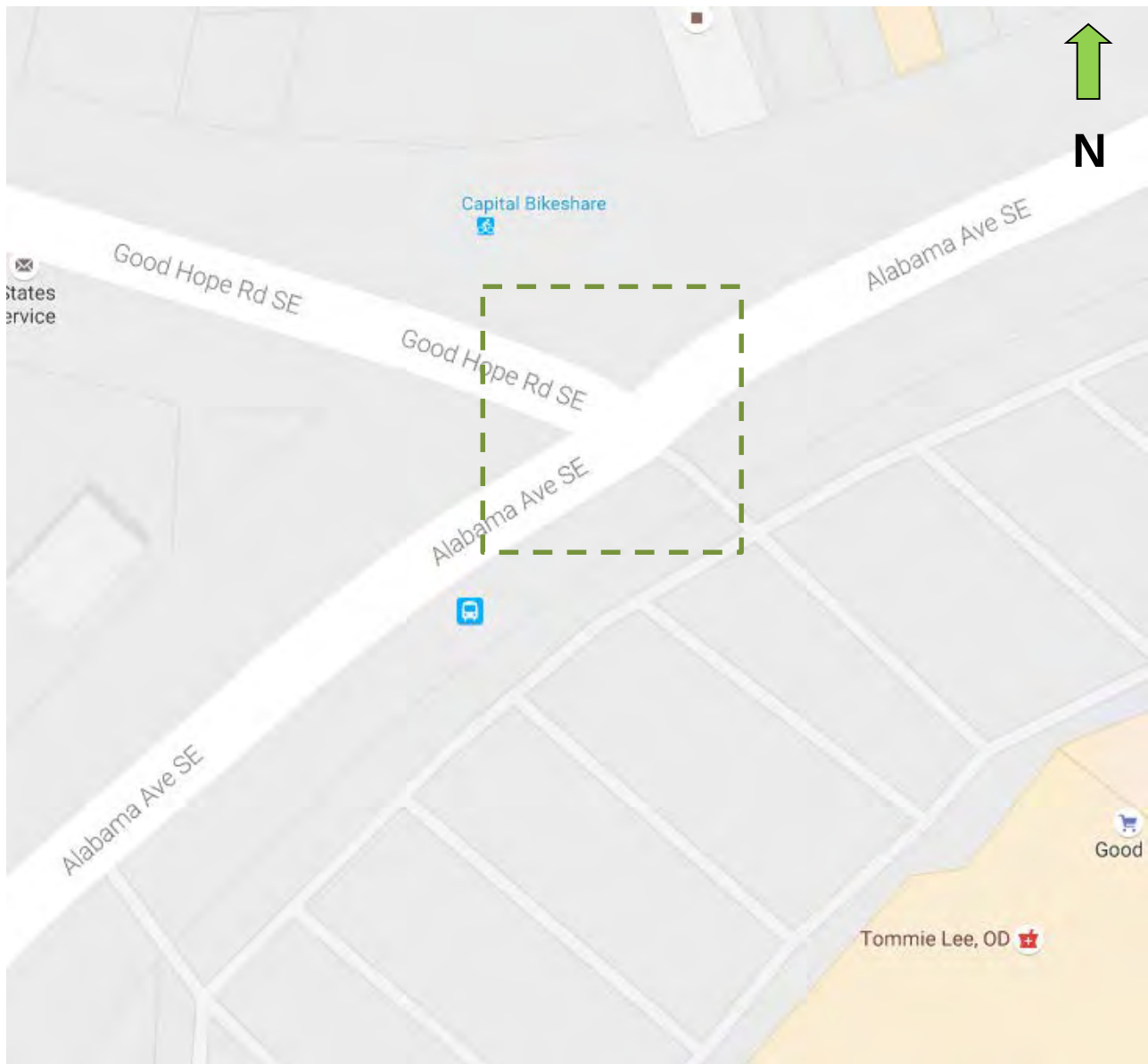
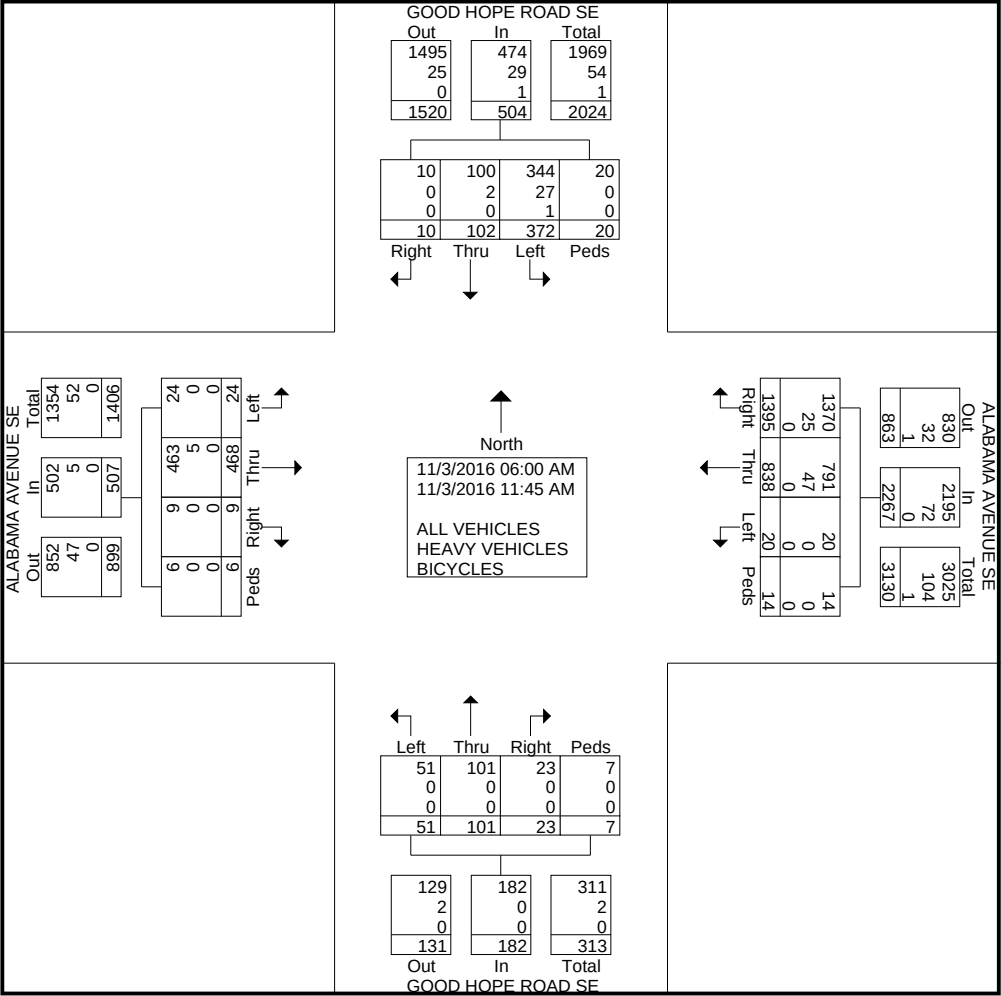


Figure 1: Turning Movement Count Location

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ALABAMA AVENUE & GOOD HOPE ROAD, SE - AM PEAK



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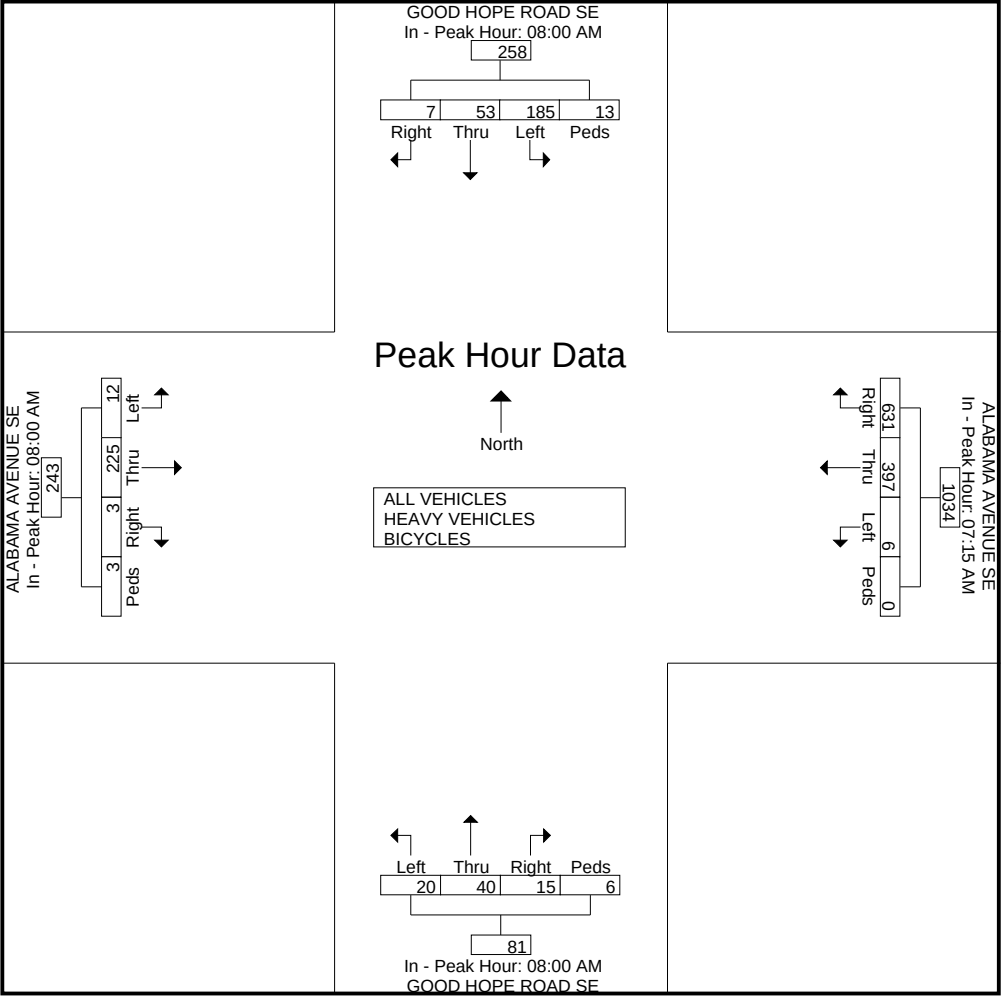
ALABAMA AVENUE & GOOD HOPE ROAD, SE - AM PEAK

	GOOD HOPE ROAD SE From North					ALABAMA AVENUE SE From East					GOOD HOPE ROAD SE From South					ALABAMA AVENUE SE From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	08:00 AM					07:15 AM					08:00 AM					08:00 AM					
+0 mins.	2	16	50	2	70	158	79	0	0	237	1	9	7	0	17	1	59	0	0	60	
+15 mins.	0	12	43	3	58	174	123	3	0	300	2	10	8	2	22	1	56	4	2	63	
+30 mins.	2	13	46	6	67	152	100	1	0	253	10	10	2	0	22	0	62	4	1	67	
+45 mins.	3	12	46	2	63	147	95	2	0	244	2	11	3	4	20	1	48	4	0	53	
Total Volume	7	53	185	13	258	631	397	6	0	1034	15	40	20	6	81	3	225	12	3	243	
% App. Total	2.7	20.5	71.7	5		61	38.4	0.6	0		18.5	49.4	24.7	7.4		1.2	92.6	4.9	1.2		
PHF	.583	.828	.925	.542	.921	.907	.807	.500	.000	.862	.375	.909	.625	.375	.920	.750	.907	.750	.375	.907	

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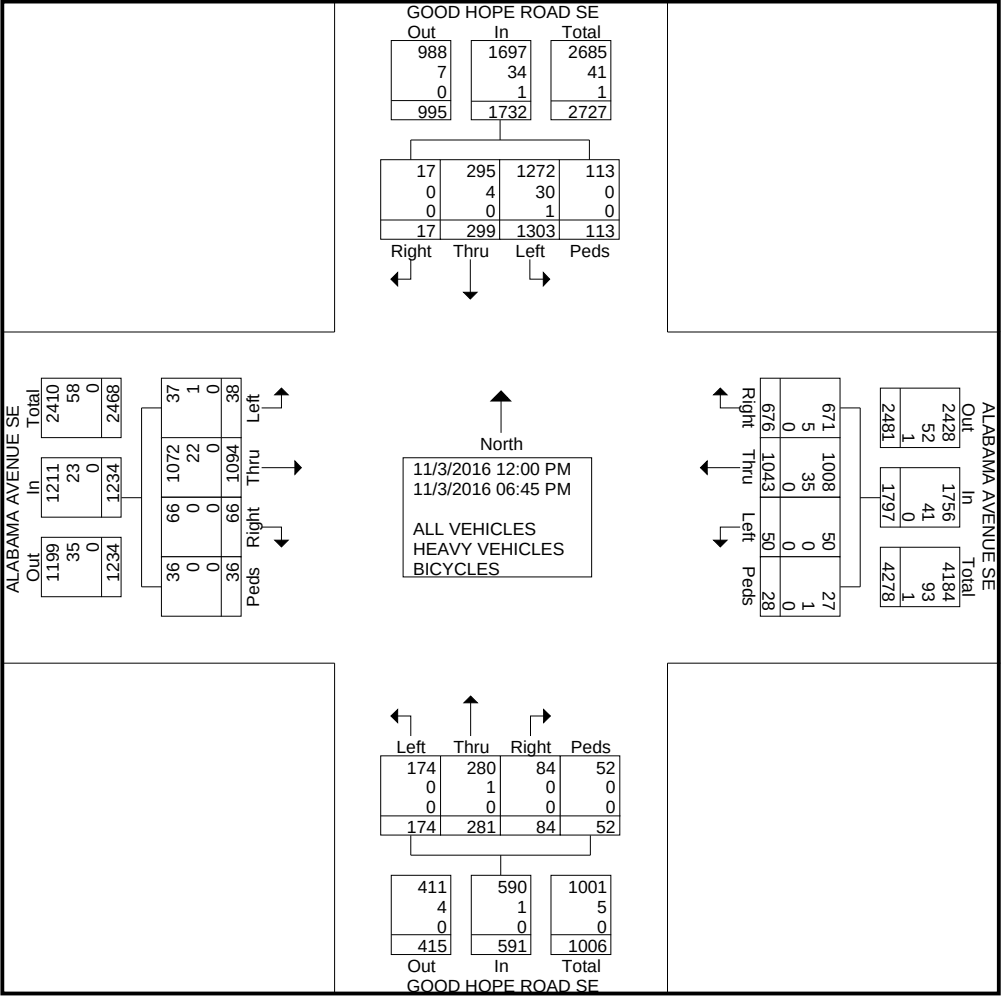
ALABAMA AVENUE & GOOD HOPE ROAD, SE - AM PEAK



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ALABAMA AVENUE & GOOD HOPE ROAD, SE - PM PEAK



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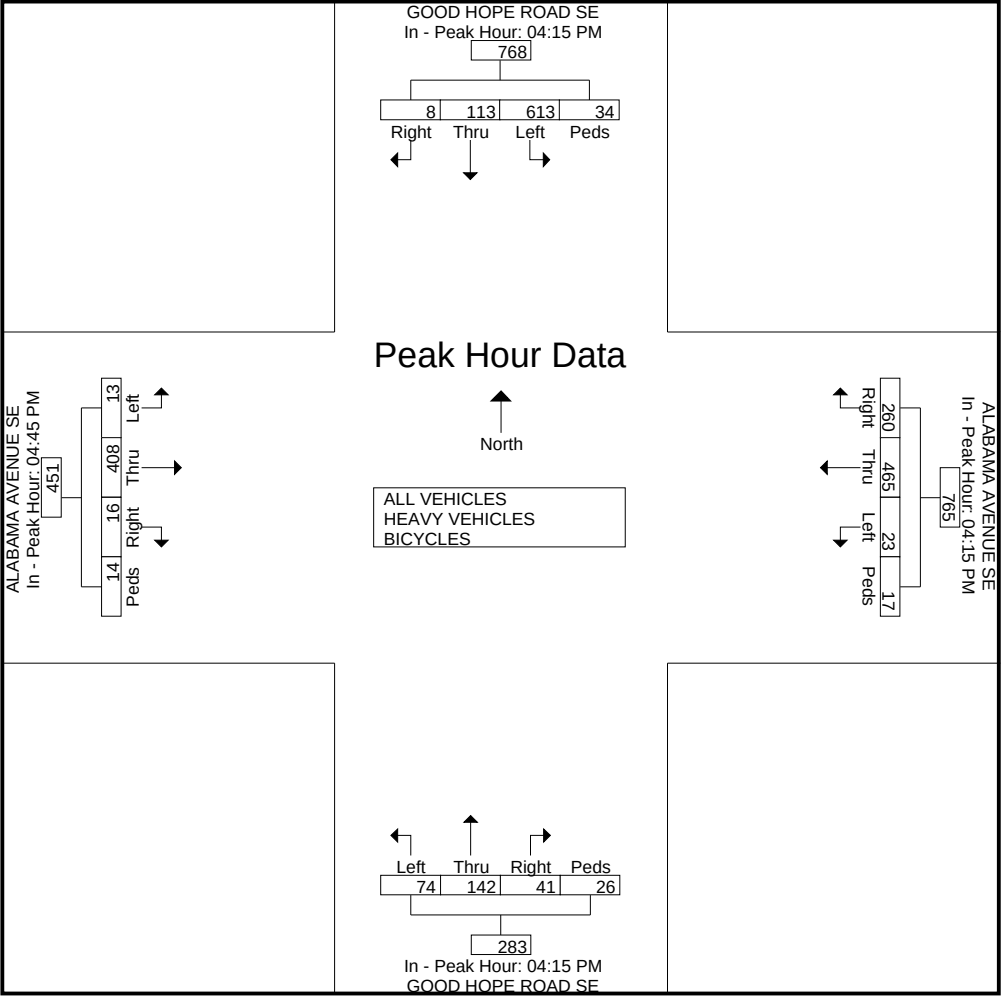
ALABAMA AVENUE & GOOD HOPE ROAD, SE - PM PEAK

	GOOD HOPE ROAD SE From North					ALABAMA AVENUE SE From East					GOOD HOPE ROAD SE From South					ALABAMA AVENUE SE From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	04:15 PM					04:15 PM					04:15 PM					04:45 PM					
+0 mins.	1	25	126	13	165	47	101	8	0	156	13	31	10	6	60	7	91	0	1	99	
+15 mins.	1	31	116	11	159	38	118	8	15	179	7	19	20	5	51	0	113	5	7	125	
+30 mins.	3	35	199	4	241	91	104	3	2	200	16	48	24	0	88	6	100	6	4	116	
+45 mins.	3	22	172	6	203	84	142	4	0	230	5	44	20	15	84	3	104	2	2	111	
Total Volume	8	113	613	34	768	260	465	23	17	765	41	142	74	26	283	16	408	13	14	451	
% App. Total	1	14.7	79.8	4.4		34	60.8	3	2.2		14.5	50.2	26.1	9.2		3.5	90.5	2.9	3.1		
PHF	.667	.807	.770	.654	.797	.714	.819	.719	.283	.832	.641	.740	.771	.433	.804	.571	.903	.542	.500	.902	

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ALABAMA AVENUE & GOOD HOPE ROAD, SE - PM PEAK



TURNING MOVEMENT COUNT

Weekday Traffic Data Collection

Location:

Alabama Avenue and Branch Avenue, SE
District of Columbia

Prepared For:



District of Department
of Transportation (DDOT)

Prepared By:



SAMMAT

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SAMMAT Engineering Services, LLC

P.O. Box 780

Mount Airy, MD 21771

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November 10th, 2016

SUMMARY

This report provides DDOT with turning movement count data obtained on November 3rd 2016 at the intersection of Alabama Avenue and Branch Avenue, SE. Figure 1 presents a map indicating the study location.

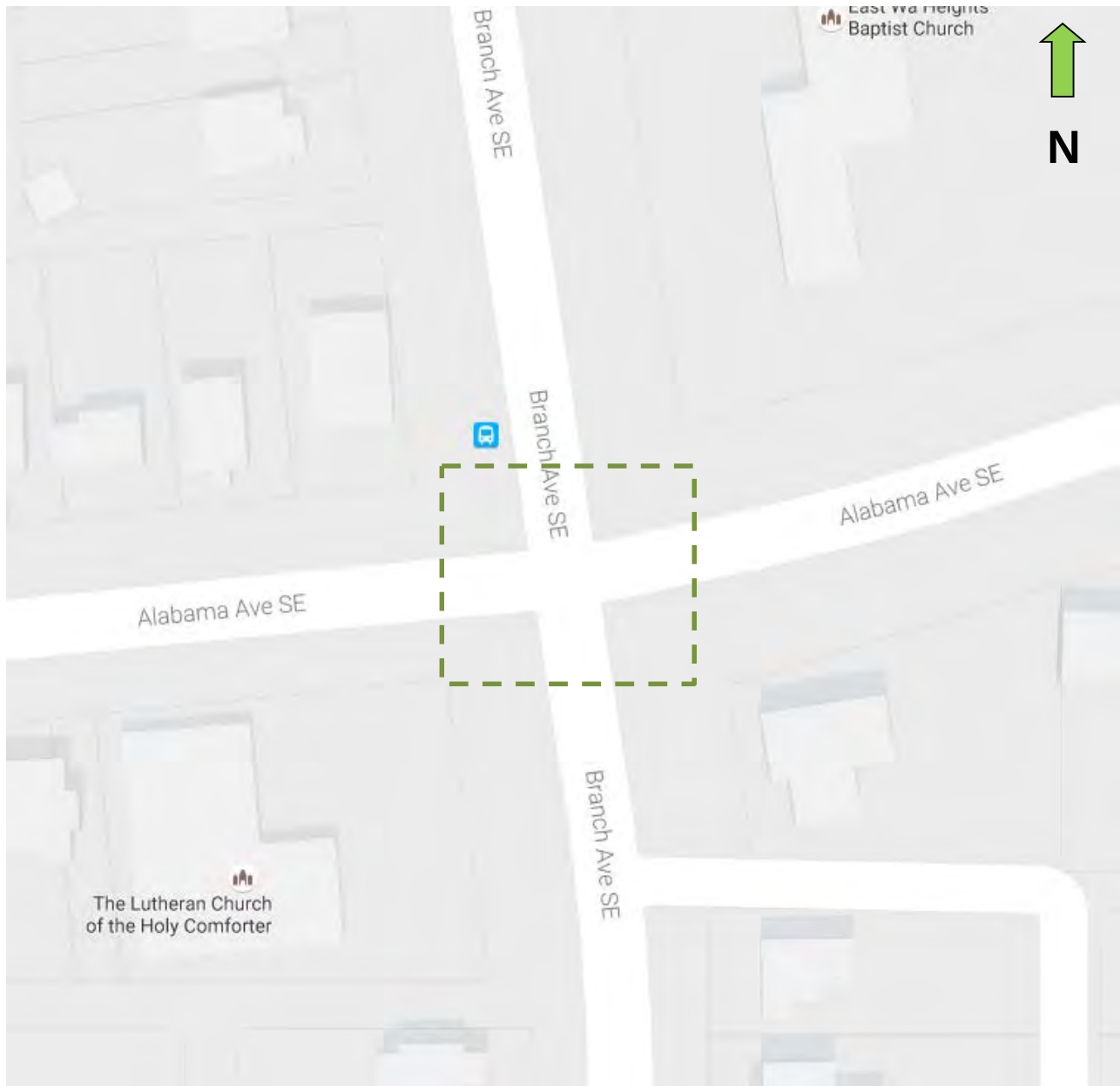


Figure 1: Turning Movement Count Location

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ALABAMA AVENUE & BRANCH AVENUE, SE - AM PEAK

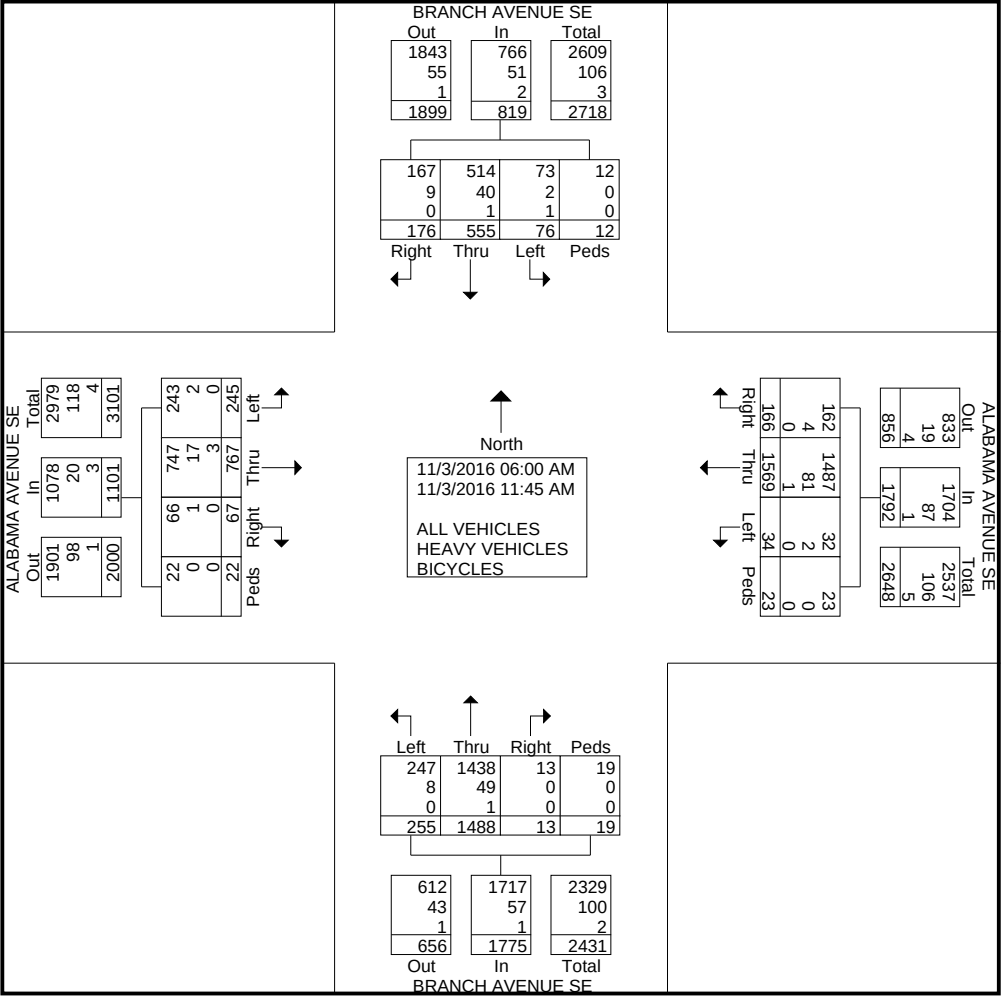
Groups Printed- ALL VEHICLES - HEAVY VEHICLES - BICYCLES

	BRANCH AVENUE SE From North					ALABAMA AVENUE SE From East					BRANCH AVENUE SE From South					ALABAMA AVENUE SE From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
06:00 AM	1	24	1	0	26	5	32	2	0	39	1	130	4	0	135	5	16	3	3	27	227
06:15 AM	5	25	2	0	32	12	54	3	2	71	0	144	3	3	150	3	24	18	1	46	299
06:30 AM	5	39	4	0	48	16	86	1	0	103	2	129	8	0	139	4	39	24	0	67	357
06:45 AM	7	27	4	1	39	32	125	1	0	158	0	139	14	1	154	4	30	10	1	45	396
Total	18	115	11	1	145	65	297	7	2	371	3	542	29	4	578	16	109	55	5	185	1279
07:00 AM	15	43	6	0	64	16	164	5	3	188	0	132	22	0	154	1	48	20	0	69	475
07:15 AM	21	53	3	0	77	10	172	1	0	183	0	138	31	2	171	6	62	20	1	89	520
07:30 AM	35	44	3	3	85	10	166	1	1	178	1	128	32	1	162	6	87	25	2	120	545
07:45 AM	23	47	15	0	85	10	144	3	4	161	0	133	38	2	173	9	82	27	2	120	539
Total	94	187	27	3	311	46	646	10	8	710	1	531	123	5	660	22	279	92	5	398	2079
08:00 AM	10	64	11	4	89	15	160	2	4	181	2	129	35	1	167	6	90	32	2	130	567
08:15 AM	21	57	13	2	93	14	155	4	1	174	2	133	37	3	175	3	105	27	3	138	580
08:30 AM	13	76	7	0	96	12	162	3	6	183	2	116	22	5	145	10	94	28	7	139	563
08:45 AM	20	56	7	2	85	14	149	8	2	173	3	37	9	1	50	10	90	11	0	111	419
Total	64	253	38	8	363	55	626	17	13	711	9	415	103	10	537	29	379	98	12	518	2129
*** BREAK ***																					
Grand Total	176	555	76	12	819	166	1569	34	23	1792	13	1488	255	19	1775	67	767	245	22	1101	5487
Apprch %	21.5	67.8	9.3	1.5		9.3	87.6	1.9	1.3		0.7	83.8	14.4	1.1		6.1	69.7	22.3	2		
Total %	3.2	10.1	1.4	0.2	14.9	3	28.6	0.6	0.4	32.7	0.2	27.1	4.6	0.3	32.3	1.2	14	4.5	0.4	20.1	
ALL VEHICLES	167	514	73	12	766	162	1487	32	23	1704	13	1438	247	19	1717	66	747	243	22	1078	5265
% ALL VEHICLES	94.9	92.6	96.1	100	93.5	97.6	94.8	94.1	100	95.1	100	96.6	96.9	100	96.7	98.5	97.4	99.2	100	97.9	96
HEAVY VEHICLES	9	40	2	0	51	4	81	2	0	87	0	49	8	0	57	1	17	2	0	20	215
% HEAVY VEHICLES	5.1	7.2	2.6	0	6.2	2.4	5.2	5.9	0	4.9	0	3.3	3.1	0	3.2	1.5	2.2	0.8	0	1.8	3.9
BICYCLES	0	1	1	0	2	0	1	0	0	1	0	1	0	0	1	0	3	0	0	3	7
% BICYCLES	0	0.2	1.3	0	0.2	0	0.1	0	0	0.1	0	0.1	0	0	0.1	0	0.4	0	0	0.3	0.1

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ALABAMA AVENUE & BRANCH AVENUE, SE - AM PEAK



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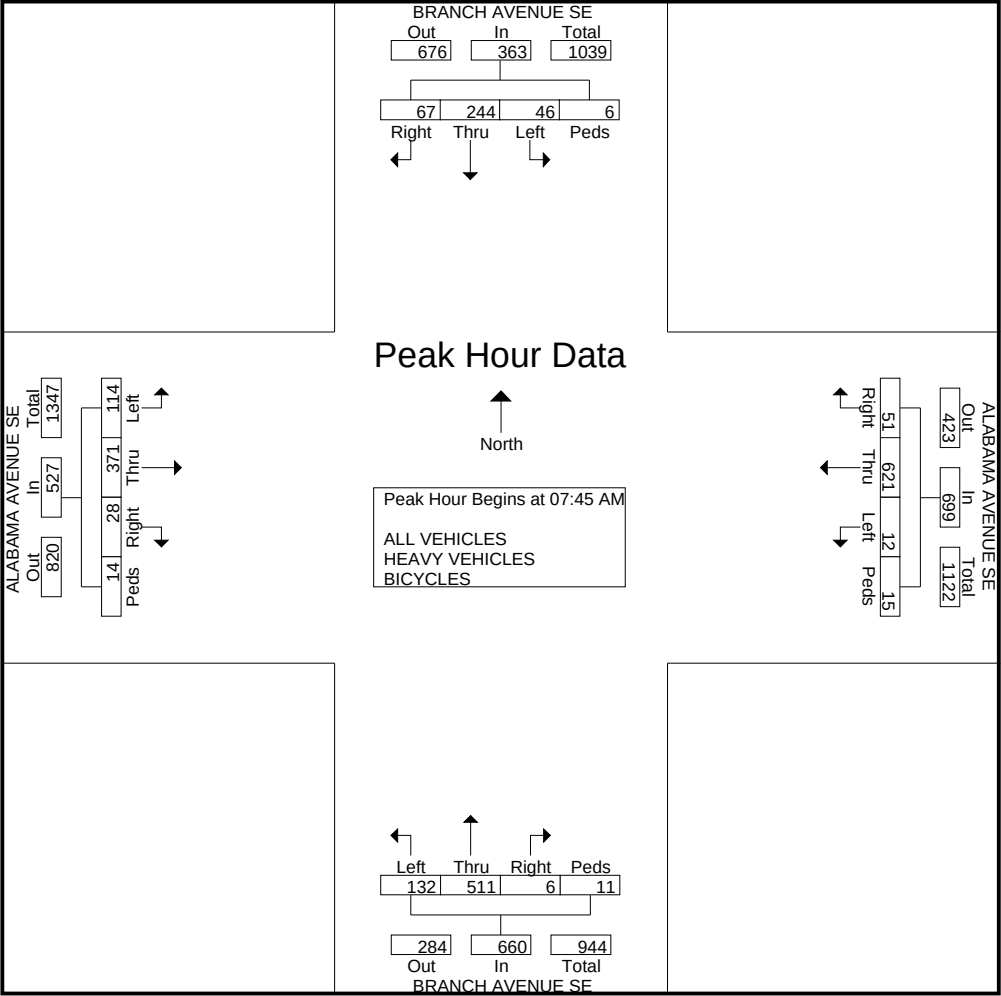
ALABAMA AVENUE & BRANCH AVENUE, SE - AM PEAK

	BRANCH AVENUE SE From North					ALABAMA AVENUE SE From East					BRANCH AVENUE SE From South					ALABAMA AVENUE SE From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	23	47	15	0	85	10	144	3	4	161	0	133	38	2	173	9	82	27	2	120	539
08:00 AM	10	64	11	4	89	15	160	2	4	181	2	129	35	1	167	6	90	32	2	130	567
08:15 AM	21	57	13	2	93	14	155	4	1	174	2	133	37	3	175	3	105	27	3	138	580
08:30 AM	13	76	7	0	96	12	162	3	6	183	2	116	22	5	145	10	94	28	7	139	563
Total Volume	67	244	46	6	363	51	621	12	15	699	6	511	132	11	660	28	371	114	14	527	2249
% App. Total	18.5	67.2	12.7	1.7		7.3	88.8	1.7	2.1		0.9	77.4	20	1.7		5.3	70.4	21.6	2.7		
PHF	.728	.803	.767	.375	.945	.850	.958	.750	.625	.955	.750	.961	.868	.550	.943	.700	.883	.891	.500	.948	.969

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ALABAMA AVENUE & BRANCH AVENUE, SE - AM PEAK



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ALABAMA AVENUE & BRANCH AVENUE, SE - PM PEAK

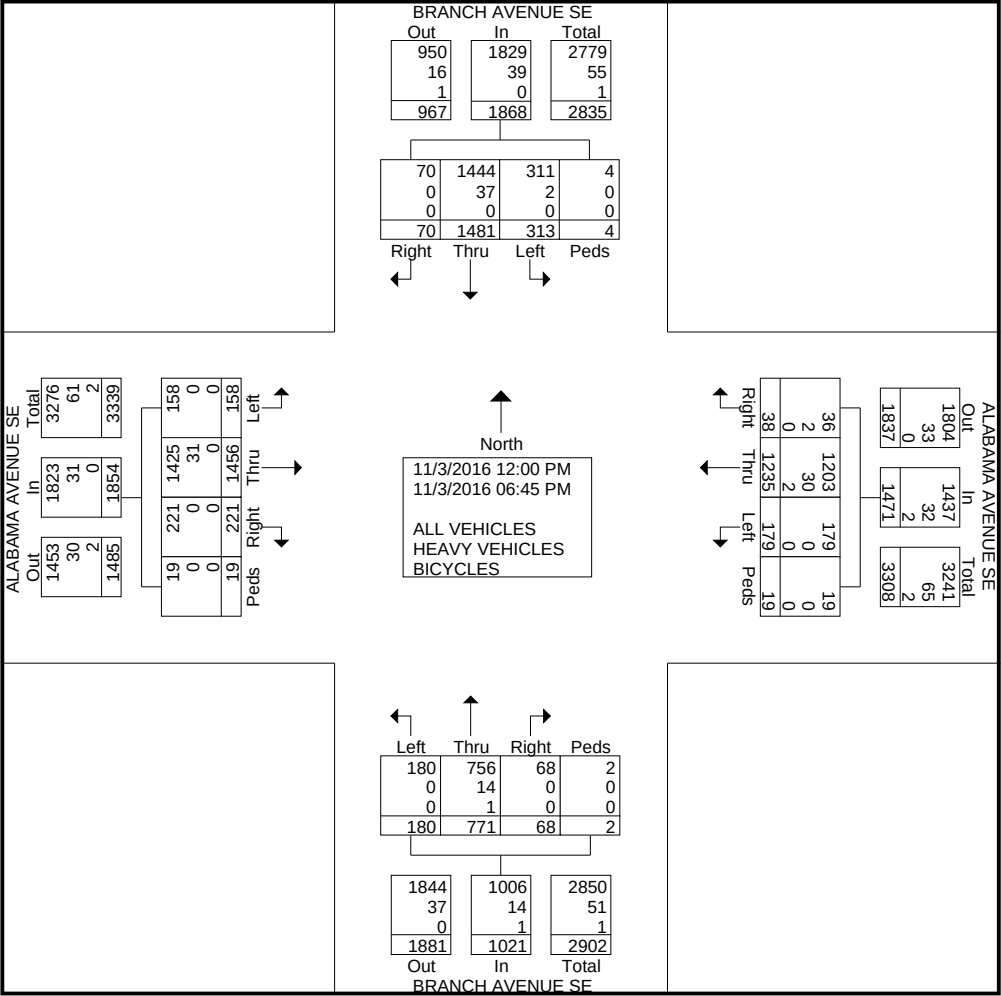
Groups Printed- ALL VEHICLES - HEAVY VEHICLES - BICYCLES

	BRANCH AVENUE SE From North					ALABAMA AVENUE SE From East					BRANCH AVENUE SE From South					ALABAMA AVENUE SE From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
*** BREAK ***																					
04:00 PM	7	152	22	0	181	7	95	12	0	114	7	62	10	1	80	19	129	16	2	166	541
04:15 PM	7	161	18	0	186	1	110	17	1	129	8	63	15	0	86	25	127	19	2	173	574
04:30 PM	6	181	26	3	216	5	120	20	1	146	4	73	18	0	95	34	134	13	7	188	645
04:45 PM	0	102	25	0	127	4	101	9	0	114	5	49	12	0	66	14	111	15	0	140	447
Total	20	596	91	3	710	17	426	58	2	503	24	247	55	1	327	92	501	63	11	667	2207
05:00 PM	5	119	28	0	152	2	110	12	0	124	4	80	14	0	98	15	85	15	4	119	493
05:15 PM	10	97	28	0	135	3	106	20	1	130	5	61	19	0	85	11	132	15	0	158	508
05:30 PM	3	99	35	0	137	5	101	11	3	120	9	80	17	0	106	13	139	11	1	164	527
05:45 PM	5	113	44	0	162	1	116	19	3	139	6	52	19	0	77	20	112	7	0	139	517
Total	23	428	135	0	586	11	433	62	7	513	24	273	69	0	366	59	468	48	5	580	2045
06:00 PM	8	113	35	1	157	2	99	20	4	125	4	78	15	1	98	13	130	8	1	152	532
06:15 PM	7	124	25	0	156	4	88	20	5	117	4	48	9	0	61	19	128	9	2	158	492
06:30 PM	3	107	16	0	126	3	88	15	0	106	8	64	18	0	90	17	114	15	0	146	468
06:45 PM	9	113	11	0	133	1	101	4	1	107	4	61	14	0	79	21	115	15	0	151	470
Total	27	457	87	1	572	10	376	59	10	455	20	251	56	1	328	70	487	47	3	607	1962
Grand Total	70	1481	313	4	1868	38	1235	179	19	1471	68	771	180	2	1021	221	1456	158	19	1854	6214
Apprch %	3.7	79.3	16.8	0.2		2.6	84	12.2	1.3		6.7	75.5	17.6	0.2		11.9	78.5	8.5	1		
Total %	1.1	23.8	5	0.1	30.1	0.6	19.9	2.9	0.3	23.7	1.1	12.4	2.9	0	16.4	3.6	23.4	2.5	0.3	29.8	
ALL VEHICLES	70	1444	311	4	1829	36	1203	179	19	1437	68	756	180	2	1006	221	1425	158	19	1823	6095
% ALL VEHICLES	100	97.5	99.4	100	97.9	94.7	97.4	100	100	97.7	100	98.1	100	100	98.5	100	97.9	100	100	98.3	98.1
HEAVY VEHICLES	0	37	2	0	39	2	30	0	0	32	0	14	0	0	14	0	31	0	0	31	116
% HEAVY VEHICLES	0	2.5	0.6	0	2.1	5.3	2.4	0	0	2.2	0	1.8	0	0	1.4	0	2.1	0	0	1.7	1.9
BICYCLES	0	0	0	0	0	0	2	0	0	2	0	1	0	0	1	0	0	0	0	0	3
% BICYCLES	0	0	0	0	0	0	0.2	0	0	0.1	0	0.1	0	0	0.1	0	0	0	0	0	0

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ALABAMA AVENUE & BRANCH AVENUE, SE - PM PEAK



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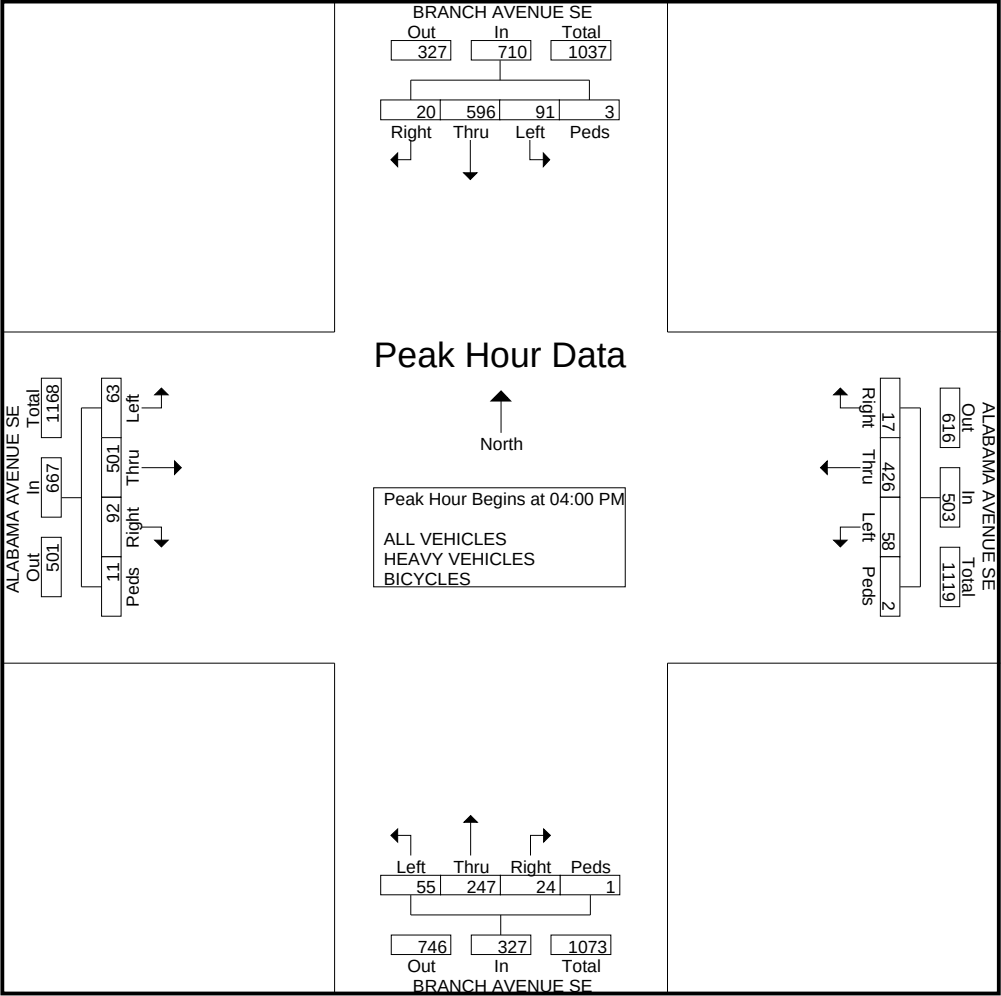
ALABAMA AVENUE & BRANCH AVENUE, SE - PM PEAK

	BRANCH AVENUE SE From North					ALABAMA AVENUE SE From East					BRANCH AVENUE SE From South					ALABAMA AVENUE SE From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	7	152	22	0	181	7	95	12	0	114	7	62	10	1	80	19	129	16	2	166	541
04:15 PM	7	161	18	0	186	1	110	17	1	129	8	63	15	0	86	25	127	19	2	173	574
04:30 PM	6	181	26	3	216	5	120	20	1	146	4	73	18	0	95	34	134	13	7	188	645
04:45 PM	0	102	25	0	127	4	101	9	0	114	5	49	12	0	66	14	111	15	0	140	447
Total Volume	20	596	91	3	710	17	426	58	2	503	24	247	55	1	327	92	501	63	11	667	2207
% App. Total	2.8	83.9	12.8	0.4		3.4	84.7	11.5	0.4		7.3	75.5	16.8	0.3		13.8	75.1	9.4	1.6		
PHF	.714	.823	.875	.250	.822	.607	.888	.725	.500	.861	.750	.846	.764	.250	.861	.676	.935	.829	.393	.887	.855

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ALABAMA AVENUE & BRANCH AVENUE, SE - PM PEAK



TURNING MOVEMENT COUNT

Weekday Traffic Data Collection

Location:

Alabama Avenue and 36th Place, SE
District of Columbia

Prepared For:



District of Department
of Transportation (DDOT)

Prepared By:



SAMMAT Engineering Services, LLC
P.O. Box 780
Mount Airy, MD 21771
www.sammateg.com

December 16th, 2016

SUMMARY

This report provides DDOT with turning movement count data obtained on December 14th, 2016 at the intersection of Alabama Avenue and 36th Place, SE. **Note: The thru movement on 36th place, SE is vehicles turning left on the east leg of 36th place and making an immediate right on the west leg of 36th Pl, SE. And the number of pedestrian crossing Alabama Avenue, SE is the sum of the two crosswalks on approach to leg of 36th Place, SE.** Figure 1 presents a map indicating the study location.

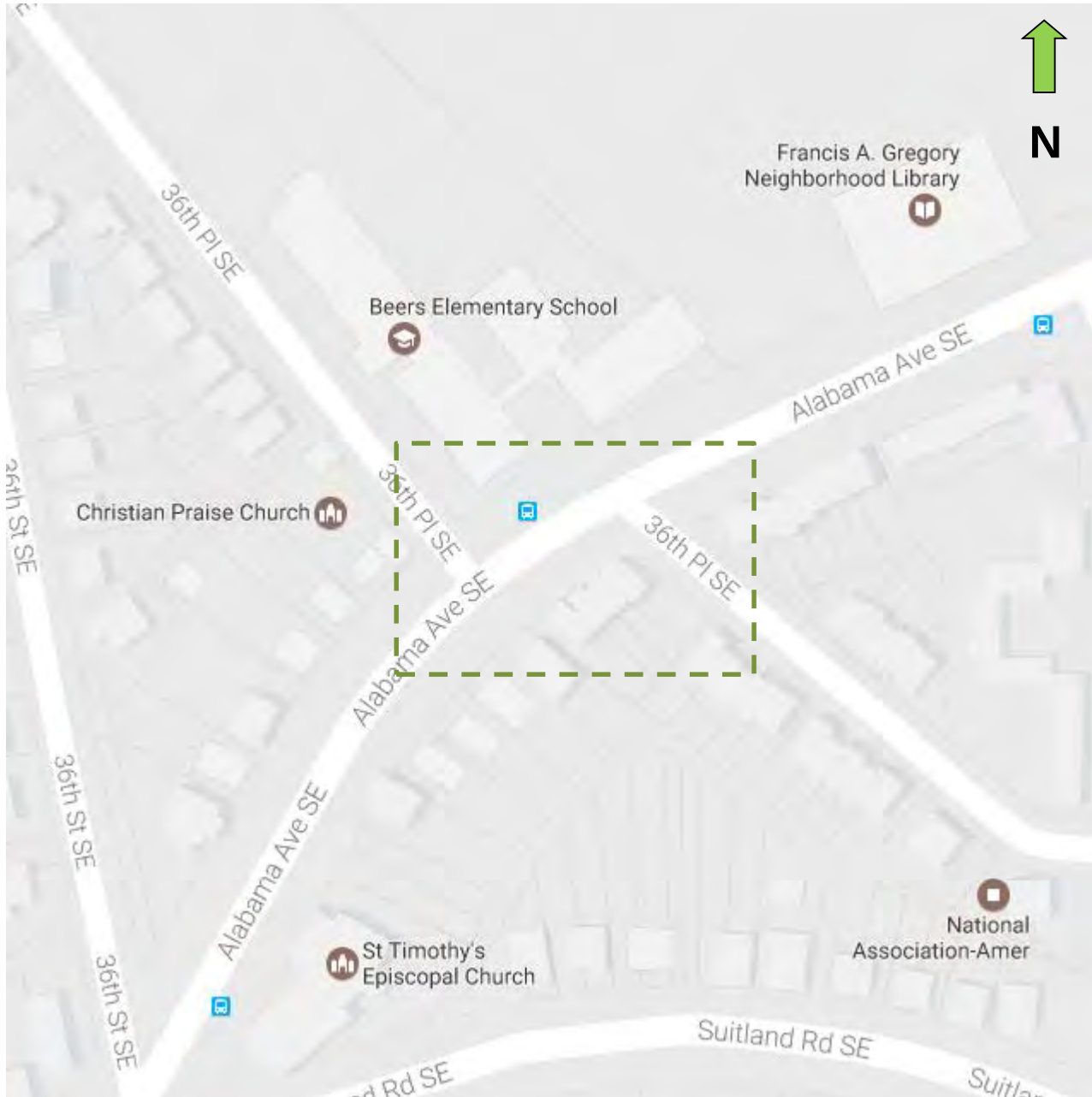
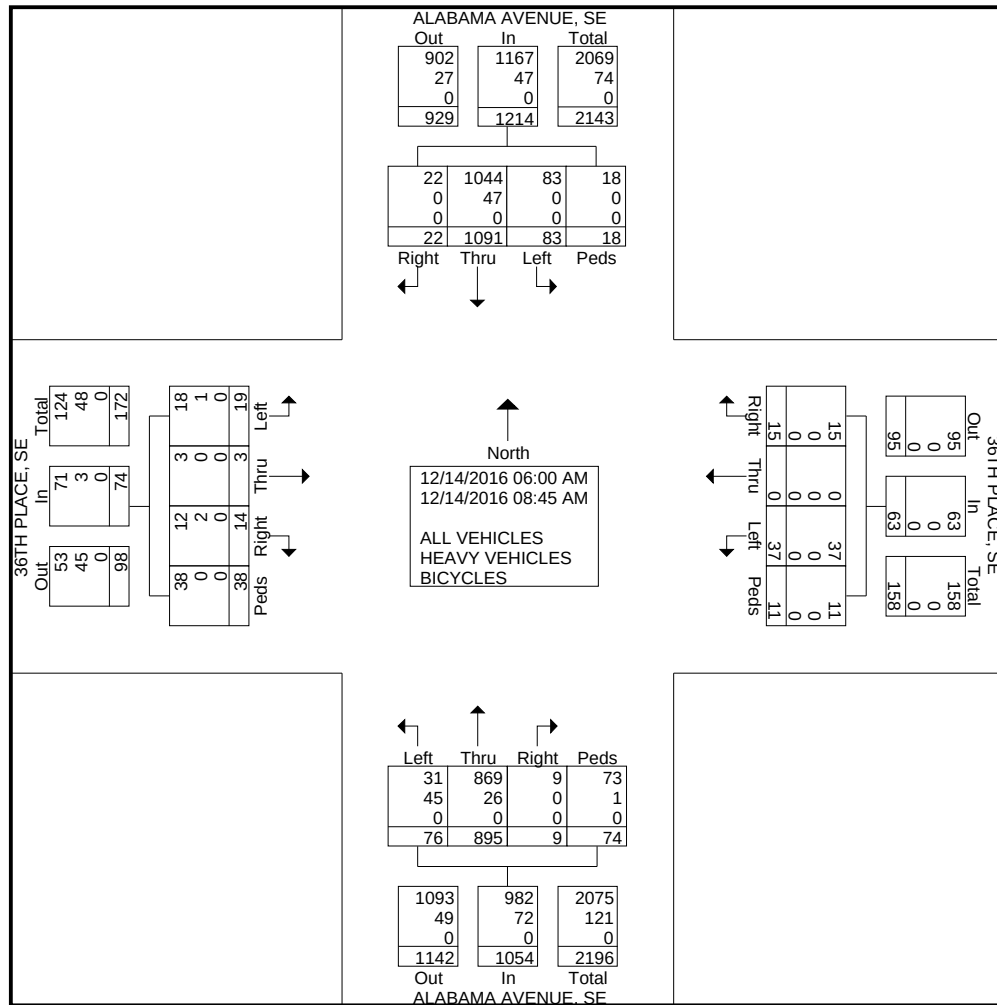


Figure 1: Turning Movement Count Location

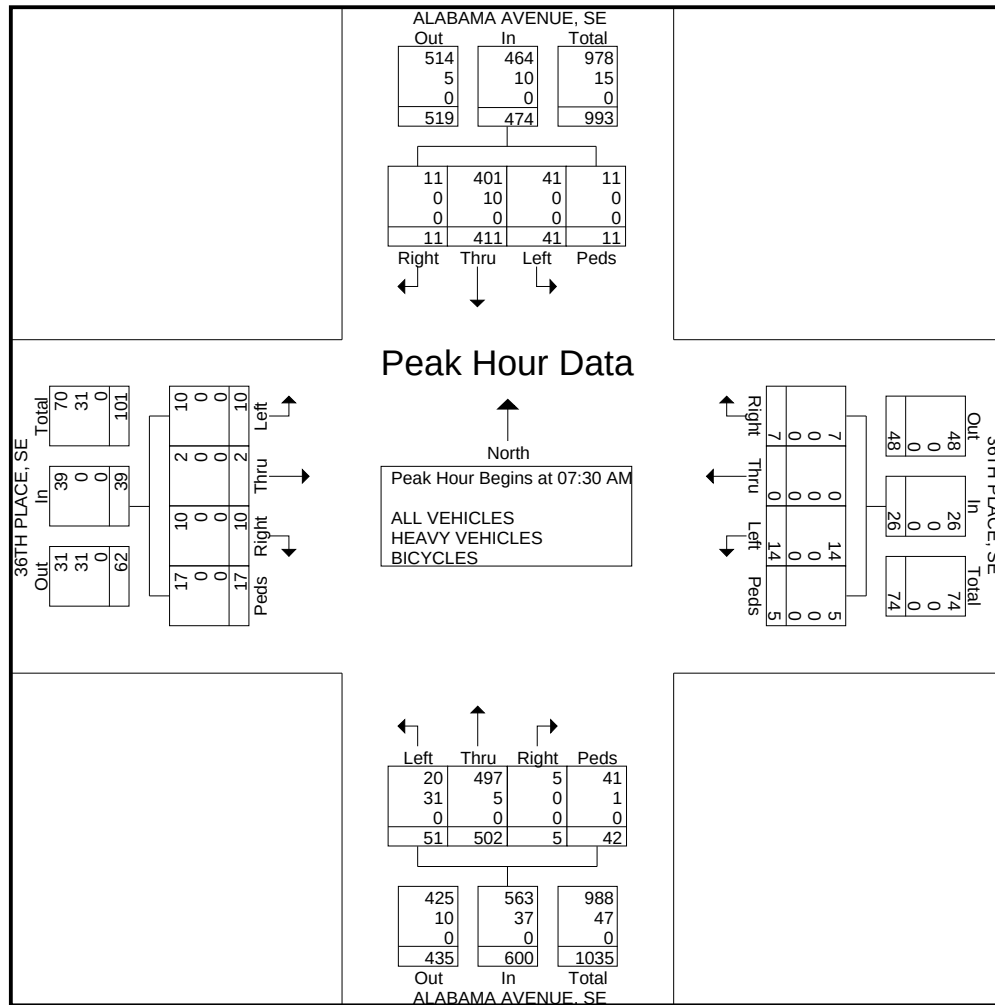
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ALABAMA AVENUE AND 36TH PLACE, SE - AM PEAK

[illegible]

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ALABAMA AVENUE AND 36TH PLACE, SE - AM PEAK



Peak Hour Analysis From 06:00 AM to 08:45 AM - Peak 1 of 1

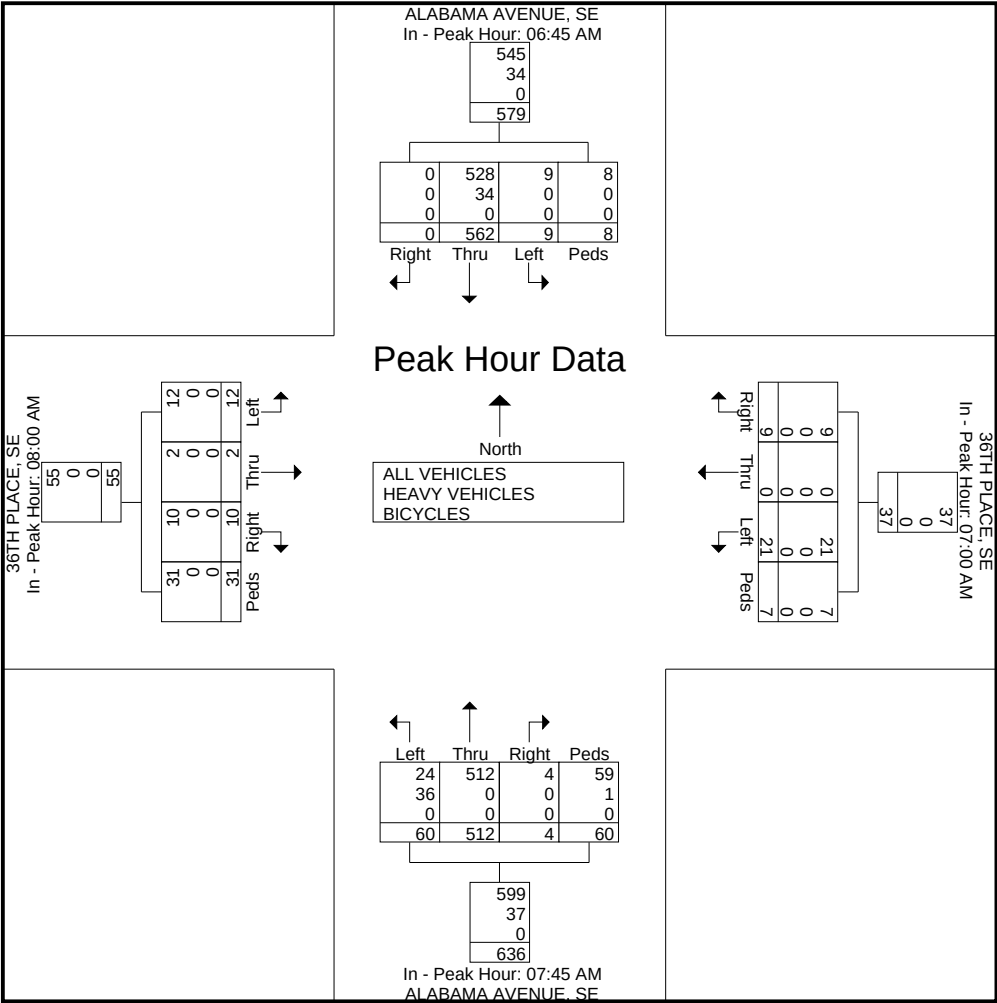
Peak Hour for Each Approach Begins at:

[illegible]

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ALABAMA AVENUE AND 36TH PLACE, SE - AM PEAK



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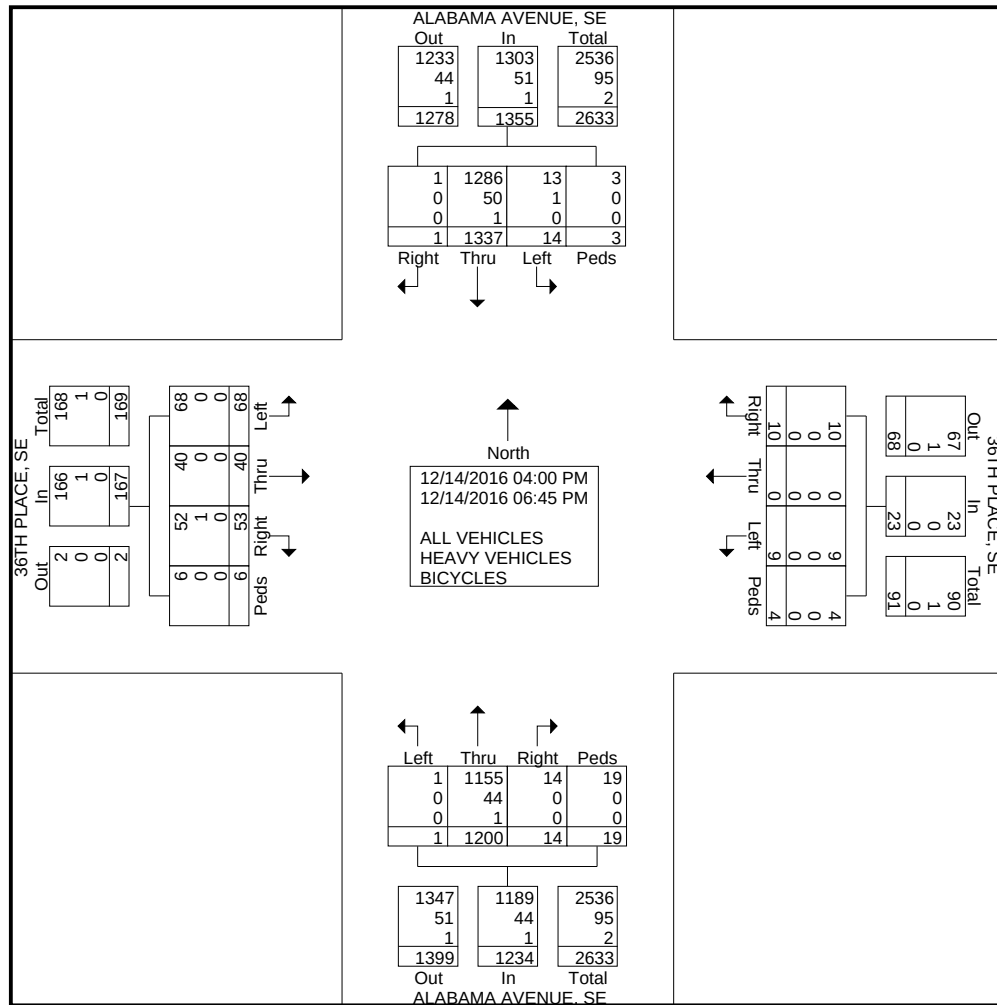
ALABAMA AVENUE AND 36TH PLACE, SE - PM PEAK

Groups Printed- ALL VEHICLES - HEAVY VEHICLES - BICYCLES

	ALABAMA AVENUE, SE From North					36TH PLACE, SE From East					ALABAMA AVENUE, SE From South					36TH PLACE, SE From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	0	122	0	1	123	1	0	2	0	3	1	106	0	2	109	2	3	3	1	9	244
04:15 PM	0	131	0	1	132	1	0	2	1	4	1	127	0	1	129	1	4	7	2	14	279
04:30 PM	1	143	0	0	144	0	0	1	0	1	2	77	0	1	80	8	2	5	0	15	240
04:45 PM	0	117	0	0	117	1	0	0	1	2	0	103	0	2	105	2	1	5	1	9	233
Total	1	513	0	2	516	3	0	5	2	10	4	413	0	6	423	13	10	20	4	47	996
05:00 PM	0	89	0	0	89	1	0	0	0	1	0	112	0	3	115	5	4	5	0	14	219
05:15 PM	0	123	1	1	125	0	0	1	0	1	3	95	0	2	100	6	3	9	0	18	244
05:30 PM	0	110	1	0	111	2	0	1	1	4	0	95	0	5	100	9	5	6	1	21	236
05:45 PM	0	113	2	0	115	1	0	1	0	2	3	82	0	1	86	10	6	14	1	31	234
Total	0	435	4	1	440	4	0	3	1	8	6	384	0	11	401	30	18	34	2	84	933
06:00 PM	0	99	0	0	99	1	0	0	0	1	2	90	1	2	95	9	7	8	0	24	219
06:15 PM	0	98	5	0	103	0	0	0	0	0	1	108	0	0	109	0	4	4	0	8	220
06:30 PM	0	98	4	0	102	1	0	1	0	2	0	101	0	0	101	1	0	1	0	2	207
06:45 PM	0	94	1	0	95	1	0	0	1	2	1	104	0	0	105	0	1	1	0	2	204
Total	0	389	10	0	399	3	0	1	1	5	4	403	1	2	410	10	12	14	0	36	850
Grand Total	1	1337	14	3	1355	10	0	9	4	23	14	1200	1	19	1234	53	40	68	6	167	2779
Apprch %	0.1	98.7	1	0.2		43.5	0	39.1	17.4		1.1	97.2	0.1	1.5		31.7	24	40.7	3.6		
Total %	0	48.1	0.5	0.1	48.8	0.4	0	0.3	0.1	0.8	0.5	43.2	0	0.7	44.4	1.9	1.4	2.4	0.2	6	
ALL VEHICLES		1286										1155									
% ALL VEHICLES	100	96.2	92.9	100	96.2	100	0	100	100	100	100	96.2	100	100	96.4	98.1	100	100	100	99.4	96.5
HEAVY VEHICLES																					
% HEAVY VEHICLES	0	3.7	7.1	0	3.8	0	0	0	0	0	0	3.7	0	0	3.6	1.9	0	0	0	0.6	3.5
BICYCLES	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
% BICYCLES	0	0.1	0	0	0.1	0	0	0	0	0	0	0.1	0	0	0.1	0	0	0	0	0	0.1

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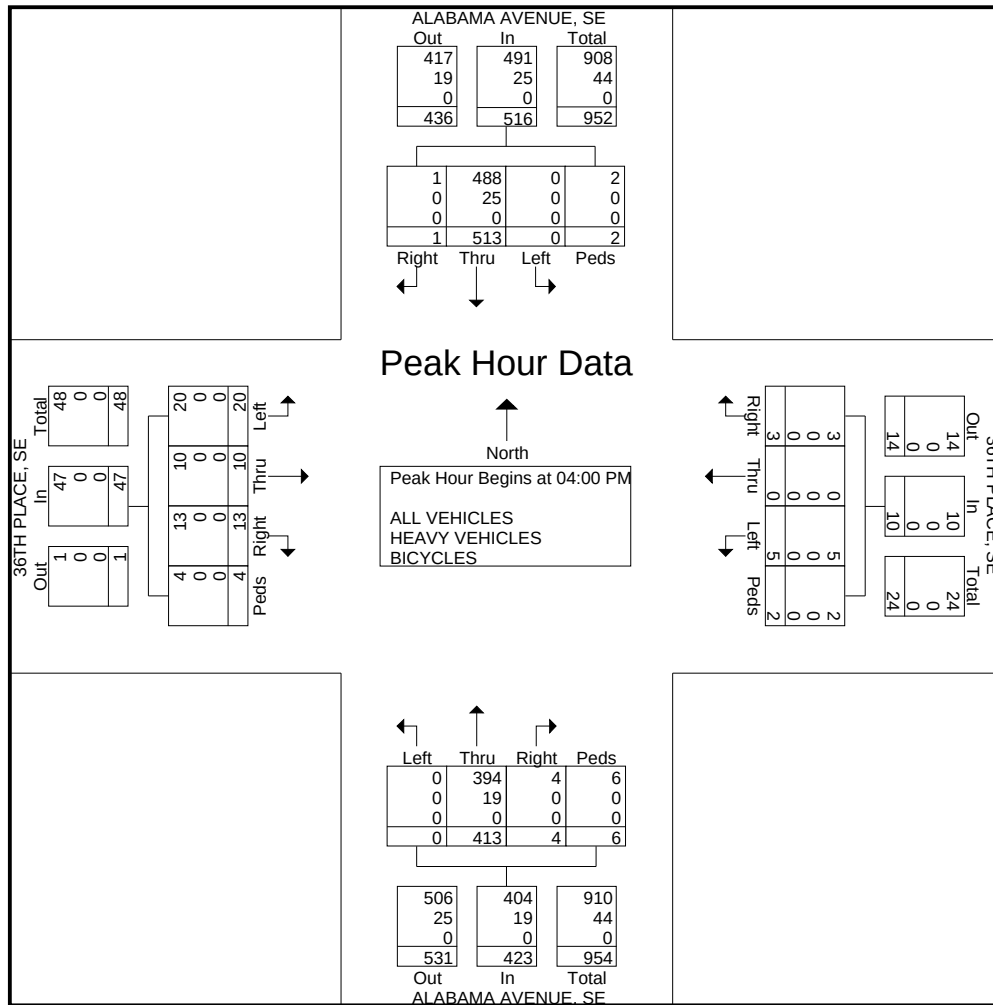
ALABAMA AVENUE AND 36TH PLACE, SE - PM PEAK

[illegible]

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ALABAMA AVENUE AND 36TH PLACE, SE - PM PEAK



Peak Hour Analysis From 04:00 PM to 06:45 PM - Peak 1 of 1

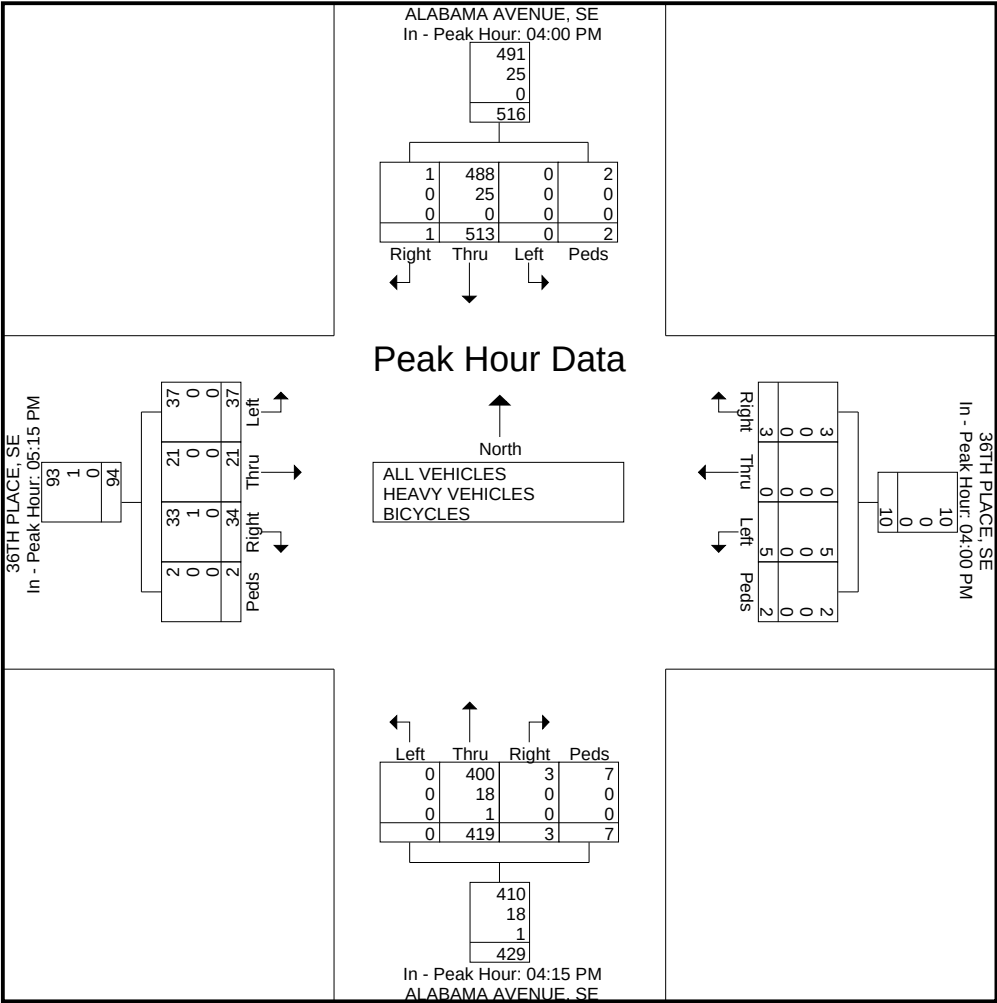
Peak Hour for Each Approach Begins at:

	04:00 PM					04:00 PM					04:15 PM					05:15 PM				
+0 mins.	0	122	0	1	123	1	0	2	0	3	1	127	0	1	129	6	3	9	0	18
+15 mins.	0	131	0	1	132	1	0	2	1	4	2	77	0	1	80	9	5	6	1	21
+30 mins.	1	143	0	0	144	0	0	1	0	1	0	103	0	2	105	10	6	14	1	31
+45 mins.	0	117	0	0	117	1	0	0	1	2	0	112	0	3	115	9	7	8	0	24
Total Volume	1	513	0	2	516	3	0	5	2	10	3	419	0	7	429	34	21	37	2	94
% App. Total	0.2	99.4	0	0.4		30	0	50	20		0.7	97.7	0	1.6		36.2	22.3	39.4	2.1	
PHF	.250	.897	.000	.500	.896	.750	.000	.625	.500	.625	.375	.825	.000	.583	.831	.850	.750	.661	.500	.758
ALL VEHICLES																				
% ALL VEHICLES	100	95.1	0	100	95.2	100	0	100	100	100	100	95.5	0	100	95.6	97.1	100	100	100	98.9
HEAVY VEHICLES	0	25	0	0	25	0	0	0	0	0	0	18	0	0	18	1	0	0	0	1
% HEAVY VEHICLES	0	4.9	0	0	4.8	0	0	0	0	0	0	4.3	0	0	4.2	2.9	0	0	0	1.1
BICYCLES	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
% BICYCLES	0	0	0	0	0	0	0	0	0	0	0	0.2	0	0	0.2	0	0	0	0	0

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ALABAMA AVENUE AND 36TH PLACE, SE - PM PEAK



TURNING MOVEMENT COUNT

Weekday Traffic Data Collection

Location:

Alabama Avenue and 38th Street, SE
District of Columbia

Prepared For:



District of Department
of Transportation (DDOT)

Prepared By:



SAMMAT

ENGINEERING SERVICES, LLC

SAMMAT Engineering Services, LLC

P.O. Box 780

Mount Airy, MD 21771

www.sammateng.com

November 10th, 2016

SUMMARY

This report provides DDOT with turning movement count data obtained on November 3rd 2016 at the intersection of Alabama Avenue and 38th Street, SE. Figure 1 presents a map indicating the study location.

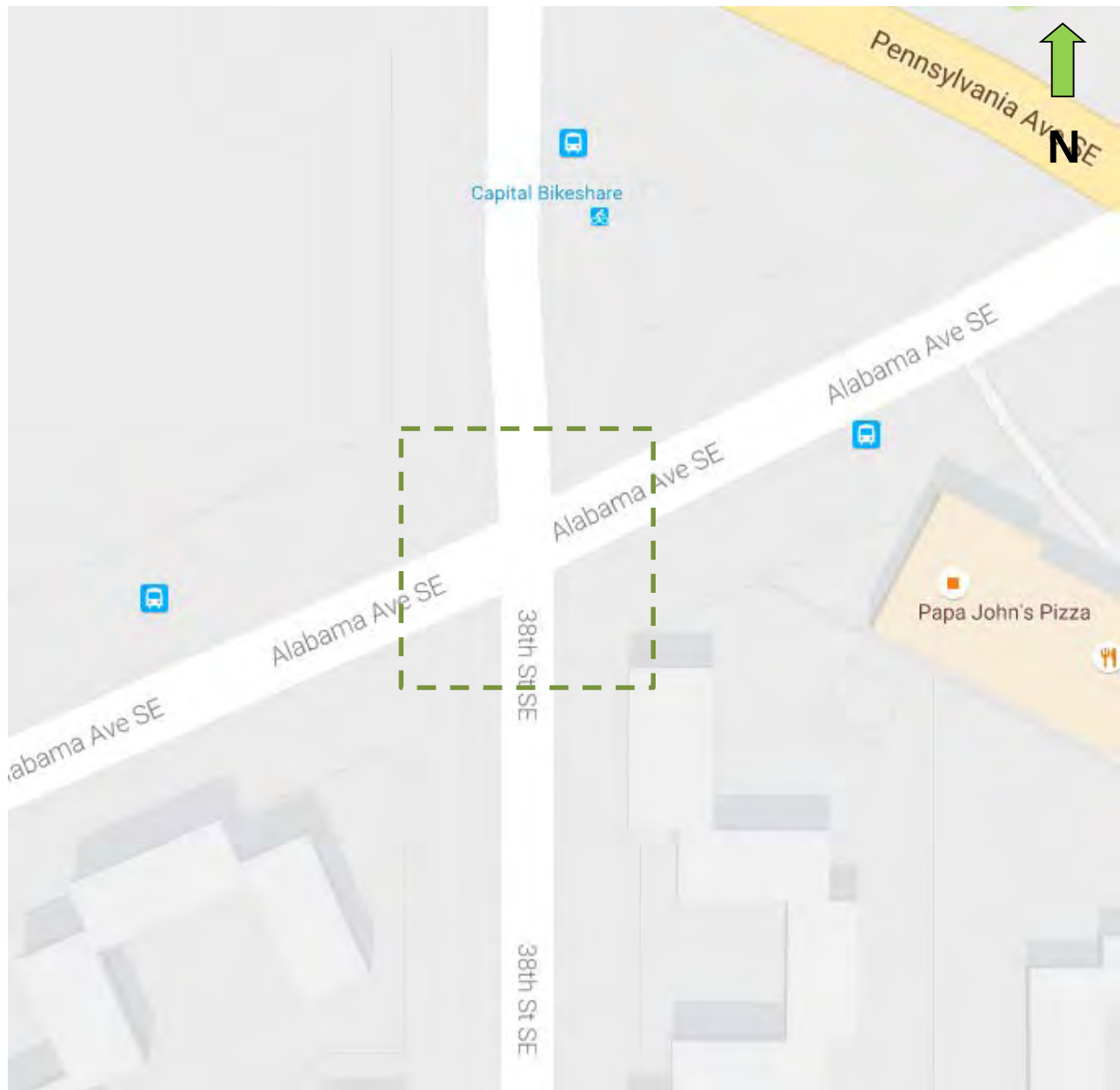
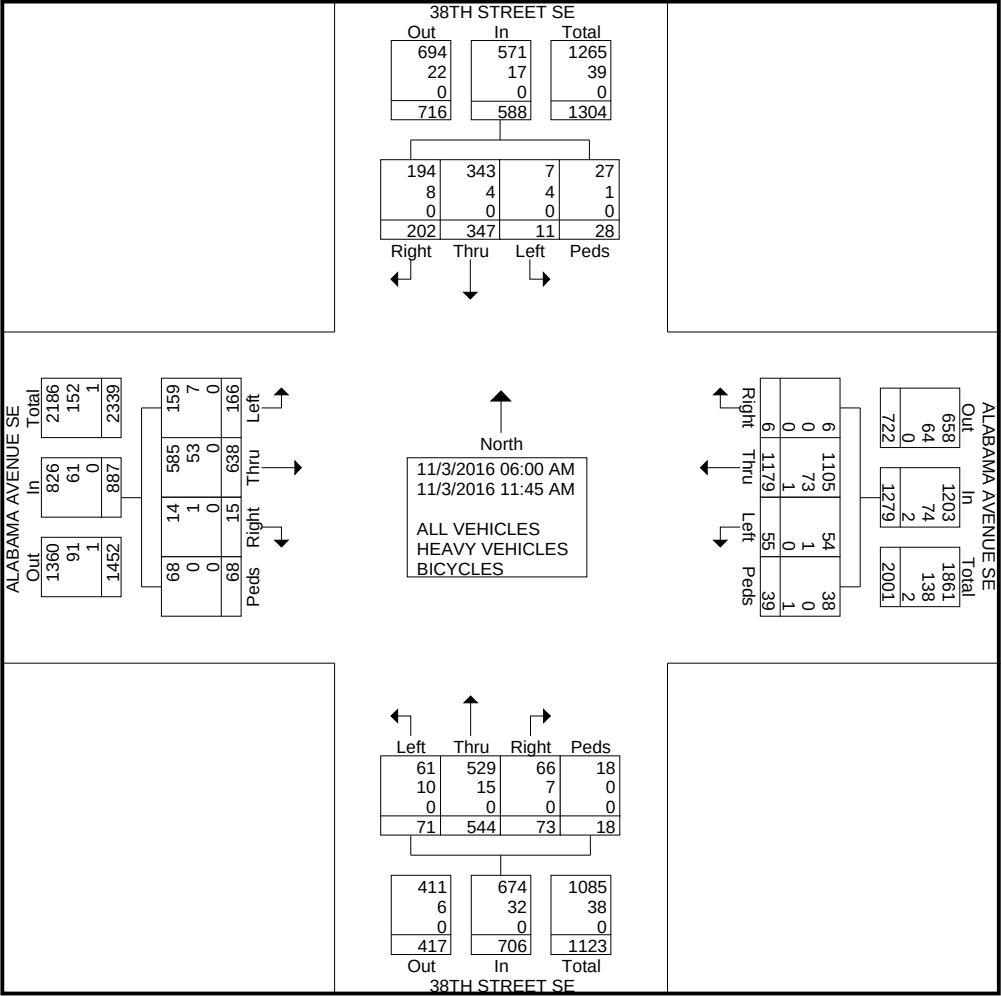


Figure 1: Turning Movement Count Location

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ALABAMA AVENUE & 38TH STREET, SE - AM PEAK



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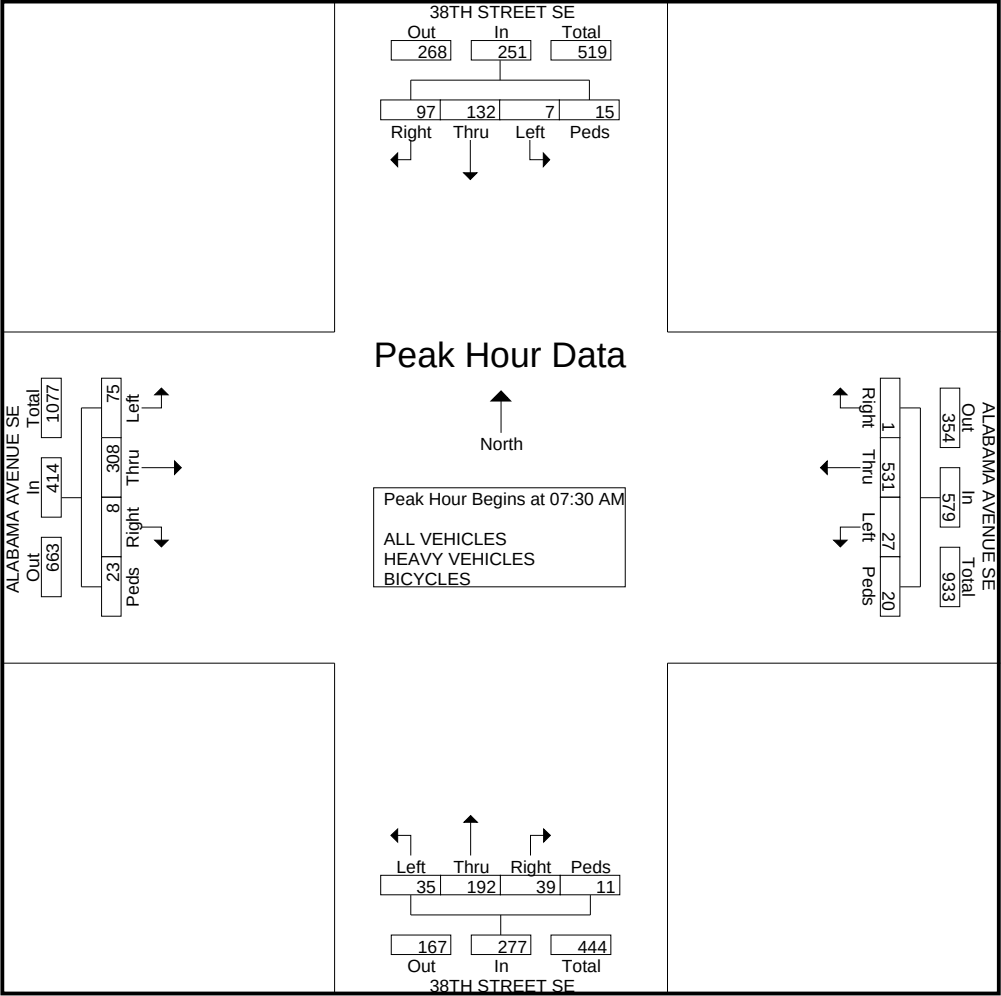
ALABAMA AVENUE & 38TH STREET, SE - AM PEAK

	38TH STREET SE From North					ALABAMA AVENUE SE From East					38TH STREET SE From South					ALABAMA AVENUE SE From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	19	36	0	7	62	0	150	5	1	156	11	44	15	1	71	2	63	23	2	90	379
07:45 AM	23	40	1	2	66	0	140	2	4	146	9	67	6	1	83	1	78	12	5	96	391
08:00 AM	31	31	2	4	68	1	125	12	10	148	7	42	3	1	53	0	70	14	7	91	360
08:15 AM	24	25	4	2	55	0	116	8	5	129	12	39	11	8	70	5	97	26	9	137	391
Total Volume	97	132	7	15	251	1	531	27	20	579	39	192	35	11	277	8	308	75	23	414	1521
% App. Total	38.6	52.6	2.8	6		0.2	91.7	4.7	3.5		14.1	69.3	12.6	4		1.9	74.4	18.1	5.6		
PHF	.782	.825	.438	.536	.923	.250	.885	.563	.500	.928	.813	.716	.583	.344	.834	.400	.794	.721	.639	.755	.973

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ALABAMA AVENUE & 38TH STREET, SE - AM PEAK



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ALABAMA AVENUE & 38TH STREET, SE - PM PEAK

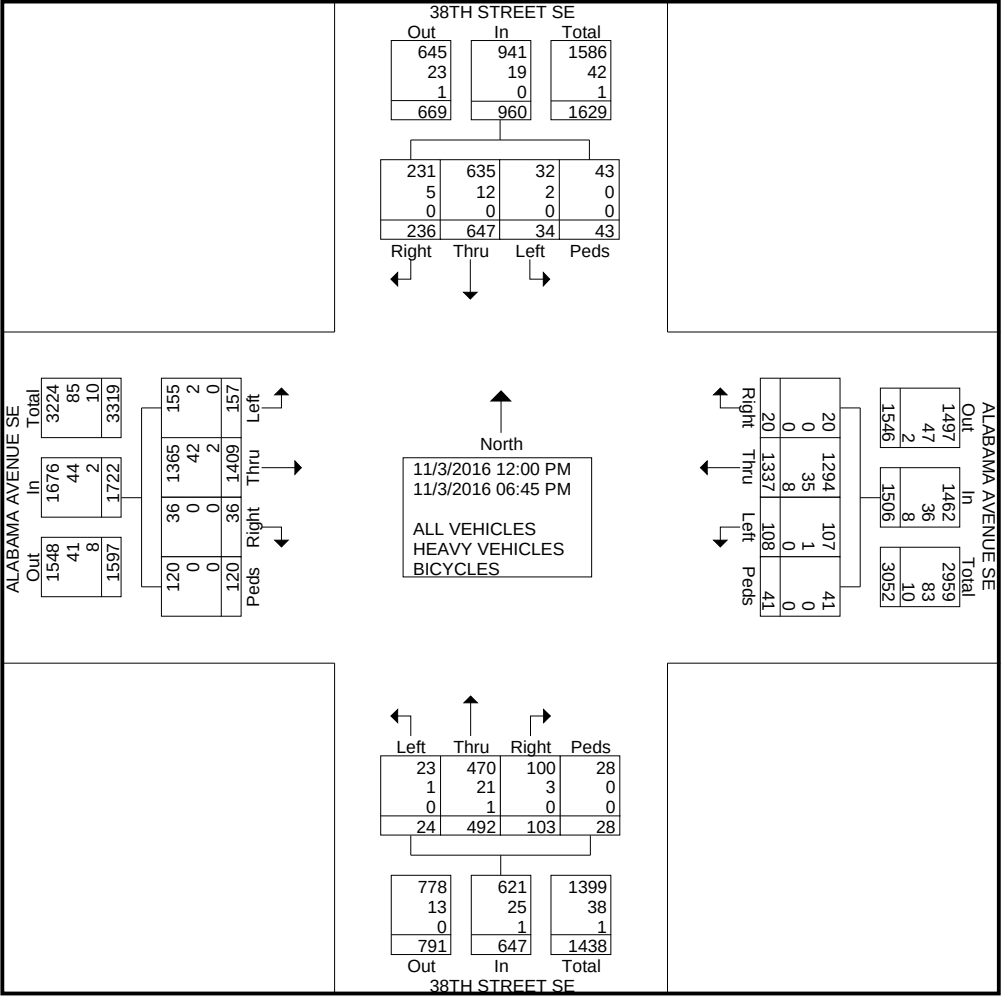
Groups Printed- ALL VEHICLES - HEAVY VEHICLES - BICYCLES

	38TH STREET SE From North					ALABAMA AVENUE SE From East					38TH STREET SE From South					ALABAMA AVENUE SE From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
*** BREAK ***																					
04:00 PM	13	43	8	3	67	3	97	7	0	107	12	37	1	1	51	2	107	14	4	127	352
04:15 PM	21	44	0	7	72	4	91	6	1	102	11	45	2	7	65	2	97	14	12	125	364
04:30 PM	33	43	1	2	79	1	112	6	4	123	12	34	0	0	46	1	114	12	5	132	380
04:45 PM	20	72	3	4	99	2	142	12	6	162	8	64	2	0	74	1	130	17	10	158	493
Total	87	202	12	16	317	10	442	31	11	494	43	180	5	8	236	6	448	57	31	542	1589
05:00 PM	17	79	9	1	106	1	145	10	2	158	4	72	2	1	79	4	141	10	13	168	511
05:15 PM	10	53	1	0	64	1	98	11	4	114	6	39	2	0	47	4	96	13	1	114	339
05:30 PM	22	50	0	12	84	2	119	4	6	131	6	51	3	2	62	1	122	19	15	157	434
05:45 PM	11	58	0	6	75	1	129	10	6	146	7	46	6	2	61	2	120	12	18	152	434
Total	60	240	10	19	329	5	491	35	18	549	23	208	13	5	249	11	479	54	47	591	1718
06:00 PM	22	57	4	0	83	0	110	11	0	121	9	32	3	7	51	1	125	14	2	142	397
06:15 PM	25	56	1	0	82	2	85	11	5	103	11	38	0	4	53	14	116	7	7	144	382
06:30 PM	17	45	2	1	65	1	111	11	2	125	10	19	1	1	31	3	122	12	19	156	377
06:45 PM	25	47	5	7	84	2	98	9	5	114	7	15	2	3	27	1	119	13	14	147	372
Total	89	205	12	8	314	5	404	42	12	463	37	104	6	15	162	19	482	46	42	589	1528
Grand Total	236	647	34	43	960	20	1337	108	41	1506	103	492	24	28	647	36	1409	157	120	1722	4835
Apprch %	24.6	67.4	3.5	4.5		1.3	88.8	7.2	2.7		15.9	76	3.7	4.3		2.1	81.8	9.1	7		
Total %	4.9	13.4	0.7	0.9	19.9	0.4	27.7	2.2	0.8	31.1	2.1	10.2	0.5	0.6	13.4	0.7	29.1	3.2	2.5	35.6	
ALL VEHICLES	231	635	32	43	941	20	1294	107	41	1462	100	470	23	28	621	36	1365	155	120	1676	4700
% ALL VEHICLES	97.9	98.1	94.1	100	98	100	96.8	99.1	100	97.1	97.1	95.5	95.8	100	96	100	96.9	98.7	100	97.3	97.2
HEAVY VEHICLES	5	12	2	0	19	0	35	1	0	36	3	21	1	0	25	0	42	2	0	44	124
% HEAVY VEHICLES	2.1	1.9	5.9	0	2	0	2.6	0.9	0	2.4	2.9	4.3	4.2	0	3.9	0	3	1.3	0	2.6	2.6
BICYCLES	0	0	0	0	0	0	8	0	0	8	0	1	0	0	1	0	2	0	0	2	11
% BICYCLES	0	0	0	0	0	0	0.6	0	0	0.5	0	0.2	0	0	0.2	0	0.1	0	0	0.1	0.2

SAMMAT ENGINEERING SERVICES, LLC

P.O. BOX 780
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ALABAMA AVENUE & 38TH STREET, SE - PM PEAK



SAMMAT ENGINEERING SERVICES, LLC

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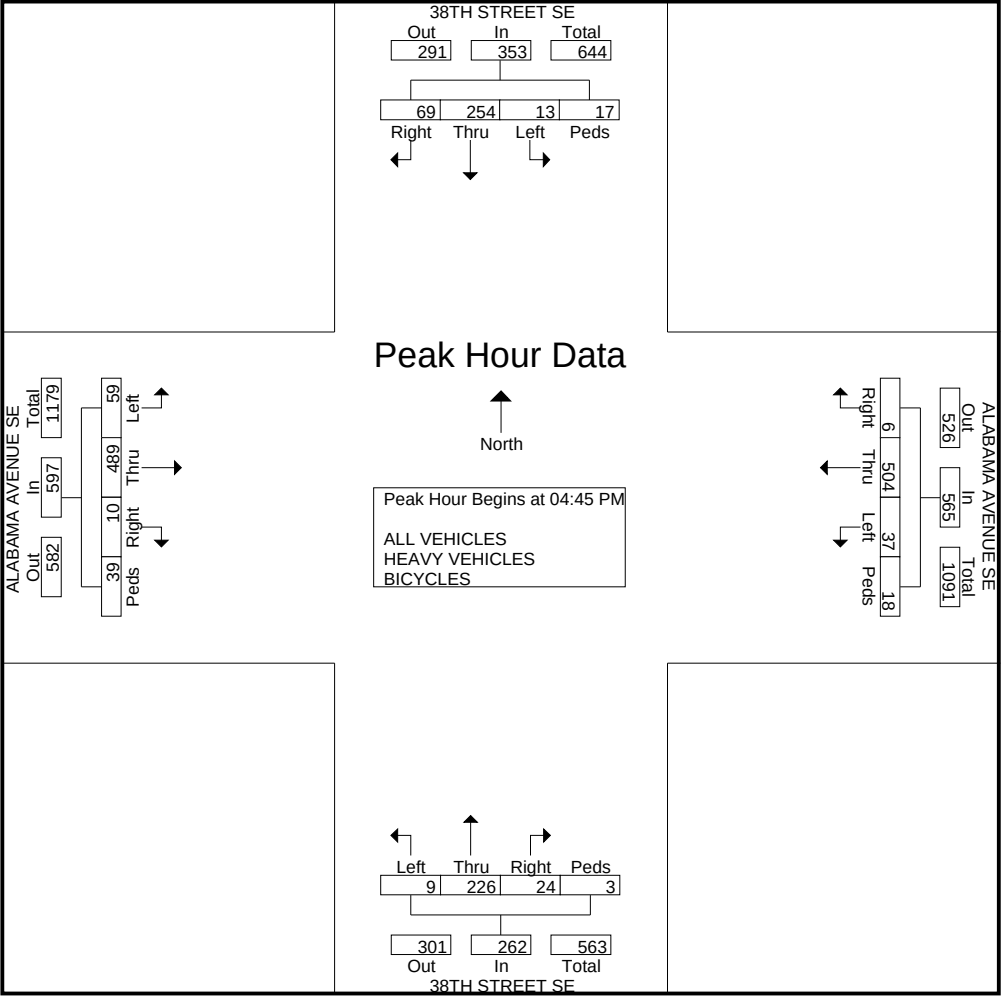
ALABAMA AVENUE & 38TH STREET, SE - PM PEAK

	38TH STREET SE From North					ALABAMA AVENUE SE From East					38TH STREET SE From South					ALABAMA AVENUE SE From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	20	72	3	4	99	2	142	12	6	162	8	64	2	0	74	1	130	17	10	158	493
05:00 PM	17	79	9	1	106	1	145	10	2	158	4	72	2	1	79	4	141	10	13	168	511
05:15 PM	10	53	1	0	64	1	98	11	4	114	6	39	2	0	47	4	96	13	1	114	339
05:30 PM	22	50	0	12	84	2	119	4	6	131	6	51	3	2	62	1	122	19	15	157	434
Total Volume	69	254	13	17	353	6	504	37	18	565	24	226	9	3	262	10	489	59	39	597	1777
% App. Total	19.5	72	3.7	4.8		1.1	89.2	6.5	3.2		9.2	86.3	3.4	1.1		1.7	81.9	9.9	6.5		
PHF	.784	.804	.361	.354	.833	.750	.869	.771	.750	.872	.750	.785	.750	.375	.829	.625	.867	.776	.650	.888	.869

SAMMAT ENGINEERING SERVICES, LLC

P.O. BOX 780
MT. AIRY, MD 21771

ALABAMA AVENUE & 38TH STREET, SE - PM PEAK



TURNING MOVEMENT COUNT

Weekday Traffic Data Collection

Location:

Alabama Avenue and Pennsylvania Avenue, SE
District of Columbia

Prepared For:



District of Department
of Transportation (DDOT)

Prepared By:



SAMMAT

ENGINEERING SERVICES, LLC

SAMMAT Engineering Services, LLC

P.O. Box 780

Mount Airy, MD 21771

www.sammateng.com

November 10th, 2016

SUMMARY

This report provides DDOT with turning movement count data obtained on November 3rd 2016 at the intersection of Alabama Avenue and Pennsylvania Avenue, SE. Figure 1 presents a map indicating the study location.

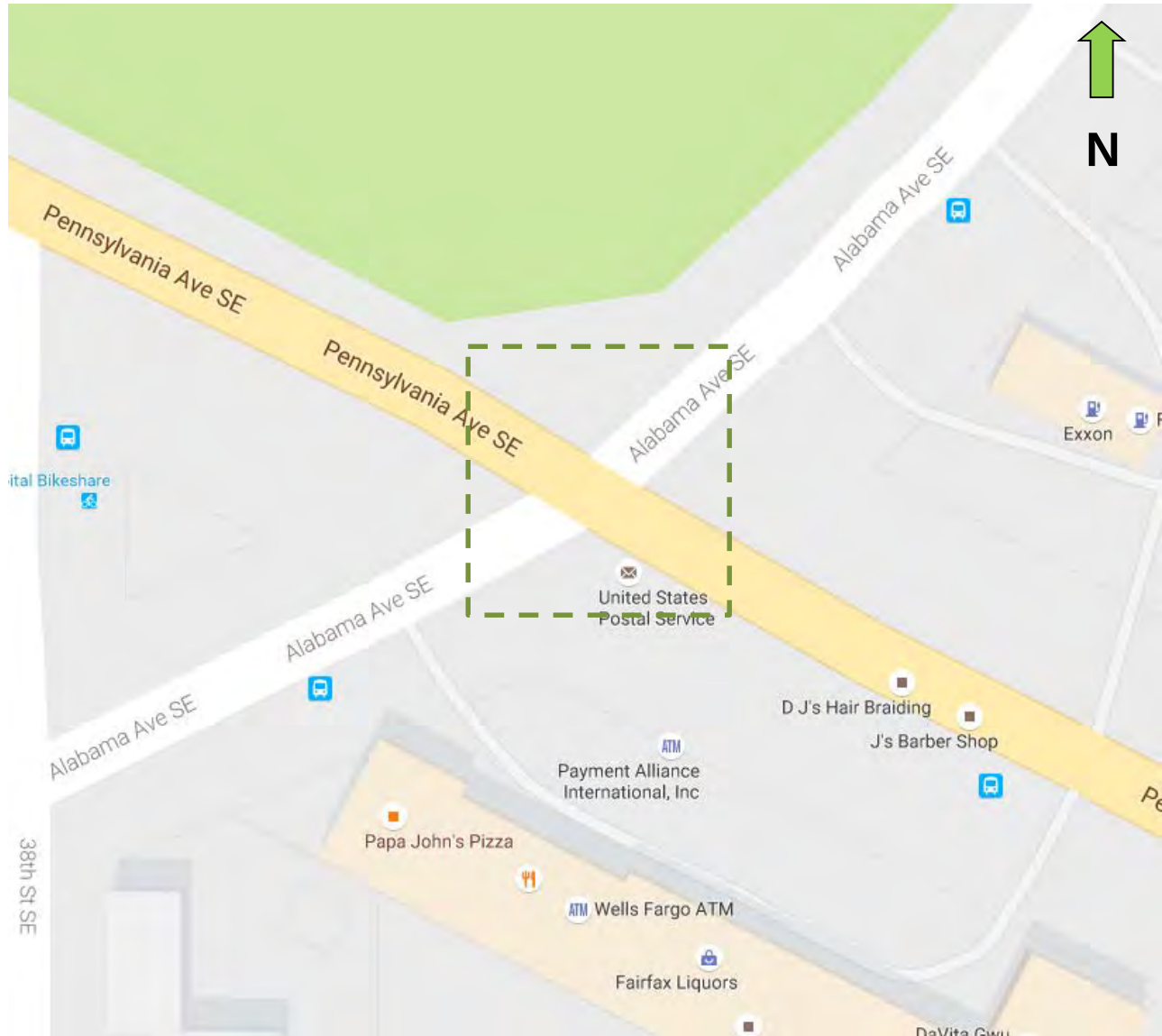
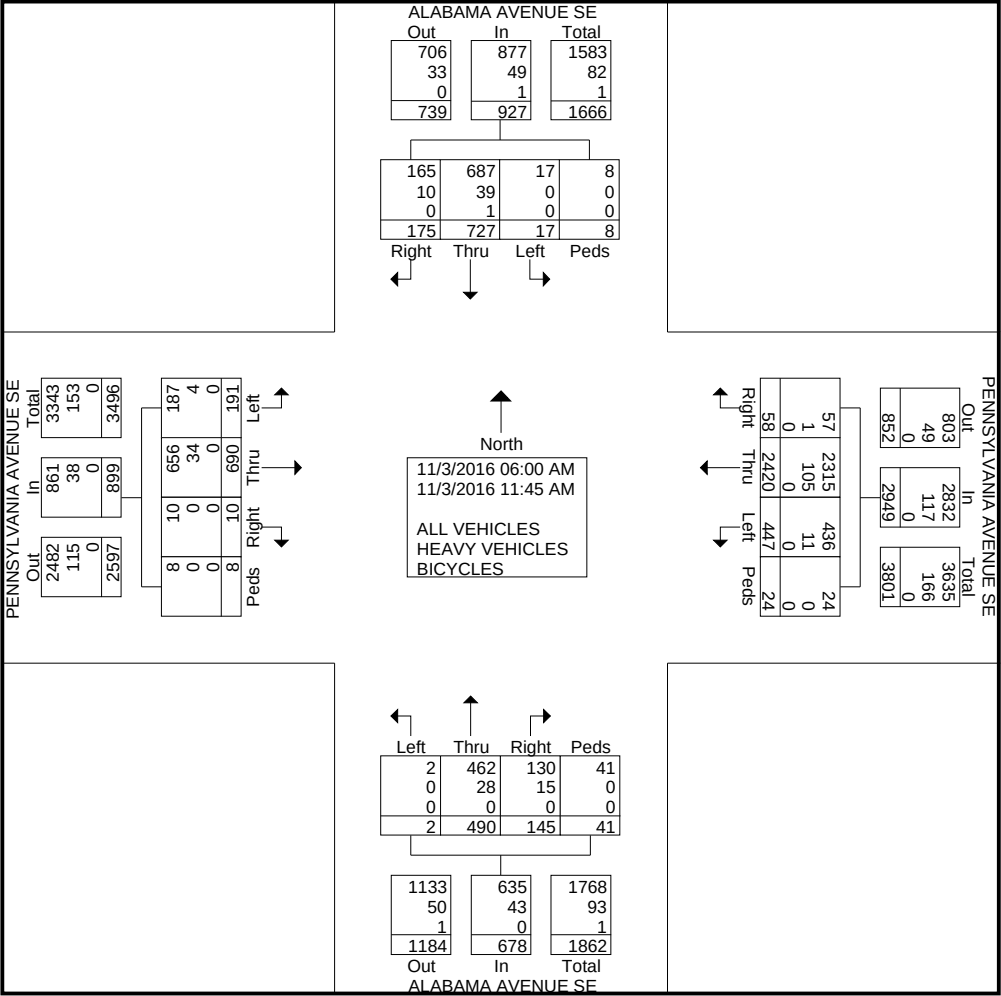


Figure 1: Turning Movement Count Location

SAMMAT ENGINEERING SERVICES, LLC

P.O. BOX 780
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ALABAMA AVENUE & PENNSYLVANIA AVENUE, SE - AM PEAK



SAMMAT ENGINEERING SERVICES, LLC

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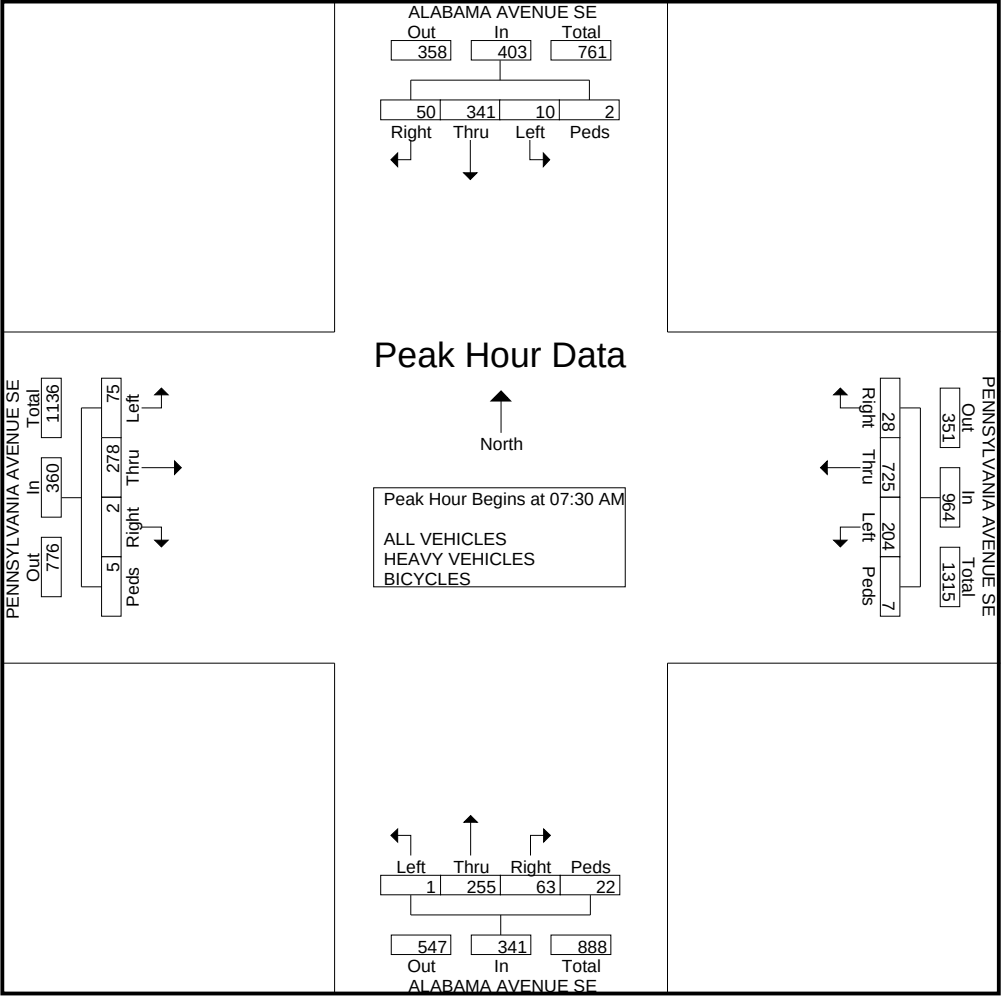
ALABAMA AVENUE & PENNSYLVANIA AVENUE, SE - AM PEAK

	ALABAMA AVENUE SE From North					PENNSYLVANIA AVENUE SE From East					ALABAMA AVENUE SE From South					PENNSYLVANIA AVENUE SE From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	12	99	1	0	112	9	209	69	1	288	10	63	0	1	74	0	54	16	0	70	544
07:45 AM	16	75	4	1	96	6	196	46	1	249	16	51	1	8	76	0	63	18	1	82	503
08:00 AM	12	86	5	1	104	9	170	49	1	229	15	62	0	5	82	2	76	21	0	99	514
08:15 AM	10	81	0	0	91	4	150	40	4	198	22	79	0	8	109	0	85	20	4	109	507
Total Volume	50	341	10	2	403	28	725	204	7	964	63	255	1	22	341	2	278	75	5	360	2068
% App. Total	12.4	84.6	2.5	0.5		2.9	75.2	21.2	0.7		18.5	74.8	0.3	6.5		0.6	77.2	20.8	1.4		
PHF	.781	.861	.500	.500	.900	.778	.867	.739	.438	.837	.716	.807	.250	.688	.782	.250	.818	.893	.313	.826	.950

SAMMAT ENGINEERING SERVICES, LLC

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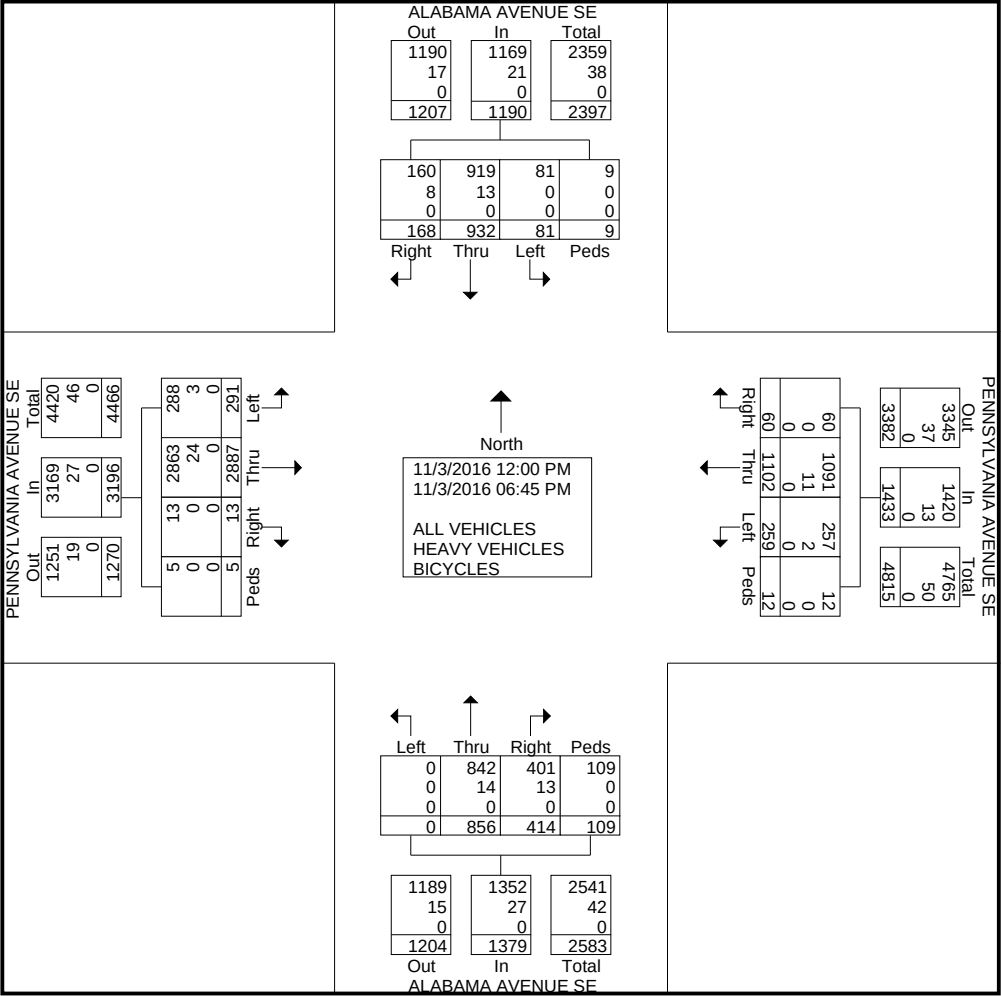
ALABAMA AVENUE & PENNSYLVANIA AVENUE, SE - AM PEAK



SAMMAT ENGINEERING SERVICES, LLC

P.O. BOX 780
MT. AIRY, MD 21771

ALABAMA AVENUE & PENNSYLVANIA AVENUE, SE - PM PEAK



TURNING MOVEMENT COUNT

Weekday Traffic Data Collection

Location:

Alabama Avenue and Ridge Road, SE
District of Columbia

Prepared For:



District of Department
of Transportation (DDOT)

Prepared By:



SAMMAT

ENGINEERING SERVICES, LLC

SAMMAT Engineering Services, LLC

P.O. Box 780

Mount Airy, MD 21771

www.sammateng.com

November 10th, 2016

SUMMARY

This report provides DDOT with turning movement count data obtained on November 3rd 2016 at the intersection of Alabama Avenue and Ridge Road, SE. Figure 1 presents a map indicating the study location.

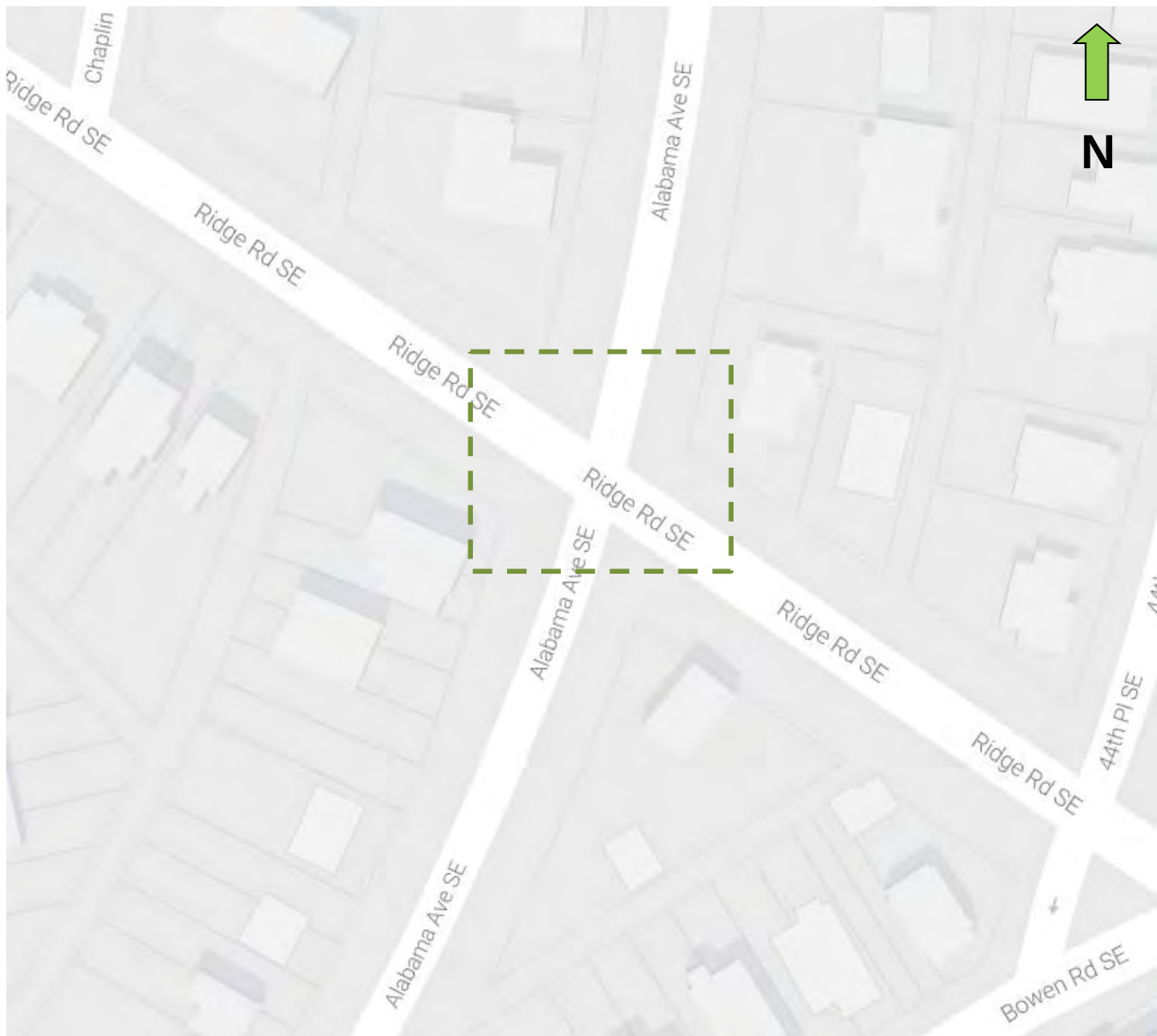
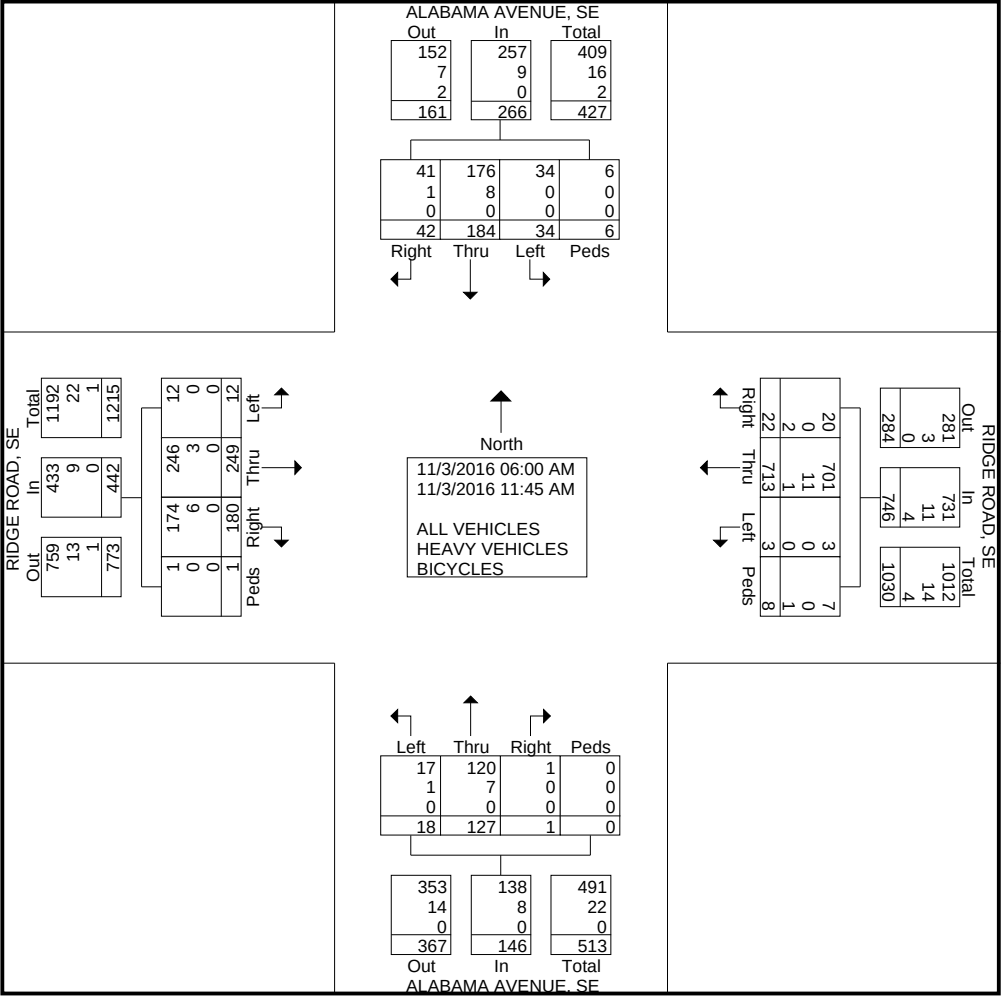


Figure 1: Turning Movement Count Location

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P.O. BOX 780
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ALABAMA AVENUE & RIDGE ROAD, SE - AM PEAK



SAMMAT ENGINEERING SERVICES, LLC

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MT. AIRY, MD 21771

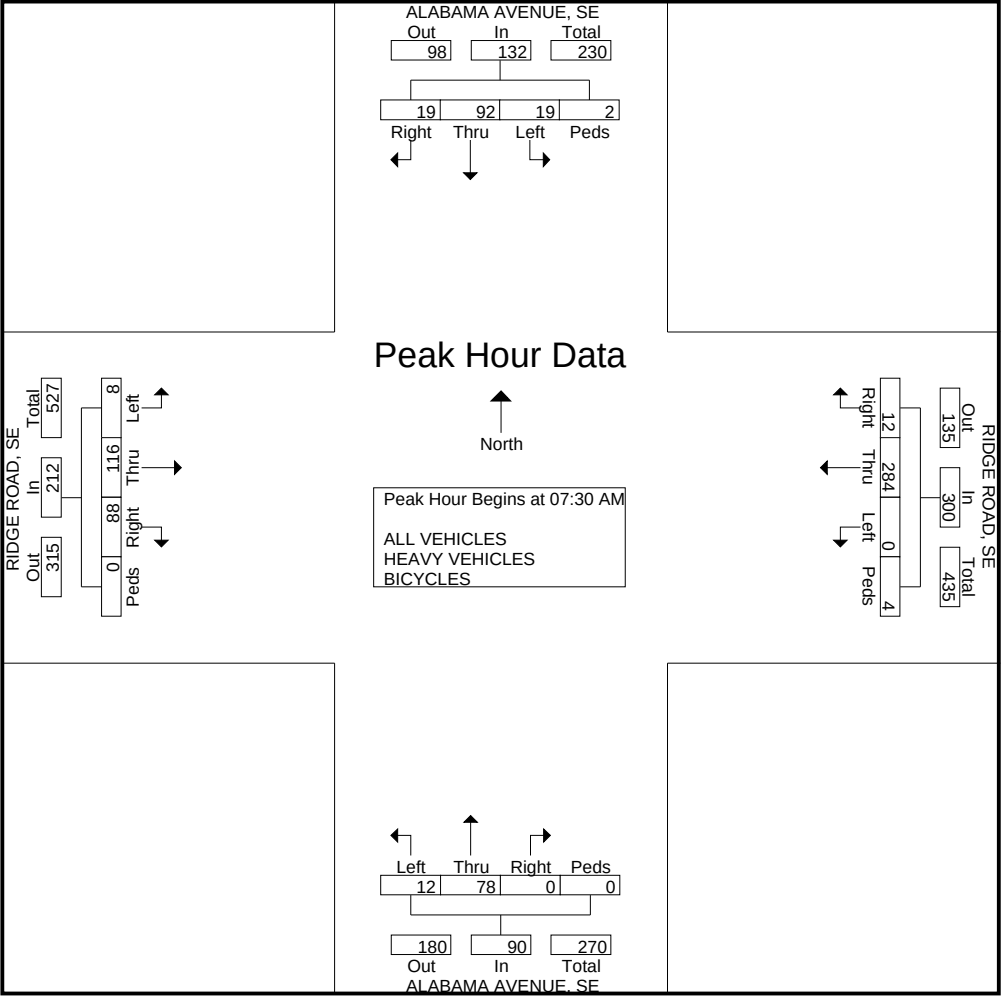
ALABAMA AVENUE & RIDGE ROAD, SE - AM PEAK

	ALABAMA AVENUE, SE From North					RIDGE ROAD, SE From East					ALABAMA AVENUE, SE From South					RIDGE ROAD, SE From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	9	20	3	0	32	2	78	0	3	83	0	19	0	0	19	22	25	3	0	50	184
07:45 AM	5	28	8	1	42	5	79	0	1	85	0	17	6	0	23	25	35	0	0	60	210
08:00 AM	2	20	4	0	26	1	64	0	0	65	0	17	4	0	21	23	26	2	0	51	163
08:15 AM	3	24	4	1	32	4	63	0	0	67	0	25	2	0	27	18	30	3	0	51	177
Total Volume	19	92	19	2	132	12	284	0	4	300	0	78	12	0	90	88	116	8	0	212	734
% App. Total	14.4	69.7	14.4	1.5		4	94.7	0	1.3		0	86.7	13.3	0		41.5	54.7	3.8	0		
PHF	.528	.821	.594	.500	.786	.600	.899	.000	.333	.882	.000	.780	.500	.000	.833	.880	.829	.667	.000	.883	.874

SAMMAT ENGINEERING SERVICES, LLC

P.O. BOX 780
MT. AIRY, MD 21771

ALABAMA AVENUE & RIDGE ROAD, SE - AM PEAK



SAMMAT ENGINEERING SERVICES, LLC

P.O. BOX 780
MT. AIRY, MD 21771

ALABAMA AVENUE & RIDGE ROAD, SE - PM PEAK

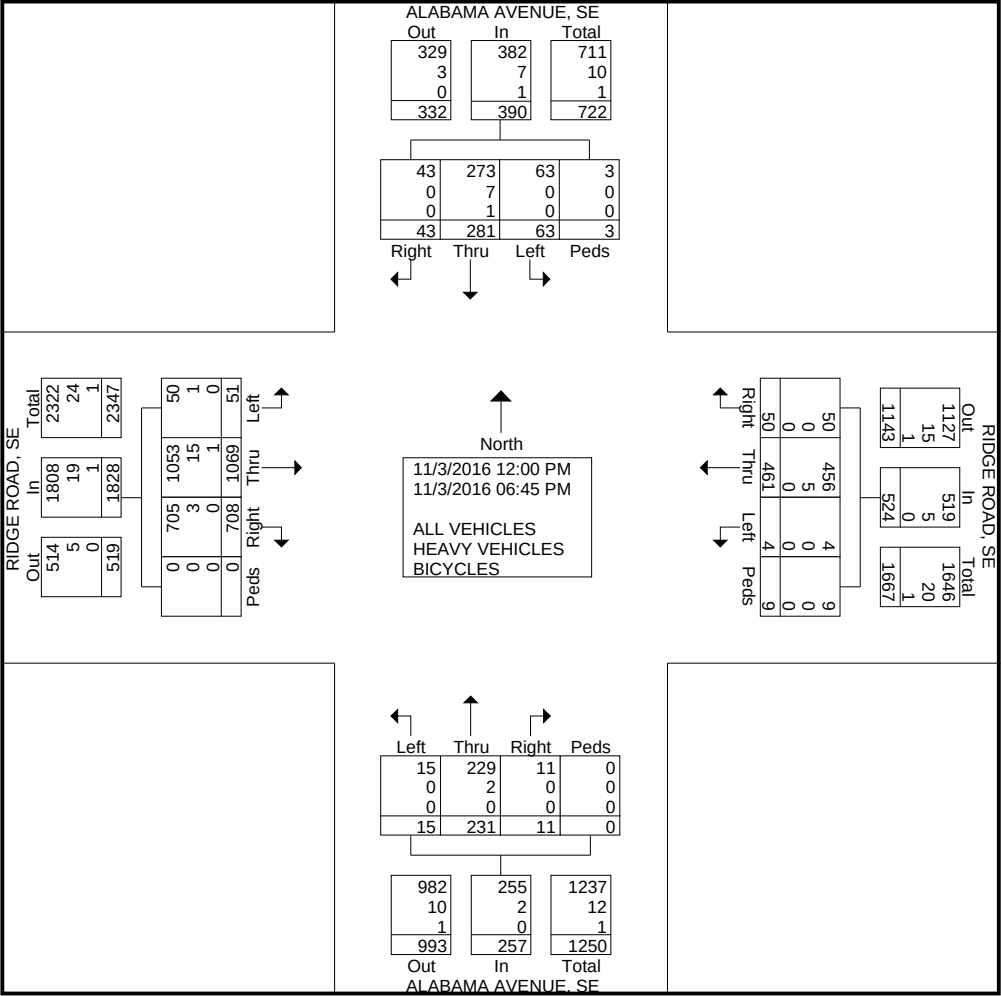
Groups Printed- ALL VEHICLES - HEAVY VEHICLES - BICYCLES

	ALABAMA AVENUE, SE From North					RIDGE ROAD, SE From East					ALABAMA AVENUE, SE From South					RIDGE ROAD, SE From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
*** BREAK ***																					
04:00 PM	2	22	5	0	29	5	24	0	0	29	0	20	0	0	20	53	65	2	0	120	198
04:15 PM	0	30	9	0	39	3	43	0	0	46	2	29	1	0	32	49	96	3	0	148	265
04:30 PM	3	37	4	1	45	4	30	2	3	39	1	14	0	0	15	67	84	3	0	154	253
04:45 PM	5	22	7	0	34	3	45	0	3	51	2	15	2	0	19	76	95	4	0	175	279
Total	10	111	25	1	147	15	142	2	6	165	5	78	3	0	86	245	340	12	0	597	995
05:00 PM	3	15	2	0	20	7	41	0	2	50	0	16	1	0	17	72	104	2	0	178	265
05:15 PM	4	27	6	0	37	4	45	1	0	50	1	22	1	0	24	45	84	4	0	133	244
05:30 PM	3	28	3	0	34	3	49	0	0	52	0	19	3	0	22	70	112	5	0	187	295
05:45 PM	3	26	5	0	34	4	36	1	0	41	2	21	2	0	25	67	90	5	0	162	262
Total	13	96	16	0	125	18	171	2	2	193	3	78	7	0	88	254	390	16	0	660	1066
06:00 PM	5	20	9	0	34	3	33	0	0	36	1	20	2	0	23	70	106	6	0	182	275
06:15 PM	6	17	4	0	27	5	35	0	0	40	0	20	1	0	21	50	89	8	0	147	235
06:30 PM	7	20	3	0	30	7	40	0	1	48	2	18	2	0	22	63	86	6	0	155	255
06:45 PM	2	17	6	2	27	2	40	0	0	42	0	17	0	0	17	26	58	3	0	87	173
Total	20	74	22	2	118	17	148	0	1	166	3	75	5	0	83	209	339	23	0	571	938
Grand Total	43	281	63	3	390	50	461	4	9	524	11	231	15	0	257	708	1069	51	0	1828	2999
Apprch %	11	72.1	16.2	0.8		9.5	88	0.8	1.7		4.3	89.9	5.8	0		38.7	58.5	2.8	0		
Total %	1.4	9.4	2.1	0.1	13	1.7	15.4	0.1	0.3	17.5	0.4	7.7	0.5	0	8.6	23.6	35.6	1.7	0	61	
ALL VEHICLES	43	273	63	3	382	50	456	4	9	519	11	229	15	0	255	705	1053	50	0	1808	2964
% ALL VEHICLES	100	97.2	100	100	97.9	100	98.9	100	100	99	100	99.1	100	0	99.2	99.6	98.5	98	0	98.9	98.8
HEAVY VEHICLES	0	7	0	0	7	0	5	0	0	5	0	2	0	0	2	3	15	1	0	19	33
% HEAVY VEHICLES	0	2.5	0	0	1.8	0	1.1	0	0	1	0	0.9	0	0	0.8	0.4	1.4	2	0	1	1.1
BICYCLES	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2
% BICYCLES	0	0.4	0	0	0.3	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0.1	0.1

SAMMAT ENGINEERING SERVICES, LLC

P.O. BOX 780
MT. AIRY, MD 21771

ALABAMA AVENUE & RIDGE ROAD, SE - PM PEAK



SAMMAT ENGINEERING SERVICES, LLC

P.O. BOX 780
MT. AIRY, MD 21771

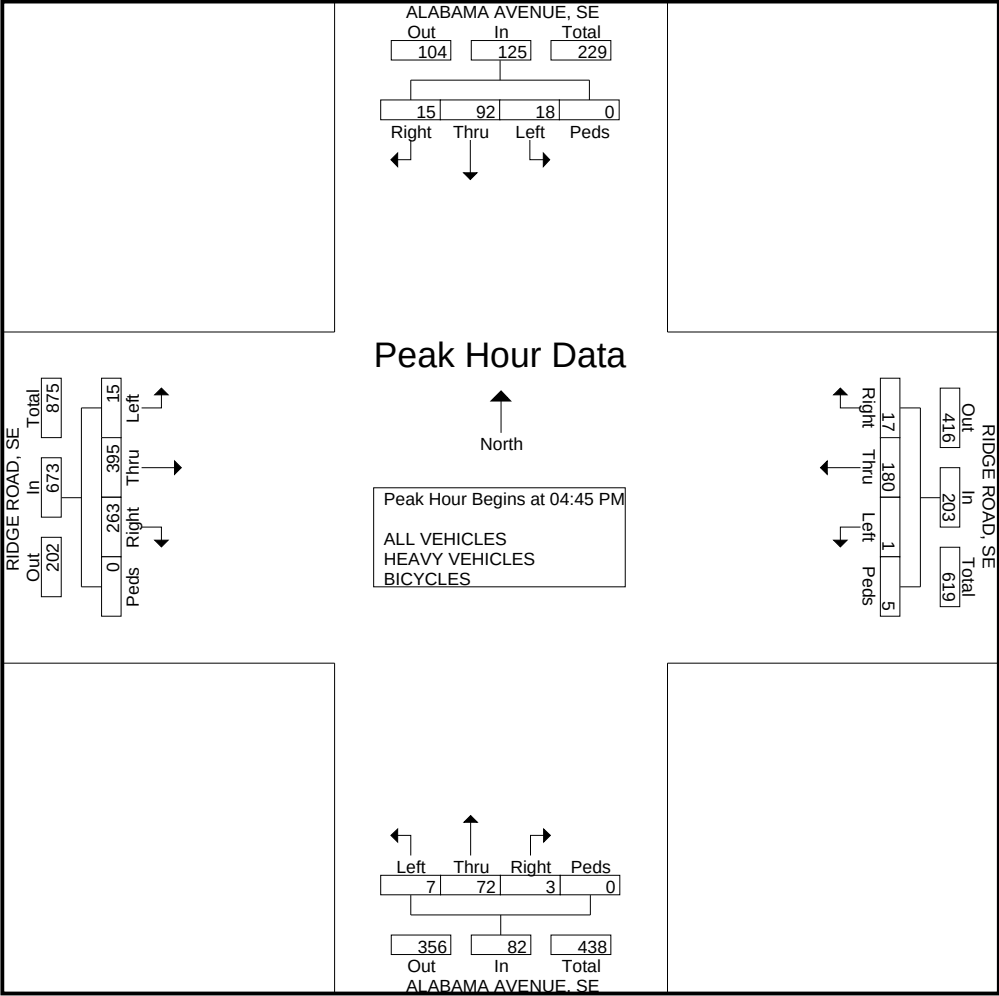
ALABAMA AVENUE & RIDGE ROAD, SE - PM PEAK

	ALABAMA AVENUE, SE From North					RIDGE ROAD, SE From East					ALABAMA AVENUE, SE From South					RIDGE ROAD, SE From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	5	22	7	0	34	3	45	0	3	51	2	15	2	0	19	76	95	4	0	175	279
05:00 PM	3	15	2	0	20	7	41	0	2	50	0	16	1	0	17	72	104	2	0	178	265
05:15 PM	4	27	6	0	37	4	45	1	0	50	1	22	1	0	24	45	84	4	0	133	244
05:30 PM	3	28	3	0	34	3	49	0	0	52	0	19	3	0	22	70	112	5	0	187	295
Total Volume	15	92	18	0	125	17	180	1	5	203	3	72	7	0	82	263	395	15	0	673	1083
% App. Total	12	73.6	14.4	0		8.4	88.7	0.5	2.5		3.7	87.8	8.5	0		39.1	58.7	2.2	0		
PHF	.750	.821	.643	.000	.845	.607	.918	.250	.417	.976	.375	.818	.583	.000	.854	.865	.882	.750	.000	.900	.918

SAMMAT ENGINEERING SERVICES, LLC

P.O. BOX 780
MT. AIRY, MD 21771

ALABAMA AVENUE & RIDGE ROAD, SE - PM PEAK



SPEED AND VOLUME COUNT

Traffic Data Collection

Location:

500 Block of Alabama Avenue, SE

Prepared For:



District Department of Transportation (DDOT)

Prepared By:



SAMMAT ENGINEERING SERVICES, LLC
P.O. BOX 780
MOUNT AIRY, MD 21771
www.sammateg.com

December 16th, 2016

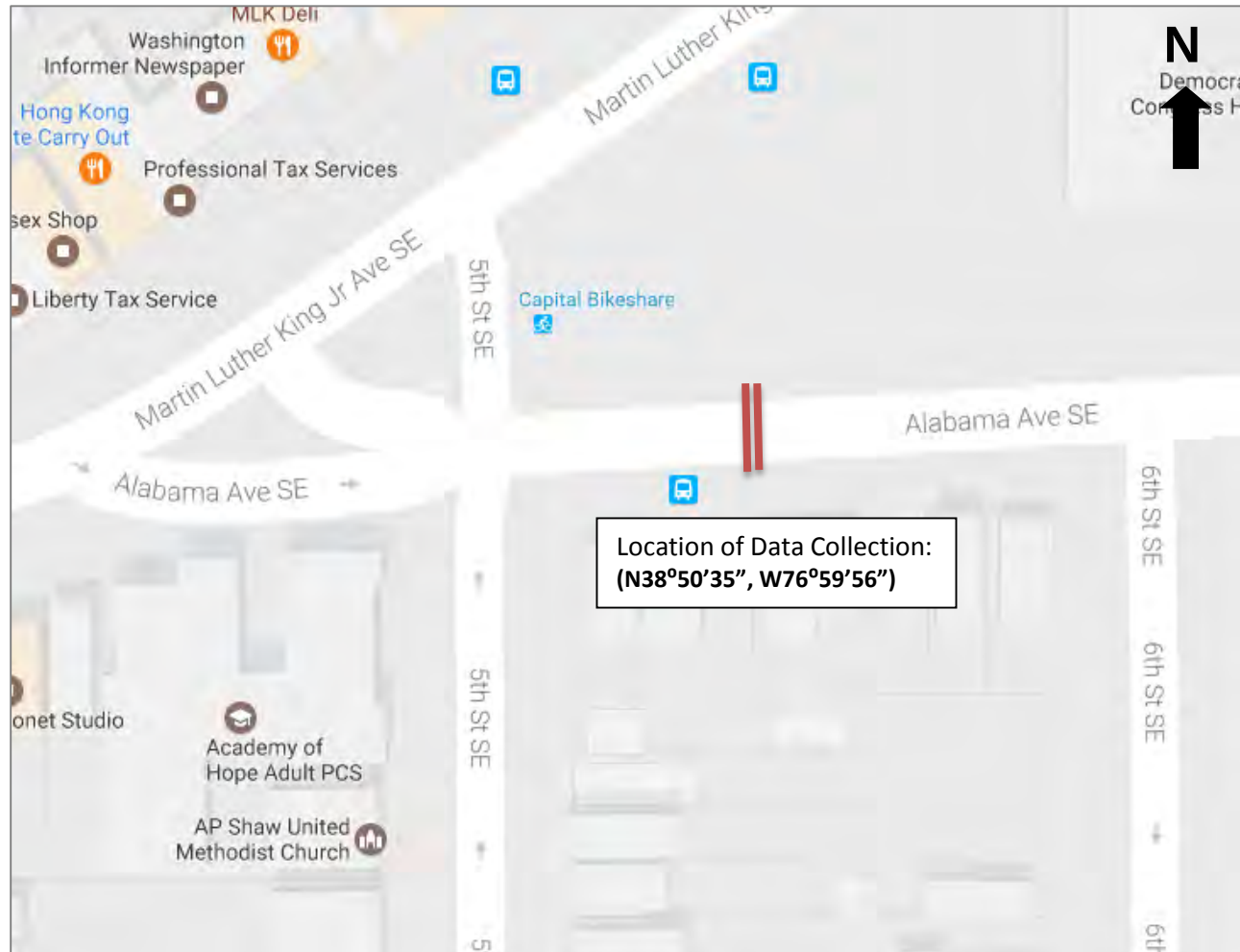


FIGURE 1: Location of Speed and Volume Data Collection

SUMMARY

SAMMAT Engineering Services, LLC presents this report to provide DDOT with volume and speed data obtained from November 29th through December 6th, 2016 on the 500 block of Alabama Avenue, SE located in the District of Columbia (DC). Table 1 presents the summary of the 7-day volume count and the directional speed data, which includes the 85th percentile speed, the mean (average) speed, and the 10 MPH pace. Figure 1 presents the location of the site with respect to the surrounding roadway network.

Table 1: 7-Day Speed and Volume Characteristics (mph) for 500 Alabama Ave SE

500 Alabama Ave, SE		85 th Percentile	Mean	10 MPH Pace	ADT
Day 1	EB	28	24	21-30	5,680
	WB	25	17	16-25	
	EB+WB	27	21	21-30	
Day 2	EB	28	24	21-30	6,070
	WB	26	18	16-25	
	EB+WB	27	21	21-30	
Day 3	EB	28	24	21-30	6,460
	WB	25	17	16-25	
	EB+WB	27	21	21-30	
Day 4	EB	29	25	21-30	6,088
	WB	26	19	16-25	
	EB+WB	28	22	21-30	
Day 5	EB	29	25	21-30	4,858
	WB	26	19	16-25	
	EB+WB	28	22	21-30	
Day 6	EB	29	25	21-30	4,100
	WB	27	20	16-25	
	EB+WB	28	23	21-30	
Day 7	EB	29	24	21-30	5,996
	WB	26	18	16-25	
	EB+WB	28	22	21-30	
7-Day	EB	28	24	21-30	5,616
	WB	26	18	16-25	
	EB+WB	28	22	21-30	

SAMMAT ENGINEERING SERVICES, LLC

PO BOX 780
MT AIRY, MD 21771
www.sammateng.com

500 ALABAMA AVENUE SE - VOLUME

Start Time	29-Nov-16 Tue	WB		WB		Combined		30-Nov Wed	WB		WB		Combined	
		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00		4	34	7	46	11	80		7	26	13	40	20	66
12:15		11	39	9	43	20	82		9	37	4	41	13	78
12:30		7	26	8	50	15	76		10	30	13	39	23	69
12:45		11	33	7	35	18	68		7	33	8	59	15	92
01:00		9	30	4	34	13	64		5	34	1	28	6	62
01:15		3	30	6	38	9	68		11	29	5	39	16	68
01:30		6	33	3	45	9	78		8	42	9	41	17	83
01:45		2	34	3	41	5	75		5	55	2	42	7	97
02:00		4	31	2	38	6	69		5	50	5	60	10	110
02:15		3	35	6	43	9	78		1	50	2	55	3	105
02:30		5	32	1	53	6	85		4	46	1	64	5	110
02:45		4	33	3	67	7	100		3	28	3	59	6	87
03:00		4	36	4	55	8	91		3	44	5	63	8	107
03:15		1	32	6	67	7	99		4	44	1	90	5	134
03:30		4	36	1	56	5	92		0	38	2	63	2	101
03:45		1	41	0	50	1	91		1	42	7	64	8	106
04:00		3	46	4	89	7	135		0	57	3	70	3	127
04:15		7	46	4	56	11	102		5	52	0	66	5	118
04:30		6	43	2	58	8	101		4	50	4	80	8	130
04:45		6	39	7	71	13	110		4	57	10	84	14	141
05:00		8	51	10	59	18	110		10	52	7	77	17	129
05:15		8	38	5	90	13	128		8	45	2	75	10	120
05:30		24	47	8	73	32	120		15	39	12	77	27	116
05:45		15	47	14	74	29	121		14	36	15	73	29	109
06:00		16	41	15	73	31	114		12	43	4	75	16	118
06:15		19	37	20	69	39	106		14	37	22	69	36	106
06:30		21	29	18	53	39	82		20	40	20	67	40	107
06:45		34	30	40	54	74	84		28	44	37	48	65	92
07:00		25	29	31	63	56	92		25	42	33	30	58	72
07:15		34	30	58	33	92	63		58	33	60	40	118	73
07:30		44	22	42	33	86	55		50	28	52	47	102	75
07:45		42	37	67	26	109	63		64	32	57	39	121	71
08:00		40	23	62	28	102	51		56	29	66	36	122	65
08:15		56	26	63	26	119	52		53	31	90	37	143	68
08:30		49	30	78	29	127	59		40	23	86	55	126	78
08:45		58	34	69	22	127	56		66	31	54	34	120	65
09:00		53	27	58	32	111	59		43	25	56	28	99	53
09:15		52	14	46	22	98	36		42	20	46	22	88	42
09:30		42	22	27	22	69	44		34	28	32	30	66	58
09:45		36	15	43	26	79	41		35	17	29	20	64	37
10:00		36	13	44	16	80	29		33	17	35	19	68	36
10:15		25	10	49	20	74	30		21	16	25	24	46	40
10:30		21	14	38	14	59	28		32	16	34	17	66	33
10:45		28	13	40	20	68	33		32	17	23	19	55	36
11:00		25	13	21	15	46	28		34	29	38	24	72	53
11:15		29	14	33	19	62	33		34	12	23	18	57	30
11:30		34	17	34	9	68	26		34	16	39	6	73	22
11:45		28	15	41	19	69	34		29	19	28	11	57	30
Total		1003	1447	1161	2074	2164	3521		1032	1661	1123	2264	2155	3925
Day Total		2450		3235		5685			2693		3387		6080	
% Total		17.6%	25.5%	20.4%	36.5%				17.0%	27.3%	18.5%	37.2%		
Peak	-	08:15	05:00	08:00	05:15	08:15	05:15	-	07:15	04:00	07:45	04:30	07:45	04:30
Vol.	-	216	183	272	310	484	483	-	228	216	299	316	512	520
P.H.F.		0.931	0.897	0.872	0.861	0.953	0.943		0.891	0.947	0.831	0.940	0.895	0.922

SAMMAT ENGINEERING SERVICES, LLC

PO BOX 780
MT AIRY, MD 21771
www.sammateng.com

500 ALABAMA AVENUE SE - VOLUME

Start Time	01-Dec-16 Thu	WB		WB		Combined		02-Dec Fri	WB		WB		Combined	
		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00		11	36	16	38	27	74		12	36	11	56	23	92
12:15		12	42	9	48	21	90		12	45	12	43	24	88
12:30		8	50	11	42	19	92		10	33	6	64	16	97
12:45		9	40	14	51	23	91		7	37	7	50	14	87
01:00		8	40	10	62	18	102		10	42	10	48	20	90
01:15		10	39	11	37	21	76		7	38	5	42	12	80
01:30		12	28	5	45	17	73		7	35	2	46	9	81
01:45		7	28	6	52	13	80		3	37	3	40	6	77
02:00		9	39	4	60	13	99		6	30	3	49	9	79
02:15		5	32	8	51	13	83		5	38	9	37	14	75
02:30		8	36	4	58	12	94		9	33	2	60	11	93
02:45		4	39	4	52	8	91		3	35	5	49	8	84
03:00		0	43	2	56	2	99		5	41	7	59	12	100
03:15		5	41	3	62	8	103		6	39	2	51	8	90
03:30		3	52	3	63	6	115		5	34	4	60	9	94
03:45		4	56	3	63	7	119		4	51	4	75	8	126
04:00		3	50	6	75	9	125		5	53	2	83	7	136
04:15		6	57	4	102	10	159		8	49	6	96	14	145
04:30		6	70	6	81	12	151		2	57	2	71	4	128
04:45		3	75	7	67	10	142		4	58	6	69	10	127
05:00		14	63	8	62	22	125		6	46	6	54	12	100
05:15		7	46	6	68	13	114		19	39	8	70	27	109
05:30		14	52	8	81	22	133		8	44	17	81	25	125
05:45		16	54	14	79	30	133		9	60	12	66	21	126
06:00		20	57	17	61	37	118		12	41	4	71	16	112
06:15		15	58	15	51	30	109		19	43	15	68	34	111
06:30		23	61	23	54	46	115		21	38	28	59	49	97
06:45		34	33	29	46	63	79		22	50	42	48	64	98
07:00		40	23	39	57	79	80		27	39	38	25	65	64
07:15		40	41	55	55	95	96		45	46	41	26	86	72
07:30		58	37	52	44	110	81		35	32	49	36	84	68
07:45		70	30	49	44	119	74		62	40	40	33	102	73
08:00		50	31	63	33	113	64		52	27	27	43	79	70
08:15		49	35	101	36	150	71		34	26	42	41	76	67
08:30		53	26	81	26	134	52		39	31	45	48	84	79
08:45		53	27	61	33	114	60		35	29	71	29	106	58
09:00		54	13	52	27	106	40		36	23	36	25	72	48
09:15		41	22	40	27	81	49		36	34	43	30	79	64
09:30		36	13	48	21	84	34		29	25	33	40	62	65
09:45		28	22	53	13	81	35		57	35	39	18	96	53
10:00		41	11	46	26	87	37		29	25	59	30	88	55
10:15		30	14	54	21	84	35		28	21	43	22	71	43
10:30		33	24	51	27	84	51		41	27	30	24	71	51
10:45		30	16	43	16	73	32		30	27	41	34	71	61
11:00		41	9	45	25	86	34		29	24	43	19	72	43
11:15		32	10	47	15	79	25		44	16	35	22	79	38
11:30		32	19	54	20	86	39		41	27	32	19	73	46
11:45		37	19	44	23	81	42		42	19	42	29	84	48
Total		1124	1759	1334	2256	2458	4015		1017	1755	1069	2258	2086	4013
Day Total		2883		3590		6473			2772		3327		6099	
% Total		17.4%	27.2%	20.6%	34.9%				16.7%	28.8%	17.5%	37.0%		
Peak	-	07:30	04:15	08:00	04:00	07:45	04:00	-	07:15	04:00	08:30	03:45	07:15	04:00
Vol.	-	227	265	306	325	516	577	-	194	217	195	325	351	536
P.H.F.		0.811	0.883	0.757	0.797	0.860	0.907		0.782	0.935	0.687	0.846	0.860	0.924

SAMMAT ENGINEERING SERVICES, LLC

PO BOX 780
MT AIRY, MD 21771
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500 ALABAMA AVENUE SE - VOLUME

Start Time	03-Dec-16 Sat	WB		WB		Combined		04-Dec Sun	WB		WB		Combined	
		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00		17	29	24	55	41	84		10	33	18	41	28	74
12:15		15	24	20	54	35	78		17	25	14	36	31	61
12:30		16	41	15	44	31	85		12	20	24	28	36	48
12:45		10	46	9	42	19	88		11	34	12	39	23	73
01:00		13	38	11	39	24	77		11	29	15	42	26	71
01:15		11	26	18	33	29	59		9	35	12	38	21	73
01:30		16	36	14	36	30	72		10	46	9	38	19	84
01:45		12	30	13	35	25	65		8	43	8	40	16	83
02:00		10	40	10	49	20	89		7	36	6	57	13	93
02:15		4	43	10	41	14	84		9	49	8	47	17	96
02:30		8	32	18	54	26	86		6	46	4	40	10	86
02:45		12	50	9	38	21	88		10	37	12	52	22	89
03:00		7	47	7	42	14	89		10	37	6	42	16	79
03:15		9	44	11	36	20	80		8	45	6	43	14	88
03:30		7	43	6	37	13	80		4	30	10	35	14	65
03:45		9	50	9	31	18	81		8	29	10	42	18	71
04:00		5	39	6	51	11	90		4	28	6	35	10	63
04:15		5	45	8	48	13	93		4	33	4	21	8	54
04:30		9	42	4	42	13	84		8	21	6	36	14	57
04:45		3	33	4	46	7	79		3	18	3	36	6	54
05:00		4	27	1	47	5	74		6	32	4	42	10	74
05:15		6	32	8	44	14	76		2	27	5	33	7	60
05:30		5	30	9	43	14	73		5	36	4	32	9	68
05:45		8	33	12	54	20	87		5	25	10	37	15	62
06:00		7	28	7	38	14	66		3	33	10	31	13	64
06:15		7	43	12	35	19	78		3	31	5	33	8	64
06:30		9	34	10	34	19	68		5	17	13	36	18	53
06:45		16	36	9	46	25	82		6	24	12	31	18	55
07:00		17	34	12	30	29	64		8	25	13	19	21	44
07:15		16	30	20	31	36	61		9	18	7	26	16	44
07:30		8	35	18	37	26	72		8	14	13	40	21	54
07:45		12	26	7	34	19	60		11	26	16	30	27	56
08:00		20	27	17	45	37	72		12	32	16	19	28	51
08:15		17	27	19	26	36	53		12	27	16	29	28	56
08:30		18	25	17	33	35	58		20	20	25	33	45	53
08:45		29	31	25	25	54	56		19	25	27	26	46	51
09:00		21	27	30	29	51	56		14	25	22	32	36	57
09:15		21	26	30	35	51	61		26	14	20	22	46	36
09:30		27	14	32	24	59	38		21	11	22	24	43	35
09:45		30	21	34	25	64	46		33	15	37	26	70	41
10:00		29	13	37	32	66	45		29	17	32	14	61	31
10:15		28	32	35	26	63	58		25	20	37	17	62	37
10:30		32	19	40	27	72	46		24	17	42	16	66	33
10:45		36	22	42	31	78	53		26	13	30	12	56	25
11:00		16	13	31	23	47	36		25	10	41	8	66	18
11:15		32	17	42	20	74	37		22	17	32	9	54	26
11:30		30	22	40	18	70	40		22	10	25	10	47	20
11:45		33	19	42	17	75	36		30	5	36	14	66	19
Total		732	1521	864	1762	1596	3283		600	1260	765	1489	1365	2749
Day Total		2253		2626		4879			1860		2254		4114	
% Total		15.0%	31.2%	17.7%	36.1%				14.6%	30.6%	18.6%	36.2%		
Peak	-	10:00	02:45	10:30	12:00	10:00	03:45	-	09:45	01:30	10:15	02:00	09:45	02:00
Vol.	-	125	184	155	195	279	348	-	111	174	150	196	259	364
P.H.F.		0.868	0.920	0.923	0.886	0.894	0.935		0.841	0.888	0.893	0.860	0.925	0.948

SAMMAT ENGINEERING SERVICES, LLC

PO BOX 780
MT AIRY, MD 21771
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500 ALABAMA AVENUE SE - VOLUME

Start Time	05-Dec-16 Mon	WB		WB		Combined		06-Dec Tue	WB		WB		Combined	
		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00		7	43	9	28	16	71		0	*	0	*	0	*
12:15		3	34	8	44	11	78		*	*	*	*	*	*
12:30		5	31	8	47	13	78		*	*	*	*	*	*
12:45		7	27	9	47	16	74		*	*	*	*	*	*
01:00		7	30	4	44	11	74		*	*	*	*	*	*
01:15		5	41	4	38	9	79		*	*	*	*	*	*
01:30		6	38	7	38	13	76		*	*	*	*	*	*
01:45		6	40	7	37	13	77		*	*	*	*	*	*
02:00		2	37	1	44	3	81		*	*	*	*	*	*
02:15		6	37	5	55	11	92		*	*	*	*	*	*
02:30		5	25	1	56	6	81		*	*	*	*	*	*
02:45		7	34	1	61	8	95		*	*	*	*	*	*
03:00		2	37	3	67	5	104		*	*	*	*	*	*
03:15		2	32	5	55	7	87		*	*	*	*	*	*
03:30		5	46	2	75	7	121		*	*	*	*	*	*
03:45		1	49	3	59	4	108		*	*	*	*	*	*
04:00		5	63	3	91	8	154		*	*	*	*	*	*
04:15		3	51	5	99	8	150		*	*	*	*	*	*
04:30		3	56	3	85	6	141		*	*	*	*	*	*
04:45		9	58	4	73	13	131		*	*	*	*	*	*
05:00		7	51	9	70	16	121		*	*	*	*	*	*
05:15		8	53	5	77	13	130		*	*	*	*	*	*
05:30		17	50	14	64	31	114		*	*	*	*	*	*
05:45		14	49	15	67	29	116		*	*	*	*	*	*
06:00		16	55	9	83	25	138		*	*	*	*	*	*
06:15		14	37	18	58	32	95		*	*	*	*	*	*
06:30		24	39	21	67	45	106		*	*	*	*	*	*
06:45		27	43	31	51	58	94		*	*	*	*	*	*
07:00		33	28	35	41	68	69		*	*	*	*	*	*
07:15		47	35	43	43	90	78		*	*	*	*	*	*
07:30		49	34	56	54	105	88		*	*	*	*	*	*
07:45		66	28	60	32	126	60		*	*	*	*	*	*
08:00		55	27	65	31	120	58		*	*	*	*	*	*
08:15		71	21	67	26	138	47		*	*	*	*	*	*
08:30		55	14	75	32	130	46		*	*	*	*	*	*
08:45		51	35	51	30	102	65		*	*	*	*	*	*
09:00		46	32	43	28	89	60		*	*	*	*	*	*
09:15		40	26	53	23	93	49		*	*	*	*	*	*
09:30		37	17	34	24	71	41		*	*	*	*	*	*
09:45		28	23	35	25	63	48		*	*	*	*	*	*
10:00		38	19	41	19	79	38		*	*	*	*	*	*
10:15		30	13	41	18	71	31		*	*	*	*	*	*
10:30		27	21	37	19	64	40		*	*	*	*	*	*
10:45		25	22	39	13	64	35		*	*	*	*	*	*
11:00		28	15	47	23	75	38		*	*	*	*	*	*
11:15		36	9	34	13	70	22		*	*	*	*	*	*
11:30		30	14	40	14	70	28		*	*	*	*	*	*
11:45		27	2	31	12	58	14		*	*	*	*	*	*
Total		1042	1621	1141	2200	2183	3821		0	0	0	0	0	0
Day Total		2663		3341		6004			0	0	0	0	0	0
% Total		17.4%	27.0%	19.0%	36.6%				0.0%	0.0%	0.0%	0.0%		
Peak	-	07:45	04:00	07:45	04:00	07:45	04:00	-	-	-	-	-	-	-
Vol.	-	247	228	267	348	514	576	-	-	-	-	-	-	-
P.H.F.		0.870	0.905	0.890	0.879	0.931	0.935							
ADT	ADT 5,616	AADT 5,616												

SPEED AND VOLUME COUNT

Traffic Data Collection

Location:

700 Block of Alabama Avenue, SE

Prepared For:



District Department of Transportation (DDOT)

Prepared By:



SAMMAT ENGINEERING SERVICES, LLC
P.O. BOX 780
MOUNT AIRY, MD 21771
www.sammateg.com

December 16th, 2016

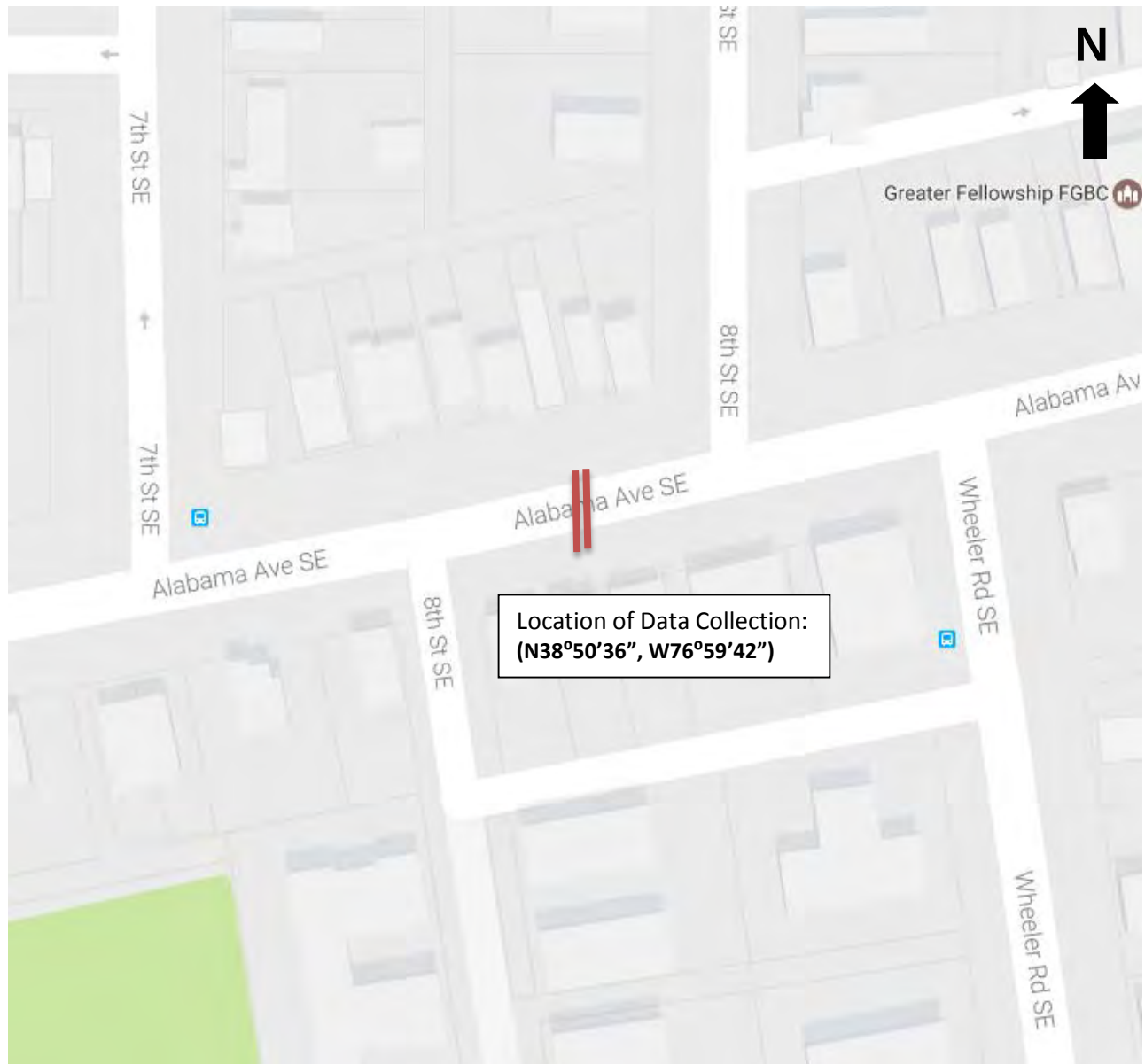


FIGURE 1: Location of Speed and Volume Data Collection

SUMMARY

SAMMAT Engineering Services, LLC presents this report to provide DDOT with volume and speed data obtained from November 29th through December 6th, 2016 on the 700 block of Alabama Avenue, SE located in the District of Columbia (DC). Table 1 presents the summary of the 7-day volume count and the directional speed data, which includes the 85th percentile speed, the mean (average) speed, and the 10 MPH pace. Figure 1 presents the location of the site with respect to the surrounding roadway network.

Table 1: 7-Day Speed and Volume Characteristics (mph) for 700 Alabama Ave SE

700 Alabama Ave, SE		85 th Percentile	Mean	10 MPH Pace	ADT
Day 1	EB	29	24	21-30	13,930
	WB	24	18	16-25	
	EB+WB	28	21	21-30	
Day 2	EB	29	23	21-30	6,505
	WB	24	18	16-25	
	EB+WB	28	20	16-25	
Day 3	EB	31	25	21-30	14,698
	WB	24	18	16-25	
	EB+WB	29	22	21-30	
Day 4	EB	32	26	21-30	15,086
	WB	25	19	16-25	
	EB+WB	29	22	21-30	
Day 5	EB	31	26	21-30	11,536
	WB	27	21	16-25	
	EB+WB	29	24	21-30	
Day 6	EB	33	27	21-30	9,670
	WB	27	22	16-25	
	EB+WB	30	25	21-30	
Day 7	EB	31	25	21-30	14,032
	WB	25	18	16-25	
	EB+WB	29	22	21-30	
7-Day	EB	31	25	21-30	13,301
	WB	25	19	16-25	
	EB+WB	29	22	21-30	

SAMMAT ENGINEERING SERVICES, LLC

PO BOX 780
MT AIRY, MD 21771
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700 ALABAMA AVENUE, SE - VOLUME

Start Time	29-Nov-16		EB		WB		Combined		30-Nov Wed	EB		WB		Combined	
	Tue		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00			32	79	28	83	60	162		23	83	29	56	52	139
12:15			24	97	21	87	45	184		22	92	18	82	40	174
12:30			19	87	16	76	35	163		25	82	25	82	50	164
12:45			17	69	17	88	34	157		13	85	21	90	34	175
01:00			18	79	12	68	30	147		10	71	9	73	19	144
01:15			12	107	13	83	25	190		17	92	16	92	33	184
01:30			9	80	10	94	19	174		19	76	13	85	32	161
01:45			8	87	10	97	18	184		10	97	8	91	18	188
02:00			9	91	3	93	12	184		13	82	9	95	22	177
02:15			9	104	8	84	17	188		6	91	4	93	10	184
02:30			8	85	7	98	15	183		11	101	8	115	19	216
02:45			11	80	7	119	18	199		11	79	7	119	18	198
03:00			10	86	10	115	20	201		9	82	7	111	16	193
03:15			3	81	6	127	9	208		9	100	4	120	13	220
03:30			15	116	5	136	20	252		11	107	5	140	16	247
03:45			11	91	5	149	16	240		9	87	8	154	17	241
04:00			10	93	7	178	17	271		13	107	6	164	19	271
04:15			20	99	7	157	27	256		10	85	4	160	14	245
04:30			26	104	3	152	29	256		21	113	11	179	32	292
04:45			22	92	12	174	34	266		30	92	14	169	44	261
05:00			34	110	19	153	53	263		32	103	16	183	48	286
05:15			49	99	8	167	57	266		40	66	8	177	48	243
05:30			75	85	19	169	94	254		75	102	25	186	100	288
05:45			69	107	26	173	95	280		75	100	22	157	97	257
06:00			93	99	27	173	120	272		84	70	27	151	111	221
06:15			105	85	35	157	140	242		102	76	34	169	136	245
06:30			137	73	43	147	180	220		149	73	41	149	190	222
06:45			172	74	67	131	239	205		174	76	64	139	238	215
07:00			186	64	74	122	260	186		192	100	75	99	267	199
07:15			201	83	86	95	287	178		228	73	68	95	296	168
07:30			200	73	73	83	273	156		215	81	93	77	308	158
07:45			171	74	100	79	271	153		196	76	97	71	293	147
08:00			147	70	96	69	243	139		198	73	107	56	305	129
08:15			174	66	78	78	252	144		150	49	92	57	242	106
08:30			140	69	94	72	234	141		149	77	101	77	250	154
08:45			143	69	92	58	235	127		141	76	78	67	219	143
09:00			155	79	78	55	233	134		128	70	108	39	236	109
09:15			133	51	73	51	206	102		117	64	85	42	202	106
09:30			116	73	63	53	179	126		99	41	65	61	164	102
09:45			90	40	71	53	161	93		87	37	64	38	151	75
10:00			90	43	80	52	170	95		92	40	87	40	179	80
10:15			89	49	68	42	157	91		84	40	58	51	142	91
10:30			59	39	72	42	131	81		82	30	68	27	150	57
10:45			74	46	80	41	154	87		76	40	72	44	148	84
11:00			74	37	75	36	149	73		86	35	68	19	154	54
11:15			84	46	81	41	165	87		82	32	62	35	144	67
11:30			79	61	67	34	146	95		85	60	72	38	157	98
11:45			63	41	75	36	138	77		73	26	65	29	138	55
Total			3495	3712	2027	4720	5522	8432		3583	3590	2048	4643	5631	8233
Day Total			7207		6747		13954			7173		6691		13864	
% Total			25.0%	26.6%	14.5%	33.8%				25.8%	25.9%	14.8%	33.5%		
Peak	-		06:45	04:15	07:45	05:15	07:00	05:15	-	07:15	03:15	07:45	04:45	07:15	04:15
Vol.	-		759	405	368	682	1091	1072	-	837	401	397	715	1202	1084
P.H.F.			0.944	0.920	0.920	0.986	0.950	0.957		0.918	0.937	0.928	0.961	0.976	0.928

SAMMAT ENGINEERING SERVICES, LLC

PO BOX 780
MT AIRY, MD 21771
sammateng.com

700 ALABAMA AVENUE, SE - VOLUME

Start Time	01-Dec-16 Thu	EB		WB		Combined		02-Dec Fri	EB		WB		Combined	
		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00		35	95	20	63	55	158		32	90	35	107	67	197
12:15		29	83	23	56	52	139		35	127	34	100	69	227
12:30		32	86	23	85	55	171		27	107	20	111	47	218
12:45		22	94	21	71	43	165		18	95	22	119	40	214
01:00		27	80	8	101	35	181		20	98	15	112	35	210
01:15		8	104	14	88	22	192		16	101	18	94	34	195
01:30		19	79	8	103	27	182		22	105	9	90	31	195
01:45		8	93	10	102	18	195		11	92	8	91	19	183
02:00		9	94	13	108	22	202		15	95	7	79	22	174
02:15		9	86	11	94	20	180		11	90	20	84	31	174
02:30		15	85	7	111	22	196		16	76	9	109	25	185
02:45		10	88	6	113	16	201		11	83	12	122	23	205
03:00		2	100	2	129	4	229		15	88	16	124	31	212
03:15		10	84	7	141	17	225		10	90	8	148	18	238
03:30		11	129	7	162	18	291		15	95	12	140	27	235
03:45		14	102	5	167	19	269		12	84	7	159	19	243
04:00		7	110	8	153	15	263		17	120	5	180	22	300
04:15		14	106	9	178	23	284		16	102	8	166	24	268
04:30		22	129	10	155	32	284		22	102	9	177	31	279
04:45		30	103	8	166	38	269		28	84	13	180	41	264
05:00		43	108	15	173	58	281		33	105	14	151	47	256
05:15		44	97	11	188	55	285		56	106	19	161	75	267
05:30		64	118	22	190	86	308		71	102	30	179	101	281
05:45		71	84	31	195	102	279		73	103	25	177	98	280
06:00		101	93	20	161	121	254		76	107	20	148	96	255
06:15		105	100	36	163	141	263		100	76	29	151	129	227
06:30		165	113	49	138	214	251		123	84	51	141	174	225
06:45	194	87	55	135	249	222		161	103	71	124	232	227	
07:00	195	81	74	129	269	210		165	90	78	87	243	177	
07:15	205	79	83	113	288	192		171	105	76	104	247	209	
07:30	219	80	66	104	285	184		199	90	88	92	287	182	
07:45		182	98	101	108	283	206		183	87	103	78	286	165
08:00		168	81	111	92	279	173		166	81	89	92	255	173
08:15		200	85	99	80	299	165		100	86	91	85	191	171
08:30		147	76	99	80	246	156		122	80	103	75	225	155
08:45		165	69	91	71	256	140		129	82	98	64	227	146
09:00		128	50	118	67	246	117		109	68	92	70	201	138
09:15		125	73	66	59	191	132		107	86	87	67	194	153
09:30		105	49	60	58	165	107		85	58	66	69	151	127
09:45		89	54	58	49	147	103		104	93	60	64	164	157
10:00		91	42	55	58	146	100		89	59	100	82	189	141
10:15		74	51	47	54	121	105		82	64	85	64	167	128
10:30		81	53	45	46	126	99		90	62	69	56	159	118
10:45		81	44	68	38	149	82		84	74	86	75	170	149
11:00		91	39	59	43	150	82		88	62	86	57	174	119
11:15		78	38	59	37	137	75		96	51	82	65	178	116
11:30		99	69	61	36	160	105		110	83	81	54	191	137
11:45		78	49	55	42	133	91		94	47	107	46	201	93
Total		3721	3990	1934	5053	5655	9043		3435	4218	2273	5170	5708	9388
Day Total		7711		6987		14698			7653		7443		15096	
% Total		25.3%	27.1%	13.2%	34.4%				22.8%	27.9%	15.1%	34.2%		
Peak	-	06:45	04:00	07:45	05:00	07:30	05:00	-	07:15	00:15	07:45	04:00	07:15	04:00
Vol.	-	813	448	410	746	1146	1153	-	719	427	386	703	1075	1111
P.H.F.		0.928	0.868	0.923	0.956	0.958	0.936		0.903	0.841	0.937	0.976	0.936	0.926

SAMMAT ENGINEERING SERVICES, LLC

PO BOX 780
MT AIRY, MD 21771
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700 ALABAMA AVENUE, SE - VOLUME

Start Time	03-Dec-16 Sat	EB		WB		Combined		04-Dec Sun	EB		WB		Combined	
		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00		56	86	51	99	107	185		54	74	40	72	94	146
12:15		30	87	41	87	71	174		37	68	40	80	77	148
12:30		42	109	42	80	84	189		33	62	48	68	81	130
12:45		36	110	33	71	69	181		35	79	33	80	68	159
01:00		24	95	24	92	48	187		37	76	25	76	62	152
01:15		32	73	30	77	62	150		36	92	21	69	57	161
01:30		36	95	28	81	64	176		27	101	25	95	52	196
01:45		34	94	27	82	61	176		22	97	22	79	44	176
02:00		26	79	26	88	52	167		23	82	15	99	38	181
02:15		16	103	13	94	29	197		23	95	15	94	38	189
02:30		19	97	29	97	48	194		18	102	15	103	33	205
02:45		25	112	20	95	45	207		19	103	25	99	44	202
03:00		25	95	19	111	44	206		23	98	19	86	42	184
03:15		20	85	28	85	48	170		20	90	16	100	36	190
03:30		24	98	18	78	42	176		21	86	18	74	39	160
03:45		25	118	15	85	40	203		15	71	16	74	31	145
04:00		20	107	8	99	28	206		14	83	14	79	28	162
04:15		21	91	21	87	42	178		12	85	16	69	28	154
04:30		26	93	18	79	44	172		19	64	9	82	28	146
04:45		18	76	10	104	28	180		5	70	11	68	16	138
05:00		17	92	8	83	25	175		12	69	8	85	20	154
05:15		21	86	19	87	40	173		11	60	8	59	19	119
05:30		27	82	16	104	43	186		19	78	8	68	27	146
05:45		31	81	19	87	50	168		17	68	17	59	34	127
06:00		22	86	23	87	45	173		16	70	17	77	33	147
06:15		33	99	30	97	63	196		20	81	18	77	38	158
06:30		32	82	27	82	59	164		26	76	28	76	54	152
06:45		37	79	30	89	67	168		25	76	28	54	53	130
07:00		30	78	30	68	60	146		30	52	18	52	48	104
07:15		41	87	41	64	82	151		37	61	15	53	52	114
07:30		43	92	39	78	82	170		47	68	33	64	80	132
07:45		55	75	34	68	89	143		40	78	35	63	75	141
08:00		53	84	35	84	88	168		35	89	40	56	75	145
08:15		47	78	43	65	90	143		54	71	39	49	93	120
08:30		53	67	41	65	94	132		63	69	39	64	102	133
08:45		68	78	49	59	117	137		53	61	37	71	90	132
09:00		69	71	61	53	130	124		45	56	39	58	84	114
09:15		64	68	54	60	118	128		65	48	52	54	117	102
09:30		82	48	72	50	154	98		66	48	56	43	122	91
09:45		75	54	50	57	125	111		75	35	53	46	128	81
10:00		82	46	79	49	161	95		70	47	63	33	133	80
10:15		90	78	102	41	192	119		68	54	64	45	132	99
10:30		85	59	72	56	157	115		84	38	62	40	146	78
10:45		95	73	81	60	176	133		82	30	64	31	146	61
11:00		72	52	75	50	147	102		63	32	68	23	131	55
11:15		82	53	73	56	155	109		67	36	61	22	128	58
11:30		74	59	88	41	162	100		75	35	54	28	129	63
11:45		91	41	81	49	172	90		77	27	70	27	147	54
Total		2126	3931	1873	3660	3999	7591		1835	3291	1537	3123	3372	6414
Day Total		6057		5533		11590			5126		4660		9786	
% Total		18.3%	33.9%	16.2%	31.6%				18.8%	33.6%	15.7%	31.9%		
Peak	-	10:00	03:30	10:00	02:15	10:00	02:15	-	10:00	02:15	10:15	02:00	10:00	02:30
Vol.	-	352	414	334	397	686	804	-	304	398	258	395	557	781
P.H.F.		0.926	0.877	0.819	0.894	0.893	0.971		0.905	0.966	0.949	0.959	0.954	0.952

SAMMAT ENGINEERING SERVICES, LLC

PO BOX 780
MT AIRY, MD 21771
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700 ALABAMA AVENUE, SE - VOLUME

Start Time	05-Dec-16 Mon	EB		WB		Combined		06-Dec Tue	EB		WB		Combined	
		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00		26	90	19	64	45	154		*	*	*	*	*	*
12:15		12	93	22	91	34	184		*	*	*	*	*	*
12:30		20	82	15	86	35	168		*	*	*	*	*	*
12:45		15	76	18	76	33	152		*	*	*	*	*	*
01:00		21	79	10	81	31	160		*	*	*	*	*	*
01:15		10	117	11	92	21	209		*	*	*	*	*	*
01:30		12	93	16	89	28	182		*	*	*	*	*	*
01:45		11	87	12	87	23	174		*	*	*	*	*	*
02:00		7	86	5	103	12	189		*	*	*	*	*	*
02:15		8	87	13	107	21	194		*	*	*	*	*	*
02:30		12	71	6	115	18	186		*	*	*	*	*	*
02:45		12	68	5	132	17	200		*	*	*	*	*	*
03:00		8	99	5	102	13	201		*	*	*	*	*	*
03:15		5	75	6	144	11	219		*	*	*	*	*	*
03:30		7	103	4	151	11	254		*	*	*	*	*	*
03:45		10	102	9	138	19	240		*	*	*	*	*	*
04:00		13	123	8	177	21	300		*	*	*	*	*	*
04:15		13	114	7	99	20	213		*	*	*	*	*	*
04:30		26	116	11	112	37	228		*	*	*	*	*	*
04:45		32	114	9	150	41	264		*	*	*	*	*	*
05:00		32	97	16	191	48	288		*	*	*	*	*	*
05:15		43	113	14	156	57	269		*	*	*	*	*	*
05:30		77	102	26	159	103	261		*	*	*	*	*	*
05:45		66	95	33	152	99	247		*	*	*	*	*	*
06:00		85	108	26	176	111	284		*	*	*	*	*	*
06:15		107	94	35	153	142	247		*	*	*	*	*	*
06:30		144	81	38	132	182	213		*	*	*	*	*	*
06:45		169	92	63	132	232	224		*	*	*	*	*	*
07:00		196	101	54	102	250	203		*	*	*	*	*	*
07:15		187	83	82	111	269	194		*	*	*	*	*	*
07:30		202	85	87	106	289	191		*	*	*	*	*	*
07:45		201	82	106	69	307	151		*	*	*	*	*	*
08:00		166	75	95	68	261	143		*	*	*	*	*	*
08:15		165	70	100	66	265	136		*	*	*	*	*	*
08:30		148	64	110	66	258	130		*	*	*	*	*	*
08:45		154	78	98	61	252	139		*	*	*	*	*	*
09:00		130	75	76	67	206	142		*	*	*	*	*	*
09:15		105	61	99	55	204	116		*	*	*	*	*	*
09:30		96	53	76	52	172	105		*	*	*	*	*	*
09:45		85	49	74	55	159	104		*	*	*	*	*	*
10:00		77	50	74	44	151	94		*	*	*	*	*	*
10:15		87	50	85	52	172	102		*	*	*	*	*	*
10:30		76	48	81	52	157	100		*	*	*	*	*	*
10:45		76	50	70	43	146	93		*	*	*	*	*	*
11:00		79	37	89	50	168	87		*	*	*	*	*	*
11:15		82	37	58	28	140	65		*	*	*	*	*	*
11:30		70	49	77	21	147	70		*	*	*	*	*	*
11:45		86	25	73	30	159	55		*	*	*	*	*	*
Total		3471	3879	2126	4645	5597	8524		0	0	0	0	0	0
Day Total		7350		6771		14121			0	0	0	0	0	0
% Total		24.6%	27.5%	15.1%	32.9%				0.0%	0.0%	0.0%	0.0%		
Peak	-	07:00	04:00	07:45	05:00	07:15	04:45	-	-	-	-	-	-	-
Vol.	-	786	467	411	658	1126	1082	-	-	-	-	-	-	-
P.H.F.		0.973	0.949	0.934	0.861	0.917	0.939							
ADT	ADT 13,301	AADT 13,301												

SPEED AND VOLUME COUNT

Traffic Data Collection

Location:

800 Block of Alabama Avenue, SE

Prepared For:



District Department of Transportation (DDOT)

Prepared By:



SAMMAT ENGINEERING SERVICES, LLC
P.O. BOX 780
MOUNT AIRY, MD 21771
www.sammateg.com

December 16th, 2016

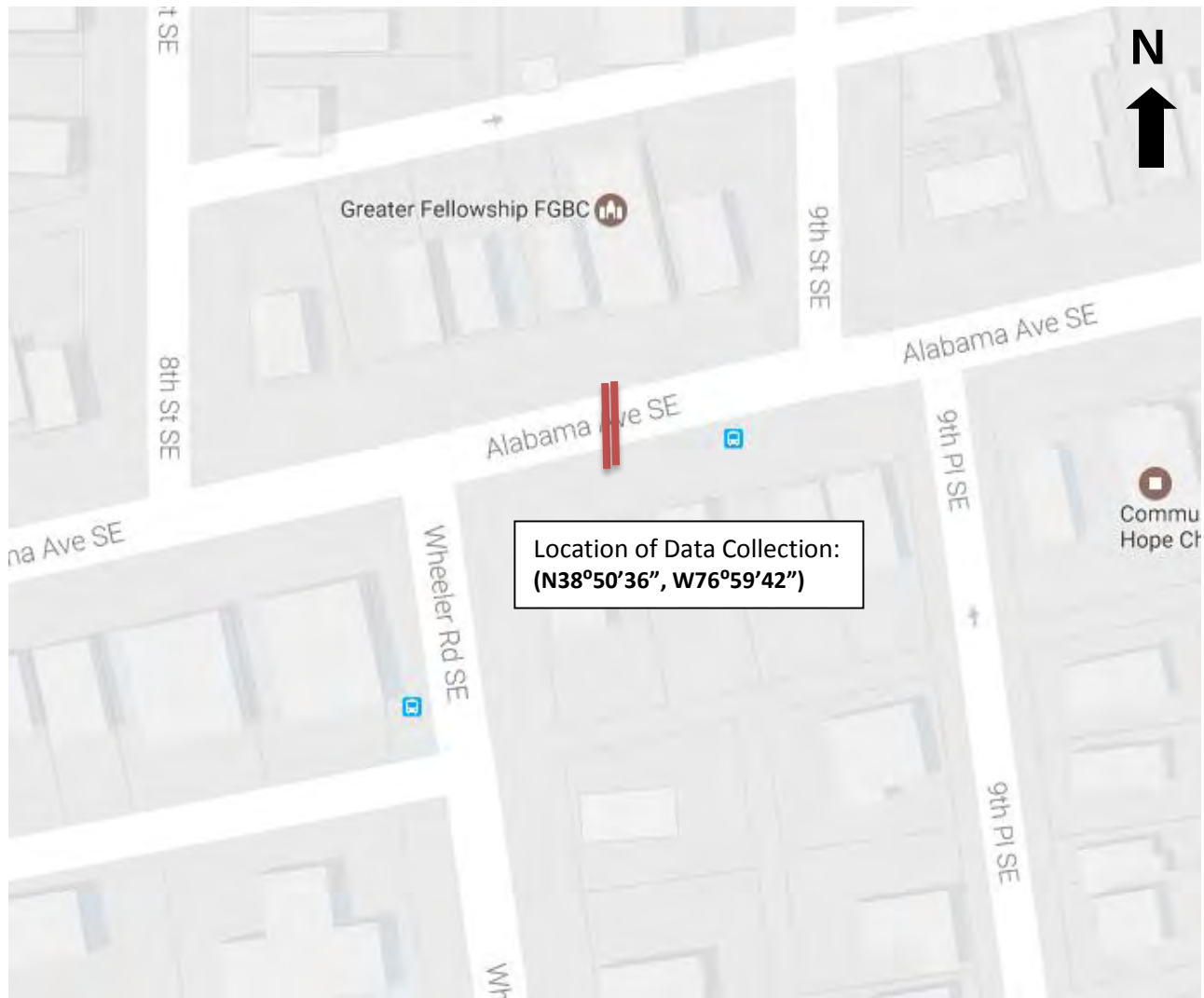


FIGURE 1: Location of Speed and Volume Data Collection

SUMMARY

SAMMAT Engineering Services, LLC presents this report to provide DDOT with volume and speed data obtained from November 29th through December 6th, 2016 on the 800 block of Alabama Avenue, SE located in the District of Columbia (DC). Table 1 presents the summary of the 7-day volume count and the directional speed data, which includes the 85th percentile speed, the mean (average) speed, and the 10 MPH pace. Figure 1 presents the location of the site with respect to the surrounding roadway network.

Table 1: 7-Day Speed and Volume Characteristics (mph) for 800 Alabama Ave SE

800 Alabama Ave, SE		85 th Percentile	Mean	10 MPH Pace	ADT
Day 1	EB	29	22	21-30	12,407
	WB	30	20	21-30	
	EB+WB	29	21	21-30	
Day 2	EB	29	20	21-30	10,432
	WB	23	18	16-25	
	EB+WB	28	20	21-30	
Day 3	EB	29	24	21-30	11,717
	WB	31	22	16-25	
	EB+WB	30	23	21-30	
Day 4	EB	29	24	21-30	12,187
	WB	33	23	21-30	
	EB+WB	31	24	21-30	
Day 5	EB	31	26	21-30	10,640
	WB	34	26	26-35	
	EB+WB	33	26	21-30	
Day 6	EB	31	26	21-30	9,420
	WB	34	27	26-35	
	EB+WB	33	27	26-35	
Day 7	EB	31	26	21-30	11,553
	WB	33	25	26-35	
	EB+WB	32	26	21-30	
7-Day	EB	29	24	21-30	11,233
	WB	33	23	26-35	
	EB+WB	31	23	21-30	

SAMMAT ENGINEERING SERVICES, LLC

PO BOX 780
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800 ALABAMA AVENUE, SE - VOLUME

Start Time	29-Nov-16 Tue	EB		WB		Combined		30-Nov Wed	EB		WB		Combined	
		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00		15	71	24	82	39	153		48	116	9	28	57	144
12:15		14	75	21	89	35	164		32	95	12	28	44	123
12:30		17	79	14	62	31	141		39	110	8	31	47	141
12:45		17	70	14	64	31	134		24	120	6	22	30	142
01:00		10	68	11	87	21	155		16	89	5	14	21	103
01:15		7	87	14	82	21	169		21	119	8	10	29	129
01:30		8	85	10	75	18	160		23	138	8	4	31	142
01:45		11	82	6	83	17	165		15	109	6	9	21	118
02:00		3	75	5	85	8	160		13	138	3	17	16	155
02:15		6	68	6	102	12	170		9	120	4	15	13	135
02:30		4	96	5	78	9	174		12	130	4	10	16	140
02:45		6	115	10	70	16	185		10	134	5	6	15	140
03:00		14	97	6	84	20	181		12	137	2	10	14	147
03:15		6	130	4	85	10	215		12	157	3	7	15	164
03:30		3	119	11	118	14	237		8	156	4	29	12	185
03:45		6	128	5	95	11	223		12	154	1	40	13	194
04:00		4	164	9	101	13	265		9	188	4	39	13	227
04:15		6	156	6	78	12	234		10	172	3	23	13	195
04:30		3	184	18	62	21	246		18	180	6	37	24	217
04:45		13	214	14	37	27	251		24	155	3	51	27	206
05:00		16	220	22	43	38	263		26	194	10	42	36	236
05:15		13	224	22	44	35	268		22	184	9	46	31	230
05:30		18	231	48	38	66	269		48	159	10	46	58	205
05:45		23	215	31	38	54	253		55	173	6	40	61	213
06:00		33	231	42	34	75	265		46	199	15	48	61	247
06:15		30	217	48	31	78	248		77	213	13	27	90	240
06:30		41	200	63	25	104	225		66	172	11	33	77	205
06:45		70	154	77	37	147	191		93	146	22	34	115	180
07:00		65	174	73	35	138	209		103	141	17	38	120	179
07:15		67	149	114	38	181	187		99	140	36	25	135	165
07:30		74	138	121	39	195	177		98	110	31	35	129	145
07:45		95	129	113	33	208	162		100	104	35	28	135	132
08:00		105	115	107	21	212	136		113	102	31	28	144	130
08:15		75	122	103	17	178	139		111	119	33	30	144	149
08:30		72	110	90	21	162	131		123	117	26	16	149	133
08:45		84	112	108	32	192	144		96	118	29	20	125	138
09:00		86	86	101	46	187	132		98	124	32	13	130	137
09:15		100	92	109	21	209	113		142	77	33	19	175	96
09:30		71	99	81	19	152	118		65	103	16	10	81	113
09:45		67	84	71	18	138	102		91	52	22	12	113	64
10:00		59	73	71	11	130	84		77	61	32	11	109	72
10:15		62	70	80	14	142	84		77	73	25	16	102	89
10:30		70	88	62	14	132	102		115	85	34	14	149	99
10:45		78	71	56	12	134	83		84	68	21	17	105	85
11:00		62	72	67	16	129	88		109	76	23	13	132	89
11:15		72	68	61	9	133	77		89	71	21	12	110	83
11:30		57	93	69	15	126	108		103	87	19	19	122	106
11:45		79	57	57	13	136	70		97	63	16	16	113	79
Total		1917	5857	2280	2353	4197	8210		2790	6048	732	1138	3522	7186
Day Total		7774		4633		12407			8838		1870		10708	
% Total		15.5%	47.2%	18.4%	19.0%				26.1%	56.5%	6.8%	10.6%		
Peak	-	07:30	05:15	07:15	03:15	07:15	05:15	-	08:30	05:45	07:15	04:45	08:30	05:30
Vol.	-	349	901	455	399	796	1055	-	459	757	133	185	579	905
P.H.F.		0.831	0.975	0.940	0.845	0.939	0.980		0.808	0.888	0.924	0.907	0.827	0.916

SAMMAT ENGINEERING SERVICES, LLC

PO BOX 780
MT AIRY, MD 21771
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800 ALABAMA AVENUE, SE - VOLUME

Start Time	01-Dec-16		EB		WB		Combined		02-Dec		EB		WB		Combined	
	Thu		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	Fri		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00			34	86	32	16	66	102			34	109	32	71	66	180
12:15			30	60	27	5	57	65			30	91	27	111	57	202
12:30			16	55	18	45	34	100			16	128	18	74	34	202
12:45			14	89	15	79	29	168			14	118	15	80	29	198
01:00			18	98	19	68	37	166			18	110	19	95	37	205
01:15			11	80	15	93	26	173			11	88	34	91	45	179
01:30			8	94	11	77	19	171			8	88	30	72	38	160
01:45			10	80	12	85	22	165			10	78	16	76	26	154
02:00			5	91	15	91	20	182			5	88	14	66	19	154
02:15			17	88	8	82	25	170			17	80	18	77	35	157
02:30			9	111	14	81	23	192			9	100	11	63	20	163
02:45			11	92	12	92	23	184			11	102	8	77	19	179
03:00			18	106	16	101	34	207			18	116	10	77	28	193
03:15			7	118	8	100	15	218			7	136	5	91	12	227
03:30			10	117	11	95	21	212			10	126	17	87	27	213
03:45			4	140	7	103	11	243			4	150	9	94	13	244
04:00			7	123	8	116	15	239			7	147	11	106	18	253
04:15			11	139	15	129	26	268			11	143	18	82	29	225
04:30			7	131	12	112	19	243			7	173	7	138	14	311
04:45			10	127	17	99	27	226			10	152	10	93	20	245
05:00			8	158	15	97	23	255			8	113	4	99	12	212
05:15			18	141	35	92	53	233			18	137	7	82	25	219
05:30			30	148	27	98	57	246			30	155	11	89	41	244
05:45			25	138	32	90	57	228			25	150	7	66	32	216
06:00			14	152	42	93	56	245			14	149	10	75	24	224
06:15			32	118	32	96	64	214			32	144	8	86	40	230
06:30			51	133	41	90	92	223			51	118	18	54	69	172
06:45			79	122	54	65	133	187			79	127	30	54	109	181
07:00			69	119	57	74	126	193			69	88	25	64	94	152
07:15			91	103	33	81	124	184			65	89	14	90	79	179
07:30			98	72	44	72	142	144			75	83	32	73	107	156
07:45			110	90	31	80	141	170			91	80	51	73	142	153
08:00			110	82	27	75	137	157			89	79	79	64	168	143
08:15			126	80	25	75	151	155			76	82	69	80	145	162
08:30			98	80	34	77	132	157			105	78	37	79	142	157
08:45			133	76	36	63	169	139			102	66	54	68	156	134
09:00			98	45	25	46	123	91			80	61	60	62	140	123
09:15			107	53	27	50	134	103			78	62	52	72	130	134
09:30			85	53	21	51	106	104			53	75	44	73	97	148
09:45			116	41	17	51	133	92			79	58	59	76	138	134
10:00			124	59	35	43	159	102			92	76	67	49	159	125
10:15			99	43	27	44	126	87			88	56	68	52	156	108
10:30			118	55	26	45	144	100			82	53	69	68	151	121
10:45			97	44	25	39	122	83			84	63	71	56	155	119
11:00			95	45	40	36	135	81			77	49	80	57	157	106
11:15			105	33	28	33	133	66			74	54	97	45	171	99
11:30			128	31	28	69	156	100			84	44	90	80	174	124
11:45			98	38	32	39	130	77			91	45	93	40	184	85
Total			2619	4377	1188	3533	3807	7910			2148	4757	1635	3647	3783	8404
Day Total			6996		4721		11717				6905		5282		12187	
% Total			22.4%	37.4%	10.1%	30.2%					17.6%	39.0%	13.4%	29.9%		
Peak	-		08:00	05:00	06:45	03:45	08:00	03:45	-		08:00	04:00	11:00	03:45	11:00	04:00
Vol.	-		467	585	188	460	589	993	-		372	615	360	420	686	1034
P.H.F.			0.878	0.926	0.825	0.891	0.871	0.926			0.886	0.889	0.928	0.761	0.932	0.831

SAMMAT ENGINEERING SERVICES, LLC

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800 ALABAMA AVENUE, SE - VOLUME

Start Time	03-Dec-16 Sat	EB		WB		Combined		04-Dec Sun	EB		WB		Combined	
		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00		42	91	55	79	97	170		33	72	48	80	81	152
12:15		39	94	36	92	75	186		30	73	33	67	63	140
12:30		40	72	40	99	80	171		39	65	28	71	67	136
12:45		27	71	30	93	57	164		26	76	24	84	50	160
01:00		28	79	26	83	54	162		22	84	27	86	49	170
01:15		24	82	34	64	58	146		23	63	24	92	47	155
01:30		28	69	33	86	61	155		23	79	19	101	42	180
01:45		26	75	33	86	59	161		19	63	21	84	40	147
02:00		25	85	21	77	46	162		12	83	21	81	33	164
02:15		13	84	15	99	28	183		13	96	23	82	36	178
02:30		20	84	21	95	41	179		16	87	16	94	32	181
02:45		24	98	20	93	44	191		22	107	15	91	37	198
03:00		15	98	20	95	35	193		21	83	23	83	44	166
03:15		21	66	22	91	43	157		18	91	17	86	35	177
03:30		14	81	23	106	37	187		15	75	18	95	33	170
03:45		16	78	21	92	37	170		14	77	12	85	26	162
04:00		8	96	11	80	19	176		14	80	12	80	26	160
04:15		8	99	11	74	19	173		11	68	11	74	22	142
04:30		12	72	19	97	31	169		9	65	17	60	26	125
04:45		14	89	9	78	23	167		10	64	8	63	18	127
05:00		9	73	16	87	25	160		4	81	11	62	15	143
05:15		13	82	15	76	28	158		5	68	10	61	15	129
05:30		10	110	14	66	24	176		10	69	12	77	22	146
05:45		22	74	12	72	34	146		24	66	8	62	32	128
06:00		22	82	22	77	44	159		13	70	9	59	22	129
06:15		23	77	12	78	35	155		14	73	14	80	28	153
06:30		28	90	23	76	51	166		25	72	17	62	42	134
06:45		36	83	27	76	63	159		29	59	12	74	41	133
07:00		26	73	23	69	49	142		25	42	34	60	59	102
07:15		40	57	30	79	70	136		22	49	29	65	51	114
07:30		34	71	35	81	69	152		40	63	32	63	72	126
07:45		31	71	47	72	78	143		40	52	37	68	77	120
08:00		36	72	50	67	86	139		44	44	42	81	86	125
08:15		37	54	37	64	74	118		31	70	37	55	68	125
08:30		40	68	46	60	86	128		38	62	52	52	90	114
08:45		56	64	53	71	109	135		36	54	54	60	90	114
09:00		52	54	46	58	98	112		39	47	44	43	83	90
09:15		59	62	58	66	117	128		48	50	54	54	102	104
09:30		72	49	74	51	146	100		55	44	53	35	108	79
09:45		52	61	60	58	112	119		55	46	60	31	115	77
10:00		67	61	78	53	145	114		58	39	57	32	115	71
10:15		85	44	74	73	159	117		66	48	62	30	128	78
10:30		69	53	78	57	147	110		71	36	67	18	138	54
10:45		73	57	80	61	153	118		71	62	75	47	146	109
11:00		71	51	57	58	128	109		66	53	55	64	121	117
11:15		76	43	78	52	154	95		64	61	61	42	125	103
11:30		76	49	85	56	161	105		53	65	63	77	116	142
11:45		76	38	80	36	156	74		82	57	72	46	154	103
Total		1735	3486	1810	3609	3545	7095		1518	3153	1550	3199	3068	6352
Day Total		5221		5419		10640			4671		4749		9420	
% Total		16.3%	32.8%	17.0%	33.9%				16.1%	33.5%	16.5%	34.0%		
Peak	-	11:00	02:15	10:00	02:45	10:00	02:15	-	10:15	02:00	10:00	00:45	10:15	02:15
Vol.	-	299	364	310	385	604	746	-	274	373	261	363	533	723
P.H.F.		0.984	0.929	0.969	0.908	0.950	0.966		0.965	0.871	0.870	0.899	0.913	0.913

SAMMAT ENGINEERING SERVICES, LLC

PO BOX 780
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800 ALABAMA AVENUE, SE - VOLUME

Start Time	05-Dec-16 Mon	EB		WB		Combined		06-Dec Tue	EB		WB		Combined	
		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00		42	91	55	79	97	170		*	*	*	*	*	*
12:15		39	94	36	92	75	186		*	*	*	*	*	*
12:30		40	72	40	99	80	171		*	*	*	*	*	*
12:45		27	71	30	93	57	164		*	*	*	*	*	*
01:00		28	74	26	71	54	145		*	*	*	*	*	*
01:15		24	98	34	79	58	177		*	*	*	*	*	*
01:30		28	88	33	76	61	164		*	*	*	*	*	*
01:45		26	88	33	90	59	178		*	*	*	*	*	*
02:00		25	79	21	83	46	162		*	*	*	*	*	*
02:15		13	73	15	81	28	154		*	*	*	*	*	*
02:30		20	88	21	99	41	187		*	*	*	*	*	*
02:45		24	119	20	74	44	193		*	*	*	*	*	*
03:00		15	110	20	88	35	198		*	*	*	*	*	*
03:15		21	117	22	100	43	217		*	*	*	*	*	*
03:30		14	121	23	132	37	253		*	*	*	*	*	*
03:45		16	148	21	114	37	262		*	*	*	*	*	*
04:00		8	142	11	119	19	261		*	*	*	*	*	*
04:15		8	160	11	114	19	274		*	*	*	*	*	*
04:30		12	162	19	137	31	299		*	*	*	*	*	*
04:45		14	126	9	110	23	236		*	*	*	*	*	*
05:00		9	138	16	110	25	248		*	*	*	*	*	*
05:15		13	138	15	97	28	235		*	*	*	*	*	*
05:30		10	164	14	108	24	272		*	*	*	*	*	*
05:45		22	129	12	111	34	240		*	*	*	*	*	*
06:00		22	132	22	106	44	238		*	*	*	*	*	*
06:15		23	144	12	81	35	225		*	*	*	*	*	*
06:30		28	115	23	106	51	221		*	*	*	*	*	*
06:45		36	116	27	84	63	200		*	*	*	*	*	*
07:00		26	101	23	95	49	196		*	*	*	*	*	*
07:15		40	76	30	75	70	151		*	*	*	*	*	*
07:30		34	82	35	73	69	155		*	*	*	*	*	*
07:45		31	60	47	90	78	150		*	*	*	*	*	*
08:00		36	57	50	70	86	127		*	*	*	*	*	*
08:15		37	67	37	54	74	121		*	*	*	*	*	*
08:30		40	61	46	71	86	132		*	*	*	*	*	*
08:45		56	63	53	69	109	132		*	*	*	*	*	*
09:00		52	52	46	69	98	121		*	*	*	*	*	*
09:15		59	44	58	54	117	98		*	*	*	*	*	*
09:30		72	52	74	32	146	84		*	*	*	*	*	*
09:45		52	40	60	41	112	81		*	*	*	*	*	*
10:00		67	30	78	34	145	64		*	*	*	*	*	*
10:15		85	47	74	35	159	82		*	*	*	*	*	*
10:30		69	24	78	34	147	58		*	*	*	*	*	*
10:45		73	37	80	37	153	74		*	*	*	*	*	*
11:00		71	27	57	39	128	66		*	*	*	*	*	*
11:15		76	21	78	29	154	50		*	*	*	*	*	*
11:30		76	32	85	48	161	80		*	*	*	*	*	*
11:45		76	25	80	31	156	56		*	*	*	*	*	*
Total		1735	4195	1810	3813	3545	8008		0	0	0	0	0	0
Day Total		5930		5623		11553			0	0	0	0	0	0
% Total		15.0%	36.3%	15.7%	33.0%				0.0%	0.0%	0.0%	0.0%		
Peak	-	11:00	03:45	10:00	03:45	10:00	03:45	-	-	-	-	-	-	-
Vol.	-	299	612	310	484	604	1096	-	-	-	-	-	-	-
P.H.F.		0.984	0.944	0.969	0.883	0.950	0.916							
ADT	ADT 11,233	AADT 11,233												

SPEED AND VOLUME COUNT

Traffic Data Collection

Location:

1200 Block of Alabama Avenue, SE

Prepared For:



District Department of Transportation (DDOT)

Prepared By:



SAMMAT ENGINEERING SERVICES, LLC
P.O. BOX 780
MOUNT AIRY, MD 21771
www.sammateg.com

December 16th, 2016

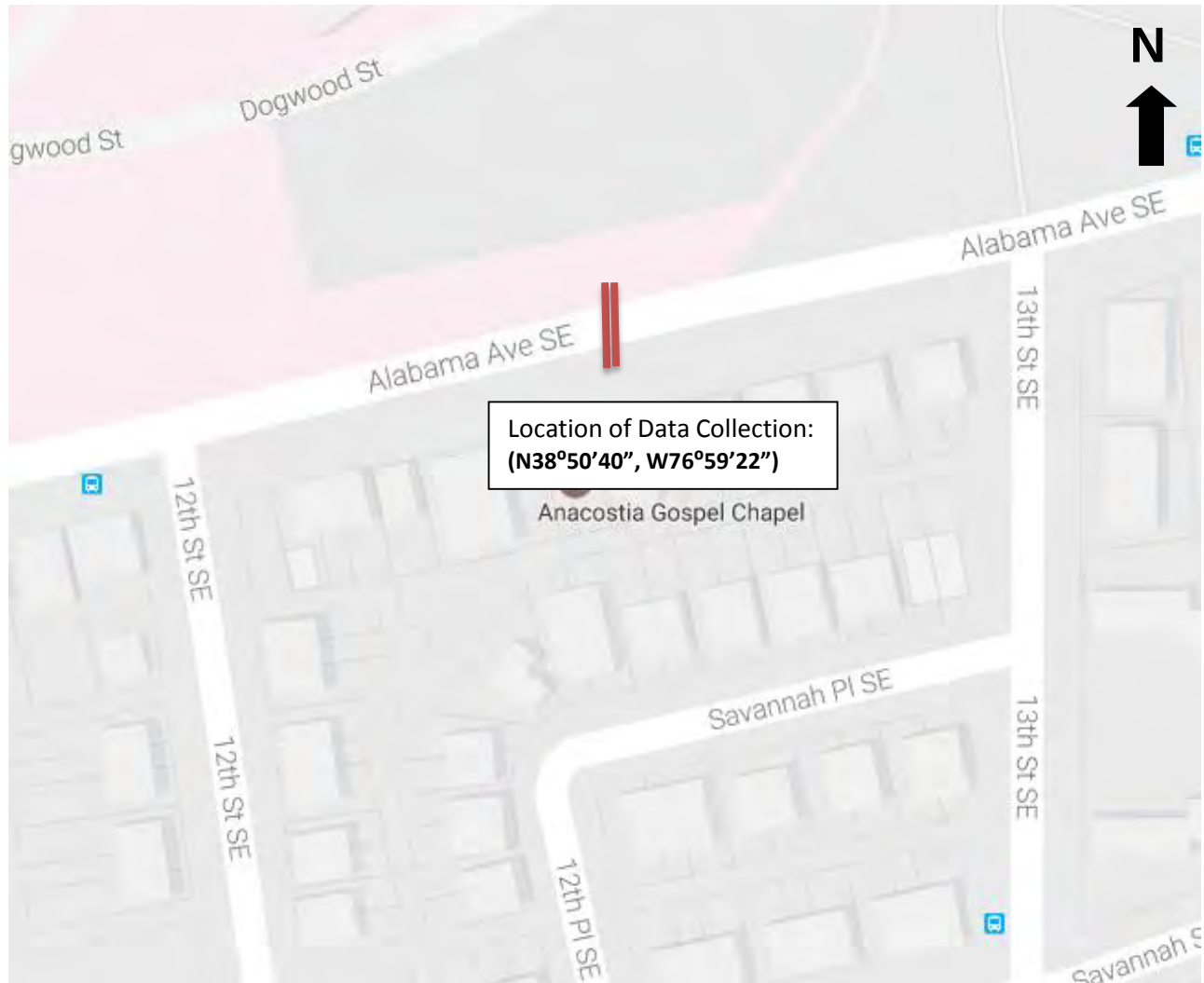


FIGURE 1: Location of Speed and Volume Data Collection

SUMMARY

SAMMAT Engineering Services, LLC presents this report to provide DDOT with volume and speed data obtained from November 29th through December 6th, 2016 on the 1200 block of Alabama Avenue, SE located in the District of Columbia (DC). Table 1 presents the summary of the 7-day volume count and the directional speed data, which includes the 85th percentile speed, the mean (average) speed, and the 10 MPH pace. Figure 1 presents the location of the site with respect to the surrounding roadway network.

Table 1: 7-Day Speed and Volume Characteristics (mph) for 1200 Alabama Ave SE

1200 Alabama Ave, SE		85 th Percentile	Mean	10 MPH Pace	ADT
Day 1	EB	31	24	21-30	12,767
	WB	31	26	21-30	
	EB+WB	31	25	21-30	
Day 2	EB	32	26	21-3031	11,455
	WB	31	26	21-30	
	EB+WB	32	26	21-30	
Day 3	EB	30	24	21-30	13,093
	WB	29	24	21-30	
	EB+WB	30	24	21-30	
Day 4	EB	31	24	21-30	14,045
	WB	30	26	21-30	
	EB+WB	30	25	21-30	
Day 5	EB	33	27	26-35	10,916
	WB	32	27	21-30	
	EB+WB	32	27	21-30	
Day 6	EB	33	27	26-35	9,385
	WB	34	27	21-30	
	EB+WB	33	27	26-35	
Day 7	EB	31	22	21-30	12,366
	WB	31	25	21-30	
	EB+WB	31	24	21-30	
7-Day	EB	32	25	21-30	12,004
	WB	31	26	21-30	
	EB+WB	31	25	21-30	

SAMMAT ENGINEERING SERVICES, LLC

PO BOX 780
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1200 BLOCK OF ALABAMA AVENUE, SE - VOLUME

Start Time	29-Nov-16		EB		WB		Combined		30-Nov	EB		WB		Combined	
	Tue		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	Wed	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00			18	75	23	76	41	151		40	91	43	77	83	168
12:15			16	76	22	91	38	167		33	97	32	94	65	191
12:30			17	78	12	61	29	139		30	98	25	87	55	185
12:45			17	67	15	69	32	136		22	94	27	97	49	191
01:00			9	74	10	80	19	154		23	93	26	88	49	181
01:15			7	85	11	78	18	163		20	85	21	91	41	176
01:30			8	91	10	78	18	169		21	82	21	92	42	174
01:45			9	74	7	76	16	150		20	74	23	85	43	159
02:00			3	74	7	69	10	143		14	91	20	85	34	176
02:15			5	74	4	89	9	163		14	92	16	99	30	191
02:30			5	92	9	81	14	173		17	93	15	87	32	180
02:45			8	104	8	63	16	167		16	97	17	105	33	202
03:00			11	109	8	81	19	190		17	100	18	96	35	196
03:15			6	128	4	86	10	214		15	99	15	89	30	188
03:30			1	136	11	102	12	238		11	111	15	100	26	211
03:45			6	129	5	102	11	231		13	106	11	85	24	191
04:00			2	161	2	89	4	250		9	109	12	100	21	209
04:15			7	145	5	82	12	227		11	116	12	80	23	196
04:30			2	141	12	88	14	229		10	106	15	85	25	191
04:45			11	156	13	88	24	244		9	101	12	80	21	181
05:00			15	150	20	99	35	249		8	105	14	80	22	185
05:15			12	163	22	94	34	257		12	91	18	93	30	184
05:30			15	149	45	84	60	233		16	113	21	78	37	191
05:45			21	151	33	104	54	255		17	100	20	81	37	181
06:00			35	156	48	89	83	245		17	101	21	79	38	180
06:15			28	129	50	92	78	221		22	103	23	86	45	189
06:30			48	112	74	83	122	195		28	94	39	83	67	177
06:45			54	97	101	78	155	175		32	88	61	84	93	172
07:00			63	106	107	82	170	188		47	68	49	74	96	142
07:15			84	87	119	82	203	169		53	72	59	80	112	152
07:30			102	78	175	64	277	142		56	86	76	71	132	157
07:45			125	54	172	58	297	112		61	74	84	75	145	149
08:00			125	81	145	74	270	155		64	76	76	65	140	141
08:15			90	77	148	71	238	148		55	79	61	69	116	148
08:30			109	68	162	64	271	132		63	63	74	57	137	120
08:45			99	69	155	63	254	132		62	65	76	65	138	130
09:00			92	55	144	57	236	112		62	54	69	54	131	108
09:15			94	66	125	60	219	126		65	67	67	63	132	130
09:30			70	61	101	55	171	116		58	59	64	50	122	109
09:45			69	52	80	59	149	111		64	54	71	52	135	106
10:00			52	62	69	51	121	113		72	60	80	52	152	112
10:15			64	51	78	59	142	110		84	52	73	59	157	111
10:30			69	51	61	53	130	104		74	47	75	52	149	99
10:45			82	52	52	57	134	109		72	51	80	55	152	106
11:00			60	45	68	50	128	95		72	41	69	48	141	89
11:15			66	46	58	46	124	92		75	42	82	45	157	87
11:30			62	54	69	47	131	101		75	52	78	42	153	94
11:45			82	40	61	37	143	77		84	38	86	34	170	72
Total			2055	4431	2740	3541	4795	7972		1835	3930	2062	3628	3897	7558
Day Total			6486		6281		12767			5765		5690		11455	
% Total			16.1%	34.7%	21.5%	27.7%				16.0%	34.3%	18.0%	31.7%		
Peak	-		07:45	05:15	07:30	05:00	07:30	05:00	-	11:00	03:30	11:00	02:45	11:00	03:30
Vol.	-		449	619	640	381	1082	994	-	306	442	315	390	621	807
P.H.F.			0.898	0.949	0.914	0.916	0.911	0.967		0.911	0.953	0.916	0.929	0.913	0.956

SAMMAT ENGINEERING SERVICES, LLC

PO BOX 780
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1200 BLOCK OF ALABAMA AVENUE, SE - VOLUME

Start Time	01-Dec-16		EB		WB		Combined		02-Dec		EB		WB		Combined	
	Thu		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	Fri		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00			35	92	36	78	71	170			35	115	24	88	59	203
12:15			30	96	31	97	61	193			28	112	27	108	55	220
12:30			25	99	22	86	47	185			16	132	19	87	35	219
12:45			20	90	23	93	43	183			12	121	17	102	29	223
01:00			20	89	21	90	41	179			21	104	17	108	38	212
01:15			15	88	19	96	34	184			12	99	13	114	25	213
01:30			17	93	18	80	35	173			8	93	10	102	18	195
01:45			17	89	20	90	37	179			10	75	15	89	25	164
02:00			12	97	17	92	29	189			7	100	17	90	24	190
02:15			12	99	11	86	23	185			14	97	8	95	22	192
02:30			14	115	14	94	28	209			11	106	15	78	26	184
02:45			14	83	15	105	29	188			9	97	12	107	21	204
03:00			14	107	14	97	28	204			14	112	11	89	25	201
03:15			13	135	13	111	26	246			6	129	9	96	15	225
03:30			8	138	14	128	22	266			9	147	10	108	19	255
03:45			10	143	10	113	20	256			5	163	5	79	10	242
04:00			7	135	9	129	16	264			7	137	9	127	16	264
04:15			10	144	10	126	20	270			11	164	11	74	22	238
04:30			8	145	14	142	22	287			5	162	10	92	15	254
04:45			10	137	12	117	22	254			9	149	14	93	23	242
05:00			11	159	17	107	28	266			9	163	23	97	32	260
05:15			13	154	21	102	34	256			18	133	26	129	44	262
05:30			17	154	29	95	46	249			28	164	36	86	64	250
05:45			18	146	25	116	43	262			19	155	32	96	51	251
06:00			22	149	30	110	52	259			16	146	35	102	51	248
06:15			25	126	33	119	58	245			31	151	43	80	74	231
06:30			36	136	52	113	88	249			48	131	70	109	118	240
06:45			42	119	79	101	121	220			58	119	109	94	167	213
07:00			55	132	69	86	124	218			80	83	100	95	180	178
07:15			65	96	83	89	148	185			77	82	129	96	206	178
07:30			71	103	114	75	185	178			83	95	174	91	257	186
07:45			82	98	119	90	201	188			108	79	174	81	282	160
08:00			85	85	103	96	188	181			106	91	144	75	250	166
08:15			69	88	88	72	157	160			90	84	101	79	191	163
08:30			79	77	103	75	182	152			101	73	126	70	227	143
08:45			78	73	102	54	180	127			99	78	125	65	224	143
09:00			73	50	94	55	167	105			84	57	116	66	200	123
09:15			77	59	83	48	160	107			83	73	92	69	175	142
09:30			62	57	76	52	138	109			51	81	73	70	124	151
09:45			67	42	77	57	144	99			76	53	96	78	172	131
10:00			72	54	83	43	155	97			90	70	86	53	176	123
10:15			82	43	78	43	160	86			89	62	84	59	173	121
10:30			73	54	71	47	144	101			80	51	76	52	156	103
10:45			76	39	74	44	150	83			83	56	84	60	167	116
11:00			70	37	71	41	141	78			82	55	82	62	164	117
11:15			75	33	83	35	158	68			86	57	106	49	192	106
11:30			75	51	80	48	155	99			82	58	100	55	182	113
11:45			84	36	82	39	166	75			83	49	91	43	174	92
Total			1965	4664	2362	4102	4327	8766			2189	4963	2806	4087	4995	9050
Day Total			6629		6464		13093				7152		6893		14045	
% Total			15.0%	35.6%	18.0%	31.3%					15.6%	35.3%	20.0%	29.1%		
Peak	-		07:45	05:00	07:30	04:00	07:30	03:45	-		07:45	04:15	07:15	00:45	07:15	05:00
Vol.	-		315	613	424	514	731	1077	-		405	638	621	426	995	1023
P.H.F.			0.926	0.964	0.891	0.905	0.909	0.938			0.938	0.973	0.892	0.934	0.882	0.976

SAMMAT ENGINEERING SERVICES, LLC

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1200 BLOCK OF ALABAMA AVENUE, SE - VOLUME

Start Time	03-Dec-16		EB		WB		Combined		04-Dec		EB		WB		Combined	
	Sat		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	Sun		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00			45	87	53	70	98	157			40	72	51	74	91	146
12:15			42	100	41	96	83	196			29	78	29	79	58	157
12:30			35	88	31	107	66	195			39	75	25	68	64	143
12:45			28	78	33	104	61	182			26	83	32	85	58	168
01:00			27	83	30	85	57	168			22	93	30	70	52	163
01:15			22	86	29	65	51	151			27	69	21	95	48	164
01:30			33	75	30	88	63	163			21	78	22	86	43	164
01:45			29	73	34	80	63	153			20	73	19	86	39	159
02:00			23	89	24	85	47	174			12	84	18	81	30	165
02:15			14	81	15	109	29	190			14	97	24	94	38	191
02:30			23	96	18	90	41	186			16	77	12	93	28	170
02:45			22	90	21	113	43	203			18	103	19	94	37	197
03:00			15	109	19	109	34	218			22	80	23	90	45	170
03:15			23	81	22	84	45	165			16	87	15	86	31	173
03:30			12	95	21	109	33	204			12	92	15	84	27	176
03:45			17	73	17	101	34	174			17	83	12	75	29	158
04:00			9	100	13	87	22	187			12	91	13	85	25	176
04:15			10	116	13	94	23	210			11	67	13	71	24	138
04:30			14	86	19	100	33	186			10	69	15	62	25	131
04:45			10	88	8	77	18	165			9	66	13	69	22	135
05:00			11	79	12	87	23	166			4	73	8	57	12	130
05:15			11	75	18	72	29	147			6	64	10	78	16	142
05:30			10	105	14	78	24	183			9	71	12	71	21	142
05:45			14	83	17	83	31	166			17	61	10	63	27	124
06:00			21	84	16	74	37	158			14	73	11	60	25	133
06:15			19	87	15	97	34	184			16	72	11	82	27	154
06:30			19	84	26	78	45	162			17	66	22	61	39	127
06:45			22	76	44	86	66	162			17	69	31	71	48	140
07:00			29	73	21	64	50	137			33	49	26	63	59	112
07:15			45	65	26	85	71	150			37	69	23	60	60	129
07:30			42	82	29	73	71	155			43	80	26	48	69	128
07:45			33	74	46	74	79	148			41	68	32	69	73	137
08:00			43	71	46	58	89	129			43	65	37	62	80	127
08:15			43	58	43	63	86	121			31	94	38	64	69	158
08:30			42	60	48	54	90	114			45	55	48	46	93	101
08:45			52	61	52	69	104	130			36	56	51	60	87	116
09:00			55	58	49	54	104	112			46	47	41	43	87	90
09:15			64	65	49	60	113	125			49	62	59	59	108	121
09:30			68	49	65	49	133	98			55	46	53	31	108	77
09:45			60	58	59	48	119	106			56	51	58	30	114	81
10:00			74	62	96	54	170	116			53	49	57	49	110	98
10:15			93	47	78	73	171	120			69	47	56	46	125	93
10:30			70	52	71	61	141	113			73	38	78	42	151	80
10:45			68	61	79	68	147	129			66	36	77	37	143	73
11:00			67	48	66	50	133	98			67	21	60	32	127	53
11:15			71	50	85	54	156	104			69	19	56	33	125	52
11:30			82	57	74	42	156	99			60	40	60	29	120	69
11:45			87	36	88	31	175	67			82	29	79	27	161	56
Total			1768	3634	1823	3692	3591	7326			1547	3187	1551	3100	3098	6287
Day Total			5402		5515		10917				4734		4651		9385	
% Total			16.2%	33.3%	16.7%	33.8%					16.5%	34.0%	16.5%	33.0%		
Peak	-		11:00	04:00	10:00	02:15	10:00	02:15	-		11:00	02:45	10:15	02:15	10:15	02:15
Vol.	-		307	390	324	421	629	797	-		278	362	271	371	546	728
P.H.F.			0.825	0.841	0.844	0.931	0.920	0.914			0.848	0.879	0.869	0.987	0.904	0.924

SAMMAT ENGINEERING SERVICES, LLC

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1200 BLOCK OF ALABAMA AVENUE, SE - VOLUME

Start Time	05-Dec-16		EB		WB		Combined		06-Dec		EB		WB		Combined	
	Mon		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	Tue		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00			19	94	25	81	44	175			*	*	*	*	*	*
12:15			21	95	10	99	31	194			*	*	*	*	*	*
12:30			15	103	12	78	27	181			*	*	*	*	*	*
12:45			16	93	17	88	33	181			*	*	*	*	*	*
01:00			14	83	14	58	28	141			*	*	*	*	*	*
01:15			8	99	12	72	20	171			*	*	*	*	*	*
01:30			15	90	10	91	25	181			*	*	*	*	*	*
01:45			14	81	7	87	21	168			*	*	*	*	*	*
02:00			3	84	5	76	8	160			*	*	*	*	*	*
02:15			11	89	6	80	17	169			*	*	*	*	*	*
02:30			5	89	5	91	10	180			*	*	*	*	*	*
02:45			5	93	8	82	13	175			*	*	*	*	*	*
03:00			9	100	4	84	13	184			*	*	*	*	*	*
03:15			3	104	4	98	7	202			*	*	*	*	*	*
03:30			5	142	6	107	11	249			*	*	*	*	*	*
03:45			8	149	4	81	12	230			*	*	*	*	*	*
04:00			4	174	6	95	10	269			*	*	*	*	*	*
04:15			11	145	6	78	17	223			*	*	*	*	*	*
04:30			7	166	12	86	19	252			*	*	*	*	*	*
04:45			10	149	13	94	23	243			*	*	*	*	*	*
05:00			12	141	20	88	32	229			*	*	*	*	*	*
05:15			14	141	23	72	37	213			*	*	*	*	*	*
05:30			20	155	37	108	57	263			*	*	*	*	*	*
05:45			19	132	30	89	49	221			*	*	*	*	*	*
06:00			24	135	38	103	62	238			*	*	*	*	*	*
06:15			28	146	42	79	70	225			*	*	*	*	*	*
06:30			44	120	65	96	109	216			*	*	*	*	*	*
06:45			51	115	96	83	147	198			*	*	*	*	*	*
07:00			66	98	92	95	158	193			*	*	*	*	*	*
07:15			75	78	110	70	185	148			*	*	*	*	*	*
07:30			85	86	154	59	239	145			*	*	*	*	*	*
07:45			105	53	155	83	260	136			*	*	*	*	*	*
08:00			105	70	131	61	236	131			*	*	*	*	*	*
08:15			83	75	112	57	195	132			*	*	*	*	*	*
08:30			96	63	130	66	226	129			*	*	*	*	*	*
08:45			92	68	127	75	219	143			*	*	*	*	*	*
09:00			83	57	118	62	201	119			*	*	*	*	*	*
09:15			85	47	100	47	185	94			*	*	*	*	*	*
09:30			61	55	83	31	144	86			*	*	*	*	*	*
09:45			71	33	84	43	155	76			*	*	*	*	*	*
10:00			71	26	79	36	150	62			*	*	*	*	*	*
10:15			78	46	80	33	158	79			*	*	*	*	*	*
10:30			74	25	69	43	143	68			*	*	*	*	*	*
10:45			80	35	70	35	150	70			*	*	*	*	*	*
11:00			71	21	74	44	145	65			*	*	*	*	*	*
11:15			76	22	82	31	158	53			*	*	*	*	*	*
11:30			73	51	83	31	156	82			*	*	*	*	*	*
11:45			83	22	78	26	161	48			*	*	*	*	*	*
Total			2028	4338	2548	3452	4576	7790			0	0	0	0	0	0
Day Total			6366		6000		12366				0		0		0	
% Total			16.4%	35.1%	20.6%	27.9%					0.0%	0.0%	0.0%	0.0%		
Peak	-	07:45	03:45	07:30	03:15	07:30	04:00		-	-	-	-	-	-	-	-
Vol.	-	389	634	552	381	930	987		-	-	-	-	-	-	-	-
P.H.F.		0.926	0.911	0.890	0.890	0.894	0.917									
ADT	ADT 12,004		AADT 12,004													

7-DAY SPEED AND VOLUME COUNT

Traffic Data Collection

Location:

1500 Block of Alabama Avenue, SE

Prepared For:



District Department of Transportation (DDOT)

Prepared By:



SAMMAT ENGINEERING SERVICES, LLC
P.O. BOX 780
MOUNT AIRY, MD 21771
www.sammateg.com

December 23rd, 2016

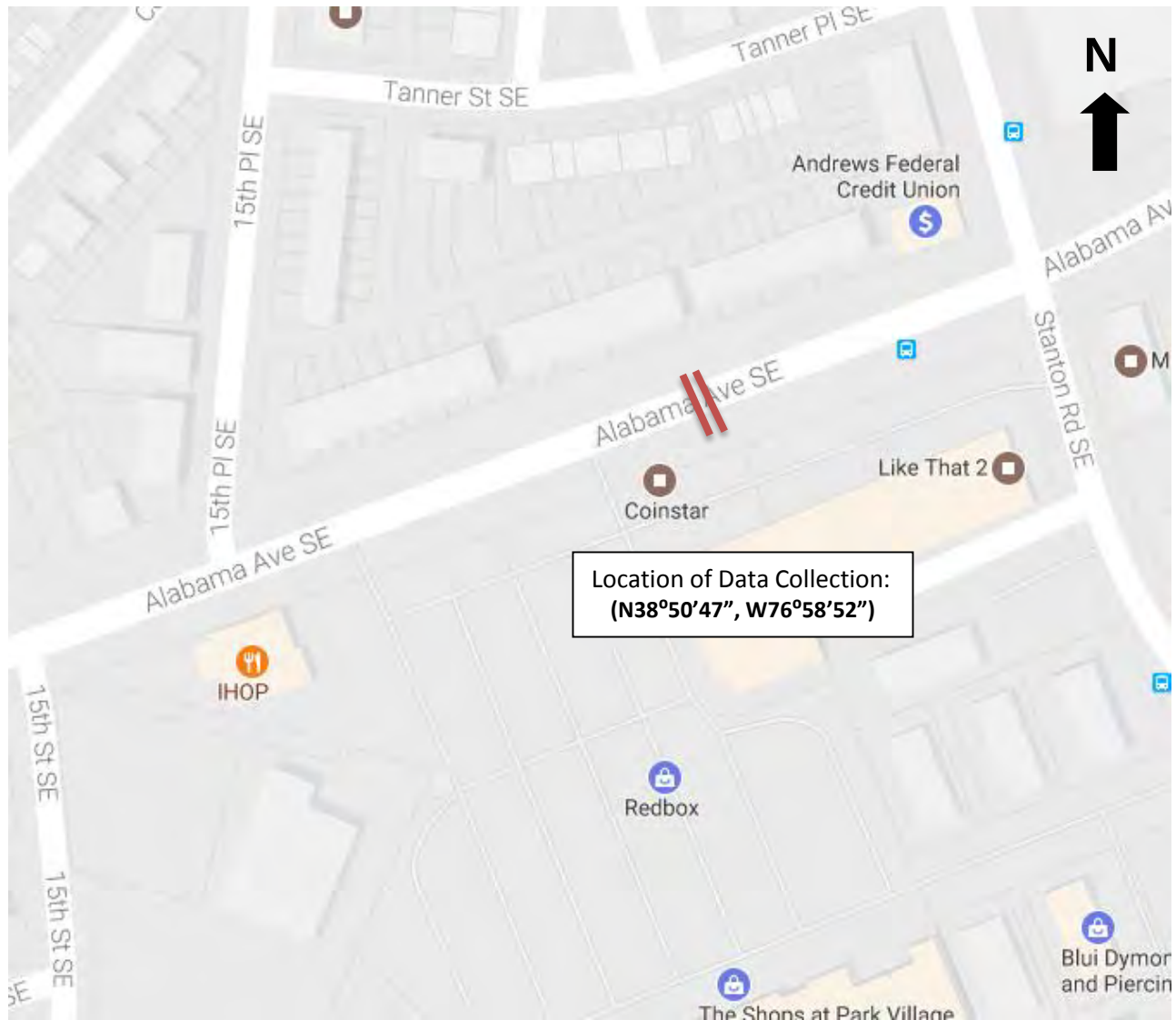


FIGURE 1: Location of Speed and Volume Data Collection

SUMMARY

SAMMAT Engineering Services, LLC presents this report to provide DDOT with volume and speed data obtained from November 29th through December 6th, 2016 on the 1500 block of Alabama Avenue, SE located in the District of Columbia (DC). Table 1 presents the summary of the 7-day volume count and the directional speed data, which includes the 85th percentile speed, the mean (average) speed, and the 10 MPH pace. Figure 1 presents the location of the site with respect to the surrounding roadway network.

Table 1: 7-Day Speed and Volume Characteristics (mph) for 1500 block of Alabama Ave SE

1500 Alabama Ave, SE		85 th Percentile	Mean	10 MPH Pace	ADT
Day 1	EB	34	28	26-35	13,848
	WB	29	24	21-30	
	EB+WB	33	26	21-30	
Day 2	EB	34	28	26-35	14,895
	WB	29	23	21-30	
	EB+WB	32	25	21-30	
Day 3	EB	35	28	26-35	15,329
	WB	30	24	21-30	
	EB+WB	33	26	21-30	
Day 4	EB	36	29	26-35	16,190
	WB	32	25	21-30	
	EB+WB	34	27	21-30	
Day 5	EB	37	30	26-35	12,678
	WB	32	26	21-30	
	EB+WB	34	28	21-30	
Day 6	EB	37	30	26-35	11,094
	WB	33	27	21-30	
	EB+WB	35	28	26-35	
Day 7	EB	34	25	26-35	14,442
	WB	33	25	21-30	
	EB+WB	33	25	21-30	
7-Day	EB	35	28	26-35	14,068
	WB	31	25	21-30	
	EB+WB	34	27	21-30	

SAMMAT ENGINEERING SERVICES, LLC

PO BOX 780
MT AIRY, MD 21771
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1500 BLOCK OF ALABAMA AVENUE, SE - VOLUME

Start Time	29-Nov-16		EB		WB		Combined		30-Nov	EB		WB		Combined	
	Tue		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	Wed	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00			30	81	23	92	53	173		39	106	36	113	75	219
12:15			15	101	30	98	45	199		26	77	18	104	44	181
12:30			20	95	13	73	33	168		27	70	25	96	52	166
12:45			15	78	14	80	29	158		10	89	22	88	32	177
01:00			5	85	14	99	19	184		16	92	10	97	26	189
01:15			8	79	12	100	20	179		15	98	15	95	30	193
01:30			10	75	9	84	19	159		10	97	18	94	28	191
01:45			9	85	10	81	19	166		13	103	13	111	26	214
02:00			5	91	10	84	15	175		5	126	8	108	13	234
02:15			5	84	6	91	11	175		5	97	10	91	15	188
02:30			6	106	10	101	16	207		10	97	11	98	21	195
02:45			4	104	6	79	10	183		10	121	13	101	23	222
03:00			13	111	7	85	20	196		6	112	10	104	16	216
03:15			7	140	10	99	17	239		8	127	10	119	18	246
03:30			3	128	11	129	14	257		4	155	3	121	7	276
03:45			6	133	3	121	9	254		7	147	9	129	16	276
04:00			4	161	6	113	10	274		8	166	5	133	13	299
04:15			7	170	8	123	15	293		6	179	7	118	13	297
04:30			5	154	12	123	17	277		9	171	8	114	17	285
04:45			7	176	18	119	25	295		5	168	12	133	17	301
05:00			17	156	17	143	34	299		16	174	20	134	36	308
05:15			14	168	22	111	36	279		14	158	13	111	27	269
05:30			19	162	46	124	65	286		21	157	37	129	58	286
05:45			27	149	37	138	64	287		24	154	39	125	63	279
06:00			35	148	51	111	86	259		38	171	62	109	100	280
06:15			33	147	53	108	86	255		38	169	49	102	87	271
06:30			42	117	71	101	113	218		44	143	77	134	121	277
06:45			66	118	92	112	158	230		62	109	98	112	160	221
07:00			75	104	100	98	175	202		68	108	137	107	205	215
07:15			80	92	116	93	196	185		94	92	156	110	250	202
07:30			108	89	157	81	265	170		115	107	155	89	270	196
07:45			134	70	141	83	275	153		114	79	165	104	279	183
08:00			132	65	126	69	258	134		123	91	168	85	291	176
08:15			105	82	126	73	231	155		128	86	136	91	264	177
08:30			112	92	159	59	271	151		120	81	149	78	269	159
08:45			130	65	140	86	270	151		107	83	161	86	268	169
09:00			95	63	144	62	239	125		110	93	140	66	250	159
09:15			102	59	126	64	228	123		114	66	114	65	228	131
09:30			72	45	110	67	182	112		62	58	116	72	178	130
09:45			72	60	97	59	169	119		77	44	84	45	161	89
10:00			78	42	89	57	167	99		62	54	92	53	154	107
10:15			68	35	85	50	153	85		68	61	79	57	147	118
10:30			65	46	73	47	138	93		80	51	84	50	164	101
10:45			81	43	74	47	155	90		77	49	86	46	163	95
11:00			85	38	67	51	152	89		82	35	72	64	154	99
11:15			79	41	75	45	154	86		88	41	102	41	190	82
11:30			66	40	88	36	154	76		76	61	78	44	154	105
11:45			84	33	75	44	159	77		91	27	93	42	184	69
Total			2260	4606	2789	4193	5049	8799		2352	5000	3025	4518	5377	9518
Day Total			6866		6982		13848			7352		7543		14895	
% Total			16.3%	33.3%	20.1%	30.3%				15.8%	33.6%	20.3%	30.3%		
Peak	-		07:45	04:45	08:15	05:00	07:45	04:15	-	07:45	04:15	07:15	04:45	07:30	04:15
Vol.	-		483	662	569	516	1035	1164	-	485	692	644	507	1104	1191
P.H.F.			0.901	0.940	0.895	0.902	0.941	0.973		0.947	0.966	0.958	0.946	0.948	0.967

SAMMAT ENGINEERING SERVICES, LLC

PO BOX 780
MT AIRY, MD 21771
sammatteng.com

1500 BLOCK OF ALABAMA AVENUE, SE - VOLUME

Start Time	01-Dec-16		EB		WB		Combined		02-Dec		EB		WB		Combined	
	Thu		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	Fri		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00		31	89		37	80	68	169		45	125		39	110	84	235
12:15		32	86		27	97	59	183		38	122		35	127	73	249
12:30		20	106		32	103	52	209		20	127		24	105	44	232
12:45		22	100		22	78	44	178		15	148		22	126	37	274
01:00		19	83		22	85	41	168		22	131		16	120	38	251
01:15		25	90		17	104	42	194		20	115		16	110	36	225
01:30		17	84		20	105	37	189		11	109		19	120	30	229
01:45		13	109		17	104	30	213		15	98		16	104	31	202
02:00		16	107		15	99	31	206		7	111		17	117	24	228
02:15		16	110		15	97	31	207		12	105		9	108	21	213
02:30		11	120		16	109	27	229		8	121		14	103	22	224
02:45		9	105		10	111	19	216		14	103		11	122	25	225
03:00		11	115		8	122	19	237		13	125		15	98	28	223
03:15		5	134		9	122	14	256		5	129		9	139	14	268
03:30		7	135		17	154	24	289		9	162		13	118	22	280
03:45		14	159		9	144	23	303		12	168		6	143	18	311
04:00		15	135		11	145	26	280		8	171		9	163	17	334
04:15		13	152		11	158	24	310		10	178		8	130	18	308
04:30		15	169		12	172	27	341		9	186		9	141	18	327
04:45		14	152		13	145	27	297		14	176		18	128	32	304
05:00		18	144		16	134	34	278		11	172		20	124	31	296
05:15		14	180		22	135	36	315		20	138		25	159	45	297
05:30		21	166		38	133	59	299		26	171		33	138	59	309
05:45		33	169		44	148	77	317		24	159		35	122	59	281
06:00		28	168		63	149	91	317		25	170		46	123	71	293
06:15		35	128		46	149	81	277		35	156		44	99	79	255
06:30		49	135		67	140	116	275		38	148		76	141	114	289
06:45		55	135		101	120	156	255		59	131		103	145	162	276
07:00		78	128		119	107	197	235		73	113		95	123	168	236
07:15		88	103		126	100	214	203		92	85		126	130	218	215
07:30		122	109		147	89	269	198		100	103		162	113	262	216
07:45		114	97		170	108	284	205		111	96		162	102	273	198
08:00		111	108		152	105	263	213		107	94		136	103	243	197
08:15		118	87		161	85	279	172		104	98		113	89	217	187
08:30		117	104		154	90	271	194		106	81		126	91	232	172
08:45		136	81		153	68	289	149		109	81		127	89	236	170
09:00		105	53		150	77	255	130		90	80		118	80	208	160
09:15		81	60		131	69	212	129		100	84		98	91	198	175
09:30		72	58		110	72	182	130		64	88		87	79	151	167
09:45		97	71		83	59	180	130		101	72		101	86	202	158
10:00		20	61		22	52	42	113		83	68		96	68	179	136
10:15		83	45		94	56	177	101		99	71		98	81	197	152
10:30		73	71		90	58	163	129		104	57		93	70	197	127
10:45		70	51		78	55	148	106		94	68		97	74	191	142
11:00		86	47		79	44	165	91		108	66		73	74	181	140
11:15		90	48		72	44	162	92		99	71		115	70	214	141
11:30		84	56		80	57	164	113		101	74		91	69	192	143
11:45		71	43		93	51	164	94		114	51		94	50	208	101
Total		2394	5046		3001	4888	5395	9934		2504	5556		2915	5215	5419	10771
Day Total		7440			7889		15329			8060			8130		16190	
% Total		15.6%	32.9%		19.6%	31.9%				15.5%	34.3%		18.0%	32.2%		
Peak	-	08:00	05:15		07:45	04:00	08:00	05:15	-	07:45	04:15		07:15	03:45	07:15	03:45
Vol.	-	482	683		637	620	1102	1248	-	428	712		586	577	996	1280
P.H.F.		0.886	0.949		0.937	0.901	0.953	0.915		0.964	0.957		0.904	0.885	0.912	0.958

SAMMAT ENGINEERING SERVICES, LLC

PO BOX 780
MT AIRY, MD 21771
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1500 BLOCK OF ALABAMA AVENUE, SE - VOLUME

Start Time	03-Dec-16 Sat		EB		WB		Combined		04-Dec Sun		EB		WB		Combined	
			A.M.	P.M.	A.M.	P.M.	A.M.	P.M.			A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00			53	103	67	84	120	187			41	77	61	87	102	164
12:15			41	99	54	106	95	205			40	80	34	88	74	168
12:30			42	97	44	118	86	215			37	82	33	92	70	174
12:45			34	95	38	119	72	214			35	91	32	94	67	185
01:00			42	95	36	102	78	197			19	101	45	89	64	190
01:15			27	102	40	101	67	203			23	83	27	97	50	180
01:30			31	93	41	95	72	188			30	81	19	102	49	183
01:45			23	100	49	95	72	195			20	72	28	109	48	181
02:00			31	99	26	97	57	196			19	104	18	107	37	211
02:15			20	92	25	110	45	202			11	88	26	99	37	187
02:30			28	87	24	103	52	190			17	84	15	103	32	187
02:45			21	108	26	124	47	232			19	127	26	107	45	234
03:00			22	129	19	126	41	255			20	96	32	124	52	220
03:15			22	104	22	103	44	207			20	98	19	103	39	201
03:30			23	102	29	118	52	220			16	109	21	100	37	209
03:45			12	87	25	110	37	197			19	77	8	99	27	176
04:00			13	111	15	107	28	218			17	109	17	115	34	224
04:15			13	119	14	113	27	232			11	82	17	97	28	179
04:30			18	98	13	110	31	208			13	77	14	90	27	167
04:45			13	108	9	97	22	205			12	62	16	95	28	157
05:00			18	101	13	109	31	210			13	89	15	64	28	153
05:15			9	110	16	81	25	191			11	69	11	88	22	157
05:30			14	99	20	96	34	195			10	75	10	85	20	160
05:45			15	78	17	81	32	159			17	78	9	78	26	156
06:00			22	92	18	99	40	191			17	78	13	69	30	147
06:15			26	93	16	111	42	204			15	82	12	89	27	171
06:30			15	85	23	87	38	172			22	78	21	73	43	151
06:45			27	88	40	104	67	192			15	78	34	85	49	163
07:00			39	96	32	85	71	181			31	60	29	70	60	130
07:15			36	62	34	91	70	153			27	67	25	66	52	133
07:30			41	88	37	96	78	184			48	73	29	74	77	147
07:45			48	100	43	79	91	179			46	77	29	92	75	169
08:00			49	87	59	79	108	166			36	69	37	76	73	145
08:15			43	76	46	84	89	160			36	68	47	80	83	148
08:30			47	63	40	73	87	136			43	77	44	72	87	149
08:45			50	76	63	78	113	154			42	62	58	57	100	119
09:00			75	68	65	74	140	142			62	62	57	60	119	122
09:15			77	79	56	67	133	146			54	55	59	55	113	110
09:30			71	69	73	60	144	129			60	45	58	38	118	83
09:45			79	68	82	50	161	118			68	48	60	39	128	87
10:00			75	63	104	74	179	137			56	83	87	22	143	105
10:15			96	56	90	70	186	126			55	61	70	75	125	136
10:30			79	58	75	62	154	120			72	63	80	67	152	130
10:45			76	72	91	69	167	141			77	77	81	74	158	151
11:00			91	62	78	61	169	123			82	67	73	66	155	133
11:15			86	65	100	66	186	131			84	70	68	71	152	141
11:30			83	73	95	56	178	129			80	78	74	61	154	139
11:45			92	43	105	45	197	88			84	48	84	50	168	98
Total			2008	4198	2147	4325	4155	8523			1702	3717	1782	3893	3484	7610
Day Total			6206		6472		12678				5419		5675		11094	
% Total			15.8%	33.1%	16.9%	34.1%					15.3%	33.5%	16.1%	35.1%		
Peak	-		11:00	02:45	11:00	02:45	11:00	02:45	-		11:00	02:45	10:00	02:30	11:00	02:45
Vol.	-		352	443	378	471	730	914	-		330	430	318	437	629	864
P.H.F.			0.957	0.859	0.900	0.935	0.926	0.896			0.982	0.846	0.914	0.881	0.936	0.923

SAMMAT ENGINEERING SERVICES, LLC

PO BOX 780
MT AIRY, MD 21771
sammateng.com

1500 BLOCK OF ALABAMA AVENUE, SE - VOLUME

Start Time	05-Dec-16		EB		WB		Combined		06-Dec Tue	EB		WB		Combined	
	Mon		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00		44	93		41	69	85	162		*	*	*	*	*	*
12:15		31	99		23	67	54	166		*	*	*	*	*	*
12:30		32	89		30	76	62	165		*	*	*	*	*	*
12:45		15	90		27	72	42	162		*	*	*	*	*	*
01:00		21	94		15	86	36	180		*	*	*	*	*	*
01:15		20	90		20	78	40	168		*	*	*	*	*	*
01:30		15	97		23	86	38	183		*	*	*	*	*	*
01:45		18	97		18	100	36	197		*	*	*	*	*	*
02:00		10	119		13	77	23	196		*	*	*	*	*	*
02:15		10	95		15	98	25	193		*	*	*	*	*	*
02:30		15	111		16	76	31	187		*	*	*	*	*	*
02:45		15	113		18	94	33	207		*	*	*	*	*	*
03:00		11	114		15	108	26	222		*	*	*	*	*	*
03:15		13	129		15	109	28	238		*	*	*	*	*	*
03:30		9	157		8	131	17	288		*	*	*	*	*	*
03:45		12	150		14	150	26	300		*	*	*	*	*	*
04:00		13	148		10	133	23	281		*	*	*	*	*	*
04:15		11	187		12	137	23	324		*	*	*	*	*	*
04:30		14	178		13	133	27	311		*	*	*	*	*	*
04:45		10	188		17	131	27	319		*	*	*	*	*	*
05:00		25	155		12	152	37	307		*	*	*	*	*	*
05:15		34	171		14	130	48	301		*	*	*	*	*	*
05:30		42	152		14	134	56	286		*	*	*	*	*	*
05:45		57	143		8	132	65	275		*	*	*	*	*	*
06:00		51	180		23	123	74	303		*	*	*	*	*	*
06:15		65	152		16	112	81	264		*	*	*	*	*	*
06:30		72	120		43	105	115	225		*	*	*	*	*	*
06:45		63	107		79	122	142	229		*	*	*	*	*	*
07:00		85	105		96	108	181	213		*	*	*	*	*	*
07:15		107	94		109	98	216	192		*	*	*	*	*	*
07:30		119	124		117	84	236	208		*	*	*	*	*	*
07:45		134	86		114	99	248	185		*	*	*	*	*	*
08:00		138	89		141	91	279	180		*	*	*	*	*	*
08:15		115	81		138	85	253	166		*	*	*	*	*	*
08:30		130	72		150	60	280	132		*	*	*	*	*	*
08:45		126	69		121	66	247	135		*	*	*	*	*	*
09:00		103	70		93	65	196	135		*	*	*	*	*	*
09:15		103	61		114	77	217	138		*	*	*	*	*	*
09:30		88	43		80	41	168	84		*	*	*	*	*	*
09:45		67	51		75	58	142	109		*	*	*	*	*	*
10:00		78	46		78	58	156	104		*	*	*	*	*	*
10:15		96	40		66	59	162	99		*	*	*	*	*	*
10:30		87	38		66	43	153	81		*	*	*	*	*	*
10:45		77	38		67	45	144	83		*	*	*	*	*	*
11:00		88	39		74	44	162	83		*	*	*	*	*	*
11:15		87	38		71	38	158	76		*	*	*	*	*	*
11:30		90	50		71	37	161	87		*	*	*	*	*	*
11:45		104	37		63	30	167	67		*	*	*	*	*	*
Total		2770	4889		2476	4307	5246	9196		0	0	0	0	0	0
Day Total		7659			6783		14442			0		0		0	
% Total		19.2%	33.9%		17.1%	29.8%				0.0%	0.0%	0.0%	0.0%		
Peak	-	07:45	04:15		08:00	03:45	07:45	04:15	-	-	-	-	-	-	-
Vol.	-	517	708		550	553	1060	1261	-	-	-	-	-	-	-
P.H.F.		0.937	0.941		0.917	0.922	0.946	0.973							
ADT	ADT 14,068	AADT 14,068													

7-DAY SPEED AND VOLUME COUNT

Traffic Data Collection

Location:

1700 Block of Alabama Avenue, SE

Prepared For:



District Department of Transportation (DDOT)

Prepared By:



SAMMAT ENGINEERING SERVICES, LLC
P.O. BOX 780
MOUNT AIRY, MD 21771
www.sammateg.com

December 21st, 2016

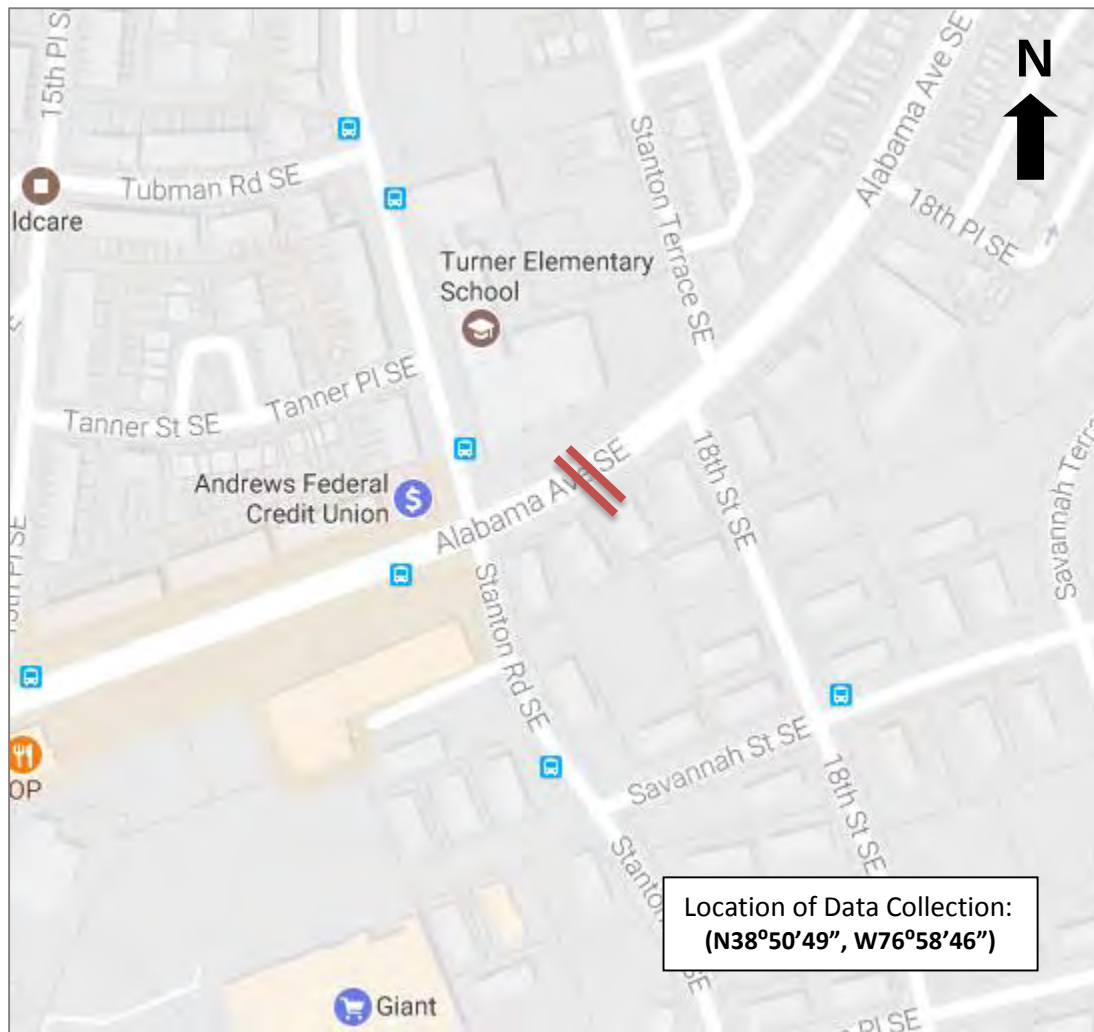


FIGURE 1: Location of Speed and Volume Data Collection

SUMMARY

SAMMAT Engineering Services, LLC presents this report to provide DDOT with volume and speed data obtained from November 29th through December 6th, 2016 on the 1700 block of Alabama Avenue, SE located in the District of Columbia (DC). Table 1 presents the summary of the 7-day volume count and the directional speed data, which includes the 85th percentile speed, the mean (average) speed, and the 10 MPH pace. Figure 1 presents the location of the site with respect to the surrounding roadway network.

Table 1: 7-Day Speed and Volume Characteristics (mph) for 1700 block of Alabama Ave SE

1700 Alabama Ave, SE		85 th Percentile	Mean	10 MPH Pace	ADT
Day 1	EB	31	26	21-30	12,142
	WB	29	22	21-30	
	EB+WB	30	24	21-30	
Day 2	EB	31	25	21-30	10,368
	WB	31	21	21-30	
	EB+WB	31	24	21-30	
Day 3	EB	29	25	21-30	13,845
	WB	29	22	21-30	
	EB+WB	29	24	21-30	
Day 4	EB	30	25	21-30	15,008
	WB	29	22	21-30	
	EB+WB	29	24	21-30	
Day 5	EB	31	26	21-30	12,392
	WB	31	25	21-30	
	EB+WB	31	26	21-30	
Day 6	EB	31	26	21-30	10,335
	WB	32	26	21-30	
	EB+WB	31	26	21-30	
Day 7	EB	29	25	21-30	12,800
	WB	29	22	21-30	
	EB+WB	29	23	21-30	
7-Day	EB	30	25	21-30	12,413
	WB	30	23	21-30	
	EB+WB	30	24	21-30	

SAMMAT ENGINEERING SERVICES, LLC

PO BOX 780
MT AIRY, MD 21771
sammatteng.com

1700 BLOCK OF ALABAMA AVENUE, SE - VOLUME

Start Time	29-Nov-16		WB		EB		Combined		30-Nov	WB		EB		Combined	
	Tue		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	Wed	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00		23	27		32	52	55	79		27	52	26	44	53	96
12:15		24	37		15	48	39	85		24	60	23	48	47	108
12:30		13	32		15	32	28	64		21	55	16	39	37	94
12:45		14	29		18	35	32	64		14	56	15	45	29	101
01:00		18	29		6	26	24	55		16	56	10	42	26	98
01:15		11	34		12	32	23	66		13	61	13	36	26	97
01:30		7	77		10	86	17	163		12	73	10	65	22	138
01:45		9	84		5	83	14	167		7	86	9	55	16	141
02:00		9	67		3	98	12	165		9	76	7	70	16	146
02:15		5	94		5	87	10	181		5	84	7	58	12	142
02:30		8	95		8	103	16	198		9	89	8	65	17	154
02:45		8	102		3	100	11	202		7	77	5	72	12	149
03:00		6	93		17	144	23	237		5	60	11	95	16	155
03:15		7	112		9	108	16	220		8	65	7	74	15	139
03:30		9	112		5	145	14	257		6	57	8	103	14	160
03:45		3	108		4	148	7	256		4	81	5	115	9	196
04:00		9	124		3	150	12	274		8	93	4	111	12	204
04:15		10	124		6	145	16	269		10	94	11	110	21	204
04:30		17	126		4	160	21	286		17	98	7	120	24	218
04:45		18	121		8	158	26	279		20	96	9	113	29	209
05:00		21	119		16	157	37	276		20	91	14	111	34	202
05:15		31	120		11	151	42	271		28	90	9	107	37	197
05:30		39	119		22	153	61	272		38	91	18	108	56	199
05:45		40	100		25	157	65	257		39	76	25	107	64	183
06:00		49	129		32	137	81	266		50	97	28	96	78	193
06:15		68	95		22	142	90	237		60	77	26	93	86	170
06:30		77	101		41	110	118	211		82	80	43	73	125	153
06:45		113	105		57	111	170	216		114	82	53	78	167	160
07:00		101	83		62	115	163	198		114	63	58	80	172	143
07:15		122	82		80	84	202	166		134	63	70	63	204	126
07:30		122	87		76	92	198	179		124	68	82	67	206	135
07:45		131	90		101	82	232	172		139	73	99	54	238	127
08:00		113	56		129	72	242	128		116	44	113	46	229	90
08:15		116	59		84	81	200	140		128	47	81	50	209	97
08:30		128	64		91	69	219	133		132	48	94	42	226	90
08:45		122	67		86	69	208	136		125	52	94	42	219	94
09:00		120	61		53	62	173	123		125	47	74	37	199	84
09:15		120	49		86	52	206	101		112	37	73	35	185	72
09:30		94	46		64	54	158	100		90	35	53	31	143	66
09:45		91	50		69	37	160	87		84	41	53	24	137	65
10:00		83	37		76	35	159	72		74	29	56	22	130	51
10:15		73	42		58	52	131	94		73	37	41	28	114	65
10:30		44	49		57	32	101	81		64	37	43	20	107	57
10:45		42	31		77	42	119	73		55	23	62	24	117	47
11:00		25	45		64	27	89	72		61	35	50	18	111	53
11:15		35	43		51	30	86	73		53	36	44	17	97	53
11:30		27	31		55	49	82	80		56	23	47	27	103	50
11:45		35	30		54	34	89	64		65	15	53	18	118	33
Total		2410	3617		1887	4228	4297	7845		2597	3006	1767	2998	4364	6004
Day Total		6027			6115		12142			5603		4765		10368	
% Total		19.8%	29.8%		15.5%	34.8%				25.0%	29.0%	17.0%	28.9%		
Peak	-	08:30	04:00		07:45	04:30	07:45	04:30	-	07:45	04:00	07:45	03:45	07:45	04:00
Vol.	-	490	495		405	626	893	1112	-	515	381	387	456	902	835
P.H.F.		0.935	0.982		0.785	0.978	0.923	0.972		0.926	0.972	0.856	0.950	0.947	0.958

SAMMAT ENGINEERING SERVICES, LLC

PO BOX 780
MT AIRY, MD 21771
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1700 BLOCK OF ALABAMA AVENUE, SE - VOLUME

Start Time	01-Dec-16		WB		EB		Combined		02-Dec		WB		EB		Combined	
	Thu		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	Fri		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00		26	84		20	105	46	189		34	95		43	122	77	217
12:15		23	91		19	109	42	200		28	110		33	126	61	236
12:30		17	92		13	108	30	200		19	104		22	132	41	236
12:45		19	87		10	105	29	192		24	97		18	124	42	221
01:00		15	98		11	103	26	201		17	111		19	116	36	227
01:15		14	102		10	103	24	205		15	107		17	116	32	223
01:30		13	101		7	106	20	207		16	102		11	112	27	214
01:45		12	108		8	94	20	202		16	101		15	102	31	203
02:00		8	41		6	59	14	100		13	101		7	113	20	214
02:15		6	97		6	111	12	208		4	116		9	103	13	219
02:30		11	110		4	112	15	222		12	102		8	121	20	223
02:45		13	103		7	100	20	203		14	107		14	109	28	216
03:00		7	134		6	133	13	267		9	101		11	139	20	240
03:15		9	101		3	122	12	223		11	122		5	124	16	246
03:30		9	136		5	126	14	262		12	95		9	144	21	239
03:45		4	122		6	144	10	266		5	129		11	154	16	283
04:00		8	123		5	130	13	253		9	133		9	148	18	281
04:15		10	122		5	122	15	244		12	125		9	156	21	281
04:30		16	130		5	139	21	269		16	121		9	161	25	282
04:45		15	127		7	145	22	272		12	105		11	178	23	283
05:00		24	138		11	130	35	268		17	107		15	162	32	269
05:15		31	115		16	159	47	274		29	140		17	136	46	276
05:30		32	129		14	170	46	299		26	114		20	142	46	256
05:45		40	126		26	167	66	293		35	121		24	147	59	268
06:00		41	121		27	135	68	256		40	100		30	175	70	275
06:15		52	131		31	130	83	261		56	99		32	170	88	269
06:30		73	106		37	119	110	225		74	123		38	152	112	275
06:45		102	98		56	141	158	239		101	117		63	130	164	247
07:00		109	98		51	117	160	215		99	107		58	126	157	233
07:15		124	89		66	117	190	206		121	123		64	91	185	214
07:30		100	78		62	102	162	180		106	108		74	111	180	219
07:45		136	80		74	111	210	191		143	102		84	98	227	200
08:00		117	92		87	91	204	183		120	93		93	87	213	180
08:15		128	81		79	91	207	172		110	95		82	95	192	190
08:30		108	84		62	87	170	171		93	85		64	86	157	171
08:45		104	75		78	89	182	164		94	77		92	94	186	171
09:00		99	57		63	59	162	116		107	83		66	83	173	166
09:15		99	63		72	70	171	133		94	78		80	83	174	161
09:30		76	69		68	62	144	131		79	63		62	92	141	155
09:45		89	63		62	61	151	124		91	77		68	58	159	135
10:00		89	43		75	58	164	101		98	66		80	62	178	128
10:15		87	54		92	52	179	106		102	77		97	78	199	155
10:30		87	62		98	71	185	133		91	68		110	56	201	124
10:45		88	55		92	49	180	104		96	59		106	68	202	127
11:00		78	39		90	45	168	84		92	66		95	65	187	131
11:15		95	42		79	53	174	95		107	63		78	67	185	130
11:30		88	49		98	55	186	104		94	57		93	54	187	111
11:45		79	40		98	35	177	75		86	54		111	49	197	103
Total		2630	4386		1927	4902	4557	9288		2699	4706		2186	5417	4885	10123
Day Total		7016			6829		13845			7405			7603		15008	
% Total		19.0%	31.7%		13.9%	35.4%				18.0%	31.4%		14.6%	36.1%		
Peak	-	07:45	04:15		10:15	05:15	07:45	05:00	-	07:15	03:45		10:15	04:15	07:30	03:45
Vol.	-	489	517		372	631	791	1134	-	490	508		408	657	812	1127
P.H.F.		0.899	0.937		0.949	0.928	0.942	0.948		0.857	0.955		0.927	0.923	0.894	0.996

SAMMAT ENGINEERING SERVICES, LLC

PO BOX 780
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1700 BLOCK OF ALABAMA AVENUE, SE - VOLUME

Start Time	03-Dec-16 Sat		WB		EB		Combined		04-Dec Sun		WB		EB		Combined	
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	51	106	52	85	103	191			54	74	40	74	94	148		
12:15	41	107	36	103	77	210			37	94	37	100	74	194		
12:30	32	106	37	115	69	221			29	93	40	90	69	183		
12:45	34	100	35	98	69	198			34	85	30	93	64	178		
01:00	31	94	36	92	67	186			32	80	24	104	56	184		
01:15	31	96	25	112	56	208			19	102	19	83	38	185		
01:30	35	93	33	107	68	200			24	104	28	94	52	198		
01:45	37	101	23	102	60	203			19	121	17	96	36	217		
02:00	21	97	31	95	52	192			14	93	19	113	33	206		
02:15	18	118	20	94	38	212			26	94	13	98	39	192		
02:30	23	95	25	93	48	188			14	101	14	96	28	197		
02:45	19	125	15	100	34	225			26	103	13	106	39	209		
03:00	18	112	22	126	40	238			22	116	23	89	45	205		
03:15	16	88	19	104	35	192			15	105	23	101	38	206		
03:30	20	113	20	98	40	211			17	103	20	120	37	223		
03:45	15	100	11	94	26	194			10	91	19	89	29	180		
04:00	20	116	14	118	34	234			12	99	16	112	28	211		
04:15	14	99	11	129	25	228			17	95	14	87	31	182		
04:30	10	100	16	86	26	186			12	76	12	84	24	160		
04:45	12	96	13	114	25	210			14	73	10	77	24	150		
05:00	14	101	18	98	32	199			17	67	10	99	27	166		
05:15	19	76	5	114	24	190			11	75	9	84	20	159		
05:30	23	85	10	107	33	192			11	88	9	87	20	175		
05:45	19	92	15	91	34	183			11	67	18	83	29	150		
06:00	15	99	21	92	36	191			13	70	16	90	29	160		
06:15	19	92	26	105	45	197			10	82	12	81	22	163		
06:30	35	85	15	83	50	168			26	69	23	84	49	153		
06:45	34	92	22	86	56	178			32	80	21	67	53	147		
07:00	25	81	38	86	63	167			33	60	32	55	65	115		
07:15	34	84	41	70	75	154			26	62	34	54	60	116		
07:30	35	87	40	93	75	180			32	68	54	86	86	154		
07:45	48	75	37	93	85	168			29	80	34	65	63	145		
08:00	54	73	51	89	105	162			37	81	39	66	76	147		
08:15	46	74	44	70	90	144			54	74	39	73	93	147		
08:30	51	57	57	80	108	137			38	59	47	69	85	128		
08:45	65	74	52	78	117	152			44	55	55	57	99	112		
09:00	85	74	62	67	147	141			61	56	57	47	118	103		
09:15	62	61	77	84	139	145			56	52	61	61	117	113		
09:30	76	65	79	61	155	126			54	47	64	54	118	101		
09:45	71	56	72	66	143	122			65	42	65	28	130	70		
10:00	99	61	75	62	174	123			75	57	57	11	132	68		
10:15	80	73	91	59	171	132			77	45	63	22	140	67		
10:30	83	53	82	53	165	106			74	44	79	12	153	56		
10:45	80	64	78	75	158	139			77	39	76	11	153	50		
11:00	96	63	92	58	188	121			76	27	75	4	151	31		
11:15	96	58	83	59	179	117			64	33	81	6	145	39		
11:30	100	50	101	70	201	120			70	25	85	10	155	35		
11:45	93	45	91	42	184	87			72	30	85	4	157	34		
Total	2055	4112	1969	4256	4024	8368			1692	3536	1731	3376	3423	6912		
Day Total	6167		6225		12392				5228		5107		10335			
% Total	16.6%	33.2%	15.9%	34.3%					16.4%	34.2%	16.7%	32.7%				
Peak	-	11:00	02:15	11:00	04:00	11:00	03:30	-	10:15	02:45	11:00	03:15	11:00	02:45		
Vol.	-	385	450	367	447	752	867	-	304	427	326	422	608	843		
P.H.F.		0.963	0.900	0.908	0.866	0.935	0.911		0.987	0.920	0.959	0.879	0.968	0.945		

SAMMAT ENGINEERING SERVICES, LLC

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1700 BLOCK OF ALABAMA AVENUE, SE - VOLUME

Start Time	05-Dec-16 Mon	WB		EB		Combined		06-Dec Tue	WB		EB		Combined	
		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00		17	73	9	87	26	160		*	*	*	*	*	*
12:15		18	72	4	92	22	164		*	*	*	*	*	*
12:30		14	79	3	83	17	162		*	*	*	*	*	*
12:45		14	76	2	86	16	162		*	*	*	*	*	*
01:00		13	84	3	90	16	174		*	*	*	*	*	*
01:15		12	97	2	89	14	186		*	*	*	*	*	*
01:30		10	99	3	99	13	198		*	*	*	*	*	*
01:45		7	114	1	86	8	200		*	*	*	*	*	*
02:00		3	76	4	112	7	188		*	*	*	*	*	*
02:15		7	112	3	95	10	207		*	*	*	*	*	*
02:30		9	88	0	119	9	207		*	*	*	*	*	*
02:45		11	90	0	120	11	210		*	*	*	*	*	*
03:00		4	108	1	116	5	224		*	*	*	*	*	*
03:15		6	92	0	124	6	216		*	*	*	*	*	*
03:30		5	113	0	143	5	256		*	*	*	*	*	*
03:45		3	117	1	136	4	253		*	*	*	*	*	*
04:00		7	116	0	131	7	247		*	*	*	*	*	*
04:15		8	124	1	159	9	283		*	*	*	*	*	*
04:30		15	109	0	150	15	259		*	*	*	*	*	*
04:45		18	105	2	164	20	269		*	*	*	*	*	*
05:00		30	110	6	117	36	227		*	*	*	*	*	*
05:15		32	123	14	142	46	265		*	*	*	*	*	*
05:30		37	130	8	137	45	267		*	*	*	*	*	*
05:45		45	99	27	137	72	236		*	*	*	*	*	*
06:00		42	129	23	146	65	275		*	*	*	*	*	*
06:15		47	102	30	151	77	253		*	*	*	*	*	*
06:30		71	104	36	130	107	234		*	*	*	*	*	*
06:45		102	103	48	113	150	216		*	*	*	*	*	*
07:00		118	94	44	109	162	203		*	*	*	*	*	*
07:15		127	91	68	108	195	199		*	*	*	*	*	*
07:30		94	75	50	113	144	188		*	*	*	*	*	*
07:45		128	75	64	84	192	159		*	*	*	*	*	*
08:00		114	86	80	89	194	175		*	*	*	*	*	*
08:15		146	65	75	81	221	146		*	*	*	*	*	*
08:30		123	61	59	60	182	121		*	*	*	*	*	*
08:45		113	56	64	75	177	131		*	*	*	*	*	*
09:00		91	65	60	62	151	127		*	*	*	*	*	*
09:15		103	69	63	63	166	132		*	*	*	*	*	*
09:30		72	48	73	47	145	95		*	*	*	*	*	*
09:45		87	52	55	47	142	99		*	*	*	*	*	*
10:00		80	48	69	48	149	96		*	*	*	*	*	*
10:15		72	49	87	51	159	100		*	*	*	*	*	*
10:30		83	35	86	45	169	80		*	*	*	*	*	*
10:45		79	42	78	34	157	76		*	*	*	*	*	*
11:00		64	31	84	42	148	73		*	*	*	*	*	*
11:15		82	32	79	41	161	73		*	*	*	*	*	*
11:30		82	30	103	44	185	74		*	*	*	*	*	*
11:45		71	29	84	34	155	63		*	*	*	*	*	*
Total		2536	3977	1656	4631	4192	8608		0	0	0	0	0	0
Day Total		6513		6287		12800			0		0		0	
% Total		19.8%	31.1%	12.9%	36.2%				0.0%	0.0%	0.0%	0.0%		
Peak	-	07:45	05:15	11:00	04:00	07:45	04:00	-	-	-	-	-	-	-
Vol.	-	511	481	350	604	789	1058	-	-	-	-	-	-	-
P.H.F.		0.875	0.925	0.850	0.921	0.893	0.935							
ADT	ADT 12,413	AADT 12,413												

7-DAY SPEED AND VOLUME COUNT

Traffic Data Collection

Location:

2100 Block of Alabama Avenue, SE

Prepared For:



District Department of Transportation (DDOT)

Prepared By:



SAMMAT ENGINEERING SERVICES, LLC
P.O. BOX 780
MOUNT AIRY, MD 21771
www.sammateg.com

December 21st, 2016

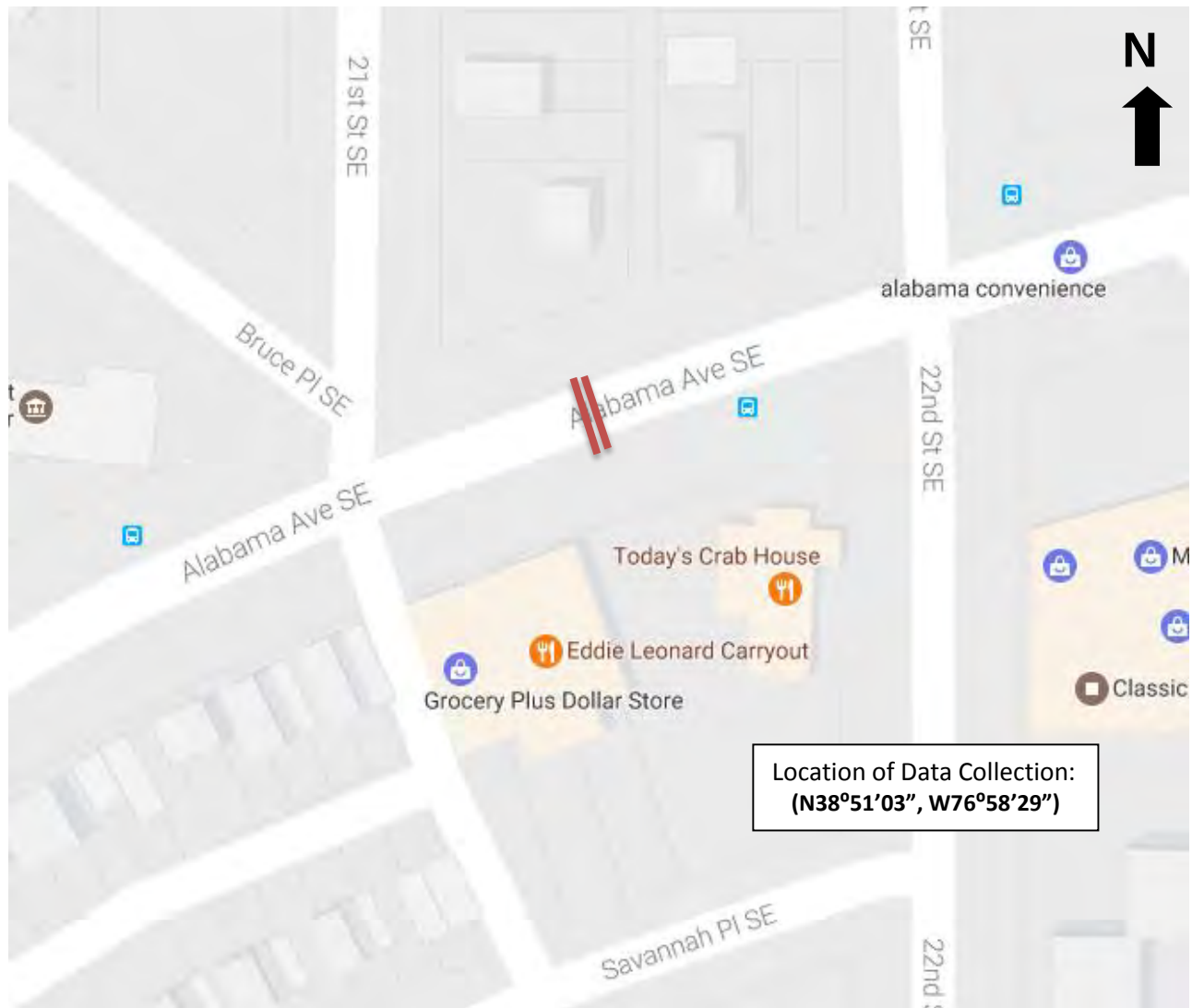


FIGURE 1: Location of Speed and Volume Data Collection

SUMMARY

SAMMAT Engineering Services, LLC presents this report to provide DDOT with volume and speed data obtained from December 14th through December 20th, 2016 on the 2100 block of Alabama Avenue, SE located in the District of Columbia (DC). Table 1 presents the summary of the 7-day volume count and the directional speed data, which includes the 85th percentile speed, the mean (average) speed, and the 10 MPH pace. Figure 1 presents the location of the site with respect to the surrounding roadway network.

Table 1: 7-Day Speed and Volume Characteristics (mph) for 2100 block of Alabama Ave SE

2100 Alabama Ave, SE		85 th Percentile	Mean	10 MPH Pace	ADT
Day 1	EB	29	23	21-30	14,878
	WB	31	24	21-30	
	EB+WB	30	24	21-30	
Day 2	EB	29	23	21-30	15,175
	WB	31	24	21-30	
	EB+WB	30	24	21-30	
Day 3	EB	29	23	21-30	16,017
	WB	30	24	21-30	
	EB+WB	29	23	21-30	
Day 4	EB	29	24	21-30	11,334
	WB	29	23	21-30	
	EB+WB	29	23	21-30	
Day 5	EB	30	24	21-30	11,149
	WB	29	23	21-30	
	EB+WB	30	24	21-30	
Day 6	EB	29	22	21-30	13,302
	WB	33	25	26-35	
	EB+WB	31	23	21-30	
Day 7	EB	28	18	21-30	11,952
	WB	32	24	26-35	
	EB+WB	29	20	21-30	
7-Day	EB	29	23	21-30	13,401
	WB	31	24	21-30	
	EB+WB	30	23	21-30	

SAMMAT ENGINEERING SERVICES, LLC

PO BOX 780
MT AIRY, MD 21771
sammatteng.com

2100 BLOCK OF ALABAMA AVENUE, SE - VOLUME

Start Time	14-Dec-16		WB		EB		Combined		15-Dec	WB		EB		Combined	
	Wed		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	Thu	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00			22	89	35	103	57	192		41	102	31	83	72	185
12:15			21	75	18	94	39	169		25	103	34	128	59	231
12:30			17	106	29	97	46	203		21	83	34	109	55	192
12:45			15	92	18	96	33	188		24	89	19	108	43	197
01:00			16	79	12	86	28	165		21	92	17	106	38	198
01:15			9	85	19	104	28	189		20	73	23	135	43	208
01:30			17	81	6	96	23	177		12	82	15	116	27	198
01:45			9	94	14	92	23	186		8	102	13	112	21	214
02:00			5	81	5	102	10	183		9	99	11	89	20	188
02:15			17	102	10	111	27	213		6	121	14	94	20	215
02:30			11	83	11	122	22	205		10	92	10	110	20	202
02:45			7	102	5	106	12	208		6	103	9	113	15	216
03:00			7	110	10	113	17	223		8	126	3	127	11	253
03:15			7	125	5	128	12	253		8	122	7	131	15	253
03:30			5	108	4	187	9	295		5	158	7	148	12	306
03:45			6	124	8	162	14	286		1	153	5	156	6	309
04:00			6	122	7	157	13	279		5	147	8	160	13	307
04:15			7	138	12	196	19	334		13	131	7	171	20	302
04:30			9	113	10	186	19	299		9	152	8	190	17	342
04:45			12	143	10	179	22	322		8	123	6	187	14	310
05:00			13	133	15	158	28	291		16	147	15	159	31	306
05:15			15	147	12	176	27	323		22	137	14	186	36	323
05:30			29	137	13	180	42	317		28	158	14	155	42	313
05:45			38	148	23	167	61	315		37	128	29	181	66	309
06:00			40	126	33	152	73	278		49	142	31	173	80	315
06:15			59	116	28	171	87	287		54	129	39	166	93	295
06:30			59	119	43	138	102	257		52	106	52	147	104	253
06:45			105	111	66	123	171	234		89	121	62	124	151	245
07:00			95	104	85	144	180	248		78	107	71	132	149	239
07:15			99	113	112	127	211	240		108	88	98	109	206	197
07:30			124	99	135	118	259	217		103	105	125	102	228	207
07:45			131	86	137	97	268	183		135	97	133	104	268	201
08:00			106	87	130	92	236	179		130	75	136	96	266	171
08:15		133	79	138	120	271	199		138	79	166	78	304	157	
08:30		130	56	133	106	263	162		120	96	127	94	247	190	
08:45		132	73	124	88	256	161		141	69	125	85	266	154	
09:00		126	61	108	62	234	123		95	69	117	83	212	152	
09:15			98	56	93	65	191	121		103	70	80	70	183	140
09:30			77	78	93	69	170	147		85	67	79	58	164	125
09:45			89	50	79	69	168	119		84	63	95	60	179	123
10:00			96	65	88	70	184	135		96	47	85	50	181	97
10:15			75	56	101	71	176	127		69	53	88	49	157	102
10:30			88	44	91	56	179	100		81	54	66	61	147	115
10:45			90	44	71	42	161	86		65	37	92	50	157	87
11:00			77	39	91	49	168	88		70	61	88	54	158	115
11:15			75	45	78	52	153	97		79	50	99	31	178	81
11:30			72	30	89	49	161	79		73	38	101	52	174	90
11:45			86	40	93	24	179	64		98	40	98	43	196	83
Total			2582	4394	2550	5352	5132	9746		2558	4686	2606	5325	5164	10011
Day Total			6976		7902		14878			7244		7931		15175	
% Total			17.4%	29.5%	17.1%	36.0%				16.9%	30.9%	17.2%	35.1%		
Peak	-	08:15	05:00	07:30	04:15	07:45	04:45		-	08:00	03:30	07:45	04:30	07:45	04:30
Vol.	-	521	565	540	719	1038	1253		-	529	589	562	722	1085	1281
P.H.F.		0.979	0.954	0.978	0.917	0.958	0.970			0.938	0.932	0.846	0.950	0.892	0.936

SAMMAT ENGINEERING SERVICES, LLC

PO BOX 780
MT AIRY, MD 21771
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2100 BLOCK OF ALABAMA AVENUE, SE - VOLUME

Start Time	16-Dec-16		WB		EB		Combined		17-Dec Sat	WB		EB		Combined	
	Fri		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00			27	88	35	102	62	190		40	85	39	79	79	164
12:15			34	87	26	108	60	195		40	54	51	98	91	152
12:30			18	77	32	116	50	193		37	67	42	160	79	227
12:45			16	87	24	135	40	222		42	88	37	95	79	183
01:00			20	93	24	129	44	222		33	78	28	106	61	184
01:15			19	87	13	104	32	191		35	76	33	100	68	176
01:30			18	89	13	128	31	217		32	83	23	94	55	177
01:45			11	92	5	116	16	208		26	91	23	98	49	189
02:00			13	87	13	135	26	222		30	94	22	95	52	189
02:15			10	88	12	130	22	218		19	89	20	108	39	197
02:30			11	113	8	132	19	245		18	75	21	76	39	151
02:45			9	133	9	133	18	266		32	92	15	131	47	223
03:00			13	111	5	150	18	261		31	96	23	105	54	201
03:15			6	121	7	150	13	271		24	91	22	93	46	184
03:30			4	122	10	185	14	307		20	87	17	99	37	186
03:45			9	143	7	180	16	323		13	86	21	99	34	185
04:00			7	138	10	172	17	310		20	99	18	93	38	192
04:15			8	144	20	186	28	330		12	77	8	117	20	194
04:30			19	140	14	198	33	338		17	85	14	98	31	183
04:45			10	147	7	175	17	322		11	97	14	101	25	198
05:00			14	133	9	177	23	310		18	102	15	94	33	196
05:15			11	151	21	152	32	303		21	83	11	103	32	186
05:30			38	128	14	184	52	312		16	94	9	84	25	178
05:45			29	117	24	150	53	267		13	113	20	105	33	218
06:00			36	119	26	159	62	278		14	82	12	94	26	176
06:15			44	146	37	147	81	293		14	82	11	87	25	169
06:30			78	139	55	112	133	251		18	77	19	91	37	168
06:45			86	135	65	149	151	284		30	95	18	84	48	179
07:00			100	129	63	137	163	266		17	83	30	87	47	170
07:15			88	112	106	130	194	242		23	82	31	80	54	162
07:30			129	122	107	121	236	243		38	78	19	96	57	174
07:45			121	104	134	103	255	207		24	80	44	78	68	158
08:00			120	98	125	121	245	219		39	67	30	84	69	151
08:15			134	86	162	122	296	208		35	72	40	79	75	151
08:30			106	87	135	96	241	183		34	56	33	88	67	144
08:45			125	82	127	94	252	176		36	81	40	63	76	144
09:00			93	81	96	106	189	187		37	81	45	70	82	151
09:15			103	70	99	81	202	151		42	76	38	60	80	136
09:30			83	74	71	79	154	153		52	58	49	76	101	134
09:45			92	78	84	96	176	174		64	83	64	67	128	150
10:00			80	69	88	84	168	153		60	71	60	69	120	140
10:15			80	66	68	90	148	156		69	66	71	72	140	138
10:30			85	58	77	77	162	135		64	50	68	73	132	123
10:45			72	83	98	96	170	179		80	62	79	66	159	128
11:00			107	71	78	73	185	144		78	57	67	59	145	116
11:15			90	60	101	69	191	129		64	51	73	71	137	122
11:30			80	59	94	59	174	118		65	74	75	52	140	126
11:45			81	49	90	61	171	110		71	55	75	51	146	106
Total			2587	4893	2548	5989	5135	10882		1668	3801	1637	4228	3305	8029
Day Total			7480		8537		16017			5469		5865		11334	
% Total			16.2%	30.5%	15.9%	37.4%				14.7%	33.5%	14.4%	37.3%		
Peak	-		07:30	04:30	07:45	03:45	07:45	03:45	-	10:15	05:00	10:45	00:30	10:45	02:45
Vol.	-		504	571	556	736	1037	1301	-	291	392	294	461	581	794
P.H.F.			0.940	0.945	0.858	0.929	0.876	0.962		0.909	0.867	0.930	0.720	0.914	0.890

SAMMAT ENGINEERING SERVICES, LLC

PO BOX 780
MT AIRY, MD 21771
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2100 BLOCK OF ALABAMA AVENUE, SE - VOLUME

Start Time	18-Dec-16		WB		EB		Combined		19-Dec Mon	WB		EB		Combined	
	Sun		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00			49	89	42	89	91	178		27	66	29	97	56	163
12:15			38	85	36	91	74	176		26	71	20	103	46	174
12:30			36	90	31	79	67	169		16	61	15	95	31	156
12:45			31	93	35	98	66	191		15	55	23	85	38	140
01:00			38	89	39	112	77	201		16	63	8	98	24	161
01:15			26	88	32	96	58	184		12	69	12	97	24	166
01:30			26	100	25	97	51	197		9	65	10	99	19	164
01:45			36	95	32	96	68	191		8	69	6	98	14	167
02:00			41	87	32	136	73	223		7	73	3	100	10	173
02:15			23	118	39	129	62	247		10	72	6	103	16	175
02:30			18	82	22	109	40	191		10	78	6	109	16	187
02:45			26	99	24	102	50	201		6	69	2	115	8	184
03:00			17	97	20	119	37	216		5	81	14	122	19	203
03:15			25	99	10	89	35	188		9	82	5	152	14	234
03:30			13	91	24	115	37	206		7	117	6	142	13	259
03:45			18	99	22	106	40	205		3	103	2	154	5	257
04:00			14	91	21	118	35	209		5	117	3	167	8	284
04:15			12	89	10	102	22	191		9	116	7	148	16	264
04:30			10	95	14	108	24	203		8	132	2	154	10	286
04:45			16	106	11	108	27	214		15	112	7	161	22	273
05:00			16	102	16	92	32	194		10	98	17	174	27	272
05:15			11	89	17	79	28	168		18	97	13	171	31	268
05:30			8	76	8	100	16	176		26	90	31	139	57	229
05:45			9	93	13	79	22	172		29	125	21	153	50	278
06:00			7	90	10	78	17	168		37	111	43	158	80	269
06:15			18	75	16	87	34	162		56	96	26	151	82	247
06:30			20	74	25	89	45	163		62	91	46	124	108	215
06:45			29	79	22	72	51	151		73	89	49	112	122	201
07:00			21	81	33	65	54	146		92	84	85	131	177	215
07:15			16	69	41	76	57	145		92	95	100	108	192	203
07:30			24	75	48	107	72	182		100	78	126	101	226	179
07:45			43	82	36	85	79	167		99	67	137	88	236	155
08:00			41	64	42	71	83	135		102	43	156	94	258	137
08:15			26	67	37	66	63	133		106	64	120	112	226	176
08:30			42	66	41	62	83	128		104	60	111	102	215	162
08:45			45	68	59	58	104	126		96	90	124	68	220	158
09:00			40	73	45	60	85	133		100	87	127	78	227	165
09:15			58	65	55	52	113	117		86	61	93	76	179	137
09:30			58	49	61	59	119	108		85	60	93	67	178	127
09:45			60	62	73	41	133	103		77	48	71	72	148	120
10:00			52	51	86	50	138	101		65	45	96	49	161	94
10:15			64	51	69	51	133	102		63	35	85	42	148	77
10:30			76	33	75	48	151	81		57	50	71	55	128	105
10:45			86	35	72	43	158	78		54	50	100	46	154	96
11:00			71	42	89	32	160	74		47	40	98	51	145	91
11:15			82	33	74	38	156	71		58	32	90	44	148	76
11:30			65	51	84	50	149	101		58	40	77	53	135	93
11:45			70	31	84	29	154	60		57	38	94	31	151	69
Total			1671	3708	1852	3918	3523	7626		2132	3635	2486	5049	4618	8684
Day Total			5379		5770		11149			5767		7535		13302	
% Total			15.0%	33.3%	16.6%	35.1%				16.0%	27.3%	18.7%	38.0%		
Peak	-		10:30	01:30	11:00	02:00	10:30	02:00	-	07:45	04:00	07:30	04:30	07:30	04:00
Vol.	-		315	400	331	476	625	862	-	411	477	539	660	946	1107
P.H.F.			0.916	0.847	0.930	0.875	0.977	0.872		0.969	0.903	0.864	0.948	0.917	0.968

SAMMAT ENGINEERING SERVICES, LLC

PO BOX 780
MT AIRY, MD 21771
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2100 BLOCK OF ALABAMA AVENUE, SE - VOLUME

Start Time	20-Dec-16		WB		EB		Combined		21-Dec Wed	WB		EB		Combined	
	Tue		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00		25	23		34	123	59	146		*	*	*	*	*	*
12:15		18	19		21	71	39	90		*	*	*	*	*	*
12:30		22	17		26	76	48	93		*	*	*	*	*	*
12:45		18	11		20	94	38	105		*	*	*	*	*	*
01:00		14	27		20	105	34	132		*	*	*	*	*	*
01:15		12	33		23	90	35	123		*	*	*	*	*	*
01:30		22	25		14	113	36	138		*	*	*	*	*	*
01:45		11	29		15	121	26	150		*	*	*	*	*	*
02:00		10	20		12	122	22	142		*	*	*	*	*	*
02:15		10	25		6	104	16	129		*	*	*	*	*	*
02:30		15	34		11	97	26	131		*	*	*	*	*	*
02:45		6	52		14	139	20	191		*	*	*	*	*	*
03:00		9	43		7	113	16	156		*	*	*	*	*	*
03:15		9	59		7	167	16	226		*	*	*	*	*	*
03:30		4	58		6	193	10	251		*	*	*	*	*	*
03:45		8	40		9	169	17	209		*	*	*	*	*	*
04:00		3	60		13	203	16	263		*	*	*	*	*	*
04:15		7	71		11	177	18	248		*	*	*	*	*	*
04:30		12	43		9	170	21	213		*	*	*	*	*	*
04:45		8	50		6	169	14	219		*	*	*	*	*	*
05:00		17	43		15	178	32	221		*	*	*	*	*	*
05:15		9	17		14	140	23	157		*	*	*	*	*	*
05:30		27	20		24	136	51	156		*	*	*	*	*	*
05:45		30	46		33	150	63	196		*	*	*	*	*	*
06:00		53	93		40	186	93	279		*	*	*	*	*	*
06:15		39	67		46	181	85	248		*	*	*	*	*	*
06:30		58	55		45	148	103	203		*	*	*	*	*	*
06:45		73	54		67	123	140	177		*	*	*	*	*	*
07:00		98	41		95	114	193	155		*	*	*	*	*	*
07:15		73	30		106	126	179	156		*	*	*	*	*	*
07:30		84	88		152	114	236	202		*	*	*	*	*	*
07:45		106	40		162	90	268	130		*	*	*	*	*	*
08:00		114	48		135	102	249	150		*	*	*	*	*	*
08:15		91	43		124	107	215	150		*	*	*	*	*	*
08:30		88	64		150	99	238	163		*	*	*	*	*	*
08:45		103	46		125	121	228	167		*	*	*	*	*	*
09:00		88	45		114	88	202	133		*	*	*	*	*	*
09:15		86	25		108	86	194	111		*	*	*	*	*	*
09:30		95	31		96	68	191	99		*	*	*	*	*	*
09:45		76	22		76	45	152	67		*	*	*	*	*	*
10:00		69	14		79	48	148	62		*	*	*	*	*	*
10:15		71	14		87	56	158	70		*	*	*	*	*	*
10:30		55	1		89	30	144	31		*	*	*	*	*	*
10:45		69	15		77	40	146	55		*	*	*	*	*	*
11:00		33	40		90	60	123	100		*	*	*	*	*	*
11:15		40	18		86	53	126	71		*	*	*	*	*	*
11:30		24	24		93	58	117	82		*	*	*	*	*	*
11:45		22	22		90	48	112	70		*	*	*	*	*	*
Total		2034	1805		2702	5411	4736	7216		0	0	0	0	0	0
Day Total		3839			8113		11952			0		0		0	
% Total		17.0%	15.1%		22.6%	45.3%				0.0%	0.0%	0.0%	0.0%		
Peak	-	07:45	06:00		07:30	03:30	07:45	03:30	-	-	-	-	-	-	-
Vol.	-	399	269		573	742	970	971	-	-	-	-	-	-	-
P.H.F.		0.875	0.723		0.884	0.914	0.905	0.923							
ADT	ADT 13,401	AADT 13,401													

7-DAY SPEED AND VOLUME COUNT

Traffic Data Collection

Location:

2400 Block of Alabama Avenue, SE

Prepared For:



District Department of Transportation (DDOT)

Prepared By:



SAMMAT ENGINEERING SERVICES, LLC
P.O. BOX 780
MOUNT AIRY, MD 21771
www.sammateg.com

December 22nd, 2016

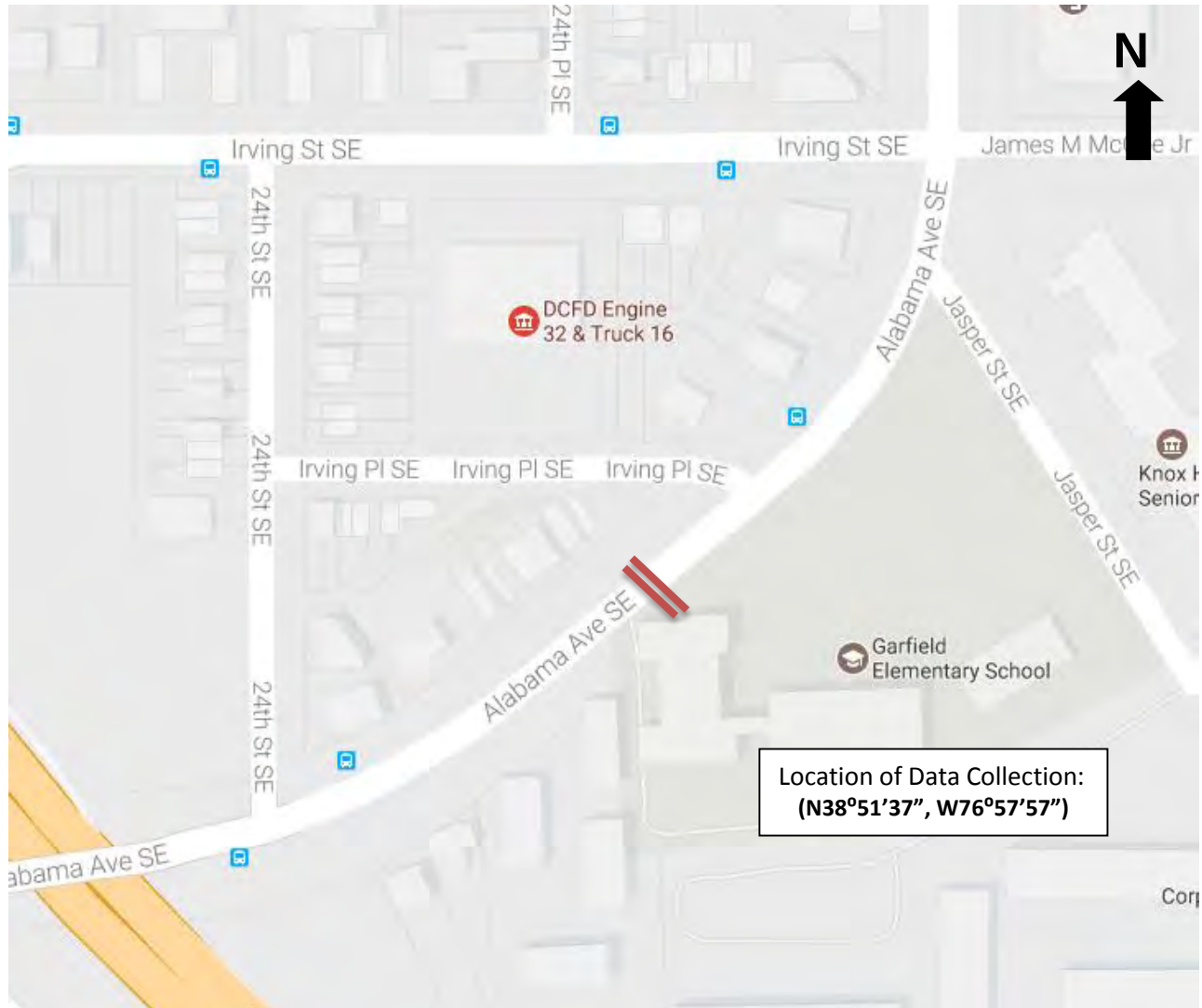


FIGURE 1: Location of Speed and Volume Data Collection

SUMMARY

SAMMAT Engineering Services, LLC presents this report to provide DDOT with volume and speed data obtained from November 29th through December 6th, 2016 on the 2400 block of Alabama Avenue, SE located in the District of Columbia (DC). Table 1 presents the summary of the 7-day volume count and the directional speed data, which includes the 85th percentile speed, the mean (average) speed, and the 10 MPH pace. Figure 1 presents the location of the site with respect to the surrounding roadway network.

Table 1: 7-Day Speed and Volume Characteristics (mph) for 2400 block of Alabama Ave SE

2400 Alabama Ave, SE		85 th Percentile	Mean	10 MPH Pace	ADT
Day 1	EB	29	23	21-30	15,184
	WB	35	29	26-35	
	EB+WB	33	26	21-30	
Day 2	EB	24	20	16-25	15,355
	WB	40	31	26-35	
	EB+WB	35	26	21-30	
Day 3	EB	26	21	16-25	15,979
	WB	43	35	31-40	
	EB+WB	39	28	21-30	
Day 4	EB	24	20	16-25	16,707
	WB	44	37	31-40	
	EB+WB	40	29	16-25	
Day 5	EB	25	22	16-25	13,803
	WB	43	36	31-40	
	EB+WB	39	29	21-30	
Day 6	EB	25	22	16-25	11,714
	WB	43	36	31-40	
	EB+WB	38	29	21-30	
Day 7	EB	24	20	16-25	15,289
	WB	43	35	31-40	
	EB+WB	39	27	16-25	
7-Day	EB	26	21	16-25	14,862
	WB	42	34	31-40	
	EB+WB	38	28	21-30	

SAMMAT ENGINEERING SERVICES, LLC

PO BOX 780
MT AIRY, MD 21771
sammatteng.com

2400 BLOCK OF ALABAMA AVENUE, SE - VOLUME

Start Time	29-Nov-16		EB		WB		Combined		30-Nov	EB		WB		Combined	
	Tue		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	Wed	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00			32	115	30	91	62	206		30	112	34	83	64	195
12:15			25	117	29	107	54	224		30	109	30	94	60	203
12:30			16	116	17	98	33	214		24	115	40	89	64	204
12:45			24	109	27	106	51	215		21	96	27	97	48	193
01:00			11	112	19	107	30	219		14	98	19	100	33	198
01:15			11	108	11	97	22	205		15	102	17	89	32	191
01:30			6	109	10	102	16	211		9	92	19	89	28	181
01:45			7	120	6	93	13	213		12	107	3	82	15	189
02:00			7	119	12	114	19	233		11	120	5	107	16	227
02:15			6	98	10	113	16	211		12	116	9	89	21	205
02:30			5	108	11	105	16	213		11	113	13	100	24	213
02:45			7	102	5	123	12	225		12	122	8	115	20	237
03:00			12	140	5	111	17	251		5	103	4	126	9	229
03:15			4	111	10	113	14	224		9	126	7	109	16	235
03:30			6	141	3	134	9	275		10	109	5	132	15	241
03:45			4	149	4	158	8	307		5	125	9	155	14	280
04:00			4	125	7	158	11	283		6	138	8	158	14	296
04:15			8	153	7	153	15	306		14	132	8	172	22	304
04:30			8	145	11	204	19	349		12	129	12	151	24	280
04:45			11	119	15	151	26	270		13	136	13	155	26	291
05:00			23	128	11	179	34	307		13	140	13	144	26	284
05:15			18	145	18	146	36	291		14	146	17	163	31	309
05:30			33	124	29	152	62	276		30	128	17	176	47	304
05:45			28	139	22	161	50	300		36	144	19	170	55	314
06:00			50	134	28	162	78	296		38	126	36	179	74	305
06:15			45	116	54	174	99	290		40	114	49	176	89	290
06:30			67	119	56	164	123	283		92	116	65	127	157	243
06:45			80	93	88	136	168	229		93	126	102	136	195	262
07:00			103	116	93	122	196	238		104	101	96	106	200	207
07:15			126	94	107	98	233	192		130	133	118	114	248	247
07:30			131	85	115	111	246	196		146	128	105	118	251	246
07:45			179	84	120	91	299	175		140	96	136	83	276	179
08:00			154	92	94	85	248	177		141	81	121	87	262	168
08:15			136	75	120	78	256	153		152	77	132	73	284	150
08:30			129	94	104	74	233	168		146	83	124	86	270	169
08:45			147	60	115	78	262	138		145	55	136	104	281	159
09:00			94	79	125	82	219	161		120	65	123	91	243	156
09:15			93	63	107	63	200	126		112	71	114	66	226	137
09:30			92	63	93	52	185	115		84	60	94	58	178	118
09:45			69	53	87	59	156	112		96	55	102	74	198	129
10:00			115	53	95	57	210	110		91	54	68	67	159	121
10:15			71	43	94	50	165	93		83	40	84	48	167	88
10:30			107	46	93	45	200	91		103	60	96	44	199	104
10:45			92	52	90	42	182	94		93	52	83	39	176	91
11:00			105	38	90	52	195	90		106	51	83	44	189	95
11:15			102	37	99	44	201	81		99	55	102	40	201	95
11:30			94	40	94	40	188	80		92	44	92	52	184	96
11:45			103	37	104	37	207	74		86	30	98	52	184	82
Total			2800	4718	2594	5072	5394	9790		2900	4731	2715	5009	5615	9740
Day Total			7518		7666		15184			7631		7724		15355	
% Total			18.4%	31.1%	17.1%	33.4%				18.9%	30.8%	17.7%	32.6%		
Peak	-		07:30	03:45	08:15	04:15	07:30	03:45	-	08:00	05:00	08:15	05:30	08:00	05:15
Vol.	-		600	572	464	687	1049	1245	-	584	558	515	701	1097	1232
P.H.F.			0.838	0.935	0.928	0.842	0.877	0.892		0.961	0.955	0.947	0.979	0.966	0.981

SAMMAT ENGINEERING SERVICES, LLC

PO BOX 780
MT AIRY, MD 21771
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2400 BLOCK OF ALABAMA AVENUE, SE - VOLUME

Start Time	01-Dec-16		EB		WB		Combined		02-Dec		EB		WB		Combined	
	Thu		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	Fri		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00		33	118		35	100	68	218		58	129		42	103	100	232
12:15		34	126		25	119	59	245		38	141		36	118	74	259
12:30		16	115		23	109	39	224		29	122		21	118	50	240
12:45		16	121		25	115	41	236		21	140		30	117	51	257
01:00		17	124		19	114	36	238		18	141		20	131	38	272
01:15		6	114		5	105	11	219		19	113		22	116	41	229
01:30		2	125		1	115	3	240		18	130		24	108	42	238
01:45		15	132		8	105	23	237		13	130		17	102	30	232
02:00		13	117		14	121	27	238		15	116		13	124	28	240
02:15		5	108		4	125	9	233		14	106		12	130	26	236
02:30		1	135		0	107	1	242		11	138		15	107	26	245
02:45		4	118		6	142	10	260		21	124		16	139	37	263
03:00		10	130		9	125	19	255		10	147		7	125	17	272
03:15		9	139		8	139	17	278		9	162		11	149	20	311
03:30		9	133		7	134	16	267		8	144		10	141	18	285
03:45		9	116		6	148	15	264		9	137		9	162	18	299
04:00		6	123		4	154	10	277		10	132		9	175	19	307
04:15		13	139		5	126	18	265		8	145		10	159	18	304
04:30		13	130		7	136	20	266		13	135		6	163	19	298
04:45		8	130		12	134	20	264		10	166		11	157	21	323
05:00		18	126		12	145	30	271		15	142		11	176	26	318
05:15		23	126		23	138	46	264		20	137		18	177	38	314
05:30		23	132		21	138	44	270		39	137		19	161	58	298
05:45		37	125		33	127	70	252		30	145		19	142	49	287
06:00		43	133		33	123	76	256		54	164		29	130	83	294
06:15		48	123		55	124	103	247		40	136		52	160	92	296
06:30		89	131		49	128	138	259		61	159		59	151	120	310
06:45		100	113		100	130	200	243		88	134		87	155	175	289
07:00		118	108		93	110	211	218		88	119		89	132	177	251
07:15		129	100		124	119	253	219		98	104		116	137	214	241
07:30		140	110		137	116	277	226		111	120		113	129	224	249
07:45		170	102		118	109	288	211		117	112		154	113	271	225
08:00		141	93		105	95	246	188		115	97		107	107	222	204
08:15		162	98		90	97	252	195		107	113		120	97	227	210
08:30		139	89		113	85	252	174		99	91		119	92	218	183
08:45		136	88		127	99	263	187		99	98		126	103	225	201
09:00		118	82		126	89	244	171		102	83		111	87	213	170
09:15		110	98		101	83	211	181		98	97		95	84	193	181
09:30		108	79		92	63	200	142		92	67		90	52	182	119
09:45		73	44		116	39	189	83		84	0		99	0	183	0
10:00		85	74		83	78	168	152		103	73		108	73	211	146
10:15		91	79		86	88	177	167		111	83		97	98	208	181
10:30		110	70		90	76	200	146		120	75		95	79	215	154
10:45		90	72		96	77	186	149		95	64		105	75	200	139
11:00		103	76		97	65	200	141		116	73		92	68	208	141
11:15		106	75		96	70	202	145		102	87		95	74	197	161
11:30		97	55		97	69	194	124		105	51		95	69	200	120
11:45		121	59		110	60	231	119		123	62		111	65	234	127
Total		2967	5153		2646	5213	5613	10366		2784	5521		2772	5630	5556	11151
Day Total		8120			7859		15979			8305			8402		16707	
% Total		18.6%	32.2%		16.6%	32.6%				16.7%	33.0%		16.6%	33.7%		
Peak	-	07:30	04:15		07:15	03:15	07:15	03:15	-	07:30	05:45		07:45	04:30	07:30	04:30
Vol.	-	613	525		484	575	1064	1086	-	450	604		500	673	944	1253
P.H.F.		0.901	0.944		0.883	0.933	0.924	0.977		0.962	0.910		0.812	0.951	0.871	0.970

SAMMAT ENGINEERING SERVICES, LLC

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2400 BLOCK OF ALABAMA AVENUE, SE - VOLUME

Start Time	03-Dec-16 Sat		EB		WB		Combined		04-Dec Sun		EB		WB		Combined	
			A.M.	P.M.	A.M.	P.M.	A.M.	P.M.			A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00			41	104	48	96	89	200			45	91	48	93	93	184
12:15			50	110	54	120	104	230			47	93	44	94	91	187
12:30			48	103	50	102	98	205			39	90	39	85	78	175
12:45			31	99	44	112	75	211			28	109	36	100	64	209
01:00			28	102	35	97	63	199			29	127	48	94	77	221
01:15			34	110	33	93	67	203			26	100	25	106	51	206
01:30			29	115	36	121	65	236			23	113	27	96	50	209
01:45			24	128	42	108	66	236			24	107	26	118	50	225
02:00			27	114	33	117	60	231			24	108	20	110	44	218
02:15			21	109	32	119	53	228			21	106	29	112	50	218
02:30			19	132	31	105	50	237			20	115	17	109	37	224
02:45			20	110	16	145	36	255			19	131	22	117	41	248
03:00			18	110	16	125	34	235			25	99	24	132	49	231
03:15			25	115	28	129	53	244			21	120	12	117	33	237
03:30			20	120	22	126	42	246			14	119	21	131	35	250
03:45			20	94	17	133	37	227			19	112	20	104	39	216
04:00			15	111	17	132	32	243			18	115	14	119	32	234
04:15			14	130	19	93	33	223			14	98	15	104	29	202
04:30			20	124	9	107	29	231			17	95	13	92	30	187
04:45			12	93	14	111	26	204			9	77	10	90	19	167
05:00			21	109	9	113	30	222			14	88	14	80	28	168
05:15			12	111	20	98	32	209			13	103	14	87	27	190
05:30			19	123	19	114	38	237			13	78	14	78	27	156
05:45			28	102	19	112	47	214			22	84	7	96	29	180
06:00			23	99	9	115	32	214			17	105	13	97	30	202
06:15			21	110	20	88	41	198			14	83	14	79	28	162
06:30			27	100	31	103	58	203			29	82	28	73	57	155
06:45			39	91	33	105	72	196			28	69	28	81	56	150
07:00			42	94	46	88	88	182			48	76	37	69	85	145
07:15			44	95	39	101	83	196			45	51	30	81	75	132
07:30			49	100	39	102	88	202			50	73	32	74	82	147
07:45			41	89	44	105	85	194			37	75	41	84	78	159
08:00			54	86	45	83	99	169			45	93	41	95	86	188
08:15			36	81	38	97	74	178			54	78	44	95	98	173
08:30			58	85	48	77	106	162			39	89	49	74	88	163
08:45			67	76	66	94	133	170			49	76	46	69	95	145
09:00			90	79	66	91	156	170			51	74	53	74	104	148
09:15			84	95	66	81	150	176			83	61	57	79	140	140
09:30			96	89	76	74	172	163			65	65	60	44	125	109
09:45			91	87	87	77	178	164			65	52	67	47	132	99
10:00			63	74	106	83	169	157			67	61	73	55	140	116
10:15			81	75	86	77	167	152			62	33	87	3	149	36
10:30			97	64	86	72	183	136			89	53	75	46	164	99
10:45			83	79	87	78	170	157			76	52	92	42	168	94
11:00			86	76	101	62	187	138			68	31	81	32	149	63
11:15			107	59	98	65	205	124			97	31	67	38	164	69
11:30			86	57	97	69	183	126			76	38	97	34	173	72
11:45			114	55	109	54	223	109			83	29	85	40	168	69
Total			2175	4673	2186	4769	4361	9442			1881	4008	1856	3969	3737	7977
Day Total			6848		6955		13803				5889		5825		11714	
% Total			15.8%	33.9%	15.8%	34.6%					16.1%	34.2%	15.8%	33.9%		
Peak	-		11:00	01:45	11:00	02:45	11:00	02:45	-		10:30	02:45	10:45	02:45	10:45	02:45
Vol.	-		393	483	405	525	798	980	-		330	469	337	497	654	966
P.H.F.			0.862	0.915	0.929	0.905	0.895	0.961			0.851	0.895	0.869	0.941	0.945	0.966

SAMMAT ENGINEERING SERVICES, LLC

PO BOX 780
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2400 BLOCK OF ALABAMA AVENUE, SE - VOLUME

Start Time	05-Dec-16 Mon	EB		WB		Combined		06-Dec Tue	EB		WB		Combined	
		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00		29	92	24	85	53	177		*	*	*	*	*	*
12:15		33	104	29	75	62	179		*	*	*	*	*	*
12:30		10	104	18	84	28	188		*	*	*	*	*	*
12:45		11	94	20	87	31	181		*	*	*	*	*	*
01:00		11	84	18	84	29	168		*	*	*	*	*	*
01:15		12	96	18	108	30	204		*	*	*	*	*	*
01:30		10	108	8	94	18	202		*	*	*	*	*	*
01:45		12	101	10	116	22	217		*	*	*	*	*	*
02:00		13	112	12	99	25	211		*	*	*	*	*	*
02:15		12	105	20	117	32	222		*	*	*	*	*	*
02:30		11	120	10	120	21	240		*	*	*	*	*	*
02:45		5	119	10	103	15	222		*	*	*	*	*	*
03:00		11	126	5	129	16	255		*	*	*	*	*	*
03:15		9	121	8	117	17	238		*	*	*	*	*	*
03:30		5	140	8	144	13	284		*	*	*	*	*	*
03:45		10	129	1	148	11	277		*	*	*	*	*	*
04:00		9	132	7	158	16	290		*	*	*	*	*	*
04:15		8	151	10	191	18	342		*	*	*	*	*	*
04:30		7	175	10	171	17	346		*	*	*	*	*	*
04:45		11	135	13	196	24	331		*	*	*	*	*	*
05:00		9	157	17	174	26	331		*	*	*	*	*	*
05:15		27	144	23	194	50	338		*	*	*	*	*	*
05:30		28	135	22	181	50	316		*	*	*	*	*	*
05:45		36	143	26	171	62	314		*	*	*	*	*	*
06:00		48	142	34	173	82	315		*	*	*	*	*	*
06:15		58	135	42	146	100	281		*	*	*	*	*	*
06:30		72	126	51	161	123	287		*	*	*	*	*	*
06:45		79	128	91	146	170	274		*	*	*	*	*	*
07:00		93	118	97	110	190	228		*	*	*	*	*	*
07:15		127	111	103	117	230	228		*	*	*	*	*	*
07:30		136	98	108	108	244	206		*	*	*	*	*	*
07:45		139	109	142	104	281	213		*	*	*	*	*	*
08:00		157	89	96	100	253	189		*	*	*	*	*	*
08:15		113	78	141	93	254	171		*	*	*	*	*	*
08:30		137	84	97	64	234	148		*	*	*	*	*	*
08:45		116	83	113	67	229	150		*	*	*	*	*	*
09:00		94	70	99	75	193	145		*	*	*	*	*	*
09:15		98	73	101	62	199	135		*	*	*	*	*	*
09:30		100	58	97	49	197	107		*	*	*	*	*	*
09:45		83	64	108	72	191	136		*	*	*	*	*	*
10:00		75	55	92	56	167	111		*	*	*	*	*	*
10:15		93	51	76	49	169	100		*	*	*	*	*	*
10:30		98	60	89	34	187	94		*	*	*	*	*	*
10:45		101	47	79	41	180	88		*	*	*	*	*	*
11:00		92	51	69	48	161	99		*	*	*	*	*	*
11:15		88	51	90	32	178	83		*	*	*	*	*	*
11:30		94	37	94	46	188	83		*	*	*	*	*	*
11:45		98	25	95	41	193	66		*	*	*	*	*	*
Total		2728	4870	2551	5140	5279	10010		0	0	0	0	0	0
Day Total		7598		7691		15289			0		0		0	
% Total		17.8%	31.9%	16.7%	33.6%				0.0%	0.0%	0.0%	0.0%		
Peak	-	07:15	04:15	07:30	04:45	07:30	04:15	-	-	-	-	-	-	-
Vol.	-	559	618	487	745	1032	1350	-	-	-	-	-	-	-
P.H.F.		0.890	0.883	0.857	0.950	0.918	0.975							
ADT	ADT 14,862	AADT 14,862												

7-DAY SPEED AND VOLUME COUNT

Traffic Data Collection

Location:

2800 Block of Alabama Avenue, SE

Prepared For:



District Department of Transportation (DDOT)

Prepared By:



SAMMAT ENGINEERING SERVICES, LLC
P.O. BOX 780
MOUNT AIRY, MD 21771
www.sammateg.com

December 16th, 2016

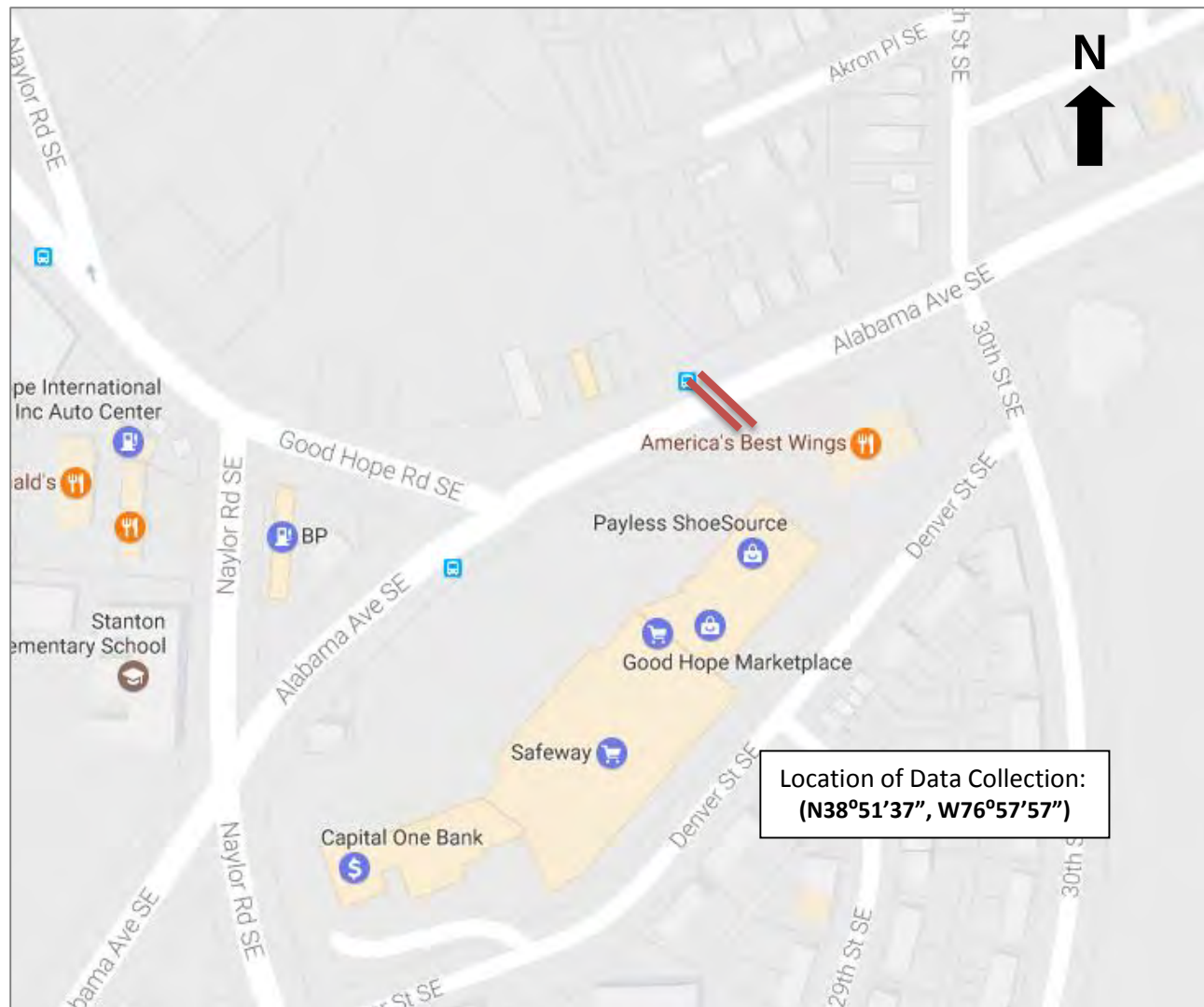


FIGURE 1: Location of Speed and Volume Data Collection

SUMMARY

SAMMAT Engineering Services, LLC presents this report to provide DDOT with volume and speed data obtained from November 29th through December 6th, 2016 on the 2800 block of Alabama Avenue, SE located in the District of Columbia (DC). Table 1 presents the summary of the 7-day volume count and the directional speed data, which includes the 85th percentile speed, the mean (average) speed, and the 10 MPH pace. Figure 1 presents the location of the site with respect to the surrounding roadway network.

Table 1: 7-Day Speed and Volume Characteristics (mph) for 2800 block of Alabama Ave SE

2800 Alabama Ave, SE		85 th Percentile	Mean	10 MPH Pace	ADT
Day 1	EB	28	22	21-30	11,582
	WB	34	25	26-35	
	EB+WB	31	23	21-30	
Day 2	EB	28	21	21-30	12,208
	WB	35	27	26-35	
	EB+WB	32	24	21-30	
Day 3	EB	32	24	26-35	11,307
	WB	36	26	26-35	
	EB+WB	34	25	26-35	
Day 4	EB	33	3	26-35	12,818
	WB	36	26	26-35	
	EB+WB	35	25	26-35	
Day 5	EB	34	25	26-35	10,317
	WB	37	27	26-35	
	EB+WB	36	27	26-35	
Day 6	EB	34	25	26-35	8,918
	WB	36	27	26-35	
	EB+WB	35	26	26-35	
Day 7	EB	33	23	26-35	11,032
	WB	36	26	26-35	
	EB+WB	35	25	26-35	
7-Day	EB	31	21	21-30	11,141
	WB	36	27	26-35	
	EB+WB	34	24	26-35	

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2800 ALABAMA AVENUE SE - VOLUME

Start Time	29-Nov-16 Tue	WB		EB		Combined		30-Nov Wed	WB		EB		Combined	
		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00		20	61	22	88	42	149		13	94	16	73	29	167
12:15		23	61	29	73	52	134		24	83	29	71	53	154
12:30		12	75	20	76	32	151		16	67	10	89	26	156
12:45		5	66	16	87	21	153		11	87	10	74	21	161
01:00		10	57	12	79	22	136		9	83	5	80	14	163
01:15		4	64	13	70	17	134		11	93	19	72	30	165
01:30		3	62	11	76	14	138		7	90	13	72	20	162
01:45		7	60	12	92	19	152		11	86	4	91	15	177
02:00		10	82	7	92	17	174		4	79	8	83	12	162
02:15		5	63	8	81	13	144		5	75	12	76	17	151
02:30		4	74	8	95	12	169		4	63	3	87	7	150
02:45		2	81	3	87	5	168		8	84	10	104	18	188
03:00		7	85	8	99	15	184		6	96	4	98	10	194
03:15		3	94	7	97	10	191		4	105	7	102	11	207
03:30		5	85	5	117	10	202		4	109	8	133	12	242
03:45		3	109	7	117	10	226		6	123	5	110	11	233
04:00		5	125	3	97	8	222		2	148	6	109	8	257
04:15		4	118	11	100	15	218		3	125	8	117	11	242
04:30		2	129	8	104	10	233		2	140	10	98	12	238
04:45		4	123	20	98	24	221		5	133	20	103	25	236
05:00		16	109	11	90	27	199		14	125	13	103	27	228
05:15		8	114	20	98	28	212		8	136	28	114	36	250
05:30		14	99	37	111	51	210		9	130	31	118	40	248
05:45		14	113	39	99	53	212		14	138	32	97	46	235
06:00		15	103	50	97	65	200		22	123	62	90	84	213
06:15		18	112	78	100	96	212		19	142	84	109	103	251
06:30		20	96	108	98	128	194		25	100	110	86	135	186
06:45		30	97	154	84	184	181		33	106	143	100	176	206
07:00		38	76	162	91	200	167		35	89	170	73	205	162
07:15		37	63	178	88	215	151		23	79	195	81	218	160
07:30		50	65	182	87	232	152		41	69	188	76	229	145
07:45		46	50	186	57	232	107		43	58	200	72	243	130
08:00		52	44	161	67	213	111		64	46	184	69	248	115
08:15		53	42	186	76	239	118		37	68	155	69	192	137
08:30		49	52	181	57	230	109		48	54	159	61	207	115
08:45		57	38	165	68	222	106		51	46	173	78	224	124
09:00		55	29	145	62	200	91		57	52	169	80	226	132
09:15		56	39	100	69	156	108		51	41	104	45	155	86
09:30		71	36	99	63	170	99		57	27	97	52	154	79
09:45		67	37	92	52	159	89		46	37	102	54	148	91
10:00		57	33	97	45	154	78		52	35	89	36	141	71
10:15		62	37	88	42	150	79		42	29	95	41	137	70
10:30		45	17	77	43	122	60		54	22	70	40	124	62
10:45		47	25	84	33	131	58		74	37	77	41	151	78
11:00		64	22	72	30	136	52		73	32	73	41	146	73
11:15		79	24	69	28	148	52		82	22	75	24	157	46
11:30		55	19	101	27	156	46		79	33	81	23	160	56
11:45		73	23	62	28	135	51		84	22	69	19	153	41
Total		1386	3288	3214	3715	4600	7003		1392	3861	3235	3734	4627	7595
Day Total		4674		6929		11603			5253		6969		12222	
% Total		11.9%	28.3%	27.7%	32.0%				11.4%	31.6%	26.5%	30.6%		
Peak	-	11:00	04:00	07:30	03:30	07:30	03:45	-	11:00	04:00	07:15	03:30	07:15	03:30
Vol.	-	271	495	715	431	916	899	-	318	546	767	469	938	974
P.H.F.		0.858	0.959	0.961	0.921	0.958	0.965		0.946	0.922	0.959	0.882	0.946	0.947

SAMMAT ENGINEERING SERVICES, LLC

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2800 ALABAMA AVENUE SE - VOLUME

Start Time	01-Dec-16		WB		EB		Combined		02-Dec		WB		EB		Combined	
	Thu		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	Fri		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00			0	88	14	39	14	127			33	110	24	77	57	187
12:15			28	98	16	58	44	156			26	90	21	73	47	163
12:30			15	92	8	46	23	138			20	97	14	71	34	168
12:45			17	85	10	61	27	146			14	98	11	70	25	168
01:00			20	81	10	64	30	145			10	97	15	103	25	200
01:15			15	79	8	56	23	135			15	107	9	89	24	196
01:30			13	96	7	56	20	152			14	108	10	67	24	175
01:45			12	79	6	67	18	146			19	115	7	80	26	195
02:00			14	81	7	76	21	157			13	107	7	72	20	179
02:15			7	104	2	66	9	170			7	117	4	80	11	197
02:30			4	91	1	63	5	154			14	91	4	73	18	164
02:45			5	91	1	79	6	170			9	108	9	84	18	192
03:00			2	90	8	73	10	163			10	123	5	94	15	217
03:15			6	119	4	69	10	188			9	112	7	105	16	217
03:30			1	113	3	80	4	193			6	123	7	115	13	238
03:45			7	124	3	89	10	213			10	104	4	107	14	211
04:00			5	92	8	84	13	176			4	118	2	105	6	223
04:15			6	115	6	102	12	217			6	106	3	116	9	222
04:30			16	117	9	76	25	193			7	107	4	105	11	212
04:45			19	116	6	103	25	219			16	106	5	114	21	220
05:00			16	103	9	109	25	212			11	124	8	93	19	217
05:15			29	103	7	95	36	198			21	101	13	100	34	201
05:30			24	98	15	69	39	167			20	130	11	97	31	227
05:45			29	115	12	80	41	195			31	119	23	103	54	222
06:00			40	100	17	81	57	181			54	120	17	94	71	214
06:15			97	102	19	78	116	180			63	101	16	92	79	193
06:30			110	86	21	83	131	169			102	118	17	103	119	221
06:45			153	100	27	78	180	178			131	125	39	78	170	203
07:00			168	89	38	81	206	170			167	98	35	77	202	175
07:15			176	82	50	76	226	158			171	125	40	76	211	201
07:30			217	96	44	73	261	169			191	93	47	62	238	155
07:45			201	78	34	48	235	126			183	97	48	61	231	158
08:00			183	67	29	69	212	136			137	92	61	68	198	160
08:15			200	55	53	55	253	110			139	91	48	54	187	145
08:30			193	63	56	44	249	107			135	83	56	49	191	132
08:45			178	60	50	30	228	90			142	88	53	49	195	137
09:00			152	57	49	34	201	91			94	72	64	45	158	117
09:15			103	38	54	34	157	72			98	79	51	40	149	119
09:30			124	54	53	39	177	93			99	73	46	50	145	123
09:45			104	40	54	35	158	75			102	71	62	53	164	124
10:00			98	44	55	28	153	72			97	60	71	35	168	95
10:15			68	38	55	28	123	66			98	60	76	39	174	99
10:30			76	37	51	21	127	58			96	62	73	47	169	109
10:45			85	37	55	25	140	62			112	52	71	34	183	86
11:00			71	36	66	26	137	62			90	50	55	47	145	97
11:15			80	25	54	17	134	42			118	42	56	36	174	78
11:30			87	29	58	22	145	51			116	50	80	19	196	69
11:45			75	20	63	12	138	32			90	42	76	25	166	67
Total			3349	3803	1285	2877	4634	6680			3170	4562	1485	3526	4655	8088
Day Total			7152		4162		11314				7732		5011		12743	
% Total			29.6%	33.6%	11.4%	25.4%					24.9%	35.8%	11.7%	27.7%		
Peak	-	07:30	04:15	11:00	04:15	07:30	04:15		-	07:00	05:00	10:00	03:30	07:00	03:30	
Vol.	-	801	451	241	390	961	841		-	712	474	291	443	882	894	
P.H.F.		0.923	0.909	0.913	0.894	0.920	0.960			0.932	0.912	0.957	0.955	0.926	0.939	

SAMMAT ENGINEERING SERVICES, LLC

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2800 ALABAMA AVENUE SE - VOLUME

Start Time	03-Dec-16		WB		EB		Combined		04-Dec		WB		EB		Combined	
	Sat		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	Sun		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00			54	108	28	78	82	186			45	80	22	55	67	135
12:15			42	106	31	62	73	168			24	101	26	49	50	150
12:30			42	95	21	59	63	154			27	84	15	72	42	156
12:45			45	102	24	62	69	164			28	99	16	58	44	157
01:00			40	88	18	52	58	140			24	92	15	69	39	161
01:15			31	99	12	68	43	167			27	94	17	71	44	165
01:30			28	111	10	59	38	170			23	97	26	71	49	168
01:45			35	117	15	58	50	175			16	96	15	73	31	169
02:00			17	107	12	68	29	175			16	116	12	79	28	195
02:15			16	115	15	53	31	168			24	104	3	68	27	172
02:30			26	113	14	65	40	178			10	107	9	78	19	185
02:45			20	96	15	55	35	151			18	112	5	74	23	186
03:00			15	115	4	56	19	171			14	94	11	68	25	162
03:15			19	92	16	70	35	162			10	99	14	79	24	178
03:30			24	119	7	60	31	179			14	92	11	65	25	157
03:45			17	104	3	66	20	170			12	92	8	57	20	149
04:00			10	101	4	76	14	177			13	94	8	62	21	156
04:15			12	97	8	80	20	177			11	77	7	57	18	134
04:30			11	105	9	59	20	164			11	92	8	64	19	156
04:45			15	100	6	65	21	165			13	87	9	59	22	146
05:00			19	98	8	65	27	163			6	97	9	60	15	157
05:15			18	105	6	53	24	158			7	88	8	66	15	154
05:30			18	103	10	66	28	169			10	81	6	51	16	132
05:45			21	86	6	73	27	159			16	56	6	49	22	105
06:00			20	93	8	46	28	139			8	73	8	38	16	111
06:15			13	99	12	59	25	158			21	85	7	27	28	112
06:30			25	101	19	54	44	155			23	87	17	49	40	136
06:45			30	105	16	57	46	162			22	68	20	43	42	111
07:00			23	94	22	61	45	155			22	57	19	41	41	98
07:15			34	85	18	55	52	140			41	70	18	40	59	110
07:30			36	86	24	55	60	141			46	70	23	51	69	121
07:45			47	81	29	46	76	127			47	89	15	49	62	138
08:00			57	77	36	46	93	123			47	80	20	50	67	130
08:15			47	62	28	59	75	121			42	77	31	41	73	118
08:30			60	79	34	44	94	123			52	77	36	44	88	121
08:45			73	63	40	44	113	107			58	67	30	42	88	109
09:00			79	65	43	42	122	107			65	67	37	32	102	99
09:15			87	61	52	45	139	106			57	46	47	35	104	81
09:30			86	54	65	42	151	96			74	44	40	24	114	68
09:45			77	68	72	39	149	107			71	38	55	28	126	66
10:00			109	59	58	35	167	94			98	45	41	31	139	76
10:15			94	67	64	37	158	104			71	41	46	32	117	73
10:30			98	56	72	34	170	90			96	38	58	34	154	72
10:45			90	52	65	38	155	90			102	38	49	24	151	62
11:00			105	47	71	32	176	79			82	29	50	20	132	49
11:15			105	54	59	29	164	83			75	35	58	15	133	50
11:30			95	34	61	33	156	67			85	30	56	22	141	52
11:45			99	41	76	25	175	66			76	21	44	16	120	37
Total			2184	4165	1346	2585	3530	6750			1800	3603	1111	2382	2911	5985
Day Total			6349		3931		10280				5403		3493		8896	
% Total			21.2%	40.5%	13.1%	25.1%					20.2%	40.5%	12.5%	26.8%		
Peak	-	11:00	01:45	10:15	03:30	11:00	03:30		-	10:00	02:00	10:30	02:00	10:30	02:00	
Vol.	-	404	452	272	282	671	703		-	367	439	215	299	570	738	
P.H.F.		0.962	0.966	0.944	0.881	0.953	0.982			0.900	0.946	0.927	0.946	0.925	0.946	

SAMMAT ENGINEERING SERVICES, LLC

PO BOX 780
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2800 ALABAMA AVENUE SE - VOLUME

Start Time	05-Dec-16 Mon	WB		EB		Combined		06-Dec Tue	WB		EB		Combined	
		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00		23	86	14	59	37	145		0	*	0	*	0	*
12:15		20	91	17	59	37	150		*	*	*	*	*	*
12:30		15	92	10	57	25	149		*	*	*	*	*	*
12:45		15	89	4	69	19	158		*	*	*	*	*	*
01:00		12	107	12	70	24	177		*	*	*	*	*	*
01:15		10	107	8	56	18	163		*	*	*	*	*	*
01:30		5	100	9	66	14	166		*	*	*	*	*	*
01:45		5	109	11	75	16	184		*	*	*	*	*	*
02:00		8	97	4	42	12	139		*	*	*	*	*	*
02:15		10	96	5	67	15	163		*	*	*	*	*	*
02:30		8	94	4	74	12	168		*	*	*	*	*	*
02:45		5	105	4	68	9	173		*	*	*	*	*	*
03:00		3	104	8	95	11	199		*	*	*	*	*	*
03:15		3	122	5	81	8	203		*	*	*	*	*	*
03:30		4	117	3	88	7	205		*	*	*	*	*	*
03:45		3	115	4	75	7	190		*	*	*	*	*	*
04:00		2	113	3	107	5	220		*	*	*	*	*	*
04:15		10	118	3	81	13	199		*	*	*	*	*	*
04:30		7	132	4	99	11	231		*	*	*	*	*	*
04:45		15	124	5	107	20	231		*	*	*	*	*	*
05:00		13	109	13	92	26	201		*	*	*	*	*	*
05:15		16	130	13	93	29	223		*	*	*	*	*	*
05:30		26	128	13	89	39	217		*	*	*	*	*	*
05:45		28	123	10	95	38	218		*	*	*	*	*	*
06:00		48	106	14	82	62	188		*	*	*	*	*	*
06:15		73	108	22	109	95	217		*	*	*	*	*	*
06:30		115	124	24	65	139	189		*	*	*	*	*	*
06:45		119	101	34	61	153	162		*	*	*	*	*	*
07:00		168	98	27	75	195	173		*	*	*	*	*	*
07:15		163	86	31	66	194	152		*	*	*	*	*	*
07:30		185	82	46	63	231	145		*	*	*	*	*	*
07:45		202	87	39	75	241	162		*	*	*	*	*	*
08:00		195	63	54	57	249	120		*	*	*	*	*	*
08:15		170	10	36	41	206	51		*	*	*	*	*	*
08:30		183	4	54	32	237	36		*	*	*	*	*	*
08:45		160	12	55	32	215	44		*	*	*	*	*	*
09:00		120	20	57	32	177	52		*	*	*	*	*	*
09:15		107	18	46	31	153	49		*	*	*	*	*	*
09:30		117	29	48	22	165	51		*	*	*	*	*	*
09:45		103	8	54	28	157	36		*	*	*	*	*	*
10:00		83	31	61	25	144	56		*	*	*	*	*	*
10:15		67	15	51	28	118	43		*	*	*	*	*	*
10:30		86	8	60	8	146	16		*	*	*	*	*	*
10:45		85	16	49	14	134	30		*	*	*	*	*	*
11:00		68	12	57	26	125	38		*	*	*	*	*	*
11:15		81	4	60	30	141	34		*	*	*	*	*	*
11:30		77	13	56	17	133	30		*	*	*	*	*	*
11:45		76	3	61	22	137	25		*	*	*	*	*	*
Total		3117	3666	1282	2905	4399	6571		0	0	0	0	0	0
Day Total		6783		4187		10970			0	0	0	0	0	0
% Total		28.4%	33.4%	11.7%	26.5%				0.0%	0.0%	0.0%	0.0%		
Peak	-	07:30	04:30	11:00	04:00	07:45	04:30	-	-	-	-	-	-	-
Vol.	-	752	495	234	394	933	886	-	-	-	-	-	-	-
P.H.F.		0.931	0.938	0.959	0.921	0.937	0.959							
ADT	ADT 11,141	AADT 11,141												

7-DAY SPEED AND VOLUME COUNT

Traffic Data Collection

Location:

3200 Block of Alabama Avenue, SE

Prepared For:



District Department of Transportation (DDOT)

Prepared By:



SAMMAT ENGINEERING SERVICES, LLC
P.O. BOX 780
MOUNT AIRY, MD 21771
www.sammateg.com

December 20th, 2016

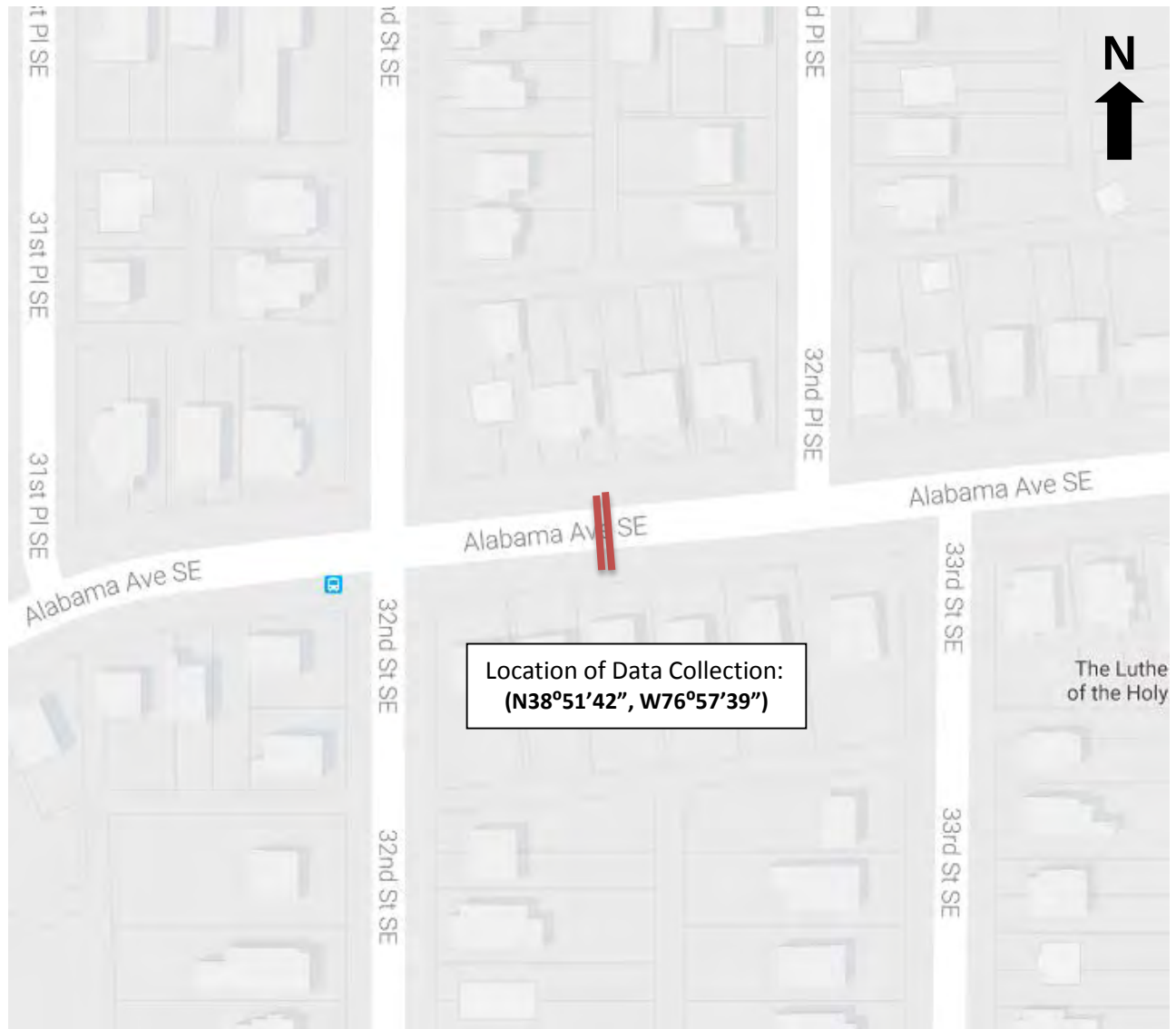


FIGURE 1: Location of Speed and Volume Data Collection

SUMMARY

SAMMAT Engineering Services, LLC presents this report to provide DDOT with volume and speed data obtained from November 29th through December 6th, 2016 on the 3200 block of Alabama Avenue, SE located in the District of Columbia (DC). Table 1 presents the summary of the 7-day volume count and the directional speed data, which includes the 85th percentile speed, the mean (average) speed, and the 10 MPH pace. Figure 1 presents the location of the site with respect to the surrounding roadway network.

Table 1: 7-Day Speed and Volume Characteristics (mph) for 3200 block of Alabama Ave SE

3200 Alabama Ave, SE		85 th Percentile	Mean	10 MPH Pace	ADT
Day 1	EB	24	21	16-25	13,496
	WB	39	32	31-40	
	EB+WB	36	26	16-25	
Day 2	EB	32	24	21-30	13,357
	WB	29	22	21-30	
	EB+WB	31	23	21-30	
Day 3	EB	28	23	21-30	13,471
	WB	36	29	26-35	
	EB+WB	33	26	21-30	
Day 4	EB	30	24	21-30	14,311
	WB	34	28	26-35	
	EB+WB	33	26	26-35	
Day 5	EB	33	28	26-35	13,500
	WB	34	29	26-35	
	EB+WB	34	29	26-35	
Day 6	EB	34	29	26-35	11,205
	WB	34	30	26-35	
	EB+WB	34	29	26-35	
Day 7	EB	32	25	26-35	13,256
	WB	33	27	26-35	
	EB+WB	33	26	26-35	
7-Day	EB	31	25	21-30	8,747
	WB	35	28	26-35	
	EB+WB	33	26	26-35	

SAMMAT ENGINEERING SERVICES, LLC

PO BOX 780
MT AIRY, MD 21771
sammatteng.com

3200 BLOCK OF ALABAMA AVENUE, SE - VOLUME

Start Time	29-Nov-16		EB		WB		Combined		30-Nov	EB		WB		Combined	
	Tue		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	Wed	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00		24	79		28	82	52	161		22	75	28	96	50	171
12:15		22	85		26	81	48	166		27	102	20	107	47	209
12:30		15	105		25	97	40	202		14	95	17	109	31	204
12:45		9	101		18	88	27	189		9	100	21	93	30	193
01:00		16	78		18	74	34	152		14	113	18	94	32	207
01:15		5	92		12	98	17	190		11	87	16	114	27	201
01:30		5	99		12	75	17	174		6	77	16	100	22	177
01:45		8	94		10	85	18	179		10	103	10	94	20	197
02:00		9	96		5	92	14	188		10	126	15	86	25	212
02:15		6	84		10	79	16	163		3	112	7	103	10	215
02:30		8	110		9	76	17	186		4	104	4	95	8	199
02:45		4	95		4	87	8	182		2	127	6	89	8	216
03:00		8	124		9	77	17	201		10	116	4	110	14	226
03:15		4	121		6	91	10	212		6	116	4	108	10	224
03:30		5	116		7	108	12	224		5	123	1	114	6	237
03:45		5	161		8	101	13	262		4	123	6	94	10	217
04:00		10	156		3	84	13	240		8	145	5	84	13	229
04:15		7	158		11	81	18	239		8	87	6	62	14	149
04:30		5	136		13	88	18	224		11	58	14	65	25	123
04:45		8	141		18	82	26	223		9	66	18	76	27	142
05:00		15	132		14	98	29	230		15	78	17	59	32	137
05:15		16	115		22	83	38	198		16	62	31	69	47	131
05:30		21	140		46	96	67	236		19	56	26	65	45	121
05:45		18	145		37	89	55	234		24	37	42	66	66	103
06:00		28	136		56	91	84	227		32	50	62	55	94	105
06:15		34	143		70	76	104	219		37	51	95	42	132	93
06:30		35	123		116	63	151	186		33	73	120	43	153	116
06:45		46	125		149	92	195	217		54	139	146	82	200	221
07:00		58	111		156	57	214	168		58	152	174	83	232	235
07:15		80	101		187	97	267	198		86	145	164	103	250	248
07:30		113	82		181	72	294	154		107	111	182	89	289	200
07:45		121	66		194	77	315	143		122	97	221	92	343	189
08:00		120	80		160	72	280	152		101	127	208	65	309	192
08:15		98	69		181	76	279	145		115	81	207	69	322	150
08:30		116	80		187	62	303	142		131	73	165	79	296	152
08:45		106	61		181	85	287	146		114	71	164	65	278	136
09:00		83	71		136	71	219	142		88	66	164	52	252	118
09:15		82	62		101	50	183	112		98	45	99	59	197	104
09:30		94	46		94	54	188	100		94	57	116	62	210	119
09:45		83	58		103	50	186	108		94	69	96	53	190	122
10:00		74	58		97	41	171	99		73	44	100	50	173	94
10:15		82	36		106	47	188	83		88	52	88	38	176	90
10:30		64	35		80	40	144	75		73	29	82	47	155	76
10:45		76	45		89	49	165	94		94	48	82	43	176	91
11:00		92	36		74	36	166	72		104	47	77	32	181	79
11:15		82	33		82	26	164	59		74	20	107	34	181	54
11:30		81	36		78	25	159	61		110	38	85	36	195	74
11:45		87	34		72	16	159	50		117	23	87	29	204	52
Total		2188	4490		3301	3517	5489	8007		2364	3996	3443	3554	5807	7550
Day Total		6678			6818		13496			6360		6997		13357	
% Total		16.2%	33.3%		24.5%	26.1%				17.7%	29.9%	25.8%	26.6%		
Peak	-	07:45	03:45		07:15	03:15	07:45	03:30	-	07:45	06:45	07:30	03:00	07:45	03:15
Vol.	-	455	611		722	384	1177	965	-	469	547	818	426	1270	907
P.H.F.		0.940	0.949		0.930	0.889	0.934	0.921		0.895	0.900	0.925	0.934	0.926	0.957

SAMMAT ENGINEERING SERVICES, LLC

PO BOX 780
MT AIRY, MD 21771
sammatteng.com

3200 BLOCK OF ALABAMA AVENUE, SE - VOLUME

Start Time	01-Dec-16		EB		WB		Combined		02-Dec		EB		WB		Combined	
	Thu		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	Fri		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00		23	77		28	89	51	166		41	131		30	110	71	241
12:15		25	94		23	94	48	188		22	116		25	102	47	218
12:30		15	100		21	103	36	203		22	115		22	82	44	197
12:45		9	101		20	91	29	192		20	100		20	87	40	187
01:00		15	96		18	84	33	180		21	102		16	85	37	187
01:15		8	90		14	106	22	196		15	138		22	89	37	227
01:30		6	88		14	88	20	176		14	112		16	121	30	233
01:45		9	99		10	90	19	189		15	142		21	102	36	244
02:00		10	111		10	89	20	200		14	109		14	107	28	216
02:15		5	98		9	91	14	189		7	114		7	121	14	235
02:30		6	107		7	86	13	193		7	129		10	112	17	241
02:45		3	111		5	88	8	199		11	124		10	104	21	228
03:00		9	120		7	94	16	214		13	122		10	110	23	232
03:15		5	119		5	100	10	219		8	154		6	97	14	251
03:30		5	120		4	111	9	231		12	160		8	94	20	254
03:45		5	142		7	98	12	240		4	147		9	91	13	238
04:00		9	151		4	84	13	235		6	105		5	93	11	198
04:15		8	123		9	72	17	195		7	117		8	68	15	185
04:30		8	97		14	77	22	174		5	95		9	85	14	180
04:45		9	104		18	79	27	183		5	77		15	48	20	125
05:00		15	105		16	79	31	184		12	69		12	47	24	116
05:15		16	89		27	76	43	165		13	67		22	50	35	117
05:30		20	98		36	81	56	179		16	72		18	62	34	134
05:45		21	91		40	78	61	169		31	70		29	67	60	137
06:00		30	93		59	73	89	166		24	73		65	66	89	139
06:15		36	97		83	59	119	156		31	114		75	84	106	198
06:30		34	98		118	53	152	151		36	162		96	111	132	273
06:45		50	132		148	87	198	219		54	136		134	106	188	242
07:00		58	132		165	70	223	202		67	109		149	96	216	205
07:15		83	123		176	100	259	223		87	108		151	106	238	214
07:30		110	97		182	81	292	178		90	97		163	95	253	192
07:45		122	82		208	85	330	167		101	110		158	97	259	207
08:00		111	104		184	69	295	173		104	107		151	101	255	208
08:15		107	75		194	73	301	148		108	100		155	75	263	175
08:30		124	77		176	71	300	148		76	96		149	77	225	173
08:45		110	66		173	75	283	141		97	80		136	92	233	172
09:00		86	69		150	62	236	131		97	85		98	77	195	162
09:15		90	54		100	55	190	109		91	65		104	76	195	141
09:30		94	52		105	58	199	110		82	67		98	86	180	153
09:45		89	64		100	52	189	116		89	89		100	74	189	163
10:00		74	51		99	46	173	97		110	64		86	65	196	129
10:15		85	44		97	43	182	87		104	74		96	67	200	141
10:30		69	32		81	44	150	76		106	71		92	54	198	125
10:45		85	47		86	46	171	93		109	60		97	69	206	129
11:00		98	42		76	34	174	76		96	71		96	46	192	117
11:15		78	27		95	30	173	57		91	61		119	45	210	106
11:30		96	37		82	31	178	68		117	43		103	57	220	100
11:45		102	29		80	23	182	52		111	40		87	45	198	85
Total		2285	4255		3383	3548	5668	7803		2419	4769		3122	4001	5541	8770
Day Total		6540			6931		13471			7188			7123		14311	
% Total		17.0%	31.6%		25.1%	26.3%				16.9%	33.3%		21.8%	28.0%		
Peak	-	07:45	03:30		07:30	03:00	07:45	03:15	-	10:00	03:00		07:30	01:30	07:30	03:00
Vol.	-	464	536		768	403	1226	925	-	429	583		627	451	1030	975
P.H.F.		0.935	0.887		0.923	0.908	0.929	0.964		0.975	0.911		0.962	0.932	0.979	0.960

SAMMAT ENGINEERING SERVICES, LLC

PO BOX 780
MT AIRY, MD 21771
sammatteng.com

3200 BLOCK OF ALABAMA AVENUE, SE - VOLUME

Start Time	03-Dec-16		EB		WB		Combined		04-Dec		EB		WB		Combined	
	Sat		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	Sun		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00		53	125		44	106	97	231		45	107		48	90	93	197
12:15		45	130		46	97	91	227		41	91		26	88	67	179
12:30		31	94		46	96	77	190		27	113		33	79	60	192
12:45		46	118		35	105	81	223		30	91		28	93	58	184
01:00		33	103		37	92	70	195		34	117		23	103	57	220
01:15		23	105		37	113	60	218		27	116		25	108	52	224
01:30		23	112		33	115	56	227		31	108		21	100	52	208
01:45		20	115		29	126	49	241		27	120		18	98	45	218
02:00		17	108		18	134	35	242		17	132		16	109	33	241
02:15		18	80		13	118	31	198		12	108		27	118	39	226
02:30		18	118		25	115	43	233		11	125		15	103	26	228
02:45		26	126		18	112	44	238		17	129		14	106	31	235
03:00		12	108		13	126	25	234		15	123		14	100	29	223
03:15		18	125		25	124	43	249		15	126		12	114	27	240
03:30		16	120		23	120	39	240		15	109		16	92	31	201
03:45		5	110		13	131	18	241		13	102		12	91	25	193
04:00		7	133		10	86	17	219		10	97		16	87	26	184
04:15		10	116		13	112	23	228		13	93		10	85	23	178
04:30		12	110		13	99	25	209		12	95		12	93	24	188
04:45		9	117		17	109	26	226		12	84		11	84	23	168
05:00		10	110		15	123	25	233		11	98		3	116	14	214
05:15		10	108		14	109	24	217		9	107		6	84	15	191
05:30		16	114		19	100	35	214		10	78		10	79	20	157
05:45		8	116		19	103	27	219		10	76		21	61	31	137
06:00		15	100		26	101	41	201		18	76		10	80	28	156
06:15		17	90		14	116	31	206		10	61		19	73	29	134
06:30		22	107		27	106	49	213		26	68		29	75	55	143
06:45		26	101		30	104	56	205		32	72		23	69	55	141
07:00		35	115		21	107	56	222		31	74		27	69	58	143
07:15		32	85		34	80	66	165		26	58		36	70	62	128
07:30		43	93		37	91	80	184		48	77		39	72	87	149
07:45		46	77		56	79	102	156		28	84		58	89	86	173
08:00		60	87		51	91	111	178		29	84		50	86	79	170
08:15		42	89		58	67	100	156		44	77		48	74	92	151
08:30		61	70		62	95	123	165		56	78		43	73	99	151
08:45		64	63		67	76	131	139		58	60		52	74	110	134
09:00		79	60		62	83	141	143		69	64		58	71	127	135
09:15		91	67		91	81	182	148		68	52		58	51	126	103
09:30		108	70		84	73	192	143		79	44		78	53	157	97
09:45		114	68		71	70	185	138		80	49		68	44	148	93
10:00		106	70		114	69	220	139		91	54		76	34	167	88
10:15		106	63		71	71	177	134		87	43		72	42	159	85
10:30		128	67		86	73	214	140		94	44		86	33	180	77
10:45		121	55		92	59	213	114		83	36		89	44	172	80
11:00		116	62		102	54	218	116		82	34		73	28	155	62
11:15		95	58		112	63	207	121		77	28		80	38	157	66
11:30		100	52		112	39	212	91		102	32		66	34	168	66
11:45		121	45		116	41	237	86		79	25		75	18	154	43
Total		2234	4535		2171	4560	4405	9095		1861	3919		1750	3675	3611	7594
Day Total		6769			6731		13500			5780			5425		11205	
% Total		16.5%	33.6%		16.1%	33.8%				16.6%	35.0%		15.6%	32.8%		
Peak	-	10:15	03:15		11:00	03:00	11:00	03:00	-	10:00	02:30		10:30	02:00	10:00	02:00
Vol.	-	471	488		442	501	874	964	-	355	503		328	436	678	930
P.H.F.		0.920	0.917		0.953	0.935	0.922	0.968		0.944	0.975		0.921	0.924	0.942	0.965

SAMMAT ENGINEERING SERVICES, LLC

PO BOX 780
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3200 BLOCK OF ALABAMA AVENUE, SE - VOLUME

Start Time	05-Dec-16		EB		WB		Combined		06-Dec		EB		WB		Combined	
	Mon		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	Tue		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00			17	89	23	87	40	176			*	*	*	*	*	*
12:15			19	92	18	95	37	187			*	*	*	*	*	*
12:30			14	95	15	93	29	188			*	*	*	*	*	*
12:45			7	90	13	110	20	200			*	*	*	*	*	*
01:00			12	121	13	102	25	223			*	*	*	*	*	*
01:15			10	89	9	107	19	196			*	*	*	*	*	*
01:30			11	99	4	89	15	188			*	*	*	*	*	*
01:45			12	117	5	96	17	213			*	*	*	*	*	*
02:00			6	74	7	105	13	179			*	*	*	*	*	*
02:15			6	110	11	94	17	204			*	*	*	*	*	*
02:30			6	129	9	97	15	226			*	*	*	*	*	*
02:45			6	116	6	103	12	219			*	*	*	*	*	*
03:00			8	133	2	99	10	232			*	*	*	*	*	*
03:15			7	145	5	99	12	244			*	*	*	*	*	*
03:30			4	128	3	110	7	238			*	*	*	*	*	*
03:45			5	139	4	105	9	244			*	*	*	*	*	*
04:00			4	143	5	77	9	220			*	*	*	*	*	*
04:15			7	141	8	91	15	232			*	*	*	*	*	*
04:30			4	149	9	94	13	243			*	*	*	*	*	*
04:45			9	104	12	64	21	168			*	*	*	*	*	*
05:00			17	98	18	82	35	180			*	*	*	*	*	*
05:15			15	66	20	92	35	158			*	*	*	*	*	*
05:30			15	54	35	59	50	113			*	*	*	*	*	*
05:45			16	61	33	52	49	113			*	*	*	*	*	*
06:00			28	76	49	44	77	120			*	*	*	*	*	*
06:15			33	70	81	54	114	124			*	*	*	*	*	*
06:30			43	115	111	102	154	217			*	*	*	*	*	*
06:45			45	108	130	95	175	203			*	*	*	*	*	*
07:00			62	124	165	79	227	203			*	*	*	*	*	*
07:15			96	106	142	95	238	201			*	*	*	*	*	*
07:30		111	96	172	77	283	173			*	*	*	*	*	*	*
07:45		114	107	187	83	301	190			*	*	*	*	*	*	*
08:00		112	96	183	79	295	175			*	*	*	*	*	*	*
08:15		103	74	140	74	243	148			*	*	*	*	*	*	*
08:30			109	60	167	80	276	140			*	*	*	*	*	*
08:45			100	69	147	59	247	128			*	*	*	*	*	*
09:00			106	73	112	68	218	141			*	*	*	*	*	*
09:15			87	62	114	42	201	104			*	*	*	*	*	*
09:30			85	39	104	68	189	107			*	*	*	*	*	*
09:45			83	64	98	48	181	112			*	*	*	*	*	*
10:00			118	52	80	65	198	117			*	*	*	*	*	*
10:15			97	46	87	43	184	89			*	*	*	*	*	*
10:30			93	24	90	43	183	67			*	*	*	*	*	*
10:45			83	29	104	34	187	63			*	*	*	*	*	*
11:00			88	37	70	31	158	68			*	*	*	*	*	*
11:15			82	43	91	29	173	72			*	*	*	*	*	*
11:30			78	33	93	40	171	73			*	*	*	*	*	*
11:45			88	36	89	27	177	63			*	*	*	*	*	*
Total			2281	4221	3093	3661	5374	7882			0	0	0	0	0	0
Day Total			6502		6754		13256				0		0		0	
% Total			17.2%	31.8%	23.3%	27.6%					0.0%	0.0%	0.0%	0.0%		
Peak	-	07:30	03:45	07:15	03:00	07:30	03:00		-	-	-	-	-	-	-	-
Vol.	-	440	572	684	413	1122	958		-	-	-	-	-	-	-	-
P.H.F.		0.965	0.960	0.914	0.939	0.932	0.982									
ADT	ADT 8,747	AADT 8,747														

7-DAY SPEED AND VOLUME COUNT

Traffic Data Collection

Location:

3300 Block of Alabama Avenue, SE

Prepared For:



District Department of Transportation (DDOT)

Prepared By:



SAMMAT ENGINEERING SERVICES, LLC
P.O. BOX 780
MOUNT AIRY, MD 21771
www.sammateg.com

December 20th, 2016



FIGURE 1: Location of Speed and Volume Data Collection

SUMMARY

SAMMAT Engineering Services, LLC presents this report to provide DDOT with volume and speed data obtained from November 29th through December 6th, 2016 on the 3300 block of Alabama Avenue, SE located in the District of Columbia (DC). Table 1 presents the summary of the 7-day volume count and the directional speed data, which includes the 85th percentile speed, the mean (average) speed, and the 10 MPH pace. Figure 1 presents the location of the site with respect to the surrounding roadway network.

Table 1: 7-Day Speed and Volume Characteristics (mph) for 3300 block of Alabama Ave SE

3300 Alabama Ave, SE		85 th Percentile	Mean	10 MPH Pace	ADT
Day 1	EB	30	26	21-30	10,975
	WB	24	16	16-25	
	EB+WB	29	21	21-30	
Day 2	EB	31	26	21-30	11,375
	WB	26	17	16-25	
	EB+WB	29	21	21-30	
Day 3	EB	30	26	21-30	11,902
	WB	24	16	16-25	
	EB+WB	29	21	21-30	
Day 4	EB	29	25	21-30	12,067
	WB	24	16	16-25	
	EB+WB	28	20	21-30	
Day 5	EB	31	26	21-30	10,819
	WB	25	18	16-25	
	EB+WB	29	22	21-30	
Day 6	EB	31	27	21-30	9,037
	WB	27	19	16-25	
	EB+WB	29	23	21-30	
Day 7	EB	31	26	21-30	11,237
	WB	25	17	16-25	
	EB+WB	29	21	21-30	
7-Day	EB	30	26	21-30	11,077
	WB	25	17	16-25	
	EB+WB	29	21	21-30	

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3300 BLOCK OF ALABAMA AVENUE, SE - VOLUME

Start Time	29-Nov-16		EB		WB		Combined		30-Nov	EB		WB		Combined	
	Tue		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	Wed	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00			23	67	26	70	49	137		14	68	21	76	35	144
12:15			18	61	20	64	38	125		18	59	20	76	38	135
12:30			10	73	18	77	28	150		14	62	10	86	24	148
12:45			9	61	11	72	20	133		17	66	6	71	23	137
01:00			13	54	17	53	30	107		11	61	4	72	15	133
01:15			6	54	10	78	16	132		16	71	16	85	32	156
01:30			5	59	9	68	14	127		12	54	9	80	21	134
01:45			8	62	8	75	16	137		13	72	4	100	17	172
02:00			9	67	5	83	14	150		7	70	8	81	15	151
02:15			5	70	6	72	11	142		10	67	8	80	18	147
02:30			8	84	9	97	17	181		4	109	6	80	10	189
02:45			5	77	4	76	9	153		10	83	8	85	18	168
03:00			8	99	6	77	14	176		4	92	7	90	11	182
03:15			1	117	5	80	6	197		8	69	5	102	13	171
03:30			2	100	5	84	7	184		3	108	7	95	10	203
03:45			4	106	5	98	9	204		7	114	5	104	12	218
04:00			7	122	1	98	8	220		6	104	2	93	8	197
04:15			2	119	10	95	12	214		2	128	4	99	6	227
04:30			2	125	11	94	13	219		1	126	8	87	9	213
04:45			6	127	16	91	22	218		8	125	15	89	23	214
05:00			15	115	10	78	25	193		11	125	14	78	25	203
05:15			11	118	17	95	28	213		9	141	17	84	26	225
05:30			17	130	28	90	45	220		12	138	22	82	34	220
05:45			20	132	32	94	52	226		13	121	32	100	45	221
06:00			12	136	41	88	53	224		22	130	51	95	73	225
06:15			22	116	63	96	85	212		25	139	70	100	95	239
06:30			28	108	91	95	119	203		35	124	84	99	119	223
06:45			45	120	121	82	166	202		32	98	116	97	148	195
07:00			46	81	120	93	166	174		57	93	112	80	169	173
07:15			68	78	122	89	190	167		54	86	98	86	152	172
07:30			71	85	115	77	186	162		76	74	89	87	165	161
07:45			87	69	108	63	195	132		104	71	93	86	197	157
08:00			91	52	109	68	200	120		98	71	118	60	216	131
08:15			95	49	113	62	208	111		87	54	96	77	183	131
08:30			72	53	104	42	176	95		99	68	96	60	195	128
08:45			81	54	113	53	194	107		85	60	105	70	190	130
09:00			73	50	108	57	181	107		84	47	91	59	175	106
09:15			53	28	81	54	134	82		64	51	84	59	148	110
09:30			58	52	74	50	132	102		58	52	95	53	153	105
09:45			51	43	80	43	131	86		53	39	71	55	124	94
10:00			66	41	78	42	144	83		67	39	84	46	151	85
10:15			65	39	85	34	150	73		44	39	83	36	127	75
10:30			52	27	69	27	121	54		59	38	69	44	128	82
10:45			40	28	69	33	109	61		58	45	59	36	117	81
11:00			68	27	70	28	138	55		51	42	75	41	126	83
11:15			62	27	71	29	133	56		65	29	64	35	129	64
11:30			49	19	73	20	122	39		62	28	73	30	135	58
11:45			69	28	56	21	125	49		48	33	76	22	124	55
Total			1638	3609	2423	3305	4061	6914		1717	3783	2310	3588	4027	7371
Day Total			5247		5728		10975			5500		5898		11398	
% Total			14.9%	32.9%	22.1%	30.1%				15.1%	33.2%	20.3%	31.5%		
Peak	-		07:45	05:15	06:45	03:45	07:30	05:15	-	07:45	05:15	06:45	03:15	07:45	05:45
Vol.	-		345	516	478	385	789	883	-	388	530	415	394	791	908
P.H.F.			0.908	0.949	0.980	0.982	0.948	0.977		0.933	0.940	0.894	0.947	0.916	0.950

SAMMAT ENGINEERING SERVICES, LLC

PO BOX 780
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3300 BLOCK OF ALABAMA AVENUE, SE - VOLUME

Start Time	01-Dec-16		EB		WB		Combined		02-Dec		EB		WB		Combined	
	Thu		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	Fri		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00			22	70	27	99	49	169			30	84	29	81	59	165
12:15			31	66	18	84	49	150			21	102	20	80	41	182
12:30			19	68	18	98	37	166			16	75	18	69	34	144
12:45			15	68	16	91	31	159			18	57	15	72	33	129
01:00			14	71	11	91	25	162			21	101	9	84	30	185
01:15			15	83	13	81	28	164			18	72	18	75	36	147
01:30			11	57	14	98	25	155			14	74	11	86	25	160
01:45			11	60	8	77	19	137			12	83	17	86	29	169
02:00			10	86	13	66	23	152			14	79	12	91	26	170
02:15			6	86	8	85	14	171			6	74	5	112	11	186
02:30			5	103	9	95	14	198			4	104	7	93	11	197
02:45			5	92	9	93	14	185			9	97	6	97	15	194
03:00			7	104	4	96	11	200			7	110	9	82	16	192
03:15			5	103	5	89	10	192			8	118	6	101	14	219
03:30			8	119	8	97	16	216			10	135	8	92	18	227
03:45			7	119	0	87	7	206			4	127	9	108	13	235
04:00			10	129	5	98	15	227			4	118	4	61	8	179
04:15			5	141	6	92	11	233			6	152	6	43	12	195
04:30			4	131	9	73	13	204			2	119	8	52	10	171
04:45			8	114	15	97	23	211			3	130	13	57	16	187
05:00			14	145	13	102	27	247			9	136	10	87	19	223
05:15			10	110	25	86	35	196			12	130	15	84	27	214
05:30			13	129	20	82	33	211			14	140	21	79	35	219
05:45			18	141	29	82	47	223			15	125	26	93	41	218
06:00			19	168	49	85	68	253			19	145	41	68	60	213
06:15			22	134	68	75	90	209			26	140	61	98	87	238
06:30			30	110	92	95	122	205			31	119	90	110	121	229
06:45			29	104	115	105	144	209			32	107	101	92	133	199
07:00			56	97	128	89	184	186			32	100	106	107	138	207
07:15			52	86	97	100	149	186			51	91	115	88	166	179
07:30			72	97	106	82	178	179			55	86	128	92	183	178
07:45			81	74	112	80	193	154			76	82	118	88	194	170
08:00			87	69	110	78	197	147			54	65	122	76	176	141
08:15			104	77	96	73	200	150			67	64	109	74	176	138
08:30			80	68	108	71	188	139			46	70	106	63	152	133
08:45			80	61	94	66	174	127			54	65	95	80	149	145
09:00			70	44	115	75	185	119			65	63	83	67	148	130
09:15			70	53	98	76	168	129			49	58	88	65	137	123
09:30			56	48	96	65	152	113			44	61	76	74	120	135
09:45			72	45	81	52	153	97			58	71	79	68	137	139
10:00			68	45	82	46	150	91			78	55	75	66	153	121
10:15			77	40	85	43	162	83			81	60	79	52	160	112
10:30			55	44	92	44	147	88			60	55	84	38	144	93
10:45			64	31	60	47	124	78			74	44	83	53	157	97
11:00			61	39	93	28	154	67			90	58	75	46	165	104
11:15			69	38	75	30	144	68			62	50	91	36	153	86
11:30			57	23	74	36	131	59			64	38	79	43	143	81
11:45			58	37	75	33	133	70			80	38	86	34	166	72
Total			1762	4027	2504	3713	4266	7740			1625	4327	2472	3643	4097	7970
Day Total			5789		6217		12006				5952		6115		12067	
% Total			14.7%	33.5%	20.9%	30.9%					13.5%	35.9%	20.5%	30.2%		
Peak	-		07:45	05:30	06:45	06:30	07:45	05:30	-		10:15	05:30	07:15	06:15	07:30	05:45
Vol.	-		352	572	446	389	778	896	-		305	550	483	407	729	898
P.H.F.			0.846	0.851	0.871	0.926	0.973	0.885			0.847	0.948	0.943	0.908	0.939	0.943

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3300 BLOCK OF ALABAMA AVENUE, SE - VOLUME

Start Time	03-Dec-16 Sat		EB		WB		Combined		04-Dec Sun		EB		WB		Combined	
			A.M.	P.M.	A.M.	P.M.	A.M.	P.M.			A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00			54	64	45	85	99	149			40	68	35	74	75	142
12:15			24	82	43	100	67	182			33	74	20	86	53	160
12:30			28	67	36	85	64	152			28	89	27	68	55	157
12:45			28	83	32	93	60	176			27	74	18	97	45	171
01:00			32	80	34	93	66	173			24	85	21	86	45	171
01:15			24	78	34	96	58	174			21	86	22	98	43	184
01:30			20	77	26	100	46	177			27	69	18	96	45	165
01:45			16	87	23	102	39	189			21	76	15	97	36	173
02:00			16	84	16	110	32	194			19	100	11	73	30	173
02:15			16	67	14	97	30	164			8	68	23	95	31	163
02:30			16	95	24	104	40	199			9	83	12	96	21	179
02:45			21	97	15	103	36	200			16	91	17	78	33	169
03:00			9	84	11	112	20	196			12	95	9	77	21	172
03:15			19	91	25	100	44	191			16	86	11	90	27	176
03:30			16	98	17	98	33	196			13	78	9	85	22	163
03:45			7	93	13	96	20	189			11	73	11	86	22	159
04:00			5	85	10	87	15	172			13	66	14	81	27	147
04:15			11	88	8	99	19	187			11	55	9	81	20	136
04:30			7	69	8	95	15	164			10	66	11	86	21	152
04:45			9	66	13	91	22	157			7	68	13	76	20	144
05:00			9	80	9	90	18	170			10	70	2	83	12	153
05:15			7	71	10	93	17	164			7	77	7	78	14	155
05:30			15	74	13	90	28	164			7	50	7	68	14	118
05:45			7	81	14	90	21	171			9	51	15	58	24	109
06:00			14	70	23	84	37	154			11	51	11	75	22	126
06:15			12	65	14	88	26	153			8	56	19	56	27	112
06:30			17	69	27	86	44	155			21	64	24	70	45	134
06:45			21	73	28	88	49	161			30	60	16	59	46	119
07:00			31	82	25	81	56	163			22	57	26	62	48	119
07:15			25	68	29	75	54	143			20	56	27	50	47	106
07:30			31	68	43	74	74	142			31	60	35	67	66	127
07:45			33	54	52	74	85	128			19	62	51	74	70	136
08:00			37	73	44	74	81	147			26	58	40	69	66	127
08:15			38	65	47	54	85	119			33	62	46	60	79	122
08:30			46	51	50	72	96	123			46	44	38	65	84	109
08:45			52	60	59	72	111	132			43	54	49	65	92	119
09:00			64	39	63	69	127	108			51	44	52	61	103	105
09:15			68	51	71	61	139	112			57	45	45	42	102	87
09:30			76	52	75	56	151	108			57	34	64	42	121	76
09:45			90	49	69	49	159	98			61	46	61	32	122	78
10:00			79	60	99	61	178	121			52	30	65	33	117	63
10:15			83	58	83	57	166	115			64	39	75	38	139	77
10:30			82	52	99	51	181	103			69	39	75	36	144	75
10:45			83	46	85	53	168	99			65	31	79	33	144	64
11:00			72	40	84	50	156	90			54	26	84	27	138	53
11:15			85	48	95	50	180	98			60	33	71	31	131	64
11:30			63	42	91	37	154	79			69	25	60	27	129	52
11:45			91	31	95	35	186	66			59	19	64	16	123	35
Total			1709	3307	1943	3860	3652	7167			1427	2893	1534	3183	2961	6076
Day Total			5016		5803		10819				4320		4717		9037	
% Total			15.8%	30.6%	18.0%	35.7%					15.8%	32.0%	17.0%	35.2%		
Peak	-		09:45	02:45	10:00	02:30	10:00	02:30	-		10:15	02:30	10:15	00:45	10:15	02:30
Vol.	-		334	370	366	419	693	786	-		252	355	313	377	565	696
P.H.F.			0.928	0.944	0.924	0.935	0.957	0.983			0.913	0.934	0.932	0.962	0.981	0.972

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3300 BLOCK OF ALABAMA AVENUE, SE - VOLUME

Start Time	05-Dec-16		EB		WB		Combined		06-Dec Tue	EB		WB		Combined	
	Mon		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00			19	68	24	73	43	141		*	*	*	*	*	*
12:15			18	60	20	70	38	130		*	*	*	*	*	*
12:30			12	68	14	82	26	150		*	*	*	*	*	*
12:45			13	64	9	72	22	136		*	*	*	*	*	*
01:00			12	58	11	63	23	121		*	*	*	*	*	*
01:15			11	63	13	82	24	145		*	*	*	*	*	*
01:30			9	57	9	74	18	131		*	*	*	*	*	*
01:45			11	67	6	88	17	155		*	*	*	*	*	*
02:00			8	69	7	82	15	151		*	*	*	*	*	*
02:15			8	69	7	76	15	145		*	*	*	*	*	*
02:30			6	97	8	89	14	186		*	*	*	*	*	*
02:45			8	80	6	81	14	161		*	*	*	*	*	*
03:00			6	96	7	84	13	180		*	*	*	*	*	*
03:15			5	93	5	91	10	184		*	*	*	*	*	*
03:30			3	104	6	90	9	194		*	*	*	*	*	*
03:45			6	110	5	101	11	211		*	*	*	*	*	*
04:00			7	113	2	96	9	209		*	*	*	*	*	*
04:15			2	124	7	97	9	221		*	*	*	*	*	*
04:30			2	126	10	91	12	217		*	*	*	*	*	*
04:45			7	126	16	90	23	216		*	*	*	*	*	*
05:00			13	120	12	78	25	198		*	*	*	*	*	*
05:15			10	130	17	90	27	220		*	*	*	*	*	*
05:30			15	134	25	86	40	220		*	*	*	*	*	*
05:45			17	127	32	97	49	224		*	*	*	*	*	*
06:00			17	133	46	92	63	225		*	*	*	*	*	*
06:15			24	128	67	98	91	226		*	*	*	*	*	*
06:30			32	116	88	97	120	213		*	*	*	*	*	*
06:45			39	109	119	90	158	199		*	*	*	*	*	*
07:00			52	87	116	87	168	174		*	*	*	*	*	*
07:15			61	82	110	88	171	170		*	*	*	*	*	*
07:30			74	80	102	82	176	162		*	*	*	*	*	*
07:45			96	70	101	75	197	145		*	*	*	*	*	*
08:00			95	62	114	64	209	126		*	*	*	*	*	*
08:15			91	52	105	70	196	122		*	*	*	*	*	*
08:30			86	61	100	51	186	112		*	*	*	*	*	*
08:45			83	57	109	62	192	119		*	*	*	*	*	*
09:00			79	49	100	58	179	107		*	*	*	*	*	*
09:15			59	40	83	57	142	97		*	*	*	*	*	*
09:30			58	52	85	52	143	104		*	*	*	*	*	*
09:45			52	41	76	49	128	90		*	*	*	*	*	*
10:00			67	40	81	44	148	84		*	*	*	*	*	*
10:15			55	39	84	35	139	74		*	*	*	*	*	*
10:30			56	33	69	36	125	69		*	*	*	*	*	*
10:45			49	37	64	35	113	72		*	*	*	*	*	*
11:00			60	35	73	35	133	70		*	*	*	*	*	*
11:15			64	28	68	32	132	60		*	*	*	*	*	*
11:30			56	24	73	25	129	49		*	*	*	*	*	*
11:45			59	31	66	22	125	53		*	*	*	*	*	*
Total			1692	3709	2377	3459	4069	7168		0	0	0	0	0	0
Day Total			5401		5836		11237			0		0		0	
% Total			15.1%	33.0%	21.2%	30.8%				0.0%	0.0%	0.0%	0.0%		
Peak	-	07:45	05:15	06:45	03:45	07:45	05:30		-	-	-	-	-	-	-
Vol.	-	368	524	447	385	788	895		-	-	-	-	-	-	-
P.H.F.		0.958	0.978	0.939	0.953	0.943	0.990								
ADT	ADT 11,077	AADT 11,077													

7-DAY SPEED AND VOLUME COUNT

Traffic Data Collection

Location:

3700 Block of Alabama Avenue, SE

Prepared For:



District Department of Transportation (DDOT)

Prepared By:



SAMMAT ENGINEERING SERVICES, LLC
P.O. BOX 780
MOUNT AIRY, MD 21771
www.sammateg.com

December 16th, 2016



FIGURE 1: Location of Speed and Volume Data Collection

SUMMARY

SAMMAT Engineering Services, LLC presents this report to provide DDOT with volume and speed data obtained from November 29th through December 6th, 2016 on the 3700 block of Alabama Avenue, SE located in the District of Columbia (DC). Table 1 presents the summary of the 7-day volume count and the directional speed data, which includes the 85th percentile speed, the mean (average) speed, and the 10 MPH pace. Figure 1 presents the location of the site with respect to the surrounding roadway network.

Table 1: 7-Day Speed and Volume Characteristics (mph) for 3700 block of Alabama Ave SE

4100 Alabama Ave, SE		85 th Percentile	Mean	10 MPH Pace	ADT
Day 1	EB	28	22	21-30	10,266
	WB	30	25	21-30	
	EB+WB	29	21	21-30	
Day 2	EB	28	22	21-30	10,833
	WB	30	25	21-30	
	EB+WB	29	24	21-30	
Day 3	EB	28	22	21-30	11,548
	WB	31	26	21-30	
	EB+WB	30	24	21-30	
Day 4	EB	28	22	21-30	11,676
	WB	31	26	21-30	
	EB+WB	29	24	21-30	
Day 5	EB	29	23	21-30	9,806
	WB	32	27	21-30	
	EB+WB	30	25	21-30	
Day 6	EB	29	24	21-30	7,954
	WB	32	27	21-30	
	EB+WB	30	25	21-30	
Day 7	EB	31	26	21-30	10,958
	WB	27	21	21-30	
	EB+WB	29	24	21-30	
7-Day	EB	29	23	21-30	10,463
	WB	30	25	21-30	
	EB+WB	29	24	21-30	

SAMMAT ENGINEERING SERVICES, LLC

PO BOX 780
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3700 ALABAMA AVENUE SE - VOLUME

Start Time	29-Nov-16		WB		EB		Combined		30-Nov	WB		EB		Combined	
	Tue		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	Wed	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00			25	65	23	57	48	122		20	71	12	63	32	134
12:15			16	69	16	65	32	134		14	68	13	61	27	129
12:30			17	72	9	72	26	144		10	80	11	65	21	145
12:45			19	56	10	62	29	118		4	50	13	62	17	112
01:00			14	55	9	47	23	102		7	74	16	71	23	145
01:15			11	83	6	58	17	141		16	77	12	80	28	157
01:30			10	63	6	64	16	127		8	76	15	45	23	121
01:45			6	70	7	55	13	125		4	99	12	72	16	171
02:00			6	78	6	64	12	142		8	69	5	76	13	145
02:15			8	76	7	67	15	143		8	63	6	66	14	129
02:30			8	81	7	81	15	162		6	88	7	82	13	170
02:45			4	70	3	67	7	137		9	92	8	89	17	181
03:00			6	73	5	81	11	154		3	93	1	74	4	167
03:15			5	110	2	88	7	198		6	97	5	80	11	177
03:30			4	95	2	94	6	189		5	83	7	104	12	187
03:45			4	91	2	97	6	188		6	100	3	93	9	193
04:00			0	93	6	106	6	199		0	98	4	104	4	202
04:15			8	87	2	115	10	202		4	109	3	101	7	210
04:30			9	125	2	94	11	219		6	131	0	111	6	242
04:45			11	114	7	106	18	220		9	103	9	76	18	179
05:00			5	99	15	87	20	186		11	103	9	99	20	202
05:15			13	123	12	115	25	238		8	96	11	104	19	200
05:30			16	127	13	93	29	220		14	115	10	77	24	192
05:45			21	101	15	90	36	191		26	94	12	91	38	185
06:00			24	91	18	103	42	194		30	100	17	115	47	215
06:15			32	79	23	110	55	189		44	92	30	109	74	201
06:30			52	91	26	88	78	179		56	99	38	98	94	197
06:45			82	85	29	91	111	176		81	103	33	96	114	199
07:00			112	85	35	75	147	160		138	93	36	81	174	174
07:15			129	75	46	61	175	136		146	86	52	67	198	153
07:30			153	70	63	74	216	144		153	90	68	68	221	158
07:45			127	54	90	59	217	113		128	71	97	68	225	139
08:00			146	57	86	43	232	100		150	60	76	55	226	115
08:15			148	60	81	49	229	109		143	70	110	57	253	127
08:30			116	56	98	31	214	87		149	58	90	47	239	105
08:45			119	58	94	48	213	106		126	67	91	52	217	119
09:00			111	46	60	51	171	97		93	58	78	43	171	101
09:15			78	46	44	32	122	78		80	45	71	53	151	98
09:30			74	11	71	12	145	23		86	52	68	40	154	92
09:45			67	49	55	39	122	88		61	48	56	36	117	84
10:00			84	31	57	40	141	71		70	42	66	31	136	73
10:15			95	33	62	29	157	62		79	32	42	33	121	65
10:30			61	32	59	20	120	52		61	39	53	33	114	72
10:45			80	32	40	24	120	56		55	34	55	35	110	69
11:00			60	27	57	19	117	46		60	44	47	34	107	78
11:15			59	29	50	22	109	51		57	32	58	26	115	58
11:30			60	14	45	15	105	29		72	26	52	21	124	47
11:45			41	21	66	19	107	40		75	18	52	22	127	40
Total			2356	3308	1547	3079	3903	6387		2405	3588	1640	3266	4045	6854
Day Total			5664		4626		10290			5993		4906		10899	
% Total			22.9%	32.1%	15.0%	29.9%				22.1%	32.9%	15.0%	30.0%		
Peak	-	07:30	04:45	08:00	04:00	07:30	04:45		-	07:15	04:15	07:45	06:00	07:45	03:45
Vol.	-	574	463	359	421	894	864		-	577	446	373	418	943	847
P.H.F.		0.938	0.911	0.916	0.915	0.963	0.908			0.943	0.851	0.848	0.909	0.932	0.875

SAMMAT ENGINEERING SERVICES, LLC

PO BOX 780
MT AIRY, MD 21771
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3700 ALABAMA AVENUE SE - VOLUME

Start Time	01-Dec-16		WB		EB		Combined		02-Dec	WB		EB		Combined	
	Thu		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	Fri	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00			21	78	22	87	43	165		26	83	23	68	49	151
12:15			16	73	22	65	38	138		20	76	20	92	40	168
12:30			16	93	18	60	34	153		18	92	16	66	34	158
12:45			16	78	14	68	30	146		16	93	15	64	31	157
01:00			8	80	15	75	23	155		8	81	17	96	25	177
01:15			18	70	16	82	34	152		13	85	12	92	25	177
01:30			10	93	18	80	28	173		8	89	12	84	20	173
01:45			8	71	9	68	17	139		19	97	13	78	32	175
02:00			15	69	5	72	20	141		7	90	9	81	16	171
02:15			8	84	6	82	14	166		6	97	8	87	14	184
02:30			7	96	5	86	12	182		4	97	3	90	7	187
02:45			5	93	3	93	8	186		8	107	7	80	15	187
03:00			4	103	6	85	10	188		7	96	3	97	10	193
03:15			6	113	5	108	11	221		3	112	7	113	10	225
03:30			4	102	5	119	9	221		5	93	10	115	15	208
03:45			1	104	5	102	6	206		7	114	1	120	8	234
04:00			3	103	7	113	10	216		2	130	4	108	6	238
04:15			4	114	3	99	7	213		3	104	4	122	7	226
04:30			7	111	6	117	13	228		8	107	4	120	12	227
04:45			8	119	6	88	14	207		8	114	2	97	10	211
05:00			7	119	8	103	15	222		9	119	9	109	18	228
05:15			16	113	7	85	23	198		10	112	14	102	24	214
05:30			11	114	14	91	25	205		14	116	10	102	24	218
05:45			20	120	12	99	32	219		16	98	13	103	29	201
06:00			27	114	16	141	43	255		23	116	18	103	41	219
06:15			45	96	27	124	72	220		37	90	25	121	62	211
06:30			61	92	32	107	93	199		55	113	35	115	90	228
06:45			86	97	28	93	114	190		68	104	29	97	97	201
07:00			127	79	34	93	161	172		97	91	40	89	137	180
07:15		170	97		54	75	224	172		123	103	67	68	190	171
07:30		140	97		87	71	227	168		132	93	57	71	189	164
07:45		158	70		72	63	230	133		101	85	68	72	169	157
08:00		170	83		68	49	238	132		118	76	72	68	190	144
08:15		161	62		102	76	263	138		98	75	83	62	181	137
08:30		123	67		87	66	210	133		91	66	61	64	152	130
08:45		144	60		87	61	231	121		87	77	45	48	132	125
09:00		121	59		83	40	204	99		73	55	51	63	124	118
09:15		95	0		87	16	182	16		81	59	64	58	145	117
09:30		83	0		60	11	143	11		65	73	48	38	113	111
09:45		64	54		74	29	138	83		74	72	60	62	134	134
10:00		79	47		67	45	146	92		71	45	65	46	136	91
10:15		70	51		71	41	141	92		73	50	80	47	153	97
10:30		82	48		63	32	145	80		85	31	59	48	144	79
10:45		56	49		56	32	112	81		88	64	72	41	160	105
11:00		84	23		62	35	146	58		64	37	65	43	129	80
11:15		72	28		56	30	128	58		81	33	53	37	134	70
11:30		73	31		63	22	136	53		69	38	72	35	141	73
11:45		74	24		67	32	141	56		105	32	76	33	181	65
Total			2604	3741	1740	3511	4344	7252		2204	4080	1601	3815	3805	7895
Day Total			6345		5251		11596			6284		5416		11700	
% Total			22.5%	32.3%	15.0%	30.3%				18.8%	34.9%	13.7%	32.6%		
Peak	-	07:15	05:00	08:15	05:45	07:30	05:30		-	07:15	04:45	07:45	03:45	07:15	03:45
Vol.	-	638	466	359	471	958	899		-	474	461	284	470	738	925
P.H.F.		0.938	0.971	0.880	0.835	0.911	0.881			0.898	0.887	0.855	0.963	0.971	0.972

SAMMAT ENGINEERING SERVICES, LLC

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3700 ALABAMA AVENUE SE - VOLUME

Start Time	03-Dec-16		WB		EB		Combined		04-Dec		WB		EB		Combined	
	Sat		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	Sun		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00			36	79	44	67	80	146			22	65	19	57	41	122
12:15			42	82	22	82	64	164			15	84	17	65	32	149
12:30			29	76	22	65	51	141			14	69	13	77	27	146
12:45			28	79	22	66	50	145			13	71	12	59	25	130
01:00			28	92	18	89	46	181			10	74	13	83	23	157
01:15			28	90	22	75	50	165			15	85	11	79	26	164
01:30			28	108	26	62	54	170			9	83	13	61	22	144
01:45			23	115	15	81	38	196			6	93	9	86	15	179
02:00			10	106	12	86	22	192			10	90	5	90	15	180
02:15			14	105	17	66	31	171			8	94	6	81	14	175
02:30			22	103	14	69	36	172			7	90	6	79	13	169
02:45			14	100	16	88	30	188			7	82	6	90	13	172
03:00			6	119	7	73	13	192			6	61	10	85	16	146
03:15			23	103	12	81	35	184			9	93	12	69	21	162
03:30			17	103	11	80	28	183			8	84	10	72	18	156
03:45			10	100	9	81	19	181			12	61	9	69	21	130
04:00			9	96	6	73	15	169			10	80	8	55	18	135
04:15			7	91	8	80	15	171			10	68	9	63	19	131
04:30			6	89	5	87	11	176			10	76	7	64	17	140
04:45			10	84	6	69	16	153			10	72	4	54	14	126
05:00			11	82	8	78	19	160			2	82	8	64	10	146
05:15			9	73	4	68	13	141			5	71	2	77	7	148
05:30			9	82	12	86	21	168			5	62	7	59	12	121
05:45			13	86	8	75	21	161			11	57	7	42	18	99
06:00			19	75	9	69	28	144			9	68	6	45	15	113
06:15			8	86	11	67	19	153			16	57	8	50	24	107
06:30			17	91	16	78	33	169			17	71	16	57	33	128
06:45			25	68	17	69	42	137			10	42	25	55	35	97
07:00			18	73	23	78	41	151			23	62	22	56	45	118
07:15			27	70	23	64	50	134			21	47	15	42	36	89
07:30			33	70	18	67	51	137			27	62	29	48	56	110
07:45			38	63	36	53	74	116			43	73	15	55	58	128
08:00			36	79	31	59	67	138			33	72	19	50	52	122
08:15			39	48	32	54	71	102			37	57	36	63	73	120
08:30			48	78	41	47	89	125			36	62	34	50	70	112
08:45			56	72	44	49	100	121			29	63	44	45	73	108
09:00			41	59	55	38	96	97			46	57	38	41	84	98
09:15			66	55	56	50	122	105			35	43	47	37	82	80
09:30			61	43	63	43	124	86			54	41	45	35	99	76
09:45			60	40	82	44	142	84			50	26	54	44	104	70
10:00			91	57	69	59	160	116			60	31	52	23	112	54
10:15			69	47	81	47	150	94			59	36	56	33	115	69
10:30			72	52	72	43	144	95			67	30	65	30	132	60
10:45			75	53	88	45	163	98			80	34	62	26	142	60
11:00			81	29	72	32	153	61			66	26	54	17	120	43
11:15			91	26	69	17	160	43			56	31	49	31	105	62
11:30			89	19	59	25	148	44			51	26	62	20	113	46
11:45			80	16	102	23	182	39			48	13	62	19	110	32
Total			1672	3612	1515	3047	3187	6659			1207	2977	1138	2652	2345	5629
Day Total			5284		4562		9846				4184		3790		7974	
% Total			17.0%	36.7%	15.4%	30.9%					15.1%	37.3%	14.3%	33.3%		
Peak	-		11:00	01:30	10:15	02:45	11:00	02:45	-		10:15	01:45	10:15	02:00	10:15	01:45
Vol.	-		341	434	313	322	643	747	-		272	367	237	340	509	703
P.H.F.			0.937	0.943	0.889	0.915	0.883	0.973			0.850	0.976	0.912	0.944	0.896	0.976

SAMMAT ENGINEERING SERVICES, LLC

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3700 ALABAMA AVENUE SE - VOLUME

Start Time	05-Dec-16		WB		EB		Combined		06-Dec	WB		EB		Combined	
	Mon		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	Tue	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00			20	77	13	73	33	150		0	*	0	*	0	*
12:15			18	72	10	73	28	145		*	*	*	*	*	*
12:30			16	88	12	64	28	152		*	*	*	*	*	*
12:45			8	74	6	65	14	139		*	*	*	*	*	*
01:00			8	78	16	81	24	159		*	*	*	*	*	*
01:15			16	77	13	85	29	162		*	*	*	*	*	*
01:30			9	86	15	70	24	156		*	*	*	*	*	*
01:45			10	89	11	73	21	162		*	*	*	*	*	*
02:00			10	76	6	76	16	152		*	*	*	*	*	*
02:15			7	81	7	78	14	159		*	*	*	*	*	*
02:30			6	94	5	86	11	180		*	*	*	*	*	*
02:45			7	97	6	87	13	184		*	*	*	*	*	*
03:00			5	97	3	85	8	182		*	*	*	*	*	*
03:15			5	107	6	100	11	207		*	*	*	*	*	*
03:30			5	93	7	113	12	206		*	*	*	*	*	*
03:45			5	106	3	105	8	211		*	*	*	*	*	*
04:00			2	110	5	108	7	218		*	*	*	*	*	*
04:15			4	109	3	107	7	216		*	*	*	*	*	*
04:30			7	116	3	116	10	232		*	*	*	*	*	*
04:45			8	112	6	87	14	199		*	*	*	*	*	*
05:00			9	114	9	104	18	218		*	*	*	*	*	*
05:15			11	107	11	97	22	204		*	*	*	*	*	*
05:30			13	115	11	90	24	205		*	*	*	*	*	*
05:45			21	104	12	98	33	202		*	*	*	*	*	*
06:00			27	110	17	120	44	230		*	*	*	*	*	*
06:15			42	93	27	118	69	211		*	*	*	*	*	*
06:30			57	101	35	107	92	208		*	*	*	*	*	*
06:45			78	101	30	95	108	196		*	*	*	*	*	*
07:00			72	88	37	88	109	176		*	*	*	*	*	*
07:15			86	95	58	70	144	165		*	*	*	*	*	*
07:30			98	93	71	70	169	163		*	*	*	*	*	*
07:45			87	75	79	68	166	143		*	*	*	*	*	*
08:00			91	73	72	57	163	130		*	*	*	*	*	*
08:15			82	69	98	65	180	134		*	*	*	*	*	*
08:30			81	64	79	59	160	123		*	*	*	*	*	*
08:45			82	68	74	54	156	122		*	*	*	*	*	*
09:00			81	57	71	49	152	106		*	*	*	*	*	*
09:15			85	35	74	42	159	77		*	*	*	*	*	*
09:30			78	42	59	30	137	72		*	*	*	*	*	*
09:45			66	58	63	42	129	100		*	*	*	*	*	*
10:00			73	45	66	41	139	86		*	*	*	*	*	*
10:15			74	44	64	40	138	84		*	*	*	*	*	*
10:30			76	39	58	38	134	77		*	*	*	*	*	*
10:45			66	49	61	36	127	85		*	*	*	*	*	*
11:00			69	35	58	37	127	72		*	*	*	*	*	*
11:15			70	31	56	31	126	62		*	*	*	*	*	*
11:30			71	32	62	26	133	58		*	*	*	*	*	*
11:45			85	25	65	29	150	54		*	*	*	*	*	*
Total			2007	3801	1633	3533	3640	7334		0	0	0	0	0	0
Day Total			5808		5166		10974			0		0		0	
% Total			18.3%	34.6%	14.9%	32.2%				0.0%	0.0%	0.0%	0.0%		
Peak	-	07:15	04:15	07:45	05:45	07:30	03:45		-	-	-	-	-	-	-
Vol.	-	362	451	328	443	678	877		-	-	-	-	-	-	-
P.H.F.		0.923	0.972	0.837	0.923	0.942	0.945								
ADT	ADT 10,463		AADT 10,463												

7-DAY SPEED AND VOLUME COUNT

Traffic Data Collection

Location:

3900 Block of Alabama Avenue, SE

Prepared For:



District Department of Transportation (DDOT)

Prepared By:



SAMMAT ENGINEERING SERVICES, LLC
P.O. BOX 780
MOUNT AIRY, MD 21771
www.sammateg.com

December 21st, 2016

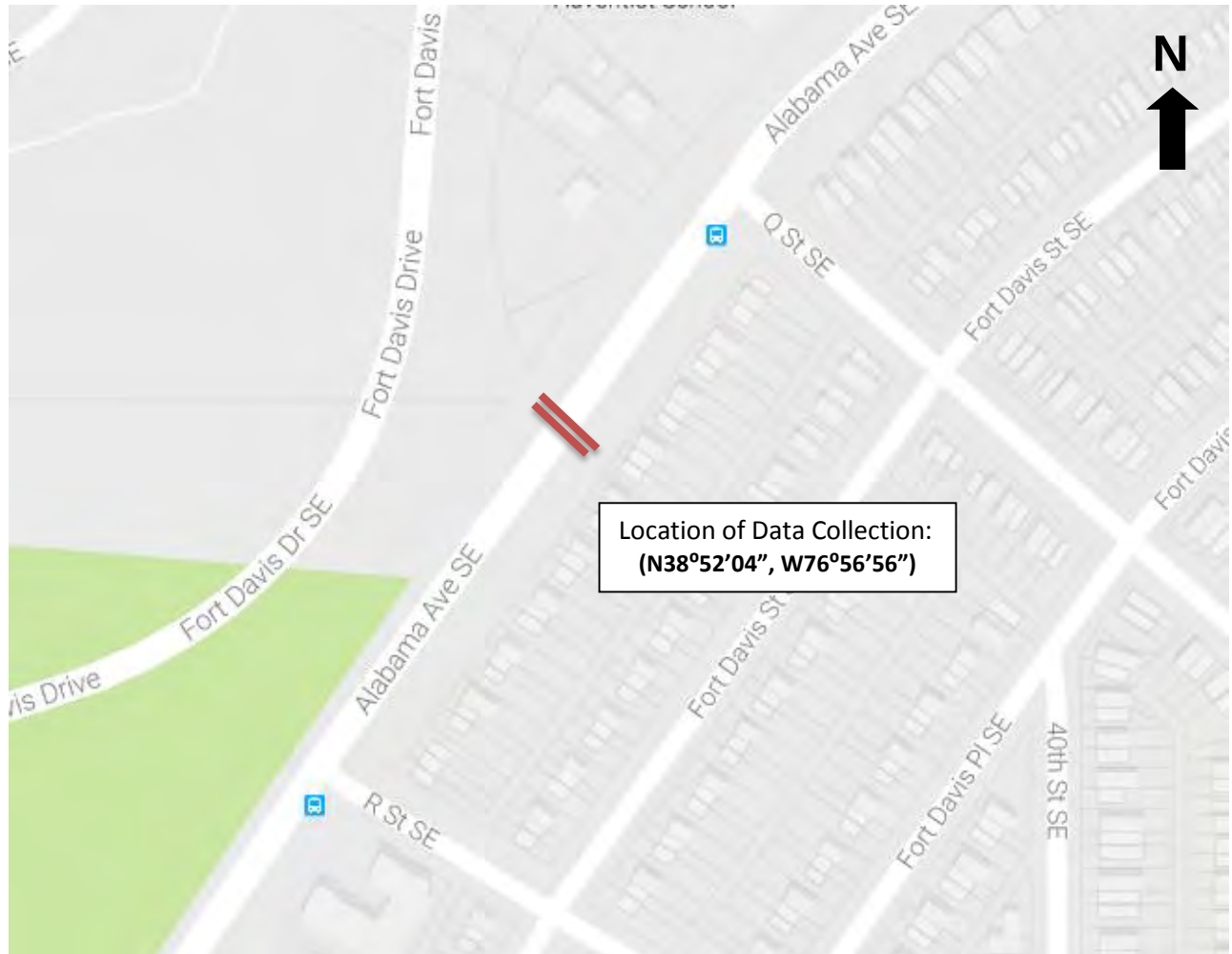


FIGURE 1: Location of Speed and Volume Data Collection

SUMMARY

SAMMAT Engineering Services, LLC presents this report to provide DDOT with volume and speed data obtained from December 14th through December 20th, 2016 on the 3900 block of Alabama Avenue, SE located in the District of Columbia (DC). Table 1 presents the summary of the 7-day volume count and the directional speed data, which includes the 85th percentile speed, the mean (average) speed, and the 10 MPH pace. Figure 1 presents the location of the site with respect to the surrounding roadway network.

Table 1: 7-Day Speed and Volume Characteristics (mph) for 3900 block of Alabama Ave SE

3900 Alabama Ave, SE		85 th Percentile	Mean	10 MPH Pace	ADT
Day 1	NB	31	28	21-30	9,474
	SB	31	27	21-30	
	NB+SB	31	28	21-30	
Day 2	NB	31	28	21-30	9,230
	SB	31	27	21-30	
	NB+SB	31	28	21-30	
Day 3	NB	32	28	21-30	9,747
	SB	31	27	21-30	
	NB+SB	31	28	21-30	
Day 4	NB	31	27	21-30	4,421
	SB	30	27	21-30	
	NB+SB	30	27	21-30	
Day 5	NB	32	28	26-35	6,227
	SB	32	28	21-30	
	NB+SB	32	28	21-30	
Day 6	NB	31	28	21-30	8,233
	SB	31	28	21-30	
	NB+SB	31	28	21-30	
Day 7	NB	31	28	21-30	7,955
	SB	31	27	21-30	
	NB+SB	31	28	21-30	
7-Day	NB	31	28	21-30	7,898
	SB	31	27	21-30	
	NB+SB	31	28	21-30	

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3900 BLOCK OF ALABAMA AVENUE, SE - VOLUME

Start Time	14-Dec-1 Wed	NB	SB							Total
12:00 AM		59	47							106
01:00		37	20							57
02:00		16	16							32
03:00		20	10							30
04:00		13	39							52
05:00		37	75							112
06:00		103	181							284
07:00		259	309							568
08:00		407	324							731
09:00		259	240							499
10:00		269	222							491
11:00		214	210							424
12:00 PM		239	232							471
01:00		251	240							491
02:00		302	249							551
03:00		365	329							694
04:00		404	334							738
05:00		372	349							721
06:00		375	278							653
07:00		315	237							552
08:00		225	192							417
09:00		186	173							359
10:00		146	119							265
11:00		90	86							176
Total		4963	4511							9474
Percent		52.4%	47.6%							
AM Peak	-	08:00	08:00	-	-	-	-	-	-	08:00
Vol.	-	407	324	-	-	-	-	-	-	731
PM Peak	-	16:00	17:00	-	-	-	-	-	-	16:00
Vol.	-	404	349	-	-	-	-	-	-	738

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3900 BLOCK OF ALABAMA AVENUE, SE - VOLUME

Start Time	15-Dec-1 Thu	NB	SB	Total
12:00 AM		69	47	116
01:00		33	27	60
02:00		25	17	42
03:00		17	13	30
04:00		24	28	52
05:00		35	77	112
06:00		95	175	270
07:00		245	285	530
08:00		287	317	604
09:00		228	213	441
10:00		228	186	414
11:00		236	218	454
12:00 PM		254	231	485
01:00		252	229	481
02:00		299	259	558
03:00		359	341	700
04:00		365	381	746
05:00		347	360	707
06:00		366	302	668
07:00		263	268	531
08:00		207	231	438
09:00		165	182	347
10:00		123	108	231
11:00		123	90	213
Total		4645	4585	9230
Percent		50.3%	49.7%	
AM Peak	-	08:00	08:00	08:00
Vol.	-	287	317	604
PM Peak	-	18:00	16:00	16:00
Vol.	-	366	381	746

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3900 BLOCK OF ALABAMA AVENUE, SE - VOLUME

Start Time	16-Dec-1	NB	SB							Total
12:00 AM		60	52							112
01:00		42	37							79
02:00		30	15							45
03:00		17	14							31
04:00		12	34							46
05:00		32	74							106
06:00		101	165							266
07:00		237	281							518
08:00		268	317							585
09:00		217	224							441
10:00		263	239							502
11:00		256	230							486
12:00 PM		284	234							518
01:00		301	259							560
02:00		293	326							619
03:00		300	247							547
04:00		436	372							808
05:00		395	374							769
06:00		372	348							720
07:00		283	270							553
08:00		221	213							434
09:00		210	210							420
10:00		182	146							328
11:00		117	137							254
Total		4929	4818							9747
Percent		50.6%	49.4%							
AM Peak	-	08:00	08:00	-	-	-	-	-	-	08:00
Vol.	-	268	317	-	-	-	-	-	-	585
PM Peak	-	16:00	17:00	-	-	-	-	-	-	16:00
Vol.	-	436	374	-	-	-	-	-	-	808

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3900 BLOCK OF ALABAMA AVENUE, SE - VOLUME

Start Time	17-Dec-1	NB	SB							Total
12:00 AM		88	94							182
01:00		56	50							106
02:00		39	50							89
03:00		37	29							66
04:00		16	27							43
05:00		18	28							46
06:00		27	48							75
07:00		33	41							74
08:00		32	60							92
09:00		82	94							176
10:00		131	120							251
11:00		122	133							255
12:00 PM		97	48							145
01:00		127	122							249
02:00		135	171							306
03:00		183	203							386
04:00		231	177							408
05:00		202	178							380
06:00		133	188							321
07:00		56	126							182
08:00		48	112							160
09:00		48	115							163
10:00		34	86							120
11:00		28	118							146
Total		2003	2418							4421
Percent		45.3%	54.7%							
AM Peak	-	10:00	11:00	-	-	-	-	-	-	11:00
Vol.	-	131	133	-	-	-	-	-	-	255
PM Peak	-	16:00	15:00	-	-	-	-	-	-	16:00
Vol.	-	231	203	-	-	-	-	-	-	408

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3900 BLOCK OF ALABAMA AVENUE, SE - VOLUME

Start Time	18-Dec-1 Sun	NB	SB	Total
12:00 AM		26	84	110
01:00		22	62	84
02:00		15	45	60
03:00		7	39	46
04:00		5	37	42
05:00		2	21	23
06:00		14	37	51
07:00		66	60	126
08:00		121	124	245
09:00		164	165	329
10:00		206	239	445
11:00		171	190	361
12:00 PM		174	214	388
01:00		270	260	530
02:00		254	257	511
03:00		248	255	503
04:00		151	198	349
05:00		223	222	445
06:00		209	200	409
07:00		192	189	381
08:00		137	158	295
09:00		129	121	250
10:00		37	104	141
11:00		20	83	103
Total		2863	3364	6227
Percent		46.0%	54.0%	
AM Peak	-	10:00	10:00	10:00
Vol.	-	206	239	445
PM Peak	-	13:00	13:00	13:00
Vol.	-	270	260	530

SAMMAT ENGINEERING SERVICES, LLC

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3900 BLOCK OF ALABAMA AVENUE, SE - VOLUME

Start Time	19-Dec-1	NB	SB							Total
12:00 AM		19	42							61
01:00		9	25							34
02:00		3	17							20
03:00		4	16							20
04:00		2	23							25
05:00		13	76							89
06:00		30	141							171
07:00		81	253							334
08:00		143	288							431
09:00		206	225							431
10:00		215	241							456
11:00		215	206							421
12:00 PM		248	236							484
01:00		262	254							516
02:00		306	268							574
03:00		377	279							656
04:00		381	304							685
05:00		380	294							674
06:00		349	266							615
07:00		231	236							467
08:00		221	170							391
09:00		135	130							265
10:00		113	103							216
11:00		107	90							197
Total		4050	4183							8233
Percent		49.2%	50.8%							
AM Peak	-	10:00	08:00	-	-	-	-	-	-	10:00
Vol.	-	215	288	-	-	-	-	-	-	456
PM Peak	-	16:00	16:00	-	-	-	-	-	-	16:00
Vol.	-	381	304	-	-	-	-	-	-	685

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3900 BLOCK OF ALABAMA AVENUE, SE - VOLUME

Start Time	20-Dec-1	NB	SB							Total
12:00 AM		55	83							138
01:00		29	37							66
02:00		15	24							39
03:00		17	17							34
04:00		19	27							46
05:00		22	61							83
06:00		67	174							241
07:00		160	241							401
08:00		214	287							501
09:00		48	194							242
10:00		56	191							247
11:00		211	238							449
12:00 PM		265	208							473
01:00		269	248							517
02:00		326	240							566
03:00		342	262							604
04:00		259	210							469
05:00		310	343							653
06:00		268	303							571
07:00		274	233							507
08:00		209	179							388
09:00		171	140							311
10:00		122	118							240
11:00		99	70							169
Total		3827	4128							7955
Percent		48.1%	51.9%							
AM Peak	-	08:00	08:00	-	-	-	-	-	-	08:00
Vol.	-	214	287	-	-	-	-	-	-	501
PM Peak	-	15:00	17:00	-	-	-	-	-	-	17:00
Vol.	-	342	343	-	-	-	-	-	-	653
Grand Total		27280	28007							55287
Total Percent		49.3%	50.7%							
ADT		ADT 7,898	AADT 7,898							

7-DAY SPEED AND VOLUME COUNT

Traffic Data Collection

Location:

4100 Block of Alabama Avenue, SE

Prepared For:



District Department of Transportation (DDOT)

Prepared By:



SAMMAT ENGINEERING SERVICES, LLC
P.O. BOX 780
MOUNT AIRY, MD 21771
www.sammateg.com

December 15th, 2016

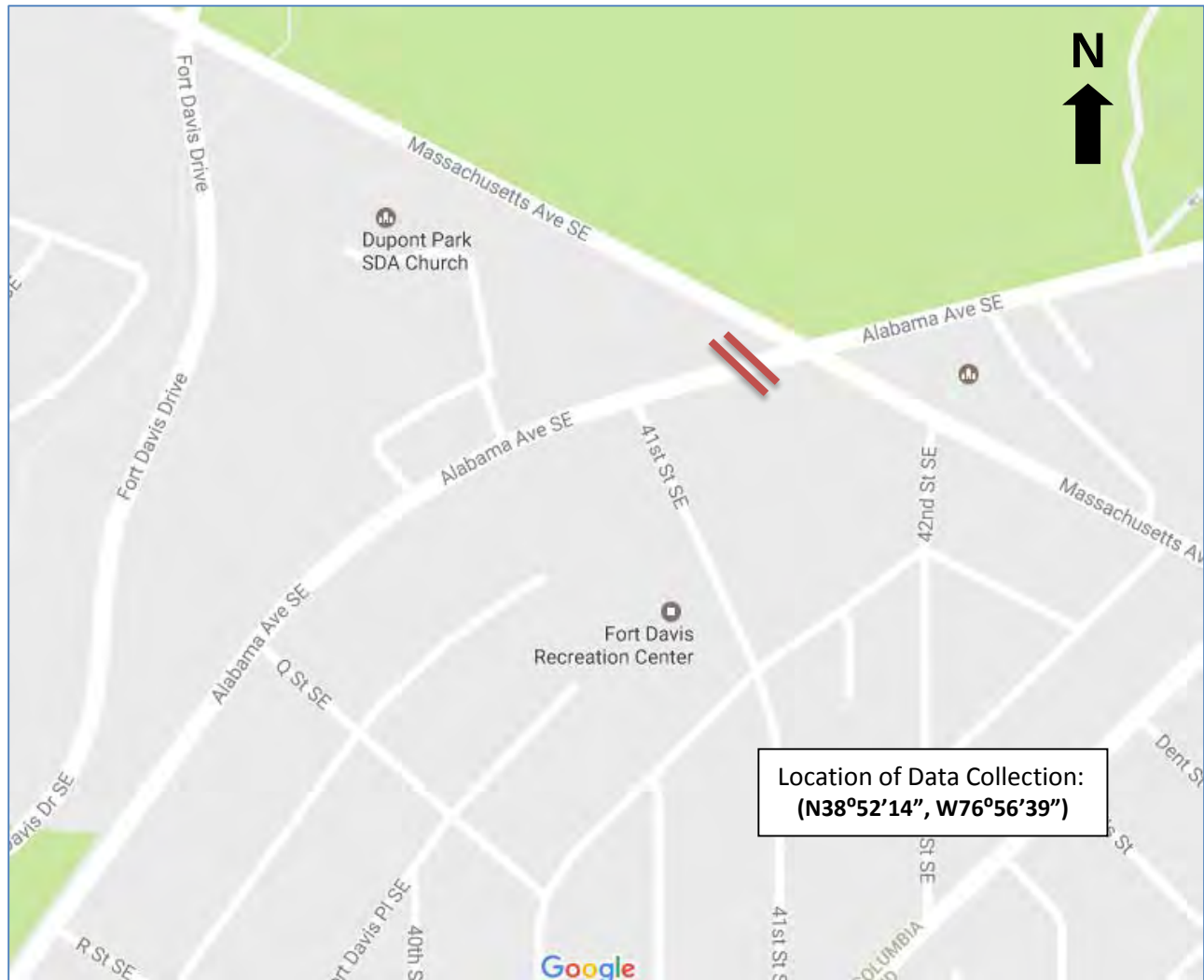


FIGURE 1: Location of Speed and Volume Data Collection

SUMMARY

SAMMAT Engineering Services, LLC presents this report to provide DDOT with volume and speed data obtained from November 29th through December 6th, 2016 on the 4100 block of Alabama Avenue, SE located in the District of Columbia (DC). Table 1 presents the summary of the 7-day volume count and the directional speed data, which includes the 85th percentile speed, the mean (average) speed, and the 10 MPH pace. Figure 1 presents the location of the site with respect to the surrounding roadway network.

Table 1: 7-Day Speed and Volume Characteristics (mph) for 4100 block of Alabama Ave SE

4100 Alabama Ave, SE		85 th Percentile	Mean	10 MPH Pace	ADT
Day 1	EB	33	28	26-35	11,361
	WB	38	32	26-35	
	EB+WB	36	31	26-35	
Day 2	EB	33	28	26-35	11,742
	WB	38	32	26-35	
	EB+WB	36	30	26-35	
Day 3	EB	33	28	26-35	12,323
	WB	36	30	26-35	
	EB+WB	34	29	26-35	
Day 4	EB	33	27	26-35	13,046
	WB	36	30	26-35	
	EB+WB	34	29	26-35	
Day 5	EB	34	30	26-35	10,709
	WB	35	30	26-35	
	EB+WB	34	30	26-35	
Day 6	EB	34	29	26-35	10,368
	WB	34	29	26-35	
	EB+WB	34	29	26-35	
Day 7	EB	33	29	26-35	11,660
	WB	36	31	26-35	
	EB+WB	34	30	26-35	
7-Day	EB	33	28	26-35	11,336
	WB	37	31	26-35	
	EB+WB	34	30	26-35	

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4100 ALABAMA AVENUE SE - VOLUME

Start Time	29-Nov-16 Tue	WB		EB		Combined		30-Nov Wed	WB		EB		Combined	
		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00		25	63	18	74	43	137		14	59	15	66	29	125
12:15		15	74	15	61	30	135		14	72	12	70	26	142
12:30		15	57	10	72	25	129		7	52	22	82	29	134
12:45		11	62	5	65	16	127		5	80	11	68	16	148
01:00		11	65	9	77	20	142		13	74	14	76	27	150
01:15		7	72	8	57	15	129		9	61	13	88	22	149
01:30		6	69	11	78	17	147		11	64	8	71	19	135
01:45		10	74	5	70	15	144		9	60	7	91	16	151
02:00		6	66	7	74	13	140		14	63	5	76	19	139
02:15		6	64	5	79	11	143		4	80	7	69	11	149
02:30		7	83	8	81	15	164		3	73	7	88	10	161
02:45		2	65	4	69	6	134		8	91	6	98	14	189
03:00		6	87	5	99	11	186		2	81	2	102	4	183
03:15		6	92	4	103	10	195		9	82	7	106	16	188
03:30		8	84	4	129	12	213		8	87	5	128	13	215
03:45		5	90	5	143	10	233		4	97	8	124	12	221
04:00		12	88	6	127	18	215		14	99	8	124	22	223
04:15		11	121	4	107	15	228		14	97	2	132	16	229
04:30		19	117	4	130	23	247		15	120	4	117	19	237
04:45		13	95	4	118	17	213		22	126	7	115	29	241
05:00		20	86	12	130	32	216		13	112	11	119	24	231
05:15		35	117	12	113	47	230		30	99	8	142	38	241
05:30		47	84	20	128	67	212		52	103	16	118	68	221
05:45		55	94	14	121	69	215		57	101	11	129	68	230
06:00		69	91	21	118	90	209		71	89	27	127	98	216
06:15		96	81	28	115	124	196		99	99	26	135	125	234
06:30		116	84	32	124	148	208		107	98	44	130	151	228
06:45		140	97	32	107	172	204		149	92	36	80	185	172
07:00		143	94	43	90	186	184		148	86	42	90	190	176
07:15		146	61	69	73	215	134		147	66	61	89	208	155
07:30		136	54	68	94	204	148		153	82	73	70	226	152
07:45		128	54	93	61	221	115		149	62	100	96	249	158
08:00		133	60	95	59	228	119		154	76	85	56	239	132
08:15		151	59	79	71	230	130		130	69	75	65	205	134
08:30		127	59	63	50	190	109		122	50	83	78	205	128
08:45		115	59	94	39	209	98		126	67	81	60	207	127
09:00		95	60	72	47	167	107		78	50	72	56	150	106
09:15		85	45	51	39	136	84		95	34	63	57	158	91
09:30		80	48	70	45	150	93		72	55	61	41	133	96
09:45		79	46	59	38	138	84		73	34	59	46	132	80
10:00		90	22	67	45	157	67		83	29	52	36	135	65
10:15		64	31	66	31	130	62		60	38	52	38	112	76
10:30		65	39	63	34	128	73		68	33	56	33	124	66
10:45		66	35	59	35	125	70		63	37	47	35	110	72
11:00		65	16	72	30	137	46		68	33	48	33	116	66
11:15		54	25	59	28	113	53		63	23	77	38	140	61
11:30		56	22	58	29	114	51		76	25	73	31	149	56
11:45		66	21	57	30	123	51		67	19	55	21	122	40
Total		2723	3232	1669	3737	4392	6969		2772	3379	1664	3940	4436	7319
Day Total		5955		5406		11361			6151		5604		11755	
% Total		24.0%	28.4%	14.7%	32.9%				23.6%	28.7%	14.2%	33.5%		
Peak	-	06:45	04:00	07:30	03:45	07:30	03:45	-	07:15	04:30	07:45	05:45	07:15	04:30
Vol.	-	565	421	335	507	883	923	-	603	457	343	521	922	950
P.H.F.		0.967	0.870	0.882	0.886	0.960	0.934		0.979	0.907	0.858	0.965	0.926	0.985

SAMMAT ENGINEERING SERVICES, LLC

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4100 ALABAMA AVENUE SE - VOLUME

Start Time	01-Dec-16 Thu	WB		EB		Combined		02-Dec Fri	WB		EB		Combined	
		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00		18	61	27	71	45	132		11	68	26	78	37	146
12:15		13	64	26	77	39	141		11	74	16	110	27	184
12:30		13	62	18	80	31	142		16	64	20	86	36	150
12:45		9	66	18	73	27	139		11	70	11	102	22	172
01:00		6	53	9	79	15	132		15	69	9	110	24	179
01:15		7	53	19	84	26	137		6	66	4	89	10	155
01:30		12	61	12	71	24	132		8	81	9	112	17	193
01:45		14	64	14	73	28	137		4	68	4	93	8	161
02:00		7	70	4	78	11	148		8	76	5	112	13	188
02:15		8	70	6	92	14	162		7	84	5	123	12	207
02:30		3	78	3	90	6	168		3	99	4	109	7	208
02:45		1	91	8	97	9	188		3	98	5	110	8	208
03:00		0	108	4	85	4	193		6	92	4	111	10	203
03:15		12	80	5	111	17	191		7	96	5	129	12	225
03:30		7	84	7	118	14	202		9	87	3	123	12	210
03:45		9	76	6	134	15	210		6	104	5	129	11	233
04:00		14	100	2	144	16	244		18	116	7	121	25	237
04:15		12	115	4	127	16	242		9	117	4	146	13	263
04:30		19	122	3	125	22	247		12	93	6	129	18	222
04:45		16	96	11	143	27	239		26	107	9	139	35	246
05:00		20	94	10	115	30	209		27	118	7	136	34	254
05:15		29	86	8	115	37	201		29	107	18	122	47	229
05:30		45	97	18	112	63	209		48	104	16	116	64	220
05:45		60	94	8	121	68	215		64	94	13	123	77	217
06:00		62	92	23	106	85	198		69	96	22	136	91	232
06:15		112	85	27	117	139	202		97	89	28	126	125	215
06:30		131	79	36	100	167	179		107	107	46	122	153	229
06:45		142	77	40	129	182	206		126	89	49	105	175	194
07:00		159	77	45	106	204	183		130	105	58	98	188	203
07:15		157	89	65	97	222	186		120	105	64	108	184	213
07:30		161	56	80	97	241	153		130	91	59	100	189	191
07:45		134	87	91	80	225	167		128	54	99	71	227	125
08:00		155	48	86	69	241	117		136	87	123	94	259	181
08:15		127	49	98	66	225	115		141	59	86	79	227	138
08:30		139	46	88	58	227	104		123	71	91	75	214	146
08:45		138	44	91	44	229	88		103	84	89	63	192	147
09:00		112	47	73	52	185	99		97	69	76	68	173	137
09:15		83	52	60	42	143	94		90	72	47	76	137	148
09:30		75	45	76	43	151	88		71	68	68	75	139	143
09:45		83	40	47	35	130	75		70	53	58	67	128	120
10:00		73	34	60	39	133	73		72	57	66	62	138	119
10:15		64	35	57	47	121	82		91	44	64	51	155	95
10:30		69	28	69	30	138	58		83	40	76	55	159	95
10:45		59	22	62	33	121	55		73	54	68	48	141	102
11:00		61	29	77	25	138	54		75	39	75	72	150	111
11:15		61	19	72	32	133	51		70	33	79	42	149	75
11:30		64	22	74	31	138	53		76	42	82	40	158	82
11:45		58	14	69	23	127	37		76	35	99	42	175	77
Total		2833	3161	1816	3916	4649	7077		2718	3795	1887	4633	4605	8428
Day Total		5994		5732		11726			6513		6520		13033	
% Total		24.2%	27.0%	15.5%	33.4%				20.9%	29.1%	14.5%	35.5%		
Peak	-	06:45	04:00	07:45	04:00	07:30	04:00	-	07:30	04:45	07:45	04:15	07:45	04:15
Vol.	-	619	433	363	539	932	972	-	535	436	399	550	927	985
P.H.F.		0.961	0.887	0.926	0.936	0.967	0.984		0.949	0.924	0.811	0.942	0.895	0.936

SAMMAT ENGINEERING SERVICES, LLC

PO BOX 780
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4100 ALABAMA AVENUE SE - VOLUME

Start Time	03-Dec-16		WB		EB		Combined		04-Dec		WB		EB		Combined	
	Sat		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	Sun		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00			34	99	46	81	80	180			19	59	32	74	51	133
12:15			36	93	33	85	69	178			33	77	29	94	62	171
12:30			24	83	36	82	60	165			27	74	28	87	55	161
12:45			26	93	21	149	47	242			18	104	27	51	45	155
01:00			31	91	25	92	56	183			28	91	30	86	58	177
01:15			23	111	25	80	48	191			20	83	22	75	42	158
01:30			23	108	25	99	48	207			19	99	27	80	46	179
01:45			22	104	15	89	37	193			17	103	11	92	28	195
02:00			12	86	12	114	24	200			12	92	15	80	27	172
02:15			17	98	19	81	36	179			19	89	14	70	33	159
02:30			11	92	13	85	24	177			10	77	9	88	19	165
02:45			13	110	17	91	30	201			9	70	13	86	22	156
03:00			8	99	9	90	17	189			5	72	19	111	24	183
03:15			21	90	13	102	34	192			11	83	13	81	24	164
03:30			15	103	16	107	31	210			10	94	11	81	21	175
03:45			14	93	11	98	25	191			10	85	11	69	21	154
04:00			10	107	11	92	21	199			11	70	9	80	20	150
04:15			8	97	7	94	15	191			14	87	6	71	20	158
04:30			12	94	8	100	20	194			16	80	12	88	28	168
04:45			7	90	5	77	12	167			6	86	8	54	14	140
05:00			14	83	12	94	26	177			9	102	7	78	16	180
05:15			15	79	6	71	21	150			6	77	9	83	15	160
05:30			24	79	15	83	39	162			16	68	11	82	27	150
05:45			22	93	11	88	33	181			20	64	8	53	28	117
06:00			19	90	9	83	28	173			10	74	8	52	18	126
06:15			23	94	14	72	37	166			27	69	10	56	37	125
06:30			31	64	18	75	49	139			48	61	12	63	60	124
06:45			32	85	21	60	53	145			40	64	20	53	60	117
07:00			30	63	29	73	59	136			30	55	25	71	55	126
07:15			38	70	19	79	57	149			34	51	29	54	63	105
07:30			46	64	35	73	81	137			32	55	35	59	67	114
07:45			35	68	47	57	82	125			37	55	28	95	65	150
08:00			37	66	30	56	67	122			40	61	23	70	63	131
08:15			60	66	42	52	102	118			40	47	64	61	104	108
08:30			59	69	52	64	111	133			48	58	42	67	90	125
08:45			60	68	39	41	99	109			56	55	43	50	99	105
09:00			59	46	57	54	116	100			46	38	47	34	93	72
09:15			81	45	59	45	140	90			58	42	38	55	96	97
09:30			91	48	78	60	169	108			58	29	60	34	118	63
09:45			81	44	70	50	151	94			61	26	72	38	133	64
10:00			77	55	81	71	158	126			67	18	56	24	123	42
10:15			71	47	70	52	141	99			64	29	92	35	156	64
10:30			76	43	71	33	147	76			67	27	74	33	141	60
10:45			87	37	91	48	178	85			72	39	71	21	143	60
11:00			76	35	74	31	150	66			66	24	74	31	140	55
11:15			96	38	74	40	170	78			60	19	51	26	111	45
11:30			96	31	73	46	169	77			57	21	78	21	135	42
11:45			88	38	68	38	156	76			73	13	71	16	144	29
Total			1891	3649	1632	3577	3523	7226			1556	3016	1504	3013	3060	6029
Day Total			5540		5209		10749				4572		4517		9089	
% Total			17.6%	33.9%	15.2%	33.3%					17.1%	33.2%	16.5%	33.1%		
Peak	-		11:00	01:00	10:00	00:45	10:45	00:45	-		10:00	01:30	10:15	02:30	10:15	01:00
Vol.	-		356	414	313	420	667	823	-		270	383	311	366	580	709
P.H.F.			0.927	0.932	0.860	0.705	0.937	0.850			0.938	0.930	0.845	0.824	0.929	0.909

SAMMAT ENGINEERING SERVICES, LLC

PO BOX 780
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4100 ALABAMA AVENUE SE - VOLUME

Start Time	05-Dec-16 Mon	WB		EB		Combined		06-Dec Tue	WB		EB		Combined	
		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00		16	61	15	68	31	129		0	*	0	*	0	*
12:15		6	64	17	67	23	131		*	*	*	*	*	*
12:30		12	64	20	68	32	132		*	*	*	*	*	*
12:45		9	75	10	74	19	149		*	*	*	*	*	*
01:00		8	64	11	80	19	144		*	*	*	*	*	*
01:15		5	98	6	72	11	170		*	*	*	*	*	*
01:30		4	76	10	77	14	153		*	*	*	*	*	*
01:45		8	75	6	88	14	163		*	*	*	*	*	*
02:00		9	85	6	67	15	152		*	*	*	*	*	*
02:15		5	81	8	89	13	170		*	*	*	*	*	*
02:30		3	76	7	88	10	164		*	*	*	*	*	*
02:45		6	71	5	92	11	163		*	*	*	*	*	*
03:00		2	84	2	103	4	187		*	*	*	*	*	*
03:15		3	89	3	98	6	187		*	*	*	*	*	*
03:30		6	100	7	133	13	233		*	*	*	*	*	*
03:45		9	111	8	133	17	244		*	*	*	*	*	*
04:00		12	100	4	140	16	240		*	*	*	*	*	*
04:15		7	104	3	122	10	226		*	*	*	*	*	*
04:30		17	109	4	136	21	245		*	*	*	*	*	*
04:45		16	123	8	131	24	254		*	*	*	*	*	*
05:00		24	106	5	122	29	228		*	*	*	*	*	*
05:15		26	99	14	129	40	228		*	*	*	*	*	*
05:30		44	97	11	118	55	215		*	*	*	*	*	*
05:45		54	97	9	119	63	216		*	*	*	*	*	*
06:00		65	104	24	96	89	200		*	*	*	*	*	*
06:15		82	87	29	99	111	186		*	*	*	*	*	*
06:30		105	96	36	103	141	199		*	*	*	*	*	*
06:45		130	92	38	103	168	195		*	*	*	*	*	*
07:00		148	98	49	89	197	187		*	*	*	*	*	*
07:15		161	73	76	92	237	165		*	*	*	*	*	*
07:30		137	66	66	67	203	133		*	*	*	*	*	*
07:45		167	76	82	67	249	143		*	*	*	*	*	*
08:00		132	62	88	78	220	140		*	*	*	*	*	*
08:15		133	56	84	69	217	125		*	*	*	*	*	*
08:30		113	55	101	58	214	113		*	*	*	*	*	*
08:45		111	44	78	57	189	101		*	*	*	*	*	*
09:00		94	50	85	55	179	105		*	*	*	*	*	*
09:15		99	54	52	59	151	113		*	*	*	*	*	*
09:30		80	58	61	48	141	106		*	*	*	*	*	*
09:45		60	32	55	39	115	71		*	*	*	*	*	*
10:00		53	35	72	46	125	81		*	*	*	*	*	*
10:15		62	32	63	29	125	61		*	*	*	*	*	*
10:30		78	30	75	40	153	70		*	*	*	*	*	*
10:45		65	24	50	30	115	54		*	*	*	*	*	*
11:00		61	23	76	34	137	57		*	*	*	*	*	*
11:15		60	28	72	33	132	61		*	*	*	*	*	*
11:30		67	26	68	23	135	49		*	*	*	*	*	*
11:45		64	20	75	26	139	46		*	*	*	*	*	*
Total		2638	3430	1754	3854	4392	7284		0	0	0	0	0	0
Day Total		6068		5608		11676			0	0	0	0	0	0
% Total		22.6%	29.4%	15.0%	33.0%				0.0%	0.0%	0.0%	0.0%		
Peak	-	07:00	04:15	07:45	03:45	07:15	04:00	-	-	-	-	-	-	-
Vol.	-	613	442	355	531	909	965	-	-	-	-	-	-	-
P.H.F.		0.918	0.898	0.879	0.948	0.913	0.950							
ADT	ADT 11,336	AADT 11,336												

7-DAY SPEED AND VOLUME COUNT

Traffic Data Collection

Location:

4300 Block of Alabama Avenue, SE

Prepared For:



District Department of Transportation (DDOT)

Prepared By:



SAMMAT ENGINEERING SERVICES, LLC
P.O. BOX 780
MOUNT AIRY, MD 21771
www.sammateg.com

December 12th, 2016

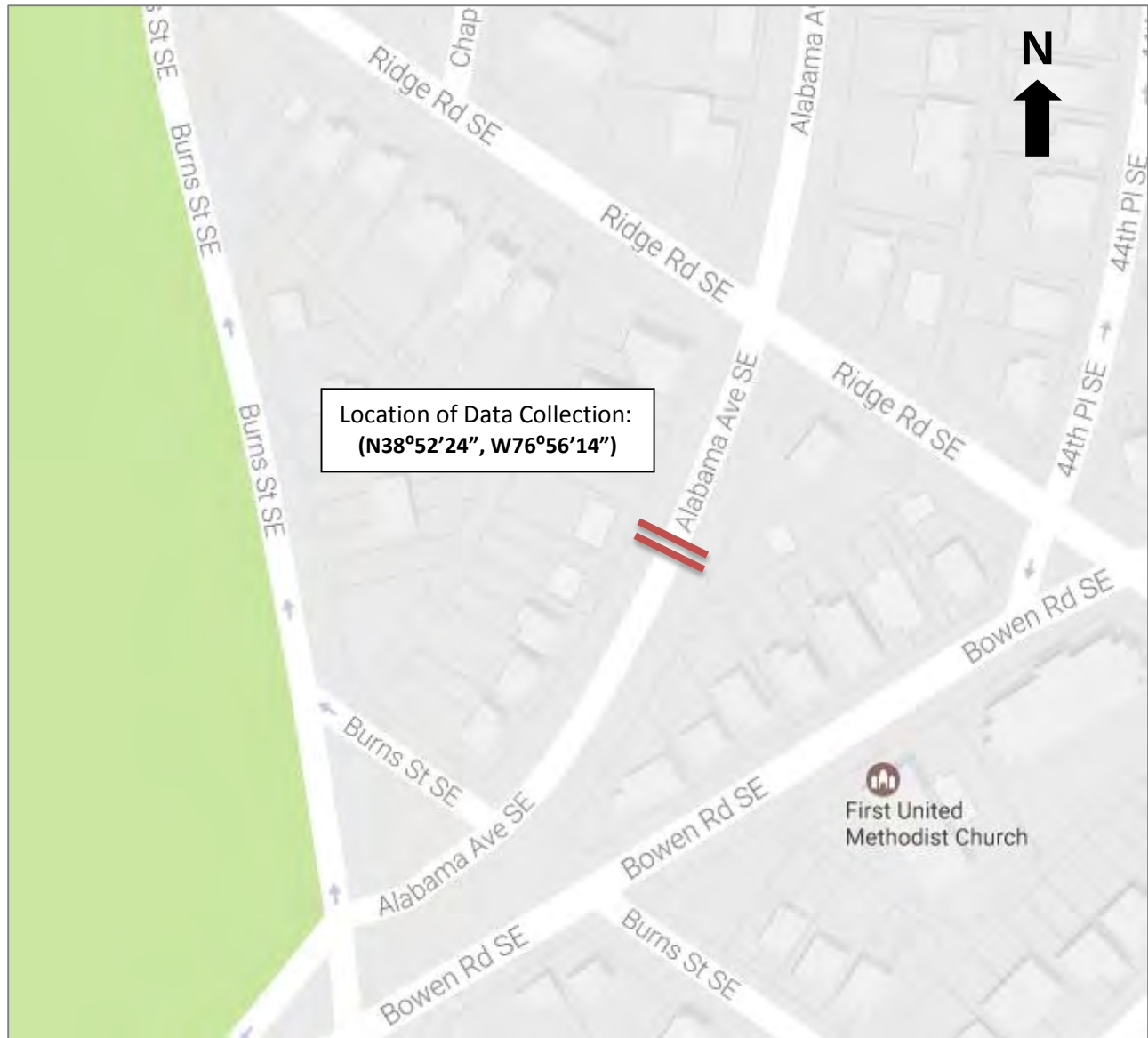


FIGURE 1: Location of Speed and Volume Data Collection

SUMMARY

SAMMAT Engineering Services, LLC presents this report to provide DDOT with volume and speed data obtained from November 29th through December 6th, 2016 on the 4300 block of Alabama Avenue, SE located in the District of Columbia (DC). Table 1 presents the summary of the 7-day volume count and the directional speed data, which includes the 85th percentile speed, the mean (average) speed, and the 10 MPH pace. Figure 1 presents the location of the site with respect to the surrounding roadway network.

Table 1: 7-Day Speed and Volume Characteristics (mph) for 4300 block of Alabama Ave SE

4300 Alabama Ave, SE		85 th Percentile	Mean	10 MPH Pace	ADT
Day 1	EB	32	27	21-30	3,604
	WB	31	27	21-30	
	EB+WB	31	27	21-30	
Day 2	EB	33	28	26-35	3,734
	WB	32	28	26-35	
	EB+WB	33	28	26-35	
Day 3	EB	33	27	26-35	4,226
	WB	32	28	21-30	
	EB+WB	32	27	21-30	
Day 4	EB	32	27	21-30	4,278
	WB	31	27	21-30	
	EB+WB	32	27	21-30	
Day 5	EB	33	28	26-35	3,314
	WB	32	28	21-30	
	EB+WB	32	28	26-35	
Day 6	EB	32	27	21-30	2,772
	WB	31	27	21-30	
	EB+WB	31	27	21-30	
Day 7	EB	32	28	26-35	3,658
	WB	31	27	21-30	
	EB+WB	31	27	21-30	
7-Day	EB	32	27	21-30	3,661
	WB	31	27	21-30	
	EB+WB	31	27	21-30	

SAMMAT ENGINEERING SERVICES, LLC

PO BOX 780
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4300 ALABAMA AVENUE SE - 7 DAY

Start Time	29-Nov-16		EB		WB		Combined		30-Nov Wed	EB		WB		Combined	
	Tue		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00			5	12	4	23	9	35		5	10	10	15	15	25
12:15			3	17	6	30	9	47		1	10	9	26	10	36
12:30			1	9	6	29	7	38		3	4	5	19	8	23
12:45			3	3	3	29	6	32		2	16	4	31	6	47
01:00			3	9	7	26	10	35		3	9	4	21	7	30
01:15			1	8	4	29	5	37		4	6	6	28	10	34
01:30			2	12	1	32	3	44		2	6	3	19	5	25
01:45			1	7	3	27	4	34		1	9	3	29	4	38
02:00			3	6	1	30	4	36		0	10	2	25	2	35
02:15			0	15	1	34	1	49		0	11	1	23	1	34
02:30			1	13	3	29	4	42		0	8	1	31	1	39
02:45			0	8	4	29	4	37		0	10	3	37	3	47
03:00			1	14	1	42	2	56		1	21	2	41	3	62
03:15			3	16	3	43	6	59		1	16	1	43	2	59
03:30			2	14	3	41	5	55		1	15	1	61	2	76
03:45			1	25	2	64	3	89		0	23	3	62	3	85
04:00			1	29	4	80	5	109		1	27	6	82	7	109
04:15			0	18	1	91	1	109		0	25	5	82	5	107
04:30			1	20	3	96	4	116		0	21	0	109	0	130
04:45			1	21	5	86	6	107		2	23	7	95	9	118
05:00			3	20	4	83	7	103		5	21	5	96	10	117
05:15			2	16	8	82	10	98		1	28	6	89	7	117
05:30			2	20	6	91	8	111		2	24	12	90	14	114
05:45			3	15	15	73	18	88		3	22	13	95	16	117
06:00			5	20	6	73	11	93		4	17	13	72	17	89
06:15			5	20	17	97	22	117		4	19	12	77	16	96
06:30			4	17	14	73	18	90		3	27	13	73	16	100
06:45			8	13	26	63	34	76		8	16	29	68	37	84
07:00			11	15	26	52	37	67		7	17	21	55	28	72
07:15			18	11	25	44	43	55		19	19	22	39	41	58
07:30			20	17	30	38	50	55		28	13	35	38	63	51
07:45			21	16	43	34	64	50		23	20	46	31	69	51
08:00			16	14	43	31	59	45		25	11	50	46	75	57
08:15			18	11	45	29	63	40		14	12	41	36	55	48
08:30			10	13	42	24	52	37		16	19	40	20	56	39
08:45			13	9	41	26	54	35		10	8	43	21	53	29
09:00			9	7	25	29	34	36		9	10	25	32	34	42
09:15			8	12	20	17	28	29		9	11	31	27	40	38
09:30			4	10	21	32	25	42		8	6	23	20	31	26
09:45			6	7	29	27	35	34		4	14	27	23	31	37
10:00			16	7	25	15	41	22		8	10	19	14	27	24
10:15			10	3	30	14	40	17		7	7	22	16	29	23
10:30			8	6	21	17	29	23		7	11	22	17	29	28
10:45			4	5	23	9	27	14		5	4	20	11	25	15
11:00			6	6	12	14	18	20		8	6	19	11	27	17
11:15			3	2	17	12	20	14		11	4	36	7	47	11
11:30			5	5	15	9	20	14		5	4	31	5	36	9
11:45			9	4	24	16	33	20		2	4	20	15	22	19
Total			280	597	718	2014	998	2611		282	664	772	2023	1054	2687
Day Total			877		2732		3609			946		2795		3741	
% Total			7.8%	16.5%	19.9%	55.8%				7.5%	17.7%	20.6%	54.1%		
Peak	-	07:15	03:45	07:45	04:15	07:45	04:00		-	07:15	03:45	07:45	04:30	07:30	04:30
Vol.	-	75	92	173	356	238	441		-	95	96	177	389	262	482
P.H.F.		0.893	0.793	0.961	0.927	0.930	0.950			0.848	0.889	0.885	0.892	0.873	0.927

SAMMAT ENGINEERING SERVICES, LLC

PO BOX 780
MT AIRY, MD 21771
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4300 ALABAMA AVENUE SE - 7 DAY

Start Time	01-Dec-16		EB		WB		Combined		02-Dec		EB		WB		Combined	
	Thu		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	Fri		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00			4	8	9	26	13	34			6	21	15	25	21	46
12:15			2	5	12	33	14	38			8	24	7	30	15	54
12:30			2	13	6	37	8	50			2	18	6	53	8	71
12:45			3	11	3	22	6	33			2	13	3	40	5	53
01:00			1	11	2	24	3	35			4	8	2	44	6	52
01:15			3	8	7	33	10	41			0	14	2	31	2	45
01:30			3	17	9	24	12	41			2	11	8	37	10	48
01:45			3	11	4	24	7	35			3	8	7	35	10	43
02:00			1	15	3	32	4	47			2	16	5	44	7	60
02:15			1	16	3	32	4	48			4	15	3	45	7	60
02:30			2	14	5	53	7	67			1	20	3	43	4	63
02:45			0	20	3	44	3	64			2	19	3	47	5	66
03:00			2	18	3	40	5	58			1	12	3	45	4	57
03:15			2	16	2	42	4	58			1	24	2	62	3	86
03:30			1	23	0	58	1	81			1	22	2	62	3	84
03:45			5	17	6	64	11	81			0	14	6	78	6	92
04:00			2	23	3	68	5	91			1	9	6	77	7	86
04:15			0	24	6	91	6	115			1	29	2	88	3	117
04:30			2	27	2	109	4	136			2	31	5	80	7	111
04:45			0	20	2	97	2	117			1	18	9	75	10	93
05:00			3	14	5	103	8	117			2	28	5	100	7	128
05:15			2	20	10	100	12	120			2	19	5	73	7	92
05:30			2	22	8	100	10	122			1	23	8	90	9	113
05:45			2	20	16	118	18	138			5	22	14	91	19	113
06:00			3	22	13	89	16	111			1	25	9	98	10	123
06:15			3	25	11	83	14	108			1	23	25	76	26	99
06:30			6	25	21	77	27	102			5	24	23	80	28	104
06:45			5	18	24	69	29	87			8	14	26	71	34	85
07:00			13	19	31	48	44	67			12	22	33	62	45	84
07:15		16	18	18	27	49	43	67		14	19	29	61	43	80	80
07:30		21	15	15	25	52	46	67		17	10	17	46	34	56	56
07:45		19	18	18	48	65	67	83		20	14	50	37	70	51	51
08:00		25	24	24	51	43	76	67		26	16	39	46	65	62	62
08:15		13	12	12	46	37	59	49		11	17	30	40	41	57	57
08:30		15	19	19	52	26	67	45		9	15	38	43	47	58	58
08:45		14	15	15	48	39	62	54		7	11	30	40	37	51	51
09:00		16	11	11	34	33	50	44		7	22	20	35	27	57	57
09:15		10	7	7	33	36	43	43		6	18	32	36	38	54	54
09:30		4	6	6	21	23	25	29		6	13	34	41	40	54	54
09:45		10	11	11	36	18	46	29		14	12	30	15	44	27	27
10:00		18	5	5	36	16	54	21		8	11	28	24	36	35	35
10:15		12	16	16	32	22	44	38		12	7	22	18	34	25	25
10:30		13	7	7	34	16	47	23		13	4	21	21	34	25	25
10:45		11	8	8	29	15	40	23		10	8	27	20	37	28	28
11:00		4	7	7	32	13	36	20		9	10	30	18	39	28	28
11:15		13	6	6	20	17	33	23		13	5	21	17	34	22	22
11:30		13	5	5	29	19	42	24		14	11	33	26	47	37	37
11:45		11	5	5	23	14	34	19		14	9	38	17	52	26	26
Total			336	717	885	2293	1221	3010			311	778	816	2383	1127	3161
Day Total			1053		3178		4231				1089		3199		4288	
% Total			7.9%	16.9%	20.9%	54.2%					7.3%	18.1%	19.0%	55.6%		
Peak	-	07:15	04:00	07:45	05:00	07:45	05:00		-	07:15	04:15	07:45	05:30	07:45	04:15	
Vol.	-	81	94	197	421	269	497		-	77	106	157	355	223	449	
P.H.F.		0.810	0.870	0.947	0.892	0.885	0.900			0.740	0.855	0.785	0.906	0.796	0.877	

SAMMAT ENGINEERING SERVICES, LLC

PO BOX 780
MT AIRY, MD 21771
www.sammateng.com

4300 ALABAMA AVENUE SE - 7 DAY

Start Time	03-Dec-16		EB		WB		Combined		04-Dec		EB		WB		Combined	
	Sat		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	Sun		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00			11	11	11	52	22	63			8	13	13	15	21	28
12:15			13	16	8	45	21	61			5	20	15	46	20	66
12:30			7	10	15	41	22	51			7	13	10	31	17	44
12:45			6	14	11	43	17	57			5	11	13	45	18	56
01:00			3	12	15	46	18	58			7	9	9	35	16	44
01:15			5	10	5	51	10	61			10	14	10	48	20	62
01:30			5	17	7	56	12	73			6	15	10	39	16	54
01:45			3	19	10	57	13	76			2	18	8	49	10	67
02:00			3	17	6	30	9	47			0	12	2	47	2	59
02:15			4	9	7	46	11	55			6	14	12	43	18	57
02:30			3	13	11	38	14	51			3	15	3	19	6	34
02:45			7	11	7	49	14	60			3	16	6	33	9	49
03:00			0	16	7	40	7	56			3	11	6	37	9	48
03:15			1	17	7	43	8	60			0	18	3	30	3	48
03:30			6	7	1	45	7	52			1	12	5	40	6	52
03:45			3	9	2	62	5	71			3	11	9	32	12	43
04:00			1	16	5	62	6	78			2	15	4	37	6	52
04:15			0	13	3	45	3	58			0	10	5	26	5	36
04:30			2	11	5	47	7	58			1	13	7	48	8	61
04:45			1	12	2	35	3	47			1	14	1	34	2	48
05:00			1	14	4	38	5	52			2	10	3	54	5	64
05:15			1	12	2	55	3	67			2	14	5	29	7	43
05:30			1	13	3	43	4	56			1	11	3	19	4	30
05:45			2	11	10	35	12	46			1	6	3	31	4	37
06:00			0	17	6	48	6	65			2	6	5	24	7	30
06:15			1	14	8	39	9	53			1	10	8	26	9	36
06:30			5	14	7	31	12	45			2	14	18	33	20	47
06:45			6	7	10	38	16	45			4	13	12	21	16	34
07:00			4	19	9	32	13	51			4	18	12	28	16	46
07:15			2	18	17	35	19	53			5	11	12	24	17	35
07:30			4	22	6	43	10	65			5	10	9	24	14	34
07:45			13	14	18	43	31	57			2	17	15	27	17	44
08:00			5	9	14	27	19	36			2	12	17	44	19	56
08:15			7	15	22	18	29	33			7	11	13	29	20	40
08:30			8	8	21	24	29	32			6	13	16	29	22	42
08:45			6	5	30	20	36	25			3	12	21	38	24	50
09:00			3	10	14	28	17	38			5	6	29	20	34	26
09:15			9	11	30	30	39	41			4	9	11	23	15	32
09:30			5	13	32	21	37	34			9	4	37	16	46	20
09:45			10	17	35	34	45	51			8	11	24	18	32	29
10:00			18	8	28	17	46	25			8	5	27	14	35	19
10:15			18	13	34	25	52	38			10	8	16	11	26	19
10:30			9	8	33	23	42	31			7	6	41	9	48	15
10:45			14	8	32	17	46	25			6	3	32	13	38	16
11:00			12	7	30	13	42	20			11	7	30	15	41	22
11:15			11	6	38	14	49	20			9	4	26	9	35	13
11:30			8	13	32	9	40	22			11	2	29	6	40	8
11:45			17	7	29	16	46	23			10	1	36	6	46	7
Total			284	593	699	1749	983	2342			220	528	661	1374	881	1902
Day Total			877		2448		3325				748		2035		2783	
% Total			8.5%	17.8%	21.0%	52.6%					7.9%	19.0%	23.8%	49.4%		
Peak	-	10:00	07:00	10:30	03:45	10:00	01:00		-	11:00	02:30	10:30	01:15	10:30	01:15	
Vol.	-	59	73	133	216	186	268		-	41	60	129	183	162	242	
P.H.F.		0.819	0.830	0.875	0.871	0.894	0.882			0.932	0.833	0.787	0.934	0.844	0.903	

SAMMAT ENGINEERING SERVICES, LLC

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4300 ALABAMA AVENUE SE - 7 DAY

Start Time	05-Dec-16 Mon	EB		WB		Combined		06-Dec Tue	EB		WB		Combined	
		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00		1	10	9	21	10	31		0	*	0	*	0	*
12:15		2	7	3	24	5	31		*	*	*	*	*	*
12:30		7	13	3	29	10	42		*	*	*	*	*	*
12:45		0	9	5	35	5	44		*	*	*	*	*	*
01:00		4	15	3	35	7	50		*	*	*	*	*	*
01:15		0	10	4	32	4	42		*	*	*	*	*	*
01:30		1	11	3	36	4	47		*	*	*	*	*	*
01:45		0	13	3	33	3	46		*	*	*	*	*	*
02:00		0	7	1	39	1	46		*	*	*	*	*	*
02:15		1	10	4	29	5	39		*	*	*	*	*	*
02:30		4	18	1	25	5	43		*	*	*	*	*	*
02:45		1	21	3	33	4	54		*	*	*	*	*	*
03:00		0	13	1	34	1	47		*	*	*	*	*	*
03:15		1	21	0	56	1	77		*	*	*	*	*	*
03:30		1	19	1	66	2	85		*	*	*	*	*	*
03:45		1	17	5	67	6	84		*	*	*	*	*	*
04:00		0	25	2	68	2	93		*	*	*	*	*	*
04:15		0	26	2	73	2	99		*	*	*	*	*	*
04:30		0	24	3	100	3	124		*	*	*	*	*	*
04:45		3	26	3	80	6	106		*	*	*	*	*	*
05:00		1	12	8	82	9	94		*	*	*	*	*	*
05:15		1	27	6	94	7	121		*	*	*	*	*	*
05:30		2	18	6	95	8	113		*	*	*	*	*	*
05:45		0	11	8	81	8	92		*	*	*	*	*	*
06:00		2	23	11	84	13	107		*	*	*	*	*	*
06:15		4	17	13	74	17	91		*	*	*	*	*	*
06:30		4	14	8	69	12	83		*	*	*	*	*	*
06:45		4	17	25	43	29	60		*	*	*	*	*	*
07:00		12	15	31	49	43	64		*	*	*	*	*	*
07:15		18	16	34	47	52	63		*	*	*	*	*	*
07:30		12	13	23	35	35	48		*	*	*	*	*	*
07:45		29	11	55	31	84	42		*	*	*	*	*	*
08:00		25	16	42	25	67	41		*	*	*	*	*	*
08:15		19	17	42	36	61	53		*	*	*	*	*	*
08:30		16	9	36	27	52	36		*	*	*	*	*	*
08:45		9	9	32	26	41	35		*	*	*	*	*	*
09:00		11	11	28	29	39	40		*	*	*	*	*	*
09:15		6	9	29	23	35	32		*	*	*	*	*	*
09:30		10	8	25	20	35	28		*	*	*	*	*	*
09:45		8	8	22	14	30	22		*	*	*	*	*	*
10:00		13	7	22	12	35	19		*	*	*	*	*	*
10:15		6	4	27	13	33	17		*	*	*	*	*	*
10:30		4	7	33	10	37	17		*	*	*	*	*	*
10:45		9	5	19	9	28	14		*	*	*	*	*	*
11:00		8	3	37	8	45	11		*	*	*	*	*	*
11:15		10	1	22	7	32	8		*	*	*	*	*	*
11:30		13	6	26	7	39	13		*	*	*	*	*	*
11:45		7	8	24	18	31	26		*	*	*	*	*	*
Total		290	637	753	1983	1043	2620		0	0	0	0	0	0
Day Total		927		2736		3663			0		0		0	
% Total		7.9%	17.4%	20.6%	54.1%				0.0%	0.0%	0.0%	0.0%		
Peak	-	07:45	04:00	07:45	04:30	07:45	04:30	-	-	-	-	-	-	-
Vol.	-	89	101	175	356	264	445	-	-	-	-	-	-	-
P.H.F.		0.767	0.971	0.795	0.890	0.786	0.897							
ADT	ADT 3,661	AADT 3,661												

Appendix D Traffic Analysis – Existing, Future, and Proposed Scenarios

TRAFFIC ANALYSIS

1.0 Existing Traffic Capacity Analysis

The intersection capacity analysis results for Existing Conditions are in **Table 1**. Lane groups and intersections that operate at LOS E or F are highlighted.

Table 1 | Existing Traffic LOS Results

Int #	Intersection & Approach	AM Peak Hour				PM Peak Hour			
		Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
1	Alabama Avenue SE and Randle Place SE								
	Eastbound	L	0.17	32.0	C	L	0.64	44.2	D
		TR	0.07	31.5	C	TR	0.15	33.8	C
	Westbound	LTR	0.13	54.2	D	LTR	0.32	48.8	D
	Northbound	LTR	0.17	13.7	B	LTR	0.24	10.5	B
	Southbound	LTR	0.28	8.9	A	LTR	0.27	8.4	A
		Intersection		14.9	B	Intersection		20.3	C
2	Alabama Avenue SE and 11th Place SE								
	Eastbound	LTR	0.50	43.6	D	LTR	0.59	31.1	C
	Westbound	LTR	0.40	42.9	D	LTR	0.24	22.1	C
	Northbound	T	0.49	5.5	A	T	0.56	8.2	A
		R	0.01	0.0	A	R	0.05	1.1	A
	Southbound	LT	0.57	6.0	A	LT	0.47	7.1	A
		R	0.05	0.8	A	R	0.01	2.7	A
		Intersection		8.6	A	Intersection		9.6	A
3	Alabama Ave SE and 13th Street SE								
	Eastbound	L	0.19	42.4	D	L	0.10	26.6	C
		T	0.03	38.3	D	T	0.04	25.3	C
		R	0.15	4.4	A	R	0.09	0.5	A
	Westbound	LTR	0.56	45.2	D	LTR	0.30	20.0	C
	Northbound	L	0.10	7.4	A	L	0.08	7.0	A
		T	0.48	14.9	B	T	0.83	21.2	C
		R	0.04	2.0	A	R	0.05	0.8	A
	Southbound	L	0.10	4.1	A	L	0.20	8.0	A
T		0.74	16.5	B	T	0.66	18.1	B	
R		0.05	0.1	A	R	0.06	0.4	A	
		Intersection		17.7	B	Intersection		18.2	B
4	Alabama Avenue SE and Stanton Road SE								
	Eastbound	L	0.32	37.0	D	L	0.37	33.7	C
		TR	0.63	37.0	D	TR	0.70	36.5	D



	Westbound	L	0.31	37.1	D	L	0.26	33.2	C
		TR	0.48	35.8	D	TR	0.42	27.4	C
	Northbound	LTR	0.56	17.9	B	LTR	0.79	9.3	A
	Southbound	LTR	0.50	16.2	B	LTR	0.42	12.5	B
		Intersection		23.3	C	Intersection		17.0	B
501	Alabama Avenue SE and Jasper Street SE								
	Westbound	LR	0.31	29.0	C	LR	0.28	20.1	C
	Northbound	TR	0.29	8.0	A	TR	0.36	10.0	B
	Southbound	LT	0.36	4.4	A	LT	0.50	3.2	A
		Intersection		8.1	A	Intersection		7.4	A
502	Alabama Avenue SE and Irving Street SE								
	Eastbound	LTR	0.28	41.9	D	LTR	0.29	34.0	C
	Westbound	LTR	0.31	42.0	D	LTR	0.33	34.4	C
	Northbound	LTR	0.31	2.5	A	LTR	0.37	2.5	A
	Southbound	LTR	0.42	8.4	A	LTR	0.51	12.4	B
		Intersection		10.0	A	Intersection		10.9	B
6	Alabama Avenue SE and Naylor Road SE								
	Eastbound	LTR	0.29	11.8	B	LTR	0.73	27.4	C
	Westbound	LTR	1.06	74.9	E	LTR	0.54	21.0	C
	Northbound	LTR	0.86	60.2	E	LTR	0.80	40.3	D
	Southbound	LTR	0.71	47.7	D	LTR	0.82	32.7	C
		Intersection		58.3	E	Intersection		31.3	C
7	Alabama Avenue SE and Good Hope Road SE								
	Eastbound	L	0.47	48.8	D	L	0.85	44.8	D
		LT	0.45	47.2	D	LT	0.84	44.1	D
	Westbound	L	0.06	28.1	C	L	0.24	33.1	C
		LTR	0.10	24.9	C	LTR	0.71	45.2	D
	Northbound	L	0.19	34.6	C	L	0.30	37.6	D
		T	0.26	31.3	C	T	0.57	29.9	C
		R	0.01	0.0	A	R	0.07	1.0	A
	Southbound	L	0.06	25.5	C	L	0.22	20.7	C
		TR	0.79	40.9	D	TR	0.84	30.5	C
		R	0.53	17.2	B	R	0.35	5.2	A
	Intersection		34.7	C	Intersection		33.7	C	
8	Alabama Avenue SE and Branch Avenue SE								
	Eastbound	L	0.28	17.8	B	L	0.42	20.1	C
		TR	0.74	36.6	D	TR	0.86	45.3	D
	Westbound	L	0.46	19.8	B	L	0.33	19.0	B
		TR	0.88	47.6	D	TR	0.60	30.7	C
	Northbound	LTR	1.11	112.0	F	LTR	0.93	64.1	E
	Southbound	LTR	1.07	86.8	F	LTR	0.98	75.8	E
	Intersection		70.4	E	Intersection		53.3	D	
901	Alabama Avenue SE and 36th Place SE (South Side)								
	Eastbound	LR	0.03	40.0	D	LR	0.44	46.5	D
	Northbound	T	0.18	0.4	A	T	0.24	0.9	A



	Southbound	T	0.30	1.5	A	T	0.28	0.5	A
		Intersection		1.2	A	Intersection		3.6	A
902	Alabama Avenue SE and 36th Place SE (North Side)								
	Westbound	LR	0.28	23.1	C	LR	0.07	23.3	C
	Northbound	TR	0.20	0.7	A	TR	0.27	1.2	A
	Southbound	LT	0.36	4.4	A	LT	0.29	0.8	A
		Intersection		3.9	A	Intersection		1.2	A
10	Alabama Avenue SE and 38th Street SE								
	Eastbound	L	0.25	44.0	D	L	0.37	44.8	D
		TR	0.83	114.6	F	TR	1.02	121.5	F
	Westbound	L	0.64	68.3	E	L	0.17	37.9	D
		TR	1.04	100.6	F	TR	0.97	81.7	F
	Northbound	LT	0.73	47.6	D	LT	0.85	29.9	C
		R	0.03	22.2	C	R	0.02	6.3	A
	Southbound	LTR	0.35	7.5	A	LTR	0.36	2.6	A
	Intersection		53.1	D	Intersection		47.7	D	
11	Alabama Avenue SE and Pennsylvania Avenue SE								
	Eastbound	L	0.28	36.1	D	L	0.22	23.8	C
		TR	0.61	40.8	D	TR	1.00	97.5	F
	Westbound	L	0.46	25.6	C	L	0.36	33.4	C
		TR	0.73	30.1	C	TR	0.64	36.7	D
	Northbound	T	0.85	54.8	D	T	0.92	99.4	F
		R	0.11	3.2	A	R	0.30	4.6	A
	Southbound	LTR	0.66	36.0	D	LTR	0.96	64.7	E
	Intersection		34.8	C	Intersection		68.1	E	
12	Alabama Avenue SE and Ridge Road SE								
	Eastbound	LTR	0.43	12.0	B	LT	0.79	25.7	C
						R	0.60	14.0	B
	Westbound	LTR	0.52	13.9	C	LTR	0.37	12.1	B
	Northbound	LTR	0.21	10.6	B	LTR	0.20	11.2	B
Southbound	LTR	0.29	11.3	B	LTR	0.28	11.9	B	
	Notes: L = Left Turn, T= Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level of Service. Measures of Effectiveness obtained from Synchro, Version 9.1.								

Overall, vehicle traffic moved efficiently along Alabama Avenue except at a handful of intersections with key north-south routes such as Stanton Road, Good Hope Road, and Branch Avenue.

Further observations from the Existing traffic analysis are below:

- Alabama Avenue / Randle Place
 - While the eastbound approach of Randle Place sometimes queues back to Martin Luther King Jr (MLK) Avenue during the PM peak hour, this queue clears each cycle and does not affect intersection operations
- Alabama Avenue / Stanton Road
 - Due to heavy pedestrian volumes, vehicles turning left or right sometimes queue up waiting for the crosswalks to clear, but they clear the intersection each cycle, and vehicles traveling through can go around those waiting to turn.
- Alabama Avenue / Naylor Road
 - Due to closely spaced intersections to the north and west of this intersection, it appears that signals are optimized to keep vehicle traffic flowing southbound and eastbound and to avoid queue spillback to the adjacent intersections.
- Alabama Avenue / Branch Avenue
 - While the Synchro analysis indicates an LOS of E for the AM and PM peak hours, in reality, the intersection likely operates at LOS F. Eastbound and westbound queues were so long and extensive that the actual traffic volume at this intersection could not be fully counted because vehicles were waiting in long queues, sometimes taking several cycles to get through the intersection.
- Alabama Avenue / 38th Street
 - Field observations indicate that the signal timing at this intersection has been optimized to keep northbound and southbound traffic on Alabama Avenue moving, and to keep the next intersection at Pennsylvania Avenue clear. This results in eastbound queues on 38th Street backing up to Pennsylvania Avenue, and down Pennsylvania Avenue to Fort Davis Drive.
 - Westbound queues generally extend back to V Street. These queues were observed both in the AM and PM peak hours.
- Alabama Avenue / Pennsylvania Avenue
 - While the eastbound through movement has some congestion in the PM peak hour related to commuter traffic, queues were observed to clear after one or two cycles. These queues sometimes extended back through the next intersection at Pennsylvania Avenue / 38th Street.
- Alabama Avenue / Ridge Road
 - In the PM peak hour, the eastbound approach sees a spike in traffic, likely related to commuters due to Ridge Road's northwest/southeast orientation from central areas of the District.

2.0 Future Traffic Conditions

Traffic volumes were projected to a future design year of 2026, and a Future Conditions traffic analysis was performed for the horizon year to determine if traffic growth would result in any new intersections or lane groups that would operate at a poor LOS. The future growth projections accounted background growth and nearby developments. The design year, growth rates, and included future developments were selected in consultation with DDOT staff.

2.1. Traffic Projections and Roadway Network Changes

A design year of 2026, 10 years after the existing conditions traffic counts, was chosen in order to capture background growth in the area. The yearly growth rates in **Table 2** were extracted from the Metropolitan Washington Council of Governments (MWCOC) travel demand model for four segments, based on the groups of intersections studied.

Table 2 | Annual Growth Rates from MWCOC Model

Segment	Annual Growth Rate
At Ridge Road	0.4%
Naylor Road – Pennsylvania Avenue	0.1%
At Jasper Street/Irving Street	0.6%
MLK Ave – Stanton Road	0.8%

In addition to the background growth, traffic generated by two proposed development projects – the Congress Heights and Skyland Town Center developments – were accounted for in the growth projections. Trip generation and assignment for the two sites were obtained from their respective traffic impact studies. The total growth increment was added to the Existing Conditions traffic volumes to calculate the 2026 Future Conditions traffic volumes. The St. Elizabeth’s East Campus Redevelopment project is ongoing and still in the planning stages. Any potential traffic and geometry changes from this project are not finalized. As such, the project will likely not be built and occupied before the 2026 build year for this project, and is not directly considered in these traffic projections. The 2026 Future Conditions traffic volumes do include a background growth rate in addition to the individual projects’ traffic projections, so these traffic volumes are conservative.

The development projects also introduce changes to the roadway network. The Skyland development will add a new signalized intersection on Alabama Avenue at the existing Safeway driveway, approximately 350 feet north of Good Hope Road. The existing lane configuration will be maintained upon signalization. Furthermore, the signalized intersection of Alabama Avenue and Good Hope Road

will have a fifth leg added for access to the Skyland development, and the four-lane Alabama Avenue SB approach will be restriped from one left-turn lane, two through lanes, and one right-turn lane to one left-turn lane, one through lane, and two right-turn lanes. These geometric changes are reflected in the Future Conditions intersection analysis and are shown in **Figure 1**. The Congress Heights development will add an unsignalized intersection north of 13th Street that is not included as part of this study.

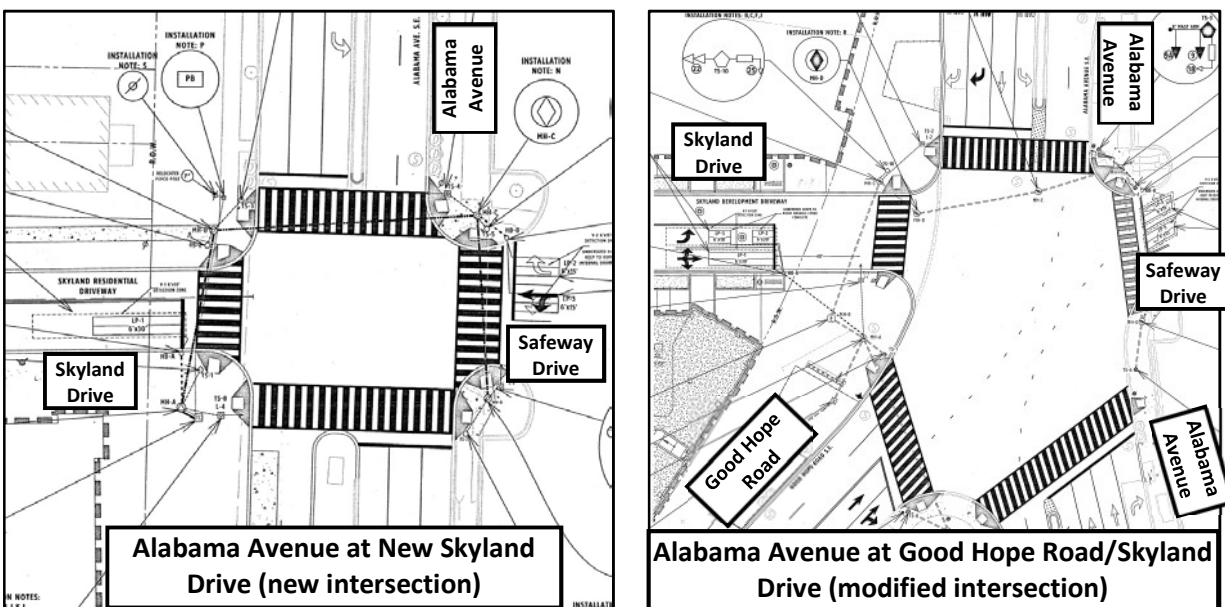


Figure 1 – Future Geometry Changes to Alabama Avenue SE Corridor from Development Projects

MLK Avenue SE intersects with Alabama Avenue south of the project limits. A redesign of MLK Avenue is underway with the *Revitalization of Martin Luther King Jr. Avenue SE Phase II* project. This project proposes to convert Randle Place to one-way eastbound. Therefore, traffic that was previously turning right from southbound Alabama Avenue to westbound Randle Place will instead continue southbound on Alabama Avenue and turn right directly onto MLK Avenue. This new traffic pattern is incorporated into the Future Conditions LOS Analysis.

2.2. Future Conditions Traffic Capacity Analysis

The LOS results for Future Conditions are in **Table 3**. Lane groups and intersections that operate at LOS E or F are highlighted.

Table 3 | Future Conditions LOS Results

Int #	Intersection & Approach	AM Peak Hour				PM Peak Hour			
		Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
1	Alabama Avenue SE and Randle Place SE								
	Eastbound	L	0.38	32.8	C	L	0.80	53.7	D
		TR	0.07	28.7	C	TR	0.16	34.0	C
	Westbound	LTR	0.14	55.2	E	LTR	0.30	48.3	D
	Northbound	TR	0.17	13.8	B	TR	0.22	10.4	B
	Southbound	LT	0.32	9.4	A	LT	0.33	10.1	B
		Intersection		16.9	B	Intersection		23.0	C
2	Alabama Avenue SE and 11th Place SE								
	Eastbound	LTR	0.53	45.4	D	LTR	0.61	32.2	C
	Westbound	LTR	0.41	41.7	D	LTR	0.26	22.8	C
	Northbound	T	0.66	10.5	B	T	0.65	11.6	B
		R	0.01	0.7	A	R	0.05	1.3	A
	Southbound	LT	0.66	7.6	A	LT	0.62	8.3	A
		Intersection		11.1	B	Intersection		11.6	B
3	Alabama Ave SE and 13th Street SE								
	Eastbound	L	0.21	42.8	D	L	0.11	26.8	C
		T	0.03	38.4	D	T	0.04	25.4	C
		R	0.17	5.5	A	R	0.09	0.5	A
	Westbound	LTR	0.87	81.9	F	LTR	0.86	56.7	E
	Northbound	L	0.12	7.0	A	L	0.10	8.6	A
		T	0.59	17.6	B	T	0.93	30.9	C
		R	0.18	6.6	A	R	0.12	3.9	A
	Southbound	L	0.14	4.2	A	L	0.32	13.7	B
		T	0.81	18.7	B	T	0.74	21.2	C
	Intersection		23.3	C	Intersection		28.4	C	
4	Alabama Avenue SE and Stanton Road SE								
	Eastbound	L	0.37	39.1	D	L	0.42	35.6	D
		TR	0.75	43.3	D	TR	0.79	43.0	D
	Westbound	L	0.42	42.7	D	L	0.35	37.8	D
		TR	0.53	37.1	D	TR	0.46	28.8	C
	Northbound	LTR	0.68	22.3	C	LTR	1.00	33.8	C
	Southbound	LTR	0.56	17.3	B	LTR	0.47	13.3	B
		Intersection		26.6	C	Intersection		28.9	C



501	Alabama Avenue SE and Jasper Street SE									
	Westbound	LR	0.33	29.9	C	LR	0.30	21.0	C	
	Northbound	TR	0.31	8.3	A	TR	0.41	10.7	B	
	Southbound	LT	0.40	4.4	A	LT	0.58	3.6	A	
		Intersection		8.2	A	Intersection		8.0	A	
502	Alabama Avenue SE and Irving Street SE									
	Eastbound	LTR	0.42	46.1	D	LTR	0.60	44.7	D	
	Westbound	LTR	0.33	42.6	D	LTR	0.35	34.8	C	
	Northbound	LTR	0.34	2.5	A	LTR	0.43	2.5	A	
	Southbound	LTR	0.47	9.0	A	LTR	0.60	13.7	B	
		Intersection		10.9	B	Intersection		12.9	B	
6	Alabama Avenue SE and Naylor Road SE									
	Eastbound	LTR	0.30	12.2	B	LTR	0.76	28.5	C	
	Westbound	LTR	1.10	88.6	F	LTR	0.66	24.4	C	
	Northbound	LTR	0.92	69.3	E	LTR	0.90	49.7	D	
	Southbound	LTR	0.87	86.6	F	LTR	1.12	107.2	F	
		Intersection		75.7	E	Intersection		55.4	E	
7	Alabama Avenue SE and Good Hope Road SE									
	Eastbound	L	0.40	43.2	D	L	1.00	83.1	F	
		LTR	0.39	42.4	D	LTR	1.00	81.7	F	
	Westbound	L	0.09	41.0	D	L	0.29	44.7	D	
		LTR	0.11	0.5	A	LTR	0.54	19.3	B	
	Northbound	L	0.35	14.6	B	L	1.09	189.0	F	
		T	0.27	8.7	A	T	0.55	39.2	D	
		R	0.01	0.0	A	R	0.06	0.3	A	
	Southeastbound	LTR	0.20	1.7	A	LTR	0.46	8.2	A	
	Southbound	L	0.06	25.5	C	L	0.21	37.4	D	
		T	0.85	50.4	D	T	1.23	159.6	F	
		R	1.04	78.2	E	R	0.47	20.9	C	
		Intersection		49.2	D	Intersection		73.1	E	
8	Alabama Avenue SE and Branch Avenue SE									
	Eastbound	L	0.28	17.9	B	L	0.43	20.2	C	
		TR	0.78	38.7	D	TR	0.96	60.0	E	
	Westbound	L	0.52	21.3	C	L	0.55	26.7	C	
		TR	0.89	48.5	D	TR	0.60	30.8	C	
	Northbound	LTR	1.20	144.6	F	LTR	1.06	88.8	F	
	Southbound	LTR	1.09	94.9	F	LTR	1.02	86.0	F	
	Intersection		81.7	F	Intersection		66.8	E		
901	Alabama Avenue SE and 36th Place SE (South Side)									
	Eastbound	LR	0.03	40.0	D	LR	0.45	46.4	D	
	Northbound	T	0.18	0.4	A	T	0.24	0.8	A	
	Southbound	T	0.30	1.5	A	T	0.28	0.5	A	
		Intersection		1.2	A	Intersection		3.6	A	

902	Alabama Avenue SE and 36th Place SE (North Side)								
	Westbound	LR	0.29	22.6	C	LR	0.07	23.1	C
	Northbound	TR	0.20	0.7	A	TR	0.28	1.3	A
	Southbound	LT	0.36	4.5	A	LT	0.30	0.8	A
		Intersection		4.0	A	Intersection		1.3	A
10	Alabama Avenue SE and 38th Street SE								
	Eastbound	L	0.25	44.4	D	L	0.38	45.8	D
		TR	0.83	115.2	F	TR	1.03	121.1	F
	Westbound	L	0.65	70.5	E	L	0.17	37.9	D
	Westbound	TR	1.04	102.3	F	TR	0.98	84.6	F
	Northbound	LT	0.74	48.5	D	LT	0.86	32.0	C
		R	0.03	22.2	C	R	0.02	6.2	A
	Southbound	LTR	0.35	7.5	A	LTR	0.36	2.7	A
	Intersection		53.8	D	Intersection		48.8	D	
11	Alabama Avenue SE and Pennsylvania Avenue SE								
	Eastbound	L	0.28	36.2	D	L	0.23	23.8	C
		TR	0.62	41.0	D	TR	1.01	97.3	F
	Westbound	L	0.46	25.8	C	L	0.37	33.5	C
		TR	0.74	30.4	C	TR	0.64	36.9	D
	Northbound	T	0.85	57.1	E	T	0.93	99.8	F
		R	0.12	3.2	A	R	0.33	4.1	A
	Southbound	LTR	0.66	36.0	D	LTR	0.98	68.7	E
		Intersection		35.3	D	Intersection		68.9	E
12	Alabama Avenue SE and Ridge Road SE								
	Eastbound	LTR	0.45	12.5	B	LT	0.83	30.4	D
						R	0.63	15.2	C
	Westbound	LTR	0.55	14.8	B	LTR	0.39	12.6	B
	Northbound	LTR	0.22	10.9	B	LTR	0.21	11.4	B
Southbound	LTR	0.31	11.7	B	LTR	0.30	12.3	B	
Notes: L = Left Turn, T = Through, R = Right Turn; LOS = Level of Service.									
Highlighted cells = LOS E or F.									
Measures of Effectiveness obtained from Synchro, Version 9.1.									

Further observations from the Future traffic analysis are below:

- Alabama Avenue / 13th Street
 - The westbound approach is projected to degrade from LOS D in Existing Conditions to LOS E during the AM peak hour in Future Conditions. This is largely due to additional traffic from the Congress Heights development.
- Alabama Avenue / Naylor Road
 - Additional trips at this intersection from the Skyland development degrade operates in Future Conditions.
- Alabama Avenue / Good Hope Road

Alabama Avenue SE Safety Study

- Under Future Conditions, operations at this intersection are projected to degrade considerably, especially in the PM peak hour. The addition of a fifth leg at this intersection to serve the new Skyland development would require an additional signal phase, which would take significant green time away from the other intersection approaches.
 - Furthermore, according to the Skyland development traffic study, one of the southbound travel lanes on Alabama Avenue will be converted from a through lane to an exclusive right-turn lane. This would degrade operations for southbound Alabama Avenue significantly; therefore, the proposed changes associated with the Skyland development should be revisited.
- Alabama Avenue / Branch Avenue
 - As with the Existing Conditions analysis, the analysis indicates better operations than what would actually occur.

3.0 Proposed Traffic Conditions

The Future traffic analysis was updated to test if a two-lane cross-section would be feasible along Alabama Avenue. Several intersections with high-volume roadways require a four-lane cross section on Alabama Avenue to maintain traffic operations and to avoid spillback queuing, which is also a safety issue. This traffic analysis yielded recommended changes for the Build condition, detailed in **Table 4**.

Table 4 | Proposed Changes in Build Condition

Intersection	Traffic Operations Changes in Build Condition
Randle Place / Alabama Avenue	• Reduce Alabama Avenue to one through travel lane in each direction
11th Place / Alabama Avenue	• Reduce Alabama Avenue to one through travel lane in each direction • Implement leading pedestrian interval
13th Place / Alabama Avenue	• Reduce Alabama Avenue to one through travel lane in each direction • Minor signal timing adjustments • Implement leading pedestrian interval
Stanton Road / Alabama Avenue	• Prohibit right-turn on red to supplement leading pedestrian interval • Minor signal timing adjustments
Jasper Street-Irving Street / Alabama Avenue	• Reduce Alabama Avenue to one through travel lane in each direction • Add southbound left-turn pockets at Jasper Street and Irving Street • Add northbound left-turn pocket at Irving Street
Naylor Road / Alabama Avenue	• Prohibit right-turn on red to supplement leading pedestrian interval • Minor signal timing adjustments
Good Hope Road / Alabama Avenue	• N/A – intersection undergoing full reconstruction as part of Skyland development
Branch Avenue / Alabama Avenue	• Convert Alabama Avenue phasing from split to permitted
36th Place / Alabama Avenue	• Reduce Alabama Avenue to one through travel lane in each direction
38th Street / Alabama Avenue	• Implement leading pedestrian interval
Pennsylvania Avenue / Alabama Avenue	• Minor signal timing adjustments
Ridge Road / Alabama Avenue	• N/A – unsignalized intersection

Level of service results reflecting most of these changes are in **Table 5**.

Table 5 | Proposed Condition Level of Service Results

Int #	Intersection & Approach	AM Peak Hour				PM Peak Hour			
		Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
1	Alabama Avenue SE and Randle Place SE								
	Eastbound	L	0.38	32.8	C	L	0.80	53.7	D
		TR	0.07	28.7	C	TR	0.16	34.0	C
	Westbound	LTR	0.15	56.0	E	LTR	0.34	50.9	D
	Northbound	TR	0.35	16.6	B	TR	0.45	14.0	B
	Southbound	LT	0.67	17.5	B	LT	0.71	17.9	B
	Intersection		21.3	C	Intersection		27.2	C	
2	Alabama Avenue SE and 11th Place SE								
	Eastbound	LTR	0.53	45.4	D	LTR	0.61	32.2	C
	Westbound	LTR	0.41	41.7	D	LTR	0.26	22.8	C
	Northbound	LTR	0.67	10.4	B	LTR	0.70	12.5	B
	Southbound	LTR	0.71	7.2	A	LTR	0.63	7.4	A
		Intersection		11.2	B	Intersection		12.0	B
3	Alabama Ave SE and 13th Street SE								
	Eastbound	L	0.17	37.0	D	L	0.11	26.0	C
		T	0.02	33.6	C	T	0.04	24.7	C
		R	0.13	4.5	A	R	0.09	0.5	A
	Westbound	LTR	0.72	56.6	E	LTR	0.84	53.2	D
	Northbound	L	0.17	9.8	A	L	0.12	9.5	A
		T	0.63	21.7	C	T	0.93	31.2	C
		R	0.19	7.9	A	R	0.12	4.4	A
	Southbound	L	0.16	5.9	A	L	0.35	13.7	B
		TR	0.92	31.4	C	TR	0.81	22.9	C
	Intersection		27.8	C	Intersection		29.0	C	
4	Alabama Avenue SE and Stanton Road SE								
	Eastbound	L	0.37	39.1	D	L	0.48	41.2	D
		TR	0.75	43.3	D	TR	0.88	55.0	D
	Westbound	L	0.42	42.7	D	L	0.45	48.3	D
		TR	0.53	37.1	D	TR	0.51	32.4	C
	Northbound	LTR	0.68	19.9	B	LTR	0.94	20.3	C
	Southbound	LTR	0.56	17.3	B	LTR	0.44	11.4	B
	Intersection		25.8	C	Intersection		24.9	C	
501	Alabama Avenue SE and Jasper Street SE								
	Westbound	LR	0.33	29.7	C	LR	0.30	21.1	C
	Northbound	TR	0.62	13.5	B	TR	0.81	23.4	C
	Southbound	T	0.54	8.0	A	T	0.70	17.6	B
		Intersection		12.1	B	Intersection		19.8	B
502	Alabama Avenue SE and Irving Street SE								
	Eastbound	LTR	0.43	50.3	D	LTR	0.60	45.7	D
	Westbound	LTR	0.34	44.3	D	LTR	0.35	35.0	D



	Northbound	TR	0.54	3.6	A	TR	0.70	5.4	A
	Southbound	TR	0.80	19.8	B	TR	1.00	49.1	D
		Intersection		16.8	B	Intersection		30.7	C
6	Alabama Avenue SE and Naylor Road SE								
	Eastbound	LTR	0.30	12.2	B	LTR	0.82	35.9	D
	Westbound	LTR	1.10	88.6	F	LTR	0.72	29.6	C
	Northbound	LTR	0.92	69.3	E	LTR	0.76	35.2	D
	Southbound	LTR	0.87	86.6	F	LTR	0.97	61.3	E
		Intersection		75.7	E	Intersection		41.5	D
7	Alabama Avenue SE and Good Hope Road SE								
	Eastbound	L	0.40	43.2	D	L	1.00	83.1	F
		LTR	0.39	42.4	D	LTR	1.00	81.7	F
	Westbound	L	0.09	41.0	D	L	0.29	44.7	D
		LTR	0.11	0.5	A	LTR	0.54	19.3	B
	Northbound	L	0.35	14.6	B	L	1.09	189.0	F
		T	0.27	8.7	A	T	0.55	39.2	D
		R	0.01	0.0	A	R	0.06	0.3	A
	Southeastbound	LTR	0.20	1.7	A	LTR	0.46	8.2	A
	Southbound	L	0.06	25.5	C	L	0.21	37.4	D
		T	0.85	50.4	D	T	1.23	159.6	F
		R	1.04	78.2	E	R	0.47	20.9	C
		Intersection		49.2	D	Intersection		73.1	E
8	Alabama Avenue SE and Branch Avenue SE								
	Eastbound	L	0.28	17.9	B	L	0.41	19.3	B
		TR	0.78	38.7	D	TR	0.93	54.3	D
	Westbound	L	0.52	21.3	C	L	0.52	24.3	C
		TR	0.89	48.5	D	TR	0.59	29.6	C
	Northbound	LTR	0.79	32.3	C	LTR	0.71	26.6	C
	Southbound	LTR	0.61	26.5	C	LTR	0.60	39.7	D
		Intersection		34.0	C	Intersection		35.8	D
901	Alabama Avenue SE and 36th Place SE (South Side)								
	Eastbound	LR	0.03	40.0	D	LR	0.45	46.5	D
	Northbound	T	0.34	0.9	A	T	0.46	3.1	A
	Southbound	T	0.58	2.9	A	T	0.54	1.8	A
		Intersection		2.2	A	Intersection		5.2	A
902	Alabama Avenue SE and 36th Place SE (North Side)								
	Westbound	LR	0.30	22.6	C	LR	0.07	23.1	C
	Northbound	TR	0.38	1.1	A	TR	0.54	3.4	A
	Southbound	LT	0.64	9.7	A	LT	0.54	4.7	A
		Intersection		7.2	A	Intersection		4.2	A
10	Alabama Avenue SE and 38th Street SE								
	Eastbound	L	0.25	44.4	D	L	0.38	45.8	D
		TR	0.83	115.2	F	TR	1.03	121.1	F
	Westbound	L	0.65	70.5	E	L	0.17	37.9	D
	Westbound	TR	1.04	102.3	F	TR	0.98	84.6	F

Alabama Avenue SE Safety Study

	Northbound	LT	0.74	36.4	D	LT	0.86	35.3	D
		R	0.03	10.8	B	R	0.02	6.7	A
	Southbound	LTR	0.35	7.5	A	LTR	0.36	2.7	A
		Intersection		50.4		D	Intersection		49.8
Alabama Avenue SE and Pennsylvania Avenue SE									
11	Eastbound	L	0.28	36.2	D	L	0.23	23.8	C
		TR	0.62	41.0	D	TR	1.01	97.3	F
	Westbound	L	0.46	25.8	C	L	0.37	33.5	C
		TR	0.74	30.4	C	TR	0.64	36.9	D
	Northbound	T	0.85	54.2	D	T	0.93	98.9	F
		R	0.12	3.2	A	R	0.33	4.1	A
	Southbound	LTR	0.66	36.0	D	LTR	0.98	68.7	E
		Intersection		34.9		C	Intersection		68.8
Alabama Avenue SE and Ridge Road SE									
12	Eastbound	LTR	0.45	12.5	B	LT	0.83	30.4	D
						R	0.63	15.2	C
	Westbound	LTR	0.55	14.8	B	LTR	0.39	12.6	B
	Northbound	LTR	0.22	10.9	B	LTR	0.21	11.4	B
	Southbound	LTR	0.31	11.7	B	LTR	0.30	12.3	B
Notes: L = Left Turn, T= Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level of Service. Measures of Effectiveness obtained from Synchro, Version 9.1. Approaches and intersections operating at LOS E or F are highlighted in yellow.									

As seen in **Table 5**, most intersections will operate acceptably in the Future Build condition, even with Alabama Avenue reduced to a two-lane roadway. Existing congestion at the high-volume intersections will continue, although some signal timing adjustments described in **Table 4** will help to reduce intersection delay.

Lanes, Volumes, Timings
1: Alabama Ave & Randle PI SE

Existing AM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	1	18	2	1	1	5	228	0	5	253	42
Future Volume (vph)	64	1	18	2	1	1	5	228	0	5	253	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	30		0	0		0	0		0	0		50
Storage Lanes	1		0	0		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor	0.83				0.91			0.99			0.95	
Frt		0.869			0.955						0.980	
Flt Protected	0.950				0.984			0.998			0.998	
Satd. Flow (prot)	1533	1349	0	0	1102	0	0	2934	0	0	2481	0
Flt Permitted	0.950				0.984			0.942			0.942	
Satd. Flow (perm)	1275	1349	0	0	1102	0	0	2753	0	0	2334	0
Right Turn on Red			No			No			Yes			Yes
Satd. Flow (RTOR)											22	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		341			204			606			883	
Travel Time (s)		9.3			5.6			16.5			24.1	
Confl. Peds. (#/hr)	76					76	66		31	31		66
Peak Hour Factor	0.73	0.25	0.64	0.50	0.25	0.25	0.63	0.93	0.25	0.42	0.83	0.88
Heavy Vehicles (%)	6%	0%	0%	100%	0%	0%	0%	4%	0%	40%	6%	2%
Bus Blockages (#/hr)	0	23	23	0	0	0	0	0	0	0	0	0
Parking (#/hr)								4	4		30	30
Adj. Flow (vph)	88	4	28	4	4	4	8	245	0	12	305	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	88	32	0	0	12	0	0	253	0	0	365	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.29	1.14	1.14	1.14	1.14	1.14	1.24	1.14	1.14	1.35	1.14
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA	
Protected Phases	8	8		7	7			2			6	
Permitted Phases							2			6		
Detector Phase	8	8		7	7		2	2		6	6	

Lanes, Volumes, Timings
1: Alabama Ave & Randle PI SE

Existing AM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	22.5	22.5		13.5	13.5		19.5	19.5		17.5	17.5	
Total Split (s)	35.0	35.0		15.0	15.0		70.0	70.0		70.0	70.0	
Total Split (%)	29.2%	29.2%		12.5%	12.5%		58.3%	58.3%		58.3%	58.3%	
Maximum Green (s)	28.5	28.5		8.5	8.5		63.5	63.5		63.5	63.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)	-2.5	-2.5			-2.5			-2.5			-2.5	
Total Lost Time (s)	4.0	4.0			4.0			4.0			4.0	
Lead/Lag	Lag	Lag		Lead	Lead							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	1.0	1.0		3.0	3.0		1.0	1.0		1.0	1.0	
Recall Mode	Max	Max		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0					7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	9.0	9.0					6.0	6.0		4.0	4.0	
Pedestrian Calls (#/hr)	0	0					0	0		0	0	
Act Effct Green (s)	40.1	40.1			10.0			66.0			66.0	
Actuated g/C Ratio	0.33	0.33			0.08			0.55			0.55	
v/c Ratio	0.17	0.07			0.13			0.17			0.28	
Control Delay	32.0	31.5			54.2			13.7			8.9	
Queue Delay	0.0	0.0			0.0			0.0			0.0	
Total Delay	32.0	31.5			54.2			13.7			8.9	
LOS	C	C			D			B			A	
Approach Delay		31.9			54.3			13.7			8.9	
Approach LOS		C			D			B			A	
90th %ile Green (s)	28.5	28.5		8.5	8.5		63.5	63.5		63.5	63.5	
90th %ile Term Code	MaxR	MaxR		Max	Max		Coord	Coord		Coord	Coord	
70th %ile Green (s)	29.2	29.2		7.8	7.8		63.5	63.5		63.5	63.5	
70th %ile Term Code	MaxR	MaxR		Gap	Gap		Coord	Coord		Coord	Coord	
50th %ile Green (s)	43.5	43.5		0.0	0.0		63.5	63.5		63.5	63.5	
50th %ile Term Code	MaxR	MaxR		Skip	Skip		Coord	Coord		Coord	Coord	
30th %ile Green (s)	43.5	43.5		0.0	0.0		63.5	63.5		63.5	63.5	
30th %ile Term Code	MaxR	MaxR		Skip	Skip		Coord	Coord		Coord	Coord	
10th %ile Green (s)	43.5	43.5		0.0	0.0		63.5	63.5		63.5	63.5	
10th %ile Term Code	MaxR	MaxR		Skip	Skip		Coord	Coord		Coord	Coord	
Queue Length 50th (ft)	44	16			9			48			74	
Queue Length 95th (ft)	79	12			8			71			62	
Internal Link Dist (ft)		261			124			526			803	
Turn Bay Length (ft)	30											
Base Capacity (vph)	512	451			101			1514			1293	
Starvation Cap Reductn	0	0			0			0			0	
Spillback Cap Reductn	0	0			0			0			0	
Storage Cap Reductn	0	0			0			0			0	
Reduced v/c Ratio	0.17	0.07			0.12			0.17			0.28	
Intersection Summary												
Area Type:	CBD											
Cycle Length: 120												

Lanes, Volumes, Timings
 1: Alabama Ave & Randle PI SE

Existing AM
 10/03/2017

Actuated Cycle Length: 120

Offset: 30 (25%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.28

Intersection Signal Delay: 14.9

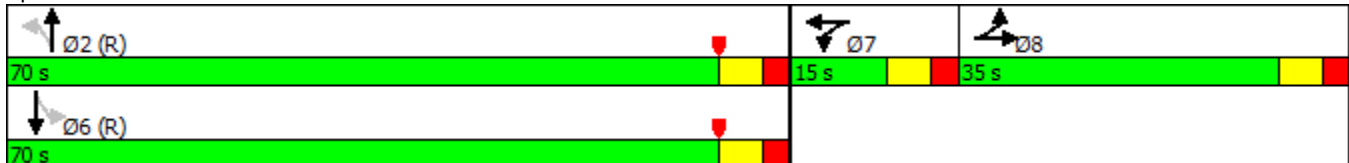
Intersection LOS: B

Intersection Capacity Utilization 27.6%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 1: Alabama Ave & Randle PI SE



Lanes, Volumes, Timings
2: Alabama Ave & 11th PI SE

Existing AM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	3	20	16	8	11	48	443	3	18	689	37
Future Volume (vph)	22	3	20	16	8	11	48	443	3	18	689	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		50	0		50
Storage Lanes	0		0	0		0	0		1	0		1
Taper Length (ft)	25			25			25			25		
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
Ped Bike Factor		0.90			0.93				0.95		1.00	0.92
Frt		0.940			0.948				0.850			0.850
Flt Protected		0.978			0.981			0.995			0.998	
Satd. Flow (prot)	0	1415	0	0	1425	0	0	1615	1454	0	1625	1454
Flt Permitted		0.847			0.838			0.858			0.969	
Satd. Flow (perm)	0	1224	0	0	1140	0	0	1393	1385	0	1577	1333
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		29			20				23			27
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		196			302			860			913	
Travel Time (s)		5.3			8.2			23.5			24.9	
Confl. Peds. (#/hr)	1		59	59		1	16		7	7		16
Peak Hour Factor	0.69	0.38	0.63	0.80	0.67	0.55	0.75	0.84	0.38	0.64	0.92	0.66
Heavy Vehicles (%)	0%	0%	0%	6%	0%	18%	0%	6%	0%	6%	5%	0%
Bus Blockages (#/hr)	0	0	0	0	3	3	0	0	0	0	0	0
Adj. Flow (vph)	32	8	32	20	12	20	64	527	8	28	749	56
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	72	0	0	52	0	0	591	8	0	777	56
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.16	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Number of Detectors	1	1		1	1		1	1	1	1	1	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2		2	2		2
Detector Phase	4	4		4	4		2	2	2	2	2	2
Switch Phase												

Lanes, Volumes, Timings
2: Alabama Ave & 11th PI SE

Existing AM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	22.5	22.5		22.5	22.5		20.5	20.5	20.5	20.5	20.5	20.5
Total Split (s)	23.0	23.0		23.0	23.0		97.0	97.0	97.0	97.0	97.0	97.0
Total Split (%)	19.2%	19.2%		19.2%	19.2%		80.8%	80.8%	80.8%	80.8%	80.8%	80.8%
Maximum Green (s)	17.5	17.5		17.5	17.5		91.5	91.5	91.5	91.5	91.5	91.5
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)	1.5	1.5		1.5	1.5		1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)		-1.5			-1.5			-1.5	-1.5		-1.5	0.0
Total Lost Time (s)		4.0			4.0			4.0	4.0		4.0	5.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		1.0	1.0	1.0	1.0	1.0	1.0
Recall Mode	None	None		None	None		C-Max	C-Max	C-Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	10.0	10.0		10.0	10.0		8.0	8.0	8.0	8.0	8.0	8.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	0
Act Effect Green (s)		11.7			11.7			103.6	103.6		103.6	102.4
Actuated g/C Ratio		0.10			0.10			0.86	0.86		0.86	0.85
v/c Ratio		0.50			0.40			0.49	0.01		0.57	0.05
Control Delay		43.6			42.9			5.5	0.0		5.7	0.8
Queue Delay		0.0			0.0			0.0	0.0		0.4	0.0
Total Delay		43.6			42.9			5.5	0.0		6.0	0.8
LOS		D			D			A	A		A	A
Approach Delay		43.6			42.9			5.4			5.7	
Approach LOS		D			D			A			A	
90th %ile Green (s)	15.4	15.4		15.4	15.4		93.6	93.6	93.6	93.6	93.6	93.6
90th %ile Term Code	Gap	Gap		Gap	Gap		Coord	Coord	Coord	Coord	Coord	Coord
70th %ile Green (s)	11.9	11.9		11.9	11.9		97.1	97.1	97.1	97.1	97.1	97.1
70th %ile Term Code	Gap	Gap		Gap	Gap		Coord	Coord	Coord	Coord	Coord	Coord
50th %ile Green (s)	9.6	9.6		9.6	9.6		99.4	99.4	99.4	99.4	99.4	99.4
50th %ile Term Code	Gap	Gap		Gap	Gap		Coord	Coord	Coord	Coord	Coord	Coord
30th %ile Green (s)	7.3	7.3		7.3	7.3		101.7	101.7	101.7	101.7	101.7	101.7
30th %ile Term Code	Gap	Gap		Gap	Gap		Coord	Coord	Coord	Coord	Coord	Coord
10th %ile Green (s)	0.0	0.0		0.0	0.0		114.5	114.5	114.5	114.5	114.5	114.5
10th %ile Term Code	Skip	Skip		Skip	Skip		Coord	Coord	Coord	Coord	Coord	Coord
Queue Length 50th (ft)		32			24			175	0		281	1
Queue Length 95th (ft)		19			41			261	1		379	m5
Internal Link Dist (ft)		116			222			780			833	
Turn Bay Length (ft)									50			50
Base Capacity (vph)		218			197			1202	1198		1360	1140
Starvation Cap Reductn		0			0			0	0		193	0
Spillback Cap Reductn		0			0			0	0		0	0
Storage Cap Reductn		0			0			0	0		0	0
Reduced v/c Ratio		0.33			0.26			0.49	0.01		0.67	0.05

Intersection Summary

Area Type: CBD

Cycle Length: 120

Actuated Cycle Length: 120

Lanes, Volumes, Timings
2: Alabama Ave & 11th PI SE

Existing AM
10/03/2017

Offset: 112 (93%), Referenced to phase 2:NBSB, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.57

Intersection Signal Delay: 8.6

Intersection LOS: A

Intersection Capacity Utilization 90.1%

ICU Level of Service E

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Alabama Ave & 11th PI SE



Lanes, Volumes, Timings
3: Alabama Ave & Congress Heights Metro/13th St SE

Existing AM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	7	32	50	14	48	28	428	20	40	662	34
Future Volume (vph)	27	7	32	50	14	48	28	428	20	40	662	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	110		50	90		50
Storage Lanes	1		1	0		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
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
Ped Bike Factor	0.95		0.75		0.86				0.82	0.95		0.98
Frt			0.850		0.949				0.850			0.850
Flt Protected	0.950				0.979		0.950			0.950		
Satd. Flow (prot)	1518	1500	1411	0	1507	0	1562	1644	1321	1577	1555	1285
Flt Permitted	0.593				0.865		0.256			0.399		
Satd. Flow (perm)	896	1500	1058	0	1184	0	421	1644	1088	632	1555	1253
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			68		23				73			73
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		203			201			913			1021	
Travel Time (s)		5.5			5.5			24.9			27.8	
Confl. Peds. (#/hr)	53		98	98		53	2		40	40		2
Confl. Bikes (#/hr)												1
Peak Hour Factor	0.75	0.88	0.78	0.77	0.50	0.86	0.78	0.86	0.63	0.83	0.91	0.77
Heavy Vehicles (%)	7%	14%	3%	4%	0%	0%	4%	4%	10%	3%	6%	9%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	9	9
Adj. Flow (vph)	36	8	41	65	28	56	36	498	32	48	727	44
Shared Lane Traffic (%)												
Lane Group Flow (vph)	36	8	41	0	149	0	36	498	32	48	727	44
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.20	1.20
Number of Detectors	1	1	1	1	1		1	1	1	1	1	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8		8	4			6		6	2		2
Detector Phase	8	8	8	4	4		1	6	6	5	2	2

Lanes, Volumes, Timings
3: Alabama Ave & Congress Heights Metro/13th St SE

Existing AM
10/03/2017



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	24.0	24.0	24.0	29.0	29.0		10.0	23.5	23.5	10.0	29.5	29.5
Total Split (s)	29.0	29.0	29.0	29.0	29.0		11.0	80.0	80.0	11.0	80.0	80.0
Total Split (%)	24.2%	24.2%	24.2%	24.2%	24.2%		9.2%	66.7%	66.7%	9.2%	66.7%	66.7%
Maximum Green (s)	23.0	23.0	23.0	23.0	23.0		6.0	74.5	74.5	6.0	74.5	74.5
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
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		1.0	1.5	1.5	1.0	1.5	1.5
Lost Time Adjust (s)	-2.0	-2.0	-2.0		-2.0		-1.0	-1.5	-1.5	-1.0	-1.5	0.0
Total Lost Time (s)	4.0	4.0	4.0		4.0		4.0	4.0	4.0	4.0	4.0	5.5
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Recall Mode	Max	Max	Max	Max	Max		Max	C-Max	C-Max	Max	C-Max	C-Max
Walk Time (s)				7.0	7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)				16.0	16.0			8.0	8.0		17.0	17.0
Pedestrian Calls (#/hr)				0	0			0	0		0	0
Act Effect Green (s)	25.0	25.0	25.0		25.0		83.0	76.0	76.0	83.0	76.0	74.5
Actuated g/C Ratio	0.21	0.21	0.21		0.21		0.69	0.63	0.63	0.69	0.63	0.62
v/c Ratio	0.19	0.03	0.15		0.56		0.10	0.48	0.04	0.10	0.74	0.05
Control Delay	42.4	38.3	4.4		45.2		7.4	14.9	2.0	4.1	16.5	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	42.4	38.3	4.4		45.2		7.4	14.9	2.0	4.1	16.5	0.1
LOS	D	D	A		D		A	B	A	A	B	A
Approach Delay		23.7			45.2			13.7			14.9	
Approach LOS		C			D			B			B	
90th %ile Green (s)	23.0	23.0	23.0	23.0	23.0		6.0	74.5	74.5	6.0	74.5	74.5
90th %ile Term Code	MaxR	MaxR	MaxR	MaxR	MaxR		MaxR	Coord	Coord	MaxR	Coord	Coord
70th %ile Green (s)	23.0	23.0	23.0	23.0	23.0		6.0	74.5	74.5	6.0	74.5	74.5
70th %ile Term Code	MaxR	MaxR	MaxR	MaxR	MaxR		MaxR	Coord	Coord	MaxR	Coord	Coord
50th %ile Green (s)	23.0	23.0	23.0	23.0	23.0		6.0	74.5	74.5	6.0	74.5	74.5
50th %ile Term Code	MaxR	MaxR	MaxR	MaxR	MaxR		MaxR	Coord	Coord	MaxR	Coord	Coord
30th %ile Green (s)	23.0	23.0	23.0	23.0	23.0		6.0	74.5	74.5	6.0	74.5	74.5
30th %ile Term Code	MaxR	MaxR	MaxR	MaxR	MaxR		MaxR	Coord	Coord	MaxR	Coord	Coord
10th %ile Green (s)	23.0	23.0	23.0	23.0	23.0		6.0	74.5	74.5	6.0	74.5	74.5
10th %ile Term Code	MaxR	MaxR	MaxR	MaxR	MaxR		MaxR	Coord	Coord	MaxR	Coord	Coord
Queue Length 50th (ft)	23	5	0		88		7	160	0	7	272	0
Queue Length 95th (ft)	46	18	6		73		22	285	2	m14	339	m0
Internal Link Dist (ft)		123			121			833			941	
Turn Bay Length (ft)							110		50	90		50
Base Capacity (vph)	186	312	274		264		357	1041	715	492	984	805
Starvation Cap Reductn	0	0	0		0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0		0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0		0		0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.03	0.15		0.56		0.10	0.48	0.04	0.10	0.74	0.05

Intersection Summary

Area Type: CBD
Cycle Length: 120

Lanes, Volumes, Timings 3: Alabama Ave & Congress Heights Metro/13th St SE

Existing AM
10/03/2017

Actuated Cycle Length: 120

Offset: 54 (45%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 17.7

Intersection LOS: B

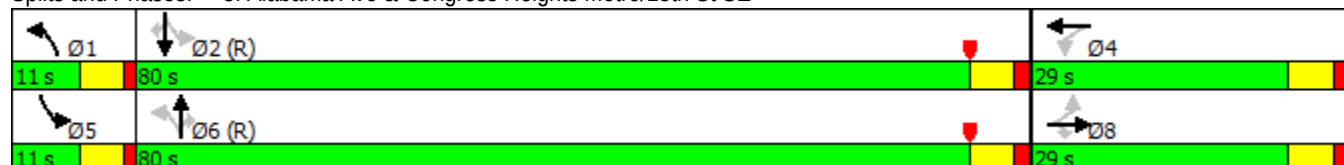
Intersection Capacity Utilization 76.0%

ICU Level of Service D

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Alabama Ave & Congress Heights Metro/13th St SE



Lanes, Volumes, Timings
4: Alabama Ave & Stanton Rd SE

Existing AM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	110	114	44	177	25	70	419	22	11	520	120
Future Volume (vph)	51	110	114	44	177	25	70	419	22	11	520	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	30		0	30		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor	0.85	0.93		0.94	0.95			0.96			0.90	
Frt		0.929			0.974			0.992			0.969	
Flt Protected	0.950			0.950				0.992			0.999	
Satd. Flow (prot)	1377	1343	0	1400	1501	0	0	2626	0	0	2670	0
Flt Permitted	0.483			0.413				0.704			0.936	
Satd. Flow (perm)	598	1343	0	571	1501	0	0	1832	0	0	2495	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		39			9			8			44	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		385			337			1455			674	
Travel Time (s)		10.5			9.2			39.7			18.4	
Confl. Peds. (#/hr)	125		64	64		125	109		76	76		109
Confl. Bikes (#/hr)												1
Peak Hour Factor	0.85	0.74	0.86	0.79	0.92	0.63	0.76	0.91	0.69	0.69	0.93	0.81
Heavy Vehicles (%)	18%	13%	7%	16%	7%	0%	13%	7%	32%	0%	6%	8%
Parking (#/hr)								14	14			
Adj. Flow (vph)	60	149	133	56	192	40	92	460	32	16	559	148
Shared Lane Traffic (%)												
Lane Group Flow (vph)	60	282	0	56	232	0	0	584	0	0	723	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.28	1.14	1.14	1.14	1.14
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6			2		
Detector Phase	4	4		8	8		6	6		2	2	

Lane Group	Ø12	Ø13
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Parking (#/hr)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Turn Type		
Protected Phases	12	13
Permitted Phases		
Detector Phase		

Lanes, Volumes, Timings
4: Alabama Ave & Stanton Rd SE

Existing AM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	23.5	23.5		23.5	23.5		23.5	23.5		23.5	23.5	
Total Split (s)	42.0	42.0		42.0	42.0		72.0	72.0		72.0	72.0	
Total Split (%)	35.0%	35.0%		35.0%	35.0%		60.0%	60.0%		60.0%	60.0%	
Maximum Green (s)	36.5	36.5		36.5	36.5		66.5	66.5		66.5	66.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5			-1.5			-1.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Recall Mode	Max	Max		Max	Max		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)	38.0	38.0		38.0	38.0			68.0			68.0	
Actuated g/C Ratio	0.32	0.32		0.32	0.32			0.57			0.57	
v/c Ratio	0.32	0.63		0.31	0.48			0.56			0.50	
Control Delay	37.0	37.0		37.1	35.8			17.9			16.2	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	37.0	37.0		37.1	35.8			17.9			16.2	
LOS	D	D		D	D			B			B	
Approach Delay		37.0			36.0			17.9			16.2	
Approach LOS		D			D			B			B	
90th %ile Green (s)	36.5	36.5		36.5	36.5		66.5	66.5		66.5	66.5	
90th %ile Term Code	MaxR	MaxR		MaxR	MaxR		Coord	Coord		Coord	Coord	
70th %ile Green (s)	36.5	36.5		36.5	36.5		66.5	66.5		66.5	66.5	
70th %ile Term Code	MaxR	MaxR		MaxR	MaxR		Coord	Coord		Coord	Coord	
50th %ile Green (s)	36.5	36.5		36.5	36.5		66.5	66.5		66.5	66.5	
50th %ile Term Code	MaxR	MaxR		MaxR	MaxR		Coord	Coord		Coord	Coord	
30th %ile Green (s)	36.5	36.5		36.5	36.5		66.5	66.5		66.5	66.5	
30th %ile Term Code	MaxR	MaxR		MaxR	MaxR		Coord	Coord		Coord	Coord	
10th %ile Green (s)	36.5	36.5		36.5	36.5		66.5	66.5		66.5	66.5	
10th %ile Term Code	MaxR	MaxR		MaxR	MaxR		Coord	Coord		Coord	Coord	
Queue Length 50th (ft)	35	160		33	139			136			159	
Queue Length 95th (ft)	72	193		62	218			229			211	
Internal Link Dist (ft)		305			257			1375			594	
Turn Bay Length (ft)	30			30								
Base Capacity (vph)	189	451		180	481			1041			1432	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.32	0.63		0.31	0.48			0.56			0.50	
Intersection Summary												
Area Type:	CBD											
Cycle Length: 120												

Lane Group	Ø12	Ø13
Switch Phase		
Minimum Initial (s)	1.0	1.0
Minimum Split (s)	3.0	3.0
Total Split (s)	3.0	3.0
Total Split (%)	3%	3%
Maximum Green (s)	1.0	1.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	Max	Max
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effect Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
90th %ile Green (s)	1.0	1.0
90th %ile Term Code	MaxR	MaxR
70th %ile Green (s)	1.0	1.0
70th %ile Term Code	MaxR	MaxR
50th %ile Green (s)	1.0	1.0
50th %ile Term Code	MaxR	MaxR
30th %ile Green (s)	1.0	1.0
30th %ile Term Code	MaxR	MaxR
10th %ile Green (s)	1.0	1.0
10th %ile Term Code	MaxR	MaxR
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

Lanes, Volumes, Timings
4: Alabama Ave & Stanton Rd SE

Existing AM
10/03/2017

Actuated Cycle Length: 120

Offset: 22 (18%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 23.3

Intersection LOS: C

Intersection Capacity Utilization 73.6%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 4: Alabama Ave & Stanton Rd SE



Lanes, Volumes, Timings
6: Alabama Ave & Naylor Rd SE

Existing AM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	117	63	28	868	29	68	258	17	20	395	6
Future Volume (vph)	5	117	63	28	868	29	68	258	17	20	395	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor		0.98			0.99			0.98			0.99	
Frt		0.947			0.994			0.987			0.997	
Flt Protected		0.998			0.998			0.989			0.997	
Satd. Flow (prot)	0	1507	0	0	1614	0	0	2917	0	0	3021	0
Flt Permitted		0.969			0.983			0.608			0.906	
Satd. Flow (perm)	0	1462	0	0	1589	0	0	1770	0	0	2739	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		45			3			8			2	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		318			242			437			498	
Travel Time (s)		8.7			6.6			11.9			13.6	
Confl. Peds. (#/hr)	65		26	26		65	66		35	35		66
Confl. Bikes (#/hr)		1			2							
Peak Hour Factor	0.63	0.84	0.66	0.88	0.98	0.73	0.74	0.91	0.47	0.68	0.83	0.50
Heavy Vehicles (%)	0%	2%	10%	0%	5%	0%	18%	3%	0%	0%	4%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	7	7	0	13	13
Adj. Flow (vph)	8	139	95	32	886	40	92	284	36	29	476	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	242	0	0	958	0	0	412	0	0	517	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.16	1.14	1.14	1.18	1.14
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4			8	8	
Detector Phase	6	6		2	2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	29.5	29.5		31.5	31.5		27.5	27.5		31.5	31.5	

Lane Group	Ø12	Ø13
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Bus Blockages (#/hr)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Turn Type		
Protected Phases	12	13
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	1.0	1.0
Minimum Split (s)	3.0	3.0

Lanes, Volumes, Timings
6: Alabama Ave & Naylor Rd SE

Existing AM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	72.0	72.0		72.0	72.0		36.0	36.0		36.0	36.0	
Total Split (%)	60.0%	60.0%		60.0%	60.0%		30.0%	30.0%		30.0%	30.0%	
Maximum Green (s)	65.5	65.5		65.5	65.5		29.5	29.5		29.5	29.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)		-2.5			-2.5			-2.5			-2.5	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	16.0	16.0		18.0	18.0		14.0	14.0		18.0	18.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		68.0			68.0			32.0			32.0	
Actuated g/C Ratio		0.57			0.57			0.27			0.27	
v/c Ratio		0.29			1.06			0.86			0.71	
Control Delay		11.8			74.9			60.2			47.7	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		11.8			74.9			60.2			47.7	
LOS		B			E			E			D	
Approach Delay		11.8			74.9			60.2			47.7	
Approach LOS		B			E			E			D	
90th %ile Green (s)	65.5	65.5		65.5	65.5		29.5	29.5		29.5	29.5	
90th %ile Term Code	Coord	Coord		Coord	Coord		MaxR	MaxR		MaxR	MaxR	
70th %ile Green (s)	65.5	65.5		65.5	65.5		29.5	29.5		29.5	29.5	
70th %ile Term Code	Coord	Coord		Coord	Coord		MaxR	MaxR		MaxR	MaxR	
50th %ile Green (s)	65.5	65.5		65.5	65.5		29.5	29.5		29.5	29.5	
50th %ile Term Code	Coord	Coord		Coord	Coord		MaxR	MaxR		MaxR	MaxR	
30th %ile Green (s)	65.5	65.5		65.5	65.5		29.5	29.5		29.5	29.5	
30th %ile Term Code	Coord	Coord		Coord	Coord		MaxR	MaxR		MaxR	MaxR	
10th %ile Green (s)	65.5	65.5		65.5	65.5		29.5	29.5		29.5	29.5	
10th %ile Term Code	Coord	Coord		Coord	Coord		MaxR	MaxR		MaxR	MaxR	
Queue Length 50th (ft)		73			~818			157			224	
Queue Length 95th (ft)		111			#1072			#250			260	
Internal Link Dist (ft)		238			162			357			418	
Turn Bay Length (ft)												
Base Capacity (vph)		847			901			477			731	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.29			1.06			0.86			0.71	

Intersection Summary

Area Type: CBD
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 45 (38%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow
 Natural Cycle: 100

Lane Group	Ø12	Ø13
Total Split (s)	6.0	6.0
Total Split (%)	5%	5%
Maximum Green (s)	4.0	4.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	Max	Max
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effect Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
90th %ile Green (s)	4.0	4.0
90th %ile Term Code	MaxR	MaxR
70th %ile Green (s)	4.0	4.0
70th %ile Term Code	MaxR	MaxR
50th %ile Green (s)	4.0	4.0
50th %ile Term Code	MaxR	MaxR
30th %ile Green (s)	4.0	4.0
30th %ile Term Code	MaxR	MaxR
10th %ile Green (s)	4.0	4.0
10th %ile Term Code	MaxR	MaxR
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

Lanes, Volumes, Timings 6: Alabama Ave & Naylor Rd SE

Existing AM
10/03/2017

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.06

Intersection Signal Delay: 58.3

Intersection LOS: E

Intersection Capacity Utilization 115.3%

ICU Level of Service H

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 6: Alabama Ave & Naylor Rd SE



Lanes, Volumes, Timings

Existing AM

7: Alabama Ave & Good Hope Rd SE/Good Hope Marketplace

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	167	48	2	24	36	6	12	276	4	11	395	617
Future Volume (vph)	167	48	2	24	36	6	12	276	4	11	395	617
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	50		0	100		100	120		120
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.91	0.91
Ped Bike Factor		1.00		1.00	1.00				0.98	0.99	0.99	0.98
Frt		0.991			0.976				0.850		0.941	0.850
Flt Protected	0.950	0.977		0.950	0.997		0.950			0.950		
Satd. Flow (prot)	1429	1501	0	1543	1581	0	1624	3249	1395	1624	2790	1271
Flt Permitted	0.950	0.977		0.950	0.997		0.173			0.514		
Satd. Flow (perm)	1429	1501	0	1537	1580	0	296	3249	1362	873	2790	1241
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)		2			8				105			
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		328			206			498			2444	
Travel Time (s)		8.9			5.6			13.6			66.7	
Confl. Peds. (#/hr)			3	3			7		3	3		7
Peak Hour Factor	0.84	0.75	0.25	0.75	0.90	0.75	0.56	0.88	0.75	0.55	0.80	0.89
Heavy Vehicles (%)	8%	2%	0%	0%	0%	0%	0%	0%	0%	0%	5%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	10	0	0	5
Adj. Flow (vph)	199	64	8	32	40	8	21	314	5	20	494	693
Shared Lane Traffic (%)	32%			10%								46%
Lane Group Flow (vph)	135	136	0	29	51	0	21	314	5	20	813	374
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.20	1.14	1.14	1.17
Number of Detectors	1	1		1	1		1	1	1	1	1	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Split	NA		Split	NA		Perm	NA	Perm	Perm	NA	pm+ov
Protected Phases	2	2		1	1			8			4	2
Permitted Phases							8		8	4		4
Detector Phase	2	2		1	1		8	8	8	4	4	2
Switch Phase												

Existing AM 7:30 am 11/03/2016

SJ

Synchro 9 Report

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	7.0	7.0	7.0	7.0	10.0
Minimum Split (s)	28.0	28.0		27.5	27.5		22.5	22.5	22.5	23.0	23.0	28.0
Total Split (s)	28.0	28.0		44.0	44.0		48.0	48.0	48.0	48.0	48.0	28.0
Total Split (%)	23.3%	23.3%		36.7%	36.7%		40.0%	40.0%	40.0%	40.0%	40.0%	23.3%
Maximum Green (s)	21.0	21.0		36.5	36.5		41.0	41.0	41.0	41.0	41.0	21.0
Yellow Time (s)	4.0	4.0		4.5	4.5		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-3.0	-3.0		-3.0	-3.0		-3.0	-3.0	-3.0	-3.0	-3.0	-3.0
Total Lost Time (s)	4.0	4.0		4.5	4.5		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag		Lead	Lead							Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							Yes
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Recall Mode	C-Max	C-Max		Max	Max		Max	Max	Max	Max	Max	C-Max
Walk Time (s)	6.0	6.0		7.0	7.0					6.0	6.0	6.0
Flash Dont Walk (s)	15.0	15.0		13.0	13.0					10.0	10.0	15.0
Pedestrian Calls (#/hr)	0	0		0	0					0	0	0
Act Effect Green (s)	24.0	24.0		39.5	39.5		44.0	44.0	44.0	44.0	44.0	68.0
Actuated g/C Ratio	0.20	0.20		0.33	0.33		0.37	0.37	0.37	0.37	0.37	0.57
v/c Ratio	0.47	0.45		0.06	0.10		0.19	0.26	0.01	0.06	0.79	0.53
Control Delay	48.8	47.2		28.1	24.9		34.6	31.3	0.0	25.5	40.9	17.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.8	47.2		28.1	24.9		34.6	31.3	0.0	25.5	40.9	17.2
LOS	D	D		C	C		C	C	A	C	D	B
Approach Delay		48.0			26.1			31.0			33.3	
Approach LOS		D			C			C			C	
90th %ile Green (s)	21.0	21.0		36.5	36.5		41.0	41.0	41.0	41.0	41.0	21.0
90th %ile Term Code	Coord	Coord		MaxR	MaxR		MaxR	MaxR	MaxR	MaxR	MaxR	Coord
70th %ile Green (s)	21.0	21.0		36.5	36.5		41.0	41.0	41.0	41.0	41.0	21.0
70th %ile Term Code	Coord	Coord		MaxR	MaxR		MaxR	MaxR	MaxR	MaxR	MaxR	Coord
50th %ile Green (s)	21.0	21.0		36.5	36.5		41.0	41.0	41.0	41.0	41.0	21.0
50th %ile Term Code	Coord	Coord		MaxR	MaxR		MaxR	MaxR	MaxR	MaxR	MaxR	Coord
30th %ile Green (s)	21.0	21.0		36.5	36.5		41.0	41.0	41.0	41.0	41.0	21.0
30th %ile Term Code	Coord	Coord		MaxR	MaxR		MaxR	MaxR	MaxR	MaxR	MaxR	Coord
10th %ile Green (s)	21.0	21.0		36.5	36.5		41.0	41.0	41.0	41.0	41.0	21.0
10th %ile Term Code	Coord	Coord		MaxR	MaxR		MaxR	MaxR	MaxR	MaxR	MaxR	Coord
Queue Length 50th (ft)	97	96		15	24		15	124	0	10	306	170
Queue Length 95th (ft)	154	133		33	55		m18	m143	m0	17	329	253
Internal Link Dist (ft)		248			126			418			2364	
Turn Bay Length (ft)				50			100		100	120		120
Base Capacity (vph)	285	301		507	525		108	1191	565	320	1023	709
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.45		0.06	0.10		0.19	0.26	0.01	0.06	0.79	0.53

Intersection Summary

Area Type: CBD

Cycle Length: 120

Actuated Cycle Length: 120

Lanes, Volumes, Timings

Existing AM

7: Alabama Ave & Good Hope Rd SE/Good Hope Marketplace

10/03/2017

Offset: 105 (88%), Referenced to phase 2:EBTL, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 34.7

Intersection LOS: C

Intersection Capacity Utilization 53.6%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Alabama Ave & Good Hope Rd SE/Good Hope Marketplace

 Ø1	 Ø2 (R)	 Ø4
44 s	28 s	48 s
		 Ø8
		48 s

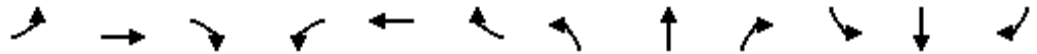
Lanes, Volumes, Timings
8: Alabama Ave & Branch Ave SE

Existing AM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	211	89	142	523	5	111	363	24	10	624	49
Future Volume (vph)	41	211	89	142	523	5	111	363	24	10	624	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor		0.99			1.00			1.00			1.00	
Frt		0.947			0.998			0.991			0.988	
Flt Protected	0.950			0.950				0.989			0.999	
Satd. Flow (prot)	1593	1518	0	1608	1657	0	0	3077	0	0	2990	0
Flt Permitted	0.184			0.273				0.989			0.999	
Satd. Flow (perm)	308	1518	0	462	1657	0	0	3070	0	0	2990	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		30			1			6			9	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		362			386			2444			1278	
Travel Time (s)		9.9			10.5			66.7			34.9	
Confl. Peds. (#/hr)	10		9	9		10	9		7	7		9
Confl. Bikes (#/hr)	1	1						1			1	
Peak Hour Factor	0.68	0.82	0.64	0.93	0.98	0.63	0.87	0.86	0.67	0.63	0.94	0.82
Heavy Vehicles (%)	2%	7%	3%	1%	3%	0%	1%	1%	0%	10%	6%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	11	11	0	5	5
Adj. Flow (vph)	60	257	139	153	534	8	128	422	36	16	664	60
Shared Lane Traffic (%)												
Lane Group Flow (vph)	60	396	0	153	542	0	0	586	0	0	740	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.18	1.14	1.14	1.16	1.14
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA		Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases	6			2								
Detector Phase	1	6		5	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	10.0	23.5		10.0	23.5		20.5	20.5		23.5	23.5	

Lanes, Volumes, Timings
8: Alabama Ave & Branch Ave SE

Existing AM
10/03/2017



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	11.0	38.0		14.0	41.0		21.0	21.0		27.0	27.0	
Total Split (%)	11.0%	38.0%		14.0%	41.0%		21.0%	21.0%		27.0%	27.0%	
Maximum Green (s)	6.0	32.5		9.0	35.5		15.5	15.5		21.5	21.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.5		1.0	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	-1.0	-1.5		-1.0	-1.5			-1.5			-1.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Recall Mode	Max	C-Max		Max	C-Max		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		8.0			9.0		8.0	8.0		9.0	9.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effect Green (s)	41.0	34.0		47.0	37.0			17.0			23.0	
Actuated g/C Ratio	0.41	0.34		0.47	0.37			0.17			0.23	
v/c Ratio	0.28	0.74		0.46	0.88			1.11			1.07	
Control Delay	17.8	36.6		19.8	47.6			112.0			86.8	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	17.8	36.6		19.8	47.6			112.0			86.8	
LOS	B	D		B	D			F			F	
Approach Delay		34.1			41.5			112.0			86.8	
Approach LOS		C			D			F			F	
90th %ile Green (s)	6.0	32.5		9.0	35.5		15.5	15.5		21.5	21.5	
90th %ile Term Code	MaxR	Coord		MaxR	Coord		MaxR	MaxR		MaxR	MaxR	
70th %ile Green (s)	6.0	32.5		9.0	35.5		15.5	15.5		21.5	21.5	
70th %ile Term Code	MaxR	Coord		MaxR	Coord		MaxR	MaxR		MaxR	MaxR	
50th %ile Green (s)	6.0	32.5		9.0	35.5		15.5	15.5		21.5	21.5	
50th %ile Term Code	MaxR	Coord		MaxR	Coord		MaxR	MaxR		MaxR	MaxR	
30th %ile Green (s)	6.0	32.5		9.0	35.5		15.5	15.5		21.5	21.5	
30th %ile Term Code	MaxR	Coord		MaxR	Coord		MaxR	MaxR		MaxR	MaxR	
10th %ile Green (s)	6.0	32.5		9.0	35.5		15.5	15.5		21.5	21.5	
10th %ile Term Code	MaxR	Coord		MaxR	Coord		MaxR	MaxR		MaxR	MaxR	
Queue Length 50th (ft)	20	205		54	318			~225			~275	
Queue Length 95th (ft)	31	277		94	#520			#313			#398	
Internal Link Dist (ft)		282			306			2364			1198	
Turn Bay Length (ft)												
Base Capacity (vph)	216	535		331	613			528			694	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.28	0.74		0.46	0.88			1.11			1.07	

Intersection Summary

Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 87 (87%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow
Natural Cycle: 100

Lanes, Volumes, Timings 8: Alabama Ave & Branch Ave SE

Existing AM
10/03/2017

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.11

Intersection Signal Delay: 70.4

Intersection LOS: E

Intersection Capacity Utilization 85.3%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 8: Alabama Ave & Branch Ave SE

 Ø1	 Ø2 (R)	 Ø4	 Ø3
11 s	41 s	21 s	27 s
 Ø5	 Ø6 (R)		
14 s	38 s		

Lanes, Volumes, Timings
10: Alabama Ave & 38th St SE

Existing AM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	132	97	35	192	39	75	308	8	27	530	1
Future Volume (vph)	7	132	97	35	192	39	75	308	8	27	530	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	13	16	10	10	10	10	10	10	10	10
Grade (%)		-8%			12%			2%			-4%	
Storage Length (ft)	30		0	30		20	0		15	0		0
Storage Lanes	1		0	1		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor	0.99	0.98		0.98	0.99			1.00	0.94		1.00	
Frt		0.934			0.977				0.850		0.999	
Flt Protected	0.950			0.950				0.990			0.996	
Satd. Flow (prot)	1353	1636	0	1518	1422	0	0	1507	1343	0	2916	0
Flt Permitted	0.223			0.286				0.760			0.890	
Satd. Flow (perm)	314	1636	0	449	1422	0	0	1155	1261	0	2603	0
Right Turn on Red			No			Yes			No			Yes
Satd. Flow (RTOR)					8						1	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		248			430			424			293	
Travel Time (s)		6.8			11.7			11.6			8.0	
Confl. Peds. (#/hr)	19		23	23		19	11		15	15		11
Confl. Bikes (#/hr)											1	
Peak Hour Factor	0.44	0.83	0.78	0.58	0.72	0.81	0.72	0.79	0.40	0.56	0.88	0.25
Heavy Vehicles (%)	29%	1%	5%	14%	2%	5%	3%	4%	0%	0%	6%	0%
Adj. Flow (vph)	16	159	124	60	267	48	104	390	20	48	602	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	16	283	0	60	315	0	0	494	20	0	654	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			16			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.06	1.35	1.35	1.26	1.26	1.26	1.22	1.22	1.22
Number of Detectors	1	1		1	1		1	1	1	1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases		2			2			4		3	8	
Permitted Phases	2			2			4		4	8		

Existing AM 7:30 am 11/03/2016
SJ

Synchro 9 Report
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Lanes, Volumes, Timings
10: Alabama Ave & 38th St SE

Existing AM
10/03/2017



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		2	2		4	4	4	3	8	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	24.5	24.5		24.5	24.5		23.5	23.5	23.5	10.0	23.5	
Total Split (s)	25.0	25.0		25.0	25.0		63.0	63.0	63.0	12.0	75.0	
Total Split (%)	25.0%	25.0%		25.0%	25.0%		63.0%	63.0%	63.0%	12.0%	75.0%	
Maximum Green (s)	19.5	19.5		19.5	19.5		57.5	57.5	57.5	7.0	69.5	
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)	1.5	1.5		1.5	1.5		1.5	1.5	1.5	1.0	1.5	
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5			-1.5	-1.5		-1.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		Max	Max	Max	Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0		7.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		11.0	11.0	11.0		8.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0		0	
Act Effect Green (s)	21.0	21.0		21.0	21.0			59.0	59.0		71.0	
Actuated g/C Ratio	0.21	0.21		0.21	0.21			0.59	0.59		0.71	
v/c Ratio	0.25	0.83		0.64	1.04			0.73	0.03		0.35	
Control Delay	44.0	58.8		68.3	100.6			45.1	22.2		6.7	
Queue Delay	0.0	55.8		0.0	0.0			2.5	0.0		0.8	
Total Delay	44.0	114.6		68.3	100.6			47.6	22.2		7.5	
LOS	D	F		E	F			D	C		A	
Approach Delay		110.8			95.4			46.6			7.5	
Approach LOS		F			F			D			A	
90th %ile Green (s)	19.5	19.5		19.5	19.5		57.5	57.5	57.5	7.0	69.5	
90th %ile Term Code	Coord	Coord		Coord	Coord		MaxR	MaxR	MaxR	MaxR	MaxR	
70th %ile Green (s)	19.5	19.5		19.5	19.5		57.5	57.5	57.5	7.0	69.5	
70th %ile Term Code	Coord	Coord		Coord	Coord		MaxR	MaxR	MaxR	MaxR	MaxR	
50th %ile Green (s)	19.5	19.5		19.5	19.5		57.5	57.5	57.5	7.0	69.5	
50th %ile Term Code	Coord	Coord		Coord	Coord		MaxR	MaxR	MaxR	MaxR	MaxR	
30th %ile Green (s)	19.5	19.5		19.5	19.5		57.5	57.5	57.5	7.0	69.5	
30th %ile Term Code	Coord	Coord		Coord	Coord		MaxR	MaxR	MaxR	MaxR	MaxR	
10th %ile Green (s)	19.5	19.5		19.5	19.5		57.5	57.5	57.5	7.0	69.5	
10th %ile Term Code	Coord	Coord		Coord	Coord		MaxR	MaxR	MaxR	MaxR	MaxR	
Queue Length 50th (ft)	9	173		35	~213			293	9		91	
Queue Length 95th (ft)	13	#268		49	#264			345	12		116	
Internal Link Dist (ft)		168			350			344			213	
Turn Bay Length (ft)	30			30					15			
Base Capacity (vph)	65	343		94	304			681	743		1873	
Starvation Cap Reductn	0	101		0	0			0	0		860	
Spillback Cap Reductn	0	0		0	0			93	0		0	
Storage Cap Reductn	0	0		0	0			0	0		0	
Reduced v/c Ratio	0.25	1.17		0.64	1.04			0.84	0.03		0.65	

Intersection Summary

Area Type: CBD

Lanes, Volumes, Timings
10: Alabama Ave & 38th St SE

Existing AM
10/03/2017

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 83 (83%), Referenced to phase 2:EBWB, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.04

Intersection Signal Delay: 53.1

Intersection LOS: D

Intersection Capacity Utilization 74.8%

ICU Level of Service D

Analysis Period (min) 15

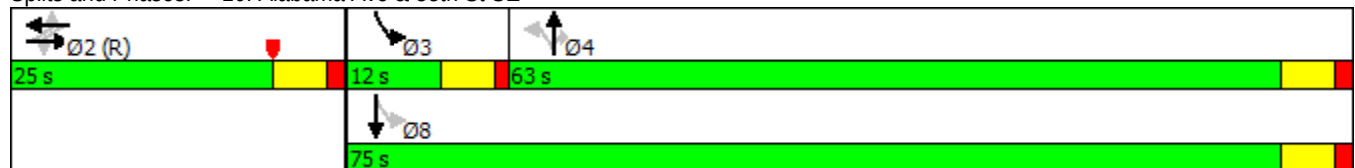
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 10: Alabama Ave & 38th St SE



Lanes, Volumes, Timings
11: Alabama Ave & Pennsylvania Ave SE

Existing AM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	278	2	208	725	28	1	283	70	10	347	50
Future Volume (vph)	75	278	2	208	725	28	1	283	70	10	347	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10	11	11	11	12	12	12
Grade (%)		10%			-2%			4%			-8%	
Storage Length (ft)	0		0	100		0	0		0	0		165
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor	1.00	1.00		0.98	1.00			1.00	0.98		1.00	
Frt		0.997			0.994				0.850		0.980	
Flt Protected	0.950			0.950				0.999			0.998	
Satd. Flow (prot)	1440	2710	0	1516	2929	0	0	1587	1240	0	3157	0
Flt Permitted	0.950			0.950				0.994			0.865	
Satd. Flow (perm)	1438	2710	0	1485	2929	0	0	1579	1213	0	2736	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			5				96		17	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		286			487			293			768	
Travel Time (s)		6.5			11.1			6.7			17.5	
Confl. Peds. (#/hr)	2		22	22		2	5		7	7		5
Confl. Bikes (#/hr)											1	
Peak Hour Factor	0.89	0.82	0.25	0.74	0.87	0.78	0.25	0.81	0.72	0.50	0.86	0.78
Heavy Vehicles (%)	0%	6%	0%	1%	4%	0%	0%	2%	11%	0%	5%	2%
Adj. Flow (vph)	84	339	8	281	833	36	4	349	97	20	403	64
Shared Lane Traffic (%)												
Lane Group Flow (vph)	84	347	0	281	869	0	0	353	97	0	487	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.33	1.33	1.33	1.23	1.23	1.23	1.22	1.22	1.22	1.09	1.09	1.09
Number of Detectors	1	1		1	1		1	1	1	1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	Split	NA		Split	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	2	2		1	1			8	1		4	
Permitted Phases							8		8	4		

Lanes, Volumes, Timings
11: Alabama Ave & Pennsylvania Ave SE

Existing AM
10/03/2017



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		1	1		8	8	1	4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	7.0	10.0	7.0	7.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		12.5	12.5	25.0	25.5	25.5	
Total Split (s)	25.0	25.0		42.0	42.0		33.0	33.0	42.0	33.0	33.0	
Total Split (%)	25.0%	25.0%		42.0%	42.0%		33.0%	33.0%	42.0%	33.0%	33.0%	
Maximum Green (s)	20.0	20.0		37.0	37.0		28.0	28.0	37.0	28.0	28.0	
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)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0	-1.0		-1.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0		3.0	3.0	1.0	3.0	3.0	
Recall Mode	C-Max	C-Max		Max	Max		None	None	Max	None	None	
Walk Time (s)	7.0	7.0		7.0	7.0				7.0	7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0				13.0	13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0				0	0	0	
Act Effect Green (s)	21.0	21.0		40.6	40.6			26.4	67.0		26.4	
Actuated g/C Ratio	0.21	0.21		0.41	0.41			0.26	0.67		0.26	
v/c Ratio	0.28	0.61		0.46	0.73			0.85	0.11		0.66	
Control Delay	36.1	40.8		25.6	30.1			40.1	3.2		36.0	
Queue Delay	0.0	0.0		0.0	0.0			14.7	0.0		0.0	
Total Delay	36.1	40.8		25.6	30.1			54.8	3.2		36.0	
LOS	D	D		C	C			D	A		D	
Approach Delay		39.9			29.0			43.7			36.0	
Approach LOS		D			C			D			D	
90th %ile Green (s)	20.0	20.0		37.0	37.0		28.0	28.0	37.0	28.0	28.0	
90th %ile Term Code	Coord	Coord		MaxR	MaxR		Max	Max	MaxR	Max	Max	
70th %ile Green (s)	20.0	20.0		37.0	37.0		28.0	28.0	37.0	28.0	28.0	
70th %ile Term Code	Coord	Coord		MaxR	MaxR		Max	Max	MaxR	Hold	Hold	
50th %ile Green (s)	20.0	20.0		37.2	37.2		27.8	27.8	37.2	27.8	27.8	
50th %ile Term Code	Coord	Coord		MaxR	MaxR		Gap	Gap	MaxR	Hold	Hold	
30th %ile Green (s)	20.0	20.0		40.7	40.7		24.3	24.3	40.7	24.3	24.3	
30th %ile Term Code	Coord	Coord		MaxR	MaxR		Gap	Gap	MaxR	Hold	Hold	
10th %ile Green (s)	20.0	20.0		45.9	45.9		19.1	19.1	45.9	19.1	19.1	
10th %ile Term Code	Coord	Coord		MaxR	MaxR		Gap	Gap	MaxR	Hold	Hold	
Queue Length 50th (ft)	45	105		134	250			234	13		135	
Queue Length 95th (ft)	88	137		164	313			m237	m13		179	
Internal Link Dist (ft)		206			407			213			688	
Turn Bay Length (ft)				100								
Base Capacity (vph)	302	570		615	1191			457	855		805	
Starvation Cap Reductn	0	0		0	0			91	0		0	
Spillback Cap Reductn	0	0		0	0			0	0		0	
Storage Cap Reductn	0	0		0	0			0	0		0	
Reduced v/c Ratio	0.28	0.61		0.46	0.73			0.96	0.11		0.60	

Intersection Summary

Area Type: CBD

Lanes, Volumes, Timings

11: Alabama Ave & Pennsylvania Ave SE

Existing AM
10/03/2017

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 26 (26%), Referenced to phase 2:EBTL and 6:, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.85
 Intersection Signal Delay: 34.8 Intersection LOS: C
 Intersection Capacity Utilization 62.2% ICU Level of Service B
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 11: Alabama Ave & Pennsylvania Ave SE

 Ø2 (L)	 Ø2 (R)	 Ø4	 Ø1
25 s	33 s	42 s	
	 Ø8		
	33 s		

Lanes, Volumes, Timings
12: Alabama Ave & Ridge Rd SE

Existing AM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	116	88	0	283	10	12	78	0	19	92	19
Future Volume (vph)	8	116	88	0	283	10	12	78	0	19	92	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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
Ped Bike Factor												
Frt		0.937			0.996						0.973	
Flt Protected		0.995						0.990			0.991	
Satd. Flow (prot)	0	1587	0	0	1669	0	0	1679	0	0	1584	0
Flt Permitted		0.995						0.990			0.991	
Satd. Flow (perm)	0	1587	0	0	1669	0	0	1679	0	0	1584	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		426			425			325			289	
Travel Time (s)		11.6			11.6			8.9			7.9	
Confl. Peds. (#/hr)	2					2			3	3		
Confl. Bikes (#/hr)		1	2									
Peak Hour Factor	0.25	0.90	0.63	0.67	0.83	0.88	0.50	0.78	0.25	0.59	0.82	0.53
Heavy Vehicles (%)	0%	1%	0%	0%	2%	3%	0%	1%	0%	0%	5%	5%
Adj. Flow (vph)	32	129	140	0	341	11	24	100	0	32	112	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	301	0	0	352	0	0	124	0	0	180	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Sign Control		Stop			Stop			Stop			Stop	
Intersection Summary												
Area Type:	CBD											
Control Type:	Unsignalized											
Intersection Capacity Utilization	37.8%						ICU Level of Service A					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis 12: Alabama Ave & Ridge Rd SE

Existing AM
10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	8	116	88	0	283	10	12	78	0	19	92	19
Future Volume (vph)	8	116	88	0	283	10	12	78	0	19	92	19
Peak Hour Factor	0.25	0.90	0.63	0.67	0.83	0.88	0.50	0.78	0.25	0.59	0.82	0.53
Hourly flow rate (vph)	32	129	140	0	341	11	24	100	0	32	112	36
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	301	352	124	180								
Volume Left (vph)	32	0	24	32								
Volume Right (vph)	140	11	0	36								
Hadj (s)	-0.25	0.02	0.05	-0.01								
Departure Headway (s)	5.1	5.3	6.1	5.9								
Degree Utilization, x	0.43	0.52	0.21	0.29								
Capacity (veh/h)	653	642	512	545								
Control Delay (s)	12.0	13.9	10.6	11.3								
Approach Delay (s)	12.0	13.9	10.6	11.3								
Approach LOS	B	B	B	B								
Intersection Summary												
Delay				12.4								
Level of Service				B								
Intersection Capacity Utilization				37.8%	ICU Level of Service		A					
Analysis Period (min)				15								

Lanes, Volumes, Timings
501: Alabama Ave & Jasper St SE

Existing AM
10/03/2017



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø4	Ø5	Ø6
Lane Configurations									
Traffic Volume (vph)	39	47	533	38	40	531			
Future Volume (vph)	39	47	533	38	40	531			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900			
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95			
Ped Bike Factor	0.97		0.99			1.00			
Frt	0.932		0.988						
Flt Protected	0.976					0.996			
Satd. Flow (prot)	1694	0	3166	0	0	3395			
Flt Permitted	0.976					0.834			
Satd. Flow (perm)	1638	0	3166	0	0	2829			
Right Turn on Red		Yes		Yes					
Satd. Flow (RTOR)	39		16						
Link Speed (mph)	30		25			25			
Link Distance (ft)	334		395			140			
Travel Time (s)	7.6		10.8			3.8			
Confl. Peds. (#/hr)	35			36	36				
Peak Hour Factor	0.61	0.73	0.94	0.79	0.63	0.83			
Heavy Vehicles (%)	0%	4%	6%	11%	5%	6%			
Bus Blockages (#/hr)	0	0	21	21	0	0			
Adj. Flow (vph)	64	64	567	48	63	640			
Shared Lane Traffic (%)									
Lane Group Flow (vph)	128	0	615	0	0	703			
Enter Blocked Intersection	No	No	No	No	No	No			
Lane Alignment	Left	Right	Left	Right	Left	Left			
Median Width(ft)	12		0			0			
Link Offset(ft)	0		0			0			
Crosswalk Width(ft)	16		16			16			
Two way Left Turn Lane									
Headway Factor	1.00	1.00	1.06	1.00	1.00	1.00			
Turning Speed (mph)	20	15		15	20				
Number of Detectors	1		1		1	1			
Detector Template	Left		Thru		Left	Thru			
Leading Detector (ft)	50		50		50	50			
Trailing Detector (ft)	0		0		0	0			
Detector 1 Position(ft)	0		0		0	0			
Detector 1 Size(ft)	50		50		50	50			
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex			
Detector 1 Channel									
Detector 1 Extend (s)	0.0		0.0		0.0	0.0			
Detector 1 Queue (s)	0.0		0.0		0.0	0.0			
Detector 1 Delay (s)	0.0		0.0		0.0	0.0			
Turn Type	Prot		NA		custom	NA			
Protected Phases	8		2		1	1 6	4	5	6
Permitted Phases					6				
Detector Phase	8		2		1	1 6			
Switch Phase									
Minimum Initial (s)	7.0		10.0		1.0		7.0	1.0	10.0
Minimum Split (s)	24.5		27.5		5.5		24.5	5.5	27.5

Lanes, Volumes, Timings
501: Alabama Ave & Jasper St SE

Existing AM
10/03/2017



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø4	Ø5	Ø6
Total Split (s)	31.0		83.5		5.5		31.0	5.5	83.5
Total Split (%)	25.8%		69.6%		4.6%		26%	5%	70%
Maximum Green (s)	25.5		79.5		1.0		25.5	1.0	79.5
Yellow Time (s)	4.0		4.0		3.0		4.0	3.0	4.0
All-Red Time (s)	1.5		0.0		1.5		1.5	1.5	0.0
Lost Time Adjust (s)	-1.5		-1.5						
Total Lost Time (s)	4.0		2.5						
Lead/Lag			Lead		Lag			Lag	Lead
Lead-Lag Optimize?			Yes		Yes			Yes	Yes
Vehicle Extension (s)	1.0		1.0		1.0		1.0	1.0	1.0
Recall Mode	Max		C-Max		Max		Max	Max	C-Max
Walk Time (s)	7.0		7.0				7.0		7.0
Flash Dont Walk (s)	12.0		6.0				10.0		9.0
Pedestrian Calls (#/hr)	0		0				0		0
Act Effect Green (s)	27.0		81.0			83.0			
Actuated g/C Ratio	0.22		0.68			0.69			
v/c Ratio	0.31		0.29			0.36			
Control Delay	29.0		8.0			4.0			
Queue Delay	0.0		0.0			0.4			
Total Delay	29.0		8.0			4.4			
LOS	C		A			A			
Approach Delay	29.0		8.0			4.4			
Approach LOS	C		A			A			
90th %ile Green (s)	25.5		79.5		1.0		25.5	1.0	79.5
90th %ile Term Code	MaxR		Coord		MaxR		MaxR	MaxR	Coord
70th %ile Green (s)	25.5		79.5		1.0		25.5	1.0	79.5
70th %ile Term Code	MaxR		Coord		MaxR		MaxR	MaxR	Coord
50th %ile Green (s)	25.5		79.5		1.0		25.5	1.0	79.5
50th %ile Term Code	MaxR		Coord		MaxR		MaxR	MaxR	Coord
30th %ile Green (s)	25.5		79.5		1.0		25.5	1.0	79.5
30th %ile Term Code	MaxR		Coord		MaxR		MaxR	MaxR	Coord
10th %ile Green (s)	25.5		79.5		1.0		25.5	1.0	79.5
10th %ile Term Code	MaxR		Coord		MaxR		MaxR	MaxR	Coord
Queue Length 50th (ft)	57		89			46			
Queue Length 95th (ft)	65		116			50			
Internal Link Dist (ft)	254		315			60			
Turn Bay Length (ft)									
Base Capacity (vph)	411		2142			1968			
Starvation Cap Reductn	0		0			717			
Spillback Cap Reductn	0		0			0			
Storage Cap Reductn	0		0			0			
Reduced v/c Ratio	0.31		0.29			0.56			

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 103 (86%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow
Natural Cycle: 60

Lanes, Volumes, Timings 501: Alabama Ave & Jasper St SE

Existing AM
10/03/2017

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.42

Intersection Signal Delay: 8.1

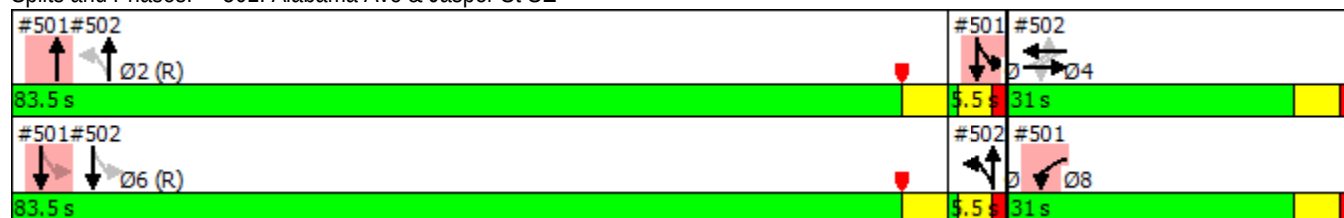
Intersection LOS: A

Intersection Capacity Utilization 47.8%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 501: Alabama Ave & Jasper St SE



Lanes, Volumes, Timings
502: Alabama Ave & Irving St SE

Existing AM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	5	23	19	18	28	19	545	16	22	529	124
Future Volume (vph)	24	5	23	19	18	28	19	545	16	22	529	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor		0.97			0.98			1.00			0.99	
Frt		0.932			0.941			0.995			0.961	
Flt Protected		0.980			0.988			0.998			0.998	
Satd. Flow (prot)	0	1441	0	0	1560	0	0	3108	0	0	2916	0
Flt Permitted		0.867			0.925			0.896			0.916	
Satd. Flow (perm)	0	1263	0	0	1454	0	0	2789	0	0	2676	0
Right Turn on Red			No			No			Yes			Yes
Satd. Flow (RTOR)								7			88	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		363			396			140			554	
Travel Time (s)		9.9			10.8			3.8			15.1	
Confl. Peds. (#/hr)	15		11	11		15	7		4	4		7
Peak Hour Factor	0.75	0.63	0.58	0.79	0.56	0.64	0.68	0.97	0.80	0.79	0.98	0.63
Heavy Vehicles (%)	13%	0%	0%	0%	0%	0%	0%	4%	0%	0%	5%	8%
Bus Blockages (#/hr)	0	3	3	0	0	0	0	0	0	0	0	0
Adj. Flow (vph)	32	8	40	24	32	44	28	562	20	28	540	197
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	80	0	0	100	0	0	610	0	0	765	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.16	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		custom	NA		Perm	NA	
Protected Phases		4			4		5	2 5			6	
Permitted Phases	4			4			2			6		
Detector Phase	4	4		4	4		5	2 5		6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		1.0			10.0	10.0	
Minimum Split (s)	24.5	24.5		24.5	24.5		5.5			27.5	27.5	
Total Split (s)	31.0	31.0		31.0	31.0		5.5			83.5	83.5	

Lane Group	Ø1	Ø2	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Lane Util. Factor			
Ped Bike Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Confl. Peds. (#/hr)			
Peak Hour Factor			
Heavy Vehicles (%)			
Bus Blockages (#/hr)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Number of Detectors			
Detector Template			
Leading Detector (ft)			
Trailing Detector (ft)			
Detector 1 Position(ft)			
Detector 1 Size(ft)			
Detector 1 Type			
Detector 1 Channel			
Detector 1 Extend (s)			
Detector 1 Queue (s)			
Detector 1 Delay (s)			
Turn Type			
Protected Phases	1	2	8
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	1.0	10.0	7.0
Minimum Split (s)	5.5	27.5	24.5
Total Split (s)	5.5	83.5	31.0

Lanes, Volumes, Timings
502: Alabama Ave & Irving St SE

Existing AM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	25.8%	25.8%		25.8%	25.8%		4.6%			69.6%	69.6%	
Maximum Green (s)	25.5	25.5		25.5	25.5		1.0			79.5	79.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0			4.0	4.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5			0.0	0.0	
Lost Time Adjust (s)		-1.5			-1.5						-1.5	
Total Lost Time (s)		4.0			4.0						2.5	
Lead/Lag							Lag			Lead	Lead	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0			1.0	1.0	
Recall Mode	Max	Max		Max	Max		Max			C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0					9.0	9.0	
Pedestrian Calls (#/hr)	0	0		0	0					0	0	
Act Effect Green (s)		27.0			27.0			84.0			81.0	
Actuated g/C Ratio		0.22			0.22			0.70			0.68	
v/c Ratio		0.28			0.31			0.31			0.42	
Control Delay		41.7			41.8			2.2			8.4	
Queue Delay		0.2			0.2			0.3			0.0	
Total Delay		41.9			42.0			2.5			8.4	
LOS		D			D			A			A	
Approach Delay		41.9			42.0			2.5			8.4	
Approach LOS		D			D			A			A	
90th %ile Green (s)	25.5	25.5		25.5	25.5		1.0			79.5	79.5	
90th %ile Term Code	MaxR	MaxR		MaxR	MaxR		MaxR			Coord	Coord	
70th %ile Green (s)	25.5	25.5		25.5	25.5		1.0			79.5	79.5	
70th %ile Term Code	MaxR	MaxR		MaxR	MaxR		MaxR			Coord	Coord	
50th %ile Green (s)	25.5	25.5		25.5	25.5		1.0			79.5	79.5	
50th %ile Term Code	MaxR	MaxR		MaxR	MaxR		MaxR			Coord	Coord	
30th %ile Green (s)	25.5	25.5		25.5	25.5		1.0			79.5	79.5	
30th %ile Term Code	MaxR	MaxR		MaxR	MaxR		MaxR			Coord	Coord	
10th %ile Green (s)	25.5	25.5		25.5	25.5		1.0			79.5	79.5	
10th %ile Term Code	MaxR	MaxR		MaxR	MaxR		MaxR			Coord	Coord	
Queue Length 50th (ft)		52			65			21			111	
Queue Length 95th (ft)		66			69			28			147	
Internal Link Dist (ft)		283			316			60			474	
Turn Bay Length (ft)												
Base Capacity (vph)		284			327			1962			1834	
Starvation Cap Reductn		0			0			731			0	
Spillback Cap Reductn		22			25			0			6	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.31			0.33			0.50			0.42	

Intersection Summary

Area Type: CBD
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 103 (86%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated

Lane Group	Ø1	Ø2	Ø8
Total Split (%)	5%	70%	26%
Maximum Green (s)	1.0	79.5	25.5
Yellow Time (s)	3.0	4.0	4.0
All-Red Time (s)	1.5	0.0	1.5
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Vehicle Extension (s)	1.0	1.0	1.0
Recall Mode	Max	C-Max	Max
Walk Time (s)		7.0	7.0
Flash Dont Walk (s)		6.0	12.0
Pedestrian Calls (#/hr)		0	0
Act Effect Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
90th %ile Green (s)	1.0	79.5	25.5
90th %ile Term Code	MaxR	Coord	MaxR
70th %ile Green (s)	1.0	79.5	25.5
70th %ile Term Code	MaxR	Coord	MaxR
50th %ile Green (s)	1.0	79.5	25.5
50th %ile Term Code	MaxR	Coord	MaxR
30th %ile Green (s)	1.0	79.5	25.5
30th %ile Term Code	MaxR	Coord	MaxR
10th %ile Green (s)	1.0	79.5	25.5
10th %ile Term Code	MaxR	Coord	MaxR
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			
Intersection Summary			

Lanes, Volumes, Timings 502: Alabama Ave & Irving St SE

Existing AM
10/03/2017

Maximum v/c Ratio: 0.42

Intersection Signal Delay: 10.0

Intersection LOS: A

Intersection Capacity Utilization 59.8%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 502: Alabama Ave & Irving St SE



Lanes, Volumes, Timings
901: Alabama Ave & 36th PI SE

Existing AM
10/03/2017



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø8
Lane Configurations							
Traffic Volume (vph)	1	0	0	391	651	0	
Future Volume (vph)	1	0	0	391	651	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	9	9	10	10	10	10	
Grade (%)	-4%			-8%	2%		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	
Ped Bike Factor							
Frt							
Flt Protected	0.950						
Satd. Flow (prot)	1491	0	0	3062	2804	0	
Flt Permitted	0.950						
Satd. Flow (perm)	1491	0	0	3062	2804	0	
Right Turn on Red		No				Yes	
Satd. Flow (RTOR)							
Link Speed (mph)	25			25	25		
Link Distance (ft)	218			1278	164		
Travel Time (s)	5.9			34.9	4.5		
Confl. Peds. (#/hr)		5	6			6	
Peak Hour Factor	0.25	0.25	0.25	0.87	0.92	0.25	
Heavy Vehicles (%)	0%	0%	0%	3%	6%	0%	
Bus Blockages (#/hr)	0	0	0	0	5	5	
Adj. Flow (vph)	4	0	0	449	708	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	4	0	0	449	708	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(ft)	9			0	0		
Link Offset(ft)	0			0	0		
Crosswalk Width(ft)	16			16	16		
Two way Left Turn Lane							
Headway Factor	1.27	1.27	1.19	1.19	1.28	1.26	
Turning Speed (mph)	20	15	20			15	
Number of Detectors	1			1	1		
Detector Template	Left			Thru	Thru		
Leading Detector (ft)	50			50	50		
Trailing Detector (ft)	0			0	0		
Detector 1 Position(ft)	0			0	0		
Detector 1 Size(ft)	50			50	50		
Detector 1 Type	Cl+Ex			Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)	0.0			0.0	0.0		
Detector 1 Queue (s)	0.0			0.0	0.0		
Detector 1 Delay (s)	0.0			0.0	0.0		
Turn Type	Prot			NA	NA		
Protected Phases	4			6	2		8
Permitted Phases							
Detector Phase	4			6	2		
Switch Phase							

Lanes, Volumes, Timings
901: Alabama Ave & 36th PI SE

Existing AM
10/03/2017



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø8
Minimum Initial (s)	7.0			10.0	10.0		10.0
Minimum Split (s)	21.0			24.0	24.0		21.0
Total Split (s)	21.0			79.0	79.0		21.0
Total Split (%)	21.0%			79.0%	79.0%		21%
Maximum Green (s)	15.0			73.0	73.0		15.0
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)	-2.0			-2.0	-2.0		
Total Lost Time (s)	4.0			4.0	4.0		
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0			1.0	1.0		3.0
Recall Mode	None			C-Max	C-Max		None
Walk Time (s)	7.0			7.0	7.0		7.0
Flash Dont Walk (s)	8.0			6.0	6.0		8.0
Pedestrian Calls (#/hr)	0			0	0		0
Act Effect Green (s)	9.8			83.8	83.8		
Actuated g/C Ratio	0.10			0.84	0.84		
v/c Ratio	0.03			0.18	0.30		
Control Delay	40.0			0.4	1.3		
Queue Delay	0.0			0.0	0.2		
Total Delay	40.0			0.4	1.5		
LOS	D			A	A		
Approach Delay	40.0			0.4	1.5		
Approach LOS	D			A	A		
90th %ile Green (s)	11.1			76.9	76.9		11.1
90th %ile Term Code	Hold			Coord	Coord		Gap
70th %ile Green (s)	0.0			78.0	78.0		10.0
70th %ile Term Code	Skip			Coord	Coord		Min
50th %ile Green (s)	0.0			78.0	78.0		10.0
50th %ile Term Code	Skip			Coord	Coord		Min
30th %ile Green (s)	0.0			78.0	78.0		10.0
30th %ile Term Code	Skip			Coord	Coord		Min
10th %ile Green (s)	0.0			94.0	94.0		0.0
10th %ile Term Code	Skip			Coord	Coord		Skip
Queue Length 50th (ft)	2			4	20		
Queue Length 95th (ft)	3			m4	22		
Internal Link Dist (ft)	138			1198	84		
Turn Bay Length (ft)							
Base Capacity (vph)	253			2565	2349		
Starvation Cap Reductn	0			0	766		
Spillback Cap Reductn	0			0	0		
Storage Cap Reductn	0			0	0		
Reduced v/c Ratio	0.02			0.18	0.45		

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Lanes, Volumes, Timings 901: Alabama Ave & 36th PI SE

Existing AM
10/03/2017

Offset: 98 (98%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Natural Cycle: 45

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.36

Intersection Signal Delay: 1.2

Intersection LOS: A

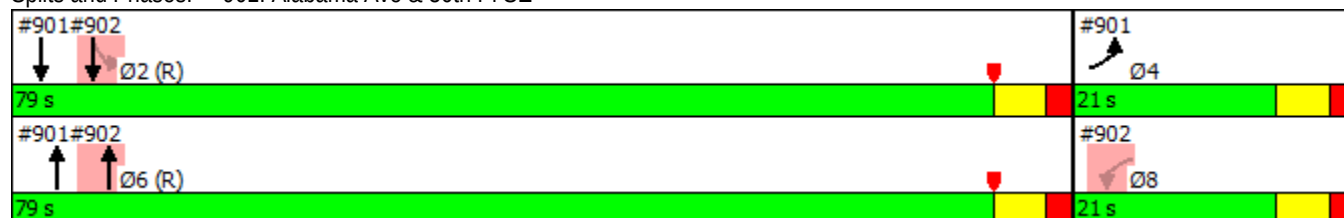
Intersection Capacity Utilization 33.5%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 901: Alabama Ave & 36th PI SE



Lanes, Volumes, Timings
902: Alabama Ave & 36th PI SE

Existing AM
10/03/2017



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø4
Lane Configurations							
Traffic Volume (vph)	16	13	378	14	27	635	
Future Volume (vph)	16	13	378	14	27	635	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	10	10	10	10	10	
Grade (%)	0%		2%			2%	
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95	
Ped Bike Factor	0.98		1.00			1.00	
Frt	0.912		0.991				
Flt Protected	0.983					0.996	
Satd. Flow (prot)	1407	0	2815	0	0	2825	
Flt Permitted	0.983					0.883	
Satd. Flow (perm)	1407	0	2815	0	0	2501	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)	38		19				
Link Speed (mph)	25		25			25	
Link Distance (ft)	270		164			481	
Travel Time (s)	7.4		4.5			13.1	
Confl. Peds. (#/hr)		7		8	8		
Peak Hour Factor	0.80	0.34	0.87	0.50	0.50	0.92	
Heavy Vehicles (%)	0%	0%	3%	0%	4%	6%	
Bus Blockages (#/hr)	0	0	12	12	0	0	
Adj. Flow (vph)	20	38	434	28	54	690	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	58	0	462	0	0	744	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Right	Left	Left	
Median Width(ft)	10		0			0	
Link Offset(ft)	0		0			0	
Crosswalk Width(ft)	16		16			16	
Two way Left Turn Lane							
Headway Factor	1.25	1.25	1.30	1.26	1.26	1.26	
Number of Detectors	1		1		1	1	
Detector Template	Left		Thru		Left	Thru	
Leading Detector (ft)	50		50		50	50	
Trailing Detector (ft)	0		0		0	0	
Detector 1 Position(ft)	0		0		0	0	
Detector 1 Size(ft)	50		50		50	50	
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0		0.0		0.0	0.0	
Detector 1 Queue (s)	0.0		0.0		0.0	0.0	
Detector 1 Delay (s)	0.0		0.0		0.0	0.0	
Turn Type	Perm		NA		Perm	NA	
Protected Phases			6			2	4
Permitted Phases	8				2		
Detector Phase	8		6		2	2	
Switch Phase							
Minimum Initial (s)	10.0		10.0		10.0	10.0	7.0

Lanes, Volumes, Timings
902: Alabama Ave & 36th PI SE

Existing AM
10/03/2017



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø4
Minimum Split (s)	21.0		24.0		24.0	24.0	21.0
Total Split (s)	21.0		79.0		79.0	79.0	21.0
Total Split (%)	21.0%		79.0%		79.0%	79.0%	21%
Maximum Green (s)	15.0		73.0		73.0	73.0	15.0
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)	-2.0		-2.0			-2.0	
Total Lost Time (s)	4.0		4.0			4.0	
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0		1.0		1.0	1.0	3.0
Recall Mode	None		C-Max		C-Max	C-Max	None
Walk Time (s)	7.0		7.0		7.0	7.0	7.0
Flash Dont Walk (s)	8.0		6.0		6.0	6.0	8.0
Pedestrian Calls (#/hr)	0		0		0	0	0
Act Effect Green (s)	12.2		83.8			83.8	
Actuated g/C Ratio	0.12		0.84			0.84	
v/c Ratio	0.28		0.20			0.36	
Control Delay	23.1		0.5			4.4	
Queue Delay	0.0		0.3			0.0	
Total Delay	23.1		0.7			4.4	
LOS	C		A			A	
Approach Delay	23.1		0.7			4.4	
Approach LOS	C		A			A	
90th %ile Green (s)	11.1		76.9		76.9	76.9	11.1
90th %ile Term Code	Gap		Coord		Coord	Coord	Hold
70th %ile Green (s)	10.0		78.0		78.0	78.0	0.0
70th %ile Term Code	Min		Coord		Coord	Coord	Skip
50th %ile Green (s)	10.0		78.0		78.0	78.0	0.0
50th %ile Term Code	Min		Coord		Coord	Coord	Skip
30th %ile Green (s)	10.0		78.0		78.0	78.0	0.0
30th %ile Term Code	Min		Coord		Coord	Coord	Skip
10th %ile Green (s)	0.0		94.0		94.0	94.0	0.0
10th %ile Term Code	Skip		Coord		Coord	Coord	Skip
Queue Length 50th (ft)	12		0			104	
Queue Length 95th (ft)	40		3			m155	
Internal Link Dist (ft)	190		84			401	
Turn Bay Length (ft)							
Base Capacity (vph)	270		2361			2095	
Starvation Cap Reductn	0		1204			0	
Spillback Cap Reductn	0		0			0	
Storage Cap Reductn	0		0			0	
Reduced v/c Ratio	0.21		0.40			0.36	

Intersection Summary

Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 98 (98%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Lanes, Volumes, Timings
902: Alabama Ave & 36th PI SE

Existing AM
10/03/2017

Natural Cycle: 45

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.36

Intersection Signal Delay: 3.9

Intersection LOS: A

Intersection Capacity Utilization 51.7%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 902: Alabama Ave & 36th PI SE



Lanes, Volumes, Timings
1: Alabama Ave & Randle PI SE

Existing PM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	202	2	40	8	5	12	14	305	7	2	278	37
Future Volume (vph)	202	2	40	8	5	12	14	305	7	2	278	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	30		0	0		0	0		0	0		50
Storage Lanes	1		0	0		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor	0.71				0.87			0.98			0.94	
Frt		0.862			0.951			0.995			0.979	
Flt Protected	0.950				0.987			0.997			0.999	
Satd. Flow (prot)	1562	1327	0	0	1399	0	0	2984	0	0	2520	0
Flt Permitted	0.950				0.987			0.916			0.952	
Satd. Flow (perm)	1111	1327	0	0	1399	0	0	2698	0	0	2397	0
Right Turn on Red			No			No			Yes			Yes
Satd. Flow (RTOR)								6			31	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		341			204			606			883	
Travel Time (s)		9.3			5.6			16.5			24.1	
Confl. Peds. (#/hr)	179					179	96		66	66		96
Peak Hour Factor	0.79	0.50	0.83	0.67	0.31	0.75	0.58	0.91	0.58	0.50	0.88	0.71
Heavy Vehicles (%)	4%	0%	0%	0%	0%	0%	0%	1%	0%	0%	6%	3%
Bus Blockages (#/hr)	0	25	25	0	0	0	0	0	0	0	0	0
Parking (#/hr)								3	3		23	23
Adj. Flow (vph)	256	4	48	12	16	16	24	335	12	4	316	52
Shared Lane Traffic (%)												
Lane Group Flow (vph)	256	52	0	0	44	0	0	371	0	0	372	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.30	1.14	1.14	1.14	1.14	1.14	1.23	1.14	1.14	1.32	1.14
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA	
Protected Phases	8	8		7	7			2			6	
Permitted Phases							2			6		
Detector Phase	8	8		7	7		2	2		6	6	

Lanes, Volumes, Timings
1: Alabama Ave & Randle PI SE

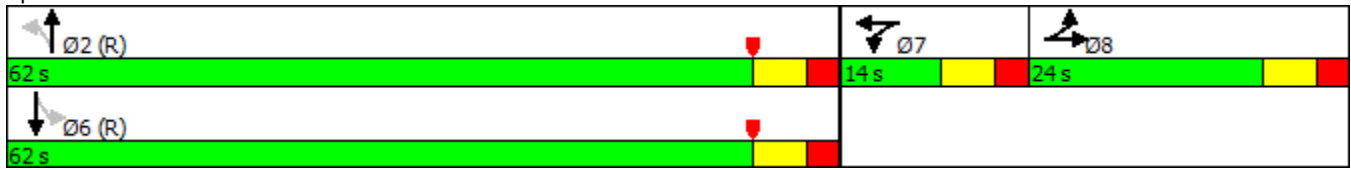
Existing PM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	22.5	22.5		13.5	13.5		19.5	19.5		17.5	17.5	
Total Split (s)	24.0	24.0		14.0	14.0		62.0	62.0		62.0	62.0	
Total Split (%)	24.0%	24.0%		14.0%	14.0%		62.0%	62.0%		62.0%	62.0%	
Maximum Green (s)	17.5	17.5		7.5	7.5		55.5	55.5		55.5	55.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)	-2.5	-2.5			-2.5			-2.5			-2.5	
Total Lost Time (s)	4.0	4.0			4.0			4.0			4.0	
Lead/Lag	Lag	Lag		Lead	Lead							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	1.0	1.0		3.0	3.0		1.0	1.0		1.0	1.0	
Recall Mode	Max	Max		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0					7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	9.0	9.0					6.0	6.0		4.0	4.0	
Pedestrian Calls (#/hr)	0	0					0	0		0	0	
Act Effct Green (s)	25.6	25.6			9.8			58.0			58.0	
Actuated g/C Ratio	0.26	0.26			0.10			0.58			0.58	
v/c Ratio	0.64	0.15			0.32			0.24			0.27	
Control Delay	44.2	33.8			48.8			10.5			8.4	
Queue Delay	0.0	0.0			0.0			0.0			0.0	
Total Delay	44.2	33.8			48.8			10.5			8.4	
LOS	D	C			D			B			A	
Approach Delay		42.5			48.8			10.5			8.4	
Approach LOS		D			D			B			A	
Queue Length 50th (ft)	157	28			27			55			47	
Queue Length 95th (ft)	#228	33			20			80			66	
Internal Link Dist (ft)		261			124			526			803	
Turn Bay Length (ft)	30											
Base Capacity (vph)	400	339			139			1567			1403	
Starvation Cap Reductn	0	0			0			0			0	
Spillback Cap Reductn	0	0			0			0			0	
Storage Cap Reductn	0	0			0			0			0	
Reduced v/c Ratio	0.64	0.15			0.32			0.24			0.27	
Intersection Summary												
Area Type: CBD												
Cycle Length: 100												
Actuated Cycle Length: 100												
Offset: 53 (53%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow												
Natural Cycle: 60												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.64												
Intersection Signal Delay: 20.3 Intersection LOS: C												
Intersection Capacity Utilization 47.0% ICU Level of Service A												
Analysis Period (min) 15												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												

Lanes, Volumes, Timings
 1: Alabama Ave & Randle PI SE

Existing PM
 10/03/2017

Splits and Phases: 1: Alabama Ave & Randle PI SE



Lanes, Volumes, Timings
2: Alabama Ave & 11th PI SE

Existing PM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	1	55	10	0	13	5	694	35	14	517	6
Future Volume (vph)	35	1	55	10	0	13	5	694	35	14	517	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		50	0		50
Storage Lanes	0		0	0		0	0		1	0		1
Taper Length (ft)	25			25			25			25		
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
Ped Bike Factor		0.89			0.94			1.00	0.97			0.97
Frt		0.922			0.932				0.850			0.850
Flt Protected		0.981			0.976			0.999			0.998	
Satd. Flow (prot)	0	1358	0	0	1478	0	0	1692	1454	0	1643	1454
Flt Permitted		0.879			0.791			0.994			0.969	
Satd. Flow (perm)	0	1216	0	0	1122	0	0	1683	1410	0	1595	1405
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		67			27				27			27
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		196			302			860			913	
Travel Time (s)		5.3			8.2			23.5			24.9	
Confl. Peds. (#/hr)			60	60			4		3	3		4
Confl. Bikes (#/hr)								2			1	
Peak Hour Factor	0.73	0.25	0.76	0.50	0.25	0.65	0.63	0.94	0.63	0.70	0.90	0.50
Heavy Vehicles (%)	0%	0%	2%	0%	0%	8%	0%	1%	0%	0%	4%	0%
Bus Blockages (#/hr)	0	0	0	0	3	3	0	0	0	0	0	0
Adj. Flow (vph)	48	4	72	20	0	20	8	738	56	20	574	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	124	0	0	40	0	0	746	56	0	594	12
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.16	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Number of Detectors	1	1		1	1		1	1	1	1	1	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2		2	2		2
Detector Phase	4	4		4	4		2	2	2	2	2	2

Lanes, Volumes, Timings
2: Alabama Ave & 11th PI SE

Existing PM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	22.5	22.5		22.5	22.5		20.5	20.5	20.5	20.5	20.5	20.5
Total Split (s)	30.0	30.0		30.0	30.0		70.0	70.0	70.0	70.0	70.0	70.0
Total Split (%)	30.0%	30.0%		30.0%	30.0%		70.0%	70.0%	70.0%	70.0%	70.0%	70.0%
Maximum Green (s)	24.5	24.5		24.5	24.5		64.5	64.5	64.5	64.5	64.5	64.5
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)	1.5	1.5		1.5	1.5		1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)		-1.5			-1.5			-1.5	-1.5		-1.5	0.0
Total Lost Time (s)		4.0			4.0			4.0	4.0		4.0	5.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		1.0	1.0	1.0	1.0	1.0	1.0
Recall Mode	None	None		None	None		C-Max	C-Max	C-Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	10.0	10.0		10.0	10.0		8.0	8.0	8.0	8.0	8.0	8.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	0
Act Efect Green (s)		12.6			12.6			79.4	79.4		79.4	77.9
Actuated g/C Ratio		0.13			0.13			0.79	0.79		0.79	0.78
v/c Ratio		0.59			0.24			0.56	0.05		0.47	0.01
Control Delay		31.1			22.1			8.2	1.1		7.1	2.7
Queue Delay		0.0			0.0			0.0	0.0		0.0	0.0
Total Delay		31.1			22.1			8.2	1.1		7.1	2.7
LOS		C			C			A	A		A	A
Approach Delay		31.1			22.1			7.7			7.0	
Approach LOS		C			C			A			A	
Queue Length 50th (ft)		34			8			45	0		131	0
Queue Length 95th (ft)		0			0			479	4		162	m1
Internal Link Dist (ft)		116			222			780			833	
Turn Bay Length (ft)									50			50
Base Capacity (vph)		365			311			1336	1125		1266	1100
Starvation Cap Reductn		0			0			0	0		0	0
Spillback Cap Reductn		0			0			0	0		0	0
Storage Cap Reductn		0			0			0	0		0	0
Reduced v/c Ratio		0.34			0.13			0.56	0.05		0.47	0.01
Intersection Summary												
Area Type:	CBD											
Cycle Length: 100												
Actuated Cycle Length: 100												
Offset: 3 (3%), Referenced to phase 2:NBSB, Start of Yellow												
Natural Cycle: 60												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.59												
Intersection Signal Delay: 9.6						Intersection LOS: A						
Intersection Capacity Utilization 70.5%						ICU Level of Service C						
Analysis Period (min) 15												
m Volume for 95th percentile queue is metered by upstream signal.												

Splits and Phases: 2: Alabama Ave & 11th PI SE



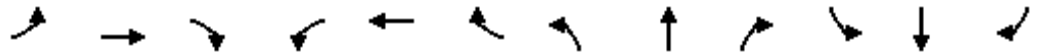
Lanes, Volumes, Timings
3: Alabama Ave & Congress Heights Metro/13th St SE

Existing PM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	6	24	30	13	40	23	689	29	45	483	30
Future Volume (vph)	29	6	24	30	13	40	23	689	29	45	483	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	110		50	90		50
Storage Lanes	1		1	0		0	1		1	1		1
Taper Length (ft)	25			25			50			50		
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
Ped Bike Factor	0.97		0.85		0.91		0.99		0.93			0.96
Frt			0.850		0.939				0.850			0.850
Flt Protected	0.950				0.981		0.950			0.950		
Satd. Flow (prot)	1518	1140	1242	0	1500	0	1624	1693	1454	1624	1570	1198
Flt Permitted	0.660				0.894		0.314			0.171		
Satd. Flow (perm)	1020	1140	1061	0	1280	0	533	1693	1358	292	1570	1147
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			82		42				87			87
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		203			201			913			1021	
Travel Time (s)		5.5			5.5			24.9			27.8	
Confl. Peds. (#/hr)	33		77	77		33	11		14	14		11
Confl. Bikes (#/hr)					1			3				
Peak Hour Factor	0.91	0.50	0.75	0.63	0.65	0.71	0.72	0.96	0.73	0.87	0.91	0.83
Heavy Vehicles (%)	7%	50%	17%	0%	15%	0%	0%	1%	0%	0%	5%	17%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	9	9
Adj. Flow (vph)	32	12	32	48	20	56	32	718	40	52	531	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	32	12	32	0	124	0	32	718	40	52	531	36
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.20	1.20
Number of Detectors	1	1	1	1	1		1	1	1	1	1	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8		8	4			6		6	2		2
Detector Phase	8	8	8	4	4		1	6	6	5	2	2

Lanes, Volumes, Timings
3: Alabama Ave & Congress Heights Metro/13th St SE

Existing PM
10/03/2017



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	24.0	24.0	24.0	29.0	29.0		10.0	23.5	23.5	10.0	29.5	29.5
Total Split (s)	34.0	34.0	34.0	34.0	34.0		11.0	55.0	55.0	11.0	55.0	55.0
Total Split (%)	34.0%	34.0%	34.0%	34.0%	34.0%		11.0%	55.0%	55.0%	11.0%	55.0%	55.0%
Maximum Green (s)	28.0	28.0	28.0	28.0	28.0		6.0	49.5	49.5	6.0	49.5	49.5
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
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		1.0	1.5	1.5	1.0	1.5	1.5
Lost Time Adjust (s)	-2.0	-2.0	-2.0		-2.0		-1.0	-1.5	-1.5	-1.0	-1.5	0.0
Total Lost Time (s)	4.0	4.0	4.0		4.0		4.0	4.0	4.0	4.0	4.0	5.5
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Recall Mode	Max	Max	Max	Max	Max		Max	C-Max	C-Max	Max	C-Max	C-Max
Walk Time (s)				7.0	7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)				16.0	16.0			8.0	8.0		17.0	17.0
Pedestrian Calls (#/hr)				0	0			0	0		0	0
Act Effect Green (s)	30.0	30.0	30.0		30.0		58.0	51.0	51.0	58.0	51.0	49.5
Actuated g/C Ratio	0.30	0.30	0.30		0.30		0.58	0.51	0.51	0.58	0.51	0.50
v/c Ratio	0.10	0.04	0.09		0.30		0.08	0.83	0.05	0.20	0.66	0.06
Control Delay	26.6	25.3	0.5		20.0		7.0	21.2	0.8	8.0	18.1	0.4
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.6	25.3	0.5		20.0		7.0	21.2	0.8	8.0	18.1	0.4
LOS	C	C	A		C		A	C	A	A	B	A
Approach Delay		15.4			20.0			19.6			16.3	
Approach LOS		B			C			B			B	
Queue Length 50th (ft)	15	5	0		39		5	144	0	9	176	0
Queue Length 95th (ft)	38	10	0		54		m13	#390	m1	m21	257	m0
Internal Link Dist (ft)		123			121			833			941	
Turn Bay Length (ft)							110		50	90		50
Base Capacity (vph)	306	342	375		413		385	863	735	262	800	611
Starvation Cap Reductn	0	0	0		0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0		0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0		0		0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.04	0.09		0.30		0.08	0.83	0.05	0.20	0.66	0.06

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 90 (90%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 18.2

Intersection LOS: B

Intersection Capacity Utilization 67.4%

ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Alabama Ave & Congress Heights Metro/13th St SE



Lanes, Volumes, Timings
4: Alabama Ave & Stanton Rd SE

Existing PM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	137	122	25	102	41	103	666	58	9	484	72
Future Volume (vph)	65	137	122	25	102	41	103	666	58	9	484	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	30		0	30		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor	0.92	0.90		0.91	0.95			0.96			0.95	
Frt		0.928			0.945			0.988			0.979	
Flt Protected	0.950			0.950				0.993			0.998	
Satd. Flow (prot)	1547	1366	0	1354	1424	0	0	2801	0	0	2839	0
Flt Permitted	0.551			0.374				0.729			0.911	
Satd. Flow (perm)	825	1366	0	486	1424	0	0	2021	0	0	2588	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		47			30			15			31	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		385			337			1454			674	
Travel Time (s)		10.5			9.2			39.7			18.4	
Confl. Peds. (#/hr)	67		108	108		67	101		73	73		101
Confl. Bikes (#/hr)			1		1		1				5	
Peak Hour Factor	0.74	0.88	0.85	0.69	0.88	0.60	0.80	0.94	0.81	0.45	0.94	0.82
Heavy Vehicles (%)	5%	7%	3%	20%	10%	5%	5%	2%	9%	11%	5%	10%
Parking (#/hr)								10	10			
Adj. Flow (vph)	88	156	144	36	116	68	129	709	72	20	515	88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	88	300	0	36	184	0	0	910	0	0	623	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.26	1.14	1.14	1.14	1.14
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6			2		
Detector Phase	4	4		8	8		6	6		2	2	

Lane Group	Ø12	Ø13
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Parking (#/hr)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Turn Type		
Protected Phases	12	13
Permitted Phases		
Detector Phase		

Lanes, Volumes, Timings
4: Alabama Ave & Stanton Rd SE

Existing PM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	23.5	23.5		23.5	23.5		23.5	23.5		23.5	23.5	
Total Split (s)	33.0	33.0		33.0	33.0		61.0	61.0		61.0	61.0	
Total Split (%)	33.0%	33.0%		33.0%	33.0%		61.0%	61.0%		61.0%	61.0%	
Maximum Green (s)	27.5	27.5		27.5	27.5		55.5	55.5		55.5	55.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5			-1.5			-1.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Recall Mode	Max	Max		Max	Max		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	29.0	29.0		29.0	29.0			57.0			57.0	
Actuated g/C Ratio	0.29	0.29		0.29	0.29			0.57			0.57	
v/c Ratio	0.37	0.70		0.26	0.42			0.79			0.42	
Control Delay	33.7	36.5		33.2	27.4			9.3			12.5	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	33.7	36.5		33.2	27.4			9.3			12.5	
LOS	C	D		C	C			A			B	
Approach Delay		35.8			28.4			9.3			12.5	
Approach LOS		D			C			A			B	
Queue Length 50th (ft)	44	144		18	78			32			104	
Queue Length 95th (ft)	72	235		34	139			48			144	
Internal Link Dist (ft)		305			257			1374			594	
Turn Bay Length (ft)	30			30								
Base Capacity (vph)	239	429		140	434			1158			1488	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.37	0.70		0.26	0.42			0.79			0.42	
Intersection Summary												
Area Type:	CBD											
Cycle Length: 100												
Actuated Cycle Length: 100												
Offset: 63 (63%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow												
Natural Cycle: 65												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.79												
Intersection Signal Delay: 17.0							Intersection LOS: B					
Intersection Capacity Utilization 83.0%							ICU Level of Service E					
Analysis Period (min) 15												

Splits and Phases: 4: Alabama Ave & Stanton Rd SE



Lane Group	Ø12	Ø13
Switch Phase		
Minimum Initial (s)	1.0	1.0
Minimum Split (s)	3.0	3.0
Total Split (s)	3.0	3.0
Total Split (%)	3%	3%
Maximum Green (s)	1.0	1.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	Max	Max
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effect Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

Lanes, Volumes, Timings
6: Alabama Ave & Naylor Rd SE

Existing PM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	440	78	20	232	54	52	405	30	52	431	8
Future Volume (vph)	11	440	78	20	232	54	52	405	30	52	431	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor		0.99			0.97			0.98			0.99	
Frt		0.979			0.972			0.988			0.995	
Flt Protected		0.999			0.995			0.994			0.994	
Satd. Flow (prot)	0	1606	0	0	1532	0	0	3031	0	0	2970	0
Flt Permitted		0.985			0.920			0.742			0.717	
Satd. Flow (perm)	0	1581	0	0	1414	0	0	2255	0	0	2128	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			18			10			3	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		318			242			437			498	
Travel Time (s)		8.7			6.6			11.9			13.6	
Confl. Peds. (#/hr)	107		46	46		107	35		62	62		35
Confl. Bikes (#/hr)								1				
Peak Hour Factor	0.69	0.96	0.89	0.56	0.89	0.71	0.76	0.87	0.63	0.73	0.92	0.44
Heavy Vehicles (%)	0%	2%	9%	5%	6%	0%	10%	2%	3%	0%	4%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	4	4	0	21	21
Adj. Flow (vph)	16	458	88	36	261	76	68	466	48	71	468	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	562	0	0	373	0	0	582	0	0	557	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.16	1.14	1.14	1.21	1.14
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8	8	
Detector Phase	2	2		6	6		4	4		8	8	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	31.5	31.5		29.5	29.5		27.5	27.5		31.5	31.5	

Lane Group	Ø12	Ø13
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Bus Blockages (#/hr)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Turn Type		
Protected Phases	12	13
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	1.0	1.0
Minimum Split (s)	3.0	3.0

Lanes, Volumes, Timings
6: Alabama Ave & Naylor Rd SE

Existing PM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	52.0	52.0		52.0	52.0		36.0	36.0		36.0	36.0	
Total Split (%)	52.0%	52.0%		52.0%	52.0%		36.0%	36.0%		36.0%	36.0%	
Maximum Green (s)	45.5	45.5		45.5	45.5		29.5	29.5		29.5	29.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)		-2.5			-2.5			-2.5			-2.5	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	18.0	18.0		16.0	16.0		14.0	14.0		18.0	18.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		48.0			48.0			32.0			32.0	
Actuated g/C Ratio		0.48			0.48			0.32			0.32	
v/c Ratio		0.73			0.54			0.80			0.82	
Control Delay		27.4			21.0			40.3			32.7	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		27.4			21.0			40.3			32.7	
LOS		C			C			D			C	
Approach Delay		27.4			21.0			40.3			32.7	
Approach LOS		C			C			D			C	
Queue Length 50th (ft)		271			153			174			82	
Queue Length 95th (ft)		410			239			233			m123	
Internal Link Dist (ft)		238			162			357			418	
Turn Bay Length (ft)												
Base Capacity (vph)		765			688			728			683	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.73			0.54			0.80			0.82	

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 95 (95%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 31.3

Intersection LOS: C

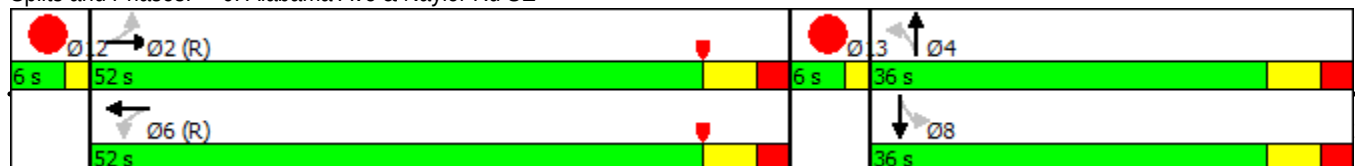
Intersection Capacity Utilization 83.3%

ICU Level of Service E

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Alabama Ave & Naylor Rd SE



Lane Group	Ø12	Ø13
Total Split (s)	6.0	6.0
Total Split (%)	6%	6%
Maximum Green (s)	4.0	4.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	Max	Max
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effect Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		
Intersection Summary		

Lanes, Volumes, Timings

Existing PM

7: Alabama Ave & Good Hope Rd SE/Good Hope Marketplace

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	537	114	11	67	129	32	14	439	17	18	413	285
Future Volume (vph)	537	114	11	67	129	32	14	439	17	18	413	285
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	50		0	100		100	120		120
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			50			50		
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.91	0.91
Ped Bike Factor	0.99	1.00		0.99	0.99		0.99		0.93	0.97	0.99	0.96
Frt		0.996			0.964				0.850		0.981	0.850
Flt Protected	0.950	0.967		0.950	0.998		0.950			0.950		
Satd. Flow (prot)	1513	1542	0	1543	1544	0	1624	3172	1413	1624	2876	1262
Flt Permitted	0.950	0.967		0.950	0.998		0.189			0.331		
Satd. Flow (perm)	1505	1537	0	1527	1544	0	321	3172	1315	548	2876	1214
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)		1			15				125			
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		328			206			498			2444	
Travel Time (s)		8.9			5.6			13.6			66.7	
Confl. Peds. (#/hr)	5		14	14		5	19		27	27		19
Peak Hour Factor	0.67	0.81	0.92	0.70	0.67	0.50	0.54	0.90	0.57	0.56	0.73	0.78
Heavy Vehicles (%)	2%	0%	0%	0%	1%	0%	0%	1%	0%	0%	4%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	7	7	0	9	9
Adj. Flow (vph)	801	141	12	96	193	64	26	488	30	32	566	365
Shared Lane Traffic (%)	41%			10%								23%
Lane Group Flow (vph)	473	481	0	86	267	0	26	488	30	32	650	281
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.16	1.19	1.14	1.17	1.20
Number of Detectors	1	1		1	1		1	1	1	1	1	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Split	NA		Split	NA		Perm	NA	Perm	Perm	NA	pm+ov
Protected Phases	2	2		1	1			8			4	2
Permitted Phases							8		8	4		4
Detector Phase	2	2		1	1		8	8	8	4	4	2
Switch Phase												

Existing PM 4:45 pm 11/03/2016

SJ

Synchro 9 Report

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Lanes, Volumes, Timings
7: Alabama Ave & Good Hope Rd SE/Good Hope Marketplace

Existing PM
10/03/2017



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	7.0	7.0	7.0	7.0	10.0
Minimum Split (s)	28.0	28.0		27.5	27.5		22.5	22.5	22.5	23.0	23.0	28.0
Total Split (s)	41.0	41.0		28.0	28.0		31.0	31.0	31.0	31.0	31.0	41.0
Total Split (%)	41.0%	41.0%		28.0%	28.0%		31.0%	31.0%	31.0%	31.0%	31.0%	41.0%
Maximum Green (s)	34.0	34.0		20.5	20.5		24.0	24.0	24.0	24.0	24.0	34.0
Yellow Time (s)	4.0	4.0		4.5	4.5		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-3.0	-3.0		-3.0	-3.0		-3.0	-3.0	-3.0	-3.0	-3.0	-3.0
Total Lost Time (s)	4.0	4.0		4.5	4.5		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag		Lead	Lead							Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							Yes
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Recall Mode	C-Max	C-Max		Max	Max		Max	Max	Max	Max	Max	C-Max
Walk Time (s)	6.0	6.0		7.0	7.0					6.0	6.0	6.0
Flash Dont Walk (s)	15.0	15.0		13.0	13.0					10.0	10.0	15.0
Pedestrian Calls (#/hr)	0	0		0	0					0	0	0
Act Effect Green (s)	37.0	37.0		23.5	23.5		27.0	27.0	27.0	27.0	27.0	64.0
Actuated g/C Ratio	0.37	0.37		0.24	0.24		0.27	0.27	0.27	0.27	0.27	0.64
v/c Ratio	0.85	0.84		0.24	0.71		0.30	0.57	0.07	0.22	0.84	0.35
Control Delay	44.8	44.1		33.1	45.2		37.6	29.9	1.0	20.7	30.5	5.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.8	44.1		33.1	45.2		37.6	29.9	1.0	20.7	30.5	5.2
LOS	D	D		C	D		D	C	A	C	C	A
Approach Delay		44.5			42.2			28.7			22.8	
Approach LOS		D			D			C			C	
Queue Length 50th (ft)	286	290		47	155		8	85	0	9	108	41
Queue Length 95th (ft)	276	371		70	171		m14	m131	m0	m12	123	m51
Internal Link Dist (ft)		248			126			418			2364	
Turn Bay Length (ft)				50			100		100	120		120
Base Capacity (vph)	559	571		362	374		86	856	446	147	776	794
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.85	0.84		0.24	0.71		0.30	0.57	0.07	0.22	0.84	0.35

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 3 (3%), Referenced to phase 2:EBTL, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 33.7

Intersection LOS: C

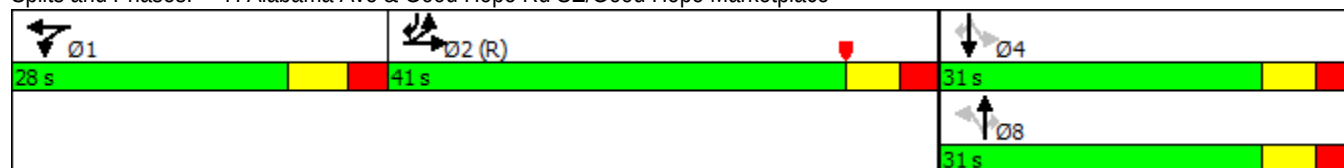
Intersection Capacity Utilization 64.0%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Alabama Ave & Good Hope Rd SE/Good Hope Marketplace



Lanes, Volumes, Timings
8: Alabama Ave & Branch Ave SE

Existing PM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	116	417	18	62	270	23	56	467	53	52	418	14
Future Volume (vph)	116	417	18	62	270	23	56	467	53	52	418	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor	1.00	1.00			1.00							
Frt		0.988			0.985			0.987			0.994	
Flt Protected	0.950			0.950				0.996			0.993	
Satd. Flow (prot)	1593	1656	0	1624	1651	0	0	3117	0	0	3050	0
Flt Permitted	0.365			0.186				0.996			0.993	
Satd. Flow (perm)	610	1656	0	318	1651	0	0	3117	0	0	3050	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			6			9			3	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		362			386			2444			1278	
Travel Time (s)		9.9			10.5			66.7			34.9	
Confl. Peds. (#/hr)	4		5	5		4						
Peak Hour Factor	0.83	0.88	0.45	0.82	0.84	0.64	0.93	0.84	0.88	0.65	0.95	0.70
Heavy Vehicles (%)	2%	2%	0%	0%	2%	0%	0%	2%	0%	0%	4%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	4	4	0	9	9
Adj. Flow (vph)	140	474	40	76	321	36	60	556	60	80	440	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	140	514	0	76	357	0	0	676	0	0	540	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.16	1.14	1.14	1.17	1.14
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA		Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases	6			2								
Detector Phase	1	6		5	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	10.0	23.5		10.0	23.5		20.5	20.5		21.5	21.5	
Total Split (s)	11.0	40.0		11.0	40.0		27.0	27.0		22.0	22.0	

Lanes, Volumes, Timings
8: Alabama Ave & Branch Ave SE

Existing PM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	11.0%	40.0%		11.0%	40.0%		27.0%	27.0%		22.0%	22.0%	
Maximum Green (s)	6.0	34.5		6.0	34.5		21.5	21.5		16.5	16.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.5		1.0	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	-1.0	-1.5		-1.0	-1.5			-1.5			-1.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Recall Mode	Max	C-Max		Max	C-Max		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		8.0			9.0		8.0	8.0		9.0	9.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effect Green (s)	43.0	36.0		43.0	36.0			23.0			18.0	
Actuated g/C Ratio	0.43	0.36		0.43	0.36			0.23			0.18	
v/c Ratio	0.42	0.86		0.33	0.60			0.93			0.98	
Control Delay	20.1	45.3		19.0	30.7			64.1			75.8	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	20.1	45.3		19.0	30.7			64.1			75.8	
LOS	C	D		B	C			E			E	
Approach Delay		39.9			28.6			64.1			75.8	
Approach LOS		D			C			E			E	
Queue Length 50th (ft)	50	297		26	180			207			132	
Queue Length 95th (ft)	80	#465		47	250			#270			#273	
Internal Link Dist (ft)		282			306			2364			1198	
Turn Bay Length (ft)												
Base Capacity (vph)	331	599		228	598			723			551	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.42	0.86		0.33	0.60			0.93			0.98	

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 14 (14%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 53.3

Intersection LOS: D

Intersection Capacity Utilization 76.2%

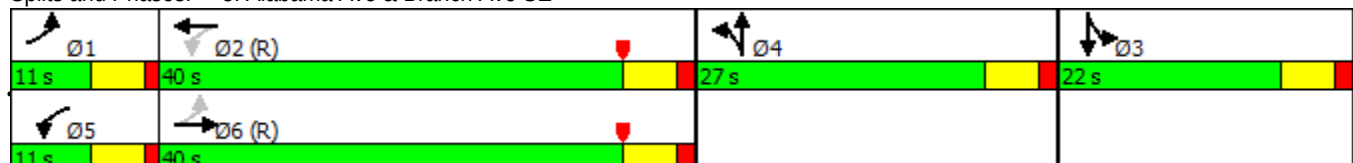
ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 8: Alabama Ave & Branch Ave SE



Lanes, Volumes, Timings
10: Alabama Ave & 38th St SE

Existing PM
10/03/2017

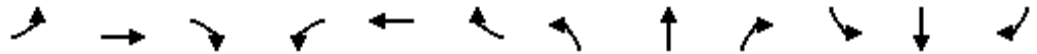
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	254	69	9	225	24	59	488	10	37	503	6
Future Volume (vph)	13	254	69	9	225	24	59	488	10	37	503	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	13	16	10	10	10	10	10	10	10	10
Grade (%)		-8%			12%			2%			-4%	
Storage Length (ft)	30		0	30		0	0		15	0		0
Storage Lanes	1		0	1		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor	0.99	0.98		0.98	1.00			1.00	0.93		1.00	
Frt		0.967			0.985				0.850		0.998	
Flt Protected	0.950			0.950				0.994			0.996	
Satd. Flow (prot)	1616	1736	0	1731	1421	0	0	1527	1343	0	2959	0
Flt Permitted	0.255			0.174				0.860			0.844	
Satd. Flow (perm)	429	1736	0	311	1421	0	0	1320	1254	0	2508	0
Right Turn on Red			No			Yes			No			Yes
Satd. Flow (RTOR)					5						3	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		248			430			424			293	
Travel Time (s)		6.8			11.7			11.6			8.0	
Confl. Peds. (#/hr)	18		39	39		18	3		17	17		3
Confl. Bikes (#/hr)					1			1			1	
Peak Hour Factor	0.36	0.80	0.78	0.75	0.78	0.75	0.78	0.87	0.63	0.77	0.87	0.75
Heavy Vehicles (%)	8%	1%	0%	0%	4%	0%	2%	3%	0%	3%	4%	0%
Adj. Flow (vph)	36	318	88	12	288	32	76	561	16	48	578	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	36	406	0	12	320	0	0	637	16	0	634	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			16			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.06	1.35	1.35	1.26	1.26	1.26	1.22	1.22	1.22
Number of Detectors	1	1		1	1		1	1	1	1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases		2			2			4		3	8	
Permitted Phases	2			2			4		4	8		

Existing PM 4:45 pm 11/03/2016
SJ

Synchro 9 Report
Page 24

Lanes, Volumes, Timings
10: Alabama Ave & 38th St SE

Existing PM
10/03/2017



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		2	2		4	4	4	3	8	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	24.5	24.5		24.5	24.5		23.5	23.5	23.5	10.0	23.5	
Total Split (s)	27.0	27.0		27.0	27.0		61.0	61.0	61.0	12.0	73.0	
Total Split (%)	27.0%	27.0%		27.0%	27.0%		61.0%	61.0%	61.0%	12.0%	73.0%	
Maximum Green (s)	21.5	21.5		21.5	21.5		55.5	55.5	55.5	7.0	67.5	
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)	1.5	1.5		1.5	1.5		1.5	1.5	1.5	1.0	1.5	
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5			-1.5	-1.5		-1.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		Max	Max	Max	Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0		7.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		11.0	11.0	11.0		8.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0		0	
Act Effect Green (s)	23.0	23.0		23.0	23.0			57.0	57.0		69.0	
Actuated g/C Ratio	0.23	0.23		0.23	0.23			0.57	0.57		0.69	
v/c Ratio	0.37	1.02		0.17	0.97			0.85	0.02		0.36	
Control Delay	44.8	89.1		37.9	81.7			25.3	6.3		2.1	
Queue Delay	0.0	32.3		0.0	0.0			4.6	0.0		0.5	
Total Delay	44.8	121.5		37.9	81.7			29.9	6.3		2.6	
LOS	D	F		D	F			C	A		A	
Approach Delay		115.2			80.1			29.4			2.6	
Approach LOS		F			F			C			A	
Queue Length 50th (ft)	19	~267		6	200			436	3		12	
Queue Length 95th (ft)	18	#379		19	#296			#547	6		m28	
Internal Link Dist (ft)		168			350			344			213	
Turn Bay Length (ft)	30			30					15			
Base Capacity (vph)	98	399		71	330			752	714		1767	
Starvation Cap Reductn	0	135		0	0			0	0		668	
Spillback Cap Reductn	0	0		0	0			68	0		0	
Storage Cap Reductn	0	0		0	0			0	0		0	
Reduced v/c Ratio	0.37	1.54		0.17	0.97			0.93	0.02		0.58	

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 51 (51%), Referenced to phase 2:EBWB, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.02

Intersection Signal Delay: 47.7

Intersection LOS: D

Intersection Capacity Utilization 79.2%

ICU Level of Service D

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Lanes, Volumes, Timings 10: Alabama Ave & 38th St SE

Existing PM
10/03/2017

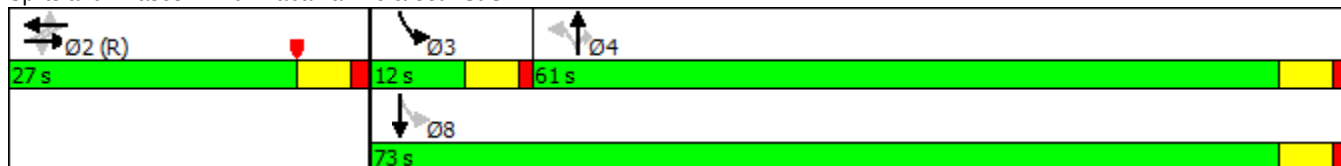
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Alabama Ave & 38th St SE



Lanes, Volumes, Timings
11: Alabama Ave & Pennsylvania Ave SE

Existing PM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	97	980	5	114	375	20	0	351	174	31	427	70
Future Volume (vph)	97	980	5	114	375	20	0	351	174	31	427	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10	11	11	11	12	12	12
Grade (%)		10%			-2%			4%			-8%	
Storage Length (ft)	0		0	100		0	0		0	0		165
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	25			25			25			50		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	0.95	0.95	0.95
Frt		0.999			0.990				0.850		0.976	
Flt Protected	0.950			0.950							0.997	
Satd. Flow (prot)	1426	2850	0	1531	3004	0	0	1573	1324	0	3208	0
Flt Permitted	0.950			0.950							0.732	
Satd. Flow (perm)	1426	2850	0	1531	3004	0	0	1573	1324	0	2355	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			7				23		21	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		286			487			293			768	
Travel Time (s)		6.5			11.1			6.7			17.5	
Peak Hour Factor	0.84	0.96	0.50	0.79	0.80	0.63	0.25	0.93	0.78	0.78	0.91	0.73
Heavy Vehicles (%)	1%	1%	0%	0%	1%	0%	0%	3%	4%	0%	2%	6%
Adj. Flow (vph)	115	1021	10	144	469	32	0	377	223	40	469	96
Shared Lane Traffic (%)												
Lane Group Flow (vph)	115	1031	0	144	501	0	0	377	223	0	605	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.33	1.33	1.33	1.23	1.23	1.23	1.22	1.22	1.22	1.09	1.09	1.09
Number of Detectors	1	1		1	1			1	1	1	1	
Detector Template	Left	Thru		Left	Thru			Thru	Right	Left	Thru	
Leading Detector (ft)	50	50		50	50			50	50	50	50	
Trailing Detector (ft)	0	0		0	0			0	0	0	0	
Detector 1 Position(ft)	0	0		0	0			0	0	0	0	
Detector 1 Size(ft)	50	50		50	50			50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Turn Type	Split	NA		Split	NA			NA	pm+ov	Perm	NA	
Protected Phases	2	2		1	1			8	1		4	
Permitted Phases									8	4		
Detector Phase	2	2		1	1			8	1	4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0			7.0	10.0	7.0	7.0	

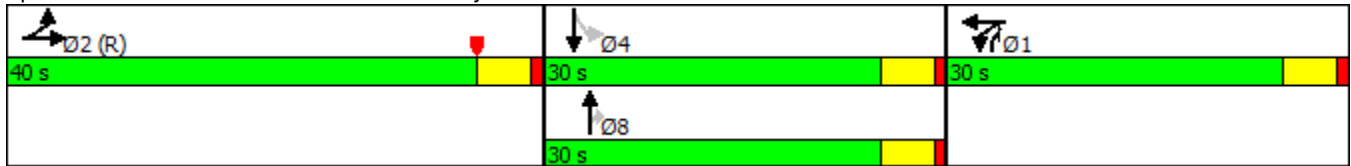
Lanes, Volumes, Timings
11: Alabama Ave & Pennsylvania Ave SE

Existing PM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	25.5	25.5		25.0	25.0			12.5	25.0	25.5	25.5	
Total Split (s)	40.0	40.0		30.0	30.0			30.0	30.0	30.0	30.0	
Total Split (%)	40.0%	40.0%		30.0%	30.0%			30.0%	30.0%	30.0%	30.0%	
Maximum Green (s)	35.0	35.0		25.0	25.0			25.0	25.0	25.0	25.0	
Yellow Time (s)	4.0	4.0		4.0	4.0			4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0			1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0	-1.0		-1.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0			3.0	1.0	3.0	3.0	
Recall Mode	C-Max	C-Max		Max	Max			None	Max	None	None	
Walk Time (s)	7.0	7.0		7.0	7.0				7.0	7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0				13.0	13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0				0	0	0	
Act Effct Green (s)	36.0	36.0		26.0	26.0			26.0	56.0		26.0	
Actuated g/C Ratio	0.36	0.36		0.26	0.26			0.26	0.56		0.26	
v/c Ratio	0.22	1.00		0.36	0.64			0.92	0.30		0.96	
Control Delay	23.8	62.2		33.4	36.7			52.9	3.6		64.7	
Queue Delay	0.0	35.3		0.0	0.0			46.5	1.0		0.0	
Total Delay	23.8	97.5		33.4	36.7			99.4	4.6		64.7	
LOS	C	F		C	D			F	A		E	
Approach Delay		90.1			35.9			64.2			64.7	
Approach LOS		F			D			E			E	
Queue Length 50th (ft)	50	~344		75	147			193	12		194	
Queue Length 95th (ft)	86	#493		113	175			m#316	m15		#311	
Internal Link Dist (ft)		206			407			213			688	
Turn Bay Length (ft)				100								
Base Capacity (vph)	513	1026		398	786			408	751		627	
Starvation Cap Reductn	0	274		0	0			66	320		0	
Spillback Cap Reductn	0	0		0	0			0	0		0	
Storage Cap Reductn	0	0		0	0			0	0		0	
Reduced v/c Ratio	0.22	1.37		0.36	0.64			1.10	0.52		0.96	
Intersection Summary												
Area Type: CBD												
Cycle Length: 100												
Actuated Cycle Length: 100												
Offset: 74 (74%), Referenced to phase 2:EBTL, Start of Yellow												
Natural Cycle: 90												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 1.00												
Intersection Signal Delay: 68.1												
Intersection LOS: E												
Intersection Capacity Utilization 89.1%												
ICU Level of Service E												
Analysis Period (min) 15												
~ Volume exceeds capacity, queue is theoretically infinite.												
Queue shown is maximum after two cycles.												
# 95th percentile volume exceeds capacity, queue may be longer.												
Queue shown is maximum after two cycles.												

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 11: Alabama Ave & Pennsylvania Ave SE



Lanes, Volumes, Timings
12: Alabama Ave & Ridge Rd SE

Existing PM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	395	263	1	180	17	7	72	3	18	91	15
Future Volume (vph)	15	395	263	1	180	17	7	72	3	18	91	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		25	0		25	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
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
Ped Bike Factor												
Frt			0.850		0.988			0.990			0.983	
Flt Protected		0.994						0.994			0.991	
Satd. Flow (prot)	0	1670	1454	0	1674	0	0	1669	0	0	1632	0
Flt Permitted		0.994						0.994			0.991	
Satd. Flow (perm)	0	1670	1454	0	1674	0	0	1669	0	0	1632	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		426			425			325			289	
Travel Time (s)		11.6			11.6			8.9			7.9	
Confl. Bikes (#/hr)											1	
Peak Hour Factor	0.25	0.92	0.61	0.75	0.88	0.87	0.58	0.82	0.38	0.64	0.84	0.75
Heavy Vehicles (%)	0%	2%	0%	0%	1%	0%	0%	1%	0%	0%	3%	0%
Adj. Flow (vph)	60	429	431	1	205	20	12	88	8	28	108	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	489	431	0	226	0	0	108	0	0	156	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Sign Control		Stop			Stop			Stop			Stop	
Intersection Summary												
Area Type:	CBD											
Control Type:	Unsignalized											
Intersection Capacity Utilization	53.2%					ICU Level of Service A						
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis 12: Alabama Ave & Ridge Rd SE

Existing PM
10/03/2017

																			
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR							
Lane Configurations																			
Sign Control		Stop			Stop			Stop			Stop								
Traffic Volume (vph)	15	395	263	1	180	17	7	72	3	18	91	15							
Future Volume (vph)	15	395	263	1	180	17	7	72	3	18	91	15							
Peak Hour Factor	0.25	0.92	0.61	0.75	0.88	0.87	0.58	0.82	0.38	0.64	0.84	0.75							
Hourly flow rate (vph)	60	429	431	1	205	20	12	88	8	28	108	20							
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1														
Volume Total (vph)	489	431	226	108	156														
Volume Left (vph)	60	0	1	12	28														
Volume Right (vph)	0	431	20	8	20														
Hadj (s)	0.09	-0.70	-0.04	-0.01	-0.01														
Departure Headway (s)	5.8	5.0	5.8	6.6	6.4														
Degree Utilization, x	0.79	0.60	0.37	0.20	0.28														
Capacity (veh/h)	610	710	586	509	521														
Control Delay (s)	25.7	14.0	12.1	11.2	11.9														
Approach Delay (s)	20.2		12.1	11.2	11.9														
Approach LOS	C		B	B	B														
Intersection Summary																			
Delay			17.3																
Level of Service			C																
Intersection Capacity Utilization			53.2%	ICU Level of Service					A										
Analysis Period (min)			15																

Lanes, Volumes, Timings
501: Alabama Ave & Jasper St SE

Existing PM
10/03/2017

							Ø4	Ø5	Ø6
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT			
Lane Configurations									
Traffic Volume (vph)	27	38	545	38	59	687			
Future Volume (vph)	27	38	545	38	59	687			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900			
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95			
Ped Bike Factor	0.98		0.99			1.00			
Frt	0.929		0.980						
Flt Protected	0.977					0.995			
Satd. Flow (prot)	1725	0	3311	0	0	3468			
Flt Permitted	0.977					0.783			
Satd. Flow (perm)	1687	0	3311	0	0	2722			
Right Turn on Red		Yes		Yes					
Satd. Flow (RTOR)	53		32						
Link Speed (mph)	30		25			25			
Link Distance (ft)	334		395			140			
Travel Time (s)	7.6		10.8			3.8			
Confl. Peds. (#/hr)	29			23	23				
Peak Hour Factor	0.44	0.56	0.88	0.39	0.66	0.92			
Heavy Vehicles (%)	0%	0%	2%	0%	0%	4%			
Bus Blockages (#/hr)	0	0	17	17	0	0			
Adj. Flow (vph)	61	68	619	97	89	747			
Shared Lane Traffic (%)									
Lane Group Flow (vph)	129	0	716	0	0	836			
Enter Blocked Intersection	No	No	No	No	No	No			
Lane Alignment	Left	Right	Left	Right	Left	Left			
Median Width(ft)	12		0			0			
Link Offset(ft)	0		0			0			
Crosswalk Width(ft)	16		16			16			
Two way Left Turn Lane									
Headway Factor	1.00	1.00	1.05	1.00	1.00	1.00			
Turning Speed (mph)	20	15		15	20				
Number of Detectors	1		1		1	1			
Detector Template	Left		Thru		Left	Thru			
Leading Detector (ft)	50		50		50	50			
Trailing Detector (ft)	0		0		0	0			
Detector 1 Position(ft)	0		0		0	0			
Detector 1 Size(ft)	50		50		50	50			
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex			
Detector 1 Channel									
Detector 1 Extend (s)	0.0		0.0		0.0	0.0			
Detector 1 Queue (s)	0.0		0.0		0.0	0.0			
Detector 1 Delay (s)	0.0		0.0		0.0	0.0			
Turn Type	Prot		NA		pm+pt	NA			
Protected Phases	8		2		1	1 6	4	5	6
Permitted Phases					1 6				
Detector Phase	8		2		1	1 6			
Switch Phase									
Minimum Initial (s)	7.0		10.0		1.0		7.0	1.0	10.0
Minimum Split (s)	24.5		27.5		5.5		22.5	5.5	27.5

Lanes, Volumes, Timings
501: Alabama Ave & Jasper St SE

Existing PM
10/03/2017



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø4	Ø5	Ø6
Total Split (s)	30.0		64.5		5.5		30.0	5.5	64.5
Total Split (%)	30.0%		64.5%		5.5%		30%	6%	65%
Maximum Green (s)	24.5		60.5		1.0		24.5	1.0	60.5
Yellow Time (s)	4.0		4.0		3.0		4.0	3.0	4.0
All-Red Time (s)	1.5		0.0		1.5		1.5	1.5	0.0
Lost Time Adjust (s)	0.0		0.0						
Total Lost Time (s)	5.5		4.0						
Lead/Lag			Lead		Lag			Lag	Lead
Lead-Lag Optimize?			Yes		Yes			Yes	Yes
Vehicle Extension (s)	1.0		1.0		3.0		1.0	1.0	1.0
Recall Mode	Max		C-Max		None		Max	Max	C-Max
Walk Time (s)	7.0		7.0				7.0		7.0
Flash Dont Walk (s)	12.0		6.0				10.0		9.0
Pedestrian Calls (#/hr)	0		0				0		0
Act Effect Green (s)	24.5		60.5			61.0			
Actuated g/C Ratio	0.24		0.60			0.61			
v/c Ratio	0.28		0.36			0.50			
Control Delay	20.1		10.0			3.1			
Queue Delay	0.0		0.0			0.1			
Total Delay	20.1		10.0			3.2			
LOS	C		B			A			
Approach Delay	20.1		10.0			3.2			
Approach LOS	C		B			A			
Queue Length 50th (ft)	38		106			27			
Queue Length 95th (ft)	26		136			34			
Internal Link Dist (ft)	254		315			60			
Turn Bay Length (ft)									
Base Capacity (vph)	462		2015			1667			
Starvation Cap Reductn	0		0			137			
Spillback Cap Reductn	0		0			0			
Storage Cap Reductn	0		0			0			
Reduced v/c Ratio	0.28		0.36			0.55			

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 78 (78%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.51

Intersection Signal Delay: 7.4

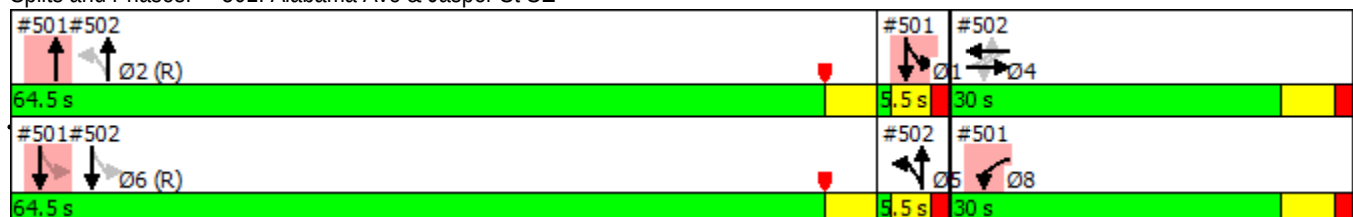
Intersection LOS: A

Intersection Capacity Utilization 54.6%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 501: Alabama Ave & Jasper St SE



Lanes, Volumes, Timings
502: Alabama Ave & Irving St SE

Existing PM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	13	19	21	15	18	8	564	11	21	706	57
Future Volume (vph)	36	13	19	21	15	18	8	564	11	21	706	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor		0.98			0.98			1.00			0.99	
Frt		0.961			0.960			0.994			0.989	
Flt Protected		0.977			0.978			0.999			0.998	
Satd. Flow (prot)	0	1398	0	0	1593	0	0	3160	0	0	3057	0
Flt Permitted		0.830			0.841			0.938			0.910	
Satd. Flow (perm)	0	1181	0	0	1351	0	0	2966	0	0	2786	0
Right Turn on Red			No			No			Yes			Yes
Satd. Flow (RTOR)								8			15	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		363			396			140			554	
Travel Time (s)		9.9			10.8			3.8			15.1	
Confl. Peds. (#/hr)	8		21	21		8	16		9	9		16
Peak Hour Factor	0.90	0.65	0.79	0.44	0.54	0.56	0.67	0.88	0.39	0.66	0.92	0.89
Heavy Vehicles (%)	22%	0%	5%	0%	0%	0%	0%	2%	0%	0%	4%	11%
Bus Blockages (#/hr)	0	3	3	0	0	0	0	0	0	0	0	0
Adj. Flow (vph)	40	20	24	48	28	32	12	641	28	32	767	64
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	84	0	0	108	0	0	681	0	0	863	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.16	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		custom	NA		Perm	NA	
Protected Phases		4			4		5	2 5			6	
Permitted Phases	4			4			2			6		
Detector Phase	4	4		4	4		5	2 5		6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		1.0			10.0	10.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		5.5			27.5	27.5	
Total Split (s)	30.0	30.0		30.0	30.0		5.5			64.5	64.5	

Lane Group	Ø1	Ø2	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Lane Util. Factor			
Ped Bike Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Confl. Peds. (#/hr)			
Peak Hour Factor			
Heavy Vehicles (%)			
Bus Blockages (#/hr)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Number of Detectors			
Detector Template			
Leading Detector (ft)			
Trailing Detector (ft)			
Detector 1 Position(ft)			
Detector 1 Size(ft)			
Detector 1 Type			
Detector 1 Channel			
Detector 1 Extend (s)			
Detector 1 Queue (s)			
Detector 1 Delay (s)			
Turn Type			
Protected Phases	1	2	8
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	1.0	10.0	7.0
Minimum Split (s)	5.5	27.5	24.5
Total Split (s)	5.5	64.5	30.0

Lanes, Volumes, Timings
502: Alabama Ave & Irving St SE

Existing PM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	30.0%	30.0%		30.0%	30.0%		5.5%			64.5%	64.5%	
Maximum Green (s)	24.5	24.5		24.5	24.5		1.0			60.5	60.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0			4.0	4.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5			0.0	0.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		5.5			5.5						4.0	
Lead/Lag							Lag			Lead	Lead	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0			1.0	1.0	
Recall Mode	Max	Max		Max	Max		Max			C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0					9.0	9.0	
Pedestrian Calls (#/hr)	0	0		0	0					0	0	
Act Effect Green (s)		24.5			24.5			62.0			60.5	
Actuated g/C Ratio		0.24			0.24			0.62			0.60	
v/c Ratio		0.29			0.33			0.37			0.51	
Control Delay		34.0			34.4			2.3			12.4	
Queue Delay		0.0			0.0			0.3			0.0	
Total Delay		34.0			34.4			2.5			12.4	
LOS		C			C			A			B	
Approach Delay		34.0			34.4			2.5			12.4	
Approach LOS		C			C			A			B	
Queue Length 50th (ft)		44			57			18			150	
Queue Length 95th (ft)		60			60			26			199	
Internal Link Dist (ft)		283			316			60			474	
Turn Bay Length (ft)												
Base Capacity (vph)		289			330			1844			1691	
Starvation Cap Reductn		0			0			517			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.29			0.33			0.51			0.51	

Intersection Summary

Area Type: CBD
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 78 (78%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.51
 Intersection Signal Delay: 10.9
 Intersection Capacity Utilization 62.9%
 Analysis Period (min) 15

Intersection LOS: B
 ICU Level of Service B

Splits and Phases: 502: Alabama Ave & Irving St SE



Lane Group	Ø1	Ø2	Ø8
Total Split (%)	6%	65%	30%
Maximum Green (s)	1.0	60.5	24.5
Yellow Time (s)	3.0	4.0	4.0
All-Red Time (s)	1.5	0.0	1.5
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Vehicle Extension (s)	3.0	1.0	1.0
Recall Mode	None	C-Max	Max
Walk Time (s)		7.0	7.0
Flash Dont Walk (s)		6.0	12.0
Pedestrian Calls (#/hr)		0	0
Act Effect Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			
Intersection Summary			

Lanes, Volumes, Timings
901: Alabama Ave & 36th PI SE

Existing PM
10/03/2017



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø8
Lane Configurations	W			↑↑	↑↑		
Traffic Volume (vph)	33	22	0	534	580	0	
Future Volume (vph)	33	22	0	534	580	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	9	9	10	10	10	10	
Grade (%)	-4%			-8%	2%		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	
Ped Bike Factor	0.99						
Frt	0.942						
Flt Protected	0.972						
Satd. Flow (prot)	1421	0	0	3004	2835	0	
Flt Permitted	0.972						
Satd. Flow (perm)	1421	0	0	3004	2835	0	
Right Turn on Red		No				Yes	
Satd. Flow (RTOR)							
Link Speed (mph)	25			25	25		
Link Distance (ft)	218			1278	164		
Travel Time (s)	5.9			34.9	4.5		
Confl. Peds. (#/hr)		7	3			3	
Confl. Bikes (#/hr)				1			
Peak Hour Factor	0.69	0.61	0.25	0.91	0.89	0.25	
Heavy Vehicles (%)	0%	0%	0%	5%	4%	0%	
Bus Blockages (#/hr)	0	0	0	0	9	9	
Adj. Flow (vph)	48	36	0	587	652	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	84	0	0	587	652	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(ft)	9			0	0		
Link Offset(ft)	0			0	0		
Crosswalk Width(ft)	16			16	16		
Two way Left Turn Lane							
Headway Factor	1.27	1.27	1.19	1.19	1.29	1.26	
Turning Speed (mph)	20	15	20			15	
Number of Detectors	1			1	1		
Detector Template	Left			Thru	Thru		
Leading Detector (ft)	50			50	50		
Trailing Detector (ft)	0			0	0		
Detector 1 Position(ft)	0			0	0		
Detector 1 Size(ft)	50			50	50		
Detector 1 Type	Cl+Ex			Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)	0.0			0.0	0.0		
Detector 1 Queue (s)	0.0			0.0	0.0		
Detector 1 Delay (s)	0.0			0.0	0.0		
Turn Type	Prot			NA	NA		
Protected Phases	4			6	2	8	
Permitted Phases							
Detector Phase	4			6	2		



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø8
Switch Phase							
Minimum Initial (s)	7.0			10.0	10.0		10.0
Minimum Split (s)	21.0			24.0	24.0		21.0
Total Split (s)	28.0			72.0	72.0		28.0
Total Split (%)	28.0%			72.0%	72.0%		28%
Maximum Green (s)	22.0			66.0	66.0		22.0
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)	-2.0			-2.0	-2.0		
Total Lost Time (s)	4.0			4.0	4.0		
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0			1.0	1.0		3.0
Recall Mode	None			C-Max	C-Max		None
Walk Time (s)	7.0			7.0	7.0		7.0
Flash Dont Walk (s)	8.0			6.0	6.0		8.0
Pedestrian Calls (#/hr)	0			0	0		0
Act Effct Green (s)	13.3			82.1	82.1		
Actuated g/C Ratio	0.13			0.82	0.82		
v/c Ratio	0.44			0.24	0.28		
Control Delay	46.5			0.9	0.4		
Queue Delay	0.0			0.0	0.2		
Total Delay	46.5			0.9	0.5		
LOS	D			A	A		
Approach Delay	46.5			0.9	0.5		
Approach LOS	D			A	A		
Queue Length 50th (ft)	50			15	1		
Queue Length 95th (ft)	69			m22	1		
Internal Link Dist (ft)	138			1198	84		
Turn Bay Length (ft)							
Base Capacity (vph)	341			2465	2326		
Starvation Cap Reductn	0			0	801		
Spillback Cap Reductn	0			0	0		
Storage Cap Reductn	0			0	0		
Reduced v/c Ratio	0.25			0.24	0.43		
Intersection Summary							
Area Type:	CBD						
Cycle Length: 100							
Actuated Cycle Length: 100							
Offset: 88 (88%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow							
Natural Cycle: 45							
Control Type: Actuated-Coordinated							
Maximum v/c Ratio: 0.44							
Intersection Signal Delay: 3.6				Intersection LOS: A			
Intersection Capacity Utilization 31.7%				ICU Level of Service A			
Analysis Period (min) 15							
m Volume for 95th percentile queue is metered by upstream signal.							

Splits and Phases: 901: Alabama Ave & 36th PI SE



Lanes, Volumes, Timings
902: Alabama Ave & 36th PI SE

Existing PM
10/03/2017

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø4
Lane Configurations	W		W		W		
Traffic Volume (vph)	2	5	552	15	3	578	
Future Volume (vph)	2	5	552	15	3	578	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	10	10	10	10	10	
Grade (%)	0%		2%			2%	
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95	
Ped Bike Factor	0.99		1.00			1.00	
Frt	0.904		0.994				
Flt Protected	0.986						
Satd. Flow (prot)	1408	0	2821	0	0	2875	
Flt Permitted	0.986					0.950	
Satd. Flow (perm)	1408	0	2821	0	0	2731	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)	10		9				
Link Speed (mph)	25		25			25	
Link Distance (ft)	270		164			481	
Travel Time (s)	7.4		4.5			13.1	
Confl. Peds. (#/hr)		1		2	2		
Confl. Bikes (#/hr)			1				
Peak Hour Factor	0.50	0.50	0.91	0.63	0.50	0.89	
Heavy Vehicles (%)	0%	0%	5%	0%	50%	4%	
Bus Blockages (#/hr)	0	0	4	4	0	0	
Adj. Flow (vph)	4	10	607	24	6	649	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	14	0	631	0	0	655	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Right	Left	Left	
Median Width(ft)	10		0			0	
Link Offset(ft)	0		0			0	
Crosswalk Width(ft)	16		16			16	
Two way Left Turn Lane							
Headway Factor	1.25	1.25	1.28	1.26	1.26	1.26	
Number of Detectors	1		1		1	1	
Detector Template	Left		Thru		Left	Thru	
Leading Detector (ft)	50		50		50	50	
Trailing Detector (ft)	0		0		0	0	
Detector 1 Position(ft)	0		0		0	0	
Detector 1 Size(ft)	50		50		50	50	
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0		0.0		0.0	0.0	
Detector 1 Queue (s)	0.0		0.0		0.0	0.0	
Detector 1 Delay (s)	0.0		0.0		0.0	0.0	
Turn Type	Perm		NA		Perm	NA	
Protected Phases			6			2	4
Permitted Phases	8				2		
Detector Phase	8		6		2	2	
Switch Phase							

Lanes, Volumes, Timings
902: Alabama Ave & 36th PI SE

Existing PM
10/03/2017



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø4
Minimum Initial (s)	10.0		10.0		10.0	10.0	7.0
Minimum Split (s)	21.0		24.0		24.0	24.0	21.0
Total Split (s)	28.0		72.0		72.0	72.0	28.0
Total Split (%)	28.0%		72.0%		72.0%	72.0%	28%
Maximum Green (s)	22.0		66.0		66.0	66.0	22.0
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)	-2.0		-2.0			-2.0	
Total Lost Time (s)	4.0		4.0			4.0	
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0		1.0		1.0	1.0	3.0
Recall Mode	None		C-Max		C-Max	C-Max	None
Walk Time (s)	7.0		7.0		7.0	7.0	7.0
Flash Dont Walk (s)	8.0		6.0		6.0	6.0	8.0
Pedestrian Calls (#/hr)	0		0		0	0	0
Act Effect Green (s)	13.2		82.1			82.1	
Actuated g/C Ratio	0.13		0.82			0.82	
v/c Ratio	0.07		0.27			0.29	
Control Delay	23.3		1.0			0.8	
Queue Delay	0.0		0.2			0.0	
Total Delay	23.3		1.2			0.8	
LOS	C		A			A	
Approach Delay	23.3		1.2			0.8	
Approach LOS	C		A			A	
Queue Length 50th (ft)	2		16			2	
Queue Length 95th (ft)	9		20			m4	
Internal Link Dist (ft)	190		84			401	
Turn Bay Length (ft)							
Base Capacity (vph)	345		2316			2241	
Starvation Cap Reductn	0		912			0	
Spillback Cap Reductn	0		0			0	
Storage Cap Reductn	0		0			0	
Reduced v/c Ratio	0.04		0.45			0.29	

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 88 (88%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Natural Cycle: 45

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.44

Intersection Signal Delay: 1.2

Intersection LOS: A

Intersection Capacity Utilization 35.2%

ICU Level of Service A

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 902: Alabama Ave & 36th PI SE



Lanes, Volumes, Timings
1: Alabama Ave & Randle PI SE

Future AM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	153	1	20	3	0	1	0	258	0	5	352	0
Future Volume (vph)	153	1	20	3	0	1	0	258	0	5	352	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	30		0	0		0	0		0	0		50
Storage Lanes	1		0	0		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	1.00
Ped Bike Factor	0.82				0.89						1.00	
Frt		0.867			0.946							
Flt Protected	0.950				0.971						0.999	
Satd. Flow (prot)	1533	1346	0	0	874	0	0	2937	0	0	2656	0
Flt Permitted	0.950				0.971						0.944	
Satd. Flow (perm)	1254	1346	0	0	874	0	0	2937	0	0	2502	0
Right Turn on Red			No			No			Yes			Yes
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		341			204			606			883	
Travel Time (s)		9.3			5.6			16.5			24.1	
Confl. Peds. (#/hr)	82					82	72		34	34		72
Peak Hour Factor	0.73	0.25	0.64	0.50	0.25	0.25	0.63	0.93	0.25	0.42	0.83	0.88
Heavy Vehicles (%)	6%	0%	0%	100%	0%	0%	0%	4%	0%	40%	6%	2%
Bus Blockages (#/hr)	0	23	23	0	0	0	0	0	0	0	0	0
Parking (#/hr)								4	4		30	30
Adj. Flow (vph)	210	4	31	6	0	4	0	277	0	12	424	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	210	35	0	0	10	0	0	277	0	0	436	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.29	1.14	1.14	1.14	1.14	1.14	1.24	1.14	1.14	1.35	1.14
Number of Detectors	1	1		1	1			1		1	1	
Detector Template	Left	Thru		Left	Thru			Thru		Left	Thru	
Leading Detector (ft)	50	50		50	50			50		50	50	
Trailing Detector (ft)	0	0		0	0			0		0	0	
Detector 1 Position(ft)	0	0		0	0			0		0	0	
Detector 1 Size(ft)	50	50		50	50			50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Turn Type	Split	NA		Split	NA			NA		Perm	NA	
Protected Phases	8	8		7	7			2			6	
Permitted Phases										6		
Detector Phase	8	8		7	7			2		6	6	

Lanes, Volumes, Timings
1: Alabama Ave & Randle PI SE

Future AM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0			10.0		10.0	10.0	
Minimum Split (s)	22.5	22.5		13.5	13.5			19.5		17.5	17.5	
Total Split (s)	35.0	35.0		15.0	15.0			70.0		70.0	70.0	
Total Split (%)	29.2%	29.2%		12.5%	12.5%			58.3%		58.3%	58.3%	
Maximum Green (s)	28.5	28.5		8.5	8.5			63.5		63.5	63.5	
Yellow Time (s)	4.0	4.0		4.0	4.0			4.0		4.0	4.0	
All-Red Time (s)	2.5	2.5		2.5	2.5			2.5		2.5	2.5	
Lost Time Adjust (s)	-2.5	-2.5			-2.5			-2.5			-2.5	
Total Lost Time (s)	4.0	4.0			4.0			4.0			4.0	
Lead/Lag	Lag	Lag		Lead	Lead							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	1.0	1.0		3.0	3.0			1.0		1.0	1.0	
Recall Mode	Max	Max		None	None			C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0						7.0		7.0	7.0	
Flash Dont Walk (s)	9.0	9.0						6.0		4.0	4.0	
Pedestrian Calls (#/hr)	0	0						0		0	0	
Act Effect Green (s)	43.0	43.0			10.0			66.0			66.0	
Actuated g/C Ratio	0.36	0.36			0.08			0.55			0.55	
v/c Ratio	0.38	0.07			0.14			0.17			0.32	
Control Delay	32.8	28.7			55.2			13.8			9.4	
Queue Delay	0.0	0.0			0.0			0.0			0.0	
Total Delay	32.8	28.7			55.2			13.8			9.4	
LOS	C	C			E			B			A	
Approach Delay		32.2			55.3			13.8			9.4	
Approach LOS		C			E			B			A	

Intersection Summary

Area Type: CBD

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 30 (25%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.38

Intersection Signal Delay: 16.9

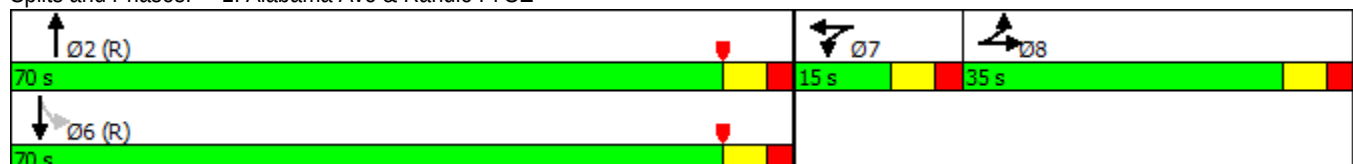
Intersection LOS: B

Intersection Capacity Utilization 32.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 1: Alabama Ave & Randle PI SE



Lanes, Volumes, Timings
2: Alabama Ave & 11th PI SE

Future AM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	3	22	17	9	12	52	604	3	20	786	40
Future Volume (vph)	24	3	22	17	9	12	52	604	3	20	786	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		50	0		50
Storage Lanes	0		0	0		0	0		1	0		1
Taper Length (ft)	25			25			25			25		
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
Ped Bike Factor		0.89			0.93				0.95			0.91
Frt		0.939			0.947				0.850			0.850
Flt Protected		0.978			0.982			0.996			0.998	
Satd. Flow (prot)	0	1400	0	0	1424	0	0	1615	1454	0	1625	1454
Flt Permitted		0.834			0.838			0.862			0.958	
Satd. Flow (perm)	0	1192	0	0	1135	0	0	1398	1379	0	1560	1328
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		29			22				23			26
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		196			302			860			913	
Travel Time (s)		5.3			8.2			23.5			24.9	
Confl. Peds. (#/hr)	1		64	64		1	17		8	8		17
Peak Hour Factor	0.69	0.38	0.63	0.80	0.67	0.55	0.75	0.84	0.38	0.64	0.92	0.66
Heavy Vehicles (%)	0%	0%	0%	6%	0%	18%	0%	6%	0%	6%	5%	0%
Bus Blockages (#/hr)	0	0	0	0	3	3	0	0	0	0	0	0
Adj. Flow (vph)	35	8	35	21	13	22	69	719	8	31	854	61
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	78	0	0	56	0	0	788	8	0	885	61
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.16	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Number of Detectors	1	1		1	1		1	1	1	1	1	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2		2	2		2
Detector Phase	4	4		4	4		2	2	2	2	2	2
Switch Phase												

Lanes, Volumes, Timings
2: Alabama Ave & 11th PI SE

Future AM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	22.5	22.5		22.5	22.5		20.5	20.5	20.5	20.5	20.5	20.5
Total Split (s)	23.0	23.0		23.0	23.0		97.0	97.0	97.0	97.0	97.0	97.0
Total Split (%)	19.2%	19.2%		19.2%	19.2%		80.8%	80.8%	80.8%	80.8%	80.8%	80.8%
Maximum Green (s)	17.5	17.5		17.5	17.5		91.5	91.5	91.5	91.5	91.5	91.5
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)	1.5	1.5		1.5	1.5		1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)		-1.5			-1.5			-1.5	-1.5		-1.5	0.0
Total Lost Time (s)		4.0			4.0			4.0	4.0		4.0	5.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		1.0	1.0	1.0	1.0	1.0	1.0
Recall Mode	None	None		None	None		C-Max	C-Max	C-Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	10.0	10.0		10.0	10.0		8.0	8.0	8.0	8.0	8.0	8.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	0
Act Effect Green (s)		12.3			12.3			103.0	103.0		103.0	101.8
Actuated g/C Ratio		0.10			0.10			0.86	0.86		0.86	0.85
v/c Ratio		0.53			0.41			0.66	0.01		0.66	0.05
Control Delay		45.4			41.7			10.5	0.7		7.0	0.8
Queue Delay		0.0			0.0			0.0	0.0		0.6	0.0
Total Delay		45.4			41.7			10.5	0.7		7.6	0.8
LOS		D			D			B	A		A	A
Approach Delay		45.4			41.7			10.4			7.1	
Approach LOS		D			D			B			A	

Intersection Summary

Area Type: CBD

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 112 (93%), Referenced to phase 2:NBSB, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.66

Intersection Signal Delay: 11.1

Intersection LOS: B

Intersection Capacity Utilization 103.0%

ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 2: Alabama Ave & 11th PI SE



Lanes, Volumes, Timings
3: Alabama Ave & Congress Heights Metro/13th St SE

Future AM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	8	35	89	15	52	30	530	80	50	722	37
Future Volume (vph)	29	8	35	89	15	52	30	530	80	50	722	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	110		50	90		50
Storage Lanes	1		1	0		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
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
Ped Bike Factor	0.95		0.73		0.82				0.81			0.98
Frt			0.850		0.961				0.850			0.850
Flt Protected	0.950				0.973		0.950			0.950		
Satd. Flow (prot)	1518	1500	1411	0	1518	0	1562	1644	1321	1577	1555	1285
Flt Permitted	0.597				0.821		0.217			0.323		
Satd. Flow (perm)	908	1500	1031	0	1084	0	357	1644	1072	536	1555	1253
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			68		16				73			73
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		203			201			913			1021	
Travel Time (s)		5.5			5.5			24.9			27.8	
Confl. Peds. (#/hr)	57		106	106		57	2		43	43		2
Confl. Bikes (#/hr)												1
Peak Hour Factor	0.75	0.88	0.78	0.77	0.50	0.86	0.78	0.86	0.63	0.83	0.91	0.77
Heavy Vehicles (%)	7%	14%	3%	4%	0%	0%	4%	4%	10%	3%	6%	9%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	9	9
Adj. Flow (vph)	39	9	45	116	30	60	38	616	127	60	793	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	39	9	45	0	206	0	38	616	127	60	793	48
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.20	1.20
Number of Detectors	1	1	1	1	1		1	1	1	1	1	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8		8	4			6		6	2		2
Detector Phase	8	8	8	4	4		1	6	6	5	2	2

Lanes, Volumes, Timings
3: Alabama Ave & Congress Heights Metro/13th St SE

Future AM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	24.0	24.0	24.0	29.0	29.0		10.0	23.5	23.5	10.0	29.5	29.5
Total Split (s)	29.0	29.0	29.0	29.0	29.0		11.0	80.0	80.0	11.0	80.0	80.0
Total Split (%)	24.2%	24.2%	24.2%	24.2%	24.2%		9.2%	66.7%	66.7%	9.2%	66.7%	66.7%
Maximum Green (s)	23.0	23.0	23.0	23.0	23.0		6.0	74.5	74.5	6.0	74.5	74.5
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
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		1.0	1.5	1.5	1.0	1.5	1.5
Lost Time Adjust (s)	-2.0	-2.0	-2.0		-2.0		-1.0	-1.5	-1.5	-1.0	-1.5	0.0
Total Lost Time (s)	4.0	4.0	4.0		4.0		4.0	4.0	4.0	4.0	4.0	5.5
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Recall Mode	Max	Max	Max	Max	Max		Max	C-Max	C-Max	Max	C-Max	C-Max
Walk Time (s)				7.0	7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)				16.0	16.0			8.0	8.0		17.0	17.0
Pedestrian Calls (#/hr)				0	0			0	0		0	0
Act Effect Green (s)	25.0	25.0	25.0		25.0		83.0	76.0	76.0	83.0	76.0	74.5
Actuated g/C Ratio	0.21	0.21	0.21		0.21		0.69	0.63	0.63	0.69	0.63	0.62
v/c Ratio	0.21	0.03	0.17		0.87		0.12	0.59	0.18	0.14	0.81	0.06
Control Delay	42.8	38.4	5.4		75.2		7.0	17.6	6.6	4.2	18.7	0.4
Queue Delay	0.0	0.0	0.1		6.8		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.8	38.4	5.5		81.9		7.0	17.6	6.6	4.2	18.7	0.4
LOS	D	D	A		F		A	B	A	A	B	A
Approach Delay		24.3			81.9			15.3			16.7	
Approach LOS		C			F			B			B	

Intersection Summary

Area Type: CBD

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 54 (45%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 23.3

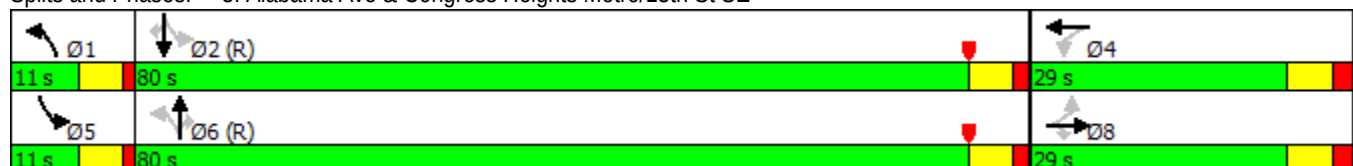
Intersection LOS: C

Intersection Capacity Utilization 79.9%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 3: Alabama Ave & Congress Heights Metro/13th St SE



Lanes, Volumes, Timings
4: Alabama Ave & Stanton Rd SE

Future AM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	119	153	49	192	27	84	460	25	12	576	130
Future Volume (vph)	55	119	153	49	192	27	84	460	25	12	576	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	30		0	30		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor	0.85	0.92		0.95	0.95			0.96			0.90	
Frt		0.921			0.974			0.992			0.970	
Flt Protected	0.950			0.950				0.992			0.999	
Satd. Flow (prot)	1377	1317	0	1400	1495	0	0	2620	0	0	2658	0
Flt Permitted	0.455			0.337				0.649			0.934	
Satd. Flow (perm)	562	1317	0	471	1495	0	0	1686	0	0	2480	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		49			9			8			43	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		385			337			1455			674	
Travel Time (s)		10.5			9.2			39.7			18.4	
Confl. Peds. (#/hr)	136		69	69		136	118		82	82		118
Confl. Bikes (#/hr)												1
Peak Hour Factor	0.85	0.74	0.86	0.79	0.92	0.63	0.76	0.91	0.69	0.69	0.93	0.81
Heavy Vehicles (%)	18%	13%	7%	16%	7%	0%	13%	7%	32%	0%	6%	8%
Parking (#/hr)								14	14			
Adj. Flow (vph)	65	161	178	62	209	43	111	505	36	17	619	160
Shared Lane Traffic (%)												
Lane Group Flow (vph)	65	339	0	62	252	0	0	652	0	0	796	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.28	1.14	1.14	1.14	1.14
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6			2		
Detector Phase	4	4		8	8		6	6		2	2	

Lane Group	Ø12	Ø13
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Parking (#/hr)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Turn Type		
Protected Phases	12	13
Permitted Phases		
Detector Phase		

Lanes, Volumes, Timings
4: Alabama Ave & Stanton Rd SE

Future AM
10/03/2017

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	23.5	23.5		23.5	23.5		23.5	23.5		23.5	23.5	
Total Split (s)	42.0	42.0		42.0	42.0		72.0	72.0		72.0	72.0	
Total Split (%)	35.0%	35.0%		35.0%	35.0%		60.0%	60.0%		60.0%	60.0%	
Maximum Green (s)	36.5	36.5		36.5	36.5		66.5	66.5		66.5	66.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5			-1.5			-1.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Recall Mode	Max	Max		Max	Max		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)	38.0	38.0		38.0	38.0			68.0			68.0	
Actuated g/C Ratio	0.32	0.32		0.32	0.32			0.57			0.57	
v/c Ratio	0.37	0.75		0.42	0.53			0.68			0.56	
Control Delay	39.1	43.3		42.7	37.1			22.3			17.3	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	39.1	43.3		42.7	37.1			22.3			17.3	
LOS	D	D		D	D			C			B	
Approach Delay		42.6			38.2			22.3			17.3	
Approach LOS		D			D			C			B	

Intersection Summary

Area Type: CBD

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 22 (18%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 26.6

Intersection LOS: C

Intersection Capacity Utilization 81.1%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 4: Alabama Ave & Stanton Rd SE



Lane Group	Ø12	Ø13
Switch Phase		
Minimum Initial (s)	1.0	1.0
Minimum Split (s)	3.0	3.0
Total Split (s)	3.0	3.0
Total Split (%)	3%	3%
Maximum Green (s)	1.0	1.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	Max	Max
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		

Lanes, Volumes, Timings
6: Alabama Ave & Naylor Rd SE

Future AM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	124	64	28	894	35	69	274	17	36	408	6
Future Volume (vph)	5	124	64	28	894	35	69	274	17	36	408	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor		0.98			0.99			0.98			0.99	
Frt		0.948			0.993			0.987			0.997	
Flt Protected		0.998			0.998			0.989			0.995	
Satd. Flow (prot)	0	1510	0	0	1612	0	0	2921	0	0	3021	0
Flt Permitted		0.969			0.983			0.590			0.794	
Satd. Flow (perm)	0	1466	0	0	1586	0	0	1722	0	0	2400	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		43			4			8			2	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		318			242			437			498	
Travel Time (s)		8.7			6.6			11.9			13.6	
Confl. Peds. (#/hr)	66		26	26		66	67		35	35		67
Confl. Bikes (#/hr)		1			2							
Peak Hour Factor	0.63	0.84	0.66	0.88	0.98	0.73	0.74	0.91	0.47	0.68	0.83	0.50
Heavy Vehicles (%)	0%	2%	10%	0%	5%	0%	18%	3%	0%	0%	4%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	7	7	0	13	13
Adj. Flow (vph)	8	148	97	32	912	48	93	301	36	53	492	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	253	0	0	992	0	0	430	0	0	557	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.16	1.14	1.14	1.18	1.14
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4			8	8	
Detector Phase	6	6		2	2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	29.5	29.5		31.5	31.5		27.5	27.5		31.5	31.5	

Lane Group	Ø12	Ø13
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Bus Blockages (#/hr)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Turn Type		
Protected Phases	12	13
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	1.0	1.0
Minimum Split (s)	3.0	3.0

Lanes, Volumes, Timings
6: Alabama Ave & Naylor Rd SE

Future AM
10/03/2017

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	72.0	72.0		72.0	72.0		36.0	36.0		36.0	36.0	
Total Split (%)	60.0%	60.0%		60.0%	60.0%		30.0%	30.0%		30.0%	30.0%	
Maximum Green (s)	65.5	65.5		65.5	65.5		29.5	29.5		29.5	29.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)		-2.5			-2.5			-2.5			-2.5	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	16.0	16.0		18.0	18.0		14.0	14.0		18.0	18.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		68.0			68.0			32.0			32.0	
Actuated g/C Ratio		0.57			0.57			0.27			0.27	
v/c Ratio		0.30			1.10			0.92			0.87	
Control Delay		12.2			88.6			69.3			86.6	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		12.2			88.6			69.3			86.6	
LOS		B			F			E			F	
Approach Delay		12.2			88.6			69.3			86.6	
Approach LOS		B			F			E			F	

Intersection Summary

Area Type: CBD

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 45 (38%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.10

Intersection Signal Delay: 75.7

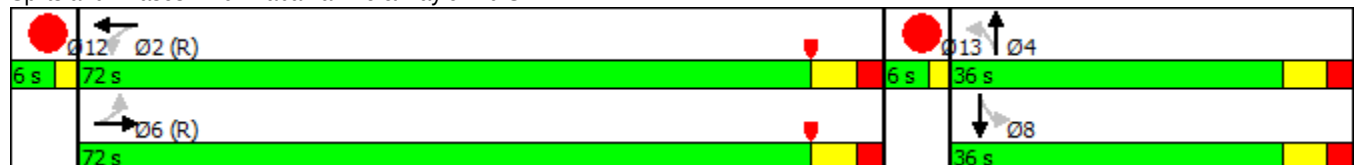
Intersection LOS: E

Intersection Capacity Utilization 117.5%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 6: Alabama Ave & Naylor Rd SE



Lane Group	Ø12	Ø13
Total Split (s)	6.0	6.0
Total Split (%)	5%	5%
Maximum Green (s)	4.0	4.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	Max	Max
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effect Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		

Lanes, Volumes, Timings

Future AM

7: Alabama Ave & Good Hope Rd SE/Good Hope Marketplace

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR2	NBL2	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	171	48	2	25	36	6	12	15	283	4	11	408
Future Volume (vph)	171	48	2	25	36	6	12	15	283	4	11	408
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	50				180		180	120	
Storage Lanes	1		0	1				1		1	1	
Taper Length (ft)	25			25				25			25	
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00
Ped Bike Factor		1.00		1.00	1.00					0.97	0.99	
Frt		0.998			0.982					0.850		
Flt Protected	0.950	0.975		0.950	0.997			0.950			0.950	
Satd. Flow (prot)	1429	1504	0	1543	1590	0	0	1624	3249	1395	1624	1629
Flt Permitted	0.950	0.975		0.950	0.997			0.179			0.504	
Satd. Flow (perm)	1429	1504	0	1537	1590	0	0	306	3249	1349	855	1629
Right Turn on Red			Yes			Yes				Yes		
Satd. Flow (RTOR)		1			164					173		
Link Speed (mph)		25			25				25			25
Link Distance (ft)		325			206				498			2432
Travel Time (s)		8.9			5.6				13.6			66.3
Confl. Peds. (#/hr)			3	3				7		3	3	
Peak Hour Factor	0.84	0.75	1.00	0.75	0.90	1.00	1.00	0.56	0.88	0.75	0.55	0.80
Heavy Vehicles (%)	8%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	10	0	0
Adj. Flow (vph)	204	64	2	33	40	6	12	27	322	5	20	510
Shared Lane Traffic (%)	35%			10%								
Lane Group Flow (vph)	133	137	0	30	49	0	0	39	322	5	20	510
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Left	Right	Left	Left
Median Width(ft)		12			12				12			12
Link Offset(ft)		0			0				0			0
Crosswalk Width(ft)		16			16				16			16
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.20	1.14	1.14
Turning Speed (mph)	20		15	20		15	20	20		15	20	
Number of Detectors	1	2		1	2		1	1	2	1	1	2
Detector Template							Left					
Leading Detector (ft)	50	50		50	50		20	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50		20	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		0			0				0			0
Detector 2 Size(ft)		0			0				0			0
Detector 2 Type		Cl+Ex			Cl+Ex				Cl+Ex			Cl+Ex
Detector 2 Channel												

Future AM 7:30 am 03/02/2017

SJ

Synchro 9 Report

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Lanes, Volumes, Timings
7: Alabama Ave & Good Hope Rd SE/Good Hope Marketplace

Future AM
10/03/2017



Lane Group	SBR	SBR2	SEL2	SEL	SER	SER2
Lane Configurations	FF			FF		
Traffic Volume (vph)	638	21	26	0	15	12
Future Volume (vph)	638	21	26	0	15	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120			0	0	
Storage Lanes	1			1	0	
Taper Length (ft)				25		
Lane Util. Factor	0.88	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.850			0.931		
Flt Protected				0.976		
Satd. Flow (prot)	2484	0	0	1554	0	0
Flt Permitted				0.976		
Satd. Flow (perm)	2484	0	0	1554	0	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	173			173		
Link Speed (mph)				30		
Link Distance (ft)				266		
Travel Time (s)				6.0		
Confl. Peds. (#/hr)	7					
Peak Hour Factor	0.89	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	5	0	0	0	0	0
Adj. Flow (vph)	717	21	26	0	15	12
Shared Lane Traffic (%)						
Lane Group Flow (vph)	738	0	0	53	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Right	Right	Left	Left	Right	Right
Median Width(ft)				12		
Link Offset(ft)				0		
Crosswalk Width(ft)				16		
Two way Left Turn Lane						
Headway Factor	1.16	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)	15	15	20	20	15	15
Number of Detectors	1		1	1		
Detector Template						
Leading Detector (ft)	50		50	50		
Trailing Detector (ft)	0		0	0		
Detector 1 Position(ft)	0		0	0		
Detector 1 Size(ft)	50		50	50		
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex		
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0		
Detector 1 Queue (s)	0.0		0.0	0.0		
Detector 1 Delay (s)	0.0		0.0	0.0		
Detector 2 Position(ft)						
Detector 2 Size(ft)						
Detector 2 Type						
Detector 2 Channel						

Lanes, Volumes, Timings

Future AM

7: Alabama Ave & Good Hope Rd SE/Good Hope Marketplace

10/03/2017



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR2	NBL2	NBL	NBT	NBR	SBL	SBT
Detector 2 Extend (s)		0.0			0.0				0.0			0.0
Turn Type	Split	NA		Split	NA		Perm	Perm	NA	Perm	Perm	NA
Protected Phases	7	7		4	4				2			6
Permitted Phases							2	2		2	6	
Detector Phase	7	7		4	4		2	2	2	2	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0		7.0	7.0		10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	28.0	28.0		28.0	28.0		20.0	20.0	20.0	20.0	24.0	24.0
Total Split (s)	32.0	32.0		28.0	28.0		48.0	48.0	48.0	48.0	48.0	48.0
Total Split (%)	26.7%	26.7%		23.3%	23.3%		40.0%	40.0%	40.0%	40.0%	40.0%	40.0%
Maximum Green (s)	25.0	25.0		20.0	20.0		41.0	41.0	41.0	41.0	41.0	41.0
Yellow Time (s)	4.0	4.0		5.0	5.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-3.0	-3.0		-3.0	-3.0			-3.0	-3.0	-3.0	-3.0	-3.0
Total Lost Time (s)	4.0	4.0		5.0	5.0			4.0	4.0	4.0	4.0	4.0
Lead/Lag				Lag	Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	3.0	3.0
Minimum Gap (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max		Max	Max		C-Max	C-Max	C-Max	C-Max	C-Max	C-Max
Walk Time (s)	6.0	6.0		6.0	6.0		7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	15.0	15.0		14.0	14.0		6.0	6.0	6.0	6.0	10.0	10.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	0
Act Effect Green (s)	28.0	28.0		25.4	25.4			44.0	44.0	44.0	44.0	44.0
Actuated g/C Ratio	0.23	0.23		0.21	0.21			0.37	0.37	0.37	0.37	0.37
v/c Ratio	0.40	0.39		0.09	0.11			0.35	0.27	0.01	0.06	0.85
Control Delay	43.2	42.4		41.0	0.5			14.6	8.7	0.0	25.5	50.4
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	0.0
Total Delay	43.2	42.4		41.0	0.5			14.6	8.7	0.0	25.5	50.4
LOS	D	D		D	A			B	A	A	C	D
Approach Delay		42.8			15.9				9.2			66.2
Approach LOS		D			B				A			E

Intersection Summary

Area Type: CBD

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 118 (98%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.04

Intersection Signal Delay: 49.2

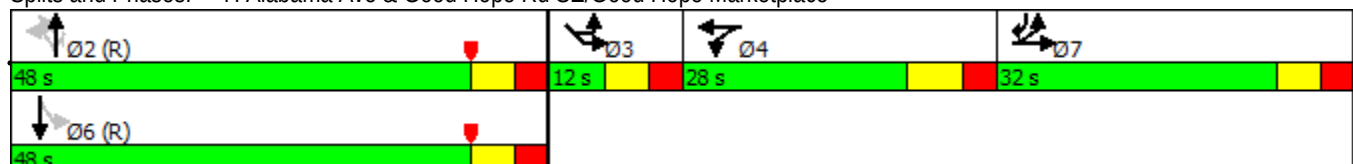
Intersection LOS: D

Intersection Capacity Utilization 56.6%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 7: Alabama Ave & Good Hope Rd SE/Good Hope Marketplace



Lanes, Volumes, Timings
 7: Alabama Ave & Good Hope Rd SE/Good Hope Marketplace

Future AM
 10/03/2017



Lane Group	SBR	SBR2	SEL2	SEL	SER	SER2
Detector 2 Extend (s)						
Turn Type	Over		Prot	Prot		
Protected Phases	7		3	3		
Permitted Phases						
Detector Phase	7		3	3		
Switch Phase						
Minimum Initial (s)	10.0		5.0	5.0		
Minimum Split (s)	28.0		12.0	12.0		
Total Split (s)	32.0		12.0	12.0		
Total Split (%)	26.7%		10.0%	10.0%		
Maximum Green (s)	25.0		5.0	5.0		
Yellow Time (s)	4.0		4.0	4.0		
All-Red Time (s)	3.0		3.0	3.0		
Lost Time Adjust (s)	-3.0			-3.0		
Total Lost Time (s)	4.0			4.0		
Lead/Lag			Lead	Lead		
Lead-Lag Optimize?						
Vehicle Extension (s)	1.0		3.0	3.0		
Minimum Gap (s)	1.0		1.0	1.0		
Time Before Reduce (s)	0.0		3.0	3.0		
Time To Reduce (s)	0.0		0.0	0.0		
Recall Mode	Max		None	None		
Walk Time (s)	6.0					
Flash Dont Walk (s)	15.0					
Pedestrian Calls (#/hr)	0					
Act Effct Green (s)	28.0			8.0		
Actuated g/C Ratio	0.23			0.07		
v/c Ratio	1.04			0.20		
Control Delay	78.2			1.7		
Queue Delay	0.0			0.0		
Total Delay	78.2			1.7		
LOS	E			A		
Approach Delay				1.7		
Approach LOS				A		
Intersection Summary						

Lanes, Volumes, Timings
8: Alabama Ave & Branch Ave SE

Future AM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	213	100	153	527	5	123	377	36	10	639	49
Future Volume (vph)	41	213	100	153	527	5	123	377	36	10	639	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor		0.99			1.00			0.99			1.00	
Frt		0.944			0.998			0.987			0.988	
Flt Protected	0.950			0.950				0.989			0.999	
Satd. Flow (prot)	1593	1513	0	1608	1657	0	0	3062	0	0	2990	0
Flt Permitted	0.180			0.251				0.989			0.999	
Satd. Flow (perm)	302	1513	0	425	1657	0	0	3056	0	0	2990	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		33			1			8			8	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		362			386			2432			1278	
Travel Time (s)		9.9			10.5			66.3			34.9	
Confl. Peds. (#/hr)	10		9	9		10	9		7	7		9
Confl. Bikes (#/hr)	1	1						1			1	
Peak Hour Factor	0.68	0.82	0.64	0.93	0.98	0.63	0.87	0.86	0.67	0.63	0.94	0.82
Heavy Vehicles (%)	2%	7%	3%	1%	3%	0%	1%	1%	0%	10%	6%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	11	11	0	5	5
Adj. Flow (vph)	60	260	156	165	538	8	141	438	54	16	680	60
Shared Lane Traffic (%)												
Lane Group Flow (vph)	60	416	0	165	546	0	0	633	0	0	756	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.18	1.14	1.14	1.16	1.14
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA		Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases	6			2								
Detector Phase	1	6		5	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	10.0	23.5		10.0	23.5		20.5	20.5		23.5	23.5	

Lanes, Volumes, Timings
8: Alabama Ave & Branch Ave SE

Future AM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	11.0	38.0		14.0	41.0		21.0	21.0		27.0	27.0	
Total Split (%)	11.0%	38.0%		14.0%	41.0%		21.0%	21.0%		27.0%	27.0%	
Maximum Green (s)	6.0	32.5		9.0	35.5		15.5	15.5		21.5	21.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.5		1.0	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	-1.0	-1.5		-1.0	-1.5			-1.5			-1.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Recall Mode	Max	C-Max		Max	C-Max		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		8.0			9.0		8.0	8.0		9.0	9.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effect Green (s)	41.0	34.0		47.0	37.0			17.0			23.0	
Actuated g/C Ratio	0.41	0.34		0.47	0.37			0.17			0.23	
v/c Ratio	0.28	0.78		0.52	0.89			1.20			1.09	
Control Delay	17.9	38.7		21.3	48.5			144.6			94.9	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	17.9	38.7		21.3	48.5			144.6			94.9	
LOS	B	D		C	D			F			F	
Approach Delay		36.1			42.2			144.6			94.9	
Approach LOS		D			D			F			F	

Intersection Summary

Area Type: CBD
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 87 (87%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.20
 Intersection Signal Delay: 81.7
 Intersection Capacity Utilization 87.3%
 Analysis Period (min) 15
 Intersection LOS: F
 ICU Level of Service E

Splits and Phases: 8: Alabama Ave & Branch Ave SE

			
Ø1	Ø2 (R)	Ø4	Ø3
11 s	41 s	21 s	27 s
			
Ø5	Ø6 (R)		
14 s	38 s		

Lanes, Volumes, Timings
10: Alabama Ave & 38th St SE

Future AM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	133	98	35	194	39	76	311	8	27	535	1
Future Volume (vph)	7	133	98	35	194	39	76	311	8	27	535	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	13	16	10	10	10	10	10	10	10	10
Grade (%)		-8%			12%			2%			-4%	
Storage Length (ft)	0		0	0		20	0		15	0		0
Storage Lanes	1		0	1		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor	0.99	0.98		0.98	0.99			1.00	0.94		1.00	
Frt		0.934			0.977				0.850		0.999	
Flt Protected	0.950			0.950				0.990			0.996	
Satd. Flow (prot)	1353	1635	0	1518	1422	0	0	1507	1343	0	2916	0
Flt Permitted	0.219			0.280				0.756			0.890	
Satd. Flow (perm)	308	1635	0	440	1422	0	0	1149	1261	0	2603	0
Right Turn on Red			No			Yes			No			Yes
Satd. Flow (RTOR)					8						1	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		248			430			424			293	
Travel Time (s)		6.8			11.7			11.6			8.0	
Confl. Peds. (#/hr)	19		23	23		19	11		15	15		11
Confl. Bikes (#/hr)											1	
Peak Hour Factor	0.44	0.83	0.78	0.58	0.72	0.81	0.72	0.79	0.40	0.56	0.88	0.25
Heavy Vehicles (%)	29%	1%	5%	14%	2%	5%	3%	4%	0%	0%	6%	0%
Adj. Flow (vph)	16	160	126	60	269	48	106	394	20	48	608	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	16	286	0	60	317	0	0	500	20	0	660	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			16			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.06	1.35	1.35	1.26	1.26	1.26	1.22	1.22	1.22
Number of Detectors	1	1		1	1		1	1	1	1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases		2			2			4		3	8	
Permitted Phases	2			2			4		4	8		

Lanes, Volumes, Timings
10: Alabama Ave & 38th St SE

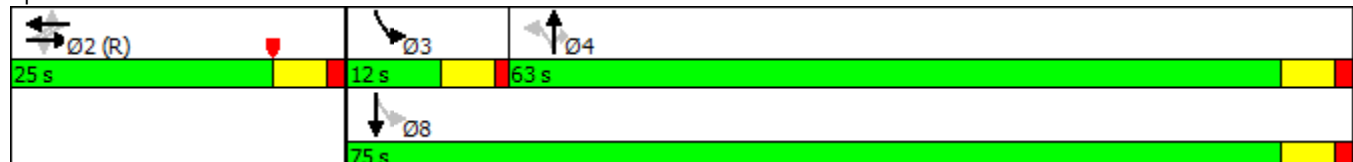
Future AM
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR												
Detector Phase	2	2		2	2		4	4	4	3	8													
Switch Phase																								
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0	10.0	5.0	10.0													
Minimum Split (s)	24.5	24.5		24.5	24.5		23.5	23.5	23.5	10.0	23.5													
Total Split (s)	25.0	25.0		25.0	25.0		63.0	63.0	63.0	12.0	75.0													
Total Split (%)	25.0%	25.0%		25.0%	25.0%		63.0%	63.0%	63.0%	12.0%	75.0%													
Maximum Green (s)	19.5	19.5		19.5	19.5		57.5	57.5	57.5	7.0	69.5													
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)	1.5	1.5		1.5	1.5		1.5	1.5	1.5	1.0	1.5													
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5			-1.5	-1.5		-1.5													
Total Lost Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0													
Lead/Lag							Lag	Lag	Lag	Lead														
Lead-Lag Optimize?							Yes	Yes	Yes	Yes														
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0													
Recall Mode	C-Max	C-Max		C-Max	C-Max		Max	Max	Max	Max	Max													
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0		7.0													
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		11.0	11.0	11.0		8.0													
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0		0													
Act Effect Green (s)	21.0	21.0		21.0	21.0			59.0	59.0		71.0													
Actuated g/C Ratio	0.21	0.21		0.21	0.21			0.59	0.59		0.71													
v/c Ratio	0.25	0.83		0.65	1.04			0.74	0.03		0.35													
Control Delay	44.4	59.7		70.5	102.3			45.8	22.2		6.7													
Queue Delay	0.0	55.4		0.0	0.0			2.7	0.0		0.8													
Total Delay	44.4	115.2		70.5	102.3			48.5	22.2		7.5													
LOS	D	F		E	F			D	C		A													
Approach Delay		111.4			97.3			47.5			7.5													
Approach LOS		F			F			D			A													

Intersection Summary

Area Type: CBD
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 83 (83%), Referenced to phase 2:EBWB, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.04
 Intersection Signal Delay: 53.8
 Intersection Capacity Utilization 75.2%
 Analysis Period (min) 15
 Intersection LOS: D
 ICU Level of Service D

Splits and Phases: 10: Alabama Ave & 38th St SE



Lanes, Volumes, Timings
11: Alabama Ave & Pennsylvania Ave SE

Future AM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	280	3	210	731	28	1	285	71	10	350	50
Future Volume (vph)	76	280	3	210	731	28	1	285	71	10	350	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10	11	11	11	12	12	12
Grade (%)		10%			-2%			4%			-8%	
Storage Length (ft)	0		0	100		0	0		0	0		165
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor	1.00	1.00		0.98	1.00			1.00	0.98		1.00	
Frt		0.995			0.994				0.850		0.980	
Flt Protected	0.950			0.950				0.999			0.998	
Satd. Flow (prot)	1440	2705	0	1516	2929	0	0	1587	1240	0	3157	0
Flt Permitted	0.950			0.950				0.994			0.865	
Satd. Flow (perm)	1438	2705	0	1486	2929	0	0	1579	1213	0	2736	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			5				94			17
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		286			487			293			768	
Travel Time (s)		6.5			11.1			6.7			17.5	
Confl. Peds. (#/hr)	2		22	22		2	5		7	7		5
Confl. Bikes (#/hr)											1	
Peak Hour Factor	0.89	0.82	0.25	0.74	0.87	0.78	0.25	0.81	0.72	0.50	0.86	0.78
Heavy Vehicles (%)	0%	6%	0%	1%	4%	0%	0%	2%	11%	0%	5%	2%
Adj. Flow (vph)	85	341	12	284	840	36	4	352	99	20	407	64
Shared Lane Traffic (%)												
Lane Group Flow (vph)	85	353	0	284	876	0	0	356	99	0	491	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.33	1.33	1.33	1.23	1.23	1.23	1.22	1.22	1.22	1.09	1.09	1.09
Number of Detectors	1	1		1	1		1	1	1	1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	Split	NA		Split	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	2	2		1	1			8	1		4	
Permitted Phases							8		8	4		

Lanes, Volumes, Timings
11: Alabama Ave & Pennsylvania Ave SE

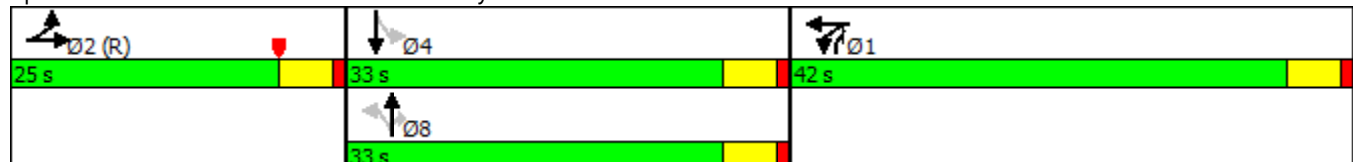
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		1	1		8	8	1	4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	7.0	10.0	7.0	7.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		12.5	12.5	25.0	25.5	25.5	
Total Split (s)	25.0	25.0		42.0	42.0		33.0	33.0	42.0	33.0	33.0	
Total Split (%)	25.0%	25.0%		42.0%	42.0%		33.0%	33.0%	42.0%	33.0%	33.0%	
Maximum Green (s)	20.0	20.0		37.0	37.0		28.0	28.0	37.0	28.0	28.0	
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)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0	-1.0		-1.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0		3.0	3.0	1.0	3.0	3.0	
Recall Mode	C-Max	C-Max		Max	Max		None	None	Max	None	None	
Walk Time (s)	7.0	7.0		7.0	7.0				7.0	7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0				13.0	13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0				0	0	0	
Act Effect Green (s)	21.0	21.0		40.4	40.4			26.6	67.0		26.6	
Actuated g/C Ratio	0.21	0.21		0.40	0.40			0.27	0.67		0.27	
v/c Ratio	0.28	0.62		0.46	0.74			0.85	0.12		0.66	
Control Delay	36.2	41.0		25.8	30.4			40.0	3.2		36.0	
Queue Delay	0.0	0.0		0.0	0.0			17.1	0.0		0.0	
Total Delay	36.2	41.0		25.8	30.4			57.1	3.2		36.0	
LOS	D	D		C	C			E	A		D	
Approach Delay		40.1			29.3			45.3			36.0	
Approach LOS		D			C			D			D	

Intersection Summary

Area Type: CBD
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 26 (26%), Referenced to phase 2:EBTL, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.85
 Intersection Signal Delay: 35.3
 Intersection Capacity Utilization 62.5%
 Analysis Period (min) 15
 Intersection LOS: D
 ICU Level of Service B

Splits and Phases: 11: Alabama Ave & Pennsylvania Ave SE



Lanes, Volumes, Timings
12: Alabama Ave & Ridge Rd SE

Future AM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	121	92	0	295	10	12	81	0	20	96	20
Future Volume (vph)	8	121	92	0	295	10	12	81	0	20	96	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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
Ped Bike Factor												
Frt		0.937			0.996						0.973	
Flt Protected		0.995						0.991			0.991	
Satd. Flow (prot)	0	1587	0	0	1669	0	0	1681	0	0	1584	0
Flt Permitted		0.995						0.991			0.991	
Satd. Flow (perm)	0	1587	0	0	1669	0	0	1681	0	0	1584	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		426			425			325			289	
Travel Time (s)		11.6			11.6			8.9			7.9	
Confl. Peds. (#/hr)	2					2			3	3		
Confl. Bikes (#/hr)		1	2									
Peak Hour Factor	0.25	0.90	0.63	0.67	0.83	0.88	0.50	0.78	0.25	0.59	0.82	0.53
Heavy Vehicles (%)	0%	1%	0%	0%	2%	3%	0%	1%	0%	0%	5%	5%
Adj. Flow (vph)	32	134	146	0	355	11	24	104	0	34	117	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	312	0	0	366	0	0	128	0	0	189	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Sign Control		Stop			Stop			Stop			Stop	
Intersection Summary												
Area Type:	CBD											
Control Type:	Unsignalized											
Intersection Capacity Utilization	39.0%											
Analysis Period (min)	15											
ICU Level of Service A												

HCM Unsignalized Intersection Capacity Analysis 12: Alabama Ave & Ridge Rd SE

Future AM
10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	8	121	92	0	295	10	12	81	0	20	96	20
Future Volume (vph)	8	121	92	0	295	10	12	81	0	20	96	20
Peak Hour Factor	0.25	0.90	0.63	0.67	0.83	0.88	0.50	0.78	0.25	0.59	0.82	0.53
Hourly flow rate (vph)	32	134	146	0	355	11	24	104	0	34	117	38
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	312	366	128	189								
Volume Left (vph)	32	0	24	34								
Volume Right (vph)	146	11	0	38								
Hadj (s)	-0.25	0.02	0.05	-0.01								
Departure Headway (s)	5.2	5.4	6.2	6.0								
Degree Utilization, x	0.45	0.55	0.22	0.31								
Capacity (veh/h)	641	632	497	534								
Control Delay (s)	12.5	14.8	10.9	11.7								
Approach Delay (s)	12.5	14.8	10.9	11.7								
Approach LOS	B	B	B	B								
Intersection Summary												
Delay				13.0								
Level of Service				B								
Intersection Capacity Utilization				39.0%	ICU Level of Service	A						
Analysis Period (min)				15								

Lanes, Volumes, Timings
501: Alabama Ave & Jasper St SE

Future AM
10/03/2017

							Ø4	Ø5	Ø6
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT			
Lane Configurations									
Traffic Volume (vph)	41	50	583	40	42	582			
Future Volume (vph)	41	50	583	40	42	582			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900			
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95			
Ped Bike Factor	0.97		0.99			1.00			
Frt	0.932		0.989						
Flt Protected	0.976					0.996			
Satd. Flow (prot)	1694	0	3168	0	0	3395			
Flt Permitted	0.976					0.823			
Satd. Flow (perm)	1635	0	3168	0	0	2793			
Right Turn on Red		Yes		Yes					
Satd. Flow (RTOR)	39		16						
Link Speed (mph)	30		25			25			
Link Distance (ft)	334		395			140			
Travel Time (s)	7.6		10.8			3.8			
Confl. Peds. (#/hr)	37			38	38				
Peak Hour Factor	0.61	0.73	0.94	0.79	0.63	0.83			
Heavy Vehicles (%)	0%	4%	6%	11%	5%	6%			
Bus Blockages (#/hr)	0	0	21	21	0	0			
Adj. Flow (vph)	67	68	620	51	67	701			
Shared Lane Traffic (%)									
Lane Group Flow (vph)	135	0	671	0	0	768			
Enter Blocked Intersection	No	No	No	No	No	No			
Lane Alignment	Left	Right	Left	Right	Left	Left			
Median Width(ft)	12		0			0			
Link Offset(ft)	0		0			0			
Crosswalk Width(ft)	16		16			16			
Two way Left Turn Lane									
Headway Factor	1.00	1.00	1.06	1.00	1.00	1.00			
Turning Speed (mph)	20	15		15	20				
Number of Detectors	1		1		1	1			
Detector Template	Left		Thru		Left	Thru			
Leading Detector (ft)	50		50		50	50			
Trailing Detector (ft)	0		0		0	0			
Detector 1 Position(ft)	0		0		0	0			
Detector 1 Size(ft)	50		50		50	50			
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex			
Detector 1 Channel									
Detector 1 Extend (s)	0.0		0.0		0.0	0.0			
Detector 1 Queue (s)	0.0		0.0		0.0	0.0			
Detector 1 Delay (s)	0.0		0.0		0.0	0.0			
Turn Type	Prot		NA		custom	NA			
Protected Phases	8		2		1	1 6	4	5	6
Permitted Phases					6				
Detector Phase	8		2		1	1 6			
Switch Phase									
Minimum Initial (s)	7.0		10.0		1.0		7.0	1.0	10.0
Minimum Split (s)	24.5		27.5		5.5		24.5	5.5	27.5

Lanes, Volumes, Timings
501: Alabama Ave & Jasper St SE

Future AM
10/03/2017



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø4	Ø5	Ø6
Total Split (s)	31.0		83.5		5.5		31.0	5.5	83.5
Total Split (%)	25.8%		69.6%		4.6%		26%	5%	70%
Maximum Green (s)	25.5		79.5		1.0		25.5	1.0	79.5
Yellow Time (s)	4.0		4.0		3.0		4.0	3.0	4.0
All-Red Time (s)	1.5		0.0		1.5		1.5	1.5	0.0
Lost Time Adjust (s)	-1.5		-1.5						
Total Lost Time (s)	4.0		2.5						
Lead/Lag			Lead		Lag			Lag	Lead
Lead-Lag Optimize?			Yes		Yes			Yes	Yes
Vehicle Extension (s)	1.0		1.0		1.0		1.0	1.0	1.0
Recall Mode	Max		C-Max		Max		Max	Max	C-Max
Walk Time (s)	7.0		7.0				7.0		7.0
Flash Dont Walk (s)	12.0		6.0				10.0		9.0
Pedestrian Calls (#/hr)	0		0				0		0
Act Effect Green (s)	27.0		81.0			83.0			
Actuated g/C Ratio	0.22		0.68			0.69			
v/c Ratio	0.33		0.31			0.40			
Control Delay	29.9		8.3			4.0			
Queue Delay	0.0		0.0			0.3			
Total Delay	29.9		8.3			4.4			
LOS	C		A			A			
Approach Delay	29.9		8.3			4.4			
Approach LOS	C		A			A			

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 103 (86%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.47

Intersection Signal Delay: 8.2

Intersection LOS: A

Intersection Capacity Utilization 50.7%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 501: Alabama Ave & Jasper St SE



Lanes, Volumes, Timings
502: Alabama Ave & Irving St SE

Future AM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	5	24	20	19	30	20	596	17	23	580	152
Future Volume (vph)	45	5	24	20	19	30	20	596	17	23	580	152
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor		0.97			0.98			1.00			0.99	
Frt		0.949			0.940			0.995			0.958	
Flt Protected		0.973			0.988			0.998			0.998	
Satd. Flow (prot)	0	1436	0	0	1556	0	0	3107	0	0	2902	0
Flt Permitted		0.798			0.919			0.889			0.914	
Satd. Flow (perm)	0	1162	0	0	1441	0	0	2767	0	0	2657	0
Right Turn on Red			No			No			Yes			Yes
Satd. Flow (RTOR)								6			104	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		363			396			140			554	
Travel Time (s)		9.9			10.8			3.8			15.1	
Confl. Peds. (#/hr)	16		12	12		16	7		4	4		7
Peak Hour Factor	0.75	0.63	0.58	0.79	0.56	0.64	0.68	0.97	0.80	0.79	0.98	0.63
Heavy Vehicles (%)	13%	0%	0%	0%	0%	0%	0%	4%	0%	0%	5%	8%
Bus Blockages (#/hr)	0	3	3	0	0	0	0	0	0	0	0	0
Adj. Flow (vph)	60	8	41	25	34	47	29	614	21	29	592	241
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	109	0	0	106	0	0	664	0	0	862	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.16	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		custom	NA		Perm	NA	
Protected Phases		4			4		5	2 5			6	
Permitted Phases	4			4			2			6		
Detector Phase	4	4		4	4		5	2 5		6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		1.0			10.0	10.0	
Minimum Split (s)	24.5	24.5		24.5	24.5		5.5			27.5	27.5	
Total Split (s)	31.0	31.0		31.0	31.0		5.5			83.5	83.5	

Lane Group	Ø1	Ø2	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Lane Util. Factor			
Ped Bike Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Confl. Peds. (#/hr)			
Peak Hour Factor			
Heavy Vehicles (%)			
Bus Blockages (#/hr)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Number of Detectors			
Detector Template			
Leading Detector (ft)			
Trailing Detector (ft)			
Detector 1 Position(ft)			
Detector 1 Size(ft)			
Detector 1 Type			
Detector 1 Channel			
Detector 1 Extend (s)			
Detector 1 Queue (s)			
Detector 1 Delay (s)			
Turn Type			
Protected Phases	1	2	8
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	1.0	10.0	7.0
Minimum Split (s)	5.5	27.5	24.5
Total Split (s)	5.5	83.5	31.0

Lanes, Volumes, Timings
502: Alabama Ave & Irving St SE

Future AM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	25.8%	25.8%		25.8%	25.8%		4.6%			69.6%	69.6%	
Maximum Green (s)	25.5	25.5		25.5	25.5		1.0			79.5	79.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0			4.0	4.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5			0.0	0.0	
Lost Time Adjust (s)		-1.5			-1.5						-1.5	
Total Lost Time (s)		4.0			4.0						2.5	
Lead/Lag							Lag			Lead	Lead	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0			1.0	1.0	
Recall Mode	Max	Max		Max	Max		Max			C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0					9.0	9.0	
Pedestrian Calls (#/hr)	0	0		0	0					0	0	
Act Effect Green (s)		27.0			27.0			84.0			81.0	
Actuated g/C Ratio		0.22			0.22			0.70			0.68	
v/c Ratio		0.42			0.33			0.34			0.47	
Control Delay		45.6			42.3			2.3			9.0	
Queue Delay		0.6			0.3			0.3			0.0	
Total Delay		46.1			42.6			2.5			9.0	
LOS		D			D			A			A	
Approach Delay		46.1			42.6			2.5			9.0	
Approach LOS		D			D			A			A	

Intersection Summary

Area Type: CBD

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 103 (86%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.47

Intersection Signal Delay: 10.9

Intersection LOS: B

Intersection Capacity Utilization 63.2%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 502: Alabama Ave & Irving St SE



Lane Group	Ø1	Ø2	Ø8
Total Split (%)	5%	70%	26%
Maximum Green (s)	1.0	79.5	25.5
Yellow Time (s)	3.0	4.0	4.0
All-Red Time (s)	1.5	0.0	1.5
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Vehicle Extension (s)	1.0	1.0	1.0
Recall Mode	Max	C-Max	Max
Walk Time (s)		7.0	7.0
Flash Dont Walk (s)		6.0	12.0
Pedestrian Calls (#/hr)		0	0
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Intersection Summary			

Lanes, Volumes, Timings
901: Alabama Ave & 36th PI SE

Future AM
10/03/2017



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø8
Lane Configurations							
Traffic Volume (vph)	1	0	0	394	657	0	
Future Volume (vph)	1	0	0	394	657	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	9	9	10	10	10	10	
Grade (%)	-4%			-8%	2%		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	
Ped Bike Factor							
Frt							
Flt Protected	0.950						
Satd. Flow (prot)	1491	0	0	3062	2804	0	
Flt Permitted	0.950						
Satd. Flow (perm)	1491	0	0	3062	2804	0	
Right Turn on Red		No				Yes	
Satd. Flow (RTOR)							
Link Speed (mph)	25			25	25		
Link Distance (ft)	218			1278	164		
Travel Time (s)	5.9			34.9	4.5		
Confl. Peds. (#/hr)		5	6			6	
Peak Hour Factor	0.25	0.25	0.25	0.87	0.92	0.25	
Heavy Vehicles (%)	0%	0%	0%	3%	6%	0%	
Bus Blockages (#/hr)	0	0	0	0	5	5	
Adj. Flow (vph)	4	0	0	453	714	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	4	0	0	453	714	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(ft)	9			0	0		
Link Offset(ft)	0			0	0		
Crosswalk Width(ft)	16			16	16		
Two way Left Turn Lane							
Headway Factor	1.27	1.27	1.19	1.19	1.28	1.26	
Turning Speed (mph)	20	15	20			15	
Number of Detectors	1			1	1		
Detector Template	Left			Thru	Thru		
Leading Detector (ft)	50			50	50		
Trailing Detector (ft)	0			0	0		
Detector 1 Position(ft)	0			0	0		
Detector 1 Size(ft)	50			50	50		
Detector 1 Type	Cl+Ex			Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)	0.0			0.0	0.0		
Detector 1 Queue (s)	0.0			0.0	0.0		
Detector 1 Delay (s)	0.0			0.0	0.0		
Turn Type	Prot			NA	NA		
Protected Phases	4			6	2		8
Permitted Phases							
Detector Phase	4			6	2		
Switch Phase							

Lanes, Volumes, Timings
901: Alabama Ave & 36th PI SE

Future AM
10/03/2017



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø8
Minimum Initial (s)	7.0			10.0	10.0		10.0
Minimum Split (s)	21.0			24.0	24.0		21.0
Total Split (s)	21.0			79.0	79.0		21.0
Total Split (%)	21.0%			79.0%	79.0%		21%
Maximum Green (s)	15.0			73.0	73.0		15.0
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)	-2.0			-2.0	-2.0		
Total Lost Time (s)	4.0			4.0	4.0		
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0			1.0	1.0		3.0
Recall Mode	None			C-Max	C-Max		None
Walk Time (s)	7.0			7.0	7.0		7.0
Flash Dont Walk (s)	8.0			6.0	6.0		8.0
Pedestrian Calls (#/hr)	0			0	0		0
Act Effect Green (s)	9.8			83.8	83.8		
Actuated g/C Ratio	0.10			0.84	0.84		
v/c Ratio	0.03			0.18	0.30		
Control Delay	40.0			0.4	1.3		
Queue Delay	0.0			0.0	0.2		
Total Delay	40.0			0.4	1.5		
LOS	D			A	A		
Approach Delay	40.0			0.4	1.5		
Approach LOS	D			A	A		

Intersection Summary

Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 98 (98%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
Natural Cycle: 45
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.36
Intersection Signal Delay: 1.2
Intersection Capacity Utilization 33.7%
Analysis Period (min) 15

Intersection LOS: A
ICU Level of Service A

Splits and Phases: 901: Alabama Ave & 36th PI SE



Lanes, Volumes, Timings
902: Alabama Ave & 36th PI SE

Future AM
10/03/2017



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø4
Lane Configurations	W		T			T	
Traffic Volume (vph)	16	14	381	14	27	641	
Future Volume (vph)	16	14	381	14	27	641	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	10	10	10	10	10	
Grade (%)	0%		2%			2%	
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95	
Ped Bike Factor	0.98		1.00			1.00	
Frt	0.909		0.991				
Flt Protected	0.984					0.996	
Satd. Flow (prot)	1403	0	2816	0	0	2825	
Flt Permitted	0.984					0.883	
Satd. Flow (perm)	1403	0	2816	0	0	2501	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)	41		19				
Link Speed (mph)	25		25			25	
Link Distance (ft)	270		164			481	
Travel Time (s)	7.4		4.5			13.1	
Confl. Peds. (#/hr)		7		8	8		
Peak Hour Factor	0.80	0.34	0.87	0.50	0.50	0.92	
Heavy Vehicles (%)	0%	0%	3%	0%	4%	6%	
Bus Blockages (#/hr)	0	0	12	12	0	0	
Adj. Flow (vph)	20	41	438	28	54	697	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	61	0	466	0	0	751	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Right	Left	Left	
Median Width(ft)	10		0			0	
Link Offset(ft)	0		0			0	
Crosswalk Width(ft)	16		16			16	
Two way Left Turn Lane							
Headway Factor	1.25	1.25	1.30	1.26	1.26	1.26	
Number of Detectors	1		1		1	1	
Detector Template	Left		Thru		Left	Thru	
Leading Detector (ft)	50		50		50	50	
Trailing Detector (ft)	0		0		0	0	
Detector 1 Position(ft)	0		0		0	0	
Detector 1 Size(ft)	50		50		50	50	
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0		0.0		0.0	0.0	
Detector 1 Queue (s)	0.0		0.0		0.0	0.0	
Detector 1 Delay (s)	0.0		0.0		0.0	0.0	
Turn Type	Perm		NA		Perm	NA	
Protected Phases			6			2	4
Permitted Phases	8				2		
Detector Phase	8		6		2	2	
Switch Phase							
Minimum Initial (s)	10.0		10.0		10.0	10.0	7.0

Lanes, Volumes, Timings
902: Alabama Ave & 36th PI SE

Future AM
10/03/2017



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø4
Minimum Split (s)	21.0		24.0		24.0	24.0	21.0
Total Split (s)	21.0		79.0		79.0	79.0	21.0
Total Split (%)	21.0%		79.0%		79.0%	79.0%	21%
Maximum Green (s)	15.0		73.0		73.0	73.0	15.0
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)	-2.0		-2.0			-2.0	
Total Lost Time (s)	4.0		4.0			4.0	
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0		1.0		1.0	1.0	3.0
Recall Mode	None		C-Max		C-Max	C-Max	None
Walk Time (s)	7.0		7.0		7.0	7.0	7.0
Flash Dont Walk (s)	8.0		6.0		6.0	6.0	8.0
Pedestrian Calls (#/hr)	0		0		0	0	0
Act Effect Green (s)	12.2		83.8			83.8	
Actuated g/C Ratio	0.12		0.84			0.84	
v/c Ratio	0.29		0.20			0.36	
Control Delay	22.6		0.5			4.5	
Queue Delay	0.0		0.3			0.0	
Total Delay	22.6		0.7			4.5	
LOS	C		A			A	
Approach Delay	22.6		0.7			4.5	
Approach LOS	C		A			A	

Intersection Summary

Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 98 (98%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
Natural Cycle: 45
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.36
Intersection Signal Delay: 4.0 Intersection LOS: A
Intersection Capacity Utilization 52.0% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 902: Alabama Ave & 36th PI SE



Lanes, Volumes, Timings
1: Alabama Ave & Randle PI SE

Future PM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	251	2	43	14	0	13	0	339	8	2	432	0
Future Volume (vph)	251	2	43	14	0	13	0	339	8	2	432	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	30		0	0		0	0		0	0		50
Storage Lanes	1		0	0		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	1.00
Ped Bike Factor	0.70				0.84			0.99			1.00	
Frt		0.861			0.940			0.995				
Flt Protected	0.950				0.973							
Satd. Flow (prot)	1562	1337	0	0	1311	0	0	2978	0	0	2683	0
Flt Permitted	0.950				0.973						0.953	
Satd. Flow (perm)	1099	1337	0	0	1311	0	0	2978	0	0	2554	0
Right Turn on Red			No			No			Yes			Yes
Satd. Flow (RTOR)								6				
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		341			204			606			883	
Travel Time (s)		9.3			5.6			16.5			24.1	
Confl. Peds. (#/hr)	194					194	104		72	72		104
Peak Hour Factor	0.79	0.50	0.83	0.67	0.31	0.75	0.58	0.91	0.58	0.50	0.88	0.71
Heavy Vehicles (%)	4%	0%	0%	0%	0%	0%	0%	1%	0%	0%	6%	3%
Bus Blockages (#/hr)	0	23	23	0	0	0	0	0	0	0	0	0
Parking (#/hr)								4	4		30	30
Adj. Flow (vph)	318	4	52	21	0	17	0	373	14	4	491	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	318	56	0	0	38	0	0	387	0	0	495	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.29	1.14	1.14	1.14	1.14	1.14	1.24	1.14	1.14	1.35	1.14
Number of Detectors	1	1		1	1			1		1	1	
Detector Template	Left	Thru		Left	Thru			Thru		Left	Thru	
Leading Detector (ft)	50	50		50	50			50		50	50	
Trailing Detector (ft)	0	0		0	0			0		0	0	
Detector 1 Position(ft)	0	0		0	0			0		0	0	
Detector 1 Size(ft)	50	50		50	50			50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Turn Type	Split	NA		Split	NA			NA		Perm	NA	
Protected Phases	8	8		7	7			2			6	
Permitted Phases										6		
Detector Phase	8	8		7	7			2		6	6	

Lanes, Volumes, Timings
1: Alabama Ave & Randle PI SE

Future PM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0			10.0		10.0	10.0	
Minimum Split (s)	22.5	22.5		13.5	13.5			19.5		17.5	17.5	
Total Split (s)	24.0	24.0		14.0	14.0			62.0		62.0	62.0	
Total Split (%)	24.0%	24.0%		14.0%	14.0%			62.0%		62.0%	62.0%	
Maximum Green (s)	17.5	17.5		7.5	7.5			55.5		55.5	55.5	
Yellow Time (s)	4.0	4.0		4.0	4.0			4.0		4.0	4.0	
All-Red Time (s)	2.5	2.5		2.5	2.5			2.5		2.5	2.5	
Lost Time Adjust (s)	-2.5	-2.5			-2.5			-2.5			-2.5	
Total Lost Time (s)	4.0	4.0			4.0			4.0			4.0	
Lead/Lag	Lag	Lag		Lead	Lead							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	1.0	1.0		3.0	3.0			1.0		1.0	1.0	
Recall Mode	Max	Max		None	None			C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0						7.0		7.0	7.0	
Flash Dont Walk (s)	9.0	9.0						6.0		4.0	4.0	
Pedestrian Calls (#/hr)	0	0						0		0	0	
Act Effct Green (s)	25.6	25.6			9.8			58.0			58.0	
Actuated g/C Ratio	0.26	0.26			0.10			0.58			0.58	
v/c Ratio	0.80	0.16			0.30			0.22			0.33	
Control Delay	53.7	34.0			48.3			10.4			10.1	
Queue Delay	0.0	0.0			0.0			0.0			0.0	
Total Delay	53.7	34.0			48.3			10.4			10.1	
LOS	D	C			D			B			B	
Approach Delay		50.7			48.3			10.4			10.1	
Approach LOS		D			D			B			B	

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 53 (53%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 23.0

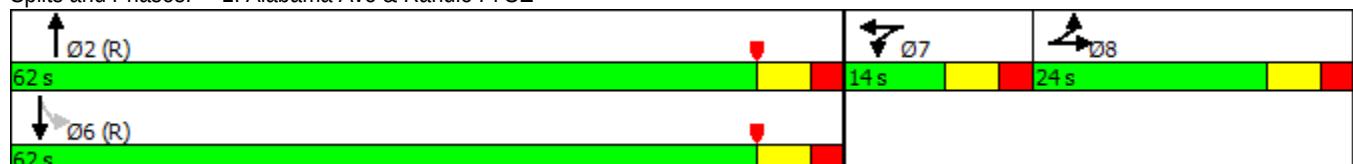
Intersection LOS: C

Intersection Capacity Utilization 43.6%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 1: Alabama Ave & Randle PI SE



Lanes, Volumes, Timings
2: Alabama Ave & 11th PI SE

Future PM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	1	60	11	0	14	5	802	38	15	678	7
Future Volume (vph)	38	1	60	11	0	14	5	802	38	15	678	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		50	0		50
Storage Lanes	0		0	0		0	0		1	0		1
Taper Length (ft)	25			25			25			25		
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
Ped Bike Factor		0.88			0.93				0.97			0.97
Frt		0.921			0.932				0.850			0.850
Flt Protected		0.981			0.976						0.999	
Satd. Flow (prot)	0	1342	0	0	1478	0	0	1693	1454	0	1644	1454
Flt Permitted		0.879			0.782			0.994			0.970	
Satd. Flow (perm)	0	1202	0	0	1106	0	0	1683	1410	0	1597	1405
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		69			27				27			27
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		196			302			860			913	
Travel Time (s)		5.3			8.2			23.5			24.9	
Confl. Peds. (#/hr)			65	65			4		3	3		4
Confl. Bikes (#/hr)								2			1	
Peak Hour Factor	0.73	0.25	0.76	0.50	0.25	0.65	0.63	0.94	0.63	0.70	0.90	0.50
Heavy Vehicles (%)	0%	0%	2%	0%	0%	8%	0%	1%	0%	0%	4%	0%
Bus Blockages (#/hr)	0	0	0	0	3	3	0	0	0	0	0	0
Adj. Flow (vph)	52	4	79	22	0	22	8	853	60	21	753	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	135	0	0	44	0	0	861	60	0	774	14
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.16	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Number of Detectors	1	1		1	1		1	1	1	1	1	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2		2	2		2
Detector Phase	4	4		4	4		2	2	2	2	2	2

Lanes, Volumes, Timings
2: Alabama Ave & 11th PI SE

Future PM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	22.5	22.5		22.5	22.5		20.5	20.5	20.5	20.5	20.5	20.5
Total Split (s)	30.0	30.0		30.0	30.0		70.0	70.0	70.0	70.0	70.0	70.0
Total Split (%)	30.0%	30.0%		30.0%	30.0%		70.0%	70.0%	70.0%	70.0%	70.0%	70.0%
Maximum Green (s)	24.5	24.5		24.5	24.5		64.5	64.5	64.5	64.5	64.5	64.5
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)	1.5	1.5		1.5	1.5		1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)		-1.5			-1.5			-1.5	-1.5		-1.5	0.0
Total Lost Time (s)		4.0			4.0			4.0	4.0		4.0	5.5
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		1.0	1.0	1.0	1.0	1.0	1.0
Recall Mode	None	None		None	None		C-Max	C-Max	C-Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	10.0	10.0		10.0	10.0		8.0	8.0	8.0	8.0	8.0	8.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	0
Act Effect Green (s)		13.4			13.4			78.6	78.6		78.6	77.1
Actuated g/C Ratio		0.13			0.13			0.79	0.79		0.79	0.77
v/c Ratio		0.61			0.26			0.65	0.05		0.62	0.01
Control Delay		32.2			22.8			11.6	1.3		8.3	1.7
Queue Delay		0.0			0.0			0.0	0.0		0.0	0.0
Total Delay		32.2			22.8			11.6	1.3		8.3	1.7
LOS		C			C			B	A		A	A
Approach Delay		32.2			22.8			10.9			8.2	
Approach LOS		C			C			B			A	

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 3 (3%), Referenced to phase 2:NBSB, Start of Yellow

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.65

Intersection Signal Delay: 11.6

Intersection LOS: B

Intersection Capacity Utilization 76.8%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 2: Alabama Ave & 11th PI SE



Lanes, Volumes, Timings
3: Alabama Ave & Congress Heights Metro/13th St SE

Future PM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	7	26	132	14	43	25	767	62	58	542	33
Future Volume (vph)	31	7	26	132	14	43	25	767	62	58	542	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	110		50	90		50
Storage Lanes	1		1	0		0	1		1	1		1
Taper Length (ft)	25			25			50			50		
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
Ped Bike Factor	0.98		0.84		0.86		0.99		0.93			0.96
Frt			0.850		0.972				0.850			0.850
Flt Protected	0.950				0.965		0.950			0.950		
Satd. Flow (prot)	1518	1140	1242	0	1567	0	1624	1693	1454	1624	1570	1198
Flt Permitted	0.639				0.779		0.263			0.111		
Satd. Flow (perm)	998	1140	1049	0	1104	0	447	1693	1353	190	1570	1144
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			82		14				87			87
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		203			201			913			1021	
Travel Time (s)		5.5			5.5			24.9			27.8	
Confl. Peds. (#/hr)	36		83	83		36	12		15	15		12
Confl. Bikes (#/hr)					1			3				
Peak Hour Factor	0.91	0.50	0.75	0.63	0.65	0.71	0.72	0.96	0.73	0.87	0.91	0.83
Heavy Vehicles (%)	7%	50%	17%	0%	15%	0%	0%	1%	0%	0%	5%	17%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	9	9
Adj. Flow (vph)	34	14	35	210	22	61	35	799	85	67	596	40
Shared Lane Traffic (%)												
Lane Group Flow (vph)	34	14	35	0	293	0	35	799	85	67	596	40
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.20	1.20
Number of Detectors	1	1	1	1	1		1	1	1	1	1	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50	50	50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8		8	4			6		6	2		2
Detector Phase	8	8	8	4	4		1	6	6	5	2	2

Lanes, Volumes, Timings
3: Alabama Ave & Congress Heights Metro/13th St SE

Future PM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	24.0	24.0	24.0	29.0	29.0		10.0	23.5	23.5	10.0	29.5	29.5
Total Split (s)	34.0	34.0	34.0	34.0	34.0		11.0	55.0	55.0	11.0	55.0	55.0
Total Split (%)	34.0%	34.0%	34.0%	34.0%	34.0%		11.0%	55.0%	55.0%	11.0%	55.0%	55.0%
Maximum Green (s)	28.0	28.0	28.0	28.0	28.0		6.0	49.5	49.5	6.0	49.5	49.5
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
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		1.0	1.5	1.5	1.0	1.5	1.5
Lost Time Adjust (s)	-2.0	-2.0	-2.0		-2.0		-1.0	-1.5	-1.5	-1.0	-1.5	0.0
Total Lost Time (s)	4.0	4.0	4.0		4.0		4.0	4.0	4.0	4.0	4.0	5.5
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Recall Mode	Max	Max	Max	Max	Max		Max	C-Max	C-Max	Max	C-Max	C-Max
Walk Time (s)				7.0	7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)				16.0	16.0			8.0	8.0		17.0	17.0
Pedestrian Calls (#/hr)				0	0			0	0		0	0
Act Effect Green (s)	30.0	30.0	30.0		30.0		58.0	51.0	51.0	58.0	51.0	49.5
Actuated g/C Ratio	0.30	0.30	0.30		0.30		0.58	0.51	0.51	0.58	0.51	0.50
v/c Ratio	0.11	0.04	0.09		0.86		0.10	0.93	0.12	0.32	0.74	0.07
Control Delay	26.8	25.4	0.5		56.7		8.6	30.9	3.9	13.7	21.2	1.0
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.8	25.4	0.5		56.7		8.6	30.9	3.9	13.7	21.2	1.0
LOS	C	C	A		E		A	C	A	B	C	A
Approach Delay		15.5			56.7			27.6			19.4	
Approach LOS		B			E			C			B	

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 90 (90%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 28.4

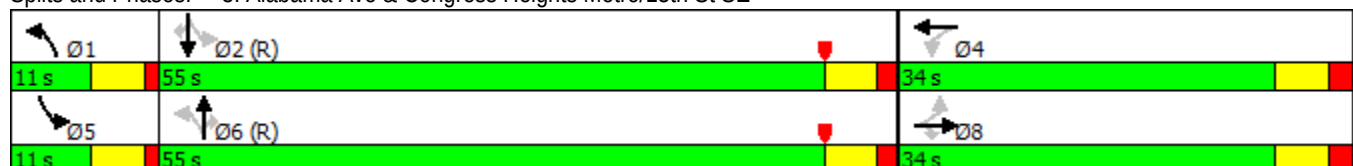
Intersection LOS: C

Intersection Capacity Utilization 78.3%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 3: Alabama Ave & Congress Heights Metro/13th St SE



Lanes, Volumes, Timings
4: Alabama Ave & Stanton Rd SE

Future PM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	149	143	29	111	44	138	736	65	10	536	78
Future Volume (vph)	70	149	143	29	111	44	138	736	65	10	536	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	30		0	30		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor	0.92	0.89		0.92	0.95			0.96			0.94	
Frt		0.925			0.945			0.988			0.979	
Flt Protected	0.950			0.950				0.992			0.998	
Satd. Flow (prot)	1547	1345	0	1354	1418	0	0	2763	0	0	2832	0
Flt Permitted	0.527			0.320				0.662			0.901	
Satd. Flow (perm)	786	1345	0	418	1418	0	0	1809	0	0	2556	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		50			29			14			30	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		385			337			1454			674	
Travel Time (s)		10.5			9.2			39.7			18.4	
Confl. Peds. (#/hr)	73		117	117		73	109		79	79		109
Confl. Bikes (#/hr)			1		1		1				5	
Peak Hour Factor	0.74	0.88	0.85	0.69	0.88	0.60	0.80	0.94	0.81	0.45	0.94	0.82
Heavy Vehicles (%)	5%	7%	3%	20%	10%	5%	5%	2%	9%	11%	5%	10%
Parking (#/hr)								14	14			
Adj. Flow (vph)	95	169	168	42	126	73	173	783	80	22	570	95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	95	337	0	42	199	0	0	1036	0	0	687	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.28	1.14	1.14	1.14	1.14
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6			2		
Detector Phase	4	4		8	8		6	6		2	2	

Lane Group	Ø12	Ø13
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Parking (#/hr)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Turn Type		
Protected Phases	12	13
Permitted Phases		
Detector Phase		

Lanes, Volumes, Timings
4: Alabama Ave & Stanton Rd SE

Future PM
10/03/2017

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	23.5	23.5		23.5	23.5		23.5	23.5		23.5	23.5	
Total Split (s)	33.0	33.0		33.0	33.0		61.0	61.0		61.0	61.0	
Total Split (%)	33.0%	33.0%		33.0%	33.0%		61.0%	61.0%		61.0%	61.0%	
Maximum Green (s)	27.5	27.5		27.5	27.5		55.5	55.5		55.5	55.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5			-1.5			-1.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Recall Mode	Max	Max		Max	Max		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)	29.0	29.0		29.0	29.0			57.0			57.0	
Actuated g/C Ratio	0.29	0.29		0.29	0.29			0.57			0.57	
v/c Ratio	0.42	0.79		0.35	0.46			1.00			0.47	
Control Delay	35.6	43.0		37.8	28.8			33.8			13.3	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	35.6	43.0		37.8	28.8			33.8			13.3	
LOS	D	D		D	C			C			B	
Approach Delay		41.4			30.4			33.8			13.3	
Approach LOS		D			C			C			B	

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 63 (63%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.00

Intersection Signal Delay: 28.9

Intersection LOS: C

Intersection Capacity Utilization 90.8%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 4: Alabama Ave & Stanton Rd SE



Lane Group	Ø12	Ø13
Switch Phase		
Minimum Initial (s)	1.0	1.0
Minimum Split (s)	3.0	3.0
Total Split (s)	3.0	3.0
Total Split (%)	3%	3%
Maximum Green (s)	1.0	1.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	Max	Max
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		

Lanes, Volumes, Timings
6: Alabama Ave & Naylor Rd SE

Future PM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	454	79	20	282	73	52	438	30	109	435	8
Future Volume (vph)	11	454	79	20	282	73	52	438	30	109	435	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor		0.99			0.96			0.98			0.99	
Frt		0.979			0.970			0.988			0.996	
Flt Protected		0.999			0.996			0.995			0.988	
Satd. Flow (prot)	0	1607	0	0	1526	0	0	3019	0	0	3017	0
Flt Permitted		0.983			0.932			0.707			0.591	
Satd. Flow (perm)	0	1579	0	0	1426	0	0	2140	0	0	1785	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			20			9			3	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		318			242			437			498	
Travel Time (s)		8.7			6.6			11.9			13.6	
Confl. Peds. (#/hr)	108		46	46		108	35		63	63		35
Confl. Bikes (#/hr)								1				
Peak Hour Factor	0.69	0.96	0.89	0.56	0.89	0.71	0.76	0.87	0.63	0.73	0.92	0.44
Heavy Vehicles (%)	0%	2%	9%	5%	6%	0%	10%	2%	3%	0%	4%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	7	7	0	13	13
Adj. Flow (vph)	16	473	89	36	317	103	68	503	48	149	473	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	578	0	0	456	0	0	619	0	0	640	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.16	1.14	1.14	1.18	1.14
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8	8	
Detector Phase	2	2		6	6		4	4		8	8	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	31.5	31.5		29.5	29.5		27.5	27.5		31.5	31.5	

Lane Group	Ø12	Ø13
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Bus Blockages (#/hr)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Turn Type		
Protected Phases	12	13
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	1.0	1.0
Minimum Split (s)	3.0	3.0

Lanes, Volumes, Timings
6: Alabama Ave & Naylor Rd SE

Future PM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	52.0	52.0		52.0	52.0		36.0	36.0		36.0	36.0	
Total Split (%)	52.0%	52.0%		52.0%	52.0%		36.0%	36.0%		36.0%	36.0%	
Maximum Green (s)	45.5	45.5		45.5	45.5		29.5	29.5		29.5	29.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)		-2.5			-2.5			-2.5			-2.5	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	18.0	18.0		16.0	16.0		14.0	14.0		18.0	18.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		48.0			48.0			32.0			32.0	
Actuated g/C Ratio		0.48			0.48			0.32			0.32	
v/c Ratio		0.76			0.66			0.90			1.12	
Control Delay		28.5			24.4			49.7			107.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		28.5			24.4			49.7			107.2	
LOS		C			C			D			F	
Approach Delay		28.5			24.4			49.7			107.2	
Approach LOS		C			C			D			F	

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 95 (95%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.12

Intersection Signal Delay: 55.4

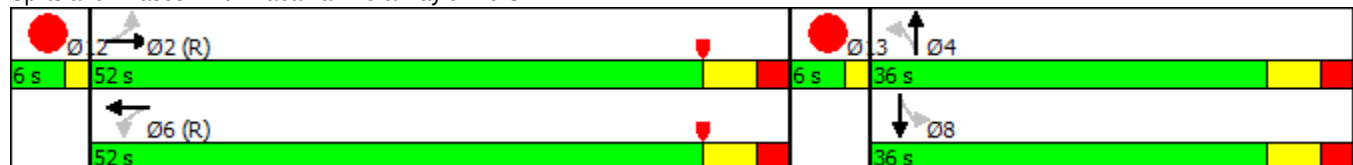
Intersection LOS: E

Intersection Capacity Utilization 84.7%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 6: Alabama Ave & Naylor Rd SE



Lane Group	Ø12	Ø13
Total Split (s)	6.0	6.0
Total Split (%)	6%	6%
Maximum Green (s)	4.0	4.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	Max	Max
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effect Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		

Lanes, Volumes, Timings
7: Alabama Ave & Good Hope Rd SE/Good Hope Marketplace

Future PM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR2	NBL2	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	545	115	11	68	130	32	14	43	448	17	18	418
Future Volume (vph)	545	115	11	68	130	32	14	43	448	17	18	418
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	50				100		100	120	
Storage Lanes	1		0	1				1		1	1	
Taper Length (ft)	25			25				50			50	
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00
Ped Bike Factor	0.99	0.99		0.99	1.00					0.86	0.96	
Frt		0.996			0.980					0.850		
Flt Protected	0.950	0.967		0.950	0.998			0.950			0.950	
Satd. Flow (prot)	1513	1542	0	1543	1576	0	0	1624	3217	1395	1624	1644
Flt Permitted	0.950	0.967		0.950	0.998			0.118			0.322	
Satd. Flow (perm)	1503	1535	0	1525	1575	0	0	202	3217	1197	530	1644
Right Turn on Red			Yes			Yes				Yes		
Satd. Flow (RTOR)		1			164					173		
Link Speed (mph)		25			25				25			25
Link Distance (ft)		328			206				498			2449
Travel Time (s)		8.9			5.6				13.6			66.8
Confl. Peds. (#/hr)	5		14	14				19		27	27	
Confl. Bikes (#/hr)								1				
Peak Hour Factor	0.67	0.81	0.92	0.70	0.67	1.00	1.00	0.90	0.90	0.57	0.56	0.73
Heavy Vehicles (%)	2%	0%	0%	0%	1%	0%	0%	0%	1%	0%	0%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	10	0	0
Adj. Flow (vph)	813	142	12	97	194	32	14	48	498	30	32	573
Shared Lane Traffic (%)	41%			10%								
Lane Group Flow (vph)	480	487	0	87	236	0	0	62	498	30	32	573
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Left	Right	Left	Left
Median Width(ft)		12			12				12			12
Link Offset(ft)		0			0				0			0
Crosswalk Width(ft)		16			16				16			16
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.20	1.14	1.14
Turning Speed (mph)	20		15	20		15	20	20		15	20	
Number of Detectors	1	1		1	1		1	1	1	1	1	1
Detector Template	Left	Thru		Left	Thru		Left	Left	Thru	Right	Left	Thru
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Split	NA		Split	NA		Perm	Perm	NA	Perm	Perm	NA
Protected Phases	7	7		4	4				2			6
Permitted Phases							2	2		2	6	



Lane Group	SBR	SBR2	SEL2	SEL	SER	SER2
Lane Configurations	FF			FF		
Traffic Volume (vph)	292	56	65	0	55	3
Future Volume (vph)	292	56	65	0	55	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120			0	0	
Storage Lanes	1			1	0	
Taper Length (ft)				25		
Lane Util. Factor	0.88	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.850			0.936		
Flt Protected				0.974		
Satd. Flow (prot)	2511	0	0	1559	0	0
Flt Permitted				0.974		
Satd. Flow (perm)	2511	0	0	1559	0	0
Right Turn on Red		Yes			Yes	
Satd. Flow (RTOR)	173			173		
Link Speed (mph)				25		
Link Distance (ft)				274		
Travel Time (s)				7.5		
Confl. Peds. (#/hr)	19					
Confl. Bikes (#/hr)						
Peak Hour Factor	0.78	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	5	0	0	0	0	0
Adj. Flow (vph)	374	56	65	0	55	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	430	0	0	123	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Right	Right	Left	Left	Right	Right
Median Width(ft)				12		
Link Offset(ft)				0		
Crosswalk Width(ft)				16		
Two way Left Turn Lane						
Headway Factor	1.16	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)	15	15	20	20	15	15
Number of Detectors	1		1	1		
Detector Template	Right		Left	Left		
Leading Detector (ft)	50		50	50		
Trailing Detector (ft)	0		0	0		
Detector 1 Position(ft)	0		0	0		
Detector 1 Size(ft)	50		50	50		
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex		
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0		
Detector 1 Queue (s)	0.0		0.0	0.0		
Detector 1 Delay (s)	0.0		0.0	0.0		
Turn Type	Over		Prot	Prot		
Protected Phases	7		3	3		
Permitted Phases						

Lanes, Volumes, Timings

Future PM

7: Alabama Ave & Good Hope Rd SE/Good Hope Marketplace

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR2	NBL2	NBL	NBT	NBR	SBL	SBT
Detector Phase	7	7		4	4		2	2	2	2	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0	10.0	10.0	5.0	5.0
Minimum Split (s)	29.0	29.0		28.0	28.0		20.0	20.0	20.0	20.0	24.0	24.0
Total Split (s)	42.0	42.0		28.0	28.0		38.0	38.0	38.0	38.0	38.0	38.0
Total Split (%)	35.0%	35.0%		23.3%	23.3%		31.7%	31.7%	31.7%	31.7%	31.7%	31.7%
Maximum Green (s)	35.0	35.0		20.0	20.0		31.0	31.0	31.0	31.0	31.0	31.0
Yellow Time (s)	4.0	4.0		5.0	5.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-3.0	-3.0		-3.0	-3.0			-3.0	-3.0	-3.0	-3.0	-3.0
Total Lost Time (s)	4.0	4.0		5.0	5.0			4.0	4.0	4.0	4.0	4.0
Lead/Lag				Lag	Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Recall Mode	Max	Max		Max	Max		C-Max	C-Max	C-Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0		6.0	6.0		7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	15.0	15.0		14.0	14.0		6.0	6.0	6.0	6.0	10.0	10.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	0
Act Effect Green (s)	38.0	38.0		23.0	23.0			34.0	34.0	34.0	34.0	34.0
Actuated g/C Ratio	0.32	0.32		0.19	0.19			0.28	0.28	0.28	0.28	0.28
v/c Ratio	1.00	1.00		0.29	0.54			1.09	0.55	0.06	0.21	1.23
Control Delay	83.1	81.7		44.7	19.3			189.0	39.2	0.3	37.4	159.6
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	0.0
Total Delay	83.1	81.7		44.7	19.3			189.0	39.2	0.3	37.4	159.6
LOS	F	F		D	B			F	D	A	D	F
Approach Delay		82.4			26.2				52.9			98.2
Approach LOS		F			C				D			F

Intersection Summary

Area Type: CBD

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 111 (93%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 135

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.23

Intersection Signal Delay: 73.1

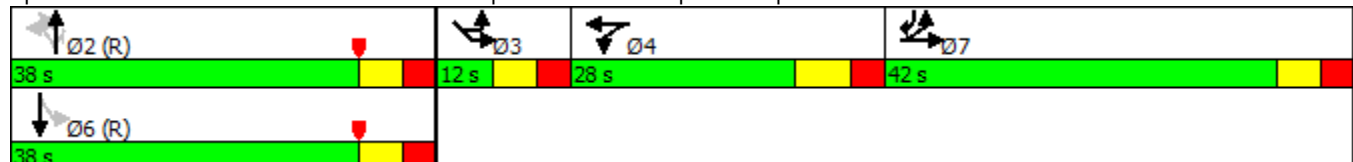
Intersection LOS: E

Intersection Capacity Utilization 95.4%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 7: Alabama Ave & Good Hope Rd SE/Good Hope Marketplace



Lanes, Volumes, Timings
 7: Alabama Ave & Good Hope Rd SE/Good Hope Marketplace

Future PM
 10/03/2017



Lane Group	SBR	SBR2	SEL2	SEL	SER	SER2
Detector Phase	7		3	3		
Switch Phase						
Minimum Initial (s)	7.0		5.0	5.0		
Minimum Split (s)	29.0		12.0	12.0		
Total Split (s)	42.0		12.0	12.0		
Total Split (%)	35.0%		10.0%	10.0%		
Maximum Green (s)	35.0		5.0	5.0		
Yellow Time (s)	4.0		4.0	4.0		
All-Red Time (s)	3.0		3.0	3.0		
Lost Time Adjust (s)	-3.0			-3.0		
Total Lost Time (s)	4.0			4.0		
Lead/Lag			Lead	Lead		
Lead-Lag Optimize?						
Vehicle Extension (s)	1.0		3.0	3.0		
Recall Mode	Max		None	None		
Walk Time (s)	7.0					
Flash Dont Walk (s)	15.0					
Pedestrian Calls (#/hr)	0					
Act Effct Green (s)	38.0			8.0		
Actuated g/C Ratio	0.32			0.07		
v/c Ratio	0.47			0.46		
Control Delay	20.9			8.2		
Queue Delay	0.0			0.0		
Total Delay	20.9			8.2		
LOS	C			A		
Approach Delay				8.2		
Approach LOS				A		
Intersection Summary						

Lanes, Volumes, Timings
8: Alabama Ave & Branch Ave SE

Future PM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	117	421	42	86	272	23	78	493	76	52	446	14
Future Volume (vph)	117	421	42	86	272	23	78	493	76	52	446	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor	1.00	1.00			1.00							
Frt		0.976			0.985			0.983			0.995	
Flt Protected	0.950			0.950				0.994			0.993	
Satd. Flow (prot)	1593	1636	0	1624	1651	0	0	3057	0	0	3077	0
Flt Permitted	0.362			0.124				0.994			0.993	
Satd. Flow (perm)	605	1636	0	212	1651	0	0	3057	0	0	3077	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			6			13			3	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		362			386			2449			1278	
Travel Time (s)		9.9			10.5			66.8			34.9	
Confl. Peds. (#/hr)	4		5	5		4						
Peak Hour Factor	0.83	0.88	0.45	0.82	0.84	0.64	0.93	0.84	0.88	0.65	0.95	0.70
Heavy Vehicles (%)	2%	2%	0%	0%	2%	0%	0%	2%	0%	0%	4%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	11	11	0	5	5
Adj. Flow (vph)	141	478	93	105	324	36	84	587	86	80	469	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	141	571	0	105	360	0	0	757	0	0	569	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.18	1.14	1.14	1.16	1.14
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	pm+pt	NA		pm+pt	NA		Split	NA		Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases	6			2								
Detector Phase	1	6		5	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	10.0	23.5		10.0	23.5		20.5	20.5		21.5	21.5	
Total Split (s)	11.0	40.0		11.0	40.0		27.0	27.0		22.0	22.0	

Lanes, Volumes, Timings
8: Alabama Ave & Branch Ave SE

Future PM
10/03/2017

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	11.0%	40.0%		11.0%	40.0%		27.0%	27.0%		22.0%	22.0%	
Maximum Green (s)	6.0	34.5		6.0	34.5		21.5	21.5		16.5	16.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.5		1.0	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	-1.0	-1.5		-1.0	-1.5			-1.5			-1.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Recall Mode	Max	C-Max		Max	C-Max		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		8.0			9.0		8.0	8.0		9.0	9.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effect Green (s)	43.0	36.0		43.0	36.0			23.0			18.0	
Actuated g/C Ratio	0.43	0.36		0.43	0.36			0.23			0.18	
v/c Ratio	0.43	0.96		0.55	0.60			1.06			1.02	
Control Delay	20.2	60.0		26.7	30.8			88.8			86.0	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	20.2	60.0		26.7	30.8			88.8			86.0	
LOS	C	E		C	C			F			F	
Approach Delay		52.1			29.9			88.8			86.0	
Approach LOS		D			C			F			F	

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 14 (14%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.06

Intersection Signal Delay: 66.8

Intersection LOS: E

Intersection Capacity Utilization 82.3%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 8: Alabama Ave & Branch Ave SE

Ø1	Ø2 (R)	Ø4	Ø3
11 s	40 s	27 s	22 s
Ø5	Ø6 (R)		
11 s	40 s		

Lanes, Volumes, Timings
10: Alabama Ave & 38th St SE

Future PM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	256	70	9	227	25	60	492	10	38	507	6
Future Volume (vph)	13	256	70	9	227	25	60	492	10	38	507	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	13	16	10	10	10	10	10	10	10	10
Grade (%)		-8%			12%			2%			-4%	
Storage Length (ft)	30		0	30		0	0		15	0		0
Storage Lanes	1		0	1		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor	0.99	0.98		0.98	1.00			1.00	0.93		1.00	
Frt		0.967			0.985				0.850		0.998	
Flt Protected	0.950			0.950				0.994			0.996	
Satd. Flow (prot)	1616	1735	0	1731	1421	0	0	1527	1343	0	2959	0
Flt Permitted	0.248			0.174				0.858			0.838	
Satd. Flow (perm)	417	1735	0	311	1421	0	0	1317	1254	0	2490	0
Right Turn on Red			No			Yes			No			Yes
Satd. Flow (RTOR)					5						3	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		248			430			424			293	
Travel Time (s)		6.8			11.7			11.6			8.0	
Confl. Peds. (#/hr)	18		39	39		18	3		17	17		3
Confl. Bikes (#/hr)					1			1			1	
Peak Hour Factor	0.36	0.80	0.78	0.75	0.78	0.75	0.78	0.87	0.63	0.77	0.87	0.75
Heavy Vehicles (%)	8%	1%	0%	0%	4%	0%	2%	3%	0%	3%	4%	0%
Adj. Flow (vph)	36	320	90	12	291	33	77	566	16	49	583	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	36	410	0	12	324	0	0	643	16	0	640	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			16			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.06	1.35	1.35	1.26	1.26	1.26	1.22	1.22	1.22
Number of Detectors	1	1		1	1		1	1	1	1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases		2			2			4		3	8	
Permitted Phases	2			2			4		4	8		

Lanes, Volumes, Timings
10: Alabama Ave & 38th St SE

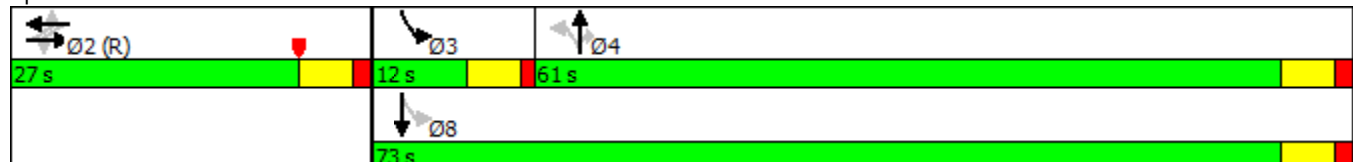
Future PM
10/03/2017

																								
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR												
Detector Phase	2	2		2	2		4	4	4	3	8													
Switch Phase																								
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0	10.0	5.0	10.0													
Minimum Split (s)	24.5	24.5		24.5	24.5		23.5	23.5	23.5	10.0	23.5													
Total Split (s)	27.0	27.0		27.0	27.0		61.0	61.0	61.0	12.0	73.0													
Total Split (%)	27.0%	27.0%		27.0%	27.0%		61.0%	61.0%	61.0%	12.0%	73.0%													
Maximum Green (s)	21.5	21.5		21.5	21.5		55.5	55.5	55.5	7.0	67.5													
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)	1.5	1.5		1.5	1.5		1.5	1.5	1.5	1.0	1.5													
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5			-1.5	-1.5		-1.5													
Total Lost Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0													
Lead/Lag							Lag	Lag	Lag	Lead														
Lead-Lag Optimize?							Yes	Yes	Yes	Yes														
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0													
Recall Mode	C-Max	C-Max		C-Max	C-Max		Max	Max	Max	Max	Max													
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0		7.0													
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		11.0	11.0	11.0		8.0													
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0		0													
Act Effect Green (s)	23.0	23.0		23.0	23.0			57.0	57.0		69.0													
Actuated g/C Ratio	0.23	0.23		0.23	0.23			0.57	0.57		0.69													
v/c Ratio	0.38	1.03		0.17	0.98			0.86	0.02		0.36													
Control Delay	45.8	91.6		37.9	84.6			25.9	6.2		2.2													
Queue Delay	0.0	29.4		0.0	0.0			6.1	0.0		0.5													
Total Delay	45.8	121.1		37.9	84.6			32.0	6.2		2.7													
LOS	D	F		D	F			C	A		A													
Approach Delay		115.0			82.9			31.4			2.7													
Approach LOS		F			F			C			A													

Intersection Summary

Area Type: CBD
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 51 (51%), Referenced to phase 2:EBWB, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.03
 Intersection Signal Delay: 48.8
 Intersection LOS: D
 Intersection Capacity Utilization 79.9%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 10: Alabama Ave & 38th St SE



Lanes, Volumes, Timings
11: Alabama Ave & Pennsylvania Ave SE

Future PM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	98	988	5	115	378	20	0	354	176	31	431	71
Future Volume (vph)	98	988	5	115	378	20	0	354	176	31	431	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10	11	11	11	12	12	12
Grade (%)		10%			-2%			4%			-8%	
Storage Length (ft)	0		0	100		0	0		0	0		165
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	25			25			25			50		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor	1.00	1.00		0.98	1.00				0.98		1.00	
Frt		0.999			0.990				0.850		0.976	
Flt Protected	0.950			0.950							0.997	
Satd. Flow (prot)	1426	2848	0	1531	2999	0	0	1573	1324	0	3199	0
Flt Permitted	0.950			0.950							0.728	
Satd. Flow (perm)	1423	2848	0	1507	2999	0	0	1573	1293	0	2335	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			7				22		21	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		286			487			293			768	
Travel Time (s)		6.5			11.1			6.7			17.5	
Confl. Peds. (#/hr)	2		45	45		2	3		8	8		3
Peak Hour Factor	0.84	0.96	0.50	0.79	0.80	0.63	0.25	0.93	0.78	0.78	0.91	0.73
Heavy Vehicles (%)	1%	1%	0%	0%	1%	0%	0%	3%	4%	0%	2%	6%
Adj. Flow (vph)	117	1029	10	146	473	32	0	381	226	40	474	97
Shared Lane Traffic (%)												
Lane Group Flow (vph)	117	1039	0	146	505	0	0	381	226	0	611	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.33	1.33	1.33	1.23	1.23	1.23	1.22	1.22	1.22	1.09	1.09	1.09
Number of Detectors	1	1		1	1			1	1	1	1	
Detector Template	Left	Thru		Left	Thru			Thru	Right	Left	Thru	
Leading Detector (ft)	50	50		50	50			50	50	50	50	
Trailing Detector (ft)	0	0		0	0			0	0	0	0	
Detector 1 Position(ft)	0	0		0	0			0	0	0	0	
Detector 1 Size(ft)	50	50		50	50			50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Turn Type	Split	NA		Split	NA			NA	pm+ov	Perm	NA	
Protected Phases	2	2		1	1			8	1		4	
Permitted Phases									8	4		
Detector Phase	2	2		1	1			8	1	4	4	

Lanes, Volumes, Timings
11: Alabama Ave & Pennsylvania Ave SE

Future PM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0			7.0	10.0	7.0	7.0	
Minimum Split (s)	25.5	25.5		25.0	25.0			12.5	25.0	25.5	25.5	
Total Split (s)	40.0	40.0		30.0	30.0			30.0	30.0	30.0	30.0	
Total Split (%)	40.0%	40.0%		30.0%	30.0%			30.0%	30.0%	30.0%	30.0%	
Maximum Green (s)	35.0	35.0		25.0	25.0			25.0	25.0	25.0	25.0	
Yellow Time (s)	4.0	4.0		4.0	4.0			4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0			1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0	-1.0		-1.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0			3.0	1.0	3.0	3.0	
Recall Mode	C-Max	C-Max		Max	Max			None	Max	None	None	
Walk Time (s)	7.0	7.0		7.0	7.0				7.0	7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0				13.0	13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0				0	0	0	
Act Effect Green (s)	36.0	36.0		26.0	26.0			26.0	52.0		26.0	
Actuated g/C Ratio	0.36	0.36		0.26	0.26			0.26	0.52		0.26	
v/c Ratio	0.23	1.01		0.37	0.64			0.93	0.33		0.98	
Control Delay	23.8	64.3		33.5	36.9			54.4	4.0		68.7	
Queue Delay	0.0	33.0		0.0	0.0			45.4	0.1		0.0	
Total Delay	23.8	97.3		33.5	36.9			99.8	4.1		68.7	
LOS	C	F		C	D			F	A		E	
Approach Delay		89.9			36.1			64.2			68.7	
Approach LOS		F			D			E			E	

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 74 (74%), Referenced to phase 2:EBTL, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.01

Intersection Signal Delay: 68.9

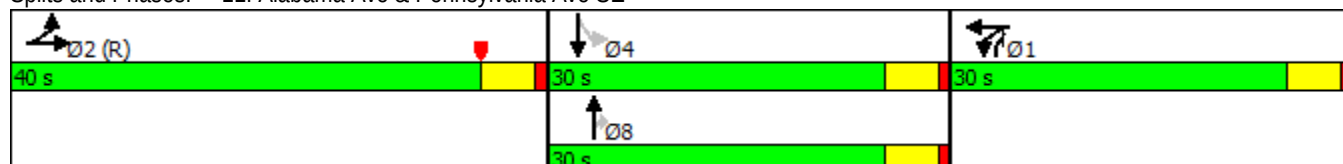
Intersection LOS: E

Intersection Capacity Utilization 89.7%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 11: Alabama Ave & Pennsylvania Ave SE



Lanes, Volumes, Timings
12: Alabama Ave & Ridge Rd SE

Future PM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	411	274	1	187	18	7	75	3	19	95	16
Future Volume (vph)	16	411	274	1	187	18	7	75	3	19	95	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		25	0		25	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
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
Ped Bike Factor												
Frt			0.850		0.988			0.990			0.983	
Flt Protected		0.994						0.995			0.991	
Satd. Flow (prot)	0	1671	1454	0	1674	0	0	1671	0	0	1632	0
Flt Permitted		0.994						0.995			0.991	
Satd. Flow (perm)	0	1671	1454	0	1674	0	0	1671	0	0	1632	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		426			425			325			289	
Travel Time (s)		11.6			11.6			8.9			7.9	
Confl. Peds. (#/hr)									5	5		
Confl. Bikes (#/hr)											1	
Peak Hour Factor	0.25	0.92	0.61	0.75	0.88	0.87	0.58	0.82	0.38	0.64	0.84	0.75
Heavy Vehicles (%)	0%	2%	0%	0%	1%	0%	0%	1%	0%	0%	3%	0%
Adj. Flow (vph)	64	447	449	1	213	21	12	91	8	30	113	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	511	449	0	235	0	0	111	0	0	164	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Sign Control		Stop			Stop			Stop			Stop	
Intersection Summary												
Area Type:	CBD											
Control Type:	Unsignalized											
Intersection Capacity Utilization 55.8%	ICU Level of Service B											
Analysis Period (min) 15												

HCM Unsignalized Intersection Capacity Analysis 12: Alabama Ave & Ridge Rd SE

Future PM
10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	16	411	274	1	187	18	7	75	3	19	95	16
Future Volume (vph)	16	411	274	1	187	18	7	75	3	19	95	16
Peak Hour Factor	0.25	0.92	0.61	0.75	0.88	0.87	0.58	0.82	0.38	0.64	0.84	0.75
Hourly flow rate (vph)	64	447	449	1	213	21	12	91	8	30	113	21
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1							
Volume Total (vph)	511	449	235	111	164							
Volume Left (vph)	64	0	1	12	30							
Volume Right (vph)	0	449	21	8	21							
Hadj (s)	0.09	-0.70	-0.04	-0.01	-0.01							
Departure Headway (s)	5.9	5.1	5.9	6.7	6.5							
Degree Utilization, x	0.83	0.63	0.39	0.21	0.30							
Capacity (veh/h)	603	701	578	503	519							
Control Delay (s)	30.4	15.2	12.6	11.4	12.3							
Approach Delay (s)	23.3		12.6	11.4	12.3							
Approach LOS	C		B	B	B							
Intersection Summary												
Delay			19.5									
Level of Service			C									
Intersection Capacity Utilization			55.8%	ICU Level of Service					B			
Analysis Period (min)			15									

Lanes, Volumes, Timings
501: Alabama Ave & Jasper St SE

Future PM
10/03/2017



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø4	Ø5	Ø6
Lane Configurations									
Traffic Volume (vph)	29	41	631	40	62	765			
Future Volume (vph)	29	41	631	40	62	765			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900			
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95			
Ped Bike Factor	0.98		0.99			1.00			
Frt	0.929		0.981						
Flt Protected	0.977					0.995			
Satd. Flow (prot)	1725	0	3288	0	0	3467			
Flt Permitted	0.977					0.750			
Satd. Flow (perm)	1684	0	3288	0	0	2608			
Right Turn on Red		Yes		Yes					
Satd. Flow (RTOR)	53		29						
Link Speed (mph)	30		25			25			
Link Distance (ft)	334		395			140			
Travel Time (s)	7.6		10.8			3.8			
Confl. Peds. (#/hr)	31			24	24				
Peak Hour Factor	0.44	0.56	0.88	0.39	0.66	0.92			
Heavy Vehicles (%)	0%	0%	2%	0%	0%	4%			
Bus Blockages (#/hr)	0	0	21	21	0	0			
Adj. Flow (vph)	66	73	717	103	94	832			
Shared Lane Traffic (%)									
Lane Group Flow (vph)	139	0	820	0	0	926			
Enter Blocked Intersection	No	No	No	No	No	No			
Lane Alignment	Left	Right	Left	Right	Left	Left			
Median Width(ft)	12		0			0			
Link Offset(ft)	0		0			0			
Crosswalk Width(ft)	16		16			16			
Two way Left Turn Lane									
Headway Factor	1.00	1.00	1.06	1.00	1.00	1.00			
Turning Speed (mph)	20	15		15	20				
Number of Detectors	1		1		1	1			
Detector Template	Left		Thru		Left	Thru			
Leading Detector (ft)	50		50		50	50			
Trailing Detector (ft)	0		0		0	0			
Detector 1 Position(ft)	0		0		0	0			
Detector 1 Size(ft)	50		50		50	50			
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex			
Detector 1 Channel									
Detector 1 Extend (s)	0.0		0.0		0.0	0.0			
Detector 1 Queue (s)	0.0		0.0		0.0	0.0			
Detector 1 Delay (s)	0.0		0.0		0.0	0.0			
Turn Type	Prot		NA		pm+pt	NA			
Protected Phases	8		2		1	1 6	4	5	6
Permitted Phases					1 6				
Detector Phase	8		2		1	1 6			
Switch Phase									
Minimum Initial (s)	7.0		10.0		1.0		7.0	1.0	10.0
Minimum Split (s)	24.5		27.5		5.5		22.5	5.5	27.5

Lanes, Volumes, Timings
501: Alabama Ave & Jasper St SE

Future PM
10/03/2017



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø4	Ø5	Ø6
Total Split (s)	30.0		64.5		5.5		30.0	5.5	64.5
Total Split (%)	30.0%		64.5%		5.5%		30%	6%	65%
Maximum Green (s)	24.5		60.5		1.0		24.5	1.0	60.5
Yellow Time (s)	4.0		4.0		3.0		4.0	3.0	4.0
All-Red Time (s)	1.5		0.0		1.5		1.5	1.5	0.0
Lost Time Adjust (s)	0.0		0.0						
Total Lost Time (s)	5.5		4.0						
Lead/Lag			Lead		Lag			Lag	Lead
Lead-Lag Optimize?			Yes		Yes			Yes	Yes
Vehicle Extension (s)	1.0		1.0		3.0		1.0	1.0	1.0
Recall Mode	Max		C-Max		None		Max	Max	C-Max
Walk Time (s)	7.0		7.0				7.0		7.0
Flash Dont Walk (s)	12.0		6.0				10.0		9.0
Pedestrian Calls (#/hr)	0		0				0		0
Act Effect Green (s)	24.5		60.5			61.0			
Actuated g/C Ratio	0.24		0.60			0.61			
v/c Ratio	0.30		0.41			0.58			
Control Delay	21.0		10.7			3.4			
Queue Delay	0.0		0.0			0.2			
Total Delay	21.0		10.7			3.6			
LOS	C		B			A			
Approach Delay	21.0		10.7			3.6			
Approach LOS	C		B			A			

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 78 (78%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.60

Intersection Signal Delay: 8.0

Intersection LOS: A

Intersection Capacity Utilization 59.3%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 501: Alabama Ave & Jasper St SE



Lanes, Volumes, Timings
502: Alabama Ave & Irving St SE

Future PM
10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	93	14	20	22	16	19	9	651	12	22	785	99
Future Volume (vph)	93	14	20	22	16	19	9	651	12	22	785	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor		0.98			0.98			1.00			0.99	
Frt		0.977			0.960			0.994			0.983	
Flt Protected		0.967			0.979			0.999			0.998	
Satd. Flow (prot)	0	1365	0	0	1595	0	0	3159	0	0	3021	0
Flt Permitted		0.733			0.831			0.935			0.906	
Satd. Flow (perm)	0	1027	0	0	1338	0	0	2956	0	0	2742	0
Right Turn on Red			No			No			Yes			Yes
Satd. Flow (RTOR)								8			24	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		363			396			140			554	
Travel Time (s)		9.9			10.8			3.8			15.1	
Confl. Peds. (#/hr)	8		22	22		8	17		10	10		17
Peak Hour Factor	0.90	0.65	0.79	0.44	0.54	0.56	0.67	0.88	0.39	0.66	0.92	0.89
Heavy Vehicles (%)	22%	0%	5%	0%	0%	0%	0%	2%	0%	0%	4%	11%
Bus Blockages (#/hr)	0	3	3	0	0	0	0	0	0	0	0	0
Adj. Flow (vph)	103	22	25	50	30	34	13	740	31	33	853	111
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	150	0	0	114	0	0	784	0	0	997	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.16	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		custom	NA		Perm	NA	
Protected Phases		4			4		5	2 5			6	
Permitted Phases	4			4			2			6		
Detector Phase	4	4		4	4		5	2 5		6	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		1.0			10.0	10.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		5.5			27.5	27.5	
Total Split (s)	30.0	30.0		30.0	30.0		5.5			64.5	64.5	

Lane Group	Ø1	Ø2	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Lane Util. Factor			
Ped Bike Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Confl. Peds. (#/hr)			
Peak Hour Factor			
Heavy Vehicles (%)			
Bus Blockages (#/hr)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Number of Detectors			
Detector Template			
Leading Detector (ft)			
Trailing Detector (ft)			
Detector 1 Position(ft)			
Detector 1 Size(ft)			
Detector 1 Type			
Detector 1 Channel			
Detector 1 Extend (s)			
Detector 1 Queue (s)			
Detector 1 Delay (s)			
Turn Type			
Protected Phases	1	2	8
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	1.0	10.0	7.0
Minimum Split (s)	5.5	27.5	24.5
Total Split (s)	5.5	64.5	30.0

Lanes, Volumes, Timings
502: Alabama Ave & Irving St SE

Future PM
10/03/2017

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	30.0%	30.0%		30.0%	30.0%		5.5%			64.5%	64.5%	
Maximum Green (s)	24.5	24.5		24.5	24.5		1.0			60.5	60.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0			4.0	4.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5			0.0	0.0	
Lost Time Adjust (s)		0.0			0.0						0.0	
Total Lost Time (s)		5.5			5.5						4.0	
Lead/Lag							Lag			Lead	Lead	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0			1.0	1.0	
Recall Mode	Max	Max		Max	Max		Max			C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0					9.0	9.0	
Pedestrian Calls (#/hr)	0	0		0	0					0	0	
Act Effect Green (s)		24.5			24.5			62.0			60.5	
Actuated g/C Ratio		0.24			0.24			0.62			0.60	
v/c Ratio		0.60			0.35			0.43			0.60	
Control Delay		44.7			34.8			2.3			13.7	
Queue Delay		0.0			0.0			0.2			0.0	
Total Delay		44.7			34.8			2.5			13.7	
LOS		D			C			A			B	
Approach Delay		44.7			34.8			2.5			13.7	
Approach LOS		D			C			A			B	

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 78 (78%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.60

Intersection Signal Delay: 12.9

Intersection LOS: B

Intersection Capacity Utilization 68.0%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 502: Alabama Ave & Irving St SE



Lane Group	Ø1	Ø2	Ø8
Total Split (%)	6%	65%	30%
Maximum Green (s)	1.0	60.5	24.5
Yellow Time (s)	3.0	4.0	4.0
All-Red Time (s)	1.5	0.0	1.5
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Vehicle Extension (s)	3.0	1.0	1.0
Recall Mode	None	C-Max	Max
Walk Time (s)		7.0	7.0
Flash Dont Walk (s)		6.0	12.0
Pedestrian Calls (#/hr)		0	0
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Intersection Summary			

Lanes, Volumes, Timings
901: Alabama Ave & 36th PI SE

Future PM
10/03/2017



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø8
Lane Configurations							
Traffic Volume (vph)	34	22	0	538	585	0	
Future Volume (vph)	34	22	0	538	585	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	9	9	10	10	10	10	
Grade (%)	-4%			-8%	2%		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	
Ped Bike Factor	0.99						
Frt	0.943						
Flt Protected	0.972						
Satd. Flow (prot)	1423	0	0	3004	2858	0	
Flt Permitted	0.972						
Satd. Flow (perm)	1423	0	0	3004	2858	0	
Right Turn on Red		No				Yes	
Satd. Flow (RTOR)							
Link Speed (mph)	25			25	25		
Link Distance (ft)	218			1278	164		
Travel Time (s)	5.9			34.9	4.5		
Confl. Peds. (#/hr)		7	3			3	
Confl. Bikes (#/hr)				1			
Peak Hour Factor	0.69	0.61	0.25	0.91	0.89	0.25	
Heavy Vehicles (%)	0%	0%	0%	5%	4%	0%	
Bus Blockages (#/hr)	0	0	0	0	5	5	
Adj. Flow (vph)	49	36	0	591	657	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	85	0	0	591	657	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(ft)	9			0	0		
Link Offset(ft)	0			0	0		
Crosswalk Width(ft)	16			16	16		
Two way Left Turn Lane							
Headway Factor	1.27	1.27	1.19	1.19	1.28	1.26	
Turning Speed (mph)	20	15	20			15	
Number of Detectors	1			1	1		
Detector Template	Left			Thru	Thru		
Leading Detector (ft)	50			50	50		
Trailing Detector (ft)	0			0	0		
Detector 1 Position(ft)	0			0	0		
Detector 1 Size(ft)	50			50	50		
Detector 1 Type	Cl+Ex			Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)	0.0			0.0	0.0		
Detector 1 Queue (s)	0.0			0.0	0.0		
Detector 1 Delay (s)	0.0			0.0	0.0		
Turn Type	Prot			NA	NA		
Protected Phases	4			6	2	8	
Permitted Phases							
Detector Phase	4			6	2		

Lanes, Volumes, Timings
901: Alabama Ave & 36th PI SE

Future PM
10/03/2017



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø8
Switch Phase							
Minimum Initial (s)	7.0			10.0	10.0		10.0
Minimum Split (s)	21.0			24.0	24.0		21.0
Total Split (s)	28.0			72.0	72.0		28.0
Total Split (%)	28.0%			72.0%	72.0%		28%
Maximum Green (s)	22.0			66.0	66.0		22.0
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)	-2.0			-2.0	-2.0		
Total Lost Time (s)	4.0			4.0	4.0		
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0			1.0	1.0		3.0
Recall Mode	None			C-Max	C-Max		None
Walk Time (s)	7.0			7.0	7.0		7.0
Flash Dont Walk (s)	8.0			6.0	6.0		8.0
Pedestrian Calls (#/hr)	0			0	0		0
Act Effect Green (s)	13.4			82.0	82.0		
Actuated g/C Ratio	0.13			0.82	0.82		
v/c Ratio	0.45			0.24	0.28		
Control Delay	46.4			0.8	0.4		
Queue Delay	0.0			0.0	0.2		
Total Delay	46.4			0.8	0.5		
LOS	D			A	A		
Approach Delay	46.4			0.8	0.5		
Approach LOS	D			A	A		

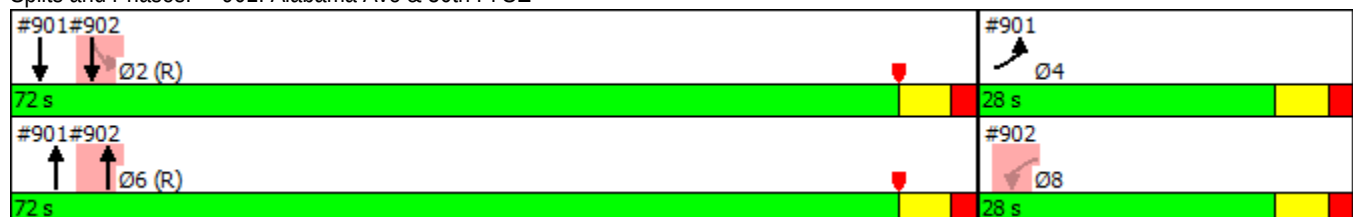
Intersection Summary

Area Type: CBD
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 88 (88%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
Natural Cycle: 45
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.45
Intersection Signal Delay: 3.6
Intersection Capacity Utilization 31.9%
Analysis Period (min) 15

Intersection LOS: A

ICU Level of Service A

Splits and Phases: 901: Alabama Ave & 36th PI SE



Lanes, Volumes, Timings
902: Alabama Ave & 36th PI SE

Future PM
10/03/2017



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø4
Lane Configurations							
Traffic Volume (vph)	2	5	557	15	3	583	
Future Volume (vph)	2	5	557	15	3	583	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	10	10	10	10	10	
Grade (%)	0%		2%			2%	
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	0.95	
Ped Bike Factor	0.99		1.00			1.00	
Frt	0.904		0.994				
Flt Protected	0.986						
Satd. Flow (prot)	1408	0	2776	0	0	2875	
Flt Permitted	0.986					0.950	
Satd. Flow (perm)	1408	0	2776	0	0	2731	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)	10		9				
Link Speed (mph)	25		25			25	
Link Distance (ft)	270		164			481	
Travel Time (s)	7.4		4.5			13.1	
Confl. Peds. (#/hr)		1		2	2		
Confl. Bikes (#/hr)			1				
Peak Hour Factor	0.50	0.50	0.91	0.63	0.50	0.89	
Heavy Vehicles (%)	0%	0%	5%	0%	50%	4%	
Bus Blockages (#/hr)	0	0	12	12	0	0	
Adj. Flow (vph)	4	10	612	24	6	655	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	14	0	636	0	0	661	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Right	Left	Left	
Median Width(ft)	10		0			0	
Link Offset(ft)	0		0			0	
Crosswalk Width(ft)	16		16			16	
Two way Left Turn Lane							
Headway Factor	1.25	1.25	1.30	1.26	1.26	1.26	
Number of Detectors	1		1		1	1	
Detector Template	Left		Thru		Left	Thru	
Leading Detector (ft)	50		50		50	50	
Trailing Detector (ft)	0		0		0	0	
Detector 1 Position(ft)	0		0		0	0	
Detector 1 Size(ft)	50		50		50	50	
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0		0.0		0.0	0.0	
Detector 1 Queue (s)	0.0		0.0		0.0	0.0	
Detector 1 Delay (s)	0.0		0.0		0.0	0.0	
Turn Type	Perm		NA		Perm	NA	
Protected Phases			6			2	4
Permitted Phases	8				2		
Detector Phase	8		6		2	2	
Switch Phase							



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø4
Minimum Initial (s)	10.0		10.0		10.0	10.0	7.0
Minimum Split (s)	21.0		24.0		24.0	24.0	21.0
Total Split (s)	28.0		72.0		72.0	72.0	28.0
Total Split (%)	28.0%		72.0%		72.0%	72.0%	28%
Maximum Green (s)	22.0		66.0		66.0	66.0	22.0
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)	-2.0		-2.0			-2.0	
Total Lost Time (s)	4.0		4.0			4.0	
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0		1.0		1.0	1.0	3.0
Recall Mode	None		C-Max		C-Max	C-Max	None
Walk Time (s)	7.0		7.0		7.0	7.0	7.0
Flash Dont Walk (s)	8.0		6.0		6.0	6.0	8.0
Pedestrian Calls (#/hr)	0		0		0	0	0
Act Effect Green (s)	13.2		82.0			82.0	
Actuated g/C Ratio	0.13		0.82			0.82	
v/c Ratio	0.07		0.28			0.30	
Control Delay	23.1		1.0			0.8	
Queue Delay	0.0		0.2			0.0	
Total Delay	23.1		1.3			0.8	
LOS	C		A			A	
Approach Delay	23.1		1.3			0.8	
Approach LOS	C		A			A	

Intersection Summary

Area Type: CBD
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 88 (88%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow
 Natural Cycle: 45
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.45
 Intersection Signal Delay: 1.3
 Intersection LOS: A
 Intersection Capacity Utilization 35.4%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 902: Alabama Ave & 36th PI SE



Lanes, Volumes, Timings
1: Alabama Ave & Randle PI SE

Future AM with Improvements

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	153	1	20	3	0	1	0	258	0	5	352	0
Future Volume (vph)	153	1	20	3	0	1	0	258	0	5	352	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	30		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
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
Ped Bike Factor	0.70				0.82						1.00	
Frt		0.867			0.946							
Flt Protected	0.950				0.971						0.999	
Satd. Flow (prot)	1533	1346	0	0	802	0	0	1447	0	0	1198	0
Flt Permitted	0.950				0.971						0.989	
Satd. Flow (perm)	1068	1346	0	0	802	0	0	1447	0	0	1183	0
Right Turn on Red			No			No			Yes			Yes
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		341			204			606			1743	
Travel Time (s)		9.3			5.6			16.5			47.5	
Confl. Peds. (#/hr)	82					82	72		34	34		72
Peak Hour Factor	0.73	0.25	0.64	0.50	0.25	0.25	0.63	0.93	0.25	0.42	0.83	0.88
Heavy Vehicles (%)	6%	0%	0%	100%	0%	0%	0%	4%	0%	40%	6%	2%
Bus Blockages (#/hr)	0	23	23	0	0	0	0	0	0	0	0	0
Parking (#/hr)								4	4		30	30
Adj. Flow (vph)	210	4	31	6	0	4	0	277	0	12	424	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	210	35	0	0	10	0	0	277	0	0	436	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.29	1.14	1.14	1.14	1.14	1.14	1.34	1.14	1.14	1.63	1.14
Number of Detectors	1	1		1	1			1		1	1	
Detector Template	Left	Thru		Left	Thru			Thru		Left	Thru	
Leading Detector (ft)	50	50		50	50			50		50	50	
Trailing Detector (ft)	0	0		0	0			0		0	0	
Detector 1 Position(ft)	0	0		0	0			0		0	0	
Detector 1 Size(ft)	50	50		50	50			50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Turn Type	Split	NA		Split	NA			NA		Perm	NA	
Protected Phases	8	8		7	7			2			6	
Permitted Phases										6		
Detector Phase	8	8		7	7			2		6	6	

Lanes, Volumes, Timings
1: Alabama Ave & Randle PI SE

Future AM with Improvements

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0			10.0		10.0	10.0	
Minimum Split (s)	22.5	22.5		13.5	13.5			19.5		17.5	17.5	
Total Split (s)	35.0	35.0		15.0	15.0			70.0		70.0	70.0	
Total Split (%)	29.2%	29.2%		12.5%	12.5%			58.3%		58.3%	58.3%	
Maximum Green (s)	28.5	28.5		8.5	8.5			63.5		63.5	63.5	
Yellow Time (s)	4.0	4.0		4.0	4.0			4.0		4.0	4.0	
All-Red Time (s)	2.5	2.5		2.5	2.5			2.5		2.5	2.5	
Lost Time Adjust (s)	-2.5	-2.5			-2.5			-2.5			-2.5	
Total Lost Time (s)	4.0	4.0			4.0			4.0			4.0	
Lead/Lag	Lag	Lag		Lead	Lead							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	1.0	1.0		3.0	3.0			1.0		1.0	1.0	
Recall Mode	Max	Max		None	None			C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0						7.0		7.0	7.0	
Flash Dont Walk (s)	9.0	9.0						6.0		4.0	4.0	
Pedestrian Calls (#/hr)	0	0						0		0	0	
Act Effect Green (s)	43.0	43.0			10.0			66.0			66.0	
Actuated g/C Ratio	0.36	0.36			0.08			0.55			0.55	
v/c Ratio	0.38	0.07			0.15			0.35			0.67	
Control Delay	32.8	28.7			56.0			16.6			17.5	
Queue Delay	0.0	0.0			0.0			0.0			0.0	
Total Delay	32.8	28.7			56.0			16.6			17.5	
LOS	C	C			E			B			B	
Approach Delay		32.2			56.0			16.6			17.5	
Approach LOS		C			E			B			B	

Intersection Summary

Area Type: CBD

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 30 (25%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.67

Intersection Signal Delay: 21.3

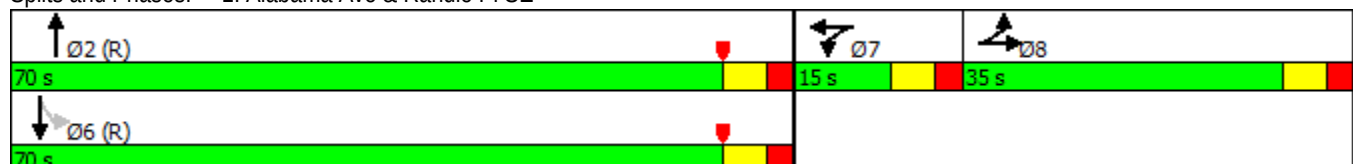
Intersection LOS: C

Intersection Capacity Utilization 43.2%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 1: Alabama Ave & Randle PI SE



Lanes, Volumes, Timings
2: Alabama Ave & 11th PI SE

Future AM with Improvements

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	3	22	17	9	12	52	604	3	20	786	40
Future Volume (vph)	24	3	22	17	9	12	52	604	3	20	786	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
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
Ped Bike Factor		0.89			0.93			1.00			0.99	
Frt		0.939			0.947			0.999			0.991	
Flt Protected		0.978			0.982			0.996			0.998	
Satd. Flow (prot)	0	1400	0	0	1424	0	0	1613	0	0	1606	0
Flt Permitted		0.834			0.838			0.854			0.960	
Satd. Flow (perm)	0	1192	0	0	1135	0	0	1382	0	0	1545	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		29			22			1			9	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		196			302			1743			913	
Travel Time (s)		5.3			8.2			47.5			24.9	
Confl. Peds. (#/hr)	1		64	64		1	17		8	8		17
Peak Hour Factor	0.69	0.38	0.63	0.80	0.67	0.55	0.75	0.84	0.38	0.64	0.92	0.66
Heavy Vehicles (%)	0%	0%	0%	6%	0%	18%	0%	6%	0%	6%	5%	0%
Bus Blockages (#/hr)	0	0	0	0	3	3	0	0	0	0	0	0
Adj. Flow (vph)	35	8	35	21	13	22	69	719	8	31	854	61
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	78	0	0	56	0	0	796	0	0	946	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.16	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Detector Phase	4	4		4	4		2	2		2	2	
Switch Phase												

Lanes, Volumes, Timings
2: Alabama Ave & 11th PI SE

Future AM with Improvements

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		20.5	20.5		20.5	20.5	
Total Split (s)	23.0	23.0		23.0	23.0		97.0	97.0		97.0	97.0	
Total Split (%)	19.2%	19.2%		19.2%	19.2%		80.8%	80.8%		80.8%	80.8%	
Maximum Green (s)	17.5	17.5		17.5	17.5		91.5	91.5		91.5	91.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)		-1.5			-1.5			-1.5			-1.5	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		1.0	1.0		1.0	1.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0		8.0	8.0		8.0	8.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		12.3			12.3			103.0			103.0	
Actuated g/C Ratio		0.10			0.10			0.86			0.86	
v/c Ratio		0.53			0.41			0.67			0.71	
Control Delay		45.4			41.7			10.4			6.5	
Queue Delay		0.0			0.0			0.0			0.6	
Total Delay		45.4			41.7			10.4			7.2	
LOS		D			D			B			A	
Approach Delay		45.4			41.7			10.4			7.2	
Approach LOS		D			D			B			A	

Intersection Summary

Area Type: CBD

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 112 (93%), Referenced to phase 2:NBSB, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 11.2

Intersection LOS: B

Intersection Capacity Utilization 84.3%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 2: Alabama Ave & 11th PI SE



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	8	35	89	15	52	30	530	80	50	722	37
Future Volume (vph)	29	8	35	89	15	52	30	530	80	50	722	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	110		50	90		0
Storage Lanes	1		1	0		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
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
Ped Bike Factor	0.92		0.78		0.81				0.81		1.00	
Frt			0.850		0.961				0.850		0.991	
Flt Protected	0.950				0.973		0.950			0.950		
Satd. Flow (prot)	1518	1500	1411	0	1488	0	1562	1644	1321	1577	1536	0
Flt Permitted	0.606				0.821		0.156			0.300		
Satd. Flow (perm)	888	1500	1099	0	1063	0	257	1644	1072	498	1536	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			68		17				73		4	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		203			201			913			2042	
Travel Time (s)		5.5			5.5			24.9			55.7	
Confl. Peds. (#/hr)	57		106	106		57	2		43	43		2
Confl. Bikes (#/hr)												1
Peak Hour Factor	0.75	0.88	0.78	0.77	0.50	0.86	0.78	0.86	0.63	0.83	0.91	0.77
Heavy Vehicles (%)	7%	14%	3%	4%	0%	0%	4%	4%	10%	3%	6%	9%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	9	9
Adj. Flow (vph)	39	9	45	116	30	60	38	616	127	60	793	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	39	9	45	0	206	0	38	616	127	60	841	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.20	1.14
Number of Detectors	1	1	1	1	1		1	1	1	1	1	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Size(ft)	50	50	50	50	50		50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8		8	4			6		6	2		
Detector Phase	8	8	8	4	4		1	6	6	5	2	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	24.0	24.0	24.0	29.0	29.0		10.0	23.5	23.5	10.0	29.5	
Total Split (s)	35.0	35.0	35.0	35.0	35.0		10.0	75.0	75.0	10.0	75.0	
Total Split (%)	29.2%	29.2%	29.2%	29.2%	29.2%		8.3%	62.5%	62.5%	8.3%	62.5%	
Maximum Green (s)	29.0	29.0	29.0	29.0	29.0		5.0	69.5	69.5	5.0	69.5	
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		1.0	1.5	1.5	1.0	1.5	
Lost Time Adjust (s)	-2.0	-2.0	-2.0		-2.0		-1.0	-1.5	-1.5	-1.0	-1.5	
Total Lost Time (s)	4.0	4.0	4.0		4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag							Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Recall Mode	Max	Max	Max	Max	Max		Max	C-Max	C-Max	Max	C-Max	
Walk Time (s)				7.0	7.0			7.0	7.0		7.0	
Flash Dont Walk (s)				16.0	16.0			8.0	8.0		17.0	
Pedestrian Calls (#/hr)				0	0			0	0		0	
Act Effect Green (s)	31.0	31.0	31.0		31.0		77.0	71.0	71.0	77.0	71.0	
Actuated g/C Ratio	0.26	0.26	0.26		0.26		0.64	0.59	0.59	0.64	0.59	
v/c Ratio	0.17	0.02	0.13		0.72		0.17	0.63	0.19	0.16	0.92	
Control Delay	37.0	33.6	4.4		52.6		9.8	21.7	7.9	5.9	31.1	
Queue Delay	0.0	0.0	0.1		4.1		0.0	0.0	0.0	0.0	0.4	
Total Delay	37.0	33.6	4.5		56.6		9.8	21.7	7.9	5.9	31.4	
LOS	D	C	A		E		A	C	A	A	C	
Approach Delay		21.0			56.6			18.9			29.7	
Approach LOS		C			E			B			C	

Intersection Summary

Area Type: CBD

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 54 (45%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 27.8

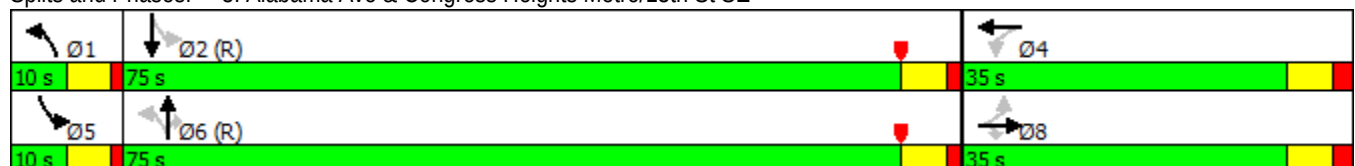
Intersection LOS: C

Intersection Capacity Utilization 82.4%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Alabama Ave & Congress Heights Metro/13th St SE



Lanes, Volumes, Timings
4: Alabama Ave & Stanton Rd SE

Future AM with Improvements

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	119	153	49	192	27	84	460	25	12	576	130
Future Volume (vph)	55	119	153	49	192	27	84	460	25	12	576	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	30		0	30		0	100		50	100		50
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor	0.85	0.92		0.95	0.95			0.96			0.90	
Frt		0.921			0.974			0.992			0.970	
Flt Protected	0.950			0.950				0.992			0.999	
Satd. Flow (prot)	1377	1317	0	1400	1495	0	0	2620	0	0	2658	0
Flt Permitted	0.455			0.337				0.649			0.934	
Satd. Flow (perm)	562	1317	0	471	1495	0	0	1686	0	0	2480	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		49			9			8			43	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		385			337			434			674	
Travel Time (s)		10.5			9.2			11.8			18.4	
Confl. Peds. (#/hr)	136		69	69		136	118		82	82		118
Confl. Bikes (#/hr)											1	
Peak Hour Factor	0.85	0.74	0.86	0.79	0.92	0.63	0.76	0.91	0.69	0.69	0.93	0.81
Heavy Vehicles (%)	18%	13%	7%	16%	7%	0%	13%	7%	32%	0%	6%	8%
Parking (#/hr)								14	14			
Adj. Flow (vph)	65	161	178	62	209	43	111	505	36	17	619	160
Shared Lane Traffic (%)												
Lane Group Flow (vph)	65	339	0	62	252	0	0	652	0	0	796	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.28	1.14	1.14	1.14	1.14
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6			2		
Detector Phase	4	4		8	8		6	6		2	2	

Lane Group	Ø12	Ø13
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Parking (#/hr)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Turn Type		
Protected Phases	12	13
Permitted Phases		
Detector Phase		

Lanes, Volumes, Timings
4: Alabama Ave & Stanton Rd SE

Future AM with Improvements

10/03/2017

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	23.5	23.5		23.5	23.5		23.5	23.5		23.5	23.5	
Total Split (s)	42.0	42.0		42.0	42.0		72.0	72.0		72.0	72.0	
Total Split (%)	35.0%	35.0%		35.0%	35.0%		60.0%	60.0%		60.0%	60.0%	
Maximum Green (s)	36.5	36.5		36.5	36.5		66.5	66.5		66.5	66.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5			-1.5			-1.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Recall Mode	Max	Max		Max	Max		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)	38.0	38.0		38.0	38.0			68.0			68.0	
Actuated g/C Ratio	0.32	0.32		0.32	0.32			0.57			0.57	
v/c Ratio	0.37	0.75		0.42	0.53			0.68			0.56	
Control Delay	39.1	43.3		42.7	37.1			19.9			17.3	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	39.1	43.3		42.7	37.1			19.9			17.3	
LOS	D	D		D	D			B			B	
Approach Delay		42.6			38.2			19.9			17.3	
Approach LOS		D			D			B			B	

Intersection Summary

Area Type: CBD

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 22 (18%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 25.8

Intersection LOS: C

Intersection Capacity Utilization 81.1%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 4: Alabama Ave & Stanton Rd SE



Lane Group	Ø12	Ø13
Switch Phase		
Minimum Initial (s)	1.0	1.0
Minimum Split (s)	3.0	3.0
Total Split (s)	3.0	3.0
Total Split (%)	3%	3%
Maximum Green (s)	1.0	1.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	Max	Max
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		

Lanes, Volumes, Timings
6: Alabama Ave & Naylor Rd SE

Future AM with Improvements

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	124	64	28	894	35	69	274	17	36	408	6
Future Volume (vph)	5	124	64	28	894	35	69	274	17	36	408	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor		0.98			0.99			0.98			0.99	
Frt		0.948			0.993			0.987			0.997	
Flt Protected		0.998			0.998			0.989			0.995	
Satd. Flow (prot)	0	1510	0	0	1612	0	0	2921	0	0	3021	0
Flt Permitted		0.969			0.983			0.590			0.794	
Satd. Flow (perm)	0	1466	0	0	1586	0	0	1722	0	0	2400	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		43			4			8			2	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		318			242			437			498	
Travel Time (s)		8.7			6.6			11.9			13.6	
Confl. Peds. (#/hr)	66		26	26		66	67		35	35		67
Confl. Bikes (#/hr)		1			2							
Peak Hour Factor	0.63	0.84	0.66	0.88	0.98	0.73	0.74	0.91	0.47	0.68	0.83	0.50
Heavy Vehicles (%)	0%	2%	10%	0%	5%	0%	18%	3%	0%	0%	4%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	7	7	0	13	13
Adj. Flow (vph)	8	148	97	32	912	48	93	301	36	53	492	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	253	0	0	992	0	0	430	0	0	557	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.16	1.14	1.14	1.18	1.14
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4			8	8	
Detector Phase	6	6		2	2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	29.5	29.5		31.5	31.5		27.5	27.5		31.5	31.5	

Lane Group	Ø12	Ø13
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Bus Blockages (#/hr)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Turn Type		
Protected Phases	12	13
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	1.0	1.0
Minimum Split (s)	3.0	3.0

Lanes, Volumes, Timings
6: Alabama Ave & Naylor Rd SE

Future AM with Improvements

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	72.0	72.0		72.0	72.0		36.0	36.0		36.0	36.0	
Total Split (%)	60.0%	60.0%		60.0%	60.0%		30.0%	30.0%		30.0%	30.0%	
Maximum Green (s)	65.5	65.5		65.5	65.5		29.5	29.5		29.5	29.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)		-2.5			-2.5			-2.5			-2.5	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	16.0	16.0		18.0	18.0		14.0	14.0		18.0	18.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		68.0			68.0			32.0			32.0	
Actuated g/C Ratio		0.57			0.57			0.27			0.27	
v/c Ratio		0.30			1.10			0.92			0.87	
Control Delay		12.2			88.6			69.3			86.6	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		12.2			88.6			69.3			86.6	
LOS		B			F			E			F	
Approach Delay		12.2			88.6			69.3			86.6	
Approach LOS		B			F			E			F	

Intersection Summary

Area Type: CBD

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 45 (38%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.10

Intersection Signal Delay: 75.7

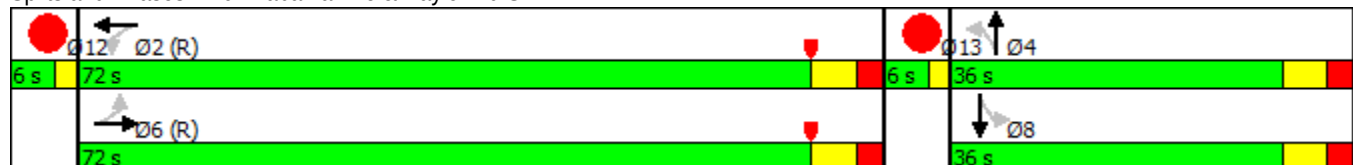
Intersection LOS: E

Intersection Capacity Utilization 117.5%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 6: Alabama Ave & Naylor Rd SE



Lane Group	Ø12	Ø13
Total Split (s)	6.0	6.0
Total Split (%)	5%	5%
Maximum Green (s)	4.0	4.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	Max	Max
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effect Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR2	NBL2	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	171	48	2	25	36	6	12	15	283	4	11	408
Future Volume (vph)	171	48	2	25	36	6	12	15	283	4	11	408
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	50				180		180	120	
Storage Lanes	1		0	1				1		1	1	
Taper Length (ft)	25			25				25			25	
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00
Ped Bike Factor		1.00		1.00	1.00					0.97	0.99	
Frt		0.998			0.982					0.850		
Flt Protected	0.950	0.975		0.950	0.997			0.950			0.950	
Satd. Flow (prot)	1429	1504	0	1543	1590	0	0	1624	3249	1395	1624	1629
Flt Permitted	0.950	0.975		0.950	0.997			0.179			0.504	
Satd. Flow (perm)	1429	1504	0	1537	1590	0	0	306	3249	1349	855	1629
Right Turn on Red			Yes			Yes				Yes		
Satd. Flow (RTOR)		1			164					173		
Link Speed (mph)		25			25				25			25
Link Distance (ft)		325			206				498			2443
Travel Time (s)		8.9			5.6				13.6			66.6
Confl. Peds. (#/hr)			3	3				7		3	3	
Peak Hour Factor	0.84	0.75	1.00	0.75	0.90	1.00	1.00	0.56	0.88	0.75	0.55	0.80
Heavy Vehicles (%)	8%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	10	0	0
Adj. Flow (vph)	204	64	2	33	40	6	12	27	322	5	20	510
Shared Lane Traffic (%)	35%			10%								
Lane Group Flow (vph)	133	137	0	30	49	0	0	39	322	5	20	510
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Left	Right	Left	Left
Median Width(ft)		12			12				12			12
Link Offset(ft)		0			0				0			0
Crosswalk Width(ft)		16			16				16			16
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.20	1.14	1.14
Turning Speed (mph)	20		15	20		15	20	20		15	20	
Number of Detectors	1	2		1	2		1	1	2	1	1	2
Detector Template							Left					
Leading Detector (ft)	50	50		50	50		20	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50		20	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		0			0				0			0
Detector 2 Size(ft)		0			0				0			0
Detector 2 Type		Cl+Ex			Cl+Ex				Cl+Ex			Cl+Ex
Detector 2 Channel												



Lane Group	SBR	SBR2	SEL2	SEL	SER	SER2
Lane Configurations	FF			FF		
Traffic Volume (vph)	638	21	26	0	15	12
Future Volume (vph)	638	21	26	0	15	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120			0	0	
Storage Lanes	1			1	0	
Taper Length (ft)				25		
Lane Util. Factor	0.88	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.850			0.931		
Flt Protected				0.976		
Satd. Flow (prot)	2484	0	0	1554	0	0
Flt Permitted				0.976		
Satd. Flow (perm)	2484	0	0	1554	0	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	173			173		
Link Speed (mph)				30		
Link Distance (ft)				266		
Travel Time (s)				6.0		
Confl. Peds. (#/hr)	7					
Peak Hour Factor	0.89	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	5	0	0	0	0	0
Adj. Flow (vph)	717	21	26	0	15	12
Shared Lane Traffic (%)						
Lane Group Flow (vph)	738	0	0	53	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Right	Right	Left	Left	Right	Right
Median Width(ft)				12		
Link Offset(ft)				0		
Crosswalk Width(ft)				16		
Two way Left Turn Lane						
Headway Factor	1.16	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)	15	15	20	20	15	15
Number of Detectors	1		1	1		
Detector Template						
Leading Detector (ft)	50		50	50		
Trailing Detector (ft)	0		0	0		
Detector 1 Position(ft)	0		0	0		
Detector 1 Size(ft)	50		50	50		
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex		
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0		
Detector 1 Queue (s)	0.0		0.0	0.0		
Detector 1 Delay (s)	0.0		0.0	0.0		
Detector 2 Position(ft)						
Detector 2 Size(ft)						
Detector 2 Type						
Detector 2 Channel						

Lanes, Volumes, Timings

Future AM with Improvements

7: Alabama Ave & Good Hope Rd SE/Good Hope Marketplace

10/03/2017



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR2	NBL2	NBL	NBT	NBR	SBL	SBT
Detector 2 Extend (s)		0.0			0.0				0.0			0.0
Turn Type	Split	NA		Split	NA		Perm	Perm	NA	Perm	Perm	NA
Protected Phases	7	7		4	4				2			6
Permitted Phases							2	2		2	6	
Detector Phase	7	7		4	4		2	2	2	2	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0		7.0	7.0		10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	29.0	29.0		28.0	28.0		20.0	20.0	20.0	20.0	24.0	24.0
Total Split (s)	32.0	32.0		28.0	28.0		48.0	48.0	48.0	48.0	48.0	48.0
Total Split (%)	26.7%	26.7%		23.3%	23.3%		40.0%	40.0%	40.0%	40.0%	40.0%	40.0%
Maximum Green (s)	25.0	25.0		20.0	20.0		41.0	41.0	41.0	41.0	41.0	41.0
Yellow Time (s)	4.0	4.0		5.0	5.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-3.0	-3.0		-3.0	-3.0			-3.0	-3.0	-3.0	-3.0	-3.0
Total Lost Time (s)	4.0	4.0		5.0	5.0			4.0	4.0	4.0	4.0	4.0
Lead/Lag				Lag	Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	3.0	3.0
Minimum Gap (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max		Max	Max		C-Max	C-Max	C-Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0		6.0	6.0		7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	15.0	15.0		14.0	14.0		6.0	6.0	6.0	6.0	10.0	10.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	0
Act Effect Green (s)	28.0	28.0		25.4	25.4			44.0	44.0	44.0	44.0	44.0
Actuated g/C Ratio	0.23	0.23		0.21	0.21			0.37	0.37	0.37	0.37	0.37
v/c Ratio	0.40	0.39		0.09	0.11			0.35	0.27	0.01	0.06	0.85
Control Delay	43.2	42.4		41.0	0.5			14.6	8.7	0.0	25.5	50.4
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	0.0
Total Delay	43.2	42.4		41.0	0.5			14.6	8.7	0.0	25.5	50.4
LOS	D	D		D	A			B	A	A	C	D
Approach Delay		42.8			15.9				9.2			66.2
Approach LOS		D			B				A			E

Intersection Summary

Area Type: CBD

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 118 (98%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.04

Intersection Signal Delay: 49.2

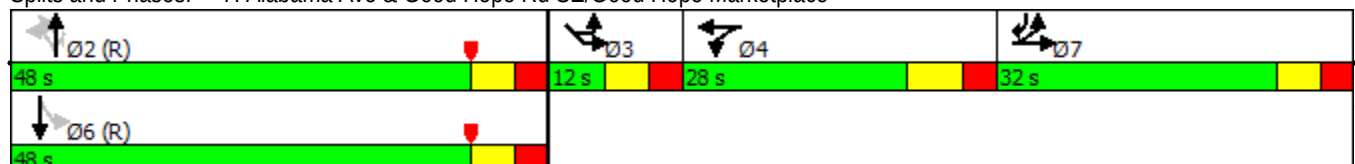
Intersection LOS: D

Intersection Capacity Utilization 57.4%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 7: Alabama Ave & Good Hope Rd SE/Good Hope Marketplace





Lane Group	SBR	SBR2	SEL2	SEL	SER	SER2
Detector 2 Extend (s)						
Turn Type	Over		Prot	Prot		
Protected Phases	7		3	3		
Permitted Phases						
Detector Phase	7		3	3		
Switch Phase						
Minimum Initial (s)	10.0		5.0	5.0		
Minimum Split (s)	29.0		12.0	12.0		
Total Split (s)	32.0		12.0	12.0		
Total Split (%)	26.7%		10.0%	10.0%		
Maximum Green (s)	25.0		5.0	5.0		
Yellow Time (s)	4.0		4.0	4.0		
All-Red Time (s)	3.0		3.0	3.0		
Lost Time Adjust (s)	-3.0			-3.0		
Total Lost Time (s)	4.0			4.0		
Lead/Lag			Lead	Lead		
Lead-Lag Optimize?						
Vehicle Extension (s)	1.0		3.0	3.0		
Minimum Gap (s)	1.0		1.0	1.0		
Time Before Reduce (s)	0.0		3.0	3.0		
Time To Reduce (s)	0.0		0.0	0.0		
Recall Mode	Max		None	None		
Walk Time (s)	7.0					
Flash Dont Walk (s)	15.0					
Pedestrian Calls (#/hr)	0					
Act Effct Green (s)	28.0			8.0		
Actuated g/C Ratio	0.23			0.07		
v/c Ratio	1.04			0.20		
Control Delay	78.2			1.7		
Queue Delay	0.0			0.0		
Total Delay	78.2			1.7		
LOS	E			A		
Approach Delay				1.7		
Approach LOS				A		
Intersection Summary						

Lanes, Volumes, Timings
8: Alabama Ave & Branch Ave SE

Future AM with Improvements

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	213	100	153	527	5	123	377	36	10	639	49
Future Volume (vph)	41	213	100	153	527	5	123	377	36	10	639	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor		0.99			1.00			0.99			1.00	
Frt		0.944			0.998			0.987			0.988	
Flt Protected	0.950			0.950				0.989			0.999	
Satd. Flow (prot)	1593	1513	0	1608	1657	0	0	3062	0	0	2990	0
Flt Permitted	0.180			0.251				0.584			0.936	
Satd. Flow (perm)	302	1513	0	425	1657	0	0	1806	0	0	2801	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		33			1			12			11	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		362			386			2443			685	
Travel Time (s)		9.9			10.5			66.6			18.7	
Confl. Peds. (#/hr)	10		9	9		10	9		7	7		9
Confl. Bikes (#/hr)	1	1						1			1	
Peak Hour Factor	0.68	0.82	0.64	0.93	0.98	0.63	0.87	0.86	0.67	0.63	0.94	0.82
Heavy Vehicles (%)	2%	7%	3%	1%	3%	0%	1%	1%	0%	10%	6%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	11	11	0	5	5
Adj. Flow (vph)	60	260	156	165	538	8	141	438	54	16	680	60
Shared Lane Traffic (%)												
Lane Group Flow (vph)	60	416	0	165	546	0	0	633	0	0	756	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.18	1.14	1.14	1.16	1.14
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	1	6		5	2			4			3	
Permitted Phases	6			2			4			3		
Detector Phase	1	6		5	2		4	4		3	3	

Lanes, Volumes, Timings
8: Alabama Ave & Branch Ave SE

Future AM with Improvements

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	10.0	23.5		10.0	23.5		20.5	20.5		23.5	23.5	
Total Split (s)	11.0	38.0		14.0	41.0		48.0	48.0		48.0	48.0	
Total Split (%)	11.0%	38.0%		14.0%	41.0%		48.0%	48.0%		48.0%	48.0%	
Maximum Green (s)	6.0	32.5		9.0	35.5		42.5	42.5		42.5	42.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.5		1.0	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	-1.0	-1.5		-1.0	-1.5			-1.5			-1.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Recall Mode	Max	C-Max		Max	C-Max		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		8.0			9.0		8.0	8.0		9.0	9.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effect Green (s)	41.0	34.0		47.0	37.0			44.0			44.0	
Actuated g/C Ratio	0.41	0.34		0.47	0.37			0.44			0.44	
v/c Ratio	0.28	0.78		0.52	0.89			0.79			0.61	
Control Delay	17.9	38.7		21.3	48.5			32.3			26.5	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	17.9	38.7		21.3	48.5			32.3			26.5	
LOS	B	D		C	D			C			C	
Approach Delay		36.1			42.2			32.3			26.5	
Approach LOS		D			D			C			C	

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 34.0

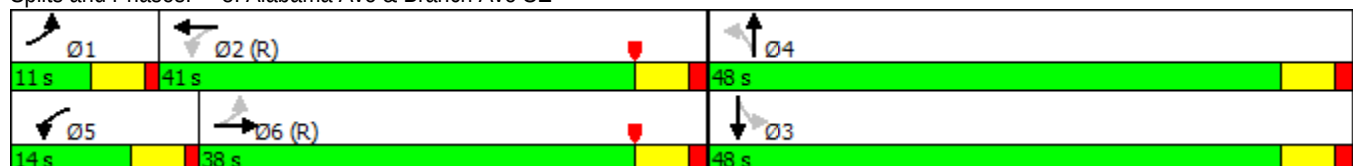
Intersection LOS: C

Intersection Capacity Utilization 87.3%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 8: Alabama Ave & Branch Ave SE



Lanes, Volumes, Timings
10: Alabama Ave & 38th St SE

Future AM with Improvements

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	133	98	35	194	39	76	311	8	27	535	1
Future Volume (vph)	7	133	98	35	194	39	76	311	8	27	535	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	13	16	10	10	10	10	10	10	10	10
Grade (%)		-8%			12%			2%			-4%	
Storage Length (ft)	25		0	25		0	0		15	0		0
Storage Lanes	1		0	1		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor	0.99	0.98		0.98	0.99			1.00	0.94		1.00	
Frt		0.934			0.977				0.850		0.999	
Flt Protected	0.950			0.950				0.990			0.996	
Satd. Flow (prot)	1353	1635	0	1518	1422	0	0	1507	1343	0	2916	0
Flt Permitted	0.219			0.280				0.756			0.890	
Satd. Flow (perm)	308	1635	0	440	1422	0	0	1149	1261	0	2603	0
Right Turn on Red			No			Yes			No			Yes
Satd. Flow (RTOR)					8						1	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		248			430			424			293	
Travel Time (s)		6.8			11.7			11.6			8.0	
Confl. Peds. (#/hr)	19		23	23		19	11		15	15		11
Confl. Bikes (#/hr)											1	
Peak Hour Factor	0.44	0.83	0.78	0.58	0.72	0.81	0.72	0.79	0.40	0.56	0.88	0.25
Heavy Vehicles (%)	29%	1%	5%	14%	2%	5%	3%	4%	0%	0%	6%	0%
Adj. Flow (vph)	16	160	126	60	269	48	106	394	20	48	608	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	16	286	0	60	317	0	0	500	20	0	660	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			16			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.06	1.35	1.35	1.26	1.26	1.26	1.22	1.22	1.22
Number of Detectors	1	1		1	1		1	1	1	1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases		2			2			4		3	8	
Permitted Phases	2			2			4		4	8		

Lanes, Volumes, Timings
10: Alabama Ave & 38th St SE

Future AM with Improvements

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		2	2		4	4	4	3	8	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	24.5	24.5		24.5	24.5		23.5	23.5	23.5	9.5	23.5	
Total Split (s)	25.0	25.0		25.0	25.0		63.0	63.0	63.0	12.0	75.0	
Total Split (%)	25.0%	25.0%		25.0%	25.0%		63.0%	63.0%	63.0%	12.0%	75.0%	
Maximum Green (s)	19.5	19.5		19.5	19.5		57.5	57.5	57.5	7.5	69.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	3.5	4.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5	1.5	1.0	1.5	
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5			-1.5	-1.5		-1.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	3.0	1.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		Max	Max	Max	Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0		7.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		11.0	11.0	11.0		8.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0		0	
Act Effect Green (s)	21.0	21.0		21.0	21.0			59.0	59.0		71.0	
Actuated g/C Ratio	0.21	0.21		0.21	0.21			0.59	0.59		0.71	
v/c Ratio	0.25	0.83		0.65	1.04			0.74	0.03		0.35	
Control Delay	44.4	59.7		70.5	102.3			33.6	10.8		6.7	
Queue Delay	0.0	55.4		0.0	0.0			2.8	0.0		0.8	
Total Delay	44.4	115.2		70.5	102.3			36.4	10.8		7.5	
LOS	D	F		E	F			D	B		A	
Approach Delay		111.4			97.3			35.4			7.5	
Approach LOS		F			F			D			A	

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 83 (83%), Referenced to phase 2:EBWB, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.04

Intersection Signal Delay: 50.4

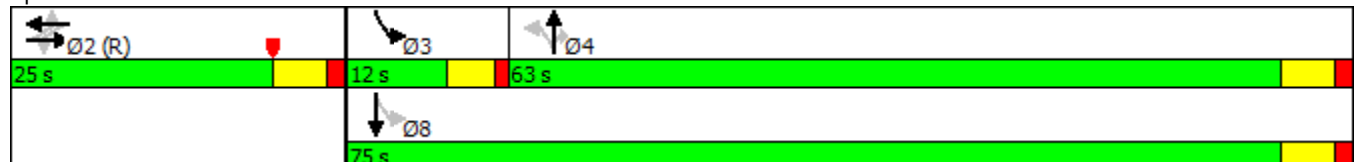
Intersection LOS: D

Intersection Capacity Utilization 75.2%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 10: Alabama Ave & 38th St SE



Lanes, Volumes, Timings
11: Alabama Ave & Pennsylvania Ave SE

Future AM with Improvements

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	280	3	210	731	28	1	285	71	10	350	50
Future Volume (vph)	76	280	3	210	731	28	1	285	71	10	350	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10	11	11	11	12	12	12
Grade (%)		10%			-2%			4%			-8%	
Storage Length (ft)	0		0	100		0	0		0	0		165
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor	1.00	1.00		0.98	1.00			1.00	0.98		1.00	
Frt		0.995			0.994				0.850		0.980	
Flt Protected	0.950			0.950				0.999			0.998	
Satd. Flow (prot)	1440	2705	0	1516	2929	0	0	1587	1240	0	3157	0
Flt Permitted	0.950			0.950				0.994			0.865	
Satd. Flow (perm)	1438	2705	0	1486	2929	0	0	1579	1213	0	2736	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			5				94			17
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		286			487			293			768	
Travel Time (s)		6.5			11.1			6.7			17.5	
Confl. Peds. (#/hr)	2		22	22		2	5		7	7		5
Confl. Bikes (#/hr)												1
Peak Hour Factor	0.89	0.82	0.25	0.74	0.87	0.78	0.25	0.81	0.72	0.50	0.86	0.78
Heavy Vehicles (%)	0%	6%	0%	1%	4%	0%	0%	2%	11%	0%	5%	2%
Adj. Flow (vph)	85	341	12	284	840	36	4	352	99	20	407	64
Shared Lane Traffic (%)												
Lane Group Flow (vph)	85	353	0	284	876	0	0	356	99	0	491	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.33	1.33	1.33	1.23	1.23	1.23	1.22	1.22	1.22	1.09	1.09	1.09
Number of Detectors	1	1		1	1		1	1	1	1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	Split	NA		Split	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	2	2		1	1			8	1		4	
Permitted Phases							8		8	4		

Lanes, Volumes, Timings
11: Alabama Ave & Pennsylvania Ave SE

Future AM with Improvements

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		1	1		8	8	1	4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	7.0	10.0	7.0	7.0	
Minimum Split (s)	25.0	25.0		25.0	25.0		12.5	12.5	25.0	25.5	25.5	
Total Split (s)	25.0	25.0		42.0	42.0		33.0	33.0	42.0	33.0	33.0	
Total Split (%)	25.0%	25.0%		42.0%	42.0%		33.0%	33.0%	42.0%	33.0%	33.0%	
Maximum Green (s)	20.0	20.0		37.0	37.0		28.0	28.0	37.0	28.0	28.0	
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)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0	-1.0		-1.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0		3.0	3.0	1.0	3.0	3.0	
Recall Mode	C-Max	C-Max		Max	Max		None	None	Max	None	None	
Walk Time (s)	7.0	7.0		7.0	7.0				7.0	7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0				13.0	13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0				0	0	0	
Act Effect Green (s)	21.0	21.0		40.4	40.4			26.6	67.0		26.6	
Actuated g/C Ratio	0.21	0.21		0.40	0.40			0.27	0.67		0.27	
v/c Ratio	0.28	0.62		0.46	0.74			0.85	0.12		0.66	
Control Delay	36.2	41.0		25.8	30.4			37.2	3.2		36.0	
Queue Delay	0.0	0.0		0.0	0.0			17.1	0.0		0.0	
Total Delay	36.2	41.0		25.8	30.4			54.2	3.2		36.0	
LOS	D	D		C	C			D	A		D	
Approach Delay		40.1			29.3			43.1			36.0	
Approach LOS		D			C			D			D	

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 26 (26%), Referenced to phase 2:EBTL, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 34.9

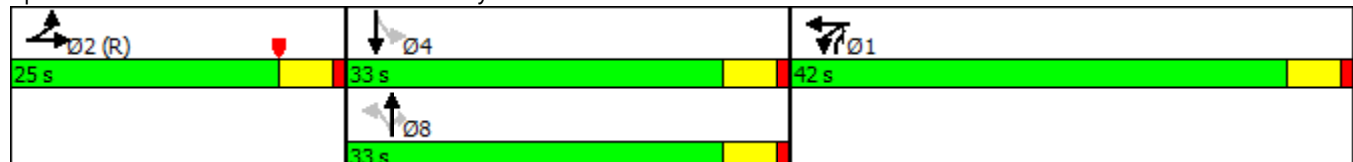
Intersection LOS: C

Intersection Capacity Utilization 62.5%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 11: Alabama Ave & Pennsylvania Ave SE



Lanes, Volumes, Timings
12: Alabama Ave & Ridge Rd SE

Future AM with Improvements

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	121	92	0	295	10	12	81	0	20	96	20
Future Volume (vph)	8	121	92	0	295	10	12	81	0	20	96	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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
Ped Bike Factor												
Frt		0.937			0.996						0.973	
Flt Protected		0.995						0.991			0.991	
Satd. Flow (prot)	0	1587	0	0	1669	0	0	1681	0	0	1584	0
Flt Permitted		0.995						0.991			0.991	
Satd. Flow (perm)	0	1587	0	0	1669	0	0	1681	0	0	1584	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		426			425			325			289	
Travel Time (s)		11.6			11.6			8.9			7.9	
Confl. Peds. (#/hr)	2					2			3	3		
Confl. Bikes (#/hr)		1	2									
Peak Hour Factor	0.25	0.90	0.63	0.67	0.83	0.88	0.50	0.78	0.25	0.59	0.82	0.53
Heavy Vehicles (%)	0%	1%	0%	0%	2%	3%	0%	1%	0%	0%	5%	5%
Adj. Flow (vph)	32	134	146	0	355	11	24	104	0	34	117	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	312	0	0	366	0	0	128	0	0	189	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Sign Control		Stop			Stop			Stop			Stop	
Intersection Summary												
Area Type:	CBD											
Control Type:	Unsignalized											
Intersection Capacity Utilization	39.0%											
Analysis Period (min)	15											
ICU Level of Service A												

HCM Unsignalized Intersection Capacity Analysis 12: Alabama Ave & Ridge Rd SE

Future AM with Improvements

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	8	121	92	0	295	10	12	81	0	20	96	20
Future Volume (vph)	8	121	92	0	295	10	12	81	0	20	96	20
Peak Hour Factor	0.25	0.90	0.63	0.67	0.83	0.88	0.50	0.78	0.25	0.59	0.82	0.53
Hourly flow rate (vph)	32	134	146	0	355	11	24	104	0	34	117	38
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	312	366	128	189								
Volume Left (vph)	32	0	24	34								
Volume Right (vph)	146	11	0	38								
Hadj (s)	-0.25	0.02	0.05	-0.01								
Departure Headway (s)	5.2	5.4	6.2	6.0								
Degree Utilization, x	0.45	0.55	0.22	0.31								
Capacity (veh/h)	641	632	497	534								
Control Delay (s)	12.5	14.8	10.9	11.7								
Approach Delay (s)	12.5	14.8	10.9	11.7								
Approach LOS	B	B	B	B								
Intersection Summary												
Delay				13.0								
Level of Service				B								
Intersection Capacity Utilization				39.0%	ICU Level of Service	A						
Analysis Period (min)				15								

Lanes, Volumes, Timings
501: Alabama Ave & Jasper St SE

Future AM with Improvements

10/03/2017

							Ø4	Ø5	Ø6
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT			
Lane Configurations									
Traffic Volume (vph)	41	50	583	40	42	582			
Future Volume (vph)	41	50	583	40	42	582			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00			
Ped Bike Factor	0.94		0.99						
Frt	0.932		0.990						
Flt Protected	0.976				0.950				
Satd. Flow (prot)	1694	0	1596	0	1719	1792			
Flt Permitted	0.976				0.307				
Satd. Flow (perm)	1598	0	1596	0	556	1792			
Right Turn on Red		Yes		Yes					
Satd. Flow (RTOR)	40		8						
Link Speed (mph)	30		25			25			
Link Distance (ft)	334		395			140			
Travel Time (s)	7.6		10.8			3.8			
Confl. Peds. (#/hr)	37			38	38				
Peak Hour Factor	0.61	0.73	0.94	0.79	0.63	0.83			
Heavy Vehicles (%)	0%	4%	6%	11%	5%	6%			
Bus Blockages (#/hr)	0	0	21	21	0	0			
Adj. Flow (vph)	67	68	620	51	67	701			
Shared Lane Traffic (%)									
Lane Group Flow (vph)	135	0	671	0	67	701			
Enter Blocked Intersection	No	No	No	No	No	No			
Lane Alignment	Left	Right	Left	Right	Left	Left			
Median Width(ft)	12		12			12			
Link Offset(ft)	0		0			0			
Crosswalk Width(ft)	16		16			16			
Two way Left Turn Lane									
Headway Factor	1.00	1.00	1.12	1.00	1.00	1.00			
Turning Speed (mph)	20	15		15	20				
Number of Detectors	1		1		1	1			
Detector Template	Left		Thru		Left	Thru			
Leading Detector (ft)	50		50		50	50			
Trailing Detector (ft)	0		0		0	0			
Detector 1 Position(ft)	0		0		0	0			
Detector 1 Size(ft)	50		50		50	50			
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex			
Detector 1 Channel									
Detector 1 Extend (s)	0.0		0.0		0.0	0.0			
Detector 1 Queue (s)	0.0		0.0		0.0	0.0			
Detector 1 Delay (s)	0.0		0.0		0.0	0.0			
Turn Type	Prot		NA		custom	NA			
Protected Phases	8		2		1	1 6	4	5	6
Permitted Phases					6				
Detector Phase	8		2		1	1 6			
Switch Phase									
Minimum Initial (s)	7.0		10.0		1.0		7.0	1.0	10.0
Minimum Split (s)	24.5		27.5		5.5		24.5	5.5	27.5

Lanes, Volumes, Timings
501: Alabama Ave & Jasper St SE

Future AM with Improvements

10/03/2017



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø4	Ø5	Ø6
Total Split (s)	30.0		82.5		5.5		30.0	5.5	82.5
Total Split (%)	25.4%		69.9%		4.7%		25%	5%	70%
Maximum Green (s)	24.5		78.5		1.0		24.5	1.0	78.5
Yellow Time (s)	4.0		4.0		3.0		4.0	3.0	4.0
All-Red Time (s)	1.5		0.0		1.5		1.5	1.5	0.0
Lost Time Adjust (s)	-1.5		-1.5		-1.5				
Total Lost Time (s)	4.0		2.5		3.0				
Lead/Lag			Lead		Lag			Lag	Lead
Lead-Lag Optimize?			Yes		Yes			Yes	Yes
Vehicle Extension (s)	1.0		1.0		1.0		1.0	1.0	1.0
Recall Mode	Max		C-Max		Max		Max	Max	C-Max
Walk Time (s)	7.0		7.0				7.0		7.0
Flash Dont Walk (s)	12.0		6.0				10.0		9.0
Pedestrian Calls (#/hr)	0		0				0		0
Act Effect Green (s)	26.0		80.0		82.0	85.0			
Actuated g/C Ratio	0.22		0.68		0.69	0.72			
v/c Ratio	0.33		0.62		0.16	0.54			
Control Delay	29.6		13.5		3.3	4.4			
Queue Delay	0.2		0.0		1.9	3.6			
Total Delay	29.7		13.5		5.2	8.0			
LOS	C		B		A	A			
Approach Delay	29.7		13.5			7.7			
Approach LOS	C		B			A			

Intersection Summary

Area Type: Other

Cycle Length: 118

Actuated Cycle Length: 118

Offset: 103 (87%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 12.1

Intersection LOS: B

Intersection Capacity Utilization 47.4%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 501: Alabama Ave & Jasper St SE



Lanes, Volumes, Timings
502: Alabama Ave & Irving St SE

Future AM with Improvements

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	5	24	20	19	30	20	596	17	23	580	152
Future Volume (vph)	45	5	24	20	19	30	20	596	17	23	580	152
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	50		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
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
Ped Bike Factor		0.96			0.96			1.00			0.99	
Frt		0.949			0.940			0.995			0.957	
Flt Protected		0.973			0.988		0.950			0.950		
Satd. Flow (prot)	0	1436	0	0	1536	0	1624	1636	0	1624	1526	0
Flt Permitted		0.795			0.919		0.219			0.342		
Satd. Flow (perm)	0	1148	0	0	1423	0	374	1636	0	585	1526	0
Right Turn on Red			No			No			Yes			Yes
Satd. Flow (RTOR)								4			39	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		363			396			140			554	
Travel Time (s)		9.9			10.8			3.8			15.1	
Confl. Peds. (#/hr)	16		12	12		16	7		4	4		7
Peak Hour Factor	0.75	0.63	0.58	0.79	0.56	0.64	0.68	0.97	0.80	0.79	0.98	0.63
Heavy Vehicles (%)	13%	0%	0%	0%	0%	0%	0%	4%	0%	0%	5%	8%
Bus Blockages (#/hr)	0	3	3	0	0	0	0	0	0	0	0	0
Adj. Flow (vph)	60	8	41	25	34	47	29	614	21	29	592	241
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	109	0	0	106	0	29	635	0	29	833	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.16	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		custom	NA		Perm	NA	
Protected Phases		4			4		5	2 5			6	
Permitted Phases	4			4			2			6		
Detector Phase	4	4		4	4		5	2 5		6	6	
Switch Phase												

Lane Group	Ø1	Ø2	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Ped Bike Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Confl. Peds. (#/hr)			
Peak Hour Factor			
Heavy Vehicles (%)			
Bus Blockages (#/hr)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Number of Detectors			
Detector Template			
Leading Detector (ft)			
Trailing Detector (ft)			
Detector 1 Position(ft)			
Detector 1 Size(ft)			
Detector 1 Type			
Detector 1 Channel			
Detector 1 Extend (s)			
Detector 1 Queue (s)			
Detector 1 Delay (s)			
Turn Type			
Protected Phases	1	2	8
Permitted Phases			
Detector Phase			
Switch Phase			

Lanes, Volumes, Timings
502: Alabama Ave & Irving St SE

Future AM with Improvements

10/03/2017

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	7.0	7.0		7.0	7.0		1.0			10.0	10.0	
Minimum Split (s)	24.5	24.5		24.5	24.5		5.5			27.5	27.5	
Total Split (s)	30.0	30.0		30.0	30.0		5.5			82.5	82.5	
Total Split (%)	25.4%	25.4%		25.4%	25.4%		4.7%			69.9%	69.9%	
Maximum Green (s)	24.5	24.5		24.5	24.5		1.0			78.5	78.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0			4.0	4.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5			0.0	0.0	
Lost Time Adjust (s)		-1.5			-1.5		-1.5			-1.5	-1.5	
Total Lost Time (s)		4.0			4.0		3.0			2.5	2.5	
Lead/Lag							Lag			Lead	Lead	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0			1.0	1.0	
Recall Mode	Max	Max		Max	Max		Max			C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0					9.0	9.0	
Pedestrian Calls (#/hr)	0	0		0	0					0	0	
Act Effect Green (s)		26.0			26.0		82.0	85.5		80.0	80.0	
Actuated g/C Ratio		0.22			0.22		0.69	0.72		0.68	0.68	
v/c Ratio		0.43			0.34		0.10	0.54		0.07	0.80	
Control Delay		45.9			42.4		2.4	3.1		7.0	19.8	
Queue Delay		4.4			1.9		0.8	0.5		0.0	0.0	
Total Delay		50.3			44.3		3.2	3.6		7.0	19.8	
LOS		D			D		A	A		A	B	
Approach Delay		50.3			44.3			3.5			19.4	
Approach LOS		D			D			A			B	

Intersection Summary

Area Type: CBD

Cycle Length: 118

Actuated Cycle Length: 118

Offset: 103 (87%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 16.8

Intersection LOS: B

Intersection Capacity Utilization 65.2%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 502: Alabama Ave & Irving St SE



Lane Group	Ø1	Ø2	Ø8
Minimum Initial (s)	1.0	10.0	7.0
Minimum Split (s)	5.5	27.5	24.5
Total Split (s)	5.5	82.5	30.0
Total Split (%)	5%	70%	25%
Maximum Green (s)	1.0	78.5	24.5
Yellow Time (s)	3.0	4.0	4.0
All-Red Time (s)	1.5	0.0	1.5
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Vehicle Extension (s)	1.0	1.0	1.0
Recall Mode	Max	C-Max	Max
Walk Time (s)		7.0	7.0
Flash Dont Walk (s)		6.0	12.0
Pedestrian Calls (#/hr)		0	0
Act Effect Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Intersection Summary			

Lanes, Volumes, Timings
901: Alabama Ave & 36th PI SE

Future AM with Improvements

10/03/2017

							
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø8
Lane Configurations							
Traffic Volume (vph)	1	0	0	394	657	0	
Future Volume (vph)	1	0	0	394	657	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	9	9	10	10	10	10	
Grade (%)	-4%			-8%	2%		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor							
Frt							
Flt Protected	0.950						
Satd. Flow (prot)	1491	0	0	1611	1461	0	
Flt Permitted	0.950						
Satd. Flow (perm)	1491	0	0	1611	1461	0	
Right Turn on Red		No				Yes	
Satd. Flow (RTOR)							
Link Speed (mph)	25			25	25		
Link Distance (ft)	218			600	164		
Travel Time (s)	5.9			16.4	4.5		
Confl. Peds. (#/hr)		5	6			6	
Peak Hour Factor	0.25	0.25	0.25	0.87	0.92	0.25	
Heavy Vehicles (%)	0%	0%	0%	3%	6%	0%	
Bus Blockages (#/hr)	0	0	0	0	5	5	
Adj. Flow (vph)	4	0	0	453	714	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	4	0	0	453	714	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(ft)	9			0	0		
Link Offset(ft)	0			0	0		
Crosswalk Width(ft)	16			16	16		
Two way Left Turn Lane							
Headway Factor	1.27	1.27	1.19	1.19	1.30	1.26	
Turning Speed (mph)	20	15	20			15	
Number of Detectors	1			1	1		
Detector Template	Left			Thru	Thru		
Leading Detector (ft)	50			50	50		
Trailing Detector (ft)	0			0	0		
Detector 1 Position(ft)	0			0	0		
Detector 1 Size(ft)	50			50	50		
Detector 1 Type	Cl+Ex			Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)	0.0			0.0	0.0		
Detector 1 Queue (s)	0.0			0.0	0.0		
Detector 1 Delay (s)	0.0			0.0	0.0		
Turn Type	Prot			NA	NA		
Protected Phases	4			6	2		8
Permitted Phases							
Detector Phase	4			6	2		
Switch Phase							

Lanes, Volumes, Timings
901: Alabama Ave & 36th PI SE

Future AM with Improvements

10/03/2017



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø8
Minimum Initial (s)	7.0			10.0	10.0		10.0
Minimum Split (s)	21.0			24.0	24.0		21.0
Total Split (s)	21.0			79.0	79.0		21.0
Total Split (%)	21.0%			79.0%	79.0%		21%
Maximum Green (s)	15.0			73.0	73.0		15.0
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)	-2.0			-2.0	-2.0		
Total Lost Time (s)	4.0			4.0	4.0		
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0			1.0	1.0		3.0
Recall Mode	None			C-Max	C-Max		None
Walk Time (s)	7.0			7.0	7.0		7.0
Flash Dont Walk (s)	8.0			6.0	6.0		8.0
Pedestrian Calls (#/hr)	0			0	0		0
Act Effect Green (s)	9.8			83.8	83.8		
Actuated g/C Ratio	0.10			0.84	0.84		
v/c Ratio	0.03			0.34	0.58		
Control Delay	40.0			0.9	2.7		
Queue Delay	0.0			0.0	0.2		
Total Delay	40.0			0.9	2.9		
LOS	D			A	A		
Approach Delay	40.0			0.9	2.9		
Approach LOS	D			A	A		

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 98 (98%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 2.2

Intersection LOS: A

Intersection Capacity Utilization 51.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 901: Alabama Ave & 36th PI SE



Lanes, Volumes, Timings
902: Alabama Ave & 36th PI SE

Future AM with Improvements

10/03/2017

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø4
Lane Configurations							
Traffic Volume (vph)	16	14	381	14	27	641	
Future Volume (vph)	16	14	381	14	27	641	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	10	10	10	10	10	
Grade (%)	0%		2%			2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor	0.97		1.00			1.00	
Frt	0.909		0.992				
Flt Protected	0.984					0.996	
Satd. Flow (prot)	1386	0	1447	0	0	1487	
Flt Permitted	0.984					0.941	
Satd. Flow (perm)	1386	0	1447	0	0	1403	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)	41		9				
Link Speed (mph)	25		25			25	
Link Distance (ft)	270		164			481	
Travel Time (s)	7.4		4.5			13.1	
Confl. Peds. (#/hr)		7		8	8		
Peak Hour Factor	0.80	0.34	0.87	0.50	0.50	0.92	
Heavy Vehicles (%)	0%	0%	3%	0%	4%	6%	
Bus Blockages (#/hr)	0	0	12	12	0	0	
Adj. Flow (vph)	20	41	438	28	54	697	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	61	0	466	0	0	751	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Right	Left	Left	
Median Width(ft)	10		0			0	
Link Offset(ft)	0		0			0	
Crosswalk Width(ft)	16		16			16	
Two way Left Turn Lane							
Headway Factor	1.25	1.25	1.34	1.26	1.26	1.26	
Number of Detectors	1		1		1	1	
Detector Template	Left		Thru		Left	Thru	
Leading Detector (ft)	50		50		50	50	
Trailing Detector (ft)	0		0		0	0	
Detector 1 Position(ft)	0		0		0	0	
Detector 1 Size(ft)	50		50		50	50	
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0		0.0		0.0	0.0	
Detector 1 Queue (s)	0.0		0.0		0.0	0.0	
Detector 1 Delay (s)	0.0		0.0		0.0	0.0	
Turn Type	Perm		NA		Perm	NA	
Protected Phases			6			2	4
Permitted Phases	8				2		
Detector Phase	8		6		2	2	
Switch Phase							
Minimum Initial (s)	10.0		10.0		10.0	10.0	7.0

	↖	↗	↑	↘	↙	↓	
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø4
Minimum Split (s)	21.0		24.0		24.0	24.0	21.0
Total Split (s)	21.0		79.0		79.0	79.0	21.0
Total Split (%)	21.0%		79.0%		79.0%	79.0%	21%
Maximum Green (s)	15.0		73.0		73.0	73.0	15.0
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)	-2.0		-2.0			-2.0	
Total Lost Time (s)	4.0		4.0			4.0	
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0		1.0		1.0	1.0	3.0
Recall Mode	None		C-Max		C-Max	C-Max	None
Walk Time (s)	7.0		7.0		7.0	7.0	7.0
Flash Dont Walk (s)	8.0		6.0		6.0	6.0	8.0
Pedestrian Calls (#/hr)	0		0		0	0	0
Act Effect Green (s)	12.2		83.8			83.8	
Actuated g/C Ratio	0.12		0.84			0.84	
v/c Ratio	0.30		0.38			0.64	
Control Delay	22.6		0.9			9.7	
Queue Delay	0.0		0.2			0.0	
Total Delay	22.6		1.1			9.7	
LOS	C		A			A	
Approach Delay	22.6		1.1			9.7	
Approach LOS	C		A			A	

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 98 (98%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 7.2

Intersection LOS: A

Intersection Capacity Utilization 77.7%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 902: Alabama Ave & 36th PI SE



Lanes, Volumes, Timings
1: Alabama Ave & Randle PI SE

Future AM with Improvements + LPIs

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	153	1	20	3	0	1	0	258	0	5	352	0
Future Volume (vph)	153	1	20	3	0	1	0	258	0	5	352	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	30		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
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
Ped Bike Factor	0.70				0.82						1.00	
Frt		0.867			0.946							
Flt Protected	0.950				0.971						0.999	
Satd. Flow (prot)	1533	1346	0	0	802	0	0	1447	0	0	1198	0
Flt Permitted	0.950				0.971						0.989	
Satd. Flow (perm)	1068	1346	0	0	802	0	0	1447	0	0	1183	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		341			204			606			1743	
Travel Time (s)		9.3			5.6			16.5			47.5	
Confl. Peds. (#/hr)	82					82	72		34	34		72
Peak Hour Factor	0.73	0.25	0.64	0.50	0.25	0.25	0.63	0.93	0.25	0.42	0.83	0.88
Heavy Vehicles (%)	6%	0%	0%	100%	0%	0%	0%	4%	0%	40%	6%	2%
Bus Blockages (#/hr)	0	23	23	0	0	0	0	0	0	0	0	0
Parking (#/hr)								4	4		30	30
Adj. Flow (vph)	210	4	31	6	0	4	0	277	0	12	424	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	210	35	0	0	10	0	0	277	0	0	436	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.29	1.14	1.14	1.14	1.14	1.14	1.34	1.14	1.14	1.63	1.14
Number of Detectors	1	1		1	1			1		1	1	
Detector Template	Left	Thru		Left	Thru			Thru		Left	Thru	
Leading Detector (ft)	50	50		50	50			50		50	50	
Trailing Detector (ft)	0	0		0	0			0		0	0	
Detector 1 Position(ft)	0	0		0	0			0		0	0	
Detector 1 Size(ft)	50	50		50	50			50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Turn Type	Split	NA		Split	NA			NA		Perm	NA	
Protected Phases	8	8		7	7			2			6	
Permitted Phases										6		
Detector Phase	8	8		7	7			2		6	6	

Lanes, Volumes, Timings
1: Alabama Ave & Randle PI SE

Future AM with Improvements + LPIs

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0			10.0		10.0	10.0	
Minimum Split (s)	22.5	22.5		13.5	13.5			19.5		17.5	17.5	
Total Split (s)	35.0	35.0		15.0	15.0			70.0		70.0	70.0	
Total Split (%)	29.2%	29.2%		12.5%	12.5%			58.3%		58.3%	58.3%	
Maximum Green (s)	28.5	28.5		8.5	8.5			63.5		63.5	63.5	
Yellow Time (s)	4.0	4.0		4.0	4.0			4.0		4.0	4.0	
All-Red Time (s)	2.5	2.5		2.5	2.5			2.5		2.5	2.5	
Lost Time Adjust (s)	-2.5	-2.5			-2.5			-2.5			-2.5	
Total Lost Time (s)	4.0	4.0			4.0			4.0			4.0	
Lead/Lag	Lag	Lag		Lead	Lead							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	1.0	1.0		3.0	3.0			1.0		1.0	1.0	
Recall Mode	Max	Max		None	None			C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0						7.0		7.0	7.0	
Flash Dont Walk (s)	9.0	9.0						6.0		4.0	4.0	
Pedestrian Calls (#/hr)	0	0						0		0	0	
Act Effect Green (s)	43.0	43.0			10.0			66.0			66.0	
Actuated g/C Ratio	0.36	0.36			0.08			0.55			0.55	
v/c Ratio	0.38	0.07			0.15			0.35			0.67	
Control Delay	32.8	28.7			56.0			16.6			17.2	
Queue Delay	0.0	0.0			0.0			0.0			0.0	
Total Delay	32.8	28.7			56.0			16.6			17.2	
LOS	C	C			E			B			B	
Approach Delay		32.2			56.0			16.6			17.2	
Approach LOS		C			E			B			B	

Intersection Summary

Area Type: CBD

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 30 (25%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.67

Intersection Signal Delay: 21.2

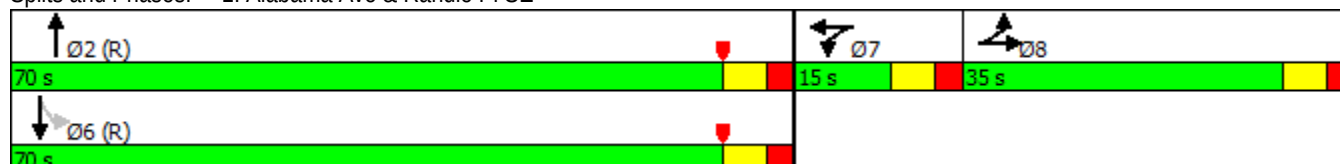
Intersection LOS: C

Intersection Capacity Utilization 43.2%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 1: Alabama Ave & Randle PI SE



Lanes, Volumes, Timings
2: Alabama Ave & 11th PI SE

Future AM with Improvements + LPIs

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	3	22	17	9	12	52	604	3	20	786	40
Future Volume (vph)	24	3	22	17	9	12	52	604	3	20	786	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
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
Ped Bike Factor		0.89			0.93			1.00			0.99	
Frt		0.939			0.947			0.999			0.991	
Flt Protected		0.978			0.982			0.996			0.998	
Satd. Flow (prot)	0	1400	0	0	1424	0	0	1613	0	0	1606	0
Flt Permitted		0.850			0.871			0.853			0.960	
Satd. Flow (perm)	0	1215	0	0	1180	0	0	1380	0	0	1545	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		196			302			1743			913	
Travel Time (s)		5.3			8.2			47.5			24.9	
Confl. Peds. (#/hr)	1		64	64		1	17		8	8		17
Peak Hour Factor	0.69	0.38	0.63	0.80	0.67	0.55	0.75	0.84	0.38	0.64	0.92	0.66
Heavy Vehicles (%)	0%	0%	0%	6%	0%	18%	0%	6%	0%	6%	5%	0%
Bus Blockages (#/hr)	0	0	0	0	3	3	0	0	0	0	0	0
Adj. Flow (vph)	35	8	35	21	13	22	69	719	8	31	854	61
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	78	0	0	56	0	0	796	0	0	946	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.16	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Detector Phase	4	4		4	4		2	2		2	2	
Switch Phase												

Lane Group	Ø12
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	
Heavy Vehicles (%)	
Bus Blockages (#/hr)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Turn Type	
Protected Phases	12
Permitted Phases	
Detector Phase	
Switch Phase	

Lanes, Volumes, Timings
2: Alabama Ave & 11th PI SE

Future AM with Improvements + LPIs

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		20.5	20.5		20.5	20.5	
Total Split (s)	24.0	24.0		24.0	24.0		90.0	90.0		90.0	90.0	
Total Split (%)	20.0%	20.0%		20.0%	20.0%		75.0%	75.0%		75.0%	75.0%	
Maximum Green (s)	18.5	18.5		18.5	18.5		84.5	84.5		84.5	84.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)		-1.5			-1.5			-1.5			-1.5	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		1.0	1.0		1.0	1.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0		8.0	8.0		8.0	8.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		14.3			14.3			94.2			94.2	
Actuated g/C Ratio		0.12			0.12			0.78			0.78	
v/c Ratio		0.54			0.40			0.73			0.78	
Control Delay		62.3			55.7			16.1			15.3	
Queue Delay		0.0			0.0			0.0			0.5	
Total Delay		62.3			55.7			16.1			15.8	
LOS		E			E			B			B	
Approach Delay		62.3			55.7			16.1			15.8	
Approach LOS		E			E			B			B	

Intersection Summary

Area Type: CBD

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 112 (93%), Referenced to phase 2:NBSB, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 19.1

Intersection LOS: B

Intersection Capacity Utilization 84.3%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 2: Alabama Ave & 11th PI SE



Lane Group	Ø12
Minimum Initial (s)	1.0
Minimum Split (s)	3.0
Total Split (s)	6.0
Total Split (%)	5%
Maximum Green (s)	4.0
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	Max
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Intersection Summary	

Lanes, Volumes, Timings

Future AM with Improvements + LPIs

3: Alabama Ave & Congress Heights Metro/13th St SE

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	8	35	89	15	52	30	530	80	50	722	37
Future Volume (vph)	29	8	35	89	15	52	30	530	80	50	722	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	110		50	90		0
Storage Lanes	1		1	0		0	1		1	1		0
Taper Length (ft)	25			25			25			25		
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
Ped Bike Factor	0.92		0.76		0.81				0.81		1.00	
Frt			0.850		0.961				0.850		0.991	
Flt Protected	0.950				0.973		0.950			0.950		
Satd. Flow (prot)	1518	1500	1411	0	1489	0	1562	1644	1321	1577	1536	0
Flt Permitted	0.602				0.821		0.131			0.282		
Satd. Flow (perm)	883	1500	1071	0	1065	0	215	1644	1074	468	1536	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		203			201			913			2042	
Travel Time (s)		5.5			5.5			24.9			55.7	
Confl. Peds. (#/hr)	57		106	106		57	2		43	43		2
Confl. Bikes (#/hr)												1
Peak Hour Factor	0.75	0.88	0.78	0.77	0.50	0.86	0.78	0.86	0.63	0.83	0.91	0.77
Heavy Vehicles (%)	7%	14%	3%	4%	0%	0%	4%	4%	10%	3%	6%	9%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	9	9
Adj. Flow (vph)	39	9	45	116	30	60	38	616	127	60	793	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	39	9	45	0	206	0	38	616	127	60	841	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.20	1.14
Number of Detectors	1	1	1	1	1		1	1	1	1	1	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Size(ft)	50	50	50	50	50		50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8		8	4			6		6	2		
Detector Phase	8	8	8	4	4		1	6	6	5	2	

Future AM with Improvements + LPIs 7:30 am 03/02/2017

SJ

Synchro 9 Report

Page 7

Lane Group	Ø12	Ø13
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Bus Blockages (#/hr)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Turn Type		
Protected Phases	12	13
Permitted Phases		
Detector Phase		

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	24.0	24.0	24.0	29.0	29.0		10.0	23.5	23.5	10.0	29.5	
Total Split (s)	31.0	31.0	31.0	32.0	32.0		10.0	71.0	71.0	10.0	71.0	
Total Split (%)	26.1%	26.1%	26.1%	26.9%	26.9%		8.4%	59.7%	59.7%	8.4%	59.7%	
Maximum Green (s)	25.0	25.0	25.0	26.0	26.0		5.0	65.5	65.5	5.0	65.5	
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		1.0	1.5	1.5	1.0	1.5	
Lost Time Adjust (s)	-2.0	-2.0	-2.0		-2.0		-1.0	-1.5	-1.5	-1.0	-1.5	
Total Lost Time (s)	4.0	4.0	4.0		4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag							Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Recall Mode	Max	Max	Max	Max	Max		Max	C-Max	C-Max	Max	C-Max	
Walk Time (s)				7.0	7.0			7.0	7.0		7.0	
Flash Dont Walk (s)				16.0	16.0			8.0	8.0		17.0	
Pedestrian Calls (#/hr)				0	0			0	0		0	
Act Effect Green (s)	28.0	28.0	28.0		28.0		73.0	67.0	67.0	73.0	67.0	
Actuated g/C Ratio	0.24	0.24	0.24		0.24		0.61	0.56	0.56	0.61	0.56	
v/c Ratio	0.19	0.03	0.18		0.82		0.19	0.67	0.21	0.17	0.97	
Control Delay	39.4	35.5	38.7		69.9		9.9	22.6	14.0	9.0	50.9	
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	39.4	35.5	38.7		69.9		9.9	22.6	14.0	9.0	50.9	
LOS	D	D	D		E		A	C	B	A	D	
Approach Delay		38.7			69.9			20.6			48.1	
Approach LOS		D			E			C			D	

Intersection Summary

Area Type: CBD

Cycle Length: 119

Actuated Cycle Length: 119

Offset: 54 (45%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.97

Intersection Signal Delay: 39.1

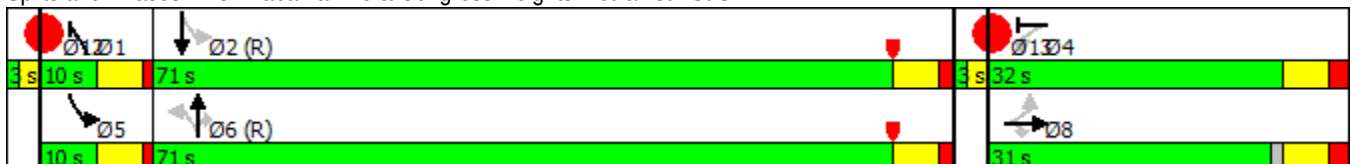
Intersection LOS: D

Intersection Capacity Utilization 82.4%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 3: Alabama Ave & Congress Heights Metro/13th St SE



Lane Group	Ø12	Ø13
Switch Phase		
Minimum Initial (s)	1.0	1.0
Minimum Split (s)	3.0	3.0
Total Split (s)	3.0	3.0
Total Split (%)	3%	3%
Maximum Green (s)	1.0	1.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	Max	Max
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		

Lanes, Volumes, Timings
4: Alabama Ave & Stanton Rd SE

Future AM with Improvements + LPIs

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	119	153	49	192	27	84	460	25	12	576	130
Future Volume (vph)	55	119	153	49	192	27	84	460	25	12	576	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	30		0	30		0	100		50	100		50
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor	0.85	0.92		0.95	0.95			0.96			0.90	
Frt		0.921			0.974			0.992			0.970	
Flt Protected	0.950			0.950				0.992			0.999	
Satd. Flow (prot)	1377	1317	0	1400	1495	0	0	2620	0	0	2658	0
Flt Permitted	0.455			0.337				0.649			0.934	
Satd. Flow (perm)	562	1317	0	471	1495	0	0	1686	0	0	2480	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		385			337			434			674	
Travel Time (s)		10.5			9.2			11.8			18.4	
Confl. Peds. (#/hr)	136		69	69		136	118		82	82		118
Confl. Bikes (#/hr)												1
Peak Hour Factor	0.85	0.74	0.86	0.79	0.92	0.63	0.76	0.91	0.69	0.69	0.93	0.81
Heavy Vehicles (%)	18%	13%	7%	16%	7%	0%	13%	7%	32%	0%	6%	8%
Parking (#/hr)								14	14			
Adj. Flow (vph)	65	161	178	62	209	43	111	505	36	17	619	160
Shared Lane Traffic (%)												
Lane Group Flow (vph)	65	339	0	62	252	0	0	652	0	0	796	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.28	1.14	1.14	1.14	1.14
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6			2		
Detector Phase	4	4		8	8		6	6		2	2	

Lane Group	Ø12	Ø13
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Parking (#/hr)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Turn Type		
Protected Phases	12	13
Permitted Phases		
Detector Phase		

Lanes, Volumes, Timings
4: Alabama Ave & Stanton Rd SE

Future AM with Improvements + LPIs

10/03/2017

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	23.5	23.5		23.5	23.5		23.5	23.5		23.5	23.5	
Total Split (s)	42.0	42.0		42.0	42.0		72.0	72.0		72.0	72.0	
Total Split (%)	35.0%	35.0%		35.0%	35.0%		60.0%	60.0%		60.0%	60.0%	
Maximum Green (s)	36.5	36.5		36.5	36.5		66.5	66.5		66.5	66.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5			-1.5			-1.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Recall Mode	Max	Max		Max	Max		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)	38.0	38.0		38.0	38.0			68.0			68.0	
Actuated g/C Ratio	0.32	0.32		0.32	0.32			0.57			0.57	
v/c Ratio	0.37	0.81		0.42	0.53			0.68			0.57	
Control Delay	39.1	54.6		42.7	38.7			23.0			18.6	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	39.1	54.6		42.7	38.7			23.0			18.6	
LOS	D	D		D	D			C			B	
Approach Delay		52.1			39.5			23.0			18.6	
Approach LOS		D			D			C			B	

Intersection Summary

Area Type: CBD

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 22 (18%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 29.2

Intersection LOS: C

Intersection Capacity Utilization 81.1%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 4: Alabama Ave & Stanton Rd SE



Lane Group	Ø12	Ø13
Switch Phase		
Minimum Initial (s)	1.0	1.0
Minimum Split (s)	3.0	3.0
Total Split (s)	3.0	3.0
Total Split (%)	3%	3%
Maximum Green (s)	1.0	1.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	Max	Max
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effect Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		

Lanes, Volumes, Timings
6: Alabama Ave & Naylor Rd SE

Future AM with Improvements + LPIs

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	124	64	28	894	35	69	274	17	36	408	6
Future Volume (vph)	5	124	64	28	894	35	69	274	17	36	408	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor		0.98			0.99			0.98			0.99	
Frt		0.948			0.993			0.987			0.997	
Flt Protected		0.998			0.998			0.989			0.995	
Satd. Flow (prot)	0	1510	0	0	1612	0	0	2921	0	0	3021	0
Flt Permitted		0.969			0.983			0.590			0.794	
Satd. Flow (perm)	0	1466	0	0	1586	0	0	1722	0	0	2400	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		318			242			437			498	
Travel Time (s)		8.7			6.6			11.9			13.6	
Confl. Peds. (#/hr)	66		26	26		66	67		35	35		67
Confl. Bikes (#/hr)		1			2							
Peak Hour Factor	0.63	0.84	0.66	0.88	0.98	0.73	0.74	0.91	0.47	0.68	0.83	0.50
Heavy Vehicles (%)	0%	2%	10%	0%	5%	0%	18%	3%	0%	0%	4%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	7	7	0	13	13
Adj. Flow (vph)	8	148	97	32	912	48	93	301	36	53	492	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	253	0	0	992	0	0	430	0	0	557	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.16	1.14	1.14	1.18	1.14
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		6			2			4			8	
Permitted Phases	6			2			4			8	8	
Detector Phase	6	6		2	2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	29.5	29.5		31.5	31.5		27.5	27.5		31.5	31.5	

Lane Group	Ø12	Ø13
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Bus Blockages (#/hr)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Turn Type		
Protected Phases	12	13
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	1.0	1.0
Minimum Split (s)	3.0	3.0

Lanes, Volumes, Timings
6: Alabama Ave & Naylor Rd SE

Future AM with Improvements + LPIs

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	72.0	72.0		72.0	72.0		36.0	36.0		36.0	36.0	
Total Split (%)	60.0%	60.0%		60.0%	60.0%		30.0%	30.0%		30.0%	30.0%	
Maximum Green (s)	65.5	65.5		65.5	65.5		29.5	29.5		29.5	29.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)		-2.5			-2.5			-2.5			-2.5	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	16.0	16.0		18.0	18.0		14.0	14.0		18.0	18.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		68.0			68.0			32.0			32.0	
Actuated g/C Ratio		0.57			0.57			0.27			0.27	
v/c Ratio		0.30			1.10			0.97dl			0.87	
Control Delay		14.9			89.6			72.5			86.9	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		14.9			89.6			72.5			86.9	
LOS		B			F			E			F	
Approach Delay		14.9			89.6			72.5			86.9	
Approach LOS		B			F			E			F	

Intersection Summary

Area Type: CBD

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 45 (38%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.10

Intersection Signal Delay: 77.1

Intersection LOS: E

Intersection Capacity Utilization 117.5%

ICU Level of Service H

Analysis Period (min) 15

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 6: Alabama Ave & Naylor Rd SE



Lane Group	Ø12	Ø13
Total Split (s)	6.0	6.0
Total Split (%)	5%	5%
Maximum Green (s)	4.0	4.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	Max	Max
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effect Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR2	NBL2	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	171	48	2	25	36	6	12	15	283	4	11	408
Future Volume (vph)	171	48	2	25	36	6	12	15	283	4	11	408
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	50				100		100	120	
Storage Lanes	1		0	1				1		1	1	
Taper Length (ft)	25			25				25			25	
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00
Ped Bike Factor		1.00		1.00	1.00					0.97	0.99	
Frt		0.998			0.982					0.850		
Flt Protected	0.950	0.975		0.950	0.997			0.950			0.950	
Satd. Flow (prot)	1429	1504	0	1543	1590	0	0	1624	3249	1395	1624	1629
Flt Permitted	0.950	0.975		0.950	0.997			0.179			0.504	
Satd. Flow (perm)	1429	1504	0	1537	1590	0	0	306	3249	1349	855	1629
Right Turn on Red			Yes			Yes				Yes		
Satd. Flow (RTOR)		1			164					173		
Link Speed (mph)		25			25				25			25
Link Distance (ft)		325			206				498			2443
Travel Time (s)		8.9			5.6				13.6			66.6
Confl. Peds. (#/hr)			3	3				7		3	3	
Peak Hour Factor	0.84	0.75	1.00	0.75	0.90	1.00	1.00	0.56	0.88	0.75	0.55	0.80
Heavy Vehicles (%)	8%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	10	0	0
Adj. Flow (vph)	204	64	2	33	40	6	12	27	322	5	20	510
Shared Lane Traffic (%)	35%			10%								
Lane Group Flow (vph)	133	137	0	30	49	0	0	39	322	5	20	510
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Left	Right	Left	Left
Median Width(ft)		12			12				12			12
Link Offset(ft)		0			0				0			0
Crosswalk Width(ft)		16			16				16			16
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.20	1.14	1.14
Turning Speed (mph)	20		15	20		15	20	20		15	20	
Number of Detectors	1	2		1	2		1	1	2	1	1	2
Detector Template							Left					
Leading Detector (ft)	50	50		50	50		20	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50		20	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		0			0				0			0
Detector 2 Size(ft)		0			0				0			0
Detector 2 Type		Cl+Ex			Cl+Ex				Cl+Ex			Cl+Ex
Detector 2 Channel												



Lane Group	SBR	SBR2	SEL2	SEL	SER	SER2
Lane Configurations	FF			FF		
Traffic Volume (vph)	638	21	26	0	15	12
Future Volume (vph)	638	21	26	0	15	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120			0	0	
Storage Lanes	1			1	0	
Taper Length (ft)				25		
Lane Util. Factor	0.88	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.850			0.931		
Flt Protected				0.976		
Satd. Flow (prot)	2484	0	0	1554	0	0
Flt Permitted				0.976		
Satd. Flow (perm)	2484	0	0	1554	0	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	173			173		
Link Speed (mph)				30		
Link Distance (ft)				266		
Travel Time (s)				6.0		
Confl. Peds. (#/hr)	7					
Peak Hour Factor	0.89	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	5	0	0	0	0	0
Adj. Flow (vph)	717	21	26	0	15	12
Shared Lane Traffic (%)						
Lane Group Flow (vph)	738	0	0	53	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Right	Right	Left	Left	Right	Right
Median Width(ft)				12		
Link Offset(ft)				0		
Crosswalk Width(ft)				16		
Two way Left Turn Lane						
Headway Factor	1.16	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)	15	15	20	20	15	15
Number of Detectors	1		1	1		
Detector Template						
Leading Detector (ft)	50		50	50		
Trailing Detector (ft)	0		0	0		
Detector 1 Position(ft)	0		0	0		
Detector 1 Size(ft)	50		50	50		
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex		
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0		
Detector 1 Queue (s)	0.0		0.0	0.0		
Detector 1 Delay (s)	0.0		0.0	0.0		
Detector 2 Position(ft)						
Detector 2 Size(ft)						
Detector 2 Type						
Detector 2 Channel						



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR2	NBL2	NBL	NBT	NBR	SBL	SBT
Detector 2 Extend (s)		0.0			0.0				0.0			0.0
Turn Type	Split	NA		Split	NA		Perm	Perm	NA	Perm	Perm	NA
Protected Phases	7	7		4	4				2			6
Permitted Phases							2	2		2	6	
Detector Phase	7	7		4	4		2	2	2	2	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0		7.0	7.0		10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	29.0	29.0		28.0	28.0		20.0	20.0	20.0	20.0	24.0	24.0
Total Split (s)	32.0	32.0		28.0	28.0		48.0	48.0	48.0	48.0	48.0	48.0
Total Split (%)	26.7%	26.7%		23.3%	23.3%		40.0%	40.0%	40.0%	40.0%	40.0%	40.0%
Maximum Green (s)	25.0	25.0		20.0	20.0		41.0	41.0	41.0	41.0	41.0	41.0
Yellow Time (s)	4.0	4.0		5.0	5.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-3.0	-3.0		-3.0	-3.0			-3.0	-3.0	-3.0	-3.0	-3.0
Total Lost Time (s)	4.0	4.0		5.0	5.0			4.0	4.0	4.0	4.0	4.0
Lead/Lag				Lag	Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	3.0	3.0
Recall Mode	Max	Max		Max	Max		C-Max	C-Max	C-Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0		6.0	6.0		7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	15.0	15.0		14.0	14.0		6.0	6.0	6.0	6.0	10.0	10.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	0
Act Effect Green (s)	28.0	28.0		25.4	25.4			44.0	44.0	44.0	44.0	44.0
Actuated g/C Ratio	0.23	0.23		0.21	0.21			0.37	0.37	0.37	0.37	0.37
v/c Ratio	0.40	0.39		0.09	0.11			0.35	0.27	0.01	0.06	0.85
Control Delay	43.2	42.4		41.0	0.5			14.1	8.4	0.0	25.5	50.4
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	0.0
Total Delay	43.2	42.4		41.0	0.5			14.1	8.4	0.0	25.5	50.4
LOS	D	D		D	A			B	A	A	C	D
Approach Delay		42.8			15.9				8.9			66.2
Approach LOS		D			B				A			E

Intersection Summary

Area Type: CBD

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 118 (98%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.04

Intersection Signal Delay: 49.2

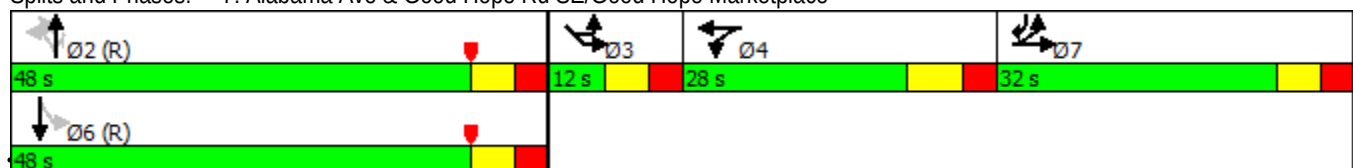
Intersection LOS: D

Intersection Capacity Utilization 57.4%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 7: Alabama Ave & Good Hope Rd SE/Good Hope Marketplace



Future AM with Improvements + LPIs 7:30 am 03/02/2017

Synchro 9 Report

SJ

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Lane Group	SBR	SBR2	SEL2	SEL	SER	SER2
Detector 2 Extend (s)						
Turn Type	Over		Prot	Prot		
Protected Phases	7		3	3		
Permitted Phases						
Detector Phase	7		3	3		
Switch Phase						
Minimum Initial (s)	10.0		5.0	5.0		
Minimum Split (s)	29.0		12.0	12.0		
Total Split (s)	32.0		12.0	12.0		
Total Split (%)	26.7%		10.0%	10.0%		
Maximum Green (s)	25.0		5.0	5.0		
Yellow Time (s)	4.0		4.0	4.0		
All-Red Time (s)	3.0		3.0	3.0		
Lost Time Adjust (s)	-3.0			-3.0		
Total Lost Time (s)	4.0			4.0		
Lead/Lag			Lead	Lead		
Lead-Lag Optimize?						
Vehicle Extension (s)	1.0		3.0	3.0		
Recall Mode	Max		None	None		
Walk Time (s)	7.0					
Flash Dont Walk (s)	15.0					
Pedestrian Calls (#/hr)	0					
Act Effect Green (s)	28.0			8.0		
Actuated g/C Ratio	0.23			0.07		
v/c Ratio	1.04			0.20		
Control Delay	78.2			1.7		
Queue Delay	0.0			0.0		
Total Delay	78.2			1.7		
LOS	E			A		
Approach Delay				1.7		
Approach LOS				A		
Intersection Summary						

Lanes, Volumes, Timings
8: Alabama Ave & Branch Ave SE

Future AM with Improvements + LPIs

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	213	100	153	527	5	123	377	36	10	639	49
Future Volume (vph)	41	213	100	153	527	5	123	377	36	10	639	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor		0.99			1.00			0.99			1.00	
Frt		0.944			0.998			0.987			0.988	
Flt Protected	0.950			0.950				0.989			0.999	
Satd. Flow (prot)	1593	1513	0	1608	1657	0	0	3062	0	0	2990	0
Flt Permitted	0.180			0.251				0.584			0.936	
Satd. Flow (perm)	302	1513	0	425	1657	0	0	1806	0	0	2801	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		33			1			12			11	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		362			386			2443			685	
Travel Time (s)		9.9			10.5			66.6			18.7	
Confl. Peds. (#/hr)	10		9	9		10	9		7	7		9
Confl. Bikes (#/hr)	1	1						1			1	
Peak Hour Factor	0.68	0.82	0.64	0.93	0.98	0.63	0.87	0.86	0.67	0.63	0.94	0.82
Heavy Vehicles (%)	2%	7%	3%	1%	3%	0%	1%	1%	0%	10%	6%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	11	11	0	5	5
Adj. Flow (vph)	60	260	156	165	538	8	141	438	54	16	680	60
Shared Lane Traffic (%)												
Lane Group Flow (vph)	60	416	0	165	546	0	0	633	0	0	756	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.18	1.14	1.14	1.16	1.14
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	1	6		5	2			4			3	
Permitted Phases	6			2			4			3		
Detector Phase	1	6		5	2		4	4		3	3	

Lanes, Volumes, Timings
8: Alabama Ave & Branch Ave SE

Future AM with Improvements + LPIs

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	10.0	23.5		10.0	23.5		20.5	20.5		23.5	23.5	
Total Split (s)	11.0	38.0		14.0	41.0		48.0	48.0		48.0	48.0	
Total Split (%)	11.0%	38.0%		14.0%	41.0%		48.0%	48.0%		48.0%	48.0%	
Maximum Green (s)	6.0	32.5		9.0	35.5		42.5	42.5		42.5	42.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.5		1.0	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	-1.0	-1.5		-1.0	-1.5			-1.5			-1.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Recall Mode	Max	C-Max		Max	C-Max		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		8.0			9.0		8.0	8.0		9.0	9.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effect Green (s)	41.0	34.0		47.0	37.0			44.0			44.0	
Actuated g/C Ratio	0.41	0.34		0.47	0.37			0.44			0.44	
v/c Ratio	0.28	0.78		0.52	0.89			0.79			0.61	
Control Delay	17.9	38.7		21.3	48.5			32.3			28.5	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	17.9	38.7		21.3	48.5			32.3			28.5	
LOS	B	D		C	D			C			C	
Approach Delay		36.1			42.2			32.3			28.5	
Approach LOS		D			D			C			C	

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 34.6

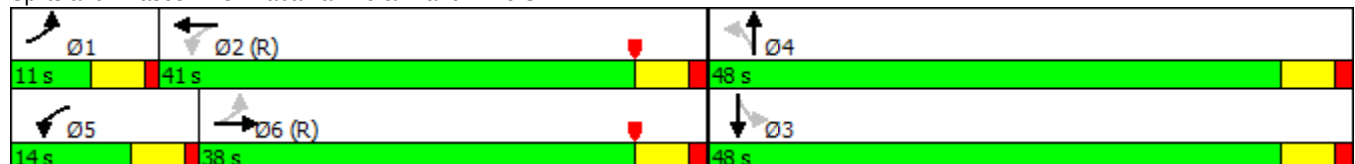
Intersection LOS: C

Intersection Capacity Utilization 87.3%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 8: Alabama Ave & Branch Ave SE



Lanes, Volumes, Timings
10: Alabama Ave & 38th St SE

Future AM with Improvements + LPIs

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	133	98	35	194	39	76	311	8	27	535	1
Future Volume (vph)	7	133	98	35	194	39	76	311	8	27	535	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	13	16	10	10	10	10	10	10	10	10
Grade (%)		-8%			12%			2%			-4%	
Storage Length (ft)	25		0	25		0	0		15	0		0
Storage Lanes	1		0	1		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor	0.99	0.98		0.98	0.99			1.00	0.94		1.00	
Frt		0.934			0.977				0.850		0.999	
Flt Protected	0.950			0.950				0.990			0.996	
Satd. Flow (prot)	1353	1635	0	1518	1422	0	0	1507	1343	0	2916	0
Flt Permitted	0.241			0.299				0.753			0.888	
Satd. Flow (perm)	339	1635	0	469	1422	0	0	1144	1261	0	2598	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		248			430			424			293	
Travel Time (s)		6.8			11.7			11.6			8.0	
Confl. Peds. (#/hr)	19		23	23		19	11		15	15		11
Confl. Bikes (#/hr)											1	
Peak Hour Factor	0.44	0.83	0.78	0.58	0.72	0.81	0.72	0.79	0.40	0.56	0.88	0.25
Heavy Vehicles (%)	29%	1%	5%	14%	2%	5%	3%	4%	0%	0%	6%	0%
Adj. Flow (vph)	16	160	126	60	269	48	106	394	20	48	608	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	16	286	0	60	317	0	0	500	20	0	660	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			16			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.06	1.35	1.35	1.26	1.26	1.26	1.22	1.22	1.22
Number of Detectors	1	1		1	1		1	1	1	1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases		2			2			4		3	8	
Permitted Phases	2			2			4		4	8		

Lane Group	Ø12
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Turn Type	
Protected Phases	12
Permitted Phases	

Lanes, Volumes, Timings
10: Alabama Ave & 38th St SE

Future AM with Improvements + LPIs

10/03/2017

																								
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR												
Detector Phase	2	2		2	2		4	4	4	3	8													
Switch Phase																								
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0	10.0	5.0	10.0													
Minimum Split (s)	24.5	24.5		24.5	24.5		23.5	23.5	23.5	9.5	23.5													
Total Split (s)	26.0	26.0		26.0	26.0		56.0	56.0	56.0	12.0	68.0													
Total Split (%)	26.0%	26.0%		26.0%	26.0%		56.0%	56.0%	56.0%	12.0%	68.0%													
Maximum Green (s)	20.5	20.5		20.5	20.5		50.5	50.5	50.5	7.5	62.5													
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	3.5	4.0													
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5	1.5	1.0	1.5													
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5			-1.5	-1.5		-1.5													
Total Lost Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0													
Lead/Lag							Lag	Lag	Lag	Lead														
Lead-Lag Optimize?							Yes	Yes	Yes	Yes														
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	3.0	1.0													
Recall Mode	C-Max	C-Max		C-Max	C-Max		Max	Max	Max	Max	Max													
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0		7.0													
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		11.0	11.0	11.0		8.0													
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0		0													
Act Effect Green (s)	22.0	22.0		22.0	22.0			52.0	52.0		64.0													
Actuated g/C Ratio	0.22	0.22		0.22	0.22			0.52	0.52		0.64													
v/c Ratio	0.22	0.80		0.58	1.02			0.84	0.03		0.39													
Control Delay	40.6	54.7		59.9	95.4			41.8	11.8		11.6													
Queue Delay	0.0	56.9		0.0	0.0			6.3	0.0		1.7													
Total Delay	40.6	111.6		59.9	95.4			48.1	11.8		13.4													
LOS	D	F		E	F			D	B		B													
Approach Delay		107.9			89.8			46.7			13.4													
Approach LOS		F			F			D			B													

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 83 (83%), Referenced to phase 2:EBWB, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.02

Intersection Signal Delay: 53.5

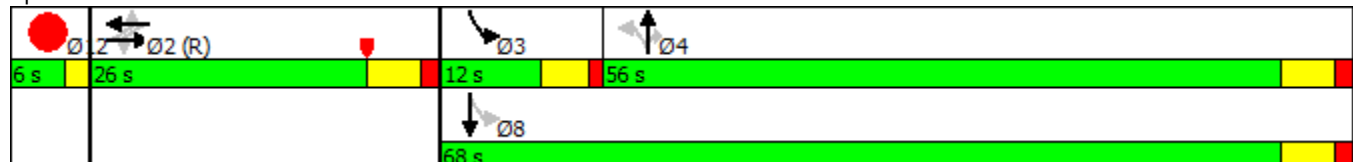
Intersection LOS: D

Intersection Capacity Utilization 75.2%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 10: Alabama Ave & 38th St SE



Lane Group	Ø12
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	3.0
Total Split (s)	6.0
Total Split (%)	6%
Maximum Green (s)	4.0
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	Max
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effect Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Intersection Summary	

Lanes, Volumes, Timings
11: Alabama Ave & Pennsylvania Ave SE

Future AM with Improvements + LPIs

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	280	3	210	731	28	1	285	71	10	350	50
Future Volume (vph)	76	280	3	210	731	28	1	285	71	10	350	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10	11	11	11	12	12	12
Grade (%)		10%			-2%			4%			-8%	
Storage Length (ft)	0		0	100		0	0		0	0		165
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor	1.00	1.00		0.98	1.00			1.00	0.98		1.00	
Frt		0.995			0.994				0.850		0.980	
Flt Protected	0.950			0.950				0.999			0.998	
Satd. Flow (prot)	1440	2705	0	1516	2929	0	0	1587	1240	0	3157	0
Flt Permitted	0.950			0.950				0.994			0.865	
Satd. Flow (perm)	1438	2705	0	1486	2929	0	0	1579	1213	0	2736	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			5				94			17
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		286			487			293			768	
Travel Time (s)		6.5			11.1			6.7			17.5	
Confl. Peds. (#/hr)	2		22	22		2	5		7	7		5
Confl. Bikes (#/hr)												1
Peak Hour Factor	0.89	0.82	0.25	0.74	0.87	0.78	0.25	0.81	0.72	0.50	0.86	0.78
Heavy Vehicles (%)	0%	6%	0%	1%	4%	0%	0%	2%	11%	0%	5%	2%
Adj. Flow (vph)	85	341	12	284	840	36	4	352	99	20	407	64
Shared Lane Traffic (%)												
Lane Group Flow (vph)	85	353	0	284	876	0	0	356	99	0	491	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.33	1.33	1.33	1.23	1.23	1.23	1.22	1.22	1.22	1.09	1.09	1.09
Number of Detectors	1	1		1	1		1	1	1	1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	Split	NA		Split	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases	2	2		1	1			8	1		4	
Permitted Phases							8		8	4		

Lanes, Volumes, Timings
11: Alabama Ave & Pennsylvania Ave SE

Future AM with Improvements + LPIs

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		1	1		8	8	1	4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	7.0	10.0	7.0	7.0	
Minimum Split (s)	25.0	25.0		25.5	25.5		22.0	22.0	25.5	25.5	25.5	
Total Split (s)	25.0	25.0		42.0	42.0		33.0	33.0	42.0	33.0	33.0	
Total Split (%)	25.0%	25.0%		42.0%	42.0%		33.0%	33.0%	42.0%	33.0%	33.0%	
Maximum Green (s)	20.0	20.0		37.0	37.0		28.0	28.0	37.0	28.0	28.0	
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)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0	-1.0		-1.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0		3.0	3.0	1.0	3.0	3.0	
Recall Mode	C-Max	C-Max		Max	Max		None	None	Max	None	None	
Walk Time (s)	7.0	7.0		7.0	7.0				7.0	7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0				13.0	13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0				0	0	0	
Act Effect Green (s)	21.0	21.0		40.4	40.4			26.6	67.0		26.6	
Actuated g/C Ratio	0.21	0.21		0.40	0.40			0.27	0.67		0.27	
v/c Ratio	0.28	0.62		0.46	0.74			0.85	0.12		0.66	
Control Delay	36.2	41.0		25.8	30.4			32.8	3.4		36.0	
Queue Delay	0.0	0.0		0.0	0.0			20.8	0.0		0.0	
Total Delay	36.2	41.0		25.8	30.4			53.5	3.4		36.0	
LOS	D	D		C	C			D	A		D	
Approach Delay		40.1			29.3			42.6			36.0	
Approach LOS		D			C			D			D	

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 26 (26%), Referenced to phase 2:EBTL and 6:, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 34.8

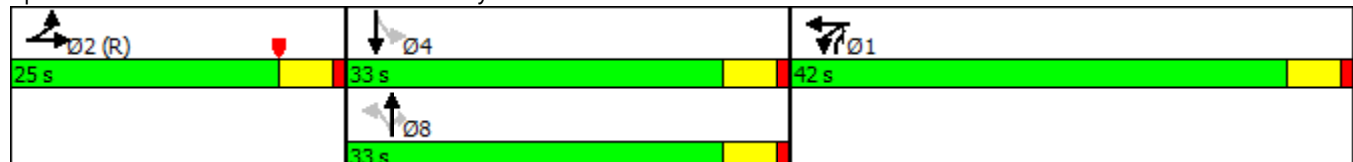
Intersection LOS: C

Intersection Capacity Utilization 62.5%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 11: Alabama Ave & Pennsylvania Ave SE



Lanes, Volumes, Timings
12: Alabama Ave & Ridge Rd SE

Future AM with Improvements + LPIs

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	121	92	0	295	10	12	81	0	20	96	20
Future Volume (vph)	8	121	92	0	295	10	12	81	0	20	96	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
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
Ped Bike Factor												
Frt		0.937			0.996						0.973	
Flt Protected		0.995						0.991			0.991	
Satd. Flow (prot)	0	1587	0	0	1669	0	0	1681	0	0	1584	0
Flt Permitted		0.995						0.991			0.991	
Satd. Flow (perm)	0	1587	0	0	1669	0	0	1681	0	0	1584	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		426			425			325			289	
Travel Time (s)		11.6			11.6			8.9			7.9	
Confl. Peds. (#/hr)	2					2			3	3		
Confl. Bikes (#/hr)		1	2									
Peak Hour Factor	0.25	0.90	0.63	0.67	0.83	0.88	0.50	0.78	0.25	0.59	0.82	0.53
Heavy Vehicles (%)	0%	1%	0%	0%	2%	3%	0%	1%	0%	0%	5%	5%
Adj. Flow (vph)	32	134	146	0	355	11	24	104	0	34	117	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	312	0	0	366	0	0	128	0	0	189	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Sign Control		Stop			Stop			Stop			Stop	
Intersection Summary												
Area Type:	CBD											
Control Type:	Unsignalized											
Intersection Capacity Utilization	39.0%						ICU Level of Service A					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis 12: Alabama Ave & Ridge Rd SE

Future AM with Improvements + LPIs

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	8	121	92	0	295	10	12	81	0	20	96	20
Future Volume (vph)	8	121	92	0	295	10	12	81	0	20	96	20
Peak Hour Factor	0.25	0.90	0.63	0.67	0.83	0.88	0.50	0.78	0.25	0.59	0.82	0.53
Hourly flow rate (vph)	32	134	146	0	355	11	24	104	0	34	117	38
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	312	366	128	189								
Volume Left (vph)	32	0	24	34								
Volume Right (vph)	146	11	0	38								
Hadj (s)	-0.25	0.02	0.05	-0.01								
Departure Headway (s)	5.2	5.4	6.2	6.0								
Degree Utilization, x	0.45	0.55	0.22	0.31								
Capacity (veh/h)	641	632	497	534								
Control Delay (s)	12.5	14.8	10.9	11.7								
Approach Delay (s)	12.5	14.8	10.9	11.7								
Approach LOS	B	B	B	B								
Intersection Summary												
Delay			13.0									
Level of Service			B									
Intersection Capacity Utilization			39.0%	ICU Level of Service		A						
Analysis Period (min)			15									

Lanes, Volumes, Timings
501: Alabama Ave & Jasper St SE

Future AM with Improvements + LPIs

10/03/2017

							Ø4	Ø5	Ø6
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT			
Lane Configurations									
Traffic Volume (vph)	41	50	583	40	42	582			
Future Volume (vph)	41	50	583	40	42	582			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00			
Ped Bike Factor	0.94		0.99						
Frt	0.932		0.990						
Flt Protected	0.976				0.950				
Satd. Flow (prot)	1694	0	1596	0	1719	1792			
Flt Permitted	0.976				0.307				
Satd. Flow (perm)	1598	0	1596	0	556	1792			
Right Turn on Red		Yes		Yes					
Satd. Flow (RTOR)	40		8						
Link Speed (mph)	30		25			25			
Link Distance (ft)	334		395			140			
Travel Time (s)	7.6		10.8			3.8			
Confl. Peds. (#/hr)	37			38	38				
Peak Hour Factor	0.61	0.73	0.94	0.79	0.63	0.83			
Heavy Vehicles (%)	0%	4%	6%	11%	5%	6%			
Bus Blockages (#/hr)	0	0	21	21	0	0			
Adj. Flow (vph)	67	68	620	51	67	701			
Shared Lane Traffic (%)									
Lane Group Flow (vph)	135	0	671	0	67	701			
Enter Blocked Intersection	No	No	No	No	No	No			
Lane Alignment	Left	Right	Left	Right	Left	Left			
Median Width(ft)	12		12			12			
Link Offset(ft)	0		0			0			
Crosswalk Width(ft)	16		16			16			
Two way Left Turn Lane									
Headway Factor	1.00	1.00	1.12	1.00	1.00	1.00			
Turning Speed (mph)	20	15		15	20				
Number of Detectors	1		1		1	1			
Detector Template	Left		Thru		Left	Thru			
Leading Detector (ft)	50		50		50	50			
Trailing Detector (ft)	0		0		0	0			
Detector 1 Position(ft)	0		0		0	0			
Detector 1 Size(ft)	50		50		50	50			
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex			
Detector 1 Channel									
Detector 1 Extend (s)	0.0		0.0		0.0	0.0			
Detector 1 Queue (s)	0.0		0.0		0.0	0.0			
Detector 1 Delay (s)	0.0		0.0		0.0	0.0			
Turn Type	Prot		NA		custom	NA			
Protected Phases	8		2		1	1 6	4	5	6
Permitted Phases					6				
Detector Phase	8		2		1	1 6			
Switch Phase									
Minimum Initial (s)	7.0		10.0		1.0		7.0	1.0	10.0
Minimum Split (s)	24.5		27.5		5.5		24.5	5.5	27.5

Lanes, Volumes, Timings
501: Alabama Ave & Jasper St SE

Future AM with Improvements + LPIs

10/03/2017



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø4	Ø5	Ø6
Total Split (s)	30.0		82.5		5.5		30.0	5.5	82.5
Total Split (%)	25.4%		69.9%		4.7%		25%	5%	70%
Maximum Green (s)	24.5		78.5		1.0		24.5	1.0	78.5
Yellow Time (s)	4.0		4.0		3.0		4.0	3.0	4.0
All-Red Time (s)	1.5		0.0		1.5		1.5	1.5	0.0
Lost Time Adjust (s)	-1.5		-1.5		-1.5				
Total Lost Time (s)	4.0		2.5		3.0				
Lead/Lag			Lead		Lag			Lag	Lead
Lead-Lag Optimize?			Yes		Yes			Yes	Yes
Vehicle Extension (s)	1.0		1.0		1.0		1.0	1.0	1.0
Recall Mode	Max		C-Max		Max		Max	Max	C-Max
Walk Time (s)	7.0		7.0				7.0		7.0
Flash Dont Walk (s)	12.0		6.0				10.0		9.0
Pedestrian Calls (#/hr)	0		0				0		0
Act Effect Green (s)	26.0		80.0		82.0	85.0			
Actuated g/C Ratio	0.22		0.68		0.69	0.72			
v/c Ratio	0.33		0.62		0.16	0.54			
Control Delay	29.6		13.5		3.3	4.4			
Queue Delay	0.2		0.0		1.9	3.6			
Total Delay	29.7		13.5		5.2	8.0			
LOS	C		B		A	A			
Approach Delay	29.7		13.5			7.7			
Approach LOS	C		B			A			

Intersection Summary

Area Type: Other

Cycle Length: 118

Actuated Cycle Length: 118

Offset: 103 (87%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 12.1

Intersection LOS: B

Intersection Capacity Utilization 47.4%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 501: Alabama Ave & Jasper St SE



Lanes, Volumes, Timings
502: Alabama Ave & Irving St SE

Future AM with Improvements + LPIs

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	5	24	20	19	30	20	596	17	23	580	152
Future Volume (vph)	45	5	24	20	19	30	20	596	17	23	580	152
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	50		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
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
Ped Bike Factor		0.96			0.96			1.00			0.99	
Frt		0.949			0.940			0.995			0.957	
Flt Protected		0.973			0.988		0.950			0.950		
Satd. Flow (prot)	0	1436	0	0	1536	0	1624	1636	0	1624	1526	0
Flt Permitted		0.795			0.919		0.219			0.342		
Satd. Flow (perm)	0	1148	0	0	1423	0	374	1636	0	585	1526	0
Right Turn on Red			No			No			Yes			Yes
Satd. Flow (RTOR)								4			39	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		363			396			140			554	
Travel Time (s)		9.9			10.8			3.8			15.1	
Confl. Peds. (#/hr)	16		12	12		16	7		4	4		7
Peak Hour Factor	0.75	0.63	0.58	0.79	0.56	0.64	0.68	0.97	0.80	0.79	0.98	0.63
Heavy Vehicles (%)	13%	0%	0%	0%	0%	0%	0%	4%	0%	0%	5%	8%
Bus Blockages (#/hr)	0	3	3	0	0	0	0	0	0	0	0	0
Adj. Flow (vph)	60	8	41	25	34	47	29	614	21	29	592	241
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	109	0	0	106	0	29	635	0	29	833	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.16	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		custom	NA		Perm	NA	
Protected Phases		4			4		5	2 5			6	
Permitted Phases	4			4			2			6		
Detector Phase	4	4		4	4		5	2 5		6	6	
Switch Phase												

Lane Group	Ø1	Ø2	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Ped Bike Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Confl. Peds. (#/hr)			
Peak Hour Factor			
Heavy Vehicles (%)			
Bus Blockages (#/hr)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Number of Detectors			
Detector Template			
Leading Detector (ft)			
Trailing Detector (ft)			
Detector 1 Position(ft)			
Detector 1 Size(ft)			
Detector 1 Type			
Detector 1 Channel			
Detector 1 Extend (s)			
Detector 1 Queue (s)			
Detector 1 Delay (s)			
Turn Type			
Protected Phases	1	2	8
Permitted Phases			
Detector Phase			
Switch Phase			

Lanes, Volumes, Timings
502: Alabama Ave & Irving St SE

Future AM with Improvements + LPIs

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	7.0	7.0		7.0	7.0		1.0			10.0	10.0	
Minimum Split (s)	24.5	24.5		24.5	24.5		5.5			27.5	27.5	
Total Split (s)	30.0	30.0		30.0	30.0		5.5			82.5	82.5	
Total Split (%)	25.4%	25.4%		25.4%	25.4%		4.7%			69.9%	69.9%	
Maximum Green (s)	24.5	24.5		24.5	24.5		1.0			78.5	78.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0			4.0	4.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5			0.0	0.0	
Lost Time Adjust (s)		-1.5			-1.5		-1.5			-1.5	-1.5	
Total Lost Time (s)		4.0			4.0		3.0			2.5	2.5	
Lead/Lag							Lag			Lead	Lead	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0			1.0	1.0	
Recall Mode	Max	Max		Max	Max		Max			C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0					9.0	9.0	
Pedestrian Calls (#/hr)	0	0		0	0					0	0	
Act Effect Green (s)		26.0			26.0		82.0	85.5		80.0	80.0	
Actuated g/C Ratio		0.22			0.22		0.69	0.72		0.68	0.68	
v/c Ratio		0.43			0.34		0.10	0.54		0.07	0.80	
Control Delay		45.9			42.4		2.4	3.1		7.0	19.8	
Queue Delay		4.4			1.9		0.8	0.5		0.0	0.0	
Total Delay		50.3			44.3		3.2	3.6		7.0	19.8	
LOS		D			D		A	A		A	B	
Approach Delay		50.3			44.3			3.5			19.4	
Approach LOS		D			D			A			B	

Intersection Summary

Area Type: CBD

Cycle Length: 118

Actuated Cycle Length: 118

Offset: 103 (87%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 16.8

Intersection LOS: B

Intersection Capacity Utilization 65.2%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 502: Alabama Ave & Irving St SE



Lane Group	Ø1	Ø2	Ø8
Minimum Initial (s)	1.0	10.0	7.0
Minimum Split (s)	5.5	27.5	24.5
Total Split (s)	5.5	82.5	30.0
Total Split (%)	5%	70%	25%
Maximum Green (s)	1.0	78.5	24.5
Yellow Time (s)	3.0	4.0	4.0
All-Red Time (s)	1.5	0.0	1.5
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Vehicle Extension (s)	1.0	1.0	1.0
Recall Mode	Max	C-Max	Max
Walk Time (s)		7.0	7.0
Flash Dont Walk (s)		6.0	12.0
Pedestrian Calls (#/hr)		0	0
Act Effect Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Intersection Summary			

Lanes, Volumes, Timings
901: Alabama Ave & 36th PI SE

Future AM with Improvements + LPIs

10/03/2017

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø8
Lane Configurations							
Traffic Volume (vph)	1	0	0	394	657	0	
Future Volume (vph)	1	0	0	394	657	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	9	9	10	10	10	10	
Grade (%)	-4%			-8%	2%		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor							
Frt							
Flt Protected	0.950						
Satd. Flow (prot)	1491	0	0	1611	1461	0	
Flt Permitted	0.950						
Satd. Flow (perm)	1491	0	0	1611	1461	0	
Right Turn on Red		No				Yes	
Satd. Flow (RTOR)							
Link Speed (mph)	25			25	25		
Link Distance (ft)	218			600	164		
Travel Time (s)	5.9			16.4	4.5		
Confl. Peds. (#/hr)		5	6			6	
Peak Hour Factor	0.25	0.25	0.25	0.87	0.92	0.25	
Heavy Vehicles (%)	0%	0%	0%	3%	6%	0%	
Bus Blockages (#/hr)	0	0	0	0	5	5	
Adj. Flow (vph)	4	0	0	453	714	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	4	0	0	453	714	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(ft)	9			0	0		
Link Offset(ft)	0			0	0		
Crosswalk Width(ft)	16			16	16		
Two way Left Turn Lane							
Headway Factor	1.27	1.27	1.19	1.19	1.30	1.26	
Turning Speed (mph)	20	15	20			15	
Number of Detectors	1			1	1		
Detector Template	Left			Thru	Thru		
Leading Detector (ft)	50			50	50		
Trailing Detector (ft)	0			0	0		
Detector 1 Position(ft)	0			0	0		
Detector 1 Size(ft)	50			50	50		
Detector 1 Type	Cl+Ex			Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)	0.0			0.0	0.0		
Detector 1 Queue (s)	0.0			0.0	0.0		
Detector 1 Delay (s)	0.0			0.0	0.0		
Turn Type	Prot			NA	NA		
Protected Phases	4			6	2		8
Permitted Phases							
Detector Phase	4			6	2		
Switch Phase							

Lanes, Volumes, Timings
901: Alabama Ave & 36th PI SE

Future AM with Improvements + LPIs

10/03/2017



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø8
Minimum Initial (s)	7.0			10.0	10.0		10.0
Minimum Split (s)	21.0			24.0	24.0		21.0
Total Split (s)	21.0			79.0	79.0		21.0
Total Split (%)	21.0%			79.0%	79.0%		21%
Maximum Green (s)	15.0			73.0	73.0		15.0
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)	-2.0			-2.0	-2.0		
Total Lost Time (s)	4.0			4.0	4.0		
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0			1.0	1.0		3.0
Recall Mode	None			C-Max	C-Max		None
Walk Time (s)	7.0			7.0	7.0		7.0
Flash Dont Walk (s)	8.0			6.0	6.0		8.0
Pedestrian Calls (#/hr)	0			0	0		0
Act Effect Green (s)	9.8			83.8	83.8		
Actuated g/C Ratio	0.10			0.84	0.84		
v/c Ratio	0.03			0.34	0.58		
Control Delay	40.0			0.9	2.6		
Queue Delay	0.0			0.0	0.2		
Total Delay	40.0			0.9	2.9		
LOS	D			A	A		
Approach Delay	40.0			0.9	2.9		
Approach LOS	D			A	A		

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 98 (98%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 2.2

Intersection LOS: A

Intersection Capacity Utilization 51.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 901: Alabama Ave & 36th PI SE



Lanes, Volumes, Timings
902: Alabama Ave & 36th PI SE

Future AM with Improvements + LPIs

10/03/2017

							
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø4
Lane Configurations							
Traffic Volume (vph)	16	14	381	14	27	641	
Future Volume (vph)	16	14	381	14	27	641	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	10	10	10	10	10	
Grade (%)	0%		2%			2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor	0.97		1.00			1.00	
Frt	0.909		0.992				
Flt Protected	0.984					0.996	
Satd. Flow (prot)	1386	0	1447	0	0	1487	
Flt Permitted	0.984					0.941	
Satd. Flow (perm)	1386	0	1447	0	0	1403	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)	41		9				
Link Speed (mph)	25		25			25	
Link Distance (ft)	270		164			481	
Travel Time (s)	7.4		4.5			13.1	
Confl. Peds. (#/hr)		7		8	8		
Peak Hour Factor	0.80	0.34	0.87	0.50	0.50	0.92	
Heavy Vehicles (%)	0%	0%	3%	0%	4%	6%	
Bus Blockages (#/hr)	0	0	12	12	0	0	
Adj. Flow (vph)	20	41	438	28	54	697	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	61	0	466	0	0	751	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Right	Left	Left	
Median Width(ft)	10		0			0	
Link Offset(ft)	0		0			0	
Crosswalk Width(ft)	16		16			16	
Two way Left Turn Lane							
Headway Factor	1.25	1.25	1.34	1.26	1.26	1.26	
Number of Detectors	1		1		1	1	
Detector Template	Left		Thru		Left	Thru	
Leading Detector (ft)	50		50		50	50	
Trailing Detector (ft)	0		0		0	0	
Detector 1 Position(ft)	0		0		0	0	
Detector 1 Size(ft)	50		50		50	50	
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0		0.0		0.0	0.0	
Detector 1 Queue (s)	0.0		0.0		0.0	0.0	
Detector 1 Delay (s)	0.0		0.0		0.0	0.0	
Turn Type	Perm		NA		Perm	NA	
Protected Phases			6			2	4
Permitted Phases	8				2		
Detector Phase	8		6		2	2	
Switch Phase							
Minimum Initial (s)	10.0		10.0		10.0	10.0	7.0



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø4
Minimum Split (s)	21.0		24.0		24.0	24.0	21.0
Total Split (s)	21.0		79.0		79.0	79.0	21.0
Total Split (%)	21.0%		79.0%		79.0%	79.0%	21%
Maximum Green (s)	15.0		73.0		73.0	73.0	15.0
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)	-2.0		-2.0			-2.0	
Total Lost Time (s)	4.0		4.0			4.0	
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0		1.0		1.0	1.0	3.0
Recall Mode	None		C-Max		C-Max	C-Max	None
Walk Time (s)	7.0		7.0		7.0	7.0	7.0
Flash Dont Walk (s)	8.0		6.0		6.0	6.0	8.0
Pedestrian Calls (#/hr)	0		0		0	0	0
Act Effect Green (s)	12.2		83.8			83.8	
Actuated g/C Ratio	0.12		0.84			0.84	
v/c Ratio	0.30		0.38			0.64	
Control Delay	22.6		0.9			10.9	
Queue Delay	0.0		0.2			0.0	
Total Delay	22.6		1.1			10.9	
LOS	C		A			B	
Approach Delay	22.6		1.1			10.9	
Approach LOS	C		A			B	

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 98 (98%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 7.9

Intersection LOS: A

Intersection Capacity Utilization 77.7%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 902: Alabama Ave & 36th PI SE



Lanes, Volumes, Timings
1: Alabama Ave & Randle PI SE

Future PM with Improvements

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	251	2	43	14	0	13	0	339	8	2	432	0
Future Volume (vph)	251	2	43	14	0	13	0	339	8	2	432	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	30		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
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
Ped Bike Factor	0.51				0.73			0.99			1.00	
Frt		0.861			0.940			0.995				
Flt Protected	0.950				0.973							
Satd. Flow (prot)	1562	1337	0	0	1143	0	0	1467	0	0	1210	0
Flt Permitted	0.950				0.973						0.997	
Satd. Flow (perm)	790	1337	0	0	1143	0	0	1467	0	0	1206	0
Right Turn on Red			No			No			Yes			Yes
Satd. Flow (RTOR)								3				
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		341			204			606			1743	
Travel Time (s)		9.3			5.6			16.5			47.5	
Confl. Peds. (#/hr)	194					194	104		72	72		104
Peak Hour Factor	0.79	0.50	0.83	0.67	0.31	0.75	0.58	0.91	0.58	0.50	0.88	0.71
Heavy Vehicles (%)	4%	0%	0%	0%	0%	0%	0%	1%	0%	0%	6%	3%
Bus Blockages (#/hr)	0	23	23	0	0	0	0	0	0	0	0	0
Parking (#/hr)								4	4		30	30
Adj. Flow (vph)	318	4	52	21	0	17	0	373	14	4	491	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	318	56	0	0	38	0	0	387	0	0	495	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.29	1.14	1.14	1.14	1.14	1.14	1.34	1.14	1.14	1.63	1.14
Number of Detectors	1	1		1	1			1		1	1	
Detector Template	Left	Thru		Left	Thru			Thru		Left	Thru	
Leading Detector (ft)	50	50		50	50			50		50	50	
Trailing Detector (ft)	0	0		0	0			0		0	0	
Detector 1 Position(ft)	0	0		0	0			0		0	0	
Detector 1 Size(ft)	50	50		50	50			50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Turn Type	Split	NA		Split	NA			NA		Perm	NA	
Protected Phases	8	8		7	7			2			6	
Permitted Phases										6		
Detector Phase	8	8		7	7			2		6	6	

Lanes, Volumes, Timings
1: Alabama Ave & Randle PI SE

Future PM with Improvements

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0			10.0		10.0	10.0	
Minimum Split (s)	22.5	22.5		13.5	13.5			19.5		17.5	17.5	
Total Split (s)	24.0	24.0		14.0	14.0			62.0		62.0	62.0	
Total Split (%)	24.0%	24.0%		14.0%	14.0%			62.0%		62.0%	62.0%	
Maximum Green (s)	17.5	17.5		7.5	7.5			55.5		55.5	55.5	
Yellow Time (s)	4.0	4.0		4.0	4.0			4.0		4.0	4.0	
All-Red Time (s)	2.5	2.5		2.5	2.5			2.5		2.5	2.5	
Lost Time Adjust (s)	-2.5	-2.5			-2.5			-2.5			-2.5	
Total Lost Time (s)	4.0	4.0			4.0			4.0			4.0	
Lead/Lag	Lag	Lag		Lead	Lead							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	1.0	1.0		3.0	3.0			1.0		1.0	1.0	
Recall Mode	Max	Max		None	None			C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0						7.0		7.0	7.0	
Flash Dont Walk (s)	9.0	9.0						6.0		4.0	4.0	
Pedestrian Calls (#/hr)	0	0						0		0	0	
Act Effct Green (s)	25.6	25.6			9.8			58.0			58.0	
Actuated g/C Ratio	0.26	0.26			0.10			0.58			0.58	
v/c Ratio	0.80	0.16			0.34			0.45			0.71	
Control Delay	53.7	34.0			50.9			14.0			17.9	
Queue Delay	0.0	0.0			0.0			0.0			0.0	
Total Delay	53.7	34.0			50.9			14.0			17.9	
LOS	D	C			D			B			B	
Approach Delay		50.7			50.9			14.0			17.9	
Approach LOS		D			D			B			B	

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 53 (53%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 27.2

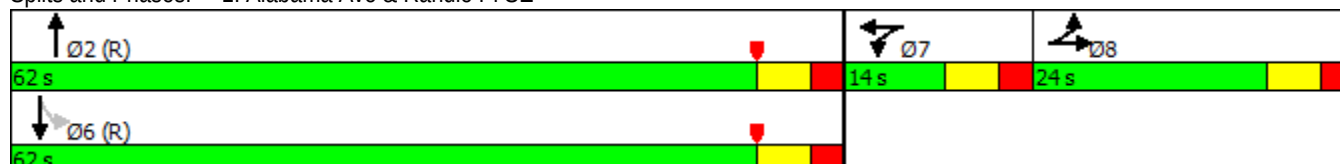
Intersection LOS: C

Intersection Capacity Utilization 55.8%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 1: Alabama Ave & Randle PI SE



Lanes, Volumes, Timings
2: Alabama Ave & 11th PI SE

Future PM with Improvements

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	1	60	11	0	14	5	802	38	15	678	7
Future Volume (vph)	38	1	60	11	0	14	5	802	38	15	678	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		50	100		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
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
Ped Bike Factor		0.88			0.93			1.00			1.00	
Frt		0.921			0.932			0.991			0.998	
Flt Protected		0.981			0.976						0.999	
Satd. Flow (prot)	0	1342	0	0	1478	0	0	1676	0	0	1641	0
Flt Permitted		0.879			0.782			0.994			0.968	
Satd. Flow (perm)	0	1202	0	0	1106	0	0	1666	0	0	1590	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		69			27			7			2	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		196			302			1743			913	
Travel Time (s)		5.3			8.2			47.5			24.9	
Confl. Peds. (#/hr)			65	65			4		3	3		4
Confl. Bikes (#/hr)								2			1	
Peak Hour Factor	0.73	0.25	0.76	0.50	0.25	0.65	0.63	0.94	0.63	0.70	0.90	0.50
Heavy Vehicles (%)	0%	0%	2%	0%	0%	8%	0%	1%	0%	0%	4%	0%
Bus Blockages (#/hr)	0	0	0	0	3	3	0	0	0	0	0	0
Adj. Flow (vph)	52	4	79	22	0	22	8	853	60	21	753	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	135	0	0	44	0	0	921	0	0	788	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.16	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Detector Phase	4	4		4	4		2	2		2	2	

Lanes, Volumes, Timings
2: Alabama Ave & 11th PI SE

Future PM with Improvements

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		20.5	20.5		20.5	20.5	
Total Split (s)	30.0	30.0		30.0	30.0		70.0	70.0		70.0	70.0	
Total Split (%)	30.0%	30.0%		30.0%	30.0%		70.0%	70.0%		70.0%	70.0%	
Maximum Green (s)	24.5	24.5		24.5	24.5		64.5	64.5		64.5	64.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)		-1.5			-1.5			-1.5			-1.5	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		1.0	1.0		1.0	1.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0		8.0	8.0		8.0	8.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		13.4			13.4			78.6			78.6	
Actuated g/C Ratio		0.13			0.13			0.79			0.79	
v/c Ratio		0.61			0.26			0.70			0.63	
Control Delay		32.2			22.8			12.5			7.4	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		32.2			22.8			12.5			7.4	
LOS		C			C			B			A	
Approach Delay		32.2			22.8			12.5			7.4	
Approach LOS		C			C			B			A	
Intersection Summary												
Area Type:	CBD											
Cycle Length: 100												
Actuated Cycle Length: 100												
Offset: 3 (3%), Referenced to phase 2:NBSB, Start of Yellow												
Natural Cycle: 70												
Control Type: Actuated-Coordinated												
Maximum v/c Ratio: 0.70												
Intersection Signal Delay: 12.0						Intersection LOS: B						
Intersection Capacity Utilization 72.6%						ICU Level of Service C						
Analysis Period (min) 15												

Splits and Phases: 2: Alabama Ave & 11th PI SE



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	7	26	132	14	43	25	767	62	58	542	33
Future Volume (vph)	31	7	26	132	14	43	25	767	62	58	542	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	110		50	90		0
Storage Lanes	1		1	0		0	1		1	1		0
Taper Length (ft)	25			25			50			50		
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
Ped Bike Factor	0.96		0.85		0.86		0.99		0.93		1.00	
Frt			0.850		0.972				0.850		0.991	
Flt Protected	0.950				0.965		0.950			0.950		
Satd. Flow (prot)	1518	1140	1242	0	1554	0	1624	1693	1454	1624	1540	0
Flt Permitted	0.636				0.779		0.232			0.111		
Satd. Flow (perm)	978	1140	1054	0	1095	0	395	1693	1353	190	1540	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			82		14				87		5	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		203			201			913			2053	
Travel Time (s)		5.5			5.5			24.9			56.0	
Confl. Peds. (#/hr)	36		83	83		36	12		15	15		12
Confl. Bikes (#/hr)					1			3				
Peak Hour Factor	0.91	0.50	0.75	0.63	0.65	0.71	0.72	0.96	0.73	0.87	0.91	0.83
Heavy Vehicles (%)	7%	50%	17%	0%	15%	0%	0%	1%	0%	0%	5%	17%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	9	9
Adj. Flow (vph)	34	14	35	210	22	61	35	799	85	67	596	40
Shared Lane Traffic (%)												
Lane Group Flow (vph)	34	14	35	0	293	0	35	799	85	67	636	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.20	1.14
Number of Detectors	1	1	1	1	1		1	1	1	1	1	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Size(ft)	50	50	50	50	50		50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8		8	4			6		6	2		
Detector Phase	8	8	8	4	4		1	6	6	5	2	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	24.0	24.0	24.0	29.0	29.0		10.0	23.5	23.5	10.0	29.5	
Total Split (s)	35.0	35.0	35.0	35.0	35.0		10.0	55.0	55.0	10.0	55.0	
Total Split (%)	35.0%	35.0%	35.0%	35.0%	35.0%		10.0%	55.0%	55.0%	10.0%	55.0%	
Maximum Green (s)	29.0	29.0	29.0	29.0	29.0		5.0	49.5	49.5	5.0	49.5	
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		1.0	1.5	1.5	1.0	1.5	
Lost Time Adjust (s)	-2.0	-2.0	-2.0		-2.0		-1.0	-1.5	-1.5	-1.0	-1.5	
Total Lost Time (s)	4.0	4.0	4.0		4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag							Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Recall Mode	Max	Max	Max	Max	Max		Max	C-Max	C-Max	Max	C-Max	
Walk Time (s)				7.0	7.0			7.0	7.0		7.0	
Flash Dont Walk (s)				16.0	16.0			8.0	8.0		17.0	
Pedestrian Calls (#/hr)				0	0			0	0		0	
Act Effect Green (s)	31.0	31.0	31.0		31.0		57.0	51.0	51.0	57.0	51.0	
Actuated g/C Ratio	0.31	0.31	0.31		0.31		0.57	0.51	0.51	0.57	0.51	
v/c Ratio	0.11	0.04	0.09		0.84		0.12	0.93	0.12	0.35	0.81	
Control Delay	26.0	24.7	0.5		53.2		9.5	31.2	4.4	13.7	22.9	
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	26.0	24.7	0.5		53.2		9.5	31.2	4.4	13.7	22.9	
LOS	C	C	A		D		A	C	A	B	C	
Approach Delay		15.0			53.2			27.9			22.1	
Approach LOS		B			D			C			C	

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 90 (90%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 29.0

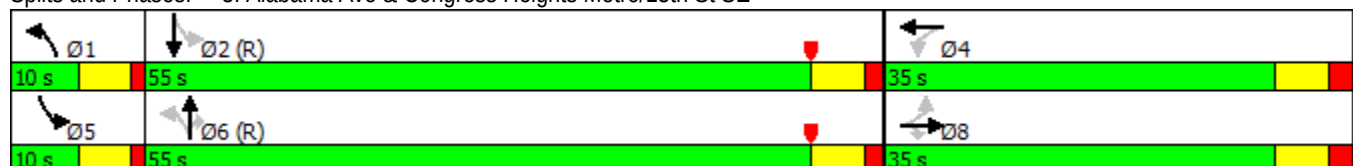
Intersection LOS: C

Intersection Capacity Utilization 78.3%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 3: Alabama Ave & Congress Heights Metro/13th St SE



Lanes, Volumes, Timings
4: Alabama Ave & Stanton Rd SE

Future PM with Improvements

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	149	143	29	111	44	138	736	65	10	536	78
Future Volume (vph)	70	149	143	29	111	44	138	736	65	10	536	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	30		0	30		0	100		50	100		50
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor	0.92	0.89		0.92	0.95			0.96			0.94	
Frt		0.925			0.945			0.988			0.979	
Flt Protected	0.950			0.950				0.992			0.998	
Satd. Flow (prot)	1547	1345	0	1354	1418	0	0	2763	0	0	2832	0
Flt Permitted	0.506			0.278				0.667			0.901	
Satd. Flow (perm)	756	1345	0	365	1418	0	0	1821	0	0	2553	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		48			28			15			32	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		385			337			423			674	
Travel Time (s)		10.5			9.2			11.5			18.4	
Confl. Peds. (#/hr)	73		117	117		73	109		79	79		109
Confl. Bikes (#/hr)			1		1		1				5	
Peak Hour Factor	0.74	0.88	0.85	0.69	0.88	0.60	0.80	0.94	0.81	0.45	0.94	0.82
Heavy Vehicles (%)	5%	7%	3%	20%	10%	5%	5%	2%	9%	11%	5%	10%
Parking (#/hr)								14	14			
Adj. Flow (vph)	95	169	168	42	126	73	173	783	80	22	570	95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	95	337	0	42	199	0	0	1036	0	0	687	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.28	1.14	1.14	1.14	1.14
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6			2		
Detector Phase	4	4		8	8		6	6		2	2	

Lane Group	Ø12	Ø13
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Parking (#/hr)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Turn Type		
Protected Phases	12	13
Permitted Phases		
Detector Phase		

Lanes, Volumes, Timings
4: Alabama Ave & Stanton Rd SE

Future PM with Improvements

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	23.5	23.5		23.5	23.5		23.5	23.5		23.5	23.5	
Total Split (s)	30.0	30.0		30.0	30.0		64.0	64.0		64.0	64.0	
Total Split (%)	30.0%	30.0%		30.0%	30.0%		64.0%	64.0%		64.0%	64.0%	
Maximum Green (s)	24.5	24.5		24.5	24.5		58.5	58.5		58.5	58.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5			-1.5			-1.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Recall Mode	Max	Max		Max	Max		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)	26.0	26.0		26.0	26.0			60.0			60.0	
Actuated g/C Ratio	0.26	0.26		0.26	0.26			0.60			0.60	
v/c Ratio	0.48	0.88		0.45	0.51			0.94			0.44	
Control Delay	41.2	55.0		48.3	32.4			20.3			11.4	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	41.2	55.0		48.3	32.4			20.3			11.4	
LOS	D	D		D	C			C			B	
Approach Delay		51.9			35.2			20.3			11.4	
Approach LOS		D			D			C			B	

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 63 (63%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 24.9

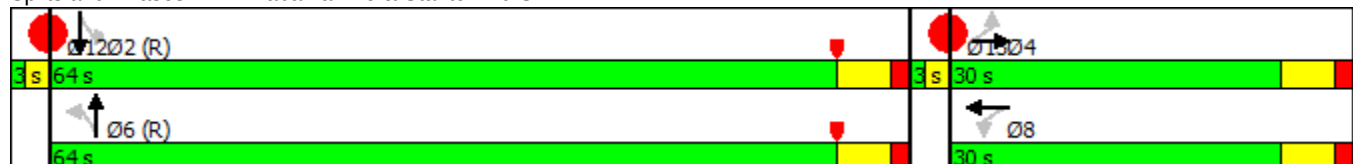
Intersection LOS: C

Intersection Capacity Utilization 90.8%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 4: Alabama Ave & Stanton Rd SE



Lane Group	Ø12	Ø13
Switch Phase		
Minimum Initial (s)	1.0	1.0
Minimum Split (s)	3.0	3.0
Total Split (s)	3.0	3.0
Total Split (%)	3%	3%
Maximum Green (s)	1.0	1.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	Max	Max
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		

Lanes, Volumes, Timings
6: Alabama Ave & Naylor Rd SE

Future PM with Improvements

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	454	79	20	282	73	52	438	30	109	435	8
Future Volume (vph)	11	454	79	20	282	73	52	438	30	109	435	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor		0.99			0.96			0.98			0.99	
Frt		0.979			0.970			0.988			0.996	
Flt Protected		0.999			0.996			0.995			0.988	
Satd. Flow (prot)	0	1607	0	0	1526	0	0	3019	0	0	3017	0
Flt Permitted		0.983			0.929			0.738			0.605	
Satd. Flow (perm)	0	1579	0	0	1422	0	0	2234	0	0	1827	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			19			10			3	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		318			242			437			498	
Travel Time (s)		8.7			6.6			11.9			13.6	
Confl. Peds. (#/hr)	108		46	46		108	35		63	63		35
Confl. Bikes (#/hr)								1				
Peak Hour Factor	0.69	0.96	0.89	0.56	0.89	0.71	0.76	0.87	0.63	0.73	0.92	0.44
Heavy Vehicles (%)	0%	2%	9%	5%	6%	0%	10%	2%	3%	0%	4%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	7	7	0	13	13
Adj. Flow (vph)	16	473	89	36	317	103	68	503	48	149	473	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	578	0	0	456	0	0	619	0	0	640	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.16	1.14	1.14	1.18	1.14
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8	8	
Detector Phase	2	2		6	6		4	4		8	8	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	31.5	31.5		29.5	29.5		27.5	27.5		31.5	31.5	

Lane Group	Ø12	Ø13
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Bus Blockages (#/hr)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Turn Type		
Protected Phases	12	13
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	1.0	1.0
Minimum Split (s)	3.0	3.0

Lanes, Volumes, Timings
6: Alabama Ave & Naylor Rd SE

Future PM with Improvements

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	48.0	48.0		48.0	48.0		40.0	40.0		40.0	40.0	
Total Split (%)	48.0%	48.0%		48.0%	48.0%		40.0%	40.0%		40.0%	40.0%	
Maximum Green (s)	41.5	41.5		41.5	41.5		33.5	33.5		33.5	33.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)		-2.5			-2.5			-2.5			-2.5	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	18.0	18.0		16.0	16.0		14.0	14.0		18.0	18.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		44.0			44.0			36.0			36.0	
Actuated g/C Ratio		0.44			0.44			0.36			0.36	
v/c Ratio		0.82			0.72			0.76			0.97	
Control Delay		35.9			29.6			35.2			61.3	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		35.9			29.6			35.2			61.3	
LOS		D			C			D			E	
Approach Delay		35.9			29.6			35.2			61.3	
Approach LOS		D			C			D			E	

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.97

Intersection Signal Delay: 41.5

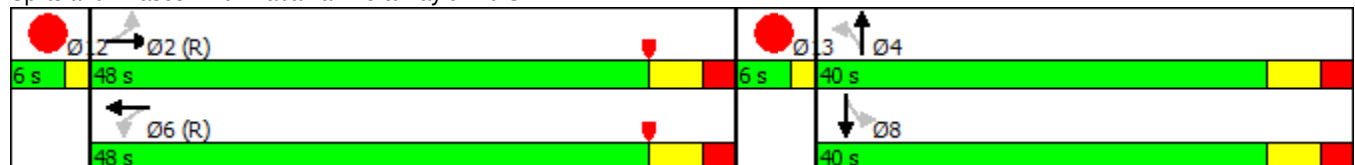
Intersection LOS: D

Intersection Capacity Utilization 84.7%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 6: Alabama Ave & Naylor Rd SE



Lane Group	Ø12	Ø13
Total Split (s)	6.0	6.0
Total Split (%)	6%	6%
Maximum Green (s)	4.0	4.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	Max	Max
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effect Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		

Lanes, Volumes, Timings

Future PM with Improvements

7: Alabama Ave & Good Hope Rd SE/Good Hope Marketplace

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR2	NBL2	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	545	115	11	68	130	32	14	43	448	17	18	418
Future Volume (vph)	545	115	11	68	130	32	14	43	448	17	18	418
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	50				100		100	120	
Storage Lanes	1		0	1				1		1	1	
Taper Length (ft)	25			25				50			50	
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00
Ped Bike Factor	0.99	0.99		0.99	1.00					0.86	0.96	
Frt		0.996			0.980					0.850		
Flt Protected	0.950	0.967		0.950	0.998			0.950			0.950	
Satd. Flow (prot)	1513	1542	0	1543	1576	0	0	1624	3217	1395	1624	1644
Flt Permitted	0.950	0.967		0.950	0.998			0.118			0.322	
Satd. Flow (perm)	1503	1535	0	1525	1575	0	0	202	3217	1197	530	1644
Right Turn on Red			Yes			Yes				Yes		
Satd. Flow (RTOR)		1			164					173		
Link Speed (mph)		25			25				25			25
Link Distance (ft)		328			206				498			2439
Travel Time (s)		8.9			5.6				13.6			66.5
Confl. Peds. (#/hr)	5		14	14				19		27	27	
Confl. Bikes (#/hr)								1				
Peak Hour Factor	0.67	0.81	0.92	0.70	0.67	1.00	1.00	0.90	0.90	0.57	0.56	0.73
Heavy Vehicles (%)	2%	0%	0%	0%	1%	0%	0%	0%	1%	0%	0%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	10	0	0
Adj. Flow (vph)	813	142	12	97	194	32	14	48	498	30	32	573
Shared Lane Traffic (%)	41%			10%								
Lane Group Flow (vph)	480	487	0	87	236	0	0	62	498	30	32	573
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Left	Right	Left	Left
Median Width(ft)		12			12				12			12
Link Offset(ft)		0			0				0			0
Crosswalk Width(ft)		16			16				16			16
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.20	1.14	1.14
Turning Speed (mph)	20		15	20		15	20	20		15	20	
Number of Detectors	1	1		1	1		1	1	1	1	1	1
Detector Template	Left	Thru		Left	Thru		Left	Left	Thru	Right	Left	Thru
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Split	NA		Split	NA		Perm	Perm	NA	Perm	Perm	NA
Protected Phases	7	7		4	4				2			6
Permitted Phases							2	2		2	6	

Future PM with Improvements 4:45 pm 03/02/2017

SJ

Synchro 9 Report

Page 15



Lane Group	SBR	SBR2	SEL2	SEL	SER	SER2
Lane Configurations	FF			FF		
Traffic Volume (vph)	292	56	65	0	55	3
Future Volume (vph)	292	56	65	0	55	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120			0	0	
Storage Lanes	1			1	0	
Taper Length (ft)				25		
Lane Util. Factor	0.88	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.850			0.936		
Flt Protected				0.974		
Satd. Flow (prot)	2511	0	0	1559	0	0
Flt Permitted				0.974		
Satd. Flow (perm)	2511	0	0	1559	0	0
Right Turn on Red		Yes			Yes	
Satd. Flow (RTOR)	173			173		
Link Speed (mph)				25		
Link Distance (ft)				274		
Travel Time (s)				7.5		
Confl. Peds. (#/hr)	19					
Confl. Bikes (#/hr)						
Peak Hour Factor	0.78	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	5	0	0	0	0	0
Adj. Flow (vph)	374	56	65	0	55	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	430	0	0	123	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Right	Right	Left	Left	Right	Right
Median Width(ft)				12		
Link Offset(ft)				0		
Crosswalk Width(ft)				16		
Two way Left Turn Lane						
Headway Factor	1.16	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)	15	15	20	20	15	15
Number of Detectors	1		1	1		
Detector Template	Right		Left	Left		
Leading Detector (ft)	50		50	50		
Trailing Detector (ft)	0		0	0		
Detector 1 Position(ft)	0		0	0		
Detector 1 Size(ft)	50		50	50		
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex		
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0		
Detector 1 Queue (s)	0.0		0.0	0.0		
Detector 1 Delay (s)	0.0		0.0	0.0		
Turn Type	Over		Perm	Prot		
Protected Phases	7			3		
Permitted Phases			3			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR2	NBL2	NBL	NBT	NBR	SBL	SBT
Detector Phase	7	7		4	4		2	2	2	2	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	29.0	29.0		28.0	28.0		20.0	20.0	20.0	20.0	24.0	24.0
Total Split (s)	42.0	42.0		28.0	28.0		38.0	38.0	38.0	38.0	38.0	38.0
Total Split (%)	35.0%	35.0%		23.3%	23.3%		31.7%	31.7%	31.7%	31.7%	31.7%	31.7%
Maximum Green (s)	35.0	35.0		20.0	20.0		31.0	31.0	31.0	31.0	31.0	31.0
Yellow Time (s)	4.0	4.0		5.0	5.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-3.0	-3.0		-3.0	-3.0			-3.0	-3.0	-3.0	-3.0	-3.0
Total Lost Time (s)	4.0	4.0		5.0	5.0			4.0	4.0	4.0	4.0	4.0
Lead/Lag				Lag	Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Recall Mode	Max	Max		Max	Max		C-Max	C-Max	C-Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0		6.0	6.0		7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	15.0	15.0		14.0	14.0		6.0	6.0	6.0	6.0	10.0	10.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	0
Act Effect Green (s)	38.0	38.0		23.0	23.0			34.0	34.0	34.0	34.0	34.0
Actuated g/C Ratio	0.32	0.32		0.19	0.19			0.28	0.28	0.28	0.28	0.28
v/c Ratio	1.00	1.00		0.29	0.54			1.09	0.55	0.06	0.21	1.23
Control Delay	83.1	81.7		44.7	19.3			189.0	39.2	0.3	37.4	159.6
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	0.0
Total Delay	83.1	81.7		44.7	19.3			189.0	39.2	0.3	37.4	159.6
LOS	F	F		D	B			F	D	A	D	F
Approach Delay		82.4			26.2				52.9			98.2
Approach LOS		F			C				D			F

Intersection Summary

Area Type: CBD

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 111 (93%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 135

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.23

Intersection Signal Delay: 73.1

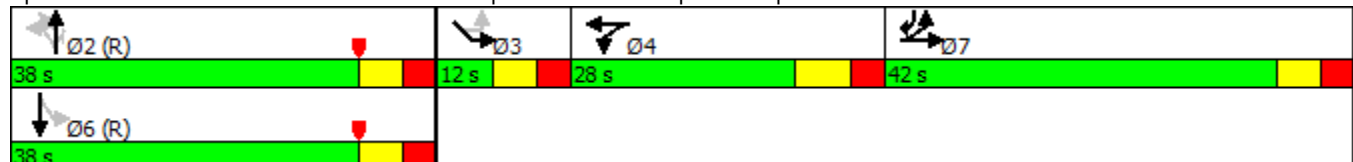
Intersection LOS: E

Intersection Capacity Utilization 95.4%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 7: Alabama Ave & Good Hope Rd SE/Good Hope Marketplace





Lane Group	SBR	SBR2	SEL2	SEL	SER	SER2
Detector Phase	7		3	3		
Switch Phase						
Minimum Initial (s)	7.0		5.0	5.0		
Minimum Split (s)	29.0		12.0	12.0		
Total Split (s)	42.0		12.0	12.0		
Total Split (%)	35.0%		10.0%	10.0%		
Maximum Green (s)	35.0		5.0	5.0		
Yellow Time (s)	4.0		4.0	4.0		
All-Red Time (s)	3.0		3.0	3.0		
Lost Time Adjust (s)	-3.0			-3.0		
Total Lost Time (s)	4.0			4.0		
Lead/Lag			Lead	Lead		
Lead-Lag Optimize?						
Vehicle Extension (s)	1.0		3.0	3.0		
Recall Mode	Max		None	None		
Walk Time (s)	7.0					
Flash Dont Walk (s)	15.0					
Pedestrian Calls (#/hr)	0					
Act Effct Green (s)	38.0			8.0		
Actuated g/C Ratio	0.32			0.07		
v/c Ratio	0.47			0.46		
Control Delay	20.9			8.2		
Queue Delay	0.0			0.0		
Total Delay	20.9			8.2		
LOS	C			A		
Approach Delay				8.2		
Approach LOS				A		
Intersection Summary						

Lanes, Volumes, Timings
8: Alabama Ave & Branch Ave SE

Future PM with Improvements

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	117	421	42	86	272	23	78	493	76	52	446	14
Future Volume (vph)	117	421	42	86	272	23	78	493	76	52	446	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor	1.00	1.00			1.00							
Frt		0.976			0.985			0.983			0.995	
Flt Protected	0.950			0.950				0.994			0.993	
Satd. Flow (prot)	1593	1636	0	1624	1651	0	0	3057	0	0	3077	0
Flt Permitted	0.370			0.138				0.785			0.698	
Satd. Flow (perm)	619	1636	0	236	1651	0	0	2415	0	0	2163	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			6			18			5	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		362			386			2439			669	
Travel Time (s)		9.9			10.5			66.5			18.2	
Confl. Peds. (#/hr)	4		5	5		4						
Peak Hour Factor	0.83	0.88	0.45	0.82	0.84	0.64	0.93	0.84	0.88	0.65	0.95	0.70
Heavy Vehicles (%)	2%	2%	0%	0%	2%	0%	0%	2%	0%	0%	4%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	11	11	0	5	5
Adj. Flow (vph)	141	478	93	105	324	36	84	587	86	80	469	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	141	571	0	105	360	0	0	757	0	0	569	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.18	1.14	1.14	1.16	1.14
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	1	6		5	2			4			3	
Permitted Phases	6			2			4			3		
Detector Phase	1	6		5	2		4	4		3	3	
Switch Phase												

Lanes, Volumes, Timings
8: Alabama Ave & Branch Ave SE

Future PM with Improvements

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	5.0	10.0		5.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	10.0	23.5		10.0	23.5		20.5	20.5		21.5	21.5	
Total Split (s)	11.0	41.0		11.0	41.0		48.0	48.0		48.0	48.0	
Total Split (%)	11.0%	41.0%		11.0%	41.0%		48.0%	48.0%		48.0%	48.0%	
Maximum Green (s)	6.0	35.5		6.0	35.5		42.5	42.5		42.5	42.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.5		1.0	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	-1.0	-1.5		-1.0	-1.5			-1.5			-1.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Recall Mode	Max	C-Max		Max	C-Max		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		8.0			9.0		8.0	8.0		9.0	9.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effect Green (s)	44.0	37.0		44.0	37.0			44.0			44.0	
Actuated g/C Ratio	0.44	0.37		0.44	0.37			0.44			0.44	
v/c Ratio	0.41	0.93		0.52	0.59			0.71			0.60	
Control Delay	19.3	54.3		24.3	29.6			26.6			39.7	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	19.3	54.3		24.3	29.6			26.6			39.7	
LOS	B	D		C	C			C			D	
Approach Delay		47.3			28.4			26.6			39.7	
Approach LOS		D			C			C			D	

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 35.8

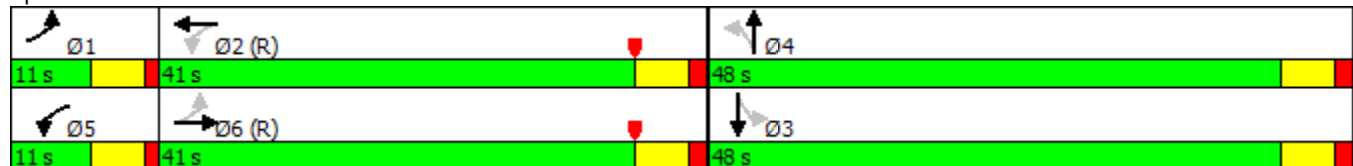
Intersection LOS: D

Intersection Capacity Utilization 82.3%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 8: Alabama Ave & Branch Ave SE



Lanes, Volumes, Timings
10: Alabama Ave & 38th St SE

Future PM with Improvements

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	256	70	9	227	25	60	492	10	38	507	6
Future Volume (vph)	13	256	70	9	227	25	60	492	10	38	507	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	13	16	10	10	10	10	10	10	10	10
Grade (%)		-8%			12%			2%			-4%	
Storage Length (ft)	30		0	30		0	0		15	0		0
Storage Lanes	1		0	1		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor	0.99	0.98		0.98	1.00			1.00	0.93		1.00	
Frt		0.967			0.985				0.850		0.998	
Flt Protected	0.950			0.950				0.994			0.996	
Satd. Flow (prot)	1616	1735	0	1731	1421	0	0	1527	1343	0	2959	0
Flt Permitted	0.248			0.174				0.858			0.841	
Satd. Flow (perm)	417	1735	0	311	1421	0	0	1317	1254	0	2499	0
Right Turn on Red			No			Yes			No			Yes
Satd. Flow (RTOR)					5							3
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		248			430			424			293	
Travel Time (s)		6.8			11.7			11.6			8.0	
Confl. Peds. (#/hr)	18		39	39		18	3		17	17		3
Confl. Bikes (#/hr)					1			1			1	
Peak Hour Factor	0.36	0.80	0.78	0.75	0.78	0.75	0.78	0.87	0.63	0.77	0.87	0.75
Heavy Vehicles (%)	8%	1%	0%	0%	4%	0%	2%	3%	0%	3%	4%	0%
Adj. Flow (vph)	36	320	90	12	291	33	77	566	16	49	583	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	36	410	0	12	324	0	0	643	16	0	640	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			16			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.06	1.35	1.35	1.26	1.26	1.26	1.22	1.22	1.22
Number of Detectors	1	1		1	1		1	1	1	1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases		2			2			4		3	8	
Permitted Phases	2			2			4		4	8		

Lanes, Volumes, Timings
10: Alabama Ave & 38th St SE

Future PM with Improvements

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	2	2		2	2		4	4	4	3	8	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	24.5	24.5		24.5	24.5		23.5	23.5	23.5	9.5	23.5	
Total Split (s)	27.0	27.0		27.0	27.0		61.0	61.0	61.0	12.0	73.0	
Total Split (%)	27.0%	27.0%		27.0%	27.0%		61.0%	61.0%	61.0%	12.0%	73.0%	
Maximum Green (s)	21.5	21.5		21.5	21.5		55.5	55.5	55.5	7.5	67.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	3.5	4.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5	1.5	1.0	1.5	
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5			-1.5	-1.5		-1.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	3.0	1.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		Max	Max	Max	Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0		7.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		11.0	11.0	11.0		8.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0		0	
Act Effect Green (s)	23.0	23.0		23.0	23.0			57.0	57.0		69.0	
Actuated g/C Ratio	0.23	0.23		0.23	0.23			0.57	0.57		0.69	
v/c Ratio	0.38	1.03		0.17	0.98			0.86	0.02		0.36	
Control Delay	45.8	91.6		37.9	84.6			29.2	6.7		2.2	
Queue Delay	0.0	29.4		0.0	0.0			6.1	0.0		0.5	
Total Delay	45.8	121.1		37.9	84.6			35.3	6.7		2.7	
LOS	D	F		D	F			D	A		A	
Approach Delay		115.0			82.9			34.6			2.7	
Approach LOS		F			F			C			A	

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 51 (51%), Referenced to phase 2:EBWB, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.03

Intersection Signal Delay: 49.8

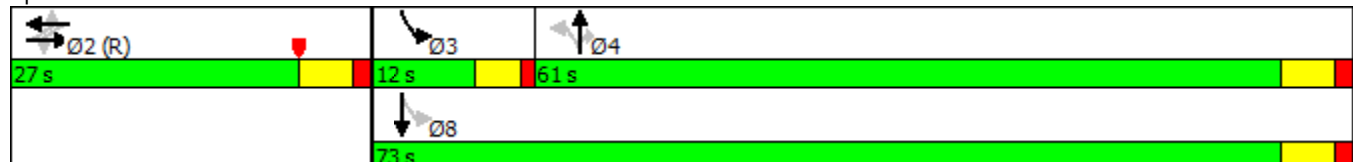
Intersection LOS: D

Intersection Capacity Utilization 79.9%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 10: Alabama Ave & 38th St SE



Lanes, Volumes, Timings
11: Alabama Ave & Pennsylvania Ave SE

Future PM with Improvements

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	98	988	5	115	378	20	0	354	176	31	431	71
Future Volume (vph)	98	988	5	115	378	20	0	354	176	31	431	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10	11	11	11	12	12	12
Grade (%)		10%			-2%			4%			-8%	
Storage Length (ft)	0		0	100		0	0		0	0		165
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	25			25			25			50		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor	1.00	1.00		0.98	1.00				0.98		1.00	
Frt		0.999			0.990				0.850		0.976	
Flt Protected	0.950			0.950							0.997	
Satd. Flow (prot)	1426	2848	0	1531	2999	0	0	1573	1324	0	3199	0
Flt Permitted	0.950			0.950							0.728	
Satd. Flow (perm)	1423	2848	0	1507	2999	0	0	1573	1293	0	2335	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			7				22		21	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		286			487			293			768	
Travel Time (s)		6.5			11.1			6.7			17.5	
Confl. Peds. (#/hr)	2		45	45		2	3		8	8		3
Peak Hour Factor	0.84	0.96	0.50	0.79	0.80	0.63	0.25	0.93	0.78	0.78	0.91	0.73
Heavy Vehicles (%)	1%	1%	0%	0%	1%	0%	0%	3%	4%	0%	2%	6%
Adj. Flow (vph)	117	1029	10	146	473	32	0	381	226	40	474	97
Shared Lane Traffic (%)												
Lane Group Flow (vph)	117	1039	0	146	505	0	0	381	226	0	611	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.33	1.33	1.33	1.23	1.23	1.23	1.22	1.22	1.22	1.09	1.09	1.09
Number of Detectors	1	1		1	1			1	1	1	1	
Detector Template	Left	Thru		Left	Thru			Thru	Right	Left	Thru	
Leading Detector (ft)	50	50		50	50			50	50	50	50	
Trailing Detector (ft)	0	0		0	0			0	0	0	0	
Detector 1 Position(ft)	0	0		0	0			0	0	0	0	
Detector 1 Size(ft)	50	50		50	50			50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Turn Type	Split	NA		Split	NA			NA	pm+ov	Perm	NA	
Protected Phases	2	2		1	1			8	1		4	
Permitted Phases									8	4		
Detector Phase	2	2		1	1			8	1	4	4	

Lanes, Volumes, Timings
11: Alabama Ave & Pennsylvania Ave SE

Future PM with Improvements

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0			7.0	10.0	7.0	7.0	
Minimum Split (s)	25.5	25.5		25.0	25.0			12.5	25.0	25.5	25.5	
Total Split (s)	40.0	40.0		30.0	30.0			30.0	30.0	30.0	30.0	
Total Split (%)	40.0%	40.0%		30.0%	30.0%			30.0%	30.0%	30.0%	30.0%	
Maximum Green (s)	35.0	35.0		25.0	25.0			25.0	25.0	25.0	25.0	
Yellow Time (s)	4.0	4.0		4.0	4.0			4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0			1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0	-1.0		-1.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0			3.0	1.0	3.0	3.0	
Recall Mode	C-Max	C-Max		Max	Max			None	Max	None	None	
Walk Time (s)	7.0	7.0		7.0	7.0				7.0	7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0				13.0	13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0				0	0	0	
Act Effect Green (s)	36.0	36.0		26.0	26.0			26.0	52.0		26.0	
Actuated g/C Ratio	0.36	0.36		0.26	0.26			0.26	0.52		0.26	
v/c Ratio	0.23	1.01		0.37	0.64			0.93	0.33		0.98	
Control Delay	23.8	64.3		33.5	36.9			53.5	3.9		68.7	
Queue Delay	0.0	33.0		0.0	0.0			45.4	0.1		0.0	
Total Delay	23.8	97.3		33.5	36.9			98.9	4.1		68.7	
LOS	C	F		C	D			F	A		E	
Approach Delay		89.9			36.1			63.6			68.7	
Approach LOS		F			D			E			E	

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 74 (74%), Referenced to phase 2:EBTL and 6:, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.01

Intersection Signal Delay: 68.8

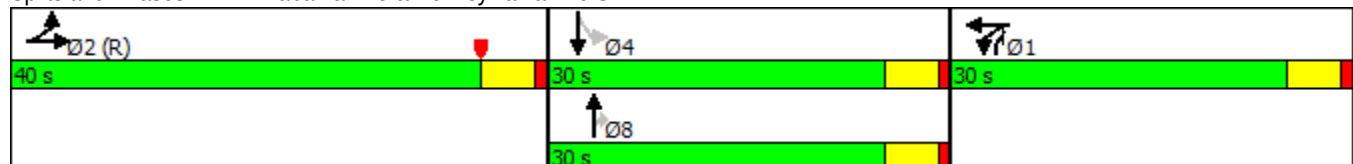
Intersection LOS: E

Intersection Capacity Utilization 89.7%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 11: Alabama Ave & Pennsylvania Ave SE



Lanes, Volumes, Timings
12: Alabama Ave & Ridge Rd SE

Future PM with Improvements

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	411	274	1	187	18	7	75	3	19	95	16
Future Volume (vph)	16	411	274	1	187	18	7	75	3	19	95	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		25	0		25	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
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
Ped Bike Factor												
Frt			0.850		0.988			0.990			0.983	
Flt Protected		0.994						0.995			0.991	
Satd. Flow (prot)	0	1671	1454	0	1674	0	0	1671	0	0	1632	0
Flt Permitted		0.994						0.995			0.991	
Satd. Flow (perm)	0	1671	1454	0	1674	0	0	1671	0	0	1632	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		426			425			325			289	
Travel Time (s)		11.6			11.6			8.9			7.9	
Confl. Peds. (#/hr)									5	5		
Confl. Bikes (#/hr)											1	
Peak Hour Factor	0.25	0.92	0.61	0.75	0.88	0.87	0.58	0.82	0.38	0.64	0.84	0.75
Heavy Vehicles (%)	0%	2%	0%	0%	1%	0%	0%	1%	0%	0%	3%	0%
Adj. Flow (vph)	64	447	449	1	213	21	12	91	8	30	113	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	511	449	0	235	0	0	111	0	0	164	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Sign Control		Stop			Stop			Stop			Stop	
Intersection Summary												
Area Type:	CBD											
Control Type:	Unsignalized											
Intersection Capacity Utilization 55.8%	ICU Level of Service B											
Analysis Period (min) 15												

HCM Unsignalized Intersection Capacity Analysis 12: Alabama Ave & Ridge Rd SE

Future PM with Improvements

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	16	411	274	1	187	18	7	75	3	19	95	16
Future Volume (vph)	16	411	274	1	187	18	7	75	3	19	95	16
Peak Hour Factor	0.25	0.92	0.61	0.75	0.88	0.87	0.58	0.82	0.38	0.64	0.84	0.75
Hourly flow rate (vph)	64	447	449	1	213	21	12	91	8	30	113	21
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1							
Volume Total (vph)	511	449	235	111	164							
Volume Left (vph)	64	0	1	12	30							
Volume Right (vph)	0	449	21	8	21							
Hadj (s)	0.09	-0.70	-0.04	-0.01	-0.01							
Departure Headway (s)	5.9	5.1	5.9	6.7	6.5							
Degree Utilization, x	0.83	0.63	0.39	0.21	0.30							
Capacity (veh/h)	603	701	578	503	519							
Control Delay (s)	30.4	15.2	12.6	11.4	12.3							
Approach Delay (s)	23.3		12.6	11.4	12.3							
Approach LOS	C		B	B	B							
Intersection Summary												
Delay			19.5									
Level of Service			C									
Intersection Capacity Utilization			55.8%	ICU Level of Service					B			
Analysis Period (min)			15									

Lanes, Volumes, Timings
501: Alabama Ave & Jasper St SE

Future PM with Improvements

10/03/2017

							Ø4	Ø5	Ø6
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT			
Lane Configurations									
Traffic Volume (vph)	29	41	631	40	62	765			
Future Volume (vph)	29	41	631	40	62	765			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00			
Ped Bike Factor	0.96		0.99						
Frt	0.929		0.983						
Flt Protected	0.977				0.950				
Satd. Flow (prot)	1725	0	1658	0	1805	1827			
Flt Permitted	0.977				0.185				
Satd. Flow (perm)	1658	0	1658	0	352	1827			
Right Turn on Red		Yes		Yes					
Satd. Flow (RTOR)	53		13						
Link Speed (mph)	30		25			25			
Link Distance (ft)	334		395			140			
Travel Time (s)	7.6		10.8			3.8			
Confl. Peds. (#/hr)	31			24	24				
Peak Hour Factor	0.44	0.56	0.88	0.39	0.66	0.92			
Heavy Vehicles (%)	0%	0%	2%	0%	0%	4%			
Bus Blockages (#/hr)	0	0	21	21	0	0			
Adj. Flow (vph)	66	73	717	103	94	832			
Shared Lane Traffic (%)									
Lane Group Flow (vph)	139	0	820	0	94	832			
Enter Blocked Intersection	No	No	No	No	No	No			
Lane Alignment	Left	Right	Left	Right	Left	Left			
Median Width(ft)	12		12			12			
Link Offset(ft)	0		0			0			
Crosswalk Width(ft)	16		16			16			
Two way Left Turn Lane									
Headway Factor	1.00	1.00	1.12	1.00	1.00	1.00			
Turning Speed (mph)	20	15		15	20				
Number of Detectors	1		1		1	1			
Detector Template	Left		Thru		Left	Thru			
Leading Detector (ft)	50		50		50	50			
Trailing Detector (ft)	0		0		0	0			
Detector 1 Position(ft)	0		0		0	0			
Detector 1 Size(ft)	50		50		50	50			
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex			
Detector 1 Channel									
Detector 1 Extend (s)	0.0		0.0		0.0	0.0			
Detector 1 Queue (s)	0.0		0.0		0.0	0.0			
Detector 1 Delay (s)	0.0		0.0		0.0	0.0			
Turn Type	Prot		NA		pm+pt	NA			
Protected Phases	8		2		1	1 6	4	5	6
Permitted Phases					1 6				
Detector Phase	8		2		1	1 6			
Switch Phase									
Minimum Initial (s)	7.0		10.0		1.0		7.0	1.0	10.0
Minimum Split (s)	24.5		27.5		5.5		22.5	5.5	27.5

Lanes, Volumes, Timings
501: Alabama Ave & Jasper St SE

Future PM with Improvements

10/03/2017



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø4	Ø5	Ø6
Total Split (s)	30.0		64.5		5.5		30.0	5.5	64.5
Total Split (%)	30.0%		64.5%		5.5%		30%	6%	65%
Maximum Green (s)	24.5		60.5		1.0		24.5	1.0	60.5
Yellow Time (s)	4.0		4.0		3.0		4.0	3.0	4.0
All-Red Time (s)	1.5		0.0		1.5		1.5	1.5	0.0
Lost Time Adjust (s)	0.0		0.0		0.0				
Total Lost Time (s)	5.5		4.0		4.5				
Lead/Lag			Lead		Lag			Lag	Lead
Lead-Lag Optimize?			Yes		Yes			Yes	Yes
Vehicle Extension (s)	1.0		1.0		3.0		1.0	1.0	1.0
Recall Mode	Max		C-Max		None		Max	Max	C-Max
Walk Time (s)	7.0		7.0				7.0		7.0
Flash Dont Walk (s)	12.0		6.0				10.0		9.0
Pedestrian Calls (#/hr)	0		0				0		0
Act Effect Green (s)	24.5		60.5		61.0	65.5			
Actuated g/C Ratio	0.24		0.60		0.61	0.66			
v/c Ratio	0.30		0.81		0.41	0.70			
Control Delay	21.0		23.3		3.6	2.9			
Queue Delay	0.1		0.0		3.7	14.7			
Total Delay	21.1		23.4		7.3	17.6			
LOS	C		C		A	B			
Approach Delay	21.1		23.4			16.6			
Approach LOS	C		C			B			

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 78 (78%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.00

Intersection Signal Delay: 19.8

Intersection LOS: B

Intersection Capacity Utilization 56.7%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 501: Alabama Ave & Jasper St SE



Lanes, Volumes, Timings
502: Alabama Ave & Irving St SE

Future PM with Improvements

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	93	14	20	22	16	19	9	651	12	22	785	99
Future Volume (vph)	93	14	20	22	16	19	9	651	12	22	785	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	50		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
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
Ped Bike Factor		0.98			0.98			1.00			0.99	
Frt		0.977			0.960			0.994			0.983	
Flt Protected		0.967			0.979		0.950			0.950		
Satd. Flow (prot)	0	1365	0	0	1586	0	1624	1664	0	1624	1591	0
Flt Permitted		0.733			0.831		0.098			0.239		
Satd. Flow (perm)	0	1022	0	0	1331	0	168	1664	0	409	1591	0
Right Turn on Red			No			No			Yes			Yes
Satd. Flow (RTOR)								4			12	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		363			396			140			554	
Travel Time (s)		9.9			10.8			3.8			15.1	
Confl. Peds. (#/hr)	8		22	22		8	17		10	10		17
Peak Hour Factor	0.90	0.65	0.79	0.44	0.54	0.56	0.67	0.88	0.39	0.66	0.92	0.89
Heavy Vehicles (%)	22%	0%	5%	0%	0%	0%	0%	2%	0%	0%	4%	11%
Bus Blockages (#/hr)	0	3	3	0	0	0	0	0	0	0	0	0
Adj. Flow (vph)	103	22	25	50	30	34	13	740	31	33	853	111
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	150	0	0	114	0	13	771	0	33	964	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.16	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		custom	NA		Perm	NA	
Protected Phases		4			4		5	2 5			6	
Permitted Phases	4			4			2			6		
Detector Phase	4	4		4	4		5	2 5		6	6	
Switch Phase												

Lane Group	Ø1	Ø2	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Ped Bike Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Confl. Peds. (#/hr)			
Peak Hour Factor			
Heavy Vehicles (%)			
Bus Blockages (#/hr)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Number of Detectors			
Detector Template			
Leading Detector (ft)			
Trailing Detector (ft)			
Detector 1 Position(ft)			
Detector 1 Size(ft)			
Detector 1 Type			
Detector 1 Channel			
Detector 1 Extend (s)			
Detector 1 Queue (s)			
Detector 1 Delay (s)			
Turn Type			
Protected Phases	1	2	8
Permitted Phases			
Detector Phase			
Switch Phase			

Lanes, Volumes, Timings
502: Alabama Ave & Irving St SE

Future PM with Improvements

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	7.0	7.0		7.0	7.0		1.0			10.0	10.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		5.5			27.5	27.5	
Total Split (s)	30.0	30.0		30.0	30.0		5.5			64.5	64.5	
Total Split (%)	30.0%	30.0%		30.0%	30.0%		5.5%			64.5%	64.5%	
Maximum Green (s)	24.5	24.5		24.5	24.5		1.0			60.5	60.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0			4.0	4.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5			0.0	0.0	
Lost Time Adjust (s)		0.0			0.0		0.0			0.0	0.0	
Total Lost Time (s)		5.5			5.5		4.5			4.0	4.0	
Lead/Lag							Lag			Lead	Lead	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0			1.0	1.0	
Recall Mode	Max	Max		Max	Max		Max			C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0					9.0	9.0	
Pedestrian Calls (#/hr)	0	0		0	0					0	0	
Act Effect Green (s)		24.5			24.5		61.0	66.0		60.5	60.5	
Actuated g/C Ratio		0.24			0.24		0.61	0.66		0.60	0.60	
v/c Ratio		0.60			0.35		0.11	0.70		0.13	1.00	
Control Delay		44.9			34.9		2.9	3.9		10.2	49.1	
Queue Delay		0.8			0.2		0.3	1.5		0.0	0.0	
Total Delay		45.7			35.0		3.2	5.4		10.2	49.1	
LOS		D			D		A	A		B	D	
Approach Delay		45.7			35.0			5.4			47.8	
Approach LOS		D			D			A			D	

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 78 (78%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.00

Intersection Signal Delay: 30.7

Intersection LOS: C

Intersection Capacity Utilization 75.2%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 502: Alabama Ave & Irving St SE



Lane Group	Ø1	Ø2	Ø8
Minimum Initial (s)	1.0	10.0	7.0
Minimum Split (s)	5.5	27.5	24.5
Total Split (s)	5.5	64.5	30.0
Total Split (%)	6%	65%	30%
Maximum Green (s)	1.0	60.5	24.5
Yellow Time (s)	3.0	4.0	4.0
All-Red Time (s)	1.5	0.0	1.5
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Vehicle Extension (s)	3.0	1.0	1.0
Recall Mode	None	C-Max	Max
Walk Time (s)		7.0	7.0
Flash Dont Walk (s)		6.0	12.0
Pedestrian Calls (#/hr)		0	0
Act Effect Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Intersection Summary			

Lanes, Volumes, Timings
901: Alabama Ave & 36th PI SE

Future PM with Improvements

10/03/2017



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø8
Lane Configurations							
Traffic Volume (vph)	34	22	0	538	585	0	
Future Volume (vph)	34	22	0	538	585	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	9	9	10	10	10	10	
Grade (%)	-4%			-8%	2%		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor	0.98						
Frt	0.943						
Flt Protected	0.972						
Satd. Flow (prot)	1413	0	0	1581	1489	0	
Flt Permitted	0.972						
Satd. Flow (perm)	1413	0	0	1581	1489	0	
Right Turn on Red		No				Yes	
Satd. Flow (RTOR)							
Link Speed (mph)	25			25	25		
Link Distance (ft)	218			610	164		
Travel Time (s)	5.9			16.6	4.5		
Confl. Peds. (#/hr)		7	3			3	
Confl. Bikes (#/hr)				1			
Peak Hour Factor	0.69	0.61	0.25	0.91	0.89	0.25	
Heavy Vehicles (%)	0%	0%	0%	5%	4%	0%	
Bus Blockages (#/hr)	0	0	0	0	5	5	
Adj. Flow (vph)	49	36	0	591	657	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	85	0	0	591	657	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(ft)	9			0	0		
Link Offset(ft)	0			0	0		
Crosswalk Width(ft)	16			16	16		
Two way Left Turn Lane							
Headway Factor	1.27	1.27	1.19	1.19	1.30	1.26	
Turning Speed (mph)	20	15	20			15	
Number of Detectors	1			1	1		
Detector Template	Left			Thru	Thru		
Leading Detector (ft)	50			50	50		
Trailing Detector (ft)	0			0	0		
Detector 1 Position(ft)	0			0	0		
Detector 1 Size(ft)	50			50	50		
Detector 1 Type	Cl+Ex			Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)	0.0			0.0	0.0		
Detector 1 Queue (s)	0.0			0.0	0.0		
Detector 1 Delay (s)	0.0			0.0	0.0		
Turn Type	Prot			NA	NA		
Protected Phases	4			6	2		8
Permitted Phases							
Detector Phase	4			6	2		

Lanes, Volumes, Timings
901: Alabama Ave & 36th PI SE

Future PM with Improvements

10/03/2017



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø8
Switch Phase							
Minimum Initial (s)	7.0			10.0	10.0		10.0
Minimum Split (s)	21.0			24.0	24.0		21.0
Total Split (s)	28.0			72.0	72.0		28.0
Total Split (%)	28.0%			72.0%	72.0%		28%
Maximum Green (s)	22.0			66.0	66.0		22.0
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)	-2.0			-2.0	-2.0		
Total Lost Time (s)	4.0			4.0	4.0		
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0			1.0	1.0		3.0
Recall Mode	None			C-Max	C-Max		None
Walk Time (s)	7.0			7.0	7.0		7.0
Flash Dont Walk (s)	8.0			6.0	6.0		8.0
Pedestrian Calls (#/hr)	0			0	0		0
Act Effect Green (s)	13.4			82.0	82.0		
Actuated g/C Ratio	0.13			0.82	0.82		
v/c Ratio	0.45			0.46	0.54		
Control Delay	46.5			3.1	1.8		
Queue Delay	0.0			0.0	0.0		
Total Delay	46.5			3.1	1.8		
LOS	D			A	A		
Approach Delay	46.5			3.1	1.8		
Approach LOS	D			A	A		

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 88 (88%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.54

Intersection Signal Delay: 5.2

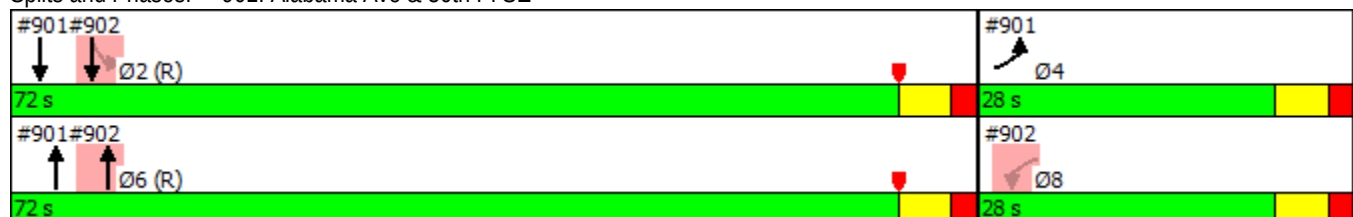
Intersection LOS: A

Intersection Capacity Utilization 48.1%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 901: Alabama Ave & 36th PI SE



							
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø4
Lane Configurations							
Traffic Volume (vph)	2	5	557	15	3	583	
Future Volume (vph)	2	5	557	15	3	583	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	10	10	10	10	10	
Grade (%)	0%		2%			2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor	0.98		1.00				
Frt	0.904		0.995				
Flt Protected	0.986						
Satd. Flow (prot)	1399	0	1426	0	0	1513	
Flt Permitted	0.986					0.995	
Satd. Flow (perm)	1399	0	1426	0	0	1506	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)	10		4				
Link Speed (mph)	25		25			25	
Link Distance (ft)	270		164			481	
Travel Time (s)	7.4		4.5			13.1	
Confl. Peds. (#/hr)		1		2	2		
Confl. Bikes (#/hr)			1				
Peak Hour Factor	0.50	0.50	0.91	0.63	0.50	0.89	
Heavy Vehicles (%)	0%	0%	5%	0%	50%	4%	
Bus Blockages (#/hr)	0	0	12	12	0	0	
Adj. Flow (vph)	4	10	612	24	6	655	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	14	0	636	0	0	661	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Right	Left	Left	
Median Width(ft)	10		0			0	
Link Offset(ft)	0		0			0	
Crosswalk Width(ft)	16		16			16	
Two way Left Turn Lane							
Headway Factor	1.25	1.25	1.34	1.26	1.26	1.26	
Number of Detectors	1		1		1	1	
Detector Template	Left		Thru		Left	Thru	
Leading Detector (ft)	50		50		50	50	
Trailing Detector (ft)	0		0		0	0	
Detector 1 Position(ft)	0		0		0	0	
Detector 1 Size(ft)	50		50		50	50	
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0		0.0		0.0	0.0	
Detector 1 Queue (s)	0.0		0.0		0.0	0.0	
Detector 1 Delay (s)	0.0		0.0		0.0	0.0	
Turn Type	Perm		NA		Perm	NA	
Protected Phases			6			2	4
Permitted Phases	8				2		
Detector Phase	8		6		2	2	
Switch Phase							



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø4
Minimum Initial (s)	10.0		10.0		10.0	10.0	7.0
Minimum Split (s)	21.0		24.0		24.0	24.0	21.0
Total Split (s)	28.0		72.0		72.0	72.0	28.0
Total Split (%)	28.0%		72.0%		72.0%	72.0%	28%
Maximum Green (s)	22.0		66.0		66.0	66.0	22.0
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)	-2.0		-2.0			-2.0	
Total Lost Time (s)	4.0		4.0			4.0	

Lead/Lag

Lead-Lag Optimize?

Vehicle Extension (s)	3.0		1.0		1.0	1.0	3.0
Recall Mode	None		C-Max		C-Max	C-Max	None
Walk Time (s)	7.0		7.0		7.0	7.0	7.0
Flash Dont Walk (s)	8.0		6.0		6.0	6.0	8.0
Pedestrian Calls (#/hr)	0		0		0	0	0
Act Effect Green (s)	13.3		82.0			82.0	
Actuated g/C Ratio	0.13		0.82			0.82	
v/c Ratio	0.07		0.54			0.54	
Control Delay	23.1		3.4			4.7	
Queue Delay	0.0		0.0			0.0	
Total Delay	23.1		3.4			4.7	
LOS	C		A			A	
Approach Delay	23.1		3.4			4.7	
Approach LOS	C		A			A	

Intersection Summary

Area Type:	CBD
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 88 (88%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.54	
Intersection Signal Delay: 4.2	Intersection LOS: A
Intersection Capacity Utilization 51.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 902: Alabama Ave & 36th PI SE

#901#902 ↓ ↓ Ø2 (R) 72 s	#901 ↗ Ø4 28 s
#901#902 ↑ ↑ Ø6 (R) 72 s	#902 ↘ Ø8 28 s

Lanes, Volumes, Timings
1: Alabama Ave & Randle PI SE

Future PM with Improvements + LPIs

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	251	2	43	14	0	13	0	339	8	2	432	0
Future Volume (vph)	251	2	43	14	0	13	0	339	8	2	432	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	30		0	0		0	0		0	0		0
Storage Lanes	1		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
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
Ped Bike Factor	0.51				0.73			0.99			1.00	
Frt		0.861			0.940			0.995				
Flt Protected	0.950				0.973							
Satd. Flow (prot)	1562	1337	0	0	1143	0	0	1467	0	0	1210	0
Flt Permitted	0.950				0.973						0.997	
Satd. Flow (perm)	790	1337	0	0	1143	0	0	1467	0	0	1206	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		341			204			606			1743	
Travel Time (s)		9.3			5.6			16.5			47.5	
Confl. Peds. (#/hr)	194					194	104		72	72		104
Peak Hour Factor	0.79	0.50	0.83	0.67	0.31	0.75	0.58	0.91	0.58	0.50	0.88	0.71
Heavy Vehicles (%)	4%	0%	0%	0%	0%	0%	0%	1%	0%	0%	6%	3%
Bus Blockages (#/hr)	0	23	23	0	0	0	0	0	0	0	0	0
Parking (#/hr)								4	4		30	30
Adj. Flow (vph)	318	4	52	21	0	17	0	373	14	4	491	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	318	56	0	0	38	0	0	387	0	0	495	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.29	1.14	1.14	1.14	1.14	1.14	1.34	1.14	1.14	1.63	1.14
Number of Detectors	1	1		1	1			1		1	1	
Detector Template	Left	Thru		Left	Thru			Thru		Left	Thru	
Leading Detector (ft)	50	50		50	50			50		50	50	
Trailing Detector (ft)	0	0		0	0			0		0	0	
Detector 1 Position(ft)	0	0		0	0			0		0	0	
Detector 1 Size(ft)	50	50		50	50			50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Turn Type	Split	NA		Split	NA			NA		Perm	NA	
Protected Phases	8	8		7	7			2			6	
Permitted Phases										6		
Detector Phase	8	8		7	7			2		6	6	

Lanes, Volumes, Timings
1: Alabama Ave & Randle PI SE

Future PM with Improvements + LPIs

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0			10.0		10.0	10.0	
Minimum Split (s)	22.5	22.5		13.5	13.5			19.5		17.5	17.5	
Total Split (s)	24.0	24.0		14.0	14.0			62.0		62.0	62.0	
Total Split (%)	24.0%	24.0%		14.0%	14.0%			62.0%		62.0%	62.0%	
Maximum Green (s)	17.5	17.5		7.5	7.5			55.5		55.5	55.5	
Yellow Time (s)	4.0	4.0		4.0	4.0			4.0		4.0	4.0	
All-Red Time (s)	2.5	2.5		2.5	2.5			2.5		2.5	2.5	
Lost Time Adjust (s)	-2.5	-2.5			-2.5			-2.5			-2.5	
Total Lost Time (s)	4.0	4.0			4.0			4.0			4.0	
Lead/Lag	Lag	Lag		Lead	Lead							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	1.0	1.0		3.0	3.0			1.0		1.0	1.0	
Recall Mode	Max	Max		None	None			C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0						7.0		7.0	7.0	
Flash Dont Walk (s)	9.0	9.0						6.0		4.0	4.0	
Pedestrian Calls (#/hr)	0	0						0		0	0	
Act Effct Green (s)	25.6	25.6			9.8			58.0			58.0	
Actuated g/C Ratio	0.26	0.26			0.10			0.58			0.58	
v/c Ratio	0.80	0.16			0.34			0.46			0.71	
Control Delay	53.7	34.0			50.9			14.2			15.8	
Queue Delay	0.0	0.0			0.0			0.0			0.0	
Total Delay	53.7	34.0			50.9			14.2			15.8	
LOS	D	C			D			B			B	
Approach Delay		50.7			50.9			14.2			15.8	
Approach LOS		D			D			B			B	

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 53 (53%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 26.4

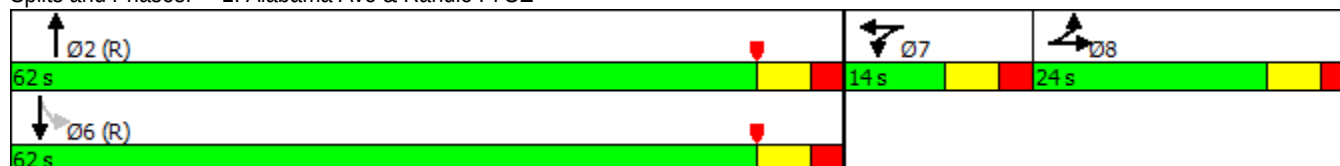
Intersection LOS: C

Intersection Capacity Utilization 55.8%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 1: Alabama Ave & Randle PI SE



Lanes, Volumes, Timings
2: Alabama Ave & 11th PI SE

Future PM with Improvements + LPIs

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	1	60	11	0	14	5	802	38	15	678	7
Future Volume (vph)	38	1	60	11	0	14	5	802	38	15	678	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		50	100		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
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
Ped Bike Factor		0.88			0.94			1.00			1.00	
Frt		0.921			0.932			0.990			0.997	
Flt Protected		0.981			0.976		0.950			0.950		
Satd. Flow (prot)	0	1342	0	0	1478	0	1624	1674	0	1624	1639	0
Flt Permitted		0.864			0.836		0.275			0.199		
Satd. Flow (perm)	0	1182	0	0	1186	0	470	1674	0	340	1639	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		196			302			1743			913	
Travel Time (s)		5.3			8.2			47.5			24.9	
Confl. Peds. (#/hr)			65	65			4		3	3		4
Confl. Bikes (#/hr)								2			1	
Peak Hour Factor	0.73	0.25	0.76	0.50	0.25	0.65	0.63	0.94	0.63	0.70	0.90	0.50
Heavy Vehicles (%)	0%	0%	2%	0%	0%	8%	0%	1%	0%	0%	4%	0%
Bus Blockages (#/hr)	0	0	0	0	3	3	0	0	0	0	0	0
Adj. Flow (vph)	52	4	79	22	0	22	8	853	60	21	753	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	135	0	0	44	0	8	913	0	21	767	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.16	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Detector Phase	4	4		4	4		2	2		2	2	

Lane Group	Ø12
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	
Heavy Vehicles (%)	
Bus Blockages (#/hr)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Turn Type	
Protected Phases	12
Permitted Phases	
Detector Phase	

Lanes, Volumes, Timings
2: Alabama Ave & 11th PI SE

Future PM with Improvements + LPIs

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		20.5	20.5		20.5	20.5	
Total Split (s)	23.0	23.0		23.0	23.0		71.0	71.0		71.0	71.0	
Total Split (%)	23.0%	23.0%		23.0%	23.0%		71.0%	71.0%		71.0%	71.0%	
Maximum Green (s)	17.5	17.5		17.5	17.5		65.5	65.5		65.5	65.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)		-1.5			-1.5		-1.5	-1.5		-1.5	-1.5	
Total Lost Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		1.0	1.0		1.0	1.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0		8.0	8.0		8.0	8.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		16.3			16.3		69.7	69.7		69.7	69.7	
Actuated g/C Ratio		0.16			0.16		0.70	0.70		0.70	0.70	
v/c Ratio		0.70			0.23		0.02	0.78		0.09	0.67	
Control Delay		58.5			38.1		4.6	21.2		7.1	10.7	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		58.5			38.1		4.6	21.2		7.1	10.7	
LOS		E			D		A	C		A	B	
Approach Delay		58.5			38.1			21.1			10.6	
Approach LOS		E			D			C			B	

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 3 (3%), Referenced to phase 2:NBSB, Start of Yellow

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 19.8

Intersection LOS: B

Intersection Capacity Utilization 69.9%

ICU Level of Service C

Analysis Period (min) 15

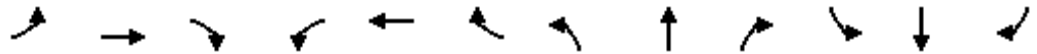
Splits and Phases: 2: Alabama Ave & 11th PI SE



Lane Group	Ø12
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	3.0
Total Split (s)	6.0
Total Split (%)	6%
Maximum Green (s)	4.0
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	Max
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Intersection Summary	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	7	26	132	14	43	25	767	62	58	542	33
Future Volume (vph)	31	7	26	132	14	43	25	767	62	58	542	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	110		50	90		0
Storage Lanes	1		1	0		0	1		1	1		0
Taper Length (ft)	25			25			50			50		
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
Ped Bike Factor	0.96		0.83		0.86				0.93		1.00	
Frt			0.850		0.972				0.850		0.991	
Flt Protected	0.950				0.965		0.950			0.950		
Satd. Flow (prot)	1518	1140	1242	0	1554	0	1624	1693	1454	1624	1540	0
Flt Permitted	0.645				0.779		0.206			0.084		
Satd. Flow (perm)	993	1140	1037	0	1095	0	352	1693	1353	144	1540	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			125		13				131		5	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		203			201			913			2053	
Travel Time (s)		5.5			5.5			24.9			56.0	
Confl. Peds. (#/hr)	36		83	83		36	12		15	15		12
Confl. Bikes (#/hr)					1			3				
Peak Hour Factor	0.91	0.50	0.75	0.63	0.65	0.71	0.72	0.96	0.73	0.87	0.91	0.83
Heavy Vehicles (%)	7%	50%	17%	0%	15%	0%	0%	1%	0%	0%	5%	17%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	9	9
Adj. Flow (vph)	34	14	35	210	22	61	35	799	85	67	596	40
Shared Lane Traffic (%)												
Lane Group Flow (vph)	34	14	35	0	293	0	35	799	85	67	636	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.20	1.14
Number of Detectors	1	1	1	1	1		1	1	1	1	1	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	50	50	50	50	50		50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	
Detector 1 Size(ft)	50	50	50	50	50		50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		8			4		1	6		5	2	
Permitted Phases	8		8	4			6		6	2		
Detector Phase	8	8	8	4	4		1	6	6	5	2	

Lane Group	Ø12	Ø13
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Bus Blockages (#/hr)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Turn Type		
Protected Phases	12	13
Permitted Phases		
Detector Phase		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	24.0	24.0	24.0	29.0	29.0		10.0	23.5	23.5	10.0	29.5	
Total Split (s)	32.0	32.0	32.0	32.0	32.0		10.0	52.0	52.0	10.0	52.0	
Total Split (%)	32.0%	32.0%	32.0%	32.0%	32.0%		10.0%	52.0%	52.0%	10.0%	52.0%	
Maximum Green (s)	26.0	26.0	26.0	26.0	26.0		5.0	46.5	46.5	5.0	46.5	
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		1.0	1.5	1.5	1.0	1.5	
Lost Time Adjust (s)	-2.0	-2.0	-2.0		-2.0		-1.0	-1.5	-1.5	-1.0	-1.5	
Total Lost Time (s)	4.0	4.0	4.0		4.0		4.0	4.0	4.0	4.0	4.0	
Lead/Lag							Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0	1.0	1.0	
Recall Mode	Max	Max	Max	Max	Max		Max	C-Max	C-Max	Max	C-Max	
Walk Time (s)				7.0	7.0			7.0	7.0		7.0	
Flash Dont Walk (s)				16.0	16.0			8.0	8.0		17.0	
Pedestrian Calls (#/hr)				0	0			0	0		0	
Act Effect Green (s)	28.0	28.0	28.0		28.0		54.0	48.0	48.0	54.0	48.0	
Actuated g/C Ratio	0.28	0.28	0.28		0.28		0.54	0.48	0.48	0.54	0.48	
v/c Ratio	0.12	0.04	0.09		0.93		0.13	0.98	0.12	0.40	0.86	
Control Delay	28.4	26.9	0.5		71.1		13.0	45.0	3.1	20.2	27.1	
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	28.4	26.9	0.5		71.1		13.0	45.0	3.1	20.2	27.1	
LOS	C	C	A		E		B	D	A	C	C	
Approach Delay		16.4			71.1			39.9			26.4	
Approach LOS		B			E			D			C	

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 90 (90%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 38.8

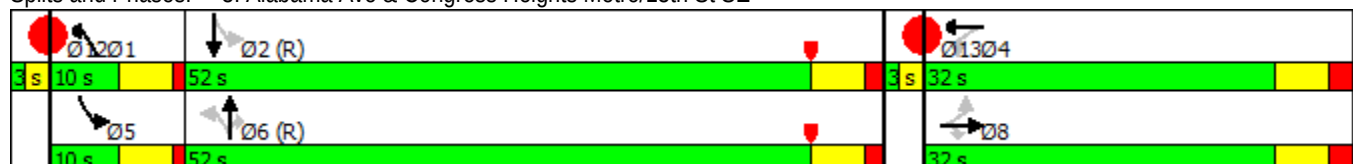
Intersection LOS: D

Intersection Capacity Utilization 78.3%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 3: Alabama Ave & Congress Heights Metro/13th St SE



Lane Group	Ø12	Ø13
Switch Phase		
Minimum Initial (s)	1.0	1.0
Minimum Split (s)	3.0	3.0
Total Split (s)	3.0	3.0
Total Split (%)	3%	3%
Maximum Green (s)	1.0	1.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	Max	Max
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effect Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		

Lanes, Volumes, Timings
4: Alabama Ave & Stanton Rd SE

Future PM with Improvements + LPIs

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	149	143	29	111	44	138	736	65	10	536	78
Future Volume (vph)	70	149	143	29	111	44	138	736	65	10	536	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	30		0	30		0	100		50	100		50
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor	0.92	0.89		0.92	0.95			0.96			0.94	
Frt		0.925			0.945			0.988			0.979	
Flt Protected	0.950			0.950				0.992			0.998	
Satd. Flow (prot)	1547	1345	0	1354	1418	0	0	2763	0	0	2832	0
Flt Permitted	0.506			0.278				0.667			0.901	
Satd. Flow (perm)	756	1345	0	365	1418	0	0	1821	0	0	2553	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		385			337			423			674	
Travel Time (s)		10.5			9.2			11.5			18.4	
Confl. Peds. (#/hr)	73		117	117		73	109		79	79		109
Confl. Bikes (#/hr)			1		1		1				5	
Peak Hour Factor	0.74	0.88	0.85	0.69	0.88	0.60	0.80	0.94	0.81	0.45	0.94	0.82
Heavy Vehicles (%)	5%	7%	3%	20%	10%	5%	5%	2%	9%	11%	5%	10%
Parking (#/hr)								14	14			
Adj. Flow (vph)	95	169	168	42	126	73	173	783	80	22	570	95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	95	337	0	42	199	0	0	1036	0	0	687	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.28	1.14	1.14	1.14	1.14
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			6			2	
Permitted Phases	4			8			6			2		
Detector Phase	4	4		8	8		6	6		2	2	

Lane Group	Ø12	Ø13
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Parking (#/hr)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Turn Type		
Protected Phases	12	13
Permitted Phases		
Detector Phase		

Lanes, Volumes, Timings
4: Alabama Ave & Stanton Rd SE

Future PM with Improvements + LPIs

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	23.5	23.5		23.5	23.5		23.5	23.5		23.5	23.5	
Total Split (s)	30.0	30.0		30.0	30.0		64.0	64.0		64.0	64.0	
Total Split (%)	30.0%	30.0%		30.0%	30.0%		64.0%	64.0%		64.0%	64.0%	
Maximum Green (s)	24.5	24.5		24.5	24.5		58.5	58.5		58.5	58.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5			-1.5			-1.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Recall Mode	Max	Max		Max	Max		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)	26.0	26.0		26.0	26.0			60.0			60.0	
Actuated g/C Ratio	0.26	0.26		0.26	0.26			0.60			0.60	
v/c Ratio	0.48	0.97		0.45	0.54			0.95			0.45	
Control Delay	41.2	78.5		48.3	38.3			19.9			12.1	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	41.2	78.5		48.3	38.3			19.9			12.1	
LOS	D	E		D	D			B			B	
Approach Delay		70.3			40.0			19.9			12.1	
Approach LOS		E			D			B			B	

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 63 (63%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.97

Intersection Signal Delay: 28.8

Intersection LOS: C

Intersection Capacity Utilization 90.8%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 4: Alabama Ave & Stanton Rd SE



Lane Group	Ø12	Ø13
Switch Phase		
Minimum Initial (s)	1.0	1.0
Minimum Split (s)	3.0	3.0
Total Split (s)	3.0	3.0
Total Split (%)	3%	3%
Maximum Green (s)	1.0	1.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	Max	Max
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		

Lanes, Volumes, Timings
6: Alabama Ave & Naylor Rd SE

Future PM with Improvements + LPIs

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	454	79	20	282	73	52	438	30	109	435	8
Future Volume (vph)	11	454	79	20	282	73	52	438	30	109	435	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor		0.99			0.96			0.98			0.99	
Frt		0.979			0.970			0.988			0.996	
Flt Protected		0.999			0.996			0.995			0.988	
Satd. Flow (prot)	0	1607	0	0	1526	0	0	3019	0	0	3017	0
Flt Permitted		0.983			0.929			0.738			0.605	
Satd. Flow (perm)	0	1579	0	0	1422	0	0	2234	0	0	1827	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		318			242			437			498	
Travel Time (s)		8.7			6.6			11.9			13.6	
Confl. Peds. (#/hr)	108		46	46		108	35		63	63		35
Confl. Bikes (#/hr)								1				
Peak Hour Factor	0.69	0.96	0.89	0.56	0.89	0.71	0.76	0.87	0.63	0.73	0.92	0.44
Heavy Vehicles (%)	0%	2%	9%	5%	6%	0%	10%	2%	3%	0%	4%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	7	7	0	13	13
Adj. Flow (vph)	16	473	89	36	317	103	68	503	48	149	473	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	578	0	0	456	0	0	619	0	0	640	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.16	1.14	1.14	1.18	1.14
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8	8	
Detector Phase	2	2		6	6		4	4		8	8	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	31.5	31.5		29.5	29.5		27.5	27.5		31.5	31.5	

Lane Group	Ø12	Ø13
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Lane Util. Factor		
Ped Bike Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Confl. Peds. (#/hr)		
Confl. Bikes (#/hr)		
Peak Hour Factor		
Heavy Vehicles (%)		
Bus Blockages (#/hr)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Turn Type		
Protected Phases	12	13
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	1.0	1.0
Minimum Split (s)	3.0	3.0

Lanes, Volumes, Timings
6: Alabama Ave & Naylor Rd SE

Future PM with Improvements + LPIs

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	48.0	48.0		48.0	48.0		40.0	40.0		40.0	40.0	
Total Split (%)	48.0%	48.0%		48.0%	48.0%		40.0%	40.0%		40.0%	40.0%	
Maximum Green (s)	41.5	41.5		41.5	41.5		33.5	33.5		33.5	33.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		2.5	2.5		2.5	2.5	
Lost Time Adjust (s)		-2.5			-2.5			-2.5			-2.5	
Total Lost Time (s)		4.0			4.0			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		Max	Max		Max	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	18.0	18.0		16.0	16.0		14.0	14.0		18.0	18.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effect Green (s)		44.0			44.0			36.0			36.0	
Actuated g/C Ratio		0.44			0.44			0.36			0.36	
v/c Ratio		0.83			0.73			0.77			0.97	
Control Delay		37.2			31.4			36.0			62.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		37.2			31.4			36.0			62.2	
LOS		D			C			D			E	
Approach Delay		37.2			31.4			36.0			62.2	
Approach LOS		D			C			D			E	

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Yellow

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.97

Intersection Signal Delay: 42.7

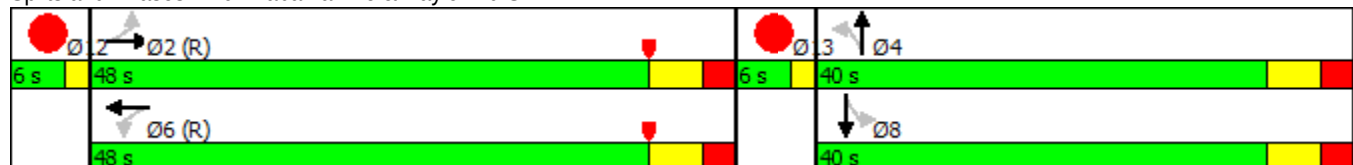
Intersection LOS: D

Intersection Capacity Utilization 84.7%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 6: Alabama Ave & Naylor Rd SE



Lane Group	Ø12	Ø13
Total Split (s)	6.0	6.0
Total Split (%)	6%	6%
Maximum Green (s)	4.0	4.0
Yellow Time (s)	2.0	2.0
All-Red Time (s)	0.0	0.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	Max	Max
Walk Time (s)		
Flash Dont Walk (s)		
Pedestrian Calls (#/hr)		
Act Effect Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
Intersection Summary		

Lanes, Volumes, Timings

Future PM with Improvements + LPIs

7: Alabama Ave & Good Hope Rd SE/Good Hope Marketplace

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR2	NBL2	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	545	115	11	68	130	32	14	43	448	17	18	418
Future Volume (vph)	545	115	11	68	130	32	14	43	448	17	18	418
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	50				100		100	120	
Storage Lanes	1		0	1				1		1	1	
Taper Length (ft)	25			25				50			50	
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00
Ped Bike Factor	0.99	0.99		0.99	1.00					0.86	0.96	
Frt		0.996			0.980					0.850		
Flt Protected	0.950	0.967		0.950	0.998			0.950			0.950	
Satd. Flow (prot)	1513	1542	0	1543	1576	0	0	1624	3217	1395	1624	1644
Flt Permitted	0.950	0.967		0.950	0.998			0.118			0.322	
Satd. Flow (perm)	1497	1531	0	1525	1575	0	0	202	3217	1197	530	1644
Right Turn on Red			Yes			Yes				Yes		
Satd. Flow (RTOR)		1			164					173		
Link Speed (mph)		25			25				25			25
Link Distance (ft)		328			206				498			2439
Travel Time (s)		8.9			5.6				13.6			66.5
Confl. Peds. (#/hr)	5		14	14				19		27	27	
Confl. Bikes (#/hr)								1				
Peak Hour Factor	0.67	0.81	0.92	0.70	0.67	1.00	1.00	0.90	0.90	0.57	0.56	0.73
Heavy Vehicles (%)	2%	0%	0%	0%	1%	0%	0%	0%	1%	0%	0%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	10	0	0
Adj. Flow (vph)	813	142	12	97	194	32	14	48	498	30	32	573
Shared Lane Traffic (%)	41%			10%								
Lane Group Flow (vph)	480	487	0	87	236	0	0	62	498	30	32	573
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Left	Right	Left	Left
Median Width(ft)		12			12				12			12
Link Offset(ft)		0			0				0			0
Crosswalk Width(ft)		16			16				16			16
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.20	1.14	1.14
Turning Speed (mph)	20		15	20		15	20	20		15	20	
Number of Detectors	1	1		1	1		1	1	1	1	1	1
Detector Template	Left	Thru		Left	Thru		Left	Left	Thru	Right	Left	Thru
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	50
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Split	NA		Split	NA		Perm	Perm	NA	Perm	Perm	NA
Protected Phases	7	7		4	4				2		6	
Permitted Phases							2	2		2		

Future PM with Improvements + LPIs 4:45 pm 03/02/2017

SJ

Synchro 9 Report

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Lane Group	SBR	SBR2	SEL2	SEL	SER	SER2
Lane Configurations	FF			FF		
Traffic Volume (vph)	292	56	65	0	55	3
Future Volume (vph)	292	56	65	0	55	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120			0	0	
Storage Lanes	1			1	0	
Taper Length (ft)				25		
Lane Util. Factor	0.88	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.850			0.936		
Flt Protected				0.974		
Satd. Flow (prot)	2511	0	0	1559	0	0
Flt Permitted				0.974		
Satd. Flow (perm)	2511	0	0	1559	0	0
Right Turn on Red		Yes			Yes	
Satd. Flow (RTOR)	173			173		
Link Speed (mph)				25		
Link Distance (ft)				274		
Travel Time (s)				7.5		
Confl. Peds. (#/hr)	19					
Confl. Bikes (#/hr)						
Peak Hour Factor	0.78	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%
Bus Blockages (#/hr)	5	0	0	0	0	0
Adj. Flow (vph)	374	56	65	0	55	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	430	0	0	123	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Right	Right	Left	Left	Right	Right
Median Width(ft)				12		
Link Offset(ft)				0		
Crosswalk Width(ft)				16		
Two way Left Turn Lane						
Headway Factor	1.16	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)	15	15	20	20	15	15
Number of Detectors	1		1	1		
Detector Template	Right		Left	Left		
Leading Detector (ft)	50		50	50		
Trailing Detector (ft)	0		0	0		
Detector 1 Position(ft)	0		0	0		
Detector 1 Size(ft)	50		50	50		
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex		
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0		
Detector 1 Queue (s)	0.0		0.0	0.0		
Detector 1 Delay (s)	0.0		0.0	0.0		
Turn Type	Over		Perm	Prot		
Protected Phases	7			3		
Permitted Phases			3			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR2	NBL2	NBL	NBT	NBR	SBL	SBT
Detector Phase	7	7		4	4		2	2	2	2	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	29.0	29.0		28.0	28.0		20.0	20.0	20.0	20.0	24.0	24.0
Total Split (s)	42.0	42.0		28.0	28.0		38.0	38.0	38.0	38.0	38.0	38.0
Total Split (%)	35.0%	35.0%		23.3%	23.3%		31.7%	31.7%	31.7%	31.7%	31.7%	31.7%
Maximum Green (s)	35.0	35.0		20.0	20.0		31.0	31.0	31.0	31.0	31.0	31.0
Yellow Time (s)	4.0	4.0		5.0	5.0		4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-3.0	-3.0		-3.0	-3.0			-3.0	-3.0	-3.0	-3.0	-3.0
Total Lost Time (s)	4.0	4.0		5.0	5.0			4.0	4.0	4.0	4.0	4.0
Lead/Lag				Lag	Lag							
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0
Recall Mode	Max	Max		Max	Max		C-Max	C-Max	C-Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0		6.0	6.0		7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	15.0	15.0		14.0	14.0		6.0	6.0	6.0	6.0	10.0	10.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	0
Act Effect Green (s)	38.0	38.0		23.0	23.0			34.0	34.0	34.0	34.0	34.0
Actuated g/C Ratio	0.32	0.32		0.19	0.19			0.28	0.28	0.28	0.28	0.28
v/c Ratio	1.00	1.00		0.29	0.54			1.09	0.55	0.06	0.21	1.23
Control Delay	83.1	81.7		44.7	19.3			189.0	39.2	0.3	37.4	159.6
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	0.0
Total Delay	83.1	81.7		44.7	19.3			189.0	39.2	0.3	37.4	159.6
LOS	F	F		D	B			F	D	A	D	F
Approach Delay		82.4			26.2				52.9			98.2
Approach LOS		F			C				D			F

Intersection Summary

Area Type: CBD

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 118 (98%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow

Natural Cycle: 135

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.23

Intersection Signal Delay: 73.1

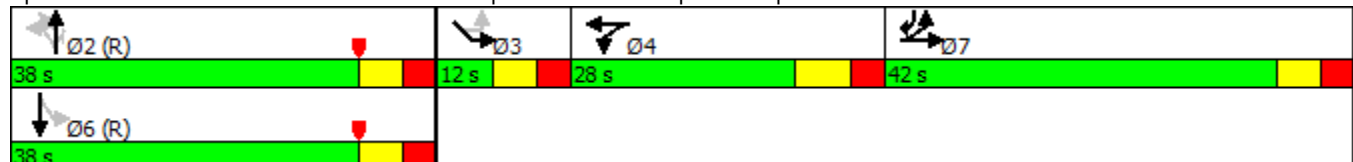
Intersection LOS: E

Intersection Capacity Utilization 95.4%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 7: Alabama Ave & Good Hope Rd SE/Good Hope Marketplace





Lane Group	SBR	SBR2	SEL2	SEL	SER	SER2
Detector Phase	7		3	3		
Switch Phase						
Minimum Initial (s)	7.0		5.0	5.0		
Minimum Split (s)	29.0		12.0	12.0		
Total Split (s)	42.0		12.0	12.0		
Total Split (%)	35.0%		10.0%	10.0%		
Maximum Green (s)	35.0		5.0	5.0		
Yellow Time (s)	4.0		4.0	4.0		
All-Red Time (s)	3.0		3.0	3.0		
Lost Time Adjust (s)	-3.0			-3.0		
Total Lost Time (s)	4.0			4.0		
Lead/Lag			Lead	Lead		
Lead-Lag Optimize?						
Vehicle Extension (s)	1.0		3.0	3.0		
Recall Mode	Max		None	None		
Walk Time (s)	7.0					
Flash Dont Walk (s)	15.0					
Pedestrian Calls (#/hr)	0					
Act Effct Green (s)	38.0			8.0		
Actuated g/C Ratio	0.32			0.07		
v/c Ratio	0.47			0.46		
Control Delay	20.9			8.2		
Queue Delay	0.0			0.0		
Total Delay	20.9			8.2		
LOS	C			A		
Approach Delay				8.2		
Approach LOS				A		
Intersection Summary						

Lanes, Volumes, Timings
8: Alabama Ave & Branch Ave SE

Future PM with Improvements + LPIs

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	117	421	42	86	272	23	78	493	76	52	446	14
Future Volume (vph)	117	421	42	86	272	23	78	493	76	52	446	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	100		0	100		0
Storage Lanes	1		0	1		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor	1.00	1.00			1.00							
Frt		0.976			0.985			0.981			0.995	
Flt Protected	0.950			0.950			0.950				0.993	
Satd. Flow (prot)	1593	1636	0	1624	1649	0	1624	1576	0	0	3077	0
Flt Permitted	0.370			0.138			0.367				0.594	
Satd. Flow (perm)	617	1636	0	236	1649	0	628	1576	0	0	1840	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			6			9			5	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		362			386			2439			669	
Travel Time (s)		9.9			10.5			66.5			18.2	
Confl. Peds. (#/hr)	4		5	5		4						
Peak Hour Factor	0.83	0.88	0.45	0.82	0.84	0.64	0.93	0.84	0.88	0.65	0.95	0.70
Heavy Vehicles (%)	2%	2%	0%	0%	2%	0%	0%	2%	0%	0%	4%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	11	11	0	5	5
Adj. Flow (vph)	141	478	93	105	324	36	84	587	86	80	469	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	141	571	0	105	360	0	84	673	0	0	569	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.21	1.14	1.14	1.16	1.14
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	1	6		5	2			4			3	
Permitted Phases	6			2			4			3		
Detector Phase	1	6		5	2		4	4		3	3	
Switch Phase												

Lanes, Volumes, Timings
8: Alabama Ave & Branch Ave SE

Future PM with Improvements + LPIs

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	5.0	10.0		5.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	10.0	23.5		10.0	23.5		20.5	20.5		21.5	21.5	
Total Split (s)	11.0	41.0		11.0	41.0		48.0	48.0		48.0	48.0	
Total Split (%)	11.0%	41.0%		11.0%	41.0%		48.0%	48.0%		48.0%	48.0%	
Maximum Green (s)	6.0	35.5		6.0	35.5		42.5	42.5		42.5	42.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	1.0	1.5		1.0	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	-1.0	-1.5		-1.0	-1.5		-1.5	-1.5			-1.5	
Total Lost Time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Recall Mode	Max	C-Max		Max	C-Max		Max	Max		Max	Max	
Walk Time (s)		7.0			7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		8.0			9.0		8.0	8.0		9.0	9.0	
Pedestrian Calls (#/hr)		0			0		0	0		0	0	
Act Effect Green (s)	44.0	37.0		44.0	37.0		44.0	44.0			44.0	
Actuated g/C Ratio	0.44	0.37		0.44	0.37		0.44	0.44			0.44	
v/c Ratio	0.42	0.93		0.52	0.59		0.30	0.96			0.70	
Control Delay	19.3	54.3		24.3	29.7		22.0	54.7			42.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Delay	19.3	54.3		24.3	29.7		22.0	54.7			42.3	
LOS	B	D		C	C		C	D			D	
Approach Delay		47.3			28.5			51.1			42.3	
Approach LOS		D			C			D			D	

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 43.8

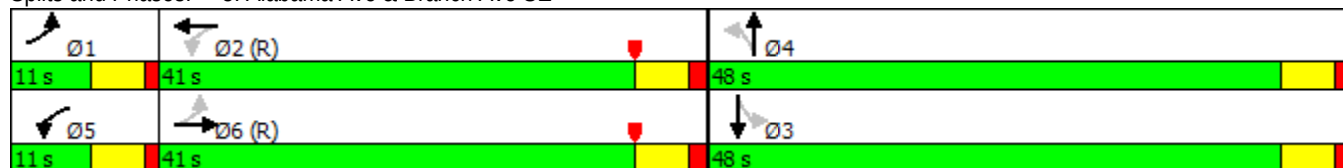
Intersection LOS: D

Intersection Capacity Utilization 96.0%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 8: Alabama Ave & Branch Ave SE



Lanes, Volumes, Timings
10: Alabama Ave & 38th St SE

Future PM with Improvements + LPIs

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	256	70	9	227	25	60	492	10	38	507	6
Future Volume (vph)	13	256	70	9	227	25	60	492	10	38	507	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	13	16	10	10	10	10	10	10	10	10
Grade (%)		-8%			12%			2%			-4%	
Storage Length (ft)	30		0	30		0	0		15	0		0
Storage Lanes	1		0	1		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor	0.99	0.98		0.98	1.00			1.00	0.93		1.00	
Frt		0.967			0.985				0.850		0.998	
Flt Protected	0.950			0.950				0.994			0.996	
Satd. Flow (prot)	1616	1735	0	1731	1421	0	0	1527	1343	0	2959	0
Flt Permitted	0.266			0.167				0.856			0.791	
Satd. Flow (perm)	447	1735	0	299	1421	0	0	1314	1254	0	2350	0
Right Turn on Red			No			Yes			No			Yes
Satd. Flow (RTOR)					5						2	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		248			430			424			293	
Travel Time (s)		6.8			11.7			11.6			8.0	
Confl. Peds. (#/hr)	18		39	39		18	3		17	17		3
Confl. Bikes (#/hr)					1			1			1	
Peak Hour Factor	0.36	0.80	0.78	0.75	0.78	0.75	0.78	0.87	0.63	0.77	0.87	0.75
Heavy Vehicles (%)	8%	1%	0%	0%	4%	0%	2%	3%	0%	3%	4%	0%
Adj. Flow (vph)	36	320	90	12	291	33	77	566	16	49	583	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	36	410	0	12	324	0	0	643	16	0	640	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		16			16			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.06	1.35	1.35	1.26	1.26	1.26	1.22	1.22	1.22
Number of Detectors	1	1		1	1		1	1	1	1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50	50	50	50	
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	
Detector 1 Size(ft)	50	50		50	50		50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	pm+pt	NA	
Protected Phases		2			2			4		3	8	
Permitted Phases	2			2			4		4	8		

Lane Group	Ø12
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Lane Width (ft)	
Grade (%)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Peak Hour Factor	
Heavy Vehicles (%)	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Turn Type	
Protected Phases	12
Permitted Phases	

Lanes, Volumes, Timings
10: Alabama Ave & 38th St SE

Future PM with Improvements + LPIs

10/03/2017

																								
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR												
Detector Phase	2	2		2	2		4	4	4	3	8													
Switch Phase																								
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0	10.0	5.0	10.0													
Minimum Split (s)	24.5	24.5		24.5	24.5		23.5	23.5	23.5	9.5	23.5													
Total Split (s)	28.0	28.0		28.0	28.0		54.0	54.0	54.0	12.0	66.0													
Total Split (%)	28.0%	28.0%		28.0%	28.0%		54.0%	54.0%	54.0%	12.0%	66.0%													
Maximum Green (s)	22.5	22.5		22.5	22.5		48.5	48.5	48.5	7.5	60.5													
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	3.5	4.0													
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5	1.5	1.5	1.0	1.5													
Lost Time Adjust (s)	-1.5	-1.5		-1.5	-1.5			-1.5	-1.5		-1.5													
Total Lost Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0													
Lead/Lag							Lag	Lag	Lag	Lead														
Lead-Lag Optimize?							Yes	Yes	Yes	Yes														
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0	1.0	1.0	3.0	1.0													
Recall Mode	C-Max	C-Max		C-Max	C-Max		Max	Max	Max	Max	Max													
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0		7.0													
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		11.0	11.0	11.0		8.0													
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0		0													
Act Effect Green (s)	24.0	24.0		24.0	24.0			50.0	50.0		62.0													
Actuated g/C Ratio	0.24	0.24		0.24	0.24			0.50	0.50		0.62													
v/c Ratio	0.34	0.99		0.17	0.94			0.98	0.03		0.42													
Control Delay	41.7	80.0		37.1	74.2			47.5	7.4		7.3													
Queue Delay	0.0	40.3		0.0	0.0			32.5	0.0		0.7													
Total Delay	41.7	120.3		37.1	74.2			80.0	7.4		8.0													
LOS	D	F		D	E			E	A		A													
Approach Delay		114.0			72.9			78.2			8.0													
Approach LOS		F			E			E			A													

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 51 (51%), Referenced to phase 2:EBWB, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 63.4

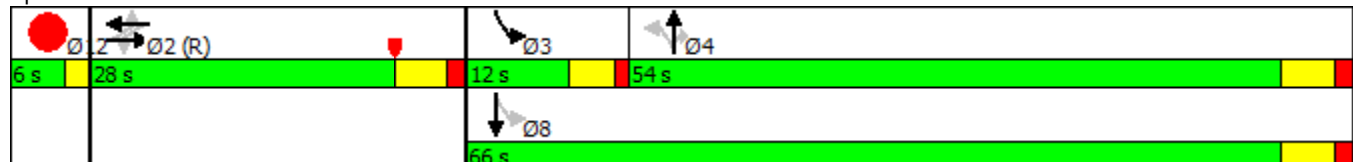
Intersection LOS: E

Intersection Capacity Utilization 79.9%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 10: Alabama Ave & 38th St SE



Lane Group	Ø12
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	3.0
Total Split (s)	6.0
Total Split (%)	6%
Maximum Green (s)	4.0
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	Max
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effect Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Intersection Summary	

Lanes, Volumes, Timings
11: Alabama Ave & Pennsylvania Ave SE

Future PM with Improvements + LPIs

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	98	988	5	115	378	20	0	354	176	31	431	71
Future Volume (vph)	98	988	5	115	378	20	0	354	176	31	431	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	10	10	11	11	11	12	12	12
Grade (%)		10%			-2%			4%			-8%	
Storage Length (ft)	0		0	100		0	0		0	0		165
Storage Lanes	1		0	1		0	0		1	0		1
Taper Length (ft)	25			25			25			50		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	0.95	0.95	0.95
Ped Bike Factor	1.00	1.00		0.98	1.00				0.98		1.00	
Frt		0.999			0.990				0.850		0.976	
Flt Protected	0.950			0.950							0.997	
Satd. Flow (prot)	1426	2848	0	1531	2999	0	0	1573	1324	0	3199	0
Flt Permitted	0.950			0.950							0.728	
Satd. Flow (perm)	1423	2848	0	1507	2999	0	0	1573	1293	0	2335	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			7				22		21	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		286			487			293			768	
Travel Time (s)		6.5			11.1			6.7			17.5	
Confl. Peds. (#/hr)	2		45	45		2	3		8	8		3
Peak Hour Factor	0.84	0.96	0.50	0.79	0.80	0.63	0.25	0.93	0.78	0.78	0.91	0.73
Heavy Vehicles (%)	1%	1%	0%	0%	1%	0%	0%	3%	4%	0%	2%	6%
Adj. Flow (vph)	117	1029	10	146	473	32	0	381	226	40	474	97
Shared Lane Traffic (%)												
Lane Group Flow (vph)	117	1039	0	146	505	0	0	381	226	0	611	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.33	1.33	1.33	1.23	1.23	1.23	1.22	1.22	1.22	1.09	1.09	1.09
Number of Detectors	1	1		1	1			1	1	1	1	
Detector Template	Left	Thru		Left	Thru			Thru	Right	Left	Thru	
Leading Detector (ft)	50	50		50	50			50	50	50	50	
Trailing Detector (ft)	0	0		0	0			0	0	0	0	
Detector 1 Position(ft)	0	0		0	0			0	0	0	0	
Detector 1 Size(ft)	50	50		50	50			50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0			0.0	0.0	0.0	0.0	
Turn Type	Split	NA		Split	NA			NA	pm+ov	Perm	NA	
Protected Phases	2	2		1	1			8	1		4	
Permitted Phases									8	4		
Detector Phase	2	2		1	1			8	1	4	4	

Lanes, Volumes, Timings
11: Alabama Ave & Pennsylvania Ave SE

Future PM with Improvements + LPIs

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0			7.0	10.0	7.0	7.0	
Minimum Split (s)	25.5	25.5		25.0	25.0			12.5	25.0	25.5	25.5	
Total Split (s)	40.0	40.0		30.0	30.0			30.0	30.0	30.0	30.0	
Total Split (%)	40.0%	40.0%		30.0%	30.0%			30.0%	30.0%	30.0%	30.0%	
Maximum Green (s)	35.0	35.0		25.0	25.0			25.0	25.0	25.0	25.0	
Yellow Time (s)	4.0	4.0		4.0	4.0			4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0			1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0			-1.0	-1.0		-1.0	
Total Lost Time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	1.0	1.0		1.0	1.0			3.0	1.0	3.0	3.0	
Recall Mode	C-Max	C-Max		Max	Max			None	Max	None	None	
Walk Time (s)	7.0	7.0		7.0	7.0				7.0	7.0	7.0	
Flash Dont Walk (s)	13.0	13.0		13.0	13.0				13.0	13.0	13.0	
Pedestrian Calls (#/hr)	0	0		0	0				0	0	0	
Act Effect Green (s)	36.0	36.0		26.0	26.0			26.0	52.0		26.0	
Actuated g/C Ratio	0.36	0.36		0.26	0.26			0.26	0.52		0.26	
v/c Ratio	0.23	1.01		0.37	0.64			0.93	0.33		0.98	
Control Delay	23.8	64.3		33.5	36.9			46.3	3.9		68.7	
Queue Delay	0.0	33.0		0.0	0.0			45.4	0.2		0.0	
Total Delay	23.8	97.3		33.5	36.9			91.6	4.0		68.7	
LOS	C	F		C	D			F	A		E	
Approach Delay		89.9			36.1			59.0			68.7	
Approach LOS		F			D			E			E	

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 74 (74%), Referenced to phase 2:EBTL and 6:, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.01

Intersection Signal Delay: 67.8

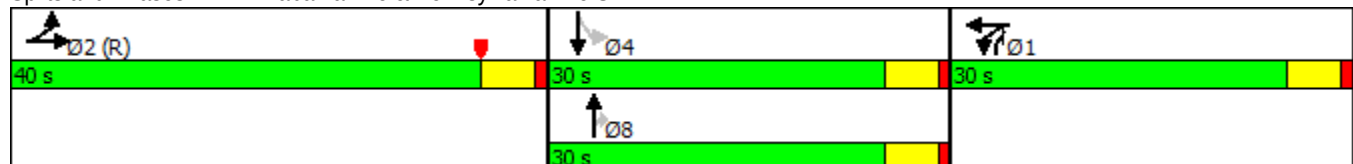
Intersection LOS: E

Intersection Capacity Utilization 89.7%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 11: Alabama Ave & Pennsylvania Ave SE



Lanes, Volumes, Timings
12: Alabama Ave & Ridge Rd SE

Future PM with Improvements + LPIs

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	411	274	1	187	18	7	75	3	19	95	16
Future Volume (vph)	16	411	274	1	187	18	7	75	3	19	95	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		25	0		25	0		0	0		0
Storage Lanes	0		1	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
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
Ped Bike Factor												
Frt			0.850		0.988			0.990			0.983	
Flt Protected		0.994						0.995			0.991	
Satd. Flow (prot)	0	1671	1454	0	1674	0	0	1671	0	0	1632	0
Flt Permitted		0.994						0.995			0.991	
Satd. Flow (perm)	0	1671	1454	0	1674	0	0	1671	0	0	1632	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		426			425			325			289	
Travel Time (s)		11.6			11.6			8.9			7.9	
Confl. Peds. (#/hr)									5	5		
Confl. Bikes (#/hr)											1	
Peak Hour Factor	0.25	0.92	0.61	0.75	0.88	0.87	0.58	0.82	0.38	0.64	0.84	0.75
Heavy Vehicles (%)	0%	2%	0%	0%	1%	0%	0%	1%	0%	0%	3%	0%
Adj. Flow (vph)	64	447	449	1	213	21	12	91	8	30	113	21
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	511	449	0	235	0	0	111	0	0	164	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Sign Control		Stop			Stop			Stop			Stop	
Intersection Summary												
Area Type:	CBD											
Control Type:	Unsignalized											
Intersection Capacity Utilization 55.8%	ICU Level of Service B											
Analysis Period (min) 15												

HCM Unsignalized Intersection Capacity Analysis 12: Alabama Ave & Ridge Rd SE

Future PM with Improvements + LPIs

10/03/2017

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	16	411	274	1	187	18	7	75	3	19	95	16
Future Volume (vph)	16	411	274	1	187	18	7	75	3	19	95	16
Peak Hour Factor	0.25	0.92	0.61	0.75	0.88	0.87	0.58	0.82	0.38	0.64	0.84	0.75
Hourly flow rate (vph)	64	447	449	1	213	21	12	91	8	30	113	21
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1							
Volume Total (vph)	511	449	235	111	164							
Volume Left (vph)	64	0	1	12	30							
Volume Right (vph)	0	449	21	8	21							
Hadj (s)	0.09	-0.70	-0.04	-0.01	-0.01							
Departure Headway (s)	5.9	5.1	5.9	6.7	6.5							
Degree Utilization, x	0.83	0.63	0.39	0.21	0.30							
Capacity (veh/h)	603	701	578	503	519							
Control Delay (s)	30.4	15.2	12.6	11.4	12.3							
Approach Delay (s)	23.3		12.6	11.4	12.3							
Approach LOS	C		B	B	B							
Intersection Summary												
Delay			19.5									
Level of Service			C									
Intersection Capacity Utilization			55.8%			ICU Level of Service			B			
Analysis Period (min)			15									

Lanes, Volumes, Timings
501: Alabama Ave & Jasper St SE

Future PM with Improvements + LPIs

10/03/2017

							Ø4	Ø5	Ø6
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT			
Lane Configurations									
Traffic Volume (vph)	29	41	631	40	62	765			
Future Volume (vph)	29	41	631	40	62	765			
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00			
Ped Bike Factor	0.96		0.99						
Frt	0.929		0.983						
Flt Protected	0.977				0.950				
Satd. Flow (prot)	1725	0	1658	0	1805	1827			
Flt Permitted	0.977				0.185				
Satd. Flow (perm)	1658	0	1658	0	352	1827			
Right Turn on Red		Yes		Yes					
Satd. Flow (RTOR)	53		13						
Link Speed (mph)	30		25			25			
Link Distance (ft)	334		395			140			
Travel Time (s)	7.6		10.8			3.8			
Confl. Peds. (#/hr)	31			24	24				
Peak Hour Factor	0.44	0.56	0.88	0.39	0.66	0.92			
Heavy Vehicles (%)	0%	0%	2%	0%	0%	4%			
Bus Blockages (#/hr)	0	0	21	21	0	0			
Adj. Flow (vph)	66	73	717	103	94	832			
Shared Lane Traffic (%)									
Lane Group Flow (vph)	139	0	820	0	94	832			
Enter Blocked Intersection	No	No	No	No	No	No			
Lane Alignment	Left	Right	Left	Right	Left	Left			
Median Width(ft)	12		12			12			
Link Offset(ft)	0		0			0			
Crosswalk Width(ft)	16		16			16			
Two way Left Turn Lane									
Headway Factor	1.00	1.00	1.12	1.00	1.00	1.00			
Turning Speed (mph)	20	15		15	20				
Number of Detectors	1		1		1	1			
Detector Template	Left		Thru		Left	Thru			
Leading Detector (ft)	50		50		50	50			
Trailing Detector (ft)	0		0		0	0			
Detector 1 Position(ft)	0		0		0	0			
Detector 1 Size(ft)	50		50		50	50			
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex			
Detector 1 Channel									
Detector 1 Extend (s)	0.0		0.0		0.0	0.0			
Detector 1 Queue (s)	0.0		0.0		0.0	0.0			
Detector 1 Delay (s)	0.0		0.0		0.0	0.0			
Turn Type	Prot		NA		pm+pt	NA			
Protected Phases	8		2		1	1 6	4	5	6
Permitted Phases					1 6				
Detector Phase	8		2		1	1 6			
Switch Phase									
Minimum Initial (s)	7.0		10.0		1.0		7.0	1.0	10.0
Minimum Split (s)	24.5		27.5		5.5		22.5	5.5	27.5

Lanes, Volumes, Timings
501: Alabama Ave & Jasper St SE

Future PM with Improvements + LPIs

10/03/2017



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø4	Ø5	Ø6
Total Split (s)	30.0		64.5		5.5		30.0	5.5	64.5
Total Split (%)	30.0%		64.5%		5.5%		30%	6%	65%
Maximum Green (s)	24.5		60.5		1.0		24.5	1.0	60.5
Yellow Time (s)	4.0		4.0		3.0		4.0	3.0	4.0
All-Red Time (s)	1.5		0.0		1.5		1.5	1.5	0.0
Lost Time Adjust (s)	0.0		0.0		0.0				
Total Lost Time (s)	5.5		4.0		4.5				
Lead/Lag			Lead		Lag			Lag	Lead
Lead-Lag Optimize?			Yes		Yes			Yes	Yes
Vehicle Extension (s)	1.0		1.0		3.0		1.0	1.0	1.0
Recall Mode	Max		C-Max		None		Max	Max	C-Max
Walk Time (s)	7.0		7.0				7.0		7.0
Flash Dont Walk (s)	12.0		6.0				10.0		9.0
Pedestrian Calls (#/hr)	0		0				0		0
Act Effect Green (s)	24.5		60.5		61.0	65.5			
Actuated g/C Ratio	0.24		0.60		0.61	0.66			
v/c Ratio	0.30		0.81		0.41	0.70			
Control Delay	21.0		23.3		3.6	2.9			
Queue Delay	0.1		0.0		3.7	14.7			
Total Delay	21.1		23.4		7.3	17.6			
LOS	C		C		A	B			
Approach Delay	21.1		23.4			16.6			
Approach LOS	C		C			B			

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 78 (78%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.00

Intersection Signal Delay: 19.8

Intersection LOS: B

Intersection Capacity Utilization 56.7%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 501: Alabama Ave & Jasper St SE



Lanes, Volumes, Timings
502: Alabama Ave & Irving St SE

Future PM with Improvements + LPIs

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	93	14	20	22	16	19	9	651	12	22	785	99
Future Volume (vph)	93	14	20	22	16	19	9	651	12	22	785	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	50		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
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
Ped Bike Factor		0.98			0.98			1.00			0.99	
Frt		0.977			0.960			0.994			0.983	
Flt Protected		0.967			0.979		0.950			0.950		
Satd. Flow (prot)	0	1365	0	0	1586	0	1624	1664	0	1624	1591	0
Flt Permitted		0.733			0.831		0.098			0.239		
Satd. Flow (perm)	0	1022	0	0	1331	0	168	1664	0	409	1591	0
Right Turn on Red			No			No			Yes			Yes
Satd. Flow (RTOR)								4			12	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		363			396			140			554	
Travel Time (s)		9.9			10.8			3.8			15.1	
Confl. Peds. (#/hr)	8		22	22		8	17		10	10		17
Peak Hour Factor	0.90	0.65	0.79	0.44	0.54	0.56	0.67	0.88	0.39	0.66	0.92	0.89
Heavy Vehicles (%)	22%	0%	5%	0%	0%	0%	0%	2%	0%	0%	4%	11%
Bus Blockages (#/hr)	0	3	3	0	0	0	0	0	0	0	0	0
Adj. Flow (vph)	103	22	25	50	30	34	13	740	31	33	853	111
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	150	0	0	114	0	13	771	0	33	964	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	1.16	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA		Perm	NA		custom	NA		Perm	NA	
Protected Phases		4			4		5	2 5			6	
Permitted Phases	4			4			2			6		
Detector Phase	4	4		4	4		5	2 5		6	6	
Switch Phase												

Lane Group	Ø1	Ø2	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Ped Bike Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Confl. Peds. (#/hr)			
Peak Hour Factor			
Heavy Vehicles (%)			
Bus Blockages (#/hr)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Number of Detectors			
Detector Template			
Leading Detector (ft)			
Trailing Detector (ft)			
Detector 1 Position(ft)			
Detector 1 Size(ft)			
Detector 1 Type			
Detector 1 Channel			
Detector 1 Extend (s)			
Detector 1 Queue (s)			
Detector 1 Delay (s)			
Turn Type			
Protected Phases	1	2	8
Permitted Phases			
Detector Phase			
Switch Phase			

Lanes, Volumes, Timings
502: Alabama Ave & Irving St SE

Future PM with Improvements + LPIs

10/03/2017

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	7.0	7.0		7.0	7.0		1.0			10.0	10.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		5.5			27.5	27.5	
Total Split (s)	30.0	30.0		30.0	30.0		5.5			64.5	64.5	
Total Split (%)	30.0%	30.0%		30.0%	30.0%		5.5%			64.5%	64.5%	
Maximum Green (s)	24.5	24.5		24.5	24.5		1.0			60.5	60.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0			4.0	4.0	
All-Red Time (s)	1.5	1.5		1.5	1.5		1.5			0.0	0.0	
Lost Time Adjust (s)		0.0			0.0		0.0			0.0	0.0	
Total Lost Time (s)		5.5			5.5		4.5			4.0	4.0	
Lead/Lag							Lag			Lead	Lead	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	1.0	1.0		1.0	1.0		1.0			1.0	1.0	
Recall Mode	Max	Max		Max	Max		Max			C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0					7.0	7.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0					9.0	9.0	
Pedestrian Calls (#/hr)	0	0		0	0					0	0	
Act Effect Green (s)		24.5			24.5		61.0	66.0		60.5	60.5	
Actuated g/C Ratio		0.24			0.24		0.61	0.66		0.60	0.60	
v/c Ratio		0.60			0.35		0.11	0.70		0.13	1.00	
Control Delay		44.9			34.9		2.9	3.9		10.2	49.1	
Queue Delay		0.8			0.2		0.3	1.5		0.0	0.0	
Total Delay		45.7			35.0		3.2	5.4		10.2	49.1	
LOS		D			D		A	A		B	D	
Approach Delay		45.7			35.0			5.4			47.8	
Approach LOS		D			D			A			D	

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 78 (78%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.00

Intersection Signal Delay: 30.7

Intersection LOS: C

Intersection Capacity Utilization 75.2%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 502: Alabama Ave & Irving St SE



Lane Group	Ø1	Ø2	Ø8
Minimum Initial (s)	1.0	10.0	7.0
Minimum Split (s)	5.5	27.5	24.5
Total Split (s)	5.5	64.5	30.0
Total Split (%)	6%	65%	30%
Maximum Green (s)	1.0	60.5	24.5
Yellow Time (s)	3.0	4.0	4.0
All-Red Time (s)	1.5	0.0	1.5
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag	Lag	Lead	
Lead-Lag Optimize?	Yes	Yes	
Vehicle Extension (s)	3.0	1.0	1.0
Recall Mode	None	C-Max	Max
Walk Time (s)		7.0	7.0
Flash Dont Walk (s)		6.0	12.0
Pedestrian Calls (#/hr)		0	0
Act Effect Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
Intersection Summary			

Lanes, Volumes, Timings
901: Alabama Ave & 36th PI SE

Future PM with Improvements + LPIs

10/03/2017



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø8
Lane Configurations							
Traffic Volume (vph)	34	22	0	538	585	0	
Future Volume (vph)	34	22	0	538	585	0	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	9	9	10	10	10	10	
Grade (%)	-4%			-8%	2%		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor	0.98						
Frt	0.943						
Flt Protected	0.972						
Satd. Flow (prot)	1413	0	0	1581	1489	0	
Flt Permitted	0.972						
Satd. Flow (perm)	1413	0	0	1581	1489	0	
Right Turn on Red		No				Yes	
Satd. Flow (RTOR)							
Link Speed (mph)	25			25	25		
Link Distance (ft)	218			610	164		
Travel Time (s)	5.9			16.6	4.5		
Confl. Peds. (#/hr)		7	3			3	
Confl. Bikes (#/hr)				1			
Peak Hour Factor	0.69	0.61	0.25	0.91	0.89	0.25	
Heavy Vehicles (%)	0%	0%	0%	5%	4%	0%	
Bus Blockages (#/hr)	0	0	0	0	5	5	
Adj. Flow (vph)	49	36	0	591	657	0	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	85	0	0	591	657	0	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Left	Left	Right	
Median Width(ft)	9			0	0		
Link Offset(ft)	0			0	0		
Crosswalk Width(ft)	16			16	16		
Two way Left Turn Lane							
Headway Factor	1.27	1.27	1.19	1.19	1.30	1.26	
Turning Speed (mph)	20	15	20			15	
Number of Detectors	1			1	1		
Detector Template	Left			Thru	Thru		
Leading Detector (ft)	50			50	50		
Trailing Detector (ft)	0			0	0		
Detector 1 Position(ft)	0			0	0		
Detector 1 Size(ft)	50			50	50		
Detector 1 Type	Cl+Ex			Cl+Ex	Cl+Ex		
Detector 1 Channel							
Detector 1 Extend (s)	0.0			0.0	0.0		
Detector 1 Queue (s)	0.0			0.0	0.0		
Detector 1 Delay (s)	0.0			0.0	0.0		
Turn Type	Prot			NA	NA		
Protected Phases	4			6	2	8	
Permitted Phases							
Detector Phase	4			6	2		

Lanes, Volumes, Timings
901: Alabama Ave & 36th PI SE

Future PM with Improvements + LPIs

10/03/2017



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR	Ø8
Switch Phase							
Minimum Initial (s)	7.0			10.0	10.0		10.0
Minimum Split (s)	21.0			24.0	24.0		21.0
Total Split (s)	28.0			72.0	72.0		28.0
Total Split (%)	28.0%			72.0%	72.0%		28%
Maximum Green (s)	22.0			66.0	66.0		22.0
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)	-2.0			-2.0	-2.0		
Total Lost Time (s)	4.0			4.0	4.0		
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0			1.0	1.0		3.0
Recall Mode	None			C-Max	C-Max		None
Walk Time (s)	7.0			7.0	7.0		7.0
Flash Dont Walk (s)	8.0			6.0	6.0		8.0
Pedestrian Calls (#/hr)	0			0	0		0
Act Effect Green (s)	13.4			82.0	82.0		
Actuated g/C Ratio	0.13			0.82	0.82		
v/c Ratio	0.45			0.46	0.54		
Control Delay	46.5			2.8	3.2		
Queue Delay	0.0			0.0	0.0		
Total Delay	46.5			2.8	3.2		
LOS	D			A	A		
Approach Delay	46.5			2.8	3.2		
Approach LOS	D			A	A		

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 88 (88%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.54

Intersection Signal Delay: 5.8

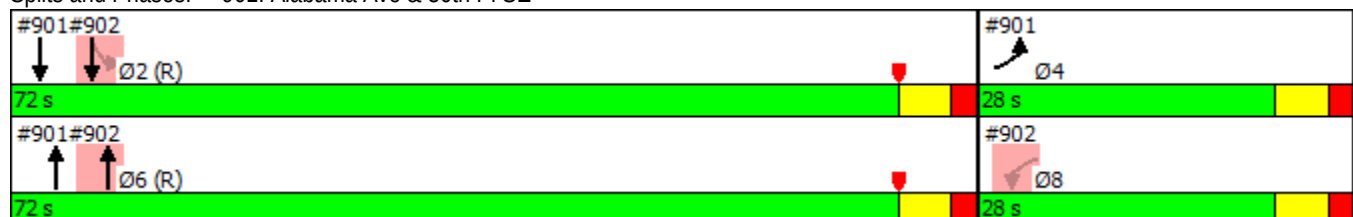
Intersection LOS: A

Intersection Capacity Utilization 48.1%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 901: Alabama Ave & 36th PI SE



Lanes, Volumes, Timings
902: Alabama Ave & 36th PI SE

Future PM with Improvements + LPIs

10/03/2017

							
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø4
Lane Configurations							
Traffic Volume (vph)	2	5	557	15	3	583	
Future Volume (vph)	2	5	557	15	3	583	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	10	10	10	10	10	
Grade (%)	0%		2%			2%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor	0.98		1.00				
Frt	0.904		0.995				
Flt Protected	0.986						
Satd. Flow (prot)	1399	0	1426	0	0	1513	
Flt Permitted	0.986					0.995	
Satd. Flow (perm)	1399	0	1426	0	0	1506	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)	10		4				
Link Speed (mph)	25		25			25	
Link Distance (ft)	270		164			481	
Travel Time (s)	7.4		4.5			13.1	
Confl. Peds. (#/hr)		1		2	2		
Confl. Bikes (#/hr)			1				
Peak Hour Factor	0.50	0.50	0.91	0.63	0.50	0.89	
Heavy Vehicles (%)	0%	0%	5%	0%	50%	4%	
Bus Blockages (#/hr)	0	0	12	12	0	0	
Adj. Flow (vph)	4	10	612	24	6	655	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	14	0	636	0	0	661	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Right	Left	Left	
Median Width(ft)	10		0			0	
Link Offset(ft)	0		0			0	
Crosswalk Width(ft)	16		16			16	
Two way Left Turn Lane							
Headway Factor	1.25	1.25	1.34	1.26	1.26	1.26	
Number of Detectors	1		1		1	1	
Detector Template	Left		Thru		Left	Thru	
Leading Detector (ft)	50		50		50	50	
Trailing Detector (ft)	0		0		0	0	
Detector 1 Position(ft)	0		0		0	0	
Detector 1 Size(ft)	50		50		50	50	
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0		0.0		0.0	0.0	
Detector 1 Queue (s)	0.0		0.0		0.0	0.0	
Detector 1 Delay (s)	0.0		0.0		0.0	0.0	
Turn Type	Perm		NA		Perm	NA	
Protected Phases			6			2	4
Permitted Phases	8				2		
Detector Phase	8		6		2	2	
Switch Phase							



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø4
Minimum Initial (s)	10.0		10.0		10.0	10.0	7.0
Minimum Split (s)	21.0		24.0		24.0	24.0	21.0
Total Split (s)	28.0		72.0		72.0	72.0	28.0
Total Split (%)	28.0%		72.0%		72.0%	72.0%	28%
Maximum Green (s)	22.0		66.0		66.0	66.0	22.0
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)	-2.0		-2.0			-2.0	
Total Lost Time (s)	4.0		4.0			4.0	
Lead/Lag							
Lead-Lag Optimize?							
Vehicle Extension (s)	3.0		1.0		1.0	1.0	3.0
Recall Mode	None		C-Max		C-Max	C-Max	None
Walk Time (s)	7.0		7.0		7.0	7.0	7.0
Flash Dont Walk (s)	8.0		6.0		6.0	6.0	8.0
Pedestrian Calls (#/hr)	0		0		0	0	0
Act Effect Green (s)	13.3		82.0			82.0	
Actuated g/C Ratio	0.13		0.82			0.82	
v/c Ratio	0.07		0.54			0.54	
Control Delay	23.1		3.2			5.5	
Queue Delay	0.0		0.0			0.0	
Total Delay	23.1		3.2			5.5	
LOS	C		A			A	
Approach Delay	23.1		3.2			5.5	
Approach LOS	C		A			A	

Intersection Summary

Area Type: CBD

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 88 (88%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.54

Intersection Signal Delay: 4.5

Intersection LOS: A

Intersection Capacity Utilization 51.9%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 902: Alabama Ave & 36th PI SE



Appendix E Parking Inventory and Utilization

PARKING INVENTORY AND UTILIZATION

Planning-level recommendations for parking restrictions to potentially accommodate bike lanes and/or curb extensions required empirical data regarding parking utilization for the entire Alabama Avenue corridor. To accomplish this objective, the Project Team conducted field observations of parking capacity and parking utilization for segments of Alabama Avenue. The field observations were conducted on weeknights (Thursday June 1, 2017) and (August 19, 2017) beginning at 9:30 pm and 6:30pm respectively, to capture residential parking, and on a Sunday morning (June 4, 2017) beginning at 9:30 am, to capture additional church-related curb parking.

Table 1 | Alabama Avenue SE Parking Utilization Field Survey

	Eastbound			Westbound		
	Capacity	# Vehicles Parked		Capacity	# Vehicles Parked	
		Weeknight	Sunday		Weeknight	Sunday
MLK to 10 th Place						
MLK to 5 th Street	0	0	0	0	0	0
5 th Street to 6 th Street	8	1	1	8	1	1
6 th Street to Randle Place	0	0	3	0	0	4
Randle Place to 7 th Street	11	0	16	21	2	16
7 th Street to 8 th Street	0	0	0	0	0	0
8 th Street to 8 th Street	0	0	0	2	1	1
8 th Street to Wheeler Road	0	0	0	2	0	0
Wheeler Road to 9 th Street	2	0	2	2	0	1
9 th Street to 9 th Place	1	0	0	0	0	2
9 th Place to 10 th Place	7	-	-	7	-	-
10 th Place to Bruce Place						
10 th Place to 11 th Place	3	1	3	3	0	0
11 th Place to 12 th Street	7	2	2	16	1	0
12 th Street to 13 th Street	30	15	18	10	4	5
13 th Street to Congress Street	25	0	0	25	0	2
Congress Street to Congress Place	6	1	0	0	0	0
Congress Place to 15 th Street	12	7	8	5	4	11
15 th Street to 15 th Place	0	-	-	0	-	-



	Eastbound			Westbound		
	Capacity	# Vehicles Parked		Capacity	# Vehicles Parked	
		Weeknight	Sunday		Weeknight	Sunday
15th Place to Stanton Road	8	-	-	24	-	-
Stanton Road to 18th Street	0	-	-	0	-	-
18th Street to Stanton Terr	3	0	0	0	0	0
Stanton Terr to 18th Place	12	0	0	14	3	3
18th Place to Frederick Douglas Place	42	16	16	33	9	8
Frederick Douglas Place to Bruce Place	11	0	0	8	3	2
Bruce Place to 30th Street						
Bruce Place to 22 nd Street/Jasper Street	0	0	0	5	0	0
22 nd Street/Jasper Street to 23 rd Street	0	0	0	0	0	0
23 rd Street to 24 th Street	24	0	0	3	0	0
24 th Street to Irving Place	24	9	8	17	1	4
Irving Place to Jasper Street	3	0	0	2	0	0
Jasper Street to Irving Street/James McGee Jr St	0	0	0	0	0	0
Irving Street/James McGee St to Hartford Street	9	0	5	9	0	2
Hartford Street to Knox Place/Gainesville Street	4	0	0	6	0	0
Knox Place/Gainesville Street to Ainger Place	9	0	6	9	0	8
Ainger Place to Naylor Road	21	-	-	30	-	-
Naylor Road to Good Hope Road	0	-	-	0	-	-
Good Hope Road to 30th Street	0	-	-	0	-	-
30th St to R St						
30 th Street to 31 st Street	4	0	0	24	0	0
31 st Street to 31st Place	11	0	0	7	0	0
31 st Place to 32nd Street	14	0	0	7	0	0
32nd Street to 32nd Place	2	-	-	2	-	-
32nd Place to 33rd Street	12	-	-	8	-	-
33rd Street to Branch Ave	0	-	-	0	-	-
Branch Ave to 34th Street	0	-	-	0	-	-
34th Street to 36th Street	0	-	-	0	-	-

Alabama Avenue SE Safety Study

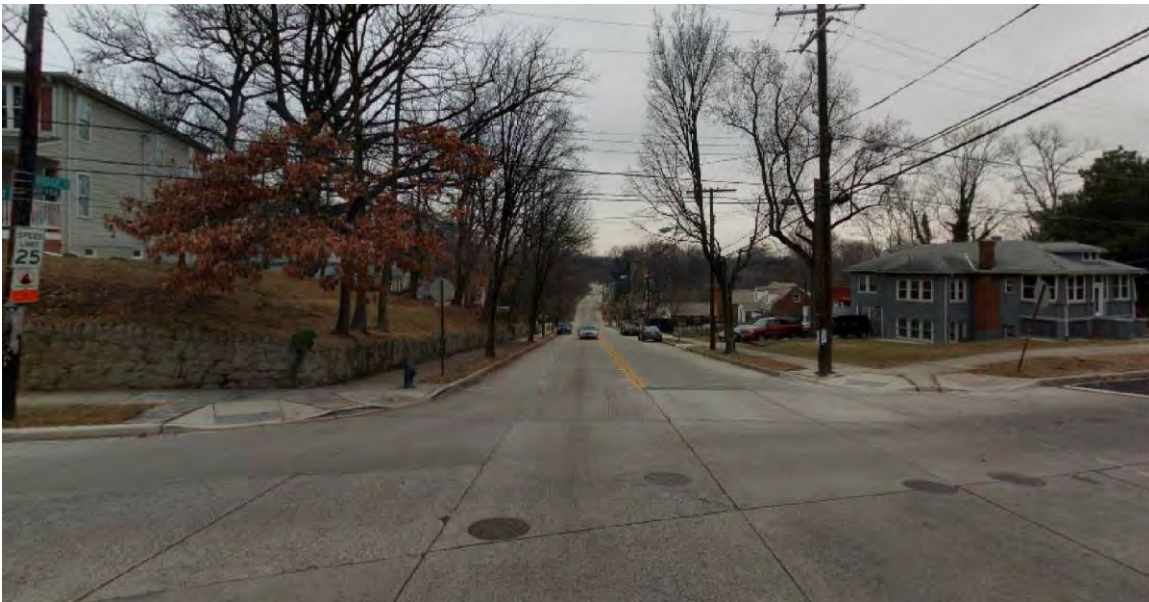


	Eastbound			Westbound		
	Capacity	# Vehicles Parked		Capacity	# Vehicles Parked	
		Weeknight	Sunday		Weeknight	Sunday
36th Street to 36th Place	12	-	-	12	-	-
36th Place to 37th Street	8	-	-	16	-	-
37th Street to 38th Street	18	-	-	13	-	-
38th Street to Pennsylvania Ave	0	-	-	0	-	-
Pennsylvania Ave to R Street	16	-	-	15	-	-
R Street to Ridge Road						
R Street to Q Street	24	25	22	27	12	4
Q Street to 41 st Street	33	3	3	29	1	0
41 st Street to Mass Ave	26	0	4	8	0	3
Mass Ave to Boulevard Lane	11	0	11	16	0	10
Boulevard Lane to Barker Lane	2	0	1	6	0	4
Barker Lane to Beck Street	23	3	4	28	0	1
Beck Street to Stanley Street	8	0	0	10	0	0
Stanley Street to Burns Street	16	0	0	4	0	0
Burns Street to Ridge Road	4	0	0	16	8	6

Appendix F Pedestrian and Bicycle Field Review

Alabama Avenue at Ridge Road SE

- No crosswalks
- Pedestrian ramps meet basic ADA requirements
- Ample sidewalks with the exception of the south side of Alabama Ave west of Ridge Road, and the east side of Ridge Road south of Alabama Ave
- No bicycle facilities





Alabama Avenue SE between Burns Street and Ridge Road

- No sidewalk on the south side of Alabama Ave between Burns Street and Ridge Road
- Pedestrian ramps meet basic ADA requirements
- No bicycle facilities



Alabama Avenue at Burns Street SE

- Standard crosswalk on North leg of Burns Street
- Pedestrian ramps meet basic ADA requirements
- Ample sidewalks on north side of Alabama Ave; no sidewalk on south side of Alabama Ave
- No sidewalks on Burns Street
- No bicycle facilities



Alabama Avenue at Stanley St/Burns St SE

- High-visibility crosswalk on west leg of Alabama Ave and on Stanley Street and on Burns Street
- Pedestrian ramps meet basic ADA requirements
- In-road “Stop for Ped” sign on Alabama Ave west of Stanley Street/Burns Street
- Ample sidewalks
- No bicycle facilities



Alabama Avenue at Beck Street SE

- High-visibility crosswalk on east leg of Alabama Ave and on Beck Street
- Pedestrian ramps meet basic ADA requirements
- In-road “Stop for Ped” sign on Alabama Ave east of Beck Street
- Ample sidewalks
- Painted bike lane begins in WB direction and ends in EB direction



Alabama Avenue at Barker Lane SE

- High-visibility crosswalk on west leg of Alabama Ave and on Barker Lane
- Pedestrian ramps meet basic ADA requirements
- In-road “Stop for Ped” sign on Alabama Ave east of Barker Lane
- Ample sidewalks
- Painted bike lanes in both directions of Alabama Ave



Alabama Avenue at Massachusetts Avenue SE

- High-visibility crosswalks on all legs of intersection
- Pedestrian ramps meet basic ADA requirements
- Countdown pedestrian signals
- “Turning Vehicles Stop for Ped” signs posted in both directions of Alabama Ave
- Ample sidewalks
- Painted bike lanes in both directions of Alabama Ave



Alabama Avenue at 41st Street SE

- High-visibility crosswalks on all legs of intersection
- Pedestrian ramps meet basic ADA requirements
- Sidewalk unfinished on north side of Alabama Ave, east of 41st Street
- Concrete sidewalk narrows adjacent to mature tree, west of 41st Street
- Painted bike lanes in both directions of Alabama Ave



Alabama Avenue at Q Street SE

- High-visibility crosswalks on all legs of intersection
- Pedestrian ramps meet basic ADA requirements
- Ample sidewalks
- Painted bike lanes in both directions of Alabama Ave



Alabama Avenue at R Street SE

- High-visibility crosswalks on all legs of intersection
- Pedestrian ramps meet basic ADA requirements
- Ample sidewalks
- Painted bike lanes in both directions of Alabama Ave



Alabama Avenue at Pennsylvania Avenue SE

- High-visibility crosswalks on all legs of intersection
- Pedestrian ramps meet basic ADA requirements
- Countdown pedestrian signals
- Ample sidewalks
- No bike lanes on Alabama Ave



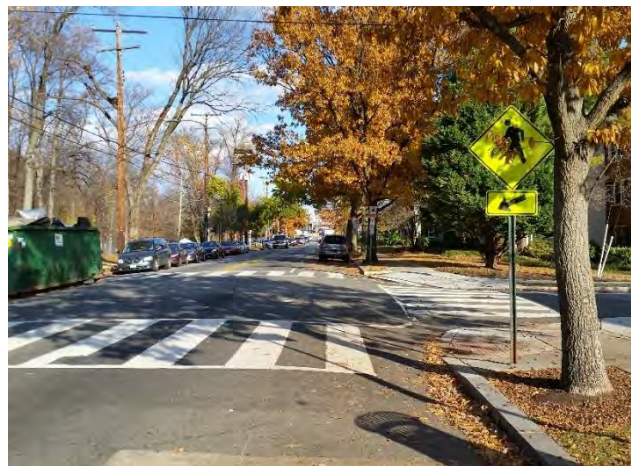
Alabama Avenue at 38th Street SE

- High-visibility crosswalks on all legs of intersection
- Pedestrian ramps meet basic ADA requirements
- Countdown pedestrian signals
- Ample sidewalks
- “Turning Vehicles Yield to Ped” sign posted on SE corner, but is misaligned
- No bike lanes on Alabama Ave
- Capital Bikeshare station on NE corner



Alabama Avenue at 37th Street SE

- High-visibility crosswalks on all legs of intersection
- Pedestrian ramps meet basic ADA requirements
- In-ground “Stop for Ped” sign on Alabama Ave west of 37th Street
- Pedestrian warning sign posted on 37th Street approaching Alabama Ave
- Ample sidewalks
- No bike lanes on Alabama Ave
- Note: Francis Gregory Library located at intersection



Alabama Avenue at 36th Place SE (East T-intersection)

- High-visibility crosswalks on all legs of intersection
- Pedestrian ramps meet basic ADA requirements
- Countdown + audible pedestrian signals
- Pedestrian warning signs on all approaches
- Ample sidewalks
- No bike lanes on Alabama Ave
- Note: Anne Beers Elementary School located at intersection



Alabama Avenue at 36th Place SE (West T-intersection)

- High-visibility crosswalks on all legs of intersection
- Pedestrian ramps meet basic ADA requirements
- Countdown + audible pedestrian signals
- Ample sidewalks
- No bike lanes on Alabama Ave
- Note: Anne Beers Elementary School located at intersection



Alabama Avenue at Suitland Road/Austin Street SE

- Standard crosswalks on all legs of intersection that have designated crossings
- Pedestrian ramps not upgraded to meet ADA requirements such as truncated domes
- Countdown pedestrian signals, with the exception that the NB Suitland Road approach does not have pedestrian signals
- Ample sidewalks
- No bicycle facilities



Alabama Avenue at 34th Street SE

- High-visibility crosswalks on east and west legs of Alabama Ave (restoration of utility cut partially covers hi-viz crosswalk on east leg)
- Standard crosswalks on north and south legs of 34th Street
- Pedestrian ramps not upgraded to meet ADA requirements such as truncated domes
- Pedestrian Warning sign on EB Alabama Ave at 34th Street
- Ample sidewalks
- No bicycle facilities



Alabama Avenue at Branch Avenue SE

- High-visibility crosswalks on all legs (new markings)
- Countdown pedestrian signals
- Pedestrian ramps meet basic ADA requirements
- Ample sidewalks
- Red light camera on NB Branch Ave
- No bicycle facilities



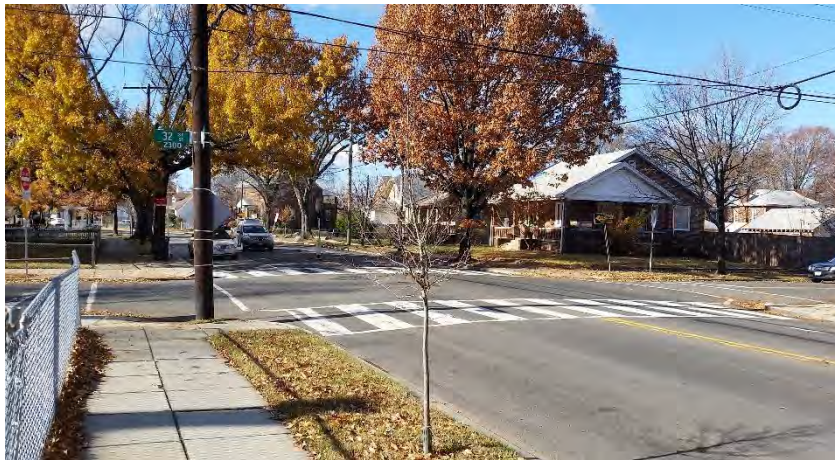
Alabama Avenue at 33rd Street/32nd Place SE

- High-visibility crosswalks on east leg of Alabama Ave at 32nd Place
- Standard crosswalks on 33rd Street and 32nd Place
- Pedestrian ramps not upgraded to meet ADA requirements such as truncated domes
- In-road “Stop for Ped” sign on Alabama Avenue east of 32nd Place
- Pedestrian Warning sign on EB and WB Alabama Ave at 32nd Place crosswalk
- Ample sidewalks
- No bicycle facilities



Alabama Avenue at 32nd Street SE

- High-visibility crosswalks on east and west legs of Alabama Ave
- Standard crosswalks on north and south legs of 32nd Street
- Pedestrian ramps not upgraded to meet ADA requirements such as truncated domes
- In-road “Stop for Ped” sign on Alabama Ave east and west of 32nd Street (one sign damaged)
- Pedestrian Warning signs on EB and WB Alabama Ave at 32nd Street, and on EB & WB approaches
- Ample sidewalks
- No bicycle facilities



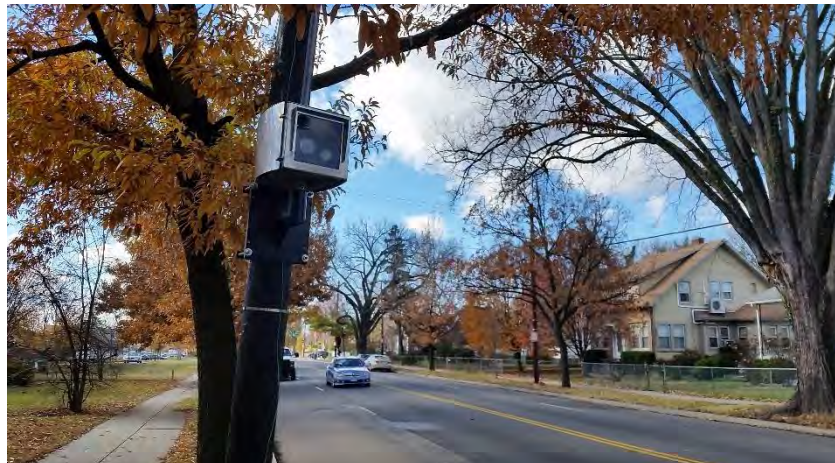
Alabama Avenue at 31st Place SE

- High-visibility crosswalks on west leg of Alabama Ave and on 31st Place
- No pedestrian ramp on south curb of Alabama Ave
- Pedestrian ramps not upgraded to meet ADA requirements such as truncated domes
- In-road “Stop for Ped” sign on Alabama Ave west of 31st Place
- Ample sidewalks
- No bicycle facilities



Alabama Avenue at 31st Street SE

- Standard crosswalks on east and west legs of Alabama Ave and on 31st Street
- No pedestrian ramp on south curb of Alabama Ave
- Pedestrian ramps not upgraded to meet ADA requirements such as truncated domes
- Ample sidewalks
- No bicycle facilities
- Pole-mounted speed camera monitoring EB traffic



Alabama Avenue at 30th Street SE

- High-visibility crosswalks on all legs
- Countdown pedestrian signals
- Pedestrian ramps meet basic ADA requirements
- Ample sidewalks
- No bicycle facilities



Alabama Avenue at Good Hope Road SE

- High-visibility crosswalks on all legs
- Countdown pedestrian signals
- Pedestrian ramps meet basic ADA requirements
- Ample sidewalks with the exception of narrow sidewalk (approx. 3' wide) on south side of Alabama Ave between 30th Street and Good Hope Road
- No bicycle facilities (note: Capital Bikeshare station located on north side of intersection)



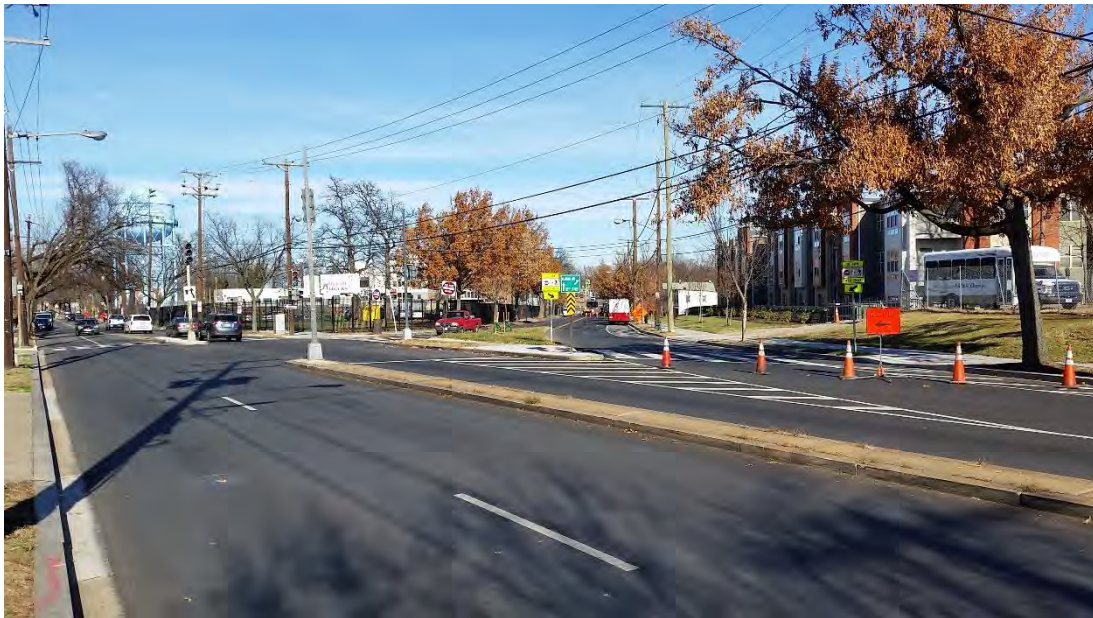
Alabama Avenue at Naylor Road SE

- High-visibility crosswalks on all legs
- Countdown pedestrian signals
- Pedestrian ramps meet basic ADA requirements with the exception of the SE corner, which has not been upgraded to meet ADA requirements such as truncated domes
- Ample sidewalks
- No bicycle facilities
- Repaving in progress at time of December 2016 site visit



Alabama Avenue at 25th Street SE

- High-visibility crosswalks on all legs
- Countdown pedestrian signals
- Pedestrian ramps meet basic ADA requirements
- “Stop for Pedestrian” signs posted on uncontrolled approach
- Ample sidewalks
- No bicycle facilities



Alabama Avenue at Ainger Place SE

- Standard crosswalks on east leg of Alabama Ave and on Ainger Place
- Countdown pedestrian signals
- Pedestrian ramps meet basic ADA requirements
- Ample sidewalks
- No bicycle facilities



Alabama Avenue at Gainesville Street / Knox Place SE

- High-visibility crosswalks on east leg of Alabama Ave and on Gainesville St (south leg)
- Standard crosswalk on Knox Place (north leg)
- Pedestrian ramps meet basic ADA requirements
- In-road “Stop for Ped” sign east of Gainesville Street / Knox Place
- Pedestrian Warning signs on EB and WB Alabama Avenue at crosswalk
- Ample sidewalks
- No bicycle facilities



Alabama Avenue at Irving Street/James McGee Jr. Street SE

- High-visibility crosswalks on all legs
- Countdown and audible pedestrian signals
- Pedestrian ramps meet basic ADA requirements
- Ample sidewalks
- No bicycle facilities
- Note: MPD 7th District located at this intersection



Alabama Avenue at Jasper Street SE

- High-visibility crosswalks on west leg of Alabama Ave and on Jasper Street
- Countdown pedestrian signals
- Pedestrian ramps meet basic ADA requirements
- “Stop for Pedestrian” sign on WB Alabama Ave at crosswalk
- “Blind Pedestrian Area” sign on Jasper Street
- Ample sidewalks, with the exception of south side of Alabama Ave at bus shelter
- No bicycle facilities



Alabama Avenue at Irving Place SE

- High-visibility crosswalks on west leg of Alabama Ave and on Irving Place
- Pedestrian ramps meet basic ADA requirements
- “Stop for Ped” signs on EB and WB Alabama Ave at crosswalk
- In-road “Stop for Ped” sign west of crosswalk (in need of repair)
- Ample sidewalks
- No bicycle facilities
- Note: Garfield Elementary School at intersection



Alabama Avenue at 24th Street SE

- Standard crosswalk on 24th Street
- No crosswalks on Alabama Ave
- Pedestrian ramps meet basic ADA requirements
- Ample sidewalks
- No bicycle facilities



Alabama Avenue at Suitland Parkway SE

- Standard crosswalks on Suitland Parkway ramps
- No crosswalks on Alabama Ave
- Countdown pedestrian signals
- Pedestrian ramps meet basic ADA requirements
- Ample sidewalks
- No bicycle facilities



Alabama Avenue at 23rd Street SE

- Standard crosswalk on 23rd Street
- No crosswalks on Alabama Ave
- Countdown pedestrian signals
- Pedestrian ramps meet basic ADA requirements
- Ample sidewalks
- No bicycle facilities



Alabama Avenue at 22nd Street SE

- High-visibility crosswalks on all legs of intersection
- Countdown pedestrian signals
- Pedestrian ramps meet basic ADA requirements
- Ample sidewalks
- No bicycle facilities



Alabama Avenue at 21st Street/Bruce Place/Stanton Terrace SE

- High-visibility crosswalk on west leg of Alabama Ave at Bruce Place
- Countdown pedestrian signals
- Pedestrian ramps meet basic ADA requirements with the exception of south curb of Alabama Ave, which has no pedestrian ramp
- Ample sidewalks
- No bicycle facilities



Alabama Avenue at 18th Place SE

- Standard crosswalk on 18th Place
- No crosswalks on Alabama Ave
- Pedestrian ramps meet basic ADA requirements
- Ample sidewalks
- Very long gap in crosswalks between Bruce Place and 18th Street
- No bicycle facilities



Alabama Avenue at 18th Street SE

- High-visibility crosswalks on west leg of Alabama Ave and on both legs of 18th Street
- Standard crosswalk on Knox Place (north leg)
- In-road “Stop for Ped” signs east and west of 18th Street
- School crossing signs on EB and WB Alabama Ave at crosswalk; also advance school crossing signs
- Pedestrian ramps meet basic ADA requirements
- Ample sidewalks
- No bicycle facilities
- Note: Turner Elementary Rec Center at intersection



Alabama Avenue at Stanton Road SE

- High-visibility crosswalks on all legs of intersection
- Countdown pedestrian signals
- “Turning Vehicles Yield to Pedestrian” signs posted on all approaches
- Pedestrian ramps meet basic ADA requirements
- Ample sidewalks
- No bicycle facilities



Alabama Avenue at 15th Place SE

- High-visibility crosswalks on all legs of intersection
- Crosswalk on west leg of Alabama Ave partially paved over
- Pedestrian Warning signs with Rapid Flashing Beacons on EB and WB Alabama Ave at crosswalk
- Pedestrian ramps meet basic ADA requirements
- Ample sidewalks
- No bicycle facilities



Alabama Avenue at 15th Street SE

- High-visibility crosswalks on west leg of Alabama Ave and on 15th Street
- Crosswalk on 15th Street partially paved over; crosswalk on Alabama Ave partially milled
- Pedestrian Warning signs with Rapid Flashing Beacons on EB and WB Alabama Ave at crosswalk
- Pedestrian ramps meet basic ADA requirements
- Ample sidewalks, with the exception of No Sidewalk on east side of 15th Street
- No bicycle facilities



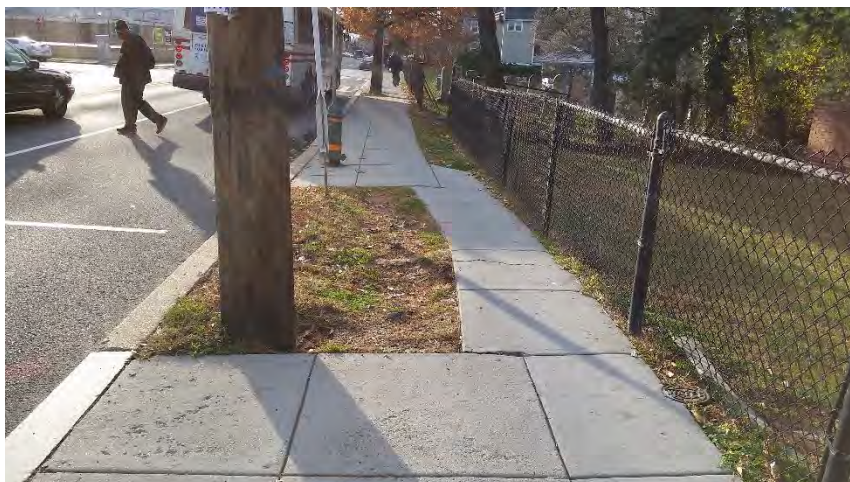
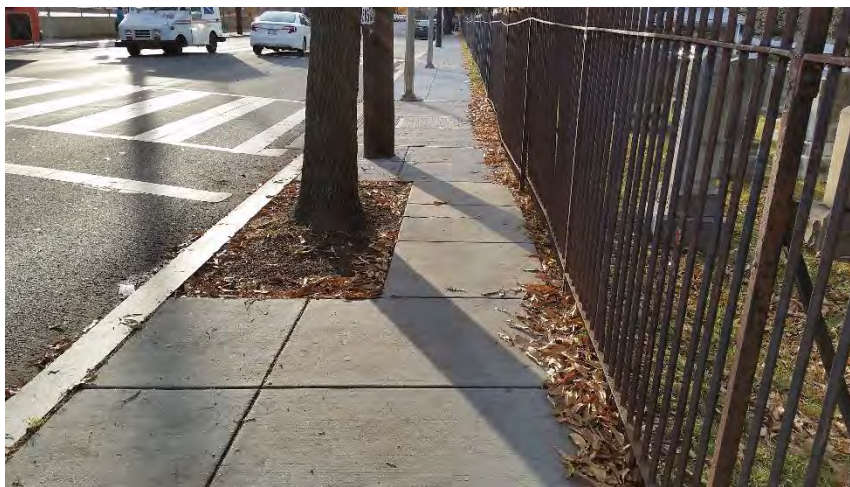
Alabama Avenue at Congress Place SE

- Standard crosswalk on Congress Place
- No crosswalks on Alabama Ave
- Pedestrian ramps meet basic ADA requirements
- Ample sidewalks
- No bicycle facilities



Alabama Avenue at Congress Street SE

- High-visibility crosswalks on all legs
- Countdown pedestrian signals
- Pedestrian ramps meet basic ADA requirements
- Narrow segments of sidewalk on north side of Alabama Ave adjacent to tree pits
- No bicycle facilities



Alabama Avenue at 13th Street SE

- High-visibility crosswalks on all legs of intersection
- Countdown pedestrian signals
- Pedestrian ramps meet basic ADA requirements
- Parking restrictions appear to be missing on north side of Alabama Ave (photo below shows extensive curb parking, mostly Maryland tags)
- No bicycle facilities
- Note: Congress Heights Metro Station at intersection



Alabama Avenue at 12th Street SE

- Standard crosswalk on 12th Street
- No crosswalks on Alabama Ave, although ramps constructed on east leg of Alabama Ave
- Pedestrian ramps meet basic ADA requirements
- Ample sidewalks
- No bicycle facilities



Alabama Avenue at 11th Place SE

- High-visibility crosswalks on both legs of Alabama Ave and south leg of 11th Place
- Countdown pedestrian signals
- Pedestrian ramps meet basic ADA requirements
- No bicycle facilities
- Note: Entrance to St. Elizabeth's campus



Alabama Avenue at 10th Place SE

- Standard crosswalk on 10th Place
- No crosswalks on Alabama Ave
- Pedestrians observed crossing Alabama Ave after de-boarding Metro bus
- Pedestrian ramps meet basic ADA requirements
- Ample sidewalks
- No bicycle facilities



Alabama Avenue at 9th Street SE

- High-visibility crosswalks on east leg of Alabama Ave
- Standard crosswalks on north and south legs of 9th Street
- “Stop for Pedestrian” signs posted EB and WB on Alabama Ave at crosswalk
- “Deaf Child Area” sign posted WB Alabama Ave, on NW corner
- Pedestrian ramps meet basic ADA requirements
- Ample sidewalks
- No bicycle facilities



Alabama Avenue at Wheeler Road SE

- High-visibility crosswalks on east leg of Alabama Ave and on Wheeler Road
- Countdown pedestrian signals
- Pedestrian ramps meet basic ADA requirements
- No bicycle facilities



Alabama Avenue at 7th Street SE

- High-visibility crosswalks on all legs of intersection
- Countdown pedestrian signals
- Pedestrian ramps meet basic ADA requirements
- No bicycle facilities



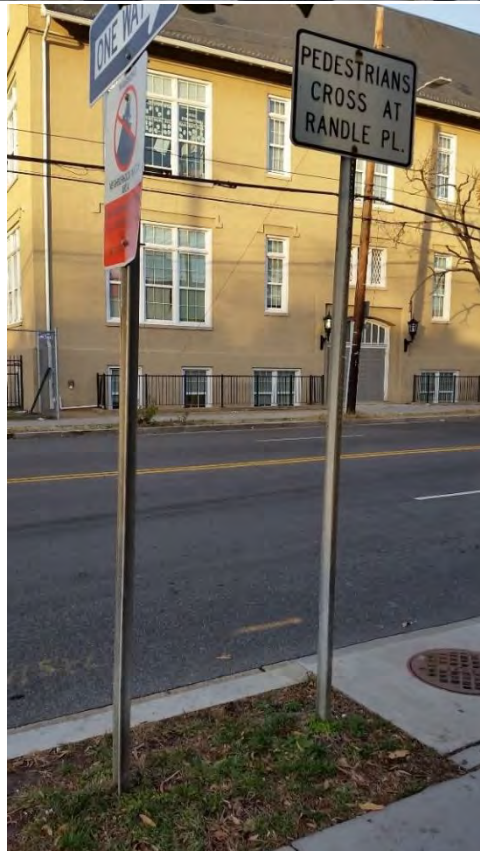
Alabama Avenue at Randle Place SE

- High-visibility crosswalks on west leg of Alabama Ave and both legs of Randle Place
- Crosswalk markings worn on north leg of Randle Place
- Countdown pedestrian signals
- “School” pavement marking on WB approach
- Pedestrian ramps meet basic ADA requirements
- Large pedestrian crossing volumes; large turning volume (including Metro buses)
- No bicycle facilities
- Note: MLK Elementary School at intersection



Alabama Avenue at 6th Street SE

- High-visibility crosswalk on 6th Street
- No crosswalks on Alabama Ave
- Pedestrian ramps meet basic ADA requirements
- Sign posted on south side of Alabama Ave advising pedestrians to cross at Randle Place (not very conspicuous)
- Heavy left-turn from WB Alabama Ave conflicting with pedestrians
- Ample sidewalks
- No bicycle facilities
- Note: MLK Elementary School at intersection



Alabama Avenue at 5th Street SE

- High-visibility crosswalks on east leg of Alabama Ave and both legs of 5th Street
- Pedestrian ramps meet basic ADA requirements
- “Stop for Pedestrian” sign posted EB and WB on Alabama Ave at crosswalk (WB sign damaged)
- Heavy left-turn from WB Alabama Ave conflicting with pedestrians
- Ample sidewalks
- No bicycle facilities
- Capital Bikeshare station located on north side of intersection



Appendix G Performance Measures

PERFORMANCE MEASURES

Policy Goal	Relevant Project Goal	Performance Measure
moveDC Sustainability and Health Goal: Achieve 75% of all commute trips in the District by non-auto modes	Increase bicycle activity along corridor	Number of daily bicycle trips Bikeshare activity along corridor
	Encourage active transportation for health benefits	Bicycle, pedestrian, and transit activity
	Increase access to parks and green space	Number of new or enhanced on street bicycle facilities within 100 feet of parks and green space
moveDC Accessibility and Mobility Goal: Maximize system reliability and capacity for moving people and goods	Reduce financial barriers to the lowest income transportation system users	Number of daily bicycle trips
	Integrate the District's transportation system with the region	Number of connections to existing and planned regional bicycle facilities
	Increase the coverage of all modal networks throughout the District	Percent of forecast 2040 population with access to facilities (Metro station or bus within 7.5-minute walk; bicycle lane or cycletrack within 2-minute ride)
moveDC Neighborhood Accessibility and Connectivity Goal: Support neighborhood vitality and economic development	Increase the number of transportation choices for travel between city neighborhoods	Travelshed of new transportation facilities ADA compliance of the pedestrian system
	Increase transportation availability to population centers and jobs, schools, amenities, and services	Number of population, employment, and mixed-use centers within 100 feet of new transportation facilities
	Increase access to Bikeshare stations	Number of Bikeshare stations along the corridor
moveDC Safety and Security Goal + Vision Zero Initiative: Achieve zero fatalities and serious injuries to travelers using the District's transportation system by 2024, through more effective use of data, education, enforcement, and engineering.	Improve safety for all users	Number of improved crash locations Number and severity of motor vehicle crashes
	Reduce speeding along corridor	Percent of vehicles traveling more than 10 mph above speed limit
	Reduce stress for bicyclists	Bicycle stress mapping along corridor
moveDC Public Space Goal: Protect and enhance Washington D.C.'s historic landscapes and quality of neighborhood public space	Make streets functional, beautiful, and walkable	Level of investment in measures that improve the functionality, walkability, and attractiveness of streets along the corridor

Appendix H Cost Estimates

Alabama Avenue SE Corridor Safety Study

Cost Analysis

		Length of block to south not including intersection	Length of block in intersection	Cross- section markings	Crosswalk Marking	RFB / HAWK / LPI	Bus Stop	Signs and Markings	Median	Curb Extensions	Pedestrian Refuge Island	Site Specific Cost Estimate	Subtotal	Landscaping (5%)	Design (20%)	Maintenance of Traffic (15%)	Moblization (10%)	Contingency (30%)	Total	Notes
Randle Place													\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
7th Street	Two	430	65				\$ 30,570.00			\$ 27,880.00			\$ 58,450.00	\$ 2,922.50	\$ 11,690.00	\$ 8,767.50	\$ 5,845.00	\$ 26,302.50	\$ 113,977.50	Bike Lane begins at 7th Street. 7th Street to Wheeler Road needs additional study to determine feasibility of cross-section treatment
8th Street	Two	300	75	\$ 5,584.50									\$ 5,584.50	\$ 279.23	\$ 1,116.90	\$ 837.68	\$ 558.45	\$ 2,513.03	\$ 10,889.78	
Wheeler Road	Two	60	50	\$ 1,253.40									\$ 1,253.40	\$ 62.67	\$ 250.68	\$ 188.01	\$ 125.34	\$ 564.03	\$ 2,444.13	LPI requires further study
9th Place	Two	150	50	\$ 2,841.00						\$ 54,165.00			\$ 57,006.00	\$ 2,850.30	\$ 11,401.20	\$ 8,550.90	\$ 5,700.60	\$ 25,652.70	\$ 111,161.70	
10th Place	Two	200	60	\$ 3,762.00						\$ 27,880.00			\$ 31,642.00	\$ 1,582.10	\$ 6,328.40	\$ 4,746.30	\$ 3,164.20	\$ 14,238.90	\$ 61,701.90	
11th Place	Two	160	50	\$ 3,017.40			\$ 30,570.00			\$ 27,880.00			\$ 61,467.40	\$ 3,073.37	\$ 12,293.48	\$ 9,220.11	\$ 6,146.74	\$ 27,660.33	\$ 119,861.43	
12th Street	Two	245	55	\$ 4,536.30						\$ 54,165.00			\$ 58,701.30	\$ 2,935.07	\$ 11,740.26	\$ 8,805.20	\$ 5,870.13	\$ 26,415.59	\$ 114,467.54	
13th Street	Two	520	135	\$ 9,699.30									\$ 9,699.30	\$ 484.97	\$ 1,939.86	\$ 1,454.90	\$ 969.93	\$ 4,364.69	\$ 18,913.64	Specialized Design review / Congress Heights Metro
Congress Street	Two	940	55	\$ 16,796.10						\$ 82,045.00			\$ 98,841.10	\$ 4,942.06	\$ 19,768.22	\$ 14,826.17	\$ 9,884.11	\$ 44,478.50	\$ 192,740.15	
Congress Place	Two	130	55	\$ 2,507.70						\$ 27,880.00			\$ 30,387.70	\$ 1,519.39	\$ 6,077.54	\$ 4,558.16	\$ 3,038.77	\$ 13,674.47	\$ 59,256.02	
15th Street	Two	240	60	\$ 4,467.60						\$ 27,880.00			\$ 32,347.60	\$ 1,617.38	\$ 6,469.52	\$ 4,852.14	\$ 3,234.76	\$ 14,556.42	\$ 63,077.82	
15th Place	Two	114	55	\$ 2,225.46						\$ 27,880.00			\$ 30,105.46	\$ 1,505.27	\$ 6,021.09	\$ 4,515.82	\$ 3,010.55	\$ 13,547.46	\$ 58,705.65	
Stanton Road	No Build / 4 Lane	670	55										\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
18th Street/Stanton Terrace	Two	360	60			\$ 100,000.00				\$ 27,880.00			\$ 127,880.00	\$ 6,394.00	\$ 25,576.00	\$ 19,182.00	\$ 12,788.00	\$ 57,546.00	\$ 249,366.00	
18th Place	Two	320	55	\$ 5,859.30						\$ 27,880.00			\$ 33,739.30	\$ 1,686.97	\$ 6,747.86	\$ 5,060.90	\$ 3,373.93	\$ 15,182.69	\$ 65,791.64	
Webster Place	Two	352	45	\$ 6,384.78	\$ 1,300.00		\$ 61,140.00				\$18,925.00		\$ 87,749.78	\$ 4,387.49	\$ 17,549.96	\$ 13,162.47	\$ 8,774.98	\$ 39,487.40	\$ 171,112.07	
Frederick Douglass Place	Two	450	50	\$ 8,133.00						\$ 27,880.00			\$ 36,013.00	\$ 1,800.65	\$ 7,202.60	\$ 5,401.95	\$ 3,601.30	\$ 16,205.85	\$ 70,225.35	
Bruce Place	No Build / 4 Lane	250		\$ 4,410.00				\$ 605.25		\$ 27,880.00			\$ 32,895.25	\$ 1,644.76	\$ 6,579.05	\$ 4,934.29	\$ 3,289.53	\$ 14,802.86	\$ 64,145.74	Consider additional markings to channelize 21st Street
22nd Street/Jasper Street	Complex	211								\$ 111,520.00			\$ 111,520.00	\$ 5,576.00	\$ 22,304.00	\$ 16,728.00	\$ 11,152.00	\$ 50,184.00	\$ 217,464.00	Special Design for Curb Extensions
23rd Street/Access Ramp	Complex	70			\$ 2,600.00			\$ 977.55		\$ 83,640.00			\$ 87,217.55	\$ 4,360.88	\$ 17,443.51	\$ 13,082.63	\$ 8,721.76	\$ 39,247.90	\$ 170,074.22	Extensions to tighten curb radius on 23rd Street/Access Ramp. Consider moving utility poles.
24th Street	Complex	300			\$ 1,300.00						\$18,925.00		\$ 20,225.00	\$ 1,011.25	\$ 4,045.00	\$ 3,033.75	\$ 2,022.50	\$ 9,101.25	\$ 39,438.75	
Irving Place	Two	460	85	\$ 8,445.90		\$ 33,716.00					\$18,925.00		\$ 61,086.90	\$ 3,054.35	\$ 12,217.38	\$ 9,163.04	\$ 6,108.69	\$ 27,489.11	\$ 119,119.46	
Jasper Street	Two	155	60					\$ 279.30					\$ 279.30	\$ 13.97	\$ 55.86	\$ 41.90	\$ 27.93	\$ 125.69	\$ 544.64	
Irving Street	Two	40	50	\$ 900.60									\$ 900.60	\$ 45.03	\$ 180.12	\$ 135.09	\$ 90.06	\$ 405.27	\$ 1,756.17	Needs Turn Lanes for traffic - special design for bikes
Hartford Street	Two	460	60	\$ 8,348.40						\$ 54,165.00			\$ 62,513.40	\$ 3,125.67	\$ 12,502.68	\$ 9,377.01	\$ 6,251.34	\$ 28,131.03	\$ 121,901.13	
Knox Place	Complex	140	80	\$ 2,781.60						\$ 109,925.00			\$ 112,706.60	\$ 5,635.33	\$ 22,541.32	\$ 16,905.99	\$ 11,270.66	\$ 50,717.97	\$ 219,777.87	Site-Specific Concept Design
Ainger Place	Two	160	70	\$ 3,095.40	\$ 1,300.00		\$ 61,140.00			\$ 27,880.00			\$ 93,415.40	\$ 4,670.77	\$ 18,683.08	\$ 14,012.31	\$ 9,341.54	\$ 42,036.93	\$ 182,160.03	
25th Street	Complex	220										\$ 250,839	\$ 250,838.57	\$ 12,541.93	\$ 50,167.71	\$ 37,625.79	\$ 25,083.86	\$ 112,877.36	\$ 489,135.22	Site-Specific Concept Design
Naylor Road	No Build / 4 Lane	820											\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Good Hope Road	No Build / 4 Lane	350											\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
30th Street	Three	574									\$18,925.00		\$ 18,925.00	\$ 946.25	\$ 3,785.00	\$ 2,838.75	\$ 1,892.50	\$ 8,516.25	\$ 36,903.75	
31st Street	Three	460		\$ 6,361.80	\$ 2,364.00					\$ 111,520.00			\$ 120,245.80	\$ 6,012.29	\$ 24,049.16	\$ 18,036.87	\$ 12,024.58	\$ 54,110.61	\$ 234,479.31	
31st Place	Three	210		\$ 2,904.30						\$ 55,760.00			\$ 58,664.30	\$ 2,933.22	\$ 11,732.86	\$ 8,799.65	\$ 5,866.43	\$ 26,398.94	\$ 114,395.39	
32nd Street	Three	180		\$ 2,489.40		\$ 33,716.00	\$ 61,140.00				\$18,925.00		\$ 116,270.40	\$ 5,813.52	\$ 23,254.08	\$ 17,440.56	\$ 11,627.04	\$ 52,321.68	\$ 226,727.28	
32nd Place/33rd Street	Three	270		\$ 3,734.10						\$ 55,760.00			\$ 59,494.10	\$ 2,974.71	\$ 11,898.82	\$ 8,924.12	\$ 5,949.41	\$ 26,772.35	\$ 116,013.50	
Branch Avenue	No Build / 4 Lane	280											\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
34th Street/ 34th Place	Three	350								\$ 55,760.00			\$ 55,760.00	\$ 2,788.00	\$ 11,152.00	\$ 8,364.00	\$ 5,576.00	\$ 25,092.00	\$ 108,732.00	
Suitland Road/36th Street	Complex	160		\$ 2,212.80				\$ -		\$ -		\$ 339,241	\$ 341,453.80	\$ 17,072.69	\$ 68,290.76	\$ 51,218.07	\$ 34,145.38	\$ 153,654.21	\$ 665,834.91	
U Street	Three	460		\$ 6,361.80						\$ 55,760.00			\$ 62,121.80	\$ 3,106.09	\$ 12,424.36	\$ 9,318.27	\$ 6,212.18	\$ 27,954.81	\$ 121,137.51	
36th Place	Three	90		\$ 1,244.70			\$ 30,570.00			\$ 82,045.00			\$ 113,859.70	\$ 5,692.99	\$ 22,771.94	\$ 17,078.96	\$ 11,385.97	\$ 51,236.87	\$ 222,026.42	
37th Street	Three	360		\$ 4,978.80							\$18,925.00		\$ 23,903.80	\$ 1,195.19	\$ 4,780.76	\$ 3,585.57	\$ 2,390.38	\$ 10,756.71	\$ 46,612.41	
38th Street	No Build / 4 Lane	400		\$ 5,532.00									\$ 5,532.00	\$ 276.60	\$ 1,106.40	\$ 829.80	\$ 553.20	\$ 2,489.40	\$ 10,787.40	
Pennsylvania Avenue	No Build / 4 Lane	180											\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
R Street	Two	600	45	\$ 10,759.50			\$ 30,570.00			\$ 55,760.00			\$ 97,089.50	\$ 4,854.48	\$ 19,417.90	\$ 14,563.43	\$ 9,708.95	\$ 43,690.28	\$ 189,324.53	
Q Street	One	740	45	\$ 16,189.10			\$ 30,570.00			\$ 108,330.00			\$ 155,089.10	\$ 7,754.46	\$ 31,017.82	\$ 23,263.37	\$ 15,508.91	\$ 69,790.10	\$ 302,423.75	
41st Street	One	1000	50	\$ 21,835.00					\$ 66,680.00				\$ 88,515.00	\$ 4,425.75	\$ 17,703.00	\$ 13,277.25	\$ 8,851.50	\$ 39,831.75	\$ 172,604.25	
Massachusetts Avenue	One	300	225	\$ 7,369.50				\$ 22,804.00					\$ 30,173.50	\$ 1,508.68	\$ 6,034.70	\$ 4,526.03	\$ 3,017.35	\$ 13,578.08	\$ 58,838.33	Design Review for Intersection of two bike facilities
Barker Lane	One	470	55	\$ 10,385.30				\$ 31,459.60					\$ 41,844.90	\$ 2,092.25	\$ 8,368.98	\$ 6,276.74	\$ 4,184.49	\$ 18,830.21	\$ 81,597.56	
Beck Street	One	670	60	\$ 14,732.80				\$ 43,995.60					\$ 58,728.40	\$ 2,936.42	\$ 11,745.68	\$ 8,809.26	\$ 5,872.84	\$ 26,427.78	\$ 114,520.38	
Stanley Street/Bowen Road	Complex	220		\$ 4,760.80				\$ 15,789.60				\$ 93,788.11	\$ 114,338.51	\$ 5,716.93	\$ 22,867.70	\$ 17,150.78	\$ 11,433.85	\$ 51,452.33	\$ 222,960.10	Site-Specific Concept Design
Ridge Road	Two	600	65	\$ 10,837.50						\$ 27,880.00			\$ 38,717.50	\$ 1,935.88	\$ 7,743.50	\$ 5,807.63	\$ 3,871.75	\$ 17,422.88	\$ 75,499.13	
Sub-Total				\$ 237,738.94	\$ 8,864.00	\$ 167,432.00	\$ 336,270.00	\$ 1,862.10	\$ 180,728.80	\$ 1,464,880.00	\$ 113,550.00	\$ 683,867.69	\$ 3,195,193.53	\$ 159,759.68	\$ 639,038.71	\$ 479,279.03	\$ 319,519.35	\$ 1,437,837.09	\$ 6,230,627.38	