



**Virginia Avenue/Little Virginia
Avenue/Doug Davis Drive/Clay
Place Roundabout Feasibility
Study**

September 16, 2019

Prepared for:

City of Hapeville

Prepared by:

Stantec Consulting Services Inc.



**VIRGINIA AVENUE/LITTLE VIRGINIA AVENUE/DOUG DAVIS DRIVE/CLAY PLACE ROUNDABOUT
FEASIBILITY STUDY**

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INTRODUCTION

1.0 INTRODUCTION

1.1 PURPOSE AND NEED STATEMENT

The City of Hapeville Comprehensive Plan/LCI Study Update (LCI Study Update) of 2017 identified Virginia Avenue as a gateway corridor into downtown. This study suggested growth and redevelopment would continue along the corridor. The intersection of Virginia Avenue, Little Virginia Avenue, Doug Davis Drive, and Clay Place is a major intersection and currently serves as a central hub for dining establishments. Pedestrian, bicycle, and vehicular traffic will increase as the area grows with denser residential and mixed-use commercial developments. The proposed project will enhance safety and improve operational efficiency at the intersection of Virginia Avenue, Little Virginia Avenue, Doug Davis Drive, and Clay Place.

1.2 BACKGROUND

The LCI Study Update identified several gateway corridors into downtown Hapeville. Virginia Avenue was one such corridor, providing access from I-85 into downtown Hapeville. The LCI Study Update recommended denser commercial and residential development along Virginia Avenue by eliminating surface parking adjacent to the street and building taller, multi-floor structures. It also suggested improving bicycle and pedestrian facilities to encourage a more walkable city. There are currently several hotels and businesses at the I-85 interchange, which is just 0.5 miles or a 10-15 minute walk from the study area. There are also parking issues associated with lunch and dinner traffic at several of the restaurants at the intersection. The LCI Study Update suggests that making the corridor more walkable (and redeveloping the corridor) could transform Virginia Avenue into a “vibrant, mixed use...gateway node that serve[s] the residents, visitors, business, and employees, while celebrating the city’s small-town charm and character.” To help create this welcoming gateway and improve functionality, the LCI Study Update proposed a roundabout at the Virginia Avenue, Little Virginia Avenue, Doug Davis Drive, Clay Place intersection. It also proposed streetscape improvements along the corridor. This feasibility study will consider various intersection improvement options to promote the desired outcome of the LCI Study Update.

It should be noted that Aerotropolis Atlanta Community Improvement Districts (CIDs) is currently working on a Virginia Avenue project that is anticipated to introduce a road diet to the corridor. At the time of this study, that project had not developed to a stage where information could be utilized for this study. Additionally, the City of Hapeville has a future road diet project along Doug Davis Drive. As such, this feasibility study proposed ideas that could easily function within the context of existing conditions or be easily modified to accommodate proposed improvements as part of the two road diet projects.



VIRGINIA AVENUE/LITTLE VIRGINIA AVENUE/DOUG DAVIS DRIVE/CLAY PLACE ROUNDABOUT FEASIBILITY STUDY

CONCEPTUAL DESIGN ALTERNATIVE

2.0 CONCEPTUAL DESIGN ALTERNATIVE

The study area for this project included detailed traffic analysis for the intersections of Virginia Avenue at Hamilton Avenue and Virginia Avenue/Little Virginia Avenue/Doug Davis Drive/Clay Place. Additionally, geometric improvements were analyzed in the east-west direction from Oakridge Avenue to South Whitney Avenue (Delta Airlines driveway) and in the south-north direction from 856 Virginia Avenue to Hamilton Park. See Appendix A for a map of the study area.

2.1 EXISTING ROADWAY

Virginia Avenue is listed as a major collector on the Georgia Department of Transportation's (GDOT) functional classification map. The posted speed limit is 35 miles per hour (mph). Doug Davis Drive and Clay Place are both local roads. Doug Davis Drive is posted at 35 mph. Clay Place does not have a posting, but it is a short segment with maximum speeds of about 25 mph. The existing intersection is signalized. All legs of the intersection have curb-and-gutter and sidewalks. The sidewalks were constructed as part of a streetscape project. Overall, the sidewalks are in good condition, but trees in the middle of the sidewalk restrict pedestrian movement by narrowing up the usable sidewalk width. Virginia Avenue makes up the western and northern legs of the intersection; Clay Place is the southern leg; and Doug Davis Drive is the eastern leg. The following is a list of characteristics of each leg of the intersection.

- The western leg of Virginia Avenue is an urban five-lane section with two thru-lanes in each direction and an eastbound left-turn lane.
- The northern leg of Virginia Avenue is a two-lane urban section. It has one wide (15-16 feet) thru lane in each direction. As it approaches the intersection the thru lanes are reduced to approximately 10 feet, and a short left-turn lane is added.
- Doug Davis Drive is an urban five-lane section with two eastbound thru lanes and one westbound thru lane. It also has a westbound left-turn lane and a westbound right-turn lane.
- Clay Place functions like a large commercial driveway. It is an urban section with a single thru-lane in each direction and a northbound left-turn lane. It also has a right-turn lane separated by a large landscaped island.
- The east-west corridor of Virginia Avenue/Little Virginia Avenue/Doug Davis Drive has a large deflection of about 30-degrees at the intersection.

Approximately 125 feet west of the Virginia Avenue, Little Virginia Avenue, Doug Davis Drive, and Clay Place intersection is the Virginia Avenue/Hamilton Avenue intersection. Hamilton Avenue is a low-volume neighborhood street that serves as an access point to the Virginia Park neighborhood. It is an urban section with one travel lane in each direction. It is currently stop controlled with Virginia Avenue being the primary road.



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CONCEPTUAL DESIGN ALTERNATIVE

About 180 feet west of Hamilton Avenue is the intersection of Virginia Avenue and Harding Avenue. Harding Avenue also provides access to the Virginia Park neighborhood. It is also an urban two-lane section with one travel lane in each direction. It is currently stop controlled with Virginia Avenue being the primary road.

In addition to the public road intersections, there are several commercial driveways within the study area. Most of the driveways provide access to restaurants. Some provide access to local businesses or vacant commercial buildings.

2.2 PROPOSED DESIGN CRITERIA

For this study, the GDOT Design Policy Manual (DPM) was the guiding document. This document provides “design guidelines and standards adopted by the Georgia Department of Transportation (GDOT) for the design of roadways and related infrastructure” for Federal-Aid and State-Aid projects in Georgia. For the roundabout analysis, the DPM references the National Cooperative Highway Research Program (NCHRP) Report 672, Roundabouts: An Informational Guide, 2nd Edition, also known as NCHRP 672.

2.2.1 Design Vehicle

The design vehicle for an urban collector should be at least a BUS-40 or SU, which is an intercity bus or single-unit truck. Based on conversations with local officials and stakeholders, WB-40 trucks (a semi-trailer) frequently travel through the intersection to make deliveries at local businesses. For the purposes of this study, a WB-40 was the selected design vehicle. Also, because the City of Hapeville Fire Department operates a fire engine with a 95' ladder, turning templates were used to verify this vehicle could be accommodated.

Based on the GDOT DPM Table 6.5, the design speed for an urban collector should be 35 mph. For a roundabout, NCHRP 672 states the entry

Roadway Type	Design Vehicle	Typical Design Speed (mph) ⁽³⁾
Rural		
Interstate / Freeway	WB-67	70
Ramp		
Free-Flow	WB-67	35 ⁽¹⁾
Entrance / Exit	WB-67	35 ⁽¹⁾
Loop	WB-67	35 ⁽¹⁾
Principal Arterial	≥WB-40 ⁽²⁾	(See Table 6.6)
Minor Arterial	≥SU ⁽²⁾	(See Table 6.6)
Collector	≥SU ⁽²⁾	(See Table 6.5)
Local Road		
Paved	≥S-BUS ³⁶ ⁽²⁾	(See Table 6.4)
Gravel	≥S-BUS ³⁶ ⁽²⁾	35
Urban		
Interstate / Freeway	WB-67	65
Ramp		
Free-Flow	WB-67	35 ⁽¹⁾
Entrance / Exit	WB-67	35 ⁽¹⁾
Loop	≥WB-40 ⁽²⁾	35 ⁽¹⁾
Principal Arterial	≥WB-40 ⁽²⁾	(See Table 6.6)
Minor Arterial	≥WB-40 or ≥BUS-40 ⁽²⁾	(See Table 6.6)
Collector	≥BUS-40 or ≥SU ⁽²⁾	(See Table 6.5)
Residential/Local Road	≥SU or ≥P ⁽²⁾	(See Table 6.4)

⁽¹⁾ Refer to Section 3.3.3 Freeway Exit and Entrance Ramps.
⁽²⁾ Refer to Section 3.2.2 Local Input for Selecting a Design Vehicle.
⁽³⁾ Refer to Section 3.3 Design Speed and Table 6.4 To 6.7.

Design Vehicle Type Symbols: BUS=Intercity Bus/Motor Coach, P=Passenger Car, S-BUS=School Bus, SU=Single-Unit Truck, WB=Semi Trailer

Table 1. Design Vehicles and Typical Design Speeds
(Source: GDOT Design Policy Manual)



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CONCEPTUAL DESIGN ALTERNATIVE

design speed is 20-25 mph. Typically, circulating speeds are slightly lower, and departure speeds are in a similar range. Curvature is introduced on the approaches to forcibly reduce speeds from 35 mph to the 20-25 mph range.

2.2.2 Bicycle and Pedestrian Accommodations

All proposed alternatives will include improved sidewalks for pedestrians with a minimum width of five feet and a desirable width of 10 feet. Bicycle facilities will be considered both on-street and off-street. The minimum width sidewalks are possible if on-street bike lanes are utilized. If dedicated bike lanes are not feasible, then wider 8-10 foot shared-use paths may be proposed. Within the footprint of roundabout options, sidewalk will be a minimum width of 10 feet. Any bicyclist uncomfortable with navigating through the roundabout with vehicular traffic can mix with pedestrians along the wide sidewalks to pass through the intersection.

2.3 PROPOSED ALTERNATIVES

Two alternatives were analyzed. One is an improved signalized intersection, and one is converting the intersection to a roundabout. Sketches of both alternatives are attached in the Appendices.

2.3.1 Alternative 1

Alternative 1 is very similar to existing conditions with a few modifications. A raised, landscaped median will replace the flush median in front of 3435 Hamilton Avenue (Schlotzky's Deli) and in front of 832/834 Virginia Avenue (Johnny's New York Style Pizza, Touch Nails, and Jimmy John's). The left-turn lanes on Virginia Avenue and Doug Davis Drive will be shortened. Turn lanes on Clay Place will be removed. The traffic signal timing will be optimized. Other improvements will include unobstructed sidewalks and new landscaping.

2.3.2 Alternative 2

Alternative 2 converts the existing signalized intersection to a single lane modern roundabout. The roundabout will have a 110' inscribed diameter (outside diameter of circulating roadway). The circulating roadway will be 18' wide with a 10' truck apron to accommodate larger vehicles. The central island will have a 54' diameter, and it will be landscaped. It could potentially have a sculpture or some form of wayfinding and signage as part of a gateway improvement. Five parallel parking spots are proposed along Doug Davis Drive to offset two lost spaces at Johnny's New York Style Pizza (Johnny's). Eight parallel parking spaces are proposed along Hamilton Avenue to offset lost spaces at 855 Virginia Avenue (Grecian Gyro). A cul-de-sac is proposed along Hamilton Avenue to allow traffic to u-turn to access the parallel parking. The driveway off Virginia Avenue for the Grecian Gyro restaurant will be closed, and an interparcel driveway connection is recommended between the Grecian Gyro and 839 Virginia Avenue (Waffle House). Hamilton Avenue will be converted to a right-in/right-out intersection with no left-turns allowed. Johnny's driveway on Doug Davis Drive will be converted to a right-in/right-out driveway for passenger cars. A median cut will be provided with a reduced median height (similar to the truck apron)



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CONCEPTUAL DESIGN ALTERNATIVE

or other treatment to allow passage of delivery trucks but deter usage by passenger cars. All approaches to the roundabout will be tapered down to a single lane. Other improvements will include new unobstructed sidewalks and new landscaping.



3.0 TRAFFIC AND SAFETY

A traffic study was performed for two intersections:

1. Virginia Avenue at Hamilton Avenue
2. Virginia Avenue/Doug Davis Drive at Little Virginia Avenue/Clay Place.

The full traffic data report can be found in the Appendices.

3.1 TRAFFIC VOLUME FORECASTING

Existing peak hour volumes and future peak hour volumes – based on a 0.9% annual growth rate – were calculated from traffic counts. For this study, the project opening year was estimated to be 2023 with a design year of 2043, or a 20-year design horizon. It was determined that the midday peak hour volumes were slightly higher than morning or afternoon peak hour volumes. The two-way Average Annual Daily Traffic volume is forecasted to be 13,625 vehicles/day in 2043.

3.2 CAPACITY ANALYSIS

Two alternatives were analyzed for capacity. The first alternative was an improved intersection that optimizes signal timing while maintaining existing lane configurations. This alternative does add a section of extended median along Virginia Avenue and Doug Davis Drive, but the median does not adversely impact the two study intersections. The second alternative is a single lane roundabout.

Levels of service (LOS) for the both alternatives are within acceptable ranges for the type of facility. Alternative 1 will experience LOS ranging from A to D, depending on time of day and intersecting street. Alternative 2 will experience LOS ranging from A to B, again depending on time of day and intersecting street. Alternative 2 is a slight improvement over Alternative 1, which has very similar results to the No Build scenario. This is to be expected because the intersection configuration is very similar between existing conditions and Alternative 1. The noon peak hour was selected for analysis instead of the morning peak hour since the noon peak hour volumes were significantly greater than the typical morning peak hour volumes.



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TRAFFIC AND SAFETY

Approach	2043: No Build		2043: Alternative 1		2043: Alternative 2	
	Noon Peak LOS (Delay)	PM Peak LOS (Delay)	Noon Peak LOS (Delay)	PM Peak LOS (Delay)	Noon Peak LOS (Delay)	PM Peak LOS (Delay)
Clay Place	D (40.7 s)	D (38.6 s)	D (39.6 s)	D (39.5 s)	A (8 s)	A (6 s)
Clay Place (Right Turn Lane)	A (9.3 s)	A (9.2 s)	N/A	N/A	N/A	N/A
Little Virginia Ave (North Leg)	C (34.3 s)	C (33.7 s)	C (34.3 s)	C (33.9 s)	A (10 s)	A (8 s)
Virginia Ave (West Leg)	B (12.5)	A (9.6 s)	B (13.9 s)	B (10.9 s)	B (10 s)	A (7 s)
Doug Davis Dr	B (16.2 s)	B (17.3 s)	C (23.7 s)	C (20.5 s)	A (8 s)	A (9 s)

Table 2. Level of Service and Delay for Projected Traffic Volumes

3.3 SAFETY ANALYSIS

There were two total crashes at Virginia Avenue at Hamilton Avenue intersection from 2016 to 2018. One crash was an angle collision, and one crash was a sideswipe. There were no injuries or fatalities reported.

There were 13 total crashes at the Virginia Avenue/Little Virginia Avenue/Doug Davis Drive/Clay Place intersection from 2016 to 2018. 42% of the crashes were rear end collisions; 23% were angle crashes; and 42% were sideswipe collisions. There was one reported injury and no fatalities.

Crashes for Alternative 1 can be expected to increase as traffic volumes increase. Alternative 2 will reduce crashes by as much as 39%, and it will reduce serious (injury and fatality) crashes by as much as 78%. Alternative 2 will also reduce pedestrian exposure to vehicular traffic by providing refuge islands between opposing directions of travel. Pedestrians will cross single lane of one direction of traffic at a time.

Year	Virginia Avenue/Doug Davis Drive @ Little Virginia Avenue/Clay Place				Virginia Avenue @ Hamilton Avenue			
	Total	Property Damage	Injury	Fatal	Total	Property Damage	Injury	Fatal
2016	4	4	0	0	1	1	0	0
2017	4	4	0	0	0	0	0	0
2018	5	4	1	0	1	1	0	0

Table 3. Crash Totals by Intersection



4.0 PUBLIC OUTREACH AND STAKEHOLDER ENGAGEMENT

Understanding the concerns, needs, and desires of the users from the communities that travel through the Virginia Avenue at Hamilton Avenue and Virginia Avenue/Doug Davis Drive at Little Virginia Avenue/Clay Place intersections, as well as those who live and/or work within the project study area, are important components of this project's development. Our team worked with three levels of stakeholders throughout this process:

1. Project Management Team (PMT)
2. Advisory Group
3. General Public.

The PMT met bi-weekly to discuss project development and plan larger outreach efforts. The PMT members included staff from the City of Hapeville, Stantec, and Sizemore Group.

The Advisory Group consisted of business and property owners, community leaders, ARC, GDOT, MARTA, and Aerotropolis Atlanta CIDs. The members were selected through a collaborative effort of the Mayor, City Council, and City Management. The Advisory Group met on three occasions to brainstorm ideas and provide the planning team more local knowledge of the area.

Finally, the General Public was engaged at key junctures of the process. A Demonstration Project was held on site and a Community Meeting with a questions and answers session was held. The results of the process were shared with the City Council and Planning Commission prior to the Community Meeting.

4.1 MEETING PROCESS

At the first Advisory Group meeting, the planning team discussed the project background and traffic analysis performed at that time. The discussion focused on the process moving forward and included the following design themes and guiding principles for the project:

- Safety for ALL users
- Connectivity
- Gateway
- Focus on intersection treatment/service
- Mitigate right-of-way takings where possible
- Consistent and unique signage/messaging

Examples of similar projects were presented to promote positive brainstorming activities. Following a brief presentation, the group discussed "problem areas" and identified issues related to turning movements, traffic queuing, walking, bicycling, parking, etc. The team then discussed possible solutions to consider during the planning process to resolve or mitigate some of these design challenges.



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PUBLIC OUTREACH AND STAKEHOLDER ENGAGEMENT

During the second Advisory Group meeting, the design presented further developed conceptual layouts for a design charrette. The group separated into two smaller teams for a discussion of three alternatives. Based on the feedback from this meeting, the layouts were refined for the upcoming Demonstration Project and Community Meeting.

For the Demonstration Project, the design team set up a mock roundabout within the existing intersection. It was installed at a smaller scale than the proposed roundabout, and it functioned effectively for passenger cars. During the Advisory Group meetings, several people thought a roundabout may be confusing to some motorists, and the Demonstration Project showed how quickly people could adapt to a reconfigured intersection. However, several business owners expressed concern over the disruption to business both during construction and after implementation of a proposed roundabout. They're biggest concern was loss of parking and flow of delivery traffic. Their comments were noted, and the conceptual layouts were further refined to address some of those concerns.



Figure 1. Demonstration Project

After the Demonstration Project, the Advisory Group reconvened to review the new layouts and to discuss the outcome of the Demonstration Project. Then presentations were made to the City Council and the Planning Commission to show the proposed conceptual layouts and address questions and concerns they may have. Finally, a Community Meeting was held where the final conceptual layouts were presented, and the public could ask questions and provide comments to the design team. The design team received four comment cards from this meeting. These comments are provided in Appendix A4.



VIRGINIA AVENUE/LITTLE VIRGINIA AVENUE/DOUG DAVIS DRIVE/CLAY PLACE ROUNDABOUT FEASIBILITY STUDY

IMPACT EVALUATION

5.0 IMPACT EVALUATION

5.1 HUMAN ENVIRONMENT

5.1.1 Relocations

Neither alternative is expected to require a business relocation. However, for Alternative 2, if interparcel connectivity between 839 Virginia Avenue and 855 Virginia Avenue is not provided, then 855 Virginia Avenue may be severely impacted and require relocating. Parallel parking is proposed along Hamilton Avenue to offset the lost parking on 855 Virginia Avenue.



Figure 2. Tax Map with Street Numbers
(Source: Fulton County Tax Assessor)



VIRGINIA AVENUE/LITTLE VIRGINIA AVENUE/DOUG DAVIS DRIVE/CLAY PLACE ROUNDABOUT FEASIBILITY STUDY

IMPACT EVALUATION

5.1.2 Historic Resources

For the project area, there are no known historic resources except for the Hapeville Historic District (HHD), and the alternatives presented do not propose improvements that would impact the HHD. Figure 3 shows the HHD boundary relative to the project. The National Register of Historic Places Registration Form is attached in Appendix A.5. It extends to Virginia Avenue at Harding Avenue, across from

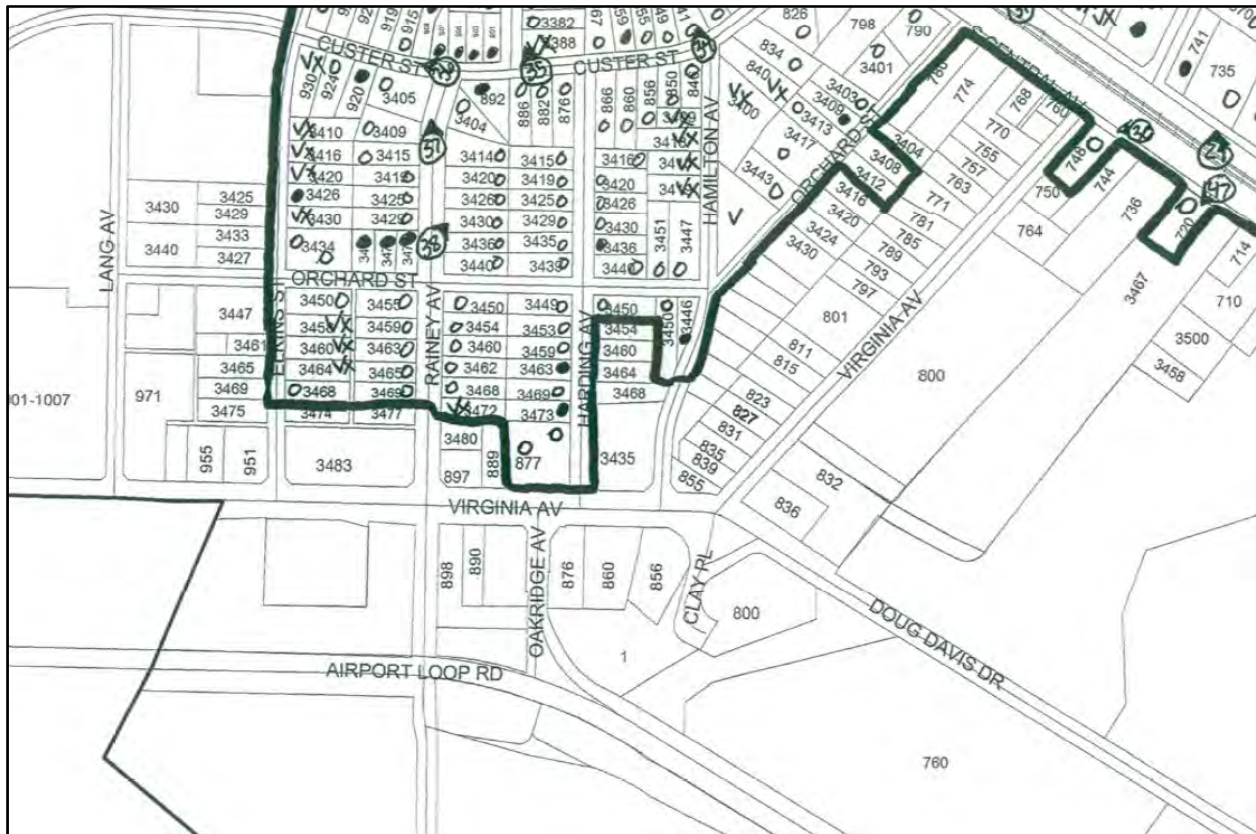


Figure 3. Hapeville Historic District Boundary Map
(Source: National Register of Historic Places)

Oakridge Avenue and includes 877 Virginia Avenue (See Figure 3).

5.2 NATURAL ENVIRONMENT

5.2.1 Streams and Wetlands

There are no streams or wetlands within the study area.



VIRGINIA AVENUE/LITTLE VIRGINIA AVENUE/DOUG DAVIS DRIVE/CLAY PLACE ROUNDABOUT FEASIBILITY STUDY

IMPACT EVALUATION

5.2.2 Threatened and Endangered Species

The project area is mostly urban in nature with a large amount of maintained/disturbed land. Protected species are not anticipated to be found within the study area; however, future studies should include natural resource surveys to preclude the presence of protected species or their habitat.

5.3 IMPACT SUMMARY

IMPACT CATEGORY	ALTERNATIVE 1	ALTERNATIVE 2
Residential Relocations	0	00
Business Relocations	0	\$100,000
National Register Properties	0	0
Cemeteries	0	0
Stream Impacts (ft)	0	0
Wetland Impacts (acres)	0	0
Permanent Right-of-Way Acquisition (acres)	0	0.47
Temporary Construction Easement (acres)	0.10	0.23
Construction Costs	\$250,000	\$1,500,000
Utility Costs	\$25,000	\$150,000
Right-of-Way Costs	\$70,000	\$1,165,000
Total Costs	\$345,000	\$2,915,000

Table 4. Impact and Cost Summary



CONCLUSIONS AND RECOMMENDATIONS

6.0 CONCLUSIONS AND RECOMMENDATIONS

The existing signalized intersection will continue to function at an acceptable level of service in 2043 without intersection improvements. However, if redevelopment occurs per the Comprehensive Plan/LCI Study Update suggests, improvements are recommended. Particularly, improvements for pedestrian and bicycle facilities should be considered. This could mean wider, unobstructed sidewalks; dedicated bicycle lanes; and pedestrian refuge islands. Both proposed alternatives provide functional improvements with Alternative 2 providing slight operational improvements.

Alternative 1 proposes wider, unobstructed sidewalks and more visible pavement markings, but it does little to slow traffic and provide pedestrian refuge locations. Alternative 2 includes wider sidewalks and refuge islands, as well as reducing traffic velocities. It provides more opportunities for gateway features per the LCI Study Update and greater access control for improved safety. The sidewalks for Alternative 2 also accommodate bicycles.

Neither Alternative 1 nor Alternative 2 includes dedicated bicycle lanes. As the Aerotropolis Atlanta CIDs' and City of Hapeville's road diet projects along the Virginia Avenue/Doug Davis Drive corridor progress, dedicated bicycle lanes should be considered. If bicycle lanes are incorporated along the corridor, Alternatives 1 and 2 should be revisited to accommodate the bicycle lanes.

Alternative 2 does have the potential to create a business relocation (Grecian Gyro) and disrupt deliveries at other businesses. Further investigation is required based on topographic surveys and property research to determine the exact limits of impacts to these properties. If a practical alternative is not available for the Grecian Gyro property, acquisition may be required.

Alternative 2 also causes relocation of existing parking spaces for Johnny's Pizza and Grecian Gyro. The plan has options to mitigate the parking, but further analysis should be performed to determine the feasibility of the proposed parking solution.

In conclusion, Alternative 1 does little to improve the intersection and satisfy the need and purpose of the project. Alternative 2 addresses the project need, but there are some unresolved issues that require further investigation based on more detailed information to determine the extent of the impacts.



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Appendix A

Appendix A

A.1 EXISTING ROADWAY & STUDY AREA



VIRGINIA AVENUE/LITTLE VIRGINIA AVENUE/DOUG DAVIS DRIVE/CLAY PLACE ROUNDABOUT FEASIBILITY STUDY

Appendix A

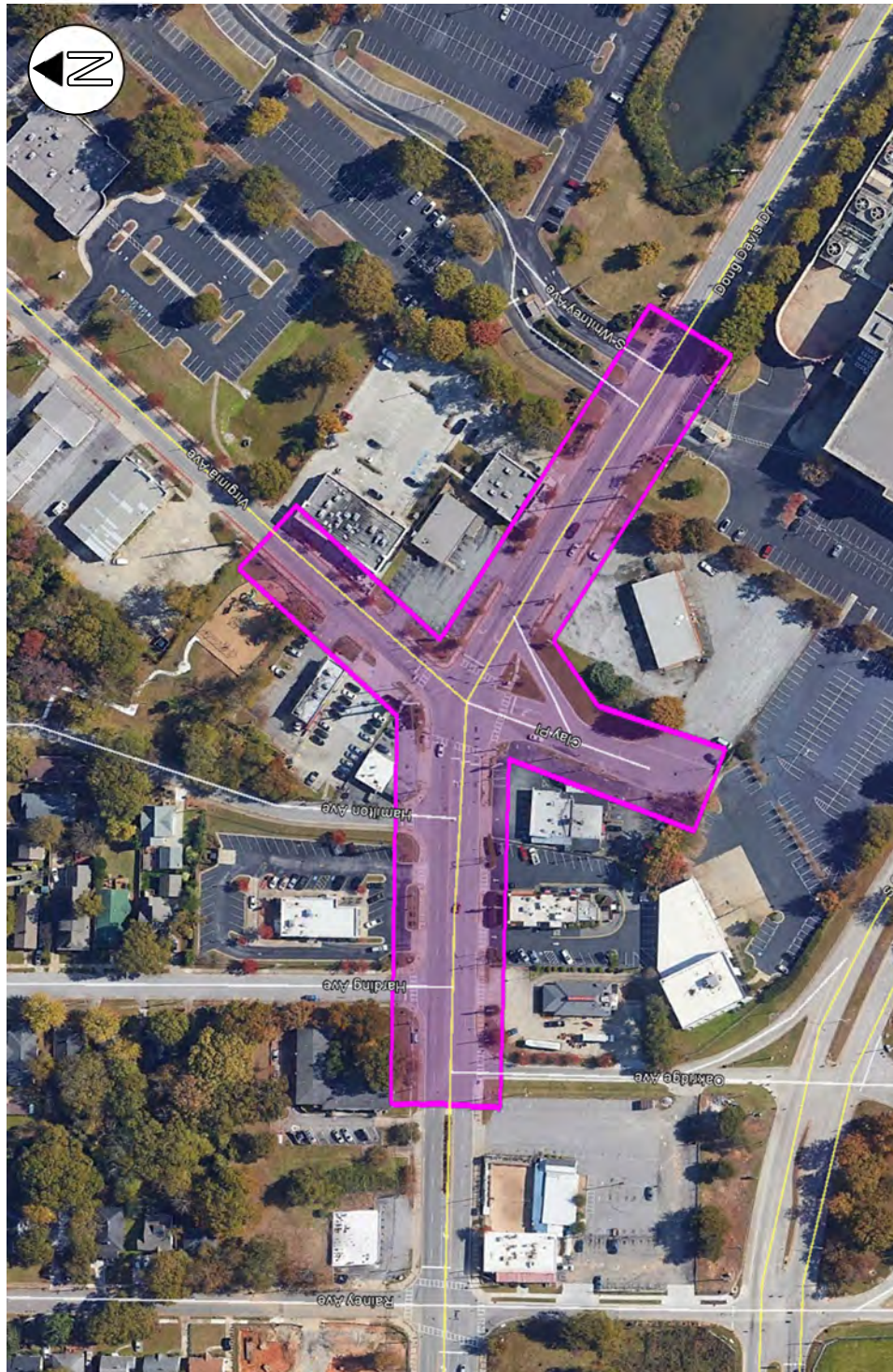


Figure A-1. Existing Roadway and Study Area
(Source: Google Earth Pro)



**VIRGINIA AVENUE/LITTLE VIRGINIA AVENUE/DOUG DAVIS DRIVE/CLAY PLACE ROUNDABOUT
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Appendix A

A.2 PROPOSED ALTERNATIVES



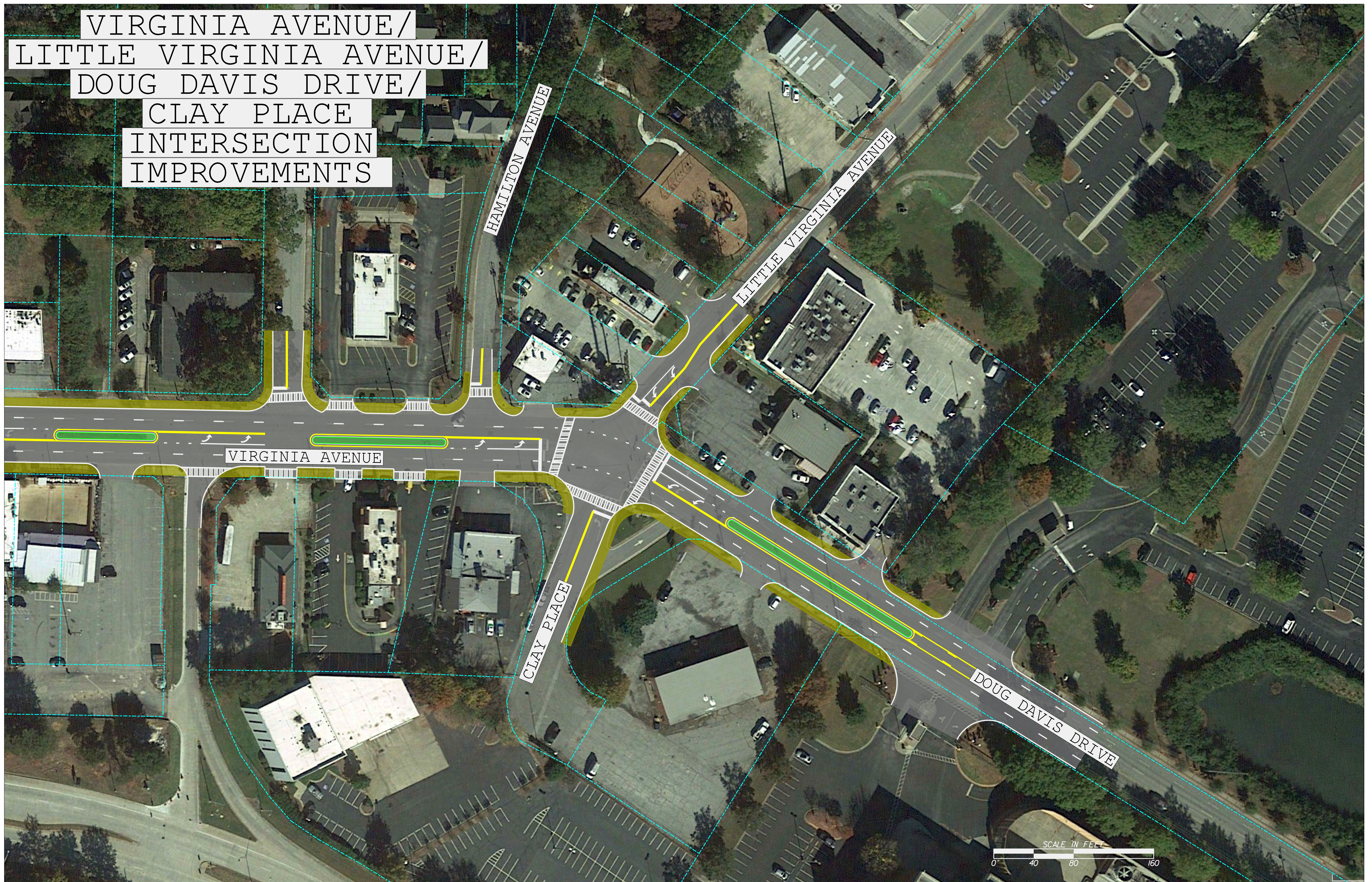


Figure B-1. Virginia Avenue/Little Virginia Avenue/Doug Davis Drive/Clay Place Intersection Improvements

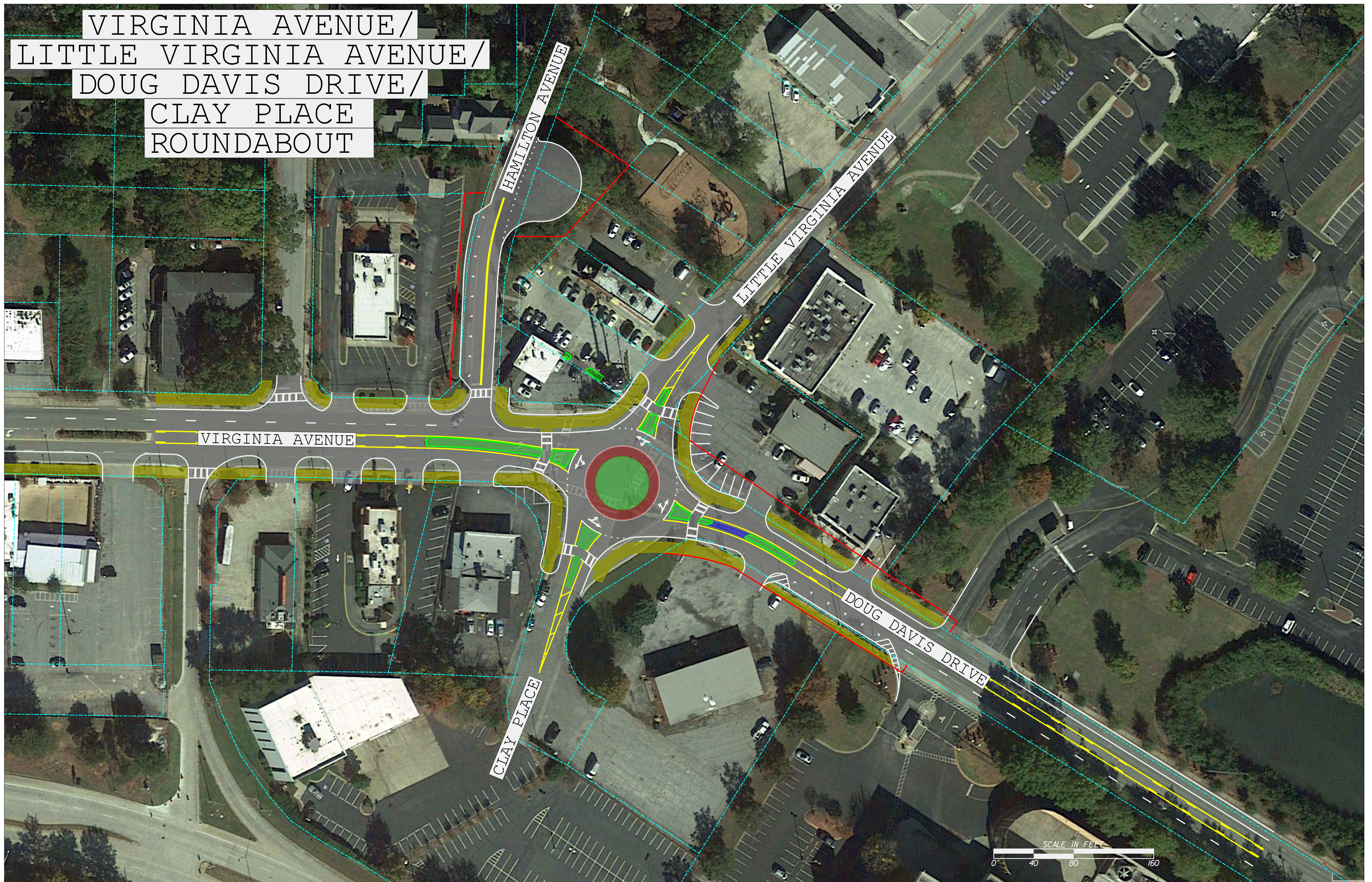


Figure B-2. Virginia Avenue/Little Virginia Avenue/Doug Davis Drive/Clay Place Roundabout

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Appendix A

A.3 TRAFFIC DATA REPORT



**Virginia Avenue/Doug Davis Drive at Clay
Place/Virginia Avenue Traffic Data Report**

Project Number: 171007021 – Virginia Avenue/Doug
Davis Drive at Clay Place/Virginia Avenue Roundabout
Feasibility Study
City of Hapeville, Fulton County, GA



Prepared for:
City of Hapeville

Prepared by:
Stantec Consulting Services Inc.

September 13, 2019

Sign-off Sheet

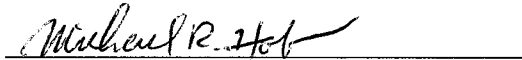
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VIRGINIA AVENUE/DOUG DAVIS DRIVE AT CLAY PLACE/VIRGINIA AVENUE ROUNDABOUT FEASIBILITY STUDY

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VIRGINIA AVENUE/DOUG DAVIS DRIVE AT CLAY PLACE/VIRGINIA AVENUE ROUNDABOUT FEASIBILITY STUDY

Introduction
September 11, 2019

1.0 INTRODUCTION

The purpose of this report is to document the traffic data and analysis for the Virginia Avenue/Doug Davis Drive at Clay Place/Virginia Avenue Roundabout Feasibility Study. The analysis considers existing conditions and traffic volumes and projections of future traffic volumes and proposed improvements to the intersections in this study. These improvements were identified in the Comprehensive Plan/LCI Study Update of 2017.

For the purpose of this report, Virginia Avenue is referred to as an east-west route throughout the entire study area. As illustrated in **Figure 1** on the following page, the two study intersections are:

1. Virginia Avenue at Hamilton Avenue;
2. Virginia Avenue/Doug Davis Drive at Clay Place/Virginia Avenue;

This project is analyzing the feasibility of a roundabout that could include roadway streetscape and pedestrian/bicycle facility improvements at the Virginia Avenue/Doug Davis Drive and Clay Place/Virginia Avenue intersection. A roundabout may reduce vehicular crash severity and improve overall operations at the intersection. Vehicular conflict points are reduced from 32 to eight, and total crashes may be expected to decrease by approximately 26% per the Crash Modification Factors Clearinghouse for conversion of a signalized intersection into a single-lane roundabout. Pedestrian and bicyclist safety would also increase at the intersection by providing wider sidewalks and shorter crossing distances. By providing this increased safety, the addition of a roundabout could encourage increased pedestrian and bicycle traffic in the area, which could facilitate future growth.

VIRGINIA AVENUE/DOUG DAVIS DRIVE AT CLAY PLACE/VIRGINIA AVENUE ROUNDABOUT FEASIBILITY STUDY

Introduction

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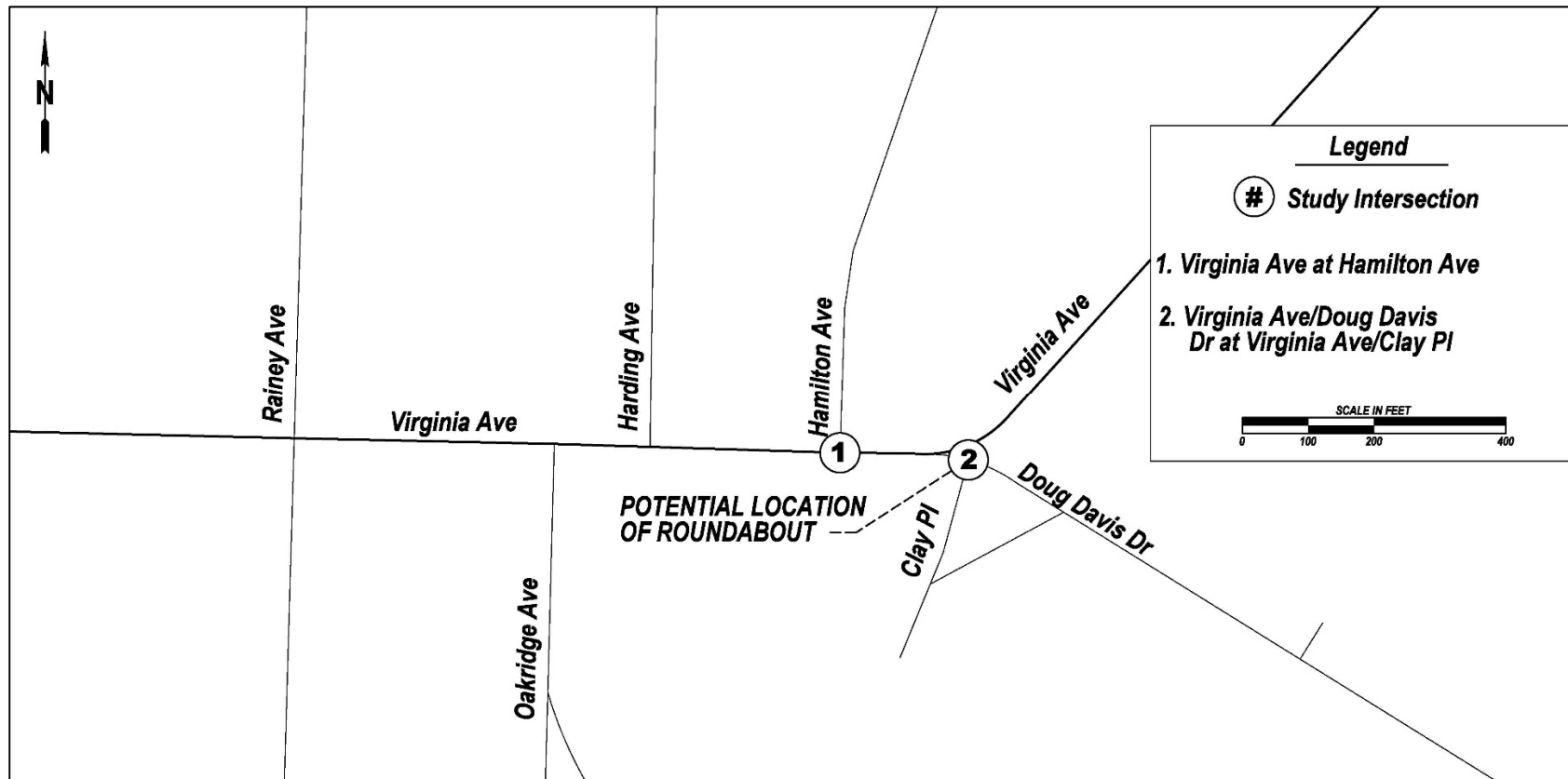


Figure 1: Site Location Map

VIRGINIA AVENUE/DOUG DAVIS DRIVE AT CLAY PLACE/VIRGINIA AVENUE ROUNDABOUT FEASIBILITY STUDY

Existing Conditions
September 11, 2019

2.0 EXISTING CONDITIONS

2.1 CORRIDOR DESCRIPTION

The study area includes Virginia Avenue from Hamilton Avenue to the intersection of Virginia Avenue/Doug Davis Drive and Clay Pl/Virginia Avenue. Virginia Avenue is an urban major collector for its entire extent; bounded from the west by E Main Street in College Park and from the east by S Central Avenue. To the west of Clay Place, Virginia Avenue is a 5-lane east/west collector with auxiliary left turn lanes at signalized intersections and a two-way left turn lane running throughout for access to businesses and minor roads. Once Virginia Avenue intersects with Clay Place, it becomes a 2-lane street and bears north/south; this is illustrated above in **Figure 1**. As noted in **Figure 1** above, Hamilton Avenue has stop-controlled access to Virginia Avenue at intersection 1. The south leg of intersection 1 is a marked entry-only driveway for the Virginia Curve Package store. Intersection 2 in **Figure 1** is a signalized intersection and the location of the potential roundabout that is the subject of this study. The posted speed limit is 35 miles per hour on Virginia Ave.

Sidewalks line the street along both sides of the corridor and range from 4.5 feet to 9 feet in width. However, in several locations along the corridor there are trees and utility poles located on the sidewalk that reduce the available width. These obstacles severely limit wheelchair access along the sidewalk. There is street lighting and pedestrian lighting along the Virginia Avenue study area. On the south end of Intersection 2, there is a triangular pedestrian refuge island that shortens the crossing distance needed to navigate north or south along the 5-lane road. Intersection 2 has pedestrian signals on all corners, except between the pedestrian refuge island and the south sidewalk of Doug Davis Drive.

2.2 DATA COLLECTION

Weekday 48-hour directional volume and vehicle classification counts were collected in two different periods. Counts were collected on Tuesday-Wednesday 5/14-5/15/2019. Additionally, peak-period turning movement counts (TMCs) were conducted at the study intersections on Tuesday, 5/14/2019. The counts were conducted during a typical commuter AM peak period (7:00 AM – 10:00 AM) and a typical commuter PM peak period (3:30 PM – 6:30 PM). Based on the peak hour of the daily counts, the identified peak hours stray from typical times dictated predominantly by commuter traffic. As a result, there is no AM peak hour, instead there is a noon peak of 12:00 PM – 1:00 PM and a PM Peak hour of 4:45 PM – 5:45 PM. The approved map indicating the count location numbers and corresponding vendor labels, Noon and PM peak hour turning movement counts, and bi-directional 48-hour classification counts, are included in **Appendix A**.

VIRGINIA AVENUE/DOUG DAVIS DRIVE AT CLAY PLACE/VIRGINIA AVENUE ROUNDABOUT FEASIBILITY STUDY

Existing Conditions
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2.3 PEAK HOUR DETERMINATION

As previously discussed, the early peak hour of the study area was 12:00 PM to 1:00 PM and the late peak hour is 4:45 PM to 5:45 PM. In order to further support the use of a noon peak hour instead of a traditional AM peak, a table of diurnal distribution data for the intersection was computed and compared to a control from Report 765 by the National Cooperative Highway Research Program (NCHRP). NCHRP Report 765 contains a table showing diurnal distribution factors by functional class for an urban area with population over 1,000,000, which is similar to the Atlanta metro area. By comparing the NCHRP table of diurnal distributions to the one computed for the project site, it becomes clear how much smaller the AM distributions are at the project site and how much larger the noon peak distribution is as compared to a typical noon peak. PM distribution amongst the two were approximately the same. Both the NCHRP table and the Project site table are shown in Appendix B. An excerpt of both are shown below in **Table 1** for the hours of 7 AM to 4 PM, for both Virginia Avenue west of Hamilton Street and a typical large-urban collector on a weekday.

Table 1: Diurnal Distribution Comparison

Hour Begins	Virginia Ave, W of Hamilton Ave (Day 1/Day 2 Average)	Typical Large-Urban Collector (Weekday)
7:00 AM	4.20%	5.92%
8:00 AM	5.02%	6.05%
9:00 AM	3.97%	5.82%
10:00 AM	4.14%	5.78%
11:00 AM	6.66%	6.55%
12:00 PM	8.88%	7.08%
1:00 PM	7.69%	6.95%
2:00 PM	6.60%	7.20%
3:00 PM	6.69%	7.97%

In addition to the traffic volume data supporting the choice of using a noon peak hour, it is also supported by the kinds of businesses that line the study area. From the center of Intersection 2, there are 9 restaurants within a 300 ft radius. The many employees at nearby Delta, Wells Fargo, and Porsche facilities likely contribute to the meal-time traffic in the study area, particularly during lunch, which is when the busiest hour of the day (12:00 PM – 1:00 PM) occurs.

VIRGINIA AVENUE/DOUG DAVIS DRIVE AT CLAY PLACE/VIRGINIA AVENUE ROUNDABOUT FEASIBILITY STUDY

Existing Conditions
September 11, 2019

2.4 PEAK HOUR DATA COMPUTATION

As mentioned, TMC data was collected during the hours of 7:00 AM – 10:00 AM and 3:30 PM – 6:30 PM, based on typical commuter traffic patterns. Therefore, no TMC data was collected during the noon peak hour. Since the pattern of traffic favors lunch and dinner rush times, emphasis on traffic behavior must be placed on these times in the determination of design hour volumes to be tested for roundabout feasibility. In order to do so, traffic projections for turning movement ADTs for both early and late peak hours were made based on the turning movement percentages during the 3 PM hours of the TMC field data (3:30-6:30 PM). This decision was made under the assumption that relative turning movement volumes during the noon peak hour is likely similar to turning movement volumes during the PM peak.

In order to visualize existing noon turning movement volumes, steps were taken to generate this data. However, the data was not directly utilized for any traffic projections, instead they act as a baseline for comparison. Using the reasoning described in the previous paragraph, the turning movement percentages of the PM peak (4:45-5:45 PM) were mirrored in the AM peak (12:00-1:00 PM). Then, using ADT data collected from the 12:00-1:00 PM ADT field counts, the volume entering the intersection from a particular leg was multiplied by each turning movement percentage to find a volume for each turning movement in the hour of 12:00-1:00 PM. An example calculation is shown below for the north bound approach of Intersection 2.

Table 2: Noon Baseline Volume Calculations

	NB Left	NB Through	NB Right	NB U-Turn
Turning Movement Distribution ¹	36.7%	15.2%	48.1%	0.0%
Vehicle Volume per movement	$62 * .0367 = 23$ vehicles	$62 * .0152 = 9$ vehicles	$62 * .0481 = 30$ vehicles	$62 * 0 = 0$ vehicles

1. Pulled from corresponding PM peak turning movement percentages

2. There are 62 NB Vehicles during Noon Peak Hour (From 48 Hour ADT Data).

As previously mentioned, the volumes produced using this method are not used for making any peak hour turning movement projections but are only used for a baseline of comparison. However, the turning movement percentages (those which were mirrored from the PM peak turning movement percentages) are used when projecting the peak hour turning movement volumes for the noon peak hour. Volumes computation tables are included in **Appendix B**.

VIRGINIA AVENUE/DOUG DAVIS DRIVE AT CLAY PLACE/VIRGINIA AVENUE ROUNDABOUT FEASIBILITY STUDY

Existing Baseline Volumes
September 11, 2019

3.0 EXISTING BASELINE VOLUMES

3.1 APPLIED FACTORS

Seasonal, daily, and axle factors provided by the Georgia Department of Transportation (GDOT) were applied to the 48-hour daily counts to develop baseline Annual Average Daily Traffic (AADT). Additionally, the K and D factors were calculated. The K factor is the proportion of traffic occurring during the 30th highest hourly volume of the year. The D factor is the directional distribution of traffic moving the peak travel direction. **Table 3** on the following page shows the K and D factors used in this project. A summary of the K and D factor calculations is shown in **Appendix C**.

VIRGINIA AVENUE/DOUG DAVIS DRIVE AT CLAY PLACE/VIRGINIA AVENUE ROUNDABOUT FEASIBILITY STUDY

Existing Baseline Volumes
September 11, 2019

Table 3. K & D Factor Calculations

Location	Functional Class (Factor Group)	Count # (Class in yellow)	Enter	Traffic Volumes																								
				Raw Data										GDOT Traffic Factors				Calc. AADT	Balanced & Rounded Volumes									
				Day 1			Day 2			Average of Day 1 & 2			K & D Factors															
				NE - VOL	SW - VOL	Total	NE - VOL	SW - VOL	Total	NE - VOL	SW - VOL	Total	K	D	SF (Monthly)	DF1 (Daily1)	DF2 (Daily2)	AXF (Axle)	AADT	NE - VOL	SW - VOL	Hourly Total	T NE - VOL	T SW - VOL	K	D	Margin of Error	
Virginia Ave W of Hamilton Ave	Urban Major Collector (4)	1	12:00 PM	519	467	986	518	506	1,024	519	487	1,005	8.9%	0.52	0.96	0.93	0.92	0.96	9,630	9,850	15	10	25	4,925	4,925	0.3%	0.60	2%
			4:45 PM	350	546	896	401	536	937	376	541	917	8.1%	0.59							10	10	20			0.2%	0.50	
			Daily	5,550	5,604	11,154	5,646	5,794	11,440	5,598	5,699	11,297																
Hamilton Ave N of Virginia Ave	Urban Local Road (4)	2	12:00 PM	15	15	30	9	10	19	12	13	25	10.1%	0.51	0.96	0.93	0.92	0.96	207	200	15	40	55	100	100	27.5%	0.73	3%
			4:45 PM	10	9	19	7	10	17	9	10	18	7.4%	0.53							15	40	55			27.5%	0.73	
			Daily	109	142	251	97	137	234	103	140	243																
Virginia Ave N of Doug Davis Dr	Urban Major Collector (4)	3	12:00 PM	237	313	550	275	289	564	256	301	557	10.0%	0.54	0.96	0.93	0.92	0.96	4,740	4,800	500	450	950	2,400	2,400	19.8%	0.53	1%
			4:45 PM	212	178	390	246	198	444	229	188	417	7.5%	0.55							360	435	795			16.6%	0.55	
			Daily	2,694	2,816	5,510	2,743	2,869	5,612	2,719	2,843	5,561																
Doug Davis Dr E of Virginia Ave/Clay Pl	Urban Local Road (4)	4	12:00 PM	380	333	713	396	354	750	388	344	732	8.7%	0.53	0.96	0.93	0.92	0.96	7,189	6,800	60	40	100	3,400	3,400	1.5%	0.60	5%
			4:45 PM	249	462	711	277	447	724	263	455	718	8.5%	0.63							60	40	100			1.5%	0.60	
			Daily	4,202	4,209	8,411	4,263	4,193	8,456	4,233	4,201	8,434																
Clay Pl S of Doug Davis Dr	Urban Local Road (4)	5	12:00 PM	53	34	87	70	42	112	62	38	100	10.6%	0.62	0.96	0.93	0.92	0.96	797	900	60	35	95	450	450	10.6%	0.63	13%
			4:45 PM	65	37	102	60	40	100	63	39	101	10.8%	0.62							60	35	95			10.6%	0.63	
			Daily	500	372	872	539	459	998	520	416	935																

VIRGINIA AVENUE/DOUG DAVIS DRIVE AT CLAY PLACE/VIRGINIA AVENUE ROUNDABOUT FEASIBILITY STUDY

Future Build Conditions
September 11, 2019

3.2 TRUCK PERCENTAGES

The 2019 vehicle classification counts were used to determine the Truck Percentages in the study area. **Table 4** shows the Truck Percentages used in this project. A summary of the truck percentage calculations is shown in **Appendix D**.

Table 4. Truck Percentages

Count Number	Count Location	24 Hour T%			Peak Hour T%			
		S.U.	Comb.	Total	Period	S.U.	Comb.	Total
1	Virginia Ave W of Hamilton Ave	4.0%	0.0%	4.0%	AM	3.5%	0.0%	3.5%
					PM	3.0%	0.0%	3.0%
2	Hamilton Ave N of Virginia Ave	4.5%	0.0%	4.5%	AM	10.0%	0.0%	10.0%
					PM	3.0%	0.0%	3.0%
3	Virginia Ave N of Doug Davis Dr	2.5%	0.0%	2.5%	AM	4.0%	0.5%	4.5%
					PM	1.5%	0.0%	1.5%
4	Doug Davis Dr E of Virginia Ave/Clay Pl	3.0%	0.0%	3.0%	AM	3.0%	0.0%	3.0%
					PM	2.5%	0.0%	2.5%
5	Clay Pl S of Doug Davis Dr	4.0%	0.0%	4.0%	AM	3.5%	0.0%	3.5%
					PM	2.5%	0.0%	2.5%

3.3 EXISTING 2019 VOLUMES

Traffic diagrams are provided in **Appendix E**. Diagrams were created for the 2019 existing Annual Average Daily Traffic (AADT) volumes, the Design Hourly Volumes (DHV). To allow for easy comparison, the projections of the AADT and DHV for 2023, 2025, 2043, and 2045 are also provided in traffic diagrams in **Appendix E**. Section 4.2 will cover how these traffic volume projections were calculated in greater detail.

4.0 FUTURE BUILD CONDITIONS

4.1 DESCRIPTION OF PROPOSED ROUNDABOUT

While the selection of a final design is beyond the scope of this analysis, there are common aspects of roundabouts that would be present if it is ultimately constructed. As will be discussed later in the report, the traffic volumes are low enough at this location that they can be handled by a single lane roundabout. A roundabout this size could fit at this location, although not without impacts to the adjacent properties. The roundabout would have splitter islands on each approach that would act as pedestrian refuges. This would dramatically reduce the crossing distance for pedestrians, which would also reduce their exposure to automobiles. Additionally, the layout of a roundabout allows a pedestrian to cross while checking for traffic in one direction at a time. The perimeter of the roundabout would include wider sidewalks to allow both cyclists and pedestrians to safely travel around the roundabout. Lower circulating speeds in the roundabout would also improve the safety of cyclists who choose to travel in the roundabout roadway instead of on the wider sidewalks.

VIRGINIA AVENUE/DOUG DAVIS DRIVE AT CLAY PLACE/VIRGINIA AVENUE ROUNDABOUT FEASIBILITY STUDY

Future Build Conditions
September 11, 2019

4.2 GROWTH RATE AND FUTURE VOLUMES

Several measures were taken in order to determine a growth rate that best fits the study area in question between existing conditions and the design year (2043). One factor considered for arriving at a growth rate for the project was using historical AADT data provided by GDOT at counting stations in the vicinity of the site. From this, annual growth trends were calculated for the project. The Historical GDOT Traffic Count data and growth rate calculations are shown in **Appendix F.1**. The GDOT count stations identified as being of good use for this project are as follows:

1. #121-5586 Virginia Avenue North of Doug Davis Drive
2. #121-5598 Virginia Avenue West of Hamilton Avenue

Calculated growth rates are summarized below in **Table 5**.

Table 5: Historical Annual Growth Rates – GDOT Counts

	5-Year Growth Rate	10-Year Growth Rate
Station #121-5586	7.0%	3.8%
Station #121-5598	-2.9%	0.2%

The growth rates found using this method, however, were determined as being less accurate than desired, as the count stations found near the study area only have one year of actual AADT counts between both stations. All other years of AADT data reported were either estimates or the collection methods were not indicated. As a result, this method did not make its way into being factored into the final growth rate used.

The 2010-2018 US Census population estimates were another factor considered to calculate a growth rate for the study area. Population estimates were pulled for Census tracts 108 and 403.08. Tract 108 in Fulton County is the location of the project site, and tract 403.08 in Clayton County is adjacent to the project site. Tract 403.08 had a negative historical growth, which is not feasible to use, so only tract 108's growth was considered, which was 0.9%. The Historical US census population data and growth rate calculations are shown in **Appendix F.2**.

The last method for finding growth in the area used was to analyze the growth trends from the Atlanta Regional Commission's (ARC) Regional Transportation Plan (RTP), last updated May 2019. The RTP projects an average annual growth rate of 1.5% for the Atlanta Region from 2015 to 2040.

VIRGINIA AVENUE/DOUG DAVIS DRIVE AT CLAY PLACE/VIRGINIA AVENUE ROUNDABOUT FEASIBILITY STUDY

Capacity analysis
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After using several methods to create a clear picture of the study area's growth, the census growth rate of 0.9% was chosen for the study area. The 0.9% annual growth rate will be applied to the existing turning movement and AADT volumes to forecast volumes for the 2023, 2025, 2043, and 2045 future years under the No Build and Build conditions. Due to the nature of this project, all No Build volumes are the same as the Build out volumes for each respective year, so no distinction between the two is made in the traffic diagrams. The 2019, 2023, 2025, 2043, and 2045 traffic diagrams are presented in **Appendix E**.

5.0 CAPACITY ANALYSIS

5.1 SIGNALIZED INTERSECTION ANALYSIS

Synchro was used to model the existing and 2043 projected capacity of both intersections under the assumption that no roundabout is constructed, and the existing layout is maintained. In addition to these two scenarios, a third scenario that included a road diet on Virginia Avenue, Doug Davis Drive, and Clay Place was also analyzed (See **Figures 2** and **3** for a comparison). It should also be noted that for both future scenarios a new signal timing was used in the Synchro model. This was done to reflect the possibility that even if the layout of the intersection remains unchanged, the signal timings could be updated to better handle projected traffic volumes.

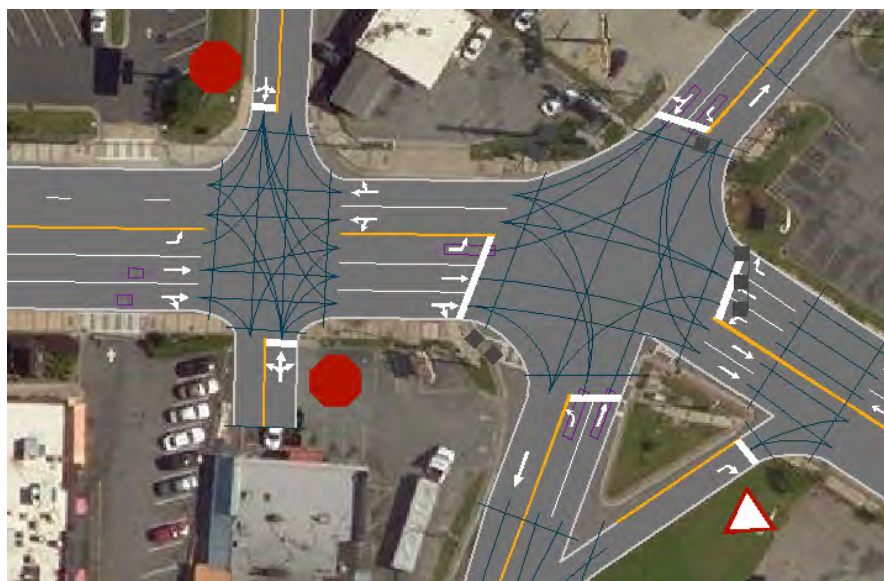


Figure 2: Synchro Model with Existing Layout

VIRGINIA AVENUE/DOUG DAVIS DRIVE AT CLAY PLACE/VIRGINIA AVENUE ROUNDABOUT FEASIBILITY STUDY

Capacity analysis
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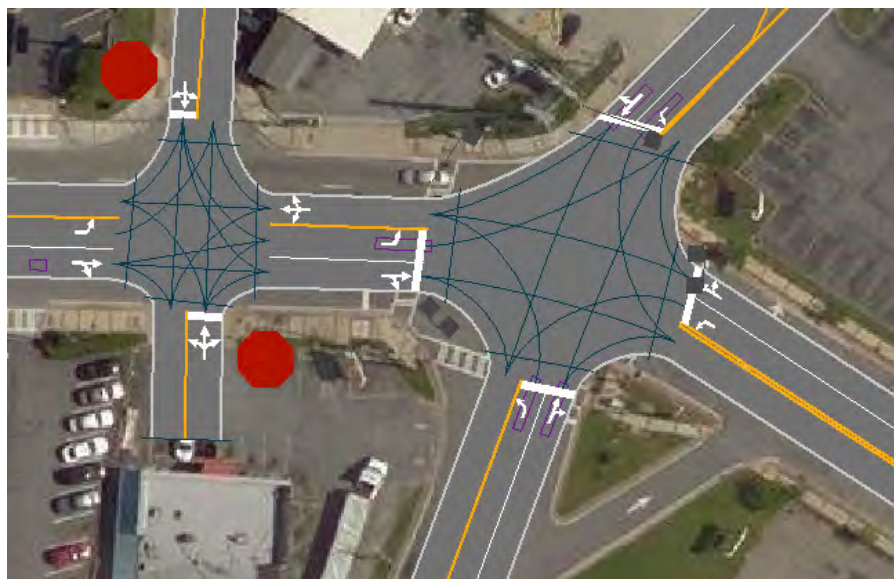


Figure 3: Synchro Model with Road Diet

Table 6 contains the results of the Synchro capacity analysis for intersection 1. Intersection 1 is currently operating well under existing conditions with the level of service (LOS) on each approach being at a C or above. As expected, the increased 2043 volumes decrease the LOS for the Hamilton Avenue and Driveway approaches while having little effect on Virginia Avenue since it is free flowing. The outputs from the Synchro analyses are provided in **Appendix G**.

Table 6. Intersection 1 Level of Service for Existing and Projected Traffic Volumes

Approach	2019 Existing Volumes		2043 Volumes: No Build		2043 Volumes: Road Diet	
	Noon Peak LOS (Delay)	PM Peak LOS (Delay)	Noon Peak LOS (Delay)	PM Peak LOS (Delay)	Noon Peak LOS (Delay)	PM Peak LOS (Delay)
Driveway	C (18.3 s)	B (14.9 s)	C (24.4 s)	C (18.4 s)	E (36.3 s)	D (26.3 s)
Hamilton Ave	C (15.8 s)	B (14.3 s)	C (19.7 s)	C (17.5 s)	D (28.2 s)	C (22.4 s)
Virginia Ave (West Leg)	A (0.1 s)	A (0 s)	A (0.1 s)	A (0 s)	A (0.1 s)	A (0 s)
Virginia Ave (East Leg)	A (0.1 s)	A (0.1 s)	A (0.2 s)	A (0.1 s)	A (0.1 s)	A (0.1 s)

VIRGINIA AVENUE/DOUG DAVIS DRIVE AT CLAY PLACE/VIRGINIA AVENUE ROUNDABOUT FEASIBILITY STUDY

Capacity analysis
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Table 7 contains the results of the Synchro capacity analysis for intersection 2. The eastbound and westbound legs of this intersection are currently operating well at a LOS of A or B. The northbound and southbound legs are both operating at a LOS of D. The intersection operates at a similar level of perform in the 2043 scenarios due to signal timings being optimized for the increased volumes. Delay for the northbound and south bound approaches is lower in both 2043 scenarios than in the existing 2019 scenario. In the road diet scenario, the delay on Virginia Avenue and Doug Davis Drive does increase to the point that both of these approaches drop to a lower LOS. The outputs from the Synchro analyses are provided in **Appendix G**.

Table 7. Intersection 2 Level of Service for Existing and Projected Traffic Volumes

Approach	2019 Existing Volumes		2043 Volumes: No Build		2043 Volumes: Road Diet	
	Noon Peak LOS (Delay)	PM Peak LOS (Delay)	Noon Peak LOS (Delay)	PM Peak LOS (Delay)	Noon Peak LOS (Delay)	PM Peak LOS (Delay)
Clay Place	D (50.7 s)	D (53.9 s)	D (40.7 s)	D (38.6 s)	D (39.6 s)	D (39.5 s)
Clay Place (Right Turn Lane)	A (9.3 s)	A (9.1 s)	A (9.3 s)	A (9.2 s)	N/A	N/A
Virginia Ave (North Leg)	D (44.9 s)	D (48.8 s)	C (34.3 s)	C (33.7 s)	C (34.3 s)	C (33.9 s)
Virginia Ave (West Leg)	A (9.0 s)	A (7.1 s)	B (12.5)	A (9.6 s)	B (13.9 s)	B (10.9 s)
Doug Davis Dr	B (15.2 s)	B (12.3 s)	B (16.2 s)	B (17.3 s)	C (23.7 s)	C (20.5 s)

5.2 ROUNDABOUT ANALYSIS

The existing and projected traffic volumes were also modeled in the GDOT Roundabout Analysis Tool version 4.1. This tool aids in preliminary analysis of the capacity, delay, and other operational factors of a proposed roundabout. The roundabout was modeled as a single lane roundabout with 4 approaches. Models were created for the Noon and PM Peaks for the 2019, 2023, 2025, 2043, and 2045 traffic volumes. In each of these scenarios, the LOS was at an A for all approaches except for the occasional LOS of B on the westbound approach. Results for the 2019 existing volumes and 2043 projected volumes are provided in **Table 8** below. According to this analysis this intersection could function better as a roundabout than as a signalized intersection. The output from each of the roundabout models and roundabout traffic diagrams are provided in **Appendix H**.

VIRGINIA AVENUE/DOUG DAVIS DRIVE AT CLAY PLACE/VIRGINIA AVENUE ROUNDABOUT FEASIBILITY STUDY

Conclusion
September 11, 2019

Table 8. Roundabout Level of Service for Existing and Projected Traffic Volumes

	2019 Existing Volumes		2043 Volumes: Build	
Approach	Noon Peak LOS (Delay)	PM Peak LOS (Delay)	Noon Peak LOS (Delay)	PM Peak LOS (Delay)
Clay Place	A (7 s)	A (5 s)	A (8 s)	A (6 s)
Virginia Ave (North Leg)	A (7 s)	A (6 s)	A (10 s)	A (8 s)
Virginia Ave (West Leg)	A (8 s)	A (6 s)	B (10 s)	A (7 s)
Doug Davis Dr	A (7 s)	A (7 s)	A (8 s)	A (9 s)

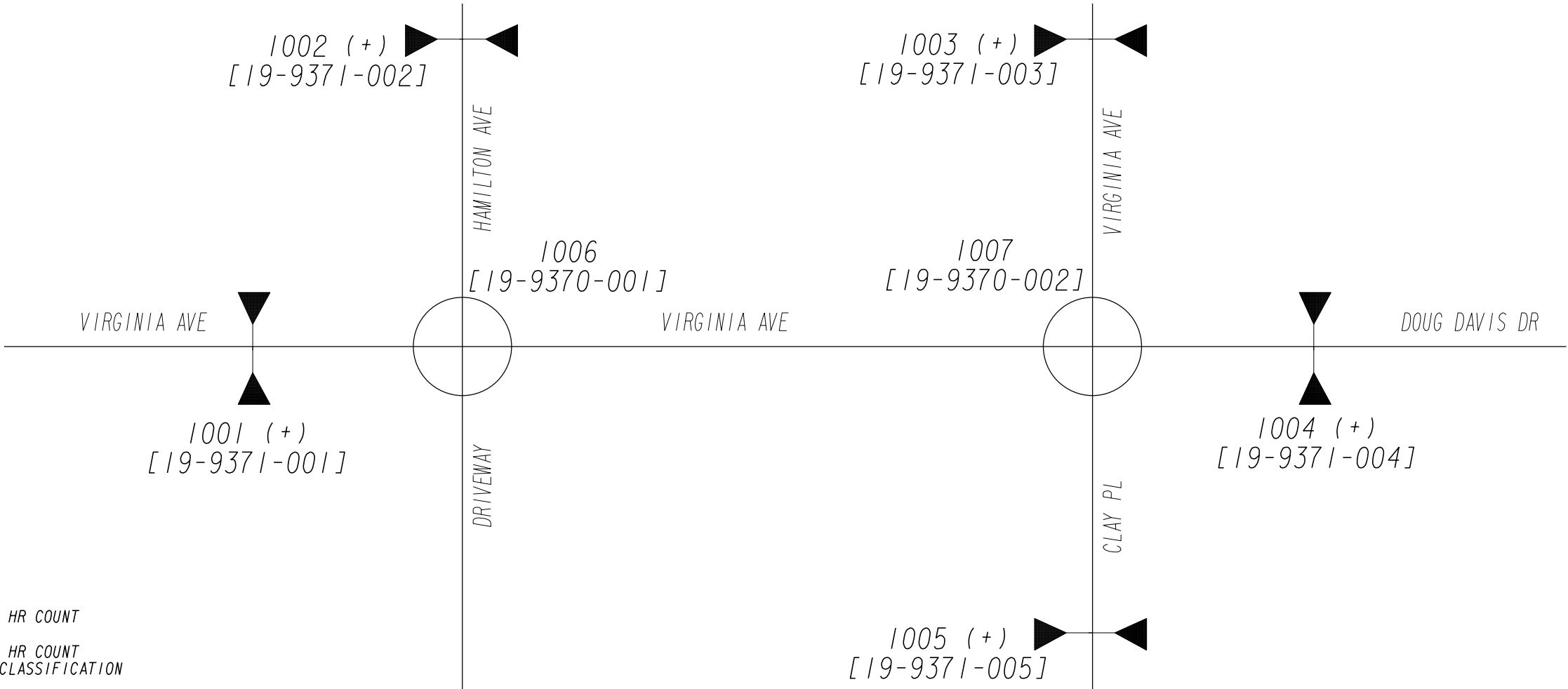
6.0 CONCLUSION

The key conclusions to be drawn from this report are as follows:

1. The Virginia Avenue and Clay Place intersection is currently operating at an acceptable level of service. Looking to the future, if the existing layout of the intersection is maintained it may still operate at an acceptable level if it is possible to update the signal timings.
2. This analysis found that this intersection could operate more efficiently as a single lane roundabout than as a signalized intersection. In analyzed years and in both the Noon and PM Peaks, the roundabout would operate at a LOS of A overall, with only one approach dropping to a B in select scenarios. It is therefore the conclusion of this report that a roundabout is feasible in terms of traffic operations.

APPENDIX A – TRAFFIC COUNTS

FULTON COUNTY



- = 48 HR COUNT
- = 48 HR COUNT W/CLASSIFICATION
- = PEAK TURNING MOVEMENT
7:00AM - 10:00AM
15:30 - 18:30 PM
- [XXX] = COUNT NUMBER PROVIDED BY VENDOR

PI 171007021
FULTON COUNTY

VIRGINIA AVE FROM
HAMILTON AVE
TO DOUG DAVIS DRIVE/CLAY PL

LOCATION MAP

JE
06/2019

ADT

Count #	Vendor Count #	Class*	Description**
1001	19-9371-001	+	Virginia Ave, West of Hamilton Ave
1002	19-9371-002	+	Hamilton Ave, North of Virginia Ave
1003	19-9371-003	+	Virginia Ave, North of Doug Davis Dr
1004	19-9371-004	+	Doug Davis Dr, East of Virginia Ave/Clay Pl
1005	19-9371-005	+	Clay Pl, South of Doug Davis Dr

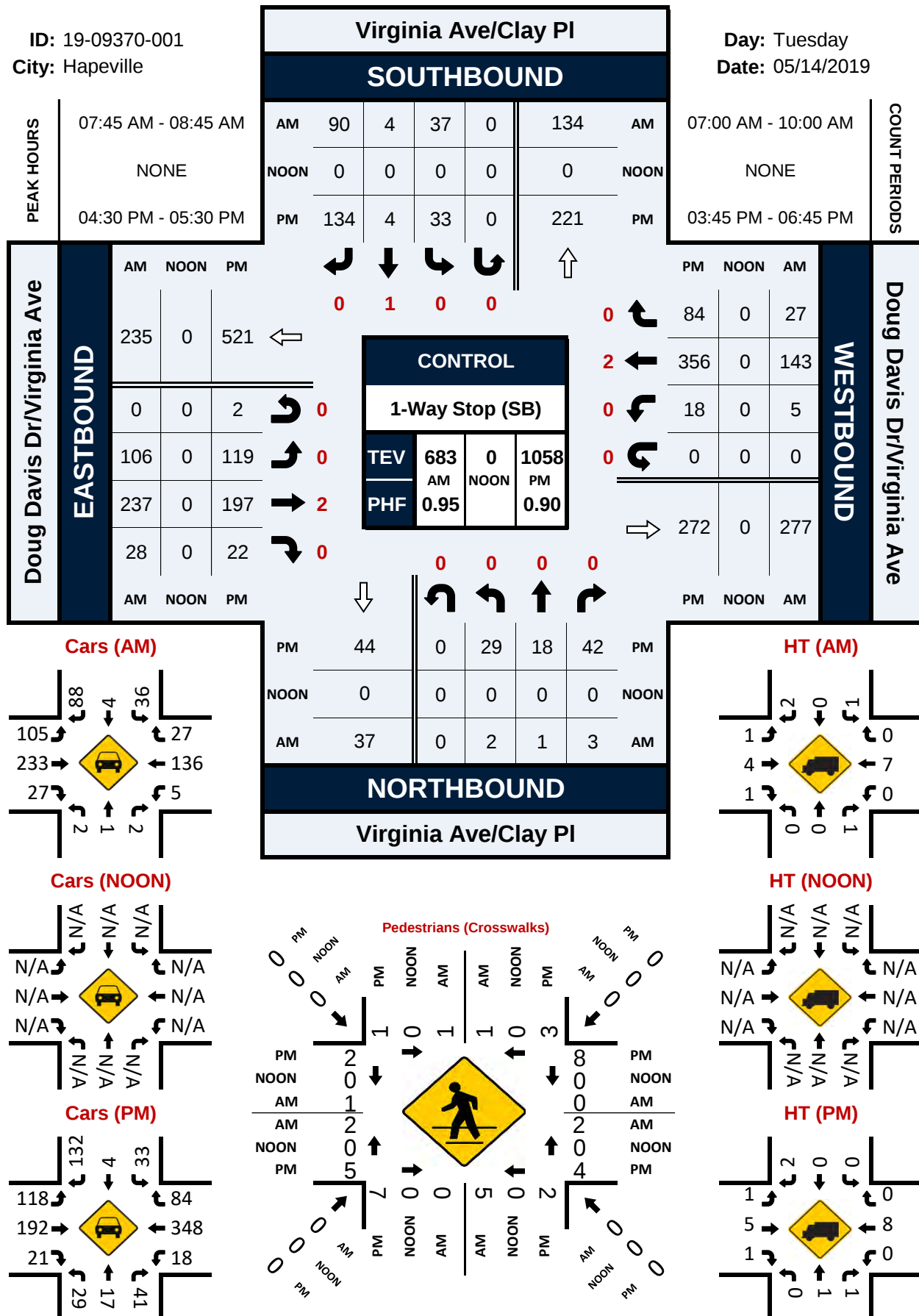
TMCs

Count #	Vendor Count #	Class*	Description**
1006	19-9370-001	+	Virginia Ave/Clay Pl & Doug Davis Dr/Virginia Ave
1007	19-9370-002	+	Hamilton Ave & Virginia Ave

* “+” indicates ADT classification counts or TMCs with bicycle and pedestrian counts.

** All two way or bi-directional unless otherwise stated.

Day: Tuesday
Date: 05/14/2019



National Data & Surveying Services

Intersection Turning Movement Count

Location: Virginia Ave/Clay Pl & Doug Davis Dr/Virginia Ave
City: Hapeville
Control: 1-Way Stop (SB)

Project ID: 19-09370-001
Date: 5/14/2019

Total

NS/EW Streets:	Virginia Ave/Clay Pl				Virginia Ave/Clay Pl				Doug Davis Dr/Virginia Ave				Doug Davis Dr/Virginia Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	0 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	2 ET	0 ER	0 EU	0 WL	2 WT	0 WR	0 WU	
7:00 AM	1	0	0	0	7	1	13	0	14	54	0	0	1	29	10	0	130
7:15 AM	0	0	0	0	12	0	20	0	12	60	1	0	0	29	3	0	137
7:30 AM	0	0	0	0	8	0	26	0	13	60	1	0	1	29	5	0	143
7:45 AM	0	0	0	0	19	2	20	0	20	56	2	0	1	44	7	0	171
8:00 AM	1	0	1	0	2	2	24	0	33	54	4	0	1	30	4	0	156
8:15 AM	0	0	2	0	6	0	17	0	38	58	12	0	1	32	11	0	177
8:30 AM	1	1	0	0	10	0	29	0	15	69	10	0	2	37	5	0	179
8:45 AM	0	1	1	0	22	2	28	1	16	58	4	0	4	26	8	0	171
9:00 AM	0	1	2	0	16	3	22	0	19	43	2	0	1	24	5	0	138
9:15 AM	0	0	2	0	10	0	17	0	21	35	1	0	2	30	9	0	127
9:30 AM	3	1	2	0	18	0	20	0	14	44	3	0	0	26	2	0	133
9:45 AM	0	0	0	0	10	2	18	0	23	45	1	0	0	30	4	0	133
TOTAL VOLUMES :	NL 6	NT 4	NR 10	NU 0	SL 140	ST 12	SR 254	SU 1	EL 238	ET 636	ER 41	EU 0	WL 14	WT 366	WR 73	WU 0	TOTAL 1795
APPROACH %'s :	30.00%	20.00%	50.00%	0.00%	34.40%	2.95%	62.41%	0.25%	26.01%	69.51%	4.48%	0.00%	3.09%	80.79%	16.11%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM				37	4	90	0	106	237	28	0	5	143	27	0	TOTAL 683
PEAK HR VOL :	2	1	3	0	0.487	0.500	0.776	0.000	0.697	0.859	0.583	0.000	0.625	0.813	0.614	0.000	0.954
PEAK HR FACTOR :	0.500	0.250	0.375	0.000		0.750				0.859				0.841			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	0 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	2 ET	0 ER	0 EU	0 WL	2 WT	0 WR	0 WU	
3:45 PM	3	0	3	0	5	2	39	0	29	42	0	0	4	65	15	0	207
4:00 PM	6	3	4	0	5	2	30	0	21	51	8	0	4	63	19	0	216
4:15 PM	2	2	5	0	8	3	32	0	30	44	4	0	1	77	18	0	226
4:30 PM	6	8	8	0	5	1	27	0	33	64	8	0	4	79	18	0	261
4:45 PM	3	3	6	0	4	0	31	0	27	37	4	1	0	87	13	0	216
5:00 PM	8	2	12	0	17	1	39	0	26	45	4	0	6	98	29	0	287
5:15 PM	12	5	16	0	7	2	37	0	33	51	6	1	8	92	24	0	294
5:30 PM	6	2	4	0	3	1	48	0	35	50	2	0	4	85	20	0	260
5:45 PM	6	2	2	0	6	3	32	0	35	49	7	0	2	51	15	0	210
6:00 PM	2	4	4	0	6	1	32	0	30	42	5	0	2	57	10	0	195
6:15 PM	7	2	3	0	6	4	33	0	30	43	4	0	3	65	12	0	212
6:30 PM	4	4	9	0	2	3	39	0	26	44	4	0	2	48	12	0	197
TOTAL VOLUMES :	NL 65	NT 37	NR 76	NU 0	SL 74	ST 23	SR 419	SU 0	EL 355	ET 562	ER 56	EU 2	WL 40	WT 867	WR 205	WU 0	TOTAL 2781
APPROACH %'s :	36.52%	20.79%	42.70%	0.00%	14.34%	4.46%	81.20%	0.00%	36.41%	57.64%	5.74%	0.21%	3.60%	77.97%	18.44%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM				33	4	134	0	119	197	22	2	18	356	84	0	TOTAL 1058
PEAK HR VOL :	29	18	42	0	0.485	0.500	0.859	0.000	0.902	0.770	0.688	0.500	0.563	0.908	0.724	0.000	0.900
PEAK HR FACTOR :	0.604	0.563	0.656	0.000		0.750				0.810				0.861			

National Data & Surveying Services

City: Hapeville
Control: 1-Way Stop (SB)

Project ID: 19-09370-001
Date: 5/14/2019

Cars

NS/EW Streets:	Virginia Ave/Clay Pl				Virginia Ave/Clay Pl				Doug Davis Dr/Virginia Ave				Doug Davis Dr/Virginia Ave					
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
	0	0	0	0	0	1	0	0	0	2	0	0	0	0	2	0		0
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		
	7:00 AM	1	0	0	0	7	1	12	0	14	54	0	0	1	28	10		0
	7:15 AM	0	0	0	0	12	0	20	0	12	57	1	0	0	28	3		0
	7:30 AM	0	0	0	0	8	0	26	0	13	56	1	0	1	27	5		0
	7:45 AM	0	0	0	0	18	2	20	0	19	56	2	0	1	43	7		0
	8:00 AM	1	0	0	0	2	2	23	0	33	54	4	0	1	29	4		0
	8:15 AM	0	0	2	0	6	0	16	0	38	56	12	0	1	28	11		0
	8:30 AM	1	1	0	0	10	0	29	0	15	67	9	0	2	36	5		0
8:45 AM	0	1	1	0	22	2	26	1	16	58	4	0	4	24	6	0		
9:00 AM	0	1	2	0	16	3	22	0	17	42	2	0	1	20	4	0		
9:15 AM	0	0	2	0	10	0	17	0	20	35	1	0	2	28	9	0		
9:30 AM	2	1	2	0	18	0	19	0	13	43	3	0	0	25	2	0		
9:45 AM	0	0	0	0	10	1	17	0	22	41	1	0	0	27	3	0		
TOTAL VOLUMES:	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL	
APPROACH %'s:	27.78%	22.22%	50.00%	0.00%	34.92%	2.76%	62.06%	0.25%	26.04%	69.47%	4.49%	0.00%	3.29%	80.52%	16.20%	0.00%	1733	
PEAK HR:	07:45 AM - 08:45 AM																TOTAL	
PEAK HR VOL:	2	1	2	0	36	4	88	0	105	233	27	0	5	136	27	0	666	
PEAK HR FACTOR:	0.50	0.250	0.250	0.000	0.500	0.500	0.759	0.000	0.691	0.869	0.563	0.000	0.625	0.791	0.614	0.000	0.951	
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
	0	0	0	0	0	1	0	0	0	2	0	0	0	2	0	0		
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU		
	3:45 PM	3	0	3	0	5	2	39	0	27	37	0	0	4	63	15		0
	4:00 PM	6	3	4	0	5	2	30	0	21	48	7	0	4	62	19		0
	4:15 PM	2	2	5	0	8	3	32	0	30	42	4	0	1	75	18		0
	4:30 PM	6	7	7	0	5	1	25	0	33	63	7	0	4	79	18		0
	4:45 PM	3	3	6	0	4	0	31	0	27	37	4	1	0	85	13		0
	5:00 PM	8	2	12	0	17	1	39	0	26	42	4	0	6	96	29		0
	5:15 PM	12	5	16	0	7	2	37	0	32	50	6	1	8	88	24		0
5:30 PM	6	2	4	0	3	1	48	0	35	48	2	0	4	81	20	0		
5:45 PM	2	2	2	0	6	3	32	0	33	48	6	0	2	50	15	0		
6:00 PM	6	2	4	0	6	1	32	0	29	39	5	0	2	55	10	0		
6:15 PM	6	2	3	0	6	4	31	0	30	41	4	0	3	63	12	0		
6:30 PM	4	4	9	0	2	3	38	0	26	42	4	0						

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	0 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	2 ET	0 ER	0 EU	0 WL	2 WT	0 WR	0 WU	
3:45 PM	3	0	3	0	5	2	39	0	27	37	0	0	4	63	15	0	198
4:00 PM	6	3	4	0	5	2	30	0	21	48	7	0	4	62	19	0	211
4:15 PM	2	2	5	0	8	3	32	0	30	42	4	0	1	75	18	0	222
4:30 PM	6	7	7	0	5	1	25	0	33	63	7	0	4	79	18	0	255
4:45 PM	3	3	6	0	4	0	31	0	27	37	4	1	0	85	13	0	214
5:00 PM	8	2	12	0	17	1	39	0	26	42	4	0	6	96	29	0	282
5:15 PM	12	5	16	0	7	2	37	0	32	50	6	1	8	88	24	0	288
5:30 PM	6	2	4	0	3	1	48	0	35	48	2	0	4	81	20	0	254
5:45 PM	6	2	2	0	6	3	32	0	33	48	6	0	2	50	15	0	205
6:00 PM	2	4	4	0	6	1	32	0	29	39	5	0	2	55	10	0	189
6:15 PM	6	2	3	0	6	4	31	0	30	41	4	0	3	63	12	0	205
6:30 PM	4	4	9	0	2	3	38	0	26	42	4	0	2	47	12	0	193
TOTAL VOLUMES : APPROACH 's':	NL 36.57%	NT 20.57%	NR 42.86%	NU 0.00%	SL 14.48%	ST 23 4.50%	SR 414 81.02%	SU 0 0.00%	EL 349 37.09%	ET 537 57.07%	ER 53 5.63%	EU 2 0.21%	WL 40 3.67%	WT 844 77.50%	WR 205 18.82%	WU 0 0.00%	TOTAL 2716
PEAK HR :	04:30 PM - 05:30 PM																TOTAL
PEAK HR VOL :	29	17	41	0	33	4	132	0	118	192	21	2	18	348	84	0	1039
PEAK HR FACTOR :	0.60	0.607	0.641	0.000	0.485	0.500	0.846	0.000	0.894	0.762	0.750	0.500	0.563	0.906	0.724	0.000	0.902
	0.659				0.741				0.808				0.859				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Virginia Ave/Clay Pl & Doug Davis Dr/Virginia Ave
City: Hapeville
Control: 1-Way Stop (SB)

Project ID: 19-09370-001
Date: 5/14/2019

HT

NS/EW Streets:	Virginia Ave/Clay Pl				Virginia Ave/Clay Pl				Doug Davis Dr/Virginia Ave				Doug Davis Dr/Virginia Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	0 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	2 ET	0 ER	0 EU	0 WL	2 WT	0 WR	0 WU	
7:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	2
7:15 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	1	0	0	4
7:30 AM	0	0	0	0	0	0	0	0	0	4	0	0	0	2	0	0	6
7:45 AM	0	0	0	0	1	0	0	0	1	0	0	0	0	1	0	0	3
8:00 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	3
8:15 AM	0	0	0	0	0	0	1	0	0	2	0	0	0	4	0	0	7
8:30 AM	0	0	0	0	0	0	0	0	0	2	1	0	0	1	0	0	4
8:45 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	2	2	0	6
9:00 AM	0	0	0	0	0	0	0	0	2	1	0	0	0	4	1	0	8
9:15 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0	0	3
9:30 AM	1	0	0	0	0	0	1	0	1	1	0	0	0	1	0	0	5
9:45 AM	0	0	0	0	0	1	1	0	1	4	0	0	0	3	1	0	11
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	50.00%	0.00%	50.00%	0.00%	11.11%	11.11%	77.78%	0.00%	25.00%	70.83%	4.17%	0.00%	0.00%	85.19%	14.81%	0.00%	62
PEAK HR :	07:45 AM - 08:45 AM				1	0	2	0	1	4	1	0	0	7	0	0	17
PEAK HR VOL :	0	0	1	0	0.250	0.000	0.500	0.000	0.250	0.500	0.250	0.000	0.000	0.438	0.000	0.000	17
PEAK HR FACTOR :	0.000	0.000	0.250	0.000	0.250	0.000	0.500	0.000	0.250	0.500	0.250	0.000	0.000	0.438	0.000	0.000	0.607
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	0 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	2 ET	0 ER	0 EU	0 WL	2 WT	0 WR	0 WU	
3:45 PM	0	0	0	0	0	0	0	0	2	5	0	0	0	2	0	0	9
4:00 PM	0	0	0	0	0	0	0	0	0	3	1	0	0	1	0	0	5
4:15 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	4
4:30 PM	0	1	1	0	0	0	2	0	0	1	1	0	0	0	0	0	6
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	3	0	0	0	2	0	0	5
5:15 PM	0	0	0	0	0	0	0	0	1	1	0	0	0	4	0	0	6
5:30 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	4	0	0	6
5:45 PM	0	0	0	0	0	0	0	0	2	1	1	0	0	1	0	0	5
6:00 PM	0	0	0	0	0	0	0	0	1	3	0	0	0	2	0	0	6
6:15 PM	1	0	0	0	0	0	2	0	0	2	0	0	0	2	0	0	7
6:30 PM	0	0	0	0	0	0	1	0	0	2	0	0	0	1	0	0	4
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	33.33%	33.33%	33.33%	0.00%	0.00%	0.00%	100.00%	0.00%	17.65%	73.53%	8.82%	0.00%	0.00%	100.00%	0.00%	0.00%	65
PEAK HR :	04:30 PM - 05:30 PM				0	0	2	0	1	5	1	0	0	8	0	0	19
PEAK HR VOL :	0	1	1	0	0.000	0.000	0.250	0.000	0.250	0.417	0.250	0.000	0.000	0.500	0.000	0.000	19
PEAK HR FACTOR :	0.00	0.250	0.250	0.000	0.000	0.000	0.250	0.000	0.250	0.417	0.250	0.000	0.000	0.500	0.000	0.000	0.792

Intersection Turning Movement Count

City: Hapeville
Control: 1-Way Stop (SB)

Project ID: 19-09370-001
Date: 5/14/2019

Bikes

NS/EW Streets:	Virginia Ave/Clay Pl				Virginia Ave/Clay Pl				Doug Davis Dr/Virginia Ave				Doug Davis Dr/Virginia Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	0 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	2 ET	0 ER	0 EU	0 WL	2 WT	0 WR	0 WU	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
9:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2
TOTAL VOLUMES : APPROACH %'s :	NL 0	NT 0	NR 0	NU 0	SL 0	ST 0	SR 2	SU 0	EL 0	ET 1	ER 0	EU 0	WL 0	WT 1	WR 0	WU 0	TOTAL 5
PEAK HR :	07:45 AM - 08:45 AM																TOTAL 1
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250

[illegible]

National Data & Surveying Services

Intersection Turning Movement Count

Location: Virginia Ave/Clay Pl & Doug Davis Dr/Virginia Ave
City: Hapeville

Project ID: 19-09370-001
Date: 5/14/2019

Pedestrians (Crosswalks)

NS/EW Streets:	Virginia Ave/Clay Pl		Virginia Ave/Clay Pl		Doug Davis Dr/Virginia Ave		Doug Davis Dr/Virginia Ave			
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		SOUTH LEG 2 CUT OUT	
	EB	WB	EB	WB	NB	SB	NB	SB	EB	WB
7:00 AM	1	1	2	0	0	0	0	1	2	0
7:15 AM	0	0	1	1	0	1	0	0	0	0
7:30 AM	0	0	1	1	1	0	0	0	1	1
7:45 AM	0	1	0	0	0	0	1	0	0	0
8:00 AM	1	0	0	3	1	0	1	1	0	4
8:15 AM	0	0	0	1	0	0	0	0	0	1
8:30 AM	0	0	0	1	1	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0
9:15 AM	0	0	1	0	1	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	1	1	1	1	2	2	0	1
TOTAL VOLUMES :	EB 2	WB 2	EB 6	WB 8	NB 5	SB 2	NB 4	SB 4	EB 3	WB 8
APPROACH %'s :	50.00%	50.00%	42.86%	57.14%	71.43%	28.57%	50.00%	50.00%	27.27%	72.73%
PEAK HR :	07:45 AM - 08:45 AM									
PEAK HR VOL :	1	1	0	5	2	0	2	1	0	6
PEAK HR FACTOR :	0.250	0.250	0.417	0.417	0.500	0.500	0.500	0.250	0.375	0.375
	0.500		0.417		0.500		0.375		0.375	
TOTAL										
18										
0.409										
PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		SOUTH LEG 2 CUT OUT	
	EB	WB	EB	WB	NB	SB	NB	SB	EB	WB
3:45 PM	0	0	4	3	1	0	3	2	3	3
4:00 PM	0	1	0	2	0	2	0	1	0	1
4:15 PM	0	2	0	0	0	0	0	0	0	0
4:30 PM	0	1	0	1	1	6	0	0	6	1
4:45 PM	0	0	4	0	0	1	0	2	4	0
5:00 PM	0	1	2	1	2	0	4	0	1	3
5:15 PM	1	1	1	0	1	1	1	0	1	0
5:30 PM	1	1	5	2	2	0	4	6	2	2
5:45 PM	3	8	0	3	1	2	6	2	1	2
6:00 PM	1	4	6	3	2	0	0	2	4	4
6:15 PM	1	7	1	0	0	0	0	0	1	0
6:30 PM	0	3	3	0	2	0	0	1	1	0
TOTAL VOLUMES :	EB 7	WB 29	EB 26	WB 15	NB 12	SB 12	NB 18	SB 16	EB 24	WB 16
APPROACH %'s :	19.44%	80.56%	63.41%	36.59%	50.00%	50.00%	52.94%	47.06%	60.00%	40.00%
PEAK HR :	04:30 PM - 05:30 PM									
PEAK HR VOL :	1	3	7	2	4	8	5	2	12	4
PEAK HR FACTOR :	0.250	0.750	0.438	0.500	0.500	0.333	0.313	0.250	0.500	0.333
	0.500		0.563		0.429		0.438		0.571	
TOTAL										
48										
0.750										

Hamilton Ave & Virginia Ave

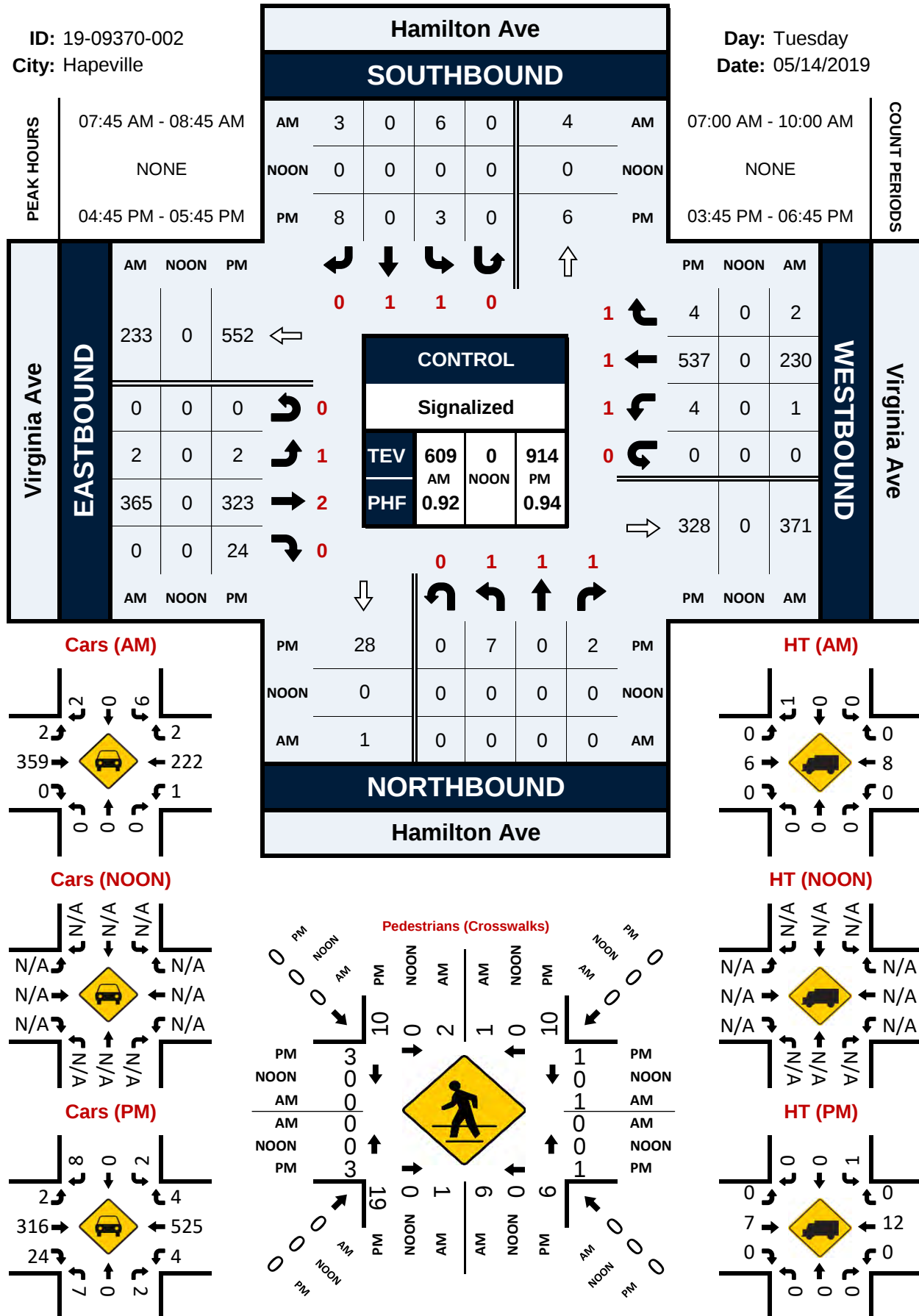
Peak Hour Turning Movement Count

ID: 19-09370-002

City: Hapeville

Day: Tuesday

Date: 05/14/2019



National Data & Surveying Services

Intersection Turning Movement Count

Location: Hamilton Ave & Virginia Ave
City: Hapeville
Control: Signalized

Project ID: 19-09370-002
Date: 5/14/2019

Total

NS/EW Streets:	Hamilton Ave				Hamilton Ave				Virginia Ave				Virginia Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	1 NT	1 NR	0 NU	1 SL	1 ST	0 SR	0 SU	1 EL	2 ET	0 ER	0 EU	1 WL	1 WT	1 WR	0 WU	
7:00 AM	0	0	0	0	1	0	0	0	1	67	0	0	0	46	0	0	115
7:15 AM	0	0	0	0	3	0	0	0	0	70	0	0	1	45	0	0	119
7:30 AM	0	0	0	0	0	0	1	0	0	74	0	0	0	57	0	0	132
7:45 AM	0	0	0	0	1	0	0	0	1	81	0	0	0	60	2	0	145
8:00 AM	0	0	0	0	2	0	0	0	0	85	0	0	0	51	0	0	138
8:15 AM	0	0	0	0	2	0	2	0	1	103	0	0	1	52	0	0	161
8:30 AM	0	0	0	0	1	0	1	0	0	96	0	0	0	67	0	0	165
8:45 AM	0	0	0	0	1	0	0	0	1	77	0	0	0	52	1	0	132
9:00 AM	0	0	0	0	0	1	0	0	0	59	0	0	1	46	0	0	107
9:15 AM	1	0	0	0	0	0	0	0	0	62	2	0	0	46	1	0	112
9:30 AM	1	0	0	0	2	0	2	0	1	61	0	1	0	49	1	0	118
9:45 AM	0	0	0	0	0	0	0	0	1	65	1	0	1	46	0	0	114
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	2	0	0	0	13	1	6	0	6	900	3	1	4	617	5	0	1558
	100.00%	0.00%	0.00%	0.00%	65.00%	5.00%	30.00%	0.00%	0.66%	98.90%	0.33%	0.11%	0.64%	98.56%	0.80%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM				6	0	3	0	2	365	0	0	1	230	2	0	TOTAL
PEAK HR VOL :	0	0	0	0	0.750	0.000	0.375	0.000	0.500	0.886	0.000	0.000	0.250	0.858	0.250	0.000	609
PEAK HR FACTOR :	0.000	0.000	0.000	0.000		0.563				0.882				0.869			0.923

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	1 NT	1 NR	0 NU	1 SL	1 ST	0 SR	0 SU	1 EL	2 ET	0 ER	0 EU	1 WL	1 WT	1 WR	0 WU	
3:45 PM	1	0	0	0	1	0	2	0	0	71	3	0	1	108	1	0	188
4:00 PM	4	0	0	0	0	0	0	0	1	78	7	0	1	95	0	0	186
4:15 PM	5	0	2	0	1	0	1	0	1	83	3	0	1	108	2	0	207
4:30 PM	3	0	1	0	0	0	0	0	2	91	6	0	2	110	0	0	215
4:45 PM	0	0	0	0	0	0	5	0	0	74	4	0	1	120	1	0	205
5:00 PM	2	0	0	0	1	0	3	0	0	70	8	0	0	145	1	0	230
5:15 PM	2	0	0	0	1	0	0	0	1	95	4	0	0	139	2	0	244
5:30 PM	3	0	2	0	1	0	0	0	1	84	8	0	3	133	0	0	235
5:45 PM	4	0	0	0	1	0	1	0	0	89	3	0	1	90	1	0	190
6:00 PM	1	0	1	0	2	0	0	0	1	76	4	0	1	90	4	0	180
6:15 PM	4	1	1	0	0	0	3	0	1	77	5	0	0	100	1	0	193
6:30 PM	0	0	1	0	2	0	2	0	4	67	7	0	1	85	3	0	172
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	29	1	8	0	10	0	17	0	12	955	62	0	12	1323	16	0	2445
	76.32%	2.63%	21.05%	0.00%	37.04%	0.00%	62.96%	0.00%	1.17%	92.81%	6.03%	0.00%	0.89%	97.93%	1.18%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM				3	0	8	0	2	323	24	0	4	537	4	0	TOTAL
PEAK HR VOL :	7	0	2	0	0.750	0.000	0.400	0.000	0.500	0.850	0.750	0.000	0.333	0.926	0.500	0.000	914
PEAK HR FACTOR :	0.583	0.000	0.250	0.000		0.550				0.873				0.933			0.936

National Data & Surveying Services

Location: Hamilton Ave & Virginia Ave

City: Hapeville

Project ID: 19-09370-002

Cars

NS/EW Streets:		Hamilton Ave				Hamilton Ave				Virginia Ave				Virginia Ave				
AM		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
		1 NL	1 NT	1 NR	0 NU	1 SL	1 ST	0 SR	0 SU	1 EL	2 ET	0 ER	0 EU	1 WL	1 WT	1 WR	0 WU	TOTAL
	7:00 AM	0	0	0	0	1	0	0	0	1	67	0	0	0	43	0	0	112
	7:15 AM	0	0	0	0	2	0	0	0	0	68	0	0	1	45	0	0	116
	7:30 AM	0	0	0	0	1	0	1	0	0	70	0	0	0	54	0	0	125
	7:45 AM	0	0	0	0	1	0	0	0	1	80	0	0	0	60	2	0	144
	8:00 AM	0	0	0	0	2	0	0	0	0	85	0	0	1	49	0	0	136
	8:15 AM	0	0	0	0	2	0	1	0	1	101	0	0	1	47	0	0	153
	8:30 AM	0	0	0	0	1	0	1	0	0	93	0	0	0	66	0	0	161
	8:45 AM	0	0	0	0	1	0	0	0	1	77	0	0	0	48	1	0	128
9:00 AM	0	0	0	0	0	1	0	0	0	56	0	0	1	42	0	0	100	
9:15 AM	1	0	0	0	0	0	0	0	0	61	2	0	0	44	1	0	109	
9:30 AM	1	0	0	0	2	0	2	0	1	59	0	1	0	46	1	0	113	
9:45 AM	0	0	0	0	0	0	0	0	1	60	1	0	0	42	0	0	105	
TOTAL VOLUMES:		NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s:		100.00%	0.00%	0.00%	0.00%	66.67%	5.56%	27.78%	0.00%	6.68%	98.87%	0.34%	0.11%	0.67%	98.49%	0.84%	0.00%	1502
PEAK HR:		07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL:		0	0	0	0	6	0	2	0	2	359	0	0	1	222	2	0	594
PEAK HR FACTOR:		0.00	0.000	0.000	0.000	0.750	0.000	0.500	0.000	0.500	0.889	0.000	0.000	0.250	0.841	0.250	0.000	0.922

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	1 NT	1 NR	0 NU	1 SL	1 ST	0 SR	0 SU	1 EL	2 ET	0 ER	0 EU	1 WL	1 WT	1 WR	0 WU	
3:45 PM	1	0	0	0	0	0	2	0	0	64	3	0	1	106	1	0	178
4:00 PM	4	0	0	0	0	0	0	0	1	76	7	0	1	94	0	0	183
4:15 PM	5	0	2	0	1	0	1	0	1	80	3	0	1	106	2	0	202
4:30 PM	3	0	1	0	0	0	0	0	2	90	6	0	2	108	0	0	212
4:45 PM	0	0	0	0	0	0	5	0	0	74	4	0	1	118	1	0	203
5:00 PM	2	0	0	0	0	0	3	0	0	68	8	0	0	143	1	0	225
5:15 PM	2	0	0	0	1	0	0	0	1	92	4	0	0	135	2	0	237
5:30 PM	3	0	2	0	1	0	0	0	1	82	8	0	3	129	0	0	229
5:45 PM	4	0	0	0	1	0	1	0	0	83	3	0	1	89	1	0	183
6:00 PM	1	0	1	0	2	0	0	0	1	73	4	0	1	88	4	0	175
6:15 PM	4	1	1	0	0	0	3	0	1	76	5	0	0	95	1	0	187
6:30 PM	0	0	1	0	2	0	2	0	4	65	7	0	1	83	3	0	168
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	79.32%	2.63%	21.05%	0.00%	32.00%	0.00%	68.00%	0.00%	1.20%	92.58%	6.22%	0.00%	0.91%	97.88%	1.21%	0.00%	2382
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	7	0	2	0	2	0	8	0	2	316	24	0	4	525	4	0	894
PEAK HR FACTOR :	0.58	0.000	0.250	0.000	0.500	0.000	0.400	0.000	0.500	0.859	0.750	0.000	0.333	0.918	0.500	0.000	0.943

National Data & Surveying Services

Intersection Turning Movement Count

Location: Hamilton Ave & Virginia Ave
City: Hapeville
Control: Signalized

Project ID: 19-09370-002
Date: 5/14/2019

HT

NS/EW Streets:	Hamilton Ave				Hamilton Ave				Virginia Ave				Virginia Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	1 NT	1 NR	0 NU	1 SL	1 ST	0 SR	0 SU	1 EL	2 ET	0 ER	0 EU	1 WL	1 WT	1 WR	0 WU	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3
7:15 AM	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0	0	3
7:30 AM	0	0	0	0	0	0	0	0	0	4	0	0	0	3	0	0	7
7:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
8:15 AM	0	0	0	0	0	0	1	0	0	2	0	0	0	5	0	0	8
8:30 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	1	0	0	4
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4
9:00 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	4	0	0	7
9:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	3
9:30 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	3	0	0	5
9:45 AM	0	0	0	0	0	0	0	0	0	5	0	0	0	4	0	0	9
TOTAL VOLUMES :	NL 0	NT 0	NR 0	NU 0	SL 1	ST 0	SR 1	SU 0	EL 0	ET 23	ER 0	EU 0	WL 0	WT 31	WR 0	WU 0	TOTAL 56
APPROACH %'s :	50.00%				0.00%				100.00%				0.00%				
PEAK HR :	07:45 AM - 08:45 AM				0				0				0				TOTAL 15
PEAK HR VOL :	0	0	0	0	0	0	1	0	0	6	0	0	0	8	0	0	
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.500	0.000	0.000	0.000	0.400	0.000	0.000	0.469
	0.250				0.500				0.400								

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	1 NL	1 NT	1 NR	0 NU	1 SL	1 ST	0 SR	0 SU	1 EL	2 ET	0 ER	0 EU	1 WL	1 WT	1 WR	0 WU	
3:45 PM	0	0	0	0	1	0	0	0	0	7	0	0	0	2	0	0	10
4:00 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	3
4:15 PM	0	0	0	0	0	0	0	0	0	3	0	0	0	2	0	0	5
4:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	3
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
5:00 PM	0	0	0	0	1	0	0	0	0	2	0	0	0	2	0	0	5
5:15 PM	0	0	0	0	0	0	0	0	0	3	0	0	0	4	0	0	7
5:30 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	4	0	0	6
5:45 PM	0	0	0	0	0	0	0	0	0	6	0	0	0	1	0	0	7
6:00 PM	0	0	0	0	0	0	0	0	0	3	0	0	0	2	0	0	5
6:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	5	0	0	6
6:30 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	4
TOTAL VOLUMES :	NL 0	NT 0	NR 0	NU 0	SL 2	ST 0	SR 0	SU 0	EL 0	ET 32	ER 0	EU 0	WL 0	WT 29	WR 0	WU 0	TOTAL 63
APPROACH %'s :	100.00%				0.00%				100.00%				0.00%				
PEAK HR :	04:45 PM - 05:45 PM				1				0				0				TOTAL 20
PEAK HR VOL :	0	0	0	0	1	0	0	0	0	7	0	0	0	12	0	0	
PEAK HR FACTOR :	0.00	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.583	0.000	0.000	0.000	0.750	0.000	0.000	0.714
	0.250				0.583				0.750								

National Data & Surveying Services

Intersection Turning Movement Count

Location: Hamilton Ave & Virginia Ave
City: Hapeville

Project ID: 19-09370-002
Date: 5/14/2019

Pedestrians (Crosswalks)

NS/EW Streets:	Hamilton Ave		Hamilton Ave		Virginia Ave		Virginia Ave		
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
7:00 AM	2	0	1	1	0	0	1	0	5
7:15 AM	0	0	1	2	0	1	0	0	4
7:30 AM	1	0	1	1	0	0	0	0	3
7:45 AM	0	1	1	1	0	0	0	0	3
8:00 AM	1	0	0	3	0	1	0	0	5
8:15 AM	1	0	0	1	0	0	0	0	2
8:30 AM	0	0	0	1	0	0	0	0	1
8:45 AM	0	3	0	0	0	0	0	0	3
9:00 AM	0	1	0	0	0	0	0	0	1
9:15 AM	0	0	1	0	0	0	0	0	1
9:30 AM	3	0	1	2	0	1	0	0	7
9:45 AM	0	0	0	0	0	0	1	0	1
TOTAL VOLUMES :	EB 8	WB 5	EB 6	WB 12	NB 0	SB 3	NB 2	SB 0	TOTAL 36
APPROACH %'s :	61.54%	38.46%	33.33%	66.67%	0.00%	100.00%	100.00%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM								TOTAL
PEAK HR VOL :	2	1	1	6	0	1	0	0	11
PEAK HR FACTOR :	0.500	0.250	0.250	0.500		0.250			0.550
	0.750		0.583		0.250				

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		TOTAL
	EB	WB	EB	WB	NB	SB	NB	SB	
3:45 PM	2	4	3	1	0	0	0	1	11
4:00 PM	8	4	0	4	5	3	0	0	24
4:15 PM	1	2	0	3	1	0	0	0	7
4:30 PM	0	2	0	2	0	1	1	0	6
4:45 PM	0	0	5	1	0	0	0	3	9
5:00 PM	6	3	4	1	0	1	3	0	18
5:15 PM	2	4	3	6	1	0	0	0	16
5:30 PM	2	3	7	1	0	0	0	0	13
5:45 PM	5	9	7	5	0	0	1	0	27
6:00 PM	4	7	5	3	1	0	0	0	20
6:15 PM	1	10	2	1	0	0	0	0	14
6:30 PM	2	4	2	1	2	2	0	0	13
TOTAL VOLUMES :	EB 33	WB 52	EB 38	WB 29	NB 10	SB 7	NB 5	SB 4	TOTAL 178
APPROACH %'s :	38.82%	61.18%	56.72%	43.28%	58.82%	41.18%	55.56%	44.44%	
PEAK HR :	04:45 PM - 05:45 PM								TOTAL
PEAK HR VOL :	10	10	19	9	1	1	3	3	56
PEAK HR FACTOR :	0.417	0.625	0.679	0.375	0.250	0.250	0.250	0.250	0.778
	0.556		0.778		0.500		0.500		

CLASSIFICATION

Virginia Ave W/O Hamilton Ave

Day: Tuesday
Date: 5/14/2019

City: Hapeville
Project #: GA19_9371_001

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	114	11	1	6	0	0	0	0	0	0	0	0	132
01:00	0	76	8	0	0	0	0	0	0	0	0	0	0	84
02:00	0	58	7	0	0	0	0	0	0	0	0	0	0	65
03:00	0	36	6	0	3	0	0	0	1	0	0	0	0	46
04:00	1	95	16	2	3	0	0	0	1	0	0	0	0	118
05:00	0	216	35	1	7	0	0	0	1	0	0	0	0	260
06:00	0	273	47	2	11	0	0	0	1	0	0	0	0	334
07:00	0	417	50	2	11	0	0	0	0	0	0	0	0	480
08:00	1	486	59	3	13	1	0	1	0	0	0	0	0	564
09:00	1	354	51	3	19	1	0	1	0	0	0	0	0	430
10:00	0	330	57	3	22	0	0	0	0	0	0	0	0	412
11:00	1	629	98	6	29	4	0	1	1	0	0	0	0	769
12:00 PM	3	816	128	2	36	0	0	1	0	0	0	0	0	986
13:00	0	697	120	6	31	0	0	1	0	0	0	0	0	855
14:00	1	604	94	8	20	1	0	0	0	0	0	0	0	728
15:00	0	625	91	5	23	1	0	0	0	0	0	0	0	745
16:00	0	667	105	2	11	1	0	0	0	0	0	0	0	786
17:00	1	751	105	5	18	0	0	1	0	0	0	0	0	881
18:00	0	543	83	5	15	0	0	0	0	0	0	0	0	646
19:00	0	473	63	2	15	0	0	0	1	0	0	0	0	554
20:00	0	362	50	1	12	0	0	0	0	0	0	0	0	425
21:00	0	290	39	1	8	1	0	0	0	0	0	0	0	339
22:00	0	235	28	0	4	0	0	0	0	0	0	0	0	267
23:00	0	208	29	0	10	1	0	0	0	0	0	0	0	248
Totals	9	9355	1380	60	327	11		6	6					11154
% of Totals	0%	84%	12%	1%	3%	0%		0%	0%					100%

AM Volumes	4	3084	445	23	124	6	0	3	5	0	0	0	0	3694
% AM	0%	28%	4%	0%	1%	0%		0%	0%					33%
AM Peak Hour	04:00	11:00	11:00	11:00	11:00	11:00		08:00	03:00					11:00
Volume	1	629	98	6	29	4		1	1					769
PM Volumes	5	6271	935	37	203	5	0	3	1	0	0	0	0	7460
% PM	0%	56%	8%	0%	2%	0%		0%	0%					67%
PM Peak Hour	12:00	12:00	12:00	14:00	12:00	14:00		12:00	19:00					12:00
Volume	3	816	128	8	36	1		1	1					986

Directional Peak Periods All Classes	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
	Volume		%	Volume		%	Volume		%	Volume		%
	1044	↔	9%	1841	↔	17%	1667	↔	15%	6602	↔	59%

Classification Definitions

1 Motorcycles	4 Buses	7 >=4-Axle Single Units	10 >=6-Axle Single Trailers	13 >=7-Axle Multi-Trailers
2 Passenger Cars	5 2-Axle, 6-Tire Single Units	8 <=4-Axle Single Trailers	11 <=5-Axle Multi-Trailers	
3 2-Axle, 4-Tire Single Units	6 3-Axle Single Units	9 5-Axle Single Trailers	12 6-Axle Multi-Trailers	

VOLUME

Virginia Ave W/O Hamilton Ave

Day: Tuesday
Date: 5/14/2019

City: Hapeville
Project #: GA19_9371_001

DAILY TOTALS						NB	SB	EB						WB	Total
						0	0							5,550	5,604
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL			
00:00	0	0	12	27	39		12:00	0	0	131	104	235			
00:15	0	0	13	16	29		12:15	0	0	136	127	263			
00:30	0	0	21	16	37		12:30	0	0	109	99	208			
00:45	0	0	13	59	14	73	12:45	0	0	143	519	137	467	280	986
01:00	0	0	8	14	22		13:00	0	0	126	116	242			
01:15	0	0	9	8	17		13:15	0	0	135	106	241			
01:30	0	0	15	11	26		13:30	0	0	101	87	188			
01:45	0	0	7	39	12	45	13:45	0	0	89	451	95	404	184	855
02:00	0	0	10	10	20		14:00	0	0	91	80	171			
02:15	0	0	11	11	22		14:15	0	0	91	102	193			
02:30	0	0	5	8	13		14:30	0	0	96	84	180			
02:45	0	0	6	32	4	33	14:45	0	0	92	370	92	358	184	728
03:00	0	0	4	7	11		15:00	0	0	88	97	185			
03:15	0	0	1	10	11		15:15	0	0	106	83	189			
03:30	0	0	5	5	10		15:30	0	0	83	98	181			
03:45	0	0	6	16	8	30	15:45	0	0	80	357	110	388	190	745
04:00	0	0	9	7	16		16:00	0	0	88	90	178			
04:15	0	0	13	19	32		16:15	0	0	86	107	193			
04:30	0	0	14	11	25		16:30	0	0	106	110	216			
04:45	0	0	21	57	24	61	16:45	0	0	81	361	118	425	199	786
05:00	0	0	27	19	46		17:00	0	0	86	153	239			
05:15	0	0	36	34	70		17:15	0	0	95	136	231			
05:30	0	0	39	26	65		17:30	0	0	88	139	227			
05:45	0	0	40	142	39	118	17:45	0	0	92	361	92	520	184	881
06:00	0	0	34	41	75		18:00	0	0	75	91	166			
06:15	0	0	34	42	76		18:15	0	0	64	109	173			
06:30	0	0	48	38	86		18:30	0	0	80	79	159			
06:45	0	0	49	165	48	169	18:45	0	0	54	273	94	373	148	646
07:00	0	0	67	43	110		19:00	0	0	86	84	170			
07:15	0	0	70	41	111		19:15	0	0	64	80	144			
07:30	0	0	66	56	122		19:30	0	0	58	69	127			
07:45	0	0	78	281	59	199	19:45	0	0	49	257	64	297	113	554
08:00	0	0	76	49	125		20:00	0	0	53	65	118			
08:15	0	0	104	52	156		20:15	0	0	37	45	82			
08:30	0	0	94	64	158		20:30	0	0	65	62	127			
08:45	0	0	74	348	51	216	20:45	0	0	47	202	51	223	98	425
09:00	0	0	59	49	108		21:00	0	0	51	47	98			
09:15	0	0	60	42	102		21:15	0	0	31	52	83			
09:30	0	0	60	49	109		21:30	0	0	42	48	90			
09:45	0	0	64	243	47	187	21:45	0	0	31	155	37	184	68	339
10:00	0	0	59	54	113		22:00	0	0	29	38	67			
10:15	0	0	64	44	108		22:15	0	0	29	39	68			
10:30	0	0	37	39	76		22:30	0	0	24	33	57			
10:45	0	0	67	227	48	185	22:45	0	0	38	120	37	147	75	267
11:00	0	0	85	83	168		23:00	0	0	29	49	78			
11:15	0	0	89	90	179		23:15	0	0	34	36	70			
11:30	0	0	102	88	190		23:30	0	0	33	34	67			
11:45	0	0	127	403	105	366	23:45	0	0	16	112	17	136	33	248
TOTALS	2012 1682						3694	TOTALS	3538 3922						7460
SPLIT %	54.5% 45.5%						33.1%	SPLIT %	47.4% 52.6%						66.9%

DAILY TOTALS				NB	SB	EB				WB				Total			
				0	0									5,550	5,604	11,154	
AM Peak Hour				11:45	11:45	11:45	PM Peak Hour				12:00	16:45	12:15				
AM Pk Volume				503	435	938	PM Pk Volume				519	546	993				
Pk Hr Factor				0.925	0.856	0.892	Pk Hr Factor				0.907	0.892	0.887				
7 - 9 Volume				0	0	629	415	1044	4 - 6 Volume				0	0	722	945	1667
7 - 9 Peak Hour						07:45	07:45	07:45	4 - 6 Peak Hour						16:30	16:45	16:45
7 - 9 Pk Volume				0	0	352	224	576	4 - 6 Pk Volume				0	0	368	546	896
Pk Hr Factor				0.000	0.000	0.846	0.875	0.911	Pk Hr Factor				0.000	0.000	0.868	0.892	0.937

CLASSIFICATION
Virginia Ave W/O Hamilton Ave

City: Hapeville
Project #: GA19_9371_001

[illegible]

CLASSIFICATION
Virginia Ave W/O Hamilton Ave

City: Hapeville
Project #: GA19_9371_001

[illegible]

Totals	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
	9	9355	1380	60	327	11		6	6					11154
% of Totals	0%	84%	12%	1%	3%	0%		0%	0%					100%
AM Volumes	4	3084	445	23	124	6	0	3	3	0	0	0	0	3694
% AM	0%	28%	4%	0%	1%	0%		0%	0%					33%
AM Peak Hour	11:45	11:45	11:45	11:30	10:45	11:00		11:45	02:15					11:45
Volume	3	773	123	7	31	4		2	1					938
PM Volumes	5	6271	935	37	203	5	0	3	1	0	0	0	0	7460
% PM	0%	56%	8%	0%	2%	0%		0%	0%					67%
PM Peak Hour	12:00	12:00	12:15	13:30	12:15	14:15		12:00	18:30					12:15
Volume	3	816	141	8	39	2		1	1					993

Directional Peak Periods All Classes	AM 7-9		NOON 12-2		PM 4-6		Off Peak Volumes	
	Volume	%	Volume	%	Volume	%	Volume	%
	1044	9%	1841	17%	1667	15%	6602	59%

Classification Definitions				
1 Motorcycles	4 Buses	7 >=4-Axle Single Units	10 >=6-Axle Single Trailers	13 >=7-Axle Multi-Trailers
2 Passenger Cars	5 2-Axle, 6-Tire Single Units	8 <=4-Axle Single Trailers	11 <=5-Axle Multi-Trailers	
3 2-Axle, 4-Tire Single Units	6 3-Axle Single Units	9 5-Axle Single Trailers	12 6-Axle Multi-Trailers	

CLASSIFICATION

Virginia Ave W/O Hamilton Ave

Day: Wednesday
Date: 5/15/2019

City: Hapeville
Project #: GA19_9371_001

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	107	14	0	7	0	0	0	0	0	0	0	0	128
01:00	0	53	8	0	1	0	0	0	0	0	0	0	0	62
02:00	0	39	5	0	1	0	0	0	1	0	0	0	0	46
03:00	0	39	6	0	0	1	0	0	0	0	0	0	0	46
04:00	0	78	9	3	3	0	0	0	0	0	0	0	0	93
05:00	1	205	32	1	13	0	0	0	0	0	0	0	0	252
06:00	0	263	46	6	13	2	0	0	0	0	0	0	0	330
07:00	0	384	68	4	13	1	0	0	1	0	0	0	0	471
08:00	0	464	79	3	20	3	0	0	0	0	0	0	0	569
09:00	1	362	79	6	16	0	0	0	2	0	0	0	0	466
10:00	0	419	80	2	22	1	0	1	0	0	0	0	0	525
11:00	2	588	114	2	31	0	0	1	0	0	0	0	0	738
12:00 PM	2	830	156	5	29	0	0	1	1	0	0	0	0	1024
13:00	1	713	127	7	34	1	0	2	0	0	0	0	0	885
14:00	0	607	120	7	29	2	0	0	0	0	0	0	0	765
15:00	0	617	118	3	27	2	0	1	0	0	0	0	0	768
16:00	0	658	123	6	28	0	0	0	0	0	0	0	0	815
17:00	1	750	129	3	30	0	0	0	0	0	0	0	0	913
18:00	2	576	86	8	19	0	0	0	0	0	0	0	0	691
19:00	0	434	69	1	11	0	0	0	0	0	0	0	0	515
20:00	0	391	72	0	8	0	0	0	0	0	0	0	0	471
21:00	1	274	47	2	13	0	0	0	0	0	0	0	0	337
22:00	0	234	42	1	11	0	0	0	0	0	0	0	0	288
23:00	0	198	33	0	11	0	0	0	0	0	0	0	0	242
Totals	11	9283	1662	70	390	13		6	5					11440
% of Totals	0%	81%	15%	1%	3%	0%		0%	0%					100%

AM Volumes	4	3001	540	27	140	8	0	2	4	0	0	0	0	3726
% AM	0%	26%	5%	0%	1%	0%		0%	0%					33%
AM Peak Hour	11:00	11:00	11:00	06:00	11:00	08:00		10:00	09:00					11:00
Volume	2	588	114	6	31	3		1	2					738
PM Volumes	7	6282	1122	43	250	5	0	4	1	0	0	0	0	7714
% PM	0%	55%	10%	0%	2%	0%		0%	0%					67%
PM Peak Hour	12:00	12:00	12:00	18:00	13:00	14:00		13:00	12:00					12:00
Volume	2	830	156	8	34	2		2	1					1024

Directional Peak Periods All Classes	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
	Volume		%	Volume		%	Volume		%	Volume		%
	1040	↔	9%	1909	↔	17%	1728	↔	15%	6763	↔	59%

Classification Definitions

1 Motorcycles	4 Buses	7 >=4-Axle Single Units	10 >=6-Axle Single Trailers	13 >=7-Axle Multi-Trailers
2 Passenger Cars	5 2-Axle, 6-Tire Single Units	8 <=4-Axle Single Trailers	11 <=5-Axle Multi-Trailers	
3 2-Axle, 4-Tire Single Units	6 3-Axle Single Units	9 5-Axle Single Trailers	12 6-Axle Multi-Trailers	

VOLUME

Virginia Ave W/O Hamilton Ave

Day: Wednesday
Date: 5/15/2019

City: Hapeville
Project #: GA19_9371_001

DAILY TOTALS					NB	SB	EB					WB	Total		
					0	0						5,646	5,794	11,440	
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL			
00:00	0	0	17	21	38		12:00	0	0	105	124	229			
00:15	0	0	9	26	35		12:15	0	0	142	138	280			
00:30	0	0	13	18	31		12:30	0	0	143	120	263			
00:45	0	0	12	51	12	77	12:45	0	0	128	518	124	506	252	1024
01:00	0	0	9	9	18		13:00	0	0	115	100	215			
01:15	0	0	6	11	17		13:15	0	0	116	115	231			
01:30	0	0	1	6	7		13:30	0	0	123	95	218			
01:45	0	0	6	22	14	40	13:45	0	0	117	471	104	414	221	885
02:00	0	0	7	5	12		14:00	0	0	96	117	213			
02:15	0	0	3	6	9		14:15	0	0	84	99	183			
02:30	0	0	3	7	10		14:30	0	0	105	86	191			
02:45	0	0	10	23	5	23	14:45	0	0	74	359	104	406	178	765
03:00	0	0	2	3	5		15:00	0	0	86	112	198			
03:15	0	0	1	9	10		15:15	0	0	91	85	176			
03:30	0	0	7	8	15		15:30	0	0	85	96	181			
03:45	0	0	6	16	10	30	15:45	0	0	105	367	108	401	213	768
04:00	0	0	6	5	11		16:00	0	0	88	101	189			
04:15	0	0	7	11	18		16:15	0	0	86	110	196			
04:30	0	0	18	10	28		16:30	0	0	88	118	206			
04:45	0	0	21	52	15	41	16:45	0	0	103	365	121	450	224	815
05:00	0	0	27	23	50		17:00	0	0	87	145	232			
05:15	0	0	35	30	65		17:15	0	0	120	134	254			
05:30	0	0	26	35	61		17:30	0	0	91	136	227			
05:45	0	0	35	123	41	129	17:45	0	0	96	394	104	519	200	913
06:00	0	0	27	41	68		18:00	0	0	74	111	185			
06:15	0	0	30	36	66		18:15	0	0	79	97	176			
06:30	0	0	60	32	92		18:30	0	0	73	101	174			
06:45	0	0	59	176	45	154	18:45	0	0	77	303	79	388	156	691
07:00	0	0	53	41	94		19:00	0	0	66	69	135			
07:15	0	0	74	41	115		19:15	0	0	58	94	152			
07:30	0	0	72	50	122		19:30	0	0	50	60	110			
07:45	0	0	86	285	54	186	19:45	0	0	56	230	62	285	118	515
08:00	0	0	70	54	124		20:00	0	0	59	72	131			
08:15	0	0	88	60	148		20:15	0	0	51	55	106			
08:30	0	0	97	54	151		20:30	0	0	65	68	133			
08:45	0	0	85	340	61	229	20:45	0	0	45	220	56	251	101	471
09:00	0	0	72	48	120		21:00	0	0	49	57	106			
09:15	0	0	64	51	115		21:15	0	0	35	49	84			
09:30	0	0	66	50	116		21:30	0	0	33	48	81			
09:45	0	0	68	270	47	196	21:45	0	0	27	144	39	193	66	337
10:00	0	0	70	55	125		22:00	0	0	39	39	78			
10:15	0	0	74	56	130		22:15	0	0	28	29	57			
10:30	0	0	62	65	127		22:30	0	0	37	51	88			
10:45	0	0	79	285	64	240	22:45	0	0	36	140	29	148	65	288
11:00	0	0	76	78	154		23:00	0	0	41	36	77			
11:15	0	0	85	96	181		23:15	0	0	25	32	57			
11:30	0	0	94	111	205		23:30	0	0	28	26	54			
11:45	0	0	121	376	77	362	23:45	0	0	22	116	32	126	54	242
TOTALS	2019				1707	3726	TOTALS	3627				4087	7714		
SPLIT %	54.2%				45.8%	32.6%	SPLIT %	47.0%				53.0%	67.4%		

DAILY TOTALS					NB	SB						EB	WB						Total
					0	0						5,646	5,794						11,440
AM Peak Hour	11:45				11:45	11:45	PM Peak Hour	12:15				12:15	16:45	12:00					
AM Pk Volume	511				459	970	PM Pk Volume	528				536	1024						
Pk Hr Factor	0.893				0.832	0.866	Pk Hr Factor	0.923				0.924	0.914						
7 - 9 Volume	0	0	625	415	1040		4 - 6 Volume	0	0	759	969	1728							
7 - 9 Peak Hour	07:45				08:00	08:00	4 - 6 Peak Hour	16:45				16:45	16:45	16:45					
7 - 9 Pk Volume	0	0	341	229	569		4 - 6 Pk Volume	0	0	401	536	937							
Pk Hr Factor	0.000	0.000	0.879	0.939	0.942		Pk Hr Factor	0.000	0.000	0.835	0.924	0.922							

Prepared by National Data & Surveying Services

CLASSIFICATION

Virginia Ave W/O Hamilton Ave

Day: Wednesday

Date: 5/15/2019

City: Hapeville

Project #: GA19_9371_001

Summary

[illegible]

CLASSIFICATION
Virginia Ave W/O Hamilton Ave

City: Hapeville
Project #: GA19_9371_001

[illegible]

Totals	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
	11	9283	1662	70	390	13		6	5					11440
% of Totals	0%	81%	15%	1%	3%	0%		0%	0%					100%
AM Volumes	4	3001	540	27	140	8	0	2	4	0	0	0	0	3726
% AM	0%	26%	5%	0%	1%	0%		0%	0%					33%
AM Peak Hour	10:15	11:45	11:45	06:45	10:30	07:45		11:30	09:00					11:45
Volume	2	780	152	7	33	4		2	2					970
PM Volumes	7	6282	1122	43	250	5	0	4	1	0	0	0	0	7714
% PM	0%	55%	10%	0%	2%	0%		0%	0%					67%
PM Peak Hour	17:30	12:00	12:00	17:45	13:15	13:45		12:45	12:00					12:00
Volume	3	830	156	9	36	3		2	1					1024

Directional Peak Periods All Classes	AM 7-9		NOON 12-2		PM 4-6		Off Peak Volumes	
	Volume	%	Volume	%	Volume	%	Volume	%
	1040	9%	1909	17%	1728	15%	6763	59%

Classification Definitions				
1 Motorcycles	4 Buses	7 >=4-Axle Single Units	10 >=6-Axle Single Trailers	13 >=7-Axle Multi-Trailers
2 Passenger Cars	5 2-Axle, 6-Tire Single Units	8 <=4-Axle Single Trailers	11 <=5-Axle Multi-Trailers	
3 2-Axle, 4-Tire Single Units	6 3-Axle Single Units	9 5-Axle Single Trailers	12 6-Axle Multi-Trailers	

CLASSIFICATION

Hamilton Ave N/O Virginia Ave

Day: Tuesday

City: Hapeville

Date: 5/14/2019

Project #: GA19_9371_002

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	2	0	0	0	0	0	0	0	0	0	0	0	2
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
07:00	0	9	0	1	0	0	0	0	0	0	0	0	0	10
08:00	0	10	0	0	1	0	0	0	0	0	0	0	0	11
09:00	0	10	0	0	0	0	0	0	0	0	0	0	0	10
10:00	0	12	1	0	0	0	0	0	0	0	0	0	0	13
11:00	0	5	3	0	0	0	0	0	0	0	0	0	0	8
12:00 PM	0	22	6	1	1	0	0	0	0	0	0	0	0	30
13:00	0	21	4	0	0	0	0	0	0	0	0	0	0	25
14:00	0	17	1	0	2	0	0	0	0	0	0	0	0	20
15:00	0	16	2	0	1	0	0	0	0	0	0	0	0	19
16:00	0	14	1	0	0	0	0	0	0	0	0	0	0	15
17:00	0	17	3	0	1	0	0	0	0	0	0	0	0	21
18:00	0	23	2	0	0	0	0	0	0	0	0	0	0	25
19:00	0	7	3	0	0	0	0	0	0	0	0	0	0	10
20:00	0	9	3	0	0	0	0	0	0	0	0	0	0	12
21:00	0	7	1	0	0	0	0	0	0	0	0	0	0	8
22:00	0	4	1	0	0	0	0	0	0	0	0	0	0	5
23:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
Totals		212	31	2	6									251
% of Totals		84%	12%	1%	2%									100%

AM Volumes	0	51	4	1	1	0	0	0	0	0	0	0	0	57
% AM		20%	2%	0%	0%									23%
AM Peak Hour		10:00	11:00	07:00	08:00									10:00
Volume		12	3	1	1									13
PM Volumes	0	161	27	1	5	0	0	0	0	0	0	0	0	194
% PM		64%	11%	0%	2%									77%
PM Peak Hour		18:00	12:00	12:00	14:00									12:00
Volume		23	6	1	2									30

Directional Peak Periods		AM 7-9		NOON 12-2		PM 4-6		Off Peak Volumes	
All Classes		Volume	%	Volume	%	Volume	%	Volume	%
		21	8%	55	22%	36	14%	139	55%

Classification Definitions

1 Motorcycles	4 Buses	7 >=4-Axle Single Units	10 >=6-Axle Single Trailers	13 >=7-Axle Multi-Trailers
2 Passenger Cars	5 2-Axle, 6-Tire Single Units	8 <=4-Axle Single Trailers	11 <=5-Axle Multi-Trailers	
3 2-Axle, 4-Tire Single Units	6 3-Axle Single Units	9 5-Axle Single Trailers	12 6-Axle Multi-Trailers	

VOLUME

Hamilton Ave N/O Virginia Ave

Day: Tuesday
Date: 5/14/2019

City: Hapeville
Project #: GA19_9371_002

DAILY TOTALS					NB	SB						EB	WB						Total
					109	142						0	0						251
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL							
00:00	0	0	0	0			12:00	4	3	0	0	7							
00:15	0	1	0	0	1		12:15	6	7	0	0	13							
00:30	0	1	0	0	1		12:30	3	4	0	0	7							
00:45	0	0	2	0	2		12:45	2	15	1	15	30							
01:00	1	0	0	0	1		13:00	5	4	0	0	9							
01:15	0	0	0	0			13:15	2	1	0	0	3							
01:30	0	0	0	0			13:30	3	1	0	0	4							
01:45	0	1	0	0	1		13:45	5	15	4	10	25							
02:00	0	0	0	0			14:00	2	4	0	0	6							
02:15	0	0	0	0			14:15	3	4	0	0	7							
02:30	0	0	0	0			14:30	1	2	0	0	3							
02:45	0	0	0	0			14:45	2	8	2	12	20							
03:00	0	0	0	0			15:00	1	4	0	0	5							
03:15	0	0	0	0			15:15	1	2	0	0	3							
03:30	0	0	0	0			15:30	3	5	0	0	8							
03:45	0	0	0	0			15:45	0	5	3	14	19							
04:00	0	0	0	0			16:00	1	4	0	0	5							
04:15	0	0	0	0			16:15	1	1	0	0	2							
04:30	0	0	0	0			16:30	3	2	0	0	5							
04:45	0	0	0	0			16:45	2	7	1	8	15							
05:00	0	0	0	0			17:00	4	5	0	0	9							
05:15	0	0	0	0			17:15	3	1	0	0	4							
05:30	0	0	0	0			17:30	1	2	0	0	3							
05:45	0	0	0	0			17:45	1	9	4	12	21							
06:00	1	1	0	0	2		18:00	7	3	0	0	10							
06:15	0	0	0	0			18:15	2	1	0	0	3							
06:30	0	0	0	0			18:30	7	1	0	0	8							
06:45	0	1	0	1	2		18:45	1	17	3	8	25							
07:00	1	0	0	0	1		19:00	0	1	0	0	1							
07:15	0	2	0	0	2		19:15	0	4	0	0	4							
07:30	1	2	0	0	3		19:30	0	2	0	0	2							
07:45	2	4	2	6	10		19:45	2	2	1	8	10							
08:00	0	1	0	0	1		20:00	1	2	0	0	3							
08:15	0	5	0	0	5		20:15	2	1	0	0	3							
08:30	1	3	0	0	4		20:30	1	2	0	0	3							
08:45	1	2	0	9	11		20:45	1	5	2	7	12							
09:00	1	1	0	0	2		21:00	1	3	0	0	4							
09:15	1	2	0	0	3		21:15	1	1	0	0	2							
09:30	2	0	0	0	2		21:30	0	2	0	0	2							
09:45	1	5	2	5	10		21:45	0	2	0	6	8							
10:00	0	3	0	0	3		22:00	1	0	0	0	1							
10:15	2	3	0	0	5		22:15	1	1	0	0	2							
10:30	0	1	0	0	1		22:30	1	0	0	0	1							
10:45	2	4	2	9	13		22:45	1	4	0	1	5							
11:00	2	3	0	0	5		23:00	1	2	0	0	3							
11:15	0	2	0	0	2		23:15	0	0	0	0								
11:30	0	0	0	0			23:30	0	1	0	0	1							
11:45	0	2	1	6	8		23:45	0	1	0	3	4							
TOTALS	19	38			57		TOTALS	90	104			194							
SPLIT %	33.3%	66.7%			22.7%		SPLIT %	46.4%	53.6%			77.3%							

DAILY TOTALS					NB	SB						EB	WB						Total
					109	142						0	0						251
AM Peak Hour	11:45	11:45			11:45		PM Peak Hour	17:45	12:15			12:15							
AM Pk Volume	13	15			28		PM Pk Volume	17	16			32							
Pk Hr Factor	0.542	0.536			0.538		Pk Hr Factor	0.607	0.571			0.615							
7 - 9 Volume	6	15	0	0	21		4 - 6 Volume	16	20	0	0	36							
7 - 9 Peak Hour	07:00	07:45			07:45		4 - 6 Peak Hour	16:30	17:00			16:30							
7 - 9 Pk Volume	4	11	0	0	14		4 - 6 Pk Volume	12	12	0	0	21							
Pk Hr Factor	0.500	0.550	0.000	0.000	0.700		Pk Hr Factor	0.750	0.600	0.000	0.000	0.583							

Prepared by National Data & Surveying Services

CLASSIFICATION

Hamilton Ave N/O Virginia Ave

Day: Tuesday

Date: 5/14/2019

City: Hapeville

Project #: GA19_9371_002

Summary

[illegible]

CLASSIFICATION
Hamilton Ave N/O Virginia Ave

City: Hapeville
Project #: GA19_9371_002

[illegible]

CLASSIFICATION

Hamilton Ave N/O Virginia Ave

Day: Tuesday
Date: 5/14/2019

City: Hapeville
Project #: GA19_9371_002

Summary

Totals	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
		212	31	2	6									251
% of Totals		84%	12%	1%	2%									100%

AM Volumes	0	51	4	1	1	0	0	0	0	0	0	0	0	57
% AM		20%	2%	0%	0%									23%
AM Peak Hour		11:45	11:45	06:30	07:45									11:45
Volume		20	6	1	1									28
PM Volumes	0	161	27	1	5	0	0	0	0	0	0	0	0	194
% PM		64%	11%	0%	2%									77%
PM Peak Hour		12:15	12:00	12:00	13:15									12:15
Volume		25	6	1	2									32
Directional Peak Periods		AM 7-9				NOON 12-2				PM 4-6				Off Peak Volumes
All Classes		Volume				Volume				Volume				Volume
		21 ↔ 8%				55 ↔ 22%				36 ↔ 14%				139 ↔ 55%

Classification Definitions

1 Motorcycles	4 Buses	7 >=4-Axle Single Units	10 >=6-Axle Single Trailers	13 >=7-Axle Multi-Trailers
2 Passenger Cars	5 2-Axle, 6-Tire Single Units	8 <=4-Axle Single Trailers	11 <=5-Axle Multi-Trailers	
3 2-Axle, 4-Tire Single Units	6 3-Axle Single Units	9 5-Axle Single Trailers	12 6-Axle Multi-Trailers	

CLASSIFICATION

Hamilton Ave N/O Virginia Ave

Day: Wednesday

Date: 5/15/2019

City: Hapeville

Project #: GA19_9371_002

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	1
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
05:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
06:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4
07:00	0	13	1	1	0	0	0	0	0	0	0	0	0	15
08:00	0	19	0	0	0	0	0	0	0	0	0	0	0	19
09:00	0	8	1	0	2	0	0	0	0	0	0	0	0	11
10:00	0	10	2	1	1	0	0	0	0	0	0	0	0	14
11:00	1	24	2	0	3	0	0	0	0	0	0	0	0	30
12:00 PM	0	15	1	2	0	0	1	0	0	0	0	0	0	19
13:00	0	12	1	1	0	0	0	0	0	0	0	0	0	14
14:00	0	6	4	0	1	0	0	0	0	0	0	0	0	11
15:00	0	14	1	0	0	0	0	0	0	0	0	0	0	15
16:00	0	13	3	0	0	0	0	0	0	0	0	0	0	16
17:00	1	12	2	0	0	0	0	0	0	0	0	0	0	15
18:00	0	9	5	0	0	0	0	0	0	0	0	0	0	14
19:00	0	10	0	0	1	0	0	0	0	0	0	0	0	11
20:00	0	11	0	0	0	0	0	0	0	0	0	0	0	11
21:00	0	5	1	0	0	0	0	0	0	0	0	0	0	6
22:00	0	1	3	0	0	0	0	0	0	0	0	0	0	4
23:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Totals	2	190	28	5	8		1							234
% of Totals	1%	81%	12%	2%	3%		0%							100%

AM Volumes	1	81	7	2	6	0	0	0	0	0	0	0	0	97
% AM	0%	35%	3%	1%	3%									41%
AM Peak Hour	11:00	11:00	10:00	07:00	11:00									11:00
Volume	1	24	2	1	3									30
PM Volumes	1	109	21	3	2	0	1	0	0	0	0	0	0	137
% PM	0%	47%	9%	1%	1%		0%							59%
PM Peak Hour	17:00	12:00	18:00	12:00	14:00		12:00							12:00
Volume	1	15	5	2	1		1							19

Directional Peak Periods All Classes	AM 7-9		NOON 12-2		PM 4-6		Off Peak Volumes	
	Volume	%	Volume	%	Volume	%	Volume	%
	34	15%	33	14%	31	13%	136	58%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units

4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units

7 >=4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers

10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers

13 >=7-Axle Multi-Trailers

DAILY TOTALS			NB	SB	EB			WB	Total		
			97	137				0			
AM Peak Hour	11:00	10:15			11:00	PM Peak Hour	12:15	15:45			12:15
AM Pk Volume	17	16			30	PM Pk Volume	13	13			22
Pk Hr Factor	0.607	0.571			0.833	Pk Hr Factor	0.813	0.813			0.688
7 - 9 Volume	8	26	0	0	34	4 - 6 Volume	11	20	0	0	31
7 - 9 Peak Hour	07:00	07:30			08:00	4 - 6 Peak Hour	16:30	16:30			16:30
7 - 9 Pk Volume	4	15	0	0	19	4 - 6 Pk Volume	7	13	0	0	20
Pk Hr Factor	0.333	0.750	0.000	0.000	0.792	Pk Hr Factor	0.583	0.813	0.000	0.000	0.833

Prepared by National Data & Surveying Services

CLASSIFICATION

Hamilton Ave N/O Virginia Ave

Day: Wednesday

Date: 5/15/2019

City: Hapeville

Project #: GA19_9371_002

Summary

[illegible]

CLASSIFICATION
Hamilton Ave N/O Virginia Ave

City: Hapeville
Project #: GA19_9371_002

[illegible]

CLASSIFICATION
Hamilton Ave N/O Virginia Ave

City: Hapeville
Project #: GA19_9371_002

[illegible]

Totals	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
	2	190	28	5	8		1							234
% of Totals	1%	81%	12%	2%	3%		0%							100%

AM Volumes	1	81	7	2	6	0	0	0	0	0	0	0	0	97
% AM	0%	35%	3%	1%	3%									41%
AM Peak Hour	10:30	11:00	10:15	06:45	10:45									11:00
Volume	1	24	3	1	3									30
PM Volumes	1	109	21	3	2	0	1	0	0	0	0	0	0	137
% PM	0%	47%	9%	1%	1%		0%							59%
PM Peak Hour	16:15	12:15	18:00	12:00	13:15		12:00							12:15
Volume	1	18	5	2	1		1							22

Directional Peak Periods All Classes	AM 7-9		NOON 12-2		PM 4-6		Off Peak Volumes	
	Volume	%	Volume	%	Volume	%	Volume	%
	34	15%	33	14%	31	13%	136	58%

Classification Definitions				
1 Motorcycles	4 Buses	7 >=4-Axle Single Units	10 >=6-Axle Single Trailers	13 >=7-Axle Multi-Trailers
2 Passenger Cars	5 2-Axle, 6-Tire Single Units	8 <=4-Axle Single Trailers	11 <=5-Axle Multi-Trailers	
3 2-Axle, 4-Tire Single Units	6 3-Axle Single Units	9 5-Axle Single Trailers	12 6-Axle Multi-Trailers	

CLASSIFICATION

Virginia Ave N/O Doug Davis Dr

Day: Tuesday

City: Hapeville

Date: 5/14/2019

Project #: GA19_9371_003

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	48	6	0	1	0	0	0	0	0	0	0	0	55
01:00	1	38	4	0	1	0	0	1	0	0	0	0	0	45
02:00	0	37	4	0	0	0	0	0	0	0	0	0	0	41
03:00	0	18	2	0	0	0	0	0	0	0	0	0	0	20
04:00	0	34	4	0	1	1	0	0	0	0	0	0	0	40
05:00	0	71	6	1	1	0	0	0	1	0	0	0	0	80
06:00	0	118	19	1	2	0	0	0	0	0	0	0	0	140
07:00	0	174	26	0	3	0	0	0	0	0	0	0	0	203
08:00	0	253	33	4	2	0	0	0	0	0	0	0	0	292
09:00	0	191	26	5	5	0	0	0	0	0	0	0	0	227
10:00	0	181	41	0	10	0	1	0	0	0	0	0	0	233
11:00	0	317	55	2	10	1	0	3	0	0	0	0	0	388
12:00 PM	2	443	78	2	19	4	1	1	0	0	0	0	0	550
13:00	1	380	58	1	14	1	1	1	0	0	0	0	0	457
14:00	0	294	50	0	1	0	0	0	1	0	0	0	0	346
15:00	2	333	43	4	8	1	0	0	0	0	0	0	0	391
16:00	1	305	44	1	2	0	0	0	0	0	0	0	0	353
17:00	3	342	52	0	3	0	0	0	0	0	0	0	0	400
18:00	1	280	36	2	4	0	0	0	0	0	0	0	0	323
19:00	0	262	25	0	5	0	0	0	0	0	0	0	0	292
20:00	0	197	19	0	2	0	0	0	0	0	0	0	0	218
21:00	0	156	20	1	2	0	0	0	0	0	0	0	0	179
22:00	0	126	9	0	0	0	0	0	1	0	0	0	0	136
23:00	0	87	10	0	4	0	0	0	0	0	0	0	0	101
Totals	11	4685	670	24	100	8	3	6	3					5510
% of Totals	0%	85%	12%	0%	2%	0%	0%	0%	0%					100%

AM Volumes	1	1480	226	13	36	2	1	4	1	0	0	0	0	1764
% AM	0%	27%	4%	0%	1%	0%	0%	0%	0%					32%
AM Peak Hour	01:00	11:00	11:00	09:00	10:00	04:00	10:00	11:00	05:00					11:00
Volume	1	317	55	5	10	1	1	3	1					388
PM Volumes	10	3205	444	11	64	6	2	2	2	0	0	0	0	3746
% PM	0%	58%	8%	0%	1%	0%	0%	0%	0%					68%
PM Peak Hour	17:00	12:00	12:00	15:00	12:00	12:00	12:00	12:00	14:00					12:00
Volume	3	443	78	4	19	4	1	1	1					550

Directional Peak Periods All Classes	AM 7-9		NOON 12-2		PM 4-6		Off Peak Volumes	
	Volume	%	Volume	%	Volume	%	Volume	%
	495	9%	1007	18%	753	14%	3255	59%

Classification Definitions

1 Motorcycles	4 Buses	7 >=4-Axle Single Units	10 >=6-Axle Single Trailers	13 >=7-Axle Multi-Trailers
2 Passenger Cars	5 2-Axle, 6-Tire Single Units	8 <=4-Axle Single Trailers	11 <=5-Axle Multi-Trailers	
3 2-Axle, 4-Tire Single Units	6 3-Axle Single Units	9 5-Axle Single Trailers	12 6-Axle Multi-Trailers	

VOLUME

Virginia Ave N/O Doug Davis Dr

Day: Tuesday
Date: 5/14/2019

City: Hapeville
Project #: GA19_9371_003

DAILY TOTALS						NB	SB							Total	
						2,694	2,816							5,510	
EB		WB													
0		0													
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL			
00:00	6	4	0	0	10		12:00	67	66	0	0	133			
00:15	6	16	0	0	22		12:15	50	96	0	0	146			
00:30	9	4	0	0	13		12:30	54	57	0	0	111			
00:45	4	25	6	30	0	0	12:45	66	237	94	313	0	0	160	550
01:00	3	3	0	0	6		13:00	69	67	0	0	136			
01:15	7	8	0	0	15		13:15	56	65	0	0	121			
01:30	5	11	0	0	16		13:30	59	47	0	0	106			
01:45	4	19	4	26	0	0	13:45	42	226	52	231	0	0	94	457
02:00	5	2	0	0	7		14:00	47	34	0	0	81			
02:15	7	9	0	0	16		14:15	46	51	0	0	97			
02:30	6	5	0	0	11		14:30	47	43	0	0	90			
02:45	5	23	2	18	0	0	14:45	36	176	42	170	0	0	78	346
03:00	3	3	0	0	6		15:00	51	54	0	0	105			
03:15	2	3	0	0	5		15:15	50	43	0	0	93			
03:30	2	2	0	0	4		15:30	58	43	0	0	101			
03:45	5	12	0	8	0	0	15:45	43	202	49	189	0	0	92	391
04:00	3	5	0	0	8		16:00	45	38	0	0	83			
04:15	2	3	0	0	5		16:15	52	43	0	0	95			
04:30	5	8	0	0	13		16:30	59	36	0	0	95			
04:45	4	14	10	26	0	0	16:45	43	199	37	154	0	0	80	353
05:00	6	7	0	0	13		17:00	55	50	0	0	105			
05:15	4	11	0	0	15		17:15	61	49	0	0	110			
05:30	9	13	0	0	22		17:30	53	42	0	0	95			
05:45	12	31	18	49	0	0	17:45	48	217	42	183	0	0	90	400
06:00	10	17	0	0	27		18:00	42	38	0	0	80			
06:15	12	5	0	0	17		18:15	39	45	0	0	84			
06:30	24	29	0	0	53		18:30	44	38	0	0	82			
06:45	18	64	25	76	0	0	18:45	33	158	44	165	0	0	77	323
07:00	22	25	0	0	47		19:00	49	47	0	0	96			
07:15	11	26	0	0	37		19:15	55	27	0	0	82			
07:30	17	34	0	0	51		19:30	31	35	0	0	66			
07:45	25	75	43	128	0	0	19:45	21	156	27	136	0	0	48	292
08:00	37	33	0	0	70		20:00	42	35	0	0	77			
08:15	44	24	0	0	68		20:15	23	17	0	0	40			
08:30	22	46	0	0	68		20:30	27	26	0	0	53			
08:45	26	129	60	163	0	0	20:45	16	108	32	110	0	0	48	218
09:00	24	38	0	0	62		21:00	25	20	0	0	45			
09:15	29	25	0	0	54		21:15	26	24	0	0	50			
09:30	20	37	0	0	57		21:30	28	22	0	0	50			
09:45	22	95	32	132	0	0	21:45	22	101	12	78	0	0	34	179
10:00	21	31	0	0	52		22:00	18	21	0	0	39			
10:15	28	20	0	0	48		22:15	14	18	0	0	32			
10:30	21	44	0	0	65		22:30	17	7	0	0	24			
10:45	29	99	39	134	0	0	22:45	20	69	21	67	0	0	41	136
11:00	40	38	0	0	78		23:00	14	15	0	0	29			
11:15	36	52	0	0	88		23:15	15	13	0	0	28			
11:30	63	54	0	0	117		23:30	16	8	0	0	24			
11:45	61	200	44	188	0	0	23:45	14	59	6	42	0	0	20	101
TOTALS	786	978			1764		TOTALS	1908	1838			3746			
SPLIT %	44.6%	55.4%			32.0%		SPLIT %	50.9%	49.1%			68.0%			

DAILY TOTALS				NB	SB	EB				WB	Total			
				2,694	2,816					0				
AM Peak Hour	11:30	11:45			11:30	PM Peak Hour	12:45	12:15			12:15			
AM Pk Volume	241	263			501	PM Pk Volume	250	314			553			
Pk Hr Factor	0.899	0.685			0.858	Pk Hr Factor	0.906	0.818			0.864			
7 - 9 Volume	204	291	0	0	495	4 - 6 Volume	416	337	0	0	753			
7 - 9 Peak Hour	08:00	08:00			08:00	4 - 6 Peak Hour	16:30	17:00			17:00			
7 - 9 Pk Volume	129	163	0	0	292	4 - 6 Pk Volume	218	183	0	0	400			
Pk Hr Factor	0.733	0.679	0.000	0.000	0.849	Pk Hr Factor	0.893	0.915	0.000	0.000	0.909			

CLASSIFICATION
Virginia Ave N/O Doug Davis Dr

City: Hapeville
Project #: GA19_9371_003

[illegible]

Totals	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
	11	4685	670	24	100	8	3	6	3					5510
% of Totals	0%	85%	12%	0%	2%	0%	0%	0%	0%					100%

AM Volumes	1	1480	226	13	36	2	1	4	1	0	0	0	0	1764
% AM	0%	27%	4%	0%	1%	0%	0%	0%	0%					32%
AM Peak Hour	00:30	11:30	11:45	08:45	11:30	11:45	09:45	10:30	04:45					11:30
Volume	1	418	69	7	14	2	1	3	1					501
PM Volumes	10	3205	444	11	64	6	2	2	2	0	0	0	0	3746
% PM	0%	58%	8%	0%	1%	0%	0%	0%	0%					68%
PM Peak Hour	16:45	12:15	12:15	15:00	12:00	12:00	12:30	12:30	13:45					12:15
Volume	4	447	82	4	19	4	2	2	1					553

Directional Peak Periods		AM 7-9		NOON 12-2		PM 4-6		Off Peak Volumes	
All Classes		Volume	%	Volume	%	Volume	%	Volume	%
		495	9%	1007	18%	753	14%	3255	59%

Classification Definitions				
1 Motorcycles	4 Buses	7 >=4-Axle Single Units	10 >=6-Axle Single Trailers	13 >=7-Axle Multi-Trailers
2 Passenger Cars	5 2-Axle, 6-Tire Single Units	8 <=4-Axle Single Trailers	11 <=5-Axle Multi-Trailers	
3 2-Axle, 4-Tire Single Units	6 3-Axle Single Units	9 5-Axle Single Trailers	12 6-Axle Multi-Trailers	

CLASSIFICATION

Virginia Ave N/O Doug Davis Dr

Day: Wednesday

Date: 5/15/2019

City: Hapeville

Project #: GA19_9371_003

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	48	4	1	2	0	0	0	0	0	0	0	0	55
01:00	0	35	6	0	1	0	0	0	0	0	0	0	0	42
02:00	0	25	4	0	3	0	0	0	0	0	0	0	0	32
03:00	0	25	4	0	0	1	0	1	0	0	0	0	0	31
04:00	0	27	4	0	3	1	0	0	0	0	0	0	0	35
05:00	0	73	14	0	4	0	0	1	0	0	0	0	0	92
06:00	1	135	15	0	4	0	0	1	0	0	0	0	0	156
07:00	0	172	27	3	4	0	0	0	0	0	0	0	0	206
08:00	0	243	38	2	5	0	0	1	0	0	0	0	0	289
09:00	1	195	30	1	3	1	0	0	2	0	0	0	0	233
10:00	0	217	36	0	9	0	0	0	1	0	0	0	0	263
11:00	1	297	73	1	15	1	0	1	0	0	0	0	0	389
12:00 PM	1	443	102	1	12	3	0	2	0	0	0	0	0	564
13:00	0	350	60	0	9	1	0	0	0	0	0	0	0	420
14:00	0	319	46	1	12	1	0	0	1	0	0	0	0	380
15:00	4	277	49	1	3	0	0	0	0	0	0	0	0	334
16:00	1	309	53	5	6	0	0	0	0	0	0	0	0	374
17:00	1	362	57	0	8	0	0	0	0	0	0	0	0	428
18:00	5	301	43	0	4	0	0	0	0	0	0	0	0	353
19:00	0	214	27	0	7	0	0	0	0	0	0	0	0	248
20:00	0	223	33	0	4	0	0	0	0	0	0	0	0	260
21:00	1	137	12	0	3	0	0	0	0	0	0	0	0	153
22:00	0	134	14	0	1	0	0	0	0	0	0	0	0	149
23:00	0	115	8	0	2	0	0	0	1	0	0	0	0	126
Totals	16	4676	759	16	124	9		7	5					5612
% of Totals	0%	83%	14%	0%	2%	0%		0%	0%					100%

AM Volumes	3	1492	255	8	53	4	0	5	3	0	0	0	0	1823
% AM	0%	27%	5%	0%	1%	0%		0%	0%					32%
AM Peak Hour	06:00	11:00	11:00	07:00	11:00	03:00		03:00	09:00					11:00
Volume	1	297	73	3	15	1		1	2					389
PM Volumes	13	3184	504	8	71	5	0	2	2	0	0	0	0	3789
% PM	0%	57%	9%	0%	1%	0%		0%	0%					68%
PM Peak Hour	18:00	12:00	12:00	16:00	12:00	12:00		12:00	14:00					12:00
Volume	5	443	102	5	12	3		2	1					564

Directional Peak Periods All Classes	AM 7-9		NOON 12-2		PM 4-6		Off Peak Volumes	
	Volume	%	Volume	%	Volume	%	Volume	%
	495	9%	984	18%	802	14%	3331	59%

Classification Definitions

1 Motorcycles	4 Buses	7 >=4-Axle Single Units	10 >=6-Axle Single Trailers	13 >=7-Axle Multi-Trailers
2 Passenger Cars	5 2-Axle, 6-Tire Single Units	8 <=4-Axle Single Trailers	11 <=5-Axle Multi-Trailers	
3 2-Axle, 4-Tire Single Units	6 3-Axle Single Units	9 5-Axle Single Trailers	12 6-Axle Multi-Trailers	

VOLUME

Virginia Ave N/O Doug Davis Dr

Day: Wednesday
Date: 5/15/2019

City: Hapeville
Project #: GA19_9371_003

DAILY TOTALS						NB	SB					EB	WB	Total			
						2,743	2,869					0	0	5,612			
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL						
00:00	9	3	0	0	12	12:00	76	68	0	0	144						
00:15	12	11	0	0	23	12:15	73	71	0	0	144						
00:30	4	7	0	0	11	12:30	61	80	0	0	141						
00:45	4	29	5	26	0	0	65	275	70	289	0	0	0	135	564		
01:00	8	6	0	0	14	13:00	57	57	0	0	114						
01:15	4	5	0	0	9	13:15	56	54	0	0	110						
01:30	3	4	0	0	7	13:30	48	54	0	0	102						
01:45	1	16	11	26	0	0	40	201	54	219	0	0	0	94	420		
02:00	4	5	0	0	9	14:00	53	50	0	0	103						
02:15	4	1	0	0	5	14:15	49	48	0	0	97						
02:30	5	3	0	0	8	14:30	41	46	0	0	87						
02:45	9	22	1	10	0	0	49	192	44	188	0	0	0	93	380		
03:00	3	5	0	0	8	15:00	35	38	0	0	73						
03:15	3	6	0	0	9	15:15	52	42	0	0	94						
03:30	4	4	0	0	8	15:30	39	40	0	0	79						
03:45	1	11	5	20	0	0	45	171	43	163	0	0	0	88	334		
04:00	2	4	0	0	6	16:00	42	35	0	0	77						
04:15	3	2	0	0	5	16:15	57	42	0	0	99						
04:30	3	7	0	0	10	16:30	63	37	0	0	100						
04:45	4	12	10	23	0	0	48	210	50	164	0	0	0	98	374		
05:00	7	5	0	0	12	17:00	77	45	0	0	122						
05:15	9	11	0	0	20	17:15	63	48	0	0	111						
05:30	8	23	0	0	31	17:30	58	55	0	0	113						
05:45	7	31	22	61	0	0	48	246	34	182	0	0	0	82	428		
06:00	18	11	0	0	29	18:00	60	54	0	0	114						
06:15	15	18	0	0	33	18:15	40	44	0	0	84						
06:30	21	24	0	0	45	18:30	42	43	0	0	85						
06:45	28	82	21	74	0	0	43	185	27	168	0	0	0	70	353		
07:00	17	20	0	0	37	19:00	32	38	0	0	70						
07:15	20	29	0	0	49	19:15	28	32	0	0	60						
07:30	13	40	0	0	53	19:30	35	32	0	0	67						
07:45	28	78	39	128	0	0	22	117	29	131	0	0	0	51	248		
08:00	27	47	0	0	74	20:00	33	42	0	0	75						
08:15	36	29	0	0	65	20:15	40	27	0	0	67						
08:30	22	46	0	0	68	20:30	33	27	0	0	60						
08:45	25	110	57	179	0	0	26	132	32	128	0	0	0	58	260		
09:00	21	36	0	0	57	21:00	24	22	0	0	46						
09:15	24	27	0	0	51	21:15	16	17	0	0	33						
09:30	21	38	0	0	59	21:30	18	18	0	0	36						
09:45	21	87	45	146	0	0	16	74	22	79	0	0	0	38	153		
10:00	32	29	0	0	61	22:00	22	14	0	0	36						
10:15	26	32	0	0	58	22:15	22	17	0	0	39						
10:30	34	41	0	0	75	22:30	16	22	0	0	38						
10:45	27	119	42	144	0	0	21	81	15	68	0	0	0	36	149		
11:00	38	47	0	0	85	23:00	29	10	0	0	39						
11:15	32	45	0	0	77	23:15	18	11	0	0	29						
11:30	52	65	0	0	117	23:30	19	12	0	0	31						
11:45	59	181	51	208	0	0	15	81	12	45	0	0	0	27	126		
TOTALS	778	1045			1823	TOTALS	1965	1824			3789						
SPLIT %	42.7%	57.3%			32.5%	SPLIT %	51.9%	48.1%			67.5%						

DAILY TOTALS				NB	SB	EB				WB	Total			
				2,743	2,869					0				
AM Peak Hour	11:45	11:45			11:45	PM Peak Hour	12:00	12:00			12:00			
AM Pk Volume	269	270			539	PM Pk Volume	275	289			564			
Pk Hr Factor	0.885	0.844			0.936	Pk Hr Factor	0.905	0.903			0.979			
7 - 9 Volume	188	307	0	0	495	4 - 6 Volume	456	346	0	0	802			
7 - 9 Peak Hour	07:45	08:00			08:00	4 - 6 Peak Hour	16:30	16:45			16:45			
7 - 9 Pk Volume	113	179	0	0	289	4 - 6 Pk Volume	251	198	0	0	444			
Pk Hr Factor	0.785	0.785	0.000	0.000	0.881	Pk Hr Factor	0.815	0.900	0.000	0.000	0.910			

Prepared by National Data & Surveying Services

CLASSIFICATION

Virginia Ave N/O Doug Davis Dr

Day: Wednesday

Date: 5/15/2019

City: Hapeville

Project #: GA19_9371_003

Summary

[illegible]

CLASSIFICATION

Virginia Ave N/O Doug Davis Dr

Day: Wednesday

Date: 5/15/2019

City: Hapeville

Project #: GA19_9371_003

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
16:30	0	82	15	3	0	0	0	0	0	0	0	0	0	100
16:45	1	82	12	1	2	0	0	0	0	0	0	0	0	98
17:00	0	103	16	0	3	0	0	0	0	0	0	0	0	122
17:15	0	92	16	0	3	0	0	0	0	0	0	0	0	111
17:30	1	97	14	0	1	0	0	0	0	0	0	0	0	113
17:45	0	70	11	0	1	0	0	0	0	0	0	0	0	82
18:00	2	91	19	0	2	0	0	0	0	0	0	0	0	114
18:15	1	73	10	0	0	0	0	0	0	0	0	0	0	84
18:30	0	76	8	0	1	0	0	0	0	0	0	0	0	85
18:45	2	61	6	0	1	0	0	0	0	0	0	0	0	70
19:00	0	55	11	0	4	0	0	0	0	0	0	0	0	70
19:15	0	55	4	0	1	0	0	0	0	0	0	0	0	60
19:30	0	60	7	0	0	0	0	0	0	0	0	0	0	67
19:45	0	44	5	0	2	0	0	0	0	0	0	0	0	51
20:00	0	63	12	0	0	0	0	0	0	0	0	0	0	75
20:15	0	59	8	0	0	0	0	0	0	0	0	0	0	67
20:30	0	51	8	0	1	0	0	0	0	0	0	0	0	60
20:45	0	50	5	0	3	0	0	0	0	0	0	0	0	58
21:00	0	40	4	0	2	0	0	0	0	0	0	0	0	46
21:15	0	32	1	0	0	0	0	0	0	0	0	0	0	33
21:30	1	30	5	0	0	0	0	0	0	0	0	0	0	36
21:45	0	35	2	0	1	0	0	0	0	0	0	0	0	38
22:00	0	32	4	0	0	0	0	0	0	0	0	0	0	36
22:15	0	36	3	0	0	0	0	0	0	0	0	0	0	39
22:30	0	34	3	0	1	0	0	0	0	0	0	0	0	38
23:00	0	33	5	0	1	0	0	0	0	0	0	0	0	39
23:15	0	29	0	0	0	0	0	0	0	0	0	0	0	29
23:30	0	28	2	0	1	0	0	0	0	0	0	0	0	31
23:45	0	25	1	0	0	0	0	0	1	0	0	0	0	27

Totals	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
	16	4676	759	16	124	9		7	5					5612
% of Totals	0%	83%	14%	0%	2%	0%		0%	0%					100%

AM Volumes	3	1492	255	8	53	4	0	5	3	0	0	0	0	1823
% AM	0%	27%	5%	0%	1%	0%		0%	0%					32%
AM Peak Hour	11:30	11:45	11:45	07:45	11:30	11:30		11:30	09:15					11:45
Volume	2	413	106	5	18	2		3	3					539
PM Volumes	13	3184	504	8	71	5	0	2	2	0	0	0	0	3789
% PM	0%	57%	9%	0%	1%	0%		0%	0%					68%
PM Peak Hour	18:00	12:00	12:00	15:45	12:00	12:00		12:00	13:45					12:00
Volume	5	443	102	5	12	3		2	1					564

Directional Peak Periods	AM 7-9		NOON 12-2		PM 4-6		Off Peak Volumes	
All Classes	Volume	%	Volume	%	Volume	%	Volume	%
	495	9%	984	18%	802	14%	3331	59%

Classification Definitions				
1 Motorcycles	4 Buses	7 >=4-Axle Single Units	10 >=6-Axle Single Trailers	13 >=7-Axle Multi-Trailers
2 Passenger Cars	5 2-Axle, 6-Tire Single Units	8 <=4-Axle Single Trailers	11 <=5-Axle Multi-Trailers	
3 2-Axle, 4-Tire Single Units	6 3-Axle Single Units	9 5-Axle Single Trailers	12 6-Axle Multi-Trailers	

CLASSIFICATION

Doug Davis Dr E/O Virginia Ave /Clay Pl

Day: Tuesday

City: Hapeville

Date: 5/14/2019

Project #: GA19_9371_004

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	85	12	1	1	0	0	0	0	0	0	0	0	99
01:00	0	47	8	0	0	0	0	0	0	0	0	0	0	55
02:00	0	35	3	1	0	0	0	0	0	0	0	0	0	39
03:00	0	31	3	0	0	0	0	0	0	0	0	0	0	34
04:00	0	77	13	1	0	0	0	0	0	0	0	0	0	91
05:00	0	194	30	0	5	0	0	0	0	0	0	0	0	229
06:00	1	255	38	3	10	0	0	0	0	0	0	0	0	307
07:00	1	370	50	4	9	0	0	0	0	0	0	0	0	434
08:00	0	354	62	1	13	0	1	0	0	0	0	0	0	431
09:00	0	303	50	1	17	0	0	0	0	0	0	0	0	371
10:00	0	274	38	3	11	0	0	0	0	0	0	0	0	326
11:00	1	471	81	4	18	1	0	1	0	0	0	0	0	577
12:00 PM	0	606	87	5	15	0	0	0	0	0	0	0	0	713
13:00	0	528	83	4	17	2	0	0	0	0	0	0	0	634
14:00	0	450	57	7	13	2	0	0	0	0	0	0	0	529
15:00	0	446	66	8	12	0	0	0	0	0	0	0	0	532
16:00	0	535	68	4	8	1	0	0	0	0	0	0	0	616
17:00	0	610	64	4	14	0	0	0	0	0	0	0	0	692
18:00	0	381	51	5	14	0	0	0	0	0	0	0	0	451
19:00	0	312	37	4	6	0	0	0	0	0	0	0	0	359
20:00	1	241	29	0	5	0	0	0	0	0	0	0	0	276
21:00	0	194	27	2	3	0	0	0	0	0	0	0	0	226
22:00	0	171	22	2	1	0	0	0	0	0	0	0	0	196
23:00	0	171	20	1	2	0	0	0	0	0	0	0	0	194
Totals	4	7141	999	65	194	6	1	1						8411
% of Totals	0%	85%	12%	1%	2%	0%	0%	0%						100%

AM Volumes	3	2496	388	19	84	1	1	1	0	0	0	0	0	2993
% AM	0%	30%	5%	0%	1%	0%	0%	0%						36%
AM Peak Hour	06:00	11:00	11:00	07:00	11:00	11:00	08:00	11:00						11:00
Volume	1	471	81	4	18	1	1	1						577
PM Volumes	1	4645	611	46	110	5	0	0	0	0	0	0	0	5418
% PM	0%	55%	7%	1%	1%	0%								64%
PM Peak Hour	20:00	17:00	12:00	15:00	13:00	13:00								12:00
Volume	1	610	87	8	17	2								713

Directional Peak Periods		AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes		Volume		%	Volume		%	Volume		%	Volume		%
		865	↔	10%	1347	↔	16%	1308	↔	16%	4891	↔	58%

Classification Definitions

1 Motorcycles	4 Buses	7 >=4-Axle Single Units	10 >=6-Axle Single Trailers	13 >=7-Axle Multi-Trailers
2 Passenger Cars	5 2-Axle, 6-Tire Single Units	8 <=4-Axle Single Trailers	11 <=5-Axle Multi-Trailers	
3 2-Axle, 4-Tire Single Units	6 3-Axle Single Units	9 5-Axle Single Trailers	12 6-Axle Multi-Trailers	

VOLUME

Doug Davis Dr E/O Virginia Ave /Clay Pl

Day: Tuesday
Date: 5/14/2019

City: Hapeville
Project #: GA19_9371_004

DAILY TOTALS					NB	SB	EB					WB	Total	
					0	0						4,202	4,209	8,411
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL		
00:00	0	0	6	22	28		12:00	0	0	81	92	173		
00:15	0	0	14	14	28		12:15	0	0	101	72	173		
00:30	0	0	11	16	27		12:30	0	0	78	87	165		
00:45	0	0	9	40	7	59	12:45	0	0	120	380	82	333	
01:00	0	0	5	9	14		13:00	0	0	108	83	191		
01:15	0	0	4	2	6		13:15	0	0	97	83	180		
01:30	0	0	9	8	17		13:30	0	0	82	56	138		
01:45	0	0	8	26	10	29	13:45	0	0	71	358	54	276	
02:00	0	0	7	8	15		14:00	0	0	64	68	132		
02:15	0	0	10	6	16		14:15	0	0	66	61	127		
02:30	0	0	2	3	5		14:30	0	0	69	66	135		
02:45	0	0	2	21	1	18	14:45	0	0	62	261	73	268	
03:00	0	0	3	6	9		15:00	0	0	57	73	130		
03:15	0	0	0	8	8		15:15	0	0	70	62	132		
03:30	0	0	3	3	6		15:30	0	0	50	91	141		
03:45	0	0	4	10	7	24	15:45	0	0	53	230	76	302	
04:00	0	0	7	2	9		16:00	0	0	64	88	152		
04:15	0	0	13	12	25		16:15	0	0	53	99	152		
04:30	0	0	13	8	21		16:30	0	0	75	92	167		
04:45	0	0	19	52	17	39	16:45	0	0	50	242	95	374	
05:00	0	0	24	12	36		17:00	0	0	74	132	206		
05:15	0	0	36	27	63		17:15	0	0	68	124	192		
05:30	0	0	42	24	66		17:30	0	0	57	111	168		
05:45	0	0	36	138	28	91	17:45	0	0	55	254	71	438	
06:00	0	0	32	35	67		18:00	0	0	50	61	111		
06:15	0	0	32	44	76		18:15	0	0	53	77	130		
06:30	0	0	46	32	78		18:30	0	0	50	57	107		
06:45	0	0	49	159	37	148	18:45	0	0	38	191	65	260	
07:00	0	0	59	41	100		19:00	0	0	47	71	118		
07:15	0	0	71	26	97		19:15	0	0	42	61	103		
07:30	0	0	71	38	109		19:30	0	0	30	48	78		
07:45	0	0	75	276	53	158	19:45	0	0	23	142	37	217	
08:00	0	0	58	29	87		20:00	0	0	44	44	88		
08:15	0	0	65	43	108		20:15	0	0	20	26	46		
08:30	0	0	81	42	123		20:30	0	0	38	39	77		
08:45	0	0	78	282	35	149	20:45	0	0	39	141	26	135	
09:00	0	0	64	36	100		21:00	0	0	35	25	60		
09:15	0	0	46	43	89		21:15	0	0	22	35	57		
09:30	0	0	64	28	92		21:30	0	0	23	35	58		
09:45	0	0	54	228	36	143	21:45	0	0	33	113	18	113	
10:00	0	0	48	32	80		22:00	0	0	25	25	50		
10:15	0	0	46	32	78		22:15	0	0	17	24	41		
10:30	0	0	44	22	66		22:30	0	0	17	29	46		
10:45	0	0	66	204	36	122	22:45	0	0	31	90	28	106	
11:00	0	0	46	74	120		23:00	0	0	20	38	58		
11:15	0	0	77	59	136		23:15	0	0	28	35	63		
11:30	0	0	75	72	147		23:30	0	0	17	25	42		
11:45	0	0	86	284	88	293	23:45	0	0	15	80	16	114	
TOTALS					1720	1273	TOTALS					2482	2936	5418
SPLIT %					57.5%	42.5%	SPLIT %					45.8%	54.2%	64.4%

DAILY TOTALS				NB	SB	EB				WB				Total				
				0	0									4,202	4,209	8,411		
AM Peak Hour				11:45	11:45	11:45	PM Peak Hour				12:15	16:45	12:30					
AM Pk Volume				346	339	685	PM Pk Volume				407	462	738					
Pk Hr Factor				0.856	0.921	0.984	Pk Hr Factor				0.848	0.875	0.913					
7 - 9 Volume				0	0	558	307	865	4 - 6 Volume				0	0	496	812	1308	
7 - 9 Peak Hour				08:00		07:45		07:45		4 - 6 Peak Hour				16:30		16:45		16:45
7 - 9 Pk Volume				0	0	282	167	446	4 - 6 Pk Volume				0	0	267	462	711	
Pk Hr Factor				0.000	0.000	0.870	0.788	0.871	Pk Hr Factor				0.000	0.000	0.890	0.875	0.863	

CLASSIFICATION

Doug Davis Dr E/O Virginia Ave /Clay Pl

Day: Tuesday

Date: 5/14/2019

City: Hapeville

Project #: GA19_9371_004

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	22	5	0	1	0	0	0	0	0	0	0	0	28
00:15	0	23	4	1	0	0	0	0	0	0	0	0	0	28
00:30	0	25	2	0	0	0	0	0	0	0	0	0	0	27
00:45	0	15	1	0	0	0	0	0	0	0	0	0	0	16
01:00	0	12	2	0	0	0	0	0	0	0	0	0	0	14
01:15	0	6	0	0	0	0	0	0	0	0	0	0	0	6
01:30	0	14	3	0	0	0	0	0	0	0	0	0	0	17
01:45	0	15	3	0	0	0	0	0	0	0	0	0	0	18
02:00	0	13	2	0	0	0	0	0	0	0	0	0	0	15
02:15	0	14	1	1	0	0	0	0	0	0	0	0	0	16
02:30	0	5	0	0	0	0	0	0	0	0	0	0	0	5
02:45	0	3	0	0	0	0	0	0	0	0	0	0	0	3
03:00	0	8	1	0	0	0	0	0	0	0	0	0	0	9
03:15	0	7	1	0	0	0	0	0	0	0	0	0	0	8
03:30	0	6	0	0	0	0	0	0	0	0	0	0	0	6
03:45	0	10	1	0	0	0	0	0	0	0	0	0	0	11
04:00	0	6	2	1	0	0	0	0	0	0	0	0	0	9
04:15	0	22	3	0	0	0	0	0	0	0	0	0	0	25
04:30	0	18	3	0	0	0	0	0	0	0	0	0	0	21
04:45	0	31	5	0	0	0	0	0	0	0	0	0	0	36
05:00	0	32	4	0	0	0	0	0	0	0	0	0	0	36
05:15	0	53	7	0	3	0	0	0	0	0	0	0	0	63
05:30	0	53	12	0	1	0	0	0	0	0	0	0	0	66
05:45	0	56	7	0	1	0	0	0	0	0	0	0	0	64
06:00	0	55	10	1	1	0	0	0	0	0	0	0	0	67
06:15	1	66	8	0	1	0	0	0	0	0	0	0	0	76
06:30	0	64	9	1	4	0	0	0	0	0	0	0	0	78
06:45	0	70	11	1	4	0	0	0	0	0	0	0	0	86
07:00	0	88	11	0	1	0	0	0	0	0	0	0	0	100
07:15	1	82	10	2	2	0	0	0	0	0	0	0	0	97
07:30	0	89	14	2	4	0	0	0	0	0	0	0	0	109
07:45	0	111	15	0	2	0	0	0	0	0	0	0	0	128
08:00	0	73	12	0	1	0	1	0	0	0	0	0	0	87

CLASSIFICATION
Doug Davis Dr E/O Virginia Ave /Clay Pl

City: Hapeville
Project #: GA19_9371_004

[illegible]

CLASSIFICATION
Doug Davis Dr E/O Virginia Ave /Clay Pl

City: Hapeville
Project #: GA19_9371_004

[illegible]

Totals	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
	4	7141	999	65	194	6	1	1						8411
% of Totals	0%	85%	12%	1%	2%	0%	0%	0%						100%

AM Volumes	3	2496	388	19	84	1	1	1	0	0	0	0	0	2993
% AM	0%	30%	5%	0%	1%	0%	0%	0%						36%
AM Peak Hour	05:30	11:45	11:30	11:30	10:45	10:30	07:15	10:15						11:45
Volume	1	586	86	6	19	1	1	1						685
PM Volumes	1	4645	611	46	110	5	0	0	0	0	0	0	0	5418
% PM	0%	55%	7%	1%	1%	0%								64%
PM Peak Hour	20:00	16:45	12:45	14:30	12:45	12:45								12:30
Volume	1	627	94	11	20	2								738

Directional Peak Periods	AM 7-9		NOON 12-2		PM 4-6		Off Peak Volumes	
All Classes	Volume	%	Volume	%	Volume	%	Volume	%
	865	10%	1347	16%	1308	16%	4891	58%

Classification Definitions				
1 Motorcycles	4 Buses	7 >=4-Axle Single Units	10 >=6-Axle Single Trailers	13 >=7-Axle Multi-Trailers
2 Passenger Cars	5 2-Axle, 6-Tire Single Units	8 <=4-Axle Single Trailers	11 <=5-Axle Multi-Trailers	
3 2-Axle, 4-Tire Single Units	6 3-Axle Single Units	9 5-Axle Single Trailers	12 6-Axle Multi-Trailers	

CLASSIFICATION

Doug Davis Dr E/O Virginia Ave /Clay Pl

Day: Wednesday

City: Hapeville

Date: 5/15/2019

Project #: GA19_9371_004

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	1	87	16	2	2	0	0	0	0	0	0	0	0	108
01:00	0	43	3	0	0	0	0	0	0	0	0	0	0	46
02:00	0	29	2	0	0	0	0	0	0	0	0	0	0	31
03:00	0	21	2	1	1	0	0	0	0	0	0	0	0	25
04:00	0	68	11	0	1	0	0	0	0	0	0	0	0	80
05:00	0	189	31	2	7	0	0	0	0	0	0	0	0	229
06:00	2	270	36	4	8	1	0	0	0	0	0	0	0	321
07:00	1	355	48	8	12	0	0	0	0	0	0	0	0	424
08:00	0	392	65	3	13	0	0	0	0	0	0	0	0	473
09:00	0	320	49	4	9	0	0	0	0	0	0	0	0	382
10:00	0	312	49	4	12	0	0	0	0	0	0	0	0	377
11:00	1	481	85	0	14	1	0	0	0	0	0	0	0	582
12:00 PM	0	609	116	8	16	1	0	0	0	0	0	0	0	750
13:00	0	548	80	4	13	0	0	0	0	0	0	0	0	645
14:00	0	470	63	4	15	1	0	0	0	0	0	0	0	553
15:00	1	460	66	7	15	0	0	0	0	0	0	0	0	549
16:00	1	468	61	3	13	0	0	0	0	0	0	0	0	546
17:00	0	606	82	3	16	0	0	0	0	0	0	0	0	707
18:00	1	414	57	4	10	0	0	0	0	0	0	0	0	486
19:00	0	293	44	1	9	0	0	0	0	0	0	0	0	347
20:00	0	227	33	0	9	0	0	0	0	0	0	0	0	269
21:00	0	168	21	0	6	0	0	0	0	0	0	0	0	195
22:00	0	160	21	0	3	0	0	0	0	0	0	0	0	184
23:00	0	131	14	0	2	0	0	0	0	0	0	0	0	147
Totals	8	7121	1055	62	206	4								8456
% of Totals	0%	84%	12%	1%	2%	0%								100%

AM Volumes	5	2567	397	28	79	2	0	0	0	0	0	0	0	3078
% AM	0%	30%	5%	0%	1%	0%								36%
AM Peak Hour	06:00	11:00	11:00	07:00	11:00	06:00								11:00
Volume	2	481	85	8	14	1								582
PM Volumes	3	4554	658	34	127	2	0	0	0	0	0	0	0	5378
% PM	0%	54%	8%	0%	2%	0%								64%
PM Peak Hour	15:00	12:00	12:00	12:00	12:00	12:00								12:00
Volume	1	609	116	8	16	1								750

Directional Peak Periods All Classes	AM 7-9		NOON 12-2		PM 4-6		Off Peak Volumes	
	Volume	%	Volume	%	Volume	%	Volume	%
	897	11%	1395	16%	1253	15%	4911	58%

Classification Definitions

1 Motorcycles	4 Buses	7 >=4-Axle Single Units	10 >=6-Axle Single Trailers	13 >=7-Axle Multi-Trailers
2 Passenger Cars	5 2-Axle, 6-Tire Single Units	8 <=4-Axle Single Trailers	11 <=5-Axle Multi-Trailers	
3 2-Axle, 4-Tire Single Units	6 3-Axle Single Units	9 5-Axle Single Trailers	12 6-Axle Multi-Trailers	

VOLUME

Doug Davis Dr E/O Virginia Ave /Clay Pl

Day: Wednesday
Date: 5/15/2019

City: Hapeville
Project #: GA19_9371_004

DAILY TOTALS					NB	SB	EB					WB	Total
					0	0						4,263	4,193
AM Period	NB	SB	EB	WB	TOTAL		PM Period	NB	SB	EB	WB	TOTAL	
00:00	0	0	12	20	32		12:00	0	0	83	113	196	
00:15	0	0	10	23	33		12:15	0	0	103	97	200	
00:30	0	0	12	9	21		12:30	0	0	115	60	175	
00:45	0	0	13	47	9	61	12:45	0	0	95	396	84	354
01:00	0	0	6	6	12		13:00	0	0	84	71	155	
01:15	0	0	4	5	9		13:15	0	0	89	71	160	
01:30	0	0	3	6	9		13:30	0	0	89	85	174	
01:45	0	0	7	20	9	26	13:45	0	0	90	352	66	293
02:00	0	0	3	5	8		14:00	0	0	73	81	154	
02:15	0	0	2	3	5		14:15	0	0	57	75	132	
02:30	0	0	5	5	10		14:30	0	0	71	66	137	
02:45	0	0	2	12	6	19	14:45	0	0	56	257	74	296
03:00	0	0	2	4	6		15:00	0	0	60	77	137	
03:15	0	0	1	3	4		15:15	0	0	61	77	138	
03:30	0	0	3	3	6		15:30	0	0	60	74	134	
03:45	0	0	5	11	4	14	15:45	0	0	71	252	69	297
04:00	0	0	7	2	9		16:00	0	0	52	72	124	
04:15	0	0	6	9	15		16:15	0	0	41	91	132	
04:30	0	0	16	8	24		16:30	0	0	51	98	149	
04:45	0	0	23	52	9	28	16:45	0	0	63	207	78	339
05:00	0	0	23	13	36		17:00	0	0	78	134	212	
05:15	0	0	37	33	70		17:15	0	0	78	108	186	
05:30	0	0	30	21	51		17:30	0	0	58	127	185	
05:45	0	0	42	132	30	97	17:45	0	0	54	268	70	439
06:00	0	0	22	43	65		18:00	0	0	53	78	131	
06:15	0	0	30	33	63		18:15	0	0	56	72	128	
06:30	0	0	60	33	93		18:30	0	0	47	69	116	
06:45	0	0	62	174	38	147	18:45	0	0	44	200	67	286
07:00	0	0	52	40	92		19:00	0	0	36	58	94	
07:15	0	0	75	26	101		19:15	0	0	45	57	102	
07:30	0	0	79	27	106		19:30	0	0	33	41	74	
07:45	0	0	86	292	39	132	19:45	0	0	41	155	36	192
08:00	0	0	62	37	99		20:00	0	0	32	32	64	
08:15	0	0	70	38	108		20:15	0	0	33	42	75	
08:30	0	0	89	46	135		20:30	0	0	42	30	72	
08:45	0	0	97	318	34	155	20:45	0	0	28	135	30	134
09:00	0	0	70	36	106		21:00	0	0	26	30	56	
09:15	0	0	55	34	89		21:15	0	0	23	26	49	
09:30	0	0	62	33	95		21:30	0	0	17	32	49	
09:45	0	0	63	250	29	132	21:45	0	0	17	83	24	112
10:00	0	0	64	37	101		22:00	0	0	19	14	33	
10:15	0	0	44	40	84		22:15	0	0	20	15	35	
10:30	0	0	37	43	80		22:30	0	0	23	40	63	
10:45	0	0	61	206	51	171	22:45	0	0	26	88	27	96
11:00	0	0	65	67	132		23:00	0	0	14	27	41	
11:15	0	0	69	78	147		23:15	0	0	17	26	43	
11:30	0	0	74	76	150		23:30	0	0	9	17	26	
11:45	0	0	96	304	57	278	23:45	0	0	12	52	25	95
TOTALS	1818				1260	3078	TOTALS	2445				2933	5378
SPLIT %	59.1%				40.9%	36.4%	SPLIT %	45.5%				54.5%	63.6%

DAILY TOTALS				NB	SB	EB				WB		Total			
				0	0									4,263	4,193
AM Peak Hour				11:45	11:30	11:45	PM Peak Hour				12:15	16:45	12:00		
AM Pk Volume				397	343	724	PM Pk Volume				397	447	750		
Pk Hr Factor				0.863	0.759	0.905	Pk Hr Factor				0.863	0.834	0.938		
7 - 9 Volume				0	0	610	287	897	4 - 6 Volume		0	0	475	778	1253
7 - 9 Peak Hour				08:00		07:45		08:00	4 - 6 Peak Hour		16:45		16:45	16:45	
7 - 9 Pk Volume				0	0	318	160	473	4 - 6 Pk Volume		0	0	277	447	724
Pk Hr Factor				0.000	0.000	0.820	0.870	0.876	Pk Hr Factor		0.000	0.000	0.888	0.834	0.854

CLASSIFICATION
Doug Davis Dr E/O Virginia Ave /Clay Pl

City: Hapeville
Project #: GA19_9371_004

[illegible]

Totals	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
	8	7121	1055	62	206	4								8456
% of Totals	0%	84%	12%	1%	2%	0%								100%

AM Volumes	5	2567	397	28	79	2	0	0	0	0	0	0	0	3078
% AM	0%	30%	5%	0%	1%	0%								36%
AM Peak Hour	06:15	11:45	11:45	06:45	11:45	11:15								11:45
Volume	3	592	107	11	17	2								724
PM Volumes	3	4554	658	34	127	2	0	0	0	0	0	0	0	5378
% PM	0%	54%	8%	0%	2%	0%								64%
PM Peak Hour	14:30	16:45	12:00	12:00	13:45	12:00								12:00
Volume	1	625	116	8	17	1								750

Directional Peak Periods	AM 7-9		NOON 12-2		PM 4-6		Off Peak Volumes	
All Classes	Volume	%	Volume	%	Volume	%	Volume	%
	897	11%	1395	16%	1253	15%	4911	58%

Classification Definitions				
1 Motorcycles	4 Buses	7 >=4-Axle Single Units	10 >=6-Axle Single Trailers	13 >=7-Axle Multi-Trailers
2 Passenger Cars	5 2-Axle, 6-Tire Single Units	8 <=4-Axle Single Trailers	11 <=5-Axle Multi-Trailers	
3 2-Axle, 4-Tire Single Units	6 3-Axle Single Units	9 5-Axle Single Trailers	12 6-Axle Multi-Trailers	

CLASSIFICATION

Clay PI S/O Doug Davis Dr

Day: Tuesday
Date: 5/14/2019

City: Hapeville
Project #: GA19_9371_005

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
05:00	0	0	0	0	0	0	0	0	2	0	0	0	0	2
06:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2
07:00	0	9	3	0	0	0	0	0	0	0	0	0	0	12
08:00	0	29	9	0	2	0	0	0	0	0	0	0	0	40
09:00	1	18	2	0	1	1	0	0	0	0	0	0	0	23
10:00	1	16	5	0	0	0	0	0	0	0	0	0	0	22
11:00	0	50	15	0	1	2	0	0	0	0	0	0	0	68
12:00 PM	1	70	11	0	5	0	0	0	0	0	0	0	0	87
13:00	3	74	27	0	5	0	0	0	0	0	0	0	0	109
14:00	0	22	4	1	0	0	0	0	0	0	0	0	0	27
15:00	0	21	5	1	2	0	0	0	0	0	0	0	0	29
16:00	0	87	11	0	4	0	0	0	0	0	0	0	0	102
17:00	0	97	10	0	0	1	0	0	0	0	0	0	0	108
18:00	0	63	7	0	1	0	0	0	0	0	0	0	0	71
19:00	0	53	6	0	1	0	0	0	1	0	0	0	0	61
20:00	0	39	7	0	3	0	0	0	1	0	0	0	0	50
21:00	0	29	8	0	1	0	0	0	0	0	0	0	0	38
22:00	0	9	1	1	0	0	0	0	0	0	0	0	0	11
23:00	0	3	2	0	0	1	0	0	0	0	0	0	0	6
Totals	6	693	135	3	26	5			4					872
% of Totals	1%	79%	15%	0%	3%	1%			0%					100%

AM Volumes	2	126	36	0	4	3	0	0	2	0	0	0	0	173
% AM	0%	14%	4%		0%	0%			0%					20%
AM Peak Hour	09:00	11:00	11:00		08:00	11:00			05:00					11:00
Volume	1	50	15		2	2			2					68
PM Volumes	4	567	99	3	22	2	0	0	2	0	0	0	0	699
% PM	0%	65%	11%	0%	3%	0%			0%					80%
PM Peak Hour	13:00	17:00	13:00	14:00	12:00	17:00			19:00					13:00
Volume	3	97	27	1	5	1			1					109

Directional Peak Periods All Classes	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
	Volume		%	Volume		%	Volume		%	Volume		%
	52	↔	6%	196	↔	22%	210	↔	24%	414	↔	47%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units

4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units

7 >=4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers

10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers

13 >=7-Axle Multi-Trailers

VOLUME

Clay PI S/O Doug Davis Dr

Day: Tuesday
Date: 5/14/2019

City: Hapeville
Project #: GA19_9371_005

DAILY TOTALS						NB	SB							EB	WB	Total	
						500	372							0	0	872	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL						
00:00	0	0	0	0		12:00	8	9	0	0	17						
00:15	0	0	0	0		12:15	20	9	0	0	29						
00:30	0	0	0	0		12:30	9	8	0	0	17						
00:45	0	0	0	0		12:45	16	53	8	34	109	24	87				
01:00	0	0	0	0		13:00	15	16	0	0	31						
01:15	0	0	0	0		13:15	18	16	0	0	34						
01:30	0	0	0	0		13:30	12	5	0	0	17						
01:45	0	0	0	0		13:45	13	58	14	51	126	27	109				
02:00	0	0	0	0		14:00	9	7	0	0	16						
02:15	0	0	0	0		14:15	9	2	0	0	11						
02:30	0	0	0	0		14:30	0	0	0	0							
02:45	2	2	0	0		14:45	0	18	0	9	27	27	27				
03:00	0	1	0	0	1	15:00	0	0	0	0	13						
03:15	0	0	0	0		15:15	8	5	0	0	13						
03:30	0	0	0	0		15:30	9	1	0	0	10						
03:45	0	0	1	0		15:45	2	19	4	10	25	6	29				
04:00	0	1	0	0		1	16:00	16	9	0	0	25					
04:15	0	0	0	0		16:15	14	11	0	0	25						
04:30	0	0	0	0		16:30	19	16	0	0	35						
04:45	0	0	1	0		16:45	14	63	3	39	119	17	102				
05:00	0	0	0	0			17:00	19	11	0	0	30					
05:15	0	1	0	0	17:15		22	17	0	0	39						
05:30	1	0	0	0	17:30		10	6	0	0	16						
05:45	0	1	0	1	2		17:45	17	68	6	40	121	23	108			
06:00	1	0	0	0	1	18:00	9	4	0	0	13						
06:15	0	0	0	0		18:15	15	11	0	0	26						
06:30	0	1	0	0		18:30	14	12	0	0	26						
06:45	0	1	0	1		18:45	4	42	2	29	57	6	71				
07:00	1	2	0	0		3	19:00	8	6	0	0	14					
07:15	0	2	0	0	2	19:15	14	7	0	0	21						
07:30	0	2	0	0	2	19:30	5	6	0	0	11						
07:45	0	1	5	11	17	19:45	4	31	11	30	76	15	61				
08:00	2	5	0	0	7	20:00	15	4	0	0	19						
08:15	2	10	0	0	12	20:15	11	3	0	0	14						
08:30	2	10	0	0	12	20:30	6	3	0	0	9						
08:45	2	8	7	32	49	20:45	4	36	4	14	58	8	50				
09:00	3	6	0	0	9	21:00	8	4	0	0	12						
09:15	3	1	0	0	4	21:15	5	1	0	0	6						
09:30	6	2	0	0	8	21:30	4	3	0	0	7						
09:45	0	12	2	11	25	21:45	13	30	0	8	51	13	38				
10:00	2	0	0	0	2	22:00	2	0	0	0	2						
10:15	1	2	0	0	3	22:15	1	2	0	0	3						
10:30	3	2	0	0	5	22:30	4	0	0	0	4						
10:45	6	12	6	10	34	22:45	2	9	0	2	13	2	11				
11:00	5	13	0	0	18	23:00	2	1	0	0	3						
11:15	8	3	0	0	11	23:15	1	0	0	0	1						
11:30	7	9	0	0	16	23:30	2	0	0	0	2						
11:45	11	31	12	37	91	23:45	0	5	0	1	6						
TOTALS	68	105			173	TOTALS	432	267			699						
SPLIT %	39.3%	60.7%			19.8%	SPLIT %	61.8%	38.2%			80.2%						

DAILY TOTALS				NB	SB	EB				WB	Total			
				500	372					0				
AM Peak Hour	11:45	11:30			11:45	PM Peak Hour	16:30	13:00			16:30			
AM Pk Volume	48	39			86	PM Pk Volume	74	51			121			
Pk Hr Factor	0.600	0.813			0.741	Pk Hr Factor	0.841	0.797			0.776			
7 - 9 Volume	9	43	0	0	52	4 - 6 Volume	131	79	0	0	210			
7 - 9 Peak Hour	08:00	08:00			08:00	4 - 6 Peak Hour	16:30	16:30			16:30			
7 - 9 Pk Volume	8	32	0	0	40	4 - 6 Pk Volume	74	47	0	0	121			
Pk Hr Factor	1.000	0.800	0.000	0.000	0.833	Pk Hr Factor	0.841	0.691	0.000	0.000	0.776			

CLASSIFICATION
Clay Pl S/O Doug Davis Dr

City: Hapeville
Project #: GA19_9371_005

[illegible]

Totals	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
	6	693	135	3	26	5			4					872
% of Totals	1%	79%	15%	0%	3%	1%			0%					100%

AM Volumes	2	126	36	0	4	3	0	0	2	0	0	0	0	173
% AM	0%	14%	4%		0%	0%			0%					20%
AM Peak Hour	08:45	11:45	11:15		11:45	10:45			04:45					11:45
Volume	1	70	16		3	2			2					86
PM Volumes	4	567	99	3	22	2	0	0	2	0	0	0	0	699
% PM	0%	65%	11%	0%	3%	0%			0%					80%
PM Peak Hour	12:30	16:30	13:00	13:30	12:15	17:00			19:15					16:30
Volume	3	104	27	1	8	1			2					121

Directional Peak Periods	AM 7-9		NOON 12-2		PM 4-6		Off Peak Volumes	
All Classes	Volume	%	Volume	%	Volume	%	Volume	%
	52	6%	196	22%	210	24%	414	47%

Classification Definitions				
1 Motorcycles	4 Buses	7 >=4-Axle Single Units	10 >=6-Axle Single Trailers	13 >=7-Axle Multi-Trailers
2 Passenger Cars	5 2-Axle, 6-Tire Single Units	8 <=4-Axle Single Trailers	11 <=5-Axle Multi-Trailers	
3 2-Axle, 4-Tire Single Units	6 3-Axle Single Units	9 5-Axle Single Trailers	12 6-Axle Multi-Trailers	

CLASSIFICATION

Clay Pl S/O Doug Davis Dr

Day: Wednesday

Date: 5/15/2019

City: Hapeville

Project #: GA19_9371_005

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	1	0	0	2	0	0	0	0	0	0	0	0	3
07:00	0	5	1	0	1	0	0	0	0	0	0	0	0	7
08:00	0	32	9	1	1	0	0	0	0	0	0	0	0	43
09:00	0	8	3	2	1	0	0	0	0	0	0	0	0	14
10:00	0	39	9	0	1	0	0	0	0	0	0	0	0	49
11:00	0	66	26	0	5	0	0	0	0	0	0	0	0	97
12:00 PM	3	79	28	1	0	1	0	0	0	0	0	0	0	112
13:00	0	78	17	1	3	0	0	0	0	0	0	0	0	99
14:00	1	60	9	0	3	1	0	0	0	0	0	0	0	74
15:00	0	41	5	0	0	4	0	0	0	0	0	0	0	50
16:00	0	90	7	0	3	0	0	0	0	0	0	0	0	100
17:00	0	78	12	0	3	0	0	0	0	0	0	0	0	93
18:00	1	62	17	0	2	0	0	0	0	0	0	0	0	82
19:00	0	39	7	0	2	0	0	0	0	0	0	0	0	48
20:00	0	48	12	0	2	0	0	0	0	0	0	0	0	62
21:00	0	30	9	0	1	0	0	0	0	0	0	0	0	40
22:00	0	13	5	0	0	1	0	0	0	0	0	0	0	19
23:00	0	2	2	0	1	0	0	0	0	0	0	0	0	5
Totals	5	771	179	5	31	7								998
% of Totals	1%	77%	18%	1%	3%	1%								100%

AM Volumes	0	151	49	3	11	0	0	0	0	0	0	0	0	214
% AM		15%	5%	0%	1%									21%
AM Peak Hour		11:00	11:00	09:00	11:00									11:00
Volume		66	26	2	5									97
PM Volumes	5	620	130	2	20	7	0	0	0	0	0	0	0	784
% PM	1%	62%	13%	0%	2%	1%								79%
PM Peak Hour	12:00	16:00	12:00	12:00	13:00	15:00								12:00
Volume	3	90	28	1	3	4								112

Directional Peak Periods All Classes	AM 7-9		NOON 12-2		PM 4-6		Off Peak Volumes	
	Volume	%	Volume	%	Volume	%	Volume	%
	50	5%	211	21%	193	19%	544	55%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units

4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units

7 >=4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers

10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers

13 >=7-Axle Multi-Trailers

VOLUME

Clay PI S/O Doug Davis Dr

Day: Wednesday
Date: 5/15/2019

City: Hapeville
Project #: GA19_9371_005

DAILY TOTALS						NB	SB	EB						WB	Total	
						539	459	0						0	998	
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL					
00:00	0	0	0	0		12:00	25	11	0	0	36					
00:15	0	0	0	0		12:15	16	8	0	0	24					
00:30	0	0	0	0		12:30	12	8	0	0	20					
00:45	0	0	0	0		12:45	17	70	15	42	32	112				
01:00	0	0	0	0		13:00	14	12	0	0	26					
01:15	0	0	0	0		13:15	13	13	0	0	26					
01:30	0	0	0	0		13:30	11	9	0	0	20					
01:45	0	0	0	0		13:45	15	53	12	46	27	99				
02:00	0	0	0	0		14:00	10	10	0	0	20					
02:15	0	0	0	0		14:15	12	9	0	0	21					
02:30	0	0	0	0		14:30	6	9	0	0	15					
02:45	0	0	0	0		14:45	10	38	8	36	18	74				
03:00	0	0	0	0		15:00	6	3	0	0	9					
03:15	0	0	0	0		15:15	4	10	0	0	14					
03:30	0	0	0	0		15:30	7	7	0	0	14					
03:45	0	0	0	0		15:45	11	28	2	22	13	50				
04:00	0	1	0	0	1	16:00	18	9	0	0	27					
04:15	0	0	0	0		16:15	15	8	0	0	23					
04:30	0	0	0	0		16:30	13	12	0	0	25					
04:45	0	0	1	0		16:45	15	61	10	39	25	100				
05:00	0	0	0	0		17:00	19	6	0	0	25					
05:15	0	0	0	0		17:15	17	12	0	0	29					
05:30	0	0	0	0		17:30	9	12	0	0	21					
05:45	0	0	0	0		17:45	12	57	6	36	18	93				
06:00	1	1	0	0	2	18:00	12	4	0	0	16					
06:15	0	0	0	0		18:15	7	10	0	0	17					
06:30	0	0	0	0		18:30	18	13	0	0	31					
06:45	0	1	1	2		18:45	10	47	8	35	18	82				
07:00	0	1	0	0	1	19:00	2	6	0	0	8					
07:15	0	0	0	0		19:15	8	7	0	0	15					
07:30	0	2	0	0		19:30	6	6	0	0	12					
07:45	0	4	7	0		19:45	6	22	7	26	13	48				
08:00	2	8	0	0	10	20:00	14	6	0	0	20					
08:15	0	11	0	0		20:15	6	4	0	0	10					
08:30	1	13	0	0		20:30	15	5	0	0	20					
08:45	4	7	4	36		20:45	8	43	4	19	12	62				
09:00	2	3	0	0	5	21:00	8	7	0	0	15					
09:15	1	2	0	0		21:15	13	3	0	0	16					
09:30	0	3	0	0		21:30	1	1	0	0	2					
09:45	1	4	2	10		21:45	5	27	2	13	7	40				
10:00	2	1	0	0	3	22:00	6	2	0	0	8					
10:15	5	8	0	0		22:15	1	1	0	0	2					
10:30	1	8	0	0		22:30	2	4	0	0	6					
10:45	7	15	17	34		22:45	3	12	0	7	3	19				
11:00	12	11	0	0	23	23:00	2	0	0	0	2					
11:15	9	7	0	0		23:15	1	0	0	0	1					
11:30	13	15	0	0		23:30	0	0	0	0						
11:45	16	50	14	47		23:45	1	4	1	1	2	5				
TOTALS	77	137				214	TOTALS	462	322				784			
SPLIT %	36.0%	64.0%				21.4%	SPLIT %	58.9%	41.1%				78.6%			

DAILY TOTALS				NB	SB	EB				WB	Total			
				539	459					0				
AM Peak Hour	11:30	10:45			11:30	PM Peak Hour	12:00	12:45			12:00			
AM Pk Volume	70	50			118	PM Pk Volume	70	49			112			
Pk Hr Factor	0.700	0.735			0.819	Pk Hr Factor	0.700	0.817			0.778			
7 - 9 Volume	7	43	0	0	50	4 - 6 Volume	118	75	0	0	193			
7 - 9 Peak Hour	08:00	07:45			08:00	4 - 6 Peak Hour	16:30	16:30			16:30			
7 - 9 Pk Volume	7	36	0	0	43	4 - 6 Pk Volume	64	40	0	0	104			
Pk Hr Factor	0.438	0.692	0.000	0.000	0.768	Pk Hr Factor	0.842	0.833	0.000	0.000	0.897			

CLASSIFICATION
Clay Pl S/O Doug Davis Dr

City: Hapeville
Project #: GA19_9371_005

[illegible]

CLASSIFICATION
Clay Pl S/O Doug Davis Dr

City: Hapeville
Project #: GA19_9371_005

[illegible]

Totals	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
	5	771	179	5	31	7								998
% of Totals	1%	77%	18%	1%	3%	1%								100%

AM Volumes	0	151	49	3	11	0	0	0	0	0	0	0	0	214
% AM		15%	5%	0%	1%									21%
AM Peak Hour	11:15	11:30	11:30	08:30	11:00									11:30
Volume	2	77	36	3	5									118
PM Volumes	5	620	130	2	20	7	0	0	0	0	0	0	0	784
% PM	1%	62%	13%	0%	2%	1%								79%
PM Peak Hour	12:00	16:00	12:00	12:30	16:45	15:00								12:00
Volume	3	90	28	2	5	4								112

Directional Peak Periods	AM 7-9		NOON 12-2		PM 4-6		Off Peak Volumes	
All Classes	Volume	%	Volume	%	Volume	%	Volume	%
	50	5%	211	21%	193	19%	544	55%

Classification Definitions				
1 Motorcycles	4 Buses	7 >=4-Axle Single Units	10 >=6-Axle Single Trailers	13 >=7-Axle Multi-Trailers
2 Passenger Cars	5 2-Axle, 6-Tire Single Units	8 <=4-Axle Single Trailers	11 <=5-Axle Multi-Trailers	
3 2-Axle, 4-Tire Single Units	6 3-Axle Single Units	9 5-Axle Single Trailers	12 6-Axle Multi-Trailers	

APPENDIX B – PEAK HOUR DETERMINATION & COMPUTATION

Table 8-10. Total traffic diurnal distribution factors by functional class: urban area, large: >1,000,000 population.

Hour Begins	Hour Ends	Weekday				Saturday				Sunday				Average Day			
		Interstate	Arterial CBD	Other	Collector	Interstate	Arterial CBD	Other	Collector	Interstate	Arterial CBD	Other	Collector	Interstate	Arterial CBD	Other	Collector
12:00 AM	12:59 AM	0.96	1.22	0.78	0.59	1.95	2.55	1.70	1.54	2.32	3.27	2.24	1.95	1.22	1.61	1.07	0.84
1:00 AM	1:59 AM	0.61	0.75	0.48	0.38	1.26	1.75	1.10	0.96	1.50	2.32	1.48	1.28	0.78	1.05	0.67	0.53
2:00 AM	2:59 AM	0.51	0.58	0.37	0.30	1.00	1.38	0.83	0.71	1.20	1.81	1.11	0.95	0.64	0.81	0.52	0.41
3:00 AM	3:59 AM	0.53	0.57	0.37	0.33	0.79	1.23	0.62	0.46	0.85	1.61	0.79	0.57	0.59	0.76	0.45	0.37
4:00 AM	4:59 AM	0.85	0.79	0.61	0.59	0.83	1.10	0.59	0.50	0.73	1.29	0.64	0.47	0.83	0.89	0.61	0.56
5:00 AM	5:59 AM	2.13	1.74	1.70	1.16	1.29	1.36	0.92	0.84	0.97	1.35	0.76	0.73	1.90	1.67	1.49	1.07
6:00 AM	6:59 AM	5.11	4.23	4.17	2.72	2.30	2.16	1.72	1.65	1.63	1.92	1.25	1.34	4.40	3.75	3.53	2.44
7:00 AM	7:59 AM	7.27	6.31	6.58	5.92	3.32	3.02	2.74	3.02	2.14	2.40	1.91	2.13	6.25	5.52	5.57	5.16
8:00 AM	8:59 AM	6.61	6.24	6.08	6.05	4.33	3.90	3.95	4.39	2.93	2.94	2.99	3.23	5.95	5.61	5.46	5.58
9:00 AM	9:59 AM	5.27	5.43	5.04	5.82	5.07	4.79	5.05	5.81	4.18	4.09	4.35	4.94	5.14	5.20	4.97	5.74
10:00 AM	10:59 AM	4.86	5.18	4.96	5.78	5.76	5.42	6.03	6.62	5.44	5.28	5.67	6.15	5.03	5.20	5.18	5.93
11:00 AM	11:59 AM	5.01	5.40	5.39	6.55	6.39	5.98	6.80	7.23	6.35	5.64	6.46	6.95	5.32	5.49	5.89	6.68
12:00 PM	12:59 PM	5.20	5.72	5.81	7.08	6.73	6.35	7.20	7.40	7.16	6.33	7.87	8.39	5.59	5.85	6.22	7.26
1:00 PM	1:59 PM	5.39	5.77	5.93	6.95	6.69	6.42	7.18	7.27	7.39	6.81	8.00	8.02	5.76	5.95	6.32	7.11
2:00 PM	2:59 PM	6.02	6.07	6.31	7.20	6.75	6.43	7.11	7.07	7.47	6.91	7.87	7.80	6.26	6.19	6.58	7.25
3:00 PM	3:59 PM	7.05	6.66	7.05	7.97	6.80	6.40	7.05	7.19	7.50	6.64	7.67	7.78	7.07	6.63	7.12	7.86
4:00 PM	4:59 PM	7.78	7.07	7.85	7.94	6.70	6.22	6.89	6.92	7.52	6.42	7.56	7.61	7.63	6.91	7.69	7.79
5:00 PM	5:59 PM	7.98	7.45	8.33	7.60	6.52	6.12	6.68	6.54	7.17	6.34	7.18	7.28	7.72	7.18	7.99	7.44
6:00 PM	6:59 PM	6.11	6.12	6.52	5.66	6.04	5.92	6.16	5.96	6.52	6.28	6.40	6.25	6.14	6.10	6.46	5.77
7:00 PM	7:59 PM	4.27	4.72	4.80	4.20	4.97	5.31	5.24	4.89	5.54	5.56	5.49	5.16	4.49	4.87	4.93	4.38
8:00 PM	8:59 PM	3.37	3.77	3.88	3.29	4.14	4.55	4.45	3.97	4.69	4.76	4.56	4.12	3.60	3.96	4.02	3.45
9:00 PM	9:59 PM	2.97	3.30	3.17	2.66	3.88	4.17	3.99	3.48	3.77	3.98	3.54	3.18	3.16	3.47	3.32	2.81
10:00 PM	10:59 PM	2.41	2.77	2.28	1.97	3.61	3.94	3.37	3.12	2.96	3.44	2.54	2.30	2.61	2.97	2.45	2.14
11:00 PM	11:59 PM	1.73	2.14	1.53	1.28	2.88	3.51	2.61	2.43	2.07	2.60	1.67	1.44	1.91	2.35	1.69	1.43

Hour Begins	Virginia Ave, W of Hamilton Ave			Hamilton Ave, N of Virginia Ave			Virginia Ave, N of Doug Davis Dr			Doug Davis Dr, E of Virginia Ave/Clay Pl			Clay Pl, South of Doug Davis Dr		
	Day 1 Dist	Day 2 Dist	Average Dist	Day 1 Dist	Day 2 Dist	Average Dist	Day 1 Dist	Day 2 Dist	Average Dist	Day 1 Dist	Day 2 Dist	Average Dist	Day 1 Dist	Day 2 Dist	Average Dist
0:00:00	1.18%	1.12%	1.16%	0.80%	0.43%	1.13%	1.00%	0.98%	1.00%	1.18%	1.28%	1.23%	0.00%	0.00%	0.00%
1:00:00	0.75%	0.54%	0.65%	0.40%	0.00%	0.38%	0.82%	0.75%	0.79%	0.65%	0.54%	0.60%	0.00%	0.00%	0.00%
2:00:00	0.58%	0.40%	0.50%	0.00%	0.00%	0.00%	0.74%	0.57%	0.68%	0.46%	0.37%	0.44%	0.23%	0.00%	0.10%
3:00:00	0.41%	0.40%	0.42%	0.00%	0.00%	0.00%	0.36%	0.55%	0.47%	0.40%	0.30%	0.35%	0.11%	0.00%	0.10%
4:00:00	1.06%	0.81%	0.94%	0.00%	0.85%	0.75%	0.73%	0.62%	0.68%	1.08%	0.95%	1.02%	0.11%	0.10%	0.10%
5:00:00	2.33%	2.20%	2.27%	0.00%	0.43%	0.38%	1.45%	1.64%	1.58%	2.72%	2.71%	2.72%	0.23%	0.00%	0.21%
6:00:00	2.99%	2.88%	2.94%	0.80%	1.71%	1.13%	2.54%	2.78%	2.65%	3.65%	3.80%	3.73%	0.23%	0.30%	0.42%
7:00:00	4.30%	4.12%	4.20%	3.98%	6.41%	5.28%	3.68%	3.67%	3.67%	5.16%	5.01%	5.09%	1.38%	0.70%	1.05%
8:00:00	5.06%	4.97%	5.02%	4.38%	8.12%	6.04%	5.30%	5.15%	5.21%	5.12%	5.59%	5.35%	4.59%	4.31%	4.50%
9:00:00	3.86%	4.07%	3.97%	3.98%	4.70%	4.15%	4.12%	4.15%	4.14%	4.41%	4.52%	4.46%	2.64%	1.40%	2.09%
10:00:00	3.69%	4.59%	4.14%	5.18%	5.98%	5.66%	4.23%	4.69%	4.46%	3.88%	4.46%	4.16%	2.52%	4.91%	3.77%
11:00:00	6.89%	6.45%	6.66%	3.19%	12.82%	7.55%	7.04%	6.93%	6.99%	6.86%	6.88%	6.87%	7.80%	9.72%	8.80%
12:00:00	8.84%	8.95%	8.88%	11.95%	8.12%	9.81%	9.98%	10.05%	9.99%	8.48%	8.87%	8.67%	9.98%	11.22%	10.58%
13:00:00	7.67%	7.74%	7.69%	9.96%	5.98%	7.55%	8.29%	7.48%	7.86%	7.54%	7.63%	7.57%	12.50%	9.92%	10.99%
14:00:00	6.53%	6.69%	6.60%	7.97%	4.70%	6.42%	6.28%	6.77%	6.52%	6.29%	6.54%	6.41%	3.10%	7.41%	5.34%
15:00:00	6.68%	6.71%	6.69%	7.57%	6.41%	6.79%	7.10%	5.95%	6.50%	6.33%	6.49%	6.41%	3.33%	5.01%	4.29%
16:00:00	7.05%	7.12%	7.08%	5.98%	6.84%	6.42%	6.41%	6.66%	6.52%	7.32%	6.46%	6.87%	11.70%	10.02%	10.58%
17:00:00	7.90%	7.98%	7.93%	8.37%	6.41%	7.55%	7.26%	7.63%	7.43%	8.23%	8.36%	8.28%	12.39%	9.32%	10.68%
18:00:00	5.79%	6.04%	5.92%	9.96%	5.98%	7.55%	5.86%	6.29%	6.07%	5.36%	5.75%	5.55%	8.14%	8.22%	8.17%
19:00:00	4.97%	4.50%	4.73%	3.98%	4.70%	4.15%	5.30%	4.42%	4.85%	4.27%	4.10%	4.19%	7.00%	4.81%	5.76%
20:00:00	3.81%	4.12%	3.97%	4.78%	4.70%	4.53%	3.96%	4.63%	4.30%	3.28%	3.18%	3.24%	5.73%	6.21%	5.97%
21:00:00	3.04%	2.95%	2.99%	3.19%	2.56%	3.40%	3.25%	2.73%	2.99%	2.69%	2.31%	2.50%	4.36%	4.01%	4.19%
22:00:00	2.39%	2.52%	2.46%	1.99%	1.71%	2.26%	2.47%	2.66%	2.58%	2.33%	2.18%	2.26%	1.26%	1.90%	1.68%
23:00:00	2.22%	2.12%	2.18%	1.59%	0.43%	1.13%	1.83%	2.25%	2.06%	2.31%	1.74%	2.02%	0.69%	0.50%	0.63%

Intersection 1: Virginia Ave & Hamilton Ave																
					2019	Existing Peak Hr TMC (RAW DATA)										
	Driveway				Hamilton Ave				Virginia Ave				Virginia Ave			
BY MOVEMENT	NB LT	NB THRU	NB RT	NB U-TURN	SB LT	SB THRU	SB RT	SB U-TURN	EB LT	EB THRU	EB RT	EB U-TURN	WB LT	WB THRU	WB RT	WB U-TURN
12:00 PM					3	0	9	0	3	480	36	0	4	479	4	0
Percentage	77.8%	0.0%	22.2%	0.0%	27.3%	0.0%	72.7%	0.0%	0.6%	92.6%	6.9%	0.0%	0.7%	98.5%	0.7%	0.0%
4:45 PM	7	0	2	0	3	0	8	0	2	323	24	0	4	537	4	0
Percentage	77.8%	0.0%	22.2%	0.0%	27.3%	0.0%	72.7%	0.0%	0.6%	92.6%	6.9%	0.0%	0.7%	98.5%	0.7%	0.0%
BY APPROACH	IN			OUT	IN			OUT	IN			OUT	IN			OUT
AM:	0			39	13			7	519			488	487			483
PM:	9			28	11			6	349			552	545			328
3-HOUR TOTAL	29	1	8	0	10	0	17	0	12	955	62	0	12	1323	16	0
Percentage	76.3%	2.6%	21.1%	0.0%	37.0%	0.0%	63.0%	0.0%	1.2%	92.8%	6.0%	0.0%	0.9%	97.9%	1.2%	0.0%

*Note: Driveway noon peak hour volumes could not be computed because no ADT data was collected from this location

Intersection 2: Virginia Ave/Clay Pl & Doug Davis Dr/Virginia Ave																
					2019 Existing Peak Hr TMC (RAW DATA)											
	Clay Pl				Virginia Ave				Virginia Ave				Doug Davis Dr			
BY MOVEMENT	NB LT	NB THRU	NB RT	NB U-TURN	SB LT	SB THRU	SB RT	SB U-TURN	EB LT	EB THRU	EB RT	EB U-TURN	WB LT	WB THRU	WB RT	WB U-TURN
12:00 PM	23	9	30	0	49	6	246	0	195	295	26	3	13	267	63	0
Percentage	36.7%	15.2%	48.1%	0.0%	16.3%	2.1%	81.6%	0.0%	37.6%	56.8%	5.0%	0.6%	3.9%	77.7%	18.5%	0.0%
4:45 PM	29	12	38	0	31	4	155	0	121	183	16	2	18	362	86	0
Percentage	36.7%	15.2%	48.1%	0.0%	16.3%	2.1%	81.6%	0.0%	37.6%	56.8%	5.0%	0.6%	3.9%	77.7%	18.5%	0.0%
BY APPROACH	IN			OUT	IN			OUT	IN			OUT	IN			OUT
AM:	61.5			45	301			268	519			538	344			373
PM:	79			38	190			219	322			548	466			252
3-HOUR TOTAL	65	37	76	0	74	23	419	0	355	562	56	2	40	867	205	0
Percentage	36.5%	20.8%	42.7%	0.0%	14.3%	4.5%	81.2%	0.0%	36.4%	57.6%	5.7%	0.2%	3.6%	78.0%	18.4%	0.0%

APPENDIX C – K FACTOR AND D FACTOR CALCULATIONS

(PI# 171007021 - Fulton County)

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APPENDIX D – TRUCK PERCENTAGE CALCULATIONS

Truck Percentages

**PI #0015005 - Fulton County, GA
Virginia Avenue Roundabout Feasibility Study
from Virginia Avenue to Doug Davis Dr**

Count Number	Count Location	24 Hour T%			Peak Hour T%			
		S.U.	Comb.	Total	Period	S.U.	Comb.	Total
1	Virginia Ave W of Hamilton Ave	4.0%	0.0%	4.0%	AM	3.5%	0.0%	3.5%
					PM	3.0%	0.0%	3.0%
2	Hamilton Ave N of Virginia Ave	4.5%	0.0%	4.5%	AM	10.0%	0.0%	10.0%
					PM	3.0%	0.0%	3.0%
3	Virginia Ave N of Doug Davis Dr	2.5%	0.0%	2.5%	AM	4.0%	0.5%	4.5%
					PM	1.5%	0.0%	1.5%
4	Doug Davis Dr E of Virginia Ave/Clay Pl	3.0%	0.0%	3.0%	AM	3.0%	0.0%	3.0%
					PM	2.5%	0.0%	2.5%
5	Clay Pl S of Doug Davis Dr	4.0%	0.0%	4.0%	AM	3.5%	0.0%	3.5%
					PM	2.5%	0.0%	2.5%

Truck Percentage Calculations
 PI # 171007021 - Fulton County, GA
 Virginia Ave/Doug Davis Ave @ Clay Pl/Virginia Ave Roundabout Feasibility Study

#1 Virginia Ave W of Hamilton Ave																	
	Direction	Total	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	S.U. T%	Comb. T%
12:00 PM Day 1	EB	519	2	427	70	1	18	0	0	1	0	0	0	0	0	3.9%	0.1%
	WB	467	1	389	58	1	18	0	0	0	0	0	0	0	0		
	EB	518	1	425	73	3	15	0	0	0	1	0	0	0	0	3.4%	0.2%
	WB	42	1	29	11	0	0	1	0	0	0	0	0	0	0		
															AM DHV T%	3.7%	0.1%
																3.5%	0.0%
	Direction	Total	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	S.U. T%	Comb. T%
4:45 PM Day 1	EB	350	0	296	47	1	6	0	0	0	0	0	0	0	0	2.1%	0.0%
	WB	546	0	472	62	5	7	0	0	0	0	0	0	0	0		
	EB	401	0	331	55	2	13	0	0	0	0	0	0	0	0	3.7%	0.0%
	WB	536	0	435	81	1	19	0	0	0	0	0	0	0	0		
															PM DHV T%	2.9%	0.0%
																3.0%	0.0%
	Direction	Total	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	S.U. T%	Comb. T%
24-hr T Day 1	EB	5,550	7	4,614	723	35	158	6	0	4	3	0	0	0	0	3.6%	0.1%
	WB	5,604	2	4,741	657	25	169	5	0	2	3	0	0	0	0		
	EB	5,646	6	4,612	782	33	198	8	0	4	3	0	0	0	0	4.1%	0.1%
	WB	5,794	5	4,671	880	37	192	5	0	2	2	0	0	0	0		
															Daily T%	3.9%	0.1%
																4.0%	0.0%
#2 Hamilton Ave N of Virginia Ave																	
	Direction	Total	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	S.U. T%	Comb. T%
12:00 PM Day 1	NB	15	0	10	5	0	0	0	0	0	0	0	0	0	0	6.7%	0.0%
	SB	15	0	12	1	1	1	0	0	0	0	0	0	0	0		
	NB	9	0	7	1	0	0	0	1	0	0	0	0	0	0	15.8%	0.0%
	SB	10	0	8	0	2	0	0	0	0	0	0	0	0	0		
															AM DHV T%	10.2%	0.0%
																10.0%	0.0%
	Direction	Total	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	S.U. T%	Comb. T%
4:45 PM Day 1	NB	10	0	9	1	0	0	0	0	0	0	0	0	0	0	5.3%	0.0%
	SB	9	0	8	0	0	1	0	0	0	0	0	0	0	0		
	NB	7	1	5	1	0	0	0	0	0	0	0	0	0	0	0.0%	0.0%
	SB	10	0	8	2	0	0	0	0	0	0	0	0	0	0		
															PM DHV T%	2.8%	0.0%
																3.0%	0.0%
	Direction	Total	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	S.U. T%	Comb. T%
24-hr T Day 1	NB	109	0	93	15	0	1	0	0	0	0	0	0	0	0	3.2%	0.0%
	SB	142	0	119	16	2	5	0	0	0	0	0	0	0	0		
	NB	97	2	76	14	0	4	0	1	0	0	0	0	0	0	6.0%	0.0%
	SB	137	0	114	14	5	4	0	0	0	0	0	0	0	0		
															Daily T%	4.5%	0.0%
																4.5%	0.0%

Truck Percentage Calculations
PI # 171007021 - Fulton County, GA
Virginia Ave/Doug Davis Ave @ Clay PI/Virginia Ave Roundabout Feasibility Study

#3 Virginia Ave N of Doug Davis Dr

	Direction	Total	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	S.U. T%	Comb. T%
12:00 PM	Day 1	NB	237	0	193	34	1	8	1	0	0	0	0	0	0	4.7%	0.2%
	Day 1	SB	313	2	250	44	1	11	3	1	1	0	0	0	0		
Day 2	Day 2	NB	275	1	211	52	1	8	1	0	1	0	0	0	0	2.8%	0.4%
	Day 2	SB	289	0	232	50	0	4	2	0	1	0	0	0	0		
															AM DHV T%	3.8%	0.3%
																4.0%	0.5%

	Direction	Total	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	S.U. T%	Comb. T%
4:45 PM	Day 1	NB	212	1	189	21	0	1	0	0	0	0	0	0	0	0.3%	0.0%
	Day 1	SB	178	3	146	29	0	0	0	0	0	0	0	0	0		
Day 2	Day 2	NB	246	0	210	29	0	7	0	0	0	0	0	0	0	2.3%	0.0%
	Day 2	SB	198	2	164	29	1	2	0	0	0	0	0	0	0		
															PM DHV T%	1.3%	0.0%
																1.5%	0.0%

	Direction	Total	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	S.U. T%	Comb. T%
24-hr T	Day 1	NB	2,694	3	2,301	317	12	51	3	1	3	3	0	0	0	2.5%	0.2%
	Day 1	SB	2,816	8	2,384	353	12	49	5	2	3	0	0	0	0		
Day 2	Day 2	NB	2,743	7	2,300	363	7	59	3	0	4	0	0	0	0	2.7%	0.2%
	Day 2	SB	2,869	9	2,376	396	9	65	6	0	3	5	0	0	0		
															Daily T%	2.6%	0.2%
																2.5%	0.0%

#4 Doug Davis Dr E of Virginia Ave/Clay PI

	Direction	Total	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	S.U. T%	Comb. T%
12:00 PM	Day 1	EB	380	0	318	53	2	7	0	0	0	0	0	0	0	2.8%	0.0%
	Day 1	WB	333	0	288	34	3	8	0	0	0	0	0	0	0		
Day 2	Day 2	EB	396	0	314	70	5	7	0	0	0	0	0	0	0	3.3%	0.0%
	Day 2	WB	354	0	295	46	3	9	1	0	0	0	0	0	0		
															AM DHV T%	3.1%	0.0%
																3.0%	0.0%

	Direction	Total	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	S.U. T%	Comb. T%
4:45 PM	Day 1	EB	249	0	213	30	2	4	0	0	0	0	0	0	0	2.5%	0.0%
	Day 1	WB	462	0	414	36	3	9	0	0	0	0	0	0	0		
Day 2	Day 2	EB	277	0	235	35	1	6	0	0	0	0	0	0	0	2.5%	0.0%
	Day 2	WB	447	0	390	46	1	10	0	0	0	0	0	0	0		
															PM DHV T%	2.5%	0.0%
																2.5%	0.0%

	Direction	Total	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	S.U. T%	Comb. T%
24-hr T	Day 1	EB	4,202	4	3,446	616	36	94	6	0	0	0	0	0	0	3.2%	0.0%
	Day 1	WB	4,209	0	3,695	383	29	100	0	1	1	0	0	0	0		
Day 2	Day 2	EB	4,263	6	3,522	593	36	103	3	0	0	0	0	0	0	3.2%	0.0%
	Day 2	WB	4,193	2	3,599	462	26	103	1	0	0	0	0	0	0		
															Daily T%	3.2%	0.0%
																3.0%	0.0%

#5 Clay PI S of Doug Davis Dr

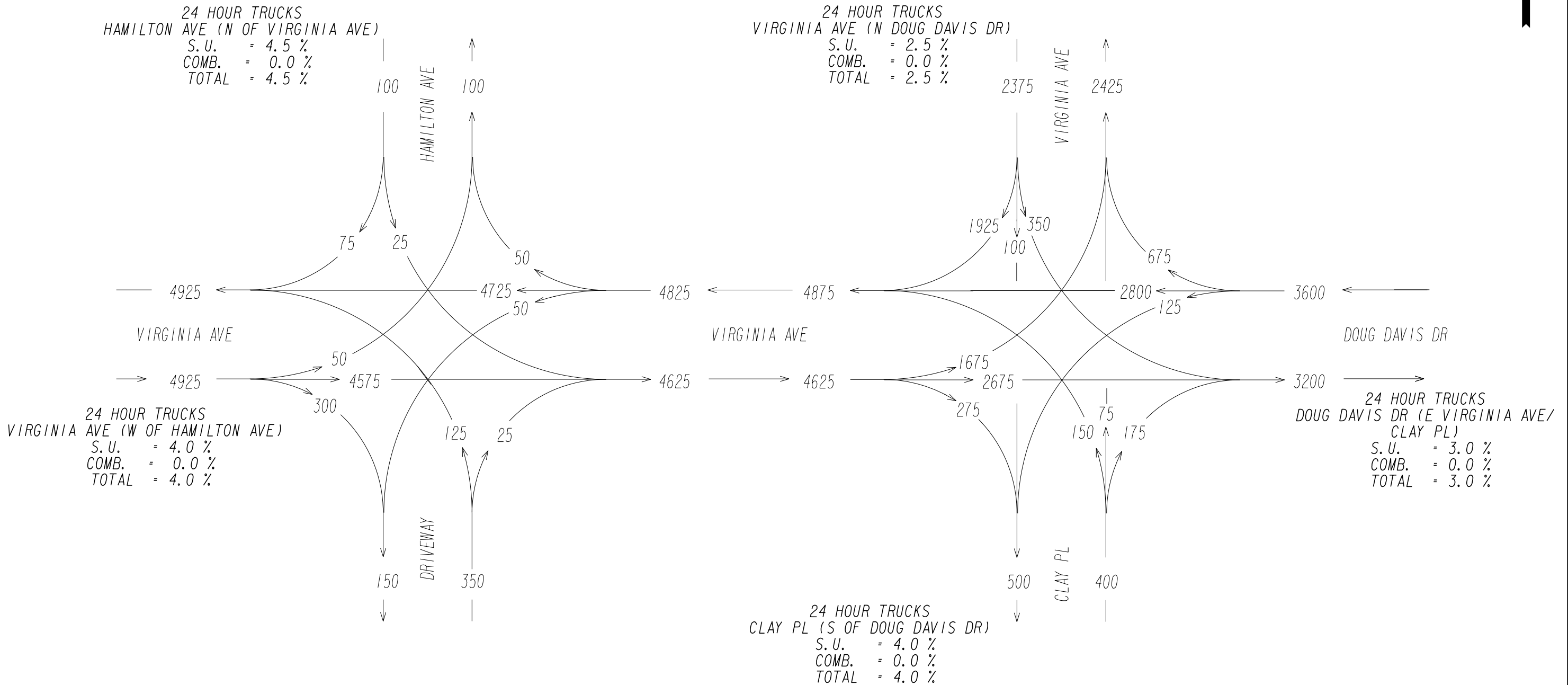
	Direction	Total	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	S.U. T%	Comb. T%
12:00 PM	Day 1	NB	53	0	44	7	0	2	0	0	0	0	0	0	0	5.7%	0.0%
	Day 1	SB	34	1	26	4	0	3	0	0	0	0	0	0	0		
Day 2	Day 2	NB	70	2	50	17	1	0	0	0	0	0	0	0	0	1.8%	0.0%
	Day 2	SB	42	1	29	11	0	0	1	0	0	0	0	0	0		
															AM DHV T%	3.5%	0.0%
																3.5%	0.0%

	Direction	Total	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	S.U. T%	Comb. T%
4:45 PM	Day 1	NB	65	0	58	7	0	0	0	0	0	0	0	0	0	0.0%	0.0%
	Day 1	SB	37	0	33	4	0	0	0	0	0	0	0	0	0		
Day 2	Day 2	NB	60	0	54	4	0	2	0	0	0	0	0	0	0	5.0%	0.0%
	Day 2	SB	40	0	32	5	0	3	0	0	0	0	0	0	0		
															PM DHV T%	2.5%	0.0%
																2.5%	0.0%

	Direction	Total	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	S.U. T%	Comb. T%
24-hr T	Day 1	NB	500	4	407	70	2	12	3	0	0	2	0	0	0	3.9%	0.5%
	Day 1	SB	372	2	286	65	1	14	2	0	0	2	0	0	0		
Day 2	Day 2	NB	539	4	430	89	4	8	4	0	0	0	0	0	0	4.3%	0.0%
	Day 2	SB	459	1	341	90	1	23	3	0	0	0	0	0	0		
															Daily T%	4.1%	0.2%
																4.0%	0.0%

APPENDIX E – TRAFFIC MOVEMENT FIGURES

FULTON COUNTY



2019 EXISTING AADT

PROJECT NUMBER: 171007021
FULTON COUNTY
VIRGINIA AVENUE
ROUNDAABOUT FEASIBILITY
STUDY



REVISION DATES

TRAFFIC DIAGRAM

DRAWING No.
01-0002

FULTON COUNTY



PEAK HOUR TRUCKS
HAMILTON AVE (N OF VIRGINIA AVE)

(PM) AM
S.U. = (3.0 %) 10.0 %
COMB. = (0.0 %) 0.0 %
TOTAL = (3.0 %) 10.0 %

PEAK HOUR TRUCKS
VIRGINIA AVE (N DOUG DAVIS DR)

(PM) AM
S.U. = (1.5 %) 4.0 %
COMB. = (0.0 %) 0.0 %
TOTAL = (1.5 %) 4.0 %

PEAK HOUR TRUCKS
DOUG DAVIS DR (E VIRGINIA AVE/
CLAY PL)

(PM) AM
S.U. = (2.5 %) 3.0 %
COMB. = (0.0 %) 0.0 %
TOTAL = (2.5 %) 3.0 %

PEAK HOUR TRUCKS
VIRGINIA AVE (W OF HAMILTON AVE)

(PM) AM
S.U. = (3.0 %) 3.5 %
COMB. = (0.0 %) 0.0 %
TOTAL = (3.0 %) 3.5 %

PEAK HOUR TRUCKS
CLAY PL (S OF DOUG DAVIS DR)

(PM) AM
S.U. = (2.5 %) 3.5 %
COMB. = (0.0 %) 0.0 %
TOTAL = (2.5 %) 3.5 %

2019 EXISTING DHV
(PM) NOON

PROJECT NUMBER: 171007021
FULTON COUNTY
VIRGINIA AVENUE
ROUNDAABOUT FEASIBILITY
STUDY



REVISION DATES

TRAFFIC DIAGRAM

DRAWING No.
01-0003

FULTON COUNTY



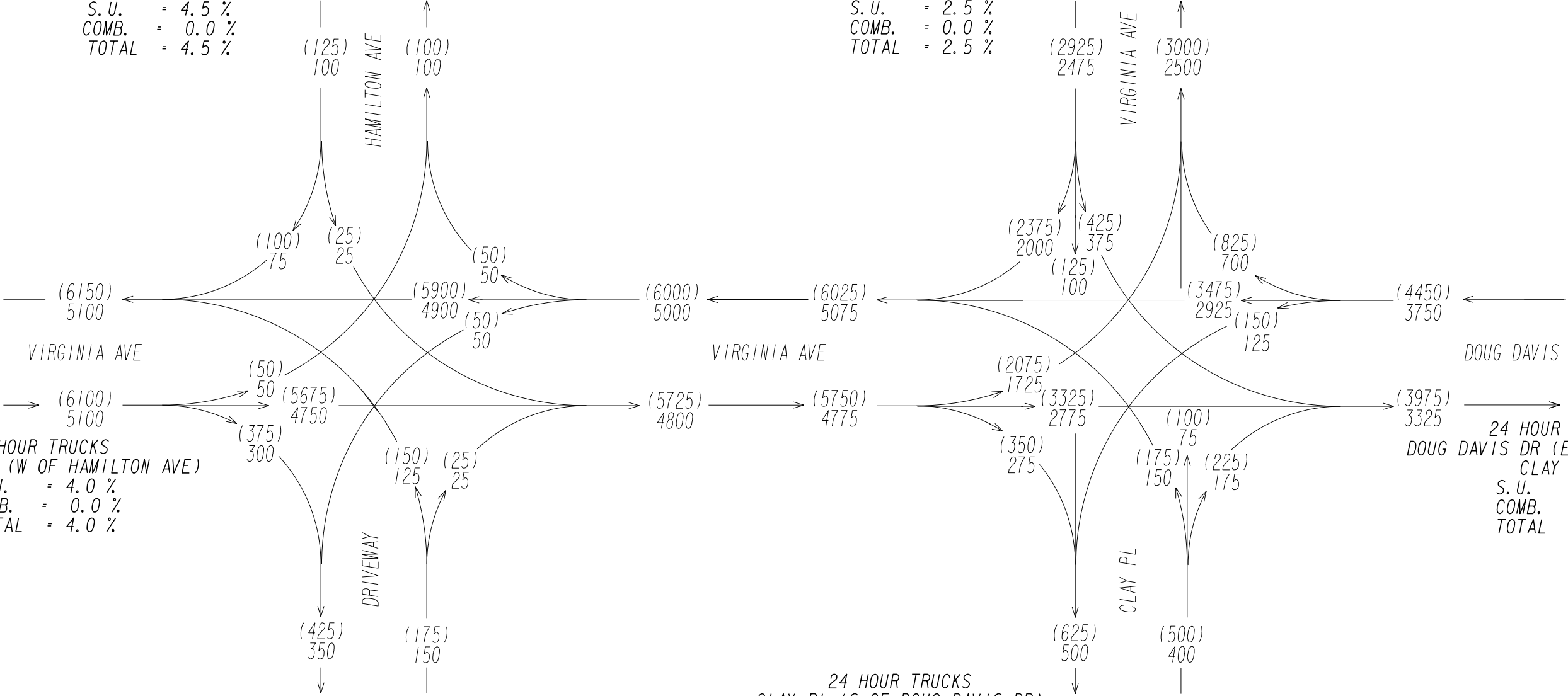
24 HOUR TRUCKS
HAMILTON AVE (N OF VIRGINIA AVE)
S.U. = 4.5 %
COMB. = 0.0 %
TOTAL = 4.5 %

24 HOUR TRUCKS
VIRGINIA AVE (N DOUG DAVIS DR)
S.U. = 2.5 %
COMB. = 0.0 %
TOTAL = 2.5 %

24 HOUR TRUCKS
VIRGINIA AVE (W OF HAMILTON AVE)
S.U. = 4.0 %
COMB. = 0.0 %
TOTAL = 4.0 %

24 HOUR TRUCKS
DOUG DAVIS DR (E VIRGINIA AVE/
CLAY PL)
S.U. = 3.0 %
COMB. = 0.0 %
TOTAL = 3.0 %

24 HOUR TRUCKS
CLAY PL (S OF DOUG DAVIS DR)
S.U. = 4.0 %
COMB. = 0.0 %
TOTAL = 4.0 %



(2043) 2023 AADT

PROJECT NUMBER: 171007021
FULTON COUNTY
VIRGINIA AVENUE
ROUNDAABOUT FEASIBILITY
STUDY



REVISION DATES

TRAFFIC DIAGRAM

DRAWING No.
01-0004

FULTON COUNTY



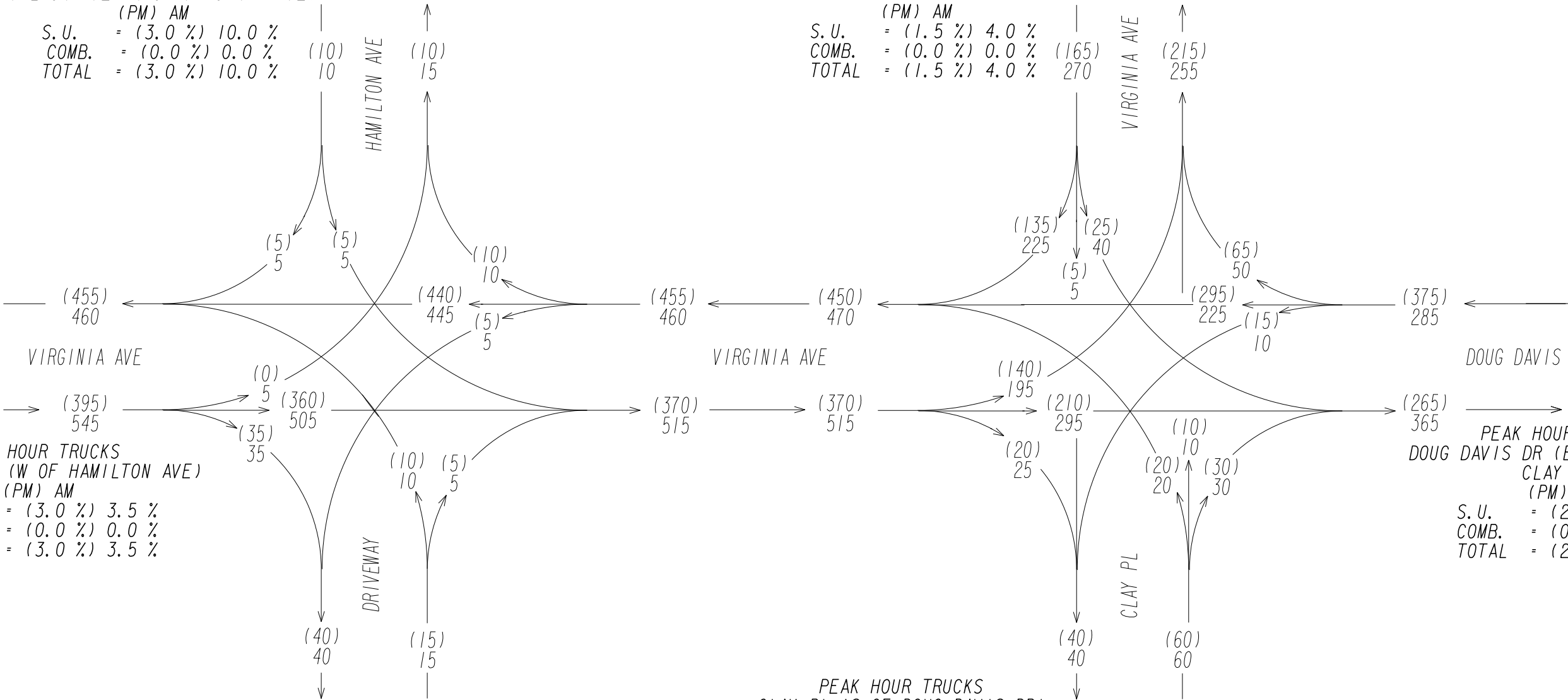
PEAK HOUR TRUCKS
HAMILTON AVE (N OF VIRGINIA AVE)
(PM) AM
S.U. = (3.0 %) 10.0 %
COMB. = (0.0 %) 0.0 %
TOTAL = (3.0 %) 10.0 %

PEAK HOUR TRUCKS
VIRGINIA AVE (N DOUG DAVIS DR)
(PM) AM
S.U. = (1.5 %) 4.0 %
COMB. = (0.0 %) 0.0 %
TOTAL = (1.5 %) 4.0 %

PEAK HOUR TRUCKS
DOUG DAVIS DR (E VIRGINIA AVE/
CLAY PL)
(PM) AM
S.U. = (2.5 %) 3.0 %
COMB. = (0.0 %) 0.0 %
TOTAL = (2.5 %) 3.0 %

PEAK HOUR TRUCKS
VIRGINIA AVE (W OF HAMILTON AVE)
(PM) AM
S.U. = (3.0 %) 3.5 %
COMB. = (0.0 %) 0.0 %
TOTAL = (3.0 %) 3.5 %

PEAK HOUR TRUCKS
CLAY PL (S OF DOUG DAVIS DR)
(PM) AM
S.U. = (2.5 %) 3.5 %
COMB. = (0.0 %) 0.0 %
TOTAL = (2.5 %) 3.5 %



2023 DHV
(PM) NOON

PROJECT NUMBER: 171007021
FULTON COUNTY
VIRGINIA AVENUE
ROUNDAABOUT FEASIBILITY
STUDY



REVISION DATES

TRAFFIC DIAGRAM

DRAWING No.
01-0005

JE
09/2019

FULTON COUNTY



PEAK HOUR TRUCKS
HAMILTON AVE (N OF VIRGINIA AVE)

(PM) AM
S.U. = (3.0 %) 10.0 %
COMB. = (0.0 %) 0.0 %
TOTAL = (3.0 %) 10.0 %

PEAK HOUR TRUCKS
VIRGINIA AVE (N DOUG DAVIS DR)

(PM) AM
S.U. = (1.5 %) 4.0 %
COMB. = (0.0 %) 0.0 %
TOTAL = (1.5 %) 4.0 %

PEAK HOUR TRUCKS
DOUG DAVIS DR (E VIRGINIA AVE/
CLAY PL)

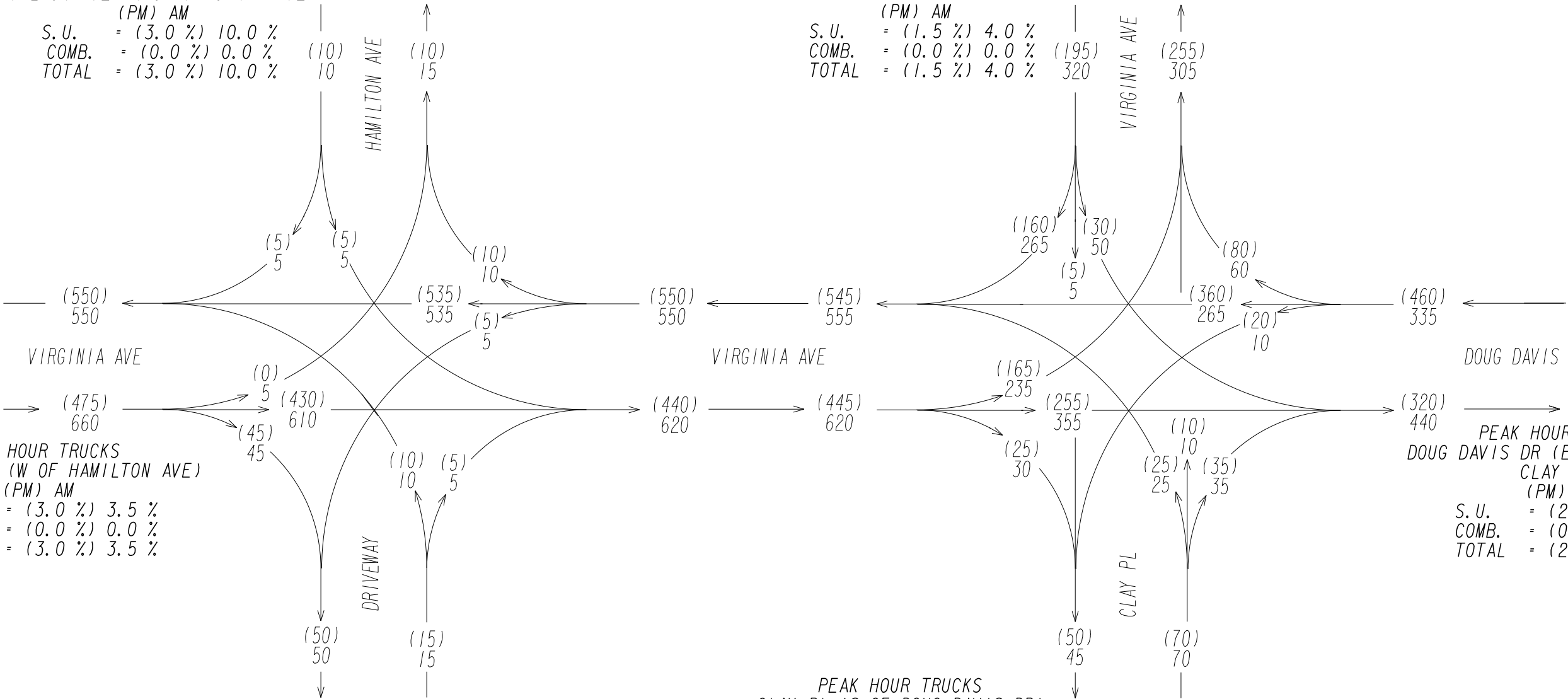
(PM) AM
S.U. = (2.5 %) 3.0 %
COMB. = (0.0 %) 0.0 %
TOTAL = (2.5 %) 3.0 %

PEAK HOUR TRUCKS
VIRGINIA AVE (W OF HAMILTON AVE)

(PM) AM
S.U. = (3.0 %) 3.5 %
COMB. = (0.0 %) 0.0 %
TOTAL = (3.0 %) 3.5 %

PEAK HOUR TRUCKS
CLAY PL (S OF DOUG DAVIS DR)

(PM) AM
S.U. = (2.5 %) 3.5 %
COMB. = (0.0 %) 0.0 %
TOTAL = (2.5 %) 3.5 %



2043 DHV
(PM) NOON

PROJECT NUMBER: 171007021
FULTON COUNTY

VIRGINIA AVENUE
ROUNDAABOUT FEASIBILITY
STUDY



REVISION DATES

TRAFFIC DIAGRAM

DRAWING No.

01-0006

FULTON COUNTY



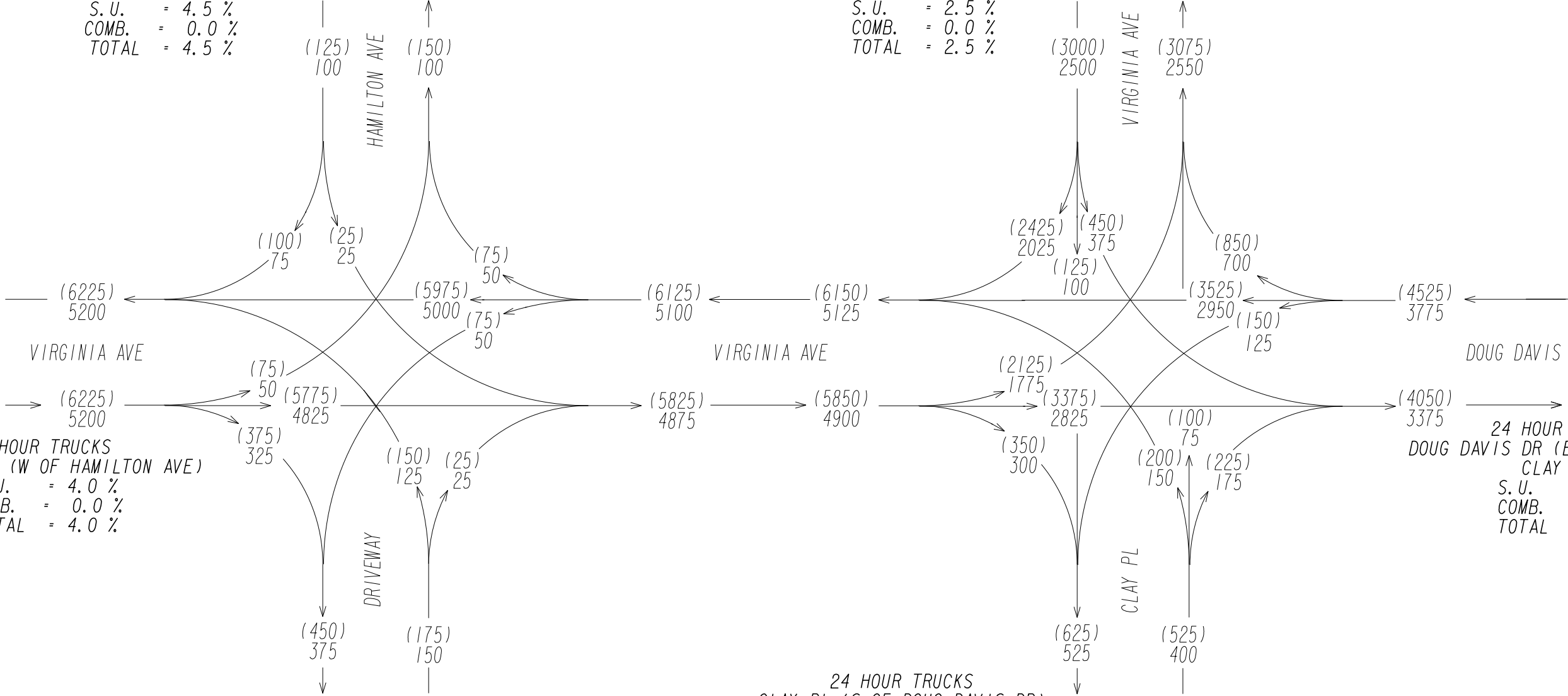
24 HOUR TRUCKS
HAMILTON AVE (N OF VIRGINIA AVE)
S.U. = 4.5 %
COMB. = 0.0 %
TOTAL = 4.5 %

24 HOUR TRUCKS
VIRGINIA AVE (N DOUG DAVIS DR)
S.U. = 2.5 %
COMB. = 0.0 %
TOTAL = 2.5 %

24 HOUR TRUCKS
VIRGINIA AVE (W OF HAMILTON AVE)
S.U. = 4.0 %
COMB. = 0.0 %
TOTAL = 4.0 %

24 HOUR TRUCKS
DOUG DAVIS DR (E VIRGINIA AVE/
CLAY PL)
S.U. = 3.0 %
COMB. = 0.0 %
TOTAL = 3.0 %

24 HOUR TRUCKS
CLAY PL (S OF DOUG DAVIS DR)
S.U. = 4.0 %
COMB. = 0.0 %
TOTAL = 4.0 %



(2045) 2025 AADT

PROJECT NUMBER: 171007021
FULTON COUNTY

VIRGINIA AVENUE
ROUNDBOUT FEASIBILITY
STUDY



REVISION DATES

TRAFFIC DIAGRAM

DRAWING No.
01-0007

FULTON COUNTY



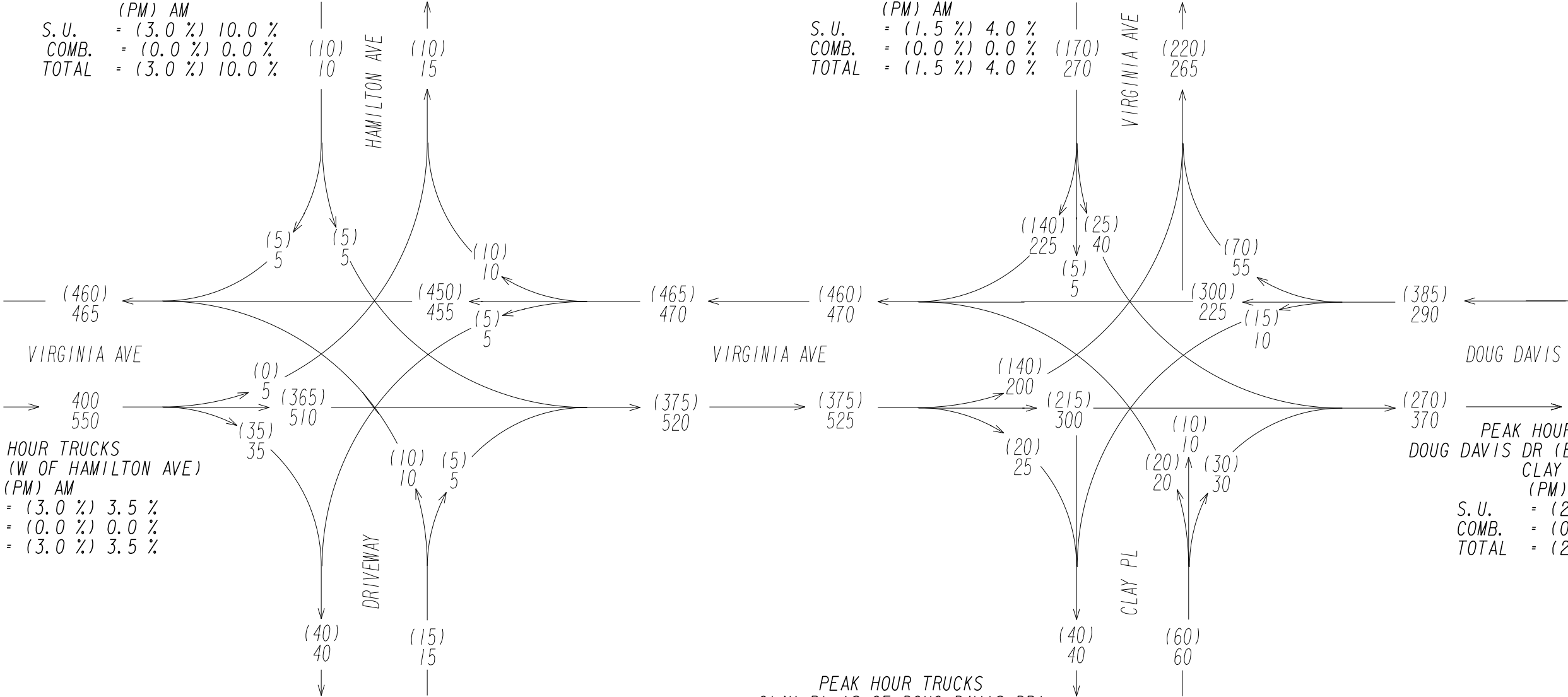
PEAK HOUR TRUCKS
HAMILTON AVE (N OF VIRGINIA AVE)
(PM) AM
S.U. = (3.0 %) 10.0 %
COMB. = (0.0 %) 0.0 %
TOTAL = (3.0 %) 10.0 %

PEAK HOUR TRUCKS
VIRGINIA AVE (N DOUG DAVIS DR)
(PM) AM
S.U. = (1.5 %) 4.0 %
COMB. = (0.0 %) 0.0 %
TOTAL = (1.5 %) 4.0 %

PEAK HOUR TRUCKS
VIRGINIA AVE (W OF HAMILTON AVE)
(PM) AM
S.U. = (3.0 %) 3.5 %
COMB. = (0.0 %) 0.0 %
TOTAL = (3.0 %) 3.5 %

PEAK HOUR TRUCKS
DOUG DAVIS DR (E VIRGINIA AVE/
CLAY PL)
(PM) AM
S.U. = (2.5 %) 3.0 %
COMB. = (0.0 %) 0.0 %
TOTAL = (2.5 %) 3.0 %

PEAK HOUR TRUCKS
CLAY PL (S OF DOUG DAVIS DR)
(PM) AM
S.U. = (2.5 %) 3.5 %
COMB. = (0.0 %) 0.0 %
TOTAL = (2.5 %) 3.5 %



FULTON COUNTY



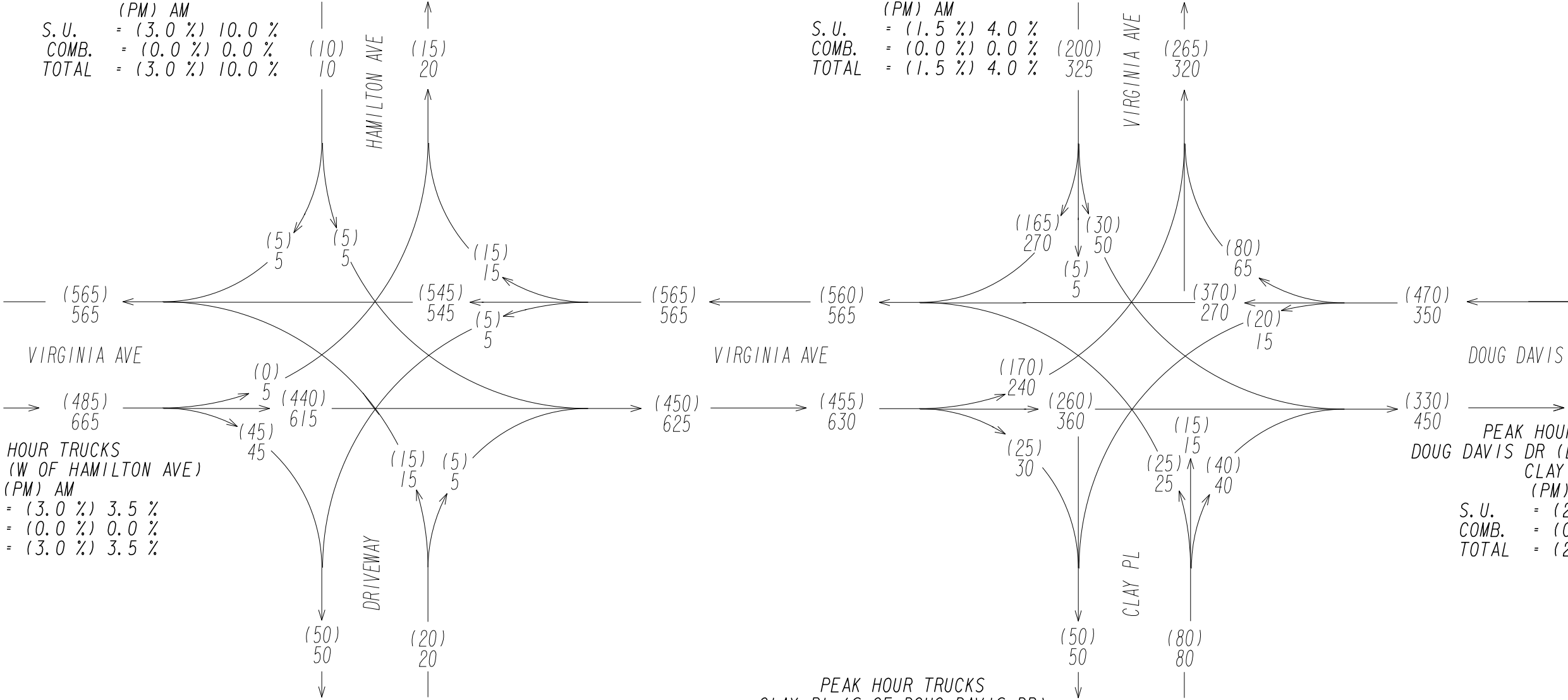
PEAK HOUR TRUCKS
HAMILTON AVE (N OF VIRGINIA AVE)
(PM) AM
S.U. = (3.0 %) 10.0 %
COMB. = (0.0 %) 0.0 %
TOTAL = (3.0 %) 10.0 %

PEAK HOUR TRUCKS
VIRGINIA AVE (N DOUG DAVIS DR)
(PM) AM
S.U. = (1.5 %) 4.0 %
COMB. = (0.0 %) 0.0 %
TOTAL = (1.5 %) 4.0 %

PEAK HOUR TRUCKS
VIRGINIA AVE (W OF HAMILTON AVE)
(PM) AM
S.U. = (3.0 %) 3.5 %
COMB. = (0.0 %) 0.0 %
TOTAL = (3.0 %) 3.5 %

PEAK HOUR TRUCKS
DOUG DAVIS DR (E VIRGINIA AVE/
CLAY PL)
(PM) AM
S.U. = (2.5 %) 3.0 %
COMB. = (0.0 %) 0.0 %
TOTAL = (2.5 %) 3.0 %

PEAK HOUR TRUCKS
CLAY PL (S OF DOUG DAVIS DR)
(PM) AM
S.U. = (2.5 %) 3.5 %
COMB. = (0.0 %) 0.0 %
TOTAL = (2.5 %) 3.5 %



**APPENDIX F.1 – GROWTH RATE
CALCULATIONS
(GDOT HISTORICAL DATA)**

Historical Growth Calculations for Lenox Rd **(PI# 0015005 - Fulton County)**

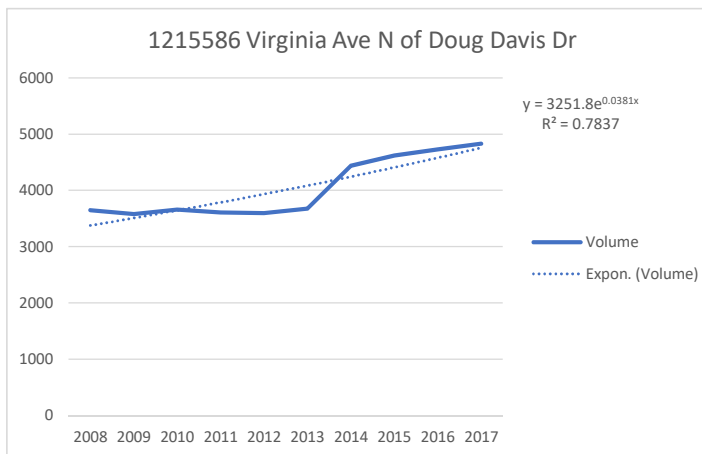
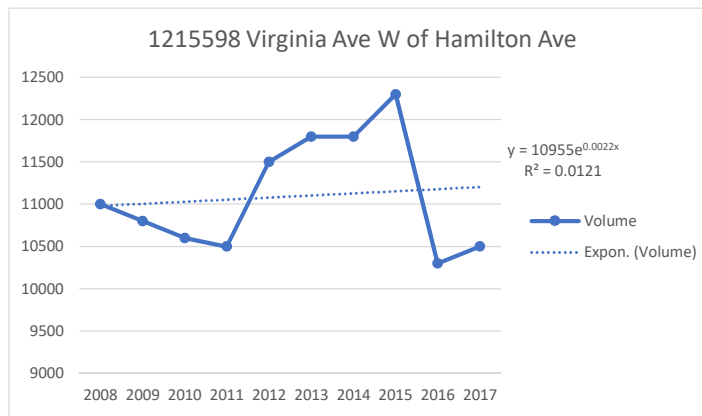
- Based on local GDOT Count Stations

Study Corridor

Growth Rate based on data from 2008-2017

1215598 Virginia Ave W of Hamilton Ave		
Year	Volume	Actuals?
2017	10,500	Estimated
2016	10,300	Actual
2015	12,300	Estimated
2014	11,800	-
2013	11,800	-
Growth		-2.9%
2012	11500	-
2011	10500	-
2010	10600	-
2009	10800	-
2008	11000	-
Trend Growth Rate		0.2%

1215586 Virginia Avenue N of Doug Davis Drive		
Year	Volume	Actuals?
2017	4,830	Estimtaed
2016	4,730	Estimtaed
2015	4,620	Estimtaed
2014	4,440	-
2013	3,680	-
Growth Rate		7.0%
2012	3600	-
2011	3610	-
2010	3660	-
2009	3580	-
2008	3650	-
Trend Growth Rate		3.8%



Single Station Annualized Statistics - 121-5586

Data Item	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Data Item
Statistics type	-	-	-	-	-	-	-	Estimated	Estimated	Estimated	Statistics type
AADT	3650	3580	3660	3610	3600	3680	4440	4620	4730	4830	AADT
Single-Unit Truck AADT	-	-	-	-	-	-	-	-	-	-	Single-Unit Truck AADT
Combo-Unit Truck AADT	-	-	-	-	-	-	-	-	-	-	Combo-Unit Truck AADT
% Peak SU Trucks	-	-	-	-	-	-	-	-	-	-	% Peak SU Trucks
% Peak CU Trucks	-	-	-	-	-	-	-	-	-	-	% Peak CU Trucks
K-Factor	-	-	-	-	-	-	0.123	0.123	0.123	-	K-Factor
D-Factor	-	-	-	-	-	-	0.500	0.500	0.500	-	D-Factor
Future AADT	-	-	-	-	-	-	-	-	6250	7840	Future AADT

Single Station Annualized Statistics - 121-5593

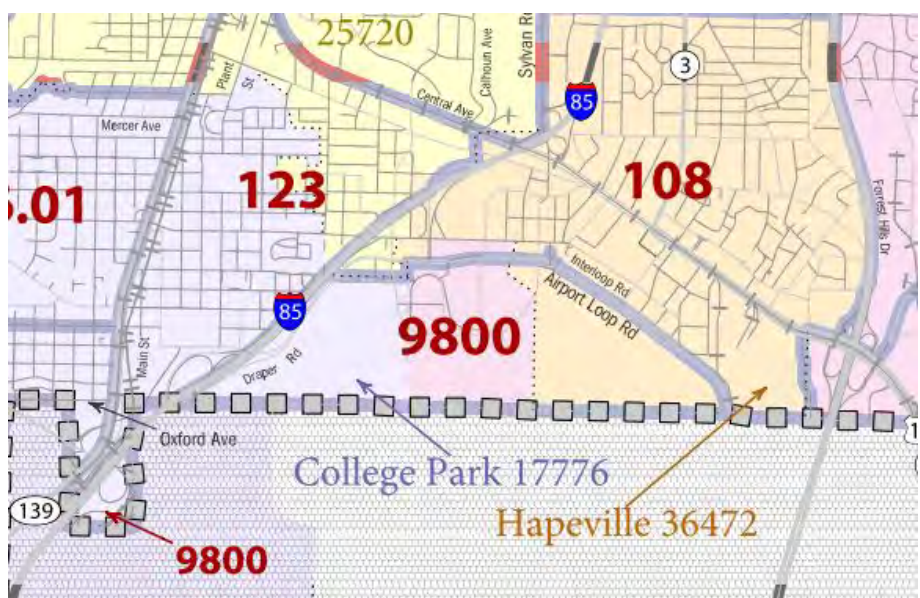
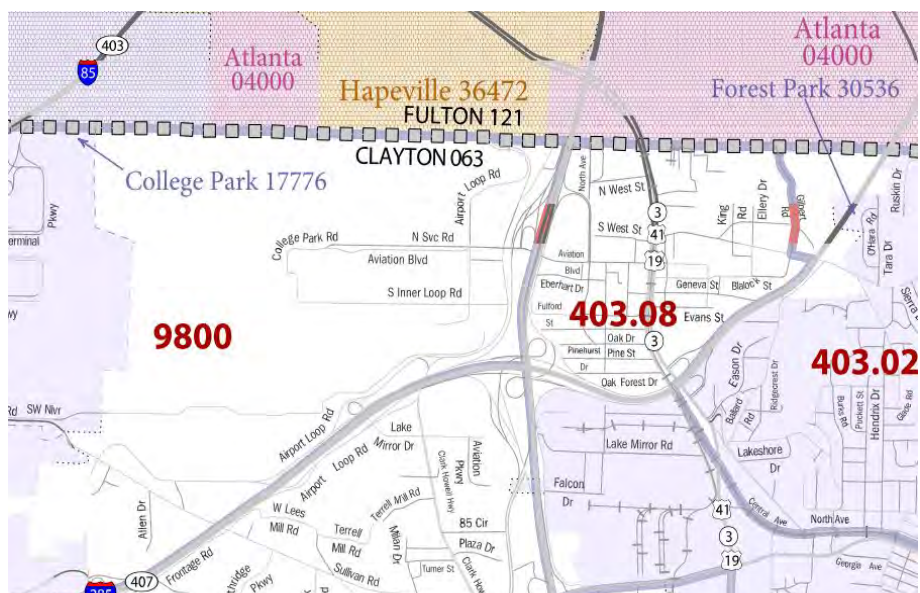
Data Item	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Data Item
Statistics type	-	-	-	-	-	-	-	Estimated	Actual	Estimated	Statistics type
AADT	11000	10800	10600	10500	11500	11800	11800	12300	10300	10500	AADT
Single-Unit Truck AADT	-	-	-	-	-	-	-	-	392	-	Single-Unit Truck AADT
Combo-Unit Truck AADT	-	-	-	-	-	-	-	-	22	-	Combo-Unit Truck AADT
% Peak SU Trucks	-	-	-	-	-	-	-	-	0.252	-	% Peak SU Trucks
% Peak CU Trucks	-	-	-	-	-	-	-	-	0.039	-	% Peak CU Trucks
K-Factor	-	-	-	-	-	-	-	-	0.114	-	K-Factor
D-Factor	-	-	-	-	-	-	-	-	0.600	-	D-Factor
Future AADT	-	-	-	-	-	-	-	-	13200	11800	Future AADT

**APPENDIX F.2 – GROWTH RATE
CALCULATIONS
(US CENSUS DATA)**

Historical Growth Calculations for P.I. #0015005 (Fulton) - Lenox Road

- Based on local US Census Data

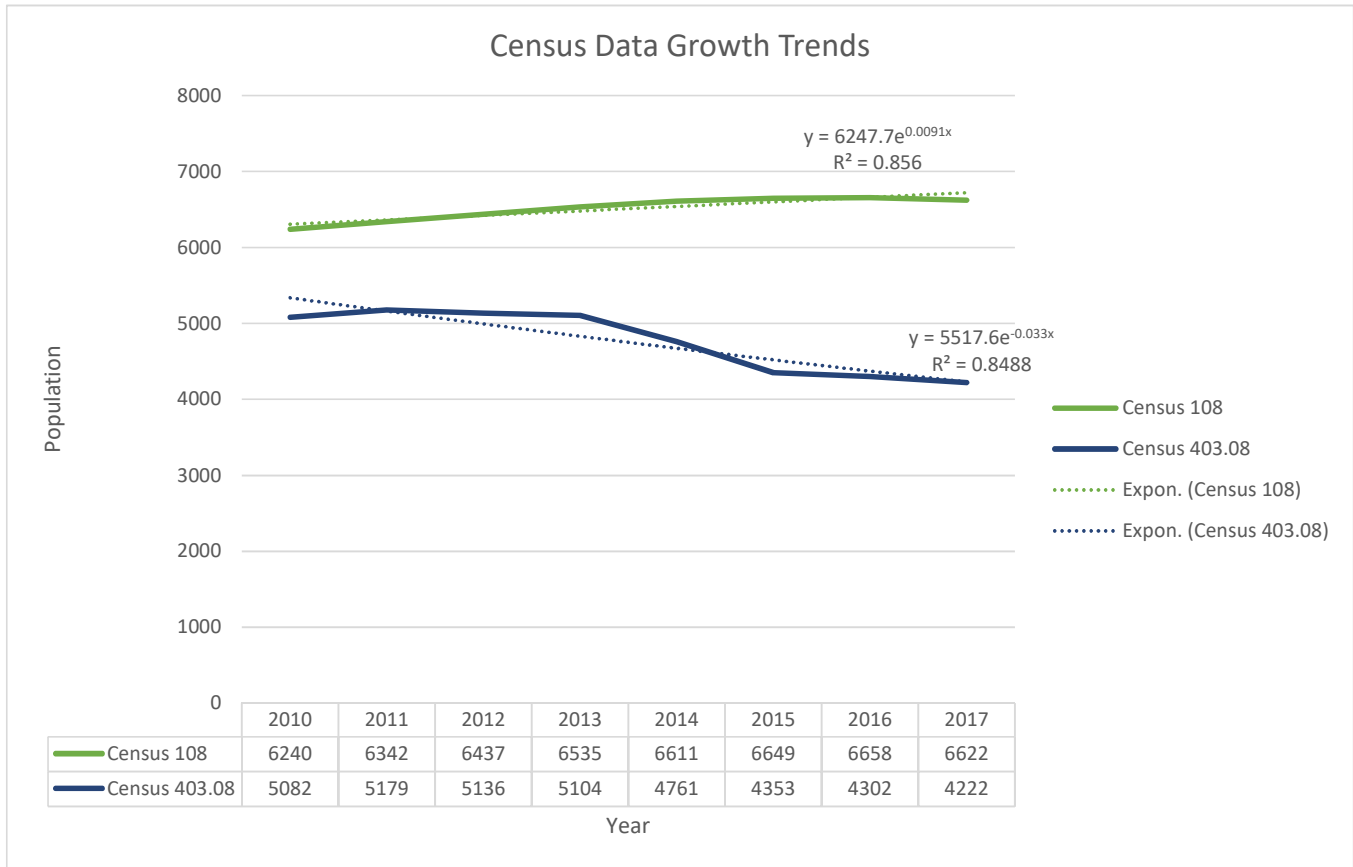
Census Tract 108 (Project Location)		Census Tract 403.08 (Directly Adjacent to Project Location)	
Year	Volume	Year	Volume
2018	-	2018	-
2017	6,622	2017	4,222
2016	6,658	2016	4,302
2015	6,649	2015	4,353
2014	6,611	2014	4,761
2013	6,535	2013	5,104
2012	6,437	2012	5,136
2011	6,342	2011	5,179
2010	6,240	2010	5,082
Growth Rate	0.9%	Growth Rate	-2.6%
Avg Volumes	6,510	Avg Volumes	4,770
Trendline Growth	0.9%	Trendline Growth	-0.3%



* Tract 9800 does not have any recorded data on American Fact Finder

Historical Growth Calculations for P.I. #0015005 (Fulton) - Lenox Road

- Based on local US Census Data



B01003

TOTAL POPULATION

Universe: Total population

2006-2010 American Community Survey 5-Year Estimates

Supporting documentation on code lists, subject definitions, data accuracy, and statistical testing can be found on the American Community Survey website in the Data and Documentation section.

Sample size and data quality measures (including coverage rates, allocation rates, and response rates) can be found on the American Community Survey website in the Methodology section.

Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, for 2010, the 2010 Census provides the official counts of the population and housing units for the nation, states, counties, cities and towns. For 2006 to 2009, the Population Estimates Program provides intercensal estimates of the population for the nation, states, and counties.

	Census Tract 108, Fulton County, Georgia	
	Estimate	Margin of Error
Total	6,240	+/-21

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see Accuracy of the Data). The effect of nonsampling error is not represented in these tables.

While the 2006-2010 American Community Survey (ACS) data generally reflect the December 2009 Office of Management and Budget (OMB) definitions of metropolitan and micropolitan statistical areas; in certain instances the names, codes, and boundaries of the principal cities shown in ACS tables may differ from the OMB definitions due to differences in the effective dates of the geographic entities.

Estimates of urban and rural population, housing units, and characteristics reflect boundaries of urban areas defined based on Census 2000 data. Boundaries for urban areas have not been updated since Census 2000. As a result, data for urban and rural areas from the ACS do not necessarily reflect the results of ongoing urbanization.

Source: U.S. Census Bureau, 2006-2010 American Community Survey

Explanation of Symbols:

1. An '*' entry in the margin of error column indicates that either no sample observations or too few sample observations were available to compute a standard error and thus the margin of error. A statistical test is not appropriate.
2. An '-' entry in the estimate column indicates that either no sample observations or too few sample observations were available to compute an estimate, or a ratio of medians cannot be calculated because one or both of the median estimates falls in the lowest interval or upper interval of an open-ended distribution.
3. An '-' following a median estimate means the median falls in the lowest interval of an open-ended distribution.
4. An '+' following a median estimate means the median falls in the upper interval of an open-ended distribution.
5. An '*' entry in the margin of error column indicates that the median falls in the lowest interval or upper interval of an open-ended distribution. A statistical test is not appropriate.
6. An '*****' entry in the margin of error column indicates that the estimate is controlled. A statistical test for sampling variability is not appropriate.
7. An 'N' entry in the estimate and margin of error columns indicates that data for this geographic area cannot be displayed because the number of sample cases is too small.
8. An '(X)' means that the estimate is not applicable or not available.

B01003

TOTAL POPULATION

Universe: Total population

2007-2011 American Community Survey 5-Year Estimates

Supporting documentation on code lists, subject definitions, data accuracy, and statistical testing can be found on the American Community Survey website in the Data and Documentation section.

Sample size and data quality measures (including coverage rates, allocation rates, and response rates) can be found on the American Community Survey website in the Methodology section.

Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation, states, counties, cities and towns and estimates of housing units for states and counties.

	Census Tract 108, Fulton County, Georgia	
	Estimate	Margin of Error
Total	6,342	+/-18

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see Accuracy of the Data). The effect of nonsampling error is not represented in these tables.

While the 2007-2011 American Community Survey (ACS) data generally reflect the December 2009 Office of Management and Budget (OMB) definitions of metropolitan and micropolitan statistical areas; in certain instances the names, codes, and boundaries of the principal cities shown in ACS tables may differ from the OMB definitions due to differences in the effective dates of the geographic entities.

Estimates of urban and rural population, housing units, and characteristics reflect boundaries of urban areas defined based on Census 2000 data. Boundaries for urban areas have not been updated since Census 2000. As a result, data for urban and rural areas from the ACS do not necessarily reflect the results of ongoing urbanization.

Source: U.S. Census Bureau, 2007-2011 American Community Survey

Explanation of Symbols:

1. An '*' entry in the margin of error column indicates that either no sample observations or too few sample observations were available to compute a standard error and thus the margin of error. A statistical test is not appropriate.
2. An '-' entry in the estimate column indicates that either no sample observations or too few sample observations were available to compute an estimate, or a ratio of medians cannot be calculated because one or both of the median estimates falls in the lowest interval or upper interval of an open-ended distribution.
3. An '-' following a median estimate means the median falls in the lowest interval of an open-ended distribution.
4. An '+' following a median estimate means the median falls in the upper interval of an open-ended distribution.
5. An '*' entry in the margin of error column indicates that the median falls in the lowest interval or upper interval of an open-ended distribution. A statistical test is not appropriate.
6. An '*****' entry in the margin of error column indicates that the estimate is controlled. A statistical test for sampling variability is not appropriate.
7. An 'N' entry in the estimate and margin of error columns indicates that data for this geographic area cannot be displayed because the number of sample cases is too small.
8. An '(X)' means that the estimate is not applicable or not available.

B01003

TOTAL POPULATION

Universe: Total population

2008-2012 American Community Survey 5-Year Estimates

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Sample size and data quality measures (including coverage rates, allocation rates, and response rates) can be found on the American Community Survey website in the Methodology section.

Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation, states, counties, cities and towns and estimates of housing units for states and counties.

	Census Tract 108, Fulton County, Georgia	
	Estimate	Margin of Error
Total	6,437	+/-20

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see Accuracy of the Data). The effect of nonsampling error is not represented in these tables.

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Source: U.S. Census Bureau, 2008-2012 American Community Survey

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B01003

TOTAL POPULATION

Universe: Total population

2009-2013 American Community Survey 5-Year Estimates

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	Census Tract 108, Fulton County, Georgia	
	Estimate	Margin of Error
Total	6,535	+/-30

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see Accuracy of the Data). The effect of nonsampling error is not represented in these tables.

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Estimates of urban and rural population, housing units, and characteristics reflect boundaries of urban areas defined based on Census 2010 data. As a result, data for urban and rural areas from the ACS do not necessarily reflect the results of ongoing urbanization.

Source: U.S. Census Bureau, 2009-2013 5-Year American Community Survey

Explanation of Symbols:

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B01003

TOTAL POPULATION

Universe: Total population

2010-2014 American Community Survey 5-Year Estimates

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	Census Tract 108, Fulton County, Georgia	
	Estimate	Margin of Error
Total	6,611	+/-24

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see Accuracy of the Data). The effect of nonsampling error is not represented in these tables.

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Estimates of urban and rural population, housing units, and characteristics reflect boundaries of urban areas defined based on Census 2010 data. As a result, data for urban and rural areas from the ACS do not necessarily reflect the results of ongoing urbanization.

Source: U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates

Explanation of Symbols:

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7. An 'N' entry in the estimate and margin of error columns indicates that data for this geographic area cannot be displayed because the number of sample cases is too small.
8. An '(X)' means that the estimate is not applicable or not available.



B01003

TOTAL POPULATION
Universe: Total population
2011-2015 American Community Survey 5-Year Estimates

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Tell us what you think. Provide feedback to help make American Community Survey data more useful for you.

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	Census Tract 108, Fulton County, Georgia	
	Estimate	Margin of Error
Total	6,649	+/-28

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see Accuracy of the Data). The effect of nonsampling error is not represented in these tables.

While the 2011-2015 American Community Survey (ACS) data generally reflect the February 2013 Office of Management and Budget (OMB) definitions of metropolitan and micropolitan statistical areas; in certain instances the names, codes, and boundaries of the principal cities shown in ACS tables may differ from the OMB definitions due to differences in the effective dates of the geographic entities.

Estimates of urban and rural population, housing units, and characteristics reflect boundaries of urban areas defined based on Census 2010 data. As a result, data for urban and rural areas from the ACS do not necessarily reflect the results of ongoing urbanization.

Source: U.S. Census Bureau, 2011-2015 American Community Survey 5-Year Estimates

Explanation of Symbols:

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B01003

TOTAL POPULATION
Universe: Total population
2012-2016 American Community Survey 5-Year Estimates

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Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation, states, counties, cities and towns and estimates of housing units for states and counties.

	Census Tract 108, Fulton County, Georgia	
	Estimate	Margin of Error
Total	6,658	+/-18

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see Accuracy of the Data). The effect of nonsampling error is not represented in these tables.

While the 2012-2016 American Community Survey (ACS) data generally reflect the February 2013 Office of Management and Budget (OMB) definitions of metropolitan and micropolitan statistical areas; in certain instances the names, codes, and boundaries of the principal cities shown in ACS tables may differ from the OMB definitions due to differences in the effective dates of the geographic entities.

Estimates of urban and rural population, housing units, and characteristics reflect boundaries of urban areas defined based on Census 2010 data. As a result, data for urban and rural areas from the ACS do not necessarily reflect the results of ongoing urbanization.

Source: U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates

Explanation of Symbols:

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B01003

TOTAL POPULATION

Universe: Total population

2013-2017 American Community Survey 5-Year Estimates

Supporting documentation on code lists, subject definitions, data accuracy, and statistical testing can be found on the American Community Survey website in the Technical Documentation section.

Sample size and data quality measures (including coverage rates, allocation rates, and response rates) can be found on the American Community Survey website in the Methodology section.

Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation, states, counties, cities, and towns and estimates of housing units for states and counties.

	Census Tract 108, Fulton County, Georgia	
	Estimate	Margin of Error
Total	6,622	+/-19

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see Accuracy of the Data). The effect of nonsampling error is not represented in these tables.

While the 2013-2017 American Community Survey (ACS) data generally reflect the February 2013 Office of Management and Budget (OMB) definitions of metropolitan and micropolitan statistical areas; in certain instances the names, codes, and boundaries of the principal cities shown in ACS tables may differ from the OMB definitions due to differences in the effective dates of the geographic entities.

Estimates of urban and rural populations, housing units, and characteristics reflect boundaries of urban areas defined based on Census 2010 data. As a result, data for urban and rural areas from the ACS do not necessarily reflect the results of ongoing urbanization.

Source: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates

Explanation of Symbols:

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B01003

TOTAL POPULATION

Universe: Total population

2006-2010 American Community Survey 5-Year Estimates

Supporting documentation on code lists, subject definitions, data accuracy, and statistical testing can be found on the American Community Survey website in the Data and Documentation section.

Sample size and data quality measures (including coverage rates, allocation rates, and response rates) can be found on the American Community Survey website in the Methodology section.

Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, for 2010, the 2010 Census provides the official counts of the population and housing units for the nation, states, counties, cities and towns. For 2006 to 2009, the Population Estimates Program provides intercensal estimates of the population for the nation, states, and counties.

	Census Tract 403.08, Clayton County, Georgia	
	Estimate	Margin of Error
Total	5,082	+/-619

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see Accuracy of the Data). The effect of nonsampling error is not represented in these tables.

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Source: U.S. Census Bureau, 2006-2010 American Community Survey

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B01003

TOTAL POPULATION

Universe: Total population

2007-2011 American Community Survey 5-Year Estimates

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	Census Tract 403.08, Clayton County, Georgia	
	Estimate	Margin of Error
Total	5,179	+/-663

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Source: U.S. Census Bureau, 2007-2011 American Community Survey

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B01003

TOTAL POPULATION

Universe: Total population

2008-2012 American Community Survey 5-Year Estimates

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	Census Tract 403.08, Clayton County, Georgia	
	Estimate	Margin of Error
Total	5,136	+/-630

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see Accuracy of the Data). The effect of nonsampling error is not represented in these tables.

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Source: U.S. Census Bureau, 2008-2012 American Community Survey

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B01003

TOTAL POPULATION

Universe: Total population

2009-2013 American Community Survey 5-Year Estimates

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	Census Tract 403.08, Clayton County, Georgia	
	Estimate	Margin of Error
Total	5,104	+/-630

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see Accuracy of the Data). The effect of nonsampling error is not represented in these tables.

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Estimates of urban and rural population, housing units, and characteristics reflect boundaries of urban areas defined based on Census 2010 data. As a result, data for urban and rural areas from the ACS do not necessarily reflect the results of ongoing urbanization.

Source: U.S. Census Bureau, 2009-2013 5-Year American Community Survey

Explanation of Symbols:

1. An '***' entry in the margin of error column indicates that either no sample observations or too few sample observations were available to compute a standard error and thus the margin of error. A statistical test is not appropriate.
2. An '-' entry in the estimate column indicates that either no sample observations or too few sample observations were available to compute an estimate, or a ratio of medians cannot be calculated because one or both of the median estimates falls in the lowest interval or upper interval of an open-ended distribution.
3. An '-' following a median estimate means the median falls in the lowest interval of an open-ended distribution.
4. An '+' following a median estimate means the median falls in the upper interval of an open-ended distribution.
5. An '***' entry in the margin of error column indicates that the median falls in the lowest interval or upper interval of an open-ended distribution. A statistical test is not appropriate.
6. An '*****' entry in the margin of error column indicates that the estimate is controlled. A statistical test for sampling variability is not appropriate.
7. An 'N' entry in the estimate and margin of error columns indicates that data for this geographic area cannot be displayed because the number of sample cases is too small.
8. An '(X)' means that the estimate is not applicable or not available.

B01003

TOTAL POPULATION

Universe: Total population

2010-2014 American Community Survey 5-Year Estimates

Supporting documentation on code lists, subject definitions, data accuracy, and statistical testing can be found on the American Community Survey website in the Data and Documentation section.

Sample size and data quality measures (including coverage rates, allocation rates, and response rates) can be found on the American Community Survey website in the Methodology section.

Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation, states, counties, cities and towns and estimates of housing units for states and counties.

	Census Tract 403.08, Clayton County, Georgia	
	Estimate	Margin of Error
Total	4,761	+/-527

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see Accuracy of the Data). The effect of nonsampling error is not represented in these tables.

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Estimates of urban and rural population, housing units, and characteristics reflect boundaries of urban areas defined based on Census 2010 data. As a result, data for urban and rural areas from the ACS do not necessarily reflect the results of ongoing urbanization.

Source: U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates

Explanation of Symbols:

1. An '***' entry in the margin of error column indicates that either no sample observations or too few sample observations were available to compute a standard error and thus the margin of error. A statistical test is not appropriate.
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8. An '(X)' means that the estimate is not applicable or not available.



B01003

TOTAL POPULATION
Universe: Total population
2011-2015 American Community Survey 5-Year Estimates

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	Census Tract 403.08, Clayton County, Georgia	
	Estimate	Margin of Error
Total	4,353	+/-487

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see Accuracy of the Data). The effect of nonsampling error is not represented in these tables.

While the 2011-2015 American Community Survey (ACS) data generally reflect the February 2013 Office of Management and Budget (OMB) definitions of metropolitan and micropolitan statistical areas; in certain instances the names, codes, and boundaries of the principal cities shown in ACS tables may differ from the OMB definitions due to differences in the effective dates of the geographic entities.

Estimates of urban and rural population, housing units, and characteristics reflect boundaries of urban areas defined based on Census 2010 data. As a result, data for urban and rural areas from the ACS do not necessarily reflect the results of ongoing urbanization.

Source: U.S. Census Bureau, 2011-2015 American Community Survey 5-Year Estimates

Explanation of Symbols:

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8. An '(X)' means that the estimate is not applicable or not available.



B01003

TOTAL POPULATION
Universe: Total population
2012-2016 American Community Survey 5-Year Estimates

Supporting documentation on code lists, subject definitions, data accuracy, and statistical testing can be found on the American Community Survey website in the Data and Documentation section.

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Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation, states, counties, cities and towns and estimates of housing units for states and counties.

	Census Tract 403.08, Clayton County, Georgia	
	Estimate	Margin of Error
Total	4,302	+/-454

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see Accuracy of the Data). The effect of nonsampling error is not represented in these tables.

While the 2012-2016 American Community Survey (ACS) data generally reflect the February 2013 Office of Management and Budget (OMB) definitions of metropolitan and micropolitan statistical areas; in certain instances the names, codes, and boundaries of the principal cities shown in ACS tables may differ from the OMB definitions due to differences in the effective dates of the geographic entities.

Estimates of urban and rural population, housing units, and characteristics reflect boundaries of urban areas defined based on Census 2010 data. As a result, data for urban and rural areas from the ACS do not necessarily reflect the results of ongoing urbanization.

Source: U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates

Explanation of Symbols:

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7. An 'N' entry in the estimate and margin of error columns indicates that data for this geographic area cannot be displayed because the number of sample cases is too small.
8. An '(X)' means that the estimate is not applicable or not available.

B01003

TOTAL POPULATION

Universe: Total population

2013-2017 American Community Survey 5-Year Estimates

Supporting documentation on code lists, subject definitions, data accuracy, and statistical testing can be found on the American Community Survey website in the Technical Documentation section.

Sample size and data quality measures (including coverage rates, allocation rates, and response rates) can be found on the American Community Survey website in the Methodology section.

Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation, states, counties, cities, and towns and estimates of housing units for states and counties.

	Census Tract 403.08, Clayton County, Georgia	
	Estimate	Margin of Error
Total	4,222	+/-463

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see Accuracy of the Data). The effect of nonsampling error is not represented in these tables.

While the 2013-2017 American Community Survey (ACS) data generally reflect the February 2013 Office of Management and Budget (OMB) definitions of metropolitan and micropolitan statistical areas; in certain instances the names, codes, and boundaries of the principal cities shown in ACS tables may differ from the OMB definitions due to differences in the effective dates of the geographic entities.

Estimates of urban and rural populations, housing units, and characteristics reflect boundaries of urban areas defined based on Census 2010 data. As a result, data for urban and rural areas from the ACS do not necessarily reflect the results of ongoing urbanization.

Source: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates

Explanation of Symbols:

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APPENDIX G – SYNCHRO ANALYSIS RESULTS

2019 Noon Peak Intersection 1: Virginia Ave and Hamilton Ave

09/11/2019

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	485	35	5	430	10	10	0	5	5	0	5
Future Vol, veh/h	5	485	35	5	430	10	10	0	5	5	0	5
Conflicting Peds, #/hr	20	0	28	28	0	20	6	0	2	2	0	6
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	84	84	84	51	51	51	52	52	52
Heavy Vehicles, %	4	4	4	3	3	3	0	0	0	10	10	10
Mvmt Flow	5	533	38	6	512	12	20	0	10	10	0	10
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	544	0	0	599	0	0	864	1146	316	829	1159	288
Stage 1	-	-	-	-	-	-	590	590	-	550	550	-
Stage 2	-	-	-	-	-	-	274	556	-	279	609	-
Critical Hdwy	4.18	-	-	4.16	-	-	7.5	6.5	6.9	7.7	6.7	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.7	5.7	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.7	5.7	-
Follow-up Hdwy	2.24	-	-	2.23	-	-	3.5	4	3.3	3.6	4.1	3.4
Pot Cap-1 Maneuver	1007	-	-	967	-	-	251	201	686	250	183	685
Stage 1	-	-	-	-	-	-	466	498	-	467	495	-
Stage 2	-	-	-	-	-	-	714	516	-	682	464	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	991	-	-	939	-	-	236	189	665	240	172	671
Mov Cap-2 Maneuver	-	-	-	-	-	-	236	189	-	240	172	-
Stage 1	-	-	-	-	-	-	450	481	-	457	483	-
Stage 2	-	-	-	-	-	-	694	503	-	667	448	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.1			18.3			15.8		
HCM LOS							C			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	301	991	-	-	939	-	-	354				
HCM Lane V/C Ratio	0.098	0.006	-	-	0.006	-	-	0.054				
HCM Control Delay (s)	18.3	8.7	-	-	8.9	0	-	15.8				
HCM Lane LOS	C	A	-	-	A	A	-	C				
HCM 95th %tile O(veh)	0.3	0	-	-	0	-	-	0.2				

2019 Noon Peak Intersection 2: Virginia Ave and Clay Place

09/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	190	285	25	10	215	50	20	10	0	40	5	215
Future Volume (veh/h)	190	285	25	10	215	50	20	10	0	40	5	215
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	0.99		0.98	0.98		1.00	0.97		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1856	1856	1856	1841	1841	0	1767	1841	1841
Adj Flow Rate, veh/h	209	313	27	12	256	60	29	15	0	47	6	250
Peak Hour Factor	0.91	0.91	0.91	0.84	0.84	0.84	0.68	0.68	0.68	0.86	0.86	0.86
Percent Heavy Veh, %	4	4	4	3	3	3	4	4	0	4	4	4
Cap, veh/h	661	2150	184	607	994	829	141	246	0	288	8	344
Arrive On Green	0.07	0.66	0.66	0.54	0.54	0.54	0.13	0.13	0.00	0.04	0.23	0.23
Sat Flow, veh/h	1753	3256	279	1022	1856	1548	1083	1841	0	1683	36	1496
Grp Volume(v), veh/h	209	167	173	12	256	60	29	15	0	47	0	256
Grp Sat Flow(s),veh/h/ln	1753	1749	1786	1022	1856	1548	1083	1841	0	1683	0	1531
Q Serve(g_s), s	6.2	4.3	4.4	0.7	8.9	2.2	3.1	0.9	0.0	2.8	0.0	18.6
Cycle Q Clear(g_c), s	6.2	4.3	4.4	0.7	8.9	2.2	10.1	0.9	0.0	2.8	0.0	18.6
Prop In Lane	1.00		0.16	1.00		1.00	1.00		0.00	1.00		0.98
Lane Grp Cap(c), veh/h	661	1155	1179	607	994	829	141	246	0	288	0	352
V/C Ratio(X)	0.32	0.14	0.15	0.02	0.26	0.07	0.21	0.06	0.00	0.16	0.00	0.73
Avail Cap(c_a), veh/h	661	1155	1179	607	994	829	251	433	0	337	0	551
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.4	7.7	7.7	13.1	15.0	13.5	52.7	45.4	0.0	40.6	0.0	42.7
Incr Delay (d2), s/veh	0.3	0.3	0.3	0.1	0.6	0.2	0.7	0.1	0.0	0.3	0.0	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	1.6	1.7	0.2	3.8	0.8	0.9	0.4	0.0	1.2	0.0	7.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.7	7.9	7.9	13.2	15.6	13.6	53.4	45.5	0.0	40.8	0.0	45.6
LnGrp LOS	B	A	A	B	B	B	D	D	A	D	A	D
Approach Vol, veh/h		549			328			44			303	
Approach Delay, s/veh		9.0			15.2			50.7			44.9	
Approach LOS		A			B			D			D	
Timer - Assigned Phs	1	2	3	4		6		8				
Phs Duration (G+Y+Rc), s	15.0	70.7	11.5	22.8		85.6		34.4				
Change Period (Y+Rc), s	* 6.8	6.4	* 6.8	* 6.8		6.4		* 6.8				
Max Green Setting (Gmax), s	* 8.2	48.6	* 8.2	* 28		63.6		* 43				
Max Q Clear Time (g_c+I1), s	8.2	10.9	4.8	12.1		6.4		20.6				
Green Ext Time (p_c), s	0.0	5.0	0.0	0.1		5.4		0.8				
Intersection Summary												
HCM 6th Ctrl Delay			21.0									
HCM 6th LOS			C									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

2019 Noon Peak Intersection 2: Right Turn Lane

09/11/2019

						
Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	↑↑			↑↑↑		↑
Traffic Volume (veh/h)	355	0	0	275	0	30
Future Volume (Veh/h)	355	0	0	275	0	30
Sign Control	Free			Free	Yield	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.84	0.84	0.68	0.68
Hourly flow rate (vph)	390	0	0	327	0	44
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (ft)	104					
pX, platoon unblocked			0.97		0.97	0.97
vC, conflicting volume			390		499	195
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			314		426	113
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	95
cM capacity (veh/h)			1201		536	886
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NE 1
Volume Total	195	195	109	109	109	44
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	44
cSH	1700	1700	1700	1700	1700	886
Volume to Capacity	0.11	0.11	0.06	0.06	0.06	0.05
Queue Length 95th (ft)	0	0	0	0	0	4
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	9.3
Lane LOS						A
Approach Delay (s)	0.0		0.0			9.3
Approach LOS						A
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			19.8%		ICU Level of Service	A
Analysis Period (min)			15			

2019 PM Peak Intersection 1: Virginia Ave and Hamilton Ave

09/11/2019

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	345	35	5	415	10	10	0	5	5	0	5
Future Vol, veh/h	0	345	35	5	415	10	10	0	5	5	0	5
Conflicting Peds, #/hr	20	0	28	28	0	20	6	0	2	2	0	6
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	84	84	84	51	51	51	52	52	52
Heavy Vehicles, %	4	4	4	3	3	3	0	0	0	10	10	10
Mvmt Flow	0	379	38	6	494	12	20	0	10	10	0	10

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	526	0	0	445	0	0	691	964	239	724	977	279
Stage 1	-	-	-	-	-	-	426	426	-	532	532	-
Stage 2	-	-	-	-	-	-	265	538	-	192	445	-
Critical Hdwy	4.18	-	-	4.16	-	-	7.5	6.5	6.9	7.7	6.7	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.7	5.7	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.7	5.7	-
Follow-up Hdwy	2.24	-	-	2.23	-	-	3.5	4	3.3	3.6	4.1	3.4
Pot Cap-1 Maneuver	1023	-	-	1104	-	-	335	257	768	299	236	695
Stage 1	-	-	-	-	-	-	582	589	-	479	504	-
Stage 2	-	-	-	-	-	-	723	526	-	769	553	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1007	-	-	1072	-	-	317	244	745	288	224	680
Mov Cap-2 Maneuver	-	-	-	-	-	-	317	244	-	288	224	-
Stage 1	-	-	-	-	-	-	565	572	-	471	492	-
Stage 2	-	-	-	-	-	-	703	513	-	758	537	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.1			14.9			14.3		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	392	1007	-	-	1072	-	-	405
HCM Lane V/C Ratio	0.075	-	-	-	0.006	-	-	0.047
HCM Control Delay (s)	14.9	0	-	-	8.4	0	-	14.3
HCM Lane LOS	B	A	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.1

2019 PM Peak Intersection 2: Virginia Ave and Clay Place

09/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	205	20	15	285	65	20	10	0	25	5	130
Future Volume (veh/h)	135	205	20	15	285	65	20	10	0	25	5	130
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	0.99		0.99	0.96		1.00	0.96		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1841	1841	1841	1856	1856	1856	1841	1841	0	1767	1841	1841
Adj Flow Rate, veh/h	148	225	22	18	339	77	29	15	0	29	6	151
Peak Hour Factor	0.91	0.91	0.91	0.84	0.84	0.84	0.68	0.68	0.68	0.86	0.86	0.86
Percent Heavy Veh, %	4	4	4	3	3	3	4	4	0	4	4	4
Cap, veh/h	635	2278	221	733	1130	944	169	199	0	234	11	280
Arrive On Green	0.05	0.71	0.71	0.61	0.61	0.61	0.11	0.11	0.00	0.03	0.19	0.19
Sat Flow, veh/h	1753	3217	311	1113	1856	1551	1166	1841	0	1683	58	1470
Grp Volume(v), veh/h	148	121	126	18	339	77	29	15	0	29	0	157
Grp Sat Flow(s),veh/h/ln	1753	1749	1780	1113	1856	1551	1166	1841	0	1683	0	1528
Q Serve(g_s), s	3.9	2.8	2.9	0.8	11.4	2.7	3.0	1.0	0.0	1.9	0.0	12.1
Cycle Q Clear(g_c), s	3.9	2.8	2.9	0.8	11.4	2.7	4.3	1.0	0.0	1.9	0.0	12.1
Prop In Lane	1.00		0.17	1.00		1.00	1.00		0.00	1.00		0.96
Lane Grp Cap(c), veh/h	635	1238	1261	733	1130	944	169	199	0	234	0	291
V/C Ratio(X)	0.23	0.10	0.10	0.02	0.30	0.08	0.17	0.08	0.00	0.12	0.00	0.54
Avail Cap(c_a), veh/h	731	1238	1261	733	1130	944	341	470	0	290	0	567
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.5	5.9	6.0	10.1	12.2	10.5	54.3	52.1	0.0	47.4	0.0	47.5
Incr Delay (d2), s/veh	0.2	0.2	0.2	0.1	0.7	0.2	0.5	0.2	0.0	0.2	0.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	1.0	1.1	0.2	4.8	0.9	0.9	0.4	0.0	0.8	0.0	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.7	6.1	6.1	10.2	12.8	10.6	54.8	52.3	0.0	47.7	0.0	49.0
LnGrp LOS	A	A	A	B	B	B	D	D	A	D	A	D
Approach Vol, veh/h	395			434			44			186		
Approach Delay, s/veh	7.1			12.3			53.9			48.8		
Approach LOS	A			B			D			D		
Timer - Assigned Phs	1	2	3	4	6			8				
Phs Duration (G+Y+Rc), s	12.9	85.6	10.7	20.8	98.5			31.5				
Change Period (Y+Rc), s	* 6.8	6.4	* 6.8	* 6.8	6.4			* 6.8				
Max Green Setting (Gmax), s	* 13	48.6	* 8.2	* 33	68.6			* 48				
Max Q Clear Time (g_c+I1), s	5.9	13.4	3.9	6.3	4.9			14.1				
Green Ext Time (p_c), s	0.2	6.8	0.0	0.1	3.8			0.5				
Intersection Summary												
HCM 6th Ctrl Delay	18.5											
HCM 6th LOS	B											
Notes												

2019 PM Peak Intersection 2: Right Turn Lane

09/11/2019

	→	↘	↙	←	↗	↖
Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	↑↑			↑↑↑		↗
Traffic Volume (veh/h)	260	0	0	365	0	30
Future Volume (Veh/h)	260	0	0	365	0	30
Sign Control	Free			Free	Yield	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.84	0.84	0.68	0.68
Hourly flow rate (vph)	286	0	0	435	0	44
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (ft)	104					
pX, platoon unblocked			0.98		0.98	0.98
vC, conflicting volume			286		431	143
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			241		388	95
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	95
cM capacity (veh/h)			1294		573	921
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NE 1
Volume Total	143	143	145	145	145	44
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	44
cSH	1700	1700	1700	1700	1700	921
Volume to Capacity	0.08	0.08	0.09	0.09	0.09	0.05
Queue Length 95th (ft)	0	0	0	0	0	4
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	9.1
Lane LOS						A
Approach Delay (s)	0.0		0.0			9.1
Approach LOS						A
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			17.2%		ICU Level of Service	A
Analysis Period (min)			15			

2043 Noon Peak Intersection 1: Virginia Ave and Hamilton Ave

09/11/2019

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	610	45	5	535	10	10	0	5	5	0	5
Future Vol, veh/h	5	610	45	5	535	10	10	0	5	5	0	5
Conflicting Peds, #/hr	24	0	35	35	0	24	8	0	2	2	0	8
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	84	84	84	51	51	51	52	52	52
Heavy Vehicles, %	4	4	4	3	3	3	0	0	0	10	10	10
Mvmt Flow	5	670	49	6	637	12	20	0	10	10	0	10
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	673	0	0	754	0	0	1079	1425	397	1026	1443	357
Stage 1	-	-	-	-	-	-	740	740	-	679	679	-
Stage 2	-	-	-	-	-	-	339	685	-	347	764	-
Critical Hdwy	4.18	-	-	4.16	-	-	7.5	6.5	6.9	7.7	6.7	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.7	5.7	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.7	5.7	-
Follow-up Hdwy	2.24	-	-	2.23	-	-	3.5	4	3.3	3.6	4.1	3.4
Pot Cap-1 Maneuver	900	-	-	845	-	-	175	137	608	178	122	617
Stage 1	-	-	-	-	-	-	379	426	-	389	430	-
Stage 2	-	-	-	-	-	-	655	451	-	620	392	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	883	-	-	814	-	-	163	127	585	169	113	601
Mov Cap-2 Maneuver	-	-	-	-	-	-	163	127	-	169	113	-
Stage 1	-	-	-	-	-	-	363	408	-	379	417	-
Stage 2	-	-	-	-	-	-	632	437	-	605	376	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.2			24.4			19.7		
HCM LOS							C			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	215	883	-	-	814	-	-	264				
HCM Lane V/C Ratio	0.137	0.006	-	-	0.007	-	-	0.073				
HCM Control Delay (s)	24.4	9.1	-	-	9.5	0.1	-	19.7				
HCM Lane LOS	C	A	-	-	A	A	-	C				
HCM 95th %tile O(veh)	0.5	0	-	-	0	-	-	0.2				

2043 Noon Peak Intersection 2: Virginia Ave and Clay Place

09/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	235	355	30	10	265	60	25	10	0	50	5	265
Future Volume (veh/h)	235	355	30	10	265	60	25	10	0	50	5	265
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.99		0.98	0.98		1.00	0.97		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1841	1841	1841	1856	1856	1856	1841	1841	0	1767	1841	1841
Adj Flow Rate, veh/h	258	390	33	12	315	71	37	15	0	58	6	308
Peak Hour Factor	0.91	0.91	0.91	0.84	0.84	0.84	0.68	0.68	0.68	0.86	0.86	0.86
Percent Heavy Veh, %	4	4	4	3	3	3	4	4	0	4	4	4
Cap, veh/h	535	1900	160	533	905	751	175	282	0	367	8	428
Arrive On Green	0.05	0.58	0.58	0.49	0.49	0.49	0.15	0.15	0.00	0.06	0.29	0.29
Sat Flow, veh/h	1753	3260	274	945	1856	1539	1026	1841	0	1683	29	1501
Grp Volume(v), veh/h	258	208	215	12	315	71	37	15	0	58	0	314
Grp Sat Flow(s),veh/h/ln	1753	1749	1785	945	1856	1539	1026	1841	0	1683	0	1530
Q Serve(g_s), s	5.0	5.6	5.7	0.7	10.5	2.5	3.4	0.7	0.0	2.7	0.0	18.5
Cycle Q Clear(g_c), s	5.0	5.6	5.7	0.7	10.5	2.5	8.6	0.7	0.0	2.7	0.0	18.5
Prop In Lane	1.00		0.15	1.00		1.00	1.00		0.00	1.00		0.98
Lane Grp Cap(c), veh/h	535	1019	1041	533	905	751	175	282	0	367	0	436
V/C Ratio(X)	0.48	0.20	0.21	0.02	0.35	0.09	0.21	0.05	0.00	0.16	0.00	0.72
Avail Cap(c_a), veh/h	535	1019	1041	533	905	751	246	409	0	414	0	585
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.3	9.9	9.9	13.3	15.8	13.8	42.0	36.2	0.0	30.2	0.0	32.1
Incr Delay (d2), s/veh	0.7	0.5	0.4	0.1	1.1	0.3	0.6	0.1	0.0	0.2	0.0	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	2.1	2.2	0.1	4.5	0.9	0.9	0.3	0.0	1.1	0.0	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.0	10.3	10.3	13.4	16.9	14.0	42.5	36.2	0.0	30.4	0.0	35.0
LnGrp LOS	B	B	B	B	B	B	D	D	A	C	A	C
Approach Vol, veh/h	681			398			52			372		
Approach Delay, s/veh	12.5			16.2			40.7			34.3		
Approach LOS	B			B			D			C		
Timer - Assigned Phs	1	2	3	4	6			8				
Phs Duration (G+Y+Rc), s	9.5	55.2	13.2	22.1	64.7			35.3				
Change Period (Y+Rc), s	4.5	6.4	* 6.8	* 6.8	6.4			* 6.8				
Max Green Setting (Gmax), s	5.0	32.6	* 9.2	* 22	48.6			* 38				
Max Q Clear Time (g_c+I1), s	7.0	12.5	4.7	10.6	7.7			20.5				
Green Ext Time (p_c), s	0.0	4.9	0.0	0.1	6.6			1.0				
Intersection Summary												
HCM 6th Ctrl Delay	19.8											
HCM 6th LOS	B											
Notes												

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

2043 Noon Peak Intersection 2: Right Turn Lane

09/11/2019

						
Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	↑↑			↑↑↑		↑
Traffic Volume (veh/h)	440	0	0	335	0	35
Future Volume (Veh/h)	440	0	0	335	0	35
Sign Control	Free			Free	Yield	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.84	0.84	0.68	0.68
Hourly flow rate (vph)	484	0	0	399	0	51
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (ft)	104					
pX, platoon unblocked			0.95		0.95	0.95
vC, conflicting volume			484		617	242
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			357		496	102
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	94
cM capacity (veh/h)			1134		474	882
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NE 1
Volume Total	242	242	133	133	133	51
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	51
cSH	1700	1700	1700	1700	1700	882
Volume to Capacity	0.14	0.14	0.08	0.08	0.08	0.06
Queue Length 95th (ft)	0	0	0	0	0	5
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	9.3
Lane LOS						A
Approach Delay (s)	0.0		0.0			9.3
Approach LOS						A
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			22.2%		ICU Level of Service	A
Analysis Period (min)			15			

2043 PM Peak Intersection 1: Virginia Ave and Hamilton Ave

09/11/2019

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	430	45	5	535	10	10	0	5	5	0	5
Future Vol, veh/h	0	430	45	5	535	10	10	0	5	5	0	5
Conflicting Peds, #/hr	24	0	35	35	0	24	8	0	2	2	0	8
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	84	84	84	51	51	51	52	52	52
Heavy Vehicles, %	4	4	4	3	3	3	0	0	0	10	10	10
Mvmt Flow	0	473	49	6	637	12	20	0	10	10	0	10
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	673	0	0	557	0	0	872	1218	298	918	1236	357
Stage 1	-	-	-	-	-	-	533	533	-	679	679	-
Stage 2	-	-	-	-	-	-	339	685	-	239	557	-
Critical Hdwy	4.18	-	-	4.16	-	-	7.5	6.5	6.9	7.7	6.7	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.7	5.7	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.7	5.7	-
Follow-up Hdwy	2.24	-	-	2.23	-	-	3.5	4	3.3	3.6	4.1	3.4
Pot Cap-1 Maneuver	900	-	-	1003	-	-	248	182	704	215	164	617
Stage 1	-	-	-	-	-	-	503	528	-	389	430	-
Stage 2	-	-	-	-	-	-	655	451	-	721	491	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	883	-	-	967	-	-	232	170	677	206	154	601
Mov Cap-2 Maneuver	-	-	-	-	-	-	232	170	-	206	154	-
Stage 1	-	-	-	-	-	-	485	509	-	382	418	-
Stage 2	-	-	-	-	-	-	634	438	-	709	473	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.1			18.4			17.5		
HCM LOS							C			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	297	883	-	-	967	-	-	307				
HCM Lane V/C Ratio	0.099	-	-	-	0.006	-	-	0.063				
HCM Control Delay (s)	18.4	0	-	-	8.7	0	-	17.5				
HCM Lane LOS	C	A	-	-	A	A	-	C				
HCM 95th %tile O(veh)	0.3	0	-	-	0	-	-	0.2				

2043 PM Peak Intersection 2: Virginia Ave and Clay Place

09/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	165	255	25	20	360	80	25	10	0	30	5	160
Future Volume (veh/h)	165	255	25	20	360	80	25	10	0	30	5	160
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.99		0.98	0.97		1.00	0.96		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1841	1841	1841	1856	1856	1856	1841	1841	0	1767	1841	1841
Adj Flow Rate, veh/h	181	280	27	24	429	95	37	15	0	35	6	186
Peak Hour Factor	0.91	0.91	0.91	0.84	0.84	0.84	0.68	0.68	0.68	0.86	0.86	0.86
Percent Heavy Veh, %	4	4	4	3	3	3	4	4	0	4	4	4
Cap, veh/h	477	2011	192	591	917	761	225	254	0	302	12	360
Arrive On Green	0.06	0.62	0.62	0.49	0.49	0.49	0.14	0.14	0.00	0.04	0.24	0.24
Sat Flow, veh/h	1753	3220	308	1049	1856	1539	1132	1841	0	1683	48	1480
Grp Volume(v), veh/h	181	151	156	24	429	95	37	15	0	35	0	192
Grp Sat Flow(s),veh/h/ln	1753	1749	1779	1049	1856	1539	1132	1841	0	1683	0	1528
Q Serve(g_s), s	4.9	3.5	3.6	1.2	15.2	3.3	2.9	0.7	0.0	1.7	0.0	10.9
Cycle Q Clear(g_c), s	4.9	3.5	3.6	1.2	15.2	3.3	3.3	0.7	0.0	1.7	0.0	10.9
Prop In Lane	1.00		0.17	1.00		1.00	1.00		0.00	1.00		0.97
Lane Grp Cap(c), veh/h	477	1092	1111	591	917	761	225	254	0	302	0	372
V/C Ratio(X)	0.38	0.14	0.14	0.04	0.47	0.12	0.16	0.06	0.00	0.12	0.00	0.52
Avail Cap(c_a), veh/h	477	1092	1111	591	917	761	308	390	0	377	0	553
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.9	7.7	7.7	13.1	16.6	13.6	38.7	37.4	0.0	33.1	0.0	32.7
Incr Delay (d2), s/veh	0.5	0.3	0.3	0.1	1.7	0.3	0.3	0.1	0.0	0.2	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	1.3	1.3	0.3	6.5	1.2	0.8	0.3	0.0	0.7	0.0	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.4	8.0	8.0	13.2	18.3	14.0	39.0	37.5	0.0	33.3	0.0	33.8
LnGrp LOS	B	A	A	B	B	B	D	D	A	C	A	C
Approach Vol, veh/h	488			548			52			227		
Approach Delay, s/veh	9.6			17.3			38.6			33.7		
Approach LOS	A			B			D			C		
Timer - Assigned Phs	1	2	3	4	6		8					
Phs Duration (G+Y+Rc), s	13.0	55.8	10.5	20.6	68.8		31.2					
Change Period (Y+Rc), s	* 6.8	6.4	* 6.8	* 6.8	6.4		* 6.8					
Max Green Setting (Gmax), s	* 6.2	37.6	* 8.2	* 21	50.6		* 36					
Max Q Clear Time (g_c+I1), s	6.9	17.2	3.7	5.3	5.6		12.9					
Green Ext Time (p_c), s	0.0	7.1	0.0	0.1	4.7		0.6					
Intersection Summary												
HCM 6th Ctrl Delay			18.1									
HCM 6th LOS			B									
Notes												

2043 PM Peak Intersection 2: Right Turn Lane

09/11/2019

						
Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	↑↑			↑↑↑		↑
Traffic Volume (veh/h)	320	0	0	460	0	35
Future Volume (Veh/h)	320	0	0	460	0	35
Sign Control	Free			Free	Yield	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.84	0.84	0.68	0.68
Hourly flow rate (vph)	352	0	0	548	0	51
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (ft)	104					
pX, platoon unblocked			0.97		0.97	0.97
vC, conflicting volume			352		535	176
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			272		460	91
tC, single (s)			4.2		6.9	7.0
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	94
cM capacity (veh/h)			1243		509	915
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NE 1
Volume Total	176	176	183	183	183	51
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	51
cSH	1700	1700	1700	1700	1700	915
Volume to Capacity	0.10	0.10	0.11	0.11	0.11	0.06
Queue Length 95th (ft)	0	0	0	0	0	4
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	9.2
Lane LOS						A
Approach Delay (s)	0.0		0.0			9.2
Approach LOS						A
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			18.8%		ICU Level of Service	A
Analysis Period (min)			15			

2043 Road Diet Noon Peak Intersection 1: Virginia Ave and Hamilton Ave

09/11/2019

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	610	45	5	535	10	10	0	5	5	0	5
Future Vol, veh/h	5	610	45	5	535	10	10	0	5	5	0	5
Conflicting Peds, #/hr	24	0	35	35	0	24	8	0	2	2	0	8
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	84	84	84	51	51	51	52	52	52
Heavy Vehicles, %	4	4	4	3	3	3	0	0	0	10	10	10
Mvmt Flow	5	670	49	6	637	12	20	0	10	10	0	10
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	673	0	0	754	0	0	1408	1425	732	1391	1443	675
Stage 1	-	-	-	-	-	-	740	740	-	679	679	-
Stage 2	-	-	-	-	-	-	668	685	-	712	764	-
Critical Hdwy	4.14	-	-	4.13	-	-	7.1	6.5	6.2	7.2	6.6	6.3
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.2	5.6	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.2	5.6	-
Follow-up Hdwy	2.236	-	-	2.227	-	-	3.5	4	3.3	3.59	4.09	3.39
Pot Cap-1 Maneuver	908	-	-	852	-	-	118	137	424	115	127	440
Stage 1	-	-	-	-	-	-	412	426	-	429	439	-
Stage 2	-	-	-	-	-	-	451	451	-	411	401	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	891	-	-	821	-	-	109	127	408	109	118	429
Mov Cap-2 Maneuver	-	-	-	-	-	-	109	127	-	109	118	-
Stage 1	-	-	-	-	-	-	395	408	-	418	426	-
Stage 2	-	-	-	-	-	-	433	437	-	398	384	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.1			36.3			28.2		
HCM LOS							E			D		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	144	891	-	-	821	-	-	174				
HCM Lane V/C Ratio	0.204	0.006	-	-	0.007	-	-	0.111				
HCM Control Delay (s)	36.3	9.1	-	-	9.4	0	-	28.2				
HCM Lane LOS	E	A	-	-	A	A	-	D				
HCM 95th %tile O(veh)	0.7	0	-	-	0	-	-	0.4				

2043 Road Diet Noon Peak Intersection 2: Virginia Ave and Clay Place

09/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	235	355	30	10	265	60	25	10	35	50	5	265
Future Volume (veh/h)	235	355	30	10	265	60	25	10	35	50	5	265
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.99		0.98	0.96		0.93	0.95		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1841	1841	1841	1856	1856	1856	1841	1841	1841	1767	1841	1841
Adj Flow Rate, veh/h	258	390	33	12	315	71	37	15	51	58	6	308
Peak Hour Factor	0.91	0.91	0.91	0.84	0.84	0.84	0.68	0.68	0.68	0.86	0.86	0.86
Percent Heavy Veh, %	4	4	4	3	3	3	4	4	4	4	4	4
Cap, veh/h	489	970	82	468	613	138	174	54	184	321	8	426
Arrive On Green	0.09	0.58	0.58	0.42	0.42	0.42	0.16	0.16	0.16	0.06	0.29	0.29
Sat Flow, veh/h	1753	1671	141	943	1458	329	1011	347	1180	1683	29	1479
Grp Volume(v), veh/h	258	0	423	12	0	386	37	0	66	58	0	314
Grp Sat Flow(s),veh/h/ln	1753	0	1812	943	0	1786	1011	0	1528	1683	0	1508
Q Serve(g_s), s	8.1	0.0	12.8	0.7	0.0	16.0	3.4	0.0	3.8	2.7	0.0	18.7
Cycle Q Clear(g_c), s	8.1	0.0	12.8	0.7	0.0	16.0	8.9	0.0	3.8	2.7	0.0	18.7
Prop In Lane	1.00		0.08	1.00		0.18	1.00		0.77	1.00		0.98
Lane Grp Cap(c), veh/h	489	0	1052	468	0	751	174	0	238	321	0	434
V/C Ratio(X)	0.53	0.00	0.40	0.03	0.00	0.51	0.21	0.00	0.28	0.18	0.00	0.72
Avail Cap(c_a), veh/h	489	0	1052	468	0	751	241	0	339	368	0	576
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.0	0.0	11.5	17.0	0.0	21.4	42.0	0.0	37.3	30.1	0.0	32.0
Incr Delay (d2), s/veh	1.1	0.0	1.1	0.1	0.0	2.5	0.6	0.0	0.6	0.3	0.0	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	0.0	5.0	0.2	0.0	6.9	0.9	0.0	1.4	1.1	0.0	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.1	0.0	12.6	17.1	0.0	23.9	42.6	0.0	37.9	30.4	0.0	35.1
LnGrp LOS	B	A	B	B	A	C	D	A	D	C	A	D
Approach Vol, veh/h	681			398			103			372		
Approach Delay, s/veh	13.9			23.7			39.6			34.3		
Approach LOS	B			C			D			C		
Timer - Assigned Phs	1	2	3	4	6			8				
Phs Duration (G+Y+Rc), s	16.0	48.4	13.2	22.4	64.4			35.6				
Change Period (Y+Rc), s	* 6.8	6.4	* 6.8	* 6.8	6.4			* 6.8				
Max Green Setting (Gmax), s	* 9.2	32.6	* 9.2	* 22	48.6			* 38				
Max Q Clear Time (g_c+I1), s	10.1	18.0	4.7	10.9	14.8			20.7				
Green Ext Time (p_c), s	0.0	4.3	0.0	0.2	6.8			1.0				
Intersection Summary												
HCM 6th Ctrl Delay			23.0									
HCM 6th LOS			C									
Notes												

2043 Road Diet PM Peak Intersection 1: Virginia Ave and Hamilton Ave

09/11/2019

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	430	45	5	535	10	10	0	5	5	0	5
Future Vol, veh/h	0	430	45	5	535	10	10	0	5	5	0	5
Conflicting Peds, #/hr	24	0	35	35	0	24	8	0	2	2	0	8
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	84	84	84	51	51	51	52	52	52
Heavy Vehicles, %	4	4	4	3	3	3	0	0	0	10	10	10
Mvmt Flow	0	473	49	6	637	12	20	0	10	10	0	10
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	673	0	0	557	0	0	1201	1218	535	1184	1236	675
Stage 1	-	-	-	-	-	-	533	533	-	679	679	-
Stage 2	-	-	-	-	-	-	668	685	-	505	557	-
Critical Hdwy	4.14	-	-	4.13	-	-	7.1	6.5	6.2	7.2	6.6	6.3
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.2	5.6	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.2	5.6	-
Follow-up Hdwy	2.236	-	-	2.227	-	-	3.5	4	3.3	3.59	4.09	3.39
Pot Cap-1 Maneuver	908	-	-	1009	-	-	163	182	549	160	170	440
Stage 1	-	-	-	-	-	-	534	528	-	429	439	-
Stage 2	-	-	-	-	-	-	451	451	-	535	499	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	891	-	-	973	-	-	151	170	528	153	159	429
Mov Cap-2 Maneuver	-	-	-	-	-	-	151	170	-	153	159	-
Stage 1	-	-	-	-	-	-	515	509	-	421	426	-
Stage 2	-	-	-	-	-	-	433	438	-	524	481	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.1			26.3			22.4		
HCM LOS							D			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	198	891	-	-	973	-	-	226				
HCM Lane V/C Ratio	0.149	-	-	-	0.006	-	-	0.085				
HCM Control Delay (s)	26.3	0	-	-	8.7	0	-	22.4				
HCM Lane LOS	D	A	-	-	A	A	-	C				
HCM 95th %tile O(veh)	0.5	0	-	-	0	-	-	0.3				

2043 Road Diet PM Peak Intersection 2: Virginia Ave and Clay Place

09/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	165	255	25	20	360	80	25	10	35	30	5	160
Future Volume (veh/h)	165	255	25	20	360	80	25	10	35	30	5	160
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.99		0.98	0.94		0.92	0.95		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1841	1841	1841	1856	1856	1856	1841	1841	1841	1767	1841	1841
Adj Flow Rate, veh/h	181	280	27	24	429	95	37	15	51	35	6	186
Peak Hour Factor	0.91	0.91	0.91	0.84	0.84	0.84	0.68	0.68	0.68	0.86	0.86	0.86
Percent Heavy Veh, %	4	4	4	3	3	3	4	4	4	4	4	4
Cap, veh/h	426	1030	99	593	727	161	219	48	162	254	11	354
Arrive On Green	0.06	0.62	0.62	0.50	0.50	0.50	0.14	0.14	0.14	0.04	0.24	0.24
Sat Flow, veh/h	1753	1650	159	1049	1465	324	1105	345	1172	1683	47	1455
Grp Volume(v), veh/h	181	0	307	24	0	524	37	0	66	35	0	192
Grp Sat Flow(s),veh/h/ln	1753	0	1809	1049	0	1789	1105	0	1516	1683	0	1502
Q Serve(g_s), s	4.9	0.0	7.7	1.2	0.0	20.9	3.0	0.0	3.9	1.7	0.0	11.1
Cycle Q Clear(g_c), s	4.9	0.0	7.7	1.2	0.0	20.9	3.6	0.0	3.9	1.7	0.0	11.1
Prop In Lane	1.00		0.09	1.00		0.18	1.00		0.77	1.00		0.97
Lane Grp Cap(c), veh/h	426	0	1129	593	0	888	219	0	210	254	0	366
V/C Ratio(X)	0.42	0.00	0.27	0.04	0.00	0.59	0.17	0.00	0.31	0.14	0.00	0.52
Avail Cap(c_a), veh/h	426	0	1129	593	0	888	300	0	321	329	0	544
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.3	0.0	8.5	13.0	0.0	17.9	38.9	0.0	38.8	33.2	0.0	32.8
Incr Delay (d2), s/veh	0.7	0.0	0.6	0.1	0.0	2.9	0.4	0.0	0.8	0.2	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	2.9	0.3	0.0	8.8	0.8	0.0	1.5	0.7	0.0	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.0	0.0	9.1	13.1	0.0	20.8	39.3	0.0	39.7	33.5	0.0	34.0
LnGrp LOS	B	A	A	B	A	C	D	A	D	C	A	C
Approach Vol, veh/h	488			548			103			227		
Approach Delay, s/veh	10.9			20.5			39.5			33.9		
Approach LOS	B			C			D			C		
Timer - Assigned Phs	1	2	3	4	6			8				
Phs Duration (G+Y+Rc), s	12.8	56.0	10.5	20.6	68.8			31.2				
Change Period (Y+Rc), s	* 6.8	6.4	* 6.8	* 6.8	6.4			* 6.8				
Max Green Setting (Gmax), s	* 6	37.8	* 8.2	* 21	50.6			* 36				
Max Q Clear Time (g_c+I1), s	6.9	22.9	3.7	5.9	9.7			13.1				
Green Ext Time (p_c), s	0.0	6.2	0.0	0.2	4.8			0.6				
Intersection Summary												
HCM 6th Ctrl Delay	20.7											
HCM 6th LOS	C											
Notes												

APPENDIX H – ROUNDABOUT ANALYSIS RESULTS

Welcome to GDOT's Roundabout Analysis Tool. This tool is designed for the user to determine the functionality of a proposed roundabout. The analysis is based on the Highway Capacity Manual 2010 Edition and 6th Edition Methodologies, NCHRP Report 672, and FHWA's Roundabout Informational Guide. Please read the notes in the [Instructions](#) tab before using the spreadsheet.

Analyst:	Joshua Ekstedt
Agency/Company:	Stantec
Date:	5/30/2019
Project Name or PI#:	Virginia Ave Roundabout Feasibility Study
Year, Peak Period:	2019, 12:00 PM
County/District:	Fulton County
Intersection:	Virginia Ave/Doug Davis Dr @ Clay Pl/Virginia Ave

Insert Project Information Here in the BLUE SPACE. This information is linked to the Mini, Single Lane and Multi Lane Worksheets.

Roundabout Considerations Worksheet

Roundabouts may not operate well if there is too much traffic entering the intersection or if the percentage of traffic on the major road is too high. Candidate intersections shall be analyzed to determine whether a roundabout will perform acceptably. Shown below are planning level thresholds. A capacity analysis should be performed to determine lane configuration based on traffic volumes.

# of circulatory lanes	ADTs (current/ build year)	Condition met?	% traffic on Major Road	Condition met?
Mini	less than 15,000	Yes	less than 90%	Yes
Single Lane	less than 25,000	Yes	less than 90%	Yes
Multi-Lane	less than 45,000	Yes	less than 90%	Yes

Other things to consider when evaluating roundabouts as an alternative are Right of Way, sight distance, environmental impacts, and access to adjacent properties.

Volume Information (for Analysis Time Period)

1 Enter the Major/Minor Street ADT Volumes in the Chart below:

	Volumes	Split
Major Street	8,225	75%
Minor Street	2,775	25%
Total volumes	11,000	

Proximity to Other Intersections

2 How close is the nearest signal (miles or feet)?

3 Is the proposed intersection located within a coordinated signal network?

[Go up to next section...](#)

➔ Proposed Design Configuration Chart

Directions for this Section only: (see *Instructions Tab* for other sections)

1. **Select** the type of roundabout you are analyzing.
2. **Key in** the number of approaches and the street names at the proposed intersections.
3. Complete the Approach Characteristics Chart:
 - a. **Select** the Street Name from the pulldown menu for each approach leg
 - b. **Select** the Lane Type for each entry approach lane
**The first box is the inner lane, the second box is the outer lane*
 - c. **Select** Yes or No if a right turn bypass will be added to each approach leg

Roundabout Characteristics

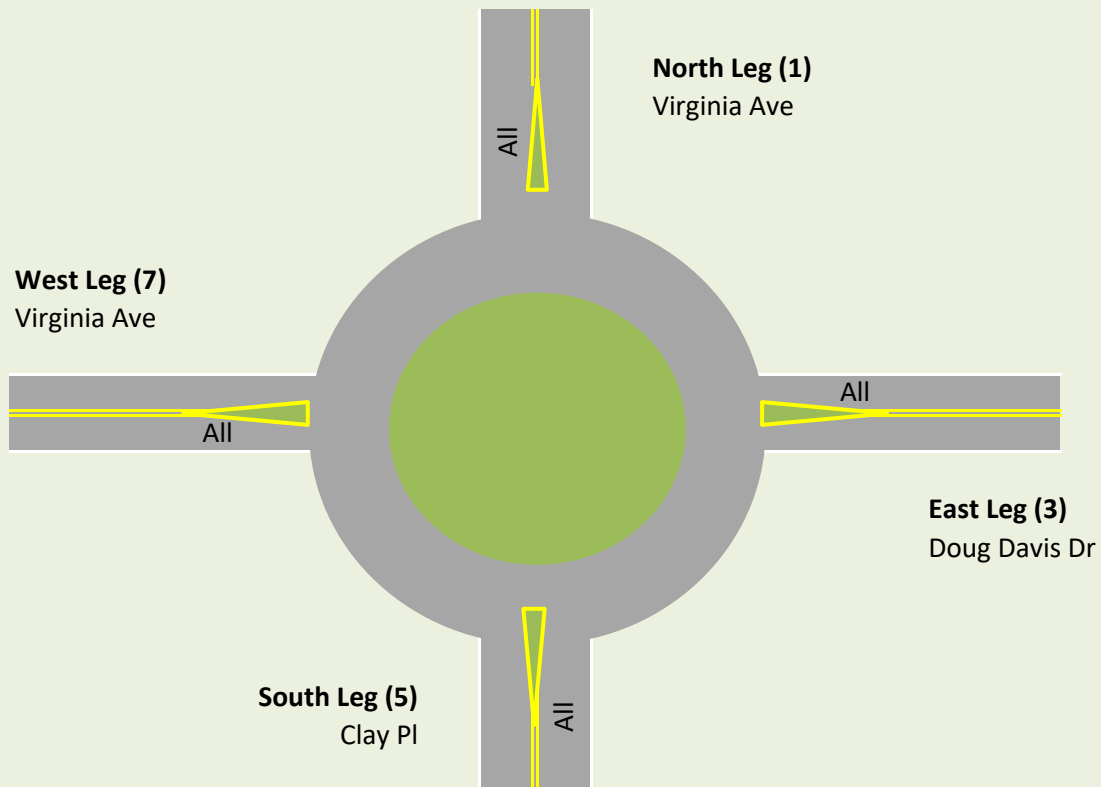
Roundabout Type:	Single Lane
# of Approaches:	4
Name of Streets:	Virginia Ave
	Clay Pl
	Doug Davis Dr

Mini/Single Lane	Chart Key:	
	Street Name	
	All	
	Bypass?	
Multi-lane	Street Name	
	Inner Ln	Outer Ln
	Bypass?	

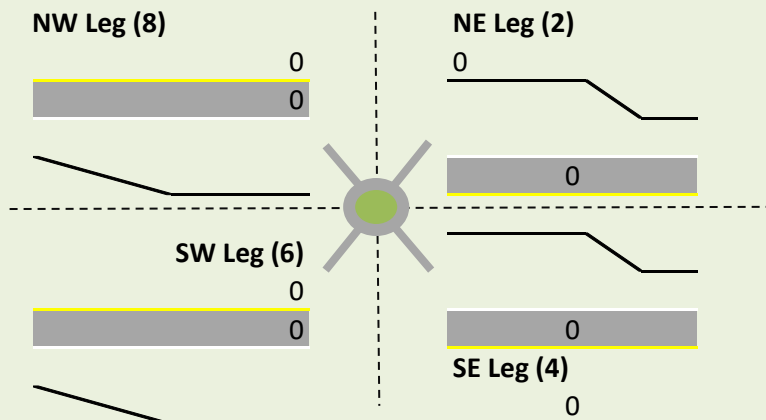
Approach Leg Characteristics:

	North Leg (1)	NE Leg (2)	East Leg (3)	SE Leg (4)
Street Name:	Virginia Ave		Doug Davis Dr	
Entry Lane Config	All		All	
Bypass to Adj Leg?	No		No	
	South Leg (5)	SW Leg (6)	West Leg (7)	NW Leg (8)
Street Name:	Clay Pl		Virginia Ave	
Entry Lane Config	All		All	
Bypass to Adj Leg?	No		No	

Preliminary Roundabout Rendering**



Additional Legs

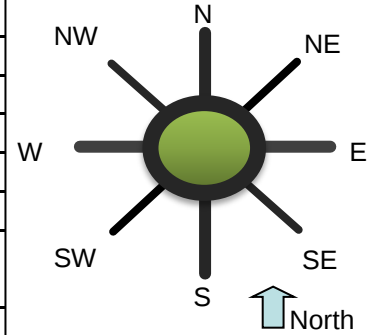


****Note**

This roundabout sketch does not include the secondary cardinal direction legs due to restrictions in the Excel software. For complex roundabouts, a separate sketch is recommended by the designer.

General & Site Information v 4.1

Analyst: Joshua Ekstedt
Agency/Co: Stantec
Date: 5/30/2019
Project or PI#: Virginia Ave Roundabout Feasibility Study
Year, Peak Hour: 2019, 12:00 PM
County/District: Fulton County
Intersection Name: Virginia Ave/Doug Davis Dr @ Clay Pl/Virginia Ave



Volumes		Entry Legs (FROM)							
		N (1)	NE (2)	E (3)	SE (4)	S (5)	SW (6)	W (7)	NW (8)
Exit Legs (TO)	N (1), vph	0	0	50	0	10	0	185	0
	NE (2), vph	0	0	0	0	0	0	0	0
	E (3), vph	40	0	0	0	30	0	285	0
	SE (4), vph	0	0	0	0	0	0	0	0
	S (5), vph	5	0	15	0	0	0	25	0
	SW (6), vph	0	0	0	0	0	0	0	0
	W (7), vph	210	0	205	0	20	0	0	0
	NW (8), vph	0	0	0	0	0	0	0	0
Output	Total Vehicles	255	0	270	0	60	0	495	0

Volume Characteristics	N	NE	E	SE	S	SW	W	NW
% Cars	98.5%	100.0%	97.5%	100.0%	97.5%	100.0%	97.0%	100.0%
% Heavy Vehicles	1.5%	0.0%	2.5%	0.0%	2.5%	0.0%	3.0%	0.0%
% Bicycle	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
# of Pedestrians (ped/hr)	5	0	7	0	17	0	17	0
PHF	0.71	0.95	0.88	0.95	0.60	0.95	0.87	0.95
F _{HV}	0.985	1.000	0.976	1.000	0.976	1.000	0.971	1.000
F _{ped}	0.999	1.000	0.999	1.000	0.998	1.000	0.998	1.000

Entry/Conflicting Flows	N	NE	E	SE	S	SW	W	NW
Flow to Leg # N (1), pcu/h	0	0	58	0	17	0	219	0
NE (2), pcu/h	0	0	0	0	0	0	0	0
E (3), pcu/h	57	0	0	0	51	0	337	0
SE (4), pcu/h	0	0	0	0	0	0	0	0
S (5), pcu/h	7	0	17	0	0	0	30	0
SW (6), pcu/h	0	0	0	0	0	0	0	0
W (7), pcu/h	300	0	239	0	34	0	0	0
NW (8), pcu/h	0	0	0	0	0	0	0	0
Entry flow, pcu/h	365	0	314	0	103	0	586	0
Conflicting flow, pcu/h	290	0	270	0	614	0	82	0

Results: Approach Measures of Effectiveness								
HCM 6th Edition	N	NE	E	SE	S	SW	W	NW
Entry Capacity, vph	1010	1380	1021	1380	718	1380	1230	1380
Entry Flow Rates, vph	359	0	307	0	100	0	569	0
V/C ratio	0.36	0.00	0.30	0.00	0.14	0.00	0.46	0.00
Control Delay, sec/pcu	7	3	7	3	7	3	8	3
LOS	A	A	A	A	A	A	A	A
95th % Queue (ft)	41	0	33	0	12	0	65	0

Notes: v 4.0

Unit Legend:
vph = vehicles per hour
PHF = peak hour factor
F_{HV} = heavy vehicle factor
pcu = passenger car unit

Bypass Lane Merge Point Analysis (if applicable)						
Bypass Characteristics	Bypass #1	Bypass #2	Bypass #3	Bypass #4	Bypass #5	Bypass #6
Select Entry Leg from Bypass (FROM)						
Select Exit Leg for Bypass (TO)						
Does the bypass have a dedicated receiving lane?						
Volumes						
Right Turn Volume removed from Entry Leg						
Volume Characteristics (for entry leg)						
PHF						
F _{HV}						
F _{ped}						
NOTE: Volume Characteristics for Exit Leg are already taken into account						
Entry/Conflicting Flows						
Entry Flow, pcu/hr						
Conflicting Flow, pcu/hr						
Bypass Lane Results (HCM 6th Edition)						
Entry Capacity of Bypass, vph						
Flow Rates of Exiting Traffic, vph						
V/C ratio						
Control Delay, s/veh						
LOS						
95th % Queue (ft)						
Approach w/Bypass Delay, s/veh						
Approach w/Bypass LOS						

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Analyst:	Joshua Ekstedt
Agency/Company:	Stantec
Date:	5/30/2019
Project Name or PI#:	Virginia Ave Roundabout Feasibility Study
Year, Peak Period:	2023, 12:00 PM
County/District:	Fulton County
Intersection:	Virginia Ave/Doug Davis Dr @ Clay Pl/Virginia Ave

Insert Project Information Here in the BLUE SPACE. This information is linked to the Mini, Single Lane and Multi Lane Worksheets.

Roundabout Considerations Worksheet

Roundabouts may not operate well if there is too much traffic entering the intersection or if the percentage of traffic on the major road is too high. Candidate intersections shall be analyzed to determine whether a roundabout will perform acceptably. Shown below are planning level thresholds. A capacity analysis should be performed to determine lane configuration based on traffic volumes.

# of circulatory lanes	ADTs (current/ build year)	Condition met?	% traffic on Major Road	Condition met?
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Single Lane	less than 25,000	Yes	less than 90%	Yes
Multi-Lane	less than 45,000	Yes	less than 90%	Yes

Other things to consider when evaluating roundabouts as an alternative are Right of Way, sight distance, environmental impacts, and access to adjacent properties.

Volume Information (for Analysis Time Period)

1 Enter the Major/Minor Street ADT Volumes in the Chart below:

	Volumes	Split
Major Street	8,525	75%
Minor Street	2,875	25%
Total volumes	11,400	

Proximity to Other Intersections

2 How close is the nearest signal (miles or feet)?

3 Is the proposed intersection located within a coordinated signal network?

[Go up to next section...](#)

➔ Proposed Design Configuration Chart

Directions for this Section only: (see *Instructions Tab* for other sections)

1. **Select** the type of roundabout you are analyzing.
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**The first box is the inner lane, the second box is the outer lane*
 - c. **Select** Yes or No if a right turn bypass will be added to each approach leg

Roundabout Characteristics

Roundabout Type:

of Approaches:

Name of Streets:

Chart Key:

Street Name	
All	
Bypass?	

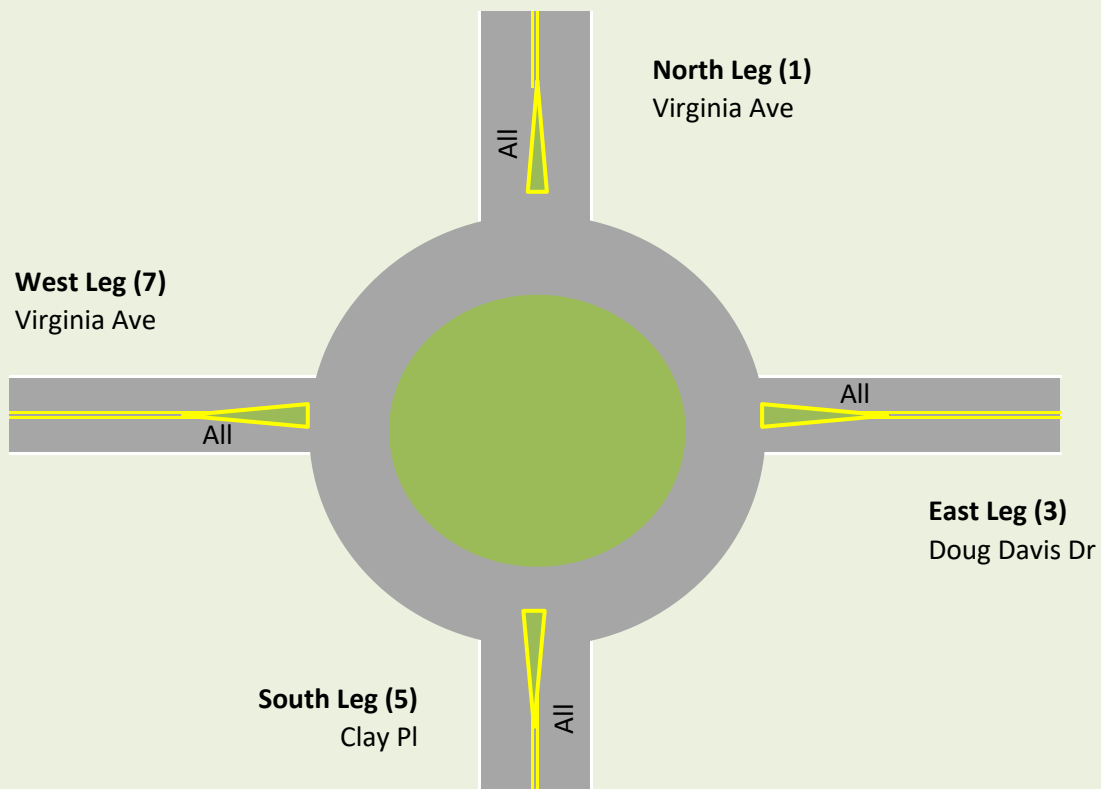
Multi-lane

Street Name	
Inner Ln	Outer Ln
Bypass?	

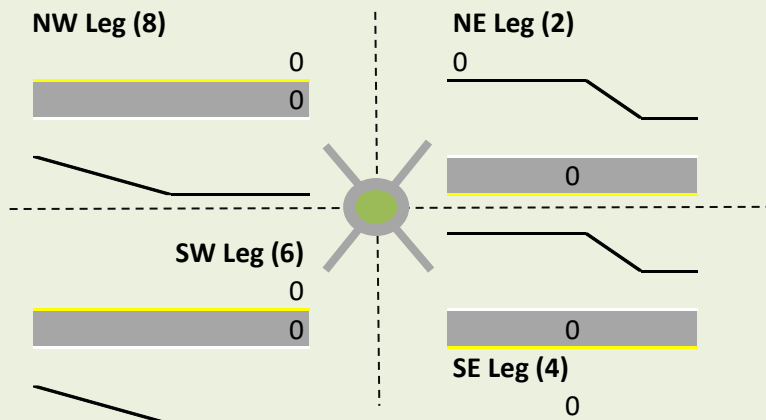
Approach Leg Characteristics:

	North Leg (1)	NE Leg (2)	East Leg (3)	SE Leg (4)
Street Name:	Virginia Ave		Doug Davis Dr	
Entry Lane Config	All		All	
Bypass to Adj Leg?	No	No	No	
	South Leg (5)	SW Leg (6)	West Leg (7)	NW Leg (8)
Street Name:	Clay Pl		Virginia Ave	
Entry Lane Config	All		All	
Bypass to Adj Leg?	No		No	

Preliminary Roundabout Rendering**



Additional Legs

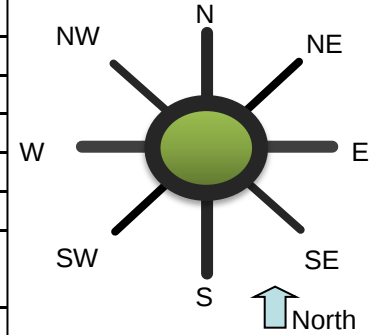


****Note**

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General & Site Information v 4.1

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Project or PI#: Virginia Ave Roundabout Feasibility Study
Year, Peak Hour: 2023, 12:00 PM
County/District: Fulton County
Intersection Name: Virginia Ave/Doug Davis Dr @ Clay Pl/Virginia Ave



Volumes		Entry Legs (FROM)							
		N (1)	NE (2)	E (3)	SE (4)	S (5)	SW (6)	W (7)	NW (8)
Exit Legs (TO)	N (1), vph	0	0	50	0	10	0	190	0
	NE (2), vph	0	0	0	0	0	0	0	0
	E (3), vph	40	0	0	0	30	0	295	0
	SE (4), vph	0	0	0	0	0	0	0	0
	S (5), vph	5	0	20	0	0	0	25	0
	SW (6), vph	0	0	0	0	0	0	0	0
	W (7), vph	220	0	210	0	20	0	0	0
	NW (8), vph	0	0	0	0	0	0	0	0
Output	Total Vehicles	265	0	280	0	60	0	510	0

Volume Characteristics	N	NE	E	SE	S	SW	W	NW
% Cars	98.5%	100.0%	97.5%	100.0%	97.5%	100.0%	97.0%	100.0%
% Heavy Vehicles	1.5%	0.0%	2.5%	0.0%	2.5%	0.0%	3.0%	0.0%
% Bicycle	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
# of Pedestrians (ped/hr)	5	0	7	0	17	0	17	0
PHF	0.71	0.95	0.88	0.95	0.60	0.95	0.87	0.95
F _{HV}	0.985	1.000	0.976	1.000	0.976	1.000	0.971	1.000
F _{ped}	0.999	1.000	0.999	1.000	0.998	1.000	0.998	1.000

Entry/Conflicting Flows	N	NE	E	SE	S	SW	W	NW
Flow to Leg # N (1), pcu/h	0	0	58	0	17	0	225	0
NE (2), pcu/h	0	0	0	0	0	0	0	0
E (3), pcu/h	57	0	0	0	51	0	349	0
SE (4), pcu/h	0	0	0	0	0	0	0	0
S (5), pcu/h	7	0	23	0	0	0	30	0
SW (6), pcu/h	0	0	0	0	0	0	0	0
W (7), pcu/h	315	0	245	0	34	0	0	0
NW (8), pcu/h	0	0	0	0	0	0	0	0
Entry flow, pcu/h	379	0	326	0	103	0	604	0
Conflicting flow, pcu/h	302	0	276	0	631	0	88	0

Results: Approach Measures of Effectiveness								
HCM 6th Edition	N	NE	E	SE	S	SW	W	NW
Entry Capacity, vph	998	1380	1015	1380	705	1380	1222	1380
Entry Flow Rates, vph	373	0	318	0	100	0	586	0
V/C ratio	0.37	0.00	0.31	0.00	0.14	0.00	0.48	0.00
Control Delay, sec/pcu	8	3	7	3	7	3	8	3
LOS	A	A	A	A	A	A	A	A
95th % Queue (ft)	44	0	35	0	13	0	69	0

Notes: v 4.0

Unit Legend:
vph = vehicles per hour
PHF = peak hour factor
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pcu = passenger car unit

Bypass Lane Merge Point Analysis (if applicable)						
Bypass Characteristics	Bypass #1	Bypass #2	Bypass #3	Bypass #4	Bypass #5	Bypass #6
Select Entry Leg from Bypass (FROM)						
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F _{HV}						
F _{ped}						
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Entry Flow, pcu/hr						
Conflicting Flow, pcu/hr						
Bypass Lane Results (HCM 6th Edition)						
Entry Capacity of Bypass, vph						
Flow Rates of Exiting Traffic, vph						
V/C ratio						
Control Delay, s/veh						
LOS						
95th % Queue (ft)						
Approach w/Bypass Delay, s/veh						
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Volume Information (for Analysis Time Period)

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Minor Street	2,900	25%
Total volumes	11,575	

Proximity to Other Intersections

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3 Is the proposed intersection located within a coordinated signal network?

[Go up to next section...](#)

➔ Proposed Design Configuration Chart

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**The first box is the inner lane, the second box is the outer lane*
 - c. **Select** Yes or No if a right turn bypass will be added to each approach leg

Roundabout Characteristics

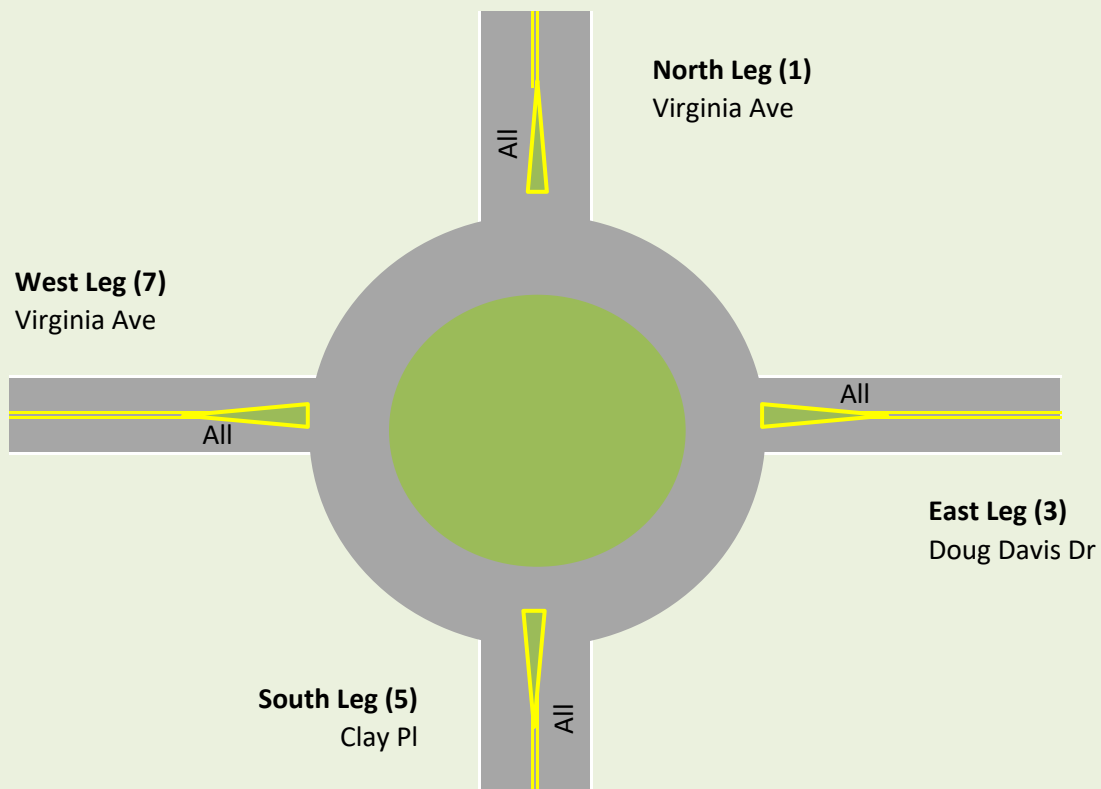
Roundabout Type:	Single Lane
# of Approaches:	4
Name of Streets:	Virginia Ave
	Clay Pl
	Doug Davis Dr

Mini/Single Lane	Chart Key:	
	Street Name	
	All	
	Bypass?	
Multi-lane	Street Name	
	Inner Ln	Outer Ln
	Bypass?	

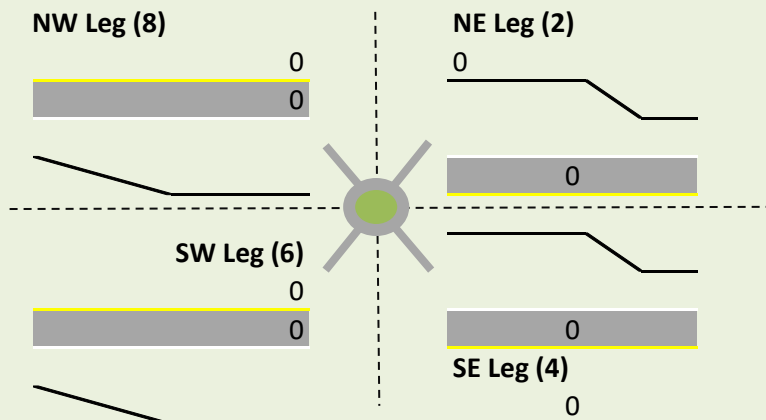
Approach Leg Characteristics:

	North Leg (1)	NE Leg (2)	East Leg (3)	SE Leg (4)
Street Name:	Virginia Ave		Doug Davis Dr	
Entry Lane Config	All		All	
Bypass to Adj Leg?	No		No	
	South Leg (5)	SW Leg (6)	West Leg (7)	NW Leg (8)
Street Name:	Clay Pl		Virginia Ave	
Entry Lane Config	All		All	
Bypass to Adj Leg?	No		No	

Preliminary Roundabout Rendering**



Additional Legs

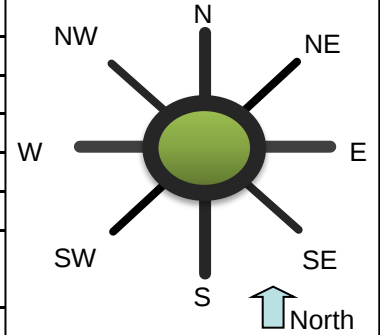


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General & Site Information v 4.1

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Project or PI#: Virginia Ave Roundabout Feasibility Study
Year, Peak Hour: 2025, 12:00 PM
County/District: Fulton County
Intersection Name: Virginia Ave/Doug Davis Dr @ Clay Pl/Virginia Ave



Volumes		Entry Legs (FROM)							
		N (1)	NE (2)	E (3)	SE (4)	S (5)	SW (6)	W (7)	NW (8)
Exit Legs (TO)	N (1), vph	0	0	55	0	10	0	195	0
	NE (2), vph	0	0	0	0	0	0	0	0
	E (3), vph	40	0	0	0	30	0	300	0
	SE (4), vph	0	0	0	0	0	0	0	0
	S (5), vph	5	0	20	0	0	0	25	0
	SW (6), vph	0	0	0	0	0	0	0	0
	W (7), vph	220	0	210	0	20	0	0	0
	NW (8), vph	0	0	0	0	0	0	0	0
Output	Total Vehicles	265	0	285	0	60	0	520	0

Volume Characteristics	N	NE	E	SE	S	SW	W	NW
% Cars	98.5%	100.0%	97.5%	100.0%	97.5%	100.0%	97.0%	100.0%
% Heavy Vehicles	1.5%	0.0%	2.5%	0.0%	2.5%	0.0%	3.0%	0.0%
% Bicycle	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
# of Pedestrians (ped/hr)	5	0	18	0	7	0	17	0
PHF	0.71	0.95	0.88	0.95	0.60	0.95	0.87	0.95
F _{HV}	0.985	1.000	0.976	1.000	0.976	1.000	0.971	1.000
F _{ped}	0.999	1.000	0.998	1.000	0.999	1.000	0.998	1.000

Entry/Conflicting Flows	N	NE	E	SE	S	SW	W	NW
Flow to Leg # N (1), pcu/h	0	0	64	0	17	0	231	0
NE (2), pcu/h	0	0	0	0	0	0	0	0
E (3), pcu/h	57	0	0	0	51	0	355	0
SE (4), pcu/h	0	0	0	0	0	0	0	0
S (5), pcu/h	7	0	23	0	0	0	30	0
SW (6), pcu/h	0	0	0	0	0	0	0	0
W (7), pcu/h	315	0	245	0	34	0	0	0
NW (8), pcu/h	0	0	0	0	0	0	0	0
Entry flow, pcu/h	379	0	332	0	103	0	616	0
Conflicting flow, pcu/h	302	0	282	0	643	0	88	0

Results: Approach Measures of Effectiveness								
HCM 6th Edition	N	NE	E	SE	S	SW	W	NW
Entry Capacity, vph	998	1380	1007	1380	698	1380	1222	1380
Entry Flow Rates, vph	373	0	324	0	100	0	598	0
V/C ratio	0.37	0.00	0.32	0.00	0.14	0.00	0.49	0.00
Control Delay, sec/pcu	8	3	7	3	7	3	8	3
LOS	A	A	A	A	A	A	A	A
95th % Queue (ft)	44	0	36	0	13	0	71	0

Notes: v 4.0

Unit Legend:
vph = vehicles per hour
PHF = peak hour factor
F_{HV} = heavy vehicle factor
pcu = passenger car unit

Bypass Lane Merge Point Analysis (if applicable)						
Bypass Characteristics	Bypass #1	Bypass #2	Bypass #3	Bypass #4	Bypass #5	Bypass #6
Select Entry Leg from Bypass (FROM)						
Select Exit Leg for Bypass (TO)						
Does the bypass have a dedicated receiving lane?						
Volumes						
Right Turn Volume removed from Entry Leg						
Volume Characteristics (for entry leg)						
PHF						
F _{HV}						
F _{ped}						
NOTE: Volume Characteristics for Exit Leg are already taken into account						
Entry/Conflicting Flows						
Entry Flow, pcu/hr						
Conflicting Flow, pcu/hr						
Bypass Lane Results (HCM 6th Edition)						
Entry Capacity of Bypass, vph						
Flow Rates of Exiting Traffic, vph						
V/C ratio						
Control Delay, s/veh						
LOS						
95th % Queue (ft)						
Approach w/Bypass Delay, s/veh						
Approach w/Bypass LOS						

Welcome to GDOT's Roundabout Analysis Tool. This tool is designed for the user to determine the functionality of a proposed roundabout. The analysis is based on the Highway Capacity Manual 2010 Edition and 6th Edition Methodologies, NCHRP Report 672, and FHWA's Roundabout Informational Guide. Please read the notes in the [Instructions](#) tab before using the spreadsheet.

Analyst:	Joshua Ekstedt
Agency/Company:	Stantec
Date:	5/30/2019
Project Name or PI#:	Virginia Ave Roundabout Feasibility Study
Year, Peak Period:	2043, 12:00 PM
County/District:	Fulton County
Intersection:	Virginia Ave/Doug Davis Dr @ Clay Pl/Virginia Ave

Insert Project Information Here in the BLUE SPACE. This information is linked to the Mini, Single Lane and Multi Lane Worksheets.

Roundabout Considerations Worksheet

Roundabouts may not operate well if there is too much traffic entering the intersection or if the percentage of traffic on the major road is too high. Candidate intersections shall be analyzed to determine whether a roundabout will perform acceptably. Shown below are planning level thresholds. A capacity analysis should be performed to determine lane configuration based on traffic volumes.

# of circulatory lanes	ADTs (current/ build year)	Condition met?	% traffic on Major Road	Condition met?
Mini	less than 15,000	Yes	less than 90%	Yes
Single Lane	less than 25,000	Yes	less than 90%	Yes
Multi-Lane	less than 45,000	Yes	less than 90%	Yes

Other things to consider when evaluating roundabouts as an alternative are Right of Way, sight distance, environmental impacts, and access to adjacent properties.

Volume Information (for Analysis Time Period)

1 Enter the Major/Minor Street ADT Volumes in the Chart below:

	Volumes	Split
Major Street	10,200	75%
Minor Street	3,425	25%
Total volumes	13,625	

Proximity to Other Intersections

2 How close is the nearest signal (miles or feet)?

3 Is the proposed intersection located within a coordinated signal network?

Go up to next section...

➔ Proposed Design Configuration Chart

Directions for this Section only: (see *Instructions Tab* for other sections)

1. **Select** the type of roundabout you are analyzing.
2. **Key in** the number of approaches and the street names at the proposed intersections.
3. Complete the Approach Characteristics Chart:
 - a. **Select** the Street Name from the pulldown menu for each approach leg
 - b. **Select** the Lane Type for each entry approach lane
**The first box is the inner lane, the second box is the outer lane*
 - c. **Select** Yes or No if a right turn bypass will be added to each approach leg

Roundabout Characteristics

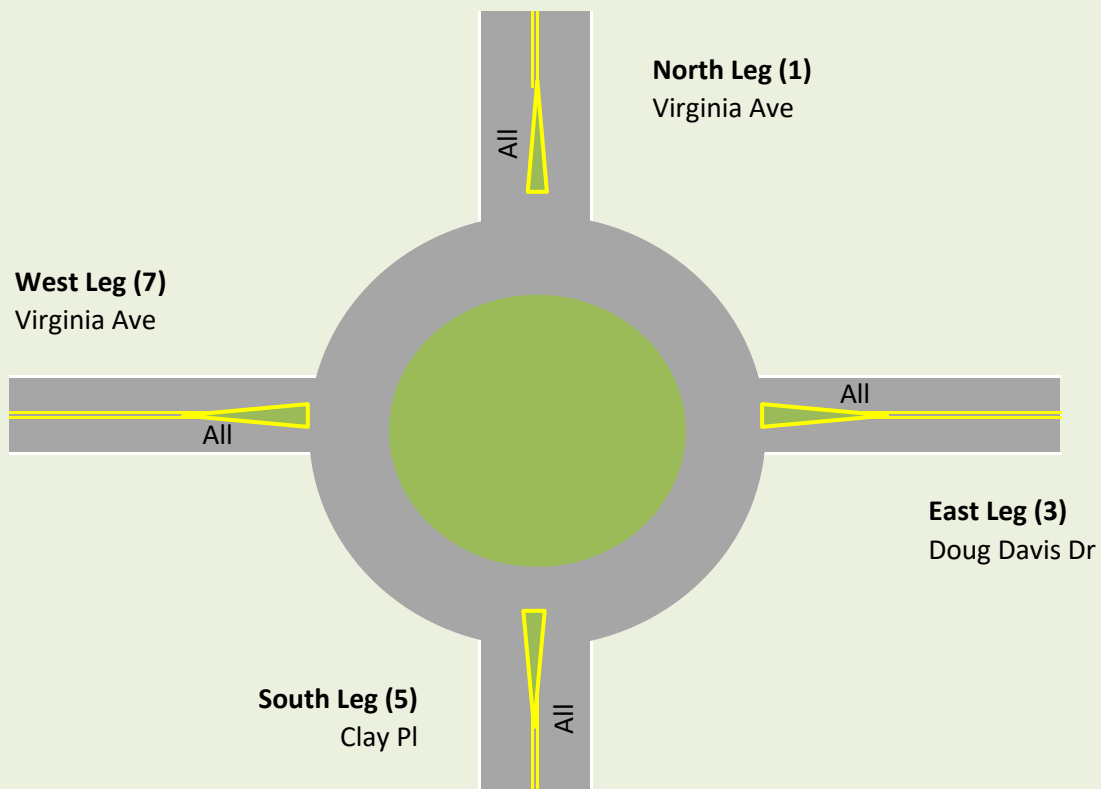
Roundabout Type:	Single Lane
# of Approaches:	4
Name of Streets:	Virginia Ave
	Clay Pl
	Doug Davis Dr

Mini/Single Lane	Chart Key:	
	Street Name	
	All	
	Bypass?	
Multi-lane	Street Name	
	Inner Ln	Outer Ln
	Bypass?	

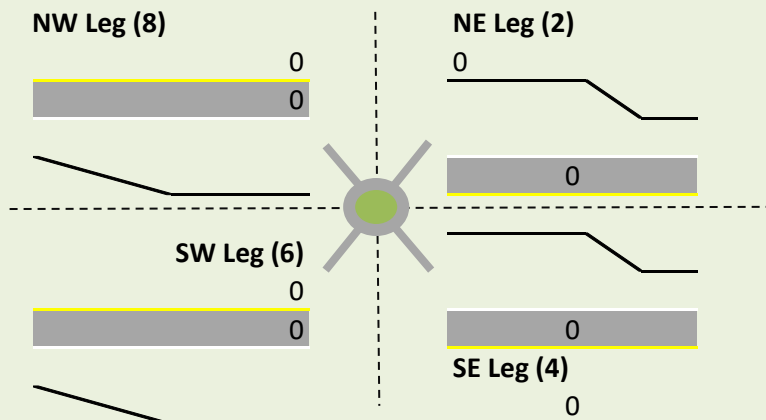
Approach Leg Characteristics:

	North Leg (1)	NE Leg (2)	East Leg (3)	SE Leg (4)
Street Name:	Virginia Ave		Doug Davis Dr	
Entry Lane Config	All		All	
Bypass to Adj Leg?	No		No	
	South Leg (5)	SW Leg (6)	West Leg (7)	NW Leg (8)
Street Name:	Clay Pl		Virginia Ave	
Entry Lane Config	All		All	
Bypass to Adj Leg?	No		No	

Preliminary Roundabout Rendering**



Additional Legs

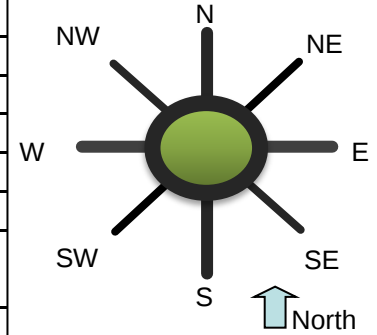


****Note**

This roundabout sketch does not include the secondary cardinal direction legs due to restrictions in the Excel software. For complex roundabouts, a separate sketch is recommended by the designer.

General & Site Information v 4.1

Analyst: Joshua Ekstedt
Agency/Co: Stantec
Date: 5/30/2019
Project or PI#: Virginia Ave Roundabout Feasibility Study
Year, Peak Hour: 2043, 12:00 PM
County/District: Fulton County
Intersection Name: Virginia Ave/Doug Davis Dr @ Clay Pl/Virginia Ave



Volumes		Entry Legs (FROM)							
		N (1)	NE (2)	E (3)	SE (4)	S (5)	SW (6)	W (7)	NW (8)
Exit Legs (TO)	N (1), vph	0	0	60	0	10	0	230	0
	NE (2), vph	0	0	0	0	0	0	0	0
	E (3), vph	50	0	0	0	35	0	355	0
	SE (4), vph	0	0	0		0	0	0	0
	S (5), vph	5	0	25	0	0	0	30	0
	SW (6), vph	0	0	0	0	0	0	0	0
	W (7), vph	260	0	255	0	25	0	0	0
	NW (8), vph	0	0	0	0	0	0	0	0
Output	Total Vehicles	315	0	340	0	70	0	615	0

Volume Characteristics	N	NE	E	SE	S	SW	W	NW
% Cars	98.5%	100.0%	97.5%	100.0%	97.5%	100.0%	97.0%	100.0%
% Heavy Vehicles	1.5%	0.0%	2.5%	0.0%	2.5%	0.0%	3.0%	0.0%
% Bicycle	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
# of Pedestrians (ped/hr)	6	0	8	0	21	0	21	0
PHF	0.71	0.95	0.88	0.95	0.60	0.95	0.87	0.95
F _{HV}	0.985	1.000	0.976	1.000	0.976	1.000	0.971	1.000
F _{ped}	0.999	1.000	0.999	1.000	0.997	1.000	0.997	1.000

Entry/Conflicting Flows	N	NE	E	SE	S	SW	W	NW
Flow to Leg # N (1), pcu/h	0	0	70	0	17	0	272	0
NE (2), pcu/h	0	0	0	0	0	0	0	0
E (3), pcu/h	71	0	0	0	60	0	420	0
SE (4), pcu/h	0	0	0	0	0	0	0	0
S (5), pcu/h	7	0	29	0	0	0	36	0
SW (6), pcu/h	0	0	0	0	0	0	0	0
W (7), pcu/h	372	0	297	0	43	0	0	0
NW (8), pcu/h	0	0	0	0	0	0	0	0
Entry flow, pcu/h	450	0	396	0	120	0	728	0
Conflicting flow, pcu/h	369	0	332	0	764	0	108	0

Results: Approach Measures of Effectiveness								
HCM 6th Edition	N	NE	E	SE	S	SW	W	NW
Entry Capacity, vph	933	1380	958	1380	616	1380	1197	1380
Entry Flow Rates, vph	444	0	386	0	117	0	707	0
V/C ratio	0.48	0.00	0.40	0.00	0.19	0.00	0.59	0.00
Control Delay, sec/pcu	10	3	8	3	8	3	10	3
LOS	A	A	A	A	A	A	B	A
95th % Queue (ft)	66	0	51	0	18	0	105	0

Notes: v 4.0

Unit Legend:
vph = vehicles per hour
PHF = peak hour factor
F_{HV} = heavy vehicle factor
pcu = passenger car unit

Bypass Lane Merge Point Analysis (if applicable)						
Bypass Characteristics	Bypass #1	Bypass #2	Bypass #3	Bypass #4	Bypass #5	Bypass #6
Select Entry Leg from Bypass (FROM)						
Select Exit Leg for Bypass (TO)						
Does the bypass have a dedicated receiving lane?						
Volumes						
Right Turn Volume removed from Entry Leg						
Volume Characteristics (for entry leg)						
PHF						
F _{HV}						
F _{ped}						
NOTE: Volume Characteristics for Exit Leg are already taken into account						
Entry/Conflicting Flows						
Entry Flow, pcu/hr						
Conflicting Flow, pcu/hr						
Bypass Lane Results (HCM 6th Edition)						
Entry Capacity of Bypass, vph						
Flow Rates of Exiting Traffic, vph						
V/C ratio						
Control Delay, s/veh						
LOS						
95th % Queue (ft)						
Approach w/Bypass Delay, s/veh						
Approach w/Bypass LOS						

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Analyst:	Joshua Ekstedt
Agency/Company:	Stantec
Date:	5/30/2019
Project Name or PI#:	Virginia Ave Roundabout Feasibility Study
Year, Peak Period:	2045, 12:00 PM
County/District:	Fulton County
Intersection:	Virginia Ave/Doug Davis Dr @ Clay Pl/Virginia Ave

Insert Project Information Here in the BLUE SPACE. This information is linked to the Mini, Single Lane and Multi Lane Worksheets.

Roundabout Considerations Worksheet

Roundabouts may not operate well if there is too much traffic entering the intersection or if the percentage of traffic on the major road is too high. Candidate intersections shall be analyzed to determine whether a roundabout will perform acceptably. Shown below are planning level thresholds. A capacity analysis should be performed to determine lane configuration based on traffic volumes.

# of circulatory lanes	ADTs (current/ build year)	Condition met?	% traffic on Major Road	Condition met?
Mini	less than 15,000	Yes	less than 90%	Yes
Single Lane	less than 25,000	Yes	less than 90%	Yes
Multi-Lane	less than 45,000	Yes	less than 90%	Yes

Other things to consider when evaluating roundabouts as an alternative are Right of Way, sight distance, environmental impacts, and access to adjacent properties.

Volume Information (for Analysis Time Period)

1 Enter the Major/Minor Street ADT Volumes in the Chart below:

	Volumes	Split
Major Street	10,375	75%
Minor Street	3,525	25%
Total volumes	13,900	

Proximity to Other Intersections

2 How close is the nearest signal (miles or feet)?

3 Is the proposed intersection located within a coordinated signal network?

[Go up to next section...](#)

➔ Proposed Design Configuration Chart

Directions for this Section only: (see *Instructions Tab* for other sections)

1. **Select** the type of roundabout you are analyzing.
2. **Key in** the number of approaches and the street names at the proposed intersections.
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 - a. **Select** the Street Name from the pulldown menu for each approach leg
 - b. **Select** the Lane Type for each entry approach lane
**The first box is the inner lane, the second box is the outer lane*
 - c. **Select** Yes or No if a right turn bypass will be added to each approach leg

Roundabout Characteristics

Roundabout Type:

of Approaches:

Name of Streets:

Chart Key:

Street Name	
All	
Bypass?	

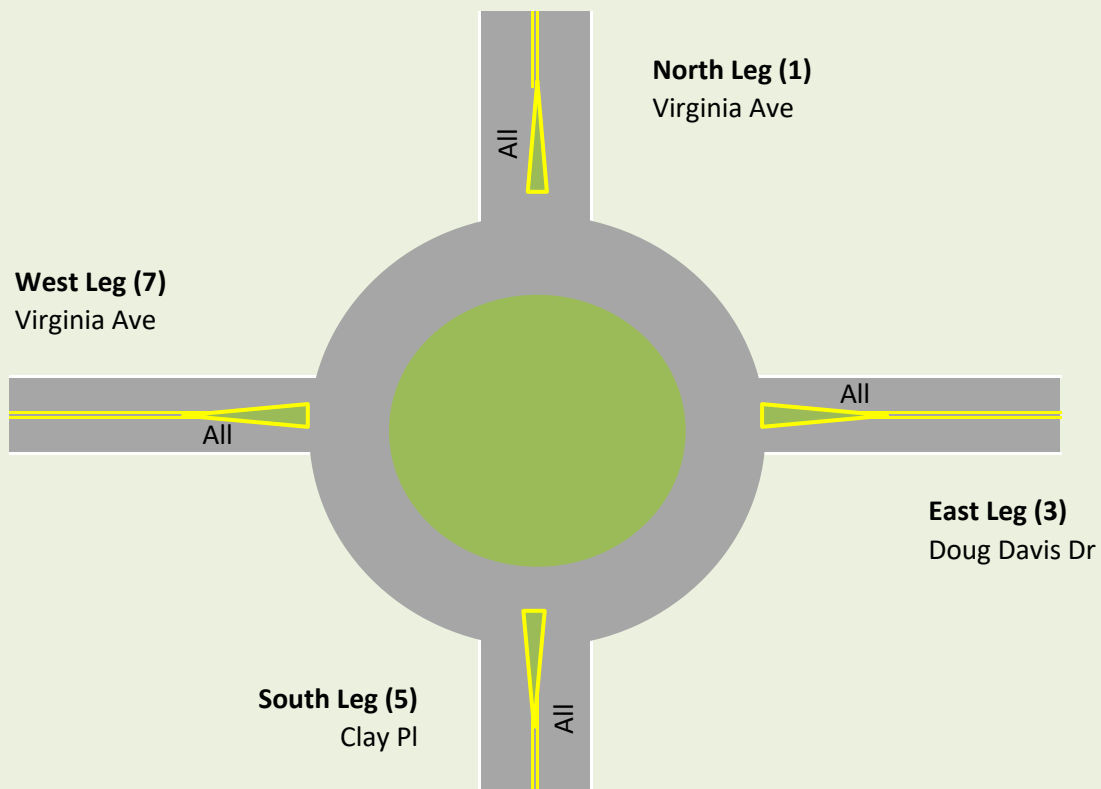
Multi-lane

Street Name	
Inner Ln	Outer Ln
Bypass?	

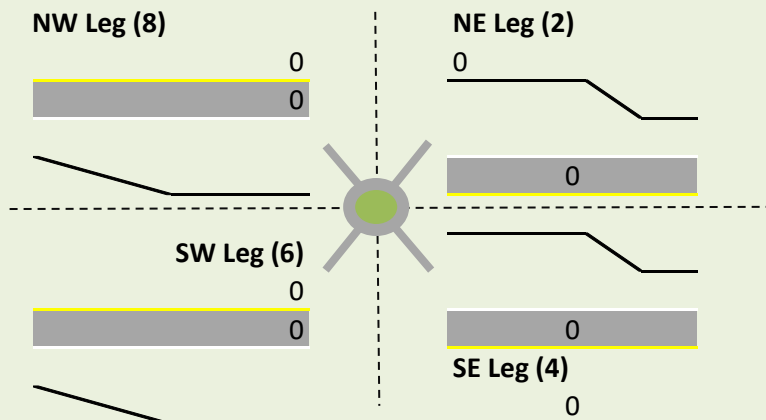
Approach Leg Characteristics:

	North Leg (1)	NE Leg (2)	East Leg (3)	SE Leg (4)
Street Name:	Virginia Ave		Doug Davis Dr	
Entry Lane Config	All		All	
Bypass to Adj Leg?	No		No	
	South Leg (5)	SW Leg (6)	West Leg (7)	NW Leg (8)
Street Name:	Clay Pl		Virginia Ave	
Entry Lane Config	All		All	
Bypass to Adj Leg?	No		No	

Preliminary Roundabout Rendering**



Additional Legs

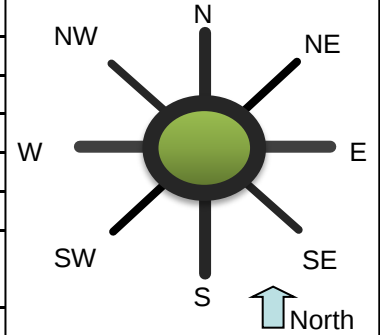


****Note**

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General & Site Information v 4.1

Analyst: Joshua Ekstedt
Agency/Co: Stantec
Date: 5/30/2019
Project or PI#: Virginia Ave Roundabout Feasibility Study
Year, Peak Hour: 2045, 12:00 PM
County/District: Fulton County
Intersection Name: Virginia Ave/Doug Davis Dr @ Clay Pl/Virginia Ave



Volumes		Entry Legs (FROM)							
		N (1)	NE (2)	E (3)	SE (4)	S (5)	SW (6)	W (7)	NW (8)
Exit Legs (TO)	N (1), vph	0	0	65	0	15	0	235	0
	NE (2), vph	0	0	0	0	0	0	0	0
	E (3), vph	50	0	0	0	40	0	360	0
	SE (4), vph	0	0	0	0	0	0	0	0
	S (5), vph	5	0	25	0	0	0	30	0
	SW (6), vph	0	0	0	0	0	0	0	0
	W (7), vph	265	0	260	0	25	0	0	0
	NW (8), vph	0	0	0	0	0	0	0	0
Output	Total Vehicles	320	0	350	0	80	0	625	0

Volume Characteristics	N	NE	E	SE	S	SW	W	NW
% Cars	98.5%	100.0%	97.5%	100.0%	97.5%	100.0%	97.0%	100.0%
% Heavy Vehicles	1.5%	0.0%	2.5%	0.0%	2.5%	0.0%	3.0%	0.0%
% Bicycle	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
# of Pedestrians (ped/hr)	7	0	9	0	21	0	21	0
PHF	0.71	0.95	0.88	0.95	0.60	0.95	0.87	0.95
F _{HV}	0.985	1.000	0.976	1.000	0.976	1.000	0.971	1.000
F _{ped}	0.999	1.000	0.999	1.000	0.997	1.000	0.997	1.000

Entry/Conflicting Flows	N	NE	E	SE	S	SW	W	NW
Flow to Leg # N (1), pcu/h	0	0	76	0	26	0	278	0
NE (2), pcu/h	0	0	0	0	0	0	0	0
E (3), pcu/h	71	0	0	0	68	0	426	0
SE (4), pcu/h	0	0	0	0	0	0	0	0
S (5), pcu/h	7	0	29	0	0	0	36	0
SW (6), pcu/h	0	0	0	0	0	0	0	0
W (7), pcu/h	379	0	303	0	43	0	0	0
NW (8), pcu/h	0	0	0	0	0	0	0	0
Entry flow, pcu/h	457	0	408	0	137	0	740	0
Conflicting flow, pcu/h	375	0	347	0	776	0	108	0

Results: Approach Measures of Effectiveness								
HCM 6th Edition	N	NE	E	SE	S	SW	W	NW
Entry Capacity, vph	927	1380	944	1380	608	1380	1197	1380
Entry Flow Rates, vph	451	0	398	0	133	0	718	0
V/C ratio	0.49	0.00	0.42	0.00	0.22	0.00	0.60	0.00
Control Delay, sec/pcu	10	3	9	3	9	3	10	3
LOS	A	A	A	A	A	A	B	A
95th % Queue (ft)	69	0	54	0	21	0	108	0

Notes: v 4.0

Unit Legend:
vph = vehicles per hour
PHF = peak hour factor
F_{HV} = heavy vehicle factor
pcu = passenger car unit

Bypass Lane Merge Point Analysis (if applicable)						
Bypass Characteristics	Bypass #1	Bypass #2	Bypass #3	Bypass #4	Bypass #5	Bypass #6
Select Entry Leg from Bypass (FROM)						
Select Exit Leg for Bypass (TO)						
Does the bypass have a dedicated receiving lane?						
Volumes						
Right Turn Volume removed from Entry Leg						
Volume Characteristics (for entry leg)						
PHF						
F _{HV}						
F _{ped}						
NOTE: Volume Characteristics for Exit Leg are already taken into account						
Entry/Conflicting Flows						
Entry Flow, pcu/hr						
Conflicting Flow, pcu/hr						
Bypass Lane Results (HCM 6th Edition)						
Entry Capacity of Bypass, vph						
Flow Rates of Exiting Traffic, vph						
V/C ratio						
Control Delay, s/veh						
LOS						
95th % Queue (ft)						
Approach w/Bypass Delay, s/veh						
Approach w/Bypass LOS						

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Analyst:	Joshua Ekstedt
Agency/Company:	Stantec
Date:	5/30/2019
Project Name or PI#:	Virginia Ave Roundabout Feasibility Study
Year, Peak Period:	2019, 4:45 PM
County/District:	Fulton County
Intersection:	Virginia Ave/Doug Davis Dr @ Clay Pl/Virginia Ave

Insert Project Information Here in the BLUE SPACE. This information is linked to the Mini, Single Lane and Multi Lane Worksheets.

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Mini	less than 15,000	Yes	less than 90%	Yes
Single Lane	less than 25,000	Yes	less than 90%	Yes
Multi-Lane	less than 45,000	Yes	less than 90%	Yes

Other things to consider when evaluating roundabouts as an alternative are Right of Way, sight distance, environmental impacts, and access to adjacent properties.

Volume Information (for Analysis Time Period)

1 Enter the Major/Minor Street ADT Volumes in the Chart below:

	Volumes	Split
Major Street	8,225	75%
Minor Street	2,775	25%
Total volumes	11,000	

Proximity to Other Intersections

2 How close is the nearest signal (miles or feet)?

3 Is the proposed intersection located within a coordinated signal network?

[Go up to next section...](#)

➔ Proposed Design Configuration Chart

Directions for this Section only: (see *Instructions Tab* for other sections)

1. **Select** the type of roundabout you are analyzing.
2. **Key in** the number of approaches and the street names at the proposed intersections.
3. Complete the Approach Characteristics Chart:
 - a. **Select** the Street Name from the pulldown menu for each approach leg
 - b. **Select** the Lane Type for each entry approach lane
**The first box is the inner lane, the second box is the outer lane*
 - c. **Select** Yes or No if a right turn bypass will be added to each approach leg

Roundabout Characteristics

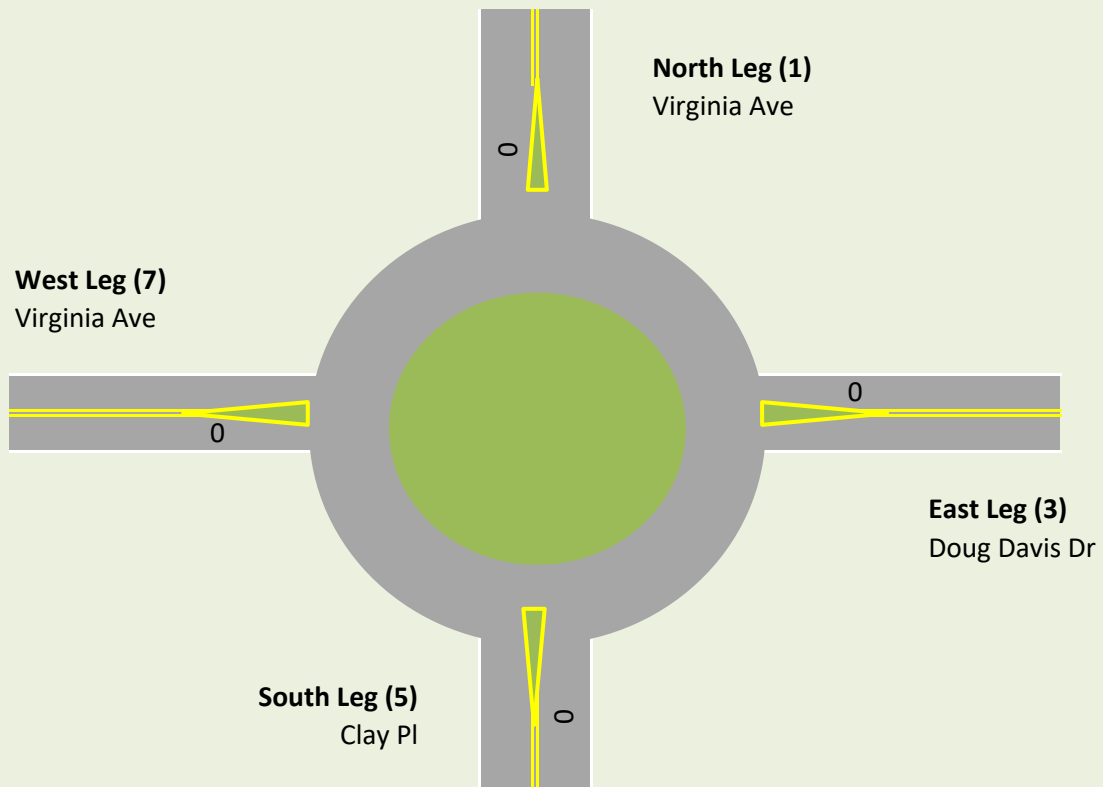
Roundabout Type:	Single Lane
# of Approaches:	4
Name of Streets:	Virginia Ave
	Clay Pl
	Doug Davis Dr

Mini/Single Lane	Chart Key:	
	Street Name	
	All	
	Bypass?	
Multi-lane	Street Name	
	Inner Ln	Outer Ln
	Bypass?	

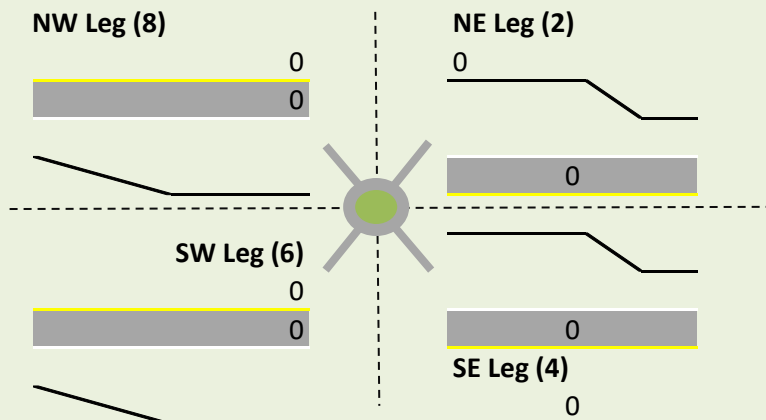
Approach Leg Characteristics:

	North Leg (1)	NE Leg (2)	East Leg (3)	SE Leg (4)
Street Name:	Virginia Ave		Doug Davis Dr	
Entry Lane Config				
Bypass to Adj Leg?				
	South Leg (5)	SW Leg (6)	West Leg (7)	NW Leg (8)
Street Name:	Clay Pl		Virginia Ave	
Entry Lane Config				
Bypass to Adj Leg?				

Preliminary Roundabout Rendering**



Additional Legs

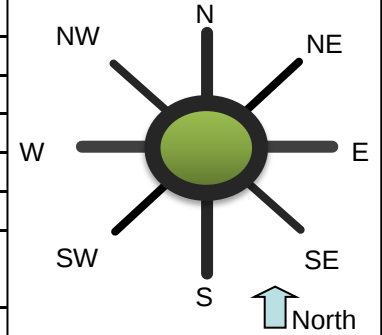


****Note**

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General & Site Information v 4.1

Analyst: Joshua Ekstedt
Agency/Co: Stantec
Date: 5/30/2019
Project or PI#: Virginia Ave Roundabout Feasibility Study
Year, Peak Hour: 2019, 4:45 PM
County/District: Fulton County
Intersection Name: Virginia Ave/Doug Davis Dr @ Clay Pl/Virginia Ave



Volumes		Entry Legs (FROM)							
		N (1)	NE (2)	E (3)	SE (4)	S (5)	SW (6)	W (7)	NW (8)
Exit Legs (TO)	N (1), vph	0	0	65	0	10	0	135	0
	NE (2), vph	0	0	0	0	0	0	0	0
	E (3), vph	25	0	0	0	30	0	205	0
	SE (4), vph	0	0	0	0	0	0	0	0
	S (5), vph	5	0	15	0	0	0	20	0
	SW (6), vph	0	0	0	0	0	0	0	0
	W (7), vph	130	0	285	0	20	0	0	0
	NW (8), vph	0	0	0	0	0	0	0	0
Output	Total Vehicles	160	0	365	0	60	0	360	0

Volume Characteristics	N	NE	E	SE	S	SW	W	NW
% Cars	98.5%	100.0%	97.5%	100.0%	97.5%	100.0%	97.0%	100.0%
% Heavy Vehicles	1.5%	0.0%	2.5%	0.0%	2.5%	0.0%	3.0%	0.0%
% Bicycle	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
# of Pedestrians (ped/hr)	5	0	7	0	17	0	17	0
PHF	0.71	0.95	0.88	0.95	0.60	0.95	0.87	0.95
F _{HV}	0.985	1.000	0.976	1.000	0.976	1.000	0.971	1.000
F _{ped}	0.999	1.000	0.999	1.000	0.998	1.000	0.998	1.000

Entry/Conflicting Flows	N	NE	E	SE	S	SW	W	NW
Flow to Leg # N (1), pcu/h	0	0	76	0	17	0	160	0
NE (2), pcu/h	0	0	0	0	0	0	0	0
E (3), pcu/h	36	0	0	0	51	0	243	0
SE (4), pcu/h	0	0	0	0	0	0	0	0
S (5), pcu/h	7	0	17	0	0	0	24	0
SW (6), pcu/h	0	0	0	0	0	0	0	0
W (7), pcu/h	186	0	332	0	34	0	0	0
NW (8), pcu/h	0	0	0	0	0	0	0	0
Entry flow, pcu/h	229	0	425	0	103	0	426	0
Conflicting flow, pcu/h	384	0	211	0	438	0	60	0

Results: Approach Measures of Effectiveness								
HCM 6th Edition	N	NE	E	SE	S	SW	W	NW
Entry Capacity, vph	919	1380	1085	1380	859	1380	1257	1380
Entry Flow Rates, vph	225	0	415	0	100	0	414	0
V/C ratio	0.25	0.00	0.38	0.00	0.12	0.00	0.33	0.00
Control Delay, sec/pcu	6	3	7	3	5	3	6	3
LOS	A	A	A	A	A	A	A	A
95th % Queue (ft)	24	0	47	0	10	0	37	0

Notes: v 4.0

Unit Legend:
vph = vehicles per hour
PHF = peak hour factor
F_{HV} = heavy vehicle factor
pcu = passenger car unit

Bypass Lane Merge Point Analysis (if applicable)						
Bypass Characteristics	Bypass #1	Bypass #2	Bypass #3	Bypass #4	Bypass #5	Bypass #6
Select Entry Leg from Bypass (FROM)						
Select Exit Leg for Bypass (TO)						
Does the bypass have a dedicated receiving lane?						
Volumes						
Right Turn Volume removed from Entry Leg						
Volume Characteristics (for entry leg)						
PHF						
F _{HV}						
F _{ped}						
NOTE: Volume Characteristics for Exit Leg are already taken into account						
Entry/Conflicting Flows						
Entry Flow, pcu/hr						
Conflicting Flow, pcu/hr						
Bypass Lane Results (HCM 6th Edition)						
Entry Capacity of Bypass, vph						
Flow Rates of Exiting Traffic, vph						
V/C ratio						
Control Delay, s/veh						
LOS						
95th % Queue (ft)						
Approach w/Bypass Delay, s/veh						
Approach w/Bypass LOS						

Welcome to GDOT's Roundabout Analysis Tool. This tool is designed for the user to determine the functionality of a proposed roundabout. The analysis is based on the Highway Capacity Manual 2010 Edition and 6th Edition Methodologies, NCHRP Report 672, and FHWA's Roundabout Informational Guide. Please read the notes in the [Instructions](#) tab before using the spreadsheet.

Analyst:	Joshua Ekstedt
Agency/Company:	Stantec
Date:	5/30/2019
Project Name or PI#:	Virginia Ave Roundabout Feasibility Study
Year, Peak Period:	2023, 4:45 PM
County/District:	Fulton County
Intersection:	Virginia Ave/Doug Davis Dr @ Clay Pl/Virginia Ave

Insert Project Information Here in the BLUE SPACE. This information is linked to the Mini, Single Lane and Multi Lane Worksheets.

Roundabout Considerations Worksheet

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# of circulatory lanes	ADTs (current/ build year)	Condition met?	% traffic on Major Road	Condition met?
Mini	less than 15,000	Yes	less than 90%	Yes
Single Lane	less than 25,000	Yes	less than 90%	Yes
Multi-Lane	less than 45,000	Yes	less than 90%	Yes

Other things to consider when evaluating roundabouts as an alternative are Right of Way, sight distance, environmental impacts, and access to adjacent properties.

Volume Information (for Analysis Time Period)

1 Enter the Major/Minor Street ADT Volumes in the Chart below:

	Volumes	Split
Major Street	8,525	75%
Minor Street	2,875	25%
Total volumes	11,400	

Proximity to Other Intersections

2 How close is the nearest signal (miles or feet)?

3 Is the proposed intersection located within a coordinated signal network?

[Go up to next section...](#)

➔ Proposed Design Configuration Chart

Directions for this Section only: (see *Instructions Tab* for other sections)

1. **Select** the type of roundabout you are analyzing.
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 - a. **Select** the Street Name from the pulldown menu for each approach leg
 - b. **Select** the Lane Type for each entry approach lane
**The first box is the inner lane, the second box is the outer lane*
 - c. **Select** Yes or No if a right turn bypass will be added to each approach leg

Roundabout Characteristics

Roundabout Type:

of Approaches:

Name of Streets:

Chart Key:

Street Name	
All	
Bypass?	

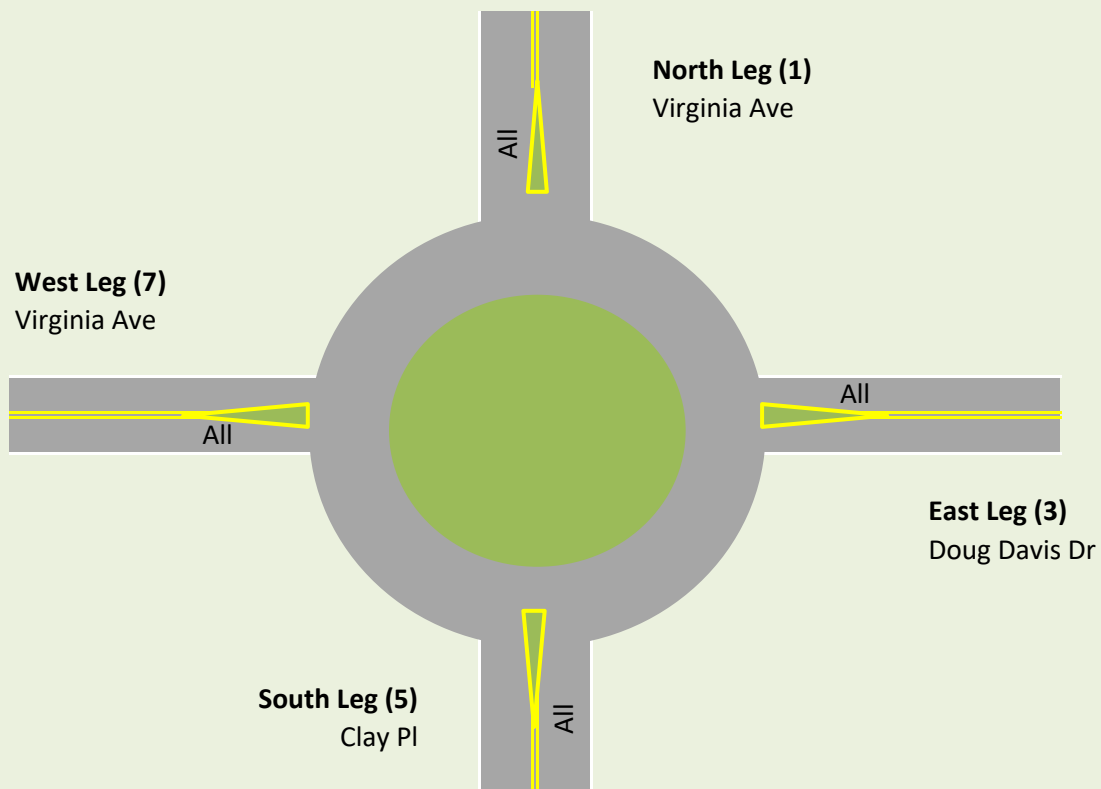
Multi-lane

Street Name	
Inner Ln	Outer Ln
Bypass?	

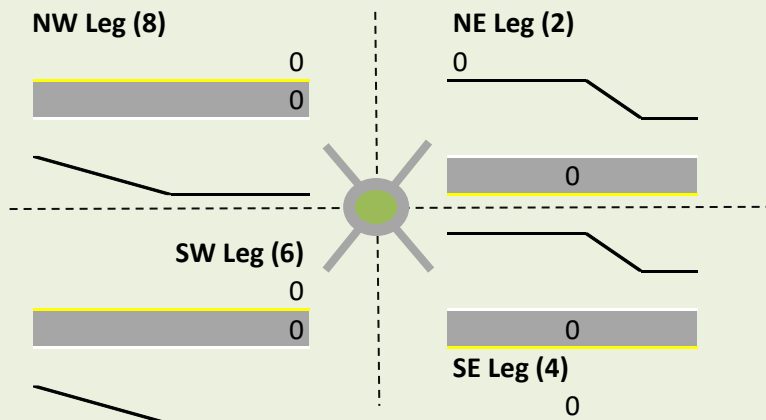
Approach Leg Characteristics:

	North Leg (1)	NE Leg (2)	East Leg (3)	SE Leg (4)
Street Name:	Virginia Ave		Doug Davis Dr	
Entry Lane Config	All		All	
Bypass to Adj Leg?	No	No	No	
	South Leg (5)	SW Leg (6)	West Leg (7)	NW Leg (8)
Street Name:	Clay Pl		Virginia Ave	
Entry Lane Config	All		All	
Bypass to Adj Leg?	No		No	

Preliminary Roundabout Rendering**



Additional Legs

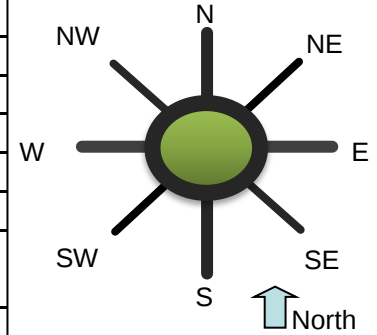


****Note**

This roundabout sketch does not include the secondary cardinal direction legs due to restrictions in the Excel software. For complex roundabouts, a separate sketch is recommended by the designer.

General & Site Information v 4.1

Analyst: Joshua Ekstedt
Agency/Co: Stantec
Date: 5/30/2019
Project or PI#: Virginia Ave Roundabout Feasibility Study
Year, Peak Hour: 2023, 4:45 PM
County/District: Fulton County
Intersection Name: Virginia Ave/Doug Davis Dr @ Clay Pl/Virginia Ave



Volumes		Entry Legs (FROM)							
		N (1)	NE (2)	E (3)	SE (4)	S (5)	SW (6)	W (7)	NW (8)
Exit Legs (TO)	N (1), vph	0	0	65	0	10	0	140	0
	NE (2), vph	0	0	0	0	0	0	0	0
	E (3), vph	25	0	0	0	30	0	210	0
	SE (4), vph	0	0	0	0	0	0	0	0
	S (5), vph	5	0	15	0	0	0	20	0
	SW (6), vph	0	0	0	0	0	0	0	0
	W (7), vph	135	0	295	0	20	0	0	0
	NW (8), vph	0	0	0	0	0	0	0	0
Output	Total Vehicles	165	0	375	0	60	0	370	0

Volume Characteristics	N	NE	E	SE	S	SW	W	NW
% Cars	98.5%	100.0%	97.5%	100.0%	97.5%	100.0%	97.0%	100.0%
% Heavy Vehicles	1.5%	0.0%	2.5%	0.0%	2.5%	0.0%	3.0%	0.0%
% Bicycle	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
# of Pedestrians (ped/hr)	5	0	7	0	17	0	17	0
PHF	0.71	0.95	0.88	0.95	0.60	0.95	0.87	0.95
F _{HV}	0.985	1.000	0.976	1.000	0.976	1.000	0.971	1.000
F _{ped}	0.999	1.000	0.999	1.000	0.998	1.000	0.998	1.000

Entry/Conflicting Flows	N	NE	E	SE	S	SW	W	NW
Flow to Leg # N (1), pcu/h	0	0	76	0	17	0	166	0
NE (2), pcu/h	0	0	0	0	0	0	0	0
E (3), pcu/h	36	0	0	0	51	0	249	0
SE (4), pcu/h	0	0	0	0	0	0	0	0
S (5), pcu/h	7	0	17	0	0	0	24	0
SW (6), pcu/h	0	0	0	0	0	0	0	0
W (7), pcu/h	193	0	344	0	34	0	0	0
NW (8), pcu/h	0	0	0	0	0	0	0	0
Entry flow, pcu/h	236	0	437	0	103	0	438	0
Conflicting flow, pcu/h	395	0	217	0	450	0	60	0

Results: Approach Measures of Effectiveness								
HCM 6th Edition	N	NE	E	SE	S	SW	W	NW
Entry Capacity, vph	908	1380	1078	1380	849	1380	1257	1380
Entry Flow Rates, vph	232	0	426	0	100	0	425	0
V/C ratio	0.26	0.00	0.40	0.00	0.12	0.00	0.34	0.00
Control Delay, sec/pcu	7	3	7	3	5	3	6	3
LOS	A	A	A	A	A	A	A	A
95th % Queue (ft)	26	0	49	0	10	0	39	0

Notes: v 4.0

Unit Legend:
vph = vehicles per hour
PHF = peak hour factor
F_{HV} = heavy vehicle factor
pcu = passenger car unit

Bypass Lane Merge Point Analysis (if applicable)						
Bypass Characteristics	Bypass #1	Bypass #2	Bypass #3	Bypass #4	Bypass #5	Bypass #6
Select Entry Leg from Bypass (FROM)						
Select Exit Leg for Bypass (TO)						
Does the bypass have a dedicated receiving lane?						
Volumes						
Right Turn Volume removed from Entry Leg						
Volume Characteristics (for entry leg)						
PHF						
F _{HV}						
F _{ped}						
NOTE: Volume Characteristics for Exit Leg are already taken into account						
Entry/Conflicting Flows						
Entry Flow, pcu/hr						
Conflicting Flow, pcu/hr						
Bypass Lane Results (HCM 6th Edition)						
Entry Capacity of Bypass, vph						
Flow Rates of Exiting Traffic, vph						
V/C ratio						
Control Delay, s/veh						
LOS						
95th % Queue (ft)						
Approach w/Bypass Delay, s/veh						
Approach w/Bypass LOS						

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Analyst:	Joshua Ekstedt
Agency/Company:	Stantec
Date:	5/30/2019
Project Name or PI#:	Virginia Ave Roundabout Feasibility Study
Year, Peak Period:	2025, 4:45 PM
County/District:	Fulton County
Intersection:	Virginia Ave/Doug Davis Dr @ Clay Pl/Virginia Ave

Insert Project Information Here in the BLUE SPACE. This information is linked to the Mini, Single Lane and Multi Lane Worksheets.

Roundabout Considerations Worksheet

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Single Lane	less than 25,000	Yes	less than 90%	Yes
Multi-Lane	less than 45,000	Yes	less than 90%	Yes

Other things to consider when evaluating roundabouts as an alternative are Right of Way, sight distance, environmental impacts, and access to adjacent properties.

Volume Information (for Analysis Time Period)

1 Enter the Major/Minor Street ADT Volumes in the Chart below:

	Volumes	Split
Major Street	8,675	75%
Minor Street	2,900	25%
Total volumes	11,575	

Proximity to Other Intersections

2 How close is the nearest signal (miles or feet)?

3 Is the proposed intersection located within a coordinated signal network?

Go up to next section...

➔ Proposed Design Configuration Chart

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**The first box is the inner lane, the second box is the outer lane*
 - c. **Select** Yes or No if a right turn bypass will be added to each approach leg

Roundabout Characteristics

Roundabout Type:

of Approaches:

Name of Streets:

Chart Key:

Street Name	
All	
Bypass?	

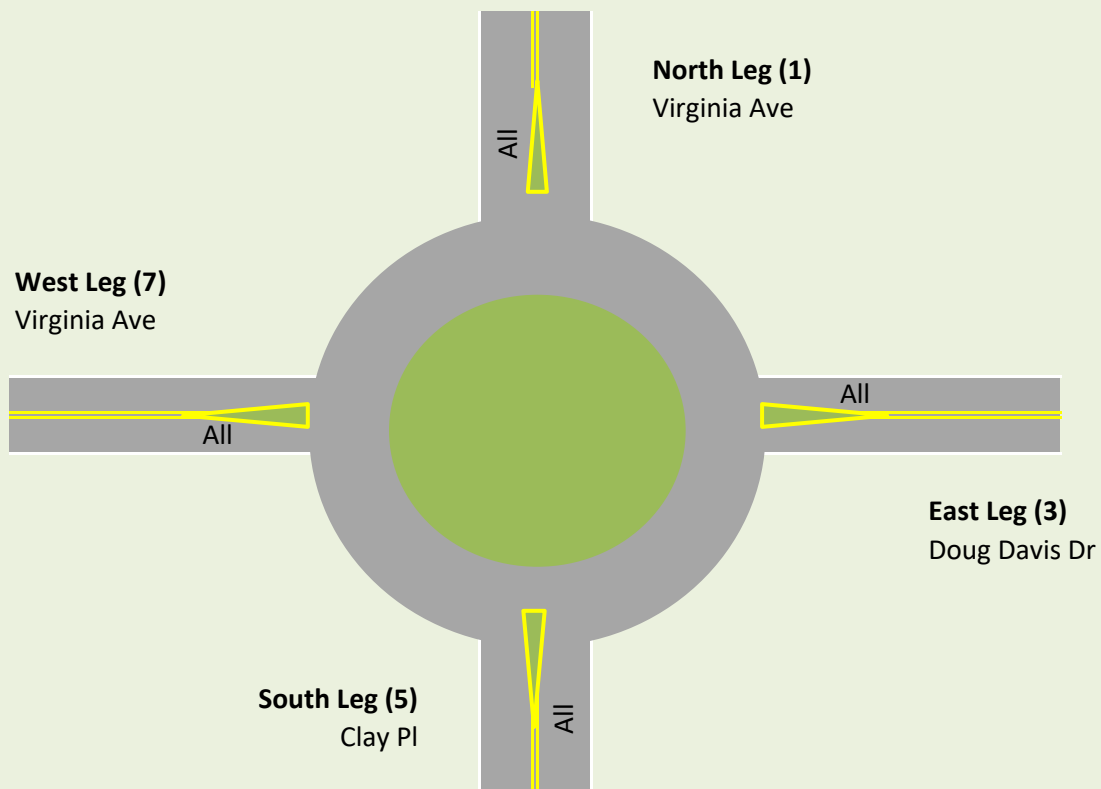
Multi-lane

Street Name	
Inner Ln	Outer Ln
Bypass?	

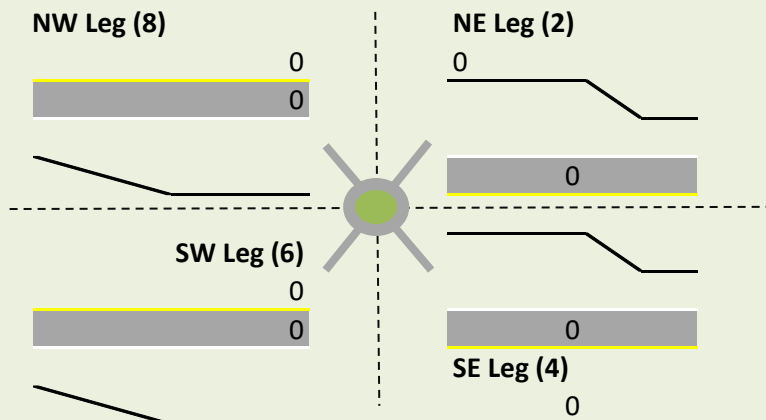
Approach Leg Characteristics:

	North Leg (1)	NE Leg (2)	East Leg (3)	SE Leg (4)
Street Name:	Virginia Ave		Doug Davis Dr	
Entry Lane Config	All		All	
Bypass to Adj Leg?	No		No	
	South Leg (5)	SW Leg (6)	West Leg (7)	NW Leg (8)
Street Name:	Clay Pl		Virginia Ave	
Entry Lane Config	All		All	
Bypass to Adj Leg?	No		No	

Preliminary Roundabout Rendering**



Additional Legs

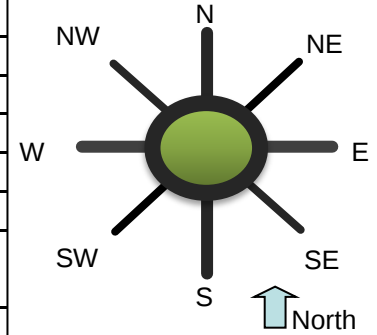


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General & Site Information v 4.1

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Date: 5/30/2019
Project or PI#: Virginia Ave Roundabout Feasibility Study
Year, Peak Hour: 2025, 4:45 PM
County/District: Fulton County
Intersection Name: Virginia Ave/Doug Davis Dr @ Clay Pl/Virginia Ave



Volumes		Entry Legs (FROM)							
		N (1)	NE (2)	E (3)	SE (4)	S (5)	SW (6)	W (7)	NW (8)
Exit Legs (TO)	N (1), vph	0	0	70	0	10	0	140	0
	NE (2), vph	0	0	0	0	0	0	0	0
	E (3), vph	25	0	0	0	30	0	215	0
	SE (4), vph	0	0	0	0	0	0	0	
	S (5), vph	5	0	15	0	0	0	20	0
	SW (6), vph	0	0	0	0	0	0	0	0
	W (7), vph	135	0	300	0	20	0	0	0
	NW (8), vph	0	0	0	0	0	0	0	0
Output	Total Vehicles	165	0	385	0	60	0	375	0

Volume Characteristics	N	NE	E	SE	S	SW	W	NW
% Cars	98.5%	100.0%	97.5%	100.0%	97.5%	100.0%	97.0%	100.0%
% Heavy Vehicles	1.5%	0.0%	2.5%	0.0%	2.5%	0.0%	3.0%	0.0%
% Bicycle	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
# of Pedestrians (ped/hr)	5	0	18	0	7	0	17	0
PHF	0.71	0.95	0.88	0.95	0.60	0.95	0.87	0.95
F _{HV}	0.985	1.000	0.976	1.000	0.976	1.000	0.971	1.000
F _{ped}	0.999	1.000	0.998	1.000	0.999	1.000	0.998	1.000

Entry/Conflicting Flows	N	NE	E	SE	S	SW	W	NW
Flow to Leg # N (1), pcu/h	0	0	82	0	17	0	166	0
NE (2), pcu/h	0	0	0	0	0	0	0	0
E (3), pcu/h	36	0	0	0	51	0	255	0
SE (4), pcu/h	0	0	0	0	0	0	0	0
S (5), pcu/h	7	0	17	0	0	0	24	0
SW (6), pcu/h	0	0	0	0	0	0	0	0
W (7), pcu/h	193	0	349	0	34	0	0	0
NW (8), pcu/h	0	0	0	0	0	0	0	0
Entry flow, pcu/h	236	0	448	0	103	0	444	0
Conflicting flow, pcu/h	401	0	217	0	456	0	60	0

Results: Approach Measures of Effectiveness								
HCM 6th Edition	N	NE	E	SE	S	SW	W	NW
Entry Capacity, vph	903	1380	1076	1380	845	1380	1257	1380
Entry Flow Rates, vph	232	0	438	0	100	0	431	0
V/C ratio	0.26	0.00	0.41	0.00	0.12	0.00	0.34	0.00
Control Delay, sec/pcu	7	3	8	3	5	3	6	3
LOS	A	A	A	A	A	A	A	A
95th % Queue (ft)	26	0	51	0	10	0	40	0

Notes: v 4.0

Unit Legend:
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Bypass Lane Merge Point Analysis (if applicable)						
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Approach w/Bypass Delay, s/veh						
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Intersection:	Virginia Ave/Doug Davis Dr @ Clay Pl/Virginia Ave

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Volume Information (for Analysis Time Period)

1 Enter the Major/Minor Street ADT Volumes in the Chart below:

	Volumes	Split
Major Street	10,200	75%
Minor Street	3,425	25%
Total volumes	13,625	

Proximity to Other Intersections

2 How close is the nearest signal (miles or feet)?

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➔ Proposed Design Configuration Chart

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 - c. **Select** Yes or No if a right turn bypass will be added to each approach leg

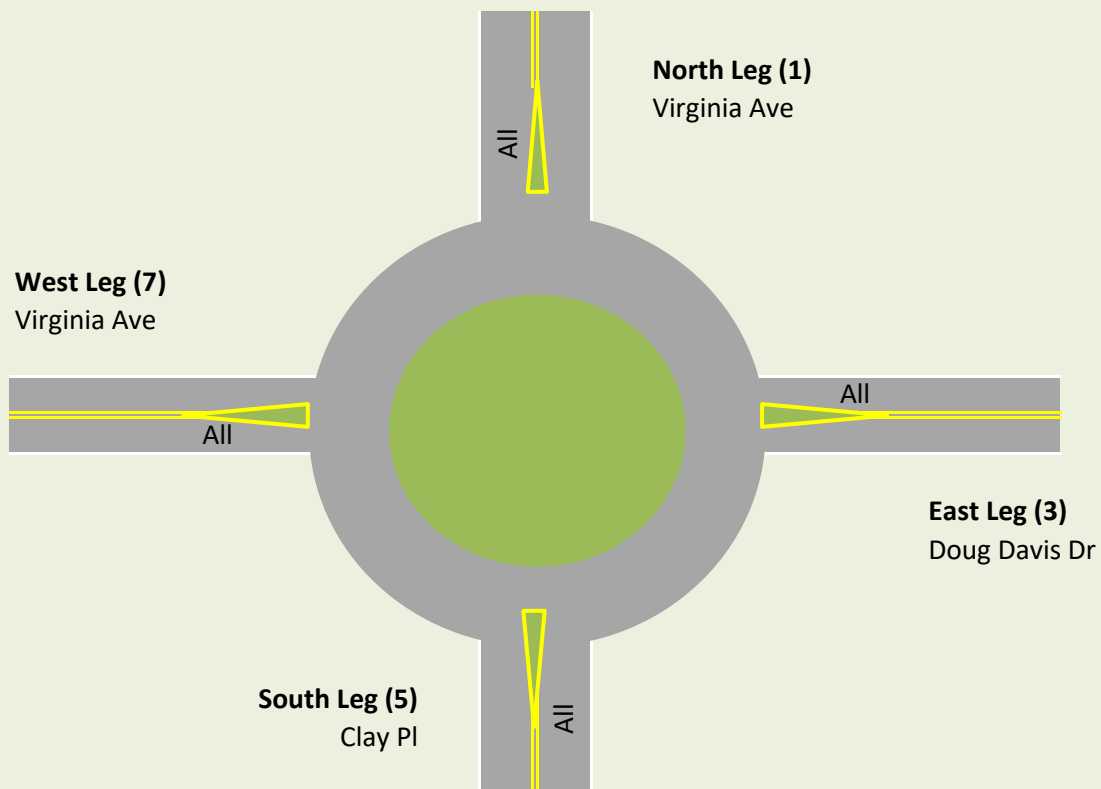
Roundabout Characteristics

Roundabout Type:	Single Lane	Mini/Single Lane	Chart Key:	
# of Approaches:	4		Street Name	
Name of Streets:	Virginia Ave	Multi-lane	All	
	Clay Pl		Bypass?	
	Doug Davis Dr		Street Name	
			Inner Ln	Outer Ln
			Bypass?	

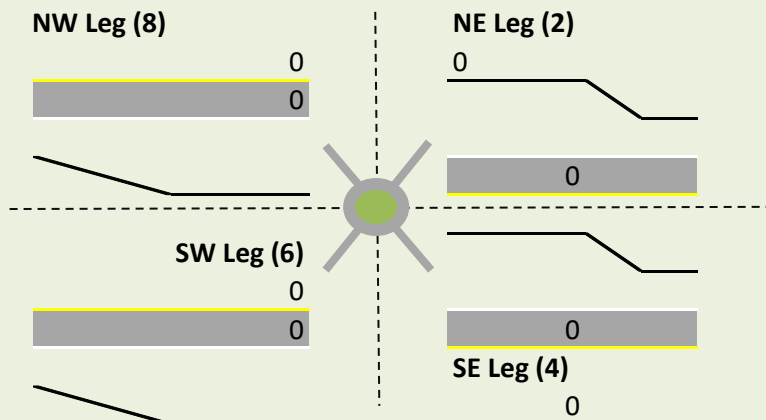
Approach Leg Characteristics:

	North Leg (1)	NE Leg (2)	East Leg (3)	SE Leg (4)
Street Name:	Virginia Ave		Doug Davis Dr	
Entry Lane Config	All		All	
Bypass to Adj Leg?	No		No	
	South Leg (5)	SW Leg (6)	West Leg (7)	NW Leg (8)
Street Name:	Clay Pl		Virginia Ave	
Entry Lane Config	All		All	
Bypass to Adj Leg?	No		No	

Preliminary Roundabout Rendering**



Additional Legs

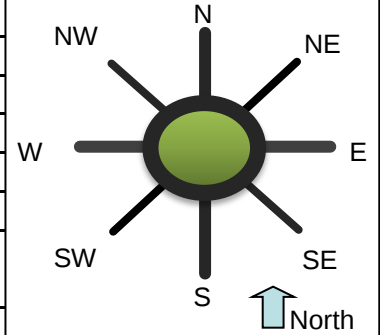


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Project or PI#: Virginia Ave Roundabout Feasibility Study
Year, Peak Hour: 2043, 4:45 PM
County/District: Fulton County
Intersection Name: Virginia Ave/Doug Davis Dr @ Clay Pl/Virginia Ave



Volumes		Entry Legs (FROM)							
		N (1)	NE (2)	E (3)	SE (4)	S (5)	SW (6)	W (7)	NW (8)
Exit Legs (TO)	N (1), vph	0	0	80	0	10	0	165	0
	NE (2), vph	0	0	0	0	0	0	0	0
	E (3), vph	30	0	0	0	35	0	255	0
	SE (4), vph	0	0	0		0	0	0	0
	S (5), vph	5	0	20	0	0	0	25	0
	SW (6), vph	0	0	0	0	0	0	0	0
	W (7), vph	160	0	355	0	25	0	0	0
	NW (8), vph	0	0	0	0	0	0	0	0
Output	Total Vehicles	195	0	455	0	70	0	445	0

Volume Characteristics	N	NE	E	SE	S	SW	W	NW
% Cars	98.5%	100.0%	97.5%	100.0%	97.5%	100.0%	97.0%	100.0%
% Heavy Vehicles	1.5%	0.0%	2.5%	0.0%	2.5%	0.0%	3.0%	0.0%
% Bicycle	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
# of Pedestrians (ped/hr)	6	0	8	0	21	0	21	0
PHF	0.71	0.95	0.88	0.95	0.60	0.95	0.87	0.95
F _{HV}	0.985	1.000	0.976	1.000	0.976	1.000	0.971	1.000
F _{ped}	0.999	1.000	0.999	1.000	0.997	1.000	0.997	1.000

Entry/Conflicting Flows	N	NE	E	SE	S	SW	W	NW
Flow to Leg # N (1), pcu/h	0	0	93	0	17	0	195	0
NE (2), pcu/h	0	0	0	0	0	0	0	0
E (3), pcu/h	43	0	0	0	60	0	302	0
SE (4), pcu/h	0	0	0	0	0	0	0	0
S (5), pcu/h	7	0	23	0	0	0	30	0
SW (6), pcu/h	0	0	0	0	0	0	0	0
W (7), pcu/h	229	0	413	0	43	0	0	0
NW (8), pcu/h	0	0	0	0	0	0	0	0
Entry flow, pcu/h	279	0	530	0	120	0	527	0
Conflicting flow, pcu/h	479	0	255	0	540	0	73	0

Results: Approach Measures of Effectiveness								
HCM 6th Edition	N	NE	E	SE	S	SW	W	NW
Entry Capacity, vph	833	1380	1037	1380	774	1380	1240	1380
Entry Flow Rates, vph	275	0	517	0	117	0	511	0
V/C ratio	0.33	0.00	0.50	0.00	0.15	0.00	0.41	0.00
Control Delay, sec/pcu	8	3	9	3	6	3	7	3
LOS	A	A	A	A	A	A	A	A
95th % Queue (ft)	37	0	73	0	14	0	53	0

Notes: v 4.0

Unit Legend:
vph = vehicles per hour
PHF = peak hour factor
F_{HV} = heavy vehicle factor
pcu = passenger car unit

Bypass Lane Merge Point Analysis (if applicable)						
Bypass Characteristics	Bypass #1	Bypass #2	Bypass #3	Bypass #4	Bypass #5	Bypass #6
Select Entry Leg from Bypass (FROM)						
Select Exit Leg for Bypass (TO)						
Does the bypass have a dedicated receiving lane?						
Volumes						
Right Turn Volume removed from Entry Leg						
Volume Characteristics (for entry leg)						
PHF						
F _{HV}						
F _{ped}						
NOTE: Volume Characteristics for Exit Leg are already taken into account						
Entry/Conflicting Flows						
Entry Flow, pcu/hr						
Conflicting Flow, pcu/hr						
Bypass Lane Results (HCM 6th Edition)						
Entry Capacity of Bypass, vph						
Flow Rates of Exiting Traffic, vph						
V/C ratio						
Control Delay, s/veh						
LOS						
95th % Queue (ft)						
Approach w/Bypass Delay, s/veh						
Approach w/Bypass LOS						

Welcome to GDOT's Roundabout Analysis Tool. This tool is designed for the user to determine the functionality of a proposed roundabout. The analysis is based on the Highway Capacity Manual 2010 Edition and 6th Edition Methodologies, NCHRP Report 672, and FHWA's Roundabout Informational Guide. Please read the notes in the [Instructions](#) tab before using the spreadsheet.

Analyst:	Joshua Ekstedt
Agency/Company:	Stantec
Date:	5/30/2019
Project Name or PI#:	Virginia Ave Roundabout Feasibility Study
Year, Peak Period:	2045, 4:45 PM
County/District:	Fulton County
Intersection:	Virginia Ave/Doug Davis Dr @ Clay Pl/Virginia Ave

Insert Project Information Here in the BLUE SPACE. This information is linked to the Mini, Single Lane and Multi Lane Worksheets.

Roundabout Considerations Worksheet

Roundabouts may not operate well if there is too much traffic entering the intersection or if the percentage of traffic on the major road is too high. Candidate intersections shall be analyzed to determine whether a roundabout will perform acceptably. Shown below are planning level thresholds. A capacity analysis should be performed to determine lane configuration based on traffic volumes.

# of circulatory lanes	ADTs (current/ build year)	Condition met?	% traffic on Major Road	Condition met?
Mini	less than 15,000	Yes	less than 90%	Yes
Single Lane	less than 25,000	Yes	less than 90%	Yes
Multi-Lane	less than 45,000	Yes	less than 90%	Yes

Other things to consider when evaluating roundabouts as an alternative are Right of Way, sight distance, environmental impacts, and access to adjacent properties.

Volume Information (for Analysis Time Period)

1 Enter the Major/Minor Street ADT Volumes in the Chart below:

	Volumes	Split
Major Street	10,375	75%
Minor Street	3,525	25%
Total volumes	13,900	

Proximity to Other Intersections

2 How close is the nearest signal (miles or feet)?

3 Is the proposed intersection located within a coordinated signal network?

[Go up to next section...](#)

➔ Proposed Design Configuration Chart

Directions for this Section only: (see *Instructions Tab* for other sections)

1. **Select** the type of roundabout you are analyzing.
2. **Key in** the number of approaches and the street names at the proposed intersections.
3. Complete the Approach Characteristics Chart:
 - a. **Select** the Street Name from the pulldown menu for each approach leg
 - b. **Select** the Lane Type for each entry approach lane
**The first box is the inner lane, the second box is the outer lane*
 - c. **Select** Yes or No if a right turn bypass will be added to each approach leg

Roundabout Characteristics

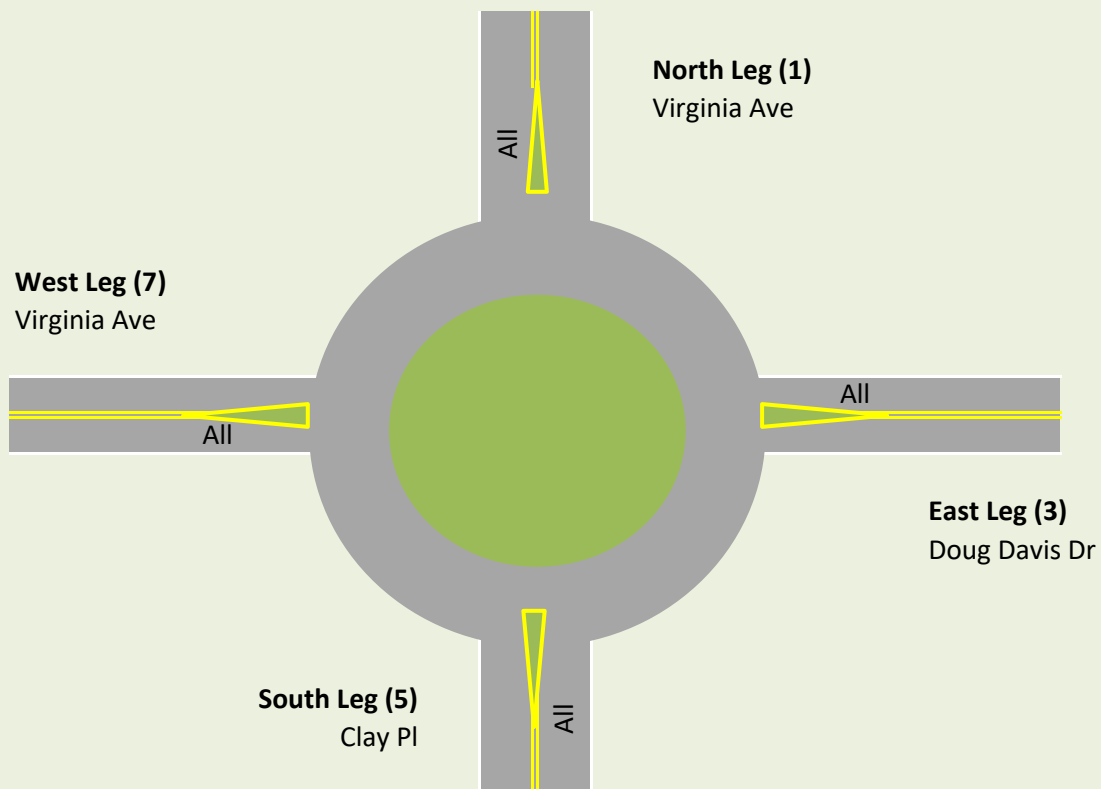
Roundabout Type:	Single Lane
# of Approaches:	4
Name of Streets:	Virginia Ave
	Clay Pl
	Doug Davis Dr

Mini/Single Lane	Chart Key:	
	Street Name	
	All	
	Bypass?	
Multi-lane	Street Name	
	Inner Ln	Outer Ln
	Bypass?	

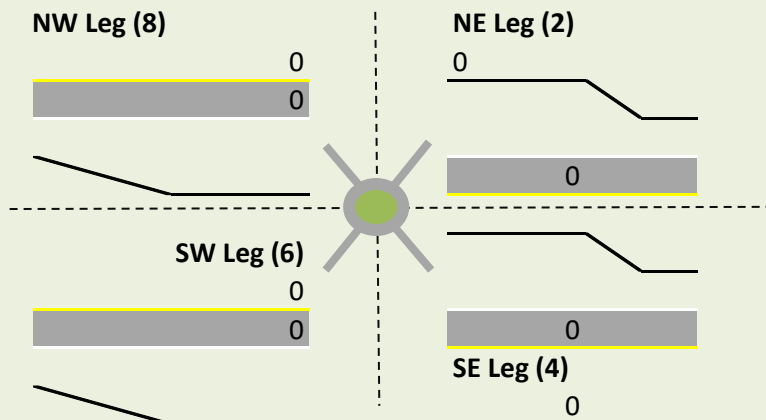
Approach Leg Characteristics:

	North Leg (1)	NE Leg (2)	East Leg (3)	SE Leg (4)
Street Name:	Virginia Ave		Doug Davis Dr	
Entry Lane Config	All		All	
Bypass to Adj Leg?	No		No	
	South Leg (5)	SW Leg (6)	West Leg (7)	NW Leg (8)
Street Name:	Clay Pl		Virginia Ave	
Entry Lane Config	All		All	
Bypass to Adj Leg?	No		No	

Preliminary Roundabout Rendering**



Additional Legs

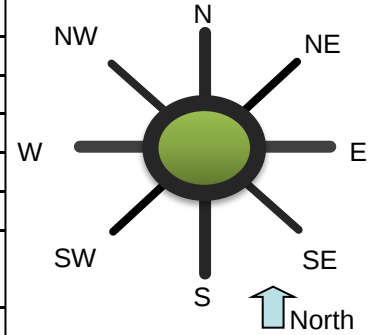


****Note**

This roundabout sketch does not include the secondary cardinal direction legs due to restrictions in the Excel software. For complex roundabouts, a separate sketch is recommended by the designer.

General & Site Information v 4.1

Analyst: Joshua Ekstedt
Agency/Co: Stantec
Date: 5/30/2019
Project or PI#: Virginia Ave Roundabout Feasibility Study
Year, Peak Hour: 2045, 4:45 PM
County/District: Fulton County
Intersection Name: Virginia Ave/Doug Davis Dr @ Clay Pl/Virginia Ave



Volumes		Entry Legs (FROM)							
		N (1)	NE (2)	E (3)	SE (4)	S (5)	SW (6)	W (7)	NW (8)
Exit Legs (TO)	N (1), vph	0	0	80	0	15	0	170	0
	NE (2), vph	0	0	0	0	0	0	0	0
	E (3), vph	30	0	0	0	40	0	260	0
	SE (4), vph	0	0	0	0	0	0	0	0
	S (5), vph	5	0	20	0	0	0	25	0
	SW (6), vph	0	0	0	0	0	0	0	0
	W (7), vph	165	0	360	0	25	0	0	0
	NW (8), vph	0	0	0	0	0	0	0	0
Output	Total Vehicles	200	0	460	0	80	0	455	0

Volume Characteristics	N	NE	E	SE	S	SW	W	NW
% Cars	98.5%	100.0%	97.5%	100.0%	97.5%	100.0%	97.0%	100.0%
% Heavy Vehicles	1.5%	0.0%	2.5%	0.0%	2.5%	0.0%	3.0%	0.0%
% Bicycle	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
# of Pedestrians (ped/hr)	7	0	9	0	21	0	21	0
PHF	0.71	0.95	0.88	0.95	0.60	0.95	0.87	0.95
F _{HV}	0.985	1.000	0.976	1.000	0.976	1.000	0.971	1.000
F _{ped}	0.999	1.000	0.999	1.000	0.997	1.000	0.997	1.000

Entry/Conflicting Flows	N	NE	E	SE	S	SW	W	NW
Flow to Leg # N (1), pcu/h	0	0	93	0	26	0	201	0
NE (2), pcu/h	0	0	0	0	0	0	0	0
E (3), pcu/h	43	0	0	0	68	0	308	0
SE (4), pcu/h	0	0	0	0	0	0	0	0
S (5), pcu/h	7	0	23	0	0	0	30	0
SW (6), pcu/h	0	0	0	0	0	0	0	0
W (7), pcu/h	236	0	419	0	43	0	0	0
NW (8), pcu/h	0	0	0	0	0	0	0	0
Entry flow, pcu/h	286	0	536	0	137	0	539	0
Conflicting flow, pcu/h	485	0	270	0	552	0	73	0

Results: Approach Measures of Effectiveness								
HCM 6th Edition	N	NE	E	SE	S	SW	W	NW
Entry Capacity, vph	828	1380	1021	1380	765	1380	1240	1380
Entry Flow Rates, vph	282	0	523	0	133	0	523	0
V/C ratio	0.34	0.00	0.51	0.00	0.17	0.00	0.42	0.00
Control Delay, sec/pcu	8	3	10	3	7	3	7	3
LOS	A	A	A	A	A	A	A	A
95th % Queue (ft)	38	0	77	0	16	0	55	0

Notes: v 4.0

Unit Legend:
vph = vehicles per hour
PHF = peak hour factor
F_{HV} = heavy vehicle factor
pcu = passenger car unit

Bypass Lane Merge Point Analysis (if applicable)						
Bypass Characteristics	Bypass #1	Bypass #2	Bypass #3	Bypass #4	Bypass #5	Bypass #6
Select Entry Leg from Bypass (FROM)						
Select Exit Leg for Bypass (TO)						
Does the bypass have a dedicated receiving lane?						
Volumes						
Right Turn Volume removed from Entry Leg						
Volume Characteristics (for entry leg)						
PHF						
F _{HV}						
F _{ped}						
NOTE: Volume Characteristics for Exit Leg are already taken into account						
Entry/Conflicting Flows						
Entry Flow, pcu/hr						
Conflicting Flow, pcu/hr						
Bypass Lane Results (HCM 6th Edition)						
Entry Capacity of Bypass, vph						
Flow Rates of Exiting Traffic, vph						
V/C ratio						
Control Delay, s/veh						
LOS						
95th % Queue (ft)						
Approach w/Bypass Delay, s/veh						
Approach w/Bypass LOS						

FULTON COUNTY



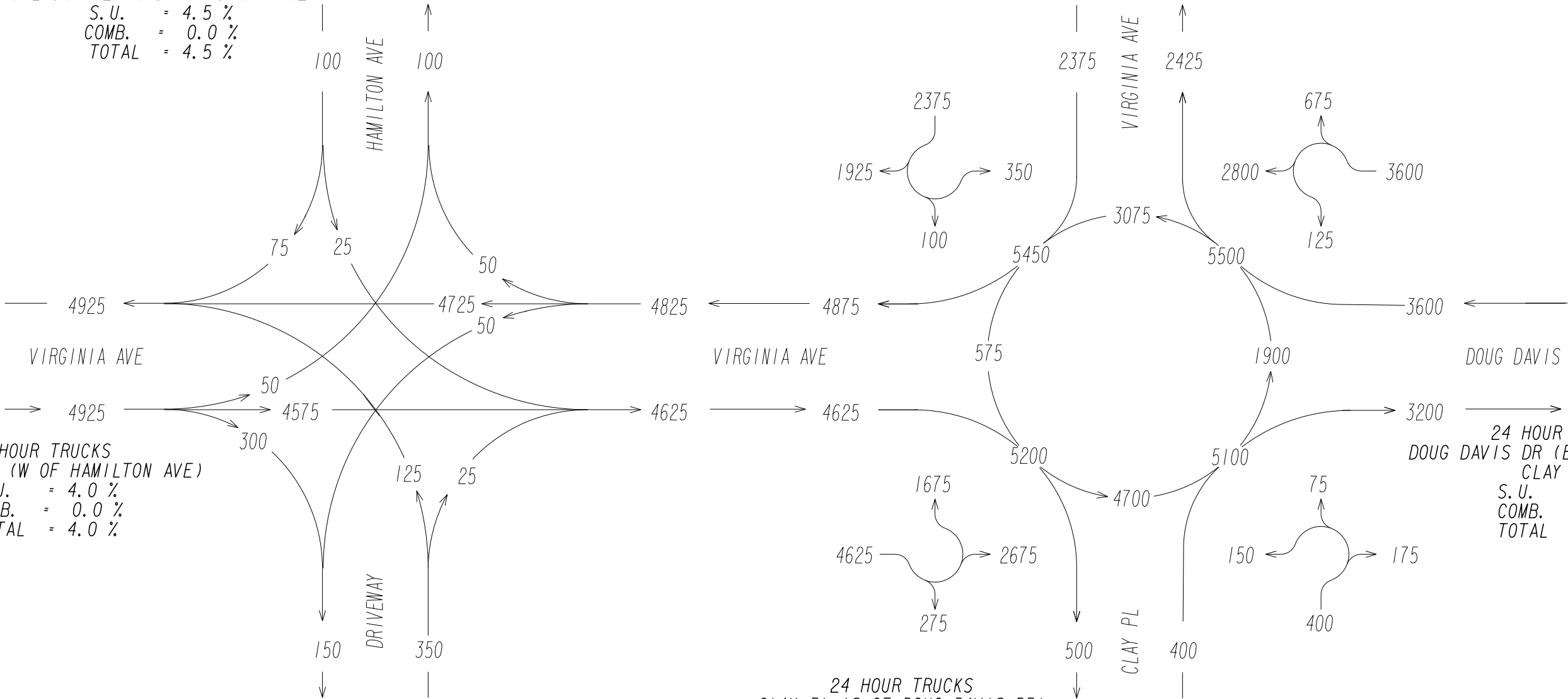
24 HOUR TRUCKS
VIRGINIA AVE (N DOUG DAVIS DR)
S.U. = 2.5 %
COMB. = 0.0 %
TOTAL = 2.5 %

24 HOUR TRUCKS
HAMILTON AVE (N OF VIRGINIA AVE)
S.U. = 4.5 %
COMB. = 0.0 %
TOTAL = 4.5 %

24 HOUR TRUCKS
VIRGINIA AVE (W OF HAMILTON AVE)
S.U. = 4.0 %
COMB. = 0.0 %
TOTAL = 4.0 %

24 HOUR TRUCKS
DOUG DAVIS DR (E VIRGINIA AVE/
CLAY PL)
S.U. = 3.0 %
COMB. = 0.0 %
TOTAL = 3.0 %

24 HOUR TRUCKS
CLAY PL (S OF DOUG DAVIS DR)
S.U. = 4.0 %
COMB. = 0.0 %
TOTAL = 4.0 %



2019 EXISTING AADT

PROJECT NUMBER: 171007021
FULTON COUNTY
VIRGINIA AVENUE
ROUNDBOUT FEASIBILITY
STUDY



REVISION DATES

TRAFFIC DIAGRAM

AC
08/2019

DRAWING No.
01-0010

FULTON COUNTY



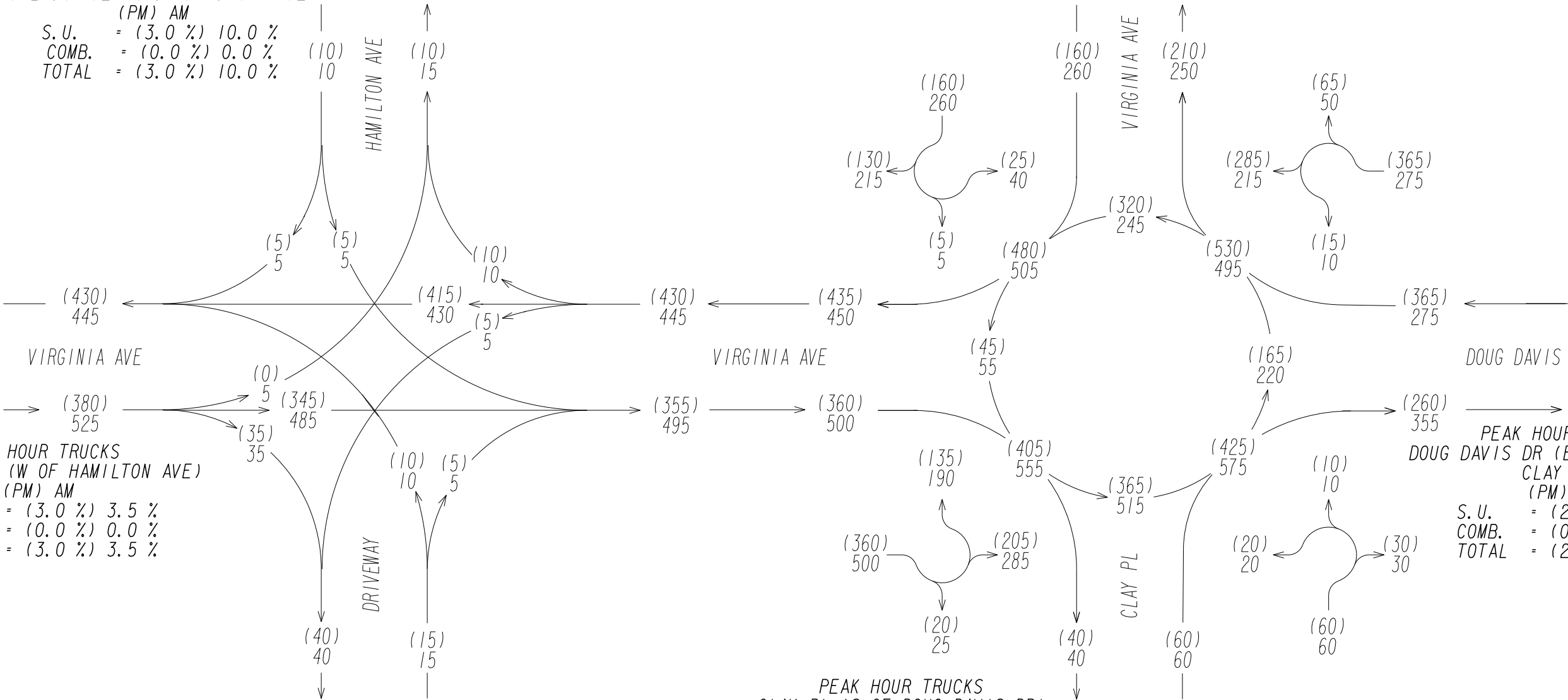
PEAK HOUR TRUCKS
VIRGINIA AVE (N DOUG DAVIS DR)
(PM) AM
S.U. = (1.5 %) 4.0 %
COMB. = (0.0 %) 0.0 %
TOTAL = (1.5 %) 4.0 %

PEAK HOUR TRUCKS
HAMILTON AVE (N OF VIRGINIA AVE)
(PM) AM
S.U. = (3.0 %) 10.0 %
COMB. = (0.0 %) 0.0 %
TOTAL = (3.0 %) 10.0 %

PEAK HOUR TRUCKS
VIRGINIA AVE (W OF HAMILTON AVE)
(PM) AM
S.U. = (3.0 %) 3.5 %
COMB. = (0.0 %) 0.0 %
TOTAL = (3.0 %) 3.5 %

PEAK HOUR TRUCKS
DOUG DAVIS DR (E VIRGINIA AVE/
CLAY PL)
(PM) AM
S.U. = (2.5 %) 3.0 %
COMB. = (0.0 %) 0.0 %
TOTAL = (2.5 %) 3.0 %

PEAK HOUR TRUCKS
CLAY PL (S OF DOUG DAVIS DR)
(PM) AM
S.U. = (2.5 %) 3.5 %
COMB. = (0.0 %) 0.0 %
TOTAL = (2.5 %) 3.5 %



2019 EXISTING DHV
(PM) NOON

PROJECT NUMBER: 171007021
FULTON COUNTY

VIRGINIA AVENUE
ROUNDAABOUT FEASIBILITY
STUDY



REVISION DATES

TRAFFIC DIAGRAM

AC
08/2019

DRAWING No.
01-0011

FULTON COUNTY



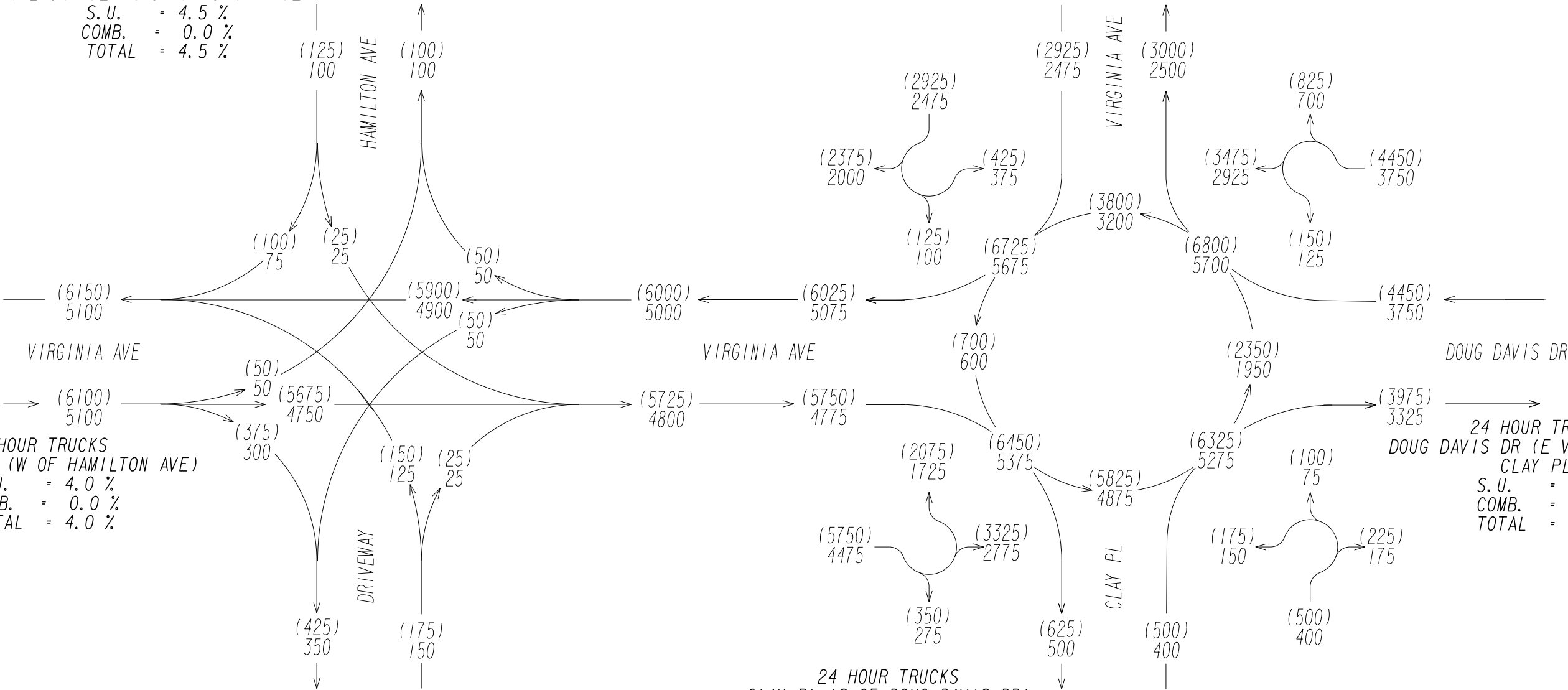
24 HOUR TRUCKS
VIRGINIA AVE (N DOUG DAVIS DR)
S. U. = 2.5 %
COMB. = 0.0 %
TOTAL = 2.5 %

24 HOUR TRUCKS
HAMILTON AVE (N OF VIRGINIA AVE)
S. U. = 4.5 %
COMB. = 0.0 %
TOTAL = 4.5 %

24 HOUR TRUCKS
VIRGINIA AVE (W OF HAMILTON AVE)
S. U. = 4.0 %
COMB. = 0.0 %
TOTAL = 4.0 %

24 HOUR TRUCKS
DOUG DAVIS DR (E VIRGINIA AVE/
CLAY PL)
S. U. = 3.0 %
COMB. = 0.0 %
TOTAL = 3.0 %

24 HOUR TRUCKS
CLAY PL (S OF DOUG DAVIS DR)
S. U. = 4.0 %
COMB. = 0.0 %
TOTAL = 4.0 %



(2043) 2023 AADT

PROJECT NUMBER: 171007021
FULTON COUNTY

VIRGINIA AVENUE
ROUNDAABOUT FEASIBILITY
STUDY



REVISION DATES

TRAFFIC DIAGRAM

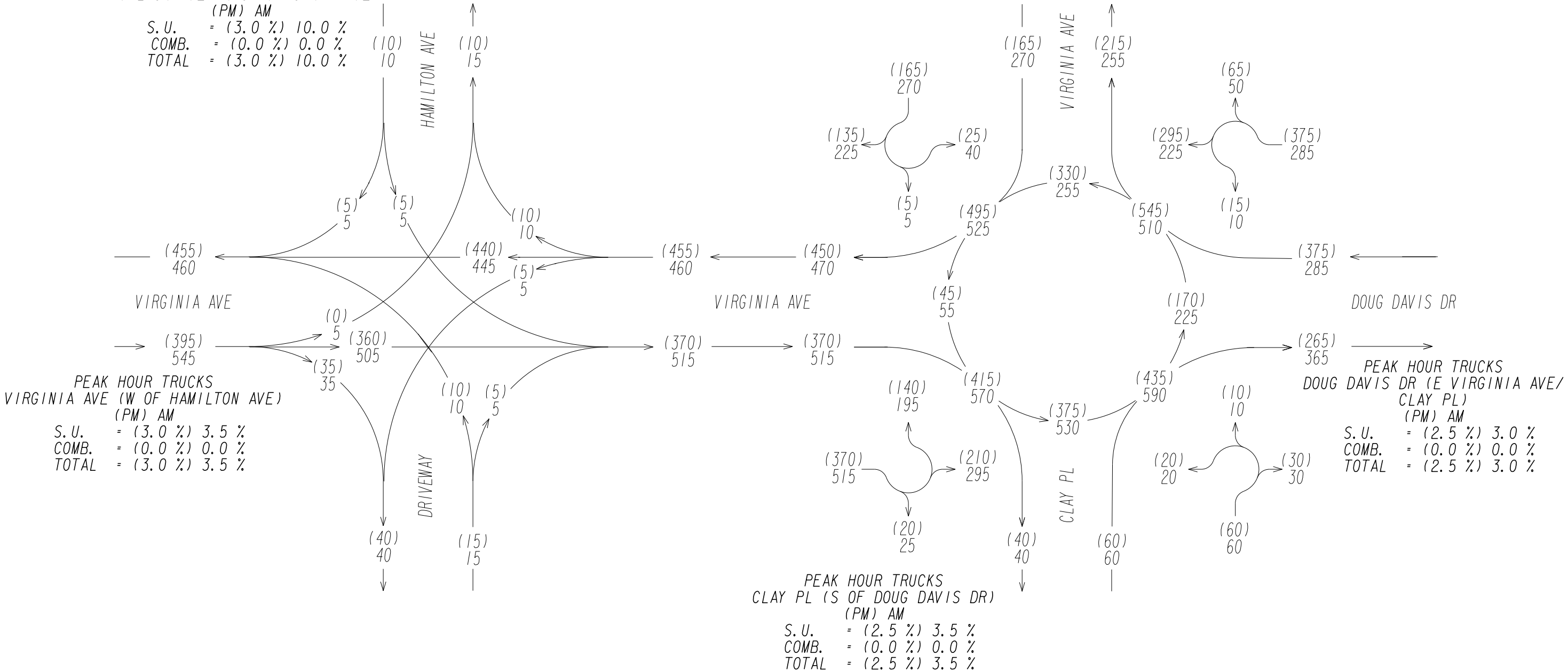
DRAWING No.
01-0012

FULTON COUNTY



PEAK HOUR TRUCKS
VIRGINIA AVE (N DOUG DAVIS DR)
(PM) AM
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COMB. = (0.0 %) 0.0 %
TOTAL = (1.5 %) 4.0 %

PEAK HOUR TRUCKS
HAMILTON AVE (N OF VIRGINIA AVE)
(PM) AM
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COMB. = (0.0 %) 0.0 %
TOTAL = (3.0 %) 10.0 %

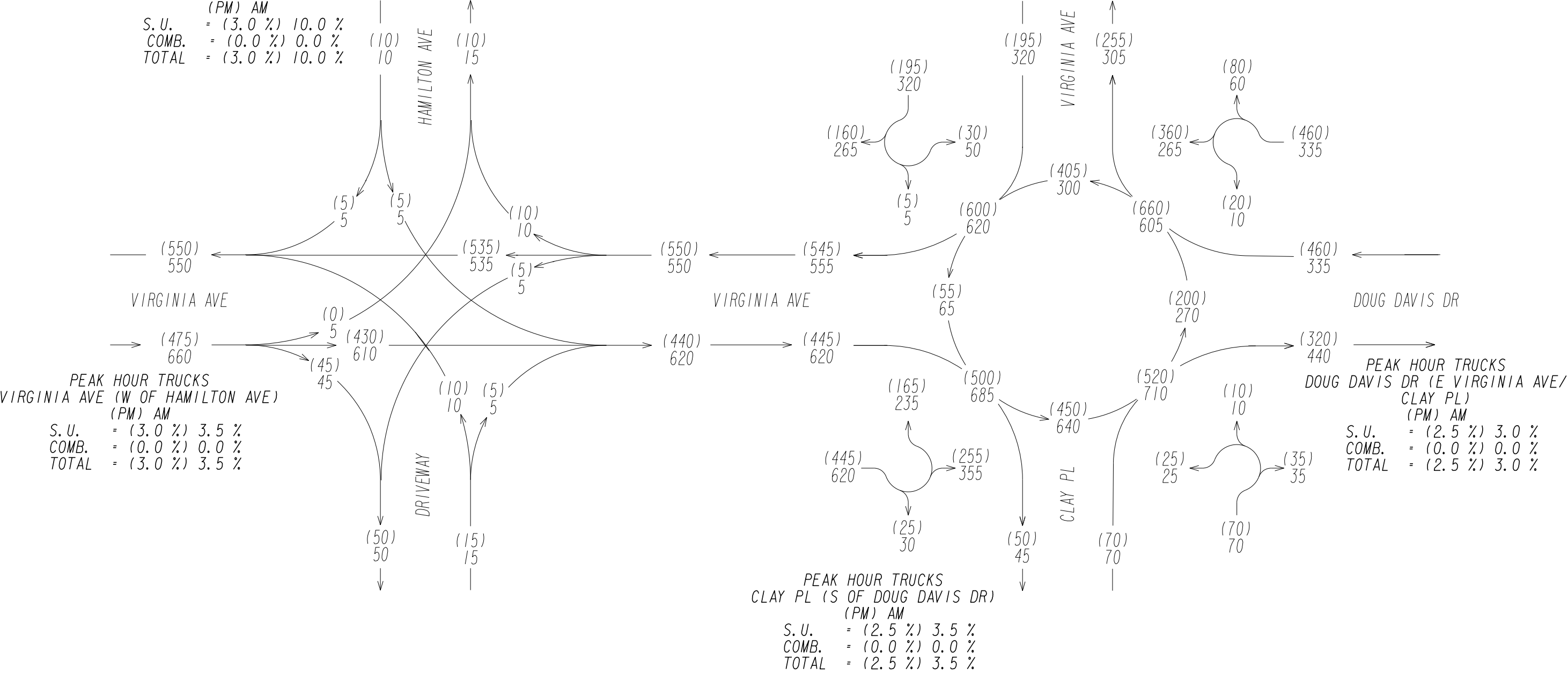


FULTON COUNTY



PEAK HOUR TRUCKS
VIRGINIA AVE (N DOUG DAVIS DR)
(PM) AM
S.U. = (1.5 %) 4.0 %
COMB. = (0.0 %) 0.0 %
TOTAL = (1.5 %) 4.0 %

PEAK HOUR TRUCKS
HAMILTON AVE (N OF VIRGINIA AVE)
(PM) AM
S.U. = (3.0 %) 10.0 %
COMB. = (0.0 %) 0.0 %
TOTAL = (3.0 %) 10.0 %



2043 DHV
(PM) NOON

PROJECT NUMBER: 171007021
FULTON COUNTY
VIRGINIA AVENUE
ROUNDAABOUT FEASIBILITY
STUDY



REVISION DATES

TRAFFIC DIAGRAM

DRAWING No.
01-0014

FULTON COUNTY



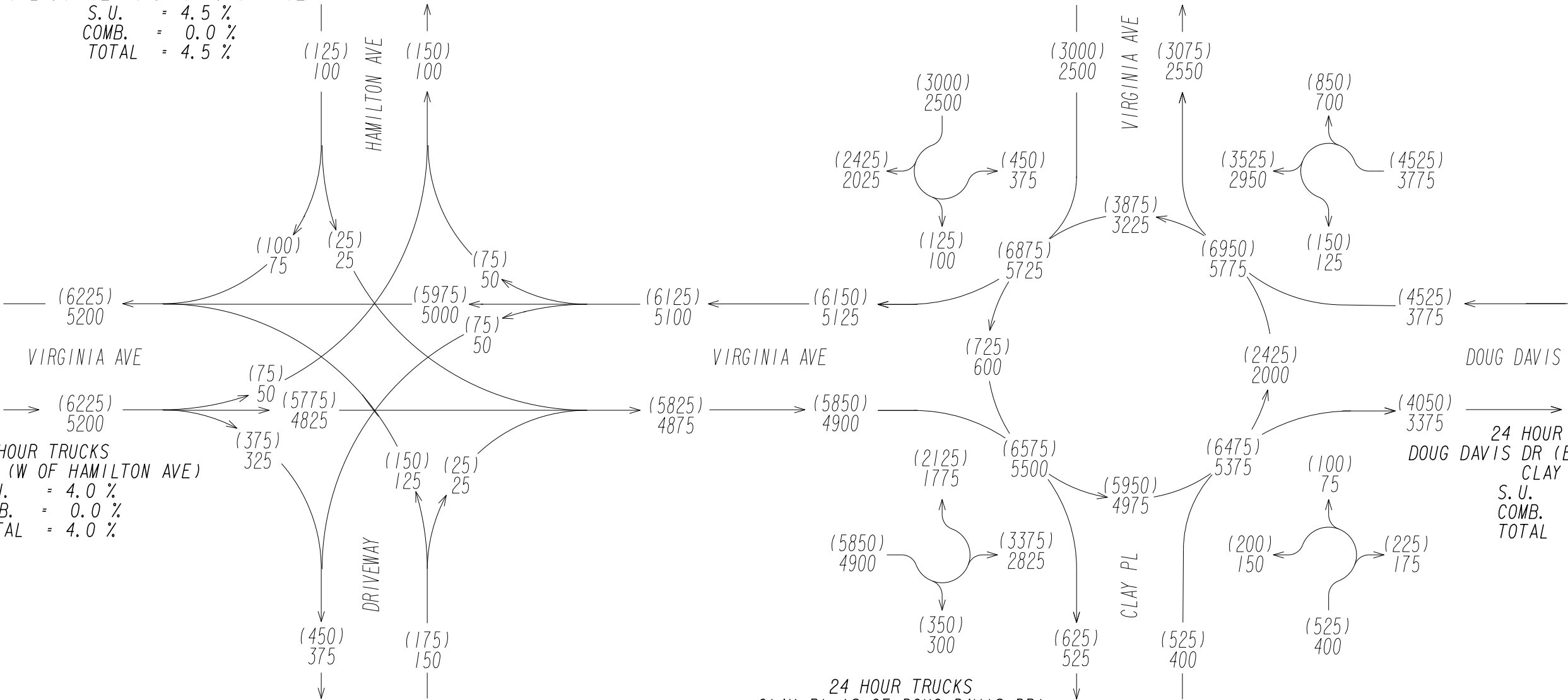
24 HOUR TRUCKS
VIRGINIA AVE (N DOUG DAVIS DR)
S.U. = 2.5 %
COMB. = 0.0 %
TOTAL = 2.5 %

24 HOUR TRUCKS
HAMILTON AVE (N OF VIRGINIA AVE)
S.U. = 4.5 %
COMB. = 0.0 %
TOTAL = 4.5 %

24 HOUR TRUCKS
VIRGINIA AVE (W OF HAMILTON AVE)
S.U. = 4.0 %
COMB. = 0.0 %
TOTAL = 4.0 %

24 HOUR TRUCKS
DOUG DAVIS DR (E VIRGINIA AVE/
CLAY PL)
S.U. = 3.0 %
COMB. = 0.0 %
TOTAL = 3.0 %

24 HOUR TRUCKS
CLAY PL (S OF DOUG DAVIS DR)
S.U. = 4.0 %
COMB. = 0.0 %
TOTAL = 4.0 %



(2045) 2025 AADT

PROJECT NUMBER: 171007021
FULTON COUNTY
VIRGINIA AVENUE
ROUNDAABOUT FEASIBILITY
STUDY



REVISION DATES

TRAFFIC DIAGRAM

DRAWING No.
01-0015

FULTON COUNTY



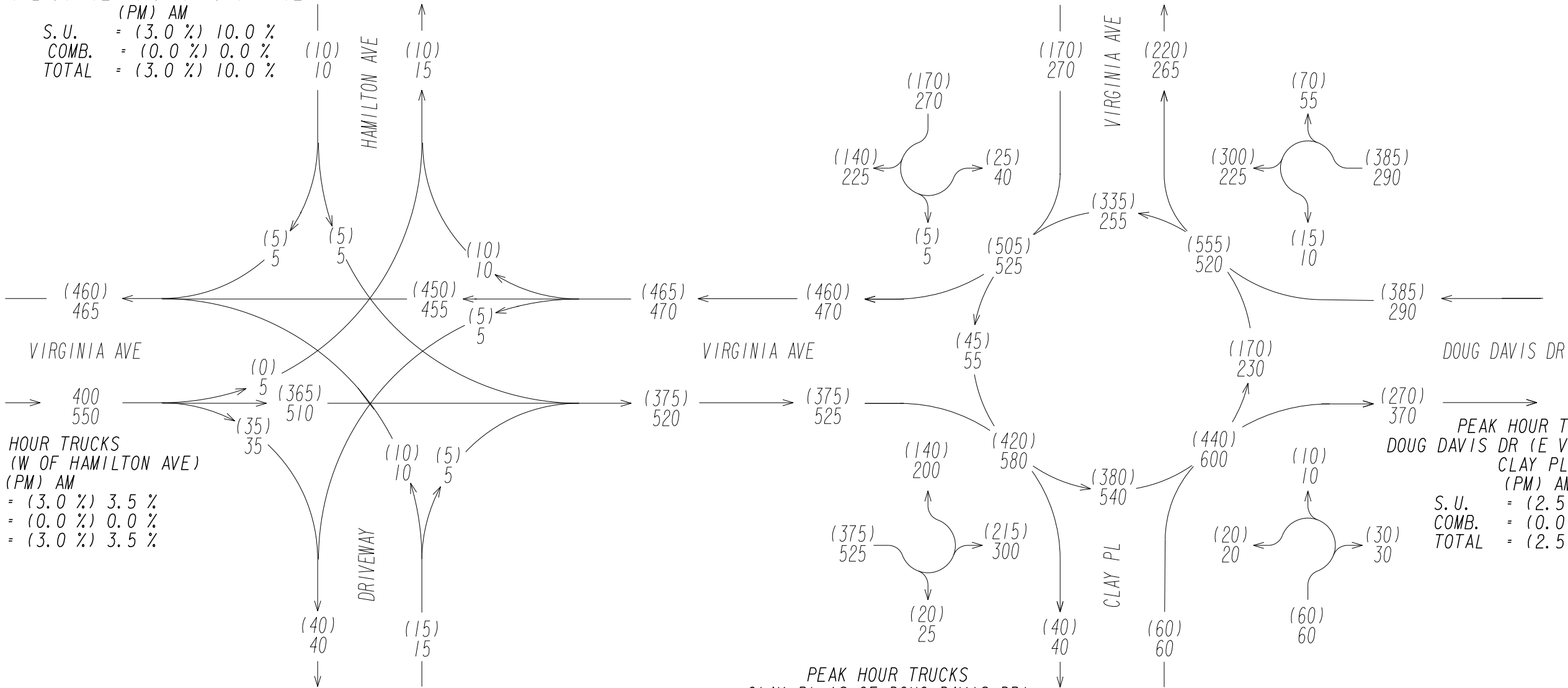
PEAK HOUR TRUCKS
VIRGINIA AVE (N DOUG DAVIS DR)
(PM) AM
S.U. = (1.5 %) 4.0 %
COMB. = (0.0 %) 0.0 %
TOTAL = (1.5 %) 4.0 %

PEAK HOUR TRUCKS
HAMILTON AVE (N OF VIRGINIA AVE)
(PM) AM
S.U. = (3.0 %) 10.0 %
COMB. = (0.0 %) 0.0 %
TOTAL = (3.0 %) 10.0 %

PEAK HOUR TRUCKS
VIRGINIA AVE (W OF HAMILTON AVE)
(PM) AM
S.U. = (3.0 %) 3.5 %
COMB. = (0.0 %) 0.0 %
TOTAL = (3.0 %) 3.5 %

PEAK HOUR TRUCKS
DOUG DAVIS DR (E VIRGINIA AVE/
CLAY PL)
(PM) AM
S.U. = (2.5 %) 3.0 %
COMB. = (0.0 %) 0.0 %
TOTAL = (2.5 %) 3.0 %

PEAK HOUR TRUCKS
CLAY PL (S OF DOUG DAVIS DR)
(PM) AM
S.U. = (2.5 %) 3.5 %
COMB. = (0.0 %) 0.0 %
TOTAL = (2.5 %) 3.5 %



2025 DHV
(PM) NOON

PROJECT NUMBER: 171007021
FULTON COUNTY
VIRGINIA AVENUE
ROUNDAABOUT FEASIBILITY
STUDY



REVISION DATES

TRAFFIC DIAGRAM

DRAWING No.
01-0016

FULTON COUNTY



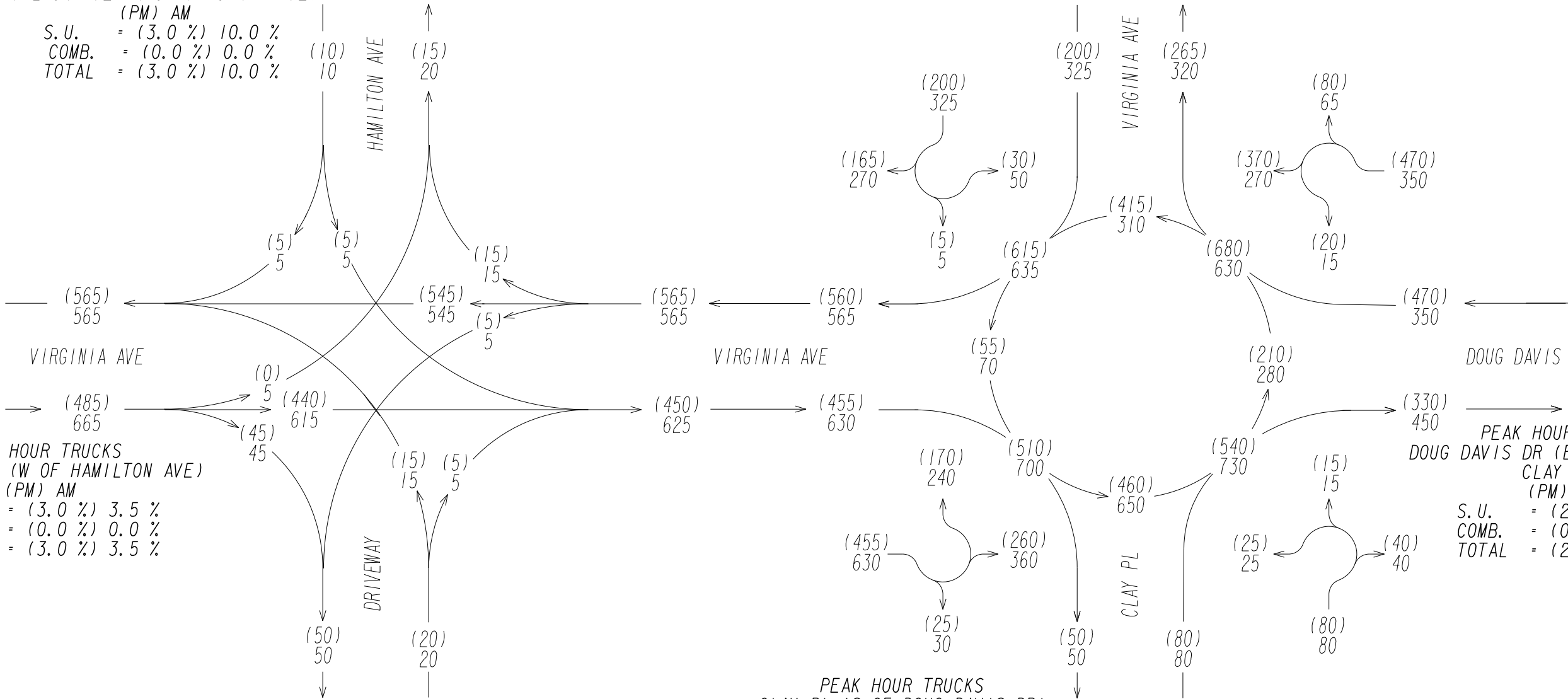
PEAK HOUR TRUCKS
VIRGINIA AVE (N DOUG DAVIS DR)
(PM) AM
S.U. = (1.5 %) 4.0 %
COMB. = (0.0 %) 0.0 %
TOTAL = (1.5 %) 4.0 %

PEAK HOUR TRUCKS
HAMILTON AVE (N OF VIRGINIA AVE)
(PM) AM
S.U. = (3.0 %) 10.0 %
COMB. = (0.0 %) 0.0 %
TOTAL = (3.0 %) 10.0 %

PEAK HOUR TRUCKS
VIRGINIA AVE (W OF HAMILTON AVE)
(PM) AM
S.U. = (3.0 %) 3.5 %
COMB. = (0.0 %) 0.0 %
TOTAL = (3.0 %) 3.5 %

PEAK HOUR TRUCKS
DOUG DAVIS DR (E VIRGINIA AVE/
CLAY PL)
(PM) AM
S.U. = (2.5 %) 3.0 %
COMB. = (0.0 %) 0.0 %
TOTAL = (2.5 %) 3.0 %

PEAK HOUR TRUCKS
CLAY PL (S OF DOUG DAVIS DR)
(PM) AM
S.U. = (2.5 %) 3.5 %
COMB. = (0.0 %) 0.0 %
TOTAL = (2.5 %) 3.5 %



2045 DHV
(PM) NOON

PROJECT NUMBER: 171007021
FULTON COUNTY
VIRGINIA AVENUE
ROUNDAABOUT FEASIBILITY
STUDY



REVISION DATES

TRAFFIC DIAGRAM

DRAWING No.
01-0017

**VIRGINIA AVENUE/LITTLE VIRGINIA AVENUE/DOUG DAVIS DRIVE/CLAY PLACE ROUNDABOUT
FEASIBILITY STUDY**

Appendix A

A.4 PUBLIC INVOLVEMENT PLAN & PUBLIC COMMENTS





HAPEVILLE ROUNABOUT

PUBLIC INVOLVEMNT PLAN

OVERVIEW

Given the focused nature of this study, a focused and meaningful community engagement process is proposed. As part of the process, we will work closely with a wide range of stakeholders who are key to implementation, while engaging the community to achieve a supported and implementable study.

To achieve this, stakeholders will be engaged at three levels throughout the process:

1. Project Management Team
2. Advisory Group
3. General Public

Project Management Team (PMT)

The Project Management Team will include the consultant team, the ARC and the City of Hapeville. The purpose of this team is to discuss the progress of the plan, brainstorm solutions and strategies to address challenges and needs, and to plan community engagement opportunities at a very high level. This team will meet (in-person or via phone) bi-weekly: Tuesdays, 9:30am, starting June 11.

Members of the PMT include:

Adrienne Senter, City of Hapeville
Lynn Patterson, City of Hapeville (B+C Studios)
Rachelle Eyma, City of Hapeville
Mitchell Greenway, Stantec
Stephen Hopper, Stantec
Mike Holt, Stantec
Deanna Murphy, Sizemore Group
Jonathan Tuley, Atlanta Regional Commission

Advisory Group

The Advisory Group will consist of business and property owners, community leaders, ARC, GDOT, MARTA, Aerotropolis Atlanta CIDs, and others who bring knowledge and expertise to the process. The Advisory Group will be engaged in three meetings.

Members of the Advisory Group include: (City has already worked with Mayor and Council on appointees and will send list to team shortly).

**Consider representation from the Hapeville Arts Alliance, Hispanic Community, property and business owners near the roundabout.*

General Public

The General Public will be engaged at key stages throughout the planning process. Methods for reaching out to the larger community include:

Flyer to be created by Sizemore Group and distributed by the City via

- Newsletter
- Facebook
- Email database
- Police Facebook and Twitter
- Direct mailers to business community
- A-Frame signs
- Rec Center
- City Hall and other City buildings
- City website

Critical Public Outreach Dates

- | | |
|-------------|---|
| June 1: | Advisory Group Meeting Invites to be distributed by the City. Sizemore Group can assist with text. |
| June 20: | Advisory Group Meeting 1: Vision Session
Location: City Hall
Time: 6pm |
| June 21: | Advisory Group Meeting reminder by the City. |
| June 26: | Advisory Group Meeting 2: Draft Concepts
Location: City Hall
Time: 6pm |
| June 15-20: | Community Meeting invites to be distributed (Sizemore Group to develop flyers). City to send via: <ul style="list-style-type: none">• Newsletter• Facebook• Email database• Police Facebook and Twitter• Direct mailers to business community• A-Frame signs |

- Rec Center
- City Hall and other City buildings
- City website

July 18: **Demonstration Project**
Location: Roundabout site

July 19: **Advisory Group Meeting reminder by the City.**

August 1: **Advisory Group Meeting 3: Concept Updates and Demonstration Recap**
Location: City Hall
Time: 6pm

July 15: **Community Meeting 2 invitation distribution (Sizemore Group to develop flyers)**

August 6: **City Council Presentation: Final Draft Concepts (10 minutes presentation)**

August 13: **Planning Commission Presentation: Final Draft Concepts**

August 15: **Community Meeting 2: Final Draft Plan Concepts Presented**
Location: Near Roundabout site

August 20: **City Council Adoption of Plan (anticipated)**

City of Hapeville

Community Meeting

Virginia Avenue/Little Virginia Avenue/Doug Davis Drive/Clay Place

Roundabout Feasibility Study

August 15, 2019

Please print responses.

Name

GLantz

Address

3041 Gordon Circle
Hapeville, GA 30354

Do you support the project?

☐ Yes

☒ No

☐ Conditional

☐ Uncommitted

Do you understand the project after attending this meeting?

☒ Yes

☐ No

Comments (feel free to use the back of this sheet for additional space)

I do not support this & Do NOT
WANT to pay for this.

I do not want to damage the
existing businesses. This is not right
to hurt them, they have been good
to the city!

How Are you going to substantiate this need
for A round-A-bout. Why? We can't grow
Any more And should try to keep what we
AIRLREADY HAVE!!!

How did you hear about this meeting?

☐ Radio/Television

☐ Newspaper

☐ Signs

☐ Word of Mouth

☒ Email Blast

☐ City Website

Please share your suggestions on improving the way Hapeville conducts public meetings:

continue doing them

Your comments can be submitted by any of the following ways:

1 - Complete this form and place in the drop box.

2 - Complete this form and mail to:

Mr. Mitchell Greenway

Stantec Consulting Services Inc.

229 Peachtree Street NE Suite 1900

Atlanta, GA 30303-1629

3 - Email your comments to mitchell.greenway@stantec.com

City of Hapeville

Community Meeting

Virginia Avenue/Little Virginia Avenue/Doug Davis Drive/Clay Place

Roundabout Feasibility Study

August 15, 2019

Please print responses.

Name

Address

Thomas Moore John's Pizza
8341 Virginia Ave

Do you support the project?

☐ Yes

☒ No

☐ Conditional

☐ Uncommitted

Do you understand the project after attending this meeting?

☒ Yes

☐ No

Comments (feel free to use the back of this sheet for additional space)

I am not in favor of this project based on Negative Impact on my business. The potential loss of business during construction and after completion of the project could be exponential

How did you hear about this meeting?

☐ Radio/Television

☐ Signs

☒ Email Blast

☐ Newspaper

☐ Word of Mouth

☐ City Website

Please share your suggestions on improving the way Hapeville conducts public meetings:

Your comments can be submitted by any of the following ways:

1 – Complete this form and place in the drop box.

2 – Complete this form and mail to:

Mr. Mitchell Greenway

Stantec Consulting Services Inc.

229 Peachtree Street NE Suite 1900

Atlanta, GA 30303-1629

3 – Email your comments to mitchell.greenway@stantec.com

City of Hapeville

Community Meeting

Virginia Avenue/Little Virginia Avenue/Doug Davis Drive/Clay Place

Roundabout Feasibility Study

August 15, 2019

Please print responses.

Name SCOTT ALLEN / Johnnys Pizzeria / Property owner

Address 834 VIRGINIA AVE
HAPEVILLE, GA 30354

Do you support the project? ☐ Yes ☒ No ☐ Conditional ☐ Uncommitted

Do you understand the project after attending this meeting? ☒ Yes ☐ No

Comments (feel free to use the back of this sheet for additional space)

Too much impact on my Property + BUSINESS

How did you hear about this meeting?

☐ Radio/Television
☐ Signs
☐ Email Blast

☐ Newspaper
☒ Word of Mouth
☐ City Website

Please share your suggestions on improving the way Hapeville conducts public meetings:

BETTER INFORMATION distribution

Your comments can be submitted by any of the following ways:

1 – Complete this form and place in the drop box.

2 – Complete this form and mail to:

Mr. Mitchell Greenway

Stantec Consulting Services Inc.

229 Peachtree Street NE Suite 1900

Atlanta, GA 30303-1629

3 – Email your comments to mitchell.greenway@stantec.com

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Please print responses.

Name Cheryl Kelley

Address 3435 HARDING Ave
Hapeville, GA 30354

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Do you understand the project after attending this meeting? ☒ Yes ☐ No

Comments (feel free to use the back of this sheet for additional space)

I do not see a need for this
Roundabout. It will impede the exits
onto VA Avenue from my street & Elkins.
The Businesses that will be affected
that have been loyal businesses, are not
worth aggravating or losing. They are obviously
opposed to this as ATT PARTICIPANTS
at this meeting.

STOP Lights help the traffic flow
in this area. Taking them out makes a
constant flow

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that is
not beneficial
or needed
in this
area.

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BETTER COMMUNICATION OF THE MEETINGS
I got an email 2 days ago from my
neighborhood association.

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