

TRAFFIC IMPACT ANALYSIS FOR

# Jones Bridge Rd at Old Alabama Rd Retail Development

*Johns Creek, GA*

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## EXECUTIVE SUMMARY

A retail development is planned in the NE quadrant of the intersection of Jones Bridge Rd and Old Alabama Rd in Johns Creek, GA. The development will include a 2,620 SF of a coffee/doughnut shop with a drive-through window, and 8,130 SF of retail space. A solitary access for the proposed development is planned along Old Alabama Rd, across the Rite Aid Driveway. Trips generated by the site were estimated using ITE's *Trip Generation Manual, 9<sup>th</sup> Edition* while pass-by trips were estimated using the *Trip Generation Handbook, 2<sup>nd</sup> Edition*. Per City of Johns Creek's Traffic Impact Study Guidelines, this development is considered under Category 1, i.e. site which generates between 100 and 300 trips during any peak hour. The study area includes any adjacent intersections to the site. In this case, the study area includes the proposed driveway and the signalized intersection of Jones Bridge Rd and Old Alabama Rd. Turn lane warrants at the site driveway were evaluated per NCHRP Report 457: Evaluating Intersection Improvements and the City of Johns Creek Municipal Code. A capacity analysis was performed for existing and future conditions for the Jones Bridge Rd/ Old Alabama Rd intersection and the existing/proposed intersection of Old Alabama Rd at the Rite Aid Driveway / Site Access.

The following list summarizes the conclusions and recommendations for this study:

### **Jones Bridge Rd at Old Alabama Rd**

- Capacity analysis shows that the intersection currently operates at a level of service F due to the heavy SBR and conflicting WBT traffic volumes during the AM peak hour.
- During the PM peak hour, over 650 vehicles make an EBL onto Jones Bridge Rd, causing heavy delays for this movement.
- Two scenarios at the project driveway, a full access driveway and a right-in right-out, left-in only driveway, were analyzed to understand their effects on the signalized intersection of Old Alabama Road and Jones Bridge Road. The scenario with a full access (Scenario 1) at the site driveway does not have any significant effects at this intersection. The other scenario (right-in right-out left-in only, Scenario 2) adds more U-turning traffic at the signalized intersection, thus degrading the Level of Service (LOS) from an E to an F.
- Significant queuing is observed in both the existing and future scenarios.
  - During the AM peak period the southbound vehicles queue past the provided turn lane capacity during existing conditions and will continue to do so in future conditions.
  - During the PM peak period the eastbound vehicles queue significantly in existing conditions, past the existing Rite Aid Driveway and will continue to do so in the future scenarios.

## Old Alabama Rd at Rite Aid Driveway/Driveway 1

- Proposed site driveway on Old Alabama Rd that will be located 360 feet to the east of the Jones Bridge Rd, across the Rite Aid Driveway.
- Capacity analysis shows that the intersection currently operates at LOS D or better during both peak hours.
- Scenario 1: Full Access
  - EB and WB movements continue to operate at LOS B or better
  - The NB approach (Rite Aid driveway) drops from a LOS of C/D to a LOS of D/E for AM/PM peak periods.
  - The SB approach (site driveway) experiences a LOS F during both peak periods. Long delays and queues can be attributed to large volumes on Old Alabama Rd not providing sufficient gaps for turning vehicles.
  - When analyzing the driveway as having separate left/through and right-turn lanes the LOS for the right-turns improves to a LOS of B, and queues for the left-turn decrease.
- Scenario 2: Right-in, Right-Out, and Left-in Only
  - The EB and WB approaches at the intersection operate similar to Scenario 1.
  - The NB approach drops from a LOS of C/D to a LOS of E/E for AM/PM peak periods, compared to the D/E of Scenario 1.
  - The SB approach improves dramatically from LOS F as seen in Scenario 1 to a LOS of B. Queues also see significant improvement.
- Turn Lanes
  - Under both future scenarios deceleration lanes will be warranted for both left-turn and right-turn movements into the development.
  - City of Johns Creek municipal code dictates that turn lanes should consist of full width storage of 175 feet and a taper of 100 feet, for a 45 mph roadway
- Due to geometric constraints, the EB left-turn could have a maximum of 50 ft of storage and a 50 ft taper. The EB left-turn queues are expected to be approximately 60 ft under both future scenarios. From a capacity standpoint, this left-turn lane will be sufficient. Based on the speed limit, the left-turn lane does not meet the minimum required length criterion.
- The Old Alabama Road section just to the east of site driveways is a two lane section. The taper to an additional through lane in the westbound direction (for a four-lane section) begins exactly at the location of the site driveway. Adding an additional taper for the westbound right turn deceleration lane is anticipated to cause some driver confusion. As such, we recommend starting this right-turn deceleration lane taper where the additional westbound through lane attains full width. This will reduce the length of the deceleration lane but will reduce driver confusion.

## 1. Introduction

This report contains results from a traffic impact analysis performed for a proposed development in Johns Creek, GA. Due to the nature of the proposed development, construction will likely be completed in one phase; therefore, this analysis is for the entire project build-out, which is estimated to be complete by late 2017. The development will consist of a 2,620 SF coffee/doughnut shop with a drive-thru window and 8,130 SF of specialty retail space. The existing site is currently undeveloped.

The purpose of the traffic impact study is to identify the traffic impacts associated with the proposed driveway connection and existing intersections within the vicinity of the site. The traffic impact study analyzes the levels of service at these locations for existing and future conditions with the proposed development. Figure 1 shows the proposed site location in the vicinity of the City of Johns Creek. The site location is shown on an aerial image in Figure 2. A copy of the proposed site plan is shown in Appendix A.

This report has been prepared for submittal to the City of Johns Creek to evaluate the traffic conditions at the site. This report summarizes the data collected, proposed access points, projected traffic at the study intersections, analysis of traffic impacts including levels of service (LOS), and conclusions from the analysis.

### 1.1. Study Area Selection

The traffic impact study (TIS) is considered to be a Category I TIS, according to the criteria set forth in the City of Johns Creek's Traffic Impact Study Guidelines. Johns Creek Traffic Impact Study Guidelines have categorized the studies into the following:

- Category I: Developments that generate between 100 and 300 vehicle trips during any peak hour
- Category II: Developments that generate between 301 and 1,001 vehicle trips during any peak hour
- Category III: Developments that generate more than 1,001 vehicle trips during any peak hour

The Institute of Transportation Engineers' (ITE) *Trip Generation Manual* was used to estimate the number of vehicle trips the proposed development will generate during any peak hour. The proposed development is expected to generate 141 vehicle trips during the AM Peak Hour (highest) making it a Category 1 development.

According to the TIS Guidelines, Category I TIS study areas include all site driveways and intersections abutting the development, as well as any additional locations required by the City of Johns Creek. The study area is defined as the site driveways and the intersection of Jones Bridge Rd at Old Alabama Rd. The study area category boundaries are shown in Figure 3.

Figure 1: Vicinity Map

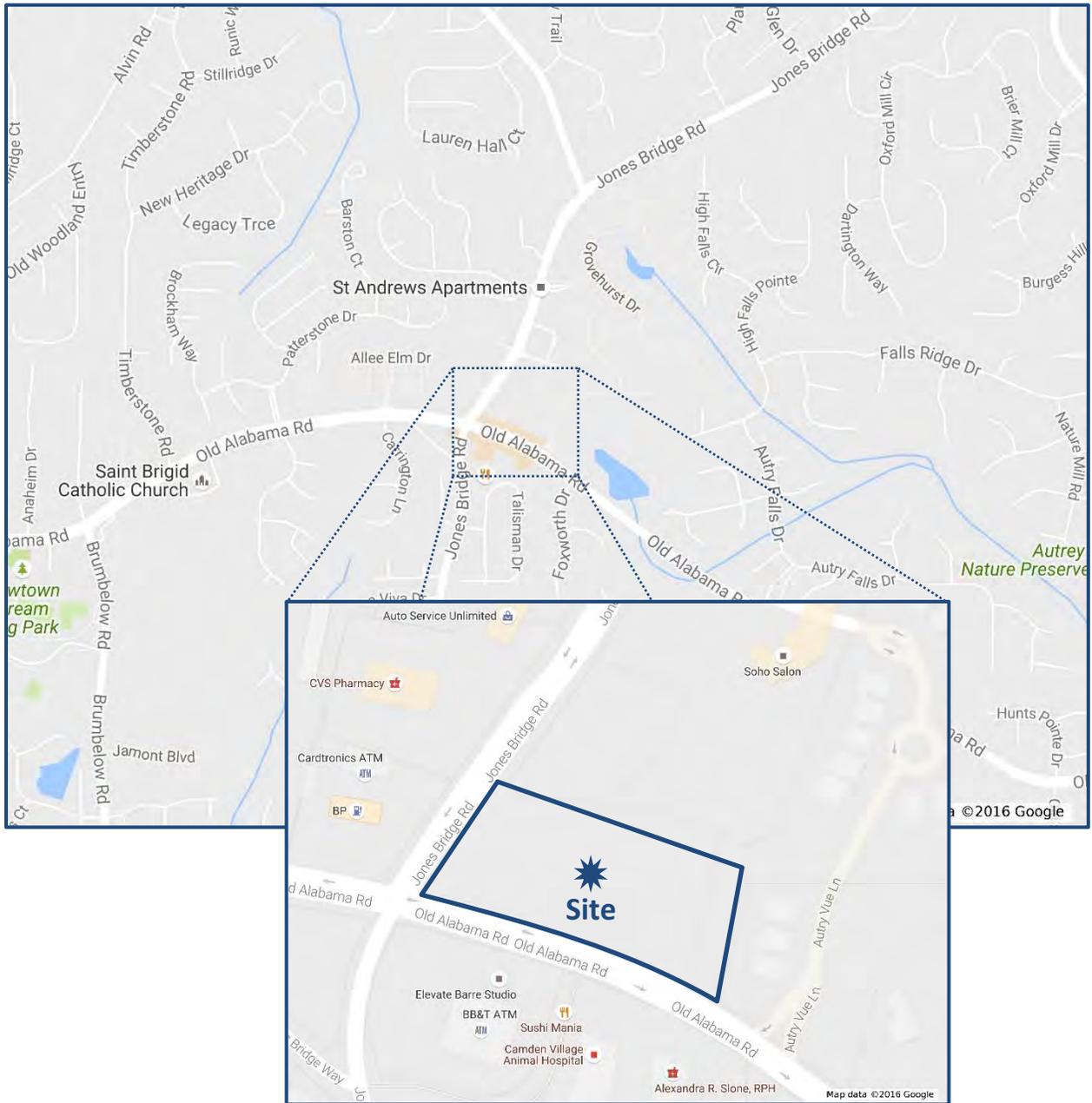


Figure 2: Site Location Aerial

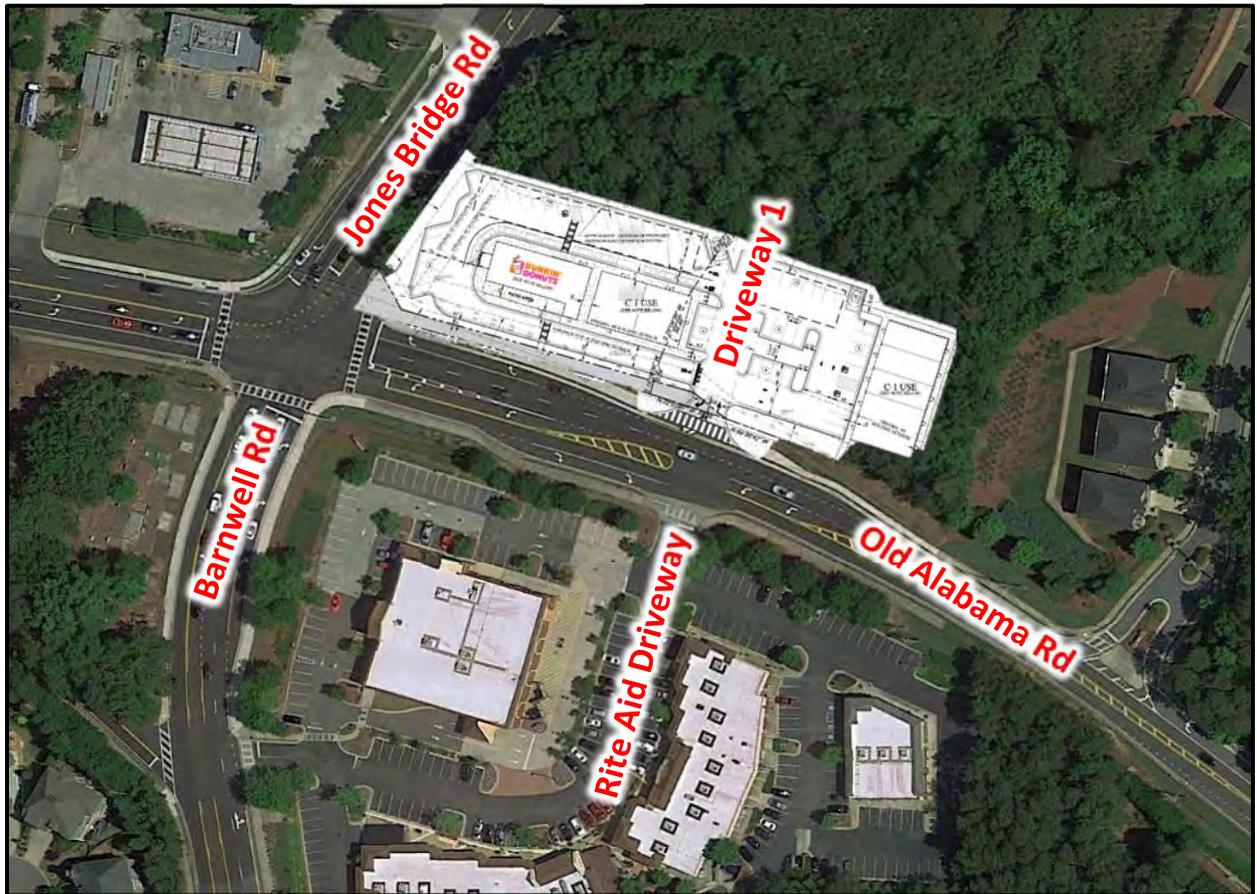
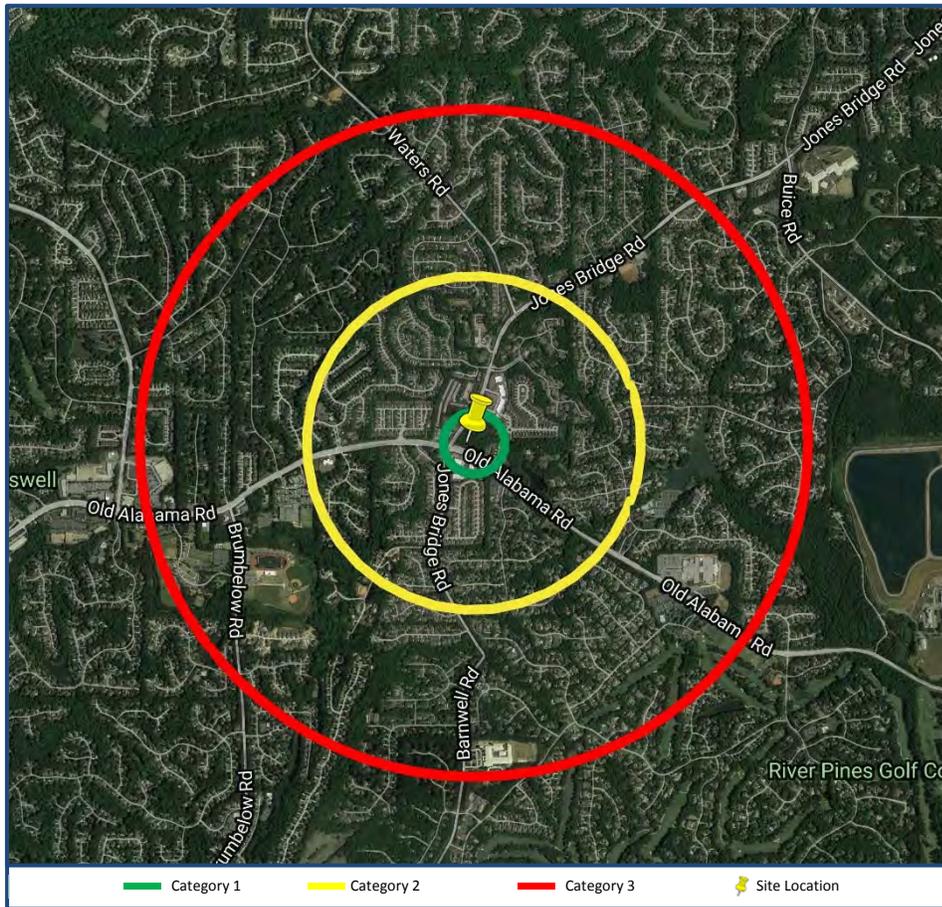


Figure 3: Study Area – Category Selection



## 2. Existing and Proposed Development Description

The proposed development is located at the northeast corner of the intersection of Jones Bridge Rd and Old Alabama Rd. The development will consist of a 2,620 SF coffee/doughnut shop with a drive-thru window and 8,130 SF of retail space. The development is planned to have access to external network via a solitary driveway along Old Alabama Rd. The site is currently undeveloped.

Proposed site access is as follows:

### Old Alabama Rd at Driveway 1 / Rite Aid Driveway

- Approximately 360 feet to the east of the signalized intersection of Old Alabama at Jones Bridge Rd. Located across from the existing driveway servicing Rite Aid. Two future scenarios were analyzed in the report.
- Scenario 1: Proposed full access unsignalized driveway
- Scenario 2: Proposed right-out driveway, vehicle movements entering the driveway will be unrestricted.

### 2.1. Zoning and Land Use

The site as well as neighboring parcels to the north and south of Old Alabama Rd are currently zoned O-I (Office - Institutional) and C-1 (Community Business). To the east and west of the site, parcels are zoned CUP (Community Unit Plan). The site is expected to be rezoned to completely C-1 (Community Business).

## 3. Existing Conditions

### 3.1. Transportation Facilities

This traffic impact study examines the existing and proposed operations of the intersections listed in Table 1. The existing intersection of Jones Bridge Rd at Old Alabama Rd is signalized.

Table 1: Study Intersections

Study Intersections		
1	Jones Bridge Rd at Old Alabama Rd	Existing signal control
2	Old Alabama Rd at Rite Aid Driveway/Driveway 1	Existing side street stop controlled (3-legged) / Proposed side street stop controlled (4-legged)

There are two main roadways along the site frontage. Roadway characteristics of the two roadways are described below and summarized in Table 2. The existing lane configuration is shown in Figure 4.

**Jones Bridge Rd** is a four-lane undivided roadway with an additional two-way left-turn lane (TWLTL) to the north of Old Alabama Rd. To the south, it has one lane in each direction with an additional TWLTL. It runs primarily north-south and connects Brookwood Rd and McGinnis Ferry Rd to the north with Barnwell Rd to the south. The roadway is signalized at the intersection with Old Alabama Rd and is functionally classified as a Minor Arterial in this section of the roadway. The posted speed limit is 45 mph to the north of Old Alabama Rd and 40 mph to the south.

**Old Alabama Rd** is an undivided two-lane roadway to the east of the intersection with Jones Bridge Rd. To the west of the intersection it becomes a four-lane undivided roadway. Old Alabama Rd has a posted speed limit of 45 mph to the East of Jones Bridge Rd and 40 mph to the west, and runs east-west connecting Holcomb Bridge Rd to the south/ west with Medlock Bridge Rd to the east. The roadway is functionally classified as a Minor Arterial in the section of study.

**Table 2: Roadway Characteristics in the Section of Study**

Roadway	Number of Lanes	Posted Speed Limit (MPH)	Functional Classification
Jones Bridge Rd	4 + TWLTL	45 /40	Minor Arterial
Old Alabama Rd	3 (2 WB / 1 EB)	45 /40	Minor Arterial

### 3.2. Traffic Count Data

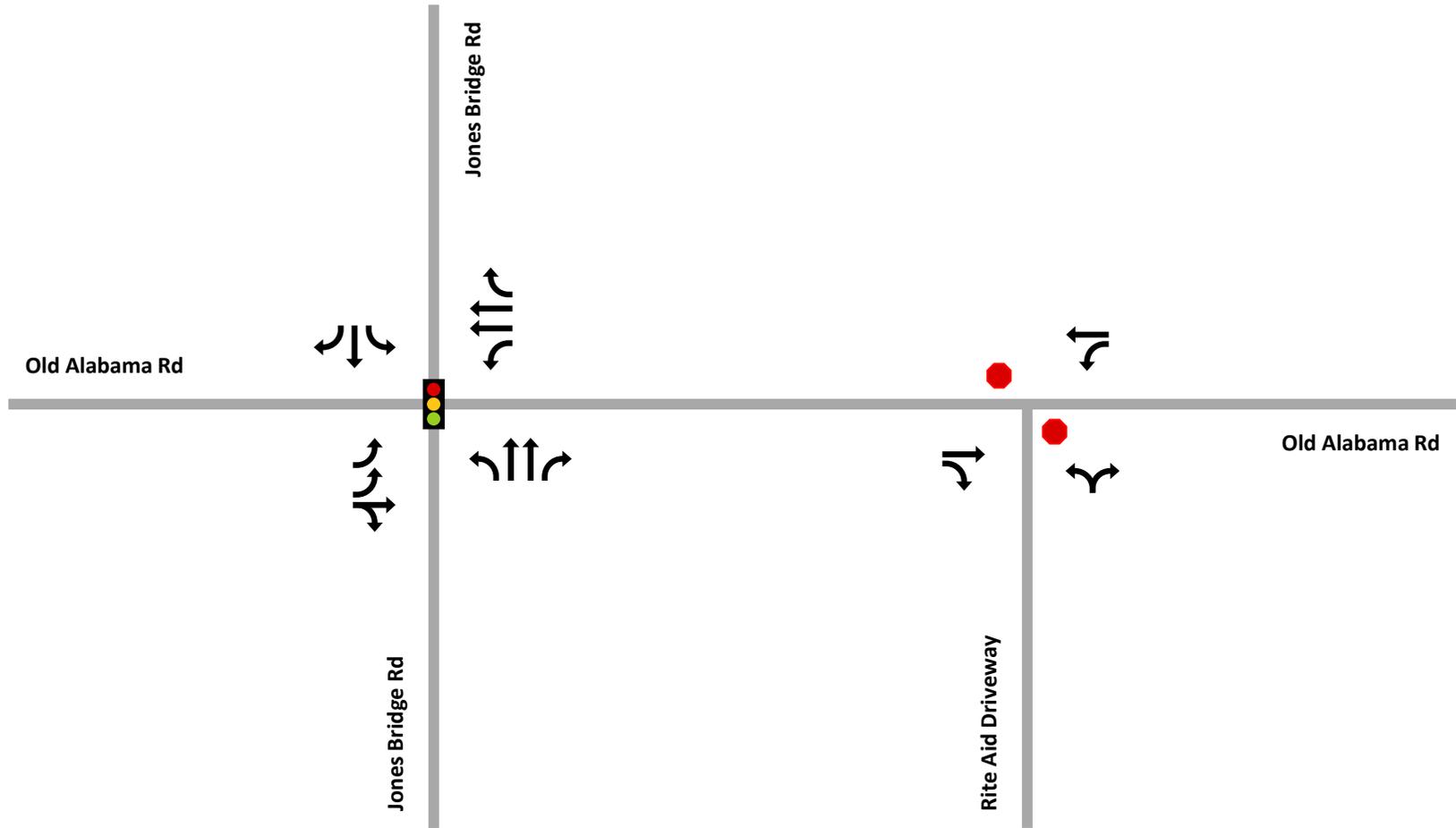
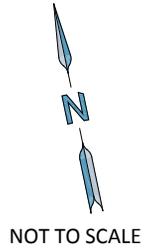
Peak hour turning movement counts at the intersection of Jones Bridge Rd at Old Alabama Rd were collected on Wednesday, October 12, 2016 as part of this study. Peak hour counts at the Rite Aid driveway opposite to Driveway 1 were also collected. The peak hour volumes are displayed in Figure 5. Raw traffic counts are attached in Appendix B.

### 3.3. Pedestrian Facilities

There are existing sidewalks across all quadrants of the signalized intersection. Signalized crosswalks are located across the northbound, eastbound, and westbound approaches.

# Figure 4: Existing Lane Geometry

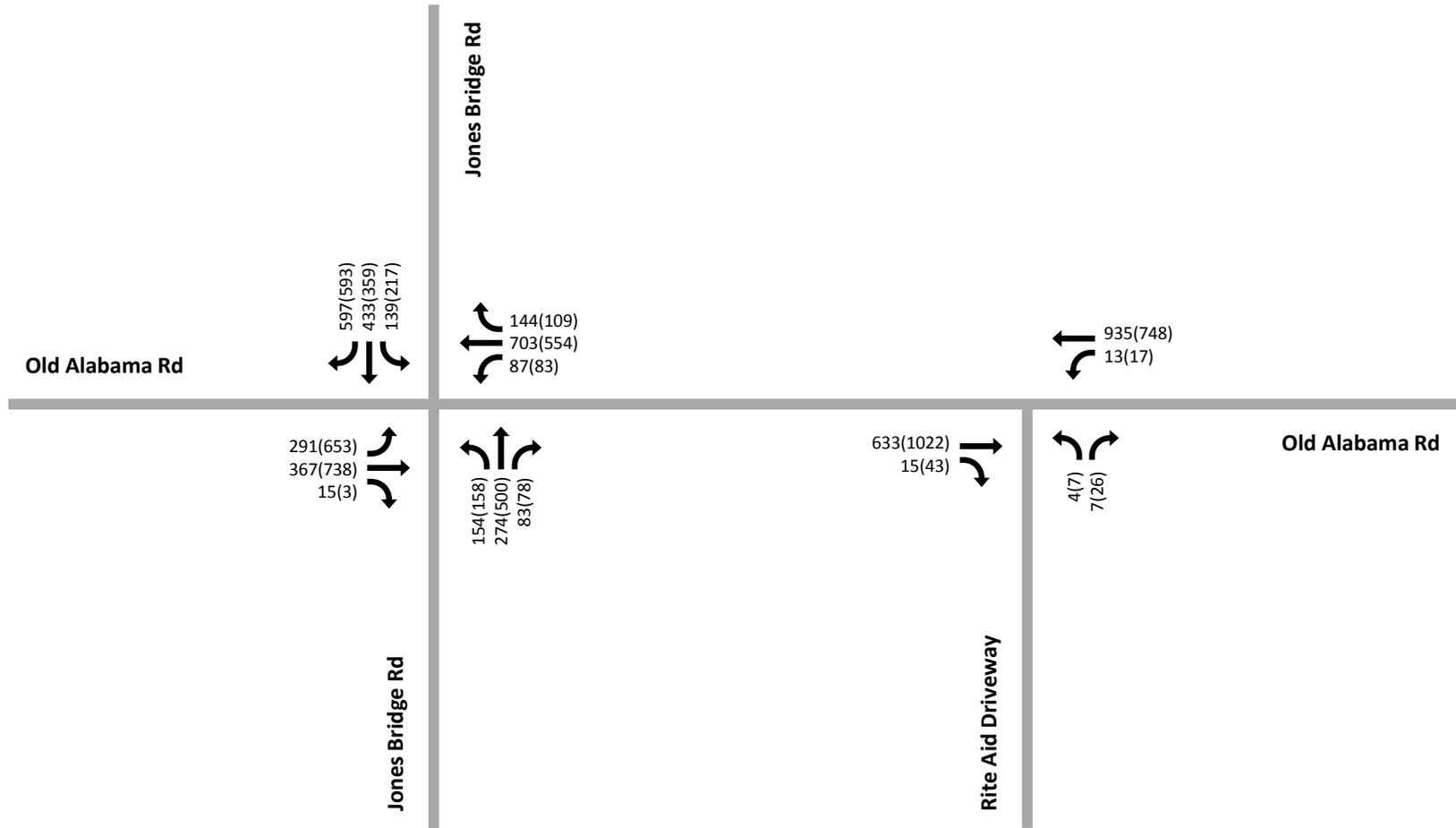
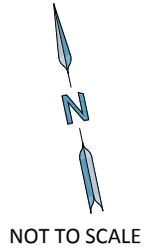
- Existing Lane Geometry
- Stop Control
- Yield Control
- Signalized Control



# Figure 5: Existing (2016) Traffic Volumes

##(##) → AM (PM) Peak Hour Traffic Volume

■ ■ ■ ■ ■ Proposed Driveway



### 3.4. Existing Conditions Capacity Analysis

Existing traffic volumes used were entered into a *Synchro 9.1* model to perform capacity analysis of existing conditions for the AM and PM peak periods. The results are shown by lane group movement in Table 3. Average vehicular delays and level of service, as defined by the Highway Capacity Manual (HCM) 2010, are presented. Full *Synchro* outputs are included in Appendix C. Current signal timings for the intersection of Jones Bridge Rd at Old Alabama Rd were provided by the City of Johns Creek and are attached in Appendix D.

**Table 3: Existing Conditions Capacity Analysis**

Intersection	Control	Lane Group Movement	AM Peak Hour				PM Peak Hour			
			Delay (s)	LOS	95 <sup>th</sup> % Queue (ft)	Intersection LOS	Delay (s)	LOS	95 <sup>th</sup> % Queue (ft)	Intersection LOS
Old Alabama Rd at Jones Bridge Rd	Signal Control	EBL	61.9	E	184	F	103.1	F	547	F
		EBT/R	36.3	D	248		147.7	F	2562	
		WBL	38.5	D	201		64.1	E	205	
		WBT	36.5	D	281		58.5	E	292	
		WBR	31.0	C	166		46.7	D	134	
		NBL	49.7	D	134		41.0	D	135	
		NBT	36.4	D	143		42.1	D	212	
		NBR	35.4	D	40		37.6	D	65	
		SBL	30.5	C	251		42.4	D	242	
		SBT	86.1	F	692		52.9	D	432	
		SBR	312.9	F	428	227.1	F	279		
Old Alabama Rd at Rite Aid Driveway	Side-Street Stop Control	EBT	0.0	A	0	-	0.0	A	0	-
		EBR	0.0	A	0		0.0	A	19	
		WBL	9.2	A	34		10.6	B	42	
		WBT	0.0	A	20		0.0	A	52	
		NBL/R	19.1	C	31		27.6	D	52	

#### Old Alabama Rd at Jones Bridge Rd:

During the AM peak hour, the intersection of Old Alabama Rd at Jones Bridge Rd suffers heavy delays and queues in the southbound approach, especially for the right-turning movement. This can be attributed to the heavy right-turning volumes and the heavy conflicting westbound through movements on Old Alabama Rd. The eastbound left-turn also suffers significant delays and a LOS E due to the protected phase. All other turning movements operate under LOS C or D. The intersection as a whole operates at LOS F.

During the PM peak hour, the left-turn movement experiences delays of over 100 seconds due to the heavy commuter traffic that turns left onto northbound Jones Bridge Rd. Even with the long storage lanes, queues back up more than 2,500 ft and spill back past the storage lane. The westbound approach also suffers significant queues and a LOS E due to the short green time and long cycle length. All other turning movements operate at LOS D. The intersection as a whole operates at LOS F.

## Old Alabama Rd at Rite Aid Driveway

The stop-controlled intersection of Old Alabama Rd at Rite Aid Driveway operates under LOS B or better for EB and WB movements and LOS D or better for the NB approach during both peak hours with minor queues in all directions.

### 4. Future Conditions

Two scenarios were analyzed for future conditions. Scenario 1: Full Access, which includes full access to the development at the single driveway accessing the site. As part of Scenario 1 the site driveway was also analyzed as having a separate left/through and right-turn lane. Scenario 2: Right-out restricts vehicles leaving the development to a right-out movement only, left-in and right-in movements are both allowed.

#### 4.1. Future Lane Geometry

The development is planned to have access to the external network via one driveway. The driveway will be located across from the Rite Aid Driveway on Old Alabama Rd at approximately 360 ft west of Jones Bridge Rd. Full access to the development as well as restricted exiting movements were analyzed for the development Future lane geometry is presented for Scenario 1 in Figure 6 and for Scenario 2 in Figure 7.

#### 4.2. Trip Generation

Project trips for each land use at the project site were estimated using the equations presented in the Institute of Transportation Engineers (ITE) latest *Trip Generation Manual*, 9<sup>th</sup> Edition, 2012. Pass-by reductions account for vehicles already on the existing road network that will make an intermediate stop on the way from an origin to a primary trip destination. Pass-by reductions are calculated after internal capture, and mode split reductions are taken because pass-by only applies to external site trips. Pass-by trips were calculated on a per land use basis using methodology and data set forth in ITE Trip Generation Handbook, Second Edition, 2004.

The ITE Handbook does not provide a pass-by rate for the coffee/doughnut shop with drive-through window. However, due to the nature of the land use, a pass-by rate of 49% during the AM peak hour and 50% during the PM peak hour was assigned based on rates for Land Use 934 (Fast-Food Restaurant). Table 4 summarizes the trip generation for the proposed development for the appropriate land use code. No modal split or internal capture was calculated for this development. The trip generation worksheet is presented in Appendix E.

**Table 4: Project Trip Generation**

Project Land Use	Density	Daily			AM Peak Hour			PM Peak Hour		
		Total	In	Out	Total	In	Out	Total	In	Out
Coffee/Doughnut Shop with Drive-Through Window	2,620 SF	2,145	1,073	1,072	264	135	129	112	56	56
Specialty Retail Center	8,130 SF	385	193	192	6	4	2	41	18	23
<b>Total Trips</b>		2,530	1,266	1,264	270	139	131	153	74	79
<b>Reductions for Pass-By Trips</b>		-1,062	-531	-531	-129	-66	-63	-56	-28	-28
<b>Total Net New Project Trips</b>		1,468	735	733	141	73	68	97	46	51

The site is anticipated to generate 1,468 net new daily trips (735 inbound and 733 outbound) at full buildout. The highest peak period volume is expected to be in the AM peak hour, with 141 total trips (73 trips entering and 68 trips exiting). During the PM peak hour, the development is expected to attract 97 new trips to the system (46 inbound and 51 outbound).

#### **4.3. Distribution and Assignment**

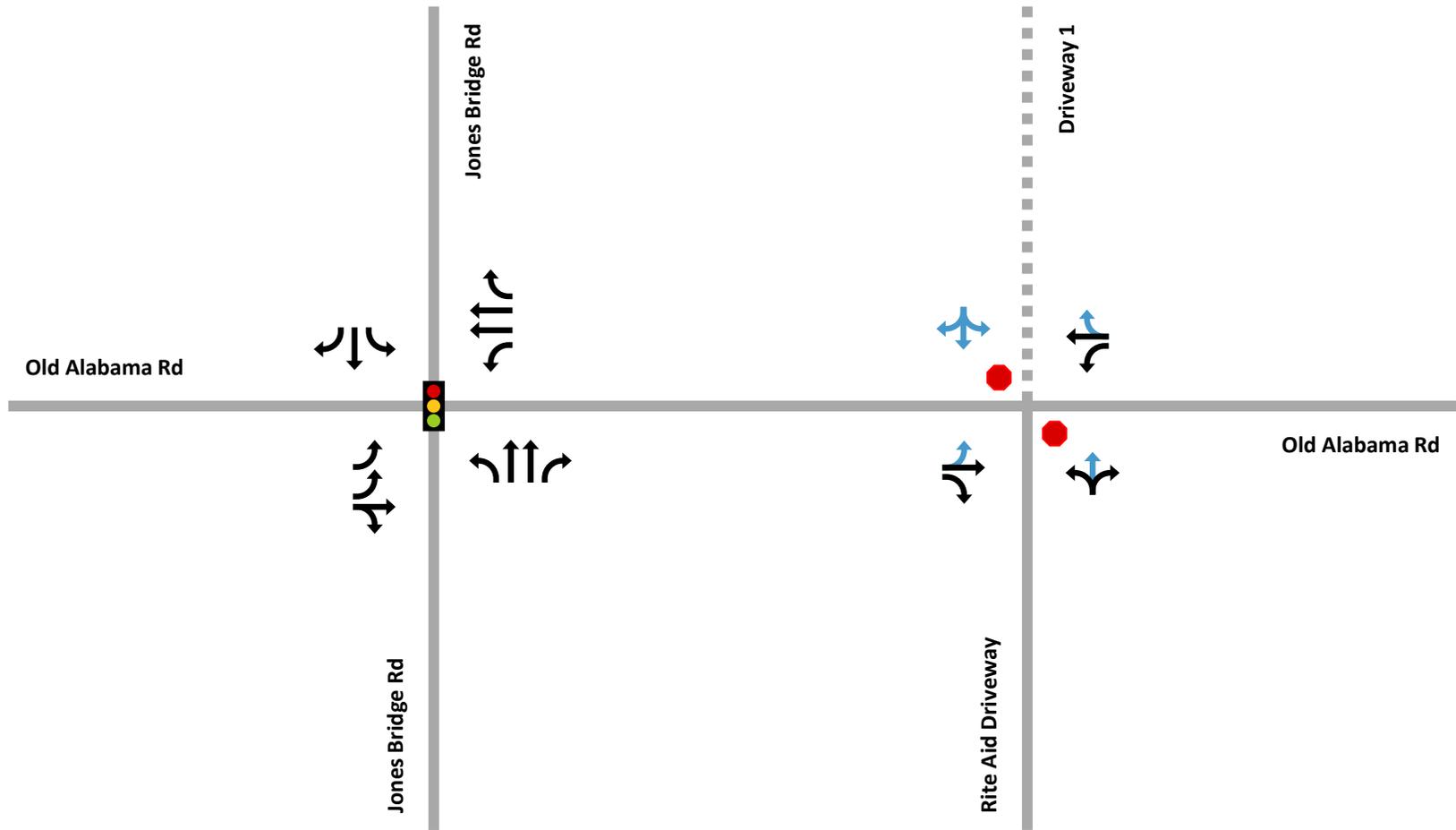
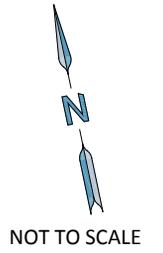
The assignment and directional distribution of new project trips was based on existing traffic counts, site design and access types, competing retail, and residential density around the study area. The directional distribution for new trips is shown in Figure 8 and Figure 9. The directional distribution for pass-by trips are shown in Figure 10 and Figure 11 for Scenario 1, and Figure 12 and Figure 13 for Scenario 2.

#### **4.4. Future Traffic Volumes**

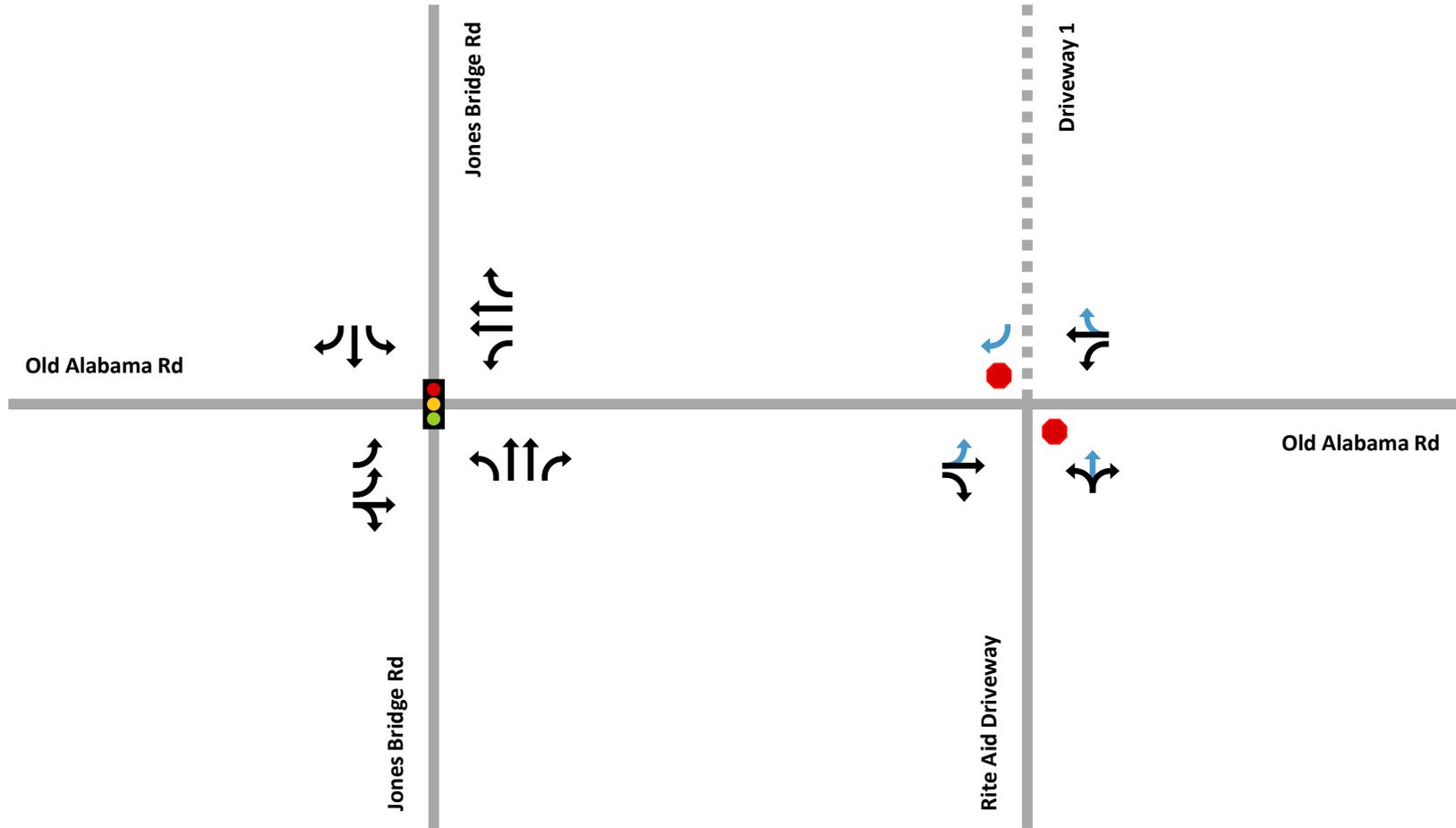
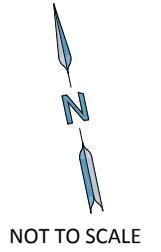
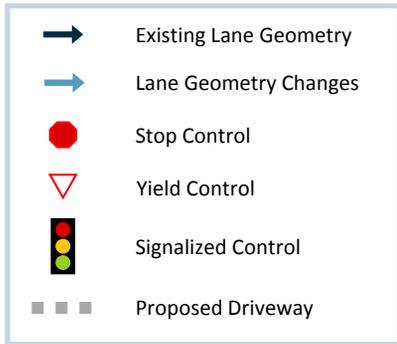
Background traffic, which is the existing traffic volume projected to the future with a growth rate was not evaluated because the development is expected to be built in a short time and no significant traffic growth is expected at the site. Total project trips are shown in Figure 14 for Scenario 1 and Figure 15 for Scenario 2. Future traffic volumes, which include existing volumes and project trips are shown in Figure 16 for Scenario 1 and Figure 17 for Scenario 2.

# Figure 6: Future Lane Geometry – Scenario 1: Full Access

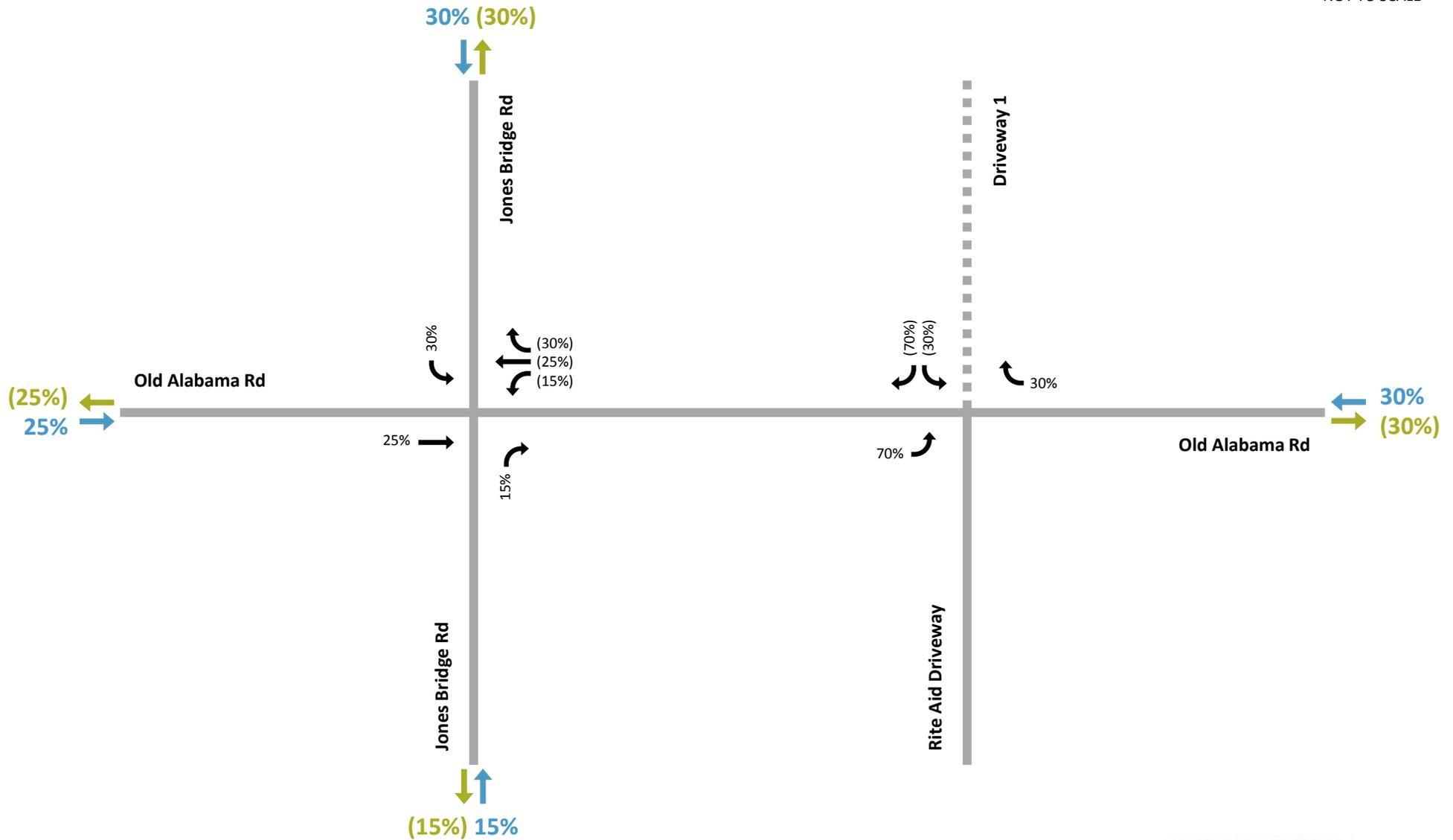
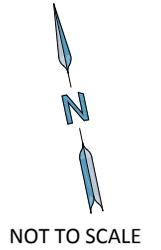
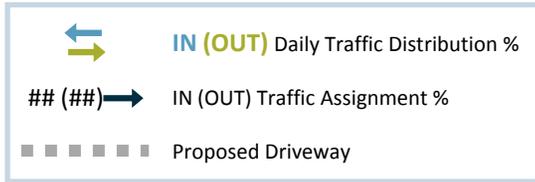
	Existing Lane Geometry
	Lane Geometry Changes
	Stop Control
	Yield Control
	Signalized Control
	Proposed Driveway



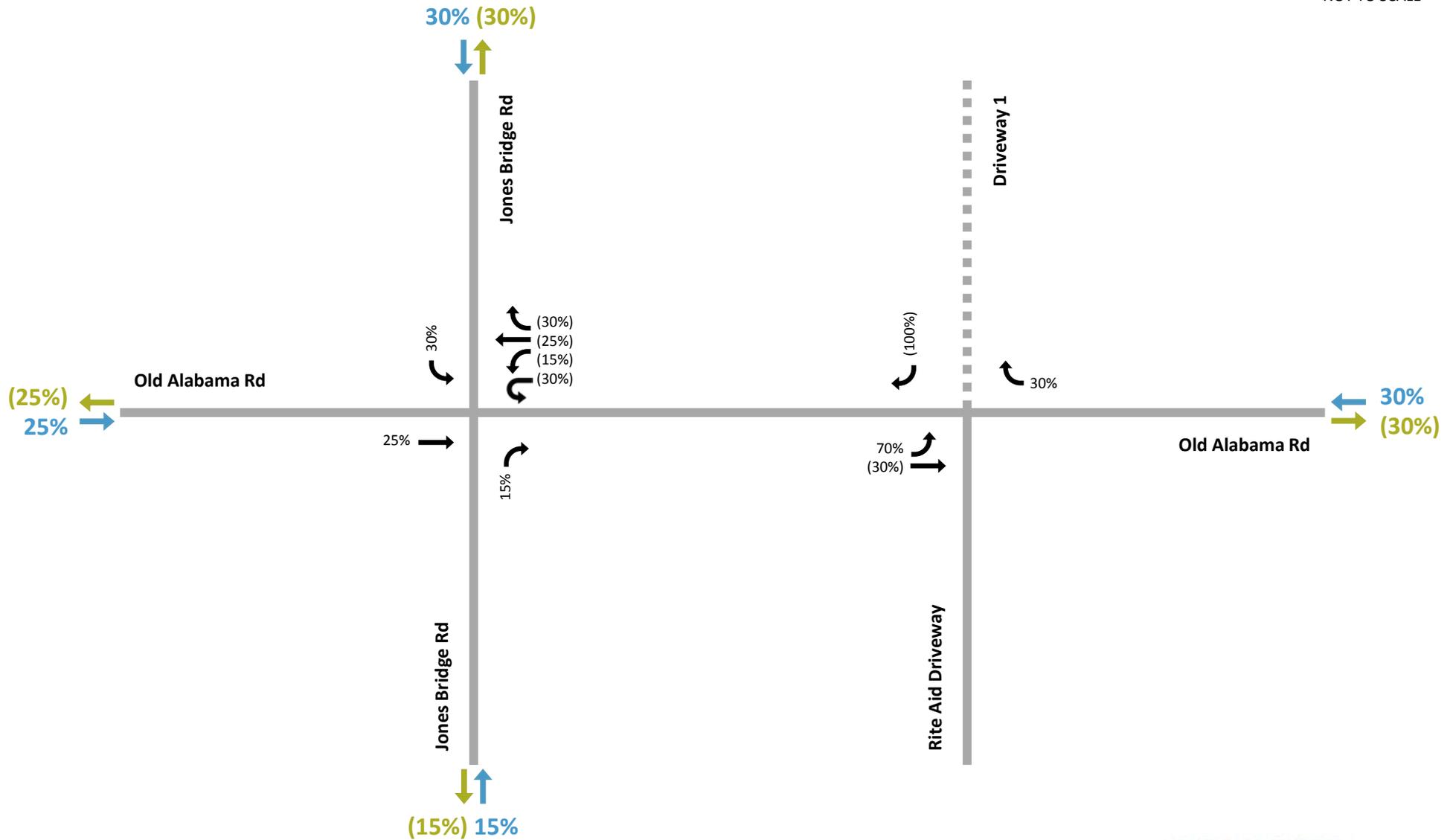
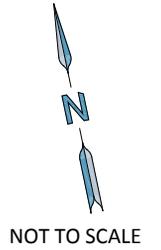
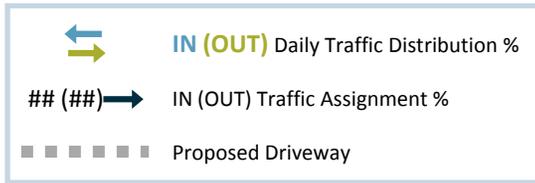
# Figure 7: Future Lane Geometry – Scenario 2: Right-Out



# Figure 8: Trip Distribution – Scenario 1: Full Access



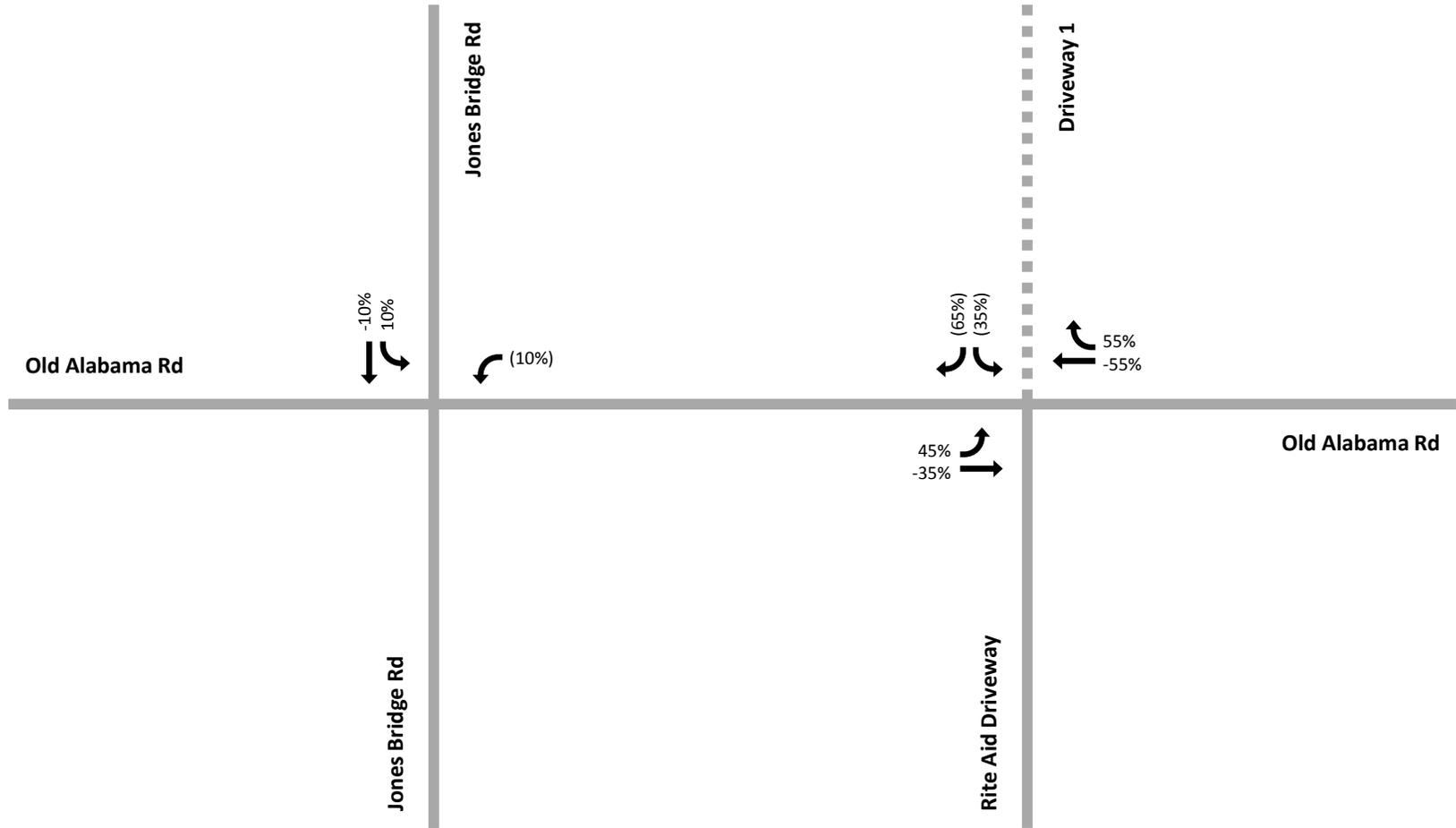
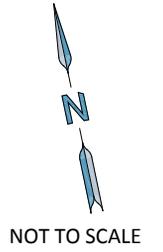
# Figure 9: Trip Distribution – Scenario 2: Right-Out



# Figure 10: AM Pass-By Trips – Scenario 1: Full Access

##(##) → IN (OUT) Traffic Assignment %

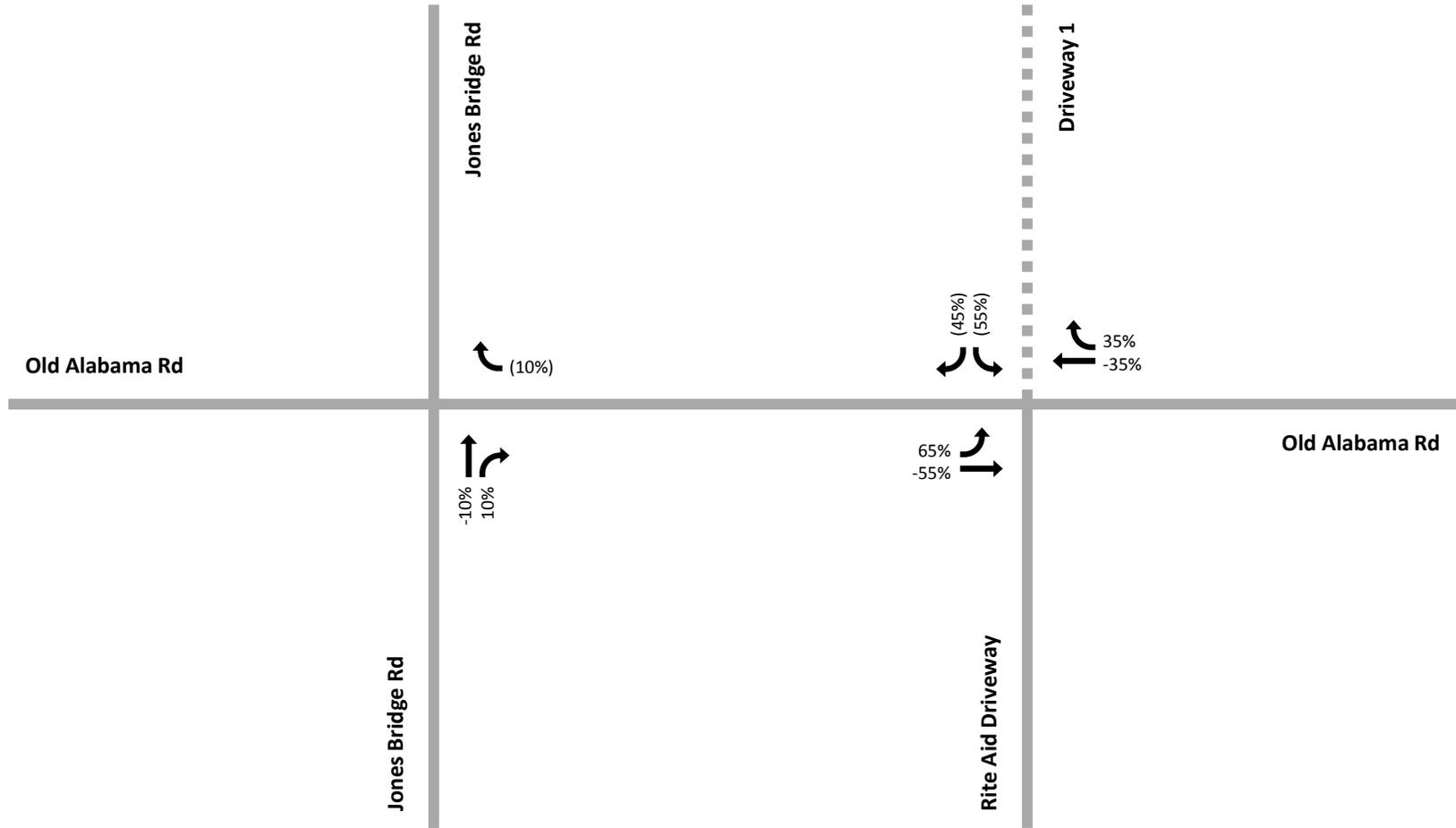
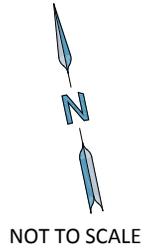
■ ■ ■ ■ ■ Proposed Driveway



# Figure 11: PM Pass-By Trips – Scenario 1: Full Access

##(##) → IN (OUT) Traffic Assignment %

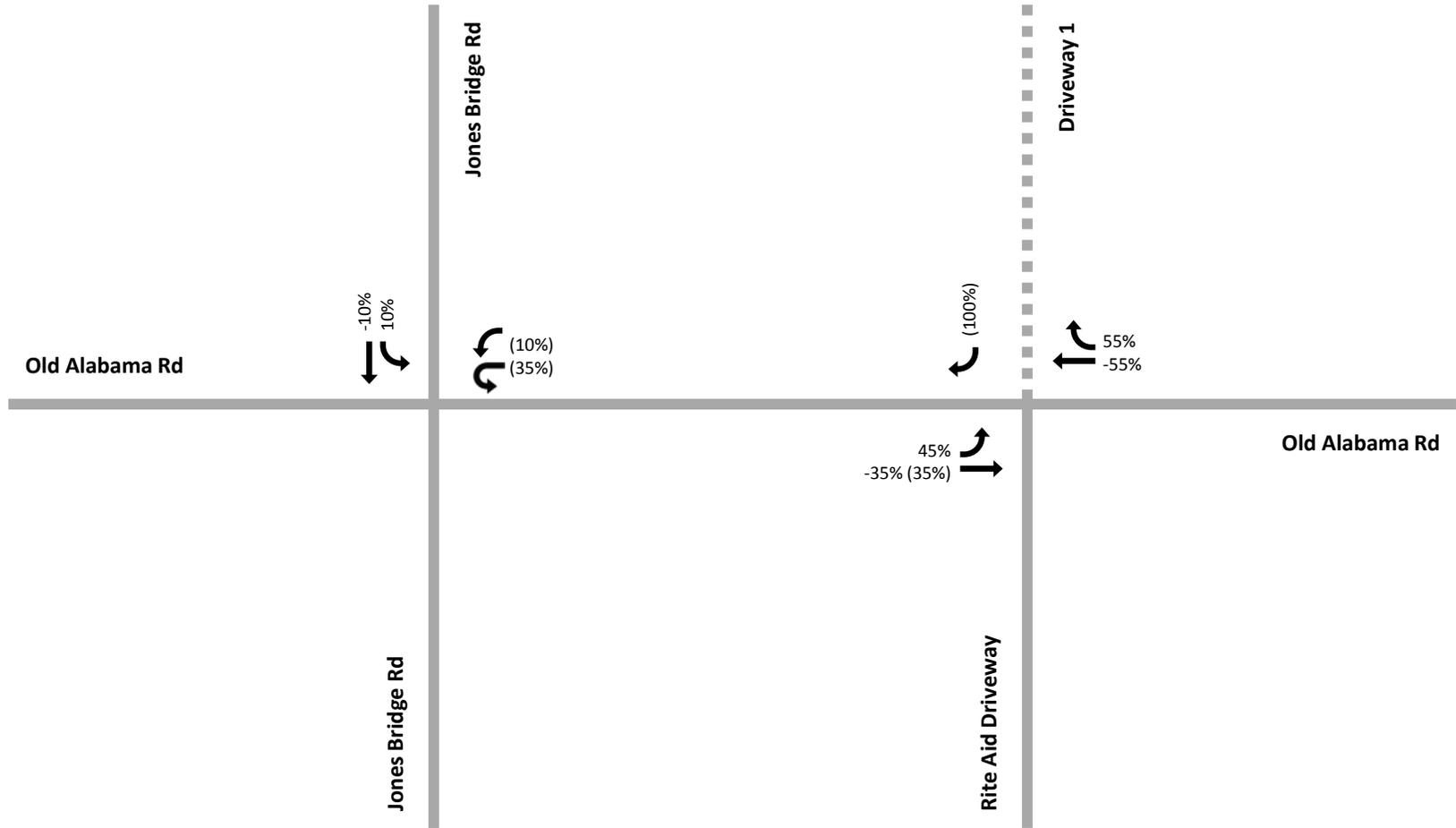
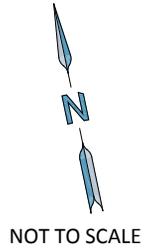
■ ■ ■ ■ ■ Proposed Driveway



# Figure 12: AM Pass-By Trips – Scenario 2: Right-Out

##(##) → IN (OUT) Traffic Assignment %

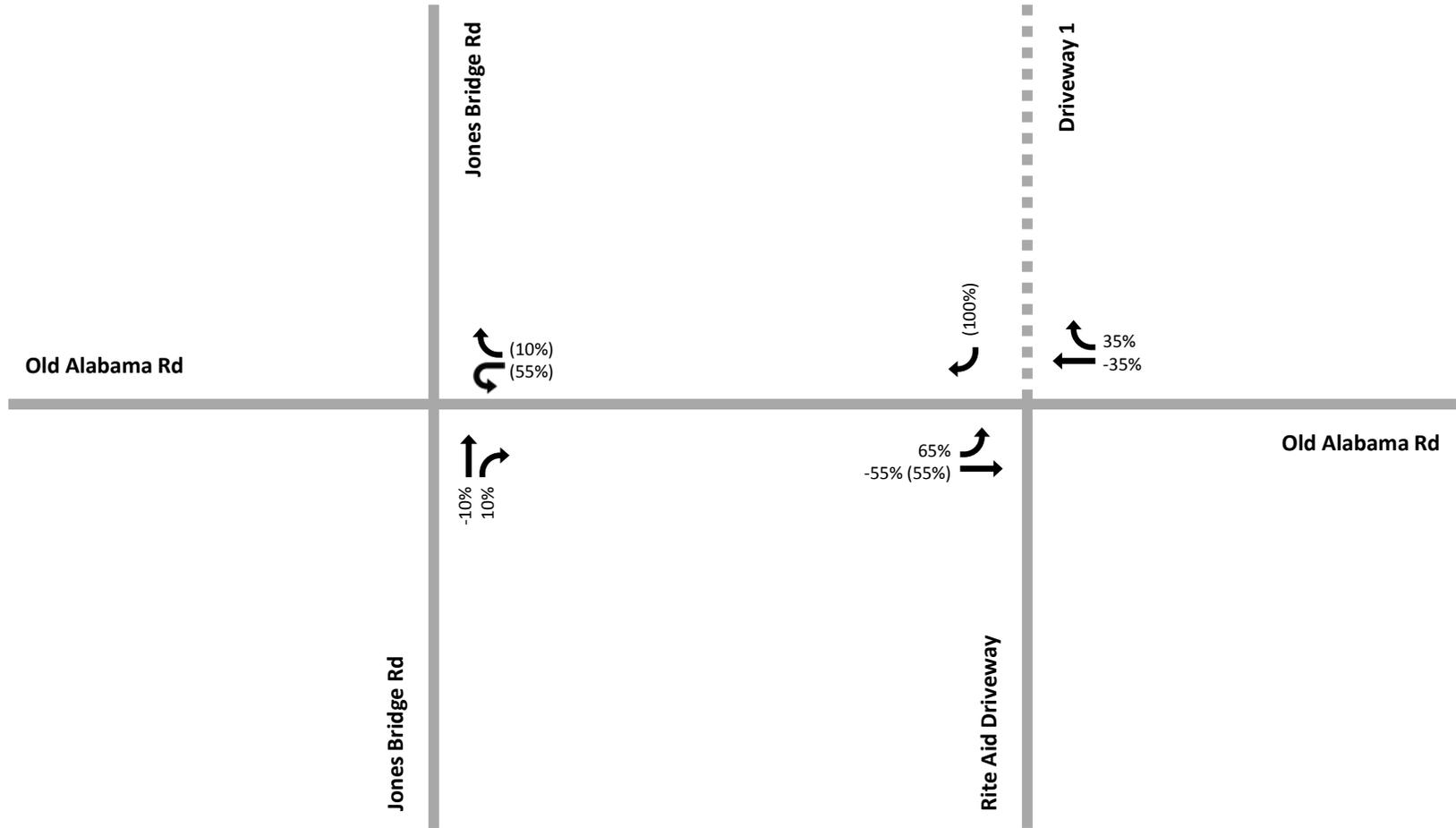
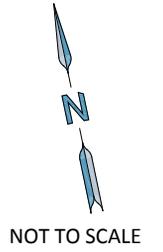
■ ■ ■ ■ ■ Proposed Driveway



# Figure 13: PM Pass-By Trips – Scenario 2: Right-Out

##(##) → IN (OUT) Traffic Assignment %

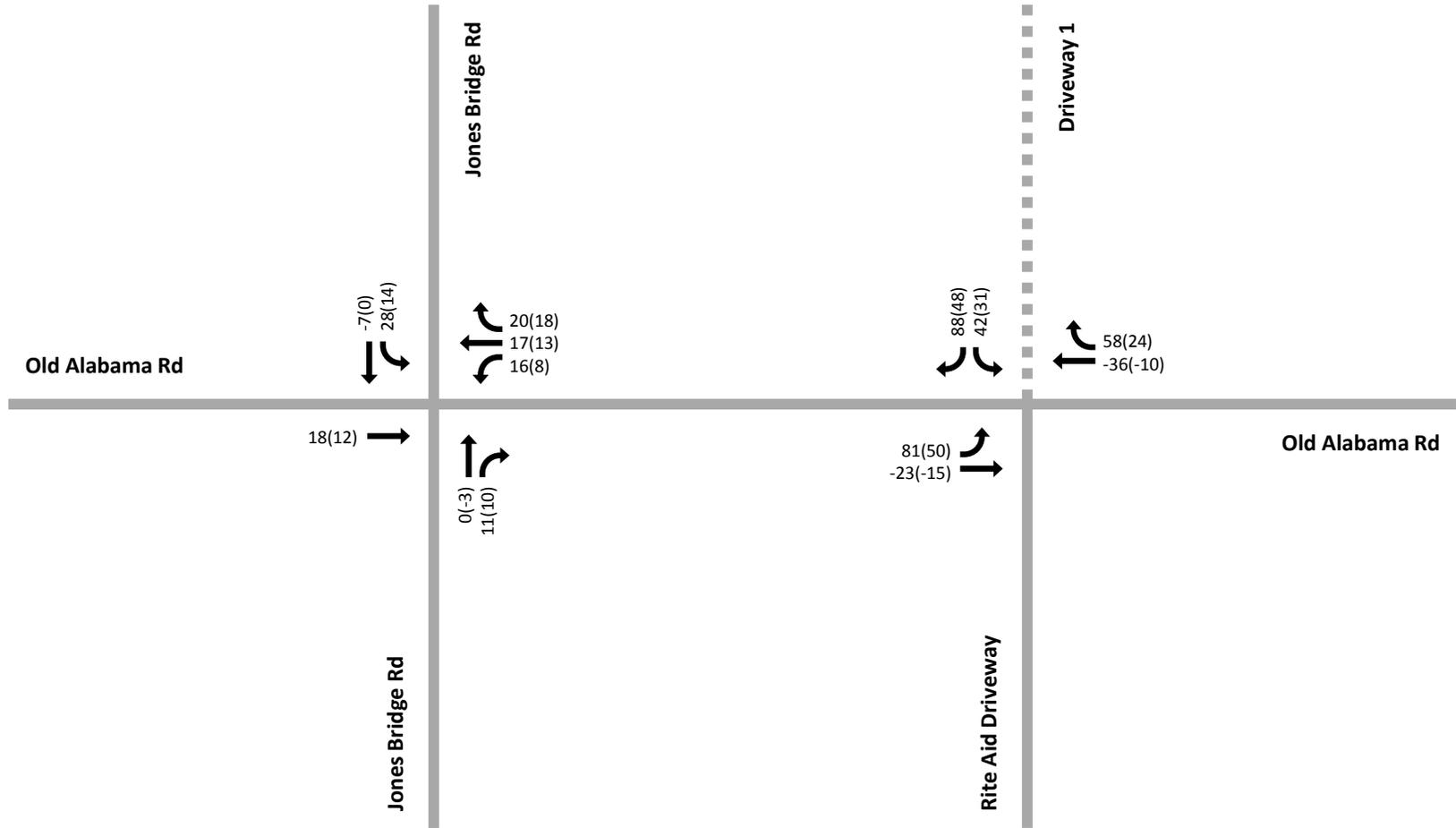
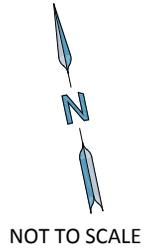
■ ■ ■ ■ ■ Proposed Driveway



# Figure 14: Project Trips – Scenario 1: Full Access

##(##) → AM (PM) Peak Hour Traffic Volume

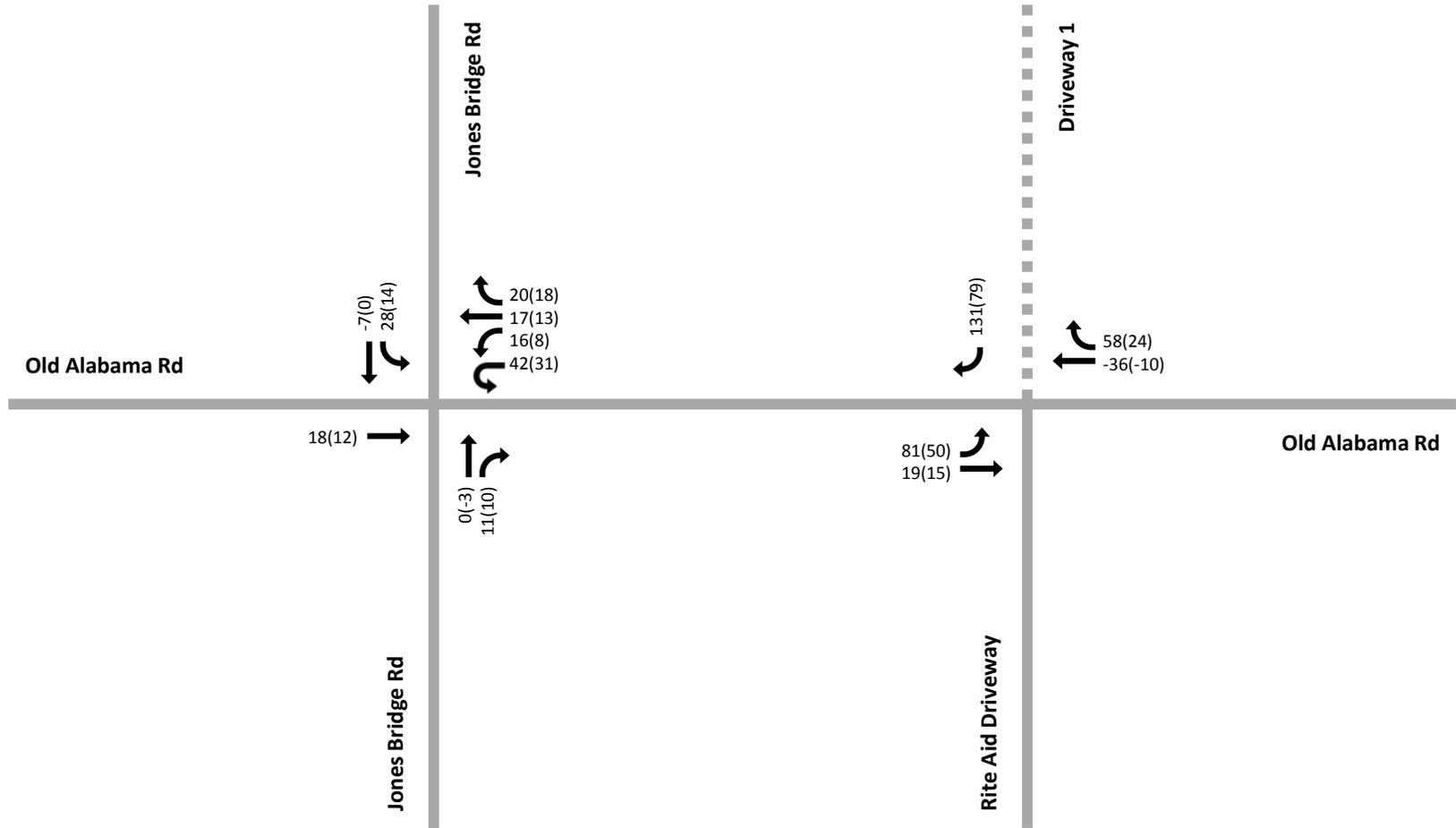
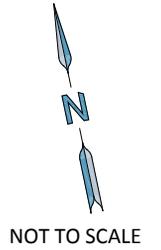
■ ■ ■ ■ ■ Proposed Driveway



# Figure 15: Project Trips – Scenario 2: Right-Out

##(##) → AM (PM) Peak Hour Traffic Volume

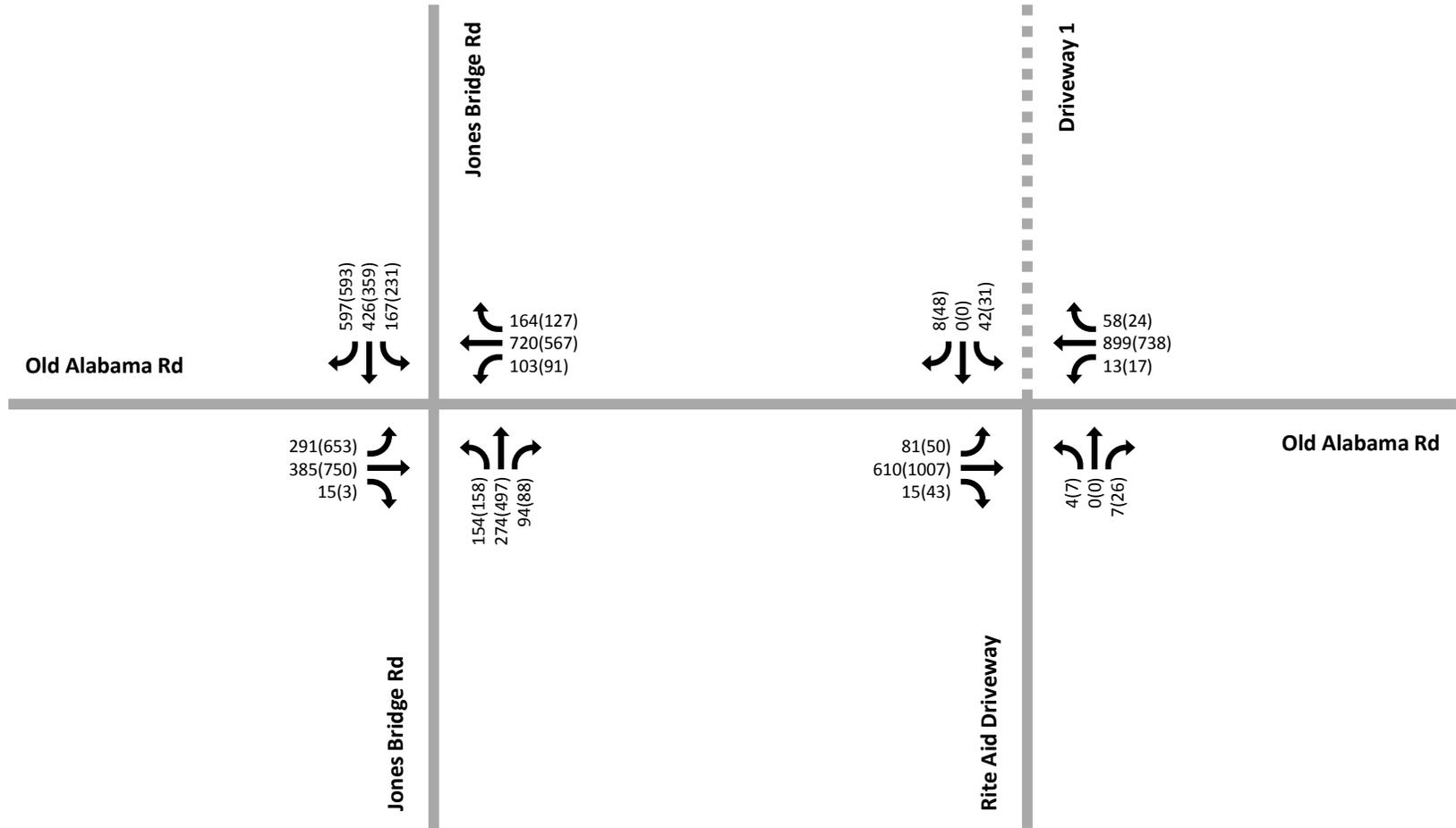
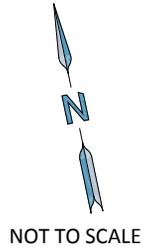
■ ■ ■ ■ ■ Proposed Driveway



# Figure 16: Future (2017) Traffic Volumes – Scenario 1: Full Access

##(##) → AM (PM) Peak Hour Traffic Volume

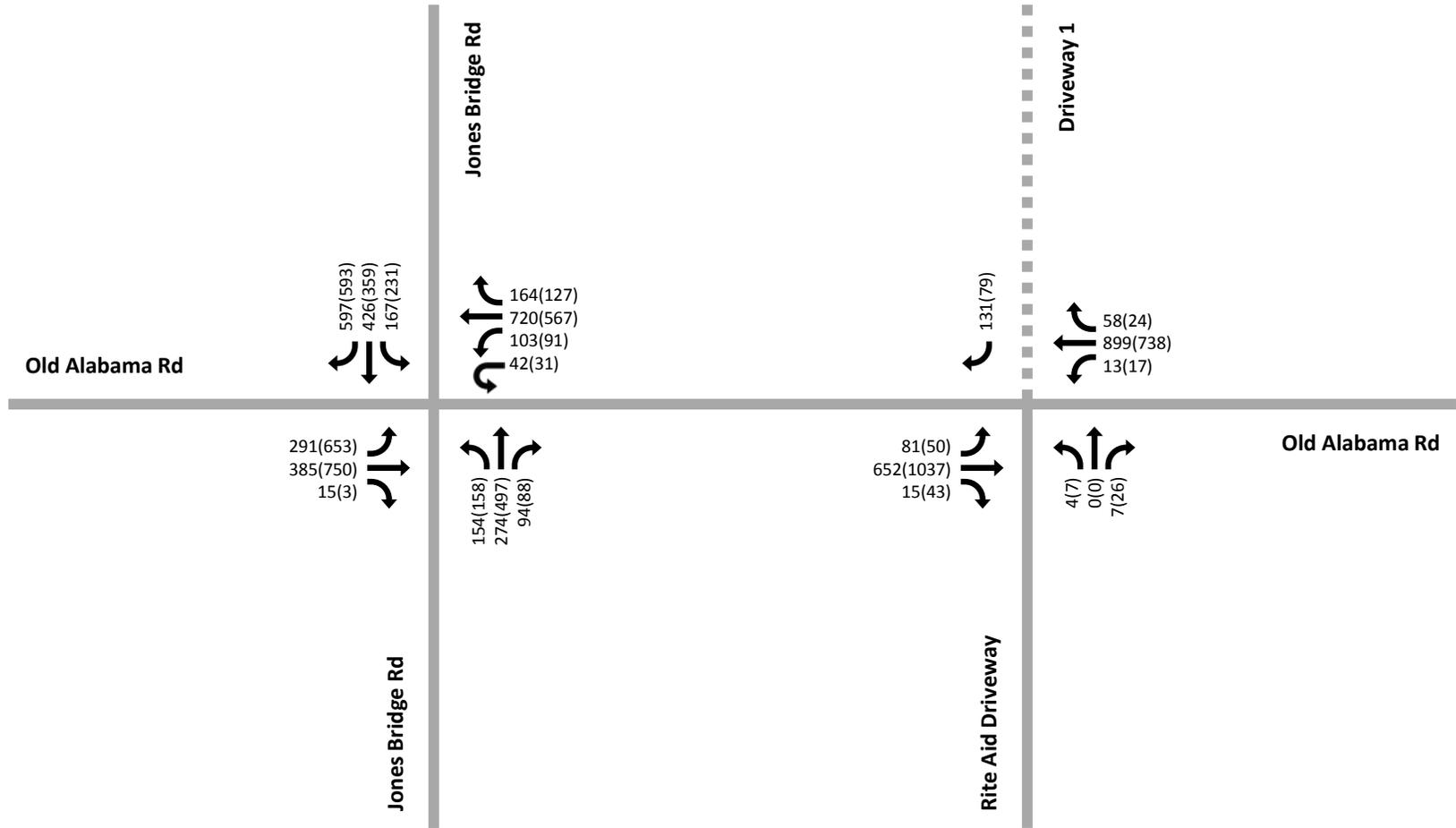
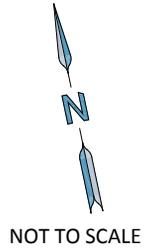
■ ■ ■ ■ ■ Proposed Driveway



# Figure 17: Future (2017) Traffic Volumes – Scenario 2: Right-Out

##(##) → AM (PM) Peak Hour Traffic Volume

■ ■ ■ ■ ■ Proposed Driveway



#### 4.5. Turn Lane Analysis

Turn lane warrants were analyzed for the site driveway on Old Alabama Rd. Turn lane warrants were studied per NCHRP Report 457: Evaluating Intersection Improvements which evaluates the necessity of a turn lane using the amount of turning movements with advancing and opposing volumes. The City of Johns Creek municipal code also has requirements for turn lanes. For a two lane road way with a speed limit of greater than 40 mph a deceleration lane is required for a peak hour turning movement of seven (7) vehicles or greater. Additionally, the deceleration lane storage should include a full width storage of 175 feet and a taper of 100 feet, for a 45 mph roadway. The summarized results of the NCHRP 457 and Johns Creek Muni Code turn lane warrants are presented in Table 5. Full NCHRP: 457 turn lane warrant calculations are attached in Appendix EF.

Table 5: NCHRP Turn Lane Warrant Analysis

Turn Lane	NCHRP 457	Johns Creek
Right-Turn	Yes	Yes
Left-Turn	Yes	Yes

Turn lanes are required for both the left and right-turn movements under both NCHRP and City of Johns Creek turn lane warrants. Due to geometric constraints, the EB left-turn lane length can only have a maximum storage bay of 50 ft with a 50 ft taper. The Old Alabama Road section just to the east of site driveways is a two lane section. The taper to an additional through lane in the westbound direction (for a four-lane section) begins exactly at the location of the site driveway. Adding an additional taper for the westbound right turn deceleration lane is anticipated to cause some driver confusion. As such, we recommend starting this right-turn deceleration lane taper where the additional westbound through lane attains full width. This will reduce the length of the deceleration lane but will reduce driver confusion.

#### 4.6. Future Conditions Capacity Analysis

Build-out future conditions were analyzed for capacity analysis using the *Synchro 9.1* model for AM and PM peak periods. The results are shown by lane group movement. Average vehicular delays and level of service, as defined by the Highway Capacity Manual (HCM) 2010, are presented. Full *Synchro* outputs are included in Appendix C. Current signal timings for the intersection of Jones Bridge Rd at Old Alabama Rd were provided by the City of Johns Creek and are attached in Appendix D.

##### 4.6.1. Scenario 1: Full Access

Scenario 1 analyzes the development with a single full-access driveway to Old Alabama Rd. The results of the capacity analysis are shown in Table 6.

**Table 6: Future Conditions Capacity Analysis – Scenario 1: Full Access**

Intersection	Control	Lane Group Movement	AM Peak Hour				PM Peak Hour			
			Delay (s)	LOS	95 <sup>th</sup> % Queue (ft)	Intersection LOS	Delay (s)	LOS	95 <sup>th</sup> % Queue (ft)	Intersection LOS
Old Alabama Rd at Jones Bridge Rd	Signal Control	EBL	61.9	E	185	F	103.1	F	2044	F
		EBT/R	37.4	D	298		155.4	F	2076	
		WBL	40.8	D	212		66.4	E	201	
		WBT	36.9	D	282		59.8	E	270	
		WBR	31.7	C	201		48.2	D	183	
		NBL	48.3	D	143		41.0	D	202	
		NBT	37.6	D	165		42.0	D	231	
		NBR	37.0	D	47		37.9	D	62	
		SBL	30.6	C	275		46.8	D	256	
		SBT	81.8	F	708		52.9	D	415	
		SBR	312.9	F	316		227.1	F	303	
Old Alabama Rd at Rite Aid Driveway/ Driveway 1	Side-Street Stop Control	EBL	11.2	B	60	-	10.1	B	55	-
		EBT	0.0	A	47		0.0	A	28	
		EBR	0.0	A	0		0.0	A	0	
		WBL	9.1	A	24		10.6	A	25	
		WBT/R	0.0	A	32		0.0	A	33	
		NBL/T/R	30.0	D	24		37.0	E	43	
		SBL/T/R	286.7	F	513		337.8	F	112	

**Old Alabama at Jones Bridge Rd:**

All turning movements are expected to maintain the same level of service as existing conditions with minimal changes in delays.

**Old Alabama Rd at Driveway 1 / Rite Aid:**

The EB and WB approaches at the intersection are expected to operate under LOS B or better during both peak hours with no significant queues.

The NB approach drops from a LOS of C/D to a LOS of D/E for AM/PM peak periods. The SB approach experiences a LOS F during both peak periods. Long delays can be attributed to large volumes on Old Alabama Rd not providing sufficient gaps for turning vehicles. Due to geometric constraints, the EB left-turn lane length could have a maximum storage bay of 50 ft with a 50 ft taper. The capacity analysis shows that the 95<sup>th</sup> percentile queue for the EB left-turn is expected to be approximately 60 ft. The turn lane will be able to service the queues for the left-turn.

Additional analysis was performed for the unsignalized intersection to determine the impacts of separating the southbound left/through and right-turn lanes. The results are summarized in Table 7.

**Table 7: Capacity Analysis - Scenario 1 with Separate Outbound Turn Lanes**

Intersection	Control	Lane Group Movement	AM Peak Hour				PM Peak Hour			
			Delay (s)	LOS	95 <sup>th</sup> % Queue (ft)	Intersection LOS	Delay (s)	LOS	95 <sup>th</sup> % Queue (ft)	Intersection LOS
Old Alabama Rd at Rite Aid Driveway/ Driveway 1	Side-Street Stop Control	EBL	11.2	B	63	-	10.1	B	59	-
		EBT	0.0	A	61		0.0	A	0	
		EBR	0.0	A	0		0.0	A	5	
		WBL	9.1	A	21		10.6	B	28	
		WBT/R	0.0	A	55		0.0	A	36	
		NBL/T/R	30.0	D	27		37.0	E	60	
		SBL/T	359.5	F	76		473.4	F	77	
		SBR	13.8	B	111		12.1	B	67	

Separating the southbound left and right-turn lanes significantly improves the LOS for right-turning vehicles and improves queueing for both southbound left-turns and right-turns. All other movements remain the same. The outbound queues significantly drop, aiding in dissipating traffic internal to the site.

**4.6.2. Scenario 2: Right-Out**

Scenario 2 analyzes the development with a single driveway to Old Alabama Rd, vehicles exiting the development will be restricted to a right-out only movement, however inbound vehicles are unrestricted. Due to the right-out only operation, vehicles are anticipated to make a U-turn at the signalized intersection of Old Alabama Rd at Jones Bridge Rd. This will cause the right-turning vehicles from the site to weave over two through lanes on Old Alabama Road to access the westbound left-turn lane. Due the constraints of HCM 2010 analysis, the U-turns were analyzed as left-turns. The resulting delay will be similar to that of u-turning vehicles. The results of the capacity analysis are shown in Table 6.

**Table 8: Future Conditions Capacity Analysis – Scenario 2: Right-Out**

Intersection	Control	Lane Group Movement	AM Peak Hour				PM Peak Hour			
			Delay (s)	LOS	95 <sup>th</sup> % Queue (ft)	Intersection LOS	Delay (s)	LOS	95 <sup>th</sup> % Queue (ft)	Intersection LOS
Old Alabama Rd at Jones Bridge Rd	Signal Control	EBL	61.9	E	169	F	103.1	F	2354	F
		EBT/R	37.4	D	309		155.4	F	2199	
		WBL	43.5	D	236		84.2	F	211	
		WBT	36.9	D	294		59.8	E	295	
		WBR	31.7	C	196		48.2	D	180	
		NBL	48.3	D	140		41.0	D	180	
		NBT	37.6	D	152		42.0	D	248	
		NBR	37.0	D	43		37.9	D	135	
		SBL	30.6	C	261		46.8	D	245	
		SBT	81.8	F	1046		52.9	D	573	
		SBR	312.9	F	821		227.1	F	307	
Old Alabama Rd at Rite Aid Driveway/ Driveway 1	Side-Street Stop Control	EBL	10.8	B	63	-	10.0	B	54	-
		EBT	0.0	A	27		0.0	A	72	
		EBR	0.0	A	0		0.0	A	0	
		WBL	9.3	A	23		10.7	B	22	
		WBT/R	0.0	A	81		0.0	A	54	
		NBL/T/R	35.0	E	29		41.1	E	42	
		SBR	14.3	B	73		12.4	B	44	

**Old Alabama at Jones Bridge Rd:**

LOS and queueing during the AM peak period remains similar to that of Scenario 1. However, the additional westbound-left-turn volume during the PM peak period degrades the LOS from an E to an F. The analysis was performed with existing signal timings. With this change in traffic volumes for the U-turning movement, signal timing may need to be upgraded to improve LOS at this intersection. The anticipated queues for the westbound left/ U-turning movements increase to 236 feet and thus will spill back into the eastbound left-turn lane planned for the site driveway access.

**Old Alabama Rd at Driveway 1 / Rite Aid:**

The EB and WB approaches at the intersection operate similar to Scenario 1.

The NB approach drops from a LOS of C/D to a LOS of E/E for AM/PM peak periods, compared to the D/E of Scenario1. The SB approach improves dramatically from LOS F as seen in Scenario 1 to a LOS of B.

## 5. Conclusions and Recommendations

A mixed-use development is planned in the NE quadrant of the intersection of Jones Bridge Rd at Old Alabama Rd. The development will include a 2,620 SF coffee/doughnut shop with a drive-through window and 8,130 SF of retail space. The parcel is currently undeveloped. A capacity analysis was performed for both existing and proposed conditions in order to evaluate the impact that the proposed development will have on the adjacent roadways and intersections. Turn lane warrants per NCHRP and City of Johns Creek muni code recommendations were evaluated to determine the need for turn lanes at the driveway.

The following list summarizes the conclusions and recommendations for this study:

### **Jones Bridge Rd at Old Alabama Rd**

- Capacity analysis shows that the intersection currently operates at a level of service F due to the heavy SBR and conflicting WBT traffic volumes during the AM peak hour.
- During the PM peak hour, over 650 vehicles make an EBL onto Jones Bridge Rd, causing heavy delays for this movement.
- Two scenarios at the project driveway, a full access driveway and a right-in right-out, left-in only driveway, were analyzed to understand their effects on the signalized intersection of Old Alabama Road and Jones Bridge Road. The scenario with a full access (Scenario 1) at the site driveway does not have any significant effects at this intersection. The other scenario (right-in right-out left-in only, Scenario 2) adds more U-turning traffic at the signalized intersection, thus degrading the Level of Service (LOS) from an E to an F.
- Significant queueing is observed in both the existing and future scenarios.
  - During the AM peak period the southbound vehicles queue past the provided turn lane capacity during existing conditions and will continue to do so in future conditions.
  - During the PM peak period the eastbound vehicles queue significantly in existing conditions, past the existing Rite Aid Driveway and will continue to do so in the future scenarios.

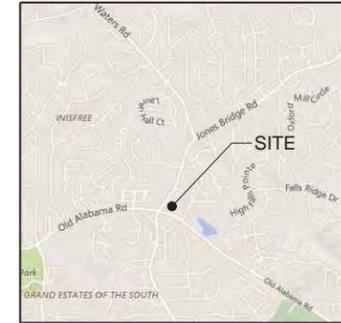
### **Old Alabama Rd at Rite Aid Driveway/Driveway 1**

- Proposed site driveway on Old Alabama Rd that will be located 360 feet to the east of the Jones Bridge Rd, across the Rite Aid Driveway.
- Capacity analysis shows that the intersection currently operates at LOS D or better during both peak hours.

- Scenario 1: Full Access
  - EB and WB movements continue to operate at LOS B or better
  - The NB approach (Rite Aid driveway) drops from a LOS of C/D to a LOS of D/E for AM/PM peak periods.
  - The SB approach (site driveway) experiences a LOS F during both peak periods. Long delays and queues can be attributed to large volumes on Old Alabama Rd not providing sufficient gaps for turning vehicles.
  - When analyzing the driveway as having separate left/through and right-turn lanes the LOS for the right-turns improves to a LOS of B, and queues for the left-turn decrease.
- Scenario 2: Right-in, Right-Out, and Left-in Only
  - The EB and WB approaches at the intersection operate similar to Scenario 1.
  - The NB approach drops from a LOS of C/D to a LOS of E/E for AM/PM peak periods, compared to the D/E of Scenario 1.
  - The SB approach improves dramatically from LOS F as seen in Scenario 1 to a LOS of B. Queues also see significant improvement.
- Turn Lanes
  - Under both future scenarios deceleration lanes will be warranted for both left-turn and right-turn movements into the development.
  - City of Johns Creek municipal code dictates that turn lanes should consist of full width storage of 175 feet and a taper of 100 feet, for a 45 mph roadway
- Due to geometric constraints, the EB left-turn could have a maximum of 50 ft of storage and a 50 ft taper. The EB left-turn queues are expected to be approximately 60 ft under both future scenarios. From a capacity standpoint, this left-turn lane will be sufficient. Based on the speed limit, the left-turn lane does not meet the minimum required length criterion.
- The Old Alabama Road section just to the east of site driveways is a two lane section. The taper to an additional through lane in the westbound direction (for a four-lane section) begins exactly at the location of the site driveway. Adding an additional taper for the westbound right turn deceleration lane is anticipated to cause some driver confusion. As such, we recommend starting this right-turn deceleration lane taper where the additional westbound through lane attains full width. This will reduce the length of the deceleration lane but will reduce driver confusion.

## Appendix A Site Plan

LINE	BEARING	DISTANCE
1	S 51°15'36" E	21.62'
2	S 56°42'26" E	19.20'
3	S 89°20'24" E	15.83'
4	S 89°42'09" E	39.59'
5	S 77°21'57" E	37.51'
6	N 74°32'56" E	29.71'
7	S 31°01'08" E	15.99'
8	N 81°14'42" E	16.64'
9	S 71°39'29" E	62.78'
10	N 29°21'35" E	14.65'



VICINITY MAP  
NOT TO SCALE

ENGINEER:  
**FORESITE**  
group

Foresite Group, Inc.  
5185 Peachtree Pkwy.  
Suite 240  
Norcross, GA 30092

o | 770.368.1399  
f | 770.368.1944  
w | www.fg-inc.net

DEVELOPER:

CONTACT:

PROJECT:

**REZONING SITE PLAN**

OLD ALABAMA ROAD  
JOHNS CREEK, GA

SEAL:

REVISIONS	DATE
CITY COMMENTS	8/30/2016
CITY COMMENTS	9/7/2016
CITY COMMENTS	9/23/2016

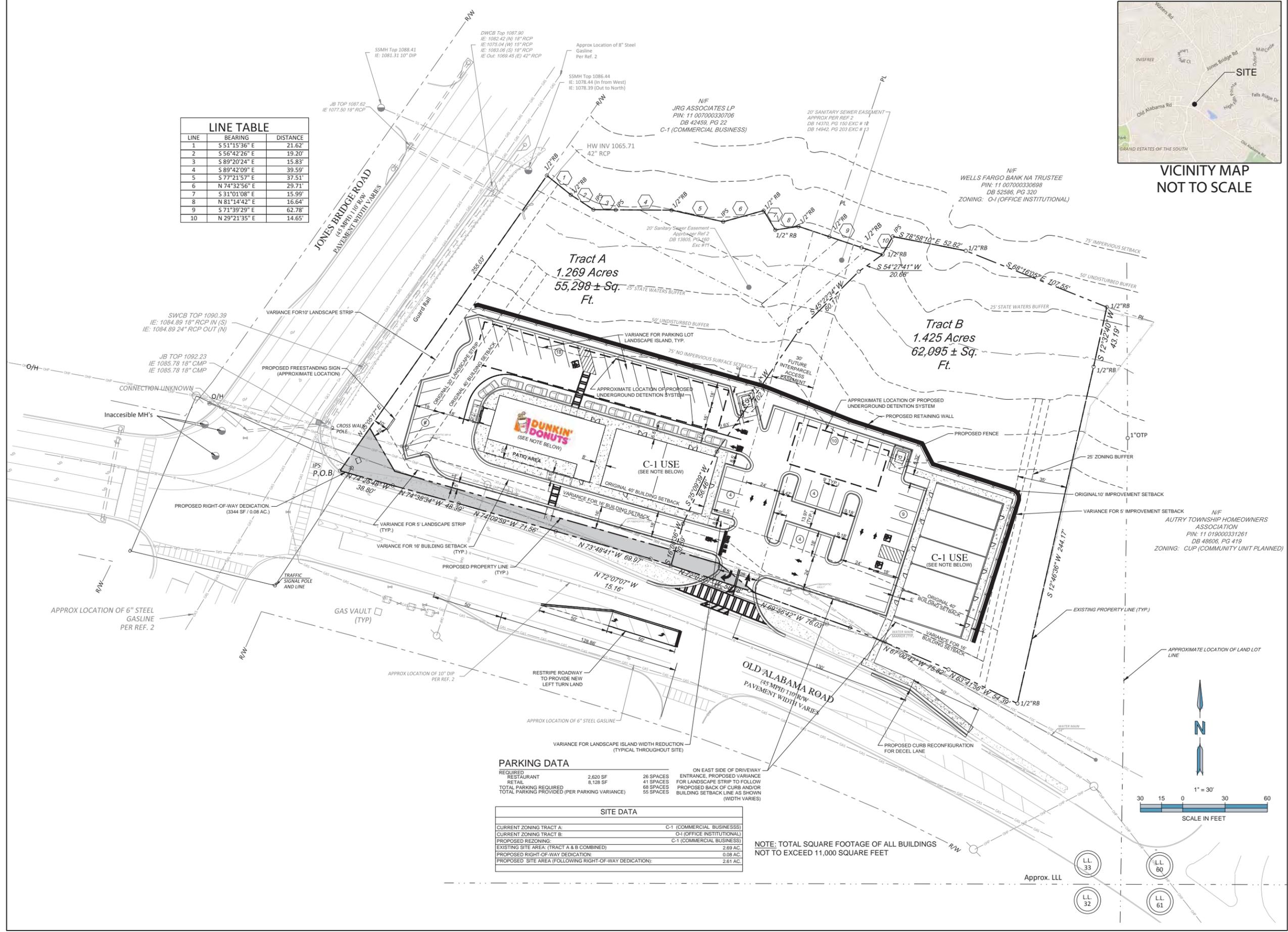
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DRAWING BY: TWV  
JURISDICTION: JOHNS CREEK, GA  
DATE: AUGUST 2, 2016  
SCALE: 1" = 30'  
TITLE:

SHEET NUMBER:

1 OF 3

COMMENTS: <NOT RELEASED FOR CONSTRUCTION>

JOB/FILE NUMBER: 658.002



**PARKING DATA**

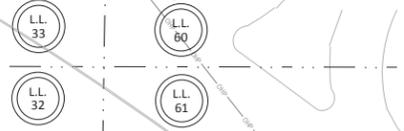
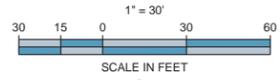
REQUIRED	RESTAURANT	RETAIL	TOTAL PARKING REQUIRED	TOTAL PARKING PROVIDED (PER PARKING VARIANCE)
2,620 SF	26 SPACES	41 SPACES	68 SPACES	55 SPACES

ON EAST SIDE OF DRIVEWAY ENTRANCE, PROPOSED VARIANCE FOR LANDSCAPE STRIP TO FOLLOW PROPOSED BACK OF CURB AND/OR BUILDING SETBACK LINE AS SHOWN (WIDTH VARIES)

**SITE DATA**

CURRENT ZONING TRACT A:	C-1 (COMMERCIAL BUSINESS)
CURRENT ZONING TRACT B:	O-1 (OFFICE INSTITUTIONAL)
PROPOSED REZONING:	C-1 (COMMERCIAL BUSINESS)
EXISTING SITE AREA: (TRACT A & B COMBINED)	2.69 AC.
PROPOSED RIGHT-OF-WAY DEDICATION:	0.08 AC.
PROPOSED SITE AREA (FOLLOWING RIGHT-OF-WAY DEDICATION):	2.61 AC.

NOTE: TOTAL SQUARE FOOTAGE OF ALL BUILDINGS NOT TO EXCEED 11,000 SQUARE FEET



## Appendix B Traffic Counts





# ITM Peak Hour Summary

Prepared by:



National Data & Surveying Services

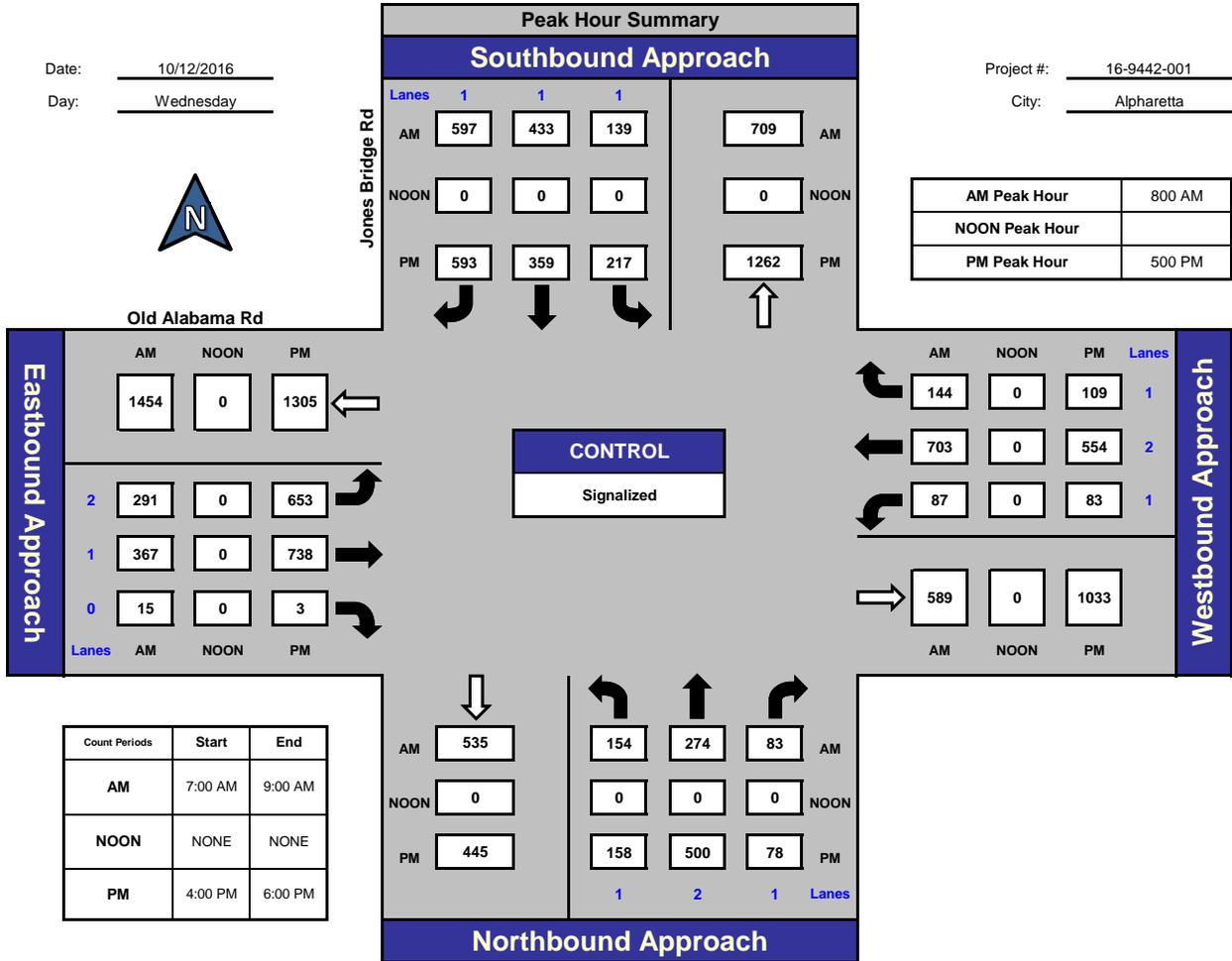
## Jones Bridge Rd and Old Alabama Rd , Alpharetta

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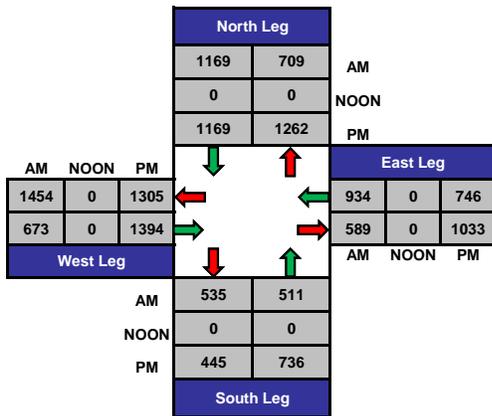
Day: Wednesday

Project #: 16-9442-001

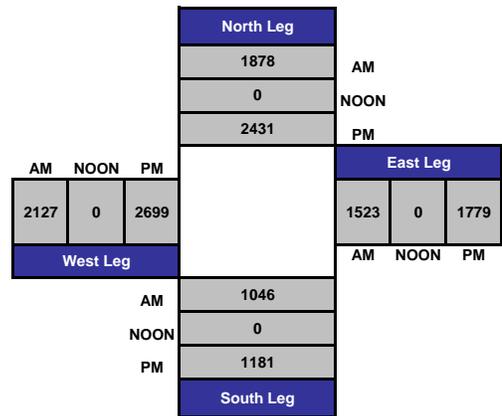
City: Alpharetta



### Total Ins & Outs



### Total Volume Per Leg



Project ID: 16-9442-002

Location: Rite Aid Pharmacy Dwy & Old Alabama Rd  
 City: Alpharetta

Day: Wednesday  
 Date: 10/12/2016

Peak Start Times	
AM	7:00 AM
MD	12:00 AM
PM	4:00 PM

Groups Printed - Cars, PU, Vans - Heavy Trucks

Start Time	Rite Aid Pharmacy Dwy Southbound					Old Alabama Rd Westbound					Rite Aid Pharmacy Dwy Northbound					Old Alabama Rd Eastbound					Int. Total
	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	Rgt	Thru	Left	Peds	App. Total	
7:00 AM	0	0	0	0	0	0	199	4	0	203	2	0	0	0	2	3	97	0	0	100	305
7:15 AM	0	0	0	0	0	0	178	0	0	178	0	0	1	0	1	2	139	0	0	141	320
7:30 AM	0	0	0	0	0	0	202	2	0	204	2	0	0	0	2	4	177	0	0	181	387
7:45 AM	0	0	0	0	0	0	252	3	0	255	0	0	1	0	1	2	184	0	0	186	442
Total	0	0	0	0	0	0	831	9	0	840	4	0	2	0	6	11	597	0	0	608	1454
8:00 AM	0	0	0	0	0	0	250	3	0	253	1	0	1	0	2	7	138	0	0	145	400
8:15 AM	0	0	0	0	0	0	199	3	0	202	4	0	1	0	5	5	160	0	0	165	372
8:30 AM	0	0	0	0	0	0	234	4	0	238	2	0	1	0	3	1	151	0	0	152	393
8:45 AM	0	0	0	0	0	0	247	1	0	248	2	0	2	0	4	7	120	0	0	127	379
Total	0	0	0	0	0	0	930	11	0	941	9	0	5	0	14	20	569	0	0	589	1544
***BREAK***																					
4:00 PM	0	0	0	0	0	0	162	4	0	166	6	0	2	0	8	14	235	0	0	249	423
4:15 PM	0	0	0	0	0	0	200	3	0	203	9	0	1	0	10	19	222	0	0	241	454
4:30 PM	0	0	0	0	0	0	202	8	0	210	4	0	2	0	6	10	199	0	0	209	425
4:45 PM	0	0	0	0	0	0	180	5	0	185	11	0	2	0	13	15	260	0	0	275	473
Total	0	0	0	0	0	0	744	20	0	764	30	0	7	0	37	58	916	0	0	974	1775
5:00 PM	0	0	0	0	0	0	170	3	0	173	5	0	1	0	6	6	262	0	0	268	447
5:15 PM	0	0	0	0	0	0	219	5	0	224	6	0	2	0	8	8	250	0	0	258	490
5:30 PM	0	0	0	0	0	0	179	4	0	183	4	0	2	0	6	14	250	0	0	264	453
5:45 PM	0	0	0	0	0	0	171	3	0	174	9	0	0	0	9	14	226	0	0	240	423
Total	0	0	0	0	0	0	739	15	0	754	24	0	5	0	29	42	988	0	0	1030	1813
Grand Total	0	0	0	0	0	0	3244	55	0	3299	67	0	19	0	86	131	3070	0	0	3201	6586
Apprch %	0.0	0.0	0.0	0.0	0.0	0.0	98.3	1.7	0.0	77.9	0.0	0.0	22.1	0.0	4.1	4.1	95.9	0.0	0.0	0.0	
Total %	0.0	0.0	0.0	0.0	0.0	0.0	49.3	0.8	0.0	50.1	1.0	0.0	0.3	0.0	1.3	2.0	46.6	0.0	0.0	48.6	
Cars, PU, Vans	0	0	0	0	0	0	3244	55	0	3299	67	0	19	0	86	131	3070	0	0	3201	6586
% Cars, PU, Vans	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	100.0	100.0	0.0	0.0	100.0	100.0
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
%Heavy Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



# ITM Peak Hour Summary

Prepared by:

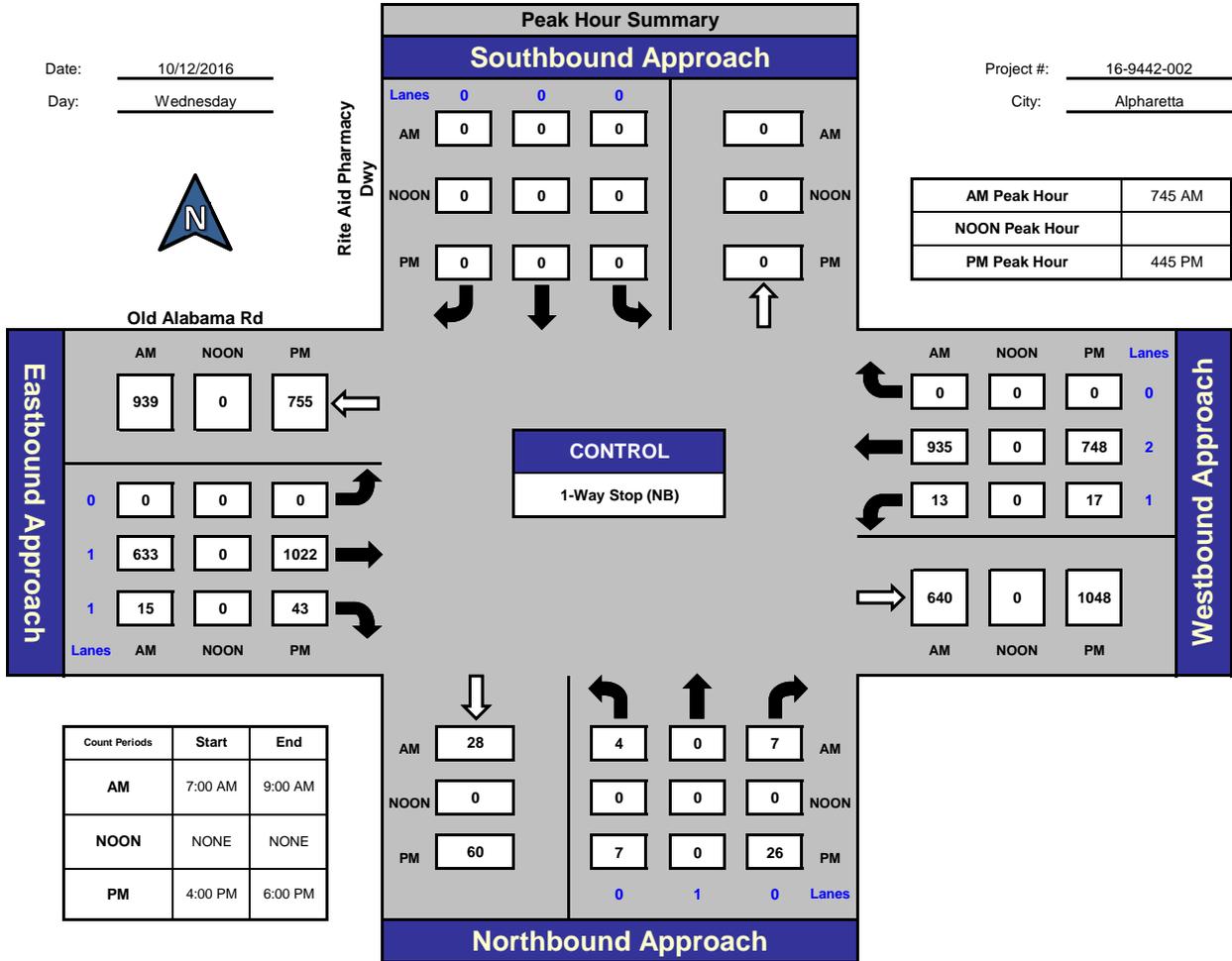


National Data & Surveying Services

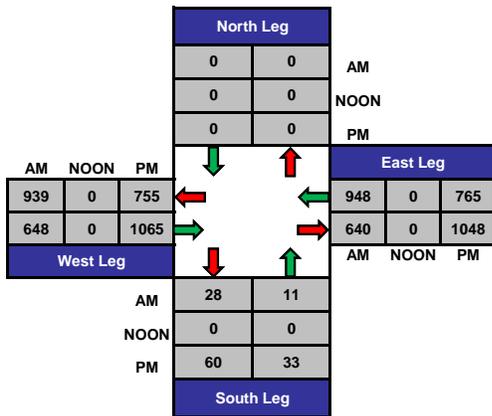
## Rite Aid Pharmacy Dwy and Old Alabama Rd , Alpharetta

Date: 10/12/2016  
Day: Wednesday

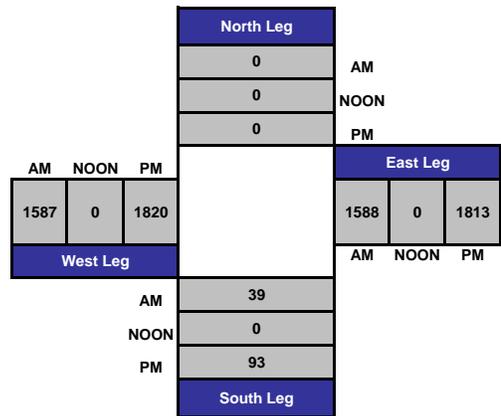
Project #: 16-9442-002  
City: Alpharetta



### Total Ins & Outs



### Total Volume Per Leg



**VOLUME**

Old Alabama Rd Bet. Rite Aid Pharmacy Dwy & Autry Vue Ln

Day: Wednesday  
Date: 10/12/2016

City: Alpharetta  
Project #: GA16\_9443\_001

DAILY TOTALS					NB	SB	EB		WB	Total		
					0	0	9,493	9,788	19,281			
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL	
0:00			8	5	13	12:00			116	134	250	
0:15			14	6	20	12:15			104	123	227	
0:30			9	4	13	12:30			114	129	243	
0:45			3	34	1	16	12:45		124	458	137	523
1:00			2	4	6	13:00			107	116	223	
1:15			3	5	8	13:15			113	127	240	
1:30			4	2	6	13:30			129	121	250	
1:45			5	14	0	11	13:45		129	478	140	504
2:00			5	2	7	14:00			127	150	277	
2:15			2	2	4	14:15			144	136	280	
2:30			5	3	8	14:30			166	121	287	
2:45			2	14	2	9	14:45		179	616	157	564
3:00			1	1	2	15:00			158	154	312	
3:15			4	2	6	15:15			196	150	346	
3:30			2	2	4	15:30			197	141	338	
3:45			2	9	0	5	15:45		194	745	139	584
4:00			4	6	10	16:00			253	162	415	
4:15			3	1	4	16:15			221	213	434	
4:30			7	9	16	16:30			213	199	412	
4:45			5	19	11	27	16:45		259	946	187	761
5:00			9	7	16	17:00			280	169	449	
5:15			22	12	34	17:15			256	224	480	
5:30			21	26	47	17:30			243	191	434	
5:45			25	77	58	103	17:45		245	1024	165	749
6:00			31	46	77	18:00			229	192	421	
6:15			53	106	159	18:15			233	143	376	
6:30			63	146	209	18:30			203	168	371	
6:45			88	235	169	467	18:45		192	857	133	636
7:00			93	204	297	19:00			194	121	315	
7:15			147	177	324	19:15			164	143	307	
7:30			172	204	376	19:30			140	112	252	
7:45			191	603	255	840	19:45		132	630	98	474
8:00			132	255	387	20:00			101	86	187	
8:15			171	199	370	20:15			110	54	164	
8:30			144	246	390	20:30			86	70	156	
8:45			130	577	243	943	20:45		84	381	77	287
9:00			104	165	269	21:00			83	68	151	
9:15			109	179	288	21:15			58	71	129	
9:30			110	200	310	21:30			82	56	138	
9:45			111	434	183	727	21:45		59	282	53	248
10:00			88	185	273	22:00			52	36	88	
10:15			113	148	261	22:15			47	50	97	
10:30			102	122	224	22:30			26	24	50	
10:45			119	422	144	599	22:45		23	148	30	140
11:00			99	123	222	23:00			21	19	40	
11:15			114	111	225	23:15			16	20	36	
11:30			114	142	256	23:30			14	10	24	
11:45			101	428	143	519	23:45		11	62	3	52
<b>TOTALS</b>			2866	4266	7132	<b>TOTALS</b>			6627	5522	12149	
<b>SPLIT %</b>			40.2%	59.8%	37.0%	<b>SPLIT %</b>			54.5%	45.5%	63.0%	

DAILY TOTALS					NB	SB	EB		WB	Total	
					0	0	9,493	9,788	19,281		
AM Peak Hour			7:30	7:45	7:45	PM Peak Hour			16:45	16:30	16:45
AM Pk Volume			666	955	1593	PM Pk Volume			1038	779	1809
Pk Hr Factor			0.872	0.936	0.893	Pk Hr Factor			0.927	0.869	0.942
7 - 9 Volume	0	0	1180	1783	2963	4 - 6 Volume	0	0	1970	1510	3480
7 - 9 Peak Hour			7:30	7:45	7:45	4 - 6 Peak Hour			16:45	16:30	16:45
7 - 9 Pk Volume	0	0	666	955	1593	4 - 6 Pk Volume	0	0	1038	779	1809
Pk Hr Factor	0.000	0.000	0.872	0.936	0.893	Pk Hr Factor	0.000	0.000	0.927	0.869	0.942

## Appendix C Synchro Capacity and Queueing Analysis Reports

HCM 2010 Signalized Intersection Summary  
 1: Jones Bridge Rd & Old Alabama Rd

10/17/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	291	367	15	87	703	144	154	274	83	139	433	597
Future Volume (veh/h)	291	367	15	87	703	144	154	274	83	139	433	597
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	327	412	17	93	748	153	166	295	89	148	461	635
Adj No. of Lanes	2	1	0	1	2	1	1	2	1	1	1	1
Peak Hour Factor	0.89	0.89	0.89	0.94	0.94	0.94	0.93	0.93	0.93	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	397	645	27	364	1178	527	212	908	406	388	463	393
Arrive On Green	0.12	0.36	0.36	0.09	0.33	0.33	0.09	0.26	0.26	0.08	0.25	0.25
Sat Flow, veh/h	3442	1777	73	1774	3539	1583	1774	3539	1583	1774	1863	1583
Grp Volume(v), veh/h	327	0	429	93	748	153	166	295	89	148	461	635
Grp Sat Flow(s),veh/h/ln	1721	0	1850	1774	1770	1583	1774	1770	1583	1774	1863	1583
Q Serve(g_s), s	11.1	0.0	23.1	0.0	21.5	8.6	8.3	8.1	5.3	7.4	29.7	22.0
Cycle Q Clear(g_c), s	11.1	0.0	23.1	0.0	21.5	8.6	8.3	8.1	5.3	7.4	29.7	22.0
Prop In Lane	1.00		0.04	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	397	0	672	364	1178	527	212	908	406	388	463	393
V/C Ratio(X)	0.82	0.00	0.64	0.26	0.64	0.29	0.78	0.32	0.22	0.38	1.00	1.61
Avail Cap(c_a), veh/h	493	0	672	364	1178	527	217	908	406	452	463	393
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(l)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.9	0.0	31.7	38.1	33.9	29.6	33.1	36.2	35.1	29.9	45.0	24.6
Incr Delay (d2), s/veh	10.0	0.0	4.6	0.4	2.6	1.4	16.6	0.2	0.3	0.6	41.0	288.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	0.0	12.7	2.6	10.9	3.9	5.0	4.0	2.4	3.6	20.5	41.1
LnGrp Delay(d),s/veh	61.9	0.0	36.3	38.5	36.5	31.0	49.7	36.4	35.4	30.5	86.1	312.9
LnGrp LOS	E		D	D	D	C	D	D	D	C	F	F
Approach Vol, veh/h		756			994			550			1244	
Approach Delay, s/veh		47.4			35.8			40.2			195.2	
Approach LOS		D			D			D			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.6	46.6	16.6	36.1	17.3	50.0	15.6	37.1				
Change Period (Y+Rc), s	* 6.8	* 6.7	6.4	* 6.3	* 6.7	* 6.4	* 6.2	6.3				
Max Green Setting (Gmax), s	17	* 36	10.6	* 30	* 10	* 44	* 14	26.7				
Max Q Clear Time (g_c+I1), s	13.5	23.5	10.3	31.7	2.0	25.1	9.4	10.1				
Green Ext Time (p_c), s	0.7	10.1	0.0	0.0	5.5	8.3	0.2	11.7				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			94.9									
HCM 2010 LOS			F									
<b>Notes</b>												

**Intersection**

Int Delay, s/veh 0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↓	↑↑	↓	
Traffic Vol, veh/h	633	15	13	935	4	7
Future Vol, veh/h	633	15	13	935	4	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	115	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	93	93	55	55
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	728	17	14	1005	7	13

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	728	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	4.13	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	2.219	-
Pot Cap-1 Maneuver	-	-	873	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	873	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	19.1
HCM LOS			C

Minor Lane/Major Mvm	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	276	-	-	873	-
HCM Lane V/C Ratio	0.072	-	-	0.016	-
HCM Control Delay (s)	19.1	-	-	9.2	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

HCM 2010 Signalized Intersection Summary  
 1: Jones Bridge Rd & Old Alabama Rd

10/17/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 			 	 		 	 	 	 	 	 
Traffic Volume (veh/h)	653	738	3	83	554	109	158	500	78	217	359	593
Future Volume (veh/h)	653	738	3	83	554	109	158	500	78	217	359	593
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	726	820	3	104	692	136	165	521	81	238	395	652
Adj No. of Lanes	2	1	0	1	2	1	1	2	1	1	1	1
Peak Hour Factor	0.90	0.90	0.90	0.80	0.80	0.80	0.96	0.96	0.96	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	693	684	3	187	852	381	246	1019	456	335	543	461
Arrive On Green	0.20	0.37	0.37	0.08	0.24	0.24	0.08	0.29	0.29	0.08	0.29	0.29
Sat Flow, veh/h	3442	1855	7	1774	3539	1583	1774	3539	1583	1774	1863	1583
Grp Volume(v), veh/h	726	0	823	104	692	136	165	521	81	238	395	652
Grp Sat Flow(s),veh/h/ln	1721	0	1862	1774	1770	1583	1774	1770	1583	1774	1863	1583
Q Serve(g_s), s	28.2	0.0	51.6	3.7	25.8	10.0	9.1	17.2	5.4	11.8	26.7	31.0
Cycle Q Clear(g_c), s	28.2	0.0	51.6	3.7	25.8	10.0	9.1	17.2	5.4	11.8	26.7	31.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	693	0	686	187	852	381	246	1019	456	335	543	461
V/C Ratio(X)	1.05	0.00	1.20	0.56	0.81	0.36	0.67	0.51	0.18	0.71	0.73	1.41
Avail Cap(c_a), veh/h	693	0	686	187	852	381	252	1029	460	335	543	461
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.9	0.0	44.2	60.5	50.2	44.1	34.5	41.6	37.4	35.5	44.6	28.7
Incr Delay (d2), s/veh	47.2	0.0	103.5	3.6	8.3	2.6	6.5	0.4	0.2	6.8	8.3	198.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.9	0.0	46.2	4.0	13.6	4.6	4.8	8.5	2.4	3.3	15.0	38.9
LnGrp Delay(d),s/veh	103.1	0.0	147.7	64.1	58.5	46.7	41.0	42.1	37.6	42.4	52.9	227.1
LnGrp LOS	F		F	E	E	D	D	D	D	D	D	F
Approach Vol, veh/h		1549			932			767			1285	
Approach Delay, s/veh		126.8			57.4			41.3			139.3	
Approach LOS		F			E			D			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	35.0	40.4	17.5	47.1	17.4	58.0	18.0	46.6				
Change Period (Y+Rc), s	* 6.8	* 6.7	6.4	* 6.3	* 6.7	* 6.4	* 6.2	6.3				
Max Green Setting (Gmax), s	28	* 33	11.6	* 41	* 10	* 52	* 12	40.7				
Max Q Clear Time (g_c+I), s	10.2	27.8	11.1	33.0	5.7	53.6	13.8	19.2				
Green Ext Time (p_c), s	0.0	4.5	0.0	6.6	3.8	0.0	0.0	15.9				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			101.6									
HCM 2010 LOS			F									
<b>Notes</b>												

**Intersection**

Int Delay, s/veh 0.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↓	↑↑	↓	
Traffic Vol, veh/h	1022	43	17	748	7	26
Future Vol, veh/h	1022	43	17	748	7	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	115	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	85	85	64	64
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1054	44	20	880	11	41

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	1054	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	4.13	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	2.219	-
Pot Cap-1 Maneuver	-	-	658	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	658	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	27.6
HCM LOS			D

Minor Lane/Major Mvm	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	210	-	-	658	-
HCM Lane V/C Ratio	0.246	-	-	0.03	-
HCM Control Delay (s)	27.6	-	-	10.6	-
HCM Lane LOS	D	-	-	B	-
HCM 95th %tile Q(veh)	0.9	-	-	0.1	-

Intersection: 1: Jones Bridge Rd & Old Alabama Rd

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	L	TR	L	T	T	R	L	T	T	R	L
Maximum Queue (ft)	186	196	287	194	266	291	240	151	173	125	55	210
Average Queue (ft)	93	124	155	87	219	201	65	90	85	59	19	149
95th Queue (ft)	182	184	248	201	276	281	166	134	143	115	40	251
Link Distance (ft)		1967	1967		260	260			1296	1296		
Upstream Blk Time (%)					1	1	0					
Queuing Penalty (veh)					5	4	0					
Storage Bay Dist (ft)	460			145			140	145			190	110
Storage Blk Time (%)					23	19		0	1			11
Queuing Penalty (veh)					20	28		0	1			49

Intersection: 1: Jones Bridge Rd & Old Alabama Rd

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	799	535
Average Queue (ft)	382	247
95th Queue (ft)	692	428
Link Distance (ft)	1158	1158
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)	53	
Queuing Penalty (veh)	74	

Intersection: 2: Rite Aid Driveway & Old Alabama Rd

Movement	WB	WB	WB	NB
Directions Served	L	T	T	LR
Maximum Queue (ft)	54	30	31	47
Average Queue (ft)	10	1	4	10
95th Queue (ft)	34	10	20	31
Link Distance (ft)	136	136	136	416
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 182

Intersection: 1: Jones Bridge Rd & Old Alabama Rd

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	L	TR	L	T	T	R	L	T	T	R	L
Maximum Queue (ft)	550	2006	2030	194	274	279	240	132	230	212	81	210
Average Queue (ft)	352	1524	1700	91	213	187	49	86	163	140	26	190
95th Queue (ft)	547	2562	2407	205	292	277	134	135	212	199	65	242
Link Distance (ft)		1967	1967		260	260			1296	1296		
Upstream Blk Time (%)		42	48		3	2	0					
Queuing Penalty (veh)		0	0		12	6	0					
Storage Bay Dist (ft)	460			145			140	145			190	110
Storage Blk Time (%)	4	9		0	27	20		0	15	1		41
Queuing Penalty (veh)	13	30		0	22	22		0	24	1		149

Intersection: 1: Jones Bridge Rd & Old Alabama Rd

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	447	401
Average Queue (ft)	289	163
95th Queue (ft)	432	279
Link Distance (ft)	1158	1158
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)	38	
Queuing Penalty (veh)	82	

Intersection: 2: Rite Aid Driveway & Old Alabama Rd

Movement	EB	WB	WB	WB	NB
Directions Served	R	L	T	T	LR
Maximum Queue (ft)	58	53	111	31	84
Average Queue (ft)	2	15	9	2	21
95th Queue (ft)	19	42	52	15	52
Link Distance (ft)		136	136	136	416
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	115				
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 361

HCM 2010 Signalized Intersection Summary  
 1: Jones Bridge Rd & Old Alabama Rd

10/18/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 				 			 				
Traffic Volume (veh/h)	291	385	15	103	720	164	154	274	94	167	426	597
Future Volume (veh/h)	291	385	15	103	720	164	154	274	94	167	426	597
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	327	433	17	110	766	174	166	295	101	178	453	635
Adj No. of Lanes	2	1	0	1	2	1	1	2	1	1	1	1
Peak Hour Factor	0.89	0.89	0.89	0.94	0.94	0.94	0.93	0.93	0.93	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	397	647	25	349	1176	526	215	863	386	395	463	393
Arrive On Green	0.12	0.36	0.36	0.09	0.33	0.33	0.09	0.24	0.24	0.09	0.25	0.25
Sat Flow, veh/h	3442	1781	70	1774	3539	1583	1774	3539	1583	1774	1863	1583
Grp Volume(v), veh/h	327	0	450	110	766	174	166	295	101	178	453	635
Grp Sat Flow(s),veh/h/ln	1721	0	1850	1774	1770	1583	1774	1770	1583	1774	1863	1583
Q Serve(g_s), s	11.1	0.0	24.5	0.0	22.1	9.9	8.3	8.2	6.2	8.9	29.0	22.0
Cycle Q Clear(g_c), s	11.1	0.0	24.5	0.0	22.1	9.9	8.3	8.2	6.2	8.9	29.0	22.0
Prop In Lane	1.00		0.04	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	397	0	672	349	1176	526	215	863	386	395	463	393
V/C Ratio(X)	0.82	0.00	0.67	0.32	0.65	0.33	0.77	0.34	0.26	0.45	0.98	1.61
Avail Cap(c_a), veh/h	493	0	672	349	1176	526	220	863	386	436	463	393
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.9	0.0	32.1	40.3	34.1	30.0	33.3	37.4	36.6	29.8	44.8	24.6
Incr Delay (d2), s/veh	10.0	0.0	5.2	0.5	2.8	1.7	15.0	0.2	0.4	0.8	37.0	288.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	0.0	13.5	3.2	11.3	4.6	4.9	4.0	2.8	4.4	19.6	41.1
LnGrp Delay(d),s/veh	61.9	0.0	37.4	40.8	36.9	31.7	48.3	37.6	37.0	30.6	81.8	312.9
LnGrp LOS	E		D	D	D	C	D	D	D	C	F	F
Approach Vol, veh/h		777			1050			562			1266	
Approach Delay, s/veh		47.7			36.5			40.7			190.5	
Approach LOS		D			D			D			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.6	46.6	16.7	36.1	17.2	50.0	17.2	35.6				
Change Period (Y+Rc), s	* 6.8	* 6.7	6.4	* 6.3	* 6.7	* 6.4	* 6.2	6.3				
Max Green Setting (Gmax), s	17	* 36	10.6	* 30	* 10	* 44	* 14	26.7				
Max Q Clear Time (g_c+I1), s	11.3	24.1	10.3	31.0	2.0	26.5	10.9	10.2				
Green Ext Time (p_c), s	0.7	9.8	0.0	0.0	5.3	8.2	0.1	11.6				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			92.9									
HCM 2010 LOS			F									
<b>Notes</b>												

**Intersection**

Int Delay, s/veh 21

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↗		↕				↕	
Traffic Vol, veh/h	81	610	15	13	899	58	4	0	7	42	0	88
Future Vol, veh/h	81	610	15	13	899	58	4	0	7	42	0	88
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	50	-	115	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	93	93	93	55	55	55	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	93	701	17	14	967	62	7	0	13	46	0	96

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1029	0	0	701	0	0	1398	1944	701	1920	1913	515
Stage 1	-	-	-	-	-	-	887	887	-	1026	1026	-
Stage 2	-	-	-	-	-	-	511	1057	-	894	887	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.23	7.33	6.53	6.93
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	673	-	-	894	-	-	109	65	438	~ 45	68	506
Stage 1	-	-	-	-	-	-	338	361	-	252	311	-
Stage 2	-	-	-	-	-	-	514	301	-	335	361	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	673	-	-	894	-	-	78	55	438	~ 39	58	506
Mov Cap-2 Maneuver	-	-	-	-	-	-	78	55	-	~ 39	58	-
Stage 1	-	-	-	-	-	-	291	311	-	217	306	-
Stage 2	-	-	-	-	-	-	410	296	-	280	311	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	0.1	30	286.7
HCM LOS			D	F

Minor Lane/Major Mvm	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	164	673	-	-	894	-	-	104
HCM Lane V/C Ratio	0.122	0.138	-	-	0.016	-	-	1.359
HCM Control Delay (s)	30	11.2	-	-	9.1	-	-	286.7
HCM Lane LOS	D	B	-	-	A	-	-	F
HCM 95th %tile Q(veh)	0.4	0.5	-	-	0	-	-	10

**Notes**

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

HCM 2010 Signalized Intersection Summary  
 1: Jones Bridge Rd & Old Alabama Rd

10/18/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 				 			 				
Traffic Volume (veh/h)	653	750	3	91	567	127	158	497	88	231	359	593
Future Volume (veh/h)	653	750	3	91	567	127	158	497	88	231	359	593
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	726	833	3	114	709	159	165	518	92	254	395	652
Adj No. of Lanes	2	1	0	1	2	1	1	2	1	1	1	1
Peak Hour Factor	0.90	0.90	0.90	0.80	0.80	0.80	0.96	0.96	0.96	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	693	684	2	187	852	381	246	1019	456	335	543	461
Arrive On Green	0.20	0.37	0.37	0.08	0.24	0.24	0.08	0.29	0.29	0.08	0.29	0.29
Sat Flow, veh/h	3442	1855	7	1774	3539	1583	1774	3539	1583	1774	1863	1583
Grp Volume(v), veh/h	726	0	836	114	709	159	165	518	92	254	395	652
Grp Sat Flow(s),veh/h/ln	1721	0	1862	1774	1770	1583	1774	1770	1583	1774	1863	1583
Q Serve(g_s), s	28.2	0.0	51.6	4.5	26.6	11.9	9.1	17.1	6.2	11.8	26.7	31.0
Cycle Q Clear(g_c), s	28.2	0.0	51.6	4.5	26.6	11.9	9.1	17.1	6.2	11.8	26.7	31.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	693	0	686	187	852	381	246	1019	456	335	543	461
V/C Ratio(X)	1.05	0.00	1.22	0.61	0.83	0.42	0.67	0.51	0.20	0.76	0.73	1.41
Avail Cap(c_a), veh/h	693	0	686	187	852	381	252	1029	460	335	543	461
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(l)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.9	0.0	44.2	60.8	50.5	44.9	34.5	41.6	37.7	37.1	44.6	28.7
Incr Delay (d2), s/veh	47.2	0.0	111.2	5.6	9.3	3.3	6.5	0.4	0.2	9.6	8.3	198.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.9	0.0	47.7	4.5	14.1	5.5	4.8	8.4	2.7	4.4	15.0	38.9
LnGrp Delay(d),s/veh	103.1	0.0	155.4	66.4	59.8	48.2	41.0	42.0	37.9	46.8	52.9	227.1
LnGrp LOS	F		F	E	E	D	D	D	D	D	D	F
Approach Vol, veh/h		1562			982			775			1301	
Approach Delay, s/veh		131.1			58.7			41.3			139.0	
Approach LOS		F			E			D			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	35.0	40.4	17.5	47.1	17.4	58.0	18.0	46.6				
Change Period (Y+Rc), s	* 6.8	* 6.7	6.4	* 6.3	* 6.7	* 6.4	* 6.2	6.3				
Max Green Setting (Gmax), s	28	* 33	11.6	* 41	* 10	* 52	* 12	40.7				
Max Q Clear Time (g_c+I), s	10.2	28.6	11.1	33.0	6.5	53.6	13.8	19.1				
Green Ext Time (p_c), s	0.0	3.9	0.0	6.6	3.2	0.0	0.0	16.0				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			102.9									
HCM 2010 LOS			F									
<b>Notes</b>												

**Intersection**

Int Delay, s/veh 14.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↗		↕				↕	
Traffic Vol, veh/h	50	1007	43	17	738	24	7	0	26	31	0	48
Future Vol, veh/h	50	1007	43	17	738	24	7	0	26	31	0	48
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	50	-	115	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	85	85	85	64	64	64	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	52	1038	44	20	868	28	11	0	41	34	0	52

Major/Minor	Major1	Major2	Minor1	Minor2								
Conflicting Flow All	896	0	0	1038	0	0	1615	2077	1038	2084	2063	448
Stage 1	-	-	-	-	-	-	1141	1141	-	922	922	-
Stage 2	-	-	-	-	-	-	474	936	-	1162	1141	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.23	7.33	6.53	6.93
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	755	-	-	668	-	-	76	53	280	34	54	559
Stage 1	-	-	-	-	-	-	243	275	-	292	348	-
Stage 2	-	-	-	-	-	-	541	343	-	237	275	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	755	-	-	668	-	-	64	48	280	~ 27	49	559
Mov Cap-2 Maneuver	-	-	-	-	-	-	64	48	-	~ 27	49	-
Stage 1	-	-	-	-	-	-	226	256	-	272	338	-
Stage 2	-	-	-	-	-	-	476	333	-	189	256	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.2	37	\$ 337.8
HCM LOS			E	F

Minor Lane/Major Mvm	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	163	755	-	-	668	-	-	64
HCM Lane V/C Ratio	0.316	0.068	-	-	0.03	-	-	1.342
HCM Control Delay (s)	37	10.1	-	-	10.6	-	-	\$ 337.8
HCM Lane LOS	E	B	-	-	B	-	-	F
HCM 95th %tile Q(veh)	1.3	0.2	-	-	0.1	-	-	7.2

**Notes**

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

Queuing and Blocking Report  
With Improvements

10/18/2016

Intersection: 1: Jones Bridge Rd & Old Alabama Rd

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	L	TR	L	T	T	R	L	T	T	R	L
Maximum Queue (ft)	175	195	379	194	267	276	240	168	187	167	57	210
Average Queue (ft)	108	133	172	107	222	213	80	87	97	70	24	158
95th Queue (ft)	177	185	298	212	282	280	201	143	165	141	47	275
Link Distance (ft)		1967	1967		265	265			1296	1296		
Upstream Blk Time (%)					1	1						
Queuing Penalty (veh)					4	3						
Storage Bay Dist (ft)	460			145			140	145			190	110
Storage Blk Time (%)				0	26	25		1	2			9
Queuing Penalty (veh)				2	27	41		2	4			40

Intersection: 1: Jones Bridge Rd & Old Alabama Rd

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	806	390
Average Queue (ft)	403	185
95th Queue (ft)	708	316
Link Distance (ft)	1158	1158
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)	56	
Queuing Penalty (veh)	94	

Intersection: 2: Rite Aid Driveway/Driveway 1 & Old Alabama Rd

Movement	EB	EB	WB	WB	WB	NB	SB
Directions Served	L	T	L	T	TR	LTR	LTR
Maximum Queue (ft)	56	108	30	28	75	43	420
Average Queue (ft)	36	7	6	2	7	6	257
95th Queue (ft)	60	47	24	14	32	24	513
Link Distance (ft)		265	131	131	131	415	381
Upstream Blk Time (%)							51
Queuing Penalty (veh)							0
Storage Bay Dist (ft)	50						
Storage Blk Time (%)	7						
Queuing Penalty (veh)	43						

Network Summary

Network wide Queuing Penalty: 258

Intersection: 1: Jones Bridge Rd & Old Alabama Rd

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	L	TR	L	T	T	R	L	T	T	R	L
Maximum Queue (ft)	550	1982	2019	194	277	279	240	216	259	226	75	210
Average Queue (ft)	441	1200	1502	97	194	188	73	115	159	138	31	168
95th Queue (ft)	616	2044	2076	201	270	261	183	202	231	207	62	256
Link Distance (ft)		1967	1967		265	265			1296	1296		
Upstream Blk Time (%)		9	14		2	1						
Queuing Penalty (veh)		0	0		8	3						
Storage Bay Dist (ft)	460			145			140	145			190	110
Storage Blk Time (%)	18	28		1	21	21		9	11	1		18
Queuing Penalty (veh)	60	90		3	19	27		22	18	1		66

Intersection: 1: Jones Bridge Rd & Old Alabama Rd

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	441	425
Average Queue (ft)	278	165
95th Queue (ft)	415	303
Link Distance (ft)	1158	1158
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)	42	
Queuing Penalty (veh)	98	

Intersection: 2: Rite Aid Driveway/Driveway 1 & Old Alabama Rd

Movement	EB	EB	WB	WB	WB	NB	SB
Directions Served	L	T	L	T	TR	LTR	LTR
Maximum Queue (ft)	71	86	52	69	68	48	119
Average Queue (ft)	25	3	5	5	3	18	58
95th Queue (ft)	55	28	25	33	25	43	112
Link Distance (ft)		265	131	131	131	415	381
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	50						
Storage Blk Time (%)	2						
Queuing Penalty (veh)	20						

Network Summary

Network wide Queuing Penalty: 434

**Intersection**

Int Delay, s/veh 9.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↕	↕		↖	↑	↗
Traffic Vol, veh/h	81	610	15	13	899	58	4	0	7	42	0	88
Future Vol, veh/h	81	610	15	13	899	58	4	0	7	42	0	88
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	50	-	115	-	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	93	93	93	55	55	55	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	93	701	17	14	967	62	7	0	13	46	0	96

Major/Minor	Major1	Major2	Minor1	Minor2								
Conflicting Flow All	1029	0	0	701	0	0	1398	1944	701	1920	1913	515
Stage 1	-	-	-	-	-	-	887	887	-	1026	1026	-
Stage 2	-	-	-	-	-	-	511	1057	-	894	887	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.23	7.33	6.53	6.93
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	673	-	-	894	-	-	109	65	438	~ 45	68	506
Stage 1	-	-	-	-	-	-	338	361	-	252	311	-
Stage 2	-	-	-	-	-	-	514	301	-	335	361	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	673	-	-	894	-	-	78	55	438	~ 39	58	506
Mov Cap-2 Maneuver	-	-	-	-	-	-	78	55	-	~ 39	58	-
Stage 1	-	-	-	-	-	-	291	311	-	217	306	-
Stage 2	-	-	-	-	-	-	410	296	-	280	311	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	0.1	30	125.5
HCM LOS			D	F

Minor Lane/Major Mvm	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	164	673	-	-	894	-	-	39	506
HCM Lane V/C Ratio	0.122	0.138	-	-	0.016	-	-	1.171	0.189
HCM Control Delay (s)	30	11.2	-	-	9.1	-	-	359.5	13.8
HCM Lane LOS	D	B	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	0.4	0.5	-	-	0	-	-	4.6	0.7

**Notes**

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

**Intersection**

Int Delay, s/veh 8.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑↑			↕			↖	↗
Traffic Vol, veh/h	50	1007	43	17	738	24	7	0	26	31	0	48
Future Vol, veh/h	50	1007	43	17	738	24	7	0	26	31	0	48
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	50	-	115	-	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	85	85	85	64	64	64	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	52	1038	44	20	868	28	11	0	41	34	0	52

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	896	0	0	1038
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.13	-	-	4.13
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	2.219	-	-	2.219
Pot Cap-1 Maneuver	755	-	-	668
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	755	-	-	668
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.2	37	193.1
HCM LOS			E	F

Minor Lane/Major Mvm	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	163	755	-	-	668	-	-	27	559
HCM Lane V/C Ratio	0.316	0.068	-	-	0.03	-	-	1.248	0.093
HCM Control Delay (s)	37	10.1	-	-	10.6	-	-	473.4	12.1
HCM Lane LOS	E	B	-	-	B	-	-	F	B
HCM 95th %tile Q(veh)	1.3	0.2	-	-	0.1	-	-	4	0.3

**Notes**

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

Queuing and Blocking Report  
 With Improvements - 2 Exit Lanes

10/27/2016

Intersection: 2: Rite Aid Driveway/Driveway 1 & Old Alabama Rd

Movement	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	L	T	TR	LTR	LT	R
Maximum Queue (ft)	62	111	30	108	53	45	96	160
Average Queue (ft)	35	10	4	13	9	7	39	49
95th Queue (ft)	63	61	21	55	37	27	76	111
Link Distance (ft)		256	131	131	131	415	381	381
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	50							
Storage Blk Time (%)	6	0						
Queuing Penalty (veh)	37	0						

Queuing and Blocking Report  
 With Improvements - 2 Exit Lanes

10/27/2016

Intersection: 2: Rite Aid Driveway/Driveway 1 & Old Alabama Rd

Movement	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	R	L	T	TR	LTR	LT	R
Maximum Queue (ft)	89	14	30	70	50	92	116	78
Average Queue (ft)	26	0	7	7	7	22	31	31
95th Queue (ft)	59	5	28	36	31	60	77	67
Link Distance (ft)			131	131	131	415	381	381
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	50	115						
Storage Blk Time (%)	3							
Queuing Penalty (veh)	30							

HCM 2010 Signalized Intersection Summary  
 1: Jones Bridge Rd & Old Alabama Rd

10/26/2016

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	291	385	15	145	720	164	154	274	94	167	426	597
Future Volume (veh/h)	291	385	15	145	720	164	154	274	94	167	426	597
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	327	433	17	154	766	174	166	295	101	178	453	635
Adj No. of Lanes	2	1	0	1	2	1	1	2	1	1	1	1
Peak Hour Factor	0.89	0.89	0.89	0.94	0.94	0.94	0.93	0.93	0.93	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	397	647	25	349	1176	526	215	863	386	395	463	393
Arrive On Green	0.12	0.36	0.36	0.09	0.33	0.33	0.09	0.24	0.24	0.09	0.25	0.25
Sat Flow, veh/h	3442	1781	70	1774	3539	1583	1774	3539	1583	1774	1863	1583
Grp Volume(v), veh/h	327	0	450	154	766	174	166	295	101	178	453	635
Grp Sat Flow(s),veh/h/ln	1721	0	1850	1774	1770	1583	1774	1770	1583	1774	1863	1583
Q Serve(g_s), s	11.1	0.0	24.5	0.0	22.1	9.9	8.3	8.2	6.2	8.9	29.0	22.0
Cycle Q Clear(g_c), s	11.1	0.0	24.5	0.0	22.1	9.9	8.3	8.2	6.2	8.9	29.0	22.0
Prop In Lane	1.00		0.04	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	397	0	672	349	1176	526	215	863	386	395	463	393
V/C Ratio(X)	0.82	0.00	0.67	0.44	0.65	0.33	0.77	0.34	0.26	0.45	0.98	1.61
Avail Cap(c_a), veh/h	493	0	672	349	1176	526	220	863	386	436	463	393
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(l)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.9	0.0	32.1	42.6	34.1	30.0	33.3	37.4	36.6	29.8	44.8	24.6
Incr Delay (d2), s/veh	10.0	0.0	5.2	0.9	2.8	1.7	15.0	0.2	0.4	0.8	37.0	288.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	0.0	13.5	4.7	11.3	4.6	4.9	4.0	2.8	4.4	19.6	41.1
LnGrp Delay(d),s/veh	61.9	0.0	37.4	43.5	36.9	31.7	48.3	37.6	37.0	30.6	81.8	312.9
LnGrp LOS	E		D	D	D	C	D	D	D	C	F	F
Approach Vol, veh/h		777			1094			562			1266	
Approach Delay, s/veh		47.7			37.0			40.7			190.5	
Approach LOS		D			D			D			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.6	46.6	16.7	36.1	17.2	50.0	17.2	35.6				
Change Period (Y+Rc), s	* 6.8	* 6.7	6.4	* 6.3	* 6.7	* 6.4	* 6.2	6.3				
Max Green Setting (Gmax), s	17	* 36	10.6	* 30	* 10	* 44	* 14	26.7				
Max Q Clear Time (g_c+I1), s	31	24.1	10.3	31.0	2.0	26.5	10.9	10.2				
Green Ext Time (p_c), s	0.7	9.9	0.0	0.0	5.3	8.2	0.1	11.6				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			92.4									
HCM 2010 LOS			F									
<b>Notes</b>												

**Intersection**

Int Delay, s/veh 1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑↑	↗		↕				↗
Traffic Vol, veh/h	81	652	15	13	899	58	4	0	7	0	0	131
Future Vol, veh/h	81	652	15	13	899	58	4	0	7	0	0	131
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	50	-	115	-	-	65	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	93	93	93	55	55	55	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	93	749	17	14	967	62	7	0	13	0	0	142

Major/Minor	Major1	Major2	Minor1	Minor2								
Conflicting Flow All	967	0	0	749	0	0	1447	1931	749	-	-	483
Stage 1	-	-	-	-	-	-	936	936	-	-	-	-
Stage 2	-	-	-	-	-	-	511	995	-	-	-	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.23	-	-	6.93
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.53	5.53	-	-	-	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	-	-	3.319
Pot Cap-1 Maneuver	710	-	-	858	-	-	100	66	411	0	0	530
Stage 1	-	-	-	-	-	-	317	343	-	0	0	-
Stage 2	-	-	-	-	-	-	514	322	-	0	0	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	710	-	-	858	-	-	65	56	411	-	-	530
Mov Cap-2 Maneuver	-	-	-	-	-	-	65	56	-	-	-	-
Stage 1	-	-	-	-	-	-	275	298	-	-	-	-
Stage 2	-	-	-	-	-	-	370	317	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	0.1	35	14.3
HCM LOS			E	B

Minor Lane/Major Mvm	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	140	710	-	-	858	-	-	530
HCM Lane V/C Ratio	0.143	0.131	-	-	-0.016	-	-	-0.269
HCM Control Delay (s)	35	10.8	-	-	9.3	-	-	14.3
HCM Lane LOS	E	B	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.5	0.5	-	-	0.1	-	-	1.1

HCM 2010 Signalized Intersection Summary  
 1: Jones Bridge Rd & Old Alabama Rd

10/26/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	653	750	3	121	567	127	158	497	88	231	359	593
Future Volume (veh/h)	653	750	3	121	567	127	158	497	88	231	359	593
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	726	833	3	151	709	159	165	518	92	254	395	652
Adj No. of Lanes	2	1	0	1	2	1	1	2	1	1	1	1
Peak Hour Factor	0.90	0.90	0.90	0.80	0.80	0.80	0.96	0.96	0.96	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	693	684	2	187	852	381	246	1019	456	335	543	461
Arrive On Green	0.20	0.37	0.37	0.08	0.24	0.24	0.08	0.29	0.29	0.08	0.29	0.29
Sat Flow, veh/h	3442	1855	7	1774	3539	1583	1774	3539	1583	1774	1863	1583
Grp Volume(v), veh/h	726	0	836	151	709	159	165	518	92	254	395	652
Grp Sat Flow(s),veh/h/ln	1721	0	1862	1774	1770	1583	1774	1770	1583	1774	1863	1583
Q Serve(g_s), s	28.2	0.0	51.6	7.6	26.6	11.9	9.1	17.1	6.2	11.8	26.7	31.0
Cycle Q Clear(g_c), s	28.2	0.0	51.6	7.6	26.6	11.9	9.1	17.1	6.2	11.8	26.7	31.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	693	0	686	187	852	381	246	1019	456	335	543	461
V/C Ratio(X)	1.05	0.00	1.22	0.81	0.83	0.42	0.67	0.51	0.20	0.76	0.73	1.41
Avail Cap(c_a), veh/h	693	0	686	187	852	381	252	1029	460	335	543	461
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.9	0.0	44.2	61.9	50.5	44.9	34.5	41.6	37.7	37.1	44.6	28.7
Incr Delay (d2), s/veh	47.2	0.0	111.2	22.3	9.3	3.3	6.5	0.4	0.2	9.6	8.3	198.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.9	0.0	47.7	6.9	14.1	5.5	4.8	8.4	2.7	4.4	15.0	38.9
LnGrp Delay(d),s/veh	103.1	0.0	155.4	84.2	59.8	48.2	41.0	42.0	37.9	46.8	52.9	227.1
LnGrp LOS	F		F	F	E	D	D	D	D	D	D	F
Approach Vol, veh/h		1562			1019			775			1301	
Approach Delay, s/veh		131.1			61.6			41.3			139.0	
Approach LOS		F			E			D			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	35.0	40.4	17.5	47.1	17.4	58.0	18.0	46.6				
Change Period (Y+Rc), s	* 6.8	* 6.7	6.4	* 6.3	* 6.7	* 6.4	* 6.2	6.3				
Max Green Setting (Gmax), s	28	* 33	11.6	* 41	* 10	* 52	* 12	40.7				
Max Q Clear Time (g_c+I), s	10.2	28.6	11.1	33.0	9.6	53.6	13.8	19.1				
Green Ext Time (p_c), s	0.0	3.9	0.0	6.6	0.6	0.0	0.0	16.0				
<b>Intersection Summary</b>												
HCM 2010 Ctrl Delay			103.2									
HCM 2010 LOS			F									
<b>Notes</b>												

**Intersection**

Int Delay, s/veh 1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑↑	↗	↕					↗
Traffic Vol, veh/h	50	1037	43	17	738	24	7	0	26	0	0	79
Future Vol, veh/h	50	1037	43	17	738	24	7	0	26	0	0	79
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None									
Storage Length	50	-	115	-	-	65	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	85	85	85	64	64	64	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	52	1069	44	20	868	28	11	0	41	0	0	86

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	868	0	0	1069
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	4.13	-	-	4.13
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	2.219	-	-	2.219
Pot Cap-1 Maneuver	774	-	-	650
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	774	-	-	650
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.2	41.1	12.4
HCM LOS			E	B

Minor Lane/Major Mvm	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	150	774	-	-	650	-	-	571
HCM Lane V/C Ratio	0.344	0.067	-	-	0.031	-	-	0.15
HCM Control Delay (s)	41.1	10	-	-	10.7	-	-	12.4
HCM Lane LOS	E	A	-	-	B	-	-	B
HCM 95th %tile Q(veh)	1.4	0.2	-	-	0.1	-	-	0.5

Queuing and Blocking Report  
With Improvements - Right Out

10/26/2016

Intersection: 1: Jones Bridge Rd & Old Alabama Rd

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	L	TR	L	T	T	R	L	T	T	R	L
Maximum Queue (ft)	159	173	332	194	279	286	240	160	175	149	54	210
Average Queue (ft)	90	129	182	130	223	209	68	83	91	52	21	171
95th Queue (ft)	153	169	309	236	298	294	196	140	152	122	43	261
Link Distance (ft)		1967	1967		265	265			1296	1296		
Upstream Blk Time (%)					4	3						
Queuing Penalty (veh)					19	15						
Storage Bay Dist (ft)	460			145			140	145			190	110
Storage Blk Time (%)				0	25	23		1	2			9
Queuing Penalty (veh)				1	36	38		1	3			39

Intersection: 1: Jones Bridge Rd & Old Alabama Rd

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	1173	1173
Average Queue (ft)	573	332
95th Queue (ft)	1046	821
Link Distance (ft)	1158	1158
Upstream Blk Time (%)	2	1
Queuing Penalty (veh)	0	0
Storage Bay Dist (ft)		
Storage Blk Time (%)	60	
Queuing Penalty (veh)	100	

Intersection: 2: Rite Aid Driveway/Driveway 1 & Old Alabama Rd

Movement	EB	EB	WB	WB	WB	WB	NB	SB
Directions Served	L	T	L	T	T	R	LTR	R
Maximum Queue (ft)	75	82	30	162	165	18	43	83
Average Queue (ft)	36	3	5	14	14	3	9	44
95th Queue (ft)	63	27	23	69	81	14	29	73
Link Distance (ft)		265	131	131	131		415	367
Upstream Blk Time (%)				0	1			
Queuing Penalty (veh)				0	0			
Storage Bay Dist (ft)	50					65		
Storage Blk Time (%)	7				1			
Queuing Penalty (veh)	46				1			

Network Summary

Network wide Queuing Penalty: 297

Intersection: 1: Jones Bridge Rd & Old Alabama Rd

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	L	TR	L	T	T	R	L	T	T	R	L
Maximum Queue (ft)	477	2030	2001	195	281	272	240	220	297	247	240	210
Average Queue (ft)	328	1767	1865	120	207	198	66	91	175	150	40	190
95th Queue (ft)	481	2354	2199	211	295	280	180	180	248	232	135	245
Link Distance (ft)		1967	1967		265	265			1296	1296		
Upstream Blk Time (%)		38	43		3	1						
Queuing Penalty (veh)		0	0		11	5						
Storage Bay Dist (ft)	460			145			140	145			190	110
Storage Blk Time (%)	1	2		3	22	22		1	17	4		45
Queuing Penalty (veh)	3	5		9	27	27		3	27	3		162

Intersection: 1: Jones Bridge Rd & Old Alabama Rd

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	662	377
Average Queue (ft)	336	187
95th Queue (ft)	573	307
Link Distance (ft)	1158	1158
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)	31	
Queuing Penalty (veh)	72	

Intersection: 2: Rite Aid Driveway/Driveway 1 & Old Alabama Rd

Movement	EB	EB	WB	WB	WB	NB	SB
Directions Served	L	T	L	T	T	LTR	R
Maximum Queue (ft)	72	218	30	111	71	67	61
Average Queue (ft)	33	7	5	12	6	18	24
95th Queue (ft)	54	72	22	54	36	42	44
Link Distance (ft)		265	131	131	131	415	367
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	50						
Storage Blk Time (%)	5				0		
Queuing Penalty (veh)	50				0		

Network Summary

Network wide Queuing Penalty: 403

## Appendix D Signal Timings

## Johns Creek, GA

Old Alabama Road @ Jones Bridge Road - 10.123.5.101 - Econolite Type - ASC3

### Configuration Phase Sequence

#### Controller Sequence (MM)1-1-1

Hardware Alternate Sequence Enable: No

Phase Ring Sequence.....(Note: Sequences identical to the prior one are not printed)

	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
	B	B	B	B	B											
Sequence 1																
Ring 1	1	2	3	4	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	5	6	7	8	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 2																
Ring 1	2	1	3	4	10	9	13	14	.	.	.	.	.	.	.	.
Ring 2	5	6	7	8	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 3																
Ring 1	1	2	4	3	9	10	14	13	.	.	.	.	.	.	.	.
Ring 2	5	6	7	8	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 4																
Ring 1	2	1	4	3	10	9	14	13	.	.	.	.	.	.	.	.
Ring 2	5	6	7	8	11	12	15	16	.	.	.	.	.	.	.	.
Sequence 5																
Ring 1	1	2	3	4	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	6	5	7	8	12	11	15	16	.	.	.	.	.	.	.	.
Sequence 6																
Ring 1	2	1	3	4	10	9	13	14	.	.	.	.	.	.	.	.
Ring 2	6	5	7	8	12	11	15	16	.	.	.	.	.	.	.	.
Sequence 7																
Ring 1	1	2	4	3	9	10	14	13	.	.	.	.	.	.	.	.
Ring 2	6	5	7	8	12	11	15	16	.	.	.	.	.	.	.	.
Sequence 8																
Ring 1	2	1	4	3	10	9	14	13	.	.	.	.	.	.	.	.
Ring 2	6	5	7	8	12	11	15	16	.	.	.	.	.	.	.	.
Sequence 9																
Ring 1	1	2	3	4	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	5	6	8	7	11	12	16	15	.	.	.	.	.	.	.	.
Sequence 10																
Ring 1	2	1	3	4	10	9	13	14	.	.	.	.	.	.	.	.
Ring 2	5	6	8	7	11	12	16	15	.	.	.	.	.	.	.	.
Sequence 11																
Ring 1	1	2	4	3	9	10	14	13	.	.	.	.	.	.	.	.
Ring 2	5	6	8	7	11	12	16	15	.	.	.	.	.	.	.	.
Sequence 12																
Ring 1	2	1	4	3	10	9	14	13	.	.	.	.	.	.	.	.
Ring 2	5	6	8	7	11	12	16	15	.	.	.	.	.	.	.	.
Sequence 13																
Ring 1	1	2	3	4	9	10	13	14	.	.	.	.	.	.	.	.
Ring 2	6	5	8	7	12	11	16	15	.	.	.	.	.	.	.	.
Sequence 14																
Ring 1	2	1	3	4	10	9	13	14	.	.	.	.	.	.	.	.
Ring 2	6	5	8	7	12	11	16	15	.	.	.	.	.	.	.	.
Sequence 15																
Ring 1	1	2	4	3	9	10	14	13	.	.	.	.	.	.	.	.
Ring 2	6	5	8	7	12	11	16	15	.	.	.	.	.	.	.	.
Sequence 16																
Ring 1	2	1	4	3	10	9	14	13	.	.	.	.	.	.	.	.
Ring 2	6	5	8	7	12	11	16	15	.	.	.	.	.	.	.	.

#### Phases In Use / Exclusive PED (MM)1-2

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phases in Use	X	X	X	X	X	X	X	X								
Exclusive PED																

#### Phase Compatibility (MM)1-1-2

Phase	Compatible Phase

n/a	Barrier Mode
-----	--------------

**Phase and Overlap Descriptions**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description																
Overlap	A	B	C	D	E	F	G	H	I	J	L	K	L	M	N	O
Description																

**Administration (MM)1-7-1**

Enable CU/Cabinet Interlock CRC      No  
 Request Download Controller Data      No  
 Controller Database CRC                0F24  
 Enable Automatic Backup to Datakey    No

**Backup Prevent (MM)1-1-3**

Phases	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Timing / Backup	1	B	.	C	.	.	.	C	.	.	.	.	.	.	.	.
	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	6	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	7	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	8	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	10	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	11	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	12	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	13	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	14	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	16	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

**Simultaneous Gap (MM)1-1-4**

Phases	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phase	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Must	2	.	.	.	.	X	.	.	.	.	.	.	.	.	.	.
Gap	3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
With	4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Phase	5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	6	X	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	7	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	8	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	10	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	11	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	12	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	13	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	14	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	16	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Disable	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

**Load Switch Assignments (MMU Channel) (MM)1-3**

	Phase / Overlap	Type	Dimming				Power Up			Auto		Flash Together	
			Red	Yellow	Green	Dark	Auto	Red	Yellow	Dark	Red		Yellow
1	1	V				+	X				X		
2	2	V				+	X				X		X
3	3	V				+	X				X		
4	4	V				+	X				X		X
5	5	V				-	X				X		
6	6	V				-	X				X		X
7	7	V				-	X				X		
8	8	V				-	X				X		X
9	2	P				+	X						
10	4	P				+	X						
11	6	P				-	X						
12	8	P				-	X						
13	1	O				+	X				X		
14	2	O				-	X				X		X
15	3	O				+	X				X		
16	4	O				-	X				X		X

**Johns Creek, GA**

Old Alabama Road @ Jones Bridge Road - 10.123.5.101 - Econolite Type - ASC3

**Configuration Port 1 (SDLC)**

**SDLC Options (MM)1-4-1**

---

BIU	1	2	3	4	5	6	7	8
Term and Facility Enable								
Detector Rack Enable								

Enable TS2/MMU Type Cabinet: No  
 Enable MMU Extended Status: No  
 Enable SDLC Stop Time: No  
 Enable 3 Critical RFE's Lockup: Yes

#### MMU Program (MM)1-4-2

Channel Can Serve with Channel
Channel 1    Channel 2

#### Color Check Enable (MM)1-4-3

Enable Color Check: Yes

MMU Channel	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Green	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Yellow	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Red	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

#### Secondary To Secondary Addressing (MM)1-4-4

ID	1	2	3	4	5	6	7	8	MMU
Term and Facility Enable									

ID	1	2	3	4	5	6	7	8	Diag
Detector Rack Enable									

Diagonstics (Test Fixture) Enable: No

## Johns Creek, GA

Old Alabama Road @ Jones Bridge Road - 10.123.5.101 - Econolite Type - ASC3

### Configuration Communications

#### Ethernet Port Configuration (MM)1-5-1

Controller IP: 10.123.5.101  
 Subnet Mask: 255.255.255.0  
 Default Gateway IP: 10.123.5.1  
 Server IP: 10.123.123.30

#### NTCIP Parameters (MM)1-5-5

Backup Time: 0  
 UDP Port: 50101  
 Ethernet Priority: 1  
 Port 2 Priority: 4  
 Port 3A Priority: 2  
 Port 3B Priority: 3

#### Port Configuration (MM)1-5-2 to 1-5-4

Port	2 (C50S)	3A (C21S)	3B (C22S)
Protocol	Terminal	NTCIP	ECPIP
Enable	No	No	No
Data Rate	9600	19.2K	1200
Data Parity Stop	8 N 1	8 N 1	8 N 1
Modem Setup String	None	None	None
User String			
Comm Port Address	0	0	0
System Detector 9-1	0	0	0
Telemetry Response Delay	0.0	0.0	0.9
Duplex Half/Full	Half	Full	Full
Flow Control	Yes	Yes	Yes
AB3418 NTCIP Group Address	0	0	0
AB3418 NTCIP Single Flag Enable	No	No	No
RTS to CTS Delay	0.0	0.0	14.0
RTS Turn Off Delay	0.0	0.0	2.0
Droupout Time	10	10	10
Early RTS	No	No	No
Telemetry Mode	FSK	FSK	FSK
Rail Road	0	0	0
Rail Road Line	0	0	0
ATCS Group	0	0	0

Wayside Device	0	0	0
ATCS Device	0	0	0
Wayside SubNode	0	0	0
ATCS SubNode	0	0	0

**ECPIP Parameters (MM)1-5-6**

Controller Address: 0  
 Expanded System Detector Address: 0

**Local System Detector**

Local System Detector	Number
-----------------------	--------

**Johns Creek, GA**

Old Alabama Road @ Jones Bridge Road - 10.123.5.101 - Econolite Type - ASC3

**Configuration Logging/Display**

**Event Logging (MM)1-6-1**

Critical RFE's	Yes	3 Critical RFE's in 24 Hours	Yes
MMU Flash Faults	Yes	Local Flash Faults	Yes
Non-Critical RFE's (Det/Test)	Yes	Detector Errors	Yes
Coordination Errors	Yes	Controller Download	Yes
Preempt	Yes	TSP	Yes
Power On/Off	Yes	Low Battery	Yes
Access	Yes	Data Change	Yes
Online/Offline	Yes		

Alarm Log	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Enable Logging	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

**Display Options (MM)1-7-2**

Key Click Enable: No  
 Backlight Enable: Yes  
 LED Mode: Auto  
 Main Status Display Mode: Advanced  
 Screen Format: Advanced  
 Trans Mode Pop-up Disable: No

**Sign On (MM)8-5**

Sign On Message Line 1:  
 Sign On Message Line 2:

**Johns Creek, GA**

Old Alabama Road @ Jones Bridge Road - 10.123.5.101 - Econolite Type - ASC3

**Logic Processor Page 1**

**Statement Control (MM)1-8-1**

LP	Statement Control
----	-------------------

**Johns Creek, GA**

Old Alabama Road @ Jones Bridge Road - 10.123.5.101 - Econolite Type - ASC3

**Logic Processor Page 2**

**Logic Statements (MM)1-8-2**

**Johns Creek, GA**

Old Alabama Road @ Jones Bridge Road - 10.123.5.101 - Econolite Type - ASC3

**Controller Timing Plan (MM)2-1  
Plan 1**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Direction																
Min Green	6	12	6	8	6	12	6	8	0	0	0	0	0	0	0	0
BK Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	0	0	9	0	7	0	7	0	0	0	0	0	0	0	0
Walk 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	0	0	19	0	17	0	15	0	0	0	0	0	0	0	0
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	4.0	5.0	3.0	3.0	3.0	5.0	3.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max 1	20	60	20	35	20	60	20	35	0	0	0	0	0	0	0	0
Max 2	99	99	99	99	99	99	99	99	0	0	0	0	0	0	0	0
Max 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Stp	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.8	4.4	3.4	4.1	3.7	4.1	3.2	4.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Clear	3.0	2.3	3.0	2.1	3.0	2.3	3.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACT B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC/ACT	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	25	0	0	0	25	0	0	0	0	0	0	0	0	0	0
Time B4	0	20	0	0	0	20	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPT Duc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce	0	20	0	0	0	20	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	3.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

**Plan 2**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Direction																
Min Green	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
BK Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	10	0	10	0	10	0	10	0	10	0	10	0	10	0	10
Walk 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	16	0	16	0	16	0	16	0	16	0	16	0	16	0	16
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max 1	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Max 2	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Max 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Stp	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACT B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC/ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPT Duc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

## Plan 3

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Direction																
Min Green	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
BK Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	10	0	10	0	10	0	10	0	10	0	10	0	10	0	10
Walk 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	16	0	16	0	16	0	16	0	16	0	16	0	16	0	16
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max 1	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Max 2	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Max 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Stp	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACT B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC/ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPT Duc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

## Plan 4

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Direction																
Min Green	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
BK Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	10	0	10	0	10	0	10	0	10	0	10	0	10	0	10
Walk 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	16	0	16	0	16	0	16	0	16	0	16	0	16	0	16
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max 1	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Max 2	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Max 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Stp	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACT B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC/ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPT Duc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

## Johns Creek, GA

Old Alabama Road @ Jones Bridge Road - 10.123.5.101 - Econolite Type - ASC3

### Controller Overlaps Vehicle Overlaps (MM) 2-2

Overlap	Type	Lag Green	Yellow	Red	Advance Green
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### Phases

Overlap	Phase	Included	Protect	Ped Protect	Not Overlap	Modifier	Lag X Phase	Lag 2 Phase	Flash Green
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### PPLT FYA

Overlap	Protected Left Turn	Opposing Through	Flash Arrow Output	Flash Arrow Channel	FYA Delay	FYA Clearance	Special Function Disable	Ped Protected
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### Guaranteed Minimum Time Data (MM) 2-4 Phase Time Data

Phase	Min Green	Walk	Ped Clear	Yellow	Red Clear	Overlap Green
A01	5	0	7	3.0	0.0	5
B02	5	0	7	3.0	0.0	5
C03	5	0	7	3.0	0.0	5
D04	5	0	7	3.0	0.0	5
E05	5	0	7	3.0	0.0	5
F06	5	0	7	3.0	0.0	5
G07	5	0	7	3.0	0.0	5
H08	5	0	7	3.0	0.0	5
I09	5	0	7	3.0	0.0	5
J10	5	0	7	3.0	0.0	5
K11	5	0	7	3.0	0.0	5
L12	5	0	7	3.0	0.0	5
M13	5	0	7	3.0	0.0	5
N14	5	0	7	3.0	0.0	5
O15	5	0	7	3.0	0.0	5
P16	5	0	7	3.0	0.0	5

## Johns Creek, GA

Old Alabama Road @ Jones Bridge Road - 10.123.5.101 - Econolite Type - ASC3

### Controller Pedestrian Overlaps Pedestrian Overlaps (MM) 2-3

Included Phase	Ped Overlap
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## Johns Creek, GA

Old Alabama Road @ Jones Bridge Road - 10.123.5.101 - Econolite Type - ASC3

### Controller Start/Fash (MM) 2-5

#### Startup

Phase	Phase Setting
2	Y
6	Y

Overlap
A
B
C
D

Flash > Mon: No  
 Flash Time: 0  
 All Red: 6  
 Power Start Sequence: 1  
 MUTCD Enabled: No  
 MUTCD Yellow to Green: n/a

**Automatic Flash**

<b>Entry Phase</b>
2
6

<b>Exit Phase</b>
2
6

<b>Overlap Exit</b>
A
B
C
D

Flash > Mon: No  
 Exit Flash Interval: W  
 Minimum Auto Flash: 8  
 Minimum Recall: No  
 Cycle Through Phase: No

**Johns Creek, GA**

Old Alabama Road @ Jones Bridge Road - 10.123.5.101 - Econolite Type - ASC3

**Controller Options**

**Controller Options (MM)2-6-1**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Flashing Green Phase																
Guaranteed Passage																
Non Act 1																
Non Act 2																
Dual Entry		X		X		X		X								
Conditional Service																
Conditional Reservice																
Ped Reservice																
Rest In Walk																
Flashing Walk																
Ped Clear Yellow																
Ped Clear Red																
IGRN + Veh Ext																

Ped Clear Protect: Off                      Red Revert: 4.0                      MUTCD 3 Seconds Don't Walk: No

**Act Pre-Time (MM)2-7**

Pre-Time Mode Enable: No                      Free Input Enables Pre-Timed: Yes

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Pre-Timed Phase																

**Phase Recall Options (MM)2-8**

**Plan 1**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Lock Detector		X				X			X	X	X	X	X	X	X	X
Vehicle Recall		X				X										
Ped Recall																

Max Recall																	
Soft Recall																	
No Rest																	
AI Calc																	

**Johns Creek, GA**

Old Alabama Road @ Jones Bridge Road - 10.123.5.101 - Econolite Type - ASC3

**Coordination Options**

**Coordination Options (MM)3-1**

Manual Pattern	Auto	ECPI Coord	Yes
System Source	SYS	System Format	STD
Splits In	Seconds	Offsets In	Seconds
Transition	Smooth	Max Select	MAXINH
Dwell/Add Time	0		
Delay Coord Walk to LZ	No	Force Off	Float
Offset Reference	Lead	Use Ped Time	Yes
Ped Recall	No	Ped Reserve	No
Local Zero Override	Yes	FO Added Initial Green	No
Re-Sync Count	0	Multisync	No

**Auto Perm Minimum Green (Seconds) (MM)3-4**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Minimum Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

**Split Demand (MM)3-5**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Demand 1																
Demand 2																

Demand	1	2
Detector	0	0
Call Time (Sec)	0	0
Cycle Count	0	0

**Johns Creek, GA**

Old Alabama Road @ Jones Bridge Road - 10.123.5.101 - Econolite Type - ASC3

**Coordination Pattern Data**

**Pattern Data (MM)3-2**

**Pattern - 1**

Split Pattern	1	TS2 (Pat-Off)	0-1	Splits in	Seconds
Cycle	100	Std (COS)	0	Offsets in	Seconds
Offset Value	67s	Dwell/Add Time	0		
Actuated Coord	No	Timing Plan	1		
Actuated Walk Rest	No	Sequence	5		
Phase Reserve	No	Action Plan	1		
Max Select	None	Force Off	None		

**Split Preference Phases**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description																
Splits (Split Pat 1)	20	30	14	36	14	36	14	36	0	0	0	0	0	0	0	0
Preference 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Preference 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Disp.	-	0	0	0

Misc. Data					
Veh. Permissive 1	0	Veh. Permissive 2	0	Veh. Permissive 2 Disp.	0
Split Demand Pat 1	0	Split Demand Pat 2	0	Crossing Arterial Pat	0

Split Sum | 100s | 100s | 0s | 0s |

**Split Pattern Data**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coordinated Phases		X				X										
Vehicle Recalls																
Ped Recalls																
Max Recalls																
Phase Omit									X	X	X	X	X	X	X	X
Special Function Output																

**Pattern - 2**

Split Pattern	2	TS2 (Pat-Off)	0-2	Splits in	Seconds
Cycle	100	Std (COS)	0	Offsets in	Seconds
Offset Value	81s	Dwell/Add Time	0		
Actuated Coord	No	Timing Plan	1		
Actuated Walk Rest	No	Sequence	5		
Phase Reservice	No	Action Plan	2		
Max Select	None	Force Off	None		

**Split Preference Phases**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description																
Splits (Split Pat 2)	20	30	14	36	14	36	14	36	0	0	0	0	0	0	0	0
Preference 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Preference 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Disp.	-	0	0	0
Split Sum	100s	100s	0s	0s

Misc. Data			
Veh. Permissive 1	0	Veh. Permissive 2	0
Split Demand Pat 1	0	Split Demand Pat 2	0
		Veh. Permissive 2 Disp.	0
		Crossing Arterial Pat	0

**Split Pattern Data**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coordinated Phases		X				X										
Vehicle Recalls																
Ped Recalls																
Max Recalls																
Phase Omit									X	X	X	X	X	X	X	X
Special Function Output																

**Pattern - 3**

Split Pattern	3	TS2 (Pat-Off)	0-3	Splits in	Seconds
Cycle	100	Std (COS)	0	Offsets in	Seconds
Offset Value	11s	Dwell/Add Time	0		
Actuated Coord	No	Timing Plan	1		
Actuated Walk Rest	No	Sequence	5		
Phase Reservice	No	Action Plan	3		
Max Select	None	Force Off	None		

**Split Preference Phases**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description																
Splits (Split Pat 3)	20	30	14	36	14	36	14	36	0	0	0	0	0	0	0	0
Preference 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Preference 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Disp.	-	0	0	0
Split Sum	100s	100s	0s	0s

Misc. Data			
Veh. Permissive 1	0	Veh. Permissive 2	0
Split Demand Pat 1	0	Split Demand Pat 2	0
		Veh. Permissive 2 Disp.	0
		Crossing Arterial Pat	0

**Split Pattern Data**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coordinated Phases		X				X										
Vehicle Recalls																
Ped Recalls																
Max Recalls																
Phase Omit									X	X	X	X	X	X	X	X
Special Function Output																

**Pattern - 11**

Split Pattern	11	TS2 (Pat-Off)	3-2	Splits in	Seconds
Cycle	120	Std (COS)	0	Offsets in	Seconds
Offset Value	65s	Dwell/Add Time	0		
Actuated Coord	No	Timing Plan	1		
Actuated Walk Rest	No	Sequence	5		
Phase Reservice	No	Action Plan	11		
Max Select	None	Force Off	None		

**Split Preference Phases**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description																
Splits (Split Pat 11)	24	43	17	36	17	50	20	33	0	0	0	0	0	0	0	0
Preference 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Preference 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Disp.	-	0	0	0
Split Sum	120s	120s	0s	0s

Misc. Data					
Veh. Permissive 1	0	Veh. Permissive 2	0	Veh. Permissive 2 Disp.	0
Split Demand Pat 1	0	Split Demand Pat 2	0	Crossing Arterial Pat	0

**Split Pattern Data**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coordinated Phases		X				X										
Vehicle Recalls																
Ped Recalls																
Max Recalls																
Phase Omit									X	X	X	X	X	X	X	X
Special Function Output																

**Pattern - 12**

Split Pattern	12	TS2 (Pat-Off)	3-3	Splits in	Seconds
Cycle	120	Std (COS)	0	Offsets in	Seconds
Offset Value	1s	Dwell/Add Time	0		
Actuated Coord	No	Timing Plan	1		
Actuated Walk Rest	No	Sequence	5		
Phase Reservice	No	Action Plan	12		
Max Select	None	Force Off	None		

**Split Preference Phases**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description																
Splits (Split Pat 12)	24	43	17	36	17	50	20	33	0	0	0	0	0	0	0	0
Preference 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Preference 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Disp.	-	0	0	0
Split Sum	120s	120s	0s	0s

Misc. Data					
Veh. Permissive 1	0	Veh. Permissive 2	0	Veh. Permissive 2 Disp.	0
Split Demand Pat 1	0	Split Demand Pat 2	0	Crossing Arterial Pat	0

**Split Pattern Data**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coordinated Phases		X				X										
Vehicle Recalls																
Ped Recalls																
Max Recalls																
Phase Omit									X	X	X	X	X	X	X	X
Special Function Output																

**Pattern - 13**

Split Pattern	13	TS2 (Pat-Off)	4-1	Splits in	Seconds
Cycle	120	Std (COS)	0	Offsets in	Seconds
Offset Value	1s	Dwell/Add Time	0		
Actuated Coord	No	Timing Plan	1		
Actuated Walk Rest	No	Sequence	5		
Phase Reservice	No	Action Plan	13		
Max Select	None	Force Off	None		

**Split Preference Phases**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description																
Splits (Split Pat 13)	24	43	17	36	17	50	20	33	0	0	0	0	0	0	0	0
Preference 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Preference 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Disp.	-	0	0	0
Split Sum	120s	120s	0s	0s

Misc. Data			
Veh. Permissive 1	0	Veh. Permissive 2	0
Split Demand Pat 1	0	Split Demand Pat 2	0
		Veh. Permissive 2 Disp.	0
		Crossing Arterial Pat	0

**Split Pattern Data**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coordinated Phases		X				X										
Vehicle Recalls																
Ped Recalls																
Max Recalls																
Phase Omit									X	X	X	X	X	X	X	X
Special Function Output																

**Pattern - 21**

Split Pattern	21	TS2 (Pat-Off)	6-3	Splits in	Seconds
Cycle	140	Std (COS)	0	Offsets in	Seconds
Offset Value	57s	Dwell/Add Time	0		
Actuated Coord	No	Timing Plan	1		
Actuated Walk Rest	No	Sequence	5		
Phase Reservice	No	Action Plan	21		
Max Select	None	Force Off	None		

**Split Preference Phases**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description																
Splits (Split Pat 21)	35	40	18	47	17	58	18	47	0	0	0	0	0	0	0	0
Preference 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Preference 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Disp.	-	0	0	0
Split Sum	140s	140s	0s	0s

Misc. Data			
Veh. Permissive 1	0	Veh. Permissive 2	0
Split Demand Pat 1	0	Split Demand Pat 2	0
		Veh. Permissive 2 Disp.	0
		Crossing Arterial Pat	0

**Split Pattern Data**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coordinated Phases		X				X										
Vehicle Recalls																
Ped Recalls																
Max Recalls																
Phase Omit									X	X	X	X	X	X	X	X
Special Function Output																

**Pattern - 22**

Split Pattern	22	TS2 (Pat-Off)	7-1	Splits in	Seconds
Cycle	140	Std (COS)	0	Offsets in	Seconds
Offset Value	67s	Dwell/Add Time	0		
Actuated Coord	No	Timing Plan	1		
Actuated Walk Rest	No	Sequence	5		
Phase Reservice	No	Action Plan	22		
Max Select	None	Force Off	None		

**Split Preference Phases**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description																
Splits (Split Pat 22)	35	40	18	47	17	58	18	47	0	0	0	0	0	0	0	0
Preference 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Preference 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Disp.	-	0	0	0
Split Sum	140s	140s	0s	0s

Misc. Data					
Veh. Permissive 1	0	Veh. Permissive 2	0	Veh. Permissive 2 Disp.	0
Split Demand Pat 1	0	Split Demand Pat 2	0	Crossing Arterial Pat	0

**Split Pattern Data**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coordinated Phases		X				X										
Vehicle Recalls																
Ped Recalls																
Max Recalls																
Phase Omit									X	X	X	X	X	X	X	X
Special Function Output																

**Pattern - 23**

Split Pattern	23	TS2 (Pat-Off)	7-2	Splits in	Seconds
Cycle	140	Std (COS)	0	Offsets in	Seconds
Offset Value	62s	Dwell/Add Time	0		
Actuated Coord	No	Timing Plan	1		
Actuated Walk Rest	No	Sequence	5		
Phase Reservice	No	Action Plan	23		
Max Select	None	Force Off	None		

**Split Preference Phases**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description																
Splits (Split Pat 23)	35	40	18	47	17	58	18	47	0	0	0	0	0	0	0	0
Preference 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Preference 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Disp.	-	0	0	0
Split Sum	140s	140s	0s	0s

Misc. Data					
Veh. Permissive 1	0	Veh. Permissive 2	0	Veh. Permissive 2 Disp.	0
Split Demand Pat 1	0	Split Demand Pat 2	0	Crossing Arterial Pat	0

**Split Pattern Data**

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coordinated Phases		X				X										
Vehicle Recalls																
Ped Recalls																
Max Recalls																
Phase Omit									X	X	X	X	X	X	X	X
Special Function Output																

**Johns Creek, GA**

Old Alabama Road @ Jones Bridge Road - 10.123.5.101 - Econolite Type - ASC3

**Preemptor**

**Preempt Plan (MM)4-1**

No Enabled Preempts

**Johns Creek, GA**

Old Alabama Road @ Jones Bridge Road - 10.123.5.101 - Econolite Type - ASC3

**Preemptor Preempt Filtering**  
**Enable Preempt Filtering and TSP/SCP**  
**(MM)4-2**

Input	Solid	Pulsing
1	...Bypassed...	...Bypassed...
2	...Bypassed...	...Bypassed...
3	Preemption -3	Preemption -7
4	Preemption -4	Preemption -8
5	Preemption -5	Preemption -9
6	Preemption -6	Preemption -10
7	...Bypassed...	...Bypassed...
8	...Bypassed...	...Bypassed...
9	...Bypassed...	...Bypassed...
10	...Bypassed...	...Bypassed...

**Johns Creek, GA**

Old Alabama Road @ Jones Bridge Road - 10.123.5.101 - Econolite Type - ASC3

**Time Base Clock/Calendar**  
**Clock/Calendar Options (MM)5-1**

Enable Action Plan: 0  
 Sync Reference Time: 12:00 AM  
 Sync Reference: Reference Time  
 Day Light Savings: No  
 Time Reset Input Set Time: 3:30:00  
 Standard Time From GMT: 0

**Johns Creek, GA**

Old Alabama Road @ Jones Bridge Road - 10.123.5.101 - Econolite Type - ASC3

**Time Base Action Plan**  
**Action Plan (MM)5-2**

**Action Plan - 1**

Pattern	1	Override System	No
Timing Plan	1	Sequence	5
Veh Det Plan	0	Detector Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Diming Enable	No	Veh Priority Return	No
Ped Priority Return	No	Queue Delay	No
Preempt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																

Max Recall																				
Max 2																				
Max 3																				
CS Inhibit																				
Omit																				
Special Function																				
Auxilliary Function																				
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15				
LP 1-15																				
LP 16-30																				
LP 31-45																				
LP 46-60																				
LP 61-75																				
LP 76-90																				
LP 91-100																				

**Action Plan - 2**

Pattern	2	Override System	No
Timing Plan	1	Sequence	5
Veh Det Plan	0	Detector Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Diming Enable	No	Veh Priority Return	No
Ped Priority Return	No	Queue Delay	No
Preempt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Special Function																
Auxilliary Function																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
LP 1-15																
LP 16-30																
LP 31-45																
LP 46-60																
LP 61-75																
LP 76-90																
LP 91-100																

**Action Plan - 3**

Pattern	3	Override System	No
Timing Plan	1	Sequence	5
Veh Det Plan	0	Detector Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Diming Enable	No	Veh Priority Return	No
Ped Priority Return	No	Queue Delay	No
Preempt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Special Function																
Auxilliary Function																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
LP 1-15																
LP 16-30																
LP 31-45																
LP 46-60																
LP 61-75																
LP 76-90																
LP 91-100																

**Action Plan - 11**

Pattern	11	Override System	No
Timing Plan	1	Sequence	5
Veh Det Plan	0	Detector Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Diming Enable	No	Veh Priority Return	No
Ped Priority Return	No	Queue Delay	No
Preempt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Special Function																
Auxilliary Function																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
LP 1-15																
LP 16-30																
LP 31-45																
LP 46-60																
LP 61-75																
LP 76-90																
LP 91-100																

**Action Plan - 12**

Pattern	12	Override System	No
Timing Plan	1	Sequence	5
Veh Det Plan	0	Detector Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Diming Enable	No	Veh Priority Return	No
Ped Priority Return	No	Queue Delay	No
Preempt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Special Function																
Auxilliary Function																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
LP 1-15																
LP 16-30																
LP 31-45																
LP 46-60																
LP 61-75																
LP 76-90																
LP 91-100																

**Action Plan - 13**

Pattern	13	Override System	No
Timing Plan	1	Sequence	5
Veh Det Plan	0	Detector Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Diming Enable	No	Veh Priority Return	No
Ped Priority Return	No	Queue Delay	No
Preempt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Special Function																
Auxilliary Function																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
LP 1-15																
LP 16-30																
LP 31-45																
LP 46-60																
LP 61-75																
LP 76-90																
LP 91-100																

**Action Plan - 21**

Pattern	21	Override System	No
Timing Plan	1	Sequence	5
Veh Det Plan	0	Detector Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Diming Enable	No	Veh Priority Return	No
Ped Priority Return	No	Queue Delay	No
Preempt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Special Function																
Auxilliary Function																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
LP 1-15																
LP 16-30																
LP 31-45																
LP 46-60																
LP 61-75																
LP 76-90																
LP 91-100																

**Action Plan - 22**

Pattern	22	Override System	No
Timing Plan	1	Sequence	5
Veh Det Plan	0	Detector Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Diming Enable	No	Veh Priority Return	No
Ped Priority Return	No	Queue Delay	No
Preempt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Special Function																
Auxilliary Function																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
LP 1-15																
LP 16-30																
LP 31-45																
LP 46-60																
LP 61-75																
LP 76-90																
LP 91-100																

**Action Plan - 23**

Pattern	23	Override System	No
Timing Plan	1	Sequence	5
Veh Det Plan	0	Detector Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Diming Enable	No	Veh Priority Return	No
Ped Priority Return	No	Queue Delay	No
Preempt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Special Function																
Auxilliary Function																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
LP 1-15																
LP 16-30																
LP 31-45																
LP 46-60																
LP 61-75																
LP 76-90																
LP 91-100																

**Action Plan - 31**

Pattern	1	Override System	No
Timing Plan	1	Sequence	5
Veh Det Plan	0	Detector Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Diming Enable	No	Veh Priority Return	No
Ped Priority Return	No	Queue Delay	No
Preempt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall				X		X		X								
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Special Function																
Auxilliary Function																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
LP 1-15																
LP 16-30																
LP 31-45																
LP 46-60																
LP 61-75																
LP 76-90																
LP 91-100																

**Action Plan - 100**

Pattern	254 - FREE	Override System	No
Timing Plan	0	Sequence	5
Veh Det Plan	0	Detector Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Diming Enable	No	Veh Priority Return	No
Ped Priority Return	No	Queue Delay	No
Preempt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Special Function																
Auxilliary Function																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
LP 1-15																
LP 16-30																
LP 31-45																
LP 46-60																
LP 61-75																
LP 76-90																
LP 91-100																

## Johns Creek, GA

Old Alabama Road @ Jones Bridge Road - 10.123.5.101 - Econolite Type - ASC3

### Time Base Day Plan/Schedule Day Plan (MM)5-3

#### Day Plan - 1

Event	Action Plan	Start Time
1	100	12:00 AM
2	1	9:30 AM
3	100	7:00 PM

#### Day Plan - 2

Event	Action Plan	Start Time
1	100	12:00 AM
2	11	6:15 AM
3	1	10:15 AM
4	21	3:00 PM
5	100	7:15 PM

#### Day Plan - 3

Event	Action Plan	Start Time
1	100	12:00 AM
2	11	6:15 AM
3	1	10:15 AM
4	21	3:00 PM
5	31	7:00 PM

#### Day Plan - 4

Event	Action Plan	Start Time
1	31	12:00 AM
2	11	8:00 AM
3	100	7:00 PM

#### Day Plan - 6

Event	Action Plan	Start Time
1	100	12:00 AM
2	6	9:00 AM
3	7	3:00 PM
4	100	7:00 PM

#### Day Plan - 7

Event	Action Plan	Start Time
1	11	12:00 AM
2	2	4:00 PM

**Schedule (MM)5-4****Schedule Number - 1**

Day Plan Number: 1

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	X	X	X	X	X	X	X	X	X	X	X	X

Day of Week	Sun	Mon	Tue	Wed	Thur	Fri	Sat
	X						

Day of Month	1	2	3	4	5	6	7	8	9	10	11
	X	X	X	X	X	X	X	X	X	X	X
	12	13	14	15	16	17	18	19	20	21	22
	X	X	X	X	X	X	X	X	X	X	X
	23	24	25	26	27	28	29	30	31		
	X	X	X	X	X	X	X	X	X		

**Schedule Number - 2**

Day Plan Number: 2

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	X	X	X	X	X	X	X	X	X	X	X	X

Day of Week	Sun	Mon	Tue	Wed	Thur	Fri	Sat
		X	X	X	X		

Day of Month	1	2	3	4	5	6	7	8	9	10	11
	X	X	X	X	X	X	X	X	X	X	X
	12	13	14	15	16	17	18	19	20	21	22
	X	X	X	X	X	X	X	X	X	X	X
	23	24	25	26	27	28	29	30	31		
	X	X	X	X	X	X	X	X	X		

**Schedule Number - 3**

Day Plan Number: 3

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	X	X	X	X	X	X	X	X	X	X	X	X

Day of Week	Sun	Mon	Tue	Wed	Thur	Fri	Sat
						X	

Day of Month	1	2	3	4	5	6	7	8	9	10	11
	X	X	X	X	X	X	X	X	X	X	X
	12	13	14	15	16	17	18	19	20	21	22
	X	X	X	X	X	X	X	X	X	X	X
	23	24	25	26	27	28	29	30	31		
	X	X	X	X	X	X	X	X	X		

## Schedule Number - 4

Day Plan Number: 4

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	X	X	X	X	X	X	X	X	X	X	X	X

Day of Week	Sun	Mon	Tue	Wed	Thur	Fri	Sat
							X

Day of Month	1	2	3	4	5	6	7	8	9	10	11
	X	X	X	X	X	X	X	X	X	X	X
	12	13	14	15	16	17	18	19	20	21	22
	X	X	X	X	X	X	X	X	X	X	X
	23	24	25	26	27	28	29	30	31		
	X	X	X	X	X	X	X	X	X		

## Schedule Number - 6

Day Plan Number: 6

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	X	X	X	X	X	X	X	X	X	X	X	X

Day of Week	Sun	Mon	Tue	Wed	Thur	Fri	Sat
						X	

Day of Month	1	2	3	4	5	6	7	8	9	10	11
	X	X	X	X	X	X	X	X	X	X	X
	12	13	14	15	16	17	18	19	20	21	22
	X	X	X	X	X	X	X	X	X	X	X
	23	24	25	26	27	28	29	30	31		
	X	X	X	X	X	X	X	X	X		

## Schedule Number - 7

Day Plan Number: 7

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	X	X	X	X	X	X	X	X	X	X	X	X

Day of Week	Sun	Mon	Tue	Wed	Thur	Fri	Sat
							X

Day of Month	1	2	3	4	5	6	7	8	9	10	11
	X	X	X	X	X	X	X	X	X	X	X
	12	13	14	15	16	17	18	19	20	21	22
	X	X	X	X	X	X	X	X	X	X	X
	23	24	25	26	27	28	29	30	31		
	X	X	X	X	X	X	X	X	X		

### Johns Creek, GA

Old Alabama Road @ Jones Bridge Road - 10.123.5.101 - Econolite Type - ASC3

#### Time Base Exceptions

##### Exception Day Program (MM)5-5

Day	Fixed/Float	Month	Day of Week/Month	Week of Month/Year	Day Plan
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### Johns Creek, GA

Old Alabama Road @ Jones Bridge Road - 10.123.5.101 - Econolite Type - ASC3

#### Detectors

##### Detectors Page 1

##### Vehicle Detectors Setup (MM)6-1

Vehicle Plan	Detector Number	Called	Type
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##### Vehicle Detector Setup (MM)6-2 continued

Detector Number	Type	TS2 Detector	Detector Description
1	N-NTCIP	Yes	
2	N-NTCIP	Yes	
3	N-NTCIP	Yes	
4	S-STANDARD	Yes	
5	S-STANDARD	Yes	
6	S-STANDARD	Yes	
7	S-STANDARD	Yes	
8	S-STANDARD	Yes	
9	S-STANDARD	Yes	
10	N-NTCIP	Yes	
11	N-NTCIP	Yes	
12	S-STANDARD	Yes	
13	S-STANDARD	Yes	
14	S-STANDARD	Yes	
15	S-STANDARD	Yes	
16	S-STANDARD	Yes	
17	S-STANDARD	Yes	
18	N-NTCIP	Yes	
19	N-NTCIP	Yes	
20	S-STANDARD	Yes	
21	S-STANDARD	Yes	
22	S-STANDARD	Yes	
23	S-STANDARD	Yes	
24	S-STANDARD	Yes	
25	S-STANDARD	Yes	
26	N-NTCIP	Yes	
27	N-NTCIP	Yes	
28	S-STANDARD	Yes	
29	S-STANDARD	Yes	
30	S-STANDARD	Yes	
31	S-STANDARD	Yes	
32	S-STANDARD	Yes	
33	N-NTCIP	Yes	
34	N-NTCIP	Yes	
35	N-NTCIP	Yes	
36	N-NTCIP	Yes	
37	N-NTCIP	Yes	
38	N-NTCIP	Yes	
39	N-NTCIP	Yes	
40	N-NTCIP	Yes	
41	N-NTCIP	Yes	
42	N-NTCIP	Yes	
43	N-NTCIP	Yes	
44	N-NTCIP	Yes	

45	N-NTCIP	Yes	
46	N-NTCIP	Yes	
47	N-NTCIP	Yes	
48	N-NTCIP	Yes	
49	N-NTCIP	Yes	
50	N-NTCIP	Yes	
51	N-NTCIP	Yes	
52	N-NTCIP	Yes	
53	N-NTCIP	Yes	
54	N-NTCIP	Yes	
55	N-NTCIP	Yes	
56	N-NTCIP	Yes	
57	N-NTCIP	Yes	
58	N-NTCIP	Yes	
59	N-NTCIP	Yes	
60	N-NTCIP	Yes	
61	N-NTCIP	Yes	
62	N-NTCIP	Yes	
63	N-NTCIP	Yes	
64	N-NTCIP	Yes	

## Vehicle Detector Setup (MM)6-2 continued

Det Num	Veh Det Plan	Phase	ECPI Log	Call Option	Delay Time	Ext Option	Extend Time / Passage Time	Queue Lim / Discon. Time	Use Added Initial	Cross Switch Phase	Lock In	NTCIP Vol.	NTCIP Occ.	Pmt Queue Delay
1	1	0	No	Yes	0.0	Passage	0.0	0	No	0	None	Yes	Yes	No
1	2	1	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
1	3	1	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
1	4	1	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
2	1	3	Yes	Yes	0.0	Passage	0.0	0	Yes	0	None	Yes	Yes	No
2	2	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
2	3	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
2	4	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
3	1	2	Yes	Yes	0.0	Passage	0.0	0	Yes	0	None	Yes	Yes	No
3	2	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
3	3	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
3	4	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
4	1	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
4	2	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
4	3	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
4	4	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
5	1	0	No	Yes	0.0	Passage	0.0	0	No	8	None	No	No	No
5	2	3	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
5	3	3	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
5	4	3	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
6	1	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
6	2	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
6	3	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
6	4	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
7	1	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
7	2	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
7	3	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
7	4	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
8	1	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
8	2	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
8	3	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
8	4	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
9	1	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
9	2	1	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
9	3	1	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
9	4	1	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
10	1	4	Yes	Yes	0.0	Passage	0.0	0	Yes	0	None	Yes	Yes	No
10	2	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
10	3	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
10	4	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
11	1	1	No	Yes	0.0	Passage	0.0	0	No	0	None	Yes	Yes	No
11	2	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
11	3	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No

11	4	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
12	1	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
12	2	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
12	3	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
12	4	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
13	1	0	No	Yes	0.0	Passage	0.0	0	No	8	None	No	No	No
13	2	3	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
13	3	3	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
13	4	3	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
14	1	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
14	2	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
14	3	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
14	4	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
15	1	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
15	2	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
15	3	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
15	4	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
16	1	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
16	2	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
16	3	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
16	4	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
17	1	0	No	Yes	0.0	Passage	0.0	0	No	2	None	No	No	No
17	2	5	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
17	3	5	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
17	4	5	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
18	1	7	Yes	Yes	0.0	Passage	0.0	0	Yes	0	None	Yes	Yes	No
18	2	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
18	3	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
18	4	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
19	1	6	Yes	Yes	0.0	Passage	0.0	0	Yes	0	None	Yes	Yes	No
19	2	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
19	3	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
19	4	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
20	1	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
20	2	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
20	3	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
20	4	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
21	1	0	No	Yes	0.0	Passage	0.0	0	No	4	None	No	No	No
21	2	7	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
21	3	7	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
21	4	7	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
22	1	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
22	2	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
22	3	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
22	4	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
23	1	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
23	2	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
23	3	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
23	4	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
24	1	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
24	2	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
24	3	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
24	4	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
25	1	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
25	2	5	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
25	3	5	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
25	4	5	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
26	1	8	Yes	Yes	0.0	Passage	0.0	0	Yes	0	None	Yes	Yes	No
26	2	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
26	3	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
26	4	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
27	1	5	No	Yes	0.0	Passage	0.0	0	No	0	None	Yes	Yes	No
27	2	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
27	3	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
27	4	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
28	1	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
28	2	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
28	3	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No

28	4	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
29	1	0	No	Yes	0.0	Passage	0.0	0	No	4	None	No	No	No
29	2	7	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
29	3	7	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
29	4	7	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
30	1	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
30	2	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
30	3	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
30	4	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
31	1	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
31	2	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
31	3	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
31	4	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
32	1	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
32	2	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
32	3	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
32	4	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No

**Ped Detector Options (MM)6-3**

**Phase Ped Detector (NTCIP)**

Local Ped Detector	Number
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16

**Johns Creek, GA**

Old Alabama Road @ Jones Bridge Road - 10.123.5.101 - Econolite Type - ASC3

**Detectors**

**Detectors Page 2**

**Log - Speed Detector Setup (MM)6-4**

NTCIP Log Period: 60      ECPI Log Period: 5      Length Unit: Inch

Speed Detector	Local Detector	One/Two Detector	Vehicle Length	Trap Length	Enable Log
1	0	1	0	0	No
2	0	1	0	0	No
3	0	1	0	0	No
4	0	1	0	0	No
5	0	1	0	0	No
6	0	1	0	0	No
7	0	1	0	0	No
8	0	1	0	0	No
9	0	1	0	0	No
10	0	1	0	0	No
11	0	1	0	0	No
12	0	1	0	0	No
13	0	1	0	0	No

14	0	1	0	0	No
15	0	1	0	0	No
16	0	1	0	0	No

## Vehicle Detector Diagnostics (MM)6-5

Plan	Detector	Counts	Act	Pres	Multiplier	Failed Time	Failed Call Delay
1	1	0	0	60	1	10	120
1	2	0	0	120	1	10	120
1	3	0	0	0	1	255	0
1	4	0	0	0	1	255	0
1	5	0	0	0	1	255	0
1	6	0	0	60	1	10	120
1	7	0	0	0	1	255	0
1	8	0	0	0	1	255	0
1	9	0	0	0	1	255	0
1	10	0	0	120	1	10	120
1	11	0	0	0	1	255	0
1	12	0	0	0	1	255	0
1	13	0	0	0	1	255	0
1	14	0	0	60	1	10	120
1	15	0	0	0	1	255	0
1	16	0	0	0	1	255	0
1	17	0	0	60	1	10	120
1	18	0	0	120	1	10	120
1	19	0	0	0	1	255	0
1	20	0	0	0	1	255	0
1	21	0	0	0	1	255	0
1	22	0	0	60	1	10	120
1	23	0	0	0	1	255	0
1	24	0	0	0	1	255	0
1	25	0	0	0	1	255	0
1	26	0	0	120	1	10	120
1	27	0	0	0	1	255	0
1	28	0	0	0	1	255	0
1	29	0	0	0	1	255	0
1	30	0	0	60	1	10	120
1	31	0	0	0	1	255	0
1	32	0	0	0	1	255	0
1	33	0	0	0	1	255	0
1	34	0	0	0	1	255	0
1	35	0	0	0	1	255	0
1	36	0	0	0	1	255	0
1	37	0	0	0	1	255	0
1	38	0	0	0	1	255	0
1	39	0	0	0	1	255	0
1	40	0	0	0	1	255	0
1	41	0	0	0	1	255	0
1	42	0	0	0	1	255	0
1	43	0	0	0	1	255	0
1	44	0	0	0	1	255	0
1	45	0	0	0	1	255	0
1	46	0	0	0	1	255	0
1	47	0	0	0	1	255	0
1	48	0	0	0	1	255	0
1	49	0	0	0	1	255	0
1	50	0	0	0	1	255	0
1	51	0	0	0	1	255	0
1	52	0	0	0	1	255	0
1	53	0	0	0	1	255	0
1	54	0	0	0	1	255	0
1	55	0	0	0	1	255	0
1	56	0	0	0	1	255	0
1	57	0	0	0	1	255	0
1	58	0	0	0	1	255	0
1	59	0	0	0	1	255	0
1	60	0	0	0	1	255	0

1	61	0	0	0	1	255	0
1	62	0	0	0	1	255	0
1	63	0	0	0	1	255	0
1	64	0	0	0	1	255	0
2	1	0	0	30	1	10	120
2	2	0	0	30	1	10	120
2	3	0	0	0	1	255	0
2	4	0	0	0	1	255	0
2	5	0	0	0	1	255	0
2	6	0	0	30	1	10	120
2	7	0	0	0	1	255	0
2	8	0	0	0	1	255	0
2	9	0	0	0	1	255	0
2	10	0	0	30	1	30	120
2	11	0	0	0	1	255	0
2	12	0	0	0	1	255	0
2	13	0	0	0	1	255	0
2	14	0	0	30	1	10	120
2	15	0	0	0	1	255	0
2	16	0	0	0	1	255	0
2	17	0	0	30	1	10	120
2	18	0	0	30	1	10	120
2	19	0	0	0	1	255	0
2	20	0	0	0	1	255	0
2	21	0	0	0	1	255	0
2	22	0	0	30	1	10	120
2	23	0	0	0	1	255	0
2	24	0	0	0	1	255	0
2	25	0	0	0	1	255	0
2	26	0	0	30	1	10	120
2	27	0	0	0	1	255	0
2	28	0	0	0	1	255	0
2	29	0	0	0	1	255	0
2	30	0	0	30	1	10	120
2	31	0	0	0	1	255	0
2	32	0	0	0	1	255	0
2	33	0	0	0	1	255	0
2	34	0	0	0	1	255	0
2	35	0	0	0	1	255	0
2	36	0	0	0	1	255	0
2	37	0	0	0	1	255	0
2	38	0	0	0	1	255	0
2	39	0	0	0	1	255	0
2	40	0	0	0	1	255	0
2	41	0	0	0	1	255	0
2	42	0	0	0	1	255	0
2	43	0	0	0	1	255	0
2	44	0	0	0	1	255	0
2	45	0	0	0	1	255	0
2	46	0	0	0	1	255	0
2	47	0	0	0	1	255	0
2	48	0	0	0	1	255	0
2	49	0	0	0	1	255	0
2	50	0	0	0	1	255	0
2	51	0	0	0	1	255	0
2	52	0	0	0	1	255	0
2	53	0	0	0	1	255	0
2	54	0	0	0	1	255	0
2	55	0	0	0	1	255	0
2	56	0	0	0	1	255	0
2	57	0	0	0	1	255	0
2	58	0	0	0	1	255	0
2	59	0	0	0	1	255	0
2	60	0	0	0	1	255	0
2	61	0	0	0	1	255	0
2	62	0	0	0	1	255	0
2	63	0	0	0	1	255	0
2	64	0	0	0	1	255	0

3	1	0	0	0	1	255	0
3	2	0	0	0	1	255	0
3	3	0	0	0	1	255	0
3	4	0	0	0	1	255	0
3	5	0	0	0	1	255	0
3	6	0	0	0	1	255	0
3	7	0	0	0	1	255	0
3	8	0	0	0	1	255	0
3	9	0	0	0	1	255	0
3	10	0	0	0	1	255	0
3	11	0	0	0	1	255	0
3	12	0	0	0	1	255	0
3	13	0	0	0	1	255	0
3	14	0	0	0	1	255	0
3	15	0	0	0	1	255	0
3	16	0	0	0	1	255	0
3	17	0	0	0	1	255	0
3	18	0	0	0	1	255	0
3	19	0	0	0	1	255	0
3	20	0	0	0	1	255	0
3	21	0	0	0	1	255	0
3	22	0	0	0	1	255	0
3	23	0	0	0	1	255	0
3	24	0	0	0	1	255	0
3	25	0	0	0	1	255	0
3	26	0	0	0	1	255	0
3	27	0	0	0	1	255	0
3	28	0	0	0	1	255	0
3	29	0	0	0	1	255	0
3	30	0	0	0	1	255	0
3	31	0	0	0	1	255	0
3	32	0	0	0	1	255	0
3	33	0	0	0	1	255	0
3	34	0	0	0	1	255	0
3	35	0	0	0	1	255	0
3	36	0	0	0	1	255	0
3	37	0	0	0	1	255	0
3	38	0	0	0	1	255	0
3	39	0	0	0	1	255	0
3	40	0	0	0	1	255	0
3	41	0	0	0	1	255	0
3	42	0	0	0	1	255	0
3	43	0	0	0	1	255	0
3	44	0	0	0	1	255	0
3	45	0	0	0	1	255	0
3	46	0	0	0	1	255	0
3	47	0	0	0	1	255	0
3	48	0	0	0	1	255	0
3	49	0	0	0	1	255	0
3	50	0	0	0	1	255	0
3	51	0	0	0	1	255	0
3	52	0	0	0	1	255	0
3	53	0	0	0	1	255	0
3	54	0	0	0	1	255	0
3	55	0	0	0	1	255	0
3	56	0	0	0	1	255	0
3	57	0	0	0	1	255	0
3	58	0	0	0	1	255	0
3	59	0	0	0	1	255	0
3	60	0	0	0	1	255	0
3	61	0	0	0	1	255	0
3	62	0	0	0	1	255	0
3	63	0	0	0	1	255	0
3	64	0	0	0	1	255	0
4	1	0	0	0	1	255	0
4	2	0	0	0	1	255	0
4	3	0	0	0	1	255	0
4	4	0	0	0	1	255	0

4	5	0	0	0	1	255	0
4	6	0	0	0	1	255	0
4	7	0	0	0	1	255	0
4	8	0	0	0	1	255	0
4	9	0	0	0	1	255	0
4	10	0	0	0	1	255	0
4	11	0	0	0	1	255	0
4	12	0	0	0	1	255	0
4	13	0	0	0	1	255	0
4	14	0	0	0	1	255	0
4	15	0	0	0	1	255	0
4	16	0	0	0	1	255	0
4	17	0	0	0	1	255	0
4	18	0	0	0	1	255	0
4	19	0	0	0	1	255	0
4	20	0	0	0	1	255	0
4	21	0	0	0	1	255	0
4	22	0	0	0	1	255	0
4	23	0	0	0	1	255	0
4	24	0	0	0	1	255	0
4	25	0	0	0	1	255	0
4	26	0	0	0	1	255	0
4	27	0	0	0	1	255	0
4	28	0	0	0	1	255	0
4	29	0	0	0	1	255	0
4	30	0	0	0	1	255	0
4	31	0	0	0	1	255	0
4	32	0	0	0	1	255	0
4	33	0	0	0	1	255	0
4	34	0	0	0	1	255	0
4	35	0	0	0	1	255	0
4	36	0	0	0	1	255	0
4	37	0	0	0	1	255	0
4	38	0	0	0	1	255	0
4	39	0	0	0	1	255	0
4	40	0	0	0	1	255	0
4	41	0	0	0	1	255	0
4	42	0	0	0	1	255	0
4	43	0	0	0	1	255	0
4	44	0	0	0	1	255	0
4	45	0	0	0	1	255	0
4	46	0	0	0	1	255	0
4	47	0	0	0	1	255	0
4	48	0	0	0	1	255	0
4	49	0	0	0	1	255	0
4	50	0	0	0	1	255	0
4	51	0	0	0	1	255	0
4	52	0	0	0	1	255	0
4	53	0	0	0	1	255	0
4	54	0	0	0	1	255	0
4	55	0	0	0	1	255	0
4	56	0	0	0	1	255	0
4	57	0	0	0	1	255	0
4	58	0	0	0	1	255	0
4	59	0	0	0	1	255	0
4	60	0	0	0	1	255	0
4	61	0	0	0	1	255	0
4	62	0	0	0	1	255	0
4	63	0	0	0	1	255	0
4	64	0	0	0	1	255	0

## Pedestrian Detector Diagnostics (MM)6-6

Plan	Detector	Counts	Act	Pres	Multiplier
1	2	24	0	3	1
1	3	24	0	3	1
1	6	24	0	3	1
1	7	24	0	3	1

2	2	24	0	3	1
2	3	24	0	3	1
2	6	24	0	3	1
2	7	24	0	3	1

## Appendix E Trip Generation Worksheets

**Proposed Trip Generation - NEC Jones Bridge Rd at Old Alabama Rd**



**Calculation of Anticipated Project Trips**

Based upon methodology from ITE's *Trip Generation Manual*, 9th Edition (2012)

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Project Land Use	Project Density	Project Trips			ITE Code	Variable	Equation Used <sup>1</sup>	In/Out Distribution
		Total	Inbound	Outbound				
<b>Coffee/Doughnut Shop with Drive-Through Window</b>	2,620 SF				937	1,000 SF		
	Daily	<b>2,145</b>	1,073	1,072			T = 818.58(X)	50% / 50%
	AM Peak Hour	<b>264</b>	135	129			T = 100.58(X)	51% / 49%
PM Peak Hour	<b>112</b>	56	56			T = 42.8(X)	50% / 50%	
Reductions for Pass-By Trips								
	Daily	<b>1,062</b>	531	531				
	AM Peak Hour	<b>129</b>	66	63				
PM Peak Hour	<b>56</b>	28	28					
<b>TOTAL PROJECT TRIPS</b>								
	Daily	<b>1,083</b>	542	541				
	AM Peak Hour	<b>135</b>	69	66				
PM Peak Hour	<b>56</b>	28	28					
<b>Specialty Retail Center</b>	8,130 SF				826	1,000 SF		
	Daily	<b>385</b>	193	192			T = 42.78(X) + 37.66	50% / 50%
	AM Peak Hour	<b>6</b>	4	2			T = (Daily In / Out) * Distrib.	2% / 0.9%
PM Road Peak	<b>41</b>	18	23			T = 2.40(X) + 21.48	44% / 56%	
<b>TOTAL GROUP TRIPS</b>					937	Coffee/Doughnut Shop with Drive-Through Window		
	Daily	<b>2,530</b>	1,266	1,264	826	Specialty Retail Center		
	AM Peak Hour	<b>270</b>	139	131				
PM Peak Hour	<b>153</b>	74	79					
<b>TOTAL PASS-BY TRIPS</b>								
	Daily	<b>1,062</b>	531	531				
	AM Peak Hour	<b>129</b>	66	63				
PM Peak Hour	<b>56</b>	28	28					
<b>NET NEW EXTERNAL VEHICULAR TRIPS</b>								
	Daily	<b>1,468</b>	735	733				
	AM Peak Hour	<b>141</b>	73	68				
PM Peak Hour	<b>97</b>	46	51					

Note: <sup>1</sup> Where: T = Trips; X = Density by Variable

## Appendix F Turn Lane Warrant Analysis

**Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.**

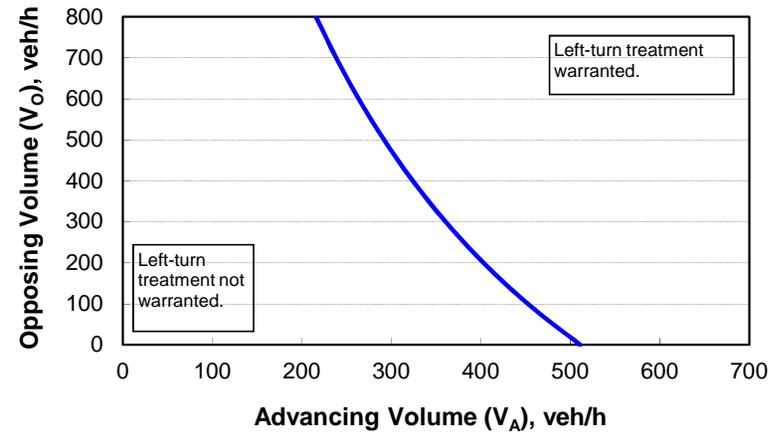
**2-lane roadway (English)**

INPUT

Variable	Value
85 <sup>th</sup> percentile speed, mph:	45
Percent of left-turns in advancing volume ( $V_A$ ), %:	11%
Advancing volume ( $V_A$ ), veh/h:	706
Opposing volume ( $V_O$ ), veh/h:	957

OUTPUT

Variable	Value
Limiting advancing volume ( $V_A$ ), veh/h:	185
<b>Guidance for determining the need for a major-road left-turn bay:</b>	
<b>Left-turn treatment warranted.</b>	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

**Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.**

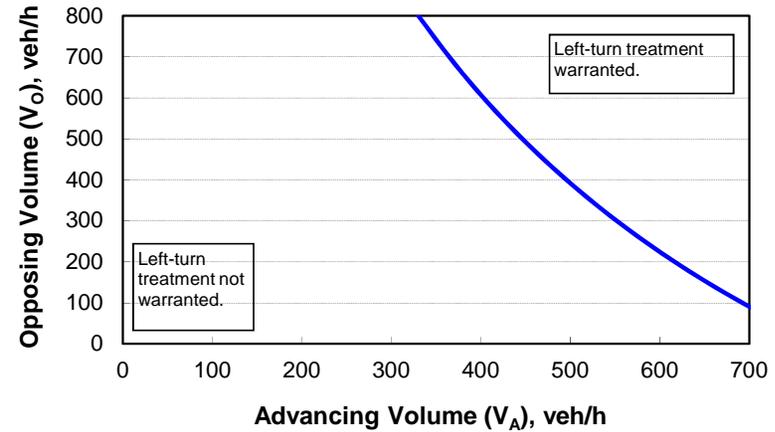
**2-lane roadway (English)**

INPUT

Variable	Value
85 <sup>th</sup> percentile speed, mph:	45
Percent of left-turns in advancing volume ( $V_A$ ), %:	5%
Advancing volume ( $V_A$ ), veh/h:	1100
Opposing volume ( $V_O$ ), veh/h:	762

OUTPUT

Variable	Value
Limiting advancing volume ( $V_A$ ), veh/h:	343
<b>Guidance for determining the need for a major-road left-turn bay:</b>	
<b>Left-turn treatment warranted.</b>	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

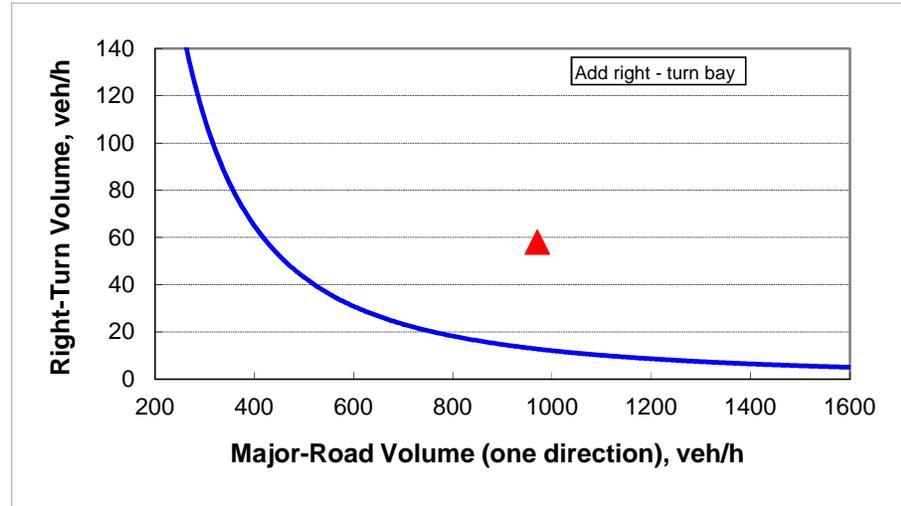
**Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.**

INPUT

Roadway geometry:	2-lane roadway	
Variable	Value	
Major-road speed, mph:	45	
Major-road volume (one direction), veh/h:	970	
Right-turn volume, veh/h:	58	

OUTPUT

Variable	Value
Limiting right-turn volume, veh/h:	13
<b>Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:</b>	
<a href="#">Add right-turn bay.</a>	



**Figure 2 - 6. Guideline for determining the need for a major-road right-turn bay at a two-way stop-controlled intersection.**

INPUT

Roadway geometry:	2-lane roadway	
	Variable	Value
Major-road speed, mph:		45
Major-road volume (one direction), veh/h:		779
Right-turn volume, veh/h:		24

OUTPUT

	Variable	Value
Limiting right-turn volume, veh/h:		19
<b>Guidance for determining the need for a major-road right-turn bay for a 2-lane roadway:</b>		
<a href="#">Add right-turn bay.</a>		

