Transportation Analysis

Sawnee Village
DRI #3395

City of Cumming, Georgia
(Forsyth County)

September 2021

Prepared for:

The Providence Group of Georgia, LLC.

Prepared by:

Kimley-Horn and Associates, Inc.
11720 Amber Park Drive, Suite 600
Alpharetta, Georgia 30009
019913029

Kimley»Horn

Transportation Analysis

Sawnee Village
DRI #3395

City of Cumming, Georgia
(Forsyth County)

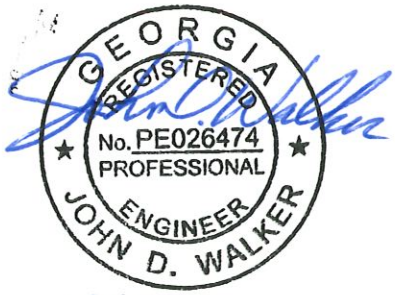
September 2021

Prepared for:

The Providence Group of Georgia, LLC.

Prepared by:

Kimley-Horn and Associates, Inc.
11720 Amber Park Drive, Suite 600
Alpharetta, Georgia 30009
019913029



9/13/2021

Kimley»Horn

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

Available Upon Request
Raw Traffic Count Data
Synchro Capacity Analyses

EXECUTIVE SUMMARY

This report presents the analysis of the anticipated traffic impacts of the proposed *Sawnee Village* development located in the City of Cumming, Georgia. The majority of the approximate 152.911-acre site is located east of SR 9 (Dahlonega Street) and west of Pilgrim Mill Road with an eastern tract located east of Pilgrim Mill Road. The site is currently vacant. It is important to note that this site was previously studied in DRI #2848: The Villages at Brooks Farm Mixed-Use Development in 2018. The site is undergoing changes to the site plan and density.

The proposed development will consist of the following land uses and densities contained in **Table 1**. The project is expected to be completed by 2028 (approximately 7 years).

Table 1: Proposed Land Use and Density	
Single-Family	149 units
Townhomes	341 units
Multi-Family Residential	262 units
Senior Living Attached	193 units
Senior Living Detached	72 units
Office	38,475 SF
Retail	44,675 SF
Restaurant	16,800 SF

The DRI analysis includes an estimation of the overall vehicle trips projected to be generated by the development, also known as gross trips. Mixed-use reductions to gross trips are also included in the trip generation, as outlined in the Georgia Regional Transportation Authority (GRTA) Letter of Understanding (dated August 17, 2021).

Capacity analyses were performed for the study intersections under the Estimated 2021 conditions, the Projected 2028 No-Build conditions, and the Projected 2028 Build conditions.

- Estimated 2021 conditions represent historic traffic volumes that were collected in September of 2018 as part of *The Villages at Brooks Farm (DRI 2848)* that were grown to 2021 using a 2.5% per year (or 3.0% per year if on Pilgrim Mill Road) growth rate. New traffic counts were collected at the intersection of Pilgrim Mill Road at E Maple Street in August 2021.
- Projected 2028 No-Build conditions represent the Estimated 2021 traffic volumes grown for seven (7) additional years using a 2.5% per year (or 3.0% per year if on Pilgrim Mill Road) growth rate.
- Projected 2028 Build conditions represent the Projected 2028 No-Build conditions plus the addition of the project trips that are anticipated to be generated by the *Sawnee Village* development.

The intersections of Bald Ridge Road at Lanier 400 Parkway (Intersection 3), Dahlonega Highway (SR 9) at Elm Street/Ridgecrest Avenue (Intersection 8), and Dahlonega Highway (SR 9) at Sawnee Drive (SR 306)/Charles Place (Intersection 9) all contain approaches which currently operate at LOS F under the Estimated 2021 conditions.

No-Build

Due to the low level-of-service (LOS) at the following intersections under the Estimated 2021 conditions or Projected 2025 No-Build conditions, the following intersection improvements are recommended:

- Bald Ridge Road at Lanier 400 Parkway (Intersection 3)
    - System Improvements (needed to serve background traffic, without the development)
        - Consider installing a traffic signal if and when warranted and as approved by GDOT.
- Dahlonega Highway (SR 9) at Elm Street / Ridgecrest Avenue (Intersection 8)
    - System Improvements (needed to serve background traffic, without the development)
        - Consider installing a traffic signal if and when warranted and as approved by GDOT.
- Dahlonega Highway (SR 9) at Sawnee Drive (SR 306) / Charles Place (Intersection 9)
    - System Improvements (needed to serve background traffic, without the development)
        - Construct an exclusive southbound right-turn lane along Dahlonega Highway (SR 9).
        - Consider installing Flashing Yellow Arrow (FYA) to allow protected-permissive phasing for the northbound left-turn if and when warranted and as approved by GDOT.

Build

In addition to the No-Build Improvements, the following should be considered to serve the projected 2025 Build Conditions.

All but two (2) site driveways are projected to operate at an acceptable LOS under the Projected 2028 Build conditions. The intersections of Dahlonega Highway (SR 9) at Access A / Otwell Middle School Driveway (Intersection 11) and Dahlonega Highway (SR 9) at Access B (Intersection 12) are projected to contain approaches that operate at LOS F. Per GDOT's Policy, Intersection Control Evaluation (ICE) was performed at these intersections. It is important to note that there is a long-range SR 9 Widening project (identified as PI 141890) that will include this segment of SR 9. Due to this future project, it is recommended to consider this widening project when identifying future intersection control alternatives, subject to GDOT approval and as part of the driveway permitting process.

However, specific to Dahlonega Highway (SR 9) at Access A / Otwell Middle School Driveway (Intersection 11), to serve Build Conditions, either a traffic signal with turn lanes or a roundabout should be considered (subject to GDOT review and approval).

Additionally, specific to Dahlonega Highway (SR 9) at Access B (Intersection 12), to serve Build Conditions, either an unsignalized full-movement side-street stop, unsignalized Restricted Crossing U-Turn (RCUT), or unsignalized Right-In/Right-Out (RIRO) should be considered (subject to GDOT review and approval).

Bald Ridge Road at Lanier 400 Parkway (Intersection 3) LOS Summary

Overall LOS Standard: E Approach LOS Standard: E			Lanier 400 Parkway Southbound			Bald Ridge Road Eastbound			Bald Ridge Road Westbound		
			L	T	R	L	T	R	L	T	R
EXISTING	AM	Overall Std | LOS	(21.7))								
		Approach LOS	F (87.4)			A (2.5)			A (0.0)		
	PM	Overall Std | LOS	(8.4)								
		Approach LOS	F (60.3)			F (60.3)			F (60.3)		
NO-BUILD	AM	Overall Std | LOS	(98.3)								
		Approach LOS	F (410.3)			A (2.8)			(0.0)		
	PM	Overall Std | LOS	(42.4)								
		Approach LOS	F (329.2)			A (1.7)			A (0.0)		
BUILD	AM	Overall Std | LOS	(203.7)								
		Approach LOS	F (774.7)			A (2.7)			A (0.0)		
	PM	Overall Std | LOS	(93.0)								
		Approach LOS	F (642.6)			A (1.7)			A (0.0)		
NO-BUILD IMPROVED	AM	Overall Std | LOS	A (8.1)								
		Approach LOS	C (23.5)			A (6.0)			A (5.1)		
	PM	Overall Std | LOS	A (4.9)								
		Approach LOS	C (25.0)			A (3.6)			A (3.2)		
BUILD IMPROVED	AM	Overall Std | LOS	B (10.5)								
		Approach LOS	C (26.3)			A (7.6)			A (6.5)		
	PM	Overall Std | LOS	A (7.1)								
		Approach LOS	C (31.5)			A (5.1)			A (4.3)		

With the improvements listed on the previous page, the intersection of Bald Ridge Road at Lanier 400 Parkway (Intersection 3*)* is projected to operate at or above its overall LOS standard.

Dahlonega Highway (SR 9) at Elm Street / Ridgecrest Avenue (Intersection 8) LOS Summary

Overall LOS Standard: E Approach LOS Standard: E			Dahlonega Highway (SR 9) Northbound			Dahlonega Highway (SR 9) Southbound			Elm Street Eastbound			Ridgecrest Avenue Westbound		
			L	T	R	L	L	T	R	L	L	T	R	L
EXISTING	AM	Overall Std | LOS	(63.7)											
		Approach LOS	A (4.0)			A (0.0)			F (415.2)			F (128.5)		
	PM	Overall Std | LOS	(36.2)											
		Approach LOS	A (0.9)			A (0.2)			F (250.7)			F (57.4)		
NO-BUILD	AM	Overall Std | LOS	(68.1)											
		Approach LOS	A (5.1)			A (0.0)			F*			F (1,781.1)		
	PM	Overall Std | LOS	(176.6)											
		Approach LOS	A (0.9)			A (0.3)			F (2,000.9)			F *		
BUILD	AM	Overall Std | LOS	(115.8)											
		Approach LOS	A (5.2)			A (0.0)			F*			F (3,233.5)		
	PM	Overall Std | LOS	(590.8)											
		Approach LOS	A (0.9)			A (0.3)			F (4,021.5)			F*		
NO-BUILD IMPROVED	AM	Overall Std | LOS	D (44.0)											
		Approach LOS	B (19.8)			B (19.8)			B (19.8)			B (19.8)		
	PM	Overall Std | LOS	B (11.4)											
		Approach LOS	A (7.0)			A (9.5)			C (31.7)			C (25.1)		
BUILD IMPROVED	AM	Overall Std | LOS	D (49.9)											
		Approach LOS	B (19.3)			E (61.6)			E (55.2)			C (34.7)		
	PM	Overall Std | LOS	C (22.4)											
		Approach LOS	B (19.9)			B (11.3)			D (50.7)			C (33.7)		

With the improvements listed on the previous page, the intersection of Dahlonega Highway (SR 9) at Elm Street/Ridgecrest Avenue (Intersection 8) is projected to operate at or above its overall LOS standard.

Dahlonega Highway (SR 9) at Sawnee Drive (SR 306) / Charles Place (Intersection 9)

Overall LOS Standard: D Approach LOS Standard: E			Dahlonega Highway (SR 9)			Dahlonega Highway (SR 9)			Sawnee Drive (SR 306)			Charles Place		
			Northbound			Southbound			Eastbound			Westbound		
			L	T	R	L	L	T	R	L	L	T	R	L
EXISTING	AM	Overall Std | LOS	D (49.3)											
		Approach LOS	D (53.8)			D (46.1)			D (52.8)			D (46.9)		
	PM	Overall Std | LOS	D (37.7)											
		Approach LOS	B (17.8)			B (16.0)			F (95.9)			C (33.0)		
NO-BUILD	AM	Overall Std | LOS	F (123.4)											
		Approach LOS	F (89.1)			F (150.1)			F (95.4)			F (114.9)		
	PM	Overall Std | LOS	F (90.2)											
		Approach LOS	D (52.9)			C (23.3)			F (243.1)			D (37.5)		
BUILD	AM	Overall Std | LOS	F (188.7)											
		Approach LOS	F (331.9)			F (219.4)			E (61.1)			F (90.1)		
	PM	Overall Std | LOS	F (142.7)											
		Approach LOS	F (276.9)			D (43.0)			F (107.6)			E (57.3)		
NO-BUILD IMPROVED	AM	Overall Std | LOS	D (37.3)											
		Approach LOS	B (14.0)			D (40.6)			D (44.9)			D (48.5)		
	PM	Overall Std | LOS	C (25.6)											
		Approach LOS	B (13.7)			C (23.6)			D (46.2)			C (31.5)		
BUILD IMPROVED	AM	Overall Std | LOS	D (47.5)											
		Approach LOS	C (28.9)			D (51.0)			D (54.3)			D (52.8)		
	PM	Overall Std | LOS	D (51.3)											
		Approach LOS	D (49.2)			D (51.8)			D (53.5)			D (54.9)		

With the improvements listed on the previous page, the intersection of Dahlonega Highway (SR 9) at Sawnee Drive (SR 306) / Charles Place (Intersection 9) is projected to operate at or above its overall LOS standard.

1.0 PROJECT DESCRIPTION

1.1 Introduction

This report presents the analysis of the anticipated traffic impacts of the proposed *Sawnee Village* development located in the City of Cumming, Georgia. The approximate 152.911-acre site is located between Dahlonega Highway (SR 9) and Pilgrim Mill Road north of Brooks Farm Drive, with an additional tract east of Pilgrim Mill Road. The project site is currently zoned OP (Office Professional District), R-1A (Single-Family Residential District), and PSC (Planned Shopping Center District). The site is proposed to be rezoned to PUD (Planned Unit Development District). **Figure 1** provides a location map of the project site. **Figure 2** provides an aerial view of the project site and surrounding area.

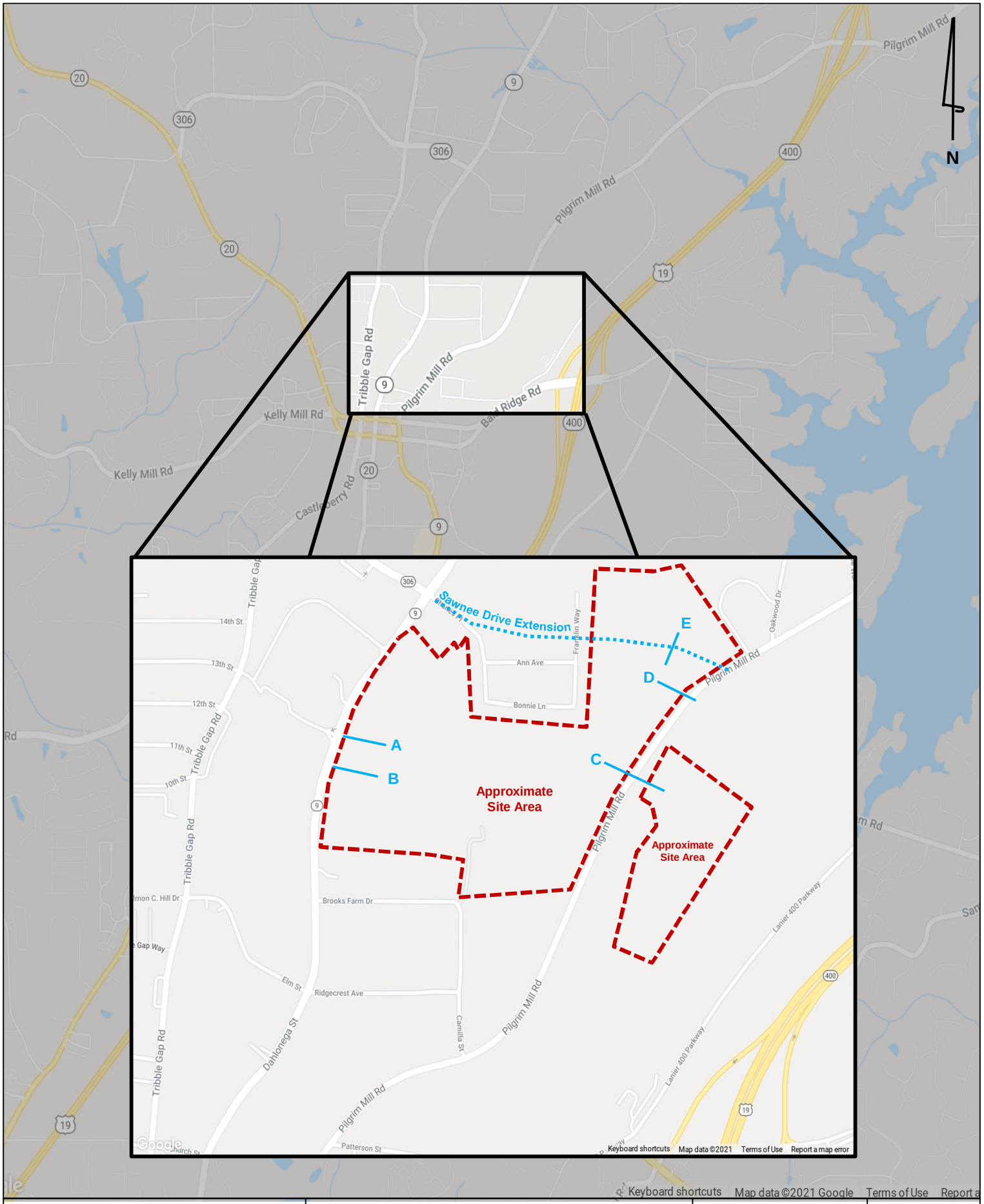
The site is currently undeveloped. The proposed development will consist of the following land uses and densities contained in **Table 2**. The project is expected to be completed by 2028 (approximately 7 years).

Table 2: Proposed Land Use and Density

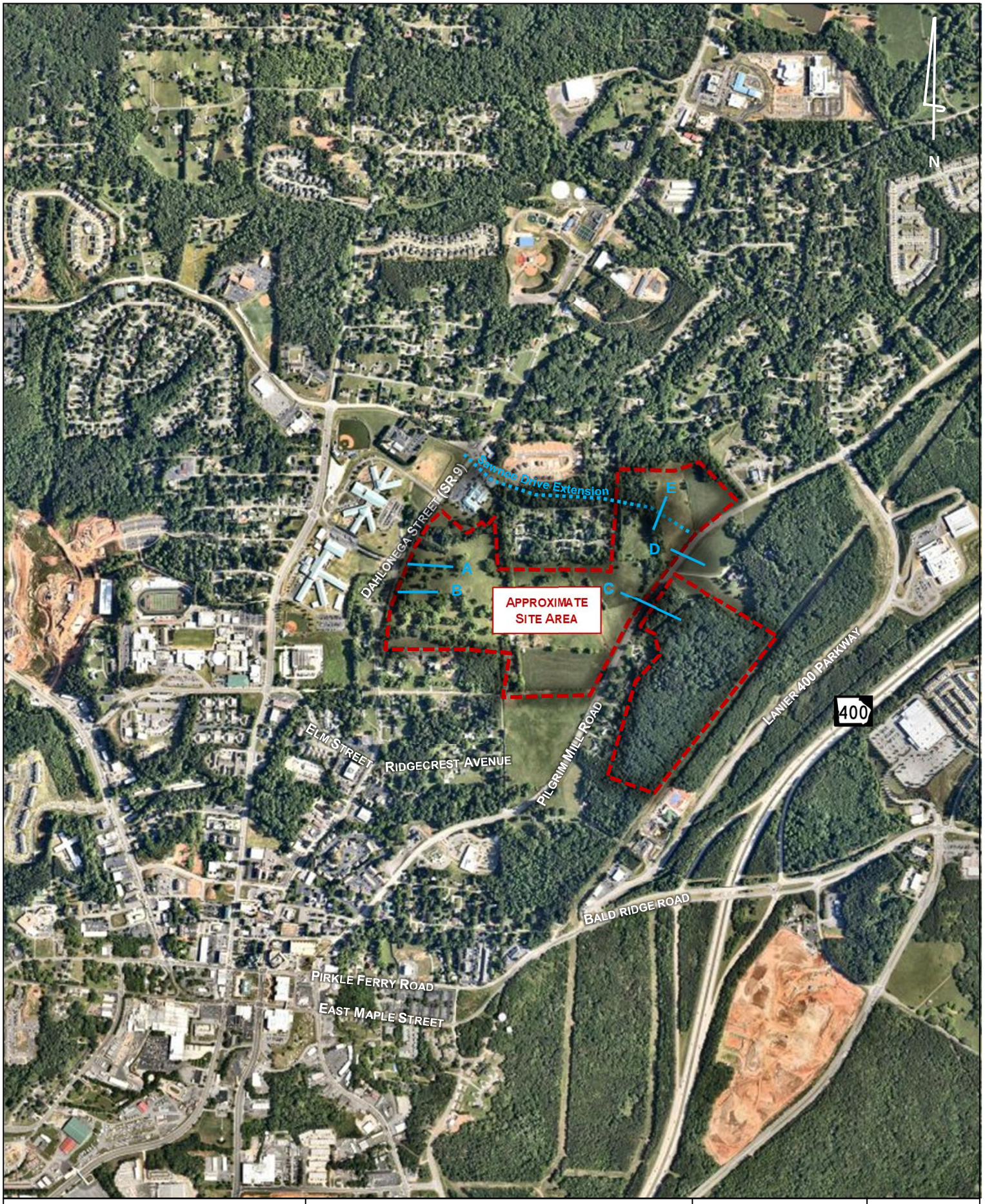
Land Use	Proposed
Single-Family	149 units
Townhomes	341 units
Multi-Family Residential	262 units
Senior Living Attached	193 units
Senior Living Detached	72 units
Office	38,475 SF
Retail	44,675 SF
Restaurant	16,800 SF

A reference of the proposed site plan is provided in **Appendix A**. A full-sized site plan consistent with GRTA's Site Plan Guidelines is also being submitted as part of the review package.

The project is considered a Development of Regional Impact (DRI) and is subject to Georgia Regional Transportation Authority (GRTA) and Atlanta Regional Commission (ARC) review due to the project size exceeding 400 residential units in a new mixed-use development. The DRI was formally triggered with the filing of the Initial DRI Information (Form 1) on July 21, 2021 by the City of Cumming. This transportation analysis includes all inputs and methodologies discussed at the DRI Methodology Meeting with GRTA, ARC, and other stakeholders. The inputs and methodologies are outlined in the GRTA Letter of Understanding (LOU).



Kimley»Horn	***Sawnee Village*** ***DRI #3395*** ***Transportation Analysis***	**Site Location**	**Figure 1**
			Page 6



Kimley»Horn	*Sawnee Village* *DRI #3395* *Transportation Analysis*	Site Aerial	Figure 2
			Page 7

1.2 Site Access

As currently envisioned, the proposed development will be accessible via five (5) new access points:

1. **Site Driveway A** – a proposed, full-movement driveway located along Dahlonega Highway (SR 9) to align with Otwell Middle School Main Driveway and operate under side street stop control. Site Driveway A will provide access to the office, retail, restaurant, and residential land uses in the main site area between SR 9 and Pilgrim Mill Road.
2. **Site Driveway B** – a proposed, full-movement driveway located along Dahlonega Highway (SR 9) approximately 300 feet south of Site Driveway A to operate under side street stop control. Site Driveway B will provide access to the office, retail, restaurant, and residential land uses in the main site area between SR 9 and Pilgrim Mill Road.
3. **Site Driveway C** – a proposed, full-movement driveway located along Pilgrim Mill Road approximately 800 feet south of Site Driveway D to operate under side street stop control. Site Driveway C will provide access to the office, retail, restaurant, and residential land uses in the main site area between SR 9 and Pilgrim Mill Road, and also to the townhome land uses to the east of Pilgrim Mill Road.
4. **Site Driveway D** – a proposed, full-movement driveway located along Pilgrim Mill Road approximately 200 feet south of Sawnee Drive Extension to operate under side street stop control. Site Driveway D will provide access to the retail and office land uses in the northeast corner of the main site area between SR 9 and Pilgrim Mill Road.
5. **Site Driveway E** – a proposed, full-movement driveway located along Sawnee Drive Extension approximately 250’ west of Pilgrim Mill Road to operate under side street stop control. Site Driveway E will provide access to the senior living residential land uses to the north of Sawnee Drive Extension and to the and retail and office land uses in the northeast corner of the main site area between SR 9 and Pilgrim Mill Road.

1.3 Internal Circulation Analysis

The site consists of four (4) separate areas: the main site area, the eastern townhome area, the northeast office/retail area, and the senior living residential area.

The proposed main site area is located north of Brooks Farm Drive between Dahlonega Highway (SR 9) and Pilgrim Mill Road. In the main site area, the office, retail, and restaurant land uses are primarily along the western site frontage, while the residential land uses make up the northwest, center, and eastern frontage of the site. Site Driveway A, Site Driveway B, and Site Driveway C serve the main site area and internal connections are provided to access the entire main area from each driveway.

The proposed eastern townhome area is located east of Pilgrim Mill Road and is served by Site Driveway C. No internal connections are provided to access the rest of the site from this area.

The northeast office/retail area is proposed in the northeast corner of the main site area, south of Sawnee Drive Extension. This area is served by Site Driveway D and Site Driveway E. No internal connections are provided to access the rest of the site from this area.

The senior living residential units are proposed north of Sawnee Drive Extension and will be served by Site Driveway E. No internal connections are provided to access the rest of the site from this area.

1.4 Parking

The current number of total site parking spaces to be provided are listed below in **Table 3**. The site development is currently in progress and the number of parking provided is subject to change.

Table 3: Proposed Parking

Land Use	Minimum	Maximum	Proposed
Single Family (detached or attached*)	1,124 *2 per unit*	2,248 *4 per unit*	Residential 1,260 parking spaces
Apartment**	728 *1.5 per unit + 0.1 per unit for guest*	1,001 *2 per unit + 0.2 per unit for guest*	
Office	128 *1 per 300 SF*	154 *1 per 250 SF*	Mixed-Use 1,093 parking spaces
Shopping Center	162 *1 per 275 SF*	199 *1 per 225 SF*	
Restaurant	134 *1 per 125 SF*	224 *1 per 75 SF*	
Total	**2,276**	**3,826**	**2,353** **(subject to change)**

**Assumed to include single-family, townhomes, and senior living (detached) for purposes of this parking estimate.*
***Assumed to include multi-family and senior living (attached) for purposes of this parking estimate.*

Additional parking details are provided on the proposed site plan in **Appendix A**.

1.5 Alternative Transportation Facilities

Pedestrian sidewalk facilities are currently provided along Pilgrim Mill Road and are proposed along all site frontages. Additionally, pedestrian facilities will be provided throughout the development, providing connections between Dahlonega highway (SR 9) and Pilgrim Mill Road via Sawnee Drive Extension.

1.6 Enhanced Focus Area for Dense Urban Environments

Per Section 3.2.4.2 of the GRTA *Development of Regional Impact Review Procedures* the *Sawnee Village* development does not qualify for a “Dense Urban Environment Enhanced Focus Area” review, due to its location in the City of Cumming.

2.0 TRAFFIC ANALYSES, METHODOLOGY AND ASSUMPTIONS

2.1 Study Network Determination

The study area was determined at the methodology meeting with input from GRTA, ARC, and other local agency stakeholders. The study includes the following ten (10) off-site intersections described in **Table 4** and shown visually in **Figure 3**.

Table 4: Intersection Control Summary

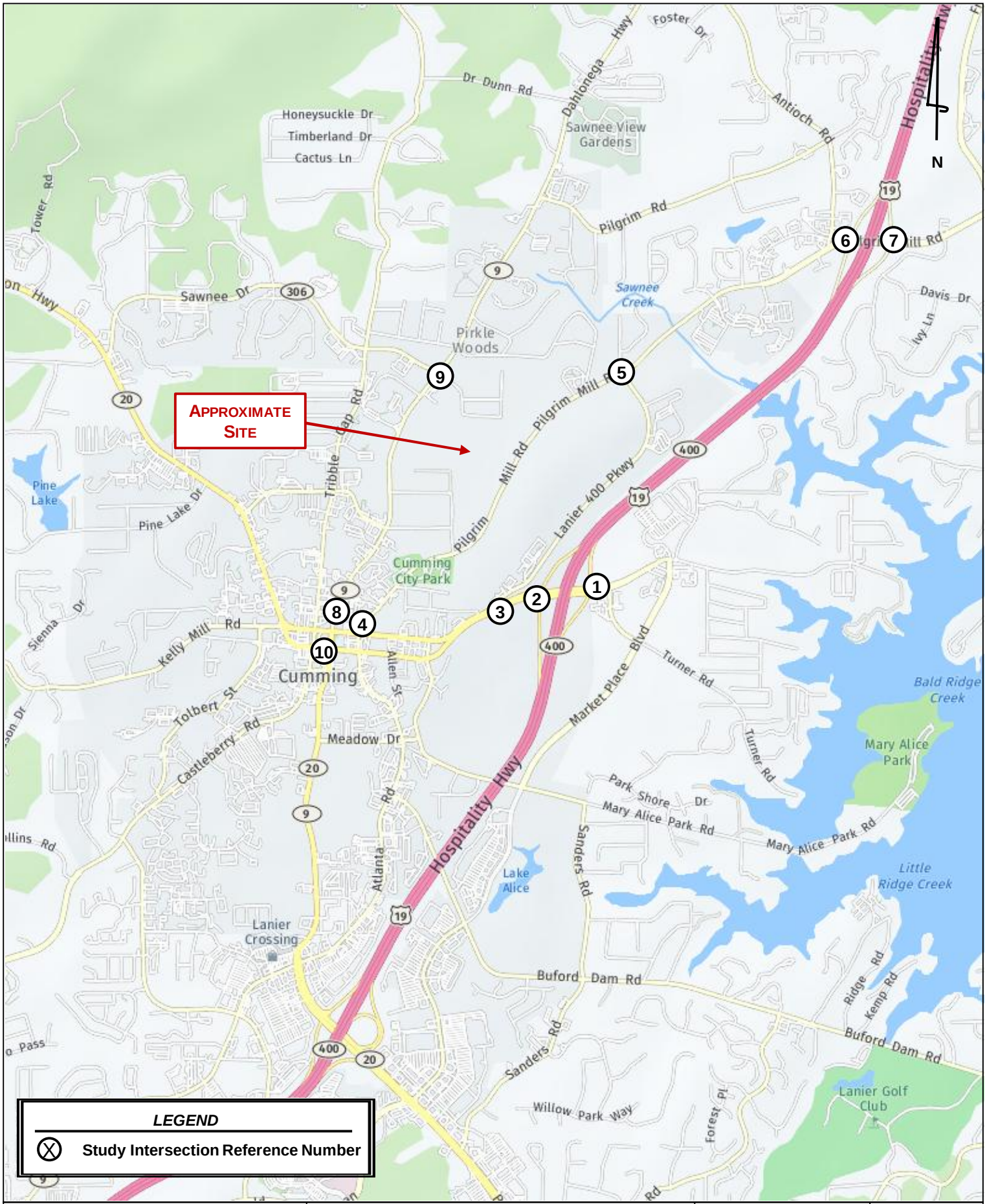
Intersection	Jurisdiction	Control
1. Bald Ridge Road at SR 400 NB Ramps	City of Cumming	Signalized
2. Bald Ridge Road at SR 400 SB Ramps	City of Cumming	Signalized
3. Bald Ridge Road at Lanier 400 Parkway	City of Cumming	Unsignalized (TWSC)
4. Pirkle Ferry Road at Pilgrim Mill Road	City of Cumming	Signalized
5. Pilgrim Mill Road at Lanier 400 Parkway	City of Cumming	Signalized
6. Pilgrim Mill Road at SR 400 SB Ramps	City of Cumming	Signalized
7. Pilgrim Mill Road at SR 400 NB Ramps	City of Cumming	Signalized
8. Dahlonega Highway (SR 9) at Elm Street	GDOT	Unsignalized (TWSC)
9. Dahlonega Highway (SR 9) at Sawnee Drive (SR 306)	GDOT	Signalized
10. Pilgrim Mill Road at Maple Street	City of Cumming	Signalized

2.2 Existing Roadway Facilities

Roadway classification descriptions and estimated Annual Average Daily Traffic (AADT) for roadway segments within the study network are provided in **Table 5** (bolded roadways are adjacent to the site).

Table 5: Roadway Classifications

Roadway	Lanes	AADT	GDOT Functional Classification
Pilgrim Mill Road	**3**	**6,740**	**Minor Arterial**
Lanier 400 Parkway	2	-	Local Road
Maple Street	2	6,800	Minor Arterial
Pirkle Ferry Road	2	13,000	Minor Arterial
Bald Ridge Road	4	13,900	Minor Arterial
Dahlonega Highway (SR 9)	**2**	**15,100**	**Minor Arterial**
Sawnee Drive (SR 306)	2	8,530	Minor Arterial
Sawnee Drive	**2**	**-**	**Minor Arterial**
Ridgecrest Avenue	2	-	Local
Elm Street	3	-	Major Collector



Kimley»Horn	*Sawnee Village* *DRI #3395* *Transportation Analysis*	**Study Intersections**	**Figure 3**
			Page 11

2.3 Traffic Data Collection and Calibration

Historical traffic counts collected in 2018 were used for eight (8) of the ten (10) existing study intersections. These traffic counts were grown at the 2.5% growth rate (3.0% along Pilgrim Mill Road) to account for background growth from 2018, when the counts were collected, to the current year 2021 as noted in the LOU. Historical traffic counts from 2017 were used for one (1) of the ten (10) existing study intersections (Intersection 8). These traffic counts were previously increased to represent the 2018 conditions in the *Villages at Brooks Farm DRI #2848*. The estimated 2018 traffic counts were then grown to the current year 2021 conditions as noted in the LOU.

New traffic counts were collected at the remaining one (1) existing study intersection (Intersection 10) and the adjacent study intersection (Intersection 4) on Tuesday, August 17, 2021. The newly collected counts at Intersection 10 were then calibrated using calibration factors to account for the potential impacts of COVID-19 to typical traffic volumes and patterns.

The peak hour adjustment factors were determined by comparing the AM and PM peak volumes at the newly collected adjacent study intersection (Intersection 4) to the AM and PM peak hour volumes grown from 2018 to 2021 in the same location. The calibration factors used in this analysis for Intersection 10 were 1.28 for AM peak hour and 1.19 for PM peak hour. The methodologies used in this analysis for traffic count calibration were approved by GRTA and ARC.

Traffic count peak hours for all the study intersections are shown in **Table 6**.

Table 6: Traffic Count Summary

Intersection		Count Date	AM Peak Hour*	PM Peak Hour*
1.	Bald Ridge Road at SR 400 NB Ramps	9/2018	8:00 AM – 9:00 AM	4:45 PM – 5:45 PM
2.	Bald Ridge Road at SR 400 SB Ramps	9/2018	8:00 AM – 9:00 AM	4:45 PM – 5:45 PM
3.	Bald Ridge Road at Lanier 400 Parkway	9/2018	8:00 AM – 9:00 AM	4:45 PM – 5:45 PM
4.	Pirkle Ferry Road at Pilgrim Mill Road	9/2018	8:00 AM – 9:00 AM	4:45 PM – 5:45 PM
5.	Pilgrim Mill Road at Lanier 400 Parkway	9/2018	8:00 AM – 9:00 AM	4:45 PM – 5:45 PM
6.	Pilgrim Mill Road at SR 400 SB Ramps	9/2018	8:00 AM – 9:00 AM	4:45 PM – 5:45 PM
7.	Pilgrim Mill Road at SR 400 NB Ramps	9/2018	8:00 AM – 9:00 AM	4:45 PM – 5:45 PM
8.	Dahlonega Highway (SR 9) at Elm Street**	5/2017	8:00 AM – 9:00 AM	4:45 PM – 5:45 PM
9.	Dahlonega Highway (SR 9) at Sawnee Drive (SR 306)	9/2018	8:00 AM – 9:00 AM	4:45 PM – 5:45 PM
10.	Pilgrim Mill Road at Maple Street	8/2021	8:00 AM – 9:00 AM	4:45 PM – 5:45 PM

**AM and PM peak hours are not listed in the Villages at Brooks Farm Mixed-Use Development DRI #2848. The AM and PM peak hours for the traffic counts collected in 2021 (Intersection 10) were assumed for all study intersections.*
***2017 traffic counts for Intersection 8 were increased by the Villages at Brooks Farm Mixed-Use Development DRI #2848 to represent 2018 conditions.*

The collected peak hour turning movement traffic counts are available upon request.

2.4 Background Growth

Background traffic is defined as expected traffic on the roadway network in future year(s) absent the construction and opening of the proposed *Sawnee Village* development. Background traffic can include a base growth rate based on historical count data and population growth data as well as trips anticipated from nearby or adjacent other projects.

Based on methodology outlined in the GRTA Letter of Understanding (LOU), a 2.5% per year background traffic growth rate from 2021 to 2028 (7 years) was used for all roadways except Pilgrim Mill Road. A 3.0% growth rate was used for the approaches along Pilgrim Mill Road based on the GRTA LOU.

The Projected 2028 No-Build conditions represent the Estimated 2021 traffic volumes grown for seven (7) years at 2.5% (3.0% along Pilgrim Mill Road) per year throughout the study network.

The Projected 2028 Build conditions represent the project trips generated by the *Sawnee Village* development (discussed in Section 3.0 and 4.0) added to the Projected 2028 No-Build Conditions.

2.5 Programmed and Planned Projects

Programmed and planned projects near the project site were researched to account for any improvements or modifications within the study network before or by the build-out year of the development. The programmed and planned projects were discussed in the methodology meeting with GRTA, ARC, and other local stakeholders.

One project was identified (noted below in italics) to include in the capacity analyses. The Pilgrim Mill Road project included upgrades to the lane geometry at the Pilgrim Mill Road interchange with SR 400. This impacted the intersections of Pilgrim Mill Road at SR 400 SB Ramps (Intersections 6) and Pilgrim Mill Road at SR 400 NB Ramps (Intersection 7). However, the remaining following projects shown in **Table 7** are programmed or planned to occur near the development beyond the build-out year of the proposed development or are not anticipated to affect the study network.

Table 7: Programmed Projects

Project Name	From / To Points:	Sponsor	GDOT PI #	ARC ID # (TIP)	Design FY	ROW / UTL FY	CST FY
SR 9 Widening	SR 20 to SR 306	GDOT	141890	FT-001E	2008	2024	2030
Forsyth County Capital and Operations	Forsyth County	GDOT	T006341	N/A	2020	N/A	N/A
Forsyth County Operations	Forsyth County	GDOT	T007146	N/A	2022	N/A	N/A
Pilgrim Mill Road (PEW16)	*Aquatic Circle to Holtzclaw Road*	*City of Cumming*	*N/A*	*N/A*	*2018*	*N/A*	*2020*
Sawnee Drive Extension	Pilgrim Mill Road to SR 9	City of Cumming	N/A	N/A	N/A	N/A	N/A

**Project information was obtained from GeoPI (GDOT) and the Atlanta Region's Plan (ARC)*

It is important to note that the programmed Sawnee Drive Extension (from Pilgrim Mill Road to SR 9) is proposed to be constructed and open to traffic by full build-out (2028) of the proposed *Sawnee Village* development. However, the alignment of Sawnee Drive Extension with Pilgrim Mill Road is currently under review and the exact alignment is to be determined at a later date.

Available fact sheets for projects listed in the table above can be found in **Appendix D**.

2.6 Level-of-Service Overview

Level-of-service (LOS) is used to describe the operating characteristics of a road segment or intersection in relation to its capacity. LOS is defined as a qualitative measure that describes operational conditions and motorists' perceptions within a traffic stream. The *Highway Capacity Manual* defines six levels-of-service, LOS A through LOS F, with A being the best and F being the worst. LOS analyses were conducted at all intersections within the study network using *Synchro 11*. Existing traffic signal phasing and timing data were retrieved for available intersections. Roundabouts were analyzed using *SIDRA INTERSECTION 9.0*. *SIDRA* uses the gap acceptance methodology for the roundabout capacity model.

LOS for signalized intersections and roundabouts are reported for the intersection as a whole. One or more movements at an intersection may experience a low LOS, while the intersection as a whole may operate acceptably.

LOS for unsignalized intersections, with stop control on the minor street only, is reported for the side street approaches and the major street left-turn movements. Low LOS for side street approaches is not uncommon, as vehicles may experience delays in turning onto a major roadway.

2.7 Level-of-Service Standards

For the purposes of this traffic analysis, a LOS standard of E was assumed for all study intersections, due to their location within a *Regional Center* area per the ARC Unified Growth Policy Map, per section 3.2.2.1 of the GRTA *Development of Regional Impact Review Procedures.*

3.0 TRIP GENERATION

Gross trips associated with the proposed development were estimated using the *Institute of Transportation Engineers' (ITE) Trip Generation Manual, 10th Edition*, *2017*, using equations where available. Reductions to gross trips are also considered in the analysis, including mixed-use reductions and alternative transportation mode reductions.

Mixed-use reductions occur when a site has a combination of different land uses that interact with one another. For example, people living in a residential development may walk to the restaurants and retail instead of driving off-site or to the site. This reduces the number of vehicle trips that will be made on the roadway, thus reducing traffic congestion.

Alternative modes reductions are taken when a site can be accessed by modes other than vehicles (walking, bicycling, transit, etc.). No alternative modes reductions were taken in this analysis per the LOU.

Pass-by reductions are taken for a site when traffic normally traveling along a roadway may choose to visit a retail or restaurant establishment that is along the vehicle's path. These trips were already on the road and would therefore only be new trips on the driveways. No pass-by trips were taken for the retail land-use based on the nature of the retail on site and to present a conservative analysis.

Table 8 summarizes the gross trip generation, reductions, net trip generation, and driveway volumes for the proposed *Sawnee Village* development.

Table 8: Trip Generation

Land Use	Density	Daily Traffic			AM Peak Hour		PM Peak Hour	
		Total	Enter	Exit	Enter	Exit	Enter	Exit
210 – Single-Family Detached Housing	149 units	1,500	750	750	28	83	94	55
220 – Multi-Family Housing (Low-Rise)	341 units	2,538	1,269	1,269	35	118	111	65
221 – Multi-Family Housing (Mid-Rise)	262 units	1,426	713	713	23	65	68	44
251 – Senior Adult Housing (Detached)	72 units	422	211	211	11	21	23	14
252 – Senior Adult Housing (Attached)	193 units	750	375	375	13	25	27	22
710 – General Office Building	38,475 S.F.	420	210	210	54	9	7	39
820 – Shopping Center	44,675 S.F.	1,686	843	843	26	16	82	88
932 – High-Turnover (Sit-Down) Restaurant	16,800 S.F.	1,884	942	942	92	75	102	62
Gross Project Trips		**10,626**	**5,313**	**5,313**	**282**	**412**	**514**	**389**
Mixed-Use Reductions		*-880*	*-440*	*-440*	*-51*	*-51*	*-125*	*-125*
Alternative Mode Reductions		*-0*	*-0*	*-0*	*-0*	*-0*	*-0*	*-0*
Pass-By Reductions		*-1,214*	*-607*	*-607*	*-0*	*-0*	*-31*	*-31*
Net New Trips		**8,532**	**4,266**	**4,266**	**231**	**361**	**358**	**233**

A more detailed trip generation analysis summary table is provided in **Appendix B**.

4.0 TRIP DISTRIBUTION AND ASSIGNMENT

The distribution of new project trips was based on the project land uses, a review of land use densities and road facilities in the area, engineering judgement, and methodology discussions with GRTA, ARC, and other local stakeholders.

The anticipated distribution and assignment of the trips throughout the study roadway network is shown for non-residential land uses in **Figure 4.** The anticipated distribution and assignment of the trips throughout the study roadway network is shown for residential land uses in **Figure 5**. These trip assignment percentages were applied to the net project trips expected to be generated by the development, and the volumes were assigned to the roadway network. The peak hour project trips are shown by turning movement throughout the study network in **Figure 6**.

Detailed intersection volume worksheets are provided in **Appendix C**.

5.0 TRAFFIC ANALYSIS

Capacity analyses were performed using *Synchro 11* for the AM and PM peak hours under the Estimated 2021 conditions, Projected 2028 No-Build conditions, and Projected 2028 Build conditions. The capacity analyses were performed using methodologies from the *Highway Capacity Manual (HCM), 6th Edition* unless otherwise noted.

These analyses included existing roadway laneage and signal timing data for each of the scenarios. The traffic volumes and roadway laneage used for each scenario are shown visually in **Figure 7** for Estimated 2021 conditions, **Figure 8** for Projected 2028 No-Build conditions, and **Figure 9** for Projected 2028 Build conditions.

Sections 5.1 – 5.15 provide the results of the capacity analyses are presented for each study intersection and include projected LOS, delay, and queue lengths.

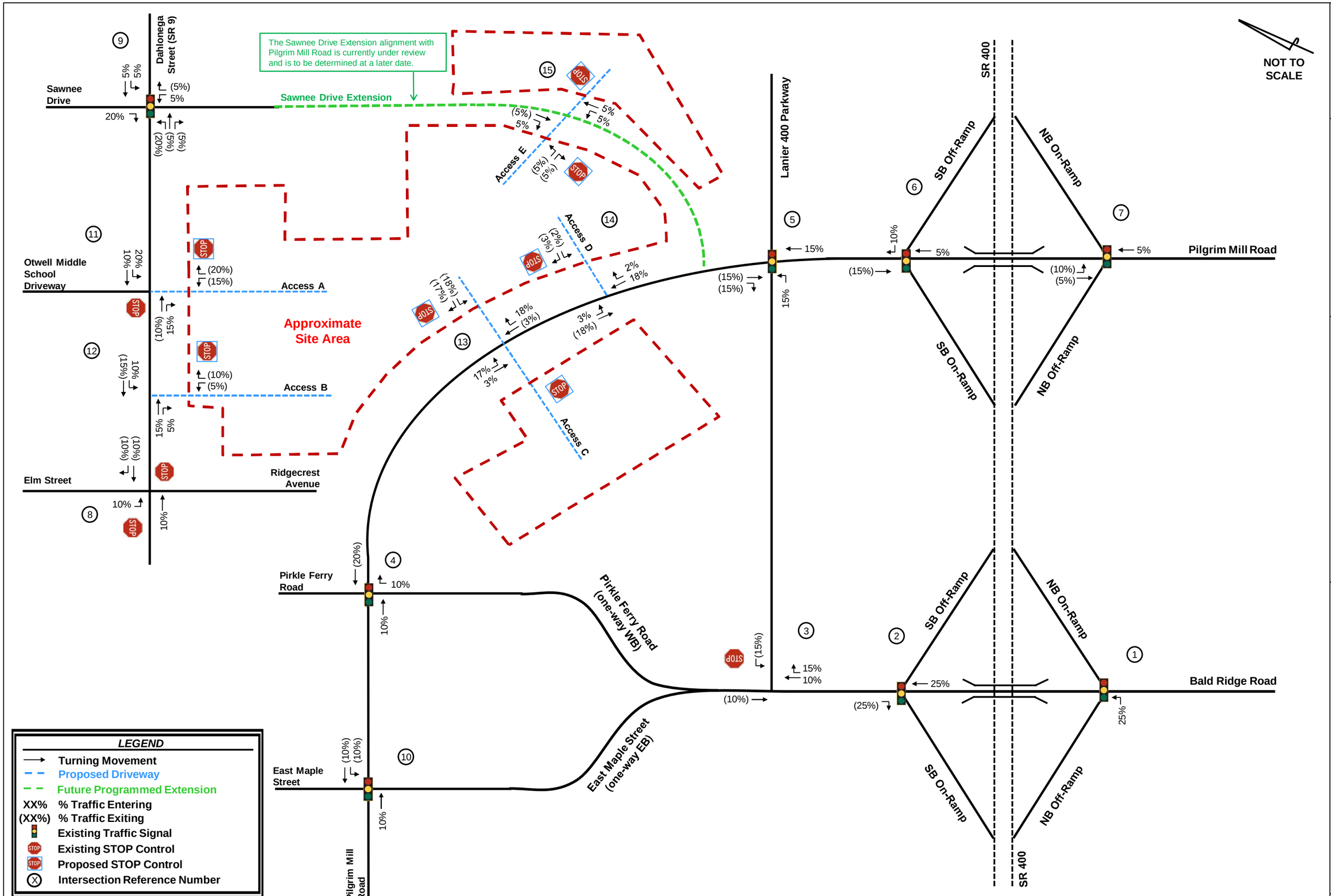


Figure 4

Non-Residential Trip Distribution and Assignment

Sawnee Village
DRI #3395
Transportation Analysis

Kimley»Horn

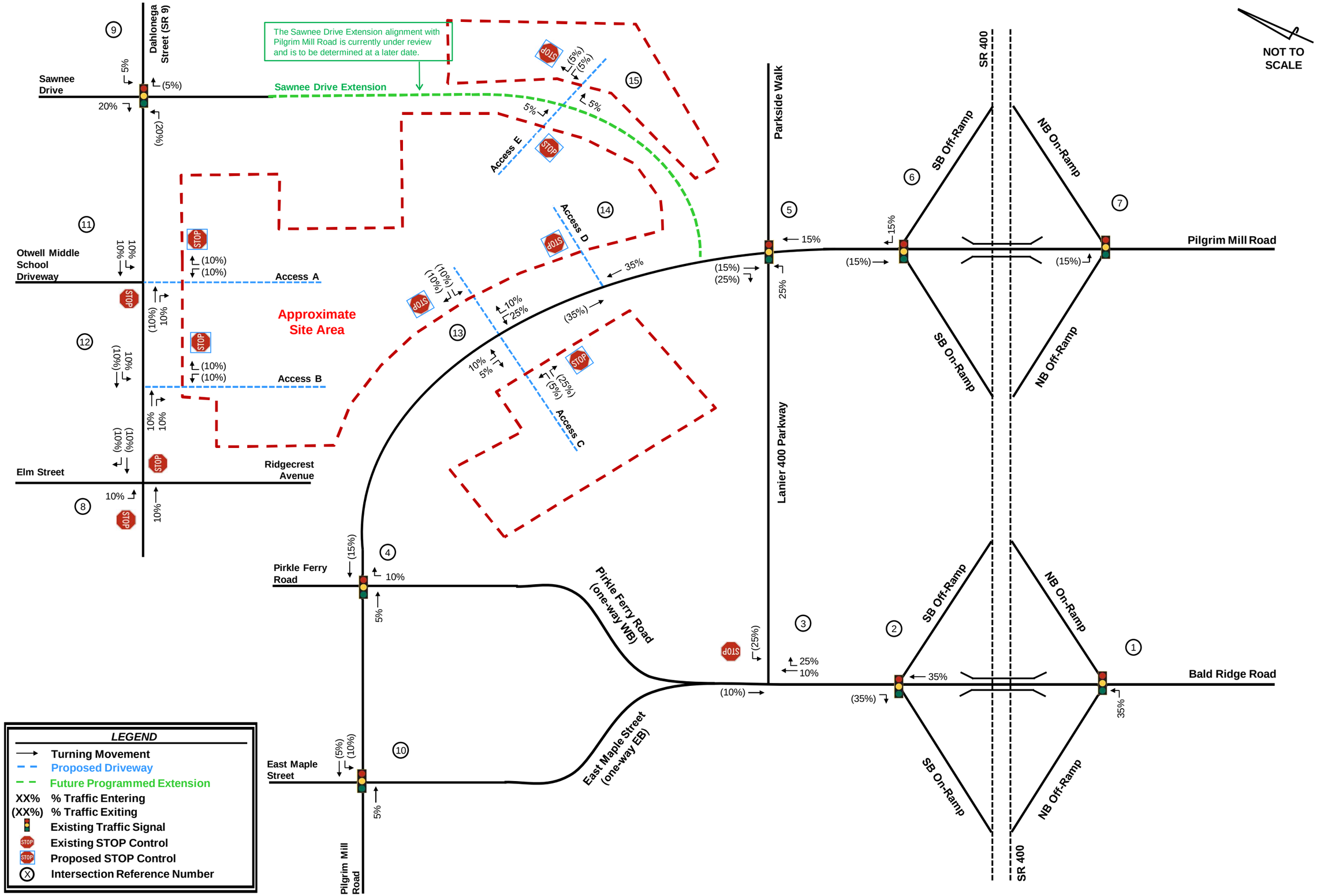


Figure 5

Residential Trip Distribution and Assignment

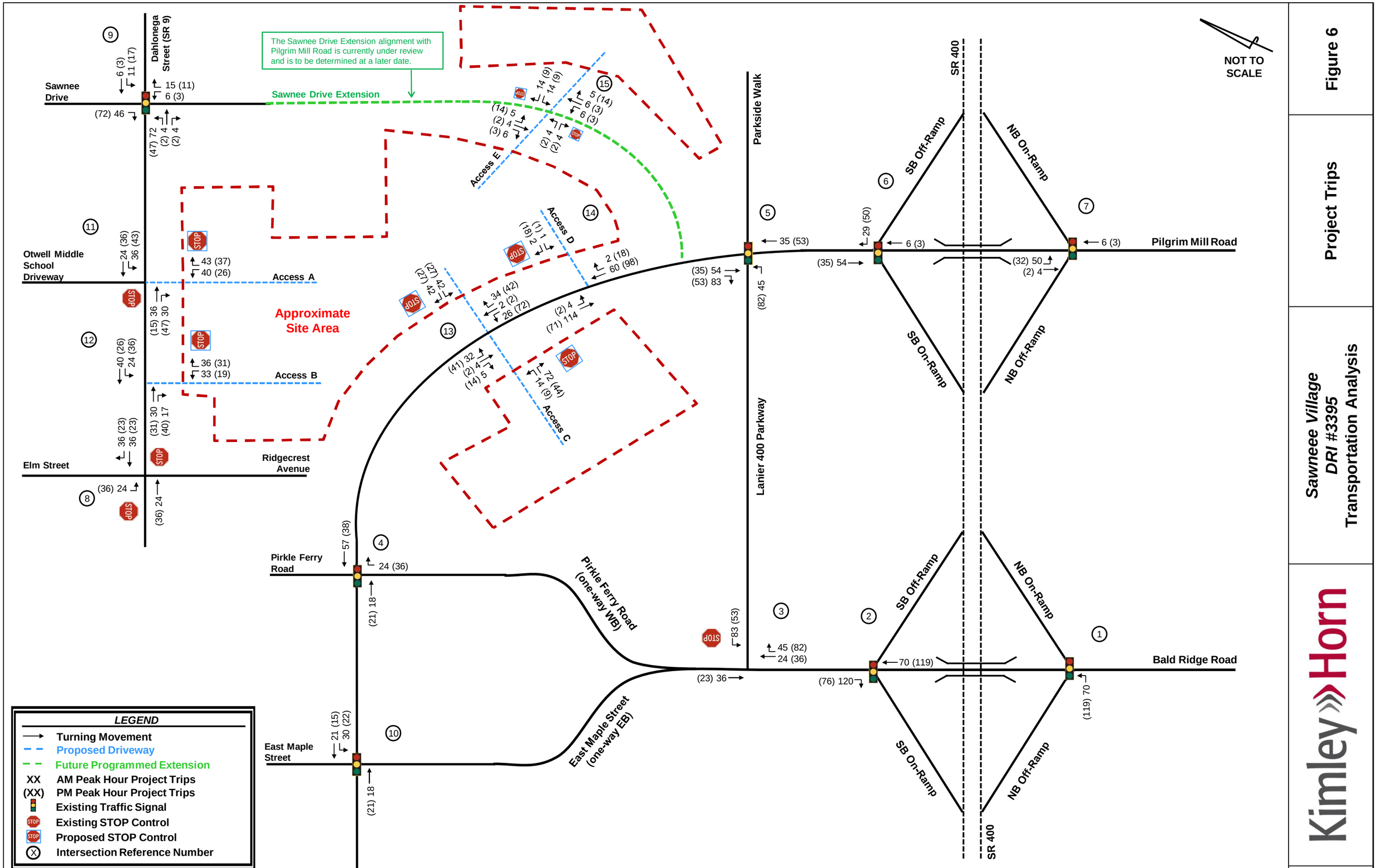
Sawnee Village DRI #3395
Transportation Analysis

Kimley»Horn

Figure 6

Project Trips

Sawnee Village
DRI #3395
Transportation Analysis



Kimley»Horn

5.1 Bald Ridge Road at SR 400 NB Ramps (Intersection 1)

Overall LOS Standard: D Approach LOS Standard: D			SR 400 NB Off-Ramp Northbound			SR 400 NB On-Ramp Southbound			Bald Ridge Road Eastbound			Bald Ridge Road Westbound		
			L	T	R	L	T	R	L	T	R	L	T	R
EXISTING (SIGNAL)	AM	Overall LOS	A (9.2)											
		Approach LOS	B (17.8)						A (4.9)			B (10.3)		
		Storage	800		850				135					210
		50th Queue	45	46	0				21	35				0
		95th Queue	117	117	24				56	76				40
	PM	Overall LOS	B (10.1)											
		Approach LOS	C (20.5)						A (5.6)			B (13.3)		
		Storage	800		850				135					210
		50th Queue	70	71	0				68	43			58	7
		95th Queue	136	137	62				147	83			112	102
NO-BUILD (SIGNAL)	AM	Overall LOS	B (10.3)											
		Approach LOS	B (19.3)						A (5.7)			B (11.5)		
		Storage	800		850				135					210
		50th Queue	70	70	0				32	56			47	0
		95th Queue	174	174	36				81	117			100	47
	PM	Overall LOS	B (12.7)											
		Approach LOS	C (24.8)						A (7.7)			B (16.0)		
		Storage	800		850				135					210
		50th Queue	101	102	67				113	68			94	168
		95th Queue	168	170	162				344*	140			163	585
BUILD (SIGNAL)	AM	Overall LOS	B (11.2)											
		Approach LOS	B (19.4)						A (6.4)			B (12.4)		
		Storage	800		850				135					210
		50th Queue	86	87	0				35	133			109	0
		95th Queue	206	207	35				93	953			1,309	50
	PM	Overall LOS	B (14.9)											
		Approach LOS	C (25.5)						A (9.4)			B (18.1)		
		Storage	800		850				135					210
		50th Queue	137	138	67				132	80			102	189
		95th Queue	218	221	160				388*	152			171	599

The intersection of Bald Ridge Road at SR 400 NB Ramps (Intersection 1) is projected to operate at an acceptable overall LOS under the Estimated 2021, No-Build 2028, and Build 2028 conditions. Each approach of the intersection is projected to operate acceptably under all studied scenarios. No improvements are recommended to be conditioned.

5.2 Bald Ridge Road at SR 400 SB Ramps (Intersection 2)

Overall LOS Standard: D Approach LOS Standard: D			SR 400 SB On-Ramp			SR 400 SB Off-Ramp			Bald Ridge Road			Bald Ridge Road		
			Northbound			Southbound			Eastbound			Westbound		
			L	T	R	L	T	R	L	T	R	L	T	R
EXISTING (SIGNAL)	AM	Overall LOS	B (10.1)											
		Approach LOS				B (19.4)			A (6.2)			A (6.8)		
		Storage									260	135		
		50th Queue					186			43	0	21	67	
		95th Queue					518			66	35	46	97	
	PM	Overall LOS	B (11.4)											
		Approach LOS				C (25.1)			A (7.2)			A (7.6)		
		Storage									260	135		
		50th Queue					196			85	0	30	77	
		95th Queue					601			114	25	61	104	
NO-BUILD (SIGNAL)	AM	Overall LOS	B (14.2)											
		Approach LOS				C (29.4)			A (8.0)			A (8.9)		
		Storage									260	135		
		50th Queue					439			57	0	28	90	
		95th Queue					969			80	33	55	121	
	PM	Overall LOS	B (19.9)											
		Approach LOS				D (52.0)			B (10.0)			B (11.1)		
		Storage									260	135		
		50th Queue					854			116	0	44	105	
		95th Queue					1,125			150	27	92	137	
BUILD (SIGNAL)	AM	Overall LOS	B (15.1)											
		Approach LOS				C (33.0)			A (8.0)			A (9.1)		
		Storage									260	135		
		50th Queue					515			57	0	28	103	
		95th Queue					1,063			78	35	53	135	
	PM	Overall LOS	C (20.1)											
		Approach LOS				D (54.1)			B (10.1)			B (11.5)		
		Storage									260	135		
		50th Queue					605			116	0	44	128	
		95th Queue					854			150	30	91	164	

The intersection of Bald Ridge Road at SR 400 SB Ramps (Intersection 2) is projected to operate at an acceptable overall LOS under the Estimated 2021, No-Build 2028, and Build 2028 conditions. Each approach of the intersection is projected to operate acceptably under all studied scenarios. No improvements are recommended to be conditioned.

5.3 Bald Ridge Road at Lanier 400 Parkway (Intersection 3)

Overall LOS Standard: E Approach LOS Standard: E				Lanier 400 Parkway Southbound			Bald Ridge Road Eastbound			Bald Ridge Road Westbound		
				L	T	R	L	T	R	L	T	R
EXISTING (TWSC)	AM	Overall LOS	(21.7)									
		Approach LOS		F (87.4)			A (2.5)			A (0.0)		
		Storage					120			100		
		50th Queue										
		95th Queue		243		23	13			0		
	PM	Overall LOS	(8.4)									
		Approach LOS		F (60.3)			A (1.5)			A (0.0)		
		Storage					120			100		
		50th Queue										
		95th Queue		135		15	13			0		
NO-BUILD (TWSC)	AM	Overall LOS	(98.3)									
		Approach LOS		F (410.3)			A (2.8)			(0.0)		
		Storage					120			100		
		50th Queue										
		95th Queue		560		40	23			0		
	PM	Overall LOS	(42.4)									
		Approach LOS		F (329.2)			A (1.7)			A (0.0)		
		Storage					120			100		
		50th Queue										
		95th Queue		338		23	20			0		
BUILD (TWSC)	AM	Overall LOS	(203.7)									
		Approach LOS		F (774.7)			A (2.7)			A (0.0)		
		Storage					120			100		
		50th Queue										
		95th Queue		845		40	23			0		
	PM	Overall LOS	(93.0)									
		Approach LOS		F (642.6)			A (1.7)			A (0.0)		
		Storage					120			100		
		50th Queue										
		95th Queue		513		23	23			0		

The intersection of Bald Ridge Road at Lanier 400 Parkway (intersection 3) is projected to operate at an acceptable overall LOS. The eastbound and westbound approaches are project to operate at an acceptable LOS under the Estimated 2021, 2028 No-Build, and 2028 Build conditions. The southbound approach is projected to operate at LOS F under the Estimated 2021, 2028 No-Build, and 2028 Build conditions.

In order to improve the LOS under 2028 No-Build and 2028 Build conditions, a signal should be considered (shown in red on **Figure 8** and **Figure 9**) as a system improvement (needed to serve background traffic, without the development). A preliminary traffic signal warrant analysis was conducted based on Estimated 2021 peak hour turning movement volumes. Per MUTCD's peak hour vehicular volume warrant (Warrant 3), the intersection meets 2 of 1 required hour under the Estimated 2021 conditions. The results of the analysis are shown in the table below.

Traffic Signal Volume Warrant Analysis Summary		
Warrant	Projected Build	
	Hrs Met / Needed	Met?
3	2 / 1	✓

The analysis results for the improved conditions at Intersection 3 are shown in the table below.

Overall LOS Standard: E Approach LOS Standard: E						Lanier 400 Parkway			Bald Ridge Road			Bald Ridge Road		
						Southbound			Eastbound			Westbound		
						L	T	R	L	T	R	L	T	R
NO-BUILD IMPROVED (SIGNAL)	AM	Overall LOS	A (8.1)											
		Approach LOS				C (23.5)			A (6.0)			A (5.1)		
		Storage							120			100		
		50th Queue				81		0	45	44		0	86	
		95th Queue				221		58	173	90		0	170	
	PM	Overall LOS	A (4.9)											
		Approach LOS				C (25.0)			A (3.6)			A (3.2)		
		Storage							120			100		
		50th Queue				23		0	16	45		0	44	
		95th Queue				84		37	51	88		0	87	
BUILD IMPROVED (SIGNAL)	AM	Overall LOS	B (10.5)											
		Approach LOS				C (26.3)			A (7.6)			A (6.5)		
		Storage							120			100		
		50th Queue				153		0	69	66		0	130	
		95th Queue				339		58	224	97		0	185	
	PM	Overall LOS	A (7.1)											
		Approach LOS				C (31.5)			A (5.1)			A (4.3)		
		Storage							120			100		
		50th Queue				92		0	44	98		0	110	
		95th Queue				181		47	192*	172		0	195	

With the improvements listed above, the intersection of Lanier 400 Parkway at Bald Ridge Road (Intersection 3) is projected to operate at or above its overall and approach LOS standards under both 2028 No-Build conditions and 2028 Build conditions.

5.4 Pirkle Ferry Road (WB) at Pilgrim Mill Road (Intersection 4)

Overall LOS Standard: D Approach LOS Standard: D			Pilgrim Mill Road			Pilgrim Mill Road						Pirkle Ferry Road		
			Northbound			Southbound			Eastbound			Westbound		
			L	T	R	L	T	R	L	T	R	L	T	R
EXISTING (SIGNAL)	AM	Overall LOS	C (31.5)											
		Approach LOS	C (31.6)			B (15.5)			-			D (44.8)		
		Storage	130					120						
		50th Queue	124	53			127	26					157	
		95th Queue	174	94			228	90					182	
	PM	Overall LOS	D (36.3)											
		Approach LOS	C (33.6)			C (28.2)						D (44.5)		
		Storage	130					120						
		50th Queue	301	110			186	59					213	
		95th Queue	343	206			280	122					247	
NO-BUILD (SIGNAL)	AM	Overall LOS	C (32.7)											
		Approach LOS	C (31.4)			C (22.6)						D (42.9)		
		Storage	130					120						
		50th Queue	171	92			219	123					192	
		95th Queue	220	120			337	223					236	
	PM	Overall LOS	D (41.2)											
		Approach LOS	C (34.6)			D (43.6)						D (49.1)		
		Storage	130					120						
		50th Queue	404	241			293	109					291	
		95th Queue	452	335			391	179					327	
BUILD (SIGNAL)	AM	Overall LOS	C (32.8)											
		Approach LOS	C (31.1)			C (23.8)						D (42.9)		
		Storage	130					120						
		50th Queue	172	98			264	123					198	
		95th Queue	221	126			402	223					244	
	PM	Overall LOS	D (42.6)											
		Approach LOS	C (34.3)			D (47.7)						D (51.2)		
		Storage	130					120						
		50th Queue	404	258			335	109					304	
		95th Queue	453	354			480*	179					341	

The intersection of Pilgrim Road at Pirkle Ferry Road (Intersection 4) is projected to operate at an acceptable overall LOS under the Estimated 2021, No-Build 2028, and Build 2028 scenarios. Each approach of the intersection is projected to operate acceptably under all studied scenarios. No improvements are recommended to be conditioned.

It should be noted that the northbound LOS improves from the No-Build to Build conditions during the AM peak hour. This is due to the additional northbound through-traveling vehicles from the development, which experience low delay.

5.5 *Pilgrim Mill Road at Lanier 400 Parkway / Parkside Walk (Intersection 5)*

Overall LOS Standard: D Approach LOS Standard: D			Lanier 400 Parkway			Parkside Walk			Pilgrim Mill Road			Pilgrim Mill Road		
			Northbound			Southbound			Eastbound			Westbound		
			L	T	R	L	T	R	L	T	R	L	T	R
EXISTING (SIGNAL)	AM	Overall LOS	A (7.5)											
		Approach LOS	C (29.1)			C (24.0)			A (7.5)			A (4.3)		
		Storage	145						110		165	125		145
		50th Queue	6	1			2		1	56	0	19	83	0
		95th Queue	28	38			17		7	122	7	43	168	1
	PM	Overall LOS	B (13.6)											
		Approach LOS	C (34.7)			C (26.4)			B (11.6)			A (4.4)		
		Storage	145						110		165	125		145
		50th Queue	5	2			4		2	154	0	4	26	0
		95th Queue	25	62			24		11	314	0	14	63	1
NO-BUILD (SIGNAL)	AM	Overall LOS	A (9.4)											
		Approach LOS	D (41.4)			C (34.4)			A (7.8)			A (5.3)		
		Storage	145						110		165	125		145
		50th Queue	12	1			4		2	92	0	29	150	0
		95th Queue	49	57			30		8	153	8	58	282	1
	PM	Overall LOS	B (17.9)											
		Approach LOS	D (44.1)			C (32.7)			B (16.1)			A (6.2)		
		Storage	145						110		165	125		145
		50th Queue	9	4			7		3	268	0	6	39	0
		95th Queue	33	78			30		13	532	0	18	91	1
BUILD (SIGNAL)	AM	Overall LOS	B (10.4)											
		Approach LOS	D (41.9)			D (35.9)			A (7.9)			A (5.7)		
		Storage	145						110		165	125		145
		50th Queue	36	2			5		2	127	0	37	210	0
		95th Queue	104	56			30		9	209	25	76	402	2
	PM	Overall LOS	B (19.3)											
		Approach LOS	D (43.1)			C (33.5)			B (17.3)			A (6.8)		
		Storage	145						110		165	125		145
		50th Queue	65	5			8		4	361	1	9	70	0
		95th Queue	123	75			28		15	651	20	23	133	1

The intersection of Pilgrim Road at Lanier 400 Parkway/Parkside Walk (Intersection 5) is projected to operate at an acceptable overall LOS under the Estimated 2021, No-Build 2028, and Build 2028 scenarios. Each approach of the intersection is projected to operate acceptably under all studied scenarios. No improvements are recommended to be conditioned.

It should be noted that the northbound LOS improves from the No-Build to Build conditions during the PM peak hour. This is due to the additional northbound left-turning vehicles from the development, which experience low delay.

5.6 Pilgrim Mill Road at SR 400 SB Ramps (Intersection 6)

Overall LOS Standard: D Approach LOS Standard: D			SR 400 SB On-Ramp			SR 400 SB Off-Ramp			Pilgrim Mill Road			Pilgrim Mill Road		
			Northbound			Southbound			Eastbound			Westbound		
			L	T	R	L	T	R	L	T	R	L	T	R
EXISTING (SIGNAL)	AM	Overall LOS	B (10.4)											
		Approach LOS	-			C (26.7)			B (11.2)			A (9.9)		
		Storage						510			145	485		
		50th Queue					12	0		23	0	94	40	
		95th Queue					44	62		58	52	187	80	
	PM	Overall LOS	B (10.9)											
		Approach LOS				C (33.0)			A (9.2)			B (10.9)		
		Storage						510			145	485		
		50th Queue					29	0		113	10	91	41	
		95th Queue					74	50		179	49	156	65	
NO-BUILD (SIGNAL)	AM	Overall LOS	B (13.4)											
		Approach LOS				D (37.0)			B (13.9)			B (12.7)		
		Storage						510			145	485		
		50th Queue					27	77		55	0	198	98	
		95th Queue					64	206		102	68	378	188	
	PM	Overall LOS	B (13.4)											
		Approach LOS				D (44.4)			B (11.5)			B (13.1)		
		Storage						510			145	485		
		50th Queue					46	0		195	40	151	65	
		95th Queue					95	56		301	111	212	103	
BUILD (SIGNAL)	AM	Overall LOS	B (13.6)											
		Approach LOS				D (37.2)			B (14.2)			B (12.8)		
		Storage						510			145	485		
		50th Queue					26	107		77	0	226	118	
		95th Queue					67	258*		123	65	424*	188	
	PM	Overall LOS	B (13.6)											
		Approach LOS				D (45.5)			B (11.7)			B (13.3)		
		Storage						510			145	485		
		50th Queue					46	4		206	43	151	65	
		95th Queue					95	70		317	116	212	103	

*95th percentile volume exceeds capacity. Queue may be longer.

The intersection of Pilgrim Road at SR 400 SB On-Ramp (Intersection 6) is projected to operate at an acceptable overall LOS under the Estimated 2021, No-Build 2028, and Build 2028 scenarios. Each approach of the intersection is projected to operate acceptably under all studied scenarios. No improvements are recommended to be conditioned.

5.7 Pilgrim Mill Road at SR 400 NB Ramps (Intersection 7)

Overall LOS Standard: D Approach LOS Standard: D			SR 400 NB Off-Ramp			SR 400 NB On-Ramp			Pilgrim Mill Road			Pilgrim Mill Road		
			Northbound			Southbound			Eastbound			Westbound		
			L	T	R	L	T	R	L	T	R	L	T	R
EXISTING (SIGNAL)	AM	Overall LOS	B (12.4)											
		Approach LOS	D (41.6)			-			B (11.7)			A (8.0)		
		Storage			50				125					150
		50th Queue	125		0				33	20			150	0
		95th Queue	206		63				75	40			230	9
	PM	Overall LOS	B (17.1)											
		Approach LOS	C (23.2)						B (13.6)			B (17.1)		
		Storage			50				125					150
		50th Queue	194		605				164	190			183	0
		95th Queue	272		937				294	244			229	28
NO-BUILD (SIGNAL)	AM	Overall LOS	B (14.6)											
		Approach LOS	C (32.9)						A (8.8)			B (13.2)		
		Storage			50				125					150
		50th Queue	84		0				22	20			182	0
		95th Queue	197		56				53	32			252	0
	PM	Overall LOS	C (24.0)											
		Approach LOS	C (28.3)						C (20.5)			C (25.5)		
		Storage			50				125					150
		50th Queue	266		1,167				267	276			258	4
		95th Queue	366		1,432				442	343			346	47
BUILD (SIGNAL)	AM	Overall LOS	B (17.5)											
		Approach LOS	D (46.3)						B (17.3)			B (13.3)		
		Storage			50				125					150
		50th Queue	186		0				92	35			289	0
		95th Queue	277		71				192	66			401	18
	PM	Overall LOS	C (25.5)											
		Approach LOS	C (29.6)						C (21.9)			C (27.3)		
		Storage			50				125					150
		50th Queue	407		1,093				210	131			160	0
		95th Queue	777		1,607				471	163			193	27

The intersection of Pilgrim Mill Road at SR 400 NB Ramps (Intersection 7) is projected to operate at an acceptable overall LOS under the Estimated 2021, No-Build 2028, and Build 2028 scenarios. Each approach of the intersection is projected to operate acceptably under all studied scenarios. No improvements are recommended to be conditioned.

5.8 Dahlonega Highway (SR 9) at Elm Street / Ridgecrest Avenue (Intersection 8)

Overall LOS Standard: E Approach LOS Standard: E			Dahlonega Highway (SR 9)			Dahlonega Highway (SR 9)			Elm Street			Ridgecrest Avenue		
			Northbound			Southbound			Eastbound			Westbound		
			L	T	R	L	T	R	L	T	R	L	T	R
EXISTING (TWSC)	AM	Overall LOS	(63.7)											
		Approach LOS	A (4.0)			A (0.0)			F (415.2)			F (128.5)		
		Storage												
		50th Queue												
		95th Queue	18			0			440			95		
	PM	Overall LOS	(36.2)											
		Approach LOS	A (0.9)			A (0.2)			F (250.7)			F (57.4)		
		Storage												
		50th Queue												
		95th Queue	8			0			358			28		
NO-BUILD (TWSC)	AM	Overall LOS	(68.1)											
		Approach LOS	A (5.1)			A (0.0)			F*			F (1,781.1)		
		Storage												
		50th Queue												
		95th Queue	35			0			*			265		
	PM	Overall LOS	(276.6)											
		Approach LOS	A (0.9)			A (0.3)			F (2,000.9)			F *		
		Storage												
		50th Queue												
		95th Queue	10			3			848			*		
BUILD (TWSC)	AM	Overall LOS	(115.8)											
		Approach LOS	A (5.2)			A (0.0)			F*			F (3,233.5)		
		Storage												
		50th Queue												
		95th Queue	40			0			*			285		
	PM	Overall LOS	(590.8)											
		Approach LOS	A (0.9)			A (0.3)			F (4,021.5)			F*		
		Storage												
		50th Queue												
		95th Queue	13			3			1,030			*		

*Long delays projected.

The intersection of Dahlonega Highway (SR 9) at Elm Street/Ridgecrest Avenue (Intersection 8) is projected to operate at an acceptable overall delay under the Estimated 2021 conditions. Under the 2028 No-Build and 2028 Build conditions, the intersection is projected to experience an overall delay exceeding 175 seconds. The eastbound and westbound approaches are projected to operate at an LOS F under the Estimated 2021, 2028 No-Build, and 2028 Build conditions.

In order to improve the LOS under 2028 No-Build and 2028 Build conditions, a signal should be considered (shown in red on **Figure 8** and **Figure 9**) as a system improvement (needed to serve background traffic, without the development). A preliminary traffic signal warrant analysis was conducted based on Estimated 2021 peak hour turning movement volumes. Per MUTCD's peak hour vehicular volume warrant (Warrant 3), the intersection meets 2 of 1 required hour under the Estimated 2021 conditions. The results of the analysis are shown in the table below.

Traffic Signal Volume Warrant Analysis Summary		
Warrant	Projected Build	
	Hrs Met / Needed	Met?
3	2 / 1	✓

The analysis results for the improved conditions at Intersection 8 are shown in the table below.

Overall LOS Standard: E Approach LOS Standard: E			Dahlonega Highway (SR 9) Northbound			Dahlonega Highway (SR 9) Southbound			Elm Street Eastbound			Ridgecrest Avenue Westbound		
			L	T	R	L	T	R	L	T	R	L	T	R
NO-BUILD IMPROVED (SIGNAL)	AM	Overall LOS	D (44.0)											
		Approach LOS	B (19.8)			D (50.9)			E (57.8)			C (34.8)		
		Storage	100			100		135	100					
		50th Queue	47	41		1	568	15	30	18			46	
		95th Queue	152*	90		6	1,005	46	66	90			103	
	PM	Overall LOS	B (11.4)											
		Approach LOS	A (7.0)			A (9.5)			C (31.7)			C (25.1)		
		Storage	100			100		135	100					
		50th Queue	10	160		2	91		15	12			6	
		95th Queue	28	365		10	177		61	84			34	
BUILD IMPROVED (SIGNAL)	AM	Overall LOS	D (49.9)											
		Approach LOS	B (19.3)			E (61.6)			E (55.2)			C (34.7)		
		Storage	100			100		135	100					
		50th Queue	49	49		1	730	25	45	18			45	
		95th Queue	152	98		6	1,058	62	9	90			93	
	PM	Overall LOS	C (22.4)											
		Approach LOS	B (19.9)			B (11.3)			D (50.7)			C (33.7)		
		Storage	100			100		135	100					
		50th Queue	17	412		3	156	0	57	37			13	
		95th Queue	40	983		16	286	9	108	114			40	

With the improvements listed above, the intersection Dahlonega Highway (SR 9) at Elm Street/Ridgecrest Avenue (Intersection 8) is projected to operate at or above its overall and approach LOS standards under both 2028 No-Build conditions and 2028 Build conditions.

5.9 Dahlonega Highway (SR 9) at Sawnee Drive (SR 306) / Charles Place (Intersection 9)

Overall LOS Standard: D Approach LOS Standard: E			Dahlonega Highway (SR 9) Northbound			Dahlonega Highway (SR 9) Southbound			Sawnee Drive (SR 306) Eastbound			Charles Place Westbound		
			L	T	R	L	T	R	L	T	R	L	T	R
EXISTING (SIGNAL)	AM	Overall LOS	D (49.3)											
		Approach LOS	D (53.8)			D (46.1)			D (52.8)			D (46.9)		
		Storage	125			105			80			90		
		50th Queue	46	77		2	714		195	70		32	20	
		95th Queue	89	118		8	1068		303	157		73	48	
	PM	Overall LOS	D (37.7)											
		Approach LOS	B (17.8)			B (16.0)			F (95.9)			C (33.0)		
		Storage	125			105			80			90		
		50th Queue	107	224		4	315		232	10		15	11	
		95th Queue	258	311		13	445		627	64		56	52	
NO-BUILD (SIGNAL)	AM	Overall LOS	F (123.4)											
		Approach LOS	F (89.1)			F (150.1)			F (95.4)			F (114.9)		
		Storage	125			105			80			90		
		50th Queue	103	111		3	1,398		269	230		50	26	
		95th Queue	159	153		9	1,578		440	380		138	59	
	PM	Overall LOS	F (90.2)											
		Approach LOS	D (52.9)			C (23.3)			F (243.1)			D (37.5)		
		Storage	125			105			80			90		
		50th Queue	233	331		5	516		624	20		32	23	
		95th Queue	269	458		16	746		844	75		68	61	
BUILD (SIGNAL)	AM	Overall LOS	F (188.7)											
		Approach LOS	F (331.9)			F (219.4)			E (61.1)			F (90.1)		
		Storage	125			105			80			90		
		50th Queue	192	140		8	1,507		224	285		52	34	
		95th Queue	325	193		20	1,688		342	440		129	76	
	PM	Overall LOS	F (142.7)											
		Approach LOS	F (276.9)			D (43.0)			F (107.6)			E (57.3)		
		Storage	125			105			80			90		
		50th Queue	336	423		14	665		402	17		41	33	
		95th Queue	525	626		39	1,032		608	72		85	83	

The intersection of Dahlonega Highway (SR 9) at Sawnee Drive (SR 306)/Charles Place (Intersection 9) is projected to operate at an acceptable overall LOS under the Estimated 2021 conditions. The eastbound approach along Sawnee Drive (SR 306) is projected to operate at LOS F during the PM peak hour under the Estimated 2021 conditions. The intersection is projected to operate at an unacceptable overall LOS under the 2028 No-Build and 2028 Build conditions during the AM and PM peak hours. Each approach is projected to operate at a LOS F during at least one of the peak hours under the 2028 No-Build conditions and under the 2028 Build conditions.

It should be noted that the eastbound LOS improves from the No-Build to Build conditions during the AM and PM peak hours. This is due to the additional eastbound right-turning vehicles from the development, which experience low delay. In addition, the westbound LOS improves from the No-Build to Build conditions during the AM peak hour due to the additional westbound right-turning vehicles from the development, which experience low delay.

In order to improve the LOS of the southbound approach (Dahlonega Highway/SR 9), an exclusive southbound right-turn lane along Dahlonega Highway (SR 9) should be considered (shown in red on **Figure 8** and **Figure 9**) as a system improvement (needed to serve background traffic, without the development). In addition, the phasing for the northbound approach was adjusted in order to improve the LOS. A change in signal timings is not considered to be a physical improvement. With these improvements, the approach is projected to operate acceptably.

The analysis results for the improved conditions at Intersection 9 are shown in the table below.

Overall LOS Standard: D Approach LOS Standard: E			Dahlonega Highway (SR 9)			Dahlonega Highway (SR 9)			Sawnee Drive (SR 306)			Charles Place		
			Northbound			Southbound			Eastbound			Westbound		
			L	T	R	L	T	R	L	T	R	L	T	R
NO-BUILD IMPROVED (SIGNAL)	**AM**	Overall LOS	D (37.3)											
		Approach LOS	B (14.0)			D (40.6)			D (44.9)			D (48.5)		
		Storage	125			105		120	80			90		
		50th Queue	28	121		4	775	167	220	155		44	32	
		95th Queue	71	187		15	1048*	282	352*	261		89	70	
	PM	Overall LOS	C (25.6)											
		Approach LOS	B (13.7)			C (23.6)			D (46.2)			C (31.5)		
		Storage	125			105		120	80			90		
		50th Queue	41	185		5	226	24	195	9		20	15	
		95th Queue	80	312		19	405*	78	444*	45		50	48	
BUILD IMPROVED (SIGNAL)	**AM**	Overall LOS	D (47.5)											
		Approach LOS	C (28.9)			D (51.0)			D (54.3)			D (52.8)		
		Storage	125			105		120	80			90		
		50th Queue	95	144		10	890	201	239	230		56	36	
		95th Queue	233*	211		27	1127*	310	337*	347		133*	78	
	PM	Overall LOS	D (51.3)											
		Approach LOS	D (49.2)			D (51.8)			D (53.5)			D (54.9)		
		Storage	125			105		120	80			90		
		50th Queue	198	483		21	507	114	368	16		39	34	
		95th Queue	396*	777*		58	812*	211	522*	65		82	85	

*95th percentile volume exceeds capacity. Queue may be longer.

With the improvements listed above, the intersection of Dahlonega Highway (SR 9) at Sawnee Drive (SR 306) / Charles Place (Intersection 9) is projected to operate at or above its overall and approach LOS standards.

5.10 Pilgrim Mill Road at East Maple Street (EB) (Intersection 10)

Overall LOS Standard: D Approach LOS Standard: E			Pilgrim Mill Road Northbound			Pilgrim Mill Road Southbound			East Maple Street Eastbound			 Westbound		
			L	T	R	L	T	R	L	T	R	L	T	R
EXISTING (SIGNAL)	AM	Overall LOS	C (25.5)											
		Approach LOS	B (13.1)			B (13.8)			D (35.2)			-		
		Storage				90					175			
		50th Queue		112		10	171			251	0			
		95th Queue		162		m7*	235			291	52			
	PM	Overall LOS	C (23.5)											
		Approach LOS	B (12.9)			B (11.5)			D (38.4)					
		Storage				90					175			
		50th Queue		241		3	52			216	10			
		95th Queue		340		m7*	302			244	68			
NO-BUILD (SIGNAL)	AM	Overall LOS	C (26.6)											
		Approach LOS	B (18.5)			B (19.7)			C (32.3)					
		Storage				90					175			
		50th Queue		163		3	238			328	56			
		95th Queue		212		m7*	56			404	143			
	PM	Overall LOS	C (26.8)											
		Approach LOS	B (19.9)			B (16.5)			D (36.2)					
		Storage				90					175			
		50th Queue		388		4	47			266	143			
		95th Queue		475		m5*	m62*			330	274			
BUILD (SIGNAL)	AM	Overall LOS	C (26.6)											
		Approach LOS	B (18.7)			C (20.3)			C (32.4)					
		Storage				90					175			
		50th Queue		169		7	157			328	66			
		95th Queue		218		m10*	51			404	158			
	PM	Overall LOS	C (27.0)											
		Approach LOS	C (20.1)			B (17.4)			D (36.4)					
		Storage				90					175			
		50th Queue		400		7	45			266	155			
		95th Queue		488		m8*	m54*			330	288			

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

The intersection of Pilgrim Mill Road at East Maple Street (Intersection 10) is projected to operate at an acceptable overall LOS under the Estimated 2021, No-Build 2028, and Build 2028 scenarios. Each approach of the intersection is projected to operate acceptably under all studied scenarios. No improvements are recommended to be conditioned.

5.11 Dahlonega Highway (SR 9) at Access A / Otwell Middle School Driveway (Intersection 11)

Overall LOS Standard: D Approach LOS Standard: D			Dahlonega Highway (SR 9)			Dahlonega Highway (SR 9)			Otwell Middle School Driveway			Access A		
			Northbound			Southbound			Eastbound			Westbound		
			L	T	R	L	T	R	L	T	R	L	T	R
BUILD (TWSC)	AM	Overall LOS	(14.5)											
		Approach LOS	A (0.5)			A (0.2)			F (376.6)			F (176.8)		
		Storage	220		120	230		375			95			50
		50th Queue												
		95th Queue	3			3			108			110		5
	PM	Overall LOS	(5.6)											
		Approach LOS	A (0.0)			A (0.9)			B (12.7)			F (177.0)		
		Storage	220		120	230		375			95			50
		50th Queue												
		95th Queue	0			8			0			83		25

The intersection of Wieuca Road at Site Driveway E (Intersection 11) was initially modeled to operate under full-movement two-way stop-control for the eastbound and westbound approaches. The intersection is projected to operate at an acceptable overall LOS under the 2028 Build conditions. The eastbound approach is projected to operate at LOS F during the AM peak hour, and the westbound approach is projected to operate at LOS F during the AM and PM peak hours.

Per GDOT's Policy, Intersection Control Evaluation (ICE) was performed at this intersection.

The intent of ICE is to determine the most effective intersection design/traffic control at a given intersection. Subject to GDOT approval, as part of the driveway permitting process, a traffic signal (with turn lanes), if warranted, or a single-lane roundabout (with northbound and southbound right-turn slip lanes) may be considered for future intersection control.

It is important to note that there is a long-range SR 9 Widening project (identified as PI 141890) that will include this segment of SR 9. Due to this future project, it is recommended to consider this widening project when identifying future intersection control alternatives.

5.12 Dahlonega Highway (SR 9) at Access B (Intersection 12)

Overall LOS Standard: D Approach LOS Standard: D			Dahlonega Highway (SR 9)			Dahlonega Highway (SR 9)						Access B		
			Northbound			Southbound			Eastbound			Westbound		
			L	T	R	L	T	R	L	T	R	L	T	R
BUILD (TWSC)	AM	Overall LOS	(4.1)											
		Approach LOS	A (0.0)			A (0.1)						F (117.0)		
		Storage			120									
		50th Queue												
		95th Queue			0	3						80		
	PM	Overall LOS	(1.7)											
		Approach LOS	A (0.0)			A (0.7)						F (56.0)		
		Storage			120									
		50th Queue												
		95th Queue			0	5						33		

The intersection of Dahlonega Highway (SR 9) at Access B (Intersection 12) was initially modeled to operate under full-movement two-way stop-control and is projected to operate at an acceptable overall LOS under the 2028 Build conditions. However, the westbound approach is projected to operate at LOS F during the AM and PM peak hours. Low LOS for side street approaches is not uncommon, as vehicles may experience delays in turning onto a major roadway. The recommended lane configuration for Access B is one lane entering the site and two lanes exiting the site (one right-turn lane and one left-turn lane).

Per GDOT's Policy, Intersection Control Evaluation (ICE) was performed at this intersection.

The intent of ICE is to determine the most effective intersection design/traffic control at a given intersection. Subject to GDOT approval, as part of the driveway permitting process, an unsignalized full-movement side-street stop, an unsignalized Restricted Crossing U-Turn (RCUT) or an unsignalized Right-In/Right-Out (RIRO) may be considered for future intersection control.

It is important to note that there is a long-range SR 9 Widening project (identified as PI 141890) that will include this segment of SR 9. Due to this future project, it is recommended to consider this widening project when identifying future intersection control alternatives.

5.13 Pilgrim Mill Road at Access C (Intersection 13)

Overall LOS Standard: D Approach LOS Standard: D			Pilgrim Mill Road Northbound			Pilgrim Mill Road Southbound			Access C Eastbound			Access C Westbound		
			L	T	R	L	T	R	L	T	R	L	T	R
BUILD (TWSC)	AM	Overall LOS	(2.9)											
		Approach LOS	A (0.7)			A (0.2)			C (22.8)			C (21.8)		
		Storage	100		75	100		75						
		50th Queue												
		95th Queue	3			3			23		10	33		
	PM	Overall LOS	(2.4)											
		Approach LOS	A (0.6)			A (1.3)			C (17.4)			C (17.8)		
		Storage	100		75	100		75						
		50th Queue												
		95th Queue	3			8			13		3	15		

The intersection of Dahlonega Highway (SR 9) at Access C is projected to operate at an acceptable overall LOS under the 2028 Build conditions. Each approach is also projected to operate at an acceptable LOS under the 2028 Build conditions. The recommended lane configuration for the eastbound approach of Access C is one lane entering the site and two lanes exiting the site (one exclusive right-turn land and one shared through/left-turn lane). The recommended lane configuration for the westbound approach of Access C is one lane entering the site and one lane exiting the site. It is also recommended that a northbound and a southbound right-turn lane along Pilgrim Mill Road be constructed to serve project traffic. The recommended build improvements are shown in blue on **Figure 9**.

5.14 Pilgrim Mill Road at Access D (Intersection 14)

Overall LOS Standard: D Approach LOS Standard: D			Pilgrim Mill Road Northbound			Pilgrim Mill Road Southbound			Access D Eastbound			Westbound		
			L	T	R	L	T	R	L	T	R	L	T	R
BUILD (TWSC)	AM	Overall LOS	(0.1)											
		Approach LOS	A (0.1)			A (0.0)			C (17.2)					
		Storage	100											
		50th Queue												
		95th Queue	0						0					
	PM	Overall LOS	(0.2)											
		Approach LOS	A (0.0)			A (0.0)			B (11.8)					
		Storage	100											
		50th Queue												
		95th Queue	0						3					

The intersection of Pilgrim Mill Road at Access D is projected to operate at an acceptable overall LOS under the 2028 Build conditions. Each approach is also projected to operate at an acceptable LOS under the 2028 Build conditions. The recommended lane configuration for Access D is one lane entering the site and one lane exiting the site. The recommended build improvements are shown in blue on **Figure 9**.

5.15 Sawnee Drive Extension at Access E (Intersection 15)

Overall LOS Standard: D Approach LOS Standard: D			Access E			Access E			Sawnee Drive Extension			Sawnee Drive Extension		
			Northbound			Southbound			Eastbound			Westbound		
			L	T	R	L	T	R	L	T	R	L	T	R
BUILD (TWSC)	AM	Overall LOS	(4.3)											
		Approach LOS	A (8.7)			A (8.7)			A (1.0)			A (2.6)		
		Storage												
		50th Queue												
		95th Queue	0			3			0			0		
	PM	Overall LOS	(3.2)											
		Approach LOS	A (8.8)			A (8.8)			A (1.8)			A (1.1)		
		Storage												
		50th Queue												
		95th Queue	0			3			0			0		

The intersection of Dahlonega Highway (SR 9) at Access E is projected to operate at an acceptable overall LOS under the 2028 Build conditions. Each approach is also projected to operate at an acceptable LOS under the 2028 Build conditions. The recommended lane configuration for the northbound approach of Access E is one lane entering the site and one lane exiting the site. The recommended lane configuration for the southbound approach of Access E is one lane entering the site and one lane exiting the site. The recommended build improvements are shown in blue on **Figure 9**.

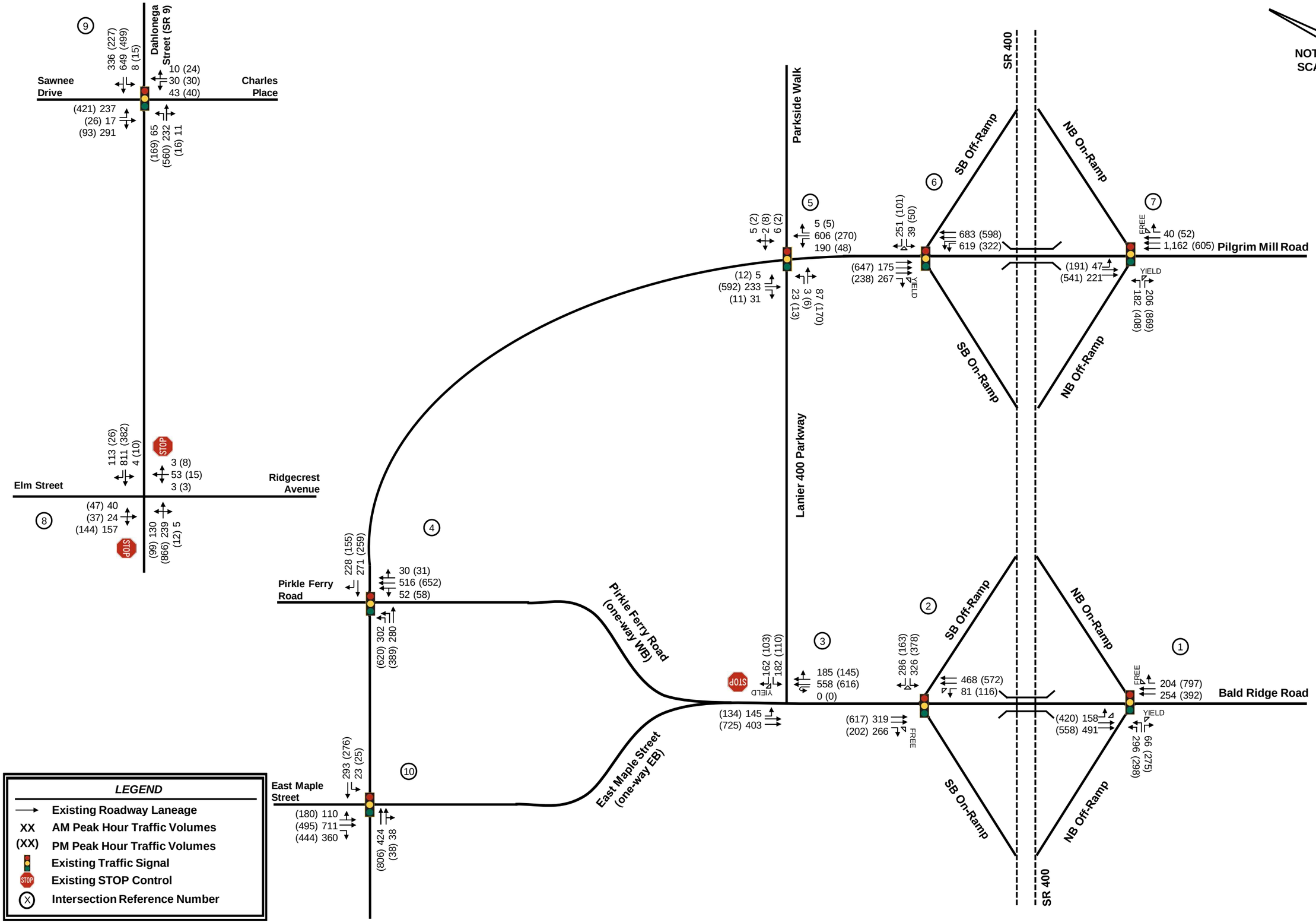


Figure 7

Estimated 2021 Conditions

Sawnee Village
DRI #3395
Transportation Analysis

Kimley»Horn

Figure 8

Projected 2028 No-Build Conditions

Sawnee Village
DRI #3395
Transportation Analysis

NOT TO SCALE

The Sawnee Drive Extension alignment with Pilgrim Mill Road is currently under review and is to be determined at a later date.

Sawnee Drive Extension

Dahlonega Street (SR 9)

Sawnee Drive

Parkside Walk

Lanier 400 Parkway

SR 400

Pilgrim Mill Road

Bald Ridge Road

Elm Street

Ridgecrest Avenue

Pirkle Ferry Road

Pirkle Ferry Road (one-way WB)

East Maple Street (one-way EB)

East Maple Street

SB Off-Ramp

NB On-Ramp

SB On-Ramp

NB Off-Ramp

Possible No-Build Traffic Signal

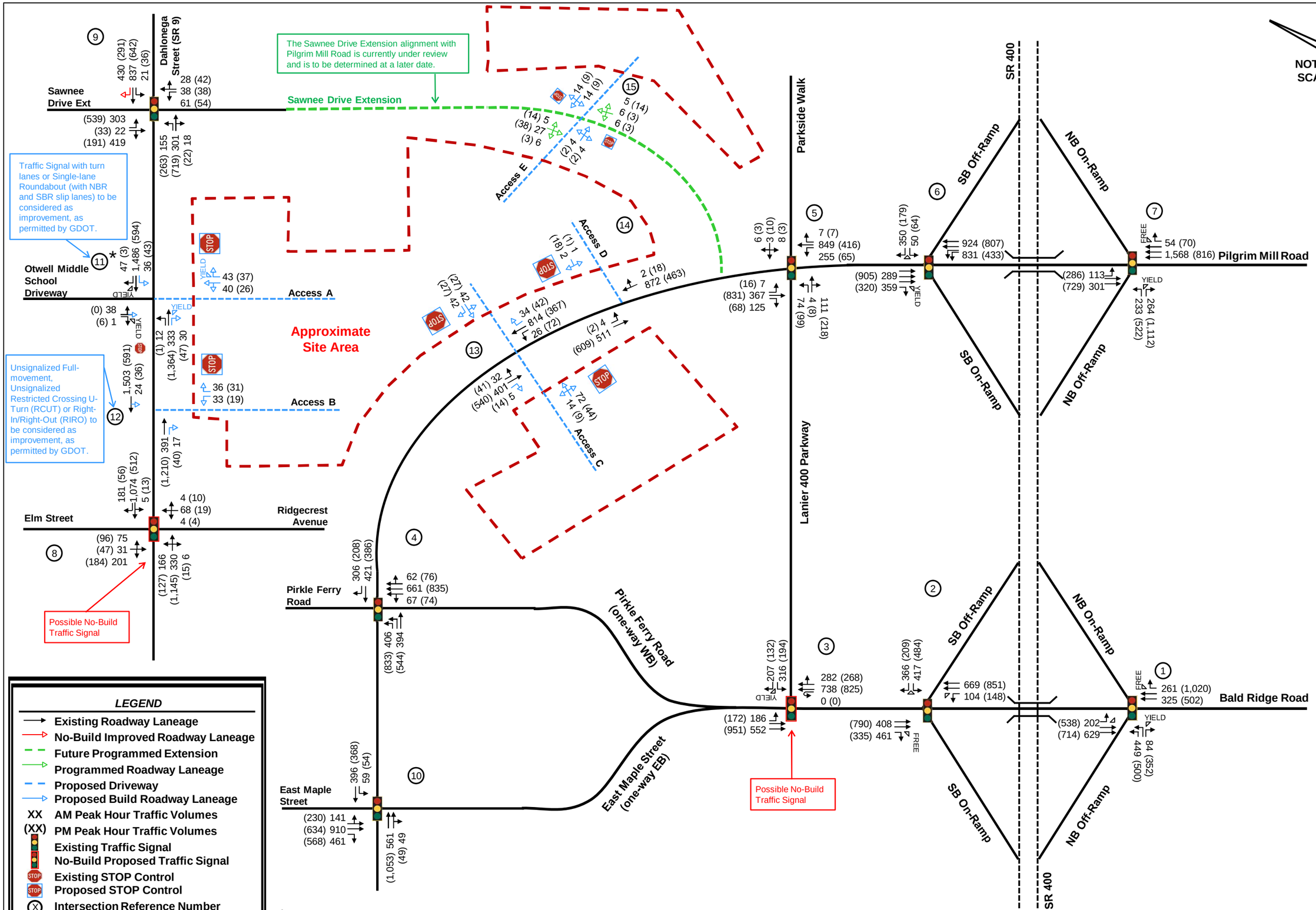
Possible No-Build Traffic Signal

*Pilgrim Mill Road volumes grown at 3.0% per year to year 2028. All other volumes grown at 2.5% per year to year 2028.

LEGEND

- Existing Roadway Laneage
- Future Programmed Extension
- No-Build Improved Roadway Laneage
- XX (XX) AM Peak Hour Traffic Volumes / PM Peak Hour Traffic Volumes
- Existing Traffic Signal
- No-Build Proposed Traffic Signal
- Existing STOP Control
- Intersection Reference Number

Kimley»Horn



*Eastbound volumes from *The Villages at Brooks Farm (DRI 2848)* grown at 2.5% per year to 2028.

Figure 9

Projected 2028 Build Conditions

Sawnee Village DRI #3395
Transportation Analysis

Kimley»Horn

6.0 INTERSECTION CONTROL EVALUATION (ICE)

Per GDOT's Policy, Intersection Control Evaluation (ICE) was performed at the following locations:

- Dahlonega Highway (SR 9) at Site Driveway A/Otwell Middle School Driveway (Intersection 11)
- Dahlonega Highway (SR 9) at Site Driveway B (Intersection 12)

The intent of ICE is to determine the most effective intersection design/traffic control at a given intersection.

6.1 ICE Stage 1

Stage 1 is conducted early in the project development process and is intended to inform which alternatives are worthy of further evaluation in Stage 2. Stage 1 serves as a screening effort meant to eliminate non-competitive options and identify which alternatives merit further considerations based on their practical feasibility.

6.2 ICE Stage 2

Stage 2 involves a more detailed evaluation of the alternatives identified in Stage 1 in order to support the selection of a preferred alternative that may be advanced to detailed design. Stage 2 considers the construction cost, operational efficiency, safety considerations, and public opinion.

The intersection delays and v/c (volume-capacity) ratios were calculated at the study intersections during the AM and PM peak hour using Synchro Professional, Version 10.0, which uses methodologies contained in the 6th Edition Highway Capacity Manual to determine the operating characteristics of an intersection.

Per ICE Stage 1, the following alternatives were compared, and the ICE Stage 2 scores are shown in **Table 9**.

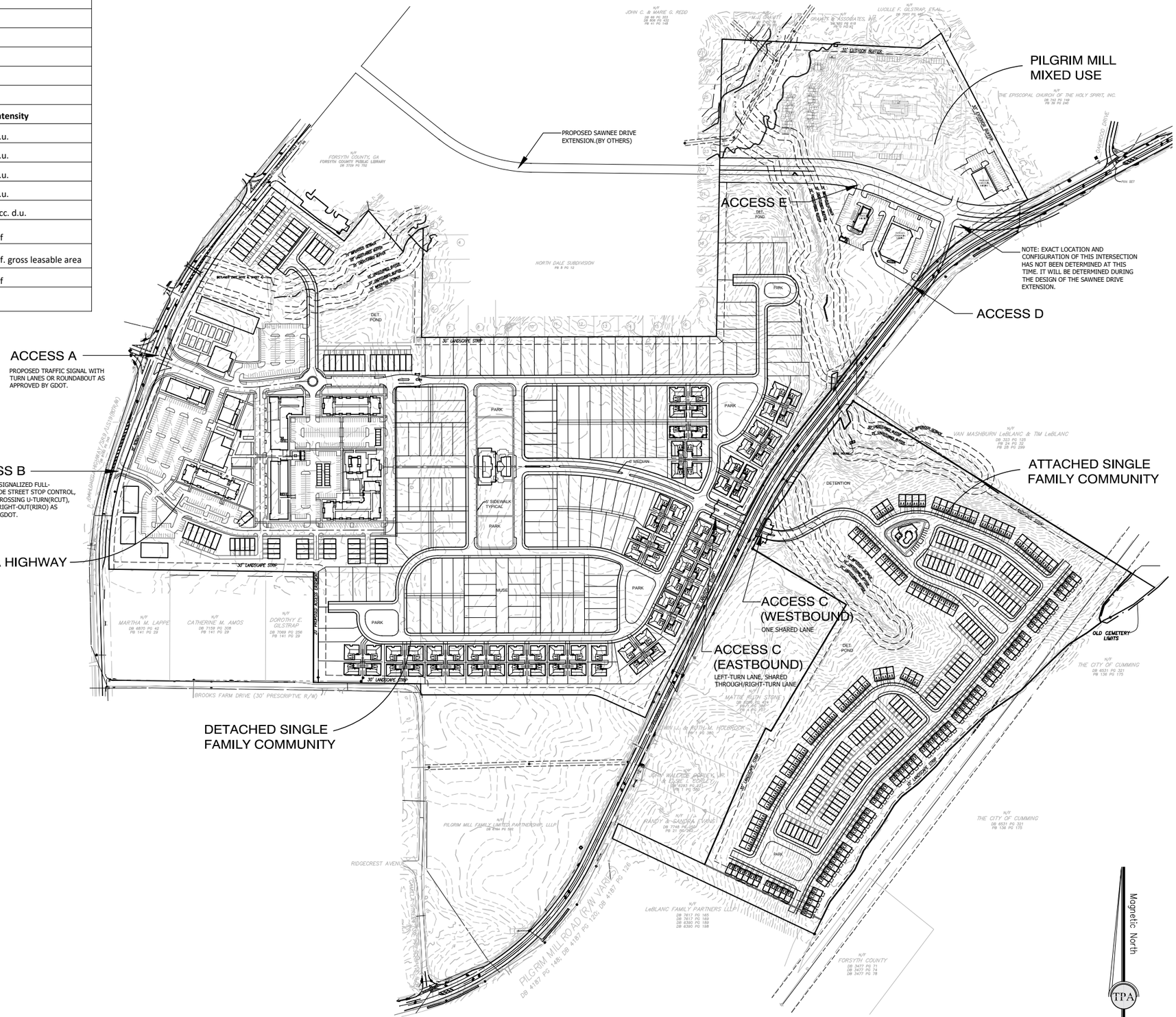
Table 9: ICE Alternative Selection Decision

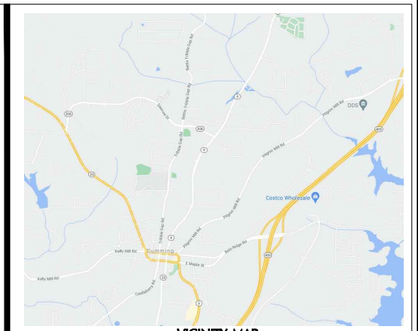
Dahlonega Highway (SR 9) at Site Driveway A/Otwell Middle School Driveway – Intersection 11			
ICE Stage 2	**Single Lane Roundabout** (NBR and SBR slip lanes)	**Full-Movement/Add LT and RT Lanes** (Unsignalized)	**Full-Movement/Add LT and RT Lanes** (Signalized)
Score	3.9	0.7	6.0
Rank	2	3	1
Dahlonega Highway (SR 9) at Site Driveway B – Intersection 12			
ICE Stage 2	**RCUT (Stop Control)**	**RIRO w/ Downstream U-Turn**	**Full-Movement/Add RT Lanes**
Score	7.2	7.4	4.6
Rank	2	1	3

It is important to note that there is a long-range SR 9 Widening project (identified as PI 141890) that will include this segment of SR 9. Due to this future project, it is recommended to consider this widening project when identifying future intersection control alternatives. GDOT's ICE Stage 1 and Stage 2 are provided in Appendix E.

Proposed Site Plan

Summary of Densities		
Multi-Family Units	262	
Detached Units	221	
Attached Units	341	
Total Units	**824**	
Land Use		**Intensity**
Single-Family Detached Housing	149	d.u.
Multi-Family Housing (Low-Rise)	341	d.u.
Multi-Family Housing (Mid-Rise)	262	d.u.
Senior Adult Housing - Detached	72	d.u.
Senior Adult Housing - Attached	193	occ. d.u.
General Office Building	38,475	s.f
Shopping Center	44,675	s.f. gross leasable area
High-Turnover (Sit-Down) Restaurant	16,800	s.f
	-	





VICINITY MAP
not to scale

SITE DATA:

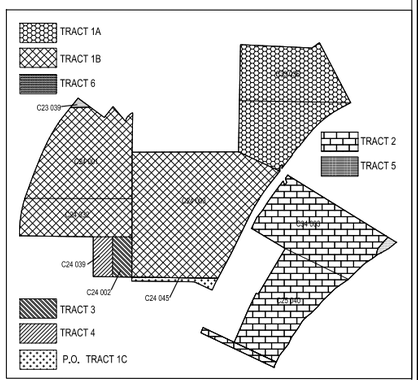
TOTAL SITE AREA	152.911 ACRES
OPEN SPACE (20%)	30.582 ACRES
FLOODPLAIN (APPROXIMATE)	2.13 ACRES
RESIDENTIAL DENSITY	6.65
NON-RESIDENTIAL FAR	0.02
MULTI-FAMILY & SENIOR LIVING MAX BUILDING HT.	4 STORIES
COMMERCIAL BUILDING MAX HT.	2 STORIES

ZONING

EXISTING ZONING	R-1A, OP, AND PSC
PROPOSED ZONING	PUD
ZONING JURISDICTION	CITY OF CUMMING

PARKING SUMMARY

DAHLONEGA HWY MIXED USE	983 SPACES
PILGRIM MILL MIXED USE	
SENIOR LIVING	236 SPACES
COMMERCIAL	110 SPACES
DETACHED SINGLE FAMILY COMMUNITY	
SINGLE FAMILY	442 SPACES
GUEST	42 SPACES
ATTACHED SINGLE FAMILY COMMUNITY	540 SPACES



TAX PARCEL KEY

NOTES:

1. ALL SURVEY DATA TAKEN FROM THE ALTA SURVEY BY ROCHESTER AND ASSOCIATES FOR LENNAR GEORGIA, INC & FIRST AMERICAN ON 9/28/17.
2. ACCORDING TO THE U.S. FISH AND WILDLIFE SERVICE NATIONAL WETLANDS INVENTORY - WETLANDS ARE NOT LOCATED ON THIS SITE.
3. ACCORDING TO THE FEMA FLOOD INSURANCE RATE MAP NUMBER 13117C0132F, 134F, 151F & 155F DATED 03/04/2013, . PORTIONS OF THE PROPERTY DO FALL WITHIN A DESIGNATED FLOOD HAZARD ZONE.
4. WATERS OF THE STATED ARE WITHIN 200' OF THIS PROPERTY.
5. THE CHATTAHOOCHEE RIVER IS NOT WITHIN 2000' OF THIS PROPERTY.
6. FORSYTH COUNTY FIRE DEPARTMENT SHALL APPROVE ROAD LAYOUT AND ENTRANCES.
7. WATER SERVICE SHALL BE PROVIDED BY FORSYTH COUNTY. EXISTING WATER SERVICE WILL BE USED
8. SANITARY SEWER SERVICE WILL BE PROVIDED BY CITY OF CUMMING. EXISTING SEWER WILL BE TAPPED ON SITE.
9. THE PROPOSED DEVELOPMENT MAY BE GATED AND HAVE PRIVATE STREETS.

NOTE : Information regarding the reputed presence, size, character and location of existing underground utilities and structures is shown hereon. There is no certainty of the accuracy of this information and it shall be considered in that light by those using this drawing. The location and arrangement of underground utilities and structures shown hereon may be inaccurate and utilities and structures not shown may be encountered. The owner, his/her employees, his/her consultants and his/her contractors shall hereby distinctly understand that the engineer / surveyor is not responsible for the correctness or sufficiency of this information.

REFERENCE DOCUMENTS:

1. SEE ALTA SURVEY DATED 9/28/17, BY ROCHESTER AND ASSOCIATES

CONTACT INFORMATION

TRAFFIC ENGINEER: JOHN D. WALKER, P.E., PTOE
EMAIL: JOHNWALKER@KIMLEY-HORN.COM
PHONE: (470) 273-3181

CLIENT CONTACT: CLINT WALTERS
EMAIL: CWALTERS@THEPROVIDENCEGROUP.COM
PHONE: (404) 274 - 4492

OWNER/DEVELOPER

thePROVIDENCEgroup

Warren Jolly

11340 Lakefield Drive
Building II, Suite 200

Johns Creek, Georgia 30097
Tele: (678) 475-1800

Travis Pruitt Associates, Inc.
ENGINEERS · SURVEYORS · LANDSCAPE ARCHITECTS · LAND PLANNERS · ENVIRONMENTAL SCIENTISTS

4317 Park Drive, Suite 400
Norcross, Georgia 30093
Phone: (770)416-7511
Fax: (770)416-6759
www.travispruitt.com

DRI SITE PLAN

SAWNEE VILLAGE

DRI #3395

725 Pilgrim Mill Road and 549 Dahlonega Highway

City of Cumming

Forsyth County, Georgia

GEORGIA REGISTERED LANDSCAPE ARCHITECT EDWARD J. ANDERSON No. 1385

For The Firm
Travis Pruitt & Associates, Inc.

DATE:	09-13-21
SCALE:	1" = 200'
CN:	210140CP16
LSV:	
JN:	
FN:	

1 of 1

Trip Generation Analysis

Trip Generation Analysis (10th Ed. with *2nd Edition Handbook* Daily IC & *3rd Edition* AM/PM IC)
Sawnee Village DRI #3395
City of Cumming, GA

Land Use	Intensity	Daily Trips	AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out
Proposed Site Traffic								
210 Single-Family Detached Housing	149 d.u.	1,500	111	28	83	149	94	55
220 Multi-Family Housing (Low-Rise)	341 d.u.	2,538	153	35	118	176	111	65
221 Multi-Family Housing (Mid-Rise)	262 d.u.	1,426	88	23	65	112	68	44
251 Senior Adult Housing-Detached	72 d.u.	422	32	11	21	37	23	14
252 Senior Adult Housing - Attached	193 occ. d.u.	750	38	13	25	49	27	22
710 General Office Building	38,475 s.f.	420	63	54	9	46	7	39
820 Shopping Center	44,675 s.f. gross leasable area	1,686	42	26	16	170	82	88
932 High-Turnover (Sit-Down) Restaurant	16,800 s.f.	1,884	167	92	75	164	102	62
Gross Trips		**10,626**	**694**	**282**	**412**	**903**	**514**	**389**
Residential Trips		6,636	422	110	312	523	323	200
Mixed-Use Reductions		*-362*	*-28*	*-5*	*-23*	*-61*	*-35*	*-26*
Alternative Mode Reductions		*0*	*0*	*0*	*0*	*0*	*0*	*0*
Adjusted Residential Trips		6,274	394	105	289	462	288	174
Office Trips		420	63	54	9	46	7	39
Mixed-Use Reductions		*-82*	*-21*	*-12*	*-9*	*-18*	*-8*	*-10*
Alternative Mode Reductions		*0*	*0*	*0*	*0*	*0*	*0*	*0*
Adjusted Office Trips		338	42	42	0	28	-1	29
Retail Trips		1,686	42	26	16	170	82	88
Mixed-Use Reductions		*-206*	*-14*	*-8*	*-6*	*-91*	*-40*	*-51*
Alternative Mode Reductions		*0*	*0*	*0*	*0*	*0*	*0*	*0*
Pass By Reductions (Based on ITE Rates)		*-503*	*0*	*0*	*0*	*-26*	*-13*	*-13*
Adjusted Retail Trips		977	28	18	10	53	29	24
Restaurant Trips		1,884	167	92	75	164	102	62
Mixed-Use Reductions		*-230*	*-39*	*-26*	*-13*	*-80*	*-42*	*-38*
Alternative Mode Reductions		*0*	*0*	*0*	*0*	*0*	*0*	*0*
Pass By Reductions (Based on ITE Rates)		*-711*	*0*	*0*	*0*	*-36*	*-18*	*-18*
Adjusted Restaurant Trips		943	128	66	62	48	42	6
Mixed-Use Reductions - TOTAL		*-880*	*-102*	*-51*	*-51*	*-250*	*-125*	*-125*
Alternative Mode Reductions - TOTAL		*0*	*0*	*0*	*0*	*0*	*0*	*0*
Pass-By Reductions - TOTAL		*-1,214*	*0*	*0*	*0*	*-62*	*-31*	*-31*
New Trips		**8,532**	**592**	**231**	**361**	**591**	**358**	**233**
Driveway Volumes		**9,746**	**592**	**231**	**361**	**653**	**389**	**264**

Intersection Volume Worksheets

INTERSECTION VOLUME DEVELOPMENT

Intersection #1

Bald Ridge Rd at SR 400 NB Off-Ramp/SR 400 NB On-Ramp

AM PEAK HOUR

	SR 400 NB Off-Ramp				SR 400 NB On-Ramp				Bald Ridge Rd				Bald Ridge Rd			
	Northbound				**Southbound**				**Eastbound**				**Westbound**			
Description	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2018 Traffic Volumes	0	275	0	61	0	0	0	0	0	147	456	0	0	0	236	189
Pedestrians		0				0				0				0		
Conflicting Pedestrians	0			0	0			0	0			0	0			0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicle %	0%	2%	0%	2%	0%	0%	0%	0%	0%	2%	2%	0%	0%	0%	2%	2%
Peak Hour Factor		0.91				0.91				0.91				0.91		
Adjustment	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689
Estimated 2021 Volumes	0	296	0	66	0	0	0	0	0	158	491	0	0	0	254	204
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280
2028 Background Traffic	0	379	0	84	0	0	0	0	0	202	629	0	0	0	325	261
Project Trips																
Trip Distribution IN		35%														
Trip Distribution OUT																
Residential Trips	0	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trip Distribution IN		25%														
Trip Distribution OUT																
Office Trips	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trip Distribution IN		25%														
Trip Distribution OUT																
Retail Trips	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trip Distribution IN		25%														
Trip Distribution OUT																
Restaurant Trips	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-By Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	70	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2028 Buildout Total	0	449	0	84	0	0	0	0	0	202	629	0	0	0	325	261
2028 Buildout Heavy Vehicle %	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%

PM PEAK HOUR

	SR 400 NB Off-Ramp				SR 400 NB On-Ramp				Bald Ridge Rd				Bald Ridge Rd			
	Northbound				**Southbound**				**Eastbound**				**Westbound**			
Description	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2018 Traffic Volumes	0	277	1	255	0	0	0	0	0	390	518	0	0	0	364	740
Pedestrians		0				0				0				0		
Conflicting Pedestrians	0			0	0			0	0			0	0			0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicle %	0%	2%	2%	2%	0%	0%	0%	0%	0%	2%	2%	0%	0%	0%	2%	2%
Peak Hour Factor		0.99				0.99				0.99				0.99		
Adjustment	1.0769	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689
Estimated 2021 Volumes	0	298	1	275	0	0	0	0	0	420	558	0	0	0	392	797
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280
2028 Background Traffic	0	381	1	352	0	0	0	0	0	538	714	0	0	0	502	1,020
Project Trips																
Trip Distribution IN		35%														
Trip Distribution OUT																
Residential Trips	0	101	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trip Distribution IN		25%														
Trip Distribution OUT																
Office Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trip Distribution IN		25%														
Trip Distribution OUT																
Retail Trips	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trip Distribution IN		25%														
Trip Distribution OUT																
Restaurant Trips	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pass-By Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	119	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2028 Buildout Total	0	500	1	352	0	0	0	0	0	538	714	0	0	0	502	1,020
2028 Buildout Heavy Vehicle %	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%

9/10/2021 13:43

INTERSECTION VOLUME DEVELOPMENT

Intersection #2

Bald Ridge Rd at SR 400 SB On-Ramp/SR 400 SB Off-Ramp

AM PEAK HOUR

	SR 400 SB On-Ramp				SR 400 SB Off-Ramp				Bald Ridge Rd				Bald Ridge Rd			
	Northbound				**Southbound**				**Eastbound**				**Westbound**			
Description	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2018 Traffic Volumes	0	0	0	0	0	303	0	266	0	0	296	247	0	75	435	0
Pedestrians		0				0				0				0		
Conflicting Pedestrians	0			0	0			0	0			0	0			0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicle %	0%	0%	0%	0%	0%	2%	0%	2%	0%	0%	2%	2%	0%	2%	2%	0%
Peak Hour Factor		0.91				0.91				0.91				0.91		
Adjustment	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689
Estimated 2021 Volumes	0	0	0	0	0	326	0	286	0	0	319	266	0	81	468	0
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280
2028 Background Traffic	0	0	0	0	0	417	0	366	0	0	408	341	0	104	599	0
Project Trips																
Trip Distribution IN															35%	
Trip Distribution OUT												35%				
Residential Trips	0	0	0	0	0	0	0	0	0	0	0	101	0	0	37	0
Trip Distribution IN															25%	
Trip Distribution OUT												25%				
Office Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0
Trip Distribution IN															25%	
Trip Distribution OUT												25%				
Retail Trips	0	0	0	0	0	0	0	0	0	0	0	3	0	0	5	0
Trip Distribution IN															25%	
Trip Distribution OUT												25%				
Restaurant Trips	0	0	0	0	0	0	0	0	0	0	0	16	0	0	17	0
Pass-By Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	0	0	0	0	0	0	0	0	0	0	120	0	0	70	0
2028 Buildout Total	0	0	0	0	0	417	0	366	0	0	408	461	0	104	669	0
2028 Buildout Heavy Vehicle %	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%

PM PEAK HOUR

	SR 400 SB On-Ramp				SR 400 SB Off-Ramp				Bald Ridge Rd				Bald Ridge Rd			
	Northbound				**Southbound**				**Eastbound**				**Westbound**			
Description	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2018 Traffic Volumes	0	0	0	0	0	351	0	151	0	0	573	188	0	108	531	0
Pedestrians		0				0				0				0		
Conflicting Pedestrians	0			0	0			0	0			0	0			0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicle %	0%	0%	0%	0%	0%	2%	0%	2%	0%	0%	2%	2%	0%	2%	2%	0%
Peak Hour Factor		0.98				0.98				0.98				0.98		
Adjustment	1.0769	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689
Estimated 2021 Volumes	0	0	0	0	0	378	0	163	0	0	617	202	0	116	572	0
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280
2028 Background Traffic	0	0	0	0	0	484	0	209	0	0	790	259	0	148	732	0
Project Trips																
Trip Distribution IN															35%	
Trip Distribution OUT												35%				
Residential Trips	0	0	0	0	0	0	0	0	0	0	0	61	0	0	101	0
Trip Distribution IN															25%	
Trip Distribution OUT												25%				
Office Trips	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0
Trip Distribution IN															25%	
Trip Distribution OUT												25%				
Retail Trips	0	0	0	0	0	0	0	0	0	0	0	6	0	0	7	0
Trip Distribution IN															25%	
Trip Distribution OUT												25%				
Restaurant Trips	0	0	0	0	0	0	0	0	0	0	0	2	0	0	11	0
Pass-By Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	0	0	0	0	0	0	0	0	0	0	76	0	0	119	0
2028 Buildout Total	0	0	0	0	0	484	0	209	0	0	790	335	0	148	851	0
2028 Buildout Heavy Vehicle %	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%

9/10/2021 13:43

INTERSECTION VOLUME DEVELOPMENT

Intersection #3

Bald Ridge Rd at /Lanier 400 Pkwy

AM PEAK HOUR

					Lanier 400 Pkwy				Bald Ridge Rd				Bald Ridge Rd			
	Northbound				**Southbound**				**Eastbound**				**Westbound**			
Description	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2018 Traffic Volumes	0	0	0	0	0	169	0	150	0	135	374	0	0	0	518	172
Pedestrians		0				0				0				0		
Conflicting Pedestrians	0			0	0			0	0			0	0			0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicle %	0%	0%	0%	0%	0%	2%	0%	2%	0%	2%	2%	0%	0%	0%	2%	2%
Peak Hour Factor		0.95				0.95				0.95				0.95		
Adjustment	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689
Estimated 2021 Volumes	0	0	0	0	0	182	0	162	0	145	403	0	0	0	558	185
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280
2028 Background Traffic	0	0	0	0	0	233	0	207	0	186	516	0	0	0	714	237
Project Trips																
Trip Distribution IN															10%	25%
Trip Distribution OUT						25%					10%					
Residential Trips	0	0	0	0	0	72	0	0	0	0	29	0	0	0	11	26
Trip Distribution IN															10%	15%
Trip Distribution OUT						15%					10%					
Office Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	6
Trip Distribution IN															10%	15%
Trip Distribution OUT						15%					10%					
Retail Trips	0	0	0	0	0	2	0	0	0	0	1	0	0	0	2	3
Trip Distribution IN															10%	15%
Trip Distribution OUT						15%					10%					
Restaurant Trips	0	0	0	0	0	9	0	0	0	0	6	0	0	0	7	10
Pass-By Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	0	0	0	0	83	0	0	0	0	36	0	0	0	24	45
2028 Buildout Total	0	0	0	0	0	316	0	207	0	186	552	0	0	0	738	282
2028 Buildout Heavy Vehicle %	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%

PM PEAK HOUR

					Lanier 400 Pkwy				Bald Ridge Rd				Bald Ridge Rd			
	Northbound				**Southbound**				**Eastbound**				**Westbound**			
Description	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2018 Traffic Volumes	0	0	0	0	0	102	0	96	0	124	673	0	0	0	572	135
Pedestrians		0				0				0				0		
Conflicting Pedestrians	0			0	0			0	0			0	0			0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicle %	0%	0%	0%	0%	0%	2%	0%	2%	0%	2%	2%	0%	0%	0%	2%	2%
Peak Hour Factor		0.97				0.97				0.97				0.97		
Adjustment	1.0769	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689
Estimated 2021 Volumes	0	0	0	0	0	110	0	103	0	134	725	0	0	0	616	145
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280
2028 Background Traffic	0	0	0	0	0	141	0	132	0	172	928	0	0	0	789	186
Project Trips																
Trip Distribution IN															10%	25%
Trip Distribution OUT						25%					10%					
Residential Trips	0	0	0	0	0	44	0	0	0	0	17	0	0	0	29	72
Trip Distribution IN															10%	15%
Trip Distribution OUT						15%					10%					
Office Trips	0	0	0	0	0	4	0	0	0	0	3	0	0	0	0	0
Trip Distribution IN															10%	15%
Trip Distribution OUT						15%					10%					
Retail Trips	0	0	0	0	0	4	0	0	0	0	2	0	0	0	3	4
Trip Distribution IN															10%	15%
Trip Distribution OUT						15%					10%					
Restaurant Trips	0	0	0	0	0	1	0	0	0	0	1	0	0	0	4	6
Pass-By Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	0	0	0	0	53	0	0	0	0	23	0	0	0	36	82
2028 Buildout Total	0	0	0	0	0	194	0	132	0	172	951	0	0	0	825	268
2028 Buildout Heavy Vehicle %	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%

9/10/2021 13:43

INTERSECTION VOLUME DEVELOPMENT

Intersection #4

Pilgrim Mill Rd at Pirkle Ferry Rd

AM PEAK HOUR

	Pilgrim Mill Rd				Pilgrim Mill Rd				Pirkle Ferry Rd				Pirkle Ferry Rd			
	Northbound				**Southbound**				**Eastbound**				**Westbound**			
Description	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2018 Traffic Volumes	0	276	256	0	0	0	248	209	0	0	0	0	0	48	479	28
Pedestrians		0				0				0				0		
Conflicting Pedestrians	0			0	0			0	0			0	0			0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicle %	0%	2%	2%	0%	0%	0%	2%	2%	0%	0%	0%	0%	0%	2%	2%	2%
Peak Hour Factor		0.95				0.95				0.95				0.95		
Adjustment	1.0927	1.09273	1.09273	1.09273	1.09273	1.09273	1.09273	1.09273	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689
Estimated 2021 Volumes	0	302	280	0	0	0	271	228	0	0	0	0	0	52	516	30
Annual Growth Rate	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.344	1.344	1.344	1.344	1.344	1.344	1.344	1.344	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280
2028 Background Traffic	0	406	376	0	0	0	364	306	0	0	0	0	0	67	661	38
Project Trips																
Trip Distribution IN			5%													10%
Trip Distribution OUT							15%									
Residential Trips	0	0	5	0	0	0	43	0	0	0	0	0	0	0	0	11
Trip Distribution IN			10%													10%
Trip Distribution OUT							20%									
Office Trips	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
Trip Distribution IN			10%													10%
Trip Distribution OUT							20%									
Retail Trips	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	2
Trip Distribution IN			10%													10%
Trip Distribution OUT							20%									
Restaurant Trips	0	0	7	0	0	0	12	0	0	0	0	0	0	0	0	7
Pass-By Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	0	18	0	0	0	57	0	0	0	0	0	0	0	0	24
2028 Buildout Total	0	406	394	0	0	0	421	306	0	0	0	0	0	67	661	62
2028 Buildout Heavy Vehicle %	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%

PM PEAK HOUR

	Pilgrim Mill Rd				Pilgrim Mill Rd				Pirkle Ferry Rd				Pirkle Ferry Rd			
	Northbound				**Southbound**				**Eastbound**				**Westbound**			
Description	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2018 Traffic Volumes	0	567	356	0	0	0	237	142	0	0	0	0	0	54	605	29
Pedestrians		0				0				0				0		
Conflicting Pedestrians	0			0	0			0	0			0	0			0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicle %	0%	2%	2%	0%	0%	0%	2%	2%	0%	0%	0%	0%	0%	2%	2%	2%
Peak Hour Factor		0.86				0.86				0.86				0.86		
Adjustment	1.0927	1.0927	1.0927	1.0927	1.0927	1.0927	1.0927	1.0927	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689
Estimated 2021 Volumes	0	620	389	0	0	0	259	155	0	0	0	0	0	58	652	31
Annual Growth Rate	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.344	1.344	1.344	1.344	1.344	1.344	1.344	1.344	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280
2028 Background Traffic	0	833	523	0	0	0	348	208	0	0	0	0	0	74	835	40
Project Trips																
Trip Distribution IN			5%													10%
Trip Distribution OUT							15%									
Residential Trips	0	0	14	0	0	0	26	0	0	0	0	0	0	0	0	29
Trip Distribution IN			10%													10%
Trip Distribution OUT							20%									
Office Trips	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0
Trip Distribution IN			10%													10%
Trip Distribution OUT							20%									
Retail Trips	0	0	3	0	0	0	5	0	0	0	0	0	0	0	0	3
Trip Distribution IN			10%													10%
Trip Distribution OUT							20%									
Restaurant Trips	0	0	4	0	0	0	1	0	0	0	0	0	0	0	0	4
Pass-By Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	0	21	0	0	0	38	0	0	0	0	0	0	0	0	36
2028 Buildout Total	0	833	544	0	0	0	386	208	0	0	0	0	0	74	835	76
2028 Buildout Heavy Vehicle %	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%

9/10/2021 13:43

INTERSECTION VOLUME DEVELOPMENT

Intersection #5

Pilgrim Mill Rd at Lanier 400 Pkwy/Parkside Walk

AM PEAK HOUR

	Lanier 400 Pkwy				Parkside Walk				Pilgrim Mill Rd				Pilgrim Mill Rd			
	Northbound				**Southbound**				**Eastbound**				**Westbound**			
Description	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2018 Traffic Volumes	0	21	3	81	0	6	2	5	0	5	213	28	0	174	555	5
Pedestrians		0				0				0				0		
Conflicting Pedestrians	0			0	0			0	0			0	0			0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicle %	0%	2%	2%	2%	0%	2%	2%	2%	0%	2%	2%	2%	0%	2%	2%	2%
Peak Hour Factor		0.91				0.91				0.91				0.91		
Adjustment	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.0927	1.0927	1.0927	1.0927	1.0927	1.0927	1.0927	1.0927
Estimated 2021 Volumes	0	23	3	87	0	6	2	5	0	5	233	31	0	190	606	5
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Growth Factor	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.344	1.344	1.344	1.344	1.344	1.344	1.344	1.344
2028 Background Traffic	0	29	4	111	0	8	3	6	0	7	313	42	0	255	814	7
Project Trips																
Trip Distribution IN		25%													15%	
Trip Distribution OUT											15%	25%				
Residential Trips	0	26	0	0	0	0	0	0	0	0	43	72	0	0	16	0
Trip Distribution IN		15%													15%	
Trip Distribution OUT											15%	15%				
Office Trips	0	6	0	0	0	0	0	0	0	0	0	0	0	0	6	0
Trip Distribution IN		15%													15%	
Trip Distribution OUT											15%	15%				
Retail Trips	0	3	0	0	0	0	0	0	0	0	2	2	0	0	3	0
Trip Distribution IN		15%													15%	
Trip Distribution OUT											15%	15%				
Restaurant Trips	0	10	0	0	0	0	0	0	0	0	9	9	0	0	10	0
Pass-By Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	45	0	0	0	0	0	0	0	0	54	83	0	0	35	0
2028 Buildout Total	0	74	4	111	0	8	3	6	0	7	367	125	0	255	849	7
2028 Buildout Heavy Vehicle %	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%

PM PEAK HOUR

	Lanier 400 Pkwy				Parkside Walk				Pilgrim Mill Rd				Pilgrim Mill Rd			
	Northbound				**Southbound**				**Eastbound**				**Westbound**			
Description	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2018 Traffic Volumes	0	12	6	158	0	2	7	2	0	11	542	10	0	44	247	5
Pedestrians		0				0				0				0		
Conflicting Pedestrians	0			0	0			0	0			0	0			0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicle %	0%	2%	2%	2%	0%	2%	2%	2%	0%	2%	2%	2%	0%	2%	2%	2%
Peak Hour Factor		0.96				0.96				0.96				0.96		
Adjustment	1.0769	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.0927	1.0927	1.0927	1.0927	1.0927	1.0927	1.0927	1.0927
Estimated 2021 Volumes	0	13	6	170	0	2	8	2	0	12	592	11	0	48	270	5
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Growth Factor	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.344	1.344	1.344	1.344	1.344	1.344	1.344	1.344
2028 Background Traffic	0	17	8	218	0	3	10	3	0	16	796	15	0	65	363	7
Project Trips																
Trip Distribution IN		25%													15%	
Trip Distribution OUT											15%	25%				
Residential Trips	0	72	0	0	0	0	0	0	0	0	26	44	0	0	43	0
Trip Distribution IN		15%													15%	
Trip Distribution OUT											15%	15%				
Office Trips	0	0	0	0	0	0	0	0	0	0	4	4	0	0	0	0
Trip Distribution IN		15%													15%	
Trip Distribution OUT											15%	15%				
Retail Trips	0	4	0	0	0	0	0	0	0	0	4	4	0	0	4	0
Trip Distribution IN		15%													15%	
Trip Distribution OUT											15%	15%				
Restaurant Trips	0	6	0	0	0	0	0	0	0	0	1	1	0	0	6	0
Pass-By Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	82	0	0	0	0	0	0	0	0	35	53	0	0	53	0
2028 Buildout Total	0	99	8	218	0	3	10	3	0	16	831	68	0	65	416	7
2028 Buildout Heavy Vehicle %	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%

9/10/2021 13:43

INTERSECTION VOLUME DEVELOPMENT

Intersection #6

Pilgrim Mill Rd at SR 400 SB On-Ramp/SR 400 SB Off-Ramp

AM PEAK HOUR

	SR 400 SB On-Ramp				SR 400 SB Off-Ramp				Pilgrim Mill Rd				Pilgrim Mill Rd			
	Northbound				**Southbound**				**Eastbound**				**Westbound**			
Description	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2018 Traffic Volumes	0	0	0	0	0	36	0	233	0	0	160	244	1	566	625	0
Pedestrians		0				0				0				0		
Conflicting Pedestrians	0			0	0			0	0			0	0			0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicle %	0%	0%	0%	0%	0%	2%	0%	2%	0%	0%	2%	2%	2%	2%	2%	0%
Peak Hour Factor		0.94				0.94				0.94				0.94		
Adjustment	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.0927	1.0927	1.0927	1.0927	1.0927	1.0927	1.0927	1.0927
Estimated 2021 Volumes	0	0	0	0	0	39	0	251	0	0	175	267	1	618	683	0
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Growth Factor	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.344	1.344	1.344	1.344	1.344	1.344	1.344	1.344
2028 Background Traffic	0	0	0	0	0	50	0	321	0	0	235	359	1	831	918	0
Project Trips																
Trip Distribution IN								15%								
Trip Distribution OUT											15%					
Residential Trips	0	0	0	0	0	0	0	16	0	0	43	0	0	0	0	0
Trip Distribution IN								10%							5%	
Trip Distribution OUT											15%					
Office Trips	0	0	0	0	0	0	0	4	0	0	0	0	0	0	2	0
Trip Distribution IN								10%							5%	
Trip Distribution OUT											15%					
Retail Trips	0	0	0	0	0	0	0	2	0	0	2	0	0	0	1	0
Trip Distribution IN								10%							5%	
Trip Distribution OUT											15%					
Restaurant Trips	0	0	0	0	0	0	0	7	0	0	9	0	0	0	3	0
Pass-By Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	0	0	0	0	0	0	29	0	0	54	0	0	0	6	0
2028 Buildout Total	0	0	0	0	0	50	0	350	0	0	289	359	1	831	924	0
2028 Buildout Heavy Vehicle %	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%

PM PEAK HOUR

	SR 400 SB On-Ramp				SR 400 SB Off-Ramp				Pilgrim Mill Rd				Pilgrim Mill Rd			
	Northbound				**Southbound**				**Eastbound**				**Westbound**			
Description	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2018 Traffic Volumes	0	0	0	0	0	46	2	94	0	0	592	218	0	295	547	0
Pedestrians		0				0				0				0		
Conflicting Pedestrians	0			0	0			0	0			0	0			0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicle %	0%	0%	0%	0%	0%	2%	2%	2%	0%	0%	2%	2%	0%	2%	2%	0%
Peak Hour Factor		0.89				0.89				0.89				0.89		
Adjustment	1.0769	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.0927	1.0927	1.0927	1.0927	1.0927	1.0927	1.0927	1.0927
Estimated 2021 Volumes	0	0	0	0	0	50	2	101	0	0	647	238	0	322	598	0
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Growth Factor	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.344	1.344	1.344	1.344	1.344	1.344	1.344	1.344
2028 Background Traffic	0	0	0	0	0	64	3	129	0	0	870	320	0	433	804	0
Project Trips																
Trip Distribution IN								15%								
Trip Distribution OUT											15%					
Residential Trips	0	0	0	0	0	0	0	43	0	0	26	0	0	0	0	0
Trip Distribution IN								10%							5%	
Trip Distribution OUT											15%					
Office Trips	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0
Trip Distribution IN								10%							5%	
Trip Distribution OUT											15%					
Retail Trips	0	0	0	0	0	0	0	3	0	0	4	0	0	0	1	0
Trip Distribution IN								10%							5%	
Trip Distribution OUT											15%					
Restaurant Trips	0	0	0	0	0	0	0	4	0	0	1	0	0	0	2	0
Pass-By Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	0	0	0	0	0	0	50	0	0	35	0	0	0	3	0
2028 Buildout Total	0	0	0	0	0	64	3	179	0	0	905	320	0	433	807	0
2028 Buildout Heavy Vehicle %	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%

9/10/2021 13:43

INTERSECTION VOLUME DEVELOPMENT

Intersection #7

Pilgrim Mill Rd at SR 400 NB Off-Ramp/SR 400 NB On-Ramp

AM PEAK HOUR

	SR 400 NB Off-Ramp				SR 400 NB On-Ramp				Pilgrim Mill Rd				Pilgrim Mill Rd			
	Northbound				**Southbound**				**Eastbound**				**Westbound**			
Description	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2018 Traffic Volumes	0	169	0	191	0	0	0	0	0	43	202	0	0	0	1,063	37
Pedestrians		0				0				0				0		
Conflicting Pedestrians	0			0	0			0	0			0	0			0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicle %	0%	2%	0%	2%	0%	0%	0%	0%	0%	2%	2%	0%	0%	0%	2%	2%
Peak Hour Factor		0.93				0.93				0.93				0.93		
Adjustment	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.0927	1.0927	1.0927	1.0927	1.0927	1.0927	1.0927	1.0927
Estimated 2021 Volumes	0	182	0	206	0	0	0	0	0	47	221	0	0	0	1162	40
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Growth Factor	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.344	1.344	1.344	1.344	1.344	1.344	1.344	1.344
2028 Background Traffic	0	233	0	264	0	0	0	0	0	63	297	0	0	0	1,562	54
Project Trips																
Trip Distribution IN																
Trip Distribution OUT										15%						
Residential Trips	0	0	0	0	0	0	0	0	0	43	0	0	0	0	0	0
Trip Distribution IN															5%	
Trip Distribution OUT										10%	5%					
Office Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
Trip Distribution IN															5%	
Trip Distribution OUT										10%	5%					
Retail Trips	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	0
Trip Distribution IN															5%	
Trip Distribution OUT										10%	5%					
Restaurant Trips	0	0	0	0	0	0	0	0	0	6	3	0	0	0	3	0
Pass-By Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	0	0	0	0	0	0	0	0	50	4	0	0	0	6	0
2028 Buildout Total	0	233	0	264	0	0	0	0	0	113	301	0	0	0	1,568	54
2028 Buildout Heavy Vehicle %	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%

PM PEAK HOUR

	SR 400 NB Off-Ramp				SR 400 NB On-Ramp				Pilgrim Mill Rd				Pilgrim Mill Rd			
	Northbound				**Southbound**				**Eastbound**				**Westbound**			
Description	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2018 Traffic Volumes	0	379	0	807	0	0	0	0	0	175	495	0	0	0	554	48
Pedestrians		0				0				0				0		
Conflicting Pedestrians	0			0	0			0	0			0	0			0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicle %	0%	2%	0%	2%	0%	0%	0%	0%	0%	2%	2%	0%	0%	0%	2%	2%
Peak Hour Factor		0.97				0.97				0.97				0.97		
Adjustment	1.0769	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.0927	1.0927	1.0927	1.0927	1.0927	1.0927	1.0927	1.0927
Estimated 2021 Volumes	0	408	0	869	0	0	0	0	0	191	541	0	0	0	605	52
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Growth Factor	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.344	1.344	1.344	1.344	1.344	1.344	1.344	1.344
2028 Background Traffic	0	522	0	1,112	0	0	0	0	0	257	727	0	0	0	813	70
Project Trips																
Trip Distribution IN																
Trip Distribution OUT										15%						
Residential Trips	0	0	0	0	0	0	0	0	0	26	0	0	0	0	0	0
Trip Distribution IN															5%	
Trip Distribution OUT										10%	5%					
Office Trips	0	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0
Trip Distribution IN															5%	
Trip Distribution OUT										10%	5%					
Retail Trips	0	0	0	0	0	0	0	0	0	2	1	0	0	0	1	0
Trip Distribution IN															5%	
Trip Distribution OUT										10%	5%					
Restaurant Trips	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0
Pass-By Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	0	0	0	0	0	0	0	0	32	2	0	0	0	3	0
2028 Buildout Total	0	522	0	1,112	0	0	0	0	0	289	729	0	0	0	816	70
2028 Buildout Heavy Vehicle %	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%

9/10/2021 13:43

INTERSECTION VOLUME DEVELOPMENT

Intersection #8

SR 9 at Elm St/Ridgecrest Ave

AM PEAK HOUR

	SR 9				SR 9				Elm St				Ridgecrest Ave			
	Northbound				**Southbound**				**Eastbound**				**Westbound**			
Description	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2018 Traffic Volumes	0	121	222	5	0	4	753	105	0	37	22	146	0	3	49	3
Pedestrians		0				0				0				0		
Conflicting Pedestrians	0			0	0			0	0			0	0			0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicle %	0%	2%	2%	2%	0%	2%	2%	2%	0%	2%	2%	2%	0%	2%	2%	2%
Peak Hour Factor		0.93				0.93				0.93				0.93		
Adjustment	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689
Estimated 2021 Volumes	0	130	239	5	0	4	811	113	0	40	24	157	0	3	53	3
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280
2028 Background Traffic	0	166	306	6	0	5	1,038	145	0	51	31	201	0	4	68	4
Project Trips																
Trip Distribution IN			10%							10%						
Trip Distribution OUT							10%	10%								
Residential Trips	0	0	11	0	0	0	29	29	0	11	0	0	0	0	0	0
Trip Distribution IN			10%							10%						
Trip Distribution OUT							10%	10%								
Office Trips	0	0	4	0	0	0	0	0	0	4	0	0	0	0	0	0
Trip Distribution IN			10%							10%						
Trip Distribution OUT							10%	10%								
Retail Trips	0	0	2	0	0	0	1	1	0	2	0	0	0	0	0	0
Trip Distribution IN			10%							10%						
Trip Distribution OUT							10%	10%								
Restaurant Trips	0	0	7	0	0	0	6	6	0	7	0	0	0	0	0	0
Pass-By Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	0	24	0	0	0	36	36	0	24	0	0	0	0	0	0
2028 Buildout Total	0	166	330	6	0	5	1,074	181	0	75	31	201	0	4	68	4
2028 Buildout Heavy Vehicle %	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%

PM PEAK HOUR

	SR 9				SR 9				Elm St				Ridgecrest Ave			
	Northbound				**Southbound**				**Eastbound**				**Westbound**			
Description	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2018 Traffic Volumes	0	92	804	11	0	9	355	24	0	44	34	134	0	3	14	7
Pedestrians		0				0				0				0		
Conflicting Pedestrians	0			0	0			0	0			0	0			0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicle %	0%	2%	2%	2%	0%	2%	2%	2%	0%	2%	2%	2%	0%	2%	2%	2%
Peak Hour Factor		0.96				0.96				0.96				0.96		
Adjustment	1.0769	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689
Estimated 2021 Volumes	0	99	866	12	0	10	382	26	0	47	37	144	0	3	15	8
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280
2028 Background Traffic	0	127	1,109	15	0	13	489	33	0	60	47	184	0	4	19	10
Project Trips																
Trip Distribution IN			10%							10%						
Trip Distribution OUT							10%	10%								
Residential Trips	0	0	29	0	0	0	17	17	0	29	0	0	0	0	0	0
Trip Distribution IN			10%							10%						
Trip Distribution OUT							10%	10%								
Office Trips	0	0	0	0	0	0	3	3	0	0	0	0	0	0	0	0
Trip Distribution IN			10%							10%						
Trip Distribution OUT							10%	10%								
Retail Trips	0	0	3	0	0	0	2	2	0	3	0	0	0	0	0	0
Trip Distribution IN			10%							10%						
Trip Distribution OUT							10%	10%								
Restaurant Trips	0	0	4	0	0	0	1	1	0	4	0	0	0	0	0	0
Pass-By Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	0	36	0	0	0	23	23	0	36	0	0	0	0	0	0
2028 Buildout Total	0	127	1,145	15	0	13	512	56	0	96	47	184	0	4	19	10
2028 Buildout Heavy Vehicle %	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%

9/10/2021 13:43

INTERSECTION VOLUME DEVELOPMENT

Intersection #9

SR 9 at SR 306/Charles Place (Sawnee Drive Ext)

AM PEAK HOUR

	SR 9				SR 9				SR 306				Charles Place (Sawnee Drive Ext)			
	Northbound				**Southbound**				**Eastbound**				**Westbound**			
Description	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2018 Traffic Volumes	0	60	215	10	0	7	603	312	0	220	16	270	0	40	28	9
Pedestrians		0				0				0				0		
Conflicting Pedestrians	0			0	0			0	0			0	0			0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicle %	0%	2%	2%	2%	0%	2%	2%	2%	0%	2%	2%	2%	0%	2%	2%	2%
Peak Hour Factor		0.87				0.87				0.87				0.87		
Adjustment	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689
Estimated 2021 Volumes	0	65	232	11	0	8	649	336	0	237	17	291	0	43	30	10
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280
2028 Background Traffic	0	83	297	14	0	10	831	430	0	303	22	373	0	55	38	13
Project Trips																
Trip Distribution IN						5%						20%				
Trip Distribution OUT		20%														5%
Residential Trips	0	58	0	0	0	5	0	0	0	0	0	21	0	0	0	14
Trip Distribution IN						5%	5%					20%		5%		
Trip Distribution OUT		20%	5%	5%												5%
Office Trips	0	0	0	0	0	2	2	0	0	0	0	8	0	2	0	0
Trip Distribution IN						5%	5%					20%		5%		5%
Trip Distribution OUT		20%	5%	5%												
Retail Trips	0	2	1	1	0	1	1	0	0	0	0	4	0	1	0	1
Trip Distribution IN						5%	5%					20%		5%		
Trip Distribution OUT		20%	5%	5%												
Restaurant Trips	0	12	3	3	0	3	3	0	0	0	0	13	0	3	0	0
Pass-By Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	72	4	4	0	11	6	0	0	0	0	46	0	6	0	15
2028 Buildout Total	0	155	301	18	0	21	837	430	0	303	22	419	0	61	38	28
2028 Buildout Heavy Vehicle %	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%

PM PEAK HOUR

	SR 9				SR 9				SR 306				Charles Place (Sawnee Drive Ext)			
	Northbound				**Southbound**				**Eastbound**				**Westbound**			
Description	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2018 Traffic Volumes	0	157	520	15	0	14	463	211	0	391	24	86	0	37	28	22
Pedestrians		0				0				0				0		
Conflicting Pedestrians	0			0	0			0	0			0	0			0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicle %	0%	2%	2%	2%	0%	2%	2%	2%	0%	2%	2%	2%	0%	2%	2%	2%
Peak Hour Factor		0.96				0.96				0.96				0.96		
Adjustment	1.0769	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689
Estimated 2021 Volumes	0	169	560	16	0	15	499	227	0	421	26	93	0	40	30	24
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280
2028 Background Traffic	0	216	717	20	0	19	639	291	0	539	33	119	0	51	38	31
Project Trips																
Trip Distribution IN						5%						20%				
Trip Distribution OUT		20%														5%
Residential Trips	0	35	0	0	0	14	0	0	0	0	0	58	0	0	0	9
Trip Distribution IN						5%	5%					20%		5%		
Trip Distribution OUT		20%	5%	5%												5%
Office Trips	0	6	1	1	0	0	0	0	0	0	0	0	0	0	0	1
Trip Distribution IN						5%	5%					20%		5%		5%
Trip Distribution OUT		20%	5%	5%												
Retail Trips	0	5	1	1	0	1	1	0	0	0	0	6	0	1	0	1
Trip Distribution IN						5%	5%					20%		5%		
Trip Distribution OUT		20%	5%	5%												
Restaurant Trips	0	1	0	0	0	2	2	0	0	0	0	8	0	2	0	0
Pass-By Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	47	2	2	0	17	3	0	0	0	0	72	0	3	0	11
2028 Buildout Total	0	263	719	22	0	36	642	291	0	539	33	191	0	54	38	42
2028 Buildout Heavy Vehicle %	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%

9/10/2021 13:43

INTERSECTION VOLUME DEVELOPMENT

Intersection #10

Pilgrim Mill Road at Maple St

AM PEAK HOUR

Description	Pilgrim Mill Road Northbound U-Turn	Left	Through	Right	Pilgrim Mill Road Southbound U-Turn	Left	Through	Right	Maple St Eastbound U-Turn	Left	Through	Right	Maple St Westbound U-Turn	Left	Through	Right
Observed 2018 Traffic Volumes	0	0	331	30	0	18	229	0	0	86	555	281	0	0	0	0
Pedestrians		0				0				0				0		
Conflicting Pedestrians	0			0	0			0	0			0	0			0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicle %	0%	0%	2%	2%	0%	2%	2%	0%	0%	2%	2%	2%	0%	0%	0%	0%
Peak Hour Factor		0.97				0.97				0.97				0.97		
Adjustment	1.2807	1.2807	1.2807	1.2807	1.2807	1.2807	1.2807	1.2807	1.2807	1.2807	1.2807	1.2807	1.2807	1.2807	1.2807	1.2807
Estimated 2021 Volumes	0	0	424	38	0	23	293	0	0	110	711	360	0	0	0	0
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280
2028 Background Traffic	0	0	543	49	0	29	375	0	0	141	910	461	0	0	0	0
Project Trips																
Trip Distribution IN			5%													
Trip Distribution OUT						10%	5%									
Residential Trips	0	0	5	0	0	29	14	0	0	0	0	0	0	0	0	0
Trip Distribution IN			10%													
Trip Distribution OUT						10%	10%									
Office Trips	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
Trip Distribution IN			10%													
Trip Distribution OUT						10%	10%									
Retail Trips	0	0	2	0	0	1	1	0	0	0	0	0	0	0	0	0
Trip Distribution IN			10%													
Trip Distribution OUT							10%									
Restaurant Trips	0	0	7	0	0	0	6	0	0	0	0	0	0	0	0	0
Pass-By Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	0	18	0	0	30	21	0	0	0	0	0	0	0	0	0
2028 Buildout Total	0	0	561	49	0	59	396	0	0	141	910	461	0	0	0	0
2028 Buildout Heavy Vehicle %	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%

PM PEAK HOUR

Description	Pilgrim Mill Road Northbound U-Turn	Left	Through	Right	Pilgrim Mill Road Southbound U-Turn	Left	Through	Right	Maple St Eastbound U-Turn	Left	Through	Right	Maple St Westbound U-Turn	Left	Through	Right
Observed 2018 Traffic Volumes	0	0	676	32	0	21	232	0	0	151	415	373	0	0	0	0
Pedestrians		0				0				0				0		
Conflicting Pedestrians	0			0	0			0	0			0	0			0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicle %	0%	0%	2%	2%	0%	2%	2%	0%	0%	2%	2%	2%	0%	0%	0%	0%
Peak Hour Factor		0.93				0.93				0.93				0.93		
Adjustment	1.1916	1.19163	1.19163	1.19163	1.19163	1.19163	1.19163	1.19163	1.19163	1.19163	1.19163	1.19163	1.19163	1.19163	1.19163	1.19163
Estimated 2021 Volumes	0	0	806	38	0	25	276	0	0	180	495	444	0	0	0	0
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280
2028 Background Traffic	0	0	1,032	49	0	32	353	0	0	230	634	568	0	0	0	0
Project Trips																
Trip Distribution IN			5%													
Trip Distribution OUT						10%	5%									
Residential Trips	0	0	14	0	0	17	9	0	0	0	0	0	0	0	0	0
Trip Distribution IN			10%													
Trip Distribution OUT						10%	10%									
Office Trips	0	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0
Trip Distribution IN			10%													
Trip Distribution OUT						10%	10%									
Retail Trips	0	0	3	0	0	2	2	0	0	0	0	0	0	0	0	0
Trip Distribution IN			10%													
Trip Distribution OUT							10%									
Restaurant Trips	0	0	4	0	0	0	1	0	0	0	0	0	0	0	0	0
Pass-By Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	0	21	0	0	22	15	0	0	0	0	0	0	0	0	0
2028 Buildout Total	0	0	1,053	49	0	54	368	0	0	230	634	568	0	0	0	0
2028 Buildout Heavy Vehicle %	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%

9/10/2021 13:43

INTERSECTION VOLUME DEVELOPMENT

Intersection #11

SR 9 at Otwell Middle School Dwy/Access A

AM PEAK HOUR

	SR 9				SR 9				Otwell Middle School Dwy				Access A			
	Northbound				**Southbound**				**Eastbound**				**Westbound**			
Description	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2018 Traffic Volumes	0	8	215	0	0	0	1,060	34	0	28	0	1	0	0	0	0
Pedestrians			0				0				0				0	
Conflicting Pedestrians		0		0		0		0		0		0		0		0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicle %	0%	2%	2%	0%	0%	0%	2%	2%	0%	2%	0%	2%	0%	0%	0%	0%
Peak Hour Factor			0.92				0.92				0.92				0.92	
Adjustment	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689
Estimated 2021 Volumes	0	9	232	0	0	0	1142	37	0	30	0	1	0	0	0	0
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280
2028 Background Traffic	0	12	297	0	0	0	1,462	47	0	38	0	1	0	0	0	0
Project Trips																
Trip Distribution IN				10%		10%	10%									
Trip Distribution OUT			10%											10%		10%
Residential Trips	0	0	29	11	0	11	11	0	0	0	0	0	0	29	0	29
Trip Distribution IN				15%		20%	10%									
Trip Distribution OUT			10%											15%		20%
Office Trips	0	0	0	6	0	8	4	0	0	0	0	0	0	0	0	0
Trip Distribution IN				15%		20%	10%									
Trip Distribution OUT			10%											15%		20%
Retail Trips	0	0	1	3	0	4	2	0	0	0	0	0	0	2	0	2
Trip Distribution IN				15%		20%	10%									
Trip Distribution OUT			10%											15%		20%
Restaurant Trips	0	0	6	10	0	13	7	0	0	0	0	0	0	9	0	12
Pass-By Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	0	36	30	0	36	24	0	0	0	0	0	0	40	0	43
2028 Buildout Total	0	12	333	30	0	36	1,486	47	0	38	0	1	0	40	0	43
2028 Buildout Heavy Vehicle %	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%

PM PEAK HOUR

	SR 9				SR 9				Otwell Middle School Dwy				Access A			
	Northbound				**Southbound**				**Eastbound**				**Westbound**			
Description	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2018 Traffic Volumes	0	1	979	0	0	0	405	2	0	0	0	5	0	0	0	0
Pedestrians			0				0				0				0	
Conflicting Pedestrians		0		0		0		0		0		0		0		0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicle %	0%	2%	2%	0%	0%	0%	2%	2%	0%	0%	0%	2%	0%	0%	0%	0%
Peak Hour Factor			0.92				0.92				0.92				0.92	
Adjustment	1.0769	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689
Estimated 2021 Volumes	0	1	1054	0	0	0	436	2	0	0	0	5	0	0	0	0
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280
2028 Background Traffic	0	1	1,349	0	0	0	558	3	0	0	0	6	0	0	0	0
Project Trips																
Trip Distribution IN				10%		10%	10%									
Trip Distribution OUT			10%											10%		10%
Residential Trips	0	0	17	29	0	29	29	0	0	0	0	0	0	17	0	17
Trip Distribution IN				15%		20%	10%									
Trip Distribution OUT			10%											15%		20%
Office Trips	0	0	3	0	0	0	0	0	0	0	0	0	0	4	0	6
Trip Distribution IN				15%		20%	10%									
Trip Distribution OUT			10%											15%		20%
Retail Trips	0	0	2	4	0	6	3	0	0	0	0	0	0	4	0	5
Trip Distribution IN				15%		20%	10%									
Trip Distribution OUT			10%											15%		20%
Restaurant Trips	0	0	1	6	0	8	4	0	0	0	0	0	0	1	0	1
Pass-By Trips	0	0	-8	8	0	0	0	0	0	0	0	0	0	0	0	8
Total Project Trips	0	0	15	47	0	43	36	0	0	0	0	0	0	26	0	37
2028 Buildout Total	0	1	1,364	47	0	43	594	3	0	0	0	6	0	26	0	37
2028 Buildout Heavy Vehicle %	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%

9/10/2021 13:43

INTERSECTION VOLUME DEVELOPMENT

Intersection #12

SR 9 at Access B

AM PEAK HOUR

Description	SR 9 Northbound U-Turn	Left	Through	Right	SR 9 Southbound U-Turn	Left	Through	Right	Eastbound U-Turn	Left	Through	Right	Access B Westbound U-Turn	Left	Through	Right
Observed 2018 Traffic Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians		0				0				0				0		
Conflicting Pedestrians	0			0	0			0	0			0	0			0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicle %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor		0.92				0.92				0.92				0.92		
Adjustment	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689
Estimated 2021 Volumes	0	0	282	0	0	0	1143	0	0	0	0	0	0	0	0	0
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280
2028 Background Traffic	0	0	361	0	0	0	1,463	0	0	0	0	0	0	0	0	0
Project Trips																
Trip Distribution IN			10%	10%		10%										
Trip Distribution OUT							10%							10%		10%
Residential Trips	0	0	11	11	0	11	29	0	0	0	0	0	0	29	0	29
Trip Distribution IN			15%	5%		10%										
Trip Distribution OUT							15%							5%		10%
Office Trips	0	0	6	2	0	4	0	0	0	0	0	0	0	0	0	0
Trip Distribution IN			15%	5%		10%										
Trip Distribution OUT							15%							5%		10%
Retail Trips	0	0	3	1	0	2	2	0	0	0	0	0	0	1	0	1
Trip Distribution IN			15%	5%		10%										
Trip Distribution OUT							15%							5%		10%
Restaurant Trips	0	0	10	3	0	7	9	0	0	0	0	0	0	3	0	6
Pass-By Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	0	30	17	0	24	40	0	0	0	0	0	0	33	0	36
2028 Buildout Total	0	0	391	17	0	24	1,503	0	0	0	0	0	0	33	0	36
2028 Buildout Heavy Vehicle %	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%

PM PEAK HOUR

Description	SR 9 Northbound U-Turn	Left	Through	Right	SR 9 Southbound U-Turn	Left	Through	Right	Eastbound U-Turn	Left	Through	Right	Access B Westbound U-Turn	Left	Through	Right
Observed 2018 Traffic Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians		0				0				0				0		
Conflicting Pedestrians	0			0	0			0	0			0	0			0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicle %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor		0.92				0.92				0.92				0.92		
Adjustment	1.0769	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689
Estimated 2021 Volumes	0	0	921	0	0	0	441	0	0	0	0	0	0	0	0	0
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280
2028 Background Traffic	0	0	1,179	0	0	0	565	0	0	0	0	0	0	0	0	0
Project Trips																
Trip Distribution IN			10%	10%		10%										
Trip Distribution OUT							10%							10%		10%
Residential Trips	0	0	29	29	0	29	17	0	0	0	0	0	0	17	0	17
Trip Distribution IN			15%	5%		10%										
Trip Distribution OUT							15%							5%		10%
Office Trips	0	0	0	0	0	0	4	0	0	0	0	0	0	1	0	3
Trip Distribution IN			15%	5%		10%										
Trip Distribution OUT							15%							5%		10%
Retail Trips	0	0	4	1	0	3	4	0	0	0	0	0	0	1	0	2
Trip Distribution IN			15%	5%		10%										
Trip Distribution OUT							15%							5%		10%
Restaurant Trips	0	0	6	2	0	4	1	0	0	0	0	0	0	0	0	1
Pass-By Trips	0	0	-8	8	0	0	0	0	0	0	0	0	0	0	0	8
Total Project Trips	0	0	31	40	0	36	26	0	0	0	0	0	0	19	0	31
2028 Buildout Total	0	0	1,210	40	0	36	591	0	0	0	0	0	0	19	0	31
2028 Buildout Heavy Vehicle %	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%

9/10/2021 13:43

INTERSECTION VOLUME DEVELOPMENT

Intersection #13

Pilgrim Mill Rd at Access C

AM PEAK HOUR

Description	Pilgrim Mill Rd Northbound U-Turn	Left	Through	Right	Pilgrim Mill Rd Southbound U-Turn	Left	Through	Right	Access C Eastbound U-Turn	Left	Through	Right	Access C Westbound U-Turn	Left	Through	Right
Observed 2018 Traffic Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians		0				0				0				0		
Conflicting Pedestrians	0			0	0			0	0			0	0			0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicle %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor		0.92				0.92				0.92				0.92		
Adjustment	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689
Estimated 2021 Volumes	0	0	310	0	0	0	634	0	0	0	0	0	0	0	0	0
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280
2028 Background Traffic	0	0	397	0	0	0	812	0	0	0	0	0	0	0	0	0
Project Trips																
Trip Distribution IN		10%		5%		25%		10%								
Trip Distribution OUT										10%		10%		5%		25%
Residential Trips	0	11	0	5	0	26	0	11	0	29	0	29	0	14	0	72
Trip Distribution IN		17%	3%					18%								
Trip Distribution OUT							3%			18%		17%				
Office Trips	0	7	1	0	0	0	0	8	0	0	0	0	0	0	0	0
Trip Distribution IN		17%	3%					18%								
Trip Distribution OUT							3%			18%		17%				
Retail Trips	0	3	1	0	0	0	0	3	0	2	0	2	0	0	0	0
Trip Distribution IN		17%	3%					18%								
Trip Distribution OUT							3%			18%		17%				
Restaurant Trips	0	11	2	0	0	0	2	12	0	11	0	11	0	0	0	0
Pass-By Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	32	4	5	0	26	2	34	0	42	0	42	0	14	0	72
2028 Buildout Total	0	32	401	5	0	26	814	34	0	42	0	42	0	14	0	72
2028 Buildout Heavy Vehicle %	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%

PM PEAK HOUR

Description	Pilgrim Mill Rd Northbound U-Turn	Left	Through	Right	Pilgrim Mill Rd Southbound U-Turn	Left	Through	Right	Access C Eastbound U-Turn	Left	Through	Right	Access C Westbound U-Turn	Left	Through	Right
Observed 2018 Traffic Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians		0				0				0				0		
Conflicting Pedestrians	0			0	0			0	0			0	0			0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicle %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor		0.92				0.92				0.92				0.92		
Adjustment	1.0769	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689
Estimated 2021 Volumes	0	0	420	0	0	0	285	0	0	0	0	0	0	0	0	0
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280
2028 Background Traffic	0	0	538	0	0	0	365	0	0	0	0	0	0	0	0	0
Project Trips																
Trip Distribution IN		10%		5%		25%		10%								
Trip Distribution OUT										10%		10%		5%		25%
Residential Trips	0	29	0	14	0	72	0	29	0	17	0	17	0	9	0	44
Trip Distribution IN		17%	3%					18%								
Trip Distribution OUT							3%			18%		17%				
Office Trips	0	0	0	0	0	0	1	0	0	5	0	5	0	0	0	0
Trip Distribution IN		17%	3%					18%								
Trip Distribution OUT							3%			18%		17%				
Retail Trips	0	5	1	0	0	0	1	5	0	4	0	4	0	0	0	0
Trip Distribution IN		17%	3%					18%								
Trip Distribution OUT							3%			18%		17%				
Restaurant Trips	0	7	1	0	0	0	0	8	0	1	0	1	0	0	0	0
Pass-By Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	41	2	14	0	72	2	42	0	27	0	27	0	9	0	44
2028 Buildout Total	0	41	540	14	0	72	367	42	0	27	0	27	0	9	0	44
2028 Buildout Heavy Vehicle %	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%

9/10/2021 13:43

INTERSECTION VOLUME DEVELOPMENT

Intersection #14

Pilgrim Mill Rd at Access D

AM PEAK HOUR

Description	Pilgrim Mill Rd Northbound				Pilgrim Mill Rd Southbound				Access D Eastbound				Westbound			
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2018 Traffic Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians			0				0				0				0	
Conflicting Pedestrians		0		0		0		0		0		0		0		0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicle %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor			0.92				0.92				0.92				0.92	
Adjustment	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689
Estimated 2021 Volumes	0	0	310	0	0	0	634	0	0	0	0	0	0	0	0	0
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280
2028 Background Traffic	0	0	397	0	0	0	812	0	0	0	0	0	0	0	0	0
Project Trips																
Trip Distribution IN							35%									
Trip Distribution OUT			35%													
Residential Trips	0	0	101	0	0	0	37	0	0	0	0	0	0	0	0	0
Trip Distribution IN		3%					18%	2%								
Trip Distribution OUT			18%							2%		3%				
Office Trips	0	1	0	0	0	0	8	1	0	0	0	0	0	0	0	0
Trip Distribution IN		3%					18%	2%								
Trip Distribution OUT			18%							2%		3%				
Retail Trips	0	1	2	0	0	0	3	0	0	0	0	0	0	0	0	0
Trip Distribution IN		3%					18%	2%								
Trip Distribution OUT			18%							2%		3%				
Restaurant Trips	0	2	11	0	0	0	12	1	0	1	0	2	0	0	0	0
Pass-By Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	4	114	0	0	0	60	2	0	1	0	2	0	0	0	0
2028 Buildout Total	0	4	511	0	0	0	872	2	0	1	0	2	0	0	0	0
2028 Buildout Heavy Vehicle %	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%

PM PEAK HOUR

Description	Pilgrim Mill Rd Northbound				Pilgrim Mill Rd Southbound				Access D Eastbound				Westbound			
	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right	U-Turn	Left	Through	Right
Observed 2018 Traffic Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians			0				0				0				0	
Conflicting Pedestrians		0		0		0		0		0		0		0		0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicle %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor			0.92				0.92				0.92				0.92	
Adjustment	1.0769	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689
Estimated 2021 Volumes	0	0	420	0	0	0	285	0	0	0	0	0	0	0	0	0
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280
2028 Background Traffic	0	0	538	0	0	0	365	0	0	0	0	0	0	0	0	0
Project Trips																
Trip Distribution IN							35%									
Trip Distribution OUT			35%													
Residential Trips	0	0	61	0	0	0	101	0	0	0	0	0	0	0	0	0
Trip Distribution IN		3%					18%	2%								
Trip Distribution OUT			18%							2%		3%				
Office Trips	0	0	5	0	0	0	0	0	0	1	0	1	0	0	0	0
Trip Distribution IN		3%					18%	2%								
Trip Distribution OUT			18%							2%		3%				
Retail Trips	0	1	4	0	0	0	5	1	0	0	0	1	0	0	0	0
Trip Distribution IN		3%					18%	2%								
Trip Distribution OUT			18%							2%		3%				
Restaurant Trips	0	1	1	0	0	0	8	1	0	0	0	0	0	0	0	0
Pass-By Trips	0	0	0	0	0	0	-16	16	0	0	0	16	0	0	0	0
Total Project Trips	0	2	71	0	0	0	98	18	0	1	0	18	0	0	0	0
2028 Buildout Total	0	2	609	0	0	0	463	18	0	1	0	18	0	0	0	0
2028 Buildout Heavy Vehicle %	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%

9/10/2021 13:43

INTERSECTION VOLUME DEVELOPMENT

Intersection #15

Sawnee Dr Ext at Access E

AM PEAK HOUR

Description	Access E Northbound U-Turn	Left	Through	Right	Access E Southbound U-Turn	Left	Through	Right	Sawnee Dr Ext Eastbound U-Turn	Left	Through	Right	Sawnee Dr Ext Westbound U-Turn	Left	Through	Right
Observed 2018 Traffic Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians		0				0				0				0		
Conflicting Pedestrians	0			0	0			0	0			0	0			0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicle %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor		0.92				0.92				0.92				0.92		
Adjustment	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689
Estimated 2021 Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280
2028 Background Traffic	0	0	0	0	0	0	0	0	0	0	23	0	0	0	0	0
Project Trips																
Trip Distribution IN										5%						5%
Trip Distribution OUT						5%		5%								
Residential Trips	0	0	0	0	0	14	0	14	0	5	0	0	0	0	0	5
Trip Distribution IN												5%		5%	5%	
Trip Distribution OUT		5%		5%							5%					
Office Trips	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2	0
Trip Distribution IN												5%		5%	5%	
Trip Distribution OUT		5%		5%							5%					
Retail Trips	0	1	0	1	0	0	0	0	0	0	1	1	0	1	1	0
Trip Distribution IN												5%		5%	5%	
Trip Distribution OUT		5%		5%							5%					
Restaurant Trips	0	3	0	3	0	0	0	0	0	0	3	3	0	3	3	0
Pass-By Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	4	0	4	0	14	0	14	0	5	4	6	0	6	6	5
2028 Buildout Total	0	4	0	4	0	14	0	14	0	5	27	6	0	6	6	5
2028 Buildout Heavy Vehicle %	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%

PM PEAK HOUR

Description	Access E Northbound U-Turn	Left	Through	Right	Access E Southbound U-Turn	Left	Through	Right	Sawnee Dr Ext Eastbound U-Turn	Left	Through	Right	Sawnee Dr Ext Westbound U-Turn	Left	Through	Right
Observed 2018 Traffic Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians		0				0				0				0		
Conflicting Pedestrians	0			0	0			0	0			0	0			0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicle %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor		0.92				0.92				0.92				0.92		
Adjustment	1.0769	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689	1.07689
Estimated 2021 Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual Growth Rate	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Growth Factor	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280
2028 Background Traffic	0	0	0	0	0	0	0	0	0	0	36	0	0	0	0	0
Project Trips																
Trip Distribution IN										5%						5%
Trip Distribution OUT						5%		5%								
Residential Trips	0	0	0	0	0	9	0	9	0	14	0	0	0	0	0	14
Trip Distribution IN												5%		5%	5%	
Trip Distribution OUT		5%		5%							5%					
Office Trips	0	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0
Trip Distribution IN												5%		5%	5%	
Trip Distribution OUT		5%		5%							5%					
Retail Trips	0	1	0	1	0	0	0	0	0	0	1	1	0	1	1	0
Trip Distribution IN												5%		5%	5%	
Trip Distribution OUT		5%		5%							5%					
Restaurant Trips	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2	0
Pass-By Trips	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Project Trips	0	2	0	2	0	9	0	9	0	14	2	3	0	3	3	14
2028 Buildout Total	0	2	0	2	0	9	0	9	0	14	38	3	0	3	3	14
2028 Buildout Heavy Vehicle %	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%

9/10/2021 13:43

Programmed Project Fact Sheets

FT-001E

Atlanta Region's Plan RTP (2020) PROJECT FACT SHEET

Short Title	SR 9 (ATLANTA ROAD / PILGRIM MILL ROAD): SEGMENT 5 - WIDENING FROM SR 20 (BUFORD HIGHWAY) TO SR 306 (KEITH BRIDGE ROAD)
GDOT Project No.	141890-
Federal ID No.	N/A
Status	Long Range
Service Type	Roadway / General Purpose Capacity
Sponsor	GDOT
Jurisdiction	Forsyth County
Analysis Level	In the Region's Air Quality Conformity Analysis

Existing Thru Lane	2	**LCI**		**Network Year**	2030
Planned Thru Lane	4	**Flex**		**Corridor Length**	2.9 miles

Detailed Description and Justification

This project involves the widening of SR 9 from SR 20 to SR 306. The project is proposed to meet projected travel demand resulting from increased residential development and other travel.

Phase Status & Funding Information		Status	FISCAL YEAR	TOTAL PHASE COST	BREAKDOWN OF TOTAL PHASE COST BY FUNDING SOURCE			
					FEDERAL	STATE	BONDS	LOCAL/PRIVATE
PE	STP - Statewide Flexible (GDOT)	AUTH	2008	**$0,000**	~~$0,000~~	~~$0,000~~	~~$0,000~~	~~$0,000~~
ROW	Transportation Funding Act (HB 170)		2024	**$2,921,000**	$0,000	$2,921,000	$0,000	$0,000
CST	Transportation Funding Act (HB 170)		LR 2026-2030	**$8,836,000**	$0,000	$8,836,000	$0,000	$0,000
				$11,757,000	**$0,000**	**$11,757,000**	**$0,000**	**$0,000**

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

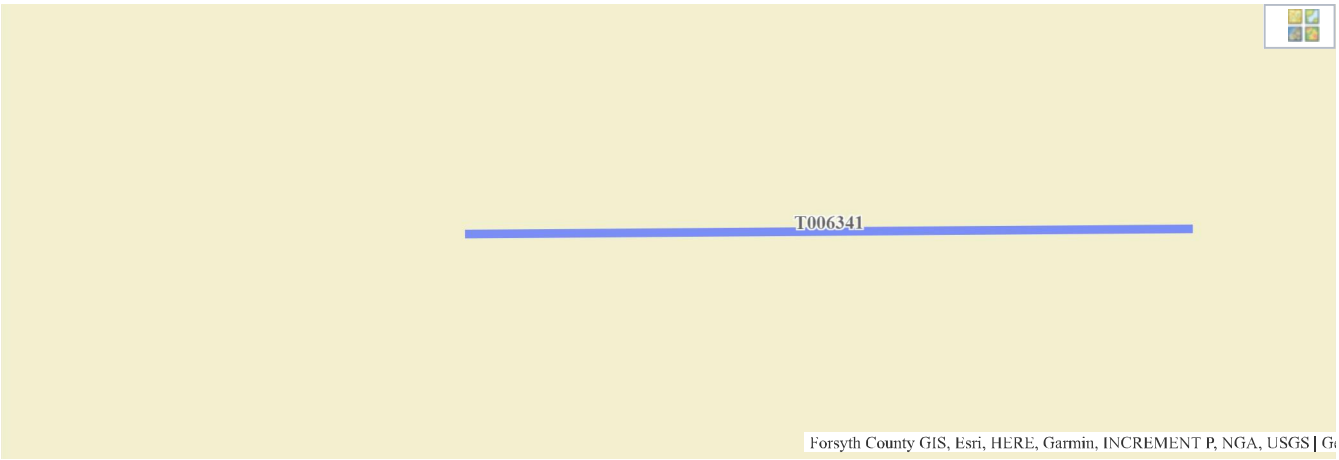
FY 2020-FORSYTH COUNTY-SEC.5311-CAPITAL AND OPERATIONS

Project ID:	**T006341**	Notice to Proceed Date:	
Project Manager:	Carol Lynne Comer	Construction Percent Complete:	%
Office:	Intermodal	Current Completion Date:	
County:	Forsyth	Work Completion Date:	
Congressional District:	009	Construction Contract Amount:	
State Senate District.:		Construction Contractor:	
State House District:		**Preconstruction Status Report**	
Project Type:	Intermodal	**Construction Status Report**	
Project Status:	Construction Work Program		
Right of Way Authorization:		Contact Us	

Project Description:

This project will fund transit capital and transit operations in FY 2020 for Forsyth County.

Activity	Program Year	Cost Estimate	Date of Last Estimate
300A7 (Operating Assistance A7)	2020	$0.00	
300A5 (Operating Assistance A5)	2020	$0.00	



Project Documents

There are no items to show in this view.

FY 2022-FORSYTH COUNTY-SEC.5311-OPERATIONS ONLY

Project ID:	**T007146**	Notice to Proceed Date:	
Project Manager:	Patricia Ann Smith	Construction Percent Complete:	%
Office:	Intermodal	Current Completion Date:	
County:	Forsyth	Work Completion Date:	
Congressional District:	007, 009	Construction Contract Amount:	
State Senate District.:		Construction Contractor:	
State House District:		**Preconstruction Status Report**	
Project Type:	Intermodal	**Construction Status Report**	
Project Status:	Construction Work Program		
Right of Way Authorization:		Contact Us	

Project Description:

This project will fund transit capital and transit operations in FY 2022 for Forsyth County.

Activity	Program Year	Cost Estimate	Date of Last Estimate
300A1 (Operating Assistance A1)	2021	$0.00	

Project Documents

There are no items to show in this view.

Georgia Department of Transportation
One Georgia Center
600 West Peachtree NW
Atlanta, GA 30308
(404) 631-1990 Main Office
Contact Us

Pilgrim Mill Road

Project Name	Pilgrim Mill Road
Cost	15,149,927
Project Type	Widening
Funding Source	SPLOST /Bond
Project Description	Project begins at Pilgrim Mill Road/Aquatic Circle intersection and ends at Pilgrim Mill Road/Holtzclaw Road intersection, project length is approximately 1.70 miles. The project proposes to widen the existing 2 lanes of Pilgrim Mill Road to a 4 lane urban(Curb and Gutter) roadway with a 20 foot raised median from Aquatic Circle to Freedom Parkway. The existing 2 lane section from Freedom Parkway to Holtzclaw Road will be widen to a 3 lane urban section(incl. a center turn lane). A 10 foot paved path on the north side and 5 foot sidewalk on the south side will be provided for the length of the project. Pilgrim Mill Circle will be relocated to intersect with Pilgrim Mill Road approximately 600 feet east of its current location. The project also proposes to widen the existing bridge over SR 400 from the current 3 lanes to 7 lanes (incl. dual left turn lanes to Southbound SR 400 ramp and a single left turn to Northbound SR 400 ramp) A new signal is proposed at Antioch Road, and existing signals at SR 400 ramps, and Freedom Parkway will be upgraded.
Project Id	PEW16
From	City Limits
To	Holtzclaw Road
Comment	
Project Location	PILGRIM MILL RD
Status	Construction Underway
Funding Description	SPLOST V,VI ,VII & BOND
Agency	Forsyth County Engineering
Contractor	Vertical Earth
Mileage	1.70
Estimated Start Date	6/21/2018
Completion Date	12/25/2020, 7:00 PM
Contact	TransportationProjects@forsythco.com
Commissioner District	4

Zoom to

APPENDIX E

Intersection Control Evaluation

GDOT ICE STAGE 1: SCREENING DECISION RECORD

ICE Version 2.15 | Revised 07/01/2019

GDOT PI #	N/A
Project Location:	SR 9 Dahlonega @ Access A
Existing Control:	Conventional (Minor Stop)
Prepared by:	Kimley-Horn
Date:	9/7/2021

Answer "Yes" or "No" to each policy question for each control type to identify which alternatives should be evaluated in the Stage 2 Decision Record; enter justification in the rightmost column

Note: Up to 5 alternatives may be selected and evaluated; Use this ICE Stage 1 to screen 5 or fewer alternatives to evaluate in Stage 2

	Intersection Alternative (see "Intersections" tab for detailed description of intersection/interchange type)	1. Does alternative address the project need in a balanced manner and in scale with the project?	2. Does alternative improve safety performance in terms of reducing severe crashes?	3. Does alternative incorporate safety, convenience and accessibility for pedestrians and/or bicyclists?	4. Does alternative improve (or preserve) traffic operations (congestion, delay, reliability, etc.)?	5. Does alternative appear feasible given the site characteristics, constrains & location context?	6. Does alternative appear feasible with respect to other project factors?	7. Overall feasible alternative (select alternative for further evaluation in Stage 2)?	Screening Decision Justification:
Unsignalized Intersections	Conventional (Minor Stop)	Yes	No	No	Yes	Yes	Yes	No	Existing Condition
	Conventional (All-Way Stop)	No	Yes	Yes	No	No	No	No	Major street ADT too high
	Mini Roundabout	No	Yes	Yes	Yes	No	No	No	Mainline not suited for mini-roundabout
	Single Lane Roundabout	Yes	Yes	Yes	Yes	Yes	Yes	Yes	See Stage 2
	Multilane Roundabout	No	Yes	Yes	Yes	No	No	No	Geometry does not allow for this, not in line with project purpose.
	RCUT (stop control)	No	Yes	No	No	No	No	No	No feasible u-turn location
	RIRO w/down stream U-Turn	No	Yes	No	No	No	No	No	No feasible u-turn location
	High-T (unsignalized)	No	No	No	No	No	No	No	Not a T-intersection
	Offset-T Intersections	No	Yes	No	No	No	No	No	Geometry does not allow for this, not in line with project purpose.
	Diamond Interch (Stop Control)	No	No	No	No	No	No	No	Not an interchange
	Diamond Interch (RAB Control)	No	No	No	No	No	No	No	Not an interchange
	Add one LT Lane on SR 9 Dahlonega Add one RT Lane on SR 9 Dahlonega	Yes	No	No	No	Yes	Yes	Yes	See Stage 2
	Other unsignalized (provide description):	No	No	No	No	No	No	No	N/A
Signalized Intersections	Traffic Signal	Yes	Yes	Yes	Yes	Yes	Yes	Yes	See Stage 2
	Median U-Turn (Indirect Left)	No	No	No	Yes	No	No	No	Not expected to satisfy signal warrants based only on mainline lefts.
	RCUT (signalized)	No	No	No	No	No	No	No	Not expected to satisfy signal warrants based only on mainline lefts.
	Displaced Left Turn (CFI)	No	No	No	Yes	No	No	No	Right-of-way not available, not in line with project purpose.
	Continuous Green-T	No	No	No	No	No	No	No	Not a T-intersection
	Jughandle	No	No	No	Yes	No	No	No	Right-of-way not available, not in line with project purpose.
	Quadrant Roadway	No	No	No	No	No	No	No	Right-of-way not available, not in line with project purpose.
	Diamond Interch (Signal Control)	No	No	No	No	No	No	No	Not an interchange
	Diverging Diamond	No	No	No	No	No	No	No	Not an interchange
	Single Point Interchange	No	No	No	No	No	No	No	Not an interchange
	No LT Lane Improvements No RT Lane Improvements	No	No	No	No	No	No	No	N/A
	Other Signalized (provide description):	No	No	No	No	No	No	No	N/A

= Intersection type selected for more detailed analysis in Stage 2 Alternative Selection Decision Record

GDOT ICE STAGE 2: ALTERNATIVE SELECTION DECISION RECORD

ICE Version 2.15 | Revised 07/01/2019

GDOT PI # (or N/A): N/A
GDOT District: 1 - Gainesville
Date: 9/7/2021
County: Forsyth
Area Type: Suburb/Transition
Agency/Firm: Kimley-Horn
Project Location: SR 9 Dahlonega @ Access A
Analyst: AML
Existing Intersection Control: Conventional (Minor Stop)
Type of Analysis: Conventional Non-Safety Funded Project

Opening / Design Year Traffic Operations

Intersection meets signal/AWS warrants?	Meets Signal Warrants	
Traffic Analysis Measure of Effectiveness	Intersection Delay	
Traffic Analysis Software Used	Synchro 10	
Analysis Time Period	AM Peak Hr	PM Peak Hr
2028 Opening Yr No-Build Peak Hr Intersection Delay	0.0 sec	0.0 sec
2028 Opening Yr No-Build Peak Hr Intersection V/C	0.00	0.00
2028 Design Yr No-Build Peak Hr Intersection Delay	0.0 sec	0.0 sec
2028 Design Yr No-Build Peak Hr Intersection V/C ratio	0.00	0.00

Complete Streets Warrants Met?
- ☐ PEDESTRIANS
- ☐ BICYCLES
- ☐ TRANSIT

Crash Type: Crash Data: Enter most recent 5 years of crash data	Crash Severity: PDO	Injury Crash*	Fatal Crash*	
Angle	1	0	0	33%
Head-On	0	0	0	0%
Rear End	1	0	0	33%
Sideswipe - same	1	0	0	33%
Sideswipe - opposite	0	0	0	0%
Not Collision w/Motor Veh	0	0	0	0%
TOTALS:	3	0	0	3

* Number of crashes resulting in injuries / fatalities, not number of persons

Alternatives Analysis:

	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Proposed Control Type/Improvement:	Single Lane Roundabout	Add LT and RT Lanes	Traffic Signal	N/A	N/A
Project Cost: (From CostEst Worksheet)	*NBR &SBR slip lanes*	*SBL and NBR on SR 9*	*SBL & NBR on SR 9*		
Construction Cost	$1,001,000	$252,000	$353,000		
ROW Cost	$104,000	$0	$0		
Environmental Cost	$0	$0	$0		
Reimbursable Utility Cost	$11,000	$3,000	$7,000		
Design & Contingency Cost	$282,000	$63,000	$123,000		
Cost Adjustment (justification req'd)	0%	0%	0%		
Total Cost	$1,398,000	$318,000	$483,000		
Traffic Operations:					
Traffic Analysis Software Used	SIDRA 7	Synchro 10	Synchro 10		
Analysis Period	AM Peak Hr / PM Peak Hr	AM Peak Hr / PM Peak Hr	AM Peak Hr / PM Peak Hr		
2028 Design Yr Build Intersection Delay	43.6 sec / 20.3 sec	385.6 sec / 377.3 sec	28.8 sec / 33.7 sec		
2028 Design Yr Build Intersection V/C	1.05 / 0.93	1.18 / 1.01	0.78 / 0.80		
Safety Analysis:					
Predefined CRF: PDO	39%	16%	39%		
Predefined CRF: Fatal/Inj	78%	13%	40%		
Predefined CRF Source:	FHWA Clearinghouse #s 233 / 234	FHWA Clearinghouse #s 270&285 / 274&288	FHWA Clearinghouse #s 7982 / 7984		
User Defined CRF: PDO					
User Defined CRF: Fatal/Inj					
User Defined CRF Source (write in if applicable):					
Environmental Impacts:[1]					
Historic District/Property	None	None	None		
Archaeology Resources	None	None	None		
Graveyard	None	None	None		
Stream	None	None	None		
Underground Tank/Hazmat	None	None	None		
Park Land	None	None	None		
EJ Community	None	None	None		
Wooded Area	None	None	None		
Wetland	None	None	None		
Stakeholder Posture:	*Note: If environmental impact is significant (**RED**), provide justification impact won't jeopardize project delivery using "Env" worksheet*				
Local Community Support	Neutral	Neutral	Neutral		
GDOT Support	Neutral	Neutral	Neutral		
Final ICE Stage 2 Score:	3.9	0.7	6.0		
Rank of Control Type Alternatives:	2	3	1		

[1] *Environmental impacts are only preliminary estimates; detailed environmental impact documentation will be included with project concept report*

Note: Stage 2 score is not given (shown as "-") if signal or AWS is selected as control type but respective warrants are not met

Provide additional comments and/or explain any unique analysis inputs, or results (as necessary): Synchro 11 and SIDRA9 used for analysis. Inputs for Alt 2 reflects worst case delay and v/c by approach movement. Alt 3 v/c reflects overall intersection weighted average by volume.

MOVEMENT SUMMARY

Site: 101 [2028 AM Build ICE Alt 2 - Slips (Site Folder: General)]

Sawnee Village DR 3395
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: SR 9														
3	L2	12	2.0	13	2.0	0.243	4.3	LOS A	1.6	40.8	0.27	0.11	0.27	36.4
8	T1	333	2.0	362	2.0	0.243	4.3	LOS A	1.6	40.8	0.27	0.11	0.27	36.1
18	R2	30	2.0	33	2.0	0.031	3.7	LOS A	0.2	4.0	0.25	0.10	0.25	35.0
Approach		375	2.0	408	2.0	0.243	4.3	LOS A	1.6	40.8	0.26	0.11	0.26	36.0
East: Access A														
1	L2	40	2.0	43	2.0	0.093	4.5	LOS A	0.5	12.5	0.53	0.38	0.53	34.6
6	T1	1	2.0	1	2.0	0.093	4.5	LOS A	0.5	12.5	0.53	0.38	0.53	34.4
16	R2	43	2.0	47	2.0	0.093	4.5	LOS A	0.5	12.5	0.53	0.38	0.53	33.3
Approach		84	2.0	91	2.0	0.093	4.5	LOS A	0.5	12.5	0.53	0.38	0.53	33.9
North: SR 9														
7	L2	36	2.0	39	2.0	1.052	53.8	LOS F	146.7	3727.4	1.00	0.90	1.64	20.4
4	T1	1486	2.0	1615	2.0	1.052	53.8	LOS F	146.7	3727.4	1.00	0.90	1.64	20.3
14	R2	47	2.0	51	2.0	0.047	3.7	LOS A	0.2	6.1	0.21	0.08	0.21	35.0
Approach		1569	2.0	1705	2.0	1.052	52.3	LOS D	146.7	3727.4	0.98	0.88	1.60	20.5
West: Otwell MS Dwy														
5	L2	38	2.0	41	2.0	0.716	151.1	LOS F	3.6	91.2	0.99	1.19	1.74	10.8
2	T1	1	2.0	1	2.0	0.716	151.1	LOS F	3.6	91.2	0.99	1.19	1.74	10.8
12	R2	1	2.0	1	2.0	0.716	151.1	LOS F	3.6	91.2	0.99	1.19	1.74	10.7
Approach		40	2.0	43	2.0	0.716	151.1	LOS F	3.6	91.2	0.99	1.19	1.74	10.8
All Vehicles		2068	2.0	2248	2.0	1.052	43.6	LOS D	146.7	3727.4	0.83	0.73	1.32	22.2

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [2028 PM Build ICE Alt 2 - Slips (Site Folder: General)]

Sawnee Village DR 3395
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: SR 9														
3	L2	1	2.0	1	2.0	0.934	26.3	LOS C	34.1	867.2	0.86	0.36	0.86	27.0
8	T1	1364	2.0	1483	2.0	0.934	26.3	LOS C	34.1	867.2	0.86	0.36	0.86	26.9
18	R2	47	2.0	51	2.0	0.046	3.7	LOS A	0.2	5.7	0.18	0.06	0.18	35.0
Approach		1412	2.0	1535	2.0	0.934	25.5	LOS C	34.1	867.2	0.84	0.35	0.84	27.1
East: Access A														
1	L2	26	2.0	28	2.0	0.483	49.0	LOS D	3.6	91.7	1.00	1.10	1.31	20.7
6	T1	1	2.0	1	2.0	0.483	49.0	LOS D	3.6	91.7	1.00	1.10	1.31	20.7
16	R2	37	2.0	40	2.0	0.483	49.0	LOS D	3.6	91.7	1.00	1.10	1.31	20.3
Approach		64	2.0	70	2.0	0.483	49.0	LOS D	3.6	91.7	1.00	1.10	1.31	20.5
North: SR 9														
7	L2	43	2.0	47	2.0	0.433	6.1	LOS A	4.2	106.1	0.22	0.07	0.22	35.2
4	T1	594	2.0	646	2.0	0.433	6.1	LOS A	4.2	106.1	0.22	0.07	0.22	35.0
14	R2	3	2.0	3	2.0	0.003	3.3	LOS A	0.0	0.4	0.16	0.04	0.16	35.2
Approach		640	2.0	696	2.0	0.433	6.1	LOS A	4.2	106.1	0.22	0.07	0.22	35.0
West: Otwell MS Dwy														
5	L2	1	2.0	1	2.0	0.011	4.8	LOS A	0.1	1.6	0.67	0.44	0.67	35.6
2	T1	1	2.0	1	2.0	0.011	4.8	LOS A	0.1	1.6	0.67	0.44	0.67	35.4
12	R2	6	2.0	7	2.0	0.011	4.8	LOS A	0.1	1.6	0.67	0.44	0.67	34.2
Approach		8	2.0	9	2.0	0.011	4.8	LOS A	0.1	1.6	0.67	0.44	0.67	34.5
All Vehicles		2124	2.0	2309	2.0	0.934	20.3	LOS C	34.1	867.2	0.66	0.29	0.67	28.8

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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	38	0	1	40	0	43	12	333	30	36	1486	47
Future Vol, veh/h	38	0	1	40	0	43	12	333	30	36	1486	47
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	Yield	-	-	Yield	-	-	Yield
Storage Length	-	-	0	-	-	0	220	-	120	230	-	375
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	0	2	0	0	0	2	2	0	0	2	2
Mvmt Flow	41	0	1	43	0	47	13	362	33	39	1615	51

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2081	2081	1615	2081	2081	362	1615	0	0	362	0	0
Stage 1	1693	1693	-	388	388	-	-	-	-	-	-	-
Stage 2	388	388	-	1693	1693	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.5	6.22	7.1	6.5	6.2	4.12	-	-	4.1	-	-
Critical Hdwy Stg 1	6.12	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4	3.318	3.5	4	3.3	2.218	-	-	2.2	-	-
Pot Cap-1 Maneuver	~ 39	54	128	~ 40	54	687	404	-	-	1208	-	-
Stage 1	118	150	-	640	612	-	-	-	-	-	-	-
Stage 2	636	612	-	119	150	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 35	51	128	~ 38	51	687	404	-	-	1208	-	-
Mov Cap-2 Maneuver	~ 35	51	-	~ 38	51	-	-	-	-	-	-	-
Stage 1	114	145	-	620	592	-	-	-	-	-	-	-
Stage 2	574	592	-	114	145	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 376.6	176.8	0.5	0.2
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	404	-	-	35	128	38	687	1208	-	-
HCM Lane V/C Ratio	0.032	-	-	1.18	0.008	1.144	0.068	0.032	-	-
HCM Control Delay (s)	14.2	-	-	-$ 385.6	33.4	$ 355.4	10.6	8.1	-	-
HCM Lane LOS	B	-	-	F	D	F	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	4.3	0	4.4	0.2	0.1	-	-

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

Intersection	
Int Delay, s/veh	5.6

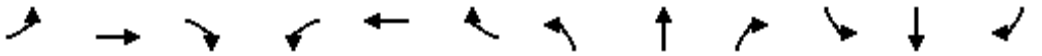
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	6	26	0	37	1	1364	47	43	594	3
Future Vol, veh/h	0	0	6	26	0	37	1	1364	47	43	594	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	Yield	-	-	Yield	-	-	Yield
Storage Length	-	-	0	-	-	0	220	-	120	230	-	375
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	2	0	0	0	2	2	0	0	2	2
Mvmt Flow	0	0	7	28	0	40	1	1483	51	47	646	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2225	2225	646	2225	2225	1483	646	0	0	1483	0	0
Stage 1	740	740	-	1485	1485	-	-	-	-	-	-	-
Stage 2	1485	1485	-	740	740	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.22	7.1	6.5	6.2	4.12	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.318	3.5	4	3.3	2.218	-	-	2.2	-	-
Pot Cap-1 Maneuver	31	44	472	31	44	155	939	-	-	460	-	-
Stage 1	412	426	-	157	190	-	-	-	-	-	-	-
Stage 2	157	190	-	412	426	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	21	39	472	~ 28	39	155	939	-	-	460	-	-
Mov Cap-2 Maneuver	21	39	-	~ 28	39	-	-	-	-	-	-	-
Stage 1	412	383	-	157	190	-	-	-	-	-	-	-
Stage 2	116	190	-	365	383	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.7	177	0	0.9
HCM LOS	B	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	939	-	-	-	472	28	155	460	-	-
HCM Lane V/C Ratio	0.001	-	-	-	0.014	1.009	0.259	0.102	-	-
HCM Control Delay (s)	8.8	-	-	0	12.7$	377.3	36.2	13.7	-	-
HCM Lane LOS	A	-	-	A	B	F	E	B	-	-
HCM 95th %tile Q(veh)	0	-	-	-	0	3.3	1	0.3	-	-

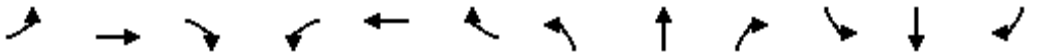
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	0	1	40	0	43	12	333	30	36	1486	47
Future Volume (veh/h)	38	0	1	40	0	43	12	333	30	36	1486	47
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1900	1870	1900	1900	1900	1870	1870	1900	1900	1870	1870
Adj Flow Rate, veh/h	41	0	0	43	0	0	13	362	25	39	1615	39
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	2	0	0	0	2	2	0	0	2	2
Cap, veh/h	133	0	66	132	0	67	64	1441	1240	845	1592	1349
Arrive On Green	0.04	0.00	0.00	0.04	0.00	0.00	0.77	0.77	0.77	0.03	0.85	0.85
Sat Flow, veh/h	1650	0	1585	1638	0	1610	302	1870	1610	1810	1870	1585
Grp Volume(v), veh/h	41	0	0	43	0	0	13	362	25	39	1615	39
Grp Sat Flow(s),veh/h/ln	1650	0	1585	1638	0	1610	302	1870	1610	1810	1870	1585
Q Serve(g_s), s	0.0	0.0	0.0	0.2	0.0	0.0	0.0	6.2	0.4	0.5	95.0	0.4
Cycle Q Clear(g_c), s	2.5	0.0	0.0	2.6	0.0	0.0	86.0	6.2	0.4	0.5	95.0	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	133	0	66	132	0	67	64	1441	1240	845	1592	1349
V/C Ratio(X)	0.31	0.00	0.00	0.32	0.00	0.00	0.20	0.25	0.02	0.05	1.01	0.03
Avail Cap(c_a), veh/h	628	0	611	627	0	620	64	1441	1240	943	1592	1349
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.5	0.0	0.0	52.5	0.0	0.0	55.8	3.7	3.0	2.4	8.3	1.3
Incr Delay (d2), s/veh	1.3	0.0	0.0	1.4	0.0	0.0	1.5	0.1	0.0	0.0	26.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.1	0.0	0.0	2.2	0.0	0.0	0.7	3.7	0.2	0.3	42.6	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.8	0.0	0.0	53.9	0.0	0.0	57.3	3.7	3.0	2.4	34.6	1.3
LnGrp LOS	D	A	A	D	A	A	E	A	A	A	F	A
Approach Vol, veh/h		41			43			400			1693	
Approach Delay, s/veh		53.8			53.9			5.4			33.1	
Approach LOS		D			D			A			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	9.0	92.0		10.6		101.0		10.6				
Change Period (Y+Rc), s	5.5	6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s	9.5	80.0		43.0		95.0		43.0				
Max Q Clear Time (g_c+I1), s	2.5	88.0		4.5		97.0		4.6				
Green Ext Time (p_c), s	0.0	0.0		0.2		0.0		0.2				

Intersection Summary												
HCM 6th Ctrl Delay			28.8									
HCM 6th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	6	26	0	37	1	1364	47	43	594	3
Future Volume (veh/h)	0	0	6	26	0	37	1	1364	47	43	594	3
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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1870	1900	1900	1900	1870	1870	1900	1900	1870	1870
Adj Flow Rate, veh/h	0	0	7	28	0	40	1	1483	51	47	646	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	2	0	0	0	2	2	0	0	2	2
Cap, veh/h	0	81	68	132	0	69	665	1424	1226	135	1591	1348
Arrive On Green	0.00	0.00	0.04	0.04	0.00	0.04	0.76	0.76	0.76	0.04	0.85	0.85
Sat Flow, veh/h	0	1900	1585	1440	0	1610	782	1870	1610	1810	1870	1585
Grp Volume(v), veh/h	0	0	7	28	0	40	1	1483	51	47	646	3
Grp Sat Flow(s),veh/h/ln	0	1900	1585	1440	0	1610	782	1870	1610	1810	1870	1585
Q Serve(g_s), s	0.0	0.0	0.4	2.0	0.0	2.5	0.0	78.5	0.8	0.6	8.1	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.4	2.0	0.0	2.5	0.0	78.5	0.8	0.6	8.1	0.0
Prop In Lane	0.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	0	81	68	132	0	69	665	1424	1226	135	1591	1348
V/C Ratio(X)	0.00	0.00	0.10	0.21	0.00	0.58	0.00	1.04	0.04	0.35	0.41	0.00
Avail Cap(c_a), veh/h	0	838	699	705	0	710	665	1424	1226	237	1696	1437
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	47.4	48.2	0.0	48.4	2.9	12.3	3.0	32.1	1.8	1.2
Incr Delay (d2), s/veh	0.0	0.0	0.7	0.8	0.0	7.5	0.0	35.4	0.0	1.5	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	0.0	0.3	1.3	0.0	2.1	0.0	51.2	0.4	1.7	3.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	48.1	49.0	0.0	55.9	2.9	47.7	3.0	33.6	1.9	1.2
LnGrp LOS	A	A	D	D	A	E	A	F	A	C	A	A
Approach Vol, veh/h		7			68			1535			696	
Approach Delay, s/veh		48.1			53.1			46.2			4.1	
Approach LOS		D			D			D			A	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	9.2	84.0		9.9		93.2		9.9				
Change Period (Y+Rc), s	5.5	5.5		5.5		5.5		5.5				
Max Green Setting (Gmax), s	9.5	78.5		45.5		93.5		45.5				
Max Q Clear Time (g_c+I1), s	2.6	80.5		2.4		10.1		4.5				
Green Ext Time (p_c), s	0.0	0.0		0.0		5.7		0.3				

Intersection Summary			
HCM 6th Ctrl Delay		33.7	
HCM 6th LOS		C	

GDOT ICE STAGE 1: SCREENING DECISION RECORD

ICE Version 2.15 | Revised 07/01/2019

GDOT PI #	N/A
Project Location:	SR 9 Dahlonega @ Access B
Existing Control:	New Intersection or Other
Prepared by:	Kimley-Horn
Date:	9/8/2021

Answer "Yes" or "No" to each policy question for each control type to identify which alternatives should be evaluated in the Stage 2 Decision Record; enter justification in the rightmost column

Note: Up to 5 alternatives may be selected and evaluated; Use this ICE Stage 1 to screen 5 or fewer alternatives to evaluate in Stage 2

	Intersection Alternative (see "Intersections" tab for detailed description of intersection/interchange type)	1. Does alternative address the project need in a balanced manner and in scale with the project?	2. Does alternative improve safety performance in terms of reducing severe crashes?	3. Does alternative incorporate safety, convenience and accessibility for pedestrians and/or bicyclists?	4. Does alternative improve (or preserve) traffic operations (congestion, delay, reliability, etc.)?	5. Does alternative appear feasible given the site characteristics, constrains & location context?	6. Does alternative appear feasible with respect to other project factors?	7. Overall feasible alternative (select alternative for further evaluation in Stage 2)?	Screening Decision Justification:
Unsignalized Intersections	Conventional (Minor Stop)	Yes	No	No	Yes	Yes	Yes	No	Only considered with addition of NBR turn lane.
	Conventional (All-Way Stop)	No	Yes	Yes	No	No	No	No	Mainline ADT too high
	Mini Roundabout	No	No	No	No	No	No	No	Mainline exceeds 90% volume
	Single Lane Roundabout	No	No	No	No	No	No	No	Mainline exceeds 90% volume
	Multilane Roundabout	No	No	No	No	No	No	No	Mainline exceeds 90% volume
	RCUT (stop control)	Yes	Yes	No	No	Yes	Yes	Yes	See Stage 2
	RIRO w/down stream U-Turn	Yes	Yes	Yes	No	Yes	Yes	Yes	See Stage 2
	High-T (unsignalized)	No	Yes	No	Yes	No	No	No	Right-of-Way constraints
	Offset-T Intersections	No	No	No	No	No	No	No	Three leg intersection
	Diamond Interch (Stop Control)	No	No	No	No	No	No	No	Not an interchange
	Diamond Interch (RAB Control)	No	No	No	No	No	No	No	Not an interchange
	No LT Lane Improvements Add one RT Lane on SR 9 Dahlonega	Yes	No	No	Yes	Yes	Yes	Yes	See Stage 2
	Other unsignalized (provide description):	No	No	No	No	No	No	No	N/A
Signalized Intersections	Traffic Signal	No	No	No	No	No	No	No	Not expected to satisfy warrants based on peak hours.
	Median U-Turn (Indirect Left)	No	No	No	No	No	No	No	Not expected to satisfy warrants based on peak hours.
	RCUT (signalized)	No	No	No	No	No	No	No	Not expected to satisfy warrants based on peak hours.
	Displaced Left Turn (CFI)	No	No	No	No	No	No	No	Not expected to satisfy warrants based on peak hours.
	Continuous Green-T	No	No	No	No	No	No	No	Not expected to satisfy warrants based on peak hours.
	Jughandle	No	No	No	No	No	No	No	Not in line with project purpose, not expected to satisfy warrants
	Quadrant Roadway	No	No	No	No	No	No	No	Not in line with project purpose, not expected to satisfy warrants
	Diamond Interch (Signal Control)	No	No	No	No	No	No	No	Not an interchange
	Diverging Diamond	No	No	No	No	No	No	No	Not an interchange
	Single Point Interchange	No	No	No	No	No	No	No	Not an interchange
	No LT Lane Improvements No RT Lane Improvements	No	No	No	No	No	No	No	N/A
	Other Signalized (provide description):	No	No	No	No	No	No	No	N/A

= Intersection type selected for more detailed analysis in Stage 2 Alternative Selection Decision Record

GDOT ICE STAGE 2: ALTERNATIVE SELECTION DECISION RECORD

ICE Version 2.15 | Revised 07/01/2019

GDOT PI # (or N/A): N/A
GDOT District: 1 - Gainesville
Date: 9/8/2021
County: Forsyth
Area Type: Suburb/Transition
Agency/Firm: Kimley-Horn
Project Location: SR 9 Dahlonega @ Access B
Analyst: AML
Existing Intersection Control: New Intersection or Other
Type of Analysis: Conventional Non-Safety Funded Project

Opening / Design Year Traffic Operations

Intersection meets signal/AWS warrants?	None	
Traffic Analysis Measure of Effectiveness	Intersection Delay	
Traffic Analysis Software Used	Synchro 10	
Analysis Time Period	AM Peak Hr	PM Peak Hr
2028 Opening Yr No-Build Peak Hr Intersection Delay	0.0 sec	0.0 sec
2028 Opening Yr No-Build Peak Hr Intersection V/C	0.00	0.00
2028 Design Yr No-Build Peak Hr Intersection Delay	0.0 sec	0.0 sec
2028 Design Yr No-Build Peak Hr Intersection V/C ratio	0.00	0.00

Complete Streets Warrants Met?
- ☐ PEDESTRIANS
- ☐ BICYCLES
- ☐ TRANSIT

Crash Data: Enter most recent 5 years of crash data	*Crash Severity* PDO	Injury Crash*	Fatal Crash*	
Crash Type Angle	0	0	0	0%
Head-On	1	1	0	67%
Rear End	0	0	0	0%
Sideswipe - same	0	0	0	0%
Sideswipe - opposite	0	0	0	0%
Not Collision w/Motor Veh	1	0	0	33%
TOTALS:	2	1	0	3

* Number of crashes resulting in injuries / fatalities, not number of persons

Alternatives Analysis:

	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Proposed Control Type/Improvement:	RCUT (stop control)	RIRO w/down stream U-Turn	Add Right Turn Lanes	N/A	N/A
Project Cost: (From CostEst Worksheet)	*NBR along SR 9*	*NBR along SR 9*	*NBR along SR 9*		
Construction Cost	$159,000	$141,000	$126,000		
ROW Cost	$86,000	$86,000	$0		
Environmental Cost	$0	$0	$0		
Reimbursable Utility Cost	$2,000	$2,000	$1,000		
Design & Contingency Cost	$39,000	$35,000	$31,000		
Cost Adjustment (justification req'd)	0%	0%	0%		
Total Cost	$286,000	$264,000	$158,000		
Traffic Operations:					
Traffic Analysis Software Used	Synchro 10	Synchro 10	Synchro 10		
Analysis Period	AM Peak Hr / PM Peak Hr	AM Peak Hr / PM Peak Hr	AM Peak Hr / PM Peak Hr		
2028 Design Yr Build Intersection Delay	11.1 sec / 27.3 sec	11.1 sec / 27.3 sec	117.0 sec / 56.0 sec		
2028 Design Yr Build Intersection V/C	0.06 / 0.17	0.06 / 0.17	0.43 / 0.25		
Safety Analysis:					
Predefined CRF: PDO	#N/A	#N/A	#N/A		
Predefined CRF: Fatal/Inj	#N/A	#N/A	#N/A		
Predefined CRF Source:	#N/A	#N/A	#N/A		
User Defined CRF: PDO	31%	35%	7%		
User Defined CRF: Fatal/Inj	53%	54%	4%		
User Defined CRF Source (write in if applicable):	NC/MO Table 4-7	FHWA Clearinghouse #s 5555 / 5556	FHWA Clearinghouse #s 285 / 288		
Environmental Impacts:[1]					
Historic District/Property	None	None	None		
Archaeology Resources	None	None	None		
Graveyard	None	None	None		
Stream	None	None	None		
Underground Tank/Hazmat	None	None	None		
Park Land	None	None	None		
EJ Community	None	None	None		
Wooded Area	None	None	None		
Wetland	None	None	None		
	*Note: If environmental impact is significant (**RED**), provide justification impact won't jeopardize project delivery using "Env" worksheet*				
Stakeholder Posture:	[1] *Environmental impacts are only preliminary estimates; detailed environmental impact documentation will be included with project concept report*				
Local Community Support	Neutral	Neutral	Neutral		
GDOT Support	Neutral	Neutral	Neutral		
Final ICE Stage 2 Score:	7.2	7.4	4.6		
Rank of Control Type Alternatives:	2	1	3		

Note: Stage 2 score is not given (shown as "-") if signal or AWS is selected as control type but respective warrants are not met

Provide additional comments and/or explain any unique analysis inputs, or results (as necessary): Synchro 11 used for analysis. Inputs for all alternatives reflect worst case delay and v/c by approach (weighted v/c for Alt 3). Alt 1 assumes side-street left-turns reroute internally to Access A. Alt 2 assumes mainline & side-street lefts reroute using Access A. Crash rates assumed as if existing control was "Conventional Minor," no crash rates given by default if existing control is "New Intersection or Other."

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	36	391	17	24	1536
Future Vol, veh/h	0	36	391	17	24	1536
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	-	0	-	120	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	39	425	18	26	1670

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	425	0	0	443	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.2	-	-	4.1	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	0	634	-	-	1128	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	634	-	-	1128	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.1	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	634	1128	-
HCM Lane V/C Ratio	-	-	0.062	0.023	-
HCM Control Delay (s)	-	-	11.1	8.3	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	31	1210	40	36	610
Future Vol, veh/h	0	31	1210	40	36	610
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	-	0	-	120	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	34	1315	43	39	663

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	1315	0	0	1358	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.2	-	-	4.1	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	0	195	-	-	513	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	195	-	-	513	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	27.3	0	0.7
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	195	513	-
HCM Lane V/C Ratio	-	-	0.173	0.076	-
HCM Control Delay (s)	-	-	27.3	12.6	0
HCM Lane LOS	-	-	D	B	A
HCM 95th %tile Q(veh)	-	-	0.6	0.2	-

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	36	391	17	0	1536
Future Vol, veh/h	0	36	391	17	0	1536
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	-	0	-	120	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	39	425	18	0	1670

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	425	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.2	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	634	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	634	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.1	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	634	-
HCM Lane V/C Ratio	-	-	0.062	-
HCM Control Delay (s)	-	-	11.1	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.2	-

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	31	1210	40	0	610
Future Vol, veh/h	0	31	1210	40	0	610
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	-	0	-	120	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	34	1315	43	0	663

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	1315	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.2	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	195	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	195	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	27.3	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	195	-
HCM Lane V/C Ratio	-	-	0.173	-
HCM Control Delay (s)	-	-	27.3	-
HCM Lane LOS	-	-	D	-
HCM 95th %tile Q(veh)	-	-	0.6	-

Intersection	
Int Delay, s/veh	4.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	33	36	391	17	24	1503
Future Vol, veh/h	33	36	391	17	24	1503
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	120	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	36	39	425	18	26	1634

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2111	425	0	0	443	0
Stage 1	425	-	-	-	-	-
Stage 2	1686	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	57	634	-	-	1128	-
Stage 1	664	-	-	-	-	-
Stage 2	167	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	43	634	-	-	1128	-
Mov Cap-2 Maneuver	43	-	-	-	-	-
Stage 1	664	-	-	-	-	-
Stage 2	125	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	117	0	0.1
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	43	634	1128	-
HCM Lane V/C Ratio	-	-	0.834	0.062	0.023	-
HCM Control Delay (s)	-	-	232.6	11.1	8.3	0
HCM Lane LOS	-	-	F	B	A	A
HCM 95th %tile Q(veh)	-	-	3.2	0.2	0.1	-

Intersection	
Int Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	19	31	1210	40	36	591
Future Vol, veh/h	19	31	1210	40	36	591
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	120	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	21	34	1315	43	39	642

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2035	1315	0	0	1358	0
Stage 1	1315	-	-	-	-	-
Stage 2	720	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	63	195	-	-	513	-
Stage 1	254	-	-	-	-	-
Stage 2	486	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	56	195	-	-	513	-
Mov Cap-2 Maneuver	56	-	-	-	-	-
Stage 1	254	-	-	-	-	-
Stage 2	429	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	56	0	0.7
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	56	195	513	-
HCM Lane V/C Ratio	-	-	0.369	0.173	0.076	-
HCM Control Delay (s)	-	-	102.9	27.3	12.6	0
HCM Lane LOS	-	-	F	D	B	A
HCM 95th %tile Q(veh)	-	-	1.3	0.6	0.2	-