

STATE ROUTE 365/JESSE JEWELL PARKWAY TRAFFIC IMPACT STUDY

FINAL REPORT



GAINESVILLE-HALL
Metropolitan Planning Organization



GAINESVILLE

POND

**A Resolution by the Gainesville-Hall Metropolitan Planning Organization
Policy Committee Adopting the
SR 365/Jesse Jewell Traffic Impact Study**

WHEREAS, the Gainesville-Hall Metropolitan Planning Organization (GHMPO) is the designated Metropolitan Planning Organization for transportation planning within the Gainesville Metropolitan Area Boundary which includes all of Hall County and a portion of Jackson County following the 2010 Census; and

WHEREAS, the Fixing America's Surface Transportation (FAST) Act directs GHMPO to increase the accessibility and mobility options available;

WHEREAS, the FAST Act furthermore directs GHMPO to enhance the integration and connectivity of the transportation system, across and between modes;

WHEREAS, the SR 365/Jesse Jewell Traffic Impact Study makes recommendations to improve the area's accessibility and mobility;

NOW, THERE, BE IT RESOLVED that the Gainesville-Hall Metropolitan Planning Organization adopts the SR 365/Jesse Jewell Traffic Impact Study.

A motion was made by PC member Danny Duragan and seconded by PC member Mike Miller and approved this the 9th of March, 2021.




Chairman Richard Higgins, Chairperson
GHMPO Policy Committee

Subscribed and sworn to me this the 9th of March, 2021.


Notary Public

My commission expires 6/13/2023

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This report has been prepared by Pond & Company for the Gainesville-Hall Metropolitan Planning Organization and the City of Gainesville with support from Moffat & Nichol, Blue Cypress, and Rochester & Associates.



INTRODUCTION

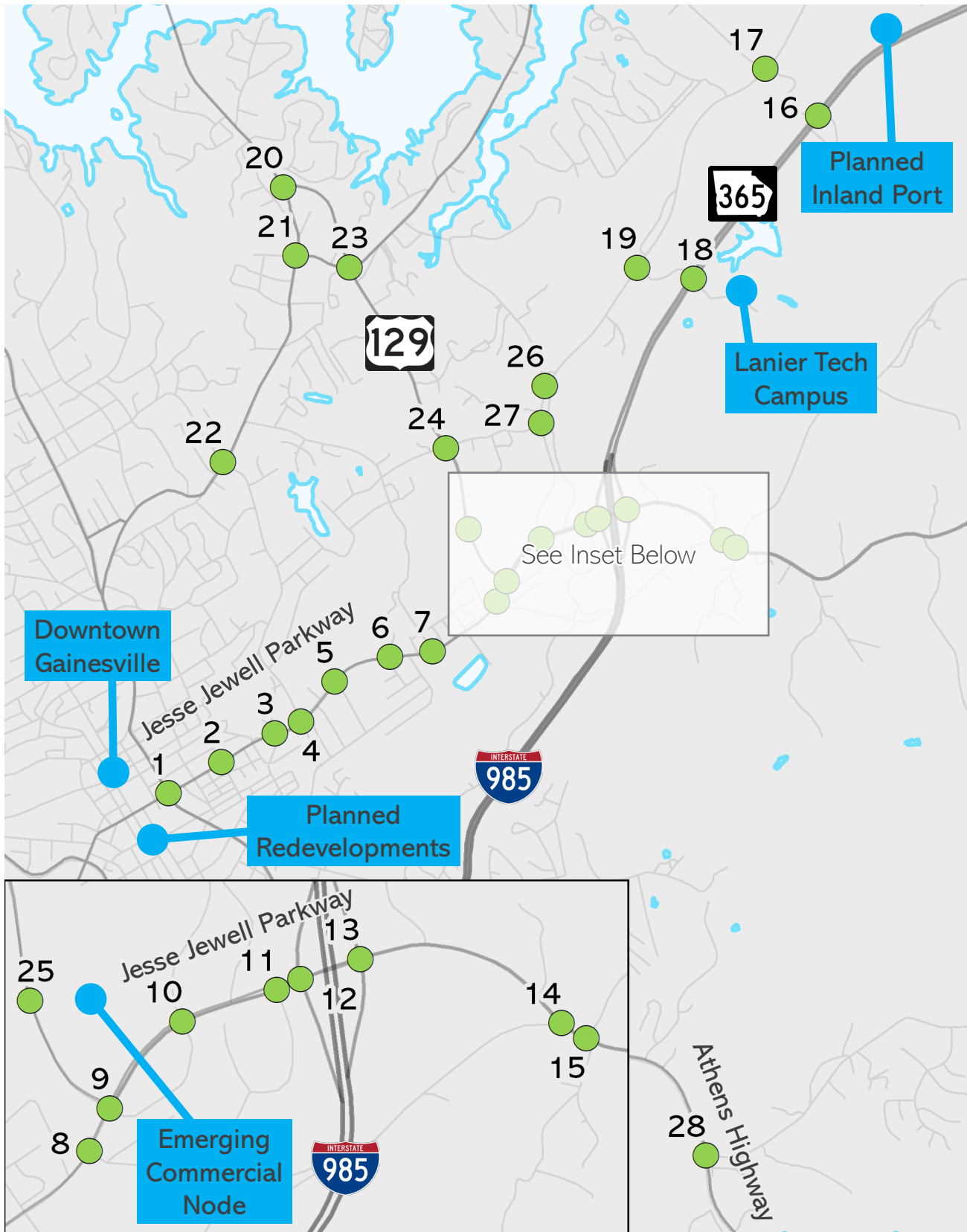
The eastern part of Gainesville has seen increasing development pressures in the past decade including most recently the emergence of a commercial node at Limestone Parkway/Jesse Jewell Parkway, the new Lanier Tech campus, and increased residential and employment growth. With more anticipated development coming - including the construction of a new Inland Port along SR 365 and redevelopment in downtown Gainesville, the Gainesville-Hall Metropolitan Organization and City of Gainesville commissioned this study to understand the transportation impacts of the various planned and anticipated development and to identify long-term solutions that can proactively maintain traffic flow and safety along Jesse Jewell Parkway, SR 365, and other corridors in the eastern part of Gainesville.

To more fully understand the needs of the area, this study focuses on key intersections along Jesse Jewell Parkway, SR 365, and other major corridors in the eastern part of Gainesville. All study intersections are shown on the facing page and are listed here:

1. SR 369/Jesse Jewell Parkway at SR 60/Athens Highway
2. SR 369/Jesse Jewell Parkway at Prior Street
3. SR 369/Jesse Jewell Parkway at Summitt Street
4. SR 369/Jesse Jewell Parkway at Downey Boulevard
5. SR 369/Jesse Jewell Parkway at Barn Street
6. SR 369/Jesse Jewell Parkway at Terrace Street/Community Way
7. SR 369/Jesse Jewell Parkway at Myrtle Street/Quarry Street
8. SR 369/Jesse Jewell Parkway at Old Cornelia Highway (west)
9. SR 369/Jesse Jewell Parkway at Limestone Parkway
10. SR 369/Jesse Jewell Parkway at White Sulphur Road
11. SR 369/Jesse Jewell Parkway at E Crescent Drive
12. SR 369/Jesse Jewell Parkway at I-985 Southbound Ramps
13. SR 369/Jesse Jewell Parkway at I-985 Northbound Ramps
14. SR 369/Jesse Jewell Parkway at Old Cornelia Highway (east)
15. SR 369/Jesse Jewell Parkway at Oconee Circle
16. US 23/SR 365/Cornelia Highway at Ramsey Road
17. White Sulphur Road at Ramsey Road
18. US 23/SR 365/Cornelia Highway at Howard Road
19. White Sulphur Road at Howard Road
20. Limestone Parkway at Cleveland Highway
21. Cleveland Highway at Barrett Street
22. SR 11/Morningside Drive at S Enota Drive
23. Limestone Parkway at Barrett Street
24. Limestone Parkway at Beverly Road
25. Limestone Parkway at Pine Valley Road
26. White Sulphur Road at Pine Valley Road
27. White Sulphur Road at Beverly Road
28. Athens Highway at Gaines Mill Road

STATE ROUTE 365/JESSE JEWELL PARKWAY TRAFFIC IMPACT STUDY

STUDY INTERSECTIONS



EXISTING CONDITIONS

To understand the needs of the Jesse Jewell Parkway corridor and surrounding network, a review of existing conditions was performed. This review includes a history of crashes in the area, and both a field visit and a technical analysis of existing traffic conditions.

CRASH HISTORY

Crash history on study corridors was reviewed to gain an understanding of safety challenges currently being faced. Crashes were retrieved from the Georgia Department of Transportation's (GDOT's) Georgia Electronic Accident Reporting System (GEARS) for all dates from 2014 through 2018. The map on the facing page shows a heat map of all crashes. Crashes with injuries are shown with an orange dot and crashes with fatalities in this timeframe are shown with a red "X". A table of crashes at each of the study intersections begins on the page following the map.

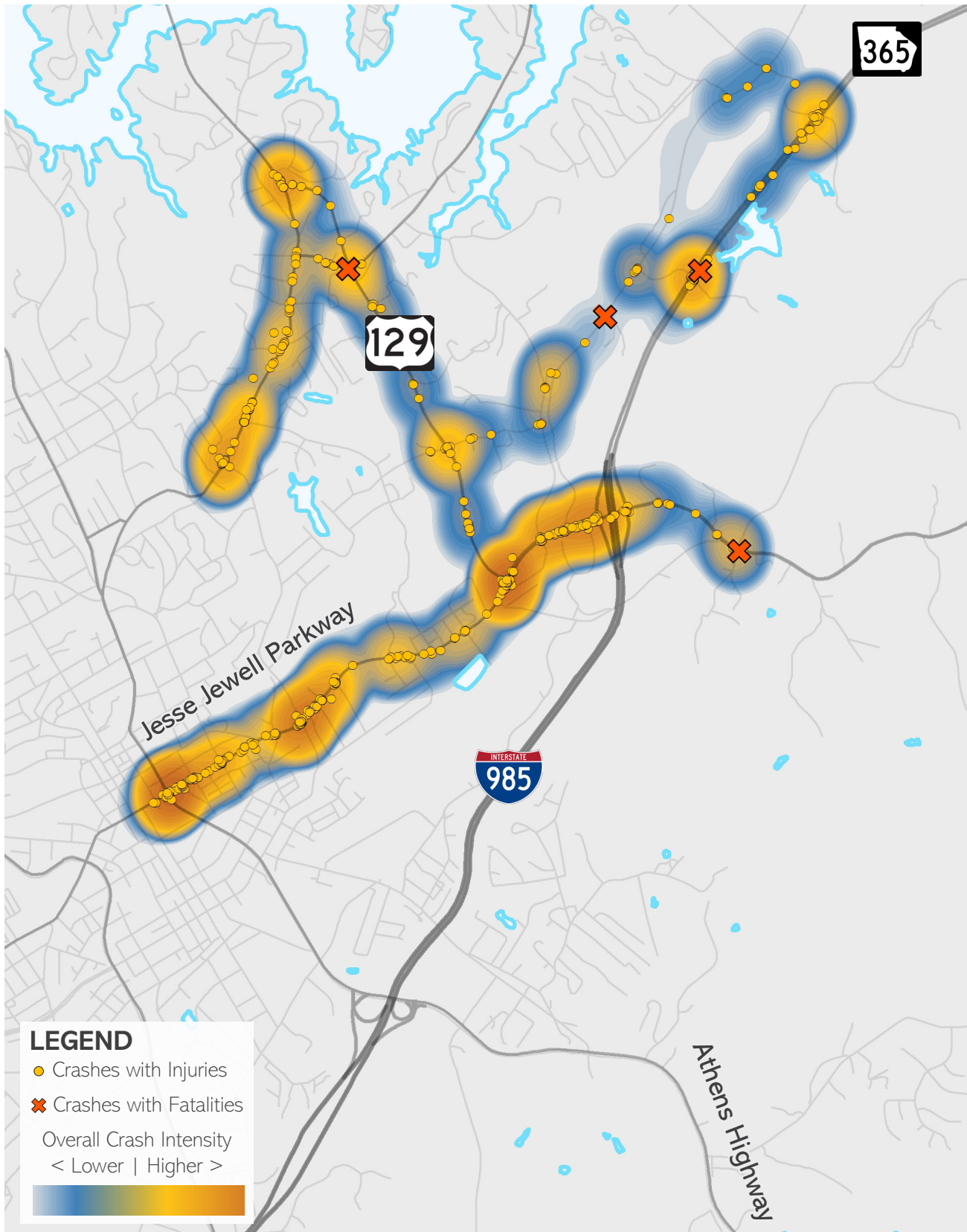
As is typical, crashes occur most frequently at intersections on high-volume roadways. Jesse Jewell Parkway and Limestone Parkway each have extensive crash history as high-volume corridors. SR 365/Cornelia Highway has significant clusters of crashes as well, especially at intersections immediately north of Jesse Jewell Parkway. Currently, Jesse Jewell Parkway is the last grade-separated interchange for northbound travelers. The change in conditions likely contributes to the high volume of crashes at Cornelia Highway at Howard Road, which is the first at-grade intersection to the north.

TOP INTERSECTIONS BY CRASH HISTORY (2014-2018)

- 1** Jesse Jewell Parkway at Limestone Parkway (293 crashes)
- 2** Jesse Jewell Parkway at Athens Highway (273 crashes)
- 3** Jesse Jewell Parkway at Downey Boulevard (183 crashes)
- 4** Limestone Parkway at Cleveland Highway (136 crashes)
- 5** Cornelia Highway at Howard Road (116 crashes)

STATE ROUTE 365/JESSE JEWELL PARKWAY TRAFFIC IMPACT STUDY

CRASH HEAT MAP (2014-2018)



CRASH HISTORY BY INTERSECTION (2014-2018)

ID	Intersection	Manner of Collision										Crashes Involving Pedestrian	Crashes Involving Bicycle	Crashes Involving Commercial Vehicle	Crashes in Dark Unlit Conditions
		Total Crashes	Injury Crashes	Fatality Crashes	Angle	Head On	Rear End	Sideswipe- Same Direction	Sideswipe- Opposite Direction	Not a Collision with a Motor Vehicle	Other				
1	Jesse Jewell Parkway at Athens Highway	273	40	0	43	2	174	42	4	8	0	0	0	18	2
2	Jesse Jewell Parkway at Prior Street	78	25	0	15	0	54	5	0	4	0	0	0	1	0
3	Jesse Jewell Parkway at Summitt Street	39	9	0	14	0	21	2	0	2	0	0	1	0	1
4	Jesse Jewell Parkway at Downey Blvd	183	46	0	60	4	96	18	1	4	0	0	0	4	7
5	Jesse Jewell Parkway at Barn Street	56	10	0	4	1	43	3	0	5	0	0	0	0	1
6	Jesse Jewell Parkway at Terrace Street/Community Way	27	3	0	8	0	16	2	0	1	0	0	0	1	0
7	Jesse Jewell Parkway at Myrtle Street/Quarry Street	8	2	0	4	0	2	2	0	0	0	0	0	0	0
8	Jesse Jewell Parkway at Old Cornelia Highway (West)	3	1	0	1	0	1	0	0	1	0	0	0	0	0
9	Jesse Jewell Parkway at Limestone Parkway	293	60	0	44	3	211	29	0	6	0	0	0	4	18
10	Jesse Jewell Parkway at White Sulphur Road	99	27	0	37	3	46	6	3	4	0	0	0	0	16
11	Jesse Jewell Parkway at E Crescent Drive	47	12	0	10	1	29	5	0	2	0	0	0	1	5
12	Jesse Jewell Parkway at I-985 Southbound Ramps	95	22	0	10	0	81	3	0	1	0	0	0	2	10
13	Jesse Jewell Parkway at I-985 Northbound Ramps	37	11	0	11	0	22	2	0	2	0	0	0	1	3
14	Jesse Jewell Parkway at Old Cornelia Highway (East)	3	0	0	0	0	3	0	0	0	0	0	0	0	1

STATE ROUTE 365/JESSE JEWELL PARKWAY TRAFFIC IMPACT STUDY

ID	Intersection	Manner of Collision										Crashes Involving Pedestrian	Crashes Involving Bicycle	Crashes Involving Commercial Vehicle	Crashes in Dark Unlit Conditions
		Total Crashes	Injury Crashes	Fatality Crashes	Angle	Head On	Rear End	Sideswipe- Same Direction	Sideswipe- Opposite Direction	Not a Collision with a Motor Vehicle	Other				
15	Jesse Jewell Parkway at Oconee Cir	26	3	0	9	1	6	5	0	5	0	0	0	0	2
16	Cornelia Highway at Ramsey Road	78	23	0	7	0	51	6	1	13	0	0	0	8	10
17	White Sulphur Road at Ramsey Road	9	2	0	2	0	1	2	1	3	0	0	0	0	3
18	Cornelia Highway at Howard Road	116	42	0	37	3	53	13	0	10	0	0	0	10	20
19	White Sulphur Road at Howard Road	20	5	0	13	0	2	1	0	4	0	2	0	0	1
20	Limestone Parkway at Cleveland Highway	136	15	0	9	4	118	1	0	4	0	0	0	2	12
21	Cleveland Highway at Barrett Street	26	6	0	8	0	17	1	0	0	0	0	0	0	4
22	Morningside Drive at S Enota Drive	112	31	0	40	3	55	8	1	4	1	0	0	2	4
23	Limestone Parkway at Barrett Street	67	14	1	27	4	20	9	0	7	0	2	0	5	6
24	Limestone Parkway at Beverly Road	67	17	0	27	1	29	1	1	8	0	0	0	4	8
25	Limestone Parkway at Private Drive	13	8	0	4	0	9	0	0	0	0	0	0	0	1
26	White Sulphur Road at Pine Valley Road	16	3	0	2	0	9	0	4	1	0	0	0	2	2
27	White Sulphur Road at Beverly Road	12	5	0	5	0	5	0	0	2	0	0	0	0	2
28	Athens Highway at Gaines Mill Road	32	10	2	5	0	16	2	1	8	0	1	0	1	9

CURRENT OPERATIONS

To develop an understanding of current conditions at study intersections, traffic counts were performed on Tuesday, August 28th, 2019 at all locations and are included in **Appendix A**. These volumes were used directly as the basis of current (year 2019) operations.

All signalized and stop-controlled intersections were analyzed using Trafficware's Synchro 11 software. Analysis was performed based on methodologies published in the Highway Capacity Manual (HCM). HCM methodology determines the average amount of delay an intersection control (signal, stop sign, etc.) causes for each vehicle in the intersection. This is typically expressed in average seconds of delay per vehicles (sec/veh). Intersections (or individual approaches or movements at intersections) are then assigned a Level of Service based on this average delay, based on research about drivers' perceptions of delay. Levels of Service range from A to F, with different threshold for signalized and unsignalized control. Generally drivers expect longer delays at traffic signals, and thus the same LOS will accept a higher delay at a signal than at a stop sign or other unsignalized control. Different jurisdictions have different policies, but generally an LOS of A through D is considered acceptable, while LOS of E or F is cause for concern. At signalized intersections, an overall average delay is shown. At side-street stop-controlled intersections, each stop-controlled approach is shown separately.

The newest versions of the HCM methodology cannot be applied in certain situations, including intersections with non-standard phasing and with shared lanes. Because this corridor has both of those complications, methodology from the HCM 2000 was used for all intersections in all timeframes. Full Synchro output for all intersections is included in **Appendix B**.

Several intersections and approaches already report failing level of service today, including the Cleveland Highway at Barrett Street signal and several stop-controlled approaches.

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EXISTING TRAFFIC CONGESTION ANALYSIS RESULTS

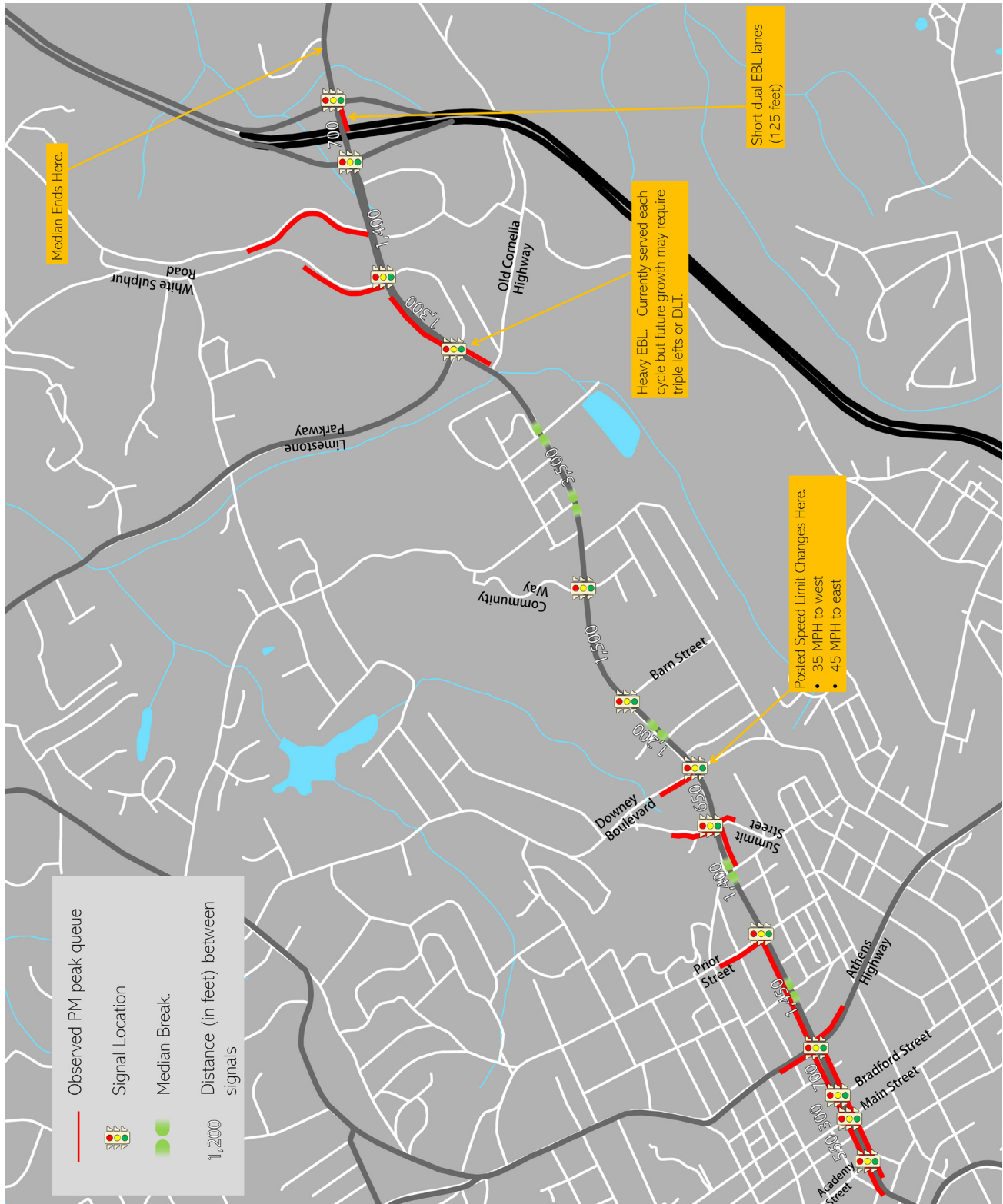
ID	Intersection	Control Type	Direction	Existing	
				AM Delay* (LOS)	PM Delay* (LOS)
1	Jesse Jewell Parkway at Athens Highway	Signalized	Total	44 (D)	69 (E)
2	Jesse Jewell Parkway at Prior Street	Signalized	Total	10 (A)	23 (C)
3	Jesse Jewell Parkway at Summitt Street	Signalized	Total	11 (B)	13 (B)
4	Jesse Jewell Parkway at Downey Boulevard	Signalized	Total	24 (C)	34 (C)
5	Jesse Jewell Parkway at Barn Street	Signalized	Total	13 (B)	15 (B)
6	Jesse Jewell Parkway at Terrace Street/Community Way	Signalized	Total	22 (C)	10 (A)
7	Jesse Jewell Parkway at Myrtle Street/Quary Street	Unsignalized	NB	69 (F)	>300 (F)
		Unsignalized	SB	81 (F)	31 (D)
8	Jesse Jewell Parkway at Old Cornelia Highway (West)	Unsignalized	NB	13 (B)	33 (D)
9	Jesse Jewell Parkway at Limestone Parkway	Signalized	Total	48 (D)	38 (D)
10	Jesse Jewell Parkway at White Sulphur Road	Signalized	Total	22 (C)	26 (C)
11	Jesse Jewell Parkway at E Crescent Drive	Unsignalized	NB	21 (C)	149 (F)
12	Jesse Jewell Parkway at I-985 Southbound Ramps	Signalized	Total	28 (C)	13 (B)
13	Jesse Jewell Parkway at I-985 Northbound Ramps	Signalized	Total	40 (D)	36 (D)
14	Jesse Jewell Parkway at Old Cornelia Highway (East)	Unsignalized	EB	>300 (F)	21 (C)
15	Jesse Jewell Parkway at Oconee Cir	Unsignalized	NB	>300 (F)	17 (C)
		Unsignalized	SB	127 (F)	13 (B)
16	Cornelia Highway at Ramsey Road	Signalized	Total	16 (B)	7 (A)
17	White Sulphur Road at Ramsey Road	Signalized	Total	25 (C)	25 (C)
18	Cornelia Highway at Howard Road	Signalized	Total	16 (B)	31 (C)
19	White Sulphur Road at Howard Road	Unsignalized	WB	17 (C)	25 (C)
20	Limestone Parkway at Cleveland Highway	Signalized	Total	9 (A)	22 (C)
21	Cleveland Highway at Barrett Street	Signalized	Total	42 (D)	113 (F)
22	Morningside Drive at S Enota Drive	Signalized	Total	37 (D)	41 (D)
23	Limestone Parkway at Barrett Street	Signalized	Total	44 (D)	21 (C)
24	Limestone Parkway at Beverly Road	Signalized	Total	25 (C)	34 (C)
25	Limestone Parkway at Private Drive	Signalized	Total	3 (A)	5 (A)
26	White Sulphur Road at Pine Valley Road	Unsignalized	EB	20 (C)	31 (D)
27	White Sulphur Road at Beverly Road	Unsignalized	EB	35 (D)	64 (F)
28	Athens Highway at Gaines Mill Road	Unsignalized	WB	>300 (F)	20 (C)

*Delay shown in average seconds of delay per vehicle

FIELD VISIT

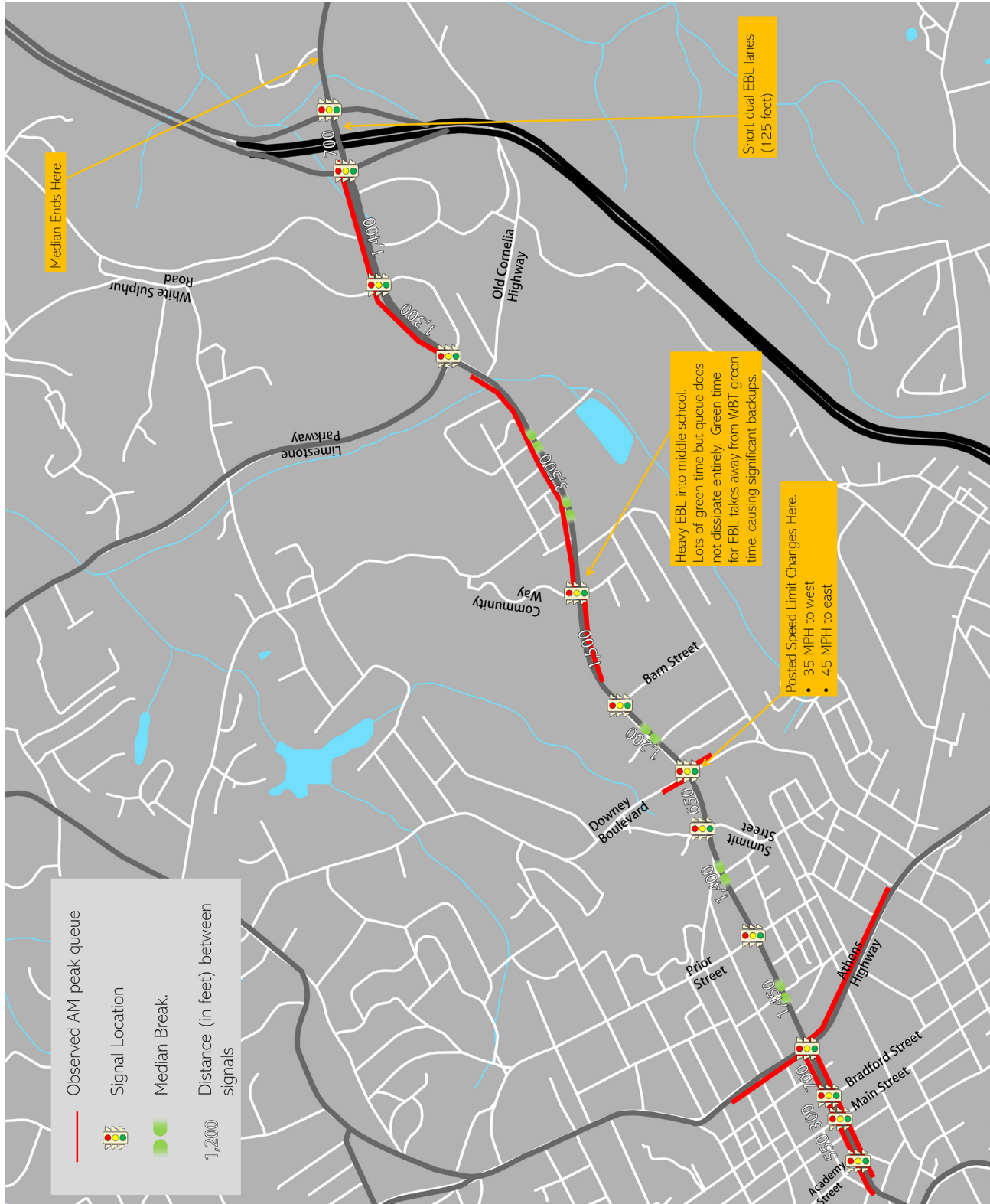
Field visits were made to the Jesse Jewell Corridor on the morning and afternoon of January 14, 2020. These field visits were used to observe queues and notable traffic conditions. Notes from each visit are shown below (morning period) and on the facing page (afternoon period)

AM FIELD VISIT NOTES



STATE ROUTE 365/JESSE JEWELL PARKWAY TRAFFIC IMPACT STUDY

PM FIELD VISIT NOTES



FUTURE NEEDS

FORECASTING METHODOLOGY

To best project future traffic conditions in the area, three primary sources were referenced. GDOT provides historic volume data that can be used to understand how traffic has changed and grown in the past, which is an indication of how growth may happen in the future. In the area there are a number of known upcoming developments that will add traffic to the roadway network. These are reviewed and also referenced against the assumptions in the regional travel demand model, which uses socioeconomic forecasts to attempt to project future travel conditions. All of these sources were reviewed and considered in the development of the final forecasting methodology.

HISTORIC DATA

To encompass the study area, historic volumes at ten GDOT count stations were reviewed, as shown in the table below. GDOT regularly collects volume data at these locations and calculates an estimated Annual Average Daily Traffic (AADT) each year, based on counts at that location and nearby locations. A regression analysis was used to calculate the compound annual growth rate (CAGR) at each location. At each location a coefficient of determination (also called r^2) was calculated. At locations with a high coefficient of determination, the historic trend is consistent and more likely to be predictive than at locations with a low coefficient of determination, where the historic growth data is less consistent. For this reason, growth rates at locations with low coefficients of determination are considered less reliable than others.

Count locations were combined along seven major segments of the study network. When there were multiple count locations on a segment, the average of the CAGR at each location, weighted by the latest volume count, was used to calculate an average CAGR for the segment, shown on the map on the facing page.

Location		Jesse Jewell Pkwy East of Downey Blvd	Jesse Jewell Pkwy East of Myrtle St	Jesse Jewell Pkwy East of Limestone Pkwy	Jesse Jewell Pkwy North of Old Cornelia Hwy	Limestone Pkwy North of Clarks Bridge Rd	Limestone Pkwy North of Beverly Rd	Limestone Pkwy South of Beverly Rd	Cornelia Hwy North of Howard Rd	Athens Hwy East of 985	Athens Hwy North of Gaines Mill Rd
AADT	2009								29,000		
	2010		24,000				16,100	14,700	29,600		31,000
	2011	27,000		27,200		8,460			28,800		28,300
	2012		24,700		9,680		16,200		28,800	26,100	
	2013	26,800		26,800				17,000			31,600
	2014		27,300				17,200		30,000	34,700	
	2015	29,900		27,700		8,590		17,600	30,000		32,600
	2016		30,300		10,700		18,300		31,000	30,100	
	2017			30,000							
	2018		31,500		12,900		18,000			32,900	
CAGR		2.60%	3.80%	1.70%	4.60%	0.40%	1.70%	3.80%	0.80%	2.80%	1.80%
R ²		0.70	0.97	0.70	0.85	1.00	0.86	0.96	0.64	0.30	0.45

STATE ROUTE 365/JESSE JEWELL PARKWAY TRAFFIC IMPACT STUDY

HISTORIC GROWTH RATES



KNOWN DEVELOPMENT

Three specific developments are underway near the study area. Traffic generated by each was considered.

Limestone Parkway

A horizontally mixed-use development along Limestone Parkway north of Jesse Jewell Parkway is anticipated. The development is expected to include commercial properties near Limestone Parkway, and then include multi-family residential properties at the back of the development. There is an accompanying smaller single-family residential neighborhood planned off of Lakeview Drive. In total, this development is expected to add:

- 130,200 square feet of new retail space,
- 53,200 square feet of new office space,
- 252 new multi-family units, and
- 30 new single-family homes.

Inland Port

As part of a statewide freight strategy, GDOT is building an “inland port” near Gainesville that will serve as a rail-to-truck transfer facility for cargo traveling through Georgia Ports, including the Port of Savannah. This facility is expected to employ approximately 20 people and will see between 460 and 640 trucks a day, which are all expected to access Interstate 985 and SR 365.

Downtown Gainesville Developments

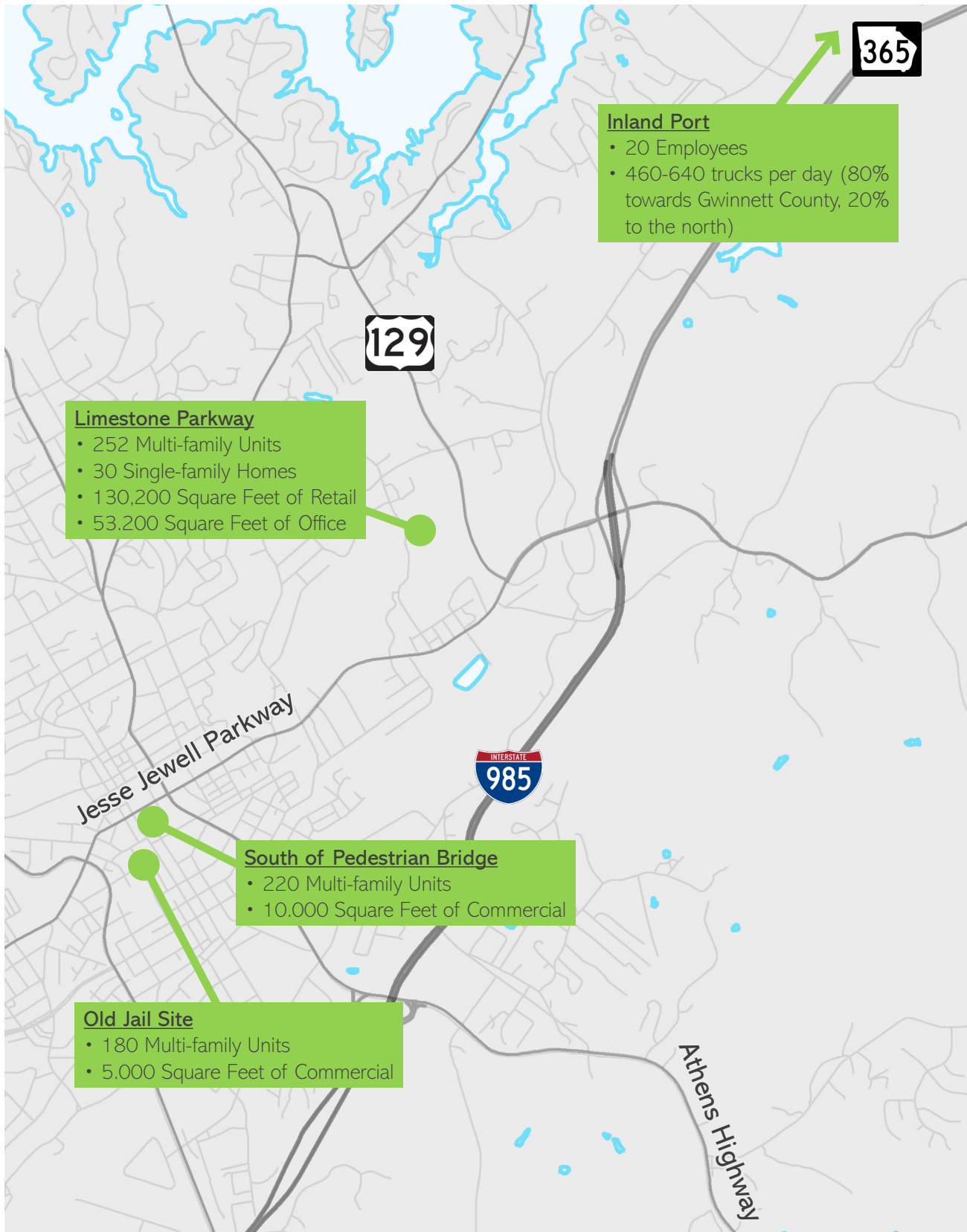
In downtown Gainesville, near the western edge of the study area, two new mixed-use developments will also be bringing new travelers to the area. The first, immediately south of the pedestrian bridge, is expected to bring 220 multi-family units and 10,000 square feet of commercial space to the area. The former jail site is also being redeveloped and is expected to include 180 multi-family units and 5,000 square feet of commercial space.

LIMESTONE PARKWAY DEVELOPMENT SITE PLAN



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SPECIFIC ANTICIPATED DEVELOPMENTS



MODEL DATA

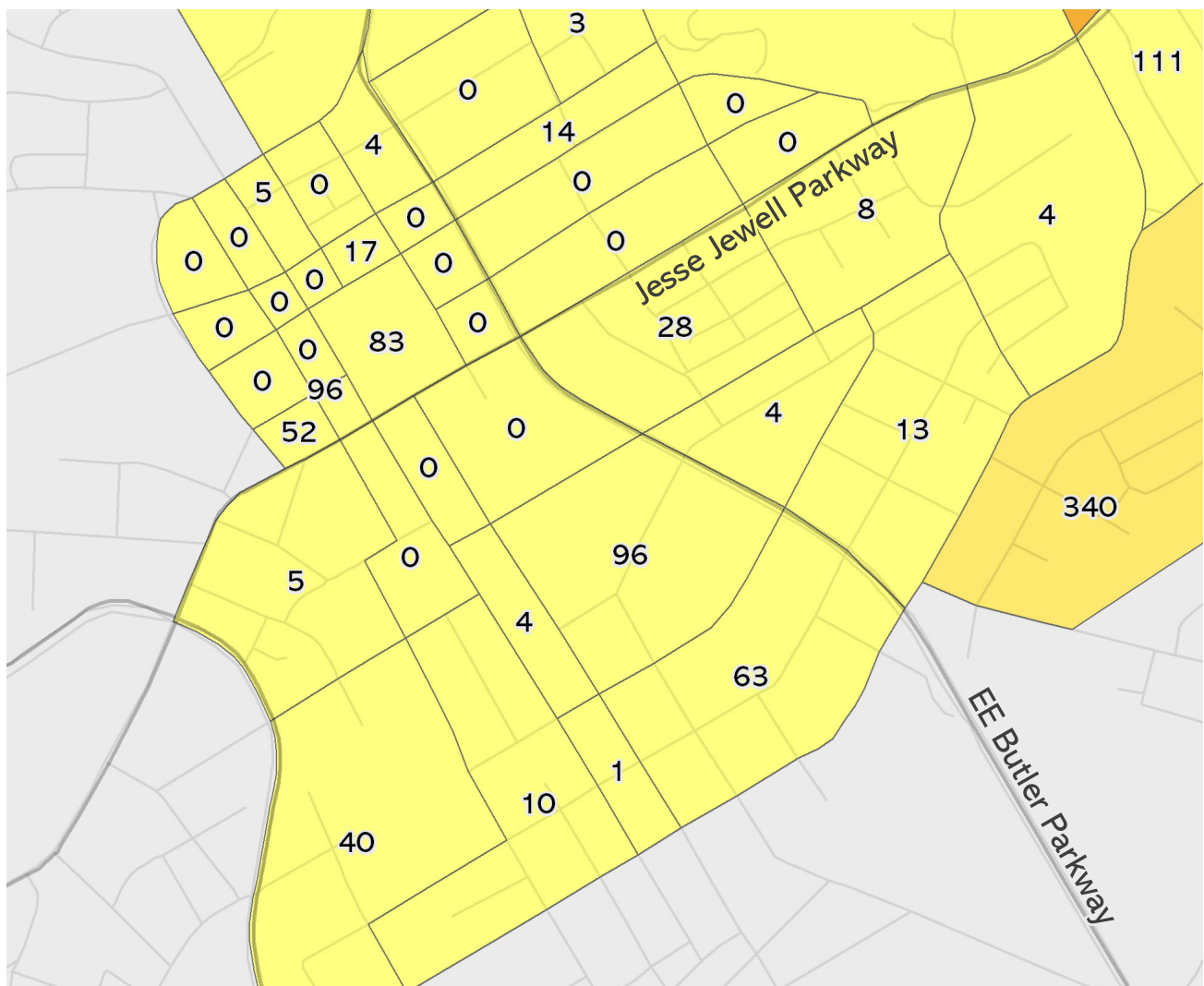
GDOT and the GHMPO maintain a regional travel demand model (TDM) that uses socioeconomic projections (forecasts of how many people will live and work in each different areas) to project how travel behaviors will change as more people and jobs move to the area. This tool can provide forecasts more responsive to anticipated growth than simply looking at historic trends.

As part of this study, three major components of the TDM were reviewed: population/households, employment, and total traffic. Population/households and employment projections from year 2015 to year 2050 were compared to anticipated development, and average annual traffic growth over the same time period was compared to historic trends.

Population/Households

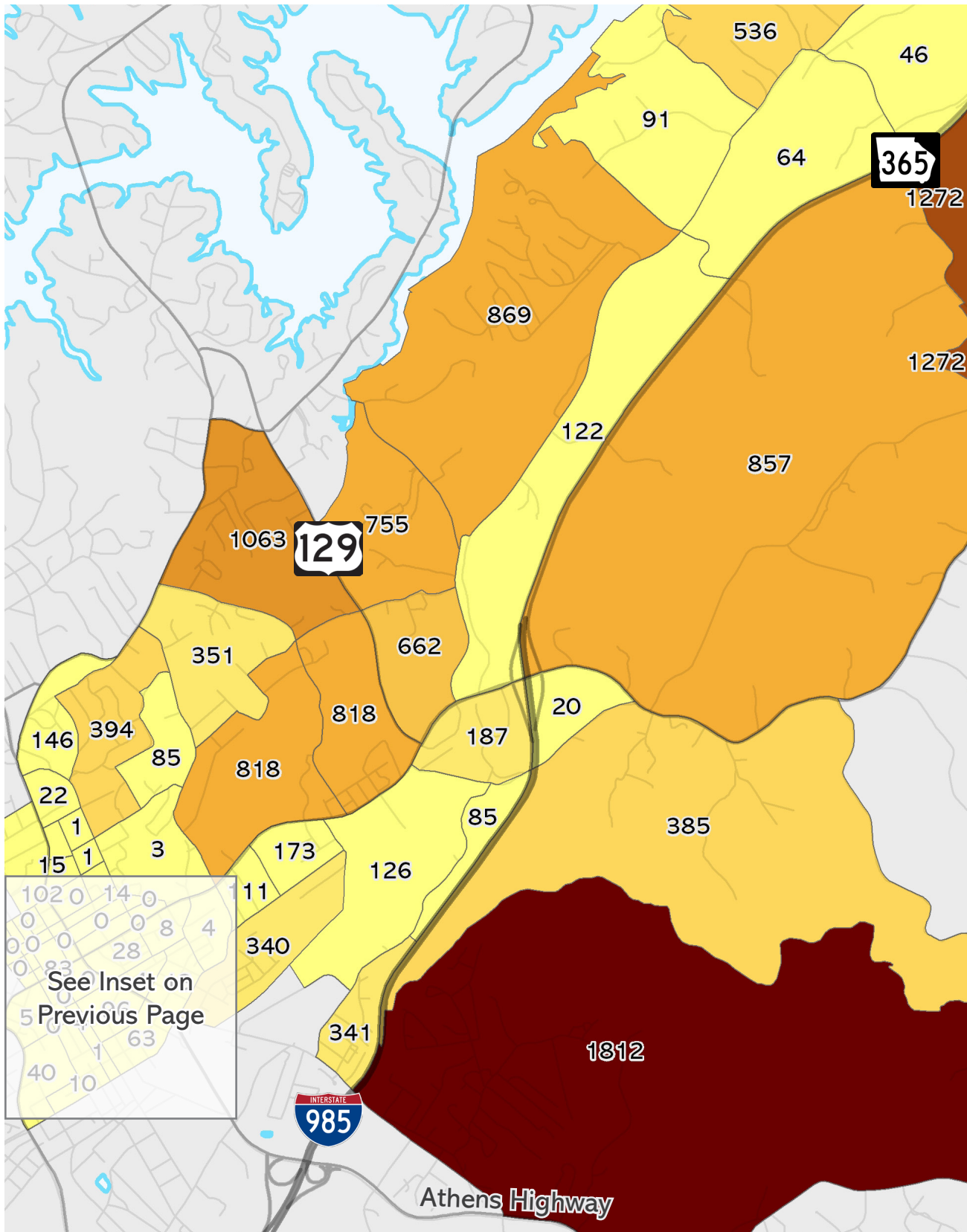
Population growth by traffic allocation zone (TAZ) is shown on the facing page. TAZs with specific anticipated developments are called out. As shown, the TAZ containing the Limestone Parkway development site is expecting a population increase of 818 people. 815 new residents are anticipated as part of that development specifically, so that development is well-included in the TDM inputs. While no residential component is included in the Inland Port, that TAZ is expected to add residents elsewhere. The residential components of the two downtown Gainesville developments are not well-included in the TDM inputs. Neither TAZ containing the developments includes any projected increase in population between year 2015 and year 2050.

TRAVEL DEMAND MODEL ANTICIPATED POPULATION GROWTH 2015-2050 (DOWNTOWN GAINESVILLE)



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TRAVEL DEMAND MODEL ANTICIPATED POPULATION GROWTH 2015-2050



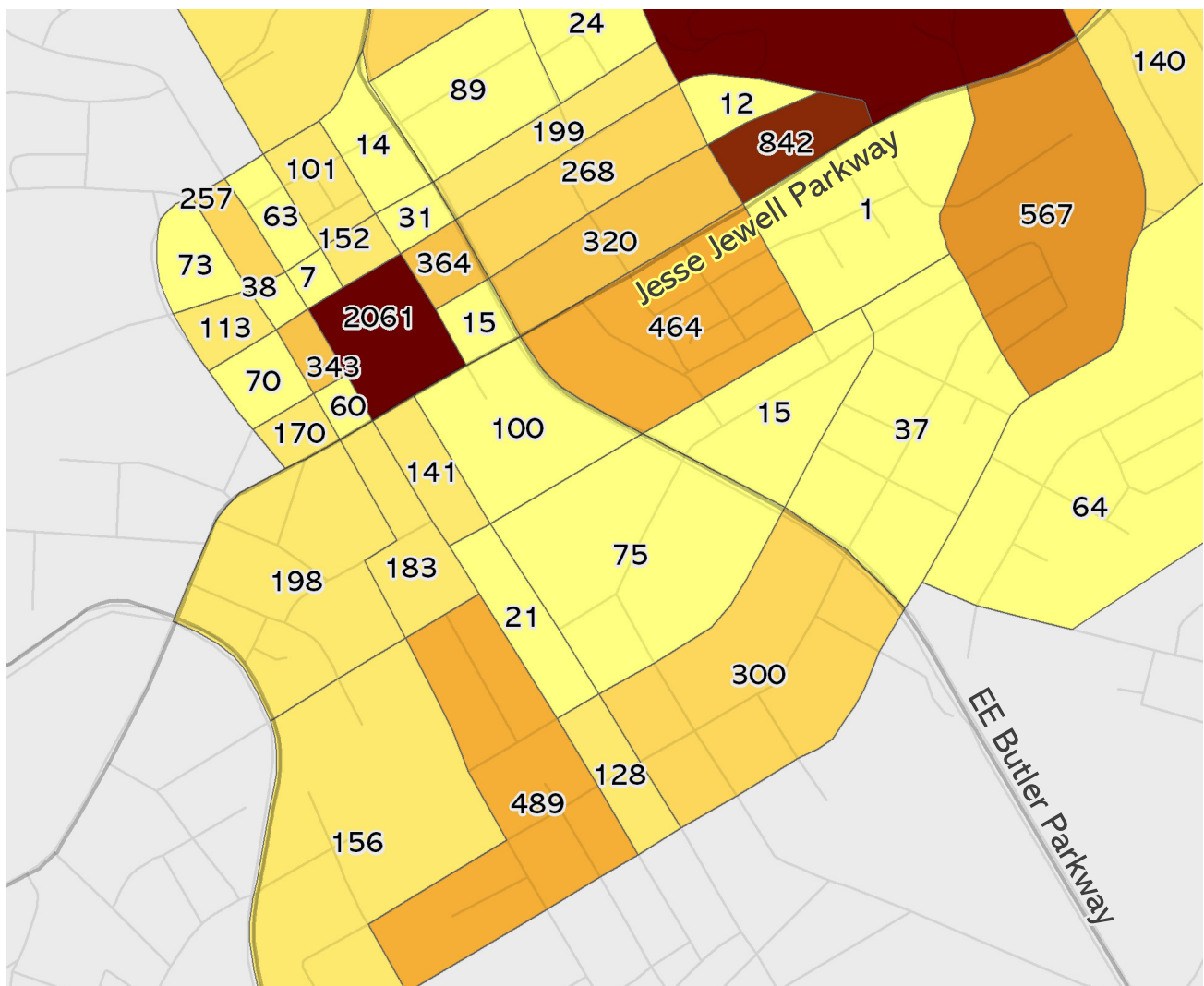
Employment

A similar comparison of jobs was made. Near the Inland Port, more employment growth is projected than is expected from the Inland Port itself. This likely represents other expected commercial and industrial ventures expected to develop around the Port and the I-985 corridor. At the Limestone Parkway development, fewer jobs were expected to be added than are expected from the development, indicating that the model may under-project traffic there. At the downtown developments, far more jobs were expected to be added than those developments are expected to provide. While additional jobs may be added nearby, this may indicate that the model will over-project employment traffic here. This may help to balance out the under-representation of the residential population.

Traffic Volume Impacts

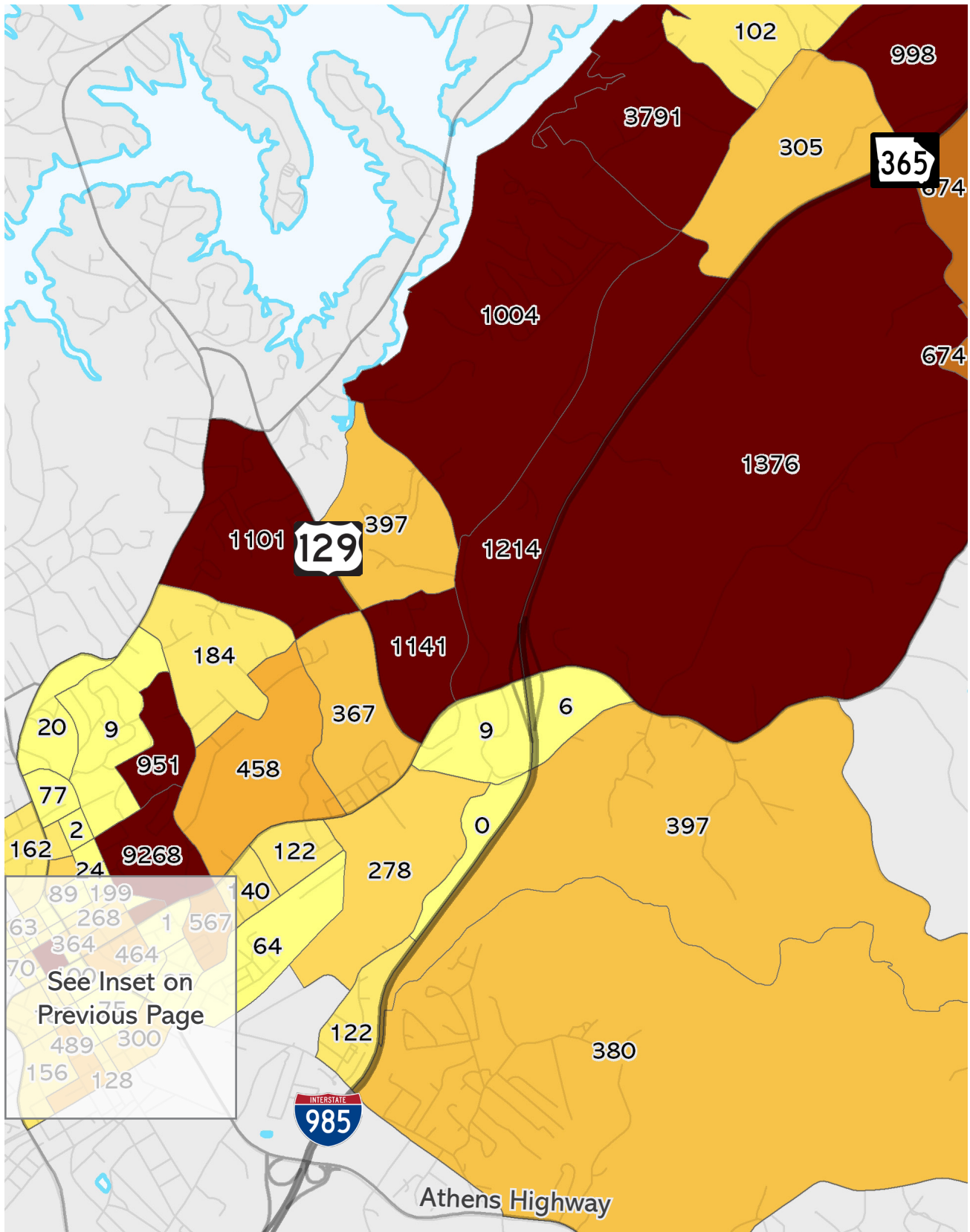
Using these growth projections, the TDM estimates traffic volumes in year 2050. The CAGR of traffic volume growth from year 2015 to year 2050 in the TDM is shown in the following section for each of the seven major roadway segments considered in this study. Based on the understanding of the limitations and imperfections of the TDM, this information was used as a piece of the overall forecasting decision making.

TRAVEL DEMAND MODEL ANTICIPATED EMPLOYMENT GROWTH 2015-2050 (DOWNTOWN GAINESVILLE)



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TRAVEL DEMAND MODEL ANTICIPATED EMPLOYMENT GROWTH 2015-2050



FORECASTING METHODOLOGY

Based on historic trends and the TDM, projected CAGRs were selected for each of the seven major roadway segments in this study. The CAGR from historic trends and from the TDM are shown with the selected growth rate used for analysis below and on the facing page. The text below also includes the rationale for selecting each growth rate. Additional details regarding these decisions, including future volume forecasts and laneage needs for each, are included in **Appendix D**.

1. Jesse Jewell Parkway west of Limestone Parkway

- Historic GDOT CAGR: 3.21%
- Projected TDM CAGR: 1.59%
- Proposed CAGR: 1.6%

While the Travel Demand Model input assumptions lean low relative to known downtown Gainesville redevelopment, this redevelopment is not likely to result in the large increases in vehicular traffic demand represented by the historical growth rate based scenarios. Similarly, relatively few arterials in the United States serve more than 60,000 vehicles a day as there is an inherent ceiling on how much a surface arterial can serve. Because of this, the TDM growth rate was used to forecast analysis volumes on this segment.

2. Jesse Jewell Parkway between Limestone Parkway and Interstate 985

- Historic GDOT CAGR: 1.65%
- Projected TDM CAGR: 2.08%
- Proposed CAGR: 1.9%

The travel demand model may be trending a little low here but applying its growth rate results in a very high AADT. Because of this, the average of the historic and TDM rates was used to forecast volumes on this segment. With use of the slightly more modest averaged rate, projections still reflect conditions similar to what the model anticipates. In the future, this segment of Jesse Jewell is anticipated to have slightly more traffic than the segment west of Limestone Parkway.

3. Jesse Jewell Parkway east of Interstate 985

- Historic GDOT CAGR: 4.56%
- Projected TDM CAGR: 1.67%
- Proposed CAGR: 3.1%

Extrapolation of historical trends in this area would result in an extremely high future AADT. While anticipated growth is high anticipated in this area, averaging with the model sourced growth rate to use a still-very-high rate of 3.1% a year is likely to produce a more reasonable and likely result.

4. Limestone Parkway

- Historic GDOT CAGR: 2.74%
- Projected TDM CAGR: 1.99%
- Proposed CAGR: 2.4%

Review of socioeconomic data suggests that the model may be predicting a little low in this area. Conversely, use of the historical growth rate (going back to the year 2009) is representative of a very specific moment in time as the area started to develop and is therefore likely too aggressive to be sustained. Therefore, an average rate is recommended.

5. White Sulphur Road

- Historic GDOT CAGR: 2.3%
- Projected TDM CAGR: 3.0%
- Proposed CAGR: 3.0%

While the travel demand model may be over-estimating how employment growth will drive traffic growth in this area, it still sources what appears to be the most representative rate to reflect future anticipated conditions.

6. Cornelia Highway

- Historic GDOT CAGR: 0.82%
- Projected TDM CAGR: 1.85%
- Proposed CAGR: 1.3%

While the Travel Demand Model may be producing higher than anticipated results in this area, use of a historical growth rate doesn't really reflect the potential and likelihood of future growth along this corridor. Therefore, an averaging of the two rates is recommended.

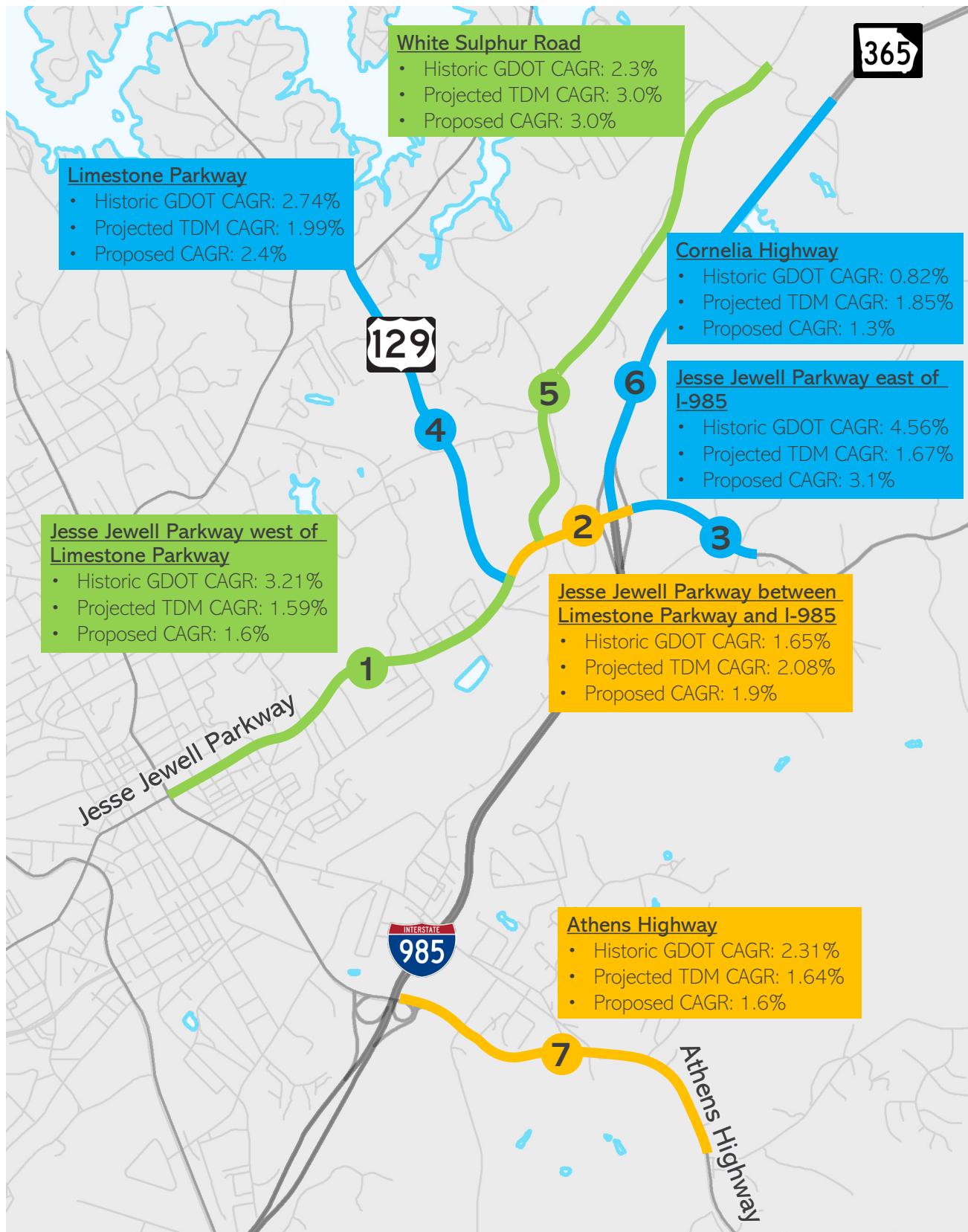
7. Athens Highway

- Historic GDOT CAGR: 2.31%
- Projected TDM CAGR: 1.64%
- Proposed CAGR: 1.6%

Current expectations for future development suggest this area will continue to grow though not necessarily as aggressively as other areas in the region. Given this, application of both the historical growth rate and the averaged rate reflects a future AADT that is not likely. Therefore, the rate suggested by the travel demand model is suggested.

STATE ROUTE 365/JESSE JEWELL PARKWAY TRAFFIC IMPACT STUDY

SPECIFIC ANTICIPATED DEVELOPMENTS



FUTURE NO-BUILD OPERATIONS

Using these growth rates, year 2050 volumes were projected. These volumes were used to perform an additional analysis of traffic congestion needs in year 2050, using the same methodology used to analyze the year 2019 conditions. Results of this analysis are shown below. Full Synchro output is included as part of **Appendix B**.

Due to high growth, several signals and unsignalized approaches are expected to experience poor levels of service by year 2050.



STATE ROUTE 365/JESSE JEWELL PARKWAY TRAFFIC IMPACT STUDY

YEAR 2050 NO BUILD OPERATIONS

ID	Intersection	Control Type	Direction	Existing		2050 No Build Conditions	
				AM Delay* (LOS)	PM Delay * (LOS)	AM Delay* (LOS)	PM Delay* (LOS)
1	Jesse Jewell Pkwy at Athens Hwy	Signalized	Total	44 (D)	69 (E)	162 (F)	190 (F)
2	Jesse Jewell Pkwy at Prior St	Signalized	Total	10 (A)	23 (C)	24 (C)	62 (E)
3	Jesse Jewell Pkwy at Summitt St	Signalized	Total	11 (B)	13 (B)	33 (C)	43 (D)
4	Jesse Jewell Pkwy at Downey Blvd	Signalized	Total	24 (C)	34 (C)	115 (F)	123 (F)
5	Jesse Jewell Pkwy at Barn St	Signalized	Total	13 (B)	15 (B)	55 (D)	171 (F)
6	Jesse Jewell Pkwy at Terrace St/ Community Way	Signalized	Total	22 (C)	10 (A)	145 (F)	143 (F)
7	Jesse Jewell Pkwy at Myrtle St/ Quarry St	Unsig.	NB	69 (F)	>300 (F)	>300 (F)	>300 (F)
		Unsig.	SB	81 (F)	31 (D)	>300 (F)	>300 (F)
8	Jesse Jewell Pkwy at Old Cornelia Hwy (West)	Unsig.	NB	13 (B)	33 (D)	22 (C)	178 (F)
9	Jesse Jewell Pkwy at Limestone Pkwy	Signalized	Total	48 (D)	38 (D)	281 (F)	273 (F)
10	Jesse Jewell Pkwy at White Sulphur Rd	Signalized	Total	22 (C)	26 (C)	210 (F)	>300 (F)
11	Jesse Jewell Pkwy at E Crescent Dr	Unsig.	NB	21 (C)	149 (F)	134 (F)	>300 (F)
12	Jesse Jewell Pkwy at I-985 Southbound Ramps	Signalized	Total	28 (C)	13 (B)	196 (F)	83 (F)
13	Jesse Jewell Pkwy at I-985 Northbound Ramps	Signalized	Total	40 (D)	36 (D)	131 (F)	82 (F)
14	Jesse Jewell Pkwy at Old Cornelia Hwy (East)	Unsig.	EB	>300 (F)	21 (C)	>300 (F)	>300 (F)
15	Jesse Jewell Pkwy at Oconee Cir	Unsig.	NB	>300 (F)	17 (C)	>300 (F)	>300 (F)
		Unsig.	SB	127 (F)	13 (B)	>300 (F)	>300 (F)
16	Cornelia Hwy at Ramsey Rd	Signalized	Total	16 (B)	7 (A)	107 (F)	69 (E)
17	White Sulphur Rd at Ramsey Rd	Signalized	Total	25 (C)	25 (C)	29 (C)	33 (C)
18	Cornelia Hwy at Howard Rd	Signalized	Total	16 (B)	31 (C)	102 (F)	137 (F)
19	White Sulphur Rd at Howard Rd	Unsig.	WB	17 (C)	25 (C)	>300 (F)	>300 (F)
20	Limestone Pkwy at Cleveland Hwy	Signalized	Total	9 (A)	22 (C)	85 (F)	>300 (F)
21	Cleveland Hwy at Barrett St	Signalized	Total	42 (D)	113 (F)	294 (F)	>300 (F)
22	Morningside Dr at S Enota Dr	Signalized	Total	37 (D)	41 (D)	>300 (F)	>300 (F)
23	Limestone Pkwy at Barrett St	Signalized	Total	44 (D)	21 (C)	>300 (F)	61 (E)
24	Limestone Pkwy at Beverly Rd	Signalized	Total	25 (C)	34 (C)	>300 (F)	264 (F)
25	Limestone Pkwy at Private Dr	Signalized	Total	3 (A)	5 (A)	18 (B)	181 (F)
26	White Sulphur Rd at Pine Valley Rd	Unsig.	EB	20 (C)	31 (D)	>300 (F)	>300 (F)
27	White Sulphur Rd at Beverly Rd	Unsig.	EB	35 (D)	64 (F)	>300 (F)	>300 (F)
28	Athens Hwy at Gaines Mill Rd	Unsig.	WB	>300 (F)	20 (C)	>300 (F)	>300 (F)

*Delay shown in average seconds of delay per vehicle

STAKEHOLDER ENGAGEMENT

The project team carried out several interviews to gain area stakeholder perspectives on current and future area traffic challenges and opportunities. The information collected provides additional data points to supplement the technical analyses guiding the study recommendations.

Twenty-two stakeholder interview candidates from a variety of Gainesville's government agencies, industries, education system, medical system, private businesses, and nonprofit agencies as well as regional and state partners were identified by the project team. A list of all identified stakeholders is available in **Appendix C**.

- An initial email was sent from the Gainesville-Hall Metropolitan Planning Organization (GHMPO) to each stakeholder. The email briefly described the study and notified individuals that the team would like to conduct a 30-minute remote meeting.
- Approximately 24 hours after the initial GHMPO email, Blue Cypress Consulting sent each stakeholder an email inviting them to schedule a brief, remote meeting.
- A total of 15 interviews were conducted: 12 via Zoom remote videoconferencing, 1 typed and emailed, 1 over the phone, and 1 was given by a stakeholder contact and recorded.

Each interview consisted of two sections of questions. The first section consisted of nine questions for all stakeholders, while the second section consisted of different questions depending on the stakeholder's affiliation. The interview questions can be found in **Appendix C**. A map of the study area, highlighting focus intersections (see Figure A on page 2), was provided to each interviewee and available during the interview for reference.

PRIORITY INTERSECTIONS

All interviewees were asked to identify the top three priority intersections for improvements or new policies to facilitate traffic flow. The interview team did not limit responses in cases where participants were unable to limit their top priorities to just three intersections. Priority intersections, in order of most votes to least, are shown here with the number of times mentioned in parentheses.

- 18 – Cornelia Hwy (SR 365) at Howard Rd (9)
- 1 – Jesse Jewell Pkwy at Athens Hwy (9)
- 16 – Cornelia Hwy at Ramsey Rd (7)
- 6 - Jesse Jewell Pkwy at Terrace St./Community Way (6)
- 9 - Jesse Jewell Pkwy at Limestone Pkwy (5)
- 17 - White Sulphur Rd at Ramsey Rd (4)
- 10 – Jesse Jewell Pkwy at White Sulphur Rd (4)
- 27 – White Sulphur Rd at Beverly Rd (3)
- 22 -Morningside Dr at S Enota Dr (3)
- 15 – Jesse Jewell Pkwy at Oconee Cir (3)
- 12 – Jesse Jewell Pkwy at I-985 SB (3)
- 2 - Jesse Jewell Pkwy at Prior St (3)

STATE ROUTE 365/JESSE JEWELL PARKWAY TRAFFIC IMPACT STUDY

GENERAL CORRIDOR ISSUES

A handful of underlying intersection and/or corridor issues were identified by stakeholders as factors contributing to increased traffic congestion, as summarized below.

- Left turn lanes back up into general purpose lanes. This is an issue, in particular, in the busy area between intersections #1 and #9 along Jesse Jewel Parkway where there are several different uses that people are entering and leaving.
- U-turns are regularly carried out by travelers to make their individual trips more efficient. Such traffic movement is either illegal and/or results in inefficient traffic flow and safety issues. Areas where this occurs include Ramsey Road at SR 365 and around the Kroger Marketplace.
- High speeds along SR 365 pose dangerous conditions and result in accidents north of the interchange at Jesse Jewel Parkway, particularly at Ramsey Road and Howard Road/Lanier Tech Drive.
- Due to intersection back-ups on SR 365, White Sulphur Road is increasingly becoming an alternative route. Conflicts between freight vehicles and passenger vehicles seem to be increasing in this area.
- There is no bypass around Gainesville to go north. That issue, along with the limited crossings over Lake Lanier, makes some commercial through-traffic in downtown Gainesville unavoidable. Ultimately, this causes a backup along Jesse Jewel Parkway coming into downtown.
- Increased development results in greater congestion.

FREIGHT MOVEMENT/INLAND PORT IMPACTS

Almost every interviewee mentioned the proposed North Georgia Inland Port, the associated possibility of increased freight traffic, and how it might affect the traffic and safety within the study area. A couple of interviewees stated that the Inland Port has the potential to positively affect the area by attracting more businesses and people to Gainesville.

- Intersections #16 and #17 were identified as potential traffic and safety concerns due to freight traffic combining with Kubota traffic and the possibility of school-related traffic from the proposed school consolidation at intersection #17.
- Additionally, intersections #10 through #15 and possibly #9 were identified as those intersections most likely to be impacted by freight traffic from the inland port.
- The potential impact on north/south railway activity was mentioned several times and specifically at railway crossings in the study area. Intersection #26 is an unsignalized railway crossing and is a major safety concern for the tractor trailers coming in and out of the nearby chicken facility. This at-grade crossing also causes a bottleneck that impacts Kubota employees and trucks as well as other vehicles traveling White Sulphur Road.
- Intersection #18 was also identified as a possible concern due to increasing freight traffic mixing with Lanier Technical College student traffic.

SCHOOL-RELATED TRAFFIC AND SAFETY

Two school districts, Gainesville City Schools and Hall County Schools, have schools within the study area and utilize buses for student transportation. Two higher education providers (Brenau University and Lanier Technical College) also reside in the study area. Several schools were identified by interviewees as causing traffic issues and safety concerns during peak school hours due to student drop-off and pick-up by buses, personal vehicles, and pedestrians as well as during lunch time for the two higher education providers. The perceived increase in freight traffic from the inland port has intensified these traffic and safety concerns. Several interviewees mentioned their traffic and safety concerns for the proposed school consolidation and school construction at intersection #17.

- Intersection #17 currently has businesses on all four corners, while residential and industrial development line White Sulfur Road. Many interviewees raised safety concerns about the planned addition of an elementary school at this intersection, which will bring with it buses and parents, adding to the current traffic, freight, and railway crossings mix.
- Intersection #18 was identified as currently being a dangerous intersection due to all the traffic volume from Lanier Tech as well as the area's increasing development. It was emphasized that an overpass needs to be designed and implemented as soon as possible.
- Traffic from intersections #6 and #7 tends to back into each other during peak school hours (Gainesville Middle School). One explanation given was that not enough time is provided between signals at these peak times.



STATE ROUTE 365/JESSE JEWELL PARKWAY TRAFFIC IMPACT STUDY

ALTERNATIVE MODES OF TRANSPORTATION

Multiple interviews identified alternative modes of transportation (walking, biking, public transit, or any combination of these) as a way to ease traffic congestion. They also mentioned the need for resources to encourage and facilitate their use. Sidewalk connectivity and poor sidewalk conditions were cited throughout the study area. The lack of connectivity and poor conditions was highlighted as extremely unsafe for students walking to and from school as well as for people who rely on public transit and need to walk to bus stops.

- Intersections #1 and #2 are packed with businesses but are not pedestrian-friendly.
- Intersections #4 and #5 lack complete sidewalks.
- The City of Gainesville Parks and Recreation Department pointed out that the community wants bike lanes and sidewalks, although they did not have specific recommendations for where these make sense in the study area.

ACTION PLAN

INTERSECTION PROJECT DEVELOPMENT

At each study intersection, improvements were determined as needed based on engineering judgment, feasibility and delay reduction. These improvements were modeled in Synchro and analyzed using HCM methodology to calculate the 2050 Build Conditions in the AM and PM peak hours. Full Synchro output is included in **Appendix B**. At some intersections, multiple alternative improvements were considered. These are included in the table, and were both analyzed to determine which was preferred, as described in the next section. One-sheets for each project are included in **Appendix E**.

INTERSECTION PROJECT DESCRIPTIONS

ID	Intersection	Project Description
1	Jesse Jewell Pkwy at Athens Hwy	No Feasible Improvements at Intersection. Possible diversion through Spring and Washington Streets (see project 35)
2	Jesse Jewell Pkwy at Prior St	Add SBR Turn Lane; Add SBL Turn Lane
3	Jesse Jewell Pkwy at Summitt St	Add NBR Turn Lane ; Add SBR Turn Lane
4	Jesse Jewell Pkwy at Downey Blvd	Convert NBR to Free Flow; Convert WBL to Drop Lane; Convert EBL to Double LT; Convert SBL to Double LT; Make WBL Double Left
5	Jesse Jewell Pkwy at Barn St	Widen Jesse Jewell Pkwy to 6 Lanes; Make SBL pm+pt
6	Jesse Jewell Pkwy at Terrace St/ Community Way	Widen Jesse Jewell Pkwy to 6 Lanes; Add SBR Turn Lane
7	Jesse Jewell Pkwy at Myrtle St/ Quarry St	Widen Jesse Jewell Pkwy to 6 Lanes; Add NBL and SBL Turn Lanes
8	Jesse Jewell Pkwy at Old Cornelia Hwy (West)	Widen Jesse Jewell Pkwy to 6 Lanes
9	Jesse Jewell Pkwy at Limestone Pkwy	Widen Jesse Jewell Pkwy to 6 Lanes; Add SBR Turn Lane; Convert SBL to Triple Left; Convert WBR to Free Flow; Convert SBR to Double RT
10	Jesse Jewell Pkwy at White Sulphur Rd	Widen Jesse Jewell Pkwy to 6 Lanes; Convert SBL to Double LT; Add SBR Turn Lane; Convert EBL to double LT
11	Jesse Jewell Pkwy at E Crescent Dr	Widen Jesse Jewell Pkwy to 6 Lanes; Add NBRTL
12	Jesse Jewell Pkwy at I-985 Southbound Ramps	Widen Jesse Jewell Pkwy to 6 Lanes; Convert EBR to Free Flow; Extend WBL Turn Bay lengths to 290 ft

STATE ROUTE 365/JESSE JEWELL PARKWAY TRAFFIC IMPACT STUDY

ID	Intersection	Project Description
13	Jesse Jewell Pkwy at I-985 Northbound Ramps	Widen Jesse Jewell Pkwy to 6 Lanes; Convert NBL to Triple LT; Extend EBL Turn Bay Lengths to 290 ft
14	Jesse Jewell Pkwy at Old Cornelia Hwy (East)	Widen Jesse Jewell Pkwy to 4 Lanes; Signalize; Add LTL on Old Cornelia
15	Jesse Jewell Pkwy at Oconee Cir	Widen Jesse Jewell Pkwy to 4 Lanes; Signalize; Add WB, NB and SB LT and RT Lanes; Add EBL Turn Lane; Make SBR Free Flow
16	Cornelia Hwy at Ramsey Rd	RCUT (Lefts from main st allowed, side street right out only)
17	White Sulphur Rd at Ramsey Rd	Give WBL a pm+pt phase
18	Cornelia Hwy at Howard Rd	Grade Separate
19	White Sulphur Rd at Howard Rd	<i>Alternative 1:</i> Signalize and add SBL Turn lane and NBRTL <i>Alternative 2:</i> Roundabout w/ SBT Bypass Lane and NBRTL
20	Limestone Pkwy at Cleveland Hwy	Widen Cleveland Hwy to 4 lanes; Remove NBR Free Flow and Add SBL double LTL; Convert WBR to double RT
21	Cleveland Hwy at Barrett St	Widen Cleveland Hwy to 4 Lanes; Add WBL, NBR Turn Bays; Remove split phasing give WBL pm+pt phase
22	Morningside Dr at Cleveland Hwy	Add EBR, NBR, SBR Turn lanes; Remove WBR Free Flow and widen Morningside Dr to 4 lanes; Make EBL a double LTL; Make WBR a double RT
23	Limestone Pkwy at Barrett St	Widen Limestone Pkwy to 6 lanes, add EB LTL and EB Double RTL, Make NBL pm+pt; make WBL double
24	Limestone Pkwy at Beverly Rd	Widen Limestone Pkwy to 6 lanes; Add EBL and EBR Turn lanes; Add WBL turn lane; make NBL pm+pt
25	Limestone Pkwy at Private Dr	Widen Limestone Pkwy to 6 Lanes; Make SBL pm+pt
26	White Sulphur Rd at Pine Valley Rd	Add EBR, NBL, SBR Turn lanes; signalize; make NBL pm+pt
27	White Sulphur Rd at Beverly Rd	<i>Alternative 1:</i> Add EBR, NBL, SBR Turn lanes; signalize; make NBL pm+pt <i>Alternative 2:</i> Roundabout w bypass lanes on all approaches
28	Athens Hwy at Gaines Mill Rd	Widen Athens Hwy to 6 Lanes; Signalize; make SBL pm+ pt

SYSTEMATIC IMPROVEMENT DEVELOPMENT

In addition to intersection improvements, other broader improvements should be considered to maintain and improve mobility in the area around the Jesse Jewell Parkway corridor. A project to widen Jesse Jewell Parkway is included in the current Regional Transportation Plan (RTP) for the GHMPO. As such, a 6-lane section on Jesse Jewell Parkway was incorporated into these recommendations. Additional corridor widenings (Cornelia Highway, Cleveland Highway, Limestone Parkway, and Athens Highway) are also included here. At the intersections along these corridors, these widenings are needed to provide quality service and throughput.

Systematic improvements are shown in the table below and on the map on the facing page. These projects were largely considered separately from the intersection improvements.

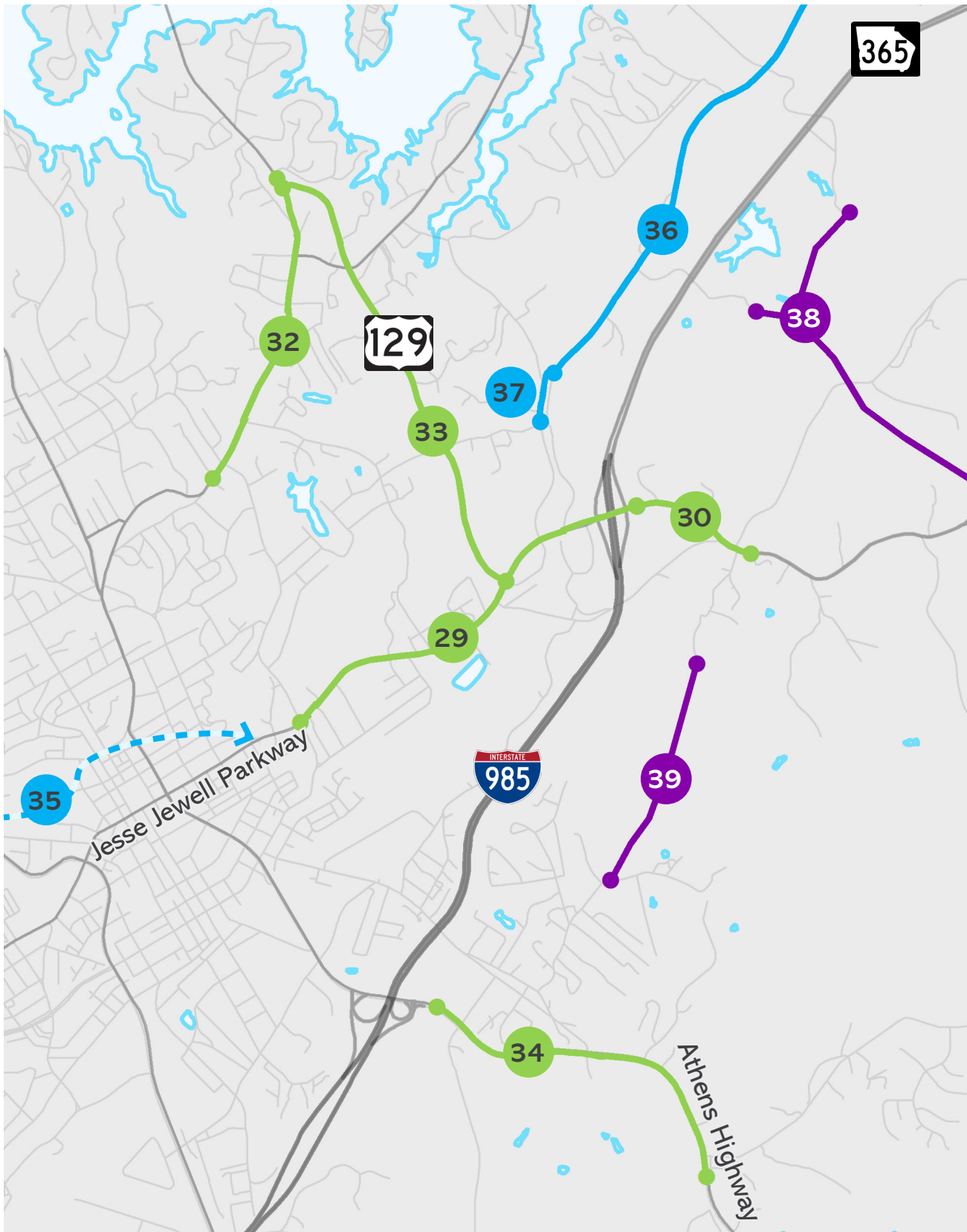
Two alternatives were considered at the confluence of White Sulphur Road, Beverly Road, and Pine Valley Road near the Norfolk Souther railroad. Alternative 1 includes a new roadway with a grade-separated crossing of the railroad, while alternative 2 would build a roundabout around the rail crossing to better tie in the various road legs at that location. Upon further review, feasibility concerns around alternative 2 rose due to horizontal and vertical profile and concerns about property impacts including adjacent churches. For these reasons, only alternative 1 was ultimately preferred at this location.

SYSTEMATIC IMPROVEMENT DESCRIPTIONS

ID	Intersection	Project Description
29	Widen Jesse Jewell Parkway	Widen Jesse Jewell Pkwy to 6 lanes
30	Widen Jesse Jewell Parkway	Widen Jesse Jewell Pkwy to 4 lanes
32	Widen Cleveland Hwy/Morningside Dr	Widen Cleveland Hwy/Morningside Dr to 4 lanes
33	Widen Limestone Pkwy	Widen Limestone Pkwy to 6 lanes
34	Widen Athens Hwy	Widen Athens Hwy to 6 lanes
35	Spring Street and Academy Street Corridors	Improve corridor for diversion from Jesse Jewell Pkwy to John W Morrow Pkwy
36	White Sulphur to Beverly Road	Improve Corridor for access to businesses from SR 365 to Beverly Rd
37	White Sulphur/Beverly/Pine Valley	<i>Alternative 1:</i> Grade Separate with New Location at RR <i>Alternative 2:</i> Roundabout at rail crossing
38	Joe Chandler Connection to Howard or Ramsey	New roadway connection
39	Oconee Circle Extension	New Location connection to Gaines Mill Rd

STATE ROUTE 365/JESSE JEWELL PARKWAY TRAFFIC IMPACT STUDY

SYSTEMATIC IMPROVEMENTS



INTERSECTION OPERATIONAL ANALYSIS

To understand the impact of each improvement, the proposed configurations were analyzed using the same methodology as used previously. The results of this analysis are shown in the table on the facing page. At locations where a stop-controlled intersection is converted to a traffic signal or to a roundabout, the stop-controlled approach delay is shown where appropriate, and the full intersection delay is shown in the build condition.

At both intersections 19 and 27, both a roundabout and a signal were considered. At White Sulphur Road and Howard Road (intersection 19), the roundabout is expected to perform slightly better in the morning period, but notably worse in the afternoon period. For this reason, the signal (alternative 1) was preferred at this location. At White Sulphur Road at Beverly Road, the signal performs worse than the roundabout option in the morning but better in the afternoon. While the overall performance of the two alternatives is comparable, a roundabout's larger footprint may conflict with the existing utility poles. For this reason, the signal is also preferred at this location.

FUTURE NO BUILD OPERATIONS

ID	Intersection	Existing/ Future Control Type	Direction	2050 No Build		2050 Build	
				AM Delay* (LOS)	PM Delay* (LOS)	AM Delay* (LOS)	PM Delay* (LOS)
1	Jesse Jewell Pkwy at Athens Hwy	Signalized	Total	162 (F)	190 (F)	162 (F)	191 (F)
2	Jesse Jewell Pkwy at Prior St	Signalized	Total	24 (C)	62 (E)	19 (B)	30 (C)
3	Jesse Jewell Pkwy at Summitt St	Signalized	Total	33 (C)	43 (D)	27 (C)	22 (C)
4	Jesse Jewell Pkwy at Downey Blvd	Signalized	Total	115 (F)	123 (F)	92 (F)	77 (E)
5	Jesse Jewell Pkwy at Barn St	Signalized	Total	55 (D)	171 (F)	38 (D)	67 (E)
6	Jesse Jewell Pkwy at Terrace St/ Community Way	Signalized	Total	145 (F)	143 (F)	54 (D)	45 (D)
7	Jesse Jewell Pkwy at Myrtle St/ Quarry St	Unsig.	NB	>300 (F)	>300 (F)	>300 (F)	>300 (F)
		Unsig.	SB	>300 (F)	>300 (F)	>300 (F)	>300 (F)
8	Jesse Jewell Pkwy at Old Cornelia Hwy (West)	Unsig.	NB	22 (C)	178 (F)	15 (B)	76 (F)
9	Jesse Jewell Pkwy at Limestone Pkwy	Signalized	Total	281 (F)	273 (F)	65 (E)	42 (D)
10	Jesse Jewell Pkwy at White Sulphur Rd	Signalized	Total	210 (F)	>300 (F)	61 (E)	80 (F)
11	Jesse Jewell Pkwy at E Crescent Dr	Unsig.	NB	134 (F)	>300 (F)	12 (B)	>300 (F)
12	Jesse Jewell Pkwy at I-985 Southbound Ramps	Signalized	Total	196 (F)	83 (F)	66 (E)	47 (D)
13	Jesse Jewell Pkwy at I-985 Northbound Ramps	Signalized	Total	131 (F)	82 (F)	43 (D)	43 (D)

STATE ROUTE 365/JESSE JEWELL PARKWAY TRAFFIC IMPACT STUDY

FUTURE NO BUILD OPERATIONS (CONTINUED)

ID	Intersection	Existing/ Future Control Type	Direction	2050 No Build		2050 Build	
				AM Delay* (LOS)	PM Delay* (LOS)	AM Delay* (LOS)	PM Delay* (LOS)
14	Jesse Jewell Pkwy at Old Cornelia Hwy (East)	Unsig/ Signalized	EB	>300 (F)	>300 (F)	49 (D)	38 (D)
15	Jesse Jewell Pkwy at Oconee Cir	Unsig/ Signalized	NB	>300 (F)	>300 (F)	50 (D)	13 (B)
			SB	>300 (F)	>300 (F)		
16	Cornelia Hwy at Ramsey Rd	Signalized	Total	107 (F)	69 (E)	64 (E)	40 (D)
17	White Sulphur Rd at Ramsey Rd	Signalized	Total	29 (C)	33 (C)	29 (C)	35 (C)
18	Cornelia Hwy at Howard Rd	Signalized	Total	102 (F)	137 (F)	0 (A)	0 (A)
19	White Sulphur Rd at Howard Rd	Unsig./Sig	WB	>300 (F)	>300 (F)	17 (B)	18 (B)
		Unsig/RAB	WB	>300 (F)	>300 (F)	13 (B)	46 (E)
20	Limestone Pkwy at Cleveland Hwy	Signalized	Total	85 (F)	>300 (F)	25 (C)	42 (D)
21	Cleveland Hwy at Barrett St	Signalized	Total	294 (F)	>300 (F)	24 (C)	23 (C)
22	Morningside Dr at S Enota Dr	Signalized	Total	>300 (F)	>300 (F)	63 (E)	77 (E)
23	Limestone Pkwy at Barrett St	Signalized	Total	>300 (F)	61 (E)	72 (E)	54 (D)
24	Limestone Pkwy at Beverly Rd	Signalized	Total	>300 (F)	264 (F)	47 (D)	35 (D)
25	Limestone Pkwy at Private Dr	Signalized	Total	18 (B)	181 (F)	12 (B)	18 (B)
26	White Sulphur Rd at Pine Valley Rd	Unsig/Sig	EB	>300 (F)	>300 (F)	59 (E)	60 (E)
27	White Sulphur Rd at Beverly Rd	Unsig/Sig	EB	>300 (F)	>300 (F)	69 (E)	36 (D)
		Unsig/RAB	EB	>300 (F)	>300 (F)	26 (D)	66 (F)
28	Athens Hwy at Gaines Mill Rd	Unsig.	WB	>300 (F)	>300 (F)	70 (E)	22 (C)

*Delay shown in average seconds of delay per vehicle

INTERSECTION PRIORITIZATION PROCESS

These intersection improvements were prioritized relative to each other based on a variety of technical score and input from the community. Scores were calculated based on the six following pieces of data:

SAFETY

Number of crashes at each intersection from 2014-2018

EXISTING DELAY

Existing peak hour delay observed at each intersection

DELAY REDUCTION

Change in peak hour delay observed at each intersection with improvement

VEHICLES SERVED

Number of peak hour vehicles anticipated to use each intersection in the year 2050

STAKEHOLDER INPUT

Rankings of relative need as indicated by organizational stakeholders

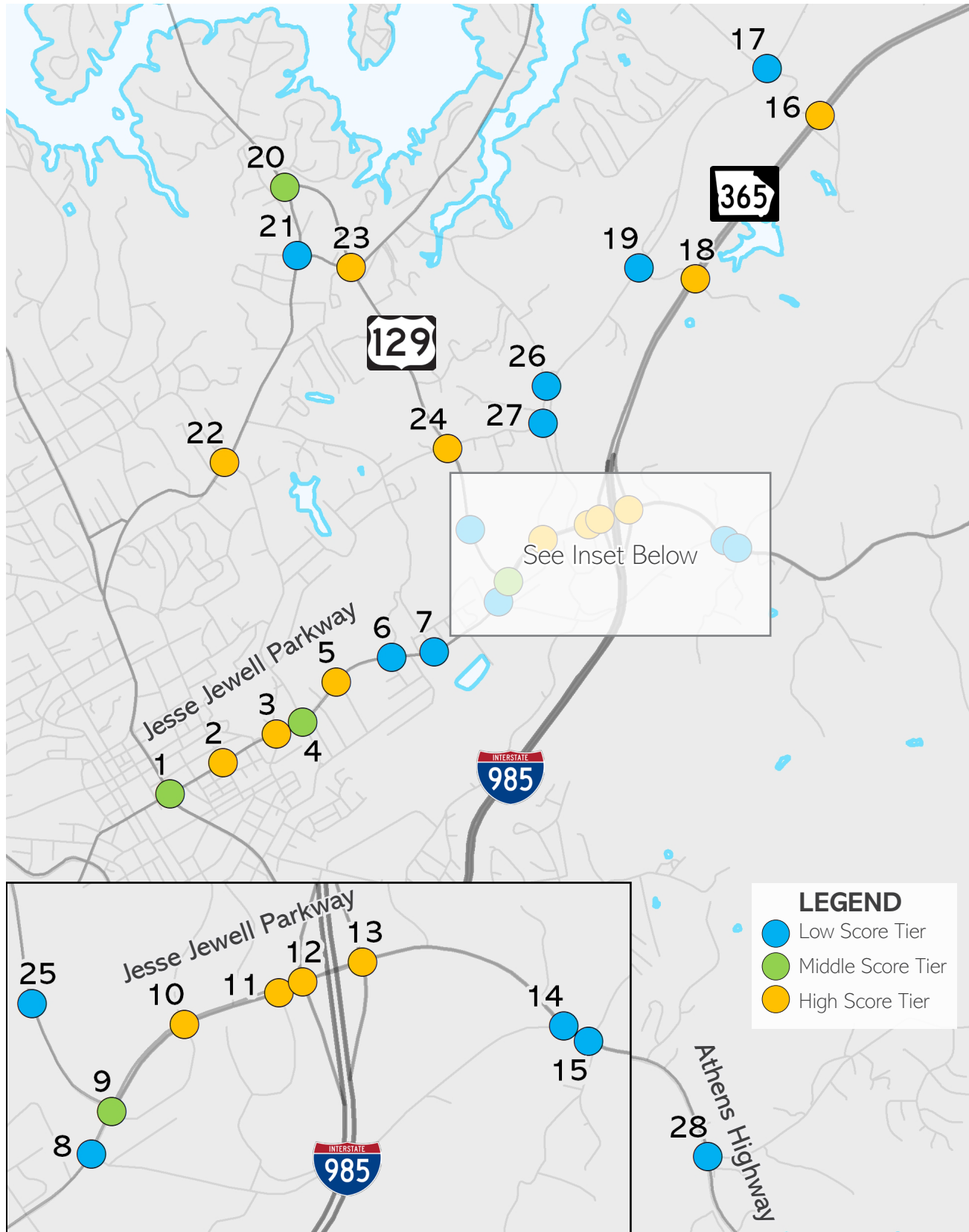
COMMUNITY INPUT

Rankings of relative need as indicated by the community during the recent GHMPO Regional Transportation Plan surveys

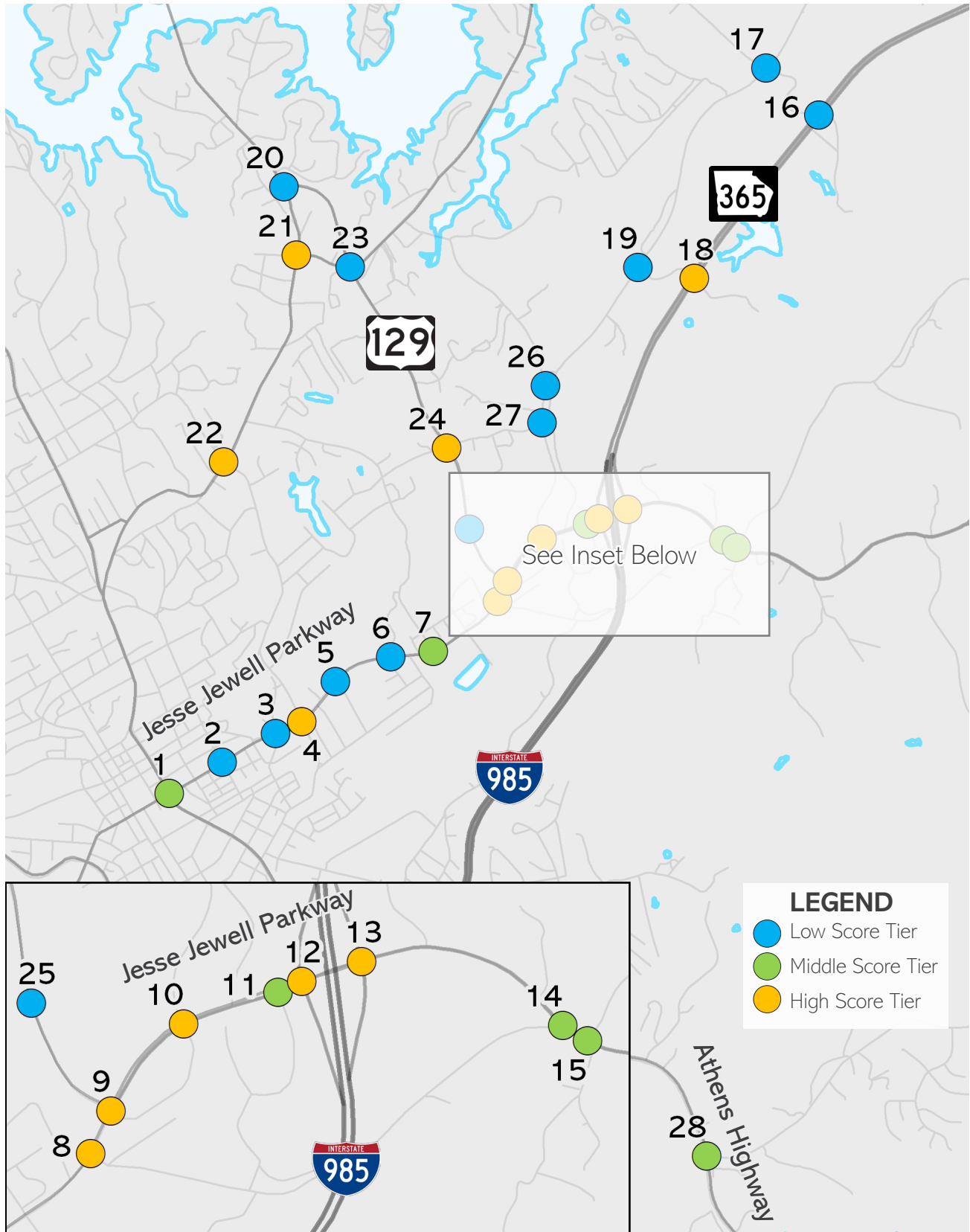
Each score was assigned a value between zero and two based on it's relative value compared to the other intersections. These scores were added together to produce a final, total prioritization score. Maps of how each intersection was ranked in each category are shown on the following pages, followed by a table with all scores for all projects.

STATE ROUTE 365/JESSE JEWELL PARKWAY TRAFFIC IMPACT STUDY

CRASH SCORE

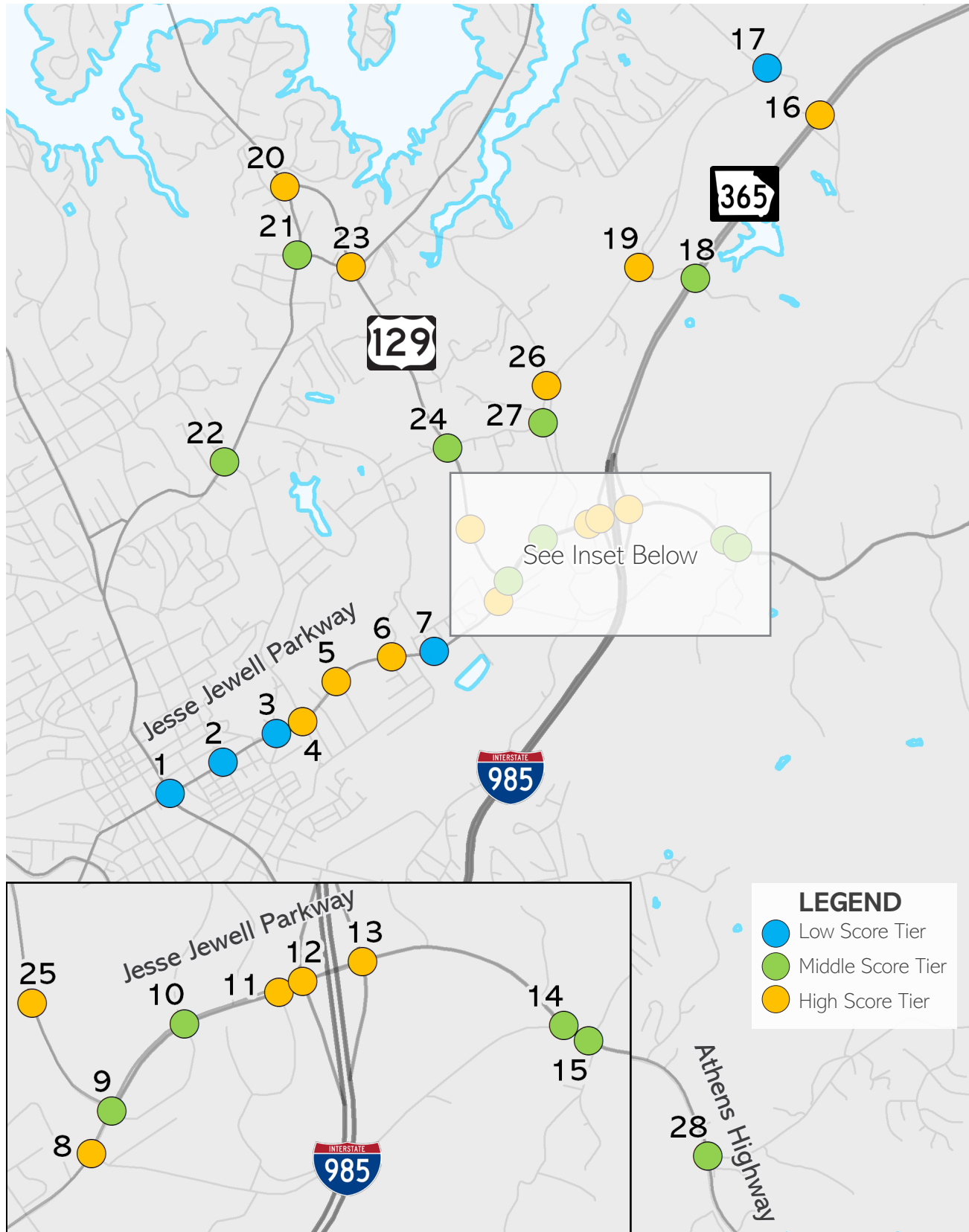


EXISTING DELAY SCORE

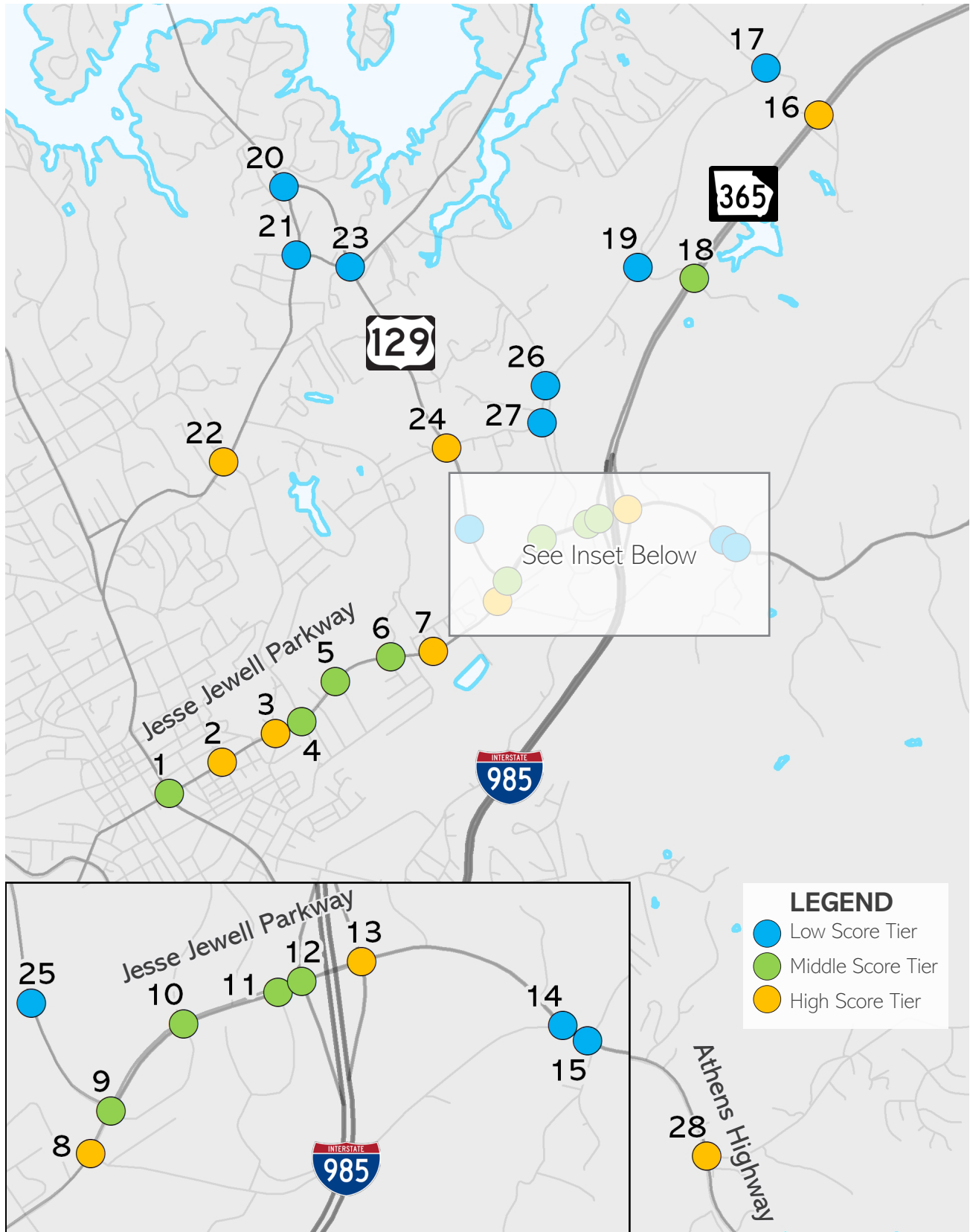


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2050 DELAY REDUCTION SCORE

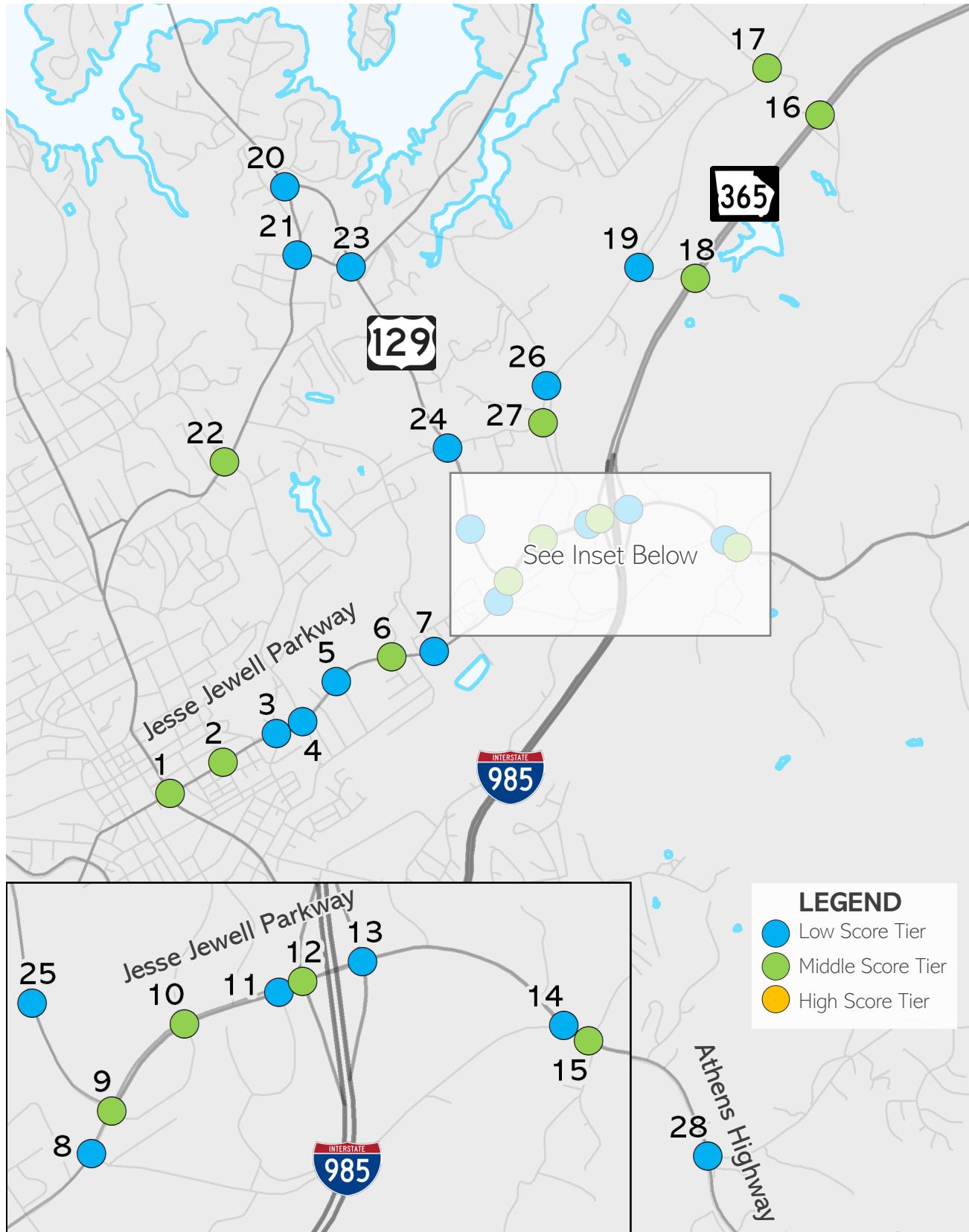


2050 VEHICLES SERVED SCORE

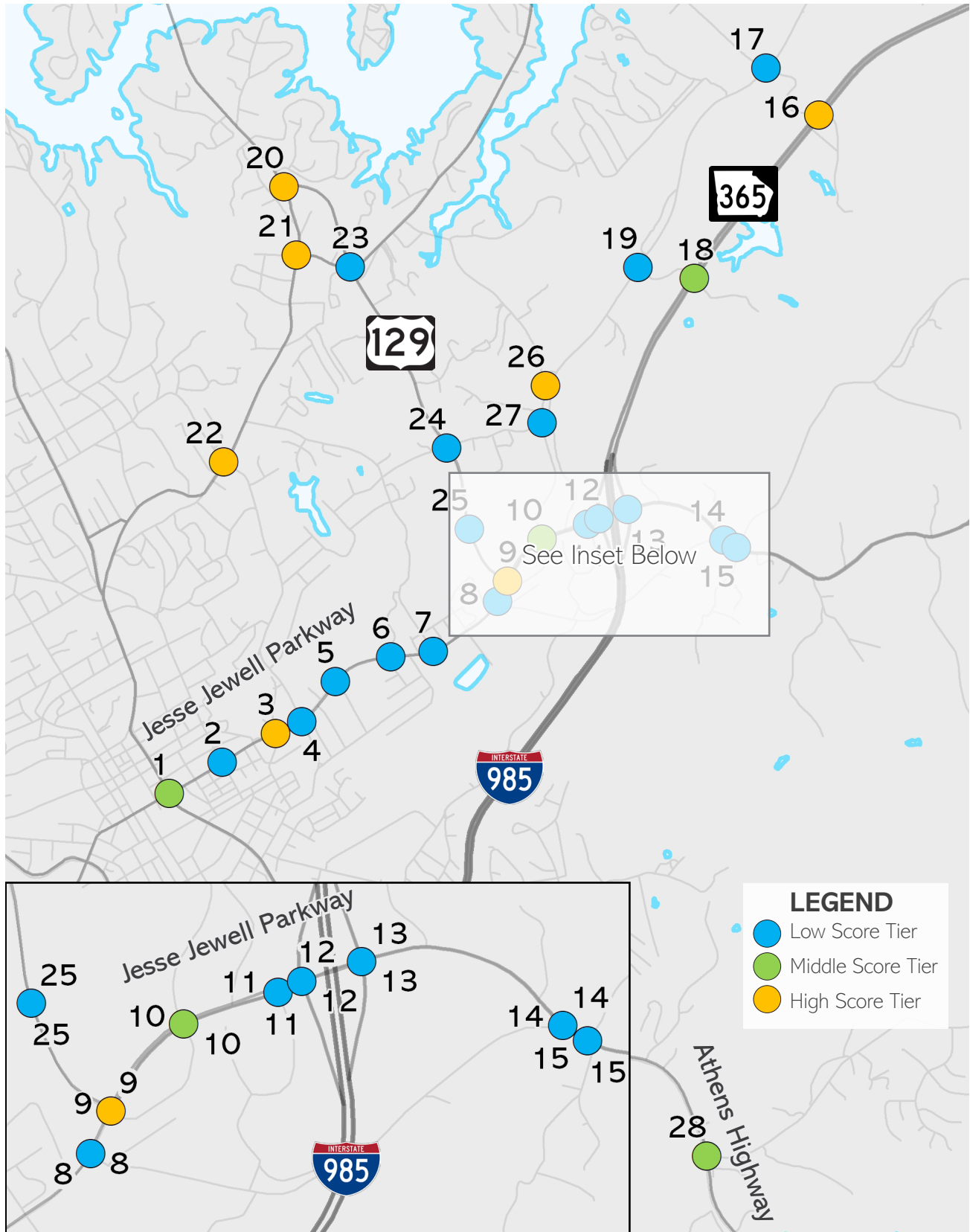


STATE ROUTE 365/JESSE JEWELL PARKWAY TRAFFIC IMPACT STUDY

STAKEHOLDER INPUT SCORE



PUBLIC INPUT SCORE



STATE ROUTE 365/JESSE JEWELL PARKWAY TRAFFIC IMPACT STUDY

INTERSECTION PRIORITIZATION SCORES

ID	Intersection	Crash Score	Existing Delay Score	Delay Reduction Score	Vehicles Served Score	Stakeholder Input Score	Public Input Score	Total Score
9	Jesse Jewell Pkwy at Limestone Pkwy	2.0	1.1	2.0	1.8	1.5	0.9	9.3
1	Jesse Jewell Pkwy at Athens Hwy	1.9	1.4	0.0	2.0	2.0	1.4	8.7
18	Cornelia Hwy at Howard Rd	1.3	0.8	1.4	1.7	2.0	1.0	8.1
28	Athens Hwy at Gaines Mill Rd	0.7	1.8	1.9	1.6	0.0	2.0	8.0
10	Jesse Jewell Pkwy at White Sulphur Rd	1.2	0.8	1.8	1.8	1.3	1.0	7.9
22	Morningside Dr at Cleveland Hwy	1.2	0.8	1.8	1.6	1.2	0.5	7.1
15	Jesse Jewell Pkwy at Oconee Cir	0.6	1.4	1.7	1.4	1.2	0.0	6.3
16	Cornelia Hwy at Ramsey Rd	1.0	0.5	0.7	1.6	1.8	0.5	6.1
12	Jesse Jewell Pkwy at I-985 SB Ramps	1.1	0.7	1.2	1.8	1.2	0.0	6.0
6	Jesse Jewell Pkwy at Terrace St/Community Way	0.6	0.6	1.2	1.6	1.6	0.0	5.7
24	Limestone Pkwy at Beverly Rd	1.0	0.7	1.9	1.6	0.0	0.0	5.1
4	Jesse Jewell Pkwy at Downey Blvd	1.6	0.9	0.8	1.8	0.0	0.0	5.0
20	Limestone Pkwy at Cleveland Hwy	1.4	0.4	1.2	1.3	0.0	0.7	5.0
11	Jesse Jewell Pkwy at E Crescent Dr	0.8	1.4	1.0	1.7	0.0	0.0	4.9
21	Cleveland Hwy at Barrett St	0.6	0.9	1.4	1.2	0.0	0.7	4.8
27	White Sulphur Rd at Beverly Rd	0.4	0.6	1.4	1.2	1.2	0.0	4.7
14	Jesse Jewell Pkwy at Old Cornelia Hwy (East)	0.2	1.4	1.7	1.4	0.0	0.0	4.7
2	Jesse Jewell Pkwy at Prior St	1.0	0.6	0.5	1.5	1.2	0.0	4.7
23	Limestone Pkwy at Barrett St	1.0	0.6	1.1	1.4	0.0	0.0	4.1
5	Jesse Jewell Pkwy at Barn St	0.9	0.6	0.9	1.6	0.0	0.0	4.0
13	Jesse Jewell Pkwy at I-985 NB Ramps	0.7	0.8	0.9	1.5	0.0	0.0	3.9
26	White Sulphur Rd at Pine Valley Rd	0.5	0.4	1.3	1.1	0.0	0.5	3.9
7	Jesse Jewell Pkwy at Myrtle St/Quary St	0.3	2.0	0.0	1.5	0.0	0.0	3.9
3	Jesse Jewell Pkwy at Summitt St	0.7	0.5	0.4	1.5	0.0	0.5	3.7
8	Jesse Jewell Pkwy at Old Cornelia Hwy (West)	0.2	0.7	0.9	1.6	0.0	0.0	3.4
19	White Sulphur Rd at Howard Rd	0.5	0.3	1.3	1.0	0.0	0.0	3.1
25	Limestone Pkwy at Private Dr	0.4	0.2	1.0	1.4	0.0	0.0	3.1
17	White Sulphur Rd at Ramsey Rd	0.4	0.3	0.0	0.8	1.3	0.0	2.8

COST ESTIMATES

In order to assist transportation decision makers, the costs of candidate transportation projects were estimated to include the cost of preliminary engineering, right-of-way, utilities, construction, and contingencies if feasible. For other projects, a more detailed scoping is required to develop realistic cost estimates. Most cost estimates are considered 'planning-level' in that they reflect general ballpark estimation that may fluctuate as actual engineering, design, and construction of the project is conducted. Project Cost Estimates are presented in the table below, with more detailed costing information included in **Appendix F**. Note that for these costs, preliminary engineering expenses are in year 2020 dollars, right of way is in year 2021 dollars, and contingency and construction funds are in year 2022 dollars. In addition, more detailed concept designs were created for nine key intersections and are included in **Appendix G**.

PROJECT COST ESTIMATES

ID	Location	Description	Total Cost
1	Jesse Jewell Pkwy at EE Butler Pkwy	No Feasible Improvements at Intersection. Possible diversion through Spring and Washington Streets (see project 35)	See Note 1
2	Jesse Jewell Pkwy at Prior St	Add SBR Turn Lane; Add SBL Turn Lane	\$2,005,000
3	Jesse Jewell Pkwy at Summit St	Add NBR Turn Lane ; Add SBR Turn Lane	\$1,935,000
4	Jesse Jewell Pkwy at Downey Blvd	Convert NBR to Free Flow; Convert WBL to Drop Lane; Convert EBL to Double LT; Convert SBL to Double LT; Make WBL Double Left	\$3,574,000
5	Jesse Jewell Pkwy at Barn St	Widen Jesse Jewell Pkwy to 6 Lanes; Make SBL pm+pt	\$279,000
6	Jesse Jewell Pkwy at Terrace St/Community Way	Widen Jesse Jewell Pkwy to 6 Lanes; Add SBR Turn Lane	\$1,940,000
7	Jesse Jewell Pkwy at Myrtle St/Quary St	Widen Jesse Jewell Pkwy to 6 Lanes; Add NBL and SBL Turn Lanes	\$1,019,000
8	Jesse Jewell Pkwy at Old Cornelia Hwy (West)	Widen Jesse Jewell Pkwy to 6 Lanes	See Note 2
9	Jesse Jewell Pkwy at Limestone Pkwy	Widen Jesse Jewell Pkwy to 6 Lanes; Add SBR Turn Lane; Convert SBL to Triple Left; Convert WBR to Free Flow; Convert SBR to Double RT	\$7,873,000
10	Jesse Jewell Pkwy at White Sulfur Rd	Widen Jesse Jewell Pkwy to 6 Lanes; Convert SBL to Double LT; Add SBR Turn Lane; Convert EBL to double LT	\$10,548,000
11	Jesse Jewell Pkwy at E Crescent Dr	Widen Jesse Jewell Pkwy to 6 Lanes; Add NBRTL	\$793,000
12	Jesse Jewell Pkwy at I-985 SB Ramps	Widen Jesse Jewell Pkwy to 6 Lanes; Convert EBR to Free Flow; Extend WBL Turn Bay lengths to 290 ft	\$8,736,000
13	Jesse Jewell Pkwy at I-985 NB Ramps (See Note)	Widen Jesse Jewell Pkwy to 6 Lanes; Convert NBL to Triple LT; Extend EBL Turn Bay Lengths to 290 ft	\$1,285,000
14	Jesse Jewell Pkwy at Old Cornelia Hwy (East)	Widen Jesse Jewell Pkwy to 4 Lanes; Signalize; Add LTL on Old Cornelia	See Note 3
15	Jesse Jewell Pkwy at Oconee Cir	Widen Jesse Jewell Pkwy to 4 Lanes; Signalize; Add WB, NB and SB LT and RT Lanes; Add EBL Turn Lane; Make SBR Free Flow	\$7,414,000
16	SR 365 at Rasmey Road	RCUT (Lefts from main st allowed, side street right out only)	\$566,000

STATE ROUTE 365/JESSE JEWELL PARKWAY TRAFFIC IMPACT STUDY

ID	Location	Description	Total Cost
17	White Sulphur Road at Ramsey Road	Give WBL a pm+pt phase	\$279,000
18	SR 365 at Howard Rd	Grade Separate	\$14,025,476 ⁴
19	White Sulphur Rd at Howard Rd	<i>Alternative 1</i> : Signalize and add SBL Turn lane and NBRTL	\$2,885,000
20	Limestone Pkwy at Cleveland Hwy	Widen Cleveland Hwy to 4 lanes; Remove NBR Free Flow and Add SBL double LTL; Convert WBR to double RT	\$6,493,000
21	SR 11 at Barrett St	Widen Cleveland Hwy to 4 Lanes; Add WBL, NBR Turn Bays; Remove split phasing give WBL pm+pt phase	\$5,711,000
22	SR 11 at Cleveland Hwy	Add EBR, NBR, SBR Turn lanes; Remove WBR Free Flow and widen Morningside Dr to 4 lanes; Make EBL a double LTL; Make WBR a double RT	\$7,981,000
23	Limestone Pkwy at Barrett St	Widen Limestone Pkwy to 6 lanes, add EB LTL and EB Double RTL, Make NBL pm+pt; make WBL double	\$6,700,000
24	Limestone Pkwy at Beverly Rd	Widen Limestone Pkwy to 6 lanes; Add EBL and EBR Turn lanes; Add WBL turn lane; make NBL pm+pt	\$5,594,000
25	Limestone Pkwy at Private Dr	Widen Limestone Pkwy to 6 Lanes; Make SBL pm+pt	\$279,000
26	White Sulphur Rd at Pine Valley Rd	Add EBR, NBL, SBR Turn lanes; signalize; make NBL pm+pt	\$3,872,000
27	White Sulphur Rd at Beverly Rd	<i>Alternative 1</i> : Add EBR, NBL, SBR Turn lanes; signalize; make NBL pm+pt	\$3,872,000
28	Athens Hwy at Gaines Mill Rd	Widen Athens Hwy to 6 Lanes; Signalize; make SBL pm+pt	\$279,000
29	Widen Jesse Jewell Parkway (1)	Widen Jesse Jewell Pkwy to 6 lanes	\$19,570,000
30	Widen Jesse Jewell Parkway (2)	Widen Jesse Jewell Pkwy to 4 lanes	\$2,122,000
32	Widen SR 11/Morningside Dr	Widen Cleveland Hwy/Morningside Dr to 4 lanes	\$12,045,000
33	Widen Limestone Pkwy	Widen Limestone Pkwy to 6 lanes	\$34,470,000
34	Widen Athens Hwy	Widen Athens Hwy to 6 lanes	\$30,182,000
35	Spring Street and Academy Street Corridors	Improve corridor for diversion from Jesse Jewell Pkwy to John W Morrow Pkwy	\$14,663,000
36	White Sulphur Rd to Beverly Rd	Improve Corridor for access to businesses from SR 365 to Beverly Rd	\$26,484,000
37	White Sulphur/Beverly/Pine Valley	Grade Separate with New Location at RR	\$7,530,000
38	Joe Chandler Connection to Howard or Ramsey	New roadway connection	\$17,226,000
39	Oconee Circle Extension	New Location connection to Gaines Mill Rd	\$28,562,000

1: No Feasible Improvements at Intersection. Possible diversion through Spring and Washington Streets (see project 35)

2: No upgrades to intersection. Cost is included in project 29

3: No upgrades to intersection. Cost is included in project 15

4: Costs from GDOT project development. Year of expenditure for PE 2019, ROW 2022, and UTL and CST 2024