FAYETTE County
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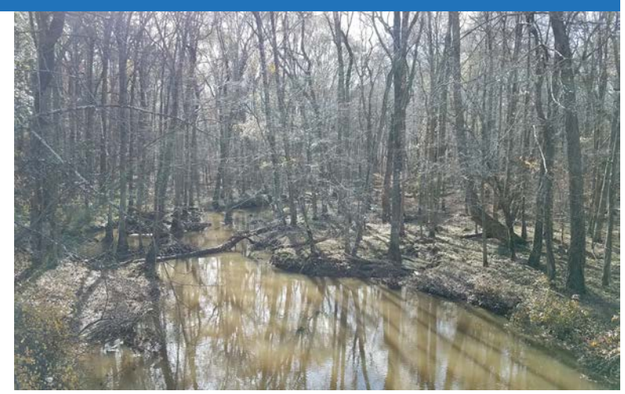
Sandy Creek Road Transportation Corridor Study

Fayette County Public Works

2017 SPLOST No. 17 TAE

December 2019

CROY



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Mission Statement:

The Sandy Creek Road corridor study recognizes the regional and local importance of the corridor. The primary goal of the study is to address, in cooperation with our state, regional and local stakeholders, issues and concerns related to safety, connectivity and capacity; and formulate multi-modal mobility concepts, proposals, recommendations and projects. Additionally, the study will develop proposals and recommendations to protect the human and natural environment as Fayette County and its cities continue to grow. The projects will formulate a complementary infrastructure improvement plan that will improve the corridor aesthetics and enhance the quality of life of the adjoining neighborhoods.

Chapter 1:
Existing Conditions

1.1 Introduction - Page 6
This section of the report introduces the transportation corridor in focus and discusses the location and extents of the corridor.

1.2 Demographics - Page 8
The socio-economic demographics of the corridor are described in this section of the report.

1.3 Land Use & Zoning - Page 12
This segment discusses the land use character within a 1-mile buffer of the corridor and highlights the zoning classes within this limit.

1.4 Roadway Infrastructure & Facilities - Page 13
Existing roadway infrastructure is identified which includes intersections, medians and sidewalks, as well as existing multi-modal facilities along the corridor are presented in this section.

1.5 Existing Traffic Conditions - Page 15
This report component analyses traffic conditions and operations and presents safety considerations along the corridor.

1.6 Environmental Due Diligence - Page 24
This segment of the report identifies sensitive environmental conditions that may provide corridor improvement opportunities and/or constraints.

1.7 Utilities - Page 25
This part of the report presents an inventory of existing utilities along the corridor.

1.8 Summary - Page 27
Highlights of the exisitng conditions and a summary of the chapter is presented in this section.

1.1 Introduction

The Fayette County Transportation Corridor Study is a collaborative project between Fayette County, Atlanta Regional Commission - the metropolitan planning organization, and Croy Engineering, LLC - the consultant firm.

The aim of the study is to identify traffic and transportation solutions from a holistic perspective to:

- Ensure safety
- Provide solutions for congestion & delay
- Identify prospects for multi-modal uses
- Create sustainable infrastructure improvements
- Promote economic development

The four corridors identified for the study are:

- Tyrone Road - Palmetto Road
- Sandy Creek Road
- Banks Road
- State Route 279

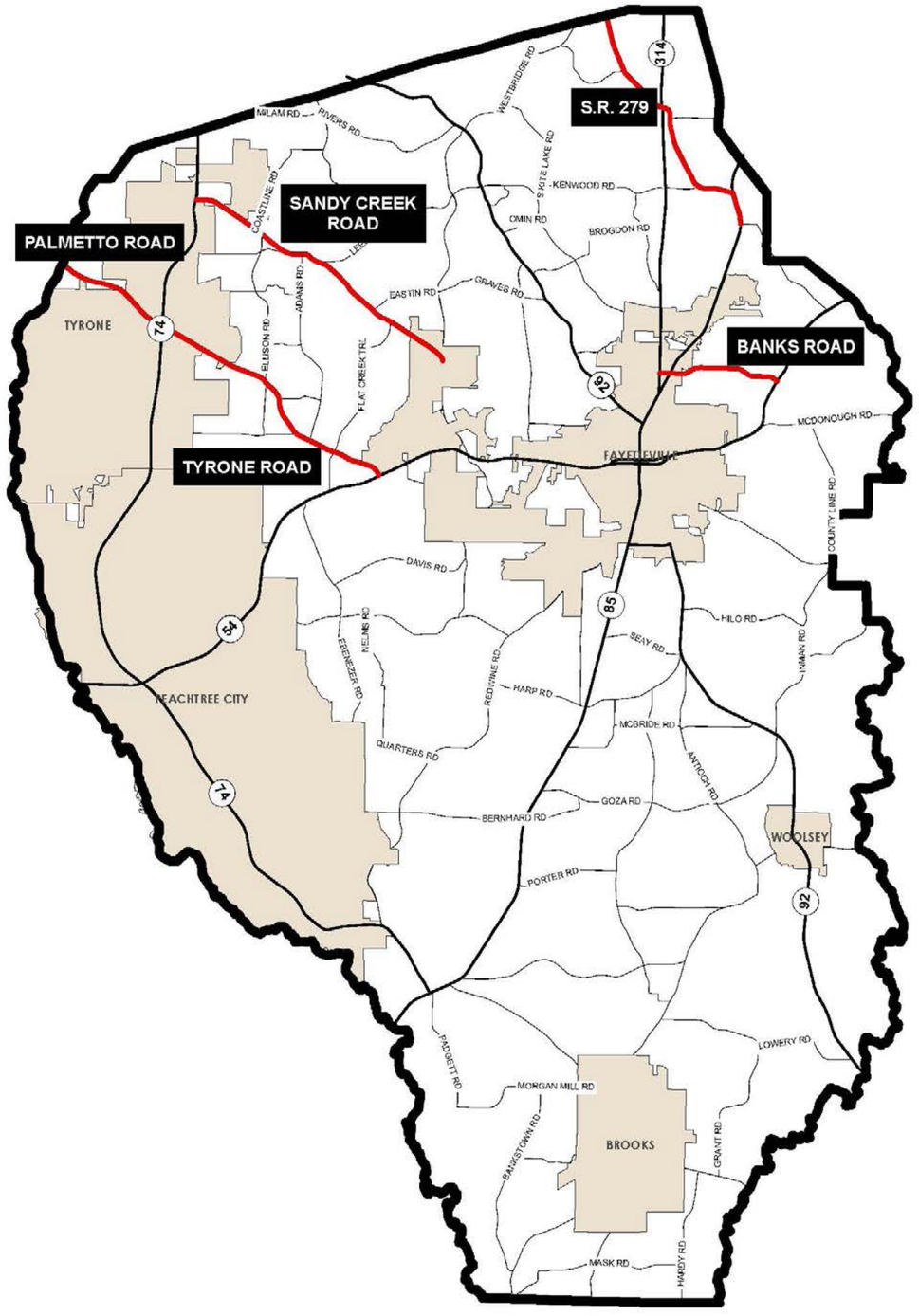
The Timeline for this study is divided into 4 tasks and is spread over a period of 12 months.

Table 1.1 - Project Timeline

TASK	TIMELINE OVER 12 MONTHS											
	1	2	3	4	5	6	7	8	9	10	11	12
Review Of Existing Conditions & Technical Analysis												
Public Involvement												
Conceptual Plan & Draft Concept Plan												
Preparation Of Project Deliverables												

Map 1.1 on the right is a vicinity map of Fayette County, representing the 4 study corridors. This document will look at the Sandy Creek Road corridor and describe the existing conditions of the roadway.

Map 1.1 - Vicinity Map



Sandy Creek Road is a 4.6-mile major road extending from Veterans Parkway in Fayetteville to State Route 74 in Tyrone. The City of Fayetteville and the area around Pinewood Studios is expecting continued growth, thereby contributing to increasing traffic on Sandy Creek Road.

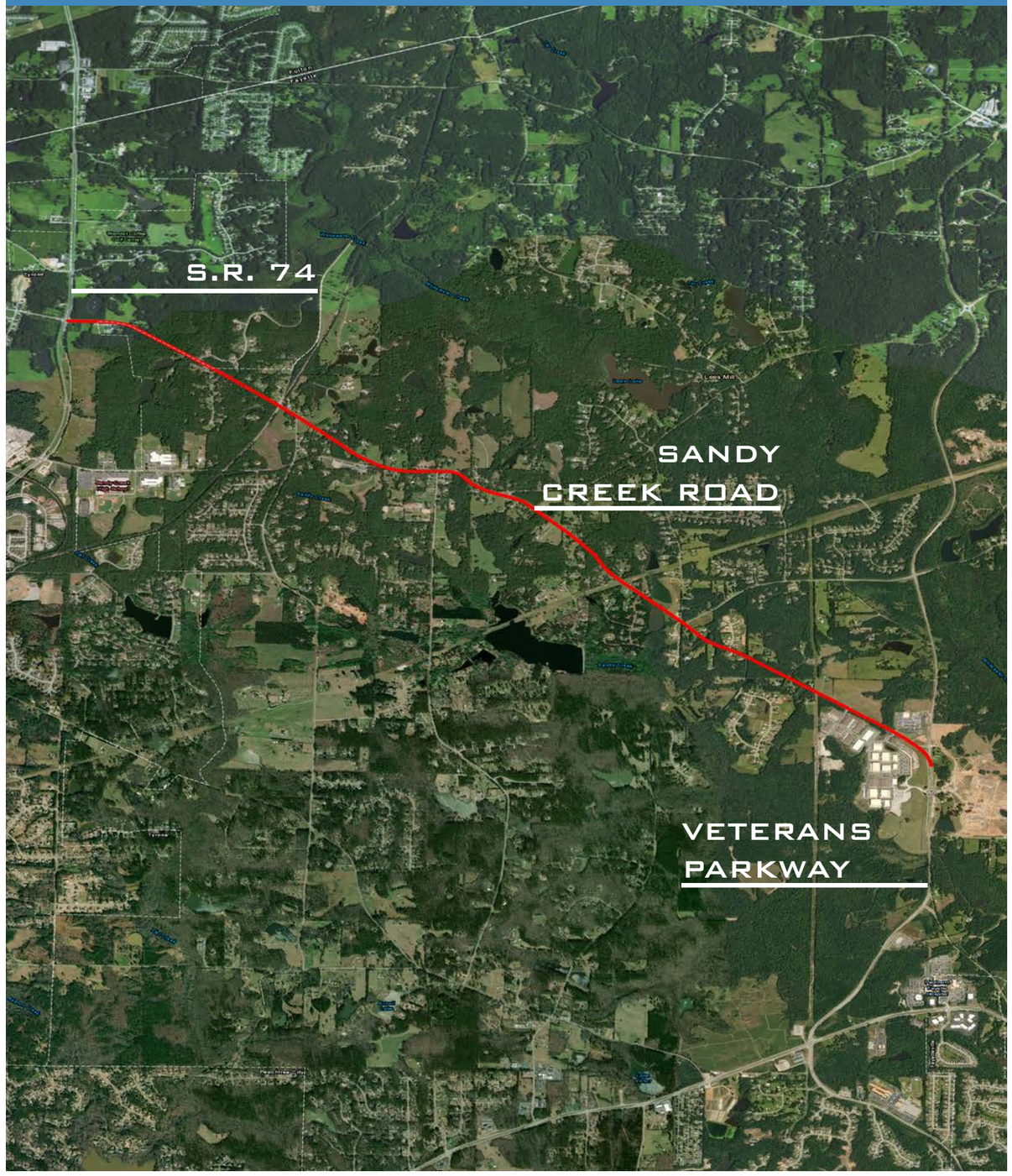
The study is an investigative foundation to implementing improvements that will enable Sandy Creek Road to be a well-functioning roadway that accommodates the transportation needs of the residents, adds value to the communities, and enhances mobility and safety in the area.

The purpose of the study is to develop short and long-range projects that improve safety, mobility and access to all roadway users, while also preparing them for full design and implementation, possibly with federal aid.

Image 1.1 is a photograph of the Sandy Creek Road approach to State Route 74. Map 1.2 on the right depicts the location and extent of the Sandy Creek Road corridor study.

Image 1.1 - Sandy Creek Road & State Route 74 Intersection

Map 1.2 - Sandy Creek Road - Location and Extent



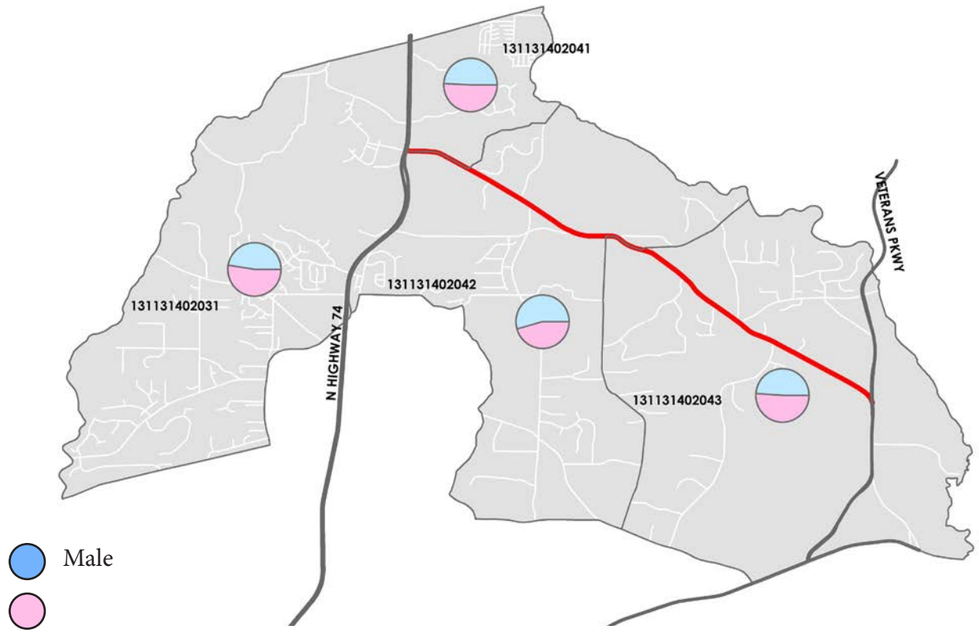
1.2 Demographics

Understanding the demographic character of the corridor is an important factor in identifying the key stakeholders and the influence on their travel demands. This information along with other components will be used when developing alternative transportation improvements.

For this analysis, the 2016 American Community Survey (ACS) - 5 year data were used at the block group level, which is the smallest scale of data availability. ACS[1] is conducted every year and provides the most current information about the social and economic needs of the community. The census is conducted once every 10 years to provide an official population count. All data presented are estimates and have a margin of error value associated with it.Block groups that abut the corridor were analyzed.

The population encompassing the analysis zone around the Sandy Creek Road Corridor is approximately 8,747, with 4,361 [49.8 %] being male and 4,386 [50.2 %] being female. Map 1.3 below represents a male to female distribution in the block groups along the corridor.

Map 1.3 - Sandy Creek Road - Gender Distribution



Analyzing the racial composition along the corridor, it is seen that approximately 5,750 citizens [65.7%] are white, 2,433 [27.8%] are African American and 1,360 [15.5%] are Hispanic or Latino.

Table 1.2 below and Map 1.4 represent racial distribution in the four block groups along the corridor.

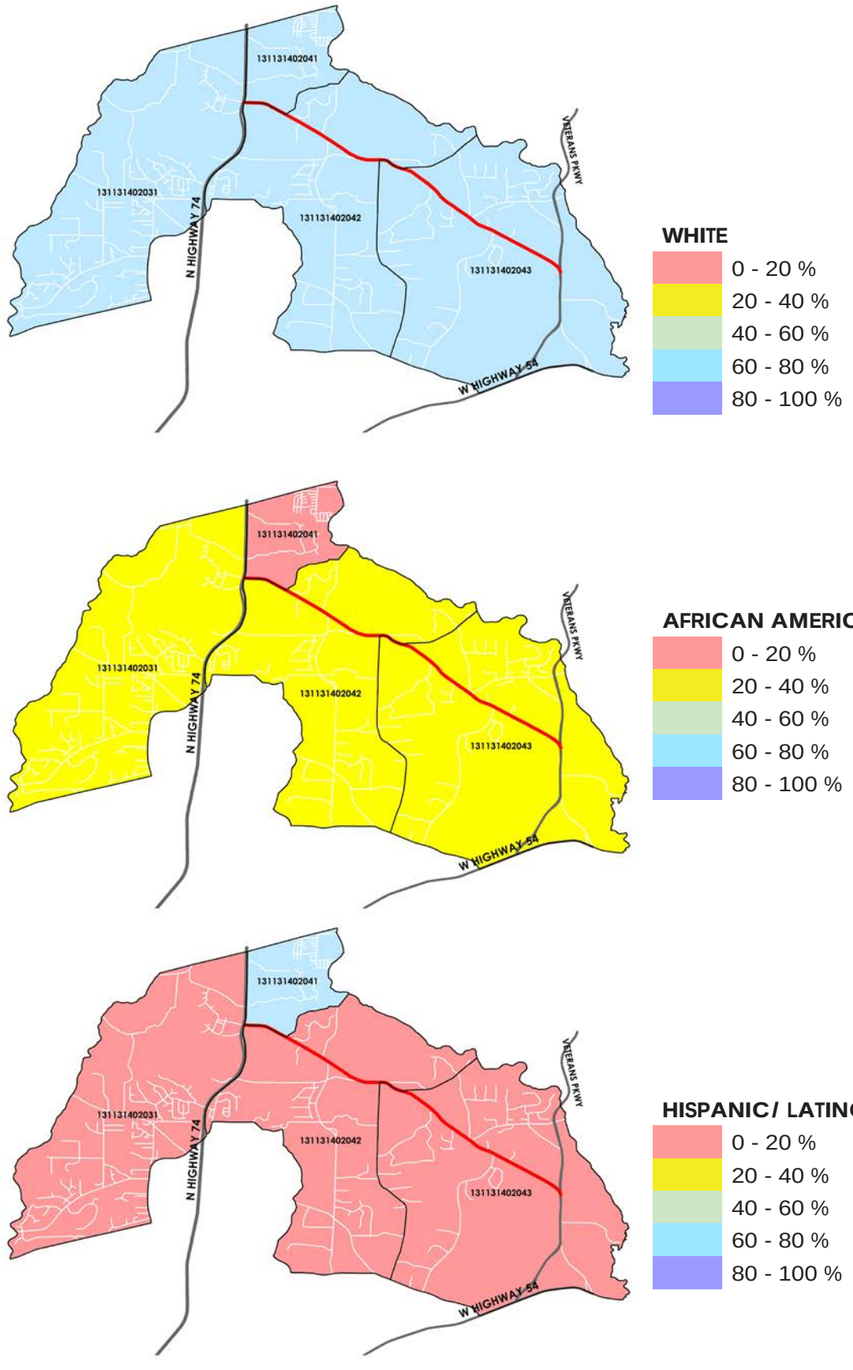
Table 1.2 - Racial Distribution

ID	131131402031	131131402042	131131402043	131131402041	TOTAL
Block Group Population	3308	2286	2104	1049	8747
White	2240	1486	1333	691	5750
% White	67.7%	65.0%	63.3%	65.8%	65.7%
African American	862	694	771	106	2433
% African American	26.0%	30.3%	36.6%	10.1%	27.8%
Hispanic/ Latino	230	213	230	687	1360
% Hispanic/ Latino	6.9%	9.3%	10.9%	65.4%	15.5%
NOTE - All values are estimates and have associated margins of error.					

[1] - ACS is based on the decennial U.S.Census, however, its updates occur annually. 5-year estimates includes 60 months of collected data and is the most reliable when analyzing very small populations

Note - Percentage values in Table 1.2 are not intended to total 100 percent since not all categories such as 'More Than One Race' or 'More Than Two Races' are listed.

Map 1.4 - Sandy Creek Road - Racial Distribution



Education attainment for population aged 25 years and over was analyzed for the block groups along the corridor. Four categories were used -

- No schooling completed
- Regular high school diploma
- Some college, less than a year
- Bachelor's degree

Map 1.5 below represents educational attainment for the population in the block groups along the corridor. The scatter plot is a random distribution and does not indicate specific locations of the population.

Map 1.5 - Sandy Creek Road - Educational Attainment

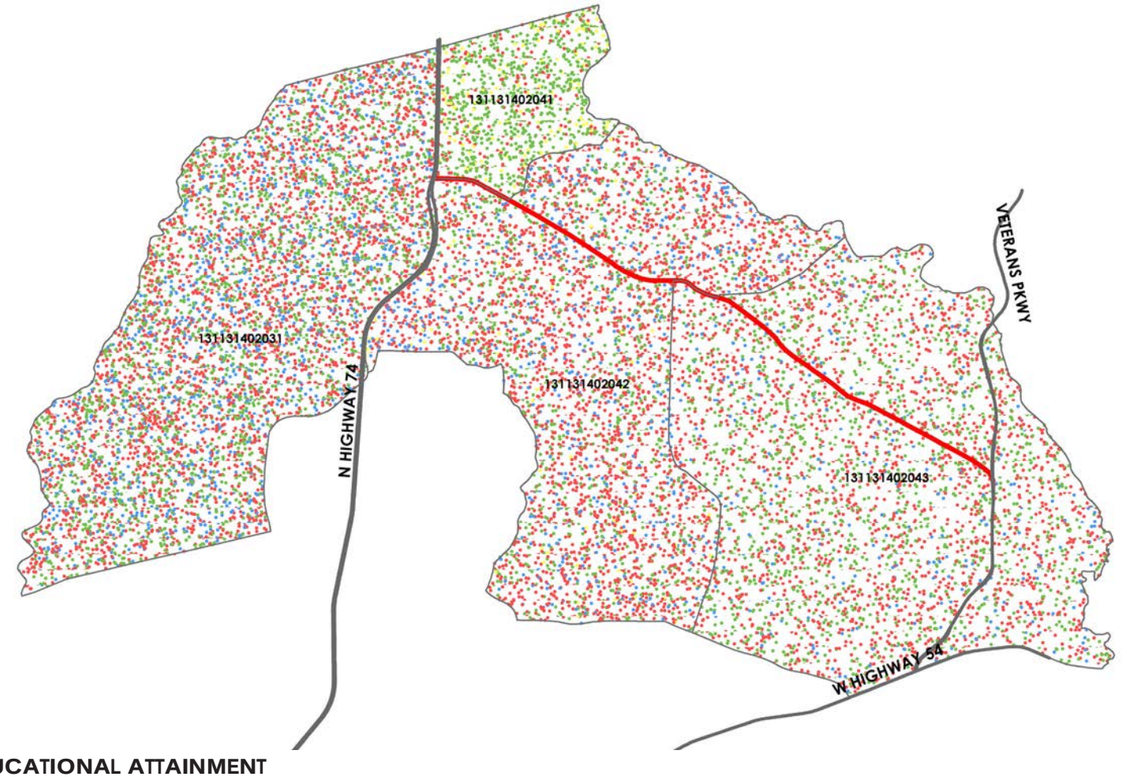


Table 1.3 - Sandy Creek Road : Educational Attainment Distribution					
ID	131131402031	131131402042	131131402043	131131402041	TOTAL
Block Group Population (25 Years & Older)	2243	1664	1536	507	5950
No School Completed	0	15	0	23	38
% Not Completed School	0%	0.9%	0%	4.5%	0.6%
Regular High School Diploma	397	198	300	140	1035
% With Regular High School Diploma	17.6%	11.8%	19.5%	27.6%	17.3%
Some College, Less Than A Year	232	136	63	0	431
% With Some College, Less Than A Year	10.3%	8.1%	4.1%	0%	7.2%
Bachelor's Degree	519	490	390	32	1431
% With Bachelor's Degree	23.1%	29.4%	25.3%	6.3%	24.0%
NOTE - All values are estimates and do have associated margins of error.					

Table 1.3 above represents the counts and percentages of the population in the block group with a certain level of education. The analyses depicts that 99.4% of the population of the block groups has completed school. While 17.3% has a regular high school diploma, 7.2% has attended some college for less than a year and 24.0% has a bachelor's degree.

Note - Percentage values in Table 1.3 are not intended to total 100 percent since not all categories such as 'Some College More Than A Year' or 'Masters Degree' are listed.

Household income is a measure of the combined incomes of all people sharing a particular household or place of residence. It includes every form of income. Median Household income for all the block groups abutting Sandy Creek Road was analyzed.

The minimum median household income in the area is approximately $38,472, while the maximum median income is approximately $106,406, $78,753 is the mean median household income in the area.

Map 1.6 below represents the median household income in the block groups along the corridor.

Map 1.6 - Sandy Creek Road : Median Household Income

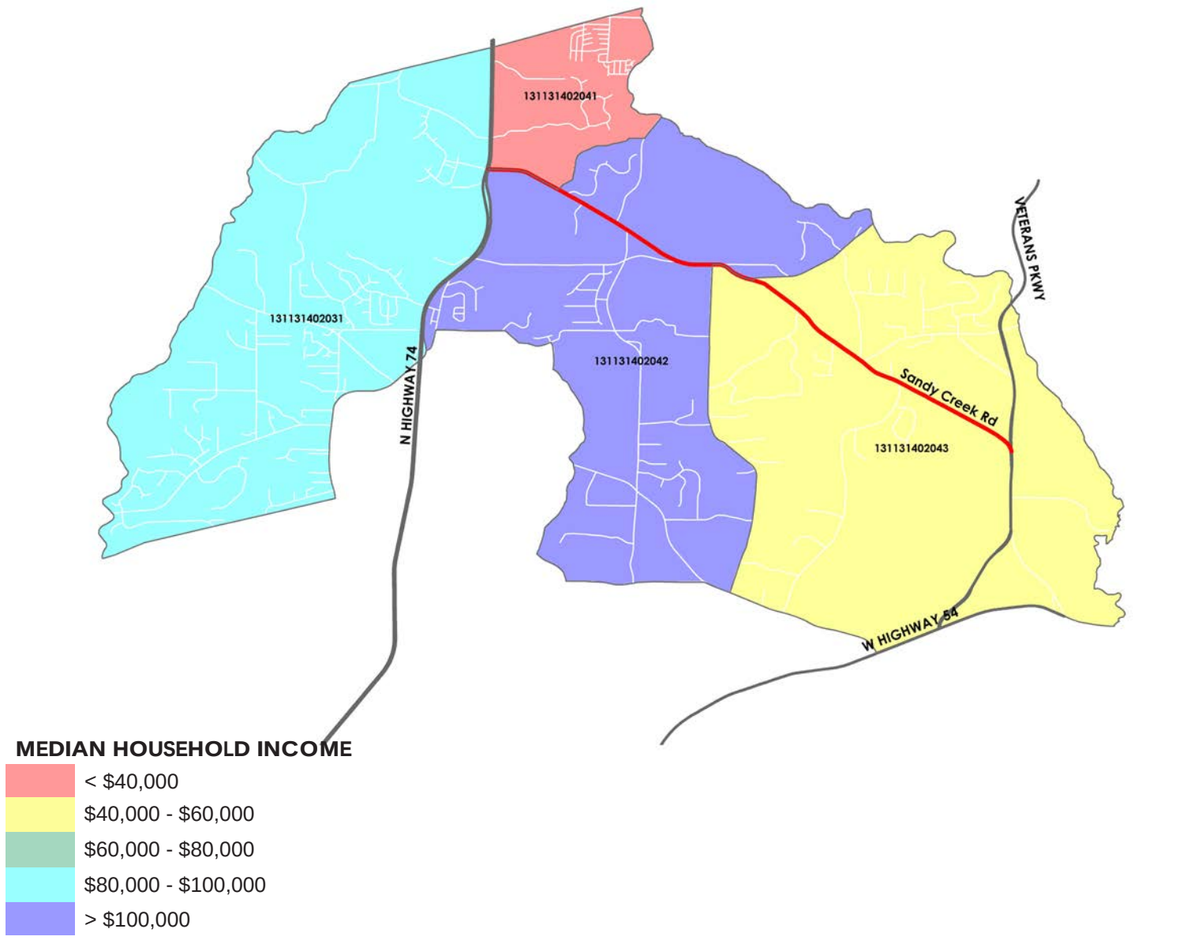


Figure 1.1 - Sandy Creek Road : Equity Analysis

The Protected Classes Model

Title VI of the Civil Rights Act identifies 9 population categories that must be protected. These include Ethnic Minority: Hispanic or Latino Origin by Race, Females, Foreign Born individuals, persons with Limited English Proficiency, Low-Income populations, Older Adults, People with Disabilities, Racial Minority and Youth.

The Protected Classes Model is an analysis index created by Atlanta Regional Commission, to help counties, governments and private organizations ensure inclusion and equity for these 9 population groups.

The model uses American Community Survey 5-Year population estimates for 2012-2016. Percentage of each of the protected population groups is calculated at the census tract level. A cumulative numeric score of 0 to 36 is calculated based on the concentration of a population identified across all nine criteria, 0 being a low score and 36 being a high score.

Racial Minority, Ethnic Minority, and Low-Income Model

The Racial Minority, Ethnic Minority, and Low-Income Model is an adaptation of the Equitable Target Areas (ETA) model, with an index methodology similar to the Protected Classes Model. ARC considers these 3 inputs to be indicators of the greatest potential inequality in the Atlanta region.

This updated model is used by the ARC Transportation Improvement Program (TIP) Project Evaluation Framework to conduct equity analysis and rank proposed projects. The model also uses American Community Survey 5-Year population estimates for 2012-2016. Percentage of each of the protected population groups is calculated at the census tract level. The cumulative numeric score ranges from 0 to 12, and is calculated based on the three input criterion. The low score is 0 and a high score is 12.

Corridor Analysis

The Sandy Creek Road corridor lies in Fayette County's census tract 1402.04. The tract has an average cumulative score of 17 for the Protected Classes Model and an equity score of 7 for the Racial Minority, Ethnic Minority, and Low-Income Model. This means that according to the index, the corridor study area has a moderate rank, and is placed not too high or too low in the index.

Of the residents in the tract, 24.1 %are under 18 years of age; 11.6 % of residents are 65 years or older; 48.69 % of residents are female; and residents with disabilities account for 7.59 % of the population in the tract.

While 35.47 % of residents identify as one or more racial minority, only 20.78 % of residents identified themselves as being of Hispanic or Spanish origin. The tract has a small population of foreign born nationals, with 14.41 % of residents being born outside of the United States and only 3.82 % of residents report having English proficiency below "very well." Of the households, 32.06 % have an income below 200% of the national poverty level. The Census defines a household to be composed of one or more people who occupy a housing unit. The 2019 Federal Poverty Level for a household of two individuals is $16,460.

1.3 Land Use & Zoning

A 1-mile buffer of the Sandy Creek Road corridor encompasses a total of 9,288.17 acres. Approximately 1,459 parcels, both residential and nonresidential, comprise the study area.

Residential Usage

Approximately 1,217 parcels or 83.4% of the study area are residential. The two major types of residential uses seen along the corridor are -

Table 1.4 - Residential Zoning

CATEGORY	ZONING ENTITY	NO. OF PARCELS
• SINGLE FAMILY RESIDENTIAL	FAYETTE COUNTY / TOWN OF TYRONE	1161
• AGRICULTURAL RESIDENTIAL	FAYETTE COUNTY / TOWN OF TYRONE	56

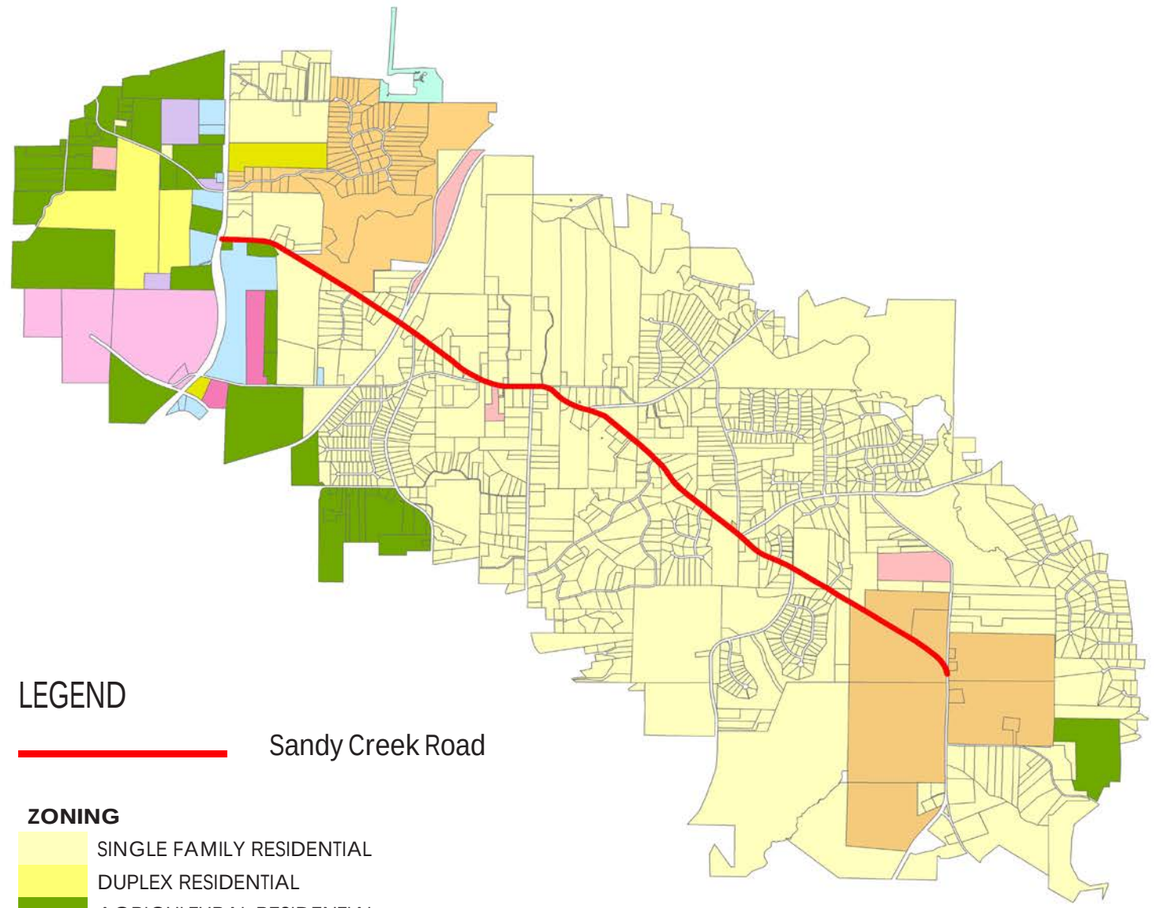
Commercial Usage

Commercial zoning is clustered at the start and end points of the study corridor with 38 parcels zoned commercial. The zoning designations for the area are -

Table 1.5 - Commercial Zoning

CATEGORY	ZONING ENTITY	NO. OF PARCELS
• EDUCATIONAL INSTITUTIONAL	TOWN OF TYRONE	2
• HIGHWAY COMMERCIAL	TOWN OF TYRONE	2
• COMMUNITY COMMERCIAL	FAYETTE COUNTY	1
• HEAVY INDUSTRIAL	TOWN OF TYRONE	4
• LIGHT INDUSTRIAL	TOWN OF TYRONE	3
• OFFICE INSTITUTIONAL	TOWN OF TYRONE	9
• OFFICE INSTITUTIONAL	FAYETTE COUNTY	1
• SPECIAL ZONE	FAYETTE COUNTY	5
• PLANNED COMMERCIAL	CITY OF FAYETTEVILLE	11

Map 1.7 - Sandy Creek Road : Zoning



1.4 Roadway Infrastructure and Facilities

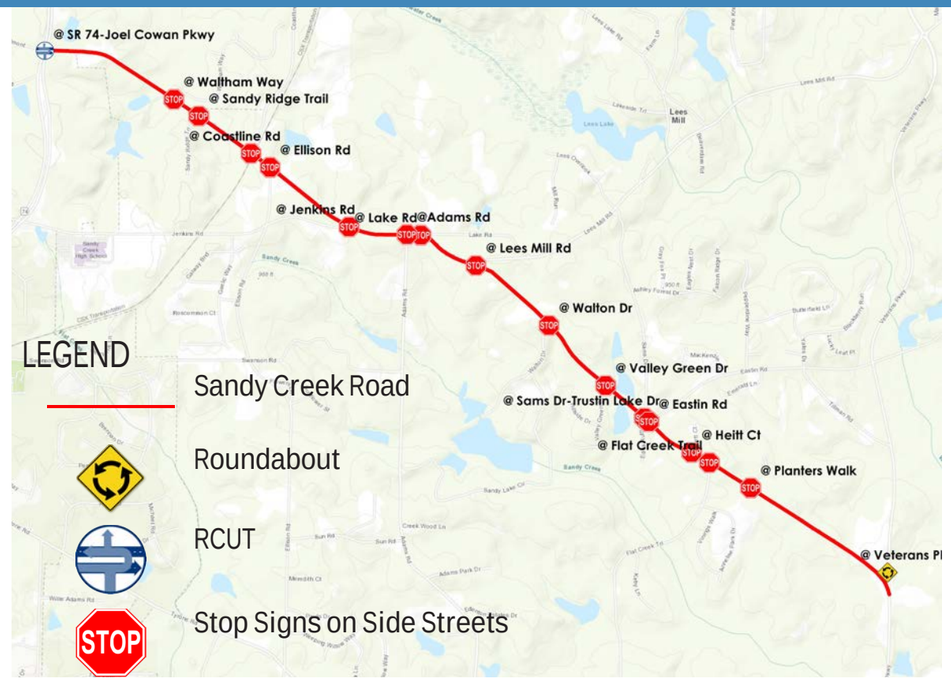
Per the Georgia Department of Transportation (GDOT) road classifications, Sandy Creek Road is classified as a minor arterial. The Sandy Creek Road corridor generally consists of residential properties along both sides with the exception of the southernmost end, which provides access to Pinewood Studios.

There is one 11-foot wide travel lane in each direction. In some locations, a turn lane is provided. The right-of-way along Sandy Creek Road varies. According to Fayette County's Thoroughfare Plan, minor arterials such as Sandy Creek Road will have future right-of-way requirement of 100 feet. This information is used by Fayette County to require right-of-way donations (typically 50-ft from center) as land is subdivided and/or developed.

Intersections

There are a total of 17 intersections along Sandy Creek Road. There are no signalized intersections along the corridor. The western termini at SR 74/Joel Cowan Parkway is a Restricted Crossing U-turn (RCUT) intersection.

Map 1.8 - Sandy Creek Road - Intersections



An RCUT is characterized by the prohibition of left-turn and through movements from side street approaches, and instead, require drivers to turn right onto the main road and then make a U-turn maneuver at a one-way median opening downstream.

The eastern termini at Veterans Parkway is a roundabout. All other unsignalized intersections with Sandy Creek Road being the major road and the side streets being the minor (stopped) roads. The intersections are listed in Table 1.6 and are shown in Map 1.8.

Table 1.6 - Sandy Creek Road Intersections

INT. NO	SANDY CREEK ROAD[1]	TRAFFIC CONTROL
1	AT SR 74/JOEL COWAN PARKWAY	R-CUT (EB/WB)[1]
2	AT WALTHAM WAY	T - INTERSECTION (SB)[2]
3	AT SANDY RIDGE TRAIL	T - INTERSECTION(NB)[2]
4	AT COASTLINE ROAD	T - INTERSECTION(SB)[2]
5	AT ELLISON ROAD	T - INTERSECTION (NB)[2]
6	AT JENKINS ROAD	T - INTERSECTION(NB)[2]
7	AT ADAMS ROAD	T - INTERSECTION(NB)[2]
8	AT LAKE ROAD	T - INTERSECTION (SB)[2]
9	AT LEES MILL ROAD	T - INTERSECTION (SB)[2]
10	AT WALTON DRIVE	T - INTERSECTION (NB)[2]
11	AT VALLEY GREEN DRIVE	T - INTERSECTION(NB)[2]
12	AT TRUSTIN LAKE DRIVE - SAMS DRIVE	TWSC (NB/ SB)[2]
13	AT EASTIN ROAD	T - INTERSECTION (SB)[2]
14	AT HEITT COURT	T - INTERSECTION (SB)[2]
15	AT FLAT CREEK TRAIL	T - INTERSECTION (NB)[2]
16	AT PLANTERS WALK	T - INTERSECTION (SB)[2]
17	AT VETERANS PARKWAY	ROUNDABOUT

1. DENOTES WHICH MANEUVERS ARE RESTRICTED TO RIGHT-TURN ONLY.
2. DENOTES WHICH MANEUVERS ARE STOP CONTROLLED.

Currently, GDOT is exploring signalizing the median U-turns at the Sandy Creek Road and SR 74 R-CUT.

Bike/Pedestrian Facilities

There are no sidewalks or bicycle facilities along the corridor. Fayette County is currently in the process of completing the Master Path Plan.

Transit Facilities

There are no fixed routes that serve Fayette County. The closest GRTA Park & Ride lots (using driving distance and measured from the center of the corridor) are -
Newnan Park & Ride – approximately 17.1 miles*
Union City Park & Ride – approximately 9.6 miles*
Jonesboro Park & Ride – approximately 12 miles*
[* - Measured from the midpoint of the corridor (Sandy Creek Road at Lees Mill Road)]

Fairburn and the South Fulton Community Improvement District (CID) are in the process of constructing a park-n-ride lot along the east side of SR 74 between Harris Road and Milam Road.

Fayette Senior Services, Inc. provides inexpensive, flexible transportation for Fayette County's disabled (18 - 59 years) and older citizens (60 years & above). The organization provides two types of transportation options: Voucher Transportation and Non-emergency Medical Transportation. Services are available Monday through Friday, 6.00 AM to 6.00 PM.

Field Observations

The following observations were made by the project team during field visit in Spring 2019:

Starting at its eastern termini at the Veterans Parkway roundabout, there are heavy industry and commercial businesses, primarily related to Pinewood Studios. Sandy Creek Road, for approximately 0.5 miles, is in good condition ranging from 28 – 38 foot wide pavement with several turning lanes.

As Sandy Creek Road transitions into the residential areas, surface conditions degrade and the road begins to narrow. There are a number of Y-type intersections with poor sight distance. Additionally, there are some intersections with vertical sight distance challenges.

Currently, the pavement has been deep patched and has a 'fair shape' rating. Sandy Creek Road is scheduled to be resurfaced in CY 2019. An at- grade rail crossing exists near Coastline Road at mile post ANB 838.35 with a T-type intersection.

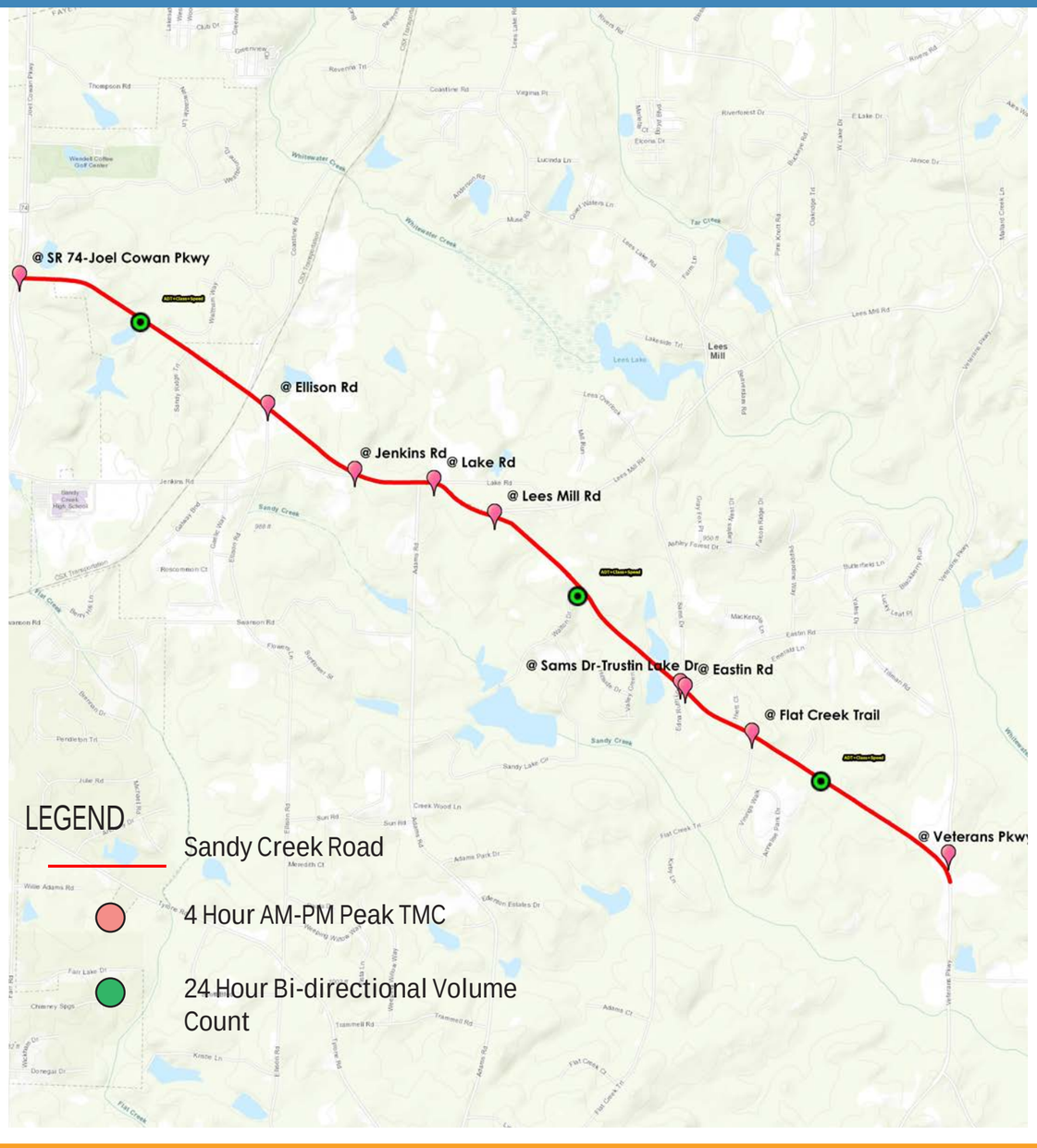
After crossing the railroad tracks, several small drainage structures in need of maintenance or repairs are observed. The Sandy Creek Road western termini is SR 74/Joel Cowan Parkway with the intersection controlled by an RCUT. Overall, Sandy Creek Road has sight distance challenges and Y-type intersections that are candidates for improvement.

Images 1.2 & 1.3 - Sandy Creek Road - Field Observations

1.5 Existing Traffic Conditions

Traffic counts were conducted in April and May 2018 at the locations described below. Raw Count data sheets are attached in the Appendix.

Map 1.9 - Sandy Creek Road - Traffic Count Locations



Weekday 24-hour Bidirectional Volume Count with Vehicle Classification and Speed were collected at the following locations :

- Sandy Creek Road west of Waltham Way
- Sandy Creek Road east of Walton Drive
- Sandy Creek Road west of Veterans Parkway

Weekday 4-hour AM and PM Peak Period (7-9 AM and 4-6 PM) Turning Movement Count (TMC) were collected at the following intersections :

- Sandy Creek Road at SR 74/Joel Cowan Parkway
- Sandy Creek Road at Ellison Road
- Sandy Creek Road at Jenkins Road
- Sandy Creek Road at Lake Road
- Sandy Creek Road at Lees Mill Road
- Sandy Creek Road at Sams Drive
- Sandy Creek Road at Eastin Road
- Sandy Creek Road at Flat Creek Trail

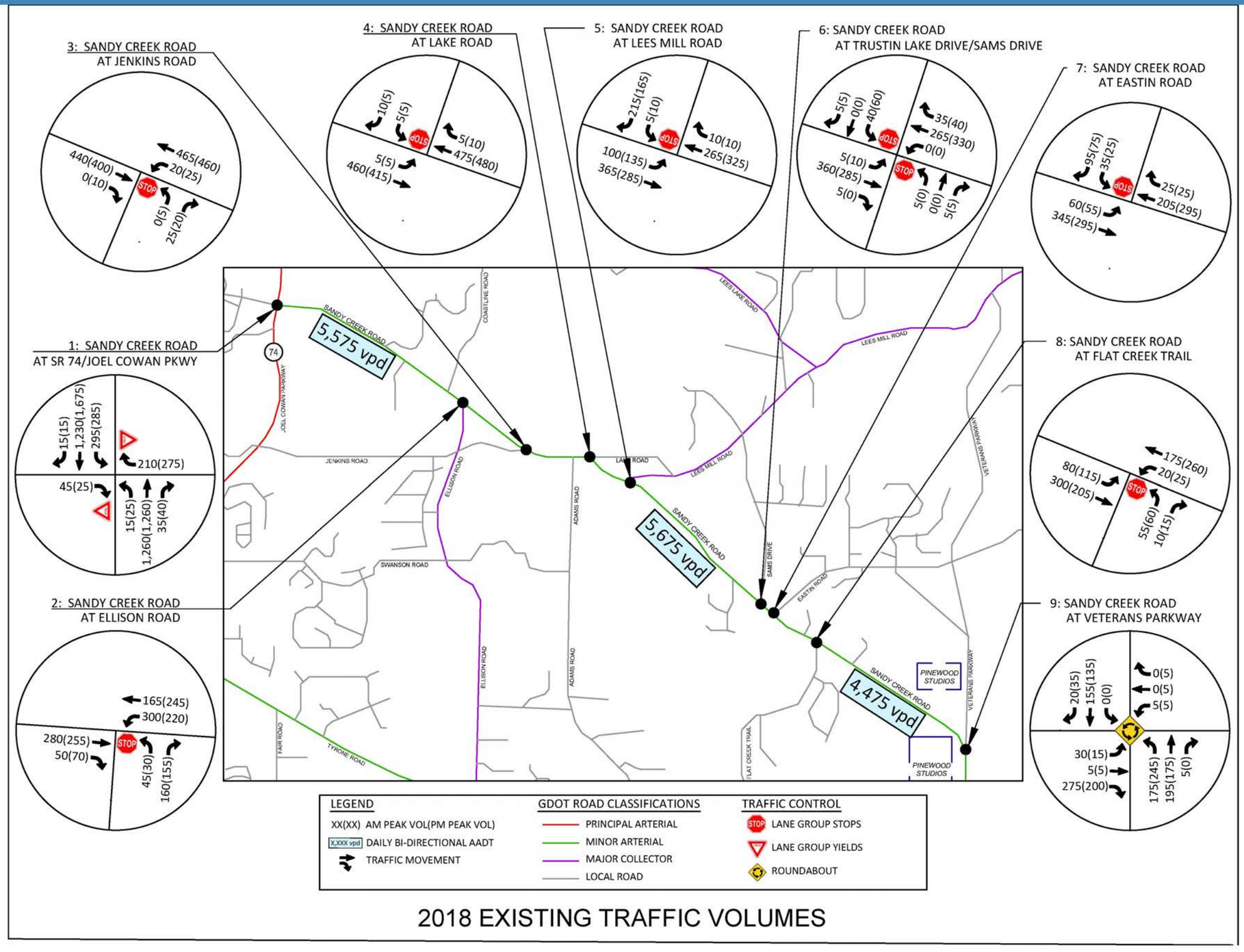
The daily traffic counts collected indicate that the Average Daily Traffic (ADT) on Sandy Creek Road is approximately 5,750 vehicles. Adjusting the April/May counts for daily and seasonal factors per GDOT standards, the Average Annual Daily Traffic (AADT) is approximately 5,325 vehicles. The ADT for the westernmost section of Sandy Creek Road near SR 74 was noticeably higher than the eastern section near Veterans Parkway. This may be related to SR 74 being a principal arterial, making it easy for drivers travelling along SR 74 to access I-85. Table 1.7 shows the daily truck percentage along the corridor.

The morning and afternoon peak period counts collected indicate that the average AM peak hour is 7:30 am to 8:30 am and the average PM peak hour is 4:30 pm to 5:30 pm. For continuity between the study intersections, a uniform average peak hour was used for each time period. The traffic volumes are shown in Figure 1.2.

Table 1.7 - Sandy Creek Road Daily Truck Percentages

SANDY CREEK ROAD	SINGLE UNIT	COMBO	TOTAL
BETWEEN SR 74 AND JENKINS ROAD	4.0 %	0.5 %	4.5 %
BETWEEN LEES MILL ROAD AND SAMS DRIVE	5.0 %	0.5 %	5.5 %
BETWEEN FLAT CREEK TRAIL AND VETERANS PARKWAY	5.0 %	0.5 %	5.5 %

Figure 1.2 - Sandy Creek Road - 2018 Existing Traffic Volumes



Traffic Volumes Projection Sources

- GDOT Historic Traffic Volumes

GDOT's count program, Traffic Analysis and Data Application (TADA), provides a source of data for assessing traffic volume trends over a period of time. Two count stations were identified on Sandy Creak Road -

1. Sandy Creek Road east of SR 74
2. Sandy Creek Road east of Eastin Road

Historical counts were also collected for the following corridors, which have the same road classification -

1. Tyrone Road west of Flat Creek Trail
2. Tyrone Road east of Farr Road
3. Palmetto Road west of Arrowood Road
4. SR 92 east of Veterans Parkway

Reported traffic data was used to establish historical traffic trends in the region and project future traffic growth along Sandy Creek Road.

- Regional Travel Demand Model

The Atlanta Regional Commission travel demand model (ARC TDM) was reviewed and traffic projections at pertinent locations were selected and analyzed to determine projected future growth rates of traffic along the corridor and the surrounding roadway network.

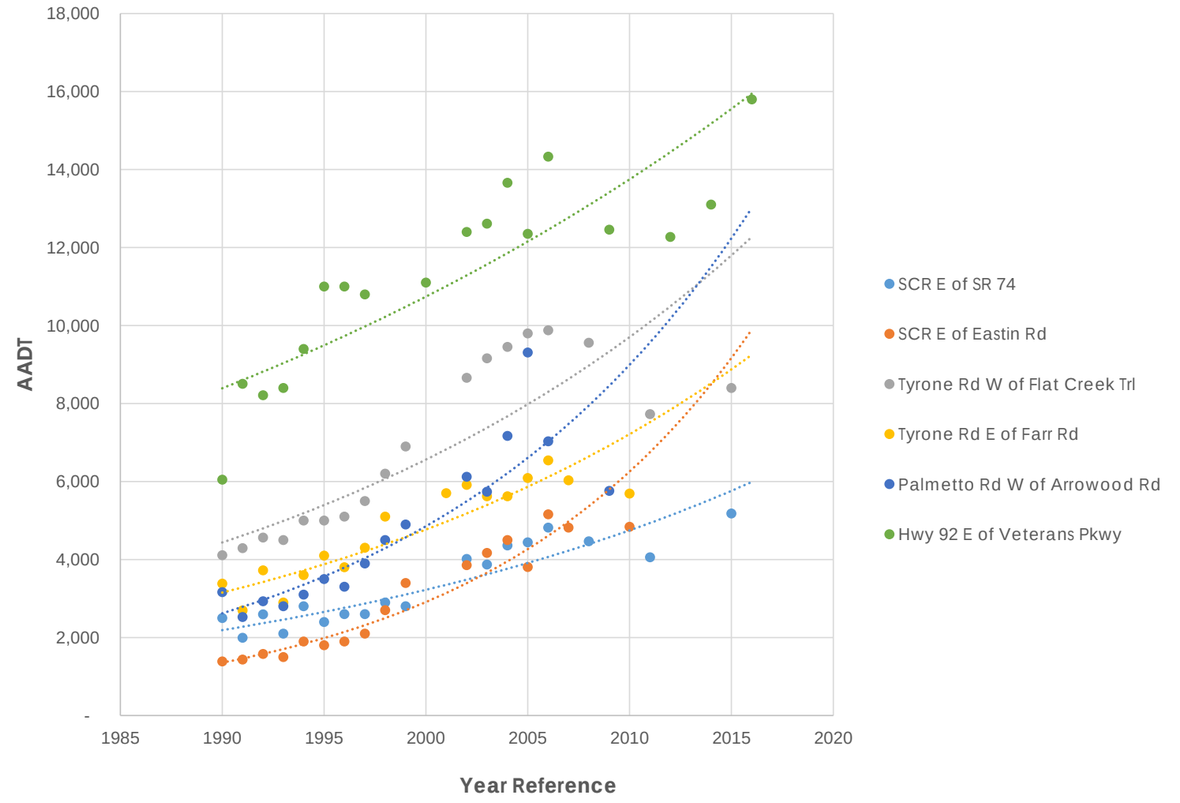
Traffic Growth Methodology

- Historical Growth Regression

An exponential regression analysis was performed using historical traffic count data collected from GDOT's TADA online mapping to determine annual growth factors. Roadways deemed key in determining the overall traffic trends in the region were selected and segments with corresponding traffic counters were plotted for each year. Per GDOT's Design Traffic Forecasting Manual, traffic counts that were deemed irregular were omitted to "eliminate erroneous counts and reflect general trend."

Using the exponential regression line's R^2 value as a measurement of accuracy, the equation for the data was used to calculate ADT for 2019, 2020, and 2040. These volumes were then used to calculate annual growth rates (AGR) based on the historical 5, 10, and 15 year periods. The average annual growth rate over the past 15 years was 4.1%. Figure 1.3 shows the historical growth trends for Sandy Creek Road & Other Minor Arterials.

Figure 1.3 - Historical Growth Trends for Sandy Creek Road & Other Minor Arterials



- ARC Travel Demand Model

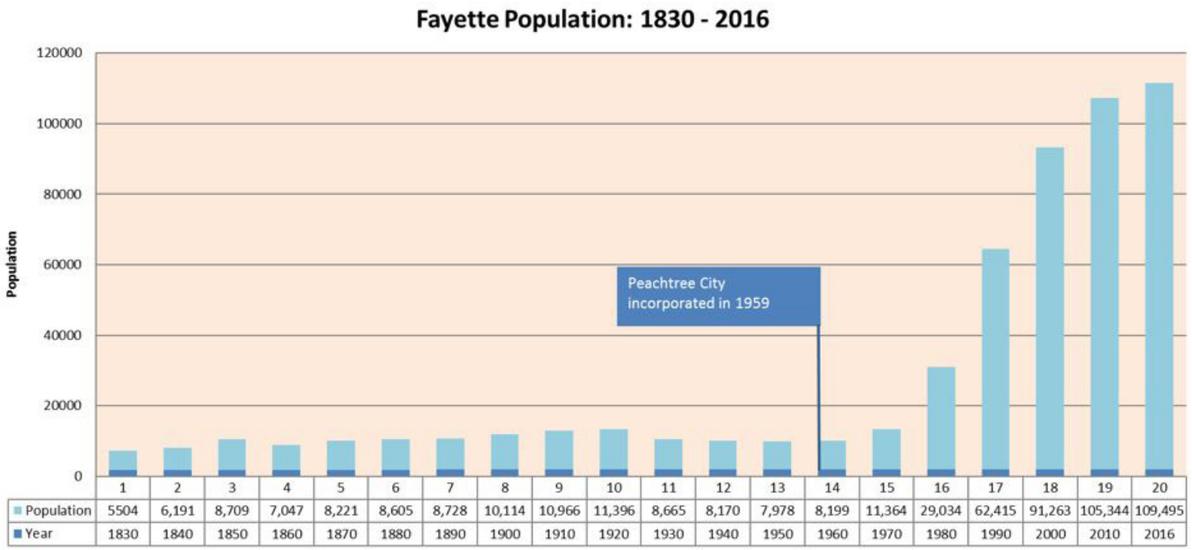
Since roadway improvements and socio-economic factors, such as population and employment change are incorporated into regional TDM, they provide projections of future traffic volumes for a region. The ARC TDM forecasts data for 2015, 2020, 2030, and 2040 was used in the growth rate analysis.

Roadway segments with corresponding traffic data were selected for each year and the AGR from 2015 – 2020 and 2020 – 2040 were calculated. The average annual growth rate for the 2020 to 2040 projection was 1.62%. The ARC TDM growth rate worksheets are attached in the appendix.

- County Population and Growth Forecasts

In step with the rest of the metropolitan Atlanta area, Fayette County has experienced significant growth in population over the past few decades. Figure 1.4 shows the total population from 1830 to 2016 based on the latest estimates from the American Community Survey (ACS).

Figure 1.4 - Fayette County Historic Population



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Population	5504	6,191	8,709	7,047	8,221	8,605	8,728	10,114	10,966	11,396	8,665	8,170	7,978	8,199	11,364	29,034	62,415	91,263	105,344	109,495
Year	1830	1840	1850	1860	1870	1880	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980	1990	2000	2010	2016

Source: US Census, ACS

In 2017, Fayette County adopted a new Comprehensive Plan, which included a population forecast based on the ARC's population projections. The data extracted from ARC's models showed that Fayette County's population will increase from 110,975 to 143,255 between 2015 and 2040. This projection represents a 29 percent increase and (32,280 people) an annual growth rate of 1.16 percent.

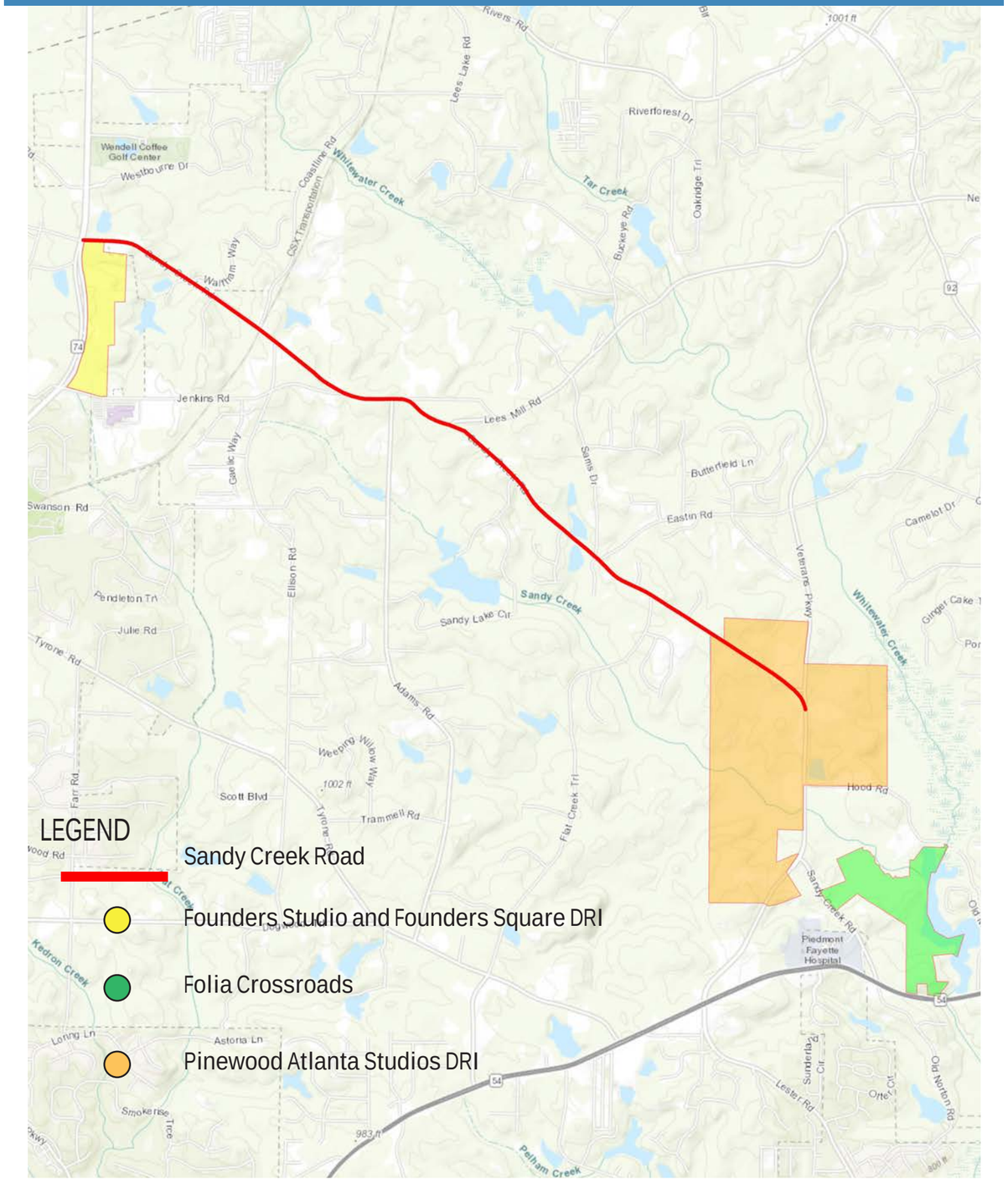
- Proposed Future Annual Growth Rates

During the development of improvement concepts for the Sandy Creek Road corridor, AGR will be used to project the existing traffic volumes to a future base year and design year to determine the viability of recommendations. Based on the review of GDOT historic data and the ARC 2015, 2020, 2030, and 2040 models, the proposed AGR for the 2020 and 2040 traffic projections were rounded to 2.0% in order to conduct a conservative future analysis and account for any additional traffic factors that may arise.

Planned Developments

There are a number of DRIs (Development of Regional Impact) that are currently under review or construction in Fayette County, three of which, Pinewood Atlanta Studios (DRI 2480), and Founders Studio/ Founders Square (DRI 2830), and Folia Crossroads (DRI 2788), directly impacts the intersection of Sandy Creek Road and Veterans Parkway. It is important to note that there is undeveloped land between Tyrone Road, Sandy Creek Road and north of SR 54 that can become a mix of land uses in the future. Map 1.10 shows a map of the relative location of these DRIs with respect to Sandy Creek Road.

Map 1.10 - Sandy Creek Road - Planned Developments in the Vicinity



1. Pinewood Atlanta Studios

Pinewood Atlanta Studios, a 696-acre mixed-use development in the City of Fayetteville, includes a 288.5 acre studio campus and is under construction with some phases already open. The site is located at the eastern termini of Sandy Creek Road at the intersection with Veterans Parkway. Per the traffic study (DRI #2480), Pinewood Atlanta Studios will consist of approximately 1,518,000 square feet of film production studio space, 521,000 square feet of office space 128,500 square feet of retail commercial space, 821 single-family detached homes, 524 multi-family apartment units, 200 hotel rooms, and 97,000 square feet of school/institutional space. This development is anticipated to generate approximately 32,045 daily trips.

2. Founders Studio and Founders Square

Founders Studio and Founders Square is a 110 acre mixed-use development to be located in the City of Tyrone on SR 74 between Sandy Creek Road and Jenkins Road. Per the traffic study (DRI #2830), the development will include a film studio, commercial, office, hotel, residential, retail, and restaurant land uses. The buildout for the project is expected by 2022. The development is anticipated to generate approximately 15,396 daily trips.

3. Folia Crossroads

Folia Crossroads* is a mixed-use development to be located in the City of Fayetteville north of SR 54/W Lanier Avenue between Sandy Creek Road and Old Mill Court. Per the traffic study (DRI #2788), the development will include 50,000 square feet of office space, 40 multifamily units, 260 single-family detached housing units, 120,000 square feet of retail/restaurant space, and a 100-room hotel. The buildout for the project is expected by 2022. The development is anticipated to generate approximately 7,260 daily trips.

Trips generated by the three developments mentioned above will be taken into consideration during the development of recommendations for improvements to the corridor.

**As of January 2019, Folia Crossroads DRI has become inactive.*

Traffic Operations Analysis

Capacity analyses for Sandy Creek Road were conducted based on the procedures defined by the Transportation Research Board's Highway Capacity Manual, 2010 edition (HCM 2010) methodology using Synchro™ (Version 9) and HCS 2010™ software. The HCM 2010 was used to define the overall Level of Service of the corridor and the individual study intersections.

Level of Service (LOS) is defined as a qualitative measure that describes operational conditions and motorists perceptions within a traffic stream. Level A represents the best quality of traffic where the driver has the freedom to operate with free flow speed and level F represents the worst quality of traffic when the traffic flow breaks down. For metropolitan areas, an acceptable Level of Service during peak hours is LOS D, which indicates a tolerable delay for the average road user.

The LOS is defined based on the measure of effectiveness (MOE). Typically four parameters are used and they are speed and travel time, density, and delay. One of the important measures of service quality is the amount of time spent in travel. Therefore, speed and travel time are considered to be more effective in defining LOS of a facility. Density gives the proximity of other vehicles in the stream. Since it affects the ability of drivers to maneuver in the traffic stream, it is also used to describe LOS. Delay is a term that describes excess or unexpected time spent in travel.

For highway capacity, the LOS is defined by density. In the case of two-lane highways, the roadway LOS is defined based on its classification, average travel speed, time-spent-following, and free-flow speed. For intersections, the LOS is defined by controlled delay. LOS for unsignalized intersections, with stop control on the minor street only, are reported for the side street approaches.

Table 1.8- Level of Service Criteria for Intersections

LEVEL OF SERVICE	SIGNALIZED CONTROL DELAY (SEC)	UNSIGNALIZED CONTROL DELAY (SEC)	ROUNDABOUT CONTROL DELAY (SEC)
A	≤ 10	≤ 10	≤ 10
B	> 10 AND ≤ 20	> 10 AND ≤ 15	> 10 AND ≤ 15
C	> 20 AND ≤ 35	> 15 AND ≤ 25	> 15 AND ≤ 25
D	> 35 AND ≤ 55	> 25 AND ≤ 35	> 25 AND ≤ 35
E	> 55 AND ≤ 80	> 35 AND ≤ 50	> 35 AND ≤ 50
F	> 80	> 50	> 50

The LOS criteria for signalized, unsignalized, and roundabout intersections are based on average controlled delay and are given in Table 1.8.

Operational conditions were evaluated for the 2018 existing conditions during the morning and afternoon peak hours. The LOS and delay per intersection are shown in Table 1.9, and the roadway LOS and volume-to-capacity ratio (V/C) are shown in Table 1.10.

Table 1.9- 2018 Existing Intersection Level of Service (LOS)

	SANDY CREEK ROAD[1]	TRAFFIC CONTROL	AM PEAK		PM PEAK	
1	AT SR 74 (EB/WB)	R-CUT[2]	C (16.0 s)	D (29.6 s)	C (19.6 s)	D (30.6 s)
2	AT ELLISON ROAD (NB)	SSSC[2]	D (33.2 s)		C (15.9 s	
3	AT JENKINS ROAD (NB)	SSSC[2]	B (11.7 S)		B (12.9 S)	
4	AT LAKE ROAD (SB)	SSSC[2]	C (15.2 S)		B (14.6 S)	
5	AT LEES MILL ROAD (SB)	SSSC[2]	B (13.1 S)		B (12.6 S)	
6	AT TRUSTIN LAKE DR-SAMS DR (NB/SB)	SSSC[2]	B (14.7 S)	C (17.5 S)	A (9.9 S)	C (17.2 S)
7	AT EASTIN ROAD (SB)	SSSC[2]	B (13.4 S)		B (12.7 S)	
8	AT FLAT CREEK TRAIL (NB)	SSSC[2]	B (14.3 S)		B (14.1 S)	
9	AT VETERANS PARKWAY	ROUNDABOUT	A (6.4 S)		A (5.5 S)	

1. FOR ENTIRE CORRIDOR SANDY CREEK ROAD ORIENTATION IS EB/WB AND SIDE STREETS ARE NB/SB.
2. FOR SIDE STREET STOP CONTROLLED (SSSC) INTERSECTIONS, LOS ARE REPORTED FOR THE SIDE STREET APPROACHES ONLY.

As shown below, under the 2018 existing traffic conditions, all of the study intersections are operating at an acceptable LOS during both the morning and afternoon peak hours. In terms of roadway capacity, the Sandy Creek Road corridor is operating at an acceptable LOS for all segments during the peak hours.

Table 1.10 - 2018 Existing Peak Hour Roadway Capacity Level of Service (LOS)

SANDY CREEK ROAD	AM PEAK		PM PEAK	
	LOS	V/C[1]	LOS	V/C[1]
FROM SR 74 TO ADAMS ROAD	C	0.21	C	0.20
FROM ADAMS ROAD TO EASTIN ROAD	C	0.26	B	0.17
FROM EASTIN ROAD TO VETERANS PARKWAY	C	0.25	B	0.15

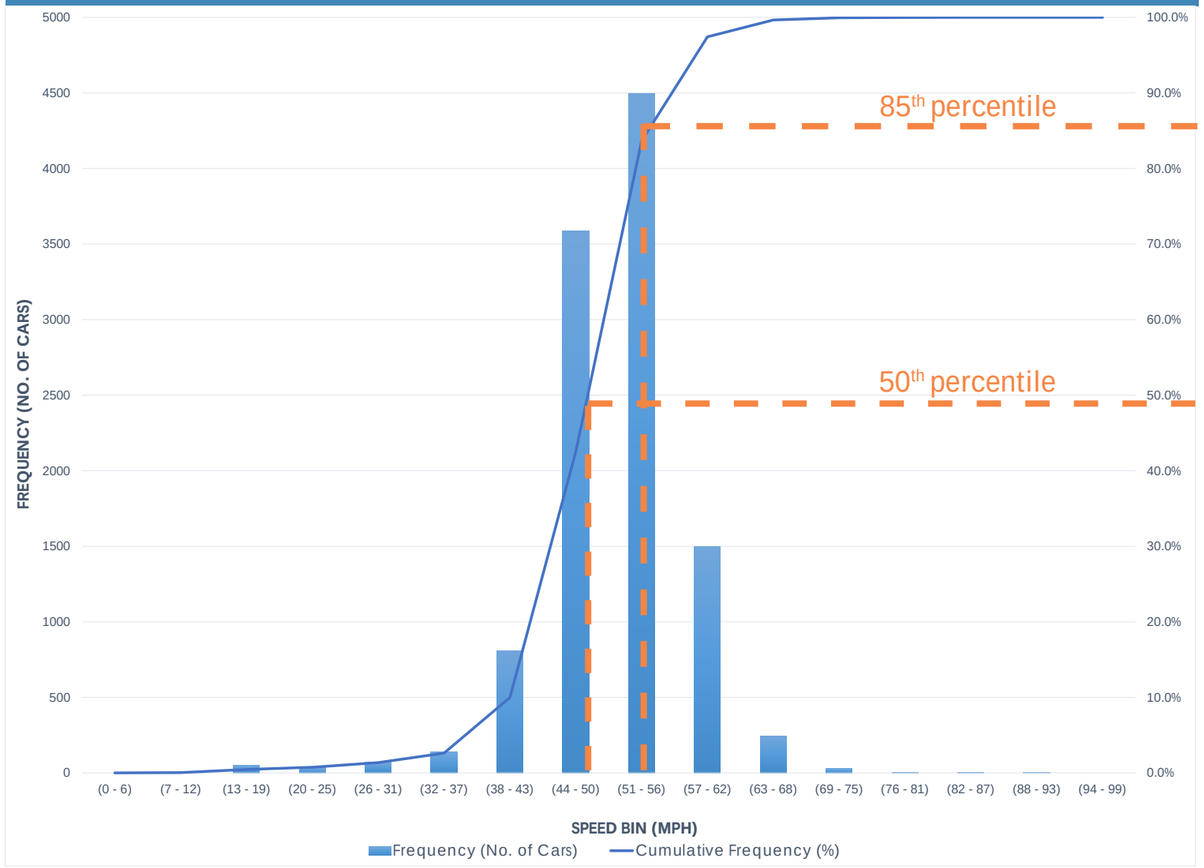
1. V/C - VOLUME TO CAPACITY RATIO

Safety Analysis

- Speed Study -

Vehicle speeds were obtained for Sandy Creek Road eastbound and westbound travel directions in April 2018. Figure 1.5 shows the cumulative speed distribution along Sandy Creek Road. As shown, the 85th percentile speed along Sandy Creek Road is approximately 56 mph. The 10 mph pace along the corridor was 45 mph to 55 mph. Given the posted speed limit along Sandy Creek Road is 45 mph, these results indicate that vehicles along the corridor are typically exceeding the speed limit which creates a safety concern.

Figure 1.5 - Sandy Creek Road - Cumulative Speed Distribution (Average)



- Crash Data -

In order to identify crash trends and safety characteristics for the corridor, crash data was obtained from the Georgia Electronic Accident Reporting System (GEARS) database. Crash records were collected along Sandy Creek Road between November 2013 and October 2018.

Crash Data by Type, Five-Year Crash History, and Time-of-Day are shown in Figure 1.6, Figure 1.7 and Figure 1.8, respectively. Figure 1.9 shows the total number of crashes per intersection. Property Damage Only (PDO), injuries, and fatalities resulting from car crashes along Sandy Creek Road for this Five-year period are shown in Table 1.11.

Figure 1.6 - Sandy Creek Road - Five Year Crash Data by Type

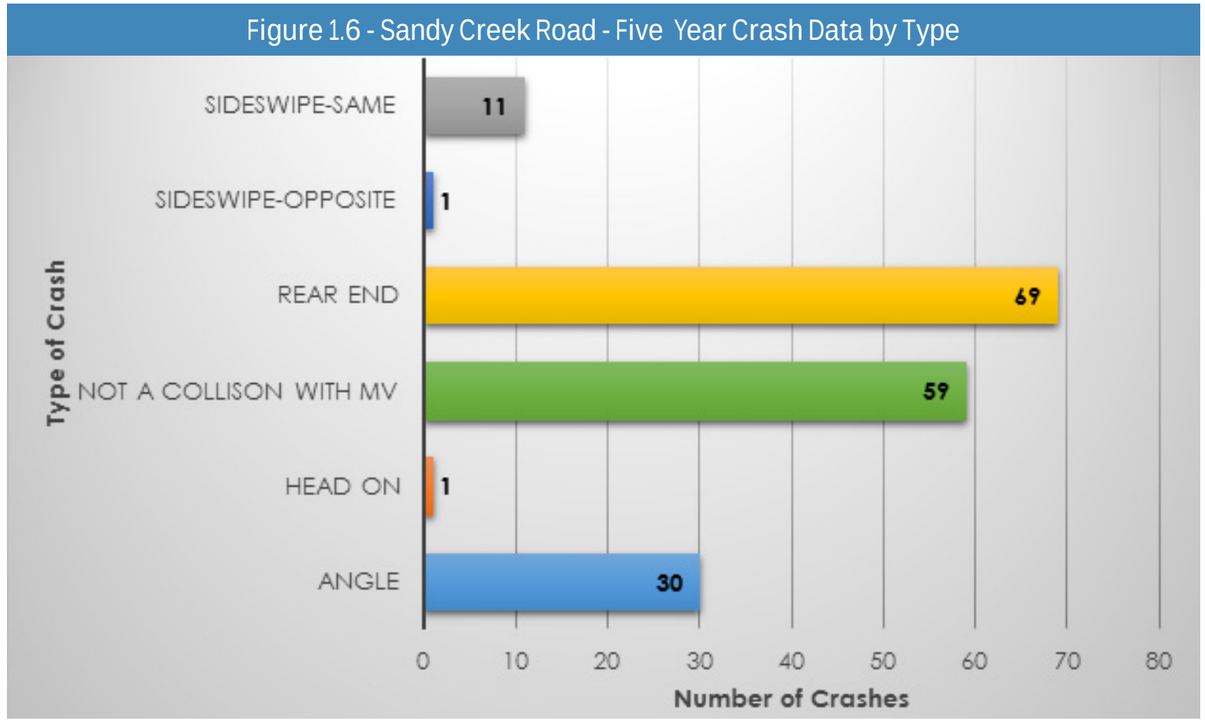


Figure 1.7 - Sandy Creek Road - Five Year Crash History by Type

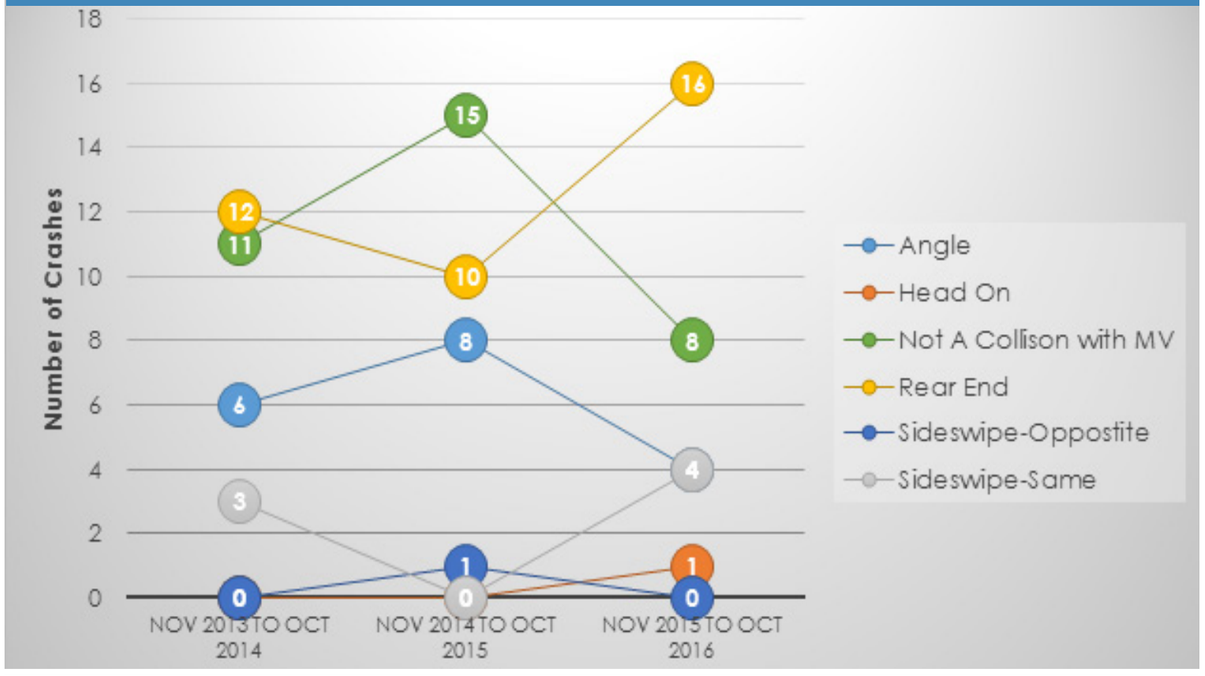


Figure 1.8 - Sandy Creek Road - Total Crashes by Time-of-Day

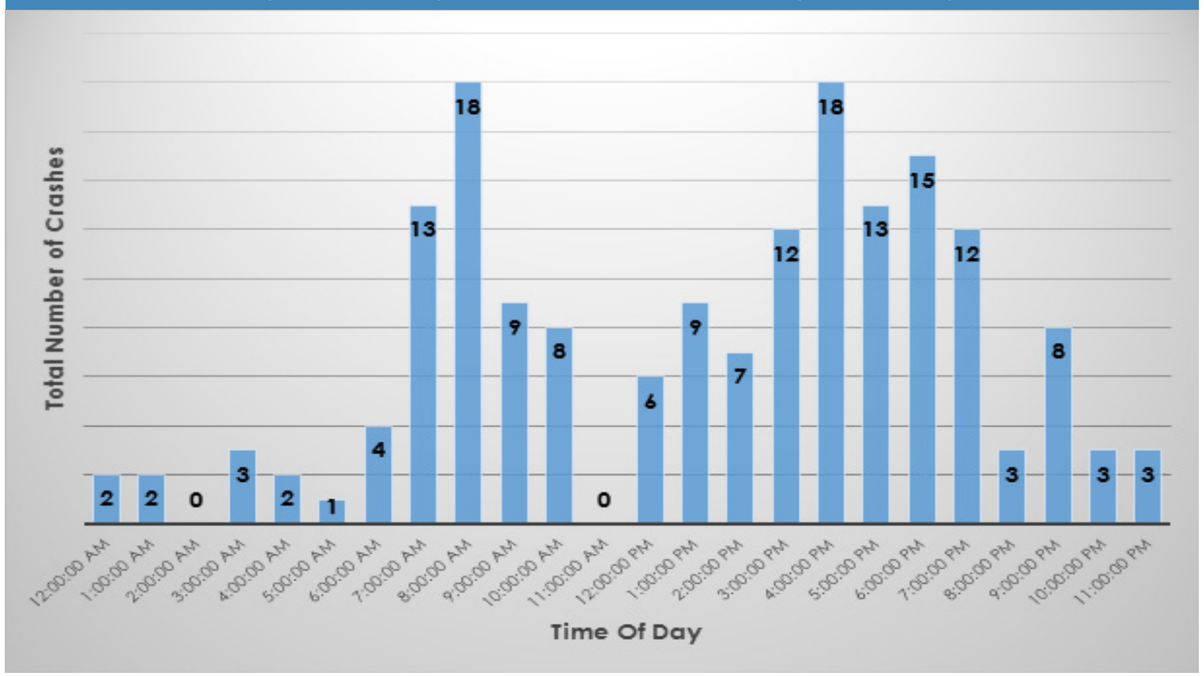


Figure 1.9 - Sandy Creek Road - Total Crashes per Intersection

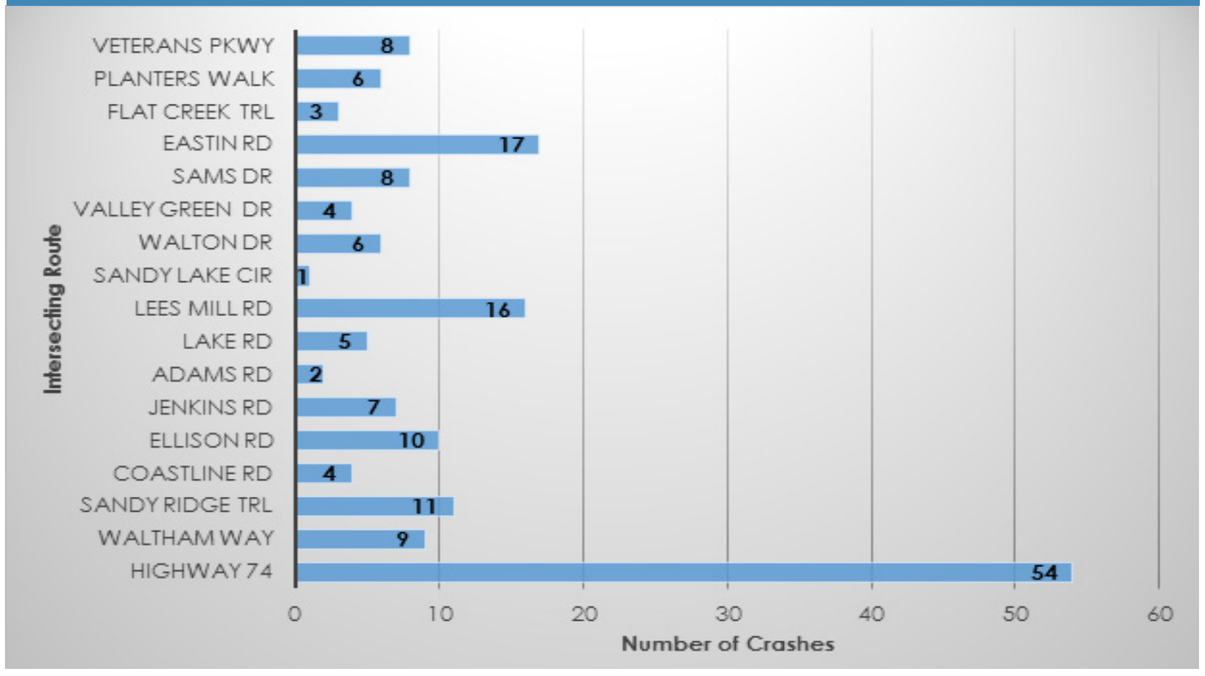


Table 1.11 - Sandy Creek Road Crash Rates Relative To State Averages

	TOTAL CRASHES (5 YEARS)	CRASH RATE [1]	STATEWIDE AVG. (2016) [1]
TOTAL CRASHES	171	378	506
TOTAL INJURY ACCIDENTS	40	89	124
TOTAL INJURIES	52	115	186
TOTAL FATAL ACCIDENTS	1	2.21	1.72
TOTAL FATALITIES	1	2.21	1.86

1. Crashes per 100 million vehicle-miles of travel.

This data demonstrates that there has been a substantial number of crashes along this corridor, with the majority of the crashes being contributed to rear end and single car crashes. The average number of crashes occurring on Sandy Creek Road is 34 crashes per year. Approximately 24% of the crashes during this time period resulted in one or more injuries.

There is a recognizable need to implement techniques to reduce the frequency and severity of crashes along the corridor. The one fatal accident that occurred near Waltham Way, was caused by the driver losing control of the vehicle and going off road. It is important to note that there was only one pedestrian accident on Sandy Creek Road near Lake Road within the five-year analysis period.

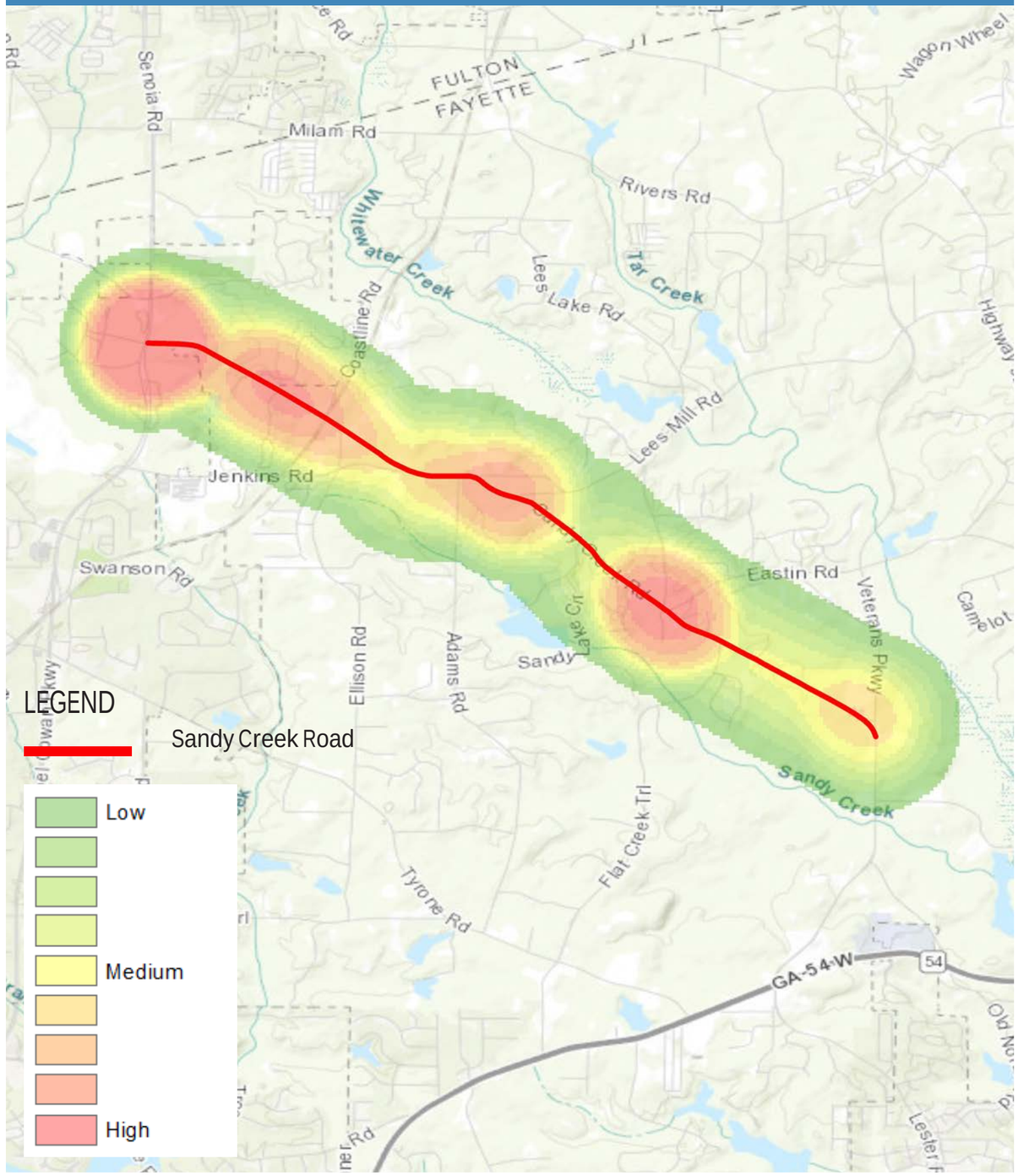
Rural-two lane typical sections, such as Sandy Creek Road, have higher frequency of rear end and angle crashes, with contributing factors being the number of access points along the corridor, high turning volumes from a single shared lane, and restricted sight distance.

Additionally, the high frequency of single car crashes with vehicle veering off road could possibly be contributed to excessive speed, inadequate roadway lighting or shoulder, as well as poor visibility or absence of curve warning signs. A number of the existing intersections along the project corridor do not meet current geometric standards resulting in less than desirable driving conditions, primarily due to the Y-intersection configuration and their skew inhibiting sight distance.

Sandy Creek Road's crash rates indicate that the rate of total crashes and crashes involving injuries falls below the statewide average; however, Sandy Creek Road's crash rate for the single fatal accident is higher than the statewide average for GDOT minor arterials.

Map 1.11 represents a heat map of crashes along Sandy Creek Road. The intersections are considered hot-spots for crashes with higher number of accidents in the red zones.

Map 1.11 - Sandy Creek Road - Crashes Heat Map



1.6 Environmental Due Diligence

The purpose of the survey was to identify sensitive environmental land uses that may provide corridor improvement opportunities and/or constraints. The survey included agency database research, as well as on site reconnaissance of the corridor. Sensitive environmental land uses were surveyed including natural, cultural, community, and physical resources in the general vicinity of the Sandy Creek Road corridor.

The existing Sandy Creek Road study corridor consists of a two lane, undivided roadway. Land use along the Sandy Creek Road corridor is rural and primarily residential with some agricultural, commercial, and institutional use along the corridor. A sample of sensitive environmental land uses that were identified along the Sandy Creek Road study corridor are shown in Image 1.4, Image 1.5, and Image 1.6.

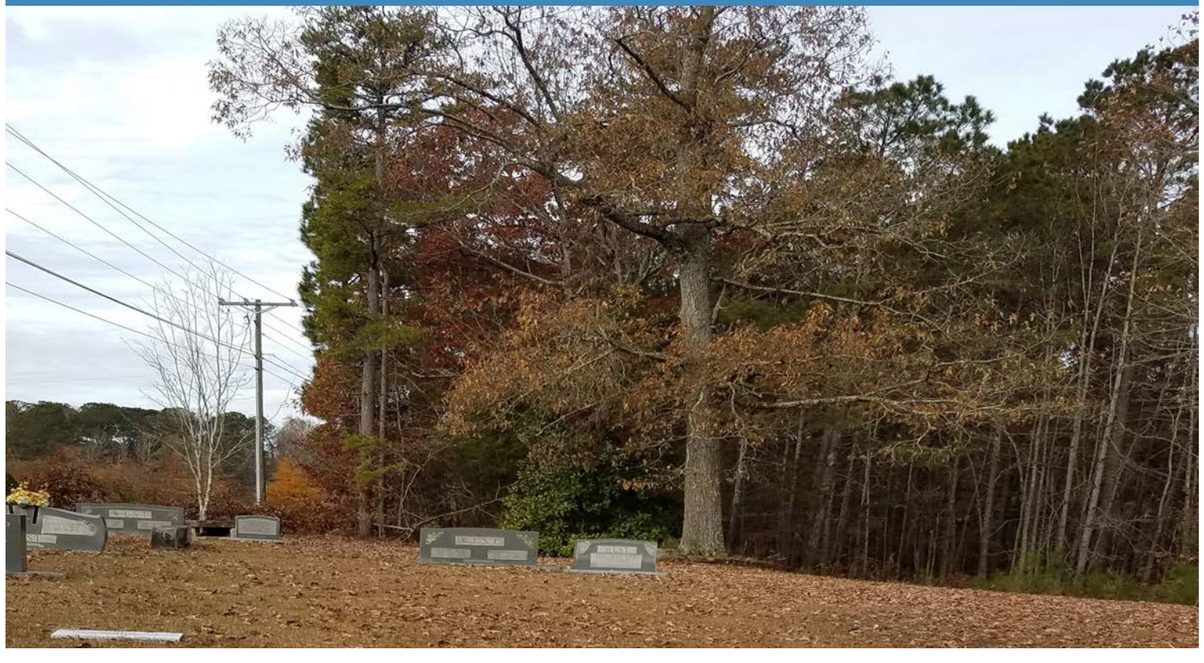
Prior to design and construction in the area, coordination with appropriate approval agencies would be needed to determine type of environmental and historic resources that need to be protected in the jurisdiction.

The Sandy Creek Road Due Diligence report along with the Environmental Resources Location map are attached in the appendix.

Image 1.5 - Sandy Creek Baptist Church

Image 1.4 - Unnamed Tributary to Whitewater Creek 1

Image 1.6 - Sandy Creek Baptist Church Cemetery



1.7 Utilities

This section of the report presents an inventory of existing utilities along the corridor. Map 1.13 represents the location of these utilities. Description and photos of these utilities are presented below. Fayette County must conduct a detailed analysis prior to any construction.

A
Begin Corridor - Intersection of S.R.74 & Sandy Creek Road

B
AGL U.G.Gas Marker & Telephone Copper Cable Marker

C
Pedestal AT&T L/G

D
AGL Marker at Waltham Way

E
Group of AT&T, Cabinets, Fire Hydrant, & Gas Marker

F
AT&T Cabinets

G
Rail crossing at Coastline Rd, control boxes between railroad & Coastline on NE side

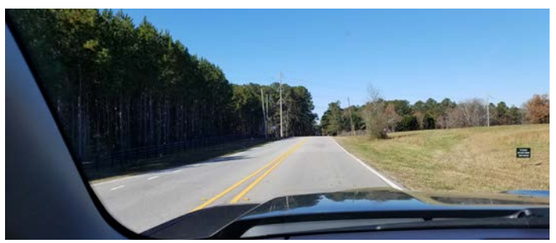
H
TPLC Gas Pipeline Monitoring Equipment

I
Gas Line Crossing With Markers [Transcontinental Pipeline Corp - TPLC]

J
Group of AT&T Cabinets Corner of Eastin Road and Sandy Creek Road

K
Fiber Optic Marker NEside

L
Overhead Power Transmission SW



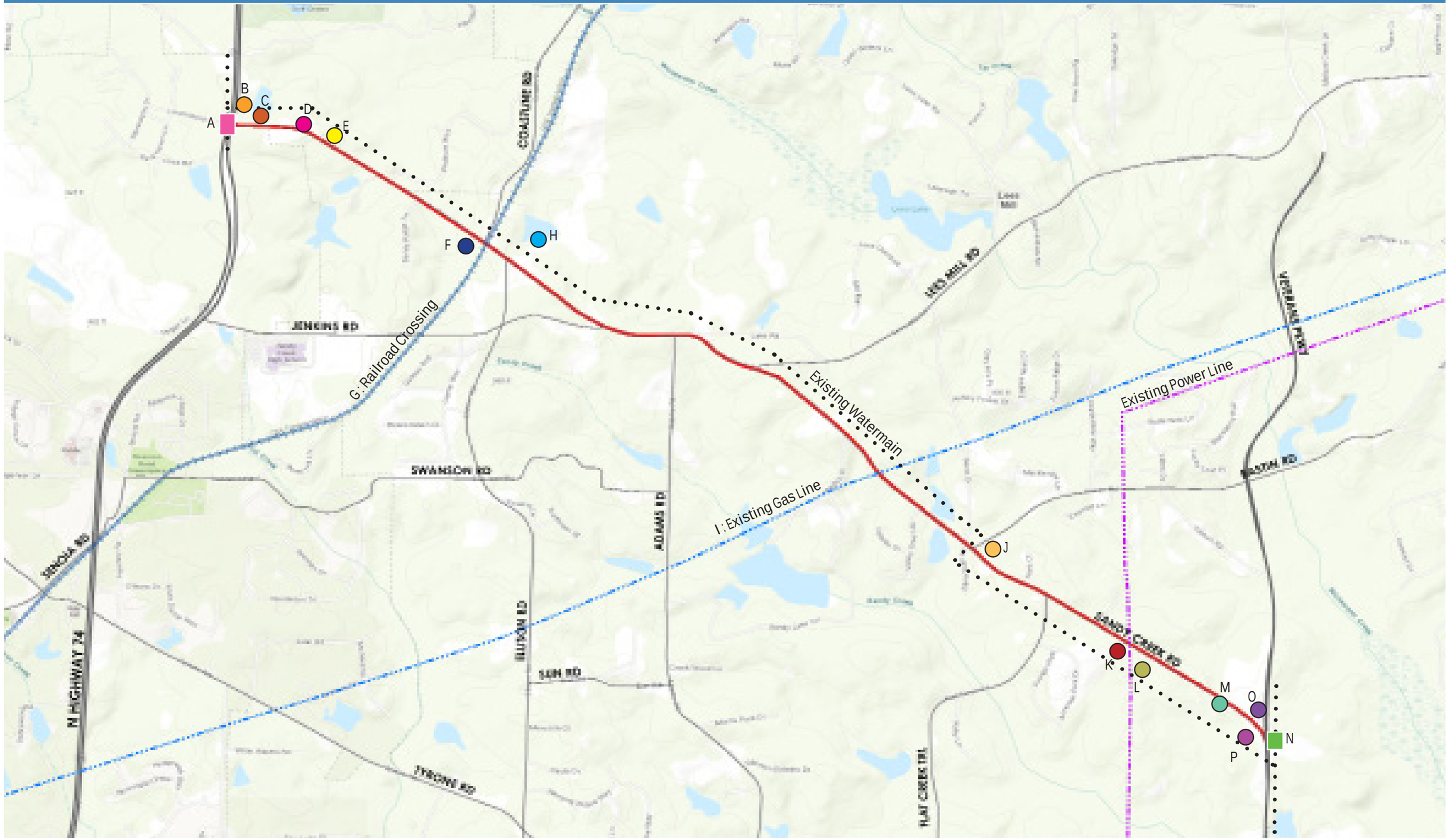
M
Group of AT&T, Cabinet, Fire Hydrant & Gas Marker

N
Signage, AT&T Pedestals & Markers, Vault & Markers for Fiber Optic Comcast

O
AT&T Pedestals, Markers & Vault

P
End Corridor - Sandy Creek Road & Veterans Parkway: Watermain Valves

Map 1.13 - Sandy Creek Road - Utilities



1.8 Summary

Sandy Creek Road is an important roadway in the northwestern quadrant of Fayette County providing mobility between SR 74 (which provides access to Peachtree City, Tyrone, and I-85) and Veterans Parkway in Fayetteville. It also provides connectivity for the abutting property owners and intersecting local streets. Sandy Creek Road has one through lane, typically 11 feet wide for each direction of travel (turn lanes are provided at a few side streets); is posted with a 45 mph speed limit; is the through street (not controlled by a STOP sign) between the roundabout at Veterans Parkway and the RCUT at SR 74; and does not have sidewalks or a multiuse path. The only transit service is demand responsive provided by Senior Services and different private carriers.

There is one railroad at-grade crossing towards the western end of the corridor. The abutting land use is primarily residential with a limited number of churches on Sandy Creek Road and the commercial activity being Pinewood Studios at the eastern termini of the corridor. An investigation of the demographic make-up of the citizens within 1-mile of Sandy Creek Road (data source was the 2016 American Community Survey at the block grant level) that the male to female ratio is close to 50%; approximately 55% of the citizens are white; less than 1% have not completed high school; and the mean median household income is $78,753.

The average annual daily traffic along Sandy Creek Road is approximately 5,325 vehicles, and the daily truck percentage along the corridor ranges from 4.5% to 5.5%. The morning and afternoon peak hours begin at 7:30 AM and 4:30 PM, respectively. Under the existing traffic conditions, all study intersections are operating at an acceptable LOS during the morning and afternoon peak hours. In terms of roadway capacity, the corridor itself is operating at an acceptable LOS. From collected speed data, the 85th percentile speed is 56 mph, approximately 11 mph over the posted speed limit.

For the recent 5-year period ending October 2018, an analysis of crash records from GEARS revealed 171 crashes with one resulting in a fatality. The most crash occurrences were rear-ends and the second most being a single vehicle collision not with another motor vehicle. The majority of the crashes are clustered at the intersections along Sandy Creek Road. Approximately 24% of the crashes resulted in an injury. The crash rates for Sandy Creek Road (total and injury) are less than the statewide average for similarly classified roadways.

An environmental survey revealed that Sandy Creek Road is within the Line Creek Watershed and there are three streams either crossing or in proximity to the corridor. No regulatory wetlands or floodplains were identified. Preferred habitats of federal and state protected species were identified. In addition to two churches, one with a cemetery, eight potential historic resources were recognized. Investigation of the corridor has identified no significantly publicly owned park, recreation area or wildlife or waterfowl refuge plus no USTs or potential contamination sites such as landfills or potential hazardous waste sites. Ultimately, prior to any construction activities detailed studies would need to be conducted and coordination completed with the appropriate environmental reviewing agencies.

Chapter 2:
Needs Assessment

2.1 Introduction - Page 29
This section of the report introduces the needs assessment report and discusses the structure of the document.

2.2 Vision & Goals - Page 30
The visions and goals for the study corridor are defined in this section.

2.3 Methodology & Analysis - Page 31
This segment discusses the methodology, qualitative and quantitative tools used in identifying the needs assessment.

2.4 Next Steps - Page 37
This section identifies the next steps and action items for the planning process.

2.1 Introduction

The Needs Assessment is the second chapter of the Sandy Creek Road Transportation corridor study. The precedent to this chapter is the Existing Conditions which detailed the current conditions of the area around the corridor, including demographic character, land use, transportation infrastructure, operations and safety, utilities and environmental due diligence.

With the Existing Conditions in place, the Needs Assessment is useful in identifying insights into the current and future needs of the corridor. The intent of the Needs Assessment is to take a comprehensive look at the existing conditions, future demographic and population projections, and other forecasts including public engagement to help understand the needs along the corridor.

Sandy Creek Road is a 4.6-mile major road expecting continued growth in traffic volumes. The corridor connects Veterans Parkway in Fayetteville to State Route 74 in Tyrone and is critical to transportation and economic growth.

Image 2.1- Sandy Creek Road Public Involvement Open House

This chapter helps recognize accessibility and mobility issues by identifying the existing as well as future needs. Needs assessment can be determined by qualitative as well as quantitative tools and resources. This includes not only the use of data and models to understand future development, population projections, and travel demand in the area, but also using community participation and stakeholder engagement to identify needs of the citizens.

Graphic 2.1 - Three Pillars of the Corridor Study

The sections of this chapter provide introductory information about the plan, identifies the visions and goals for the study corridor and discusses the methodology, qualitative and quantitative tools used in identifying the needs assessment. The chapter further outlines detailed public comments and SWOT (Strengths, Weaknesses, Opportunities and Trepidations*) analysis and identifies the next steps and action items for the planning process.

**The word 'trepidation' was used in place of 'threat'*

2.2 Vision & Goals

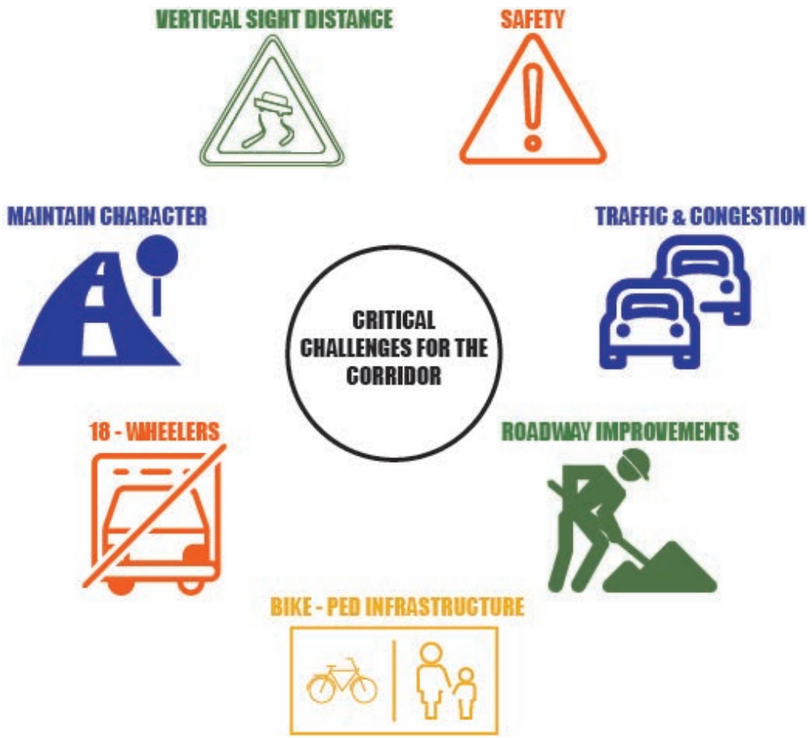
The aim of the corridor study is to identify traffic and transportation solutions from a holistic perspective to:

- Ensure safety
- Provide solutions for congestion and delay
- Identify prospects for multi-modal uses
- Create sustainable infrastructure improvements
- Promote economic development

To further the development of the corridor study, the planning team, County staff and stakeholder committees worked to draft a vision statement for the plan as well identify a set of goals. The vision and goals were corroborated through public involvement effort, where total of 195 citizens participated and over 300 comments were received at the first Public Information Open House (PIOH).

The challenges identified for the corridor are displayed in Graphic 2.2. Detailed comments and charts are attached in the appendix.

Graphic 2.2 - Priority Challenges for the Corridor



The Sandy Creek Road Corridor Study envisions to provide a framework to improve quality of life for citizens living not only around the corridor but also for County residents and visitors using the corridor. The aim of the study is to facilitate mobility, ensure safety and improve efficiency across all modes of transportation in cooperation with local, regional, state, and federal partners. This framework will be established through the preliminary concepts and preferred alternatives.

Graphic 2.3 - Vision and Goals for the Corridor

VISION	GOALS
ENSURE SAFETY	• Prioritize projects that improve safety, acknowledging all user groups
PROVIDES SOLUTION FOR CONGESTION & DELAY	• Build corridor capacity to anticipate future needs • Improve connectivity and reliability regardless of mode or purpose
IDENTIFY PROSPECTS FOR MULTI-MODAL USES	• Consider mobility needs of all population groups when investing in transportation projects
CREATE SUSTAINABLE INFRASTRUCTURE IMPROVEMENTS	• Invest in rehabilitation and maintenance of existing transportation infrastructure • Prioritize projects to maximize benefits
PROMOTE ECONOMIC DEVELOPMENT	• Use transportation investments to encourage development/ redevlopment in strategic locations throughout the County

2.3 Methodology & Analysis

The transportation corridor study requires an aggregate of information from a variety of sources, especially since transportation is not only about infrastructure and engineering, but more about the community using the corridor. Therefore, the process of developing the needs assessment is a balance between quantitative tools and qualitative information acquired through community outreach and engagement. This section describes tools and methodologies used to identify needs for the corridor.

Quantitative Analysis

Various data sources and tools were used throughout the analysis. Data sources such as existing transportation, land use and demographic data were used in combination with travel demand modeling and crash data to develop the basis for existing and future needs. Some of the data sources are spatial and mapped through Geographic Information Systems (GIS) for analysis. All data presented are estimates and have a margin of error value associated with it. Detailed quantitative analysis can be found in the Existing Conditions Report.

- **Demographic Character -**

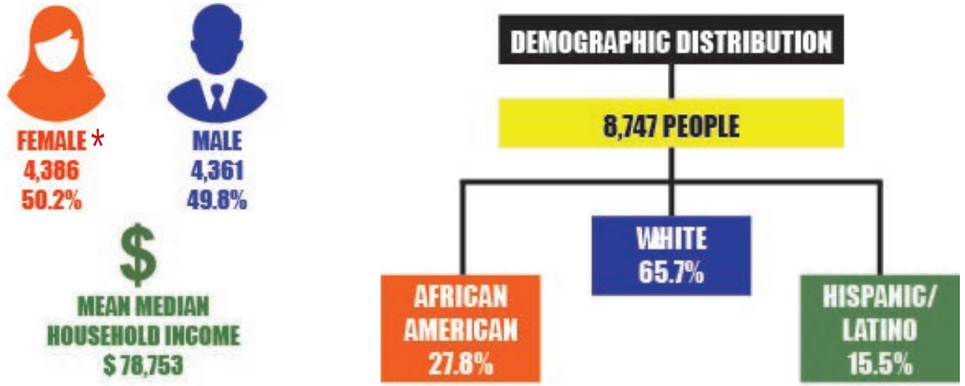
Graphic 2.4 represents the demographic character of the corridor. For this analysis, the 2016 American Community Survey (ACS) – 5 Year estimates data was used at the block group level (the smallest scale of data availability) for block groups that included the Sandy Creek Road corridor.

Title VI of the Civil Rights Act identifies 9 population categories that must be protected. The Atlanta Regional Commission (ARC) has two models to help counties, governments and private organizations to ensure inclusion and equity for these 9 population groups.

The model uses American Community Survey 5-Year population estimates for 2012-2016. The Sandy Creek Road corridor lies in Fayette County's census tract 1402.04. The tract has an average cumulative score of 17 for the Protected Classes Model and an equity score of 7 for the Racial Minority, Ethnic Minority, and Low-Income Model. This means that according to the index, the corridor study area has a moderate rank, and is placed not too high or too low in the index.[1]

Graphic 2.5 represents the ARC equity analysis. This analysis is crucial to bring equity and inclusivity to the corridor study.

Graphic 2.4 - Demographic Character



Graphic 2.5 - ARC Equity Analysis

[1] - For more in-depth understanding of the equity analysis, refer to Chapter 1 - Existing Conditions. Percentage values reflect percentage of population in the census tracts.

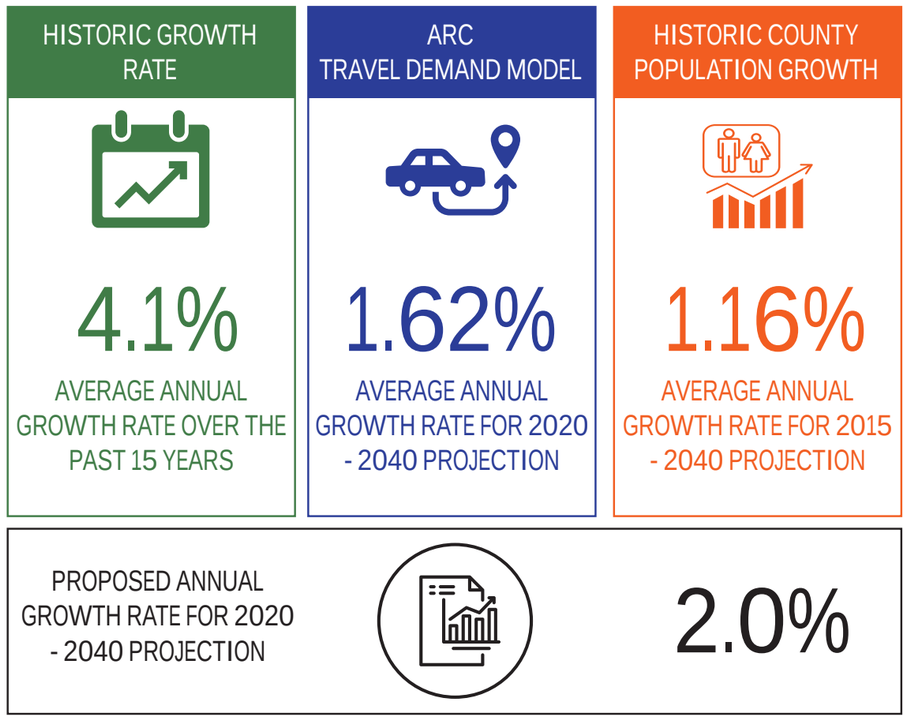
** - Values differ since ARC analysis was done at the census tract level while the analysis for this report was done at the block group level.*

- **Future Growth and Planned Developments -**

Reported traffic data from GDOT's Traffic Analysis and Data Application (TADA) and the ARC's Travel Demand model was used to establish historical traffic trends in the region and project future traffic growth along Sandy Creek Road. The historic population growth in Fayette County was also reviewed to establish projected traffic growth in the area. Graphic 2.6 represents future growth projections.

Developments of Regional Impact (DRIs) currently under review or construction were reviewed, three of which, Pinewood Atlanta Studios (DRI 2480), and Founders Studio/ Founders Square (DRI 2830), and Folia Crossroads (DRI 2788), directly impacts the intersection of Sandy Creek Road and Veterans Parkway. Additionally, it is important to note the development potential of undeveloped land between Tyrone Road, Sandy Creek Road and north of SR 54 that can become a mix of land uses in the future.

Graphic 2.6 - Future Growth Projections



Note - For details on the modelling and growth projections, refer to Chapter 1 - Existing Conditions Report.

It is evident that roadway improvements are needed along Sandy Creek Road to accommodate the impacts of the planned developments. The mixed-use character of the developments indicates the need for bicycle and pedestrian improvements to promote active transportation in the area so that the benefits of mixed-use developments can be fully realized by the community.

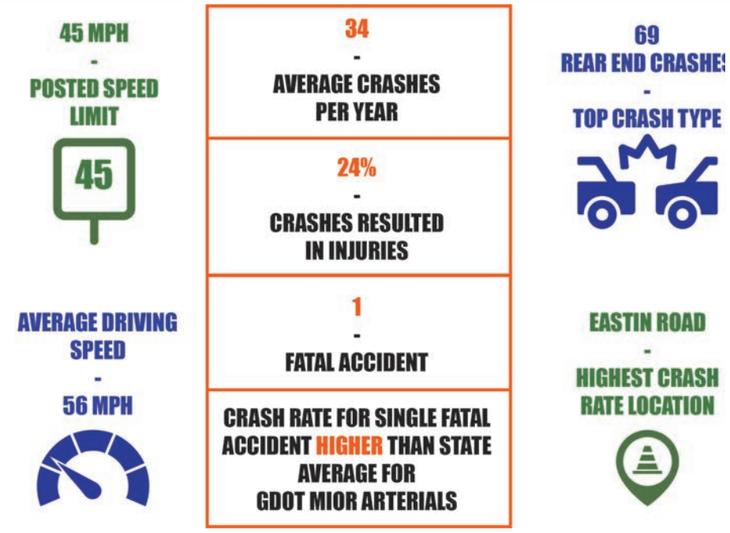
Although Sandy Creek Road is primarily rural with single family lots, there are bike/pedestrian improvements at the Pinewoods Studios activity node, which is of particular value to promoting walkable communities. The Master Path Plan currently under review will ultimately identify additional opportunities for path connections that will tie in to the county's overall a bicycle and pedestrian network. Graphic 2.6 represents the future growth projections.

- **Roadway Infrastructure, Facilities and Existing Traffic Conditions -**

Per the Georgia Department of Transportation (GDOT) road classifications, Sandy Creek Road is classified as a minor arterial. The Sandy Creek Road corridor generally consists of residential properties along both sides with the exception of the southernmost end, which provides access to Pinewood Studios.

Observed transportation data sources provide a real-time snapshot of existing conditions. The analysis is valuable for understanding current volumes, historic growth in traffic, and percent of the overall traffic that is made up of truck freight. Graphic 2.7 represents the roadway infrastructure and facilities along the corridor and Graphic 2.8 represent existing traffic conditions.

Graphic 2.7 - Existing Traffic Conditions

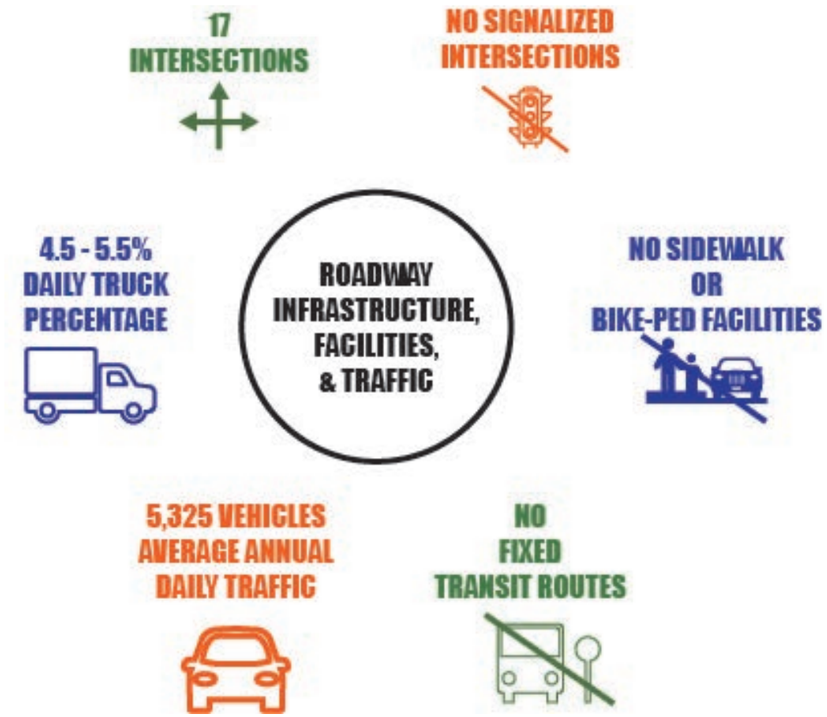


Additionally, crash data analysis helps identify where some safety concerns may exist and is valuable in assessing where the most immediate improvements are required.

Roadway Infrastructure and Facilities -

- One 11-foot wide travel lane in each direction
- Separate turn lanes in some locations
- 17 intersections - none signalized
- 1 Restricted Crossing U-turn (R-CUT) at SR 74/Joel Cowan Parkway
- 1 Roundabout at Veterans Parkway

Graphic 2.8 - Roadway Infrastructure & Facilities



Traffic Operations Analysis -

Level of Service (LOS) is defined as a qualitative measure that describes operational conditions and motorists' perceptions within a traffic stream. Level A represents the best quality of traffic where the driver has the freedom to operate with free flow speed and level F represents the worst quality of traffic when the traffic flow breaks down. For metropolitan areas, an acceptable Level of Service during peak hours is LOS D, which indicates a tolerable delay for the average road user.

Operational conditions were evaluated for the 2040 "No Build" traffic conditions during the morning and afternoon peak hours. The "No Build" Levels of Service (LOS) and delay per intersection are shown in Table 2.1, which indicate how the study intersections would operate if no improvements were made to the corridor. To project traffic volumes for 2040, the aforementioned 1.5 % Annual Growth Rate was used.

Table 2.1 - 2040 "No Build" Peak Hour Intersection Level of Service (LOS)

	SANDY CREEK ROAD[1]	TRAFFIC CONTROL	AM PEAK		PM PEAK	
1	AT SR 74 (EB/WB)	R-CUT[2]	D (25.3 S)	F (220.0 S)	D(33.9 S)	F (235.7 S)
2	AT ELLISON ROAD (NB)	TWSC[2]	F (**)		F (57.7 S)	
3	AT JENKINS ROAD (NB)	TWSC[2]	B (14.2 S)		C (18.6 S)	
4	AT LAKE ROAD (SB)	TWSC[2]	D (25.3 S)		C (21.1 S)	
5	AT LEES MILL ROAD (SB)	TWSC[2]	C (20.0 S)		C (17.3 S)	
6	AT TRUSTIN LAKE DR-SAMS DR (NB/SB)	TWSC[2]	C (20.3 S)	D (31.2 S)	B (10.8 S)	D (31.2 S)
7	AT EASTIN ROAD (SB)	TWSC[2]	C (21.5 S)		C (18.1 S)	
8	AT FLAT CREEK TRAIL (NB)	TWSC[2]	C (20.9 S)		C (20.3 S)	
9	AT VETERANS PARKWAY	ROUNDABOUT	A (8.6 S)		A (6.8 S)	

1. FOR ENTIRE CORRIDOR SANDY CREEK ROAD ORIENTATION IS EB/WB AND SIDE STREETS ARE NB/SB.
2. FOR TWO-WAY STOP CONTROLLED (TWSC) INTERSECTIONS, LOS ARE REPORTED FOR THE SIDE STREET APPROACHES ONLY.
3. THE DELAY OUTPUT BY THE SOFTWARE EXCEEDS 300 SECONDS AND THE HCM METHODOLOGY.

By the 2040 design year, significant delays will be experienced by the side streets at SR 74/Joel Cowan Parkway and Ellison Road. Deficiencies begin to emerge at Lake Road during the morning peak hour and at Trustin Lake Drive/Sams Drive during the afternoon peak hour.

Road Capacity -

Road capacity is defined as the maximum rate at which vehicles can pass through a given point in an hour under prevailing conditions; it is often estimated based on assumed values for saturation flow. The volume-to-capacity (v/c) ratio, also referred to as degree of saturation, represents the sufficiency of an intersection or roadway to accommodate the vehicular demand.

A v/c ratio less than 0.50 generally indicates that adequate capacity is available and vehicles are not expected to experience significant queues and delays. As the v/c ratio approaches 1.0, traffic flow may become unstable, and delay and queuing conditions may occur. Once the demand exceeds the capacity (a v/c ratio greater than 1.0), traffic flow is unstable and excessive delay and queuing is expected.

The roadway capacity of Sandy Creek Road was evaluated for three segments for the 2040 "No Build" traffic conditions during the morning and afternoon peak hours. The "No Build" Levels of Service (LOS) and v/c ratio are shown in Table 2.2, which indicate the capacity of Sandy Creek Road if no improvements were made to the corridor.

Table 2.2 - 2040 Horizon Peak Hour Roadway Capacity Level of Service (LOS)

SANDY CREEK ROAD	AM PEAK		PM PEAK	
	LOS	V/C[1]	LOS	V/C[1]
FROM SR 74 TO ADAMS ROAD	C	0.27	C	0.26
FROM ADAMS ROAD TO EASTIN ROAD	C	0.33	C	0.23
FROM EASTIN ROAD TO VETERANS PARKWAY	C	0.31	B	0.19
1. V/C - VOLUME TO CAPACITY RATIO				

In terms of road capacity, the Sandy Creek Road corridor will continue to operate at an acceptable LOS.

- **Safety**

Road Safety Audits

Road Safety Audits (RSA) are required by Georgia Department of Transportation to locate any potential road safety issues and identify opportunities for improvements in safety for all road users.The RSA was conducted on April 8, 2019 for the Sandy Creek Road, from SR 74/Joel Cowan Parkway to Veterans Parkway.

Image 2.2 - Team Conducting Road Safety Audits

The RSA was conducted over a half-day period by having the RSA Team observe the corridor and intersections on foot and a windshield survey. In addition, the team also examined crash data and public input responses for the corridor to help identify safety issues or concerns. Graphic 2.9 represents key takeaways from the RSA. For detailed assessment, refer to the Road Safety Audit document attached in the appendix.

Graphic 2.9 - Road Safety Audit Findings

Crash Rate Analysis

Crash rates describe the number of crashes in a given period as compared to the traffic volume (or exposure) to crashes. Crash rates are calculated by dividing the total number of crashes at a given roadway section or intersection over a specified time period by a measure of exposure. Crash rate analysis typically uses exposure data in the form of traffic volumes or roadway mileage. The crash rate is calculated to determine relative safety compared to other similar roadways, segments, or intersections.

The benefit of crash rate analysis is that it provides a more effective comparison of similar locations with safety issues. This allows for prioritization of these locations when considering safety improvements with limited resources. Table 2.3 shows the roadway crash rate along Sandy Creek Road relative to the statewide average for minor arterials.

Table 2.3 - Sandy Creek Road's Crash Rate for Corridor			
	SANDY CREEK ROAD 5 YEAR CRASHES	SANDY CREEK ROAD CRASH RATE[1]	STATEWIDE AVG CRASH RATE (2017)[1]
ALL CRASHES	114	239.9	506
TOTAL NON-FATAL INJURY CRASHES	30	63.1	124
TOTAL FATAL CRASHES	1	2.1	1.7
1. CRASHES PER 100 MILLION VEHICLE-MILES TRAVELED			

Sandy Creek Road's crash rates indicate that its rate of total crashes and crashes involving injuries falls below the statewide average; however, Sandy Creek Road's crash rates for fatal accidents is higher than the statewide average for minor arterials.

For the intersection crash rates, statewide crash rate data was not available for a comparative analysis; consequently, the intersection crash rates for all four Fayette County Corridor Studies, Sandy Creek Road, Banks Road, Tyrone Road – Palmetto Road and State Route 279 were used to normalize the crash rate data. When combined, the crash rate for the 3rd quartile, or 75th percentile was 1.39 per 100 million entering vehicles. For Sandy Creek Road, the following intersection fell above the 75th percentile:

- Sandy Creek Road and Eastin Road.

This finding indicates that Eastin Road's crash rate shows a trend that safety improvements are needed at the intersection. Moreover, Sandy Creek Road and Eastin Road was identified as one of the top crash rate location in Fayette County's CTP Needs Assessment.

- **Select Link Analysis -**

The Fayette County Comprehensive Transportation Plan used the ARC Travel Demand Model to analyze 12 key road segments consisting of primary local or regional connectors using the 2017 base year during the afternoon peak period. The select link analysis was used to provide an understanding of origins and destinations. The preliminary results of the select link analysis were reviewed to identity the impact of regional traffic orientation on Sandy Creek Road operations.

One of the link analyzed was SR 92/Veterans Parkway which is north of the eastern termini of Sandy Creek Road at Veterans Parkway. Based on the origin-destination results, the majority of trips on Veterans Parkway are traveling north to SR 92 to access Interstate 85 and Fulton County and traveling south to Fayetteville, Peachtree City and beyond. For SR 54 through downtown Fayetteville, many trips continue on SR 54 into Coweta County, while some split off to the northwest on Sandy Creek Road.

SR 74 from Atlanta was also analyzed in the Select Link Analysis. Based on the results SR 74, which is Sandy Creek Road's western termini, operates a primary commuter route for Fayette County residents commuting to and from Atlanta. The origin-destination findings show that trips destined from Fulton County distribute to the Town of Tyrone, Peachtree City, Sandy Creek Road, Tyrone Road, and North Peachtree Parkway.

- **Truck Route Candidate -**

One of the needs identified in the Comprehensive Transportation Plan was to designate new east-west and north-south truck routes throughout the county to mitigate future congestion. Sandy Creek Road, along with Bernhard-Goza corridor, Crabapple Lane, Tyrone Road, and Veterans Parkway, were identified as potential candidates east-west truck routes.

Truck count data indicates that trucks travel heavily along SR 74, which provides access to I-85, the Fairburn intermodal yard, and warehousing/distribution centers along Oakley Industrial Blvd. Community feedback indicates that trucks utilize both Sandy Creek Road and Tyrone Road as an east-west connection between SR 74 and Fayetteville, and these movements are expected to continue as direct routes into the city centers.

In tandem with the need for new truck routes, the design of these roads must be evaluated, keeping in mind the overall character of the area and the needs of the communities these thoroughfares serve. In the event that Sandy Creek Road is recommended as a truck route, it is imperative that all improvements be designed to accommodate truck traffic.

Qualitative Analysis

The core of any transportation study are the citizens who use the corridor. Residents and stakeholders form an important voice for the existing and anticipated future challenges with the transportation system. Citizens were provided multiple platforms and avenues to engage in the development of the study, including traditional public meetings; stakeholder meetings; online surveys and an interactive project website. These efforts formed the basis of the qualitative analysis, which used a combination of tools to capture citizen views.

- **Stakeholder Committee Meetings -**

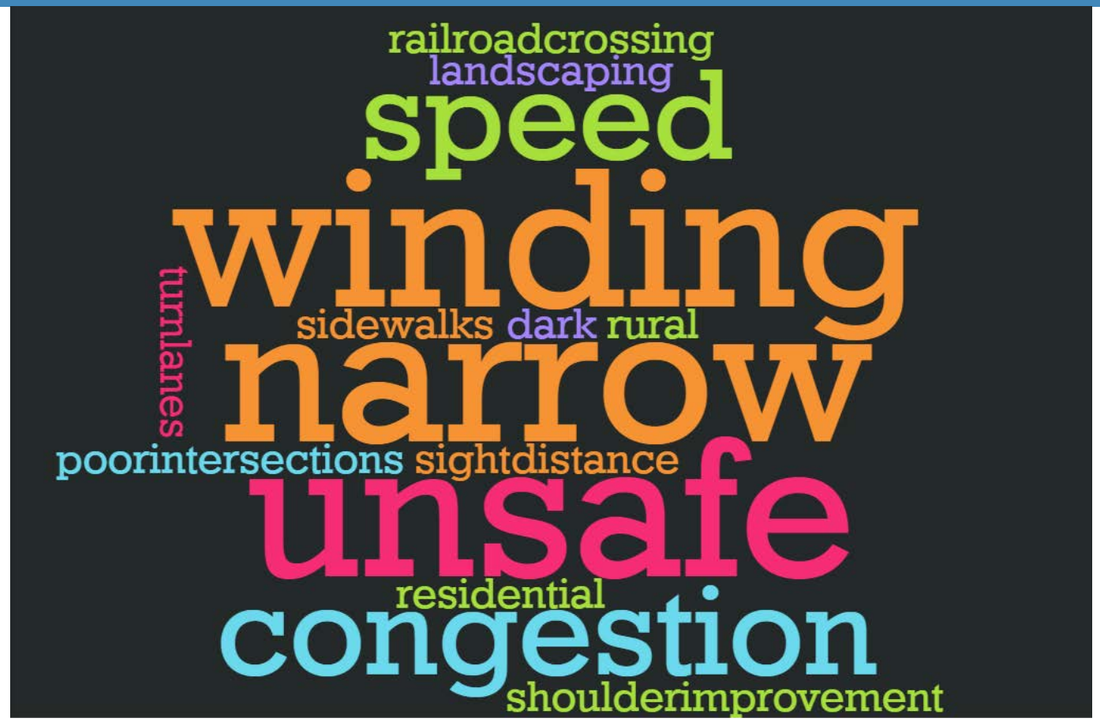
Two stakeholder committee meetings were organized - first at the onset of the project to help identify high level challenges and concerns for the corridor, and the second after the first Public Information Open House, to conduct an in-depth SWOT (Strengths, Weakness, Opportunities, Trepidation) analysis of the corridor and discuss potential projects and prioritization.

Image 2.3 - Photos from Stakeholder Committee Meetings 1 & 2

The first stakeholder committee meeting provided members the opportunity to identify specific transportation challenges within the corridor at the mapping station. Stakeholders were asked for input via an interactive Word Cloud and Kahoot questionnaire.

The second stakeholder meeting was workshop style where committee members and County staff worked on three activities and focused on the draft concepts and their priority. The activities included a SWOT Analysis, discussing the draft concepts and prioritizing them. The third activity was called “Show me the Money” where each stakeholder was given 1 million dollars in funds to invest in projects. Graphic 2.10 and Graphic 2.11 represents comments from these meetings.

Graphic 2.10 - Perceptions of the Existing Conditions of the Sandy Creek Road Corridor



Graphic 2.11 - SWOT Analysis

Strengths		Weaknesses	
IN WHAT AREAS DOES THE CORRIDOR DO WELL?	• Connectivity (from SR 74 to SR 54) • Efficient (for traffic and emergency response) • Aesthetic • Open to Considering Improvements	• Cost • Safety, Capacity, Traffic, Trucks • No bike ped infrastructure • No turn lanes, difficult to maneuver	WHERE DO WE NEED TO IMPROVE?
Opportunities		**Trepidations**	
WHAT ARE OUR GOALS?	• Aesthetic and Efficiency • Smart growth • Impact project (new development) • Pre plan storm water	• People and Mindsets • Property acquisition and Right of Way • Maintain traffic during infrastructure development	WHAT CHALLENGES WILL WE FACE?

- **Public Information Open House -**

The first Public Information Open House for the Sandy Creek Road corridor study was held on March 18, 2019 from 4 pm to 7 pm at the Fayette County Public Library in conjunction with the other three corridors also being studied by Fayette County.

Citizens were given various opportunities to provide feedback on the current conditions of the corridor, including sticker stations, comment cards and detailed comment forms. Graphic 2.12 represents highlights from the PIOH.

Graphic 2.12 - PIOH Comments

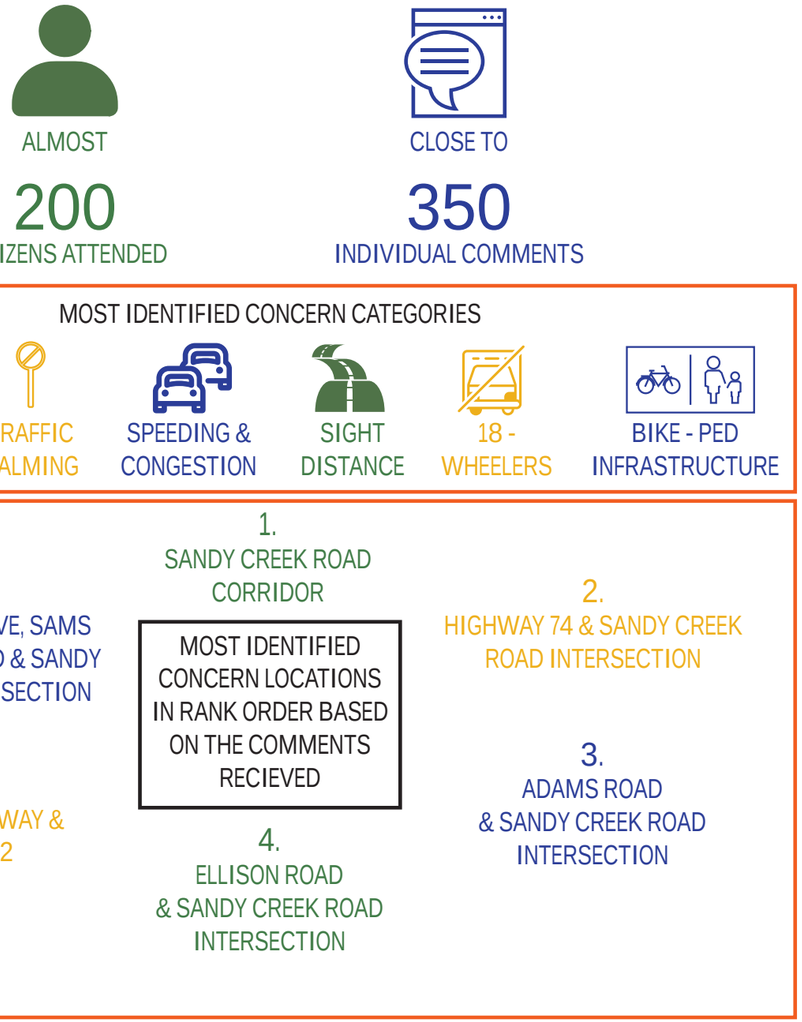


Image 2.4 - PIOH

Review of Existing Documents

The Fayette County Transportation Corridor Studies builds on the momentum of previous plans and studies. To understand the County's vision and goals, the Fayette County Transportation Plan and the Fayette County Comprehensive Plan were reviewed.

2.4 Next Steps

After the County's current and projected future transportation needs along the Sandy Creek Road corridor were analyzed, the focus of the study was directed towards identifying solutions and projects that will meet these needs. These preliminary project concepts were presented to the citizens at the second Public Information Open House. More information of the outreach is outlined in Chapter 3 - Community Engagement.

The set of draft recommendations, will undergo a robust project evaluation and prioritization process. To evaluate and prioritize the projects, the team will develop criteria that align with the project's vision and goals, keeping these objectives as the driving force of the plan. Details of this section are in Chapter 4 - Concept Development.

Chapter 3:
Community Engagement

3.1 Introduction

The core of any transportation study are the citizens who use the corridor. Residents and stakeholders form an important voice for the existing and anticipated future challenges with the transportation system.

Citizens were provided multiple platforms and avenues to engage in the development of the study, including traditional public meetings, stakeholder meetings, online surveys and an interactive project website. These efforts formed the basis of the qualitative analysis, which used a combination of tools to capture citizen views.

"Successful public participation is a continuous process, consisting of a series of activities and actions to both inform the public and stakeholders and to obtain input from **them which influence decisions that affect their lives."**

- Federal Highway Administration

Graphic 3.1 - Three Pillars of Community Engagement

3.2 Stakeholder Committee

The Stakeholder Committee is a critical element in the corridor studies process, ensuring that the plan and process encompasses the full range of community values and desires. The group was selected from six categories represented in Graphic 3.2.

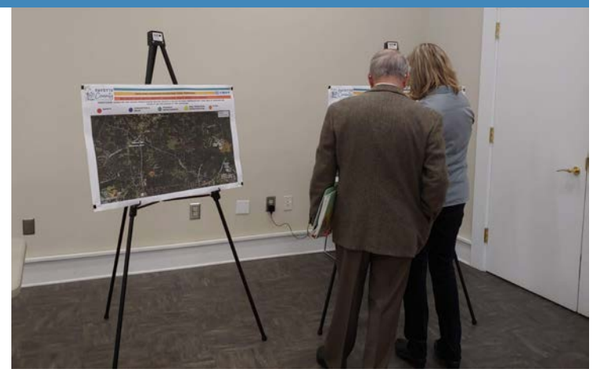
Graphic 3.2 - Stakeholder Committee Group

Two stakeholder committee meetings were organized. The first, at the onset of the project to help identify high level challenges and concerns for the corridor. The second, after the first Public Information Open House, detailed out an in-depth SWOT (Strengths, Weaknesses, Opportunities and Threats) Analysis of the corridor and discuss potential projects and prioritization.

- **Meeting 1 -**

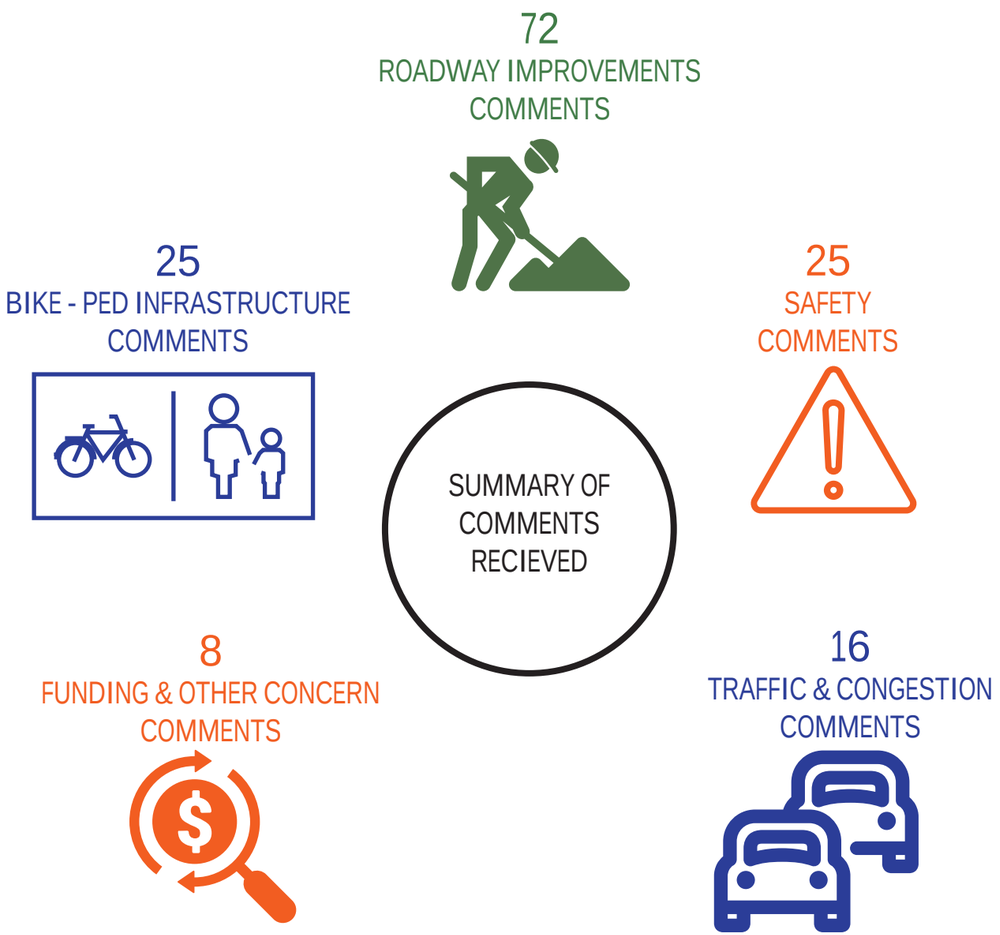
The first meeting was held on February 5, 2019 at the Fayette County Library in conjunction with the Tyrone Road - Palmetto Road stakeholder committee. Of the 27 members invited to participate, 18 attended. Represented in attendance were Fayette County, Town of Tyrone, City of Fayetteville, Georgia Department of Transportation, Homeowners Associations, Non – Profits, Media, Institutions and Faith Groups. Image 3.1 shows photographs from the meeting.

Image 3.1 - Stakeholder Committee Meeting 1



Prior to the meeting, stakeholders had the opportunity to identify specific transportation challenges within the corridor at the mapping station. Stakeholders were asked for input via an interactive Word Cloud and Kahoot questionnaire. Graphic 3.3 represents results from the activities and the overall meeting. Detailed comments and Word Cloud results are attached in the appendix.

Graphic 3.3 - Stakeholder Committee Meeting Comments & Feedback



- **Meeting 2 -**

The second stakeholder committee meeting for the Sandy Creek Road corridor study was held on May 22, 2019 from 5 pm to 7 pm at the Fayette County Public Library. The stakeholder committee meeting was in conjunction with the other three corridors also being studied by Fayette County.

The meeting was workshop style where committee members and county staff worked on three activities, focused on the draft concepts and their priorities. The first activity was the SWOT Analysis (Strengths, Weakness, Opportunities, Threats). The second workshop activity was discussing the draft concepts and prioritizing them. The third activity was called “Show me the Money”. To aid further prioritization, each stakeholder was given 1 million dollars in funds to invest in projects. Image 3.2 shows photographs from the meeting. Detailed comments and Word Cloud results are attached in the appendix.

Image 3.2 - Stakeholder Committee Meeting 2

3.3 Public Information Open House

- **PIOH 1 -**

The first Public Information Open House for the Sandy Creek Road corridor study was held on March 18, 2019 from 4 pm to 7 pm at the Fayette County Public Library, in conjunction with the other three corridors also being studied by Fayette County.

Citizens were given various opportunities to provide feedback on the current conditions of the corridor, including sticker stations, comment cards and detailed comment forms. Graphic 3.4 represents highlights from the PIOH. Detailed comments and results are attached in the appendix.

Graphic 3.4 - PIOH 1 Highlights

- **PIOH 2 -**

The second Public Information Open House for the Sandy Creek Road corridor study was held on July 15, 2019 from 4 pm to 7 pm at the Fayette County Public Library in conjunction with the other three corridors also being studied by Fayette County.

Preliminary project concepts were presented to the citizens. Citizens were given various opportunities to provide feedback on the draft concepts, including sticker stations, online survey stations and detailed comment forms.

Graphic 3.5 represents highlights from the PIOH. Detailed comments and results are attached in the appendix.

Graphic 3.5 - PIOH 2 Highlights

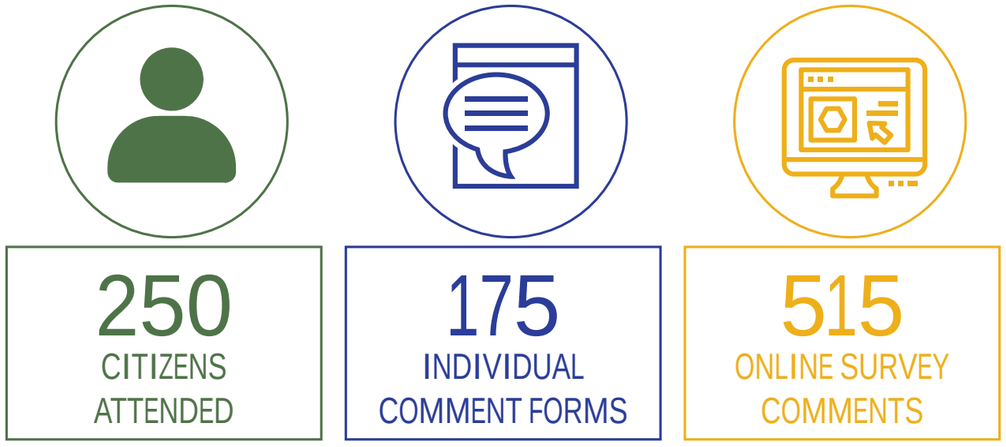
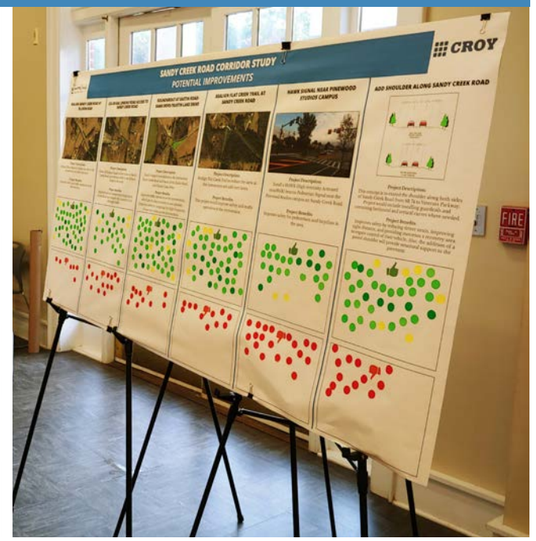


Image 3.3 - PIOH 2 Highlights



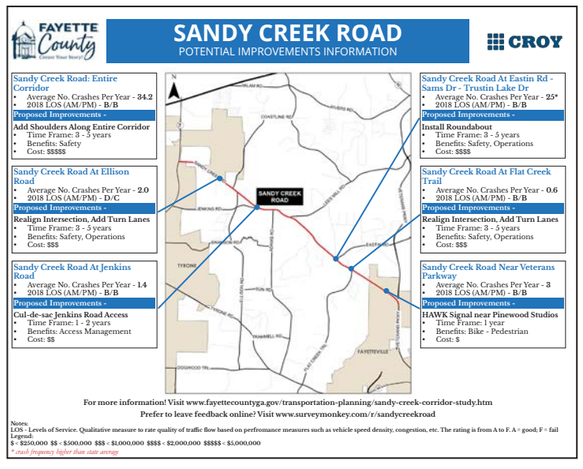
3.4 Outreach Methods and Tools

Outreach efforts relied on a variety of methods and tools to engage diverse audiences and a strong cross-section of the community.

- **Project Fact Sheets -**

A project fact sheet was created for outreach efforts to provide high-level information to educate the public about the plan. The fact sheet included details on the plan's purpose and goals, overall process and schedule, traffic volumes and crash data and QR coded links to the survey. The second phase fact sheets provided information on potential improvements, time frame, benefits and cost estimates to help citizens better understand proposed concepts. Fact sheets are attached in the appendix.

Image 3.4 - Fact Sheets



- **Project Flyers -**

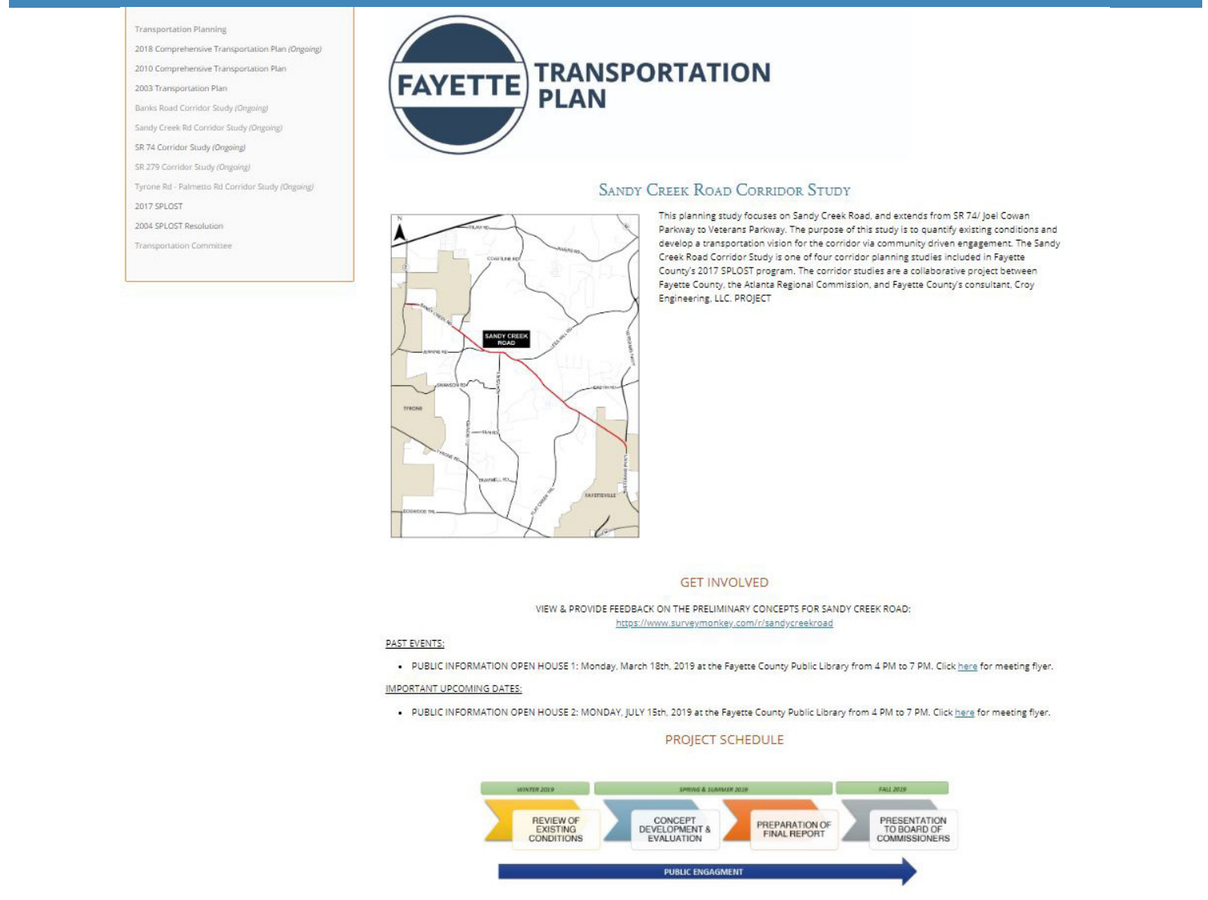
Post-card size flyers were created to send to citizens via email, newspaper distribution, and dispensed at major locations like the library and County offices.

- **Project-specific Web Page -**

The Fayette County Transportation Planning webpage was used to host corridor study information (www.fayettecountyga.gov/transportation-planning/). Information on the project was provided to the County Communications staff for posting on the site.

The aim of the website was to provide stakeholders and County residents a forum to allow continuous feedback on the corridor study, learn about public meetings, and keep up to the date on the progress of development of the project. The web page was updated with presentations, findings, results, ideas, surveys, and meeting information to foster an ongoing project conversation. Both rounds of online survey were also embedded on the project-specific webpage. All documents uploaded to the website are attached in the appendix.

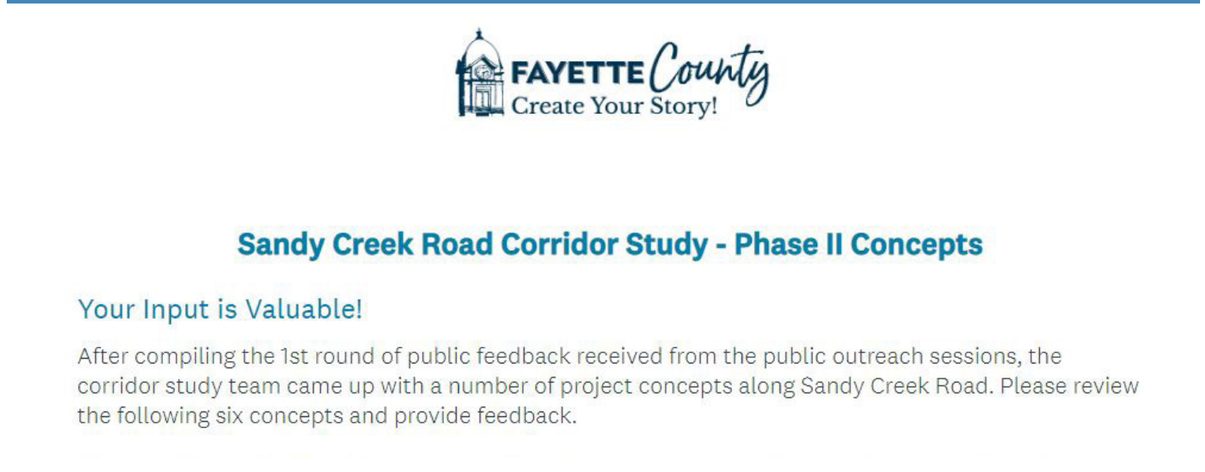
Image 3.5 - Website Page



- **Surveys -**

Two rounds of surveys were used during the public outreach, one in each phase. The surveys were available in both an online format and in hard copy (for the PIOH). The first round of survey focused on understanding the overall vision for the corridor. The second round of survey focused on determining preference and priorities for recommending projects.

Image 3.6 - Survey Page



- **Email Blasts -**

Email blasts were pushed out during the plan's development to inform citizens of the public information open house and provide information to the survey links. Email blast updates included information on the plan status, dates and information on upcoming public open houses or community events and alerts to take the online surveys.

- **Variable Message Boards -**

Variable Message Boards were used at strategic locations to advertise the two Public Information Open Houses.

- **Social Media: Facebook -**

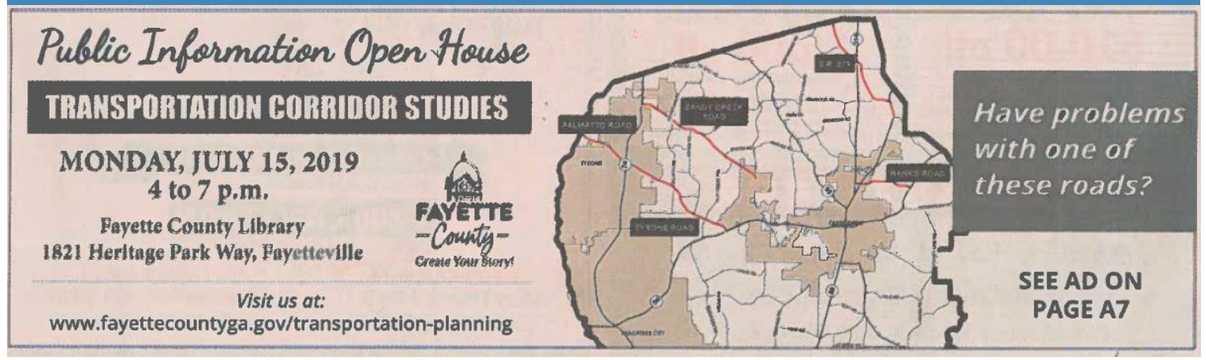
City and community Facebook pages were used to inform the community of upcoming events, access to the online survey, and plan updates during the planning process. Image 3.7 represents an example of an announcement on the City of Fayetteville Facebook page.

Image 3.7 - Facebook Page

- **Newspaper Advertisement -**

Newspaper advertisements were printed in The Citizen to in-form citizens on upcoming public open houses or community events and are displayed in Image 3.8.

Image 3.8 - Newspaper Advertisement



3.5 Transportation Committee

The Fayette County Transportation Committee is tasked with overseeing transportation planning, safety, operations and project de-livery issues. The Committee meets monthly and makes recommendations for consideration by the Board of Commissioners. The group was focused on providing feedback and support to the county and consultant in defining the project and identifying potential project outcomes for the study.

Details from the meetings is described below -

- December 4, 2018 -

Presentation was made to introduce the study and teams and to outline the process and outcomes. Handouts were also distributed to gain feedback on the study goals, current perspectives, challenges and desired outcomes for the corridors.

- May 7, 2019 -

Presentation was made to provide a recap of the outreach events and the Road Safety Audit, introduce the website page, and discuss the next steps and action items.

- June 4, 2019 -

This meeting introduced, discussed and debated the potential improvements for the Sandy Creek Road Corridor and the Tyrone Road - Palmetto Road Corridor.

Image 3.9 - Transportation Committee In Action

- July 9, 2019 -

This meeting discussed potential improvements to the Banks Road Corridor and SR 279 Corridor were made. Also included in the discussions were the relocation of the intersection of SR 279 at SR 85 to form a common intersection with Corinth Road.

- September 10, 2019 -

County staff reviewed draft project recommendations, including alignment of SR 279 with Corinth Road.

- October 1, 2019 -

This meeting presented for discussion the preferred improvement projects for the 4 corridors. Presentation included concept diagrams, benefits and estimated construction cost of the projects. Edits from the Committee were incorporated into the version of the report subsequently posted for public comment.

3.6 Formal Presentations

- **City of Fayetteville City Council -**

The City of Fayetteville City Council presentation was made on November 7, 2019. The presentation included the three 2017 SPLOST Corridor Studies on: Banks Road, Sandy Creek Road, and Tyrone & Palmetto Roads. The presentation aimed to provide the public and the City Council a summary of the report recommendations and encourage input on the draft documents.

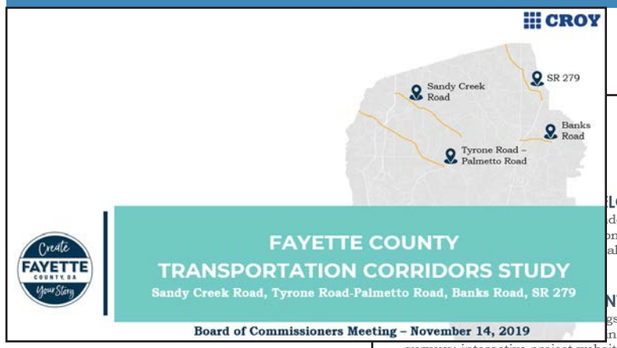
- **Fayette County Board of Commissioners -**

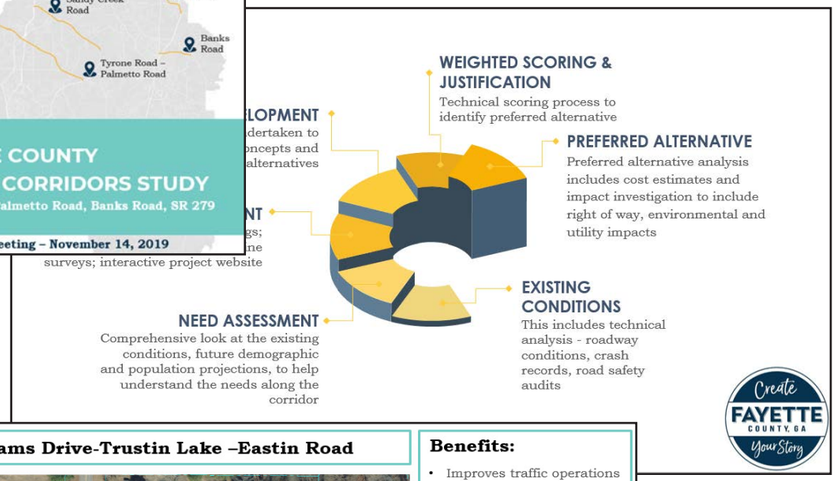
The Fayette county Board of Commissioners (BOC) presentation was made on November 14, 2019. The presentation included the four 2017 SPLOST Corridor Studies on: Banks Road, Sandy Creek Road, Tyrone & Palmetto Roads, and SR 279.
The presentation aimed to provide the public and the BOC a summary of the report recommendations and encourage input on the draft documents. The public comment period was open through the month of November. Final reports will be presented to the BOC for adoption in December 2019 or January 2020, depending on the amount of comments received.

- **Town of Tyrone City Council -**

The Town of Tyrone City Council presentation was made on November 21, 2019. The presentation included the 2017 SPLOST Corridor Studies on Sandy Creek Road, and Tyrone & Palmetto Roads. The presentation aimed to provide the public and the City Council a summary of the report recommendations and encourage input on the draft documents.

Image 3.10 - Snapshot of the Formal Presentations

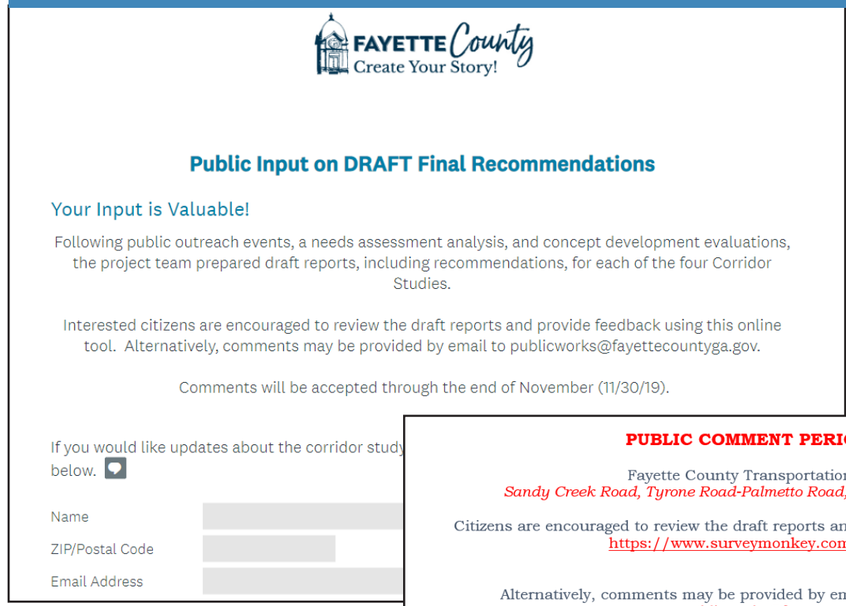




3.7 Public Comment Period

The Public Comment period was open through the month of November for the four draft corridor studies (Banks Road, Sandy Creek Road, SR 279 and Tyrone & Palmetto Roads). Blast emails were sent to citizens, draft reports and survey links were posted on the website and printed copies of the draft reports were made available at key County locations. A total of 91 comments were received. After completion of the public comment period, the draft documents were revised to reflect comments received and the reports will be presented to the Board of Commissioners for adoption.

Image 3.11 - Snapshot of the Public Comment Survey and Blast Email


FAYETTE County
Create Your Story!

Public Input on DRAFT Final Recommendations

Your Input is Valuable!

Following public outreach events, a needs assessment analysis, and concept development evaluations, the project team prepared draft reports, including recommendations, for each of the four Corridor Studies.

Interested citizens are encouraged to review the draft reports and provide feedback using this online tool. Alternatively, comments may be provided by email to publicworks@fayettecountyga.gov.

Comments will be accepted through the end of November (11/30/19).

If you would like updates about the corridor study below.

Name

ZIP/Postal Code

Email Address


PUBLIC COMMENT PERIOD NOW OPEN!

Fayette County Transportation Corridor Studies
Sandy Creek Road, Tyrone Road-Palmetto Road, Banks Road, and GA Highway 279

Citizens are encouraged to review the draft reports and provide feedback using Survey Monkey.
https://www.surveymonkey.com/r/FayetteFeedback

Alternatively, comments may be provided by email to Fayette County Public Works
publicworks@fayettecountyga.gov

Public Comment Period Closing Date
November 30, 2019

Fayette County and Croy Engineering would like to thank you for participating and providing valuable feedback for the four Fayette County Corridor Studies currently underway.

As we are entering into the final stretch, your participation and continued interest is critical to the overall success of the corridor studies. We have tabulated the feedback received on the potential concepts from the stakeholder committee meetings, public open house and online survey and have developed draft recommendations and implementation plan for each of the four corridors.

Please use the links below to view the draft reports for each of the corridors being studied:

Sandy Creek Road: http://www.fayettecountyga.gov/transportation-planning/sandy-creek-corridor-study.htm

3.8 Next Steps

As aforementioned, once the analysis of the County's current and projected future transportation needs was completed, the focus of the study was directed towards identifying project concepts including solutions to minimize impacts.

A robust project evaluation and prioritization process was used to evaluate the set of draft recommendations to develop a criteria that aligns with the project's vision and goals. Additional criterion included right of way impacts, cost estimates, and funding mechanisms.

The Existing Conditions, Needs Assessment and the Road Safety Audit lay the foundation for the draft GDOT Concept Report, which is included in the appendix of the report.

Chapter 4:
Concept Development

4.1 Introduction - Page 48
This section of the report introduces the concept development report and discusses the structure of the document.

4.2 Concept Development Process - Page 48
The approach and process undertaken to develop the concepts are defined in this section.

4.3 Weighted Scoring - Page 49
This section identifies the formal weighted scoring process used to initially prioritize the draft concepts.

4.4 Preliminary Draft Concepts - Page 52
This segment discusses the preliminary draft concepts identified and presented to the public and also presents feedback from citizens.

4.5 Evaluation Results - Page 55
This section identifies the results obtained from the formal weighted scoring process.

4.1 Introduction

The Concept Development Report is the fourth section of the Sandy Creek Road Corridor Study. The precedents to this report are the Existing Conditions report which detailed the current conditions of the area around the corridor; the Needs Assessment report which identifies insights into the current and future needs of the corridor; and the Community Engagement report which describes the outreach efforts and feedback.

This chapter highlights the concept development approach utilized as part of the Sandy Creek Road corridor planning process and discusses the approach and process undertaken to develop the preliminary concepts and arrive at the preferred alternatives. This includes the draft concepts, feedback from citizens, formal weighted scoring process used to streamline the draft concepts, project justification and the preferred concept.

Preferred alternative analyses include cost impacts to right of way, the environmental considerations, and utilities. Concepts developed represent potential combinations of safety improvements, operational improvements, and multi-modal accommodations per the corridor's Needs Assessment Evaluation and public feedback from the first Public Information Open House (PIOH).

4.2 Concept Development Process

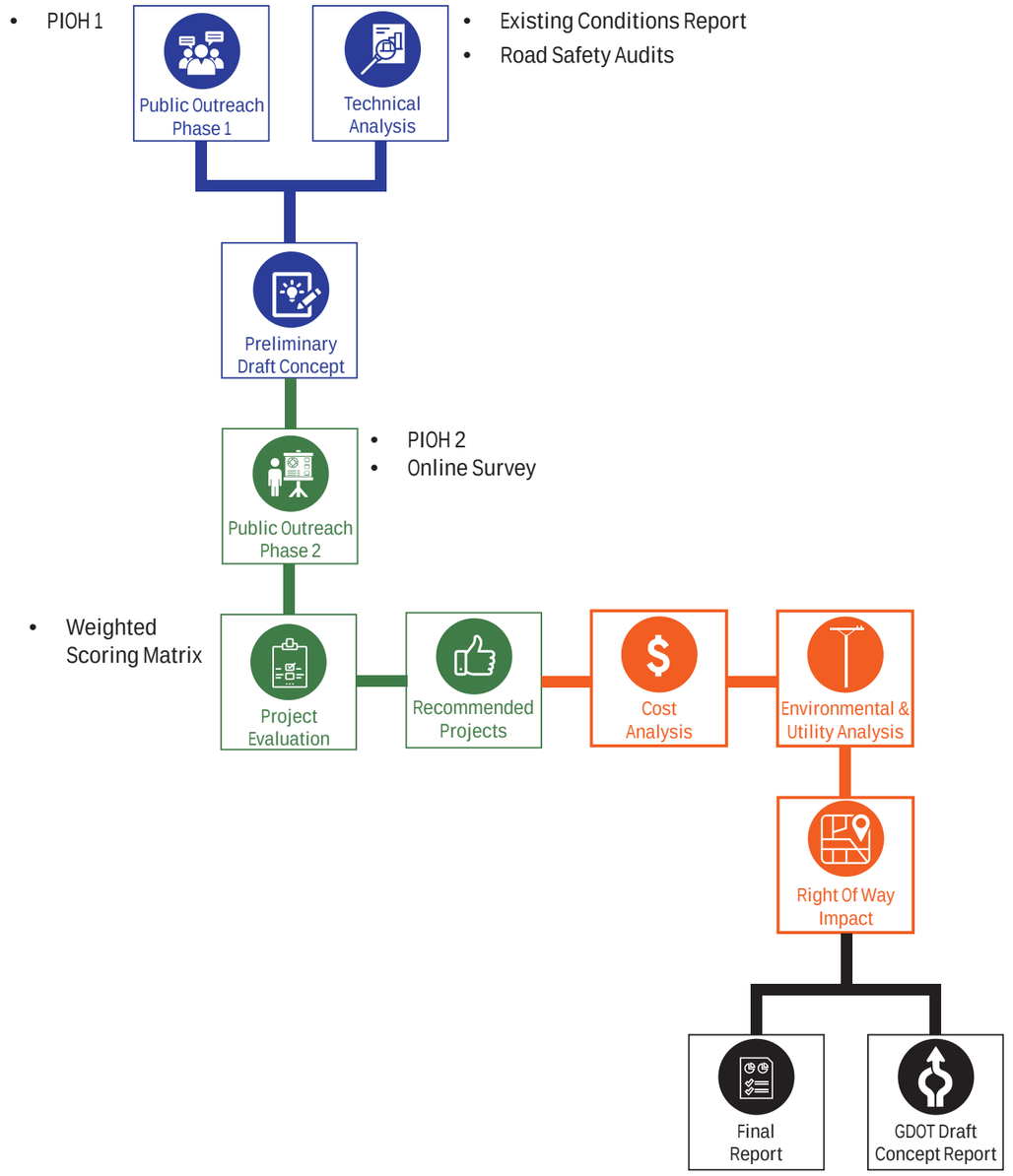
After the County's current and projected future transportation needs along the Sandy Creek Road corridor were analyzed, feedback was compiled from the first round of public outreach – the PIOH and online submissions. This analysis was directed to identify concepts and solutions to address citizen concerns in alignment with the goals and vision for the corridor.

Preliminary draft concepts were presented to the citizens. Concept boards included descriptions, image renderings, and listing of benefits and impacts. Citizens were given various opportunities to provide feedback on the draft concepts, including sticker stations, online survey stations and detailed comment forms.

After compiling the second round of public feedback through the outreach sessions and online surveys, the set of draft recommendations were assessed using robust project evaluation and prioritization processes. A scoring matrix was created to evaluate and prioritize the projects with achieving the objectives as the driving force of the process.

Project justification including traffic operations modeling and safety benefits were provided to identify the preferred alternative. The cost analysis, right of way, environmental and utility impacts for this alternative were also assessed. The concept development process is detailed in Graphic 4.1.

Graphic 4.1- Sandy Creek Road Concept Development Process



4.3 Weighted Scoring

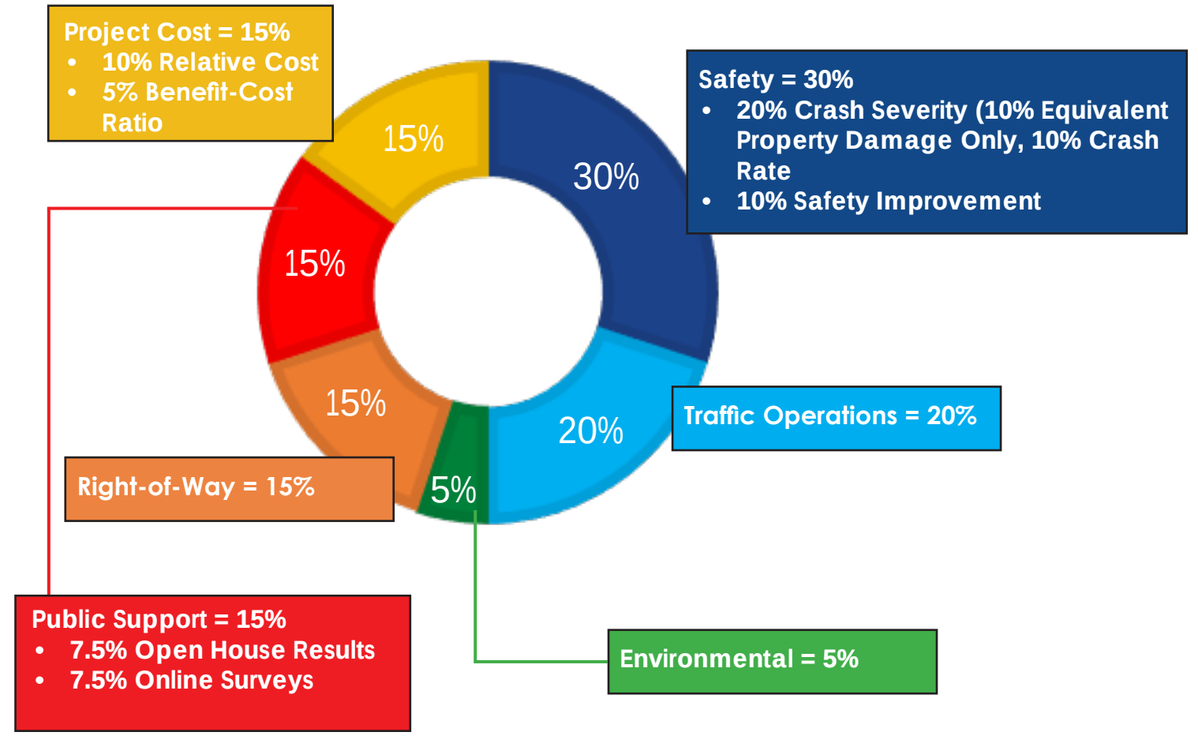
To assess the performance of each alternate improvement with regard to the study's vision, a quantitative and qualitative approach was developed. An evaluation matrix was prepared to quantitatively compare and "score" the performance of each concept. The qualitative approach included comparing the concepts to Fayette County's policies included in the pending Comprehensive Transportation Plan (CTP) to ascertain how well each concept supports the CTP. As aforementioned, this section details the tools and methodology used to evaluate the transportation concepts developed for Sandy Creek Road.

Quantitative Approach – Evaluation Matrix

The categories evaluated in the evaluation matrix for each concept were safety, traffic operations, environmental impact, right-of-way acquisition, project cost, and public support. For each category, performance measures were selected and/or developed as a means of evaluating the relative performance of each concept in terms of each specific scoring category.

Within the evaluation matrix, a weighted system was used to assign each category points totaling to 100 points. Graphic 4.2 and 4.3 summarize the performance measures, descriptions, data sources, and methodology by category. The concept evaluation worksheets for each category are included in the appendix.

Graphic 4.3 - Weighted Scoring Percentages



Graphic 4.2 - Weighted Scoring Categories

- **Safety (30 Points)**

To score safety, each concept was analyzed based on the current crash severity at the location and the potential improvement to safety that can be realized by the proposed concept design. To calculate the crash severity, crash data was obtained from the Georgia Electronic Accident Reporting System (GEARS) database. Crash records were collected along Sandy Creek Road between 2014 and 2018.

The crash data was sorted by crash severity based on the KABCO scale per intersection and road segment. Table 4.1 represents the KABCO Injury Classification scale for crash severity defines levels of injury severity. If several people are injured in a crash, the most severe injury level is used to set crash severity.

Table 4.1 - Injury Severity	
INJURY SEVERITY LEVEL	**DESCRIPTION**
K (Fatality)	FATAL INJURIES INCLUDE DEATHS WHICH OCCUR WITHIN THIRTY DAYS FOLLOWING INJURY IN A MOTOR VEHICLE CRASH.
A (Incapacitating Injury)	INCAPACITATING INJURIES INCLUDE SKULL FRACTURES, INTERNAL INJURIES, BROKEN OR DISTORTED LIMBS, UNCONSCIOUSNESS, SEVERE LACERATIONS, SEVERE BURNS, AND UNABLE TO LEAVE THE SCENE WITHOUT ASSISTANCE.
B (Non-Incapacitating Injury)	NON-INCAPACITATING INJURIES INCLUDE VISIBLE INJURIES SUCH AS A "LUMP" ON THE HEAD, ABRASIONS, AND MINOR LACERATIONS.
C (Complaint Injury)	MINOR INJURIES INCLUDE HYSTERIA, NAUSEA, MOMENTARY UNCONSCIOUSNESS, AND COMPLAINT OF PAIN WITHOUT VISIBLE SIGNS OF INJURY.
O (Property Damage Only)	NO FATALITY OR INJURY; PROPERTY DAMAGE ONLY

Crash Severity (20 points)

The first component of the Safety Score for each concept is the crash severity currently experienced at the project location. The crash severity at each proposed project's location was scored based on its EPDO (Equivalent Property Damage Only) value and the intersection or road segment crash rate at the location. The equivalent property damage only (EPDO) value for a crash location weighs factors related to the societal costs of fatal, injury, and property damage-only crashes. The relative costs are assigned to crashes by severity to develop an equivalent property damage-only score that considers frequency and severity of crashes. Each concept's EPDO Score was normalized relative to the EPDOs for the four Fayette Corridor Studies with the maximum value being 10 points.

A road segment or intersection's crash rate is calculated to determine relative safety compared to other similar roadways, segments, or intersections. Crash rate analysis typically takes into account data such as traffic volumes or roadway mileage to provide a more effective means of comparing crash frequency at locations and prioritizing safety issues at similar locations. Each concept's Crash Rate Score was normalized relative to 2016 statewide average crash rate with the maximum value being 10 points.

Crash Reduction Factor (10 points)

The second component of the Safety Score for each concept is the project's potential to reduce the number of crashes at the project's location. To determine this value, the FHWA's Highway Safety Manual was used to identify the crash reduction factor(s) (CRFs) for each concept. A crash reduction factor (CRF) is the percentage crash reduction that might be expected after implementing a given countermeasure at a specific site. Each concept's Safety Improvement Score was normalized to 100% with the maximum value being 10 points.

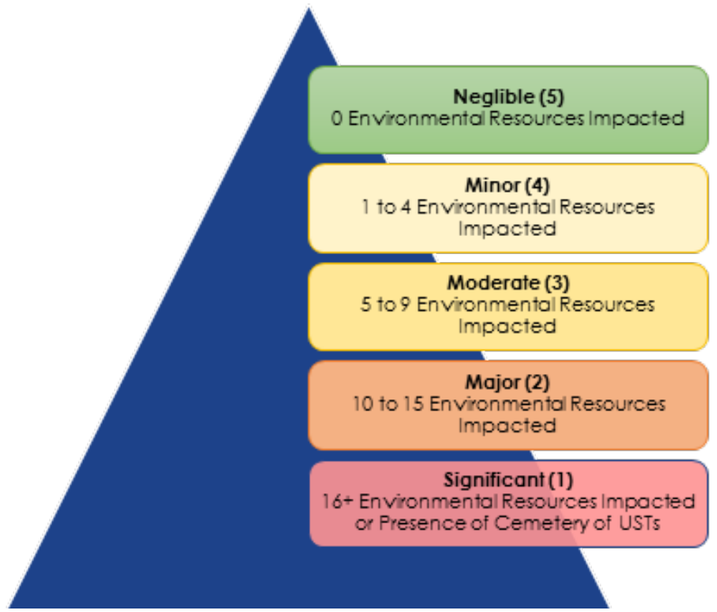
- **Traffic Operations (20 points)**

To score traffic operations, each concept was analyzed based on the net difference in delay or road capacity between a 2040 Build scenario and the 2040 No Build scenario. The net difference in delay or capacity between the 2040 Build and No Build scenarios was calculated for the AM and PM peak hours. The peak hour with the greatest reduction in delay or increase in capacity was selected and used to rank the concept's potential improvement to traffic operations based on a ranking from 1 to 10. The ranking was then converted to the overall Traffic Operations score for the concept, with the maximum score being 20 points.

- **Environmental (5 points)**

To score environmental impacts, each concept was analyzed based on the number of environmental resources potentially impacted by the construction of the project. The potential environmental impact was ranked on a scale from Negligible (5 ranking) to Significant (1 ranking). The total number of environmental resources impacted by a project was determined based on the number of resources present within a quarter mile radius of the project. Moreover, if there is a presence of a cemetery or underground storage tank (UST), the concept automatically received an impact score of Significant. The ranking was then converted to the overall Environmental Impact score for the concept, with the maximum score being 5 points.

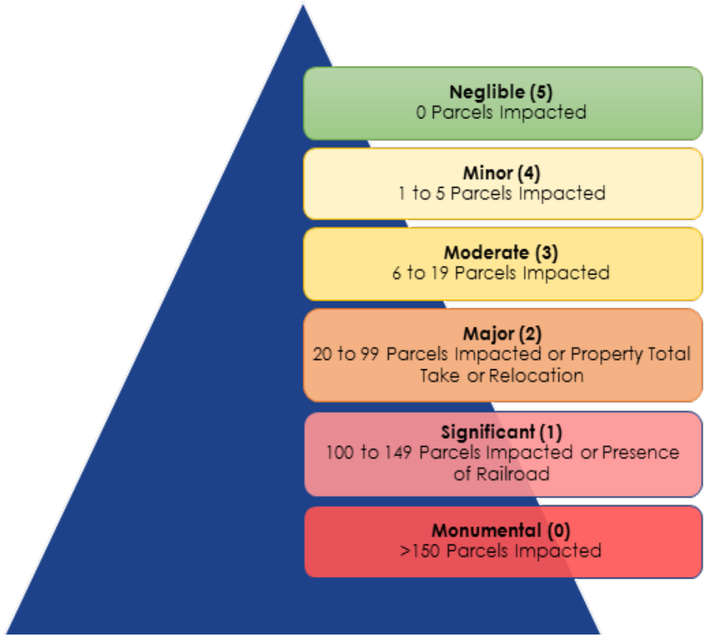
Graphic 4.4 - Environmental Categories



- **Right-of-Way (15 points)**

To score right-of-way impacts, each concept was analyzed based on the number and type of parcels potentially impacted by the construction of the project. To account for the current zoning of the parcels impacted, an undeveloped parcel is equal to 1 impact, a developed residential parcel is equal to 2 impacts, and a developed commercial parcel is equal to 5 impacts. The potential right-of-way impact was ranked on a scale from Negligible (5 ranking) to Monumental (0 ranking). Moreover, if a project requires a total take or relocation of a property, the concept automatically received an impact score of "Major". If there is a presence of a railroad within the project limits, the concept automatically received an impact score of "Significant". The ranking was then converted to the overall Right-of-Way score for the concept, with the maximum score being 15 points.

Graphic 4.5 - Right-of-Way Categories



- **Project Costs (15 points)**

To score project costs, each concept was analyzed based on its overall construction costs and the project's benefit-cost ratio. To calculate the Project Cost score, a planning-level construction cost estimate was prepared for each concept. Each project's construction cost estimate was used to calculate a Relative Project Cost score and a Benefit-Cost score. For project scoring purposes, design and right-of-way costs were not considered.

Relative Project Cost (10 points)

The first component of the Project Costs Score for each concept is its projected construction cost ranked on a scale from 0 to 5. For each concept, its Relative Project Cost is based on the price range and was ranked accordingly. The ranking was then converted to the Relative Project Cost score for the concept, with the maximum score being 10 points.

Benefit - Cost Ratio (5 points)

The second component of the Project Costs Score for each concepts is its benefit-cost ratio. The benefit-cost ratio was calculated by dividing the total monetary value of the potential benefits of the project by the projected construction cost for the project. The monetary value of the potential benefits was the sum of the potential crash cost savings over a 20-Year horizon and the travel time savings over a 20-Year horizon. Crash Costs savings were calculated per Property Damage Only (PDO) Crash Costs in GDOT's Highway Safety Improvement Program Report (2016). Travel Time savings were calculated by assigning monetary values to the reduction in automobile delay and truck delay and by accounting for fuel cost savings. The ranking was then converted to the Benefit-Cost Ratio score for the concept, with the maximum score being 5 points.

- **Public Support (15 points)**

To score public support, each concept was analyzed based on documented comments received at the second Public Open House and the results from the Phase II Online Survey. The information was then converted to an overall Public Support score for each concept, with the maximum score being 7.5 points for the comment forms and 7.5 points for the online surveys.

4.4 Preliminary Draft Concepts

Preliminary projects were identified to address current and projected future transportation needs. These concepts were presented to the citizens at the second PIOH, in July 2019. Citizens were given various opportunities to provide feedback on the draft concepts, including sticker stations, online survey stations and detailed comment forms. As aforementioned, around 250 citizens attended the open house, 176 comments were received via comment forms, and 515 comments were received via the online survey.

Following a review of the results from the first Public Information Open House and completion of the Phase 1 online survey, the project management team developed a series of projects that addressed the identified concerns. With the completion of the Needs Assessment Report, concept ideas were refined and additional concepts were added to address the current facility needs.

Below is the list of concepts evaluated for Sandy Creek Road:

- Intersection Improvement at Ellison Road (Realignment & Turn Lanes)
- Intersection Improvement at Ellison Road (Roundabout)
- Access Management: Remove Jenkins Road Direct Access to Sandy Creek Road
- Grade separation at Railroad Crossing near Coastline Road
- Install Roundabout at Sams Drive -Trustin Lake Drive - Eastin Road
- Intersection Improvement at Flat Creek Trail (Realignment & Turn Lanes)
- Safety Improvements Along Entire Corridor

Each concept's project description and potential benefits are listed in the following sections.

LOS - Levels of Service. Qualitative measure to rate quality of traffic flow based on perfromance measures such as vehicle speed density, congestion, etc. The rating is from A to F. A = good; F = fail
Legend: $ < $250,000 $$ < $500,000 $$$ < $1,000,000 $$$$ < $2,000,000 $$$$$ < $5,000,000

1. Concept: Intersection Improvement at Ellison Road

Based on the Needs Assessment and public comments, an intersection improvement at Ellison Road was identified for additional consideration. Two concepts were proposed: the first adding turn lanes at the intersection and the second installing a roundabout. For both concepts, Ellison Road would be realigned to reduce the skew at the intersection. This project would improve safety and traffic operations at the intersection. The roundabout option would also reduce vehicle speed on Sandy Creek Road along this section of the road.

Average No. Crashes Per Year	2018 LOS (AM/PM)	Time Frame	Benefits	CST
2.0	D/C	3 - 5 years	Safety, Operations	$$$

Graphic 4.6 - Concept: Intersection Improvement at Ellison Road (Realignment & Turn Lanes)

Graphic 4.7 - Concept: Intersection Improvement at Ellison Road (Roundabout)

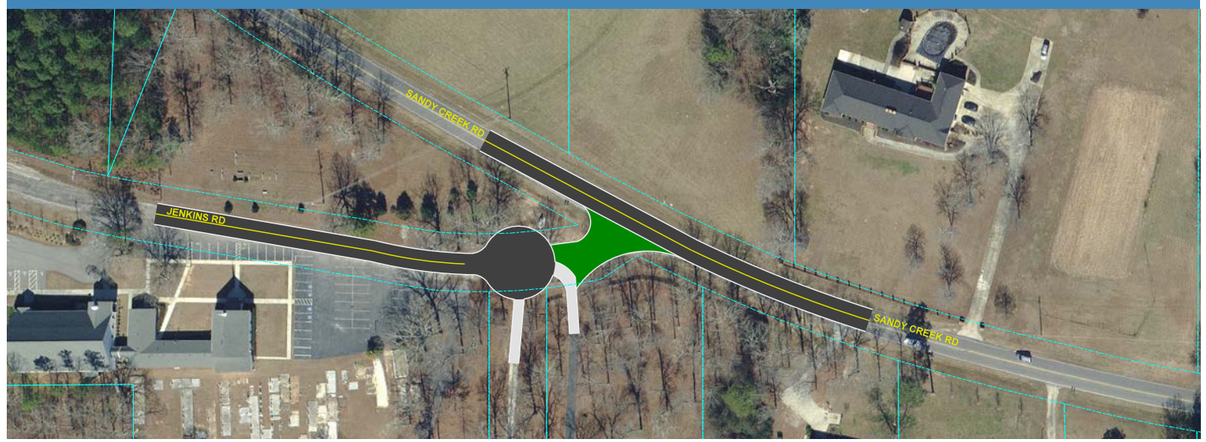
2. Concept: Cul-de-sac Jenkins Road Access to Sandy Creek Road

Based on public comments, improvements at Jenkins Road warranted additional consideration. Responses from the first PIOH indicated that there was a cut through and speeding issue along Jenkins Road. Citizens suggested that the majority of the speeding drivers were Sandy Creek High School students arriving and leaving Sandy Creek Road to the west.

The proposed concept includes closing off Jenkins Road's direct access to Sandy Creek Road and rerouting traffic to use Ellison Road to the north. This project would improve access management along Sandy Creek Road and could alleviate the concern of cut through traffic. Moreover, drivers would be rerouted to Ellison Road to the north to access the church and home along this segment of Jenkins Road. During the public comment period, strong opposition was received against the Jenkins Road access management concept, and it was ultimately removed from the ranking.

Average No. Crashes Per Year	2018 LOS (AM/PM)	Time Frame	Benefits	CST
1.4	B/B	1 - 2 years	Access Management	$$

Graphic 4.8 - Concept: Cul-de-sac Jenkins Road Access to Sandy Creek Road



3. Concept: Grade separation at Railroad Crossing near Coastline Road

Based on public feedback, grade separating Sandy Creek Road at the railroad crossing was warranted for further consideration. The proposed project would improve operations along Sandy Creek Road.

Average No. Crashes Per Year	2018 LOS (AM/PM)	Time Frame	Benefits	CST
N/A	A/B	10 - 20 years	Safety, Operations	$$$$$

4. Concept: Install Roundabout at Eastin Road-Sams Drive-Trustin Lake Drive

Based on the Needs Assessment and public comments, an intersection improvement at Eastin Road and Sams Drive was warranted for additional consideration. The proposed concept is a 5-legged roundabout at the intersection of Sandy Creek Road, Sams Drive, Eastin Road, and Trustin Lake Drive. This project would improve traffic operations at the intersections, which are in proximity to one another. Moreover, it would improve safety by mitigating the number of rear end crashes at the two intersections.

Average No. Crashes Per Year	2018 LOS (AM/PM)	Time Frame	Benefits	CST
25*	B/B	3 - 5 years	Safety, Operations	$$$$

** crash frequency higher than state average*

Graphic 4.9 - Concept: Roundabout at Eastin Road-Sams Drive-Trustin Lake Drive

5. Concept: Intersection Improvement at Flat Creek Trail

Based on public comments, an intersection improvement at Flat Creek Trail was warranted for additional consideration. The proposed concept includes realigning Flat Creek Trail to reduce the skew at the intersection and adding turn lanes. This project would improve safety and traffic operations at the location. A roundabout was initially considered and removed as an alternative considering the low volumes on Flat Creek Trail versus the cost associated with constructing a roundabout.

Average No. Crashes Per Year	2018 LOS (AM/PM)	Time Frame	Benefits	CST
0.6	B/B	3 - 5 years	Safety, Operations	$$$

Graphic 4.10 - Concept: Intersection Improvement at Flat Creek Trail

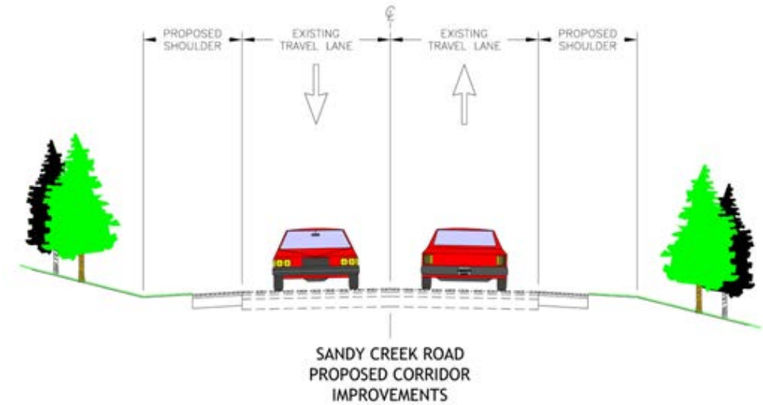
6. Concept: Safety Improvements along Sandy Creek Road

Based on the Needs Assessment and public comments, corridor wide safety improvements were warranted for further consideration. The proposed project is to correct horizontal and vertical curves as needed, widen the shoulder along both sides of the road, install guardrails and remove vegetation encroaching on right-of-way.

The proposed project would enhance safety improving sight distance, reducing driver strain, and providing motorists a recovery area to regain control of their vehicle. Also, the addition of a paved shoulder will provide structural support to the pavement. A measure to improve sight distance along the corridor would also include clearing back vegetation within right-of-way along Sandy Creek Road.

Average No. Crashes Per Year	2018 LOS (AM/PM)	Time Frame	Benefits	CST
34.2	B/B	3 - 5 years	Safety	$$$$$

Graphic 4.11 - Concept: Safety Improvements along Sandy Creek Road



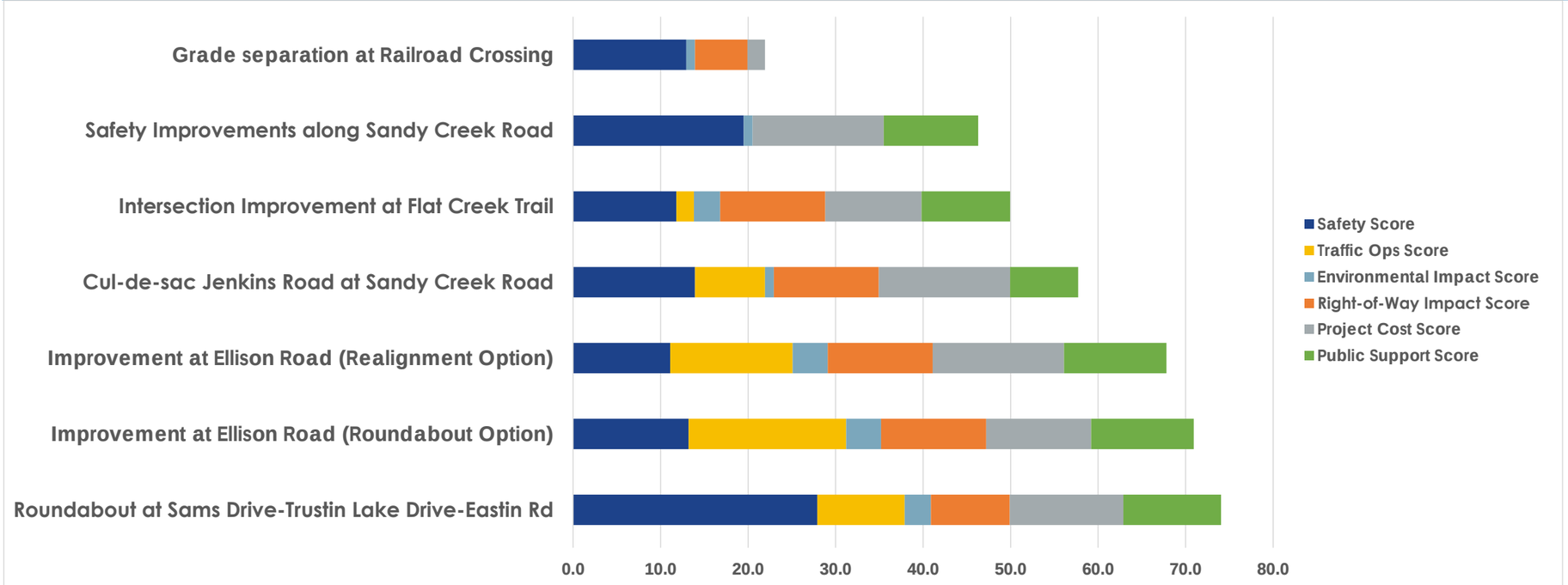
4.5 Evaluation Results

Using the methodology detailed in the previous sections, each concept was evaluated in the Evaluation Matrix for Sandy Creek Road. The results of the scoring matrix are detailed per category in the table below. The overall project score is shown in a stacked bar.

Table 4.2 - Evaluation Results

Project Name	Safety (Max 30 pts)	Traffic Operations (Max 20 pts)	Project Cost (Max 15 pts)	Environmental Impact	R/W Impact	Public Support (Max 15 Pts)
• Improvement at Ellison Road (Realignment Option)	11.1	14.0	15.0	Minor	Minor	11.7
• Improvement at Ellison Road (Roundabout Option)	13.2	18.0	12.0	Minor	Minor	11.7
• Cul-de-sac Jenkins Road at Sandy Creek Road	13.9	8.0	15.0	Significant	Significant	7.8[1]
• Grade separation at Railroad Crossing	12.9	0.0	2.0	Significant	Significant	N/A[2]
• Roundabout at Sams Drive-Trustin Lake Drive-Eastin Rd	27.9	10.0	13.0	Moderate	Moderate	11.2
• Intersection Improvement at Flat Creek Trail	11.8	2.0	11.0	Moderate	Moderate	10.1
• Safety Improvements along Corridor	21.3	0.0	15.0	Significant	Significant	10.8
[1] Removed from consideration due to strong public opposition						
[2] Concept was evaluated after second PIOH						

Graphic 4.12 - Overall Concept Score



The results of the evaluation matrix for the Sandy Creek Road concepts provide the opportunity to objectively judge each concept idea using a quantifiable methodology.

The overall project score for each project is a tool to be used when selecting the preferred alternatives for each corridor in conjunction with a qualitative approach including each project's support of goals outlined in Fayette County's Comprehensive Plan, available funding sources, and implementation plan.

Chapter 5:
Recommendations & Implementation

5.1 Introduction - Page 57
This section of the report details the recommendations for the Sandy Creek Road corridor and the implementation plan for the preferred alternative.

5.2 Final Recommendations - Page 57
The section details the final recommendations which are divided into recommendations for the corridor's typical section, specific intersection improvements and bicycle and pedestrian improvements.

5.3 Quick Response Recommendations - Page 63
This segment discusses the proposed list of quick response improvements for Sandy Creek Road.

5.4 Implementation Plan - Page 64
The implementation plan for Sandy Creek Road corridor identifies the projects in terms of project costs, project scheduling, responsible parties for project completion, and funding opportunities.

5.5 Phased Recommended Projects - Page 65
This section lists the recommended projects for Sandy Creek Road.

5.1 Introduction

The section details the recommendations for the Sandy Creek Road corridor and the implementation plan for the preferred alternative. As detailed in previous sections, these recommendations were developed through several analyses, including:

- Review of existing conditions
- Need Assessment analysis for corridor
- Input from citizens, stakeholders, and agencies
- A comprehensive evaluation of potential impacts including safety, traffic operations, environmental, and right-of-way
- Consideration of land use policies and development goals in Fayette County

The needs of the corridor were outlined in the Needs Assessment. The final recommendations for Sandy Creek Road meet those needs while adhering to the goals of Fayette County outline in the 2010 Comprehensive Transportation Plan summarized in Graphic 5.1. The final recommendations and implementation plan are detailed in the following sections.

Graphic 5.1- 2010 Comprehensive Transportation Plan Goals

5.2 Final Recommendations

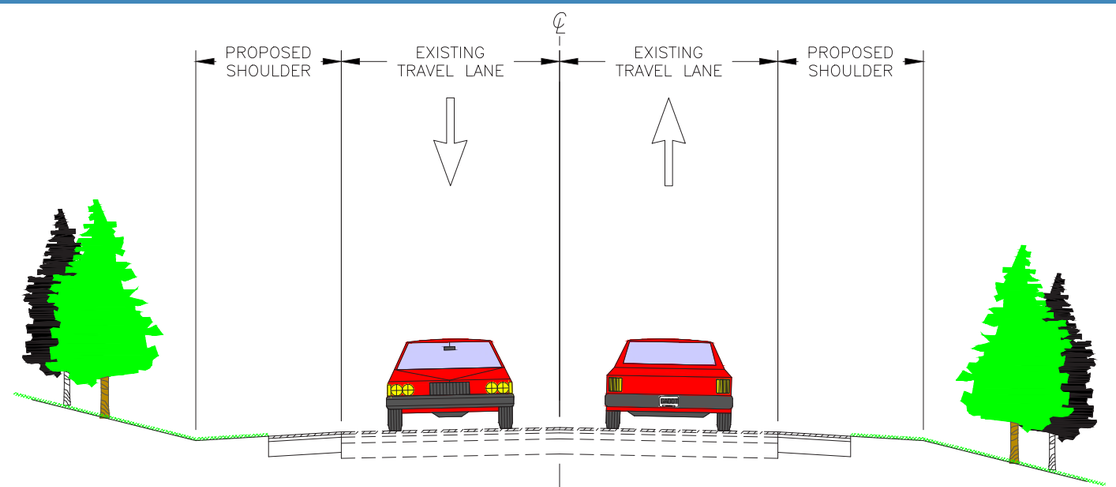
The recommendations for Sandy Creek Road are divided into recommendations for the corridor's typical section, specific intersection improvements, bicycle and pedestrian improvements and quick-response improvements. A corridor transportation system comprised of multiple elements including safety enhancements, roadway capacity, and streetscapes, was developed as part of the final recommendations.

These improvements were developed in tandem with Fayette County and local municipalities Future Land Use plans to maximize the effectiveness of the final recommendations with regard to both land use and transportation.

Summary of Corridor Recommendations

The recommended typical section for Sandy Creek Road is to maintain the two general purpose travel lanes, widen shoulder on both sides of the road, and add a shared-use path on one side of the road. The roadway recommendations for Sandy Creek Road include correcting horizontal and vertical curves where needed based on an evaluation of sight distance availability along the corridor, widening the shoulder on both sides of the road, upgrading and adding warning signage to guide drivers along the corridor, and install guardrails where needed. The proposed typical section is shown in the figure below.

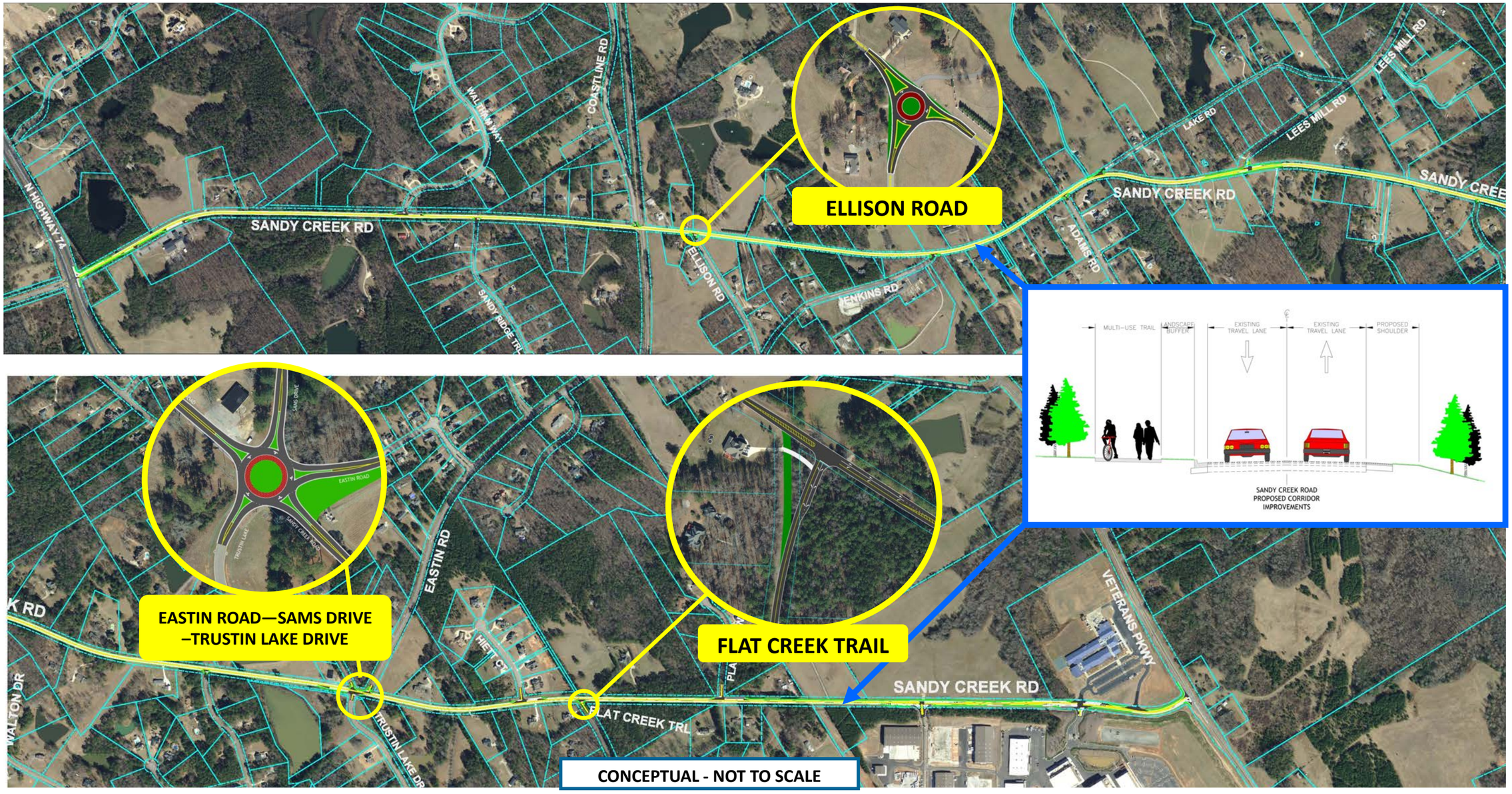
Graphic 5.2 - Sandy Creek Road Proposed Improvements Typical Section



In addition to the proposed typical section and correcting horizontal/ vertical curves, the following intersection improvements are recommended along Sandy Creek Road as well. These recommendations including the recommended roadway and intersection improvements as depicted in Graphic 5.3.

- Install Roundabout at Sams Drive -Trustin Lake Road - Eastin Road
- Intersection Improvement at Ellison Road
- Intersection Improvement at Flat Creek Trail

Graphic 5.3 - Sandy Creek Road Corridor Recommendations



- **Roadway Recommendations**

When drivers leave the roadway and meet immediate pavement or shoulder drop-offs, it can be difficult for drivers to recover and safely return to the roadway. Correcting horizontal and vertical curvature and extending shoulders along Sandy Creek Road is a safety measure that can address the corridor's frequency of off-road crashes, particularly between SR 74 and Lees Mill Road.

The results of Sandy Creek Road's Road Safety Audit indicate that the current horizontal and vertical curvature along certain segments of the corridor present sight distance issues at a number of intersections. For horizontal curves, providing superelevation at the curve helps keep vehicles on the road and reduces off-road crashes.

According to the Federal Highway Administration's (FHWA) Highway Safety Manual, crash prediction models indicate that inadequate superelevation increase crashes inside horizontal curves. It should be noted, however, that the increase in driver comfort associated with increasing superelevation may increase driver speeds.

An analysis of the road's profile was performed to identify locations along Sandy Creek Road where the horizontal or vertical curvatures of the road creates inadequate sight distance. When restoring superelevation, a sufficient grade must be maintained along the superelevation transition to provide proper drainage as the cross slope levels. Ensuring reverse curves have appropriate transition distance must be taken into consideration as well.

The likelihood of a driver recovering from an off-road crash is increased if the vehicle is provided a shoulder, the portion of the roadway outside of the travel lane where a driver can reclaim control of the vehicle. This benefit is particularly valuable in horizontal curves where vehicles typically use more of the travel lane than in straight sections of the roadway. Shoulder widths vary from no shoulder on minor rural roads to 12 feet on major roads where the entire shoulder may be stabilized or paved. Per FHWA guidance, if space is only available to one side of the road, widening the shoulder on the outside will most likely provide the greater benefit.

Shoulder rumble strips also improve drivers' ability to stay within the lane by providing both an audible warning and a slight vibration within the vehicle that a driver can feel. On rural two-lane roadways with narrow lane widths, drivers may have a tendency to drift to the outside when meeting other vehicles.

In conjunction with shoulder widening, the judicious installation of roadside barriers, such as guardrails, along Sandy Creek Road can also provide additional safe countermeasure for instances where it may not be feasible to clear obstacles or flatten slopes. When considering the installation of guardrails, proper delineation such as retroreflective panels on the guardrails make the barriers visible to drivers at night when there isn't roadway lighting. It is important to note that adding barriers may increase property-damage-only (PDO) crashes; however, this occurrence is most times offset by the reduction in the severity of all crashes.

Additional low cost treatments that can improve road safety along Sandy Creek Road include adding advance warning signs, such as intersection warning or chevron alignment signs, and enhancing signing countermeasures via use of highly retroreflective and fluorescent sheeting. Curve warning signage can also be enhance using supplemental beacons and/or messages that activate when a motorist approaches the curve at a high speed. Dynamic curve warning systems typically involve a combination of a speed monitoring device and a variable message sign. The advantage of dynamic curve warning systems is that they have a much greater effect on high-speed vehicles than a static curve warning sign. Given that these systems are costlier that status signs, their implementation should be limited to locations with high crash rates.

- **Intersection Improvement Recommendations**

Recommendation for key intersections are discussed in detailed below. All such improvements are associated with the recommended overall corridor improvements, including the proposed shoulder widening, although some may be implemented in advance of the ultimate corridor wide road improvement project.

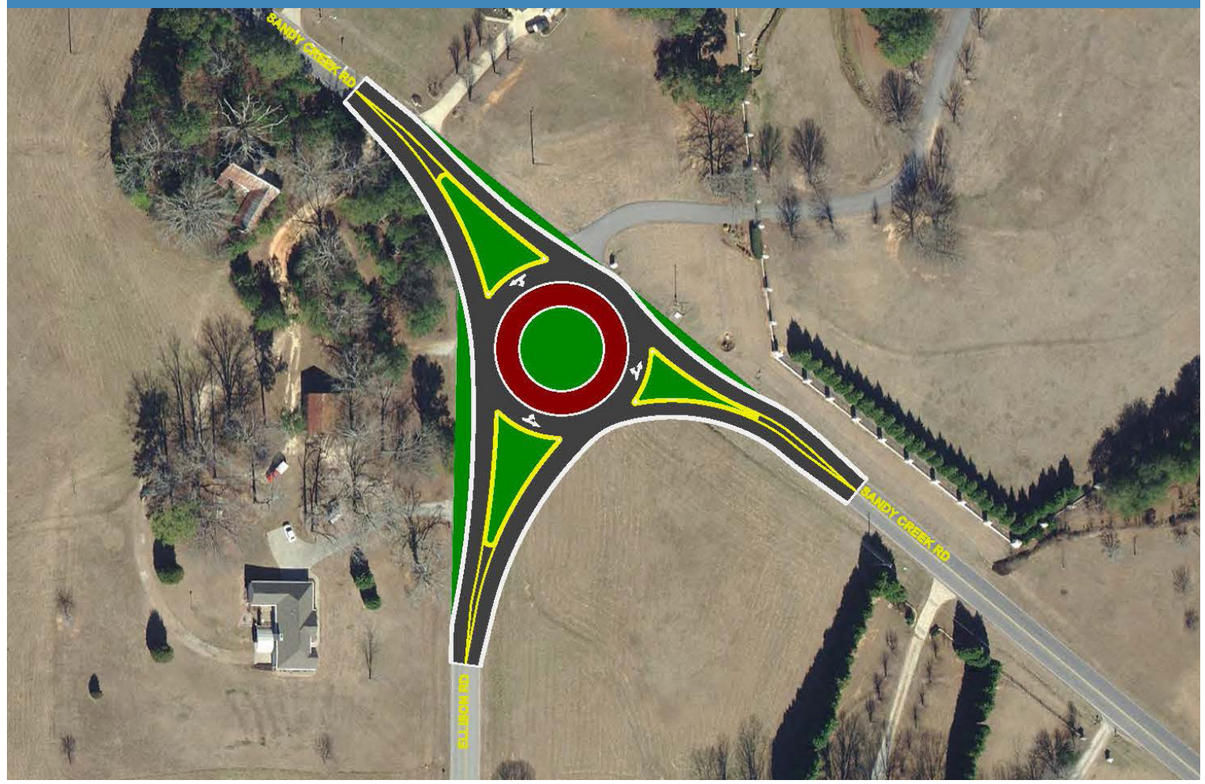
1. Ellison Road

Delays and long queues at the intersection of Ellison Road and Sandy Creek Road worsen as traffic volumes increase over time in the area. Ellison Road provides direct access to Burch Elementary School, Flat Rock Middle School, and Sandy Creek High School. During the school year, substantial queuing has been noted by the public as well as bike traffic to and from the access via Ellison Road. Several alternate intersection designs were evaluated with respect to managing traffic delay and queue lengths, minimizing cost and ROW impacts, and promoting safe and accessible pedestrian and bicycle accommodations.

The final recommendation for the intersection of Ellison Road at Sandy Creek Road is a single-lane roundabout. This intersection improvement is suitable to accommodate the traffic volumes forecasted for this three-legged intersection. In addition to the traffic operations and safety improvements, Fayette County's ownership of the property on the southeast corner help offset the overall right-of-way cost for the construction of the roundabout.

The figure below shows the proposed concept for the roundabout at Sandy Creek Road and Ellison Road and the table shows the 2040 traffic operations for the No Build and for the Build conditions.

Graphic 5.4 - Proposed Roundabout at Ellison Road



Intersection	2040 No Build		2040 Build	
	AM Peak	PM Peak	AM Peak	PM Peak
Sandy Creek Road at Ellison Road	F (276.6 s)	C (33.3 s)	C (22.6 s)	B (12.6 s)

2. Eastin Road - Sams Drive - Trustin Lake Drive

Per Fayette County's CTP Assessment of Current & Future Needs Report, Sandy Creek Road at Eastin Road was identified as one of the top crash rate locations in the county. Given the proximity to Sams Drive, public perception is that the road configuration at the intersections is confusing for drivers and safety improvements are needed.

Several alternate intersection designs were evaluated with respect to improving safety, managing traffic delay and queue lengths, minimizing cost and ROW impacts, and promoting safe and accessible pedestrian and bicycle accommodations.

The final recommendation for the intersection of Sams Drive-Eastin Road – Trustin Lake Drive at Sandy Creek Road is a 5-legged single-lane roundabout. The conversion of a stop-controlled intersection to a single-lane roundabout has been found to reduce the number of crashes at an intersection by up to 72%.

The figure below shows the proposed concept for the roundabout at Sandy Creek Road and Eastin Road – Sams Drive – Trustin Lake Drive and the table shows the 2040 traffic operations for the No Build and for the Build conditions.

Graphic 5.5 - Proposed Roundabout at Eastin Road - Sams Drive - Trustin Lake Drive

Intersection	2040 No Build		2040 Build	
	AM Peak	PM Peak	AM Peak	PM Peak
Sandy Creek Road at Eastin Rd – Sams Dr – Trustin Lake Dr	C (24.4 s) C (22.3 s) E (38.5 s)	C (21.5 s) B (11.2 s) E (46.1 s)	B (12.3 s)	B (11.3 s)

3. Flat Creek Trail

At the intersection of Flat Creek Trail and Sandy Creek Road, the vertical curve east of the intersection limits sight distance. Moreover, overgrown vegetation and a tree obstructs sight distance looking west. Public comments seem to be in agreement that the hill needs to be lowered and turn lanes can benefit traffic operations at the intersection.

The final recommendation for the intersection of Flat Creek Trail at Sandy Creek Road is realigning Flat Creek Trail to intersection Sandy Creek Road at a 90 degree and add turn lanes at the intersection.

The figure below shows the proposed concept for the Sandy Creek Road and Flat Creek Trail realignment and the table shows the 2040 traffic operations for the No Build for Build conditions.

Graphic 5.6 - Proposed Realignment & Turn Lane at Flat Creek Trail

Intersection	2040 No Build		2040 Build	
	AM Peak	PM Peak	AM Peak	PM Peak
Sandy Creek Road at Flat Creek Trail	C (23.4 s)	C (23.3 s)	C (19.5 s)	C (18.6 s)

- **Pedestrian and Bicycle Accommodations**

As part of Fayette County's recent Comprehensive Transportation Plan Update, a Master Path Plan for the county was developed, including a set of Path System Guidelines. The guidelines took into account local and national best practices for pedestrian and bicycle facilities and were tailored to the specific shared use needs of Fayette County, i.e. pedestrians, bicyclists and golf carts. Fayette County's Master Path Plan identified recommendations divided into sidewalk, sidepaths, and greenway projects.

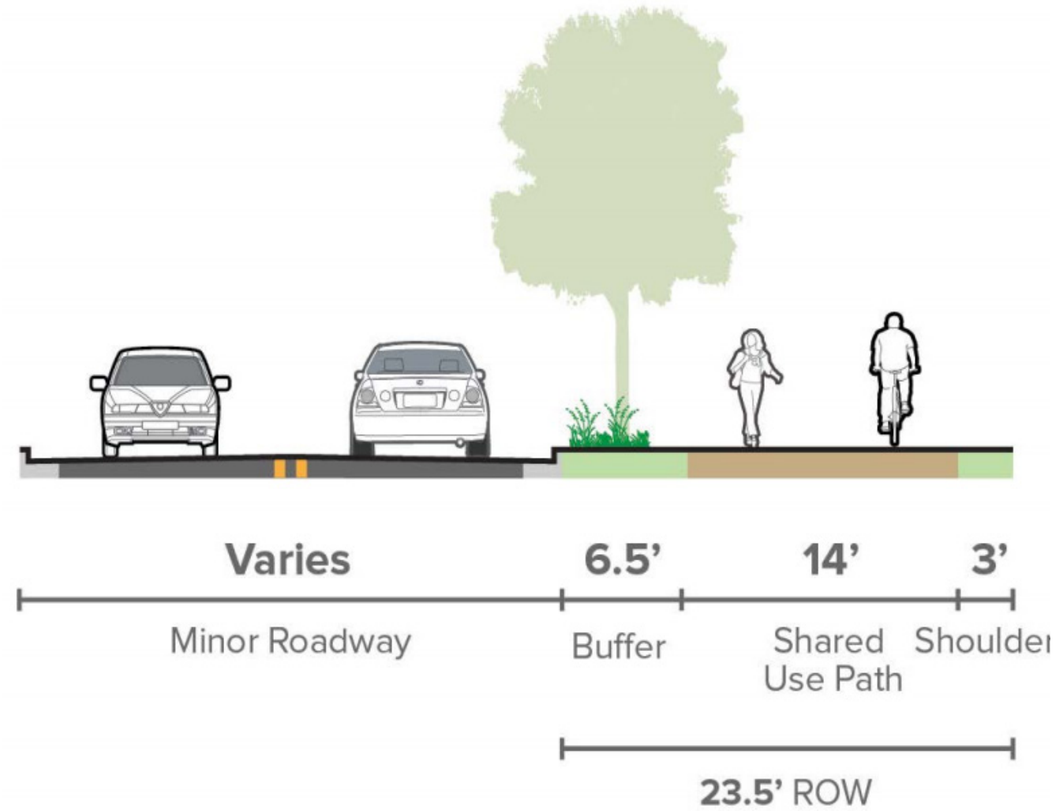
Image 5.1 - Pedestrian and Bicycle Facilities

The Master Path Plan specifically recommends the addition of a sidepath along the extent of Sandy Creek Road from SR 74/Joel Cowan Parkway to Veterans Parkway. Sidepaths, similar to multi-use paths, are trails that can accommodate pedestrians, bicyclists, and golf carts adjacent and parallel to the alignment of an existing roadway. Fayette County's Path System Design Guidelines should be referenced when determine the geometrics of the sidepath for Sandy Creek Road.

In line with recommendations outlined in Fayette County's CTP, a multi-use path is recommended along Sandy Creek Road from Veterans Parkway to SR 74/Joel Cowan Parkway on the south side of the road. The image below shows the preferred conditions for a sidepath along a minor roadway as outlined in Fayette County's Path Design Guidelines.

Due to cost and ROW considerations, as well as anticipated demand, the multi-use path is recommended along only one side of Sandy Creek Road. An initial determination of the preferred side was made based on adjacent land uses, terrain, and desirable opportunities for crossing Sandy Creek Road. Future development and information obtained from more detailed design should ultimately influence the final decision for the alignment.

Graphic 5.7 - Side Path Recommendations (CTP Appendix D: Path Design Guidelines)



5.3 Quick Response Recommendations

The proposed list of short-term improvements for Sandy Creek Road was developed via significant input received through coordination with Fayette County, stakeholders, and public input. The specific recommendations contained in this list are based on the results of the Needs Assessment, baseline travel data, deficiencies identified along the corridor during the Road Safety Audit, and opportunities to implement cost-effective improvement projects over a short period of time. Short-term recommendations along Sandy Creek Road:

1. Clear overgrown vegetation along Sandy Creek Road

An immediate measure for improving sight distance along a corridor is cutting back foliage reducing the line of sight for drivers, especially in horizontal curves. Overgrown vegetation also obstructs various traffic signs, reducing guidance for drivers along the corridor.

2. Maintenance at SR 74/Sandy Creek Road

A request has been made to GDOT to perform routine maintenance at the intersection of SR 74 and Sandy Creek Road. During the Road Safety Audit, pavement deterioration was observed on the northbound right turn approach, possibly from turning trucks.

Although there is a northbound acceleration lane for westbound vehicles turning right on SR 74, many vehicles still stop and wait for break in through lane before proceeding. To improve traffic operations for the westbound approach, a "Keep Moving" sign should be added to alert drivers to the added lane.
It is important to note that there have been discussions of signalizing the median U-turn for the RCUT. Follow-ups with GDOT should occur to check status of the project.

3. Steep Slopes Countermeasures

Between SR 74 and Waltham Way, there are steep drop-offs on both sides of Sandy Creek Road with little to no shoulders for the majority of the stretch. Sandy Creek Road's grade consists of rolling terrain for the majority of the section as well. A high frequency of off-road crashes occurred along this stretch of Sandy Creek Road, including one fatality. The installation of guardrail and object markers at specific locations along this stretch can help reduce crash frequency and frequency along Sandy Creek Road.

4. Sight Distance at Coastline Road

The current location of the southbound stop bar on Coastline Road lessens the intersection sight distance for southbound vehicles looking east because the railroad utility cabinet obstructing the line of sight. A quick response recommendation is to move the stop bar to improve southbound vehicles' sight distance while they are waiting to turn on to Sandy Creek Road.

5. Horizontal Alignment and Advisory Speed Signs near Adams Road

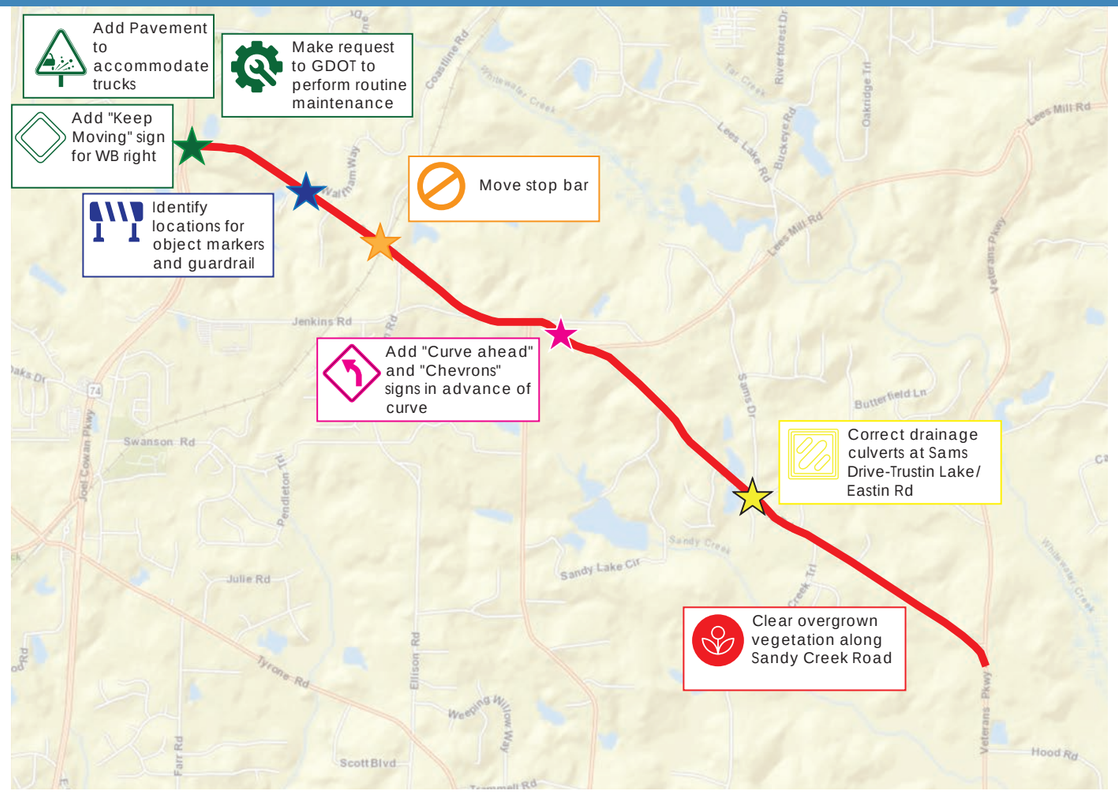
There were several public comments regarding the horizontal curve near Adams Road being unsafe, especially for speeding vehicles. To alert drivers of upcoming curve a combination Turn/Advisory Speed (W1-1a) sign or a combination Curve/Advisory Speed (W1-2a) sign is recommended as drivers approach the intersection.

6. Correct drainage culverts at Sams Drive

During the Road Safety Audit, the drainage culverts near Sams Drive appeared to be in poor condition and clogged with debris. Clearing the culverts and ensuring that they are up to standards is recommended for the drainage system near the intersection.

Graphic 5.8 shows the locations of the proposed quick response projects along Sandy Creek Road.

Graphic 5.8 - Quick Response Recommendations On Sandy Creek Road



5.4 Implementation Plan

The implementation plan for Sandy Creek Road corridor identifies the projects in terms of project costs, project scheduling, responsible parties for project completion, and funding opportunities. The development of the implementation plan considered the functionality of each project to make sure that projects had logical termini.

Dependencies between projects were also a point of consideration in the development of the implementation plan. Overall, for the plan to succeed, several agencies must coordinate their efforts, such as Fayette County, City of Fayetteville, ARC, and GDOT.

- **Construction Cost Estimates**

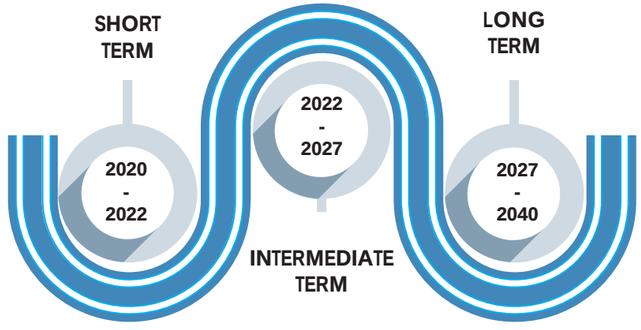
For recommended roadway improvements, construction cost estimates were generated by estimating the quantities of materials and/or equipment required for each improvement. Aerial photography and field surveys of existing conditions along the corridor were used to develop quantities to complete the construction of each project. The quantities were put into a cost estimate tool and then multiplied by a typical unit cost to determine the construction cost.

Construction cost estimates for the roadway projects are included in a separate "Concept Reports" document provided as part of the corridor study process. Aside from projects identified as qualifying projects for the Atlanta Regional Commission's Transportation Improvement Program (ARC TIP), the construction cost estimates do not include the cost of right-of-way or utilities.

- **Project Scheduling**

The proposed scheduling for the recommended projects was based on three generalized timeframes within a 20-year planning horizon. These timeframes are as follows: Short-Term, 2020-2022; Intermediate-Term, 2022-2027; and Long-Term, 2027-

Graphic 5.9 - Project Scheduling



The proposed short-term projects are lower cost improvements for the corridor that would provide immediate benefits. Potential funding opportunities for these projects existing through Fayette County's maintenance and SPLOST programs. For the intermediate and long-term projects listed in the implementation plan, higher costs and additional analyses are required to fully develop the project scopes for implementation. The planning-level cost estimates are appropriate for corridor-wide planning, but more detailed analyses are needed to set the projects' scope. The securing of local funding for the intermediate and long-term projects will be an important step in project development.

5.5 Phased Recommended Projects

The following table lists the recommended projects for Sandy Creek Road, including the projects' description, benefits, construction cost estimate, and time frame. The implementation of projects may take place across multiple segments of the corridor or efforts may focus in one segment as resources allow. Implementation is prioritized by safety, traffic operations benefits, and potential to serve as a catalyst for continued corridor improvement.

Table 5.1 - Phased Recommended Projects

PROJECT ID	PROJECT NAME	PROJECT DESCRIPTION	BENEFITS	CONSTRUCTION COST ESTIMATE	TIME FRAME
SC-1	ROUTINE MAINTENANCE ALONG SANDY CREEK ROAD	CLEAR OVERGROWN VEGETATION ALONG SANDY CREEK ROAD	SAFETY	TBD	SHORT - TERM
SC-2	MAINTENANCE IMPROVEMENTS AT SR 74	GDOT ROUTINE MAINTENANCE AT SANDY CREEK ROAD AND SR 74; ADD "KEEP MOVING" SIGN FOR WB RIGHT; ADD PAVEMENT TO ACCOMMODATE TRUCKS.	SAFETY, OPERATIONS	TBD	SHORT - TERM
SC-3	SAFETY ENHANCEMENTS BETWEEN SR 74 AND WALTHAM WAY	IDENTIFY LOCATIONS FOR OBJECT MARKERS, GUARDRAIL, AND SIGNAGE ALONG SANDY CREEK ROAD.	SAFETY, OPERATIONS	TBD	SHORT - TERM
SC-4	SIGHT DISTANCE AT COASTLINE ROAD	MOVE STOP BAR BACK TO IMPROVE SIGHT DISTANCE AT INTERSECTION	SAFETY, OPERATIONS	TBD	SHORT - TERM
SC-5	CURVE WARNING SIGNAGE NEAR ADAMS ROAD	ADD STRIPING, "CURVE AHEAD" AND "CHEVRONS" SIGNS IN ADVANCE OF CURVE EAST OF ADAMS ROAD.	SAFETY, OPERATIONS	TBD	SHORT - TERM
SC-6	DRAINAGE CULVERTS AT SAMS DRIVE-TRUSTIN LAKE/EASTIN RD	CORRECT DRAINAGE CULVERTS AT SAMS DRIVE-TRUSTIN LAKE/EASTIN RD	SAFETY	TBD	SHORT - TERM
SC-7	MULTI-USE TRAIL FROM VETERANS PARKWAY TO SR 74	MULTI-USE PATH ALONG THE SOUTH SIDE OF SANDY CREEK ROAD FROM VETERANS PARKWAY TO SR 74	BIKE-PEDESTRIAN IMPROVEMENTS	$260,000 PER LINEAR MILE	INTERMEDIATE - TERM
SC-8	INSTALL ROUNDABOUT AT SAMS DRIVE -TRUSTIN LAKE ROAD - EASTIN ROAD	INSTALL 5-LEGGED ROUNDABOUT AT SAMS DRIVE, TRUSTIN LAKE DRIVE, AND EASTIN ROAD	SAFETY, OPERATIONS	$1,650,000	INTERMEDIATE - TERM
SC-9	INTERSECTION IMPROVEMENT AT ELLISON ROAD	REALIGN INTERSECTION AND INSTALL ROUNDABOUT OR ADD TURN LANES AT INTERSECTION	SAFETY, OPERATIONS, CAPACITY	$1,200,000	INTERMEDIATE - TERM
SC-10	INTERSECTION IMPROVEMENT AT FLAT CREEK TRAIL	REALIGN INTERSECTION AND INSTALL ROUNDABOUT OR ADD TURN LANES AT INTERSECTION	SAFETY, OPERATIONS, CAPACITY	$325,000	INTERMEDIATE - TERM
SC-11	SANDY CREEK ROAD CORRIDOR SAFETY IMPROVEMENTS	THE PROJECT WOULD INCLUDE INSTALLING GUARDRAILS AND CORRECTING HORIZONTAL AND VERTICAL CURVES WHERE NEEDED, AND WIDENING THE SHOULDER ALONG BOTH SIDES OF SANDY CREEK ROAD FROM SR 74 TO VETERANS PARKWAY	SAFETY, OPERATIONS	$2,225,000*	LONG - TERM

* VALUE DEPICTS ESTIMATED PRELIMINARY COST. DETAILED HORIZONTAL AND VERTICAL CURVES ANALYSIS IS REQUIRED TO DETERMINE FINAL COSTS OF THE PROJECT.