FAYETTE County
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State Route 279 Corridor Study
Needs Assessment Report

Fayette County Public Works
2017 SPLOST No. 17 TAT

CROY

Mission Statement:

The State Route 279 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 2:
Needs Assessment Report

2.1 Introduction - Page 4
This section of the report introduces the needs assessment report and discusses the structure of the document.

2.2 Vision & Goals - Page 5
The visions and goals for the study corridor are defined in this section.

2.3 Methodology & Analysis - Page 6
This segment discusses the methodology, qualitative and quantitative tools used in identifying the needs assessment.

2.4 Next Steps - Page 12
This section identifies the next steps and action items for the planning process.

2.1 Introduction

The Needs Assessment report is the second chapter of the State Route 279 Transportation Corridor Study. The precedent to this document is the Existing Conditions Report 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.

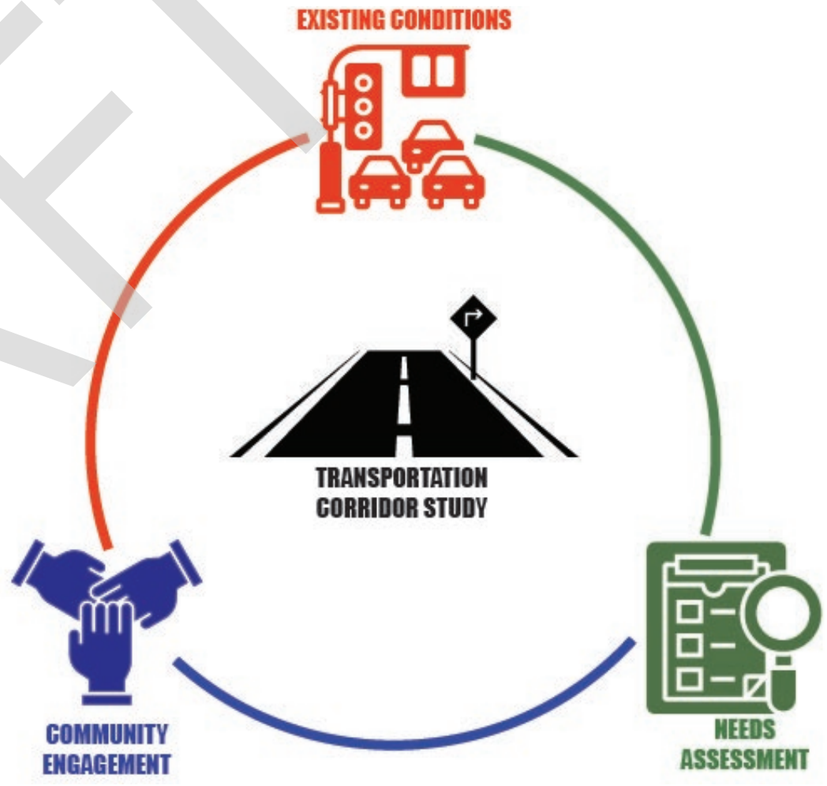
With the Existing Conditions Report in place, the Needs Assessment Report is useful in identifying insights into the current and future needs of the corridor. The intent of the Needs Assessment Report is to take a comprehensive look at the existing conditions, future demographic and population projections,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

SR 279 is an approximately 4.25-mile state route, extending from State Route 85 tothe Fulton/Fayette County Border and includes the possibilty of bringing SR 279 and Corinth Road together in a single intersection.However, the road lacks adequate design and capacity for current and future traffic volumes and pedestrian demands.

Image 1 - SR 279 Public Involvement Open House

This report 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 1 - Three Pillars of the Corridor Study



The sections of this report 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 report 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.

2.2 Vision & Goals

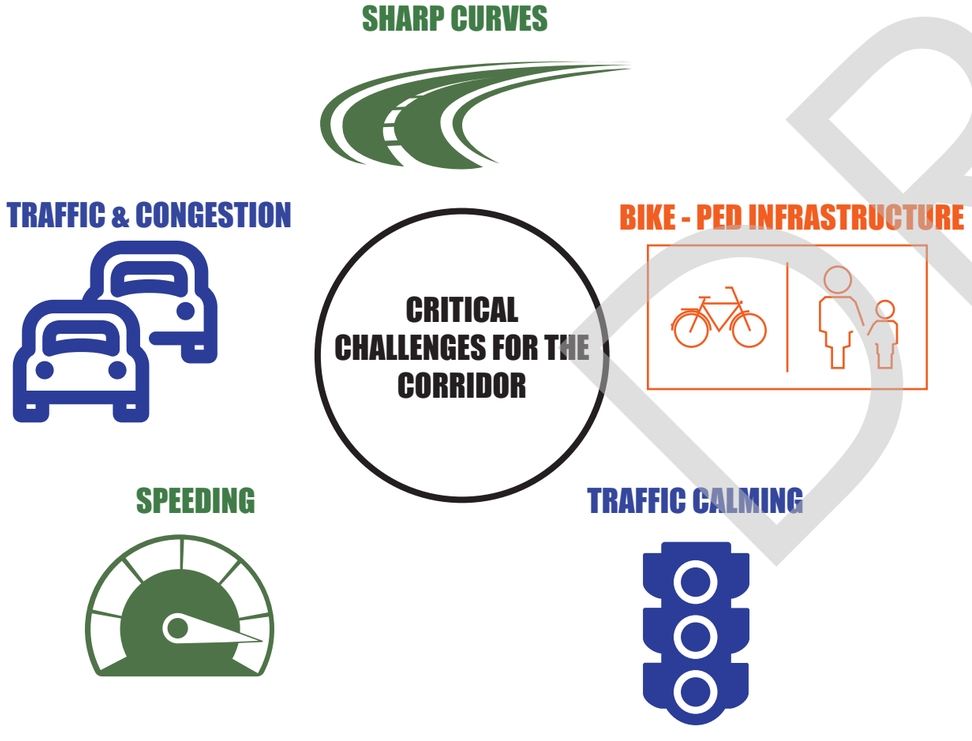
The aim of the corridor study is to identify traffic and transportation solutions from a holistic perspective to:

- 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. Detailed comments and charts are attached in the appendix.

Graphic 2 - Priority Challenges for the Corridor



The SR 279 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 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 -

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 do have a margin of error value associated with it. Detailed quantitative analysis can be found in the Existing Conditions Report.

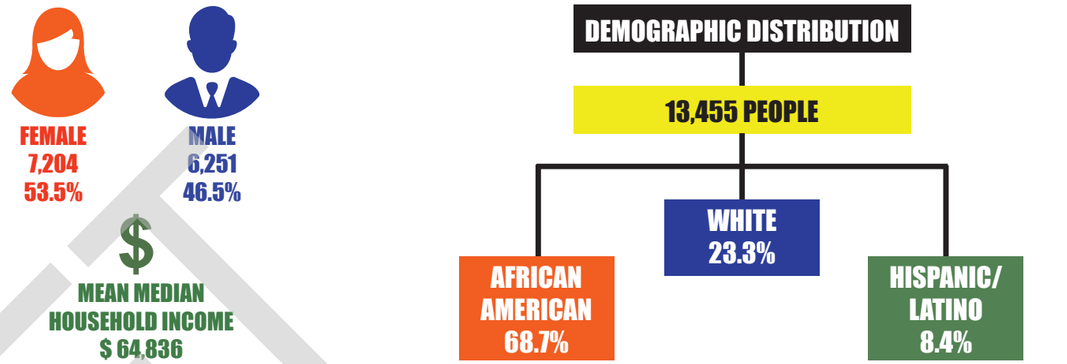
- **Demographic Character -**

Graphic 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 SR 279 corridor.

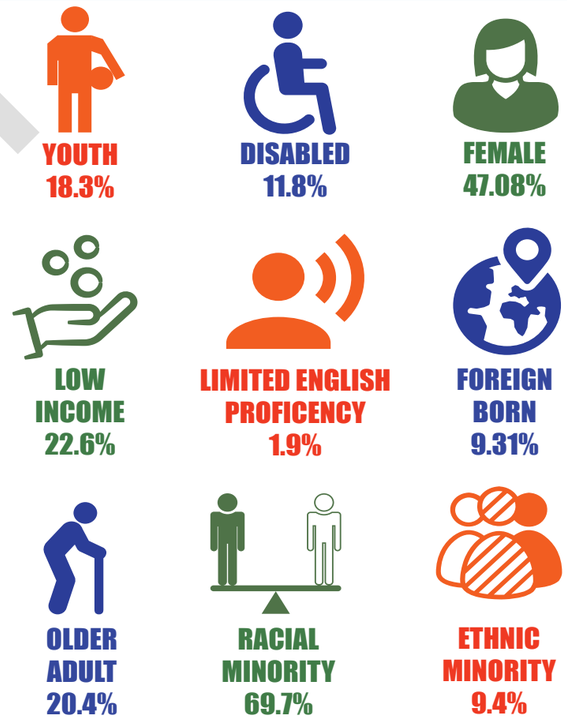
Title VI of the Civil Rights Act identifies 9 population categories that must be protected. The Atlanta Regional Commission (ARC) has two models to help counties, governments and private organizations to ensure inclusion and equity for these 9 population groups.

The model uses American Community Survey 5-Year population estimates for 2012-2016. SR 279 corridor lies in Fayette County's census tract 1401.01. The tract has an average cumulative score of 18 for the Protected Classes Model and an equity score of 6 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 5 represents the ARC equity analysis. This analysis is crucial to bring equity and inclusivity to the corridor study.

Graphic 4 - Demographic Character



Graphic 5 - ARC Equity Analysis



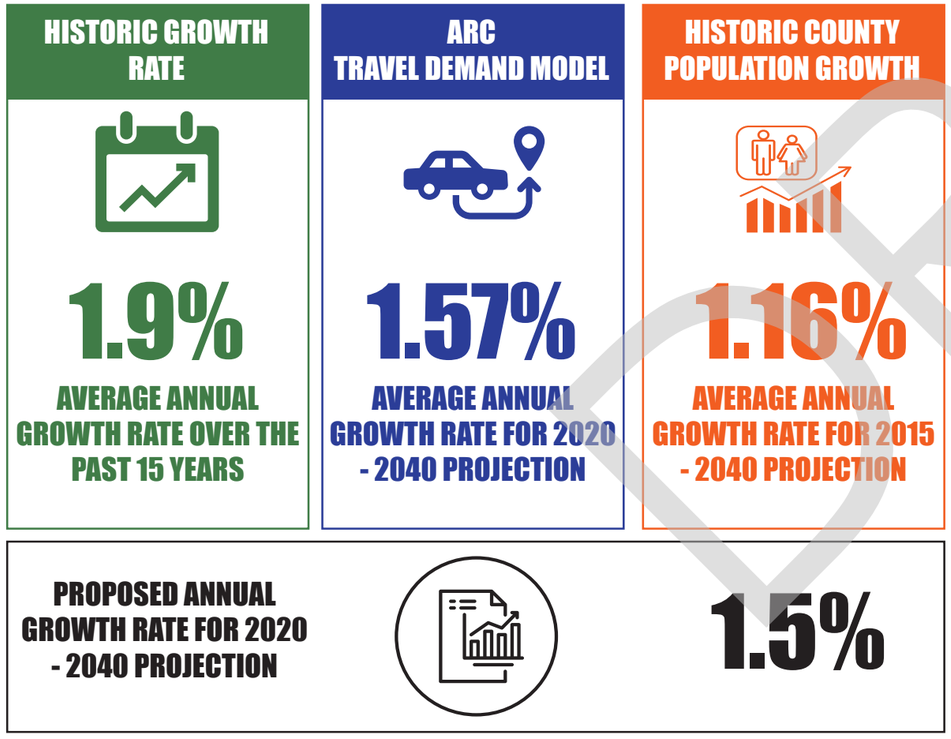
[1] - For more in-depth understanding of the equity analysis, refer to Chapter 1 - Existing Conditions Report. Percentage values reflect percentage of population in the census tracts.

- **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.

Fayette County's SPLOST Project R-8, the East Fayetteville Bypass, is a programmed transportation improvement that will have a substantial impact of capacity and traffic condition in the area. The East Fayetteville Bypass is a proposed thoroughfare designed to reduce traffic congestion within the City of Fayetteville by providing an alternative north/south route across the east side of the County. The proposed project begins at the intersection of South Jeff Davis Road/North Bridge Road and County Line Road, runs in a northerly direction and terminates at the intersection of Corinth Road and Highway 85. Graphic 8 represents the future growth projections.

Graphic 6 - Future Growth Projections



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

To date, the north leg of the project is fully funded through 2004 SPLOST (special purpose local option sales tax) revenues. The portion of the bypass south of County Line Road is not currently under consideration for construction due to lack of current plans or funding.

The addition of the bypass to Fayette County's road network will undoubtedly have an impact of traffic orientation in the area, and Banks Road will experience some change in traffic flow given its proximity to the new roadway. A benefit of the bypass to Banks Road will be that traffic from McDonough Road and Clayton County oriented to SR 314 and SR 85 will now have to option to use the bypass to connect to Corinth Road to Highway 85 and beyond versus using Banks Road as a cut through.

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

Per the Georgia Department of Transportation (GDOT) road classifications, State Route 279 is classified as a minor arterial.

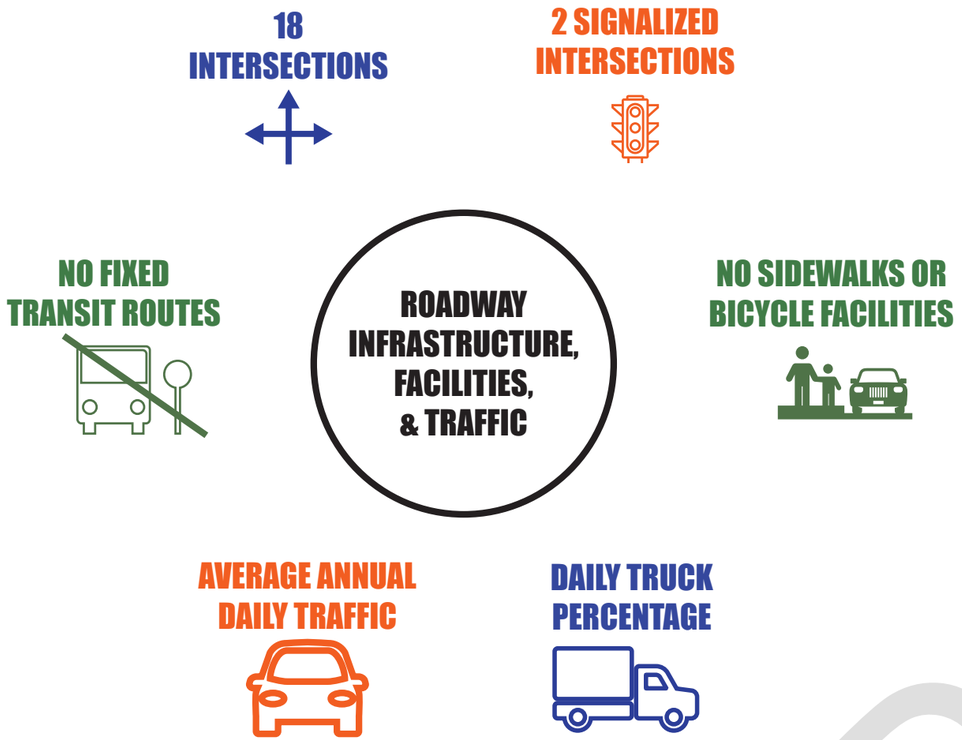
Transportation data sources provide a real-time snapshot of existing conditions. The analysis is valuable for understanding current volumes, historic growth in traffic, and percent of the overall traffic that is made up of truck freight. Additionally, crash data analysis helps identify where some safety concerns may exist and is valuable in assessing where the most immediate improvements are required. Graphic 6 represents the roadway infrastructure and facilities along the corridor and Graphic 7 represents existing traffic conditions.

Roadway Infrastructure and Facilities:

- One 11-foot wide travel lane in each direction
- Separate turn lanes at major intersections
- 18 intersections -two signalized

The are no sidewalk or bike facilities along State Route 279. State Route 279 primarily abuts residential parcels, and provides access to Kenwood Park. There is a pedestrian presence along State Route 279, and providing bike and pedestrian accommodations for residents to travel to and from Kenwood Park can be of great value to the area. 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 7 - Roadway Infrastructure and 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 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 1 - 2040 "No Build" Peak Hour Intersection Level of Service (LOS)

	SR 279[1]	TRAFFIC CONTROL	AM PEAK		PM PEAK	
1	AT OLD FORD ROAD	TWSC (NB)[1]	F (67.7 S)		F (60.8 S)	
2	AT SR 314/W FAYETTEVILLE ROAD	TRAFFIC SIGNAL	E (66.8 S)		F (87.6 S)	
3	AT KENWOOD ROAD	TWSC (NB/SB)[1]	C (24.8 S)	C (16.7 S)	F (85.0 S)	F (51.4 S)
4	AT OLD ROAD	TWSC (NB)[1]	D (26.5 S)		D (31.5 S)	
5	AT SR 85	TRAFFIC SIGNAL	C (28.6 S)		E (67.6 S)	

1. FOR ENTIRE CORRIDOR STATE ROUTE 279 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.

By the 2040 design year, significant delays will be experienced by the side streets at Old Ford Road and Kenwood Road. Deficiencies begin to emerge at SR 314/W Fayetteville Road during both peak hours as well.

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 State Route 279 was evaluated for two 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, which indicate the roadway capacity of State Route 279 if no improvements were made to the corridor.

Table 2 - 2040 Horizon Peak Hour Roadway Capacity Level of Service (LOS)				
SR 279	AM PEAK		PM PEAK	
	LOS	V/C[1]	LOS	V/C[1]
FROM FAYETTE-FULTON COUNTY LINE TO SR 314	D	0.40	F	1.33
FROM SR 314 TO KENWOOD ROAD	B	0.19	D	0.35
FROM KENWOOD ROAD TO SR 85	C	0.25	D	1.33
1. V/C - VOLUME TO CAPACITY RATIO				

In terms of road capacity, State Route 279 from the Fayette-Fulton county line to SR 314 will significantly exceed its capacity during the afternoon peak hour by 2040. From SR 314 to SR 85 the road capacity will be adequate, which is in line with the significant dip in traffic volumes east of SR 314 on State Route 279.

- **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 State Route 279 from the Fayette-Fulton county line to SR 85

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 9 represents key takeaways from the RSA.

Image 2 - Team Conducting Road Safety Audits

Graphic 9 - Road Safety Audit Findings

ROAD CAPACITY COUPLED WITH NEED TO IMPLEMENT ACCESS MANAGEMENT MAKES SR 279 FROM SR 138 TO SR 314 A GOOD CANDIDATE TO BE 4 LANES

OVERGROWN VEGETATION ALONG THE CORRIDOR LIMITS SIGHT DISTANCE AT A NUMBER OF INTERSECTIONS

STEADY FLOW OF TRAFFIC ALONG SR 279 FROM SR 138 TO SR 314, KENWOOD ROAD INTERSECTION NEEDS TO BE IMPROVED

BASED ON THE CRASH SEVERITY ALONG SR 279 BEING HIGHER THE STATE AVERAGE, CONSIDERATION SHOULD BE GIVEN TO REDUCING THE 55 MPH SPEED LIMIT

For detailed assessment, refer to the Road Safety Audit document attached in the appendix. RSA Takeaways -

- There was a steady flow of traffic along SR 279 from SR 138 to SR 314.
- The road capacity coupled with need to implement access management makes SR 279 from SR 138 to SR 314 a good candidate to be 4 lanes median divided.
- Kenwood Road intersection needs to be improved.
- Overgrown vegetation along the corridor limits sight distance at certain of intersections.
- Based on the crash severity along SR 279 being higher the state average,

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 X shows the roadway crash rate along State Route 279.

Table 3 - State Route 279's Crash Rate

	NO. OF CRASHES	CORRIDOR CRASH RATE	STATEWIDE AVG CRASH RATE[1]
ALL CRASHES	232	308	506
TOTAL NON-FATAL INJURY CRASHES	74	98	124
TOTAL FATAL CRASHES	1	1.33	1.7

State Route 279's crash rates indicate that its rate of total crashes and crashes involving injuries falls below the statewide average; however, the overall number of crashes does indicate that there is a need to implement strategies to reduce crashes. Moreover, there were to bike-pedestrian crashes on State Route 279 between SR 138 and SR 314, which calls for the need for bike/ped accommodations.

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, State Route 279, Sandy Creek Road, Tyrone Road – Palmetto Road and Banks Road 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 State Route 279, the following intersection fell above the 75th percentile:

- State Route 279 and SR 314/W Fayetteville Road
- State Route 279 and Helmer Road
- State Route 279 and SR 85

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 State Route 279 operations.

One of the links analyzed was SR 54 north of McElroy Road and the impact of the East Fayetteville Bypass. The analysis indicated that the destinations of trips on SR 54 include Jonesboro and beyond to Interstate 75 as well as Corinth Road to State Route 279 into Fulton County. The CTP Needs Assessment noted that it would be beneficial to make roadway improvements to Corinth Road and State Route 279 corridors to accommodate the rerouting of trips after the East Fayetteville Bypass is open to 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 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 10 represents comments from these meetings.

Graphic 10 - Perceptions of the Existing Conditions of the Banks Road Corridor

- **Public Information Open House -**

The first Public Information Open House for the SR 279 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 11 represents highlights from the PIOH.

Graphic 11 - PIOH Comments

ALMOST

200

CITIZENS ATTENDED

CLOSE TO

350

INDIVIDUAL COMMENTS

CONGESTION

SPEEDING

SHARP CURVES

OTHER

**Other Includes Additional Lanes, Wider Shoulders, Traffic Signals, Street Lighing*

MOST IDENTIFIED CONCERN LOCATIONS IN RANK ORDER BASED ON THE COMMENTS RECIEVED

1. SR 279 & SR 85 INTERSECTION
2. SR 279 & MCKOWN STREET INTERSECTION

3. HELMER ROAD & SR 279 INTERSECTION
4. SR 279 FROM SR 314 TO SR 138
5. SR 314 & SR 279 INTERSECTION

Image 4 - Photos from 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 Banks 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.