gwinnettcounty

Destination2040

Gwinnett's Comprehensive Transportation Plan

RECOMMENDATIONS

DECEMBER 2017

ACKNOWLEDGMENTS

GWINNETT COUNTY BOARD OF COMMISSIONERS

Charlotte Nash, Chairman; Jace Brooks, District 1; Lynette Howard, District 2; Tommy Hunter, District 3; John Heard, District 4

PROJECT MANAGEMENT TEAM

Gwinnett County Department of Transportation, Atlanta Regional Commission (ARC)

PARTNER AGENCY STAKEHOLDER GROUP

GDOT District 1; GDOT Office of Planning; GRTA/SRTA; Gwinnett County Departments of Community Services (Health and Human Services/Senior Services, Parks and Recreation), Communications, Planning and Development, Water Resources, Financial Services, Police, Fire and Emergency Services; Gwinnett County Public Schools; and The Georgia Center for Innovation for Logistics; Gwinnett Municipal Association; City of Auburn; City of Berkeley Lake; Town of Braselton; City of Buford; City of Dacula; City of Duluth; City of Grayson; City of Lawrenceville; City of Lilburn; City of Loganville; City of Norcross; City of Peachtree Corners; City of Snellville; City of Sugar Hill; City of Suwanee; Evermore CID; Lilburn CID; Gwinnett Place CID; Gwinnett Village CID; Sugarloaf CID

COMMUNITY STAKEHOLDER GROUP

Victor Dang, Commission Chairman; John Karnowski, Commission District 1; Shaun Adams, Commission District 2; Sherman Merritt, Commission District 3; Renee Byrd-Lewis, Commission District 4; Jacqueline Frazier, CPSC Civic Representative; Scott Hilton, CPSC Civic Representative; Gwinnett Palmetto Grants; Gwinnett Hospital System; Georgia Gwinnett College; Gwinnett Rotary; Center for Pan Asian Community Services; Clean and Beautiful; Gwinnett Technical College; WestRock; Norfolk Southern; Averitt Supply Chain Solutions; Delta Sigma Theta Sorority, Gwinnett County Alumni Chapter; Gwinnett Community Development; Gwinnett Student Leadership Team; Gwinnett Young Professionals; Georgia Piedmont Land Trust; Georgia Commute Options; Safe Routes to Schools; Gwinnett Chamber of Commerce; Gwinnett Technical College; Publix Supermarkets; Eastside Medical; Gwinnett Veterans Resource Center; Gwinnett Kiwanis; ARC Workforce Investment Council; Children's Healthcare of Atlanta and Kaiser Permanente; Gwinnett County Transit Advisory Board; Latin American Association; CSX; United Ebony Society – Gwinnett; Gwinnett Council for Seniors

CONSULTANT TEAM

Kimley»Horn

Bleakly Advisory Group
Pond
Sycamore
VHB
Debra Semans

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INTRODUCTION

Public input for the development of Destination2040.

INTRODUCTION

This Recommendations report is the third part—and cornerstone document—of Destination2040, which is an update of Gwinnett County's Comprehensive Transportation Plan (CTP). The Existing Conditions and Needs Assessment reports that precede this document examined the County's current state of transportation infrastructure as well as assessed existing and future system needs.

With this information gathered, the planning team has developed a vast catalog of projects to respond to these identified needs to set Gwinnett's transportation system up for success—and, when we say "vast catalog of projects," we mean it! There were more than 1,300 projects identified across the County that made up this transportation wish list. As with any "wish list," not everything can be afforded or implemented through the plan's horizon year of 2040, so the planning team worked with County staff, the technical and stakeholder committees, and the public to narrow this list of projects. This process is referred to as project prioritization, and for Destination2040, it was completed in conjunction with the County's Special Purpose Local Option Sales Tax (SPLOST) project selection process. The timing of the SPLOST aligned well with the CTP effort—projects were compiled and evaluated for both efforts simultaneously. Because the SPLOST represents the majority of Gwinnett's short-term funding for transportation, the projects identified for inclusion in the SPLOST program largely became the CTP's Short-Range Plan.

In addition to the 2017 SPLOST, the planning team worked with communities adjacent to and surrounding Gwinnett County to understand what they were planning. No good plan is created in a vacuum, so this collaboration is key to ensuring Destination2040 is a clear path forward for both Gwinnett County and the region. The Atlanta Regional Commission (ARC) funds the CTP program to allow county governments to conduct community-based planning that results not only in local projects but also in regionally significant projects that will help metro Atlanta to "Win the Future by providing world-class infrastructure, building a competitive economy, and ensuring the region is comprised of healthy, livable communities." After some further refinement and prioritization, the planning team is prepared to provide a finalized list of recommended projects for Gwinnett. This report covers the Destination2040 Recommendations process.

HOW THIS DOCUMENT IS STRUCTURED

Destination2040's Recommendations are intended to provide direction for how the County should develop and implement transportation projects through 2040. This report is designed to be easy to read and accessible, so graphics, charts, and tables are used to illustrate the extensive research and analysis that was conducted throughout the Destination2040 process. The first three chapters of this report provide introductory information about the plan as well as explain how the planning team identified Gwinnett County's future transportation needs using a robust visioning/goal-setting and priority-determining process as well as a catalog of technical tools and methodologies.

After setting the stage for the *how* the projects were conceptualized, the next two chapters provide details on how the projects were developed and prioritized, including the criteria against which the projects were evaluated. The prioritized projects are organized into three funding tiers, Short-, Mid-, and Long-Range plans.

Destination2040 is more than just a project list, though, so the next chapter covers a range of policies that the County should implement to further support the CTP. These policies cover a range of topic areas, including Transportation and Land Use, Functional Classification, Asset Management, Freight, Transit, Connected and Automated Vehicles, and Bicycle and Pedestrian considerations. Following the policy chapter, the Priority Projects chapter covers each of the project levels (Short-, Mid-, and Long-Range) in greater detail. This chapter is broken up by providing a map of what each plan's network includes as well as tables with more specifics about each project. In addition to projects such as new roadway connections and intersection improvements, some of the projects are countywide and/or do not lend themselves to mapping; these projects are largely technology-focused and include criteria such as upgrading the Countywide video surveillance system and expanding the traveler information system. Details on these projects are also included by funding level. This chapter ends with a comparison of the three funding levels.

However, this planning means little if it the plan is not implemented. So, the final two chapters of this report are the Five-Year Action Plan, which provides direction for how to begin putting the plan into action in the immediate future, and information on project implementation and monitoring, which highlights how the County can measure its success based on the Destination2040 guidance. As we learned in the Existing Conditions and Needs Assessment reports, quests for greatness are not all about the destination, and this planning process is no exception. Although planning our journey to Destination2040 is coming to a close, how we got here is critical to the plan's success, so this journey is key to making sure Gwinnett plans for its transportation future in a meaningful and forward-thinking way. So, we'd like to ask you to...

VISION AND GOALS

DEFINING PROJECT VISION AND GOALS

At the beginning of the Destination2040 process, the planning team worked with its stakeholder groups and committees to draft a vision statement for the plan as well as a set of CTP goals. Throughout the plan development process, the draft vision and goals were refined and validated by an extensive public involvement effort. These vision and goals helped establish a list of project priorities, which were also vetted with the public. The Destination2040 plan's vision, goals, and priorities are the driving force behind the recommendations included in this document.

THE VISION FOR DESTINATION2040

The Gwinnett County Comprehensive Transportation Plan will provide a framework to improve quality of life for everyone in the County by facilitating the mobility of people and goods safely and efficiently across all modes of transportation. This framework will be established through the following short- and long-range goals.

DESTINATION2040 GOALS

IMPROVE CONNECTIVITY

- Improve overall connectivity within Gwinnett County by tying activity centers to each other and by enhancing cross-County movements
- Improve connectivity between Gwinnett County and the rest of the region
- Improve connectivity and reliability regardless of mode or purpose

LEVERAGE THE COUNTY'S TRANSPORTATION SYSTEM TO IMPROVE ECONOMIC VITALITY AND QUALITY OF LIFE

- Connect people to jobs and educational opportunities through coordinated transportation and land use investment decisions
- Use transportation investments to encourage development/redevelopment in strategic locations throughout the County
- Facilitate the efficient movement of goods
- Preserve community livability and attractiveness; respect and value existing community open spaces and prioritize transportation projects that positively impact the human and natural environment

IMPROVE SAFETY AND MOBILITY FOR ALL PEOPLE ACROSS ALL MODES OF TRAVEL

- Prioritize projects and programs that improve safety, acknowledging all users in project design
- Continue to evaluate innovative design as well as improved technologies and products for use in the County's transportation network
- Consider mobility needs of all population groups when investing in the transportation system

PROACTIVELY EMBRACE FUTURE TRANSPORTATION OPPORTUNITIES

- Anticipate and plan for technological advances in transportation
- Educate the community about transportation options, funding, and processes
- Work with local, regional, state, and federal partners to plan future improvements
- Integrate long range comprehensive transportation plan with other County planning efforts
- Build additional capacity into transportation corridors, when feasible, to anticipate future needs

CONTINUE TO SERVE AS RESPONSIBLE STEWARDS OF TRANSPORTATION RESOURCES

- Invest in rehabilitation and maintenance of existing transportation infrastructure
- Prioritize projects that maximize the benefit of taxpayer dollars and alternate funding sources

CTP PRIORITIES

1. **VEHICULAR TRAVEL:** Improving vehicle travel throughout Gwinnett County, such as retiming traffic signals along a corridor or widening roadways
2. **CONNECTIVITY:** Creating new roadway and trail connections to provide more routes to get between places in Gwinnett County and Metro Atlanta
3. **TRANSIT SERVICES:** Improving or adding public transit services (routes, bus stops, high capacity transit with dedicated space, on-demand transit for people with mobility challenges, etc.) within Gwinnett County
4. **TRANSPORTATION SAFETY:** Improving safety for travelers in the County, such as reconfiguring key intersections and enhancing signage and visibility
5. **MAINTENANCE/ROADWAY REPAIR:** Improving and maintaining roads and bridges, such as repaving roads or replacing bridges
6. **WALKING/BIKING:** Making improvements for people who walk or bike, such as adding sidewalks, crosswalks, bicycle facilities, and/or trails within Gwinnett County
7. **ECONOMIC VITALITY:** Making transportation investments that improve the County's economic vitality, such as improving transportation access to major employment centers so people can get to jobs
8. **ACCESS TO TRANSPORTATION:** Improving transportation access for people with disabilities or other mobility challenges

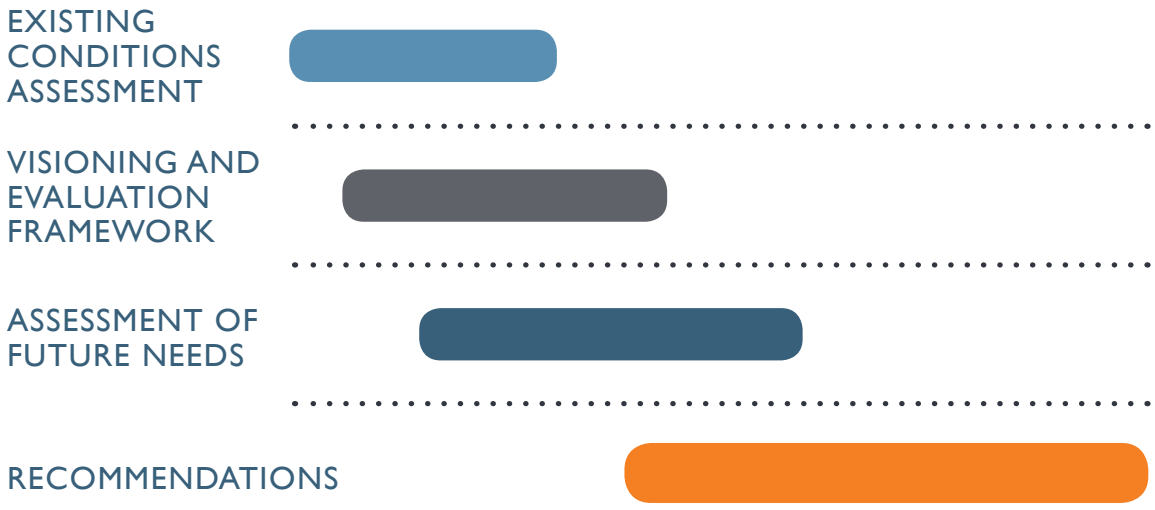
PROCESS AND ACCOMPLISHMENTS

PROCESS TIMELINE

Updating the CTP was a process that began with determining what changed since the previous plan and understanding what is currently happening in the County. The initial phase, the existing conditions assessment, analyzed the County's current transportation infrastructure. Following the existing conditions assessment, the planning team also developed the plan's vision, which helped to guide the overall framework from which plan recommendations would be developed and served as part of the evaluation criteria that determined which projects ultimately were included in the CTP. With an understanding of the existing transportation infrastructure and a series of goals and overall plan vision, the planning team then assessed future needs to understand Gwinnett's transportation system's existing gaps that need to be filled by 2040. After analyzing the challenges, opportunities, and solutions needed for a successful system in 2040, the team developed multimodal recommendations for Gwinnett. Community outreach and public involvement were essential to the development of Destination2040 and were incorporated throughout the planning process. The first two reports for Destination2040, *Existing Conditions Report* and *Needs Assessment Report*, catalog the first three phases of the planning process. This report focuses on the CTP's recommendations.

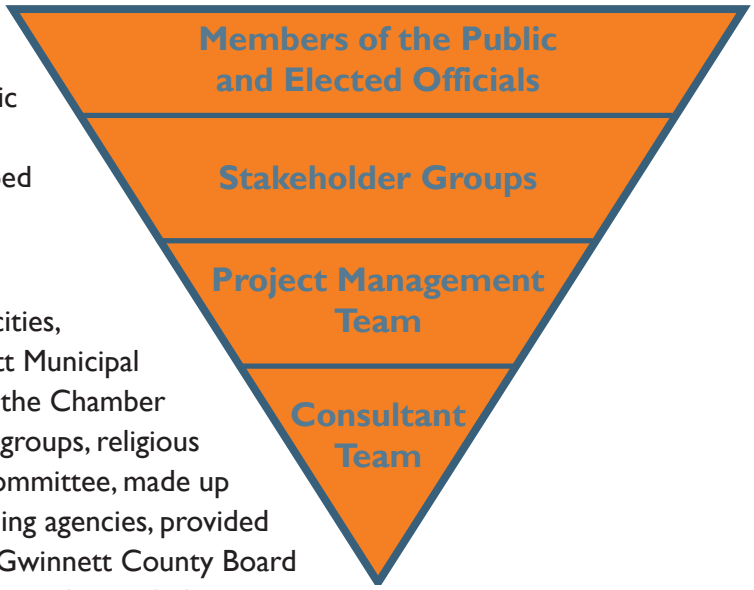
The figure below illustrates, at a high-level, the Destination2040 planning process.

PLANNING PROCESS



KEY STAKEHOLDERS AND TEAM LEADERSHIP

Input from various stakeholder groups was vital to the CTP planning process, helping to ensure the plan will meet the full spectrum of user needs. To facilitate the public involvement process, stakeholder groups were created to speak to local interests. Destination2040 stakeholders helped to guide the project, provided input, and represented the larger community.



The Partner Agency Stakeholder group was comprised of cities, community improvement districts (CIDs), and the Gwinnett Municipal Association. The Community Stakeholder Group included the Chamber of Commerce, public interest and advocacy groups, citizen groups, religious institutions, and service agencies. In addition, a Technical Committee, made up of representatives from the area's key transportation planning agencies, provided input and guidance on the project's technical aspects. The Gwinnett County Board of Commissioners also was briefed at major plan milestones and provided input on plan development both directly and through their appointees on the community stakeholder group.

The planning process was influenced and guided by the Project Management Team, composed of Gwinnett County Department of Transportation staff and the project consultant team.

COMMUNITY OUTREACH

The community outreach process involved a robust engagement and outreach program to gather input and feedback to help shape Destination2040. The program involved the community in two primary ways: in-person and online.

- In-Person: key stakeholder interviews, public meetings/open house sessions, adjacent community meetings, and community events/informational kiosks
- Online: website, social media, and MetroQuest survey

In-person outreach was spaced geographically throughout the County, at large community events to meet people where they already are, and was transit accessible where possible. Utilizing the project website, social media, and the online survey, we were able to connect with more individuals and gain feedback from an even larger cross-section of opinions and priorities. In addition to public engagement, the planning team met with the planning departments and leadership of adjacent communities (counties and municipalities outside of Gwinnett) to understand the plans surrounding the County.

The public outreach effort conducted for this plans, in terms of the number of contacts and meaningful input received, was unprecedented for a county-level planning project. The following pages illustrate the breadth of community outreach conducted for Destination2040.

2 Rounds of Public Meetings

12 Public Meetings

27 Stakeholder Interviews

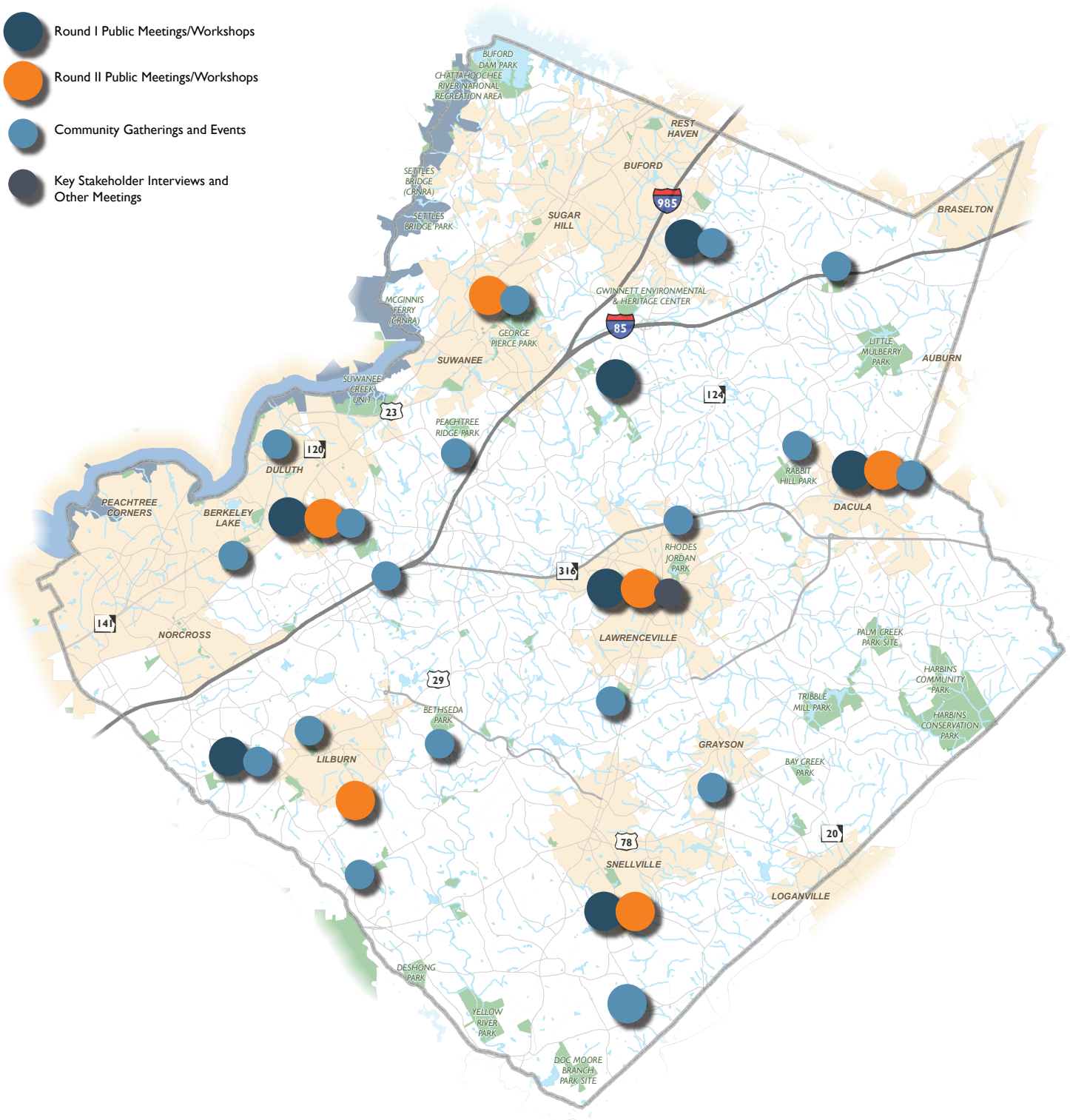
2 Rounds of Online Surveys

7,000+ Online Survey Participants

25 Community Events

1,000+ People Met Face-to-Face

Locations of Public Outreach Events/Meetings



PROJECT DEVELOPMENT AND EVALUATION

DEVELOPMENT OF THE UNIVERSE OF PROJECTS

The list of projects considered for the Gwinnett County Comprehensive Transportation plan included approximately 1,300 projects. The Needs Assessment phase of the CTP served as the starting point for the creation of the catalog of possible recommended projects. Projects were added to the list for consideration through one of the following methods:

- Previously developed projects from Gwinnett County and City plans
- Technical analysis from the Needs Assessment
- County staff recommendations
- Citizen service requests
- Stakeholder and public comments
- SPLOST Citizens Project Selection Committee (CPSC)

Additional projects were considered from planning initiatives that included regional and surrounding County and city plans.

PROJECT REVIEW AND SELECTION

This quantitative assessment served as an initial tool for project comparison but was not the only element of project evaluation and prioritization. Feedback from the public, stakeholders, and DOT staff was an important element of the selection process. While the criteria used to evaluate projects by the consultant team were largely the same across programs, project selection varied depending on CTP or Special Purpose Local Option Sales Tax (SPLOST) inclusion:

- **SPLOST process:** when the SPLOST referendum passed on November 8, 2016, the CPSC began meeting in late 2016 to review and recommend a list of projects. Project evaluation completed by DOT staff was one element of the review process considered by the CPSC. The Board of Commissioners provided the final review of the CPSC recommended list of projects and approved the final SPLOST list on July 25th, 2017.
- **CTP process:** all projects were evaluated using the same evaluation criteria noted above. After an initial review of evaluation scores, the top two-thirds of projects by evaluation score in each category were provided to DOT staff, the public, and County leadership for feedback. The combination of quantitative evaluation and qualitative feedback resulted in a prioritized list of projects for the long-range plan.

PROJECT EVALUATION AND CRITERIA

Evaluation criteria were developed to assess and prioritize projects across roadway, bicycle, and pedestrian modes. Because of the unique considerations for transit and because a short-term recommendation was made for an additional transit study beyond the CTP, transit-specific projects were not evaluated using this process. Recognizing the concurrent SPLOST effort, the criteria were developed so they could be used to evaluate projects under both the overall CTP and the short-term SPLOST program. In all, 14 general criteria were developed. Some criteria apply to all modes (Roadway, Bicycle, and Pedestrian) while others are associated with only one or two modes. Likewise, some of the criteria could be applied to all SPLOST categories (Bridges, Intersections, Major Roads, Safety/Alignment, School Safety, and Sidewalks/Paths) while other criteria are targeted to one or two. This flexible design allowed all projects to be scored for both the CTP and the SPLOST process while using one core set of criteria. Projects were scored using the applicable metrics and ranked relative to other projects in the same category.

The Vision and Goals developed early in this plan continue to guide the direction of the plan, with each of the 14 evaluation criteria reflective of one or more of the following project goals:

- Improve connectivity
- Leverage the County's transportation system to improve economic vitality and quality of life
- Improve safety and mobility for all people across all modes of travel
- Proactively embrace future transportation opportunities
- Continue to serve as responsible stewards of transportation resources

The criteria developed for project evaluation include the following:

- Creation of new or enhanced connectivity
- Improvement to reliability
- Proposed by a recognized agency
- Support for existing/future jobs and economic development
- Proximity to freight/industrial areas
- Score relative to bicycle/pedestrian suitability analysis
- Proximity to environmental areas or community resources
- Origin-destination pairs or population served
- Targeted or disadvantaged population served
- Incidence of crashes
- Innovative design or improved technologies
- Feasibility/constructability
- MetroQuest (online survey) and/or public input
- Existing maintenance need

EVALUATION CRITERIA

●: Criteria applies to SPLOST category

●: Criteria applies to vision/goal

❍: Criteria partially applies to vision/goal

			SPLOST Categories						Vision & Goals				
	General Criteria	Mode	Bridges, Culverts and Transportation Drainage	Inter-sections	Major Roads	Road Safety and Alignment	School Safety	Sidewalks and Pedestrian Safety	Connectivity	"Vitality/ Quality of Life"	Safety/ Mobility	Embrace the Future	Stewards
1	Provides New or Enhanced Connectivity	Roadway, Bicycle, Pedestrian	●		●	●	●	●	●	❍		❍	
2	Improves Reliability	Roadway	●	●	●		●		●	❍			❍
	Improves Connectivity between adjacent community resources	Bicycle, Pedestrian						●	●	❍			❍
3	Project Proposed by recognized Agency such as ARC/GDOT, City, CID, GC Department, or Other Local Organization/ Agency	Roadway, Bicycle, Pedestrian		●	●	●	●	●	❍	❍		●	❍
4	Economic Development Asset Index (Employment Density, Commercial RE Density, Underutilized Assets, Economic Development Incentives)	Roadway, Bicycle, Pedestrian	●	●	●	●	●	●	❍	●	❍	❍	❍
5	Proximity to Freight alignments and/ or industrial areas	Roadway	●	●	●	●			❍	●	❍	❍	❍
6	Prioritize projects based on Bicycle/Pedestrian Suitability Analysis	Bicycle, Pedestrian						●	❍	●	❍		❍
7	Proximity to environmental areas or community resources (Bridges - reduce impact to waterway)	Roadway, Bicycle, Pedestrian	●		●		●	●		●			❍
8	VMT Served (Major Roadway)	Roadway		●	●		●		❍	❍	●	❍	❍
	Population Served (Bike/Ped)	Bicycle, Pedestrian						●	❍	❍	●	❍	❍
9	Targeted and/ or Disadvantaged Population Served	Bicycle, Pedestrian						●	❍	❍	●	❍	❍
10	Crash Data	Roadway, Bicycle, Pedestrian		●	●	●	●	●		❍	●		
11	Innovative Design or Improved Technologies	Roadway, Bicycle, Pedestrian	●	●	●	●	●	●			❍	●	❍
12	Feasibility/ Constructability	Roadway, Bicycle, Pedestrian		●	●	●	●	●		❍	❍	❍	●
13	MetroQuest Public Input	Roadway, Bicycle, Pedestrian		●	●	●	●	●	❍	❍	❍	❍	●
14	Existing Maintenance Need	Roadway, Bicycle, Pedestrian	●		●			●		❍	❍		●

The SPLOST Citizens Project Selection Committee (CPSC).

TRANSPORTATION FUNDING AND TIER STRUCTURE

FUNDING BACKGROUND

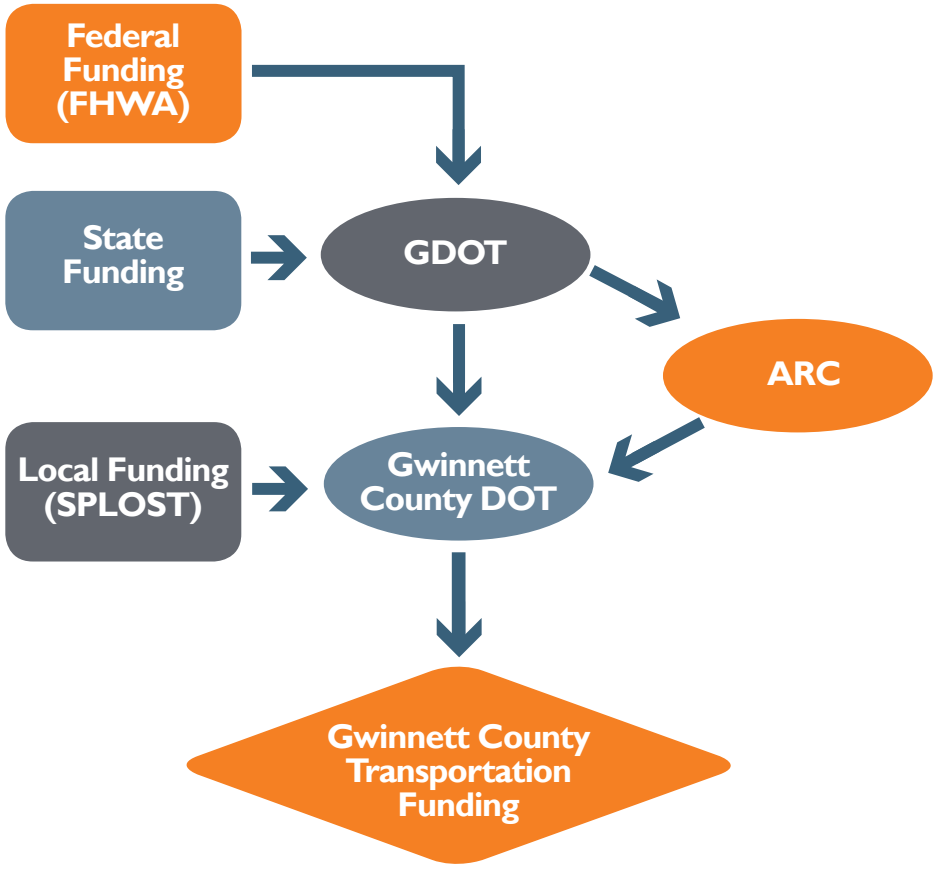
Having a list of projects is only the first part of a well-crafted transportation plan. Identifying the funding sources that can pay for the planning, engineering, right-of-way acquisition, construction, and maintenance of those projects is vital to successful plan implementation. Through the Needs Assessment phase of the project, the team identified deficiencies across all modes of transportation and subsequently identified hundreds of projects to address those deficiencies; but it is rare that enough money is available to fund all the projects that are needed. A funding evaluation is necessary to understand the likely revenue sources that will be available throughout the horizon of the plan and to develop multiple tiers for intermediate project prioritization.

Transportation funding for County projects can come from multiple sources including federal and state programs, local County revenues, and other partnerships with cities, Community Improvement Districts (CIDs), etc. Federal monies come from both the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA), beginning with the Highway Trust Fund. Because transit projects are considered separately from the CTP, we will focus on FHWA monies. Both GDOT and ARC have the authority to make initial funding recommendations over specific pots of federal money for Metro Atlanta, but they coordinate programming projects in their federally required documents (the State Transportation Improvement Program [STIP] and the Regional Transportation Plan [RTP]/ Transportation Improvement Program [TIP]), respectively. Transportation funding originates largely with the state motor fuel tax but is supplemented with other sources, such as alternative fuel and heavy vehicle taxes, hotel lodging taxes, and the general fund. GDOT allocates these funds and coordinates with ARC for inclusion in the RTP/TIP.

At a local level, the majority of the Gwinnett County transportation funding comes from the SPLOST. This one-cent sales tax has been in existence for approximately the last 30 years and has provided valuable funding for transportation, parks, public safety, libraries, and other Countywide programs to the residents and employees of Gwinnett County. Cities also get a portion of the SPLOST revenues that can be used at the cities' discretion. Often, many of the cities choose to fund transportation projects with portions of their SPLOST funds. The current SPLOST program that was approved by the voters in November 2016 began collections in April 2017 and will continue for a total of six years.

POTENTIAL FUNDING SOURCES

Multiple local funding sources were considered for this plan, but the primary focus and anticipated revenue source through the year 2040 is a continuation of the current SPLOST program. As with any uncommitted funding source, a number of assumptions were made based on future iterations of the SPLOST program. As of 2016, the County's SPLOST generated approximately $150,000,000 annually, and the program is projected to grow by 1.5% per year (not including inflation). For the purposes of estimation, a continuation of the current allocation was assumed, which includes 78.76% of all funds going to the County (with the remaining 21.24% going to the Cities) and 65% of those County-specific funds going to transportation. It should be noted that traditionally, SPLOST funding has been used primarily to complete relatively small, short-term local projects. State and Federal funds are used to complete large-scale projects, such as interstate highway widenings and overpasses. SPLOST funds have been used strategically to tee-up large-scale projects for Federal and state funding by designing the project, acquiring right-of-way, and funding a local match for construction.



PROJECT TIERS AND CONSTRAINING

Financial constraining for the purposes of the CTP is based primarily on local funding amounts because Gwinnett has most control over the direction of how those dollars are spent. Using projected funding in ARC's Regional Transportation Plan and historic funding levels by GDOT and ARC on Gwinnett projects in the last 15 years, the planning team was able to vet that assumptions made during the constraining process about federal and state funding partnerships were within reason.

A total of three project tiers were created for the purposes of financial constraining and project prioritization. The funding amounts in these project tiers are estimates of possible revenues and are not meant to match project costs included later in this report.

Short-Range (6-year) $486,343,270

This tier includes all projects that are expected to be funded in the first six years of the plan, which is consistent with the timing of the current SPLOST program (2017-2023). All projects that have been selected for SPLOST funding as well as projects that are being advanced through other funding sources like GDOT statewide funds or existing federal funding commitments are included in this tier.

Mid-Range (9-year) $812,000,000

The Mid-Range Plan covers projects that could be funded in the nine years following the completion of the current SPLOST program, assuming the sales tax were to continue as projected. Projects in this tier are the highest priority projects following those in the Short-Range Plan. A nine-year timeframe for this tier provides a strong list of projects from which the County and future Citizens Project Selection Committees can choose projects when funding becomes available.

Long-Range (9-year) $928,000,000

Similar to the Mid-Range Plan, the Long-Range Plan assumes a nine-year timeframe of funding. Projects in this tier are priority projects for the County but follow the Mid-Range projects in terms of funding allocation and state/federal processes.

POLICY GUIDANCE

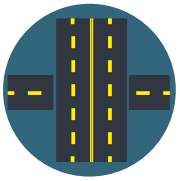
POLICY RECOMMENDATIONS

The Gwinnett County Comprehensive Transportation Plan includes recommendations for both projects and policies. A large portion of the report is dedicated to the numerous capital investments that have been vetted by County staff, consultants, and the general public and for which the County is preparing to set aside local funding for implementation. Beyond those capital investments, this recommendations document provides guidance on policy-related items that directly or indirectly impact transportation. Policy and code modifications have the ability to shape urban form, encourage new behavior, and strategically position the County to create vibrant multimodal communities with realistic financial requirements.

Included in this portion of the document are multiple transportation-related policy sections including the following:

RECOMMENDED TRANSPORTATION POLICIES

TRANSPORTATION AND LAND USE: Many citizens often ask the question: "does land use drive transportation?" In reality, land use and development patterns have direct impacts on the scale and mode of transportation while infrastructure investments have the ability to drive changes in development.



FUNCTIONAL CLASSIFICATION: In a traditional hierarchical system, different types of roadway classifications provide varying levels of mobility and access. Higher-level facilities are known to limit access for the benefit of improving mobility within the system (freeways) while lower-level facilities traditionally focus on providing more access with the expectation of lower speeds and reduced throughput.

ASSET MANAGEMENT: Because of its size and decades of investment in transportation, Gwinnett County has a wide array of infrastructure that needs to be maintained. This includes roadways, trails, sidewalks, bridges, and signal systems. Continuing to maintain and rehabilitate current infrastructure at a high level means a longer lifecycle before a complete rebuild is required.

FREIGHT: Rail and truck freight is a critical part of the Georgia economy, and its impacts to Gwinnett are substantial as well. Advancing safety-enhancing projects for trucks, improving at-grade rail crossings for vehicles, and finding opportunities to create better truck parking are all possibilities discussed in this plan.

TRANSIT: Transit plays an integral role in the success of a major metropolitan area's transportation system. Gwinnett County Transit has already begun to implement some short-term projects, but an ongoing Comprehensive Transit Development Plan will result in a mix of short-, medium-, and long-range recommendations for the growth and development of Gwinnett's transit system.

CONNECTED AND AUTOMATED VEHICLES (CAV): Technology continues to evolve on a daily basis, which is why it is called a disruptor. The implications of CAV on development patterns and transportation are far reaching and a bit unknown – from increased capacities on roadways to more vehicle miles traveled and reduced parking needs, CAV technology has the ability to revolutionize our communities. Gwinnett County is already planning for and investing in the infrastructure that will be needed for these new technologies.

BICYCLE AND PEDESTRIAN: An important aspect of transportation and quality of life, infrastructure for bicycles and pedestrians throughout the County has been identified as an important need. Gwinnett is committed to continuing its sidewalk service request program and is in the process of completing a Countywide Trails Master Plan to expand the current network of transportation and recreational trails.

TRANSPORTATION DEMAND MANAGEMENT (TDM): People often think about improving transportation by adding supply (widening roads, making new connections, adding turn lanes, etc.). But, transportation also can be improved through reducing demand for single-occupant trips, including providing and subsidizing a better multimodal network, creating strong land use policies and design, and encouraging opportunities for alternative work schedules (flex time and teleworking).

SAFETY: Making roadways safer requires more than just engineering solutions—involvement from the four Es of safety (engineering, education, enforcement, and emergency medical) is essential to ensuring that our transportation systems get us the places we want to be safely *and* efficiently.

TRANSPORTATION AND LAND USE

Because it is not possible to add enough new roadway capacity to fully eliminate congestion or completely meet the forecasted mobility needs of the County's existing and future residents and workers, an integrated, multimodal transportation system is necessary to support balanced job and household growth. Furthermore, increasing job concentrations and increasing compact mixed-use developments within Gwinnett's existing and future activity centers can help maximize the effectiveness and efficiency of the transportation network and investments in roadways, transit, and other modes.

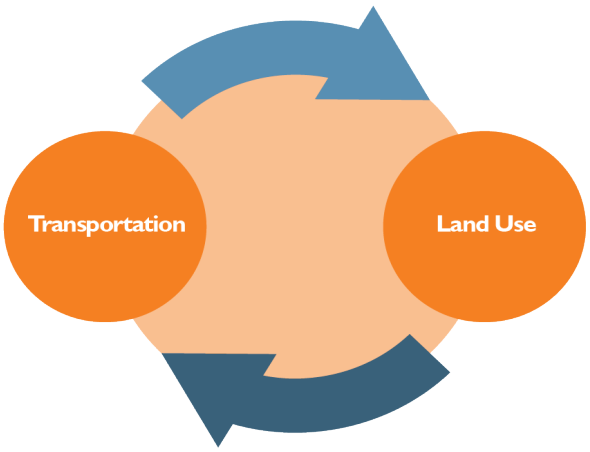
Doing so requires the meaningful integration of land use and transportation planning. This connection is a fundamental principle of successful community planning. It can reduce the need for new roadways and can make infrastructure safer, more accessible, less expensive, and overall more efficient.

In this relationship, land use is generally thought to create 'demand' (in terms of trips) that is met by the 'supply' of the transportation system. An ongoing theme in planning research focuses on how the 'supply' of the transportation system also influences 'demand' by incentivizing new land uses. The nature of this relationship requires planners to consider about how a mixture of infrastructure investment and policy decisions can influence how land use and transportation work together to remain sustainable and achieve balance.

LAND USE APPROACHES SUPPORTIVE OF TRANSPORTATION NETWORK

Gwinnett has experienced both the benefits and challenges of growth and will continue to do so into the foreseeable future. As the County grows, so too does the demand for transportation capacity. The recommendations that follow emphasize the need for intensified development within the County's existing and future activity centers with access to transportation corridors. County policies and investments can create a connected transportation network that includes higher-capacity modes of transit and supports attractive, walkable and bikeable neighborhoods complete with homes, parks, civic spaces, and other amenities.

Over time, Gwinnett can build upon and enhance accessibility by encouraging development and reinvestment within activity centers that combine a mix of uses and connected Complete Streets that support a balance of modes. By coordinating the County's land use and transportation policies, Gwinnett can support and provide options for those who desire to reduce their automobile use to meet daily needs and make it possible for those who are unable or choose not to drive to live independently.



Fortify the Link between Transportation and Land Use into the Unified Development Ordinance

Gwinnett County is preparing to update its UDO beginning in late 2017. This update should fortify the relationship between future land use decisions and future transportation infrastructure investments by ensuring that the policies applicable to transportation infrastructure support smart growth land use policies. Specific standards may include street networks forming an interconnected grid pattern and minimizing cul-de-sacs; streets, with the exception of loop streets, should terminate at other streets and at least two streets within single-family subdivisions should provide connections to existing or proposed through-streets or collectors, where practicable; and public sidewalks should create a linked network of walkways connecting homes in the district, especially to schools and parks/other open space land areas. This practice moves away from considering local streets as suffering from cut-through traffic and instead provides for their viability to help form a network of options to navigate the County. Outside of residential-focused connectivity, the County should concentrate permitting and incentivizing (via non-monetary or monetary-related means) the revitalization of strategically located commercial nodes to become more complete activity nodes or town centers with a mix of uses. To ensure that this incentivization provides the greatest impact, it should only be provided for projects that uphold environmental stewardship and are well-designed.

Additionally, the UDO, both its current iteration and the forthcoming update, as applicable, should be revised to incorporate the planning efforts reflected in the Countywide Trails Master Plan and the Comprehensive Transit Development Plan. For example, the current iteration of the UDO includes policies for implementing the Greenway Trails Master Plan; this language should be revised to also include the Countywide Trails Master Plan.

Revise Long Range Road Classifications (LRRC)

Revisions to the LRRC and associated characteristics should be considered in tandem with the update to the County's UDO. The LRRC has been updated as a part of the CTP; therefore, characteristics associated with each functional classification should be revisited as well. Specifically, this may include different design standards by functional classification dependent on surrounding land uses and character areas.

Connect New Subdivisions

Gwinnett County should encourage logical connections between neighborhoods and nearby commercial areas to provide enhanced access for people driving, biking, and walking. To improve traffic circulation and provide mobility options for residents of new subdivisions, the County should prioritize traditional street grids for the layout of new subdivisions rather than cul-de-sacs when natural conditions do not demand them. The County should also explore improving bicyle and pedestrian connections between existing neighborhoods and commerical centers, where appropriate, to connect these residents to activity areas via non-vehicular means.

Encourage Multimodal Networks (Complete Streets)

As part of the planning and permitting process, consider the needs of people accessing sites using a variety of transportation modes beyond the use of private automobiles. Although the greatest impact is realized when deployed within an activity center, bike lanes and sidewalk improvements can reduce the number of local automobile trips. Thus, the County's regulations, investments, implemented projects, and incentives should encourage a denser network of residential and commercial developments supported by street grids and other multimodal enhancing amenities and facilities. Furthermore, within both residential areas and activity centers, discourage vehicle travel and speed through the design and implementation of Complete Streets that emphasize a limited number of vehicular travel lanes, narrowed lane widths, streetscape elements, bike lanes, on-street parking, and other traffic calming design interventions.

Restrict Access Along Designated New Roads (Access Management)

Along designated streets, the County should consider restricting the number of driveways, intersections, and turning points to maintain the movement of vehicles. Where feasible, seek connection for people to walk, bike, and drive between parcels to limit the need for traffic along arterial and collector roads. Furthermore, designated roads with limited curb cuts and interruptions can create ideal conditions for side path multiuse trails to support people walking and biking. The most successful multiuse trails along roadways combine urban design, placemaking, and access considerations, which at a minimum include shade trees, lighting, and multiple trailheads/access points along the route.

Foster Compact Mixed-Use Development

To support projected residential growth and mitigate subsequent vehicular trips, the County should encourage a mix of uses within existing and future activity centers. Not only does this nodal approach help build economically-sustainable communities, compact mixed-use development provides the opportunity to offer a variety of housing options at a range of price points. Additionally, incorporating commercial services in proximity to residential, shorter and fewer vehicular trips are generated. Even in the more rural parts of the County, small neighborhood-serving centers of low-density commercial development that are designed for people arriving on foot, bike and private vehicles can be strategically placed at crossroads and can reduce the number of vehicle trips for those in proximity. ARC's Livable Centers Initiative (LCI) program has helped move some of the incorporated parts of the County, such as Duluth, Buford, Sugar Hill, and Norcross, in this direction in their downtowns. This program should continue to be leveraged, with a focus extension into some of the non-incorporated areas, where appropriate, as well as through-city-County collaborations, where possible.

Consider Increased Densities in Activity Centers

Gwinnett County should encourage denser development of mixed-use activity centers. This concentrated densification will provide a framework for multi-modal transportation for people walking or biking. It can lay the physical framework to support the most likely riders of future higher capacity modes of transit. ARC's LCI program also can support the planning and implementation of some of these best practices.

Coordinate Policies to Direct Future Growth

Continued coordination of Gwinnett's Unified Development Ordinance, the Countywide Trails Master Plan, the Comprehensive Transit Development Plan, and other relevant County transportation and land use policies can help guide growth and support mobility options for residents and workers. This approach will help facilitate planning and the efficient use of infrastructure, including water and/or sewer services or expansion of services. Policy coordination can help guide growth to where it makes sense and builds upon existing investments along planned or existing transportation networks as well as away from the County's most environmentally-sensitive areas.

Adopt Transit Supportive Overlay Districts

Gwinnett would benefit from the creation of a limited number of overlay districts along major transportation corridors, historic districts, watersheds, and other sensitive areas. These districts would provide additional standards for architecture, lighting, signage, streetscaping, areas for walking and biking, transit, and landscaping, helping to build upon the County's most historic, scenic, or natural features.

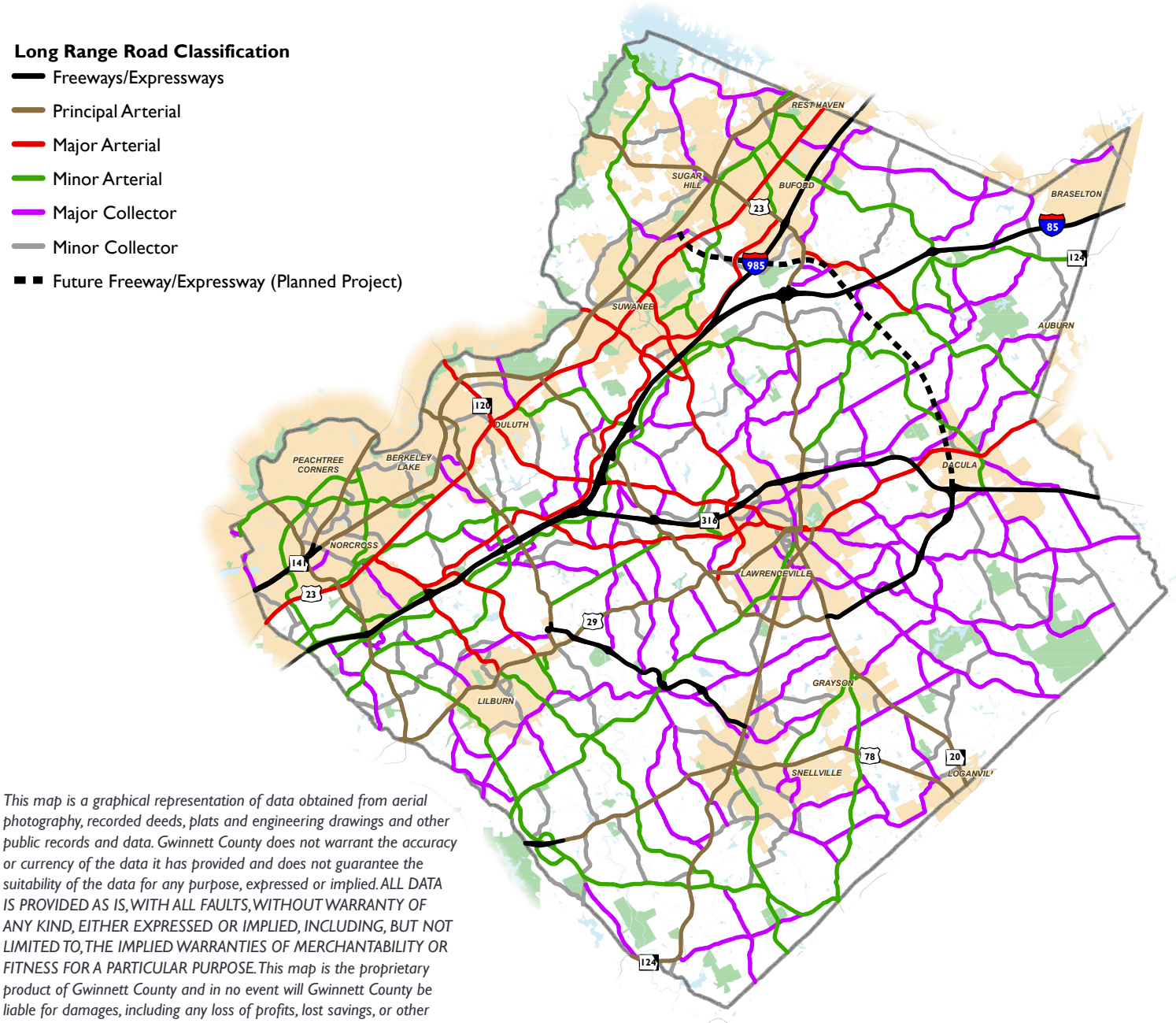
Catalyze Regional Connections

Continue to connect Gwinnett County to regional economic vitality and quality of life by supporting enhanced transportation networks along major corridors that accommodate multiple modes of access, including travel by automobile, transit, walking, and biking. Additionally, the County should look to catalyze future regional transportation investments with supportive land use policies to attract compatible jobs, housing, and services.

LONG RANGE ROAD CLASSIFICATION UPDATE

The Gwinnett County Long Range Road Classification map was last updated on February 25, 2003 and required an update. Roadway classification provides a mechanism for the County to apply design standards and policies consistent with the functionality of each type of roadway. Roadway classification, also called functional classification, generally distinguishes roadways based on two key factors of access and mobility. Arterial roadways provide greater mobility and tend to allow higher speeds over greater distances. On the other end of the spectrum, local roads provide greater access to adjacent destinations with more driveways and connecting streets, typically accompanied by lower speeds.

Long Range Road Classification



This map is a graphical representation of data obtained from aerial photography, recorded deeds, plats and engineering drawings and other public records and data. Gwinnett County does not warrant the accuracy or currency of the data it has provided and does not guarantee the suitability of the data for any purpose, expressed or implied. ALL DATA IS PROVIDED AS IS, WITH ALL FAULTS, WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. This map is the proprietary product of Gwinnett County and in no event will Gwinnett County be liable for damages, including any loss of profits, lost savings, or other incidental or consequential damages arising out of the use of or inability to use this map.

Methodology to review and update the classification of Gwinnett County roads incorporated federal, state, and local functional classification approaches. Roadway characteristics considered for review included posted speed limits, number of lanes, access considerations associated with median type and placement, and existing and projected traffic volumes on each roadway. Additional details on the approach for the classification update can be found in the Appendix. It should be noted that the map is limited to Gwinnett County's definitions for roadway functionality. GDOT and/or municipalities may develop roadway classifications that may differ from the County's adopted Long Range Road Classifications. Differences in road classifications exist to allow implementation of local design standards and provisions for adjacent land use, while still maintaining eligibility for federal funding on significant routes.

The updated Long Range Road Classification map includes classification from Freeway/Expressway with the highest mobility to Minor Collector with greater access. Roadways not identified on the map are considered Local roadways, with the greatest degree of access.

Recommendation: Adopt the Long Range Road Classification defined in this document and incorporate into the latest Unified Development Ordinance (UDO).

ASSET MANAGEMENT

Keeping the County's transportation system and infrastructure in a good state of repair is already a priority and should continue to be in keeping with state and national goals and a key investment strategy.

PAVING CONDITION

County-owned and County-maintained roadways are inventoried as part of a routine monitoring program directed by the Operations and Maintenance Division. As of February 2015, approximately 2,600 roadway miles have been inventoried as part of the County-maintained roadway system. The remaining roadway miles in Gwinnett County are roadways owned and maintained by cities, the state, and private entities. Rehabilitation and replacement activities are informed by the Pavement Condition Index (PCI) that ranks a roadway surface from Good (up to 100 points) to Failed (fewer than 10 points). Based on the February 2015 data for County-maintained roads, nearly 75% of roadway miles rate higher than 70 points on the PCI scale, and nearly half rate higher than 85 points on the PCI scale. Fewer than 3% of inventoried roadway miles are rated 55 points or fewer on the PCI scale.

Recommendation: Continue to fund Capital Projects Rehabilitation and Resurfacing through the SPLOST program and through state supported Local Maintenance and Improvement (LMIG) programs.

Recommendation: Maintain a PAVER/GIS database, making sure to match newly added County-maintained roadways from the PAVER pavement management field inventory database into GIS.

THE GWINNETT SIDEWALK PROGRAM

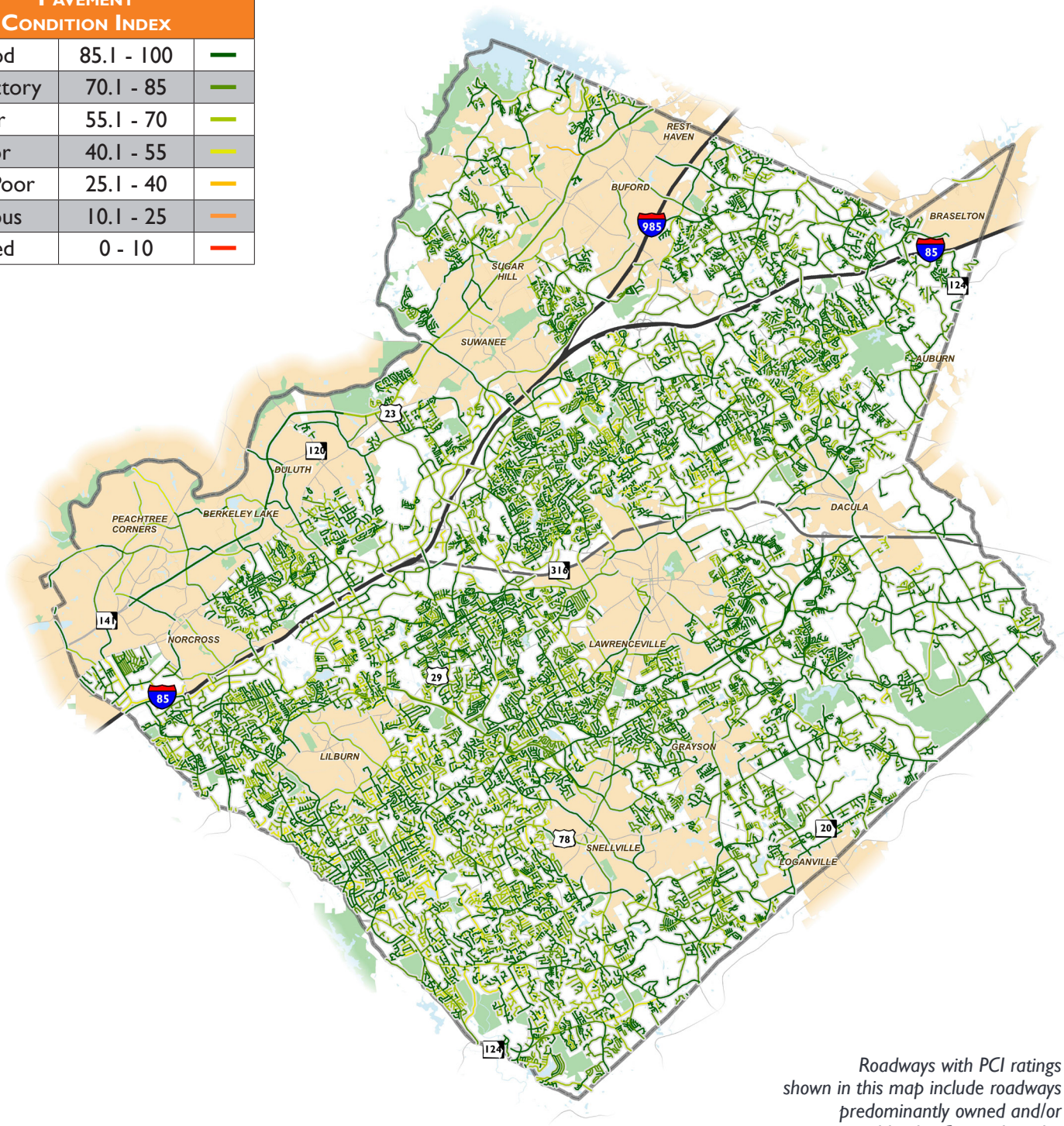
The Gwinnett Sidewalk program allows citizen requests to help identify gaps and maintenance needs for sidewalk continuity throughout the County.

Recommendation: Continue the citizen request sidewalk gap and maintenance program.

Recommendation: Where practical, continue adding or repairing sidewalks with every major roadway construction project to continue augmenting the existing network.

Pavement Conditions Index

Pavement Condition Index		
Good	85.1 - 100	
Satisfactory	70.1 - 85	
Fair	55.1 - 70	
Poor	40.1 - 55	
Very Poor	25.1 - 40	
Serious	10.1 - 25	
Failed	0 - 10	



Roadways with PCI ratings shown in this map include roadways predominantly owned and/or maintained by the County, but also includes some roadways owned and/or maintained by cities, the state, and private entities.

BRIDGE STATE OF REPAIR

Bridge state of repair is obviously an important maintenance item. Bridge inspections to identify maintenance, rehabilitation, and replacement are ongoing and necessary activities that both GDOT and the Gwinnett DOT conduct on a regular schedule and as needed. Bridge sufficiency ratings are compiled during inspection, and provide each structure with a numeric grade based on its state of repair. Through the evaluation, bridges are also rated for structural deficiencies and whether or not the structure is functionally obsolete. Bridges that are classified as structurally deficient may be safe for travel, so long as posted weight and vehicle limits are observed. Likewise, bridges that are functionally obsolete may be perfectly sound from a structural perspective, but are not up to modern design standards. Still, bridges with noted deficiencies should be considered for rehabilitation or replacement, and may be eligible for federal funding to take action.

Recommendation: Continue to regularly assess bridges throughout the County and coordinate efforts with GDOT.

Recommendation: Continue to fund maintenance, repair, and replacement locally and/or through coordination with GDOT or Federal sources.

TRAFFIC SIGNAL TIMING, ITS, AND ATMS

Transportation Systems Management and Operations (TSMO) provides a suite of applications that are used to support and improve safety and mobility of the overall transportation system. These strategies are evolving in response to emerging and rapidly changing technologies throughout the industry such as connected and automated vehicles. Traffic Signals, Intelligent Transportation Systems (ITS), and Advanced Traffic Management Systems (ATMS) are TSMO strategies that are becoming increasingly more critical as a way for agencies to increase safety and decrease congestion across the transportation network. Gwinnett County recognizes the importance of these types of strategies and has invested in systems and the supporting communications network that currently is monitored by the Gwinnett County Traffic Management Center (TMC) and is eager to explore opportunities for innovation.

Concurrent with this Comprehensive Transportation Plan, Gwinnett County also is updating the ITS Master Plan and the Gwinnett County Signal System Evaluation. Projects from the ITS Master Plan are shown on the CTP project list and have funding identified as part of the 2017 SPLOST program. Future ITS/ATMS projects may be funded by future SPLOSTs, State funding through GDOT, and/or other local funding.

Critical corridors were evaluated in the Gwinnett County Signal System Evaluation and prioritized based on traffic counts, County/regional significance, and proximity to other critical corridors. The report provides system operations management and strategies and staffing recommendations based on the County's existing staff, national/city/County comparisons, the Regional Traffic Operations Program (RTOP), and the recently updated ITS Master plan.

Recommendation: Perform an innovation workshop, bringing Gwinnett County departments together to develop innovative ideas and projects to take advantage of emerging technologies to the fullest. Prepare a TSMO Plan, focused on business and program strategies to encourage the efficient implementation of innovative ideas and projects.

Recommendation: Implement projects identified in the ITS Master Plan, included in this CTP; additionally, identify and secure funding for priority corridor upgrades recommended in the Gwinnett County Signal System Evaluation.

Recommendation: Identify opportunities to implement the system operations management strategies and staffing recommendations from the Gwinnett County Signal System Evaluation.

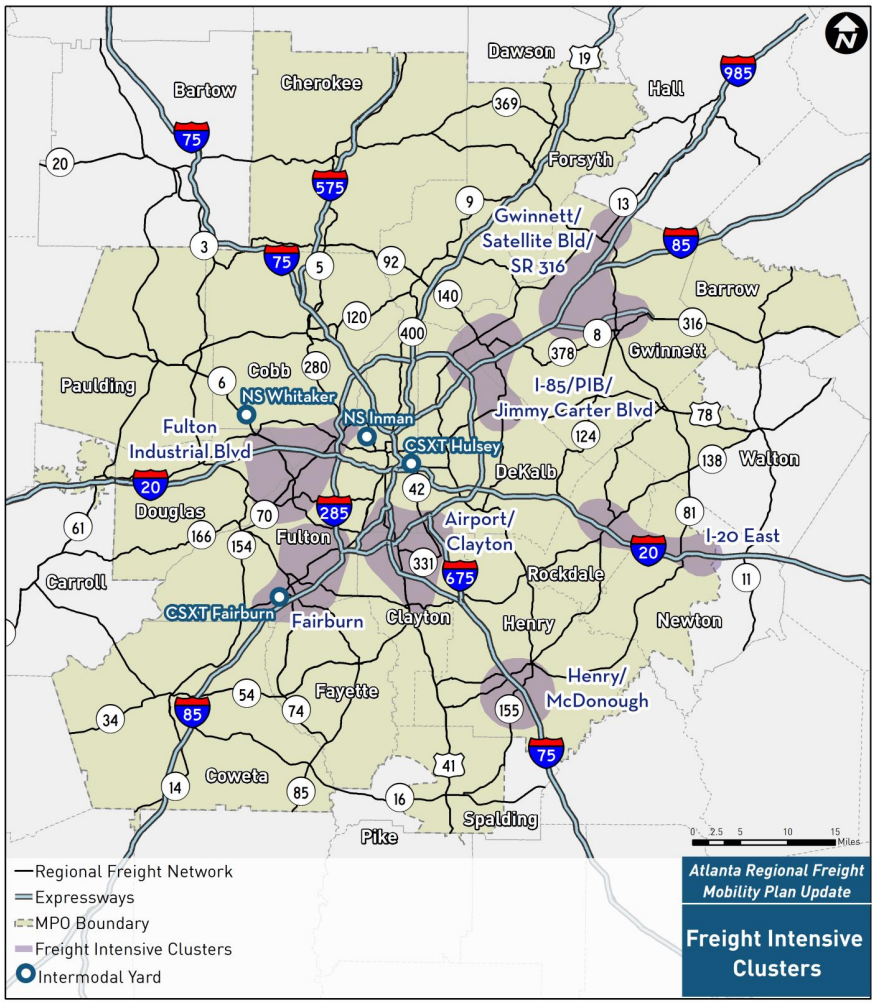
Recommendation: Consider the existing and an expanded communications network structure for the purposes of efficient management, security, reliability, and expansion.

FREIGHT

Freight-related industries play an important role in the economy of the state of Georgia, metro Atlanta, and Gwinnett County, and the impact will continue to grow with increased activities at the Port of Savannah. The Gwinnett County roadway system currently accommodates a total of 4.9 million tons of inbound freight and another 3.6 million tons of outbound freight per year. While some of this freight moves through the County, a substantial amount of the activity is generated within Gwinnett and specifically within two major freight clusters. The ARC Freight Mobility Plan Update identified two freight-intensive clusters that generate a large amount of truck trips: I-85 /Peachtree Industrial Boulevard/Jimmy Carter Boulevard (including parts of DeKalb County) and the Gwinnett/Satellite Boulevard/SR 316 area. These locations are two of the most intensive freight clusters in the entire region, as identified in the map.

Similar to its Livable Centers Initiative (LCI) program, ARC recognizes the importance of these freight clusters and the need for further study; therefore, it is allocating planning monies for subarea studies specifically focused on freight.

Through the findings of the Freight Mobility Plan Update, ARC initiated a truck parking study for metro Atlanta: *Atlanta Regional Truck Parking Assessment Study.* Section 1401 of MAP-21, also known as "Jason's Law," established a priority for creating more long-range parking for truck operators. This was introduced after the death of Jason Riverburg, an operator who pulled into an abandoned gas station for a nap and was robbed and murdered in 2009. His death sparked a national movement to create more safe parking locations for long-haul drivers. New federal regulations also are being developed that limit the number of hours an operator can be on the road. These new regulations, combined with technology improvements that can automatically track this information, substantiate the need for more official locations for truck parking.



ARC's *Regional Truck Parking Assessment* inventoried public and private truck parking locations across metro Atlanta, estimated the current deficit and projected future deficits associated with growth in truck parking demand, and identified locations with the greatest needs. As can be seen in the maps, the I-85 corridor through Gwinnett and Jackson Counties has one of the largest deficits currently and will continue to see that need grow into the future.

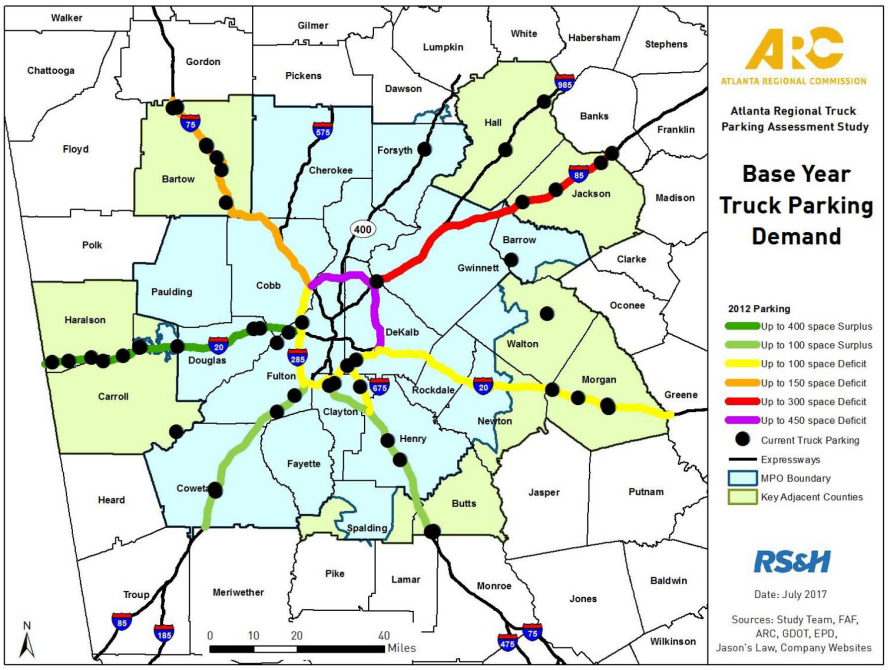
Recommendation: Gwinnett County, and its City and CID partners, should pursue funding through ARC for concentrated study of its two primary freight cluster areas.

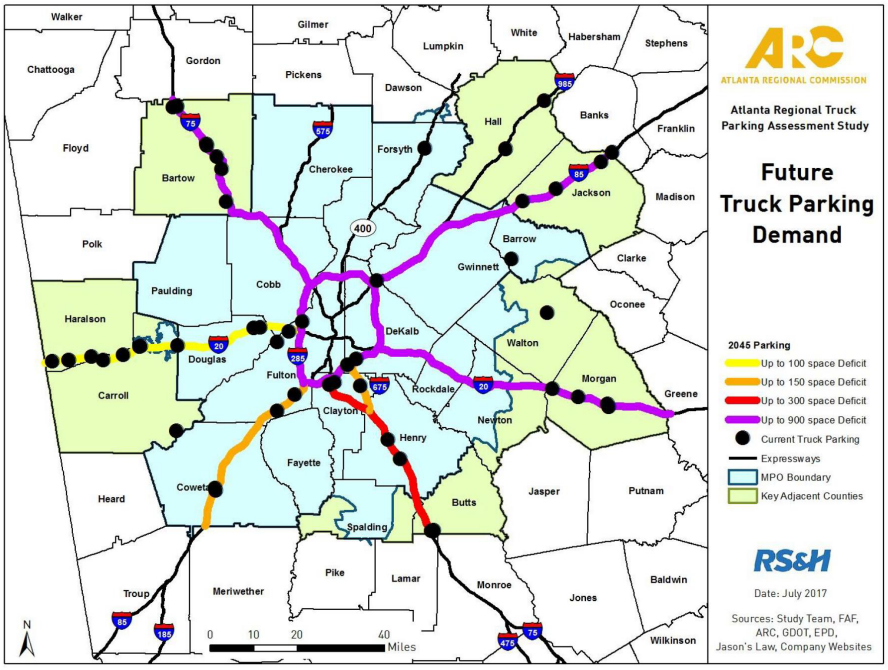
Recommendation: Gwinnett County should undertake an additional study to identify specifically where truck parking needs exist within its boundaries. In addition to the two aforementioned studies, the update to the Unified Plan for the County is imminent. This plan will update the future development map for all unincorporated Gwinnett County. This update is an opportunity to ensure inclusion of appropriate freight land uses in areas where freight industries currently exist, are anticipated to exist, or are desired by County leadership to move in the future. If Gwinnett wishes to encourage growth in the freight economy, leadership may want to consider incentives for freight industries as well.

Recommendation: Gwinnett County should consider freight industries and plan for the location of these uses in the update to its Unified Plan and Unified Development Ordinance.

Recommendation: As it relates to specific projects, a number of freight-advancing projects have been identified and prioritized within the CTP project tiers. Beyond those projects, additional consideration should be given to some of the following freight-oriented projects:

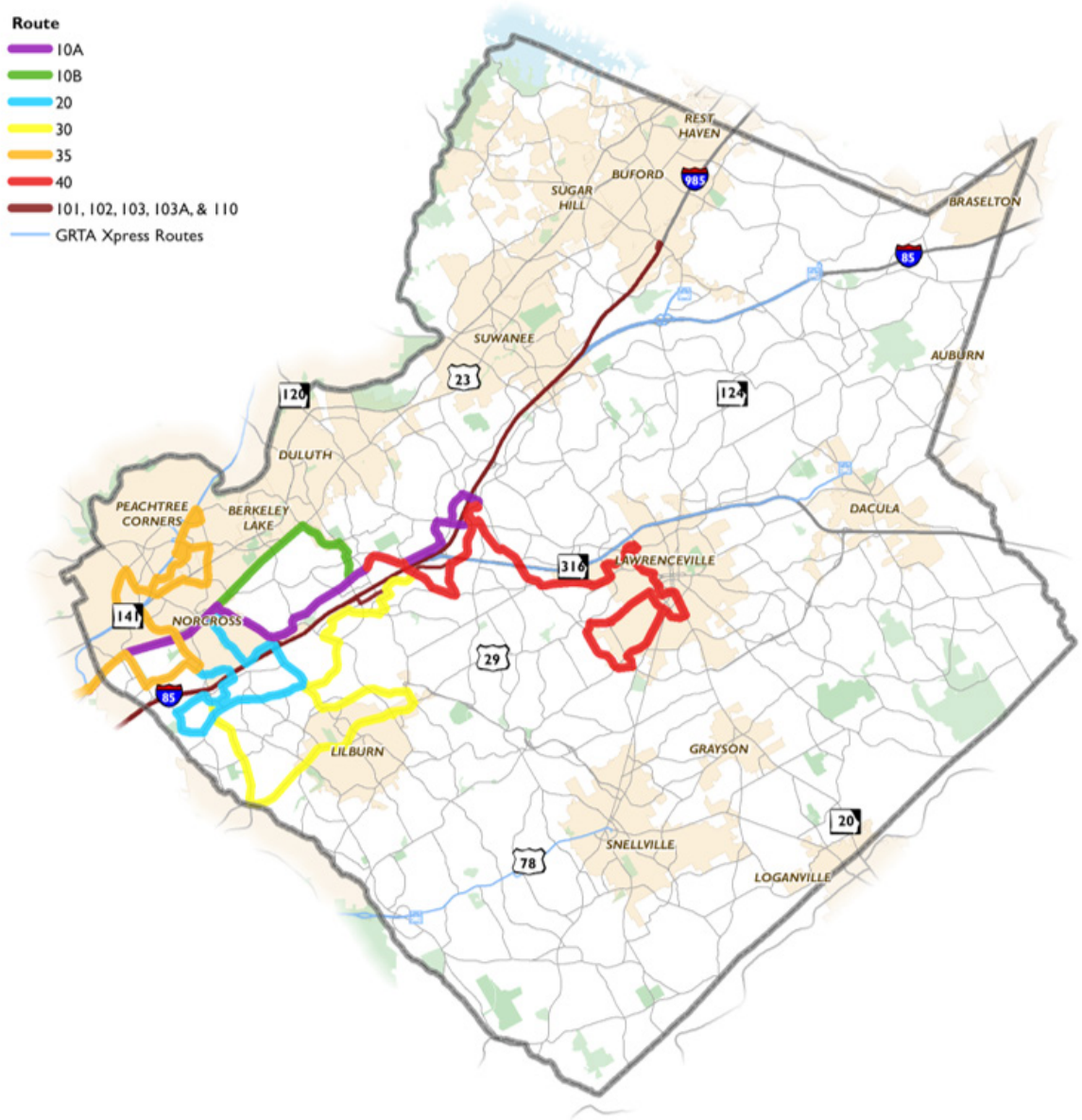
- Advancement of projects that improve truck operations and safety including intersection operational improvements, realignments and adjustments for sight-distance, and capacity improvements in key areas.
- Further consideration of at-grade rail crossings including those with high vehicular crossings.
- Investigation of Connected and Automated Vehicle technologies and infrastructure to facilitate movements in and throughout the County.





TRANSIT

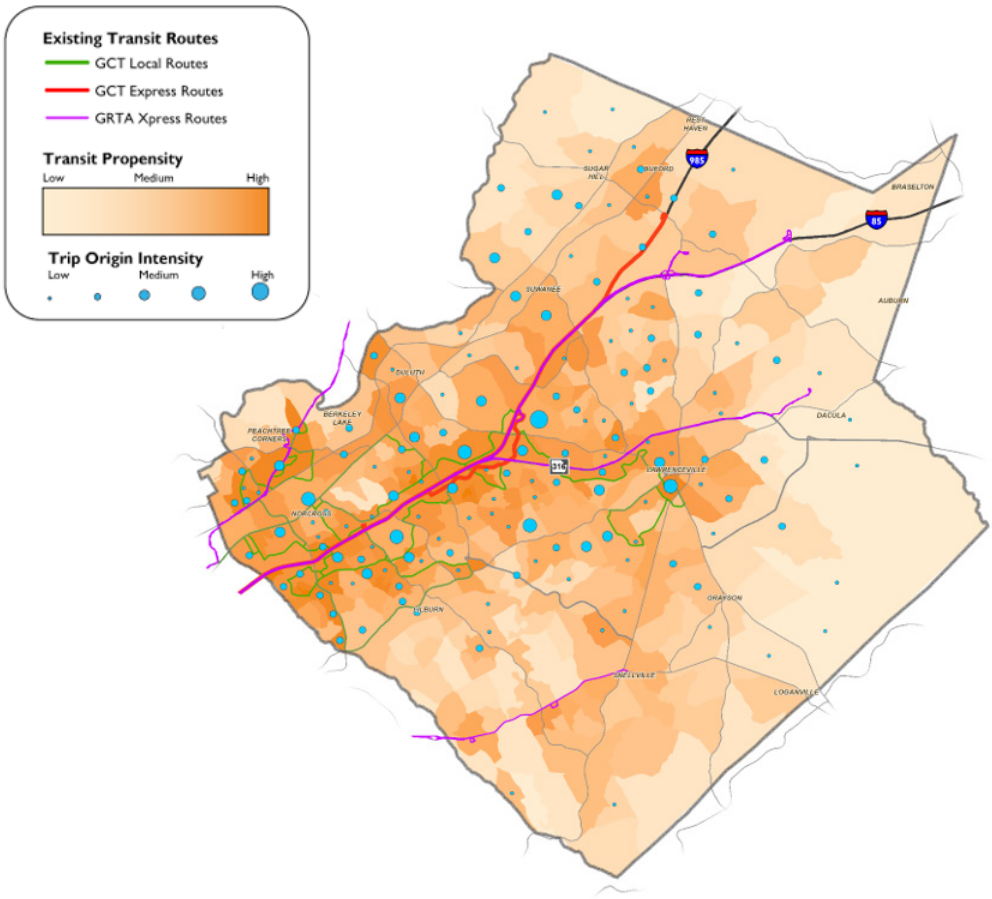
Gwinnett County Transit (GCT) provides express, local, and paratransit services. The existing transit system is shown in the map below. GCT operates six local routes and five express routes. Communities served by the local routes include Doraville, Norcross, Lawrenceville, Lilburn, Peachtree Corners and Duluth. GCT express routes serve several park & rides along I-85 and provide service to downtown Atlanta and Emory University. In addition, Georgia Regional Transportation Authority (GRTA) operates eight express routes with stops in Gwinnett County.



As part of the Needs Assessment phase of the CTP, transit-related needs were determined based on an assessment of existing travel activity, demographics, and public outreach. The focus of the Needs Assessment was on aligning service to meeting existing and growing travel demand markets, providing faster and more reliable transit service, and increasing the availability of transit.

Transit markets were assessed in multiple ways. First, existing and future travel activity was assessed using the ARC Regional Travel Demand Model in combination with existing ridership information and an on-board survey. Second, US Census demographic information was used to identify areas with a high propensity for transit use; these areas were identified based on research outlined in TCRP Report 28, which identifies the relationship between various demographic metrics and demand for transit. The areas with the highest demand are those with high population or employment density and those with high levels of households that do not use a car. Finally, public input was gained through six public meetings and an online survey. The map on the next page depicts the assessed levels of transit propensity compared to the trip origin locations on the existing system.

Transit Propensity vs. Survey Trip Origins



The need for faster and more reliable transit service was identified through user feedback and analysis of the existing system, including on-time performance, transfer activity, travel speed, and travel times, and a comparison of transit travel times to auto travel times for key origin/destination pairs.

Existing ridership information and public input informed the need for increasing the availability of transit. Consistently throughout the public outreach process, community members identified the need for increased frequency, decreased wait times, and expanded service hours. In the 2017 Metro Atlanta Speaks Survey, 74.6% of interviewed Gwinnett residents indicated that transit is very important to the region, with an additional 21.1% indicating it is somewhat important. A total of 56.3% would be willing to pay more in taxes to fund expanded regional public transit that includes buses and rail—the highest of all counties in metro Atlanta.

TRAVEL TIME/RELIABILITY RECOMMENDATIONS

Near-Term:

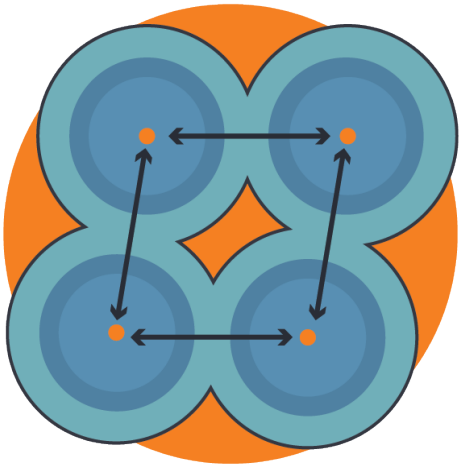
- Schedule changes to Routes 30 and 40 to improve reliability, beginning routes earlier for those connecting to routes going to MARTA, and interlining them at peak times to meet Route 10 at the Gwinnett Transfer Center
- Replace aging fleet to improve local bus performance

Mid-Term:

- Make transit faster and more reliable: provide more direct and more frequent service to MARTA

Long-Term:

- Investigate high-capacity transit corridors, including various bus and rail options, based on long-term trip demands



CONNECTIVITY/SERVICE AREA RECOMMENDATIONS

Near-Term:

- Add an early afternoon express "sweeper" bus that will go to all three Park-n-Ride lots upon request
- Extend the transfer period from 90 minutes to 180 minutes
- Add new express service to Emory University

Short-Term:

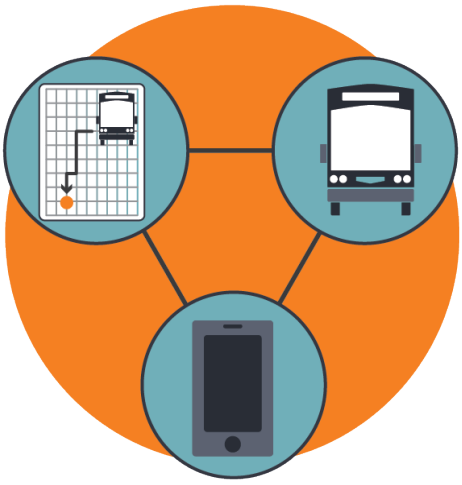
- Provide more direct service to MARTA from Peachtree Corners, Lilburn, and GCT Park & Rides
- Provide direct east-west transit service connecting Peachtree Corners, Norcross, and Lilburn
- Provide service to Georgia Gwinnett College

Mid-Term:

- Improve system coverage of the County
- Create a new "flex" transit service – an on-demand transit service which provides door-to-door transportation within areas where fixed route service is less feasible due to lower density land use patterns

Long-Term:

- Investigate the development of a major transit hub in Gwinnett County to improve access to transit and other multimodal services
- Provide express bus service to Perimeter Center
- Expand express bus services to Buckhead, Midtown, and Downtown



ACCESSIBILITY RECOMMENDATIONS

Near-Term:

- Modify Route 10B service to run every hour off-peak instead of two hours
- Add more evening trips to Route 10A from the Doraville MARTA station
- Begin Route 103 service earlier in the morning
- Provide riders with information via the My Stop App and a website with real-time tracking
- Provide paratransit customers with "where is my bus" information
- Implement GCT's Google Transit infrastructure
- Implement Wi-Fi on all buses (budget pending)
- Replace paratransit vehicles

Short-Term:

- Expand service hours and increase service frequencies

Mid-Term:

- Expand service hours and increase service frequencies

Long-Term:

- Enhance facilities at major transit centers, including direct access ramps at major park & rides, added customer services, amenities, and bus capacity
- Implement a systemwide stop improvement program, including the relocation of bus stops to far-side, added bus stop amenities where warranted by ridership, and improved bus stop accessibility

For more information on the County's transit, please reference the *Connect Gwinnett: Transit Plan*, the County's first major comprehensive review of transit development since the system's inception in 2001.

CONNECTED AND AUTOMATED VEHICLES

While the impacts of some technological developments are limited to their field, there are others—like the printing press, the telephone, and the computer—that have the capacity to introduce a much more significant impact and fundamentally change society and the way we use transportation. The introduction and advancements of connected and automated vehicles (CAV) has the potential to be one such development.

As CAV advancements expand daily and are introduced into existing transportation systems, it becomes more challenging for agencies to prepare and plan for these advancements. CAV will introduce changes in the way states and local agencies implement transportation projects and future developments. The figure below captures a sampling of the opportunities and impacts that many agencies have recently identified with respect to CAV.

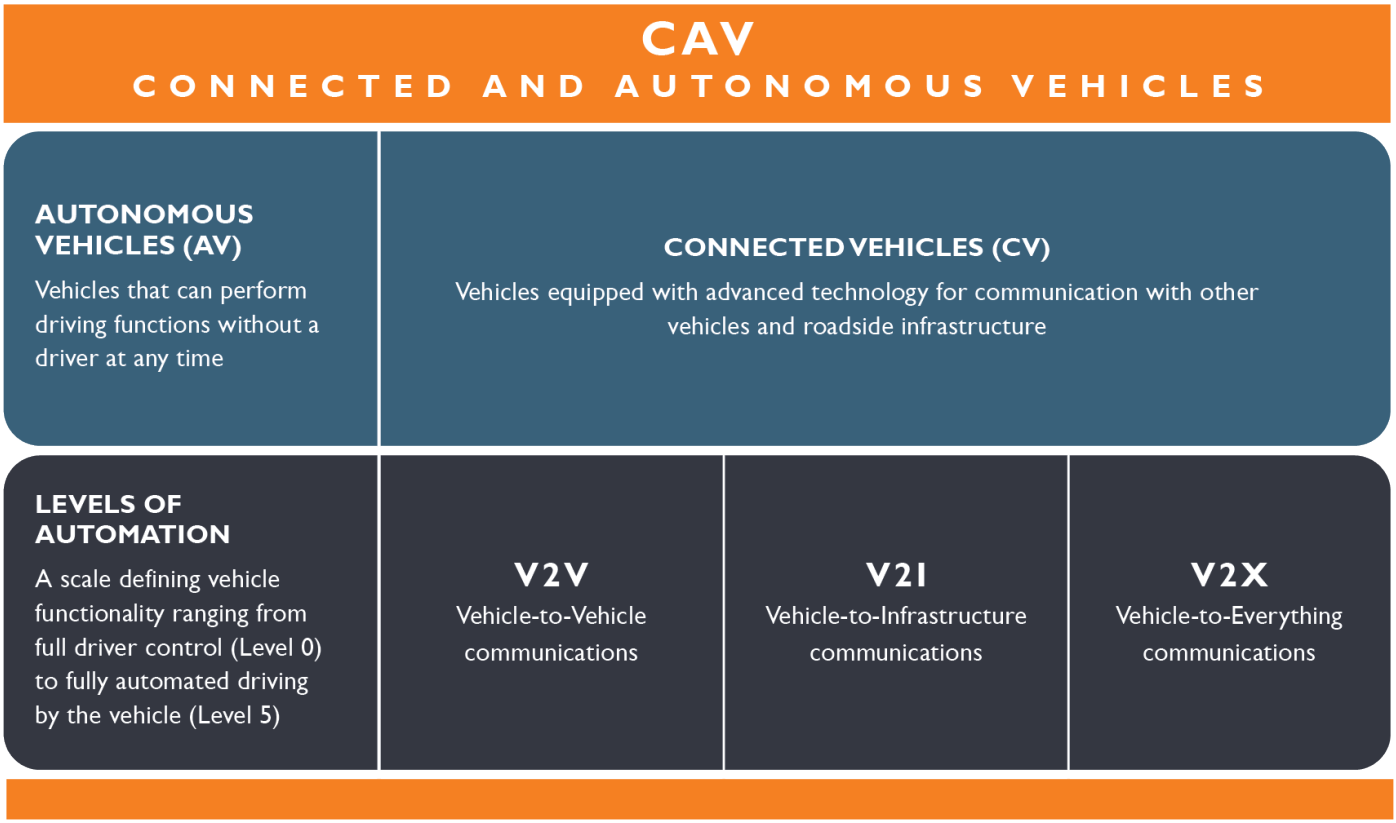
Opportunities and Impacts of CAV Technologies

What are Connected and Automated Vehicles?

Connected Vehicles (CV) are vehicles equipped with technology that allows the vehicle to communicate with road infrastructure to share real-time transportation information between systems. Three communication technologies exist: vehicle-to-vehicle (V2V) communications, vehicle-to-infrastructure (V2I) communications, and vehicle-to-anything (V2X) communications.

Examples of CV technology and applications include:

- Safety: roadway condition warning, emergency braking, blind spot warning
- Mobility: traffic signal status, transit priority, incident alerts
- Environment: eco-driving, freight routing, demand responsive transit service



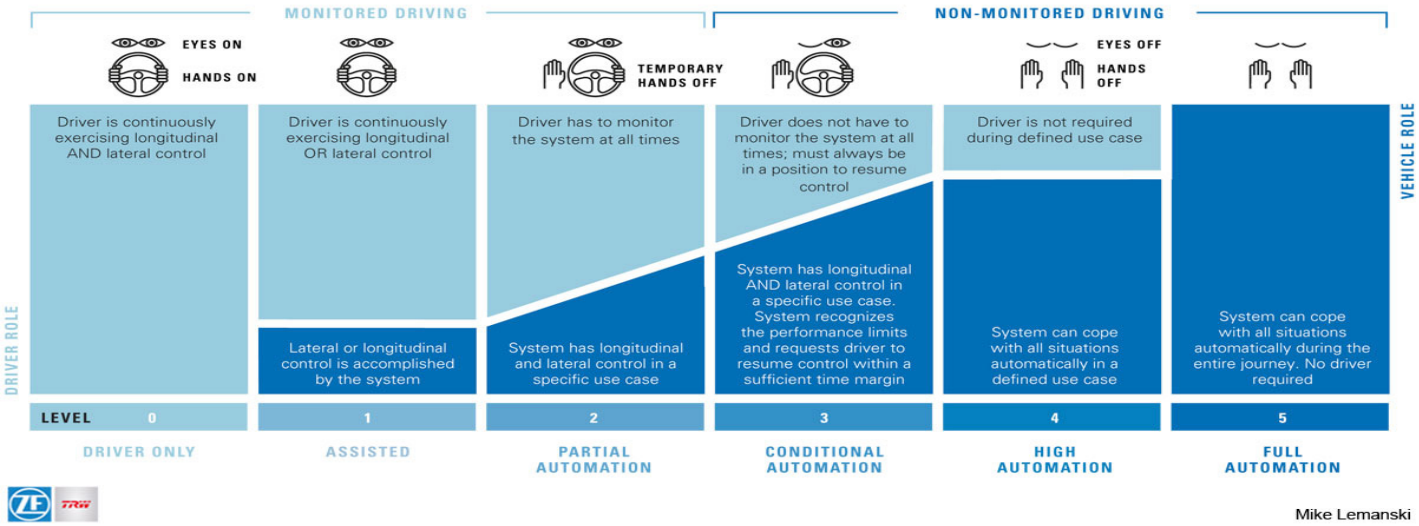
Automated Vehicles (AV) perform a driving function, with or without a human actively monitoring the driving environment and, are further defined by an associated level of autonomy. The Society of Automotive Engineers (SAE) is a global association of engineers and technical experts that comprise multiple areas of the engineering industry, including the automotive and commercial vehicle industries. Based on the leadership SAE has been providing, the National Highway Traffic Safety Administration (NHSTA) chose to adopt the "SAE International Levels of Automation" to align terminology more closely around connected and automated vehicle technologies. "SAE International Levels of Automation" provide a taxonomy of six levels of vehicle automation—this spans from self-driving to full car system control. This adoption of a common language around the levels of autonomy foster better relationships across the range of professionals involved in the development of CAV technologies. These various levels shown on the following page divide the vehicles automation level based on the establishment of "who does what, when".

Levels of Automation

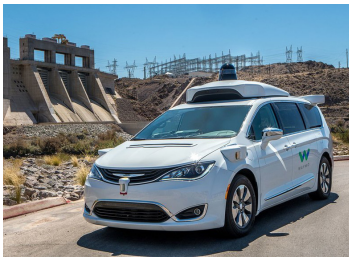
SAE levels depict and categorize the level of human interaction and the attentiveness when monitoring the driving environment. At the lowest level of autonomy, Level 0, the human driver continuously controls everything throughout the driving experience. Level 1 represents an automated system on the vehicle that can sometimes assist the human driver conduct some parts of the driving task. The Level 2 automated system on the vehicle may conduct some parts of the driving while the human driver continues to monitor the driving environment. In these levels of automation, the human driver is required to be fully engaged and monitor the driving environment.

Level 3 functions at a conditional automation level where the system conducts some parts of the driving task and monitors the driving environment; however, the human driver must be ready to take back control upon request from the automated system. Level 4 operates at a high level of automation—the system can subsist with all situations automatically but only in certain environments, such as between two interchanges on the freeway. Finally, Level 5 automation can perform all driving tasks, under all conditions that a human driver could perform. In these higher levels of automation, the system monitors the environment.

SAE Levels of Automation



Examples of AV technology and applications include:



Waymo Minivan deployed in Arizona

Olli 3D-printed autonomous Shuttle

CityMobil European autonomous shuttle deployment

Otto autonomous freight vehicle

Connected and Automated Technology Toolbox

With the development and introduction of CAV technologies, and the eventual introduction of fully-autonomous vehicles into the transportation fleet, the infrastructure, investments, and planning to support CAV's increasing presence will need to be thoroughly strategized. The "Connected and Automated Vehicle Tool Box" aims to integrate these transitions of the levels of autonomy and connectivity into practice for the future built environment. The toolbox may be used for local government agencies, planners, engineers, and developers to guide an application-to-practice list of needs for moving planned projects into implementation. The complete toolbox can be found in the Appendix of this document. The toolbox features broad areas of project types that will be influenced by the roll-out of CAV technologies, specifically: transit, vehicular, advanced traffic management (ATM), bike and pedestrian, travel demand management, and land use. The toolbox packages strategies into timeframes for project implementation – less than 5 years, between 5 and 10 years, and greater than 10 years. Within each time period, strategies are presented for two cases: 1) now – what should be addressed within the identified timeline for project implementation; 2) future—what elements could enhance agility of the project to address advancements in CAV technologies more easily.

Acronyms Used Within This Toolbox	
ATMS	Advanced Transportation Management Systems
CCTV Cameras	Closed Circuit Television Cameras
DSRC	Dedicated Short Range Communications
EVAC	Emergency Vehicle Assistance and Communications
SOP	Standard Operating Procedures
SPaT	Signal Phasing and Timing

Assumptions/Constraints:

The following is a list of assumptions that were considered during the development of the CAV Toolbox.

- Each tool, or guidance, within the toolbox should be considered for higher levels of autonomy and the impacts on a mixed fleet between those vehicles and legacy human-operated vehicles.
- Different types of infrastructure, land use, natural and human factors may result in different approaches in how best to leverage the toolbox.
- The timeline presented should be assessed with each iteration of the toolbox development. If the pace of CAV increases, this will require revised strategies and adjustments to the timeline defined.
- Technology is rapidly evolving; other technologies and significant advancements may dismiss or steer strategy direction.
- Ridesharing data availability is currently limited from Transportation Network Companies (TNCs). The toolbox assumes that TNCs will provide passenger data to aid in future decision-making.
- Certain toolbox strategies may require effort over multiple time periods to fully implement.

BICYCLE AND PEDESTRIAN

PRIORITY BICYCLE NETWORK

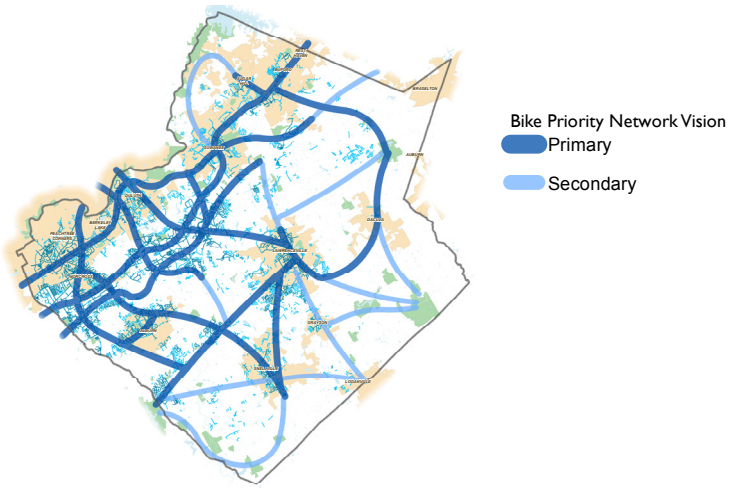
Based on the bicycle and pedestrian suitability analysis presented as part of the Needs Assessment phase of the CTP, a Priority Bicycle Network was developed. This priority network is meant to be a policy tool for guiding future bicycle infrastructure investments.

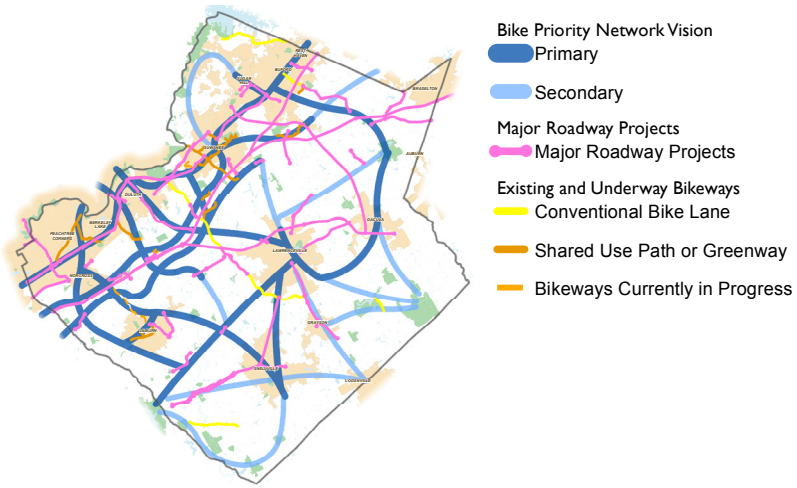
In the first step of this process, the areas of the County with the highest performing suitability scores were highlighted. These areas were used to develop an overarching vision for how a Countywide bicycle network could be implemented. Connections within and between these high performing areas were identified as part of a Primary Vision, with additional connections to show coverage throughout the County identified as part of a Secondary Vision.

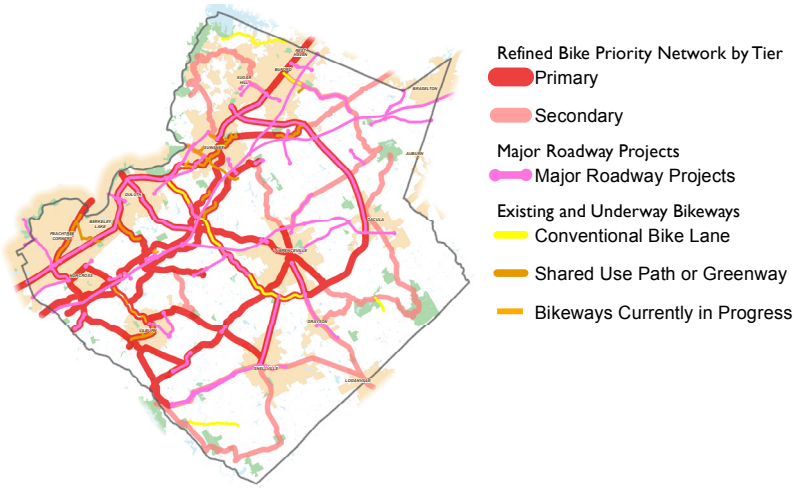
The Primary and Secondary Visions were then compared with other initiatives being developed in the CTP process and Trails Master Plan companion effort. Projects and corridors identified from these efforts were mapped and contrasted with the Primary and Secondary Visions as indicated in the map.

In a final step to develop a Priority Bicycle Network, the Primary and Secondary Visions were refined relative to the initiatives identified in the previous step in order to take advantage of where planned roadway and capacity projects may offer a synergistic opportunity to expand the bicycle network. The final Priority Bicycle Network is provided in the third map.

A final consideration in the development of the Priority Bicycle Network is identifying ways to incentivize and/or regulate implementation beyond the programming of capital projects. For instance, the County's Unified Development Ordinance could be modified to include standards for the implementation of bicycle facilities on corridors identified in the Priority Bicycle Network.

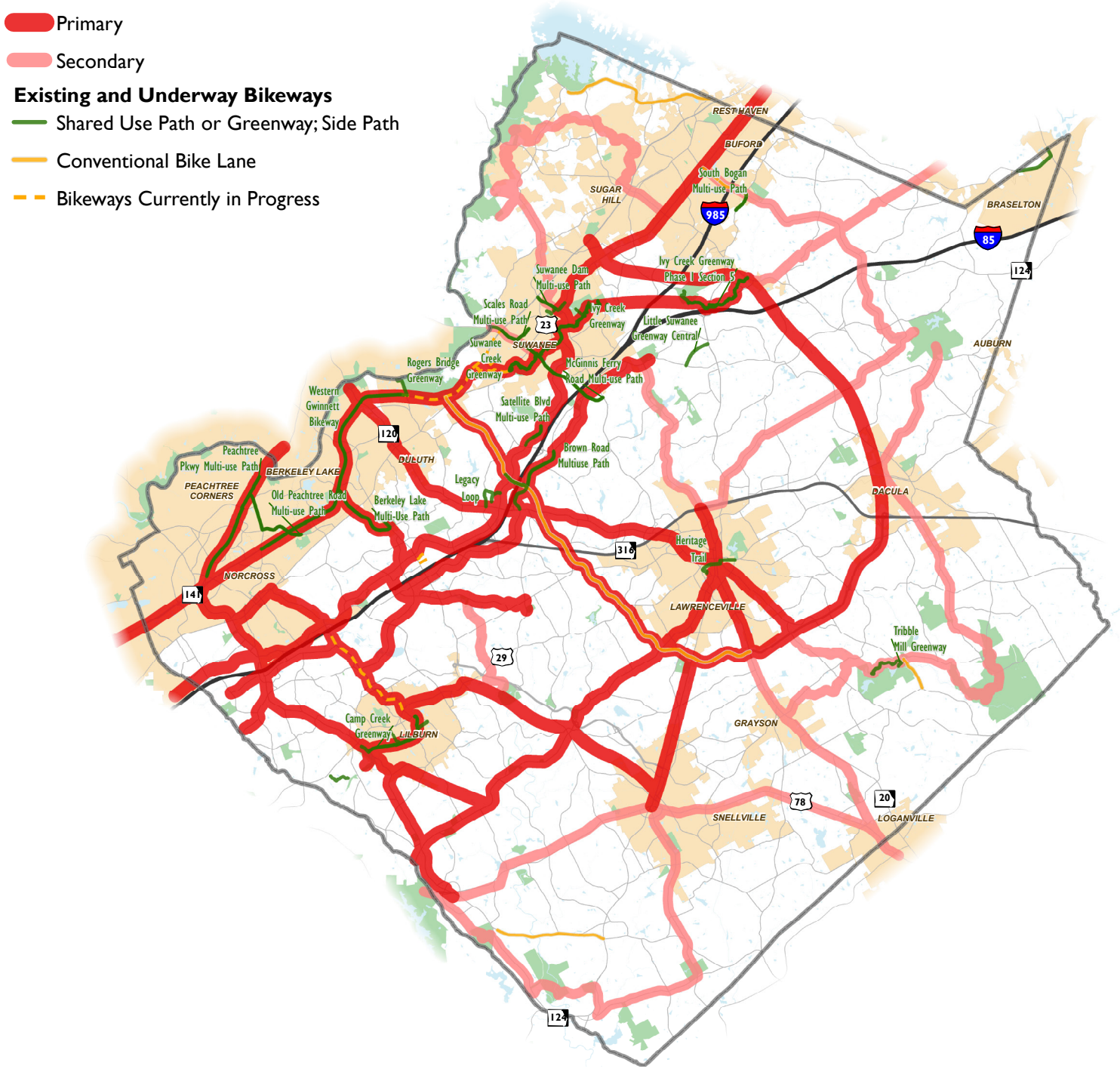






Similarly, in coordination with the County's Planning & Development Department, there may be opportunities to incentivize development investment in areas served by the Priority Bicycle Network, with the understanding that vehicular trips can be reduced in areas where such facilities are in place.

Refined Bike Priority Network by Tier



PEDESTRIAN CONSIDERATIONS

The County's Citizen Service Request program is one of the most direct ways to request pedestrian improvements within unincorporated Gwinnett. The County will continue to use the in-place prioritization process to address service requests for sidewalks.

As a complement to the identification of location-based needs, standards can be further addressed in the Unified Development Ordinance. While elements of good pedestrian design should be in place wherever sidewalks are implemented in the County, specific areas may benefit from wider sidewalks and stronger interface with adjacent land uses, particularly in town centers and areas where more traditional urban design is desired.

TRANSPORTATION DEMAND MANAGEMENT

The Atlanta Regional Transportation Demand Management Plan (2013) provides a contemporary approach to Transportation Demand Management (TDM), which considers both commute-based and non-commute based travel as well as mode, time of day, route, and location choices available to individual travelers. While many TDM approaches lend themselves to localized implementation, the intent of the Regional TDM Plan is to support and advance a coordinated effort of demand management strategies.

Congestion is increasing, and this trend is expected to continue with the substantial population growth anticipated for Gwinnett County. It will be important to promote non-single occupancy (SOV) travel and coordinate TDM strategies to ensure that future transportation funding can keep up with the travel needs of a growing population. The following goals are the primary goals of the Regional TDM Plan:

Goal 1. Improve customer convenience and user experience

Goal 2. Increase transportation connectivity, mode choice, and access

Goal 3. Streamline regional coordination of policies, programs, services, and investments

Goal 4. Leverage and diversify funding sources for program sustainability

Goal 5. Pursue continuous performance and operations improvements

Although regional TDM programs, such as *Georgia Commute Options (GCO)*, help reduce congestion and greatly benefit the region, they can be further leveraged for greater benefits. Success of TDM strategies within Gwinnett County depend on the efforts of the County, the municipalities, Community Improvement Districts (CIDs), as well as local businesses and stakeholders. Gwinnett County has made great strides towards improving their transportation demand management by hiring a TDM coordinator in fall 2017. This role, part of the County's DOT (transit division) will empower Gwinnett County Transit (GCT) and DOT to implement programs to meet the region's TDM goals.

Customer Convenience and User Experience

Improved marketing of the existing TDM and commuter incentive program, Georgia Commute Options, is a very simple and cost-effective way to reduce SOV travel. Gwinnett County, its cities, and its CIDs should consider including links to the GCO website on all government websites as well as engaging their communities by promoting GCO events and programs via County-administered social media platforms.

GCO offers a bundling of free services that help to promote and incentive ridesharing and alternatives to driving alone. Beyond the services that GCO performs, GCO utilizes service providers, called Transportation Management Associations (TMAs) to serve specific job centers across metro Atlanta. These TMAs offer discounted transit passes, local incentives, and custom assistance to find commute options that work best for different cohorts. One example of these TMAs is the Buckhead Area Transportation Management Association (BATMA), which offers a 10% discount for MARTA monthly Breeze cards. Gwinnett County should work on establishing TMAs within, or in partnership with, existing CIDs to continue to offer and leverage this benefit within Gwinnett County. This collaboration can be particularly helpful for smaller businesses, who may not have staff on hand to work through available tax credits allowed for employers who offer their employees financial incentives for alternative modes.

Multimodal supportive improvements can happen in both the public and private built environment. New developments that provide amenities for people who bike—such as showers, lockers, and convenient, safe bicycle parking—are just as important as building protected bike facilities. Implementing zoning requirements for new developments to provide alternative transportation programs and amenities would improve the user experience of taking transit, walking, or biking and increase alternative mode share.

Transportation Connectivity, Mode Choice, and Access

Gwinnett County has an opportunity to leverage its existing transit and multimodal strengths to increase alternative transportation mode share by providing better transportation connections between multiple modes. These projects are provided in the Priority Projects chapter; however, policy can also support these connections.

To leverage recent and proposed trail projects and bicycle/pedestrian improvements, Gwinnett County, its Cities, and the CIDs should consider bike share as a service to improve first- and last-mile connectivity from key transit stations and activity centers to residential, commercial, and office buildings. This integration of transit and bicycle infrastructure has the ability to reduce automobile dependency and to increase the reach of transit in specific parts of the County.

Transit corridors recommended within the current Comprehensive Transit Development Plan (ConnectGwinnett) will be ideal areas for targeted TDM marketing opportunities for increased ridership. Concurrently, a good transit-oriented development policy along these corridors and near these activity centers would increase ridership in the long-term.

Regional Coordination of Policies, Programs, Services, and Investments

The continued coordination of policies, programs, services, and investments regionally is integral to Gwinnett's TDM success. Users of the transportation network do not always pay attention to jurisdictional boundaries, so it will remain important that the County, its municipalities, and bordering communities consider meeting regularly to discuss successes and challenges in serving these regional travel needs. The County should look to leverage the new TDM coordinator's position during regional coordination meetings and continue look for ways to coordinate countywide TDM strategies with GCT routes and services.

Funding Sources for Program Sustainability

Gwinnett County should explore partnerships with a variety of public and private organizations to become more competitive for federal and charitable grants that may not be directly accessible to local municipalities.

As activity centers within Gwinnett County grow to meet demand, new CIDs may be formed to provide additional funding mechanisms for transportation management and better coordination between high occupancy developments/ office buildings. TMAs would be eligible to receive Congestion Mitigation and Air Quality (CMAQ) funding to make additional roadway improvements and provide programs and financial incentives, such as discounted transit passes to all businesses within the CID.

Continuous Performance and Operations Improvements

Data collection is integral to telling the story about how people travel. Commuter surveys distributed by employers often help track the habits of those traveling in and around Gwinnett County, but more detailed data collection could provide a robust understanding of local travel patterns. Tracking GCT ridership on a quarterly basis; performing vehicle, pedestrian, and bicyclist counts before and after completion of transportation network enhancements; and additional commuter surveys will better inform Gwinnett County on their investments.

SAFETY

With thousands of fatal and serious injury crashes occurring within the state of Georgia each year, and fatal crashes statewide trending upward between 2014 and 2016, it is recommended that the County continue to support the national movement and the Georgia Department of Transportation (GDOT)'s focus of moving Towards Zero Deaths. The County should align their efforts with the emphasis areas defined in the state's most recent Strategic Highway Safety Plan (SHSP), published by the Governor's Office of Highway Safety (GOHS) in 2015. The following emphasis areas have been identified:

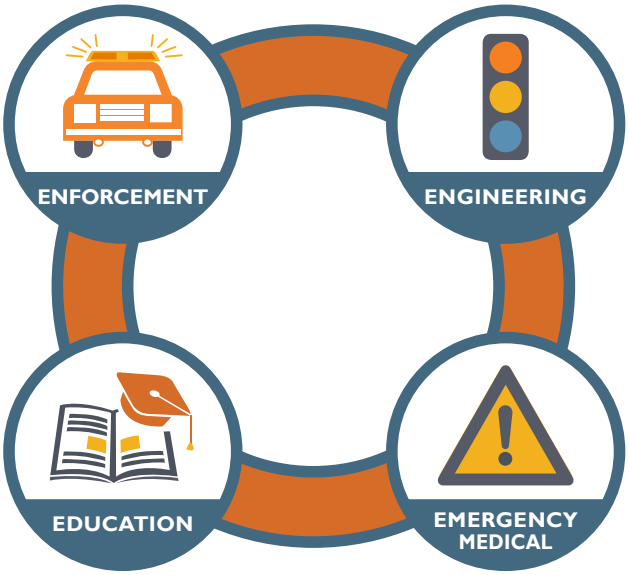
- Aggressive Driving
- Impaired Driving
- Occupant Protection
- Serious Crash Type
  - Intersection Safety
  - Roadway Departure Safety
- Age-Related Issues
  - Young Adult Drivers
  - Older Drivers
- Non-Motorized users
  - Pedestrian
  - Bicyclists
- Vehicle Type
  - Heavy Trucks
  - Motorcycles
- Trauma Systems/Increasing EMS Capabilities
- Traffic/Crash Records Data Analysis
- Traffic Incident Management Enhancement Task Team

While engineering improvements can make the roadways safer, engineering improvements alone cannot prevent all motor vehicle crashes. According to the National Highway Traffic Safety Administration (NHTSA), over 90% of all crashes are a result of driver-related factors. Because such a high percentage of crashes are a result of driver-related

factors, making roadways safer requires more than just engineering solutions—it requires involvement from the four Es of safety (engineering, education, enforcement, and emergency medical). This is why Georgia's SHSP emphasis areas span more than items that can be addressed through engineering alone.

Vision Zero

Vision Zero is a policy-driven strategy to help cities reduce fatal and serious injury crashes through the acknowledgement that roadway deaths and serious injuries are preventable and that no loss of life is acceptable. In addition, the strategy incorporates a multidisciplinary approach that includes the involvement of government bodies in addition to the four Es of safety and roadway users to reduce roadway risk factors. Atlanta Regional Commission's document Walk. Bike. Thrive! Included a recommendation for ARC to lead the region towards implementing "Vision Zero" policies for all roadways and incorporating safety elements into roadway design efforts. Where supported by local officials, the County should encourage its cities to make a commitment to Vision Zero, which would to help prioritize funding for roadway safety improvement projects throughout the County.



The Four Es of Safety

Distracted Driving

A strategy to address growing distracted-driving safety concerns is to implement a countywide hands-free driving ordinance. The County could also consider establishing a hands-free driving policy for its employees to reduce distracted driving. Currently, 15 states, D.C., Puerto Rico, Guam and the U.S. Virgin Islands, as well as and numerous municipalities around the country, have primary-enforcement hands-free laws for all drivers. In response to increasing fatal crashes in Georgia, the Georgia House of Representatives passed Resolution 282 in 2017, creating the House Committee on Distracted Driving. It is expected that the committee will introduce hands-free legislation for consideration in 2018, which would prohibit motorists from touching their cell phone while driving. In December of 2017, the City of Smyrna, Georgia will vote on a hands-free ordinance to be applied within their city limits. Regardless of the outcome of the legislation at the state level, the County has an opportunity to implement its own hands-free policies to improve safety.

Hot-Spot Analysis

Engineering countermeasures can be planned, designed, and implemented to help address intersection and roadway departure safety. To help identify and prioritize roadway corridors and/or intersections in need of safety improvements, the traditional "hot spot" analysis methodology could be used. This type of analysis identifies high-risk crash locations through the examination of past crash history. The highest ranking hot-spot locations typically have geometric or operational features that contribute to crashes. Once the high-risk locations are identified, each is evaluated and potential improvements are identified to reduce crashes. Often Road Safety Audits, a formal examination of the

roadway or intersection by a team including representatives from the four Es of safety, are performed for the identified hot-spot locations.

Local Road Safety Plan

The Federal Highway Administration (FHWA) recommends a systemic and proactive to look at safety, which could be implemented in the County through a Local Road Safety Plan (LRSP). The LRSP concept is designed to build on the foundation established by the SHSP and to provide the basis for proactive implementation of safety countermeasures specific to a particular state/county/municipality. The plans can address both engineering and driver-related safety concerns. This allows the state/county/municipality to leverage the road safety planning process to meet their specific needs.

An LRSP is a document that provides a basis for systemic safety improvements along local roads. Rather than reactively addressing hot spots, the LRSP identifies systemic safety improvements along the roadway based on a risk factor analysis of the roadway. LRSPs not only assist local practitioners in understanding the types of crashes occurring on local roadways, but they also define a locally focused plan for practitioners to make informed, prioritized safety decisions. Additional benefits of LRSPs include:

- Analysis of risk, not just crash history
- Coordination between various agencies
- Use of the results of the analysis to leverage and apply for funding
- Focus on all the four Es of safety (engineering, education, enforcement, and emergency medical).

The LRSP process has been successfully initiated for counties within several states, including Minnesota, North Dakota, and Iowa.

Funding

Each year the GOHS awards grants to develop and implement innovative programs addressing highway safety related to alcohol/impaired driving, pedestrian and bicycle safety, motorcycle safety, occupant protection, traffic records/data programs and distracted driving. For fiscal year 2018, the grant range was defined as between $10,000 and $300,000 for the general application. The County should encourage local organizations to apply for funding from the GOHS to implement educational programs to address safety concerns specific to their drivers.

Once engineering safety improvements are identified, the County may be able to fund the implementation of recommended safety improvements through the Road Safety and Alignment category of the Special Purpose Local Option Sales Tax (SPLOST). Additionally, the County may be able to access funding for safety-related improvement's through GDOT's Highway Safety Improvement Program (HSIP). The Federal-aid program offers funding to projects that are anticipated to have a positive impact on existing safety concerns. Several pre-approved categories are available for HSIP funding, including most intersection operational improvements, guardrail, traffic signals, railroad crossing warning devices, as well as for improvements on High Risk Rural Roads. In addition, projects that remove hazards, such as a traffic calming project or pedestrian/bike facilities may also be eligible for the funding. Though the majority of the funding is dedicated to rural roadways, because rural areas in Georgia have higher fatality rates than urban areas, funding is also available through GDOT through the Off-System Safety program, which is aimed at enhancing safety on local roadways through low-cost safety improvements. In the future, the County could consider including identified safety improvement projects as part of their Special Purpose Local Option Sales Tax (SPLOST) project lists.

PRIORITY PROJECTS

INTRODUCTION

Gwinnett County has a remarkable history of constructing and maintaining transportation infrastructure. The local dollars that have been made possible by the long-running SPLOST program has enabled the County to better plan for long-range improvements and react to unanticipated needs. In addition to opportunities to fund projects directly, the locally-raised dollars give Gwinnett County a competitive edge for leveraging additional funding from regional, state, and federal funding sources.

As previously noted, the list of priority projects has been separated into short-, mid-, and long-range plans. The short-range list includes projects identified as part of the SPLOST program through the CPSC committee selections, with additional projects that have other funding sources that are certain to be implemented. Short-range priority projects are planned for funding and implementation within the next 6 years. Mid- and long-range projects consider the time periods from 6-15 years, and 15-24 years in the future, respectively. Projects in these future levels anticipate some funding that has been identified today and likely funding sources that will enable project implementation. Planning for future projects positions the County to be competitive for larger funding programs through regional, state, or federal sources. Local funding enables Gwinnett to be able to implement projects quickly; however, some projects require higher funding levels than the County can provide.

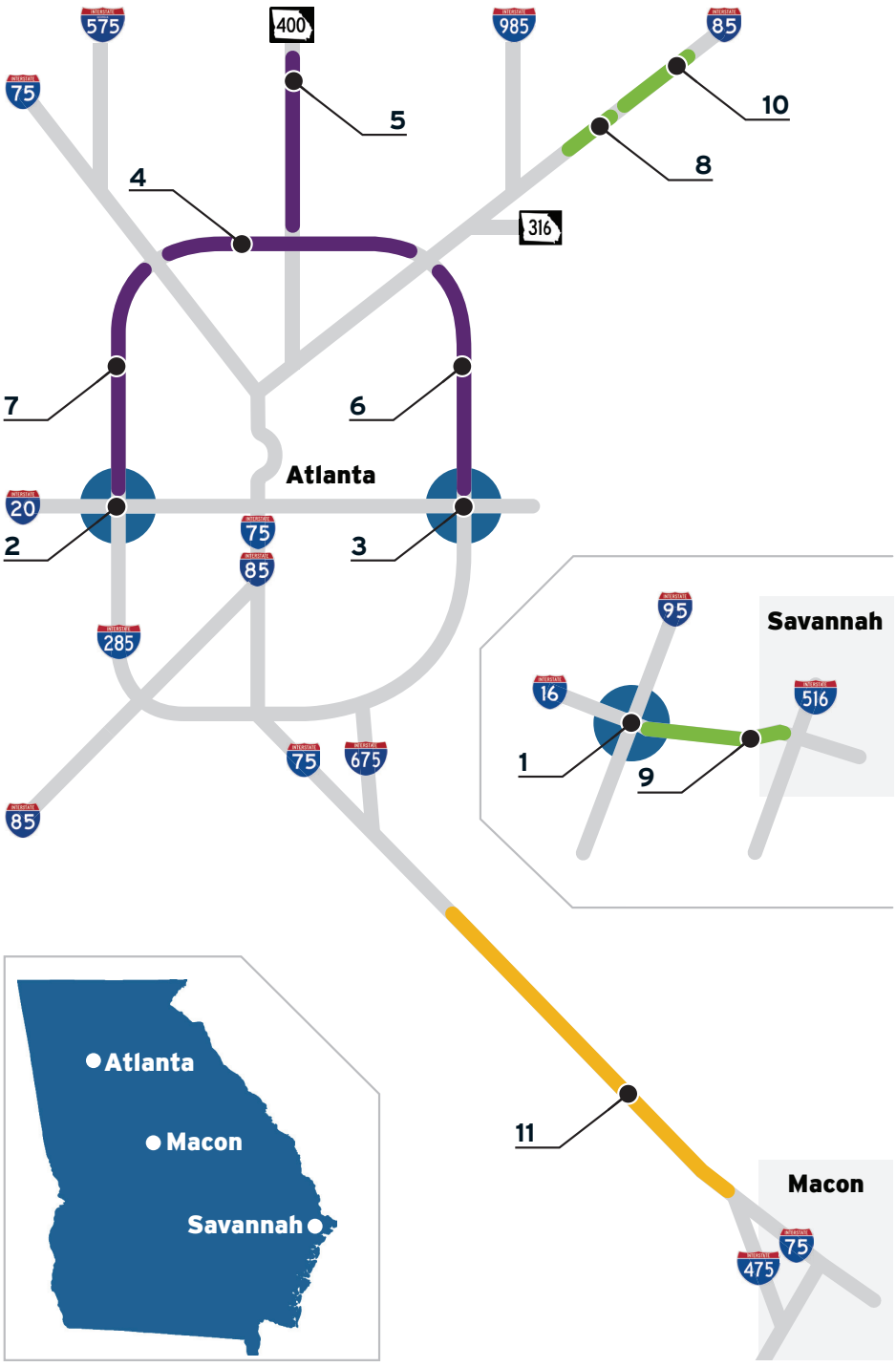
MAJOR REGIONAL PROJECTS

Gwinnett County transportation infrastructure supports not only local travel, but also major statewide and regional travel. Several major capacity projects are programmed on state routes and interstates in the regional Transportation Improvement Program (TIP), such as the extension of the I-85 Express Lanes currently under construction, and as part of the GDOT's Major Mobility Investment Program (MMIP). The MMIP includes 11 major projects on key freight and passenger corridors throughout the state. The completion of the full program will yield significant reductions in congestion, with 5% reduction in delay and travel time savings projected in the year 2030. Express lane projects along the north and east sides of I-285 (I-75 North to I-85 North to I-20 West) have direct impacts for Gwinnett County travelers as well.

The interstate and state route facilities rarely receive financial support from local agencies because they are owned and maintained by federal and state departments of transportation. However, Gwinnett is in a unique position to help advance several major regional projects with financial support. For example, Gwinnett is partnering with GDOT to study the I-85 corridor from I-285 to SR 316 and to complete the grade separation of SR 316 on an accelerated schedule. Gwinnett supports the further grade separation of SR 316 to the east toward Athens as well.

Major Mobility Investment Program

PROGRAM MAP



Interchange Reconstruction:

1. **I-16/I-95 Interchange**
2. **I-285/I-20 West Interchange**
3. **I-285/I-20 East Interchange**

Express Lanes:

4. **Revive 285 Express Lanes**
   I-75 to I-85
5. **SR 400 Express Lanes**
   I-285 to McFarland Rd.
6. **I-285 East Wall Express Lanes**
   I-85 to I-20
7. **I-285 West Wall Express Lanes**
   I-20 to I-75

Interstate Widening:

8. **I-85 North Widening**
   Hamilton Mill Rd. to SR 211
9. **I-16 Widening**
   I-95 to I-516
10. **I-85 North Widening**
    SR 211 to US 129

Commercial Vehicle Lanes:

11. **Commercial Vehicle Lanes**
    SR 155 to I-475

PRIORITY PROJECTS

This CTP includes short-, mid-, and long-range projects. The Short-Range Plan (Level 1), includes all projects that are expected to be funded in the first six years of the plan. The Mid-Range Plan (Level 2) includes projects that could be funded during the nine years after the end of the Short-Range Plan, and the Long-Range Plan (Level 3) continues for the next nine years with projects that are a priority after the Mid-Range Plan has been completed. The Mid-Range and Long-Range Plans largely anticipate funding programs that could allow future project implementation, whereas the Short-Range Plan identifies dollars that are available today with some speculated future funds and leveraging opportunities. The full implementation of a CTP Short-Range Plan is typically contingent on the speculated future near-term funds and leveraging opportunities in addition to the funding that is available at the start of the plan.

This CTP is somewhat unique as it is interwoven with the 2017 SPLOST program. The 2017 Gwinnett SPLOST includes an anticipated $486.3 million allocated for transportation projects countywide. This funding program, as well as some leveraged funds from non-County sources, makes up the funding program for the entire Short-Range Plan. The SPLOST program includes a common list of transportation project categories, which framed the grouping of projects for the CTP, and are reflected in the project lists included later in this chapter.

The SPLOST process also impacted the constraining of the project list for short-, mid-, and long-range planning. In a traditional CTP process, the projects evaluated against a set of metrics are put into tiers based on anticipated available funding sources. The concurrent SPLOST effort is traditionally driven by the Citizens Project Selection Committee (CPSC) in partnership with County staff, so the Destination2040 process served as a complement. Projects being considered for the SPLOST were evaluated by traditional SPLOST methodology as well as by the CTP criteria, and projects that rose to the top through either or both methods were advanced for consideration by the CPSC. Ultimately, once the CPSC selections were final, the projects not identified by the CPSC for the 2017 SPLOST program were reviewed based on the CTP project evaluation to identify constrained lists for the Mid-Range and Long-Range Plans.

The short-, mid-, and long-range projects are identified on the following pages with maps, lists, and program funding tables grouped by SPLOST program categories.

LEVEL 1 (SHORT-RANGE) PRIORITY PROJECTS

Short-Range, or Level 1 projects, are the highest priority projects in Gwinnett County today. Level 1 projects are expected to be funded and/ or implemented through Gwinnett County and other sources within the next 6 years. The SPLOST program partially or fully funds a larger number of the projects slated for the short-range. Projects identified for the short-range SPLOST program were selected by the CPSC. Additional short-range projects were identified by County staff, stakeholder agencies including Cities and CIDs, and community members who participated in the CTP process. Funding for projects outside of the SPLOST program include non-County local funding, state, and federal funding.

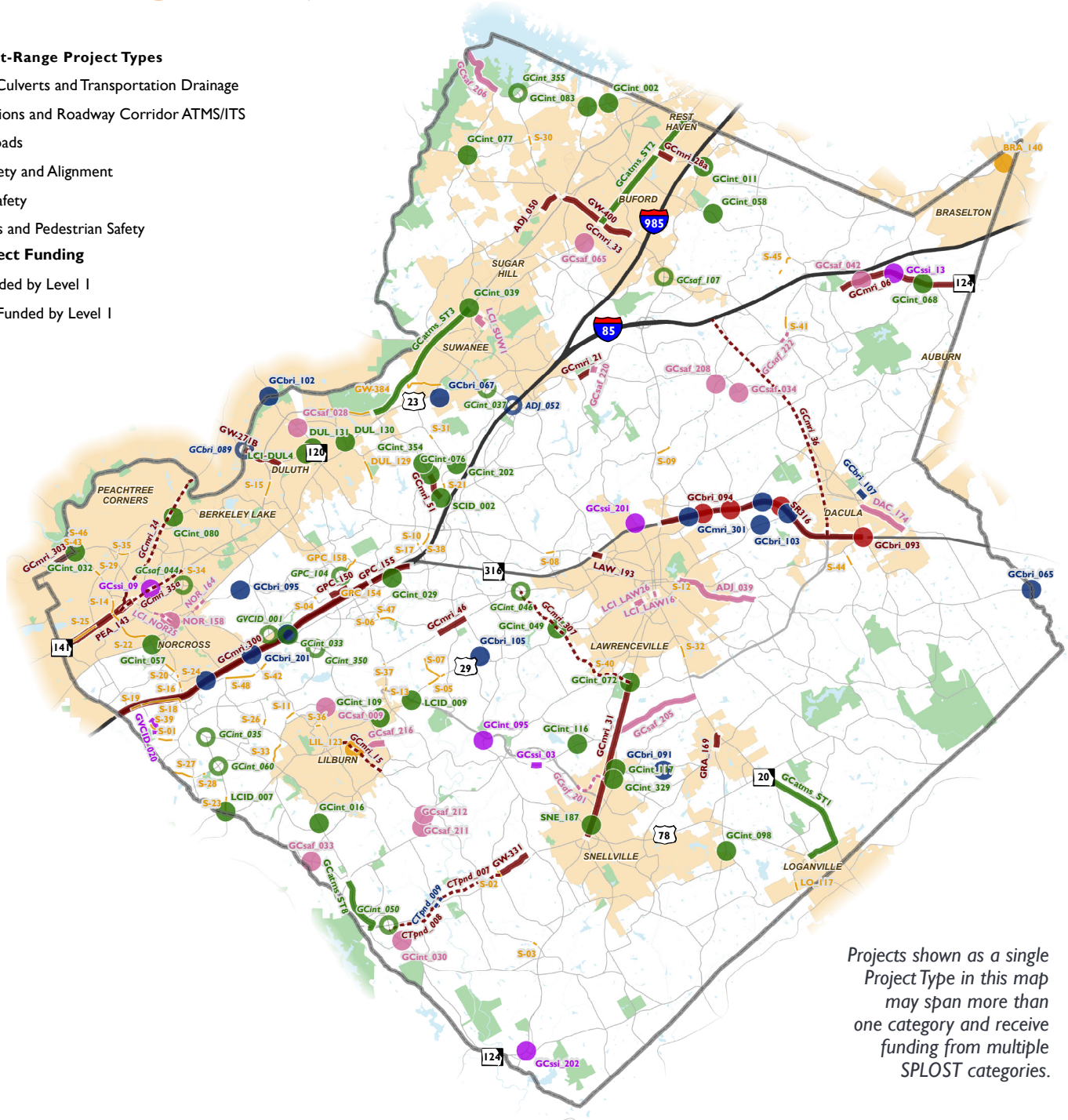
Short-Range Projects - Level 1

Level 1 Short-Range Project Types

- Bridges, Culverts and Transportation Drainage
- Intersections and Roadway Corridor ATMS/ITS
- Major Roads
- Road Safety and Alignment
- School Safety
- Sidewalks and Pedestrian Safety

Level 1 Project Funding

- Fully Funded by Level 1
- Partially Funded by Level 1



Projects shown as a single Project Type in this map may span more than one category and receive funding from multiple SPLOST categories.

Level 1 Projects

Bridges, Culverts, & Transportation Drainage

Project ID	Project Name/Description
GCbri_201	Center Way at I-85 Pedestrian Fencing
GCbri_105	Desiree Drive at Yellow River Tributary Bridge Replacement
GCbri_065	Harbins Road at Apalachee River Bridge Replacement
GCbri_201	Beaver Ruin Road at I-85 Pedestrian Bridge Crossing and Pedestrian Fencing
GCbri_201	Indian Trail Road at I-85 Pedestrian Fencing
GCbri_091	Lakeview Road at Big Haynes Creek Bridge Safety Improvement
GCbri_095	Old Norcross Road at Bromolow Creek Tributary
GCbri_102	SR 120/Abbotts Bridge Road at Chattahoochee River Bridge Capacity Needs
GCmri_301	SR 316/University Parkway Interchange Improvements at Hi-Hope Road, Hurricane Trail, and US 29/Winder Highway from Hi-Hope Road to Winder Highway
GCbri_107	SR 8/Winder Highway/Auburn Road New connection bridge and roadway location
GCbri_067	Suwanee Creek Road at Bennett Creek Bridge Replacement
GCbri_103	US 29 at Alcovy River Bridge Replacement

Intersections and Corridor ATMS/ITS

Project ID	Project Name/Description
DUL_131	Abbotts Bridge Road at New Hospital Connector Road Signal
GCint_029	Breckinridge Boulevard at Old Norcross Road
GCint_083	Buford Dam Road at Little Mill Road
GCint_002	Buford Dam Road at Shadburn Ferry Road
GCint_080	Bush Road at Medlock Bridge Road
GCint_058	Hamilton Mill Road at Bart Johnson Road
GCint_032	Holcomb Bridge Road at Spalding Drive
GCatms_ST3	ITS Expansion on Peachtree Industrial Boulevard (Phase 1)
GCatms_ST8	ITS Expansion on Rockbridge Road
GCatms_ST2	ITS Expansion on SR 13/Buford Highway
GCatms_ST1	ITS Expansion on SR 20/Loganville Highway
LCID_007	Jimmy Carter Boulevard at US 29/SR 8/Lawrenceville Highway
DUL_130	Main Street/Chattahoochee Drive at Rogers Bridge Road
LCI_GW_DUL4	McClure Bridge Road, Hospital Connector, and Ridgeway Extension
GCint_011	North Bogan Road at Thompson Mill Road
GCint_329	North Road at Pharrs Road
GCint_039	Peachtree Industrial Boulevard at Suwanee Dam Road
GCint_117	Ridgedale Drive at North Road
GCint_016	Rockbridge Road at Wydella Road
LCID_009	Ronald Reagan Parkway at Lawrenceville Highway
GCint_098	Rosebud Road at Brushy Fork Road
GCint_202	Satellite Boulevard at Old Peachtree Road
GCint_068	SR 124/Braselton Highway at Flowery Branch Road
GCint_072	SR 124/Scenic Highway at Sugarloaf Parkway

Intersections and ATMS/ITS	Project ID	Project Name/Description
	SNE_187	SR 124/Scenic Highway at Wisteria Drive Realignment, Traffic Signal and Turn Lanes
	GCint_076	Sugarloaf Parkway at Meadow Church Road
	GCint_354	Sugarloaf Parkway at Premiere Parkway
	SCID_002	Sugarloaf Parkway at Satellite Boulevard
	GCint_077	Suwanee Dam Road at Riverside Road
	GCint_057	US 23/SR 13/Buford Highway at SR 140 / Jimmy Carter Boulevard
	GCint_109	US 29/SR 8/Lawrenceville Highway at Luxomni Road
	GCint_049	US 29 at Sugarloaf Parkway
	GCint_116	Webb Gin House Road at Janmar Road

Major Roads	Project ID	Project Name/Description
	GCmri_46	Cruse Road Widening from Club Drive to Paden Drive
	GCbri_093	Harbins Road at SR 316 New Interchange
	GCmri_300	Interstate 85 Widening (PE) from Pleasant Hill Road to the South County Line
	ADJ_050	Level Creek Road Redesign and Extension from Spring Hill Drive to SR 20
	GCmri_21	Old Peachtree Road Widening from Collins Hill Road to Rock Springs Road
	GPC_155	Pleasant Hill Road/I-85/SR 316 CD System Improvements from Pleasant Hill Road to SR 316
	GW-271B	Pleasant Hill Road Widening from Chattahoochee River to McClure Bridge Road/Howell Ferry Road
	GRA_169	Rosebud Road Roadway Project from SR 84/Grayson Parkway to SR 20/Loganville Highway
	GCmri_303	Spalding Drive Widening from SR 140/Holcomb Bridge Road to Winters Chapel Road
	LAW_193	SR 120/Duluth Highway from SR 316/University Parkway to Medical Center Boulevard
	GCmri_06	SR 124/Braselton Highway Widening from Pine Road to Flowery Branch Road
	GCmri_31	SR 124/Scenic Highway Widening from US 78/Main Street to Sugarloaf Parkway
	PEA_143	SR 141/Peachtree Industrial Boulevard Widening from SR 140/Holcomb Bridge Road to I-285
	GCmri_33	SR 20/Buford Drive Widening from Buford Highway to Peachtree Industrial Boulevard
	GW-400	SR 20/Buford Drive Widening from South Lee Street to Buford Highway
	GCbri_094	SR 316/University Parkway Access Modifications at Progress Center Avenue, Cedars Road, and Fence Road (concurrent with new interchanges along SR 316)
	SR316	SR 316 grade separation projects from SR 20 to Harbins Road (see also, GCbri_093, GCbri_093, Cmri_300)
	GCmri_51	Sugarloaf Parkway Widening from Meadow Church Road to Satellite Boulevard
	GCmri_28a	Thompson Mill Road Widening from US 23/SR 13 Buford Highway to Faith Industrial Boulevard
	GW-331	US 78/SR 10/Stone Mountain Highway Parallel Road from Britt Road to Hewatt Road
	GPC_150	Venture Drive Widening from Day Drive to Steve Reynolds Boulevard

Road Safety and Alignment	Project ID	Project Name/Description
	GCsaf_028	Abbots Bridge Road at Pine Needle Drive Intersection Improvement
	LCI_GW_LAW16	Branson Street Extension from Perry Street to Clayton Street
	GCsaf_206	Buford Dam Road Horizontal Alignment from County Line to Suwanee Dam Road
	GCsaf_009	Burns Road at Dickens Road (East) Intersection Skew
	GCsaf_065	Chatham Road at US 23/SR 13/Buford Highway

Road Safety and Alignment

Project ID	Project Name/Description
GCsaf_211	Five Forks Trickum Road at Hasty Court
GCsaf_212	Five Forks Trickum Road at Oleander Drive
GCsaf_216	Lilburn Industrial Way Alignment and Reconstruction from Killian Hill Road to Arcado Road
GCsaf_033	Lilburn Stone Mountain Road at Old Tucker Road Intersection Improvement
LCI_GW_LAW26	Nash Street Extension from Gwinnett Drive to Constitution Boulevard
LCI_GW_SUW1	New Roadway Connection from Main Street to Suwanee Dam Road
GCsaf_034	Old Peachtree Road at Prospect Church Road Intersection Improvement
GCsaf_220	Rock Springs Road Horizontal Alignment from Old Peachtree Road to Spriggs Road
ADJ_039	Safety Improvements Paper Mill Road from E Crogan Street to Simonton Road
GCsaf_042	SR 124/Braselton Highway at Huntington Hill Trace Intersection Improvement
GCsaf_208	SR 124/Braselton Highway at Sunny Hill Road
DAC_174	Tanner Road from Harbins Road to West Drowning Creek Road
NOR_158	Vertical Profile Adjustment at Thrasher Street and RR Crossing
GCsaf_205	Webb Gin House Road Spot Improvements from SR 20/Grayson Highway to SR 124/Scenic Highway
GCint_030	West Park Place Boulevard at Rockbridge Road

School Safety

Project ID	Project Name/Description
GCssi_03	Dogwood Road at Holly Brook Road
GCssi_201	Georgia Gwinnett College Intersection Improvement Collins Hill Road at Collins Industrial Boulevard
GVCID_020	Graves Road Sidewalk from Graves Lane to McDonough Drive
GCssi_13	Mill Creek High School Access Improvements
GCssi_09	Norcross STEM School turn lanes/entrance
GCint_095	Oak Road at Gwin Oaks Drive
GCssi_202	SR 124/Centerville Highway at Lee Road Intersection Improvement (Anderson-Livsey ES)

Sidewalks and Pedestrian Safety

Project ID	Project Name/Description
GCsps_37	Bob Hannah Circle sidewalks Pleasant Hill Road to existing
GCsps_17	Boggs Road (east side) sidewalks QuikTrip to A&D Foods Driveway
GCsps_27	Britt Road sidewalks Old Norcross Tucker Road to County line
GCsps_28	Britt Road sidewalks Park entrance to existing
DUL_129	Bunten Road Sidewalk Addition from Ashley Oaks Court to Parcview Run CV
GCsps_47	Club Drive sidewalks Sweetwater Club Drive to Trent Way
GCsps_19	Dawson Boulevard sidewalks east of Chase Lane to Graves Road
GCsps_18	Dawson Boulevard sidewalks McDonough Drive to Graves Road
GCsps_11	Dickens Road sidewalks Dundee Drive to Indian Trail Lilburn Road
GCsps_33	Dickens Road sidewalks Rockbridge Road to Arrowind Road
GCsps_44	Ewing Chapel Road sidewalks West Drowning Creek to Jordan Road
GCsps_01	Graves Road sidewalks west of Graves Mill Drive to West National Circle
GPC_158	Gwinnett Place Multimodal Green Corridor/McDaniel Farm Park Connector to Pleasant Hill Road

Sidewalks and Pedestrian Safety

Project ID	Project Name/Description
GCsps_02	Hewatt Road sidewalks Rainbow Circle to US 78/SR 10/Stone Mountain Highway
GCsps_29	Holcomb Bridge Road sidewalks Smithpointe Drive to Peachtree Corners Circle
GCsps_36	Indian Trail Lilburn Road sidewalks Hillcrest Road to Exchange Place
GCsps_07	James Road sidewalks Paces Landing Drive to US 29/SR 8/Lawrenceville Highway
GCsps_20	Jimmy Carter Boulevard sidewalks North Norcross Tucker Road to Best Friend Road
GCsps_23	Jimmy Carter Boulevard sidewalks US 29/SR 8/Lawrenceville Highway to Club Parkway
LIL_123	Killian Hill Road at Shelley Lane
GPC_154	Mall Boulevard Bike/Ped Improvements/Complete Street from Pleasant Hill Road to Ring Road
GCsps_34	Medlock Bridge Road sidewalks Wyntree Drive to Peachtree Industrial Boulevard
GCsps_12	New Hope Road (south side) sidewalks SR 124/Scenic Highway to Herbert Hayes Drive
GCsps_42	Oakbrook Parkway sidewalks Indian Brook Way to Indian Trail Lilburn Road
GCsps_48	Oakbrook Parkway sidewalks Pirkle Road to Indian Trail Lilburn Road
LO_117	Old Loganville Road Sidewalk from Tuck Road to existing near Fox Chase Drive
GCsps_31	Old Peachtree Road sidewalks Nours Landing Way to Peachtree Ridge High School
GCsps_39	Osborne Drive sidewalks Graves Road to Graves Elementary School
GCsps_15	Peachtree Industrial Boulevard sidewalks Summit Ridge Parkway to Howell Boulevard
GCsps_25	Peachtree Industrial Boulevard sidewalks Winters Chapel Road to Peachtree Corners Circle
GCsps_13	Pleasant Hill Road sidewalks under Ronald Reagan Parkway bridge
GCsps_45	Pucketts Mill Road sidewalks Hamilton Mill Road to Lilly Way
GCsps_09	Ridge Road sidewalks Buford Drive to Highland Oaks Way
GCsps_38	Satellite Boulevard (other side) sidewalks Boggs Road to Stephens Center Drive
GCsps_10	Satellite Boulevard sidewalks Boggs Road to Stephens Center Drive
GCsps_21	Satellite Boulevard sidewalks Sugarloaf Centre to Cross Pointe Church
GCsps_35	Spalding Drive (south side) sidewalks Peachtree Corners Circle to Crooked Creek Road
GCsps_43	Spalding Drive sidewalks SR 140/Holcomb Bridge Road to Wetherburn Way
GCsps_08	SR 120/Duluth Highway sidewalks Colony Bend Drive to Riverside Parkway
GCsps_41	SR 124/Braselton Highway sidewalks Ironwood Briar Drive to existing near Meridian Drive
GCsps_46	SR 140/Holcomb Bridge Road sidewalks Spalding Drive to Chattahoochee River
GCsps_22	SR 140/Jimmy Carter Boulevard (south side) sidewalks West Peachtree Street to Peachtree Industrial Boulevard
GCsps_16	SR 140/Jimmy Carter Boulevard sidewalks Brook Hollow Parkway to Crescent Drive
GCsps_24	SR 140/Jimmy Carter Boulevard sidewalks Financial Drive to Lanier Boulevard
GCsps_14	SR 140/Jimmy Carter Boulevard sidewalks Peachtree Industrial Boulevard to Holcomb Bridge Road
GCsps_32	SR 20/Grayson Highway sidewalks south of Simonton Road to Park Place Drive
BRA_140	SR 211/Old Winder Highway Pedestrian Underpass south of Thompson Mill Road
GCsps_03	SR 264/Bethany Church Road sidewalks Sunbridge Drive to Kittery Point
GCsps_40	Sugarloaf Parkway sidewalks Kendall Park Drive to Five Forks Trickum Road
GCsps_06	Sweetwater Club Drive sidewalks Sweetwater Road to Club Drive
GCsps_30	Sycamore Road sidewalks Richland Creek Trail to Sycamore Elementary School
GCsps_05	US 29/SR 8/Lawrenceville Highway sidewalks Sunnyside Drive to Bethesda School Road
GCsps_04	West Liddell Road (west side) sidewalks Satellite Boulevard to Venture Drive
GW-384	Western Gwinnett Bikeway
GCsps_26	Williams Road sidewalks Harbins Road to Sherwin Drive

Level 1 Projects - Partial Funding

Some projects in Level 1 will only be partially funded with the 2017 SPLOST program and other expected funding sources. The projects listed below are anticipated to receive additional implementation funding in future years. Future funding could come from local funding sources such as a future SPLOST program, or from partner agencies.

Bridges

Project ID	Project Name/Description
ADJ_052	New I-85 at McGinnis Ferry Road Interchange
GCbri_089	Pleasant Hill Road Widening at Chattahoochee River Bridge Replacement
CTpnd_009	US 78/SR 10/Stone Mountain Highway Parallel Road Connecting Bridge

Intersections and Corridor ATMS/ITS

Project ID	Project Name/Description
GCint_355	Buford Dam Road at Sycamore Road
GCint_033	I-85 at Beaver Ruin Road (dual lefts from Beaver Ruin to I-85)
GCint_060	Jimmy Carter Boulevard at Britt Road/Williams Road
GCint_035	Jimmy Carter Boulevard at Rockbridge Road
GCint_037	McGinnis Ferry Road at Satellite Boulevard
GCsaf_044	North Peachtree Street at Medlock Bridge Road/Langford Road
GPC_104	Pleasant Hill Road at Satellite Boulevard - Major Intersection Capacity Improvement
GVCID_001	Satellite Boulevard at Beaver Ruin Road
GCsaf_107	SR 20/Buford Drive at Gravel Springs Road Extension Intersection Improvement
GCint_350	SR 378/Beaver Ruin Road at Steve Reynolds Boulevard
GCint_046	Sugarloaf Parkway at Old Norcross Road (PE seed funding for now - may be part of widening or completed outside of that project)
GCint_050	US 78 at East Park Place

Major Roads

Project ID	Project Name/Description
GCmri_15	Killian Hill Road Widening from Church Street to Arcado Road
GCmri_35a	Peachtree Industrial Boulevard Widening from Medlock Bridge Road (Northbound Only) to Peachtree Parkway - Tier 1A
CTpnd_002	SR 141/Peachtree Parkway Capacity Improvements - Freeway Section from End of freeway section immediately north of Jimmy Carter Blvd to Northwestern County line
GCmri_36	Sugarloaf Parkway Extension - Phase 2 from I-85 to SR 316
GCmri_307	Sugarloaf Parkway Widening from SR 124/Scenic Highway to Old Norcross Road
CTpnd_008	US 78/SR 10/Stone Mountain Highway Parallel Road - North Side from Lake Lucerne Road/CD Connecting Bridge to Rockbridge Road/Park Place Boulevard
CTpnd_007	US 78/SR 10/Stone Mountain Highway Parallel Road - South Side from Hewatt Road to Lake Lucerne Road/CD Connecting Bridge

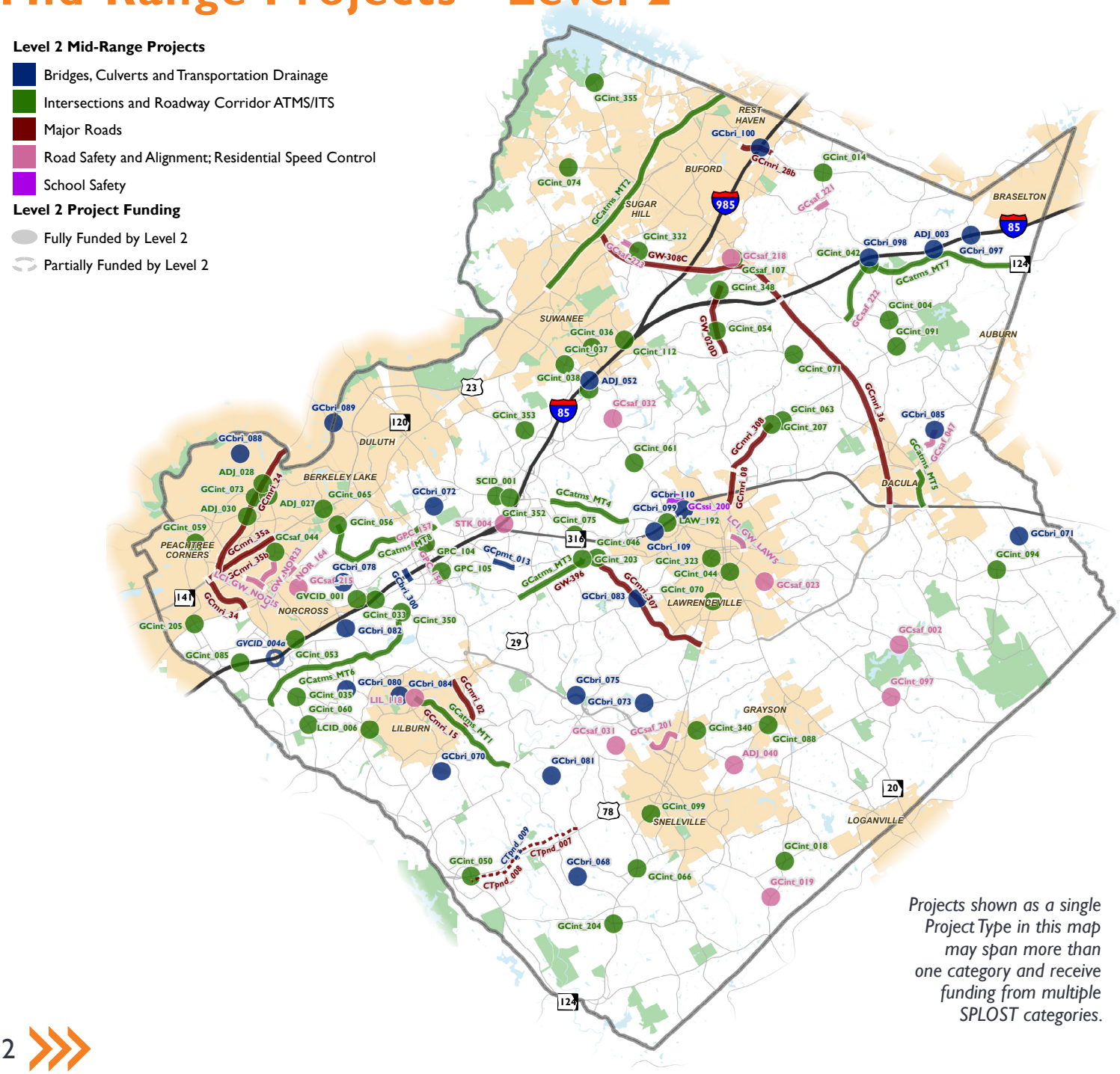
Road Safety and Alignment

Project ID	Project Name/Description
LCI_GW_NOR25	Holcomb Bridge Road Traffic Calming from Peachtree Street to Queens Court
GCsaf_222	SR 124/Braselton Highway from SR 324 to Hog Mountain Church Road
GCsaf_201	Tree Lane Alignment from Ronald Reagan Parkway to SR 124/Scenic Highway
NOR_164	US 23/SR 13/Buford Highway Capacity Improvements from Beaver Ruin Road to Langford Road

LEVEL 2 (MID-RANGE) PRIORITY PROJECTS

Mid-Range, or Level 2 projects, include projects that are anticipated to be high priority after the first six-year project list is nearly complete. These projects anticipate the availability of future funding sources which may include local funding through future Gwinnett County SPLOST programs plus leveraged funding at the state and federal level. Similar to the Level 1 project list, there is a list of planned projects for the nine-year mid-range funding period, plus funds identified for specific programs for projects that have yet to be identified. Programmed set-aside funding enables the County to be nimble with needs or opportunities that are not clearly on the horizon with today's information, but which may be very important at a future date. The map, funding program, and project lists on the following pages represent the Mid-Range project priorities.

Mid-Range Projects - Level 2



Projects shown as a single Project Type in this map may span more than one category and receive funding from multiple SPLOST categories.

Level 2 Projects

Bridges, Culverts, & Transportation Drainage

Project ID	Project Name/Description
GCbri_068	Brannon Road at Jacks Creek Bridge Replacement
GCbri_073	Bridgewater Walk at Lake Matthews Tributary Bridge Replacement
GCbri_072	Cardinal Lake Drive at Sweetwater Creek (Lake) Bridge Replacement
GCbri_071	Drowning Creek Road at Apalachee River Tributary Bridge Replacement
GCbri_088	E Jones Bridge Road at Chattahoochee River Tributary Bridge Replacement
GCbri_097	Flowery Branch Road at I-85 New Interchange (Alt. Spout Springs at I-85)
GCbri_098	Hamilton Mill Road at I-85 Bridge Reconstruction
GCbri_084	Hillcrest Drive at Jackson Creek Bridge Replacement
GCbri_082	Indian Trail Road at Beaver Ruin Creek Bridge Replacement
GCbri_078	Ingram Road at Bromolow Creek Tributary Bridge Replacement
GCbri_070	Lake Front Drive at Hale Creek Bridge Replacement
ADJ_052	New I-85 at McGinnis Ferry Road Interchange
GCbri_085	Old Auburn Road at Apalachee River Bridge Replacement
GCpmt_013	Old Norcross Road at Sweetwater Creek Bridge from Boggs Road to Sweetwater Creek
GCbri_089	Pleasant Hill Road Widening at Chattahoochee River Bridge Replacement
GCbri_081	River Mist Drive at Turkey Creek Bridge Replacement
GCbri_075	Ronald Reagan Parkway at Yellow River Tributary Bridge Replacement
ADJ_003	Spout Springs Road at I-85 New Interchange (Alt. Flowery Branch at I-85)
GCbri_099	SR 120 at SR 316 Bridge Widening
GCbri_109	SR 316 at Lawrenceville Suwanee Road Partial Access (Concept)
GCbri_110	SR 316 at Walther Boulevard Partial Access
GCbri_083	Sugarloaf Parkway at CSX Railroad Bridge Replacement
GCbri_100	Thompson Mill Road at I-985 New Interchange
GCbri_300	West Liddell Road/Club Drive Connector from Venture Drive to Club Drive
GCbri_080	Williams Road at Jackson Creek Tributary Bridge Replacement

Intersections and Corridor ATMS/ITS

Project ID	Project Name/Description
GCint_053	Brook Hollow Parkway at Center Way
GCint_355	Buford Dam Road at Sycamore Road
GCint_085	Crescent Drive at Nancy Hanks Drive
GCint_203	Cruse Road at Old Norcross Road
GCint_004	Hamilton Mill Parkway at Hog Mountain Road
GCint_091	Hamilton Mill Parkway at Jim Moore Road
GCint_033	I-85 at Beaver Ruin Road (dual lefts from Beaver Ruin to I-85)
GCatms_MT3	ITS Expansion on Cruse Road
GCatms_MT5	ITS Expansion on Harbins Road
GCatms_MT1	ITS Expansion on Killian Hill Road
GCatms_MT8	ITS Expansion on Old Norcross Road
GCatms_MT2	ITS Expansion on Peachtree Industrial Boulevard (Phase 2)
GCatms_MT6	ITS Expansion on Singleton Road/Norcross Tucker Road

Intersections and Corridor ATMS/ITS

Project ID	Project Name/Description
GCatms_MT4	ITS Expansion on SR 120/Duluth Highway Phase 1
GCatms_MT7	ITS Expansion on SR 124/Braselton Highway Phase 1
GCint_060	Jimmy Carter Boulevard at Britt Road/Williams Road
GCint_035	Jimmy Carter Boulevard at Rockbridge Road
GCint_323	Langley Drive at Constitution Boulevard
LCID_006	Lawrenceville Highway at Rockbridge Road
GCint_061	Lawrenceville Suwanee Road at McKendree Church Road
GCint_037	McGinnis Ferry Road at Satellite Boulevard
GCint_094	New Hope Road at Harbins Road
GCsaf_044	North Peachtree Street at Medlock Bridge Road/Langford Road
GCint_063	Old Fountain Road at Cedars Road
GCint_353	Old Peachtree Road at Meadow Church Road
GCint_038	Old Peachtree Road at Northbrook Parkway
GCint_332	Old Suwanee Road at Woodward Mill Road
ADJ_027	Peachtree Corners Circle at Medlock Bridge
GCint_065	Peachtree Industrial Boulevard at South Berkeley Lake Road
GPC_105	Pleasant Hill Road at Crestwood Parkway/Koger Boulevard - Right Turn Lane
GPC_104	Pleasant Hill Road at Satellite Boulevard - Major Intersection Capacity Improvement
GCint_014	Ridge Road at Thompson Mill Road
GCint_340	Ridgedale Road at Pharrs Road
GCint_018	Rosebud Road at Old Loganville Road
GVCID_001	Satellite Boulevard at Beaver Ruin Road
GCint_112	Satellite Boulevard at Smithtown Road (Westbound)
SCID_001	SR 120/Duluth Highway at Boggs Road/Meadow Church Road
GCint_352	SR 120/Duluth Hwy at Satellite Boulevard
GCint_042	SR 124/Braselton Highway at Hamilton Mill Road
GCint_207	SR 124/Braselton Highway at Old Fountain Road
GCint_204	SR 124/Centerville Highway at Annistown Road/Centerville Rosebud Road
GCint_099	SR 124/Scenic Highway at Ashworth Lake Road
GCint_066	SR 124/Scenic Highway at Everson Road
GCint_070	SR 124/Scenic Highway at Longleaf Drive
GCint_071	SR 124 at Old Peachtree Road
GCint_059	SR 140/Holcomb Bridge Road at Peachtree Corners Circle
GCint_073	SR 141/Peachtree Parkway at Peachtree Corners Circle
ADJ_028	SR 141 at Medlock Bridge Road
ADJ_030	SR 141 at Spalding Road
GCsaf_107	SR 20/Buford Drive at Gravel Springs Road Extension Intersection Improvement
GCint_348	SR 20/Buford Drive at Mall of Georgia Boulevard
GCint_054	SR 20/Buford Drive at Rock Springs Road
GCint_074	SR 20/Cumming Highway at Old Cumming Road (new location/relocation per SR 20 widening project)
GCint_044	SR 20/Grayson Highway at SR 124/Scenic Highway
LAW_192	SR 316 at SR 120/Duluth Highway Interchange Improvements
GCint_036	SR 317/Lawrenceville Suwanee Road at Satellite Boulevard

Intersections and Corridor ATMS/ITS

Project ID	Project Name/Description
GCint_350	SR 378/Beaver Ruin Road at Steve Reynolds Boulevard
GCint_088	SR 84/Grayson Parkway at Lakeview Road
GCint_075	Sugarloaf Parkway at Lakes Parkway
GCint_046	Sugarloaf Parkway at Old Norcross Road (PE seed funding for now - may be part of widening or completed outside of that project)
GCint_205	US 23/SR 13/Buford Highway at Jones Mill Road
GCint_056	US 23/SR 13/Buford Highway at South Berkeley Lake Road/Simpson Circle (EB Left Turns)
GCint_050	US 78 at East Park Place

Major Roads

Project ID	Project Name/Description
GCmri_02	Arcado Road Widening from Killian Hill Road to Lawrenceville Highway/US 29
GW-396	Cruse Road Widening from Old Norcross Road to Paden Drive
GCmri_15	Killian Hill Road Widening from Church Street to Arcado Road
GCmri_35a	Peachtree Industrial Boulevard Widening (Northbound Only) from Medlock Bridge Road to Peachtree Parkway - Tier 1A
GCmri_35b	Peachtree Industrial Boulevard Widening (Southbound Only) from Medlock Bridge Road to SR 141/ Peachtree Parkway
GCmri_308	SR 124/Braselton Highway Widening from SR 20/Buford Drive to Old Fountain Road
GCmri_34	SR 140/Jimmy Carter Boulevard Widening from US 23/SR 13 Buford Highway to SR 141/Peachtree Industrial Boulevard
GCmri_24	SR 141/Peachtree Parkway Capacity Improvements from Jimmy Carter Boulevard to the Chattahoochee River
CTpnd_002	SR 141/Peachtree Parkway Capacity Improvements - Freeway Section from End of freeway section immediately north of Jimmy Carter Blvd to Northwestern County line
GW_020D	SR 20/Buford Drive Widening from Old Peachtree Road to north of I-85 interchange
GCmri_08	SR 20/Buford Drive Widening from SR 124/Braselton Highway to Hurricane Shoals Road
GCmri_36	Sugarloaf Parkway Extension - Phase 2 from I-85 to SR 316
GW-308C	Sugarloaf Parkway Extension - Phase 3 New Alignment from I-85 to Peachtree Industrial Boulevard
GCmri_307	Sugarloaf Parkway Widening from SR 124/Scenic Highway to Old Norcross Road
GCmri_28b	Thompson Mill Road Widening from Faith Industrial Boulevard to North Bogan Road

Road Safety and Alignment

Project ID	Project Name/Description
LCI_GW_ NOR23	Peachtree Street Traffic Calming from Cochran Drive to Holcomb Bridge Road
STK_004	Boggs Road at I-85 - Left turn lanes on to Boggs Road
GPC_156	Gwinnett Place Drive - Satellite Boulevard Connector
GCsaf_031	Highpoint Road at Holly Brook Road Intersection Improvement
LCI_GW_ NOR25	Holcomb Bridge Road Traffic Calming from Peachtree Street to Queens Court
LIL_118	Killian Hill Road Northbound Right Turn Lane
GCsaf_032	Lawrenceville Suwanee Road at Whitehead Place Drive Intersection Improvement
GCsaf_023	New Hope Road at Corley Brook Way Vertical Alignment

Road Safety and Alignment	Project ID	Project Name/Description
	GCsaf_002	New Hope Road at Tribble Walk Drive Alignment
	GCsaf_047	Old Auburn Road Alignment from Bridge/Culvert to Fairmont Park Court
	GCint_097	Ozora Road at Chandler Road
	LCI_GW_LAW5	Park Boulevard Scenic Extension and Rhodes Jordan Edge Trail from SR 20/Buford Drive to Railroad
	GPC_157	Pleasant Hill Road - Steve Reynolds Boulevard Connector
	GCint_019	Rosebud Road at Pate Road/Knight Circle
	ADJ_040	Signal Installation Grayson Parkway at Ridgedale Drive
	GCsaf_221	South Pucketts Mill Road from Hamilton Mill Road to Ridge Road
	GCsaf_218	SR 20/Buford Drive Intersection Improvement at Financial Center Way
	GCsaf_222	SR 124/Braselton Highway from SR 324 to Hog Mountain Church Road
	GCsaf_215	SR 378/Beaver Ruin Road at Wynhollow Trace
	GCsaf_201	Tree Lane Alignment from Ronald Reagan Parkway to SR 124/Scenic Highway
	NOR_164	US 23/SR 13/Buford Highway Capacity Improvements from Beaver Ruin Road to Langford Road
	GCsaf_223	Woodward Mill Road from Buford Highway to Old Suwanee Road

School Safety	Project ID	Project Name/Description
	GCssi_200	Walther Boulevard at Tree Creek Boulevard - Georgia Gwinnett College

Level 2 Projects - Partial Funding

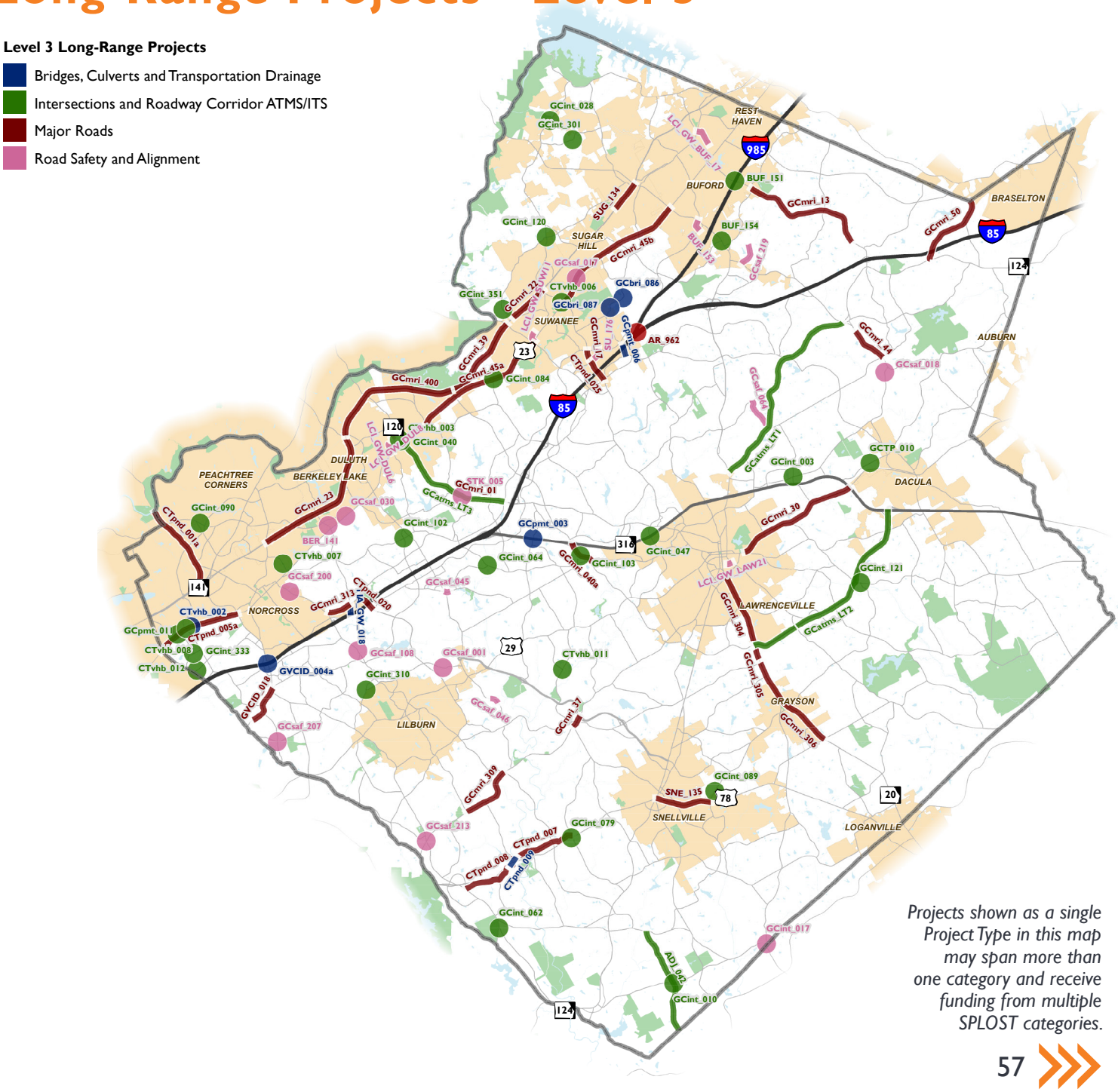
Major Roads	Project ID	Project Name/Description
	CTpnd_007	US 78/SR 10/Stone Mountain Highway Parallel Road - South Side from Hewatt Road to Lake Lucerne Road/CD Connecting Bridge
	CTpnd_008	US 78/SR 10/Stone Mountain Highway Parallel Road - North Side from Lake Lucerne Road/CD Connecting Bridge to Rockbridge Road/Park Place Boulevard

Bridges	Project ID	Project Name/Description
	GVCID_004a	Jimmy Carter Boulevard at I-85 Bridge Improvement (Tier 2 PE - Tier 3 ROW/Construction)
	CTpnd_009	US 78/SR 10/Stone Mountain Highway Parallel Road Connecting Bridge

LEVEL 3 (LONG-RANGE) PRIORITY PROJECTS

Long-Range, or Level 3 projects, include projects that have been identified for 15 years from this CTP or later. Looking ahead for long-range planning enables funding set-aside for large projects that may require many years to collect appropriate funding levels for project implementation. Infrastructure needs and opportunities for the long-range program will be refined and updated in the future. Set-aside funding programs listed by SPLOST category are larger to accommodate the anticipated future needs. Funding for future projects, similar to in Level 2, represent possible funding sources at the local, state, and federal levels. The map, funding program and project lists on the following pages represent the Long-Range project priorities.

Long-Range Projects - Level 3



Projects shown as a single Project Type in this map may span more than one category and receive funding from multiple SPLOST categories.

Level 3 Projects

Bridges, Culverts, & Transportation Drainage

Project ID	Project Name/Description
GCpmt_003	Herrington Road at SR 316 Bridge
GVCID_004a	Jimmy Carter Boulevard at I-85 Bridge Improvement (Tier 2 PE - Tier 3 ROW/Construction)
TIA_GW_018	Satellite Boulevard/Hillcrest Road Connector
GCpmt_006	Smithtown Road/Old Peachtree Road Connector from Old Peachtree Road to Sawmill Drive
CTvhb_002	US 23/SR 13/Buford Highway at Norfolk Southern Railroad - Eliminate at-grade Rail Crossing near Button Gwinnett Drive
CTpnd_009	US 78/SR 10/Stone Mountain Highway Parallel Road Connecting Bridge
GCbri_086	Westbrook Road at Ivy Creek (North) Bridge Replacement
GCbri_087	Westbrook Road at Ivy Creek (South) Bridge Replacement

Intersections and Corridor ATMS/ITS

Project ID	Project Name/Description
CTvhb_008	Amwiler Road at Norfolk Southern Railroad - Improve safety of at-grade Rail Crossing
GCint_301	Austin Garner Road at Riverside Road
CTvhb_012	Best Friend Road at Norfolk Southern Railroad - Improve safety of at-grade Rail Crossing
GCint_121	Brooks Road at Bramlett Shoals Road
GCint_310	Burns Road at Dickens Road
GCint_003	Cedars Road at Hurricane Shoals Road
CTvhb_003	Duluth Highway at Norfolk Southern Railroad - Improve safety of at-grade Rail Crossing
GCTP_010	Fence Road at Circle Road
GCint_090	Gunnin Road at Spalding Drive
BUF_151	Hamilton Mill Road at I-985 New Interchange
GCatms_LT3	ITS Expansion on SR 120/Duluth Highway Phase 2
GCatms_LT1	ITS Expansion on SR 124/Braselton Highway Phase 2
GCatms_LT2	ITS Expansion on Sugarloaf Parkway
GCpmt_011	Jones Mill Road at Norfolk Southern Railroad
CTvhb_007	Langford Road at Norfolk Southern Railroad - Improve safety of at-grade Rail Crossing
GCint_010	Lee Road at Mink Livsey Road
ADJ_042	Mink Livsey Road Spot Intersection Improvements from Centerville Rosebud Road to County Line
GCint_351	Moore Road at Lansfaire Road
CTvhb_011	Oak Road at CSX Railroad - Improve safety of at-grade Rail Crossing
GCint_064	Old Norcross Road at Sweetwater Road
GCint_333	Pleasantdale Road at Mimms Drive
GCint_062	Rockbridge Road at North Deshong Road
GCint_040	SR 120/Duluth Highway at US 23/Buford Highway
BUF_154	SR 20/Buford Drive at Plunketts Road Intersection Improvements
GCint_089	SR 84/Grayson Parkway at Three Bars Drive
GCint_102	Steve Reynolds Boulevard at Old Norcross Road
GCint_103	Sugarloaf Parkway at Cruse Road
GCint_028	Suwanee Dam Road at Austin Garner Road
GCint_120	Suwanee Dam Road at Moore Road

Intersections and ATMS/ITS	Project ID	Project Name/Description
	CTvhb_006	Suwanee Dam Road at Norfolk Southern Railroad - Improve safety of at-grade Rail Crossing
	GCint_084	US 23/SR 13/Buford Highway at South Scales Road
	GCint_047	US 29 at Lawrenceville Suwanee Road
	GCint_079	US 78 at McDaniels Bridge Road

Major Roads	Project ID	Project Name/Description
	GCmri_01	Abbotts Bridge Road/SR 120/Duluth Highway Widening from Buford Highway to Satellite Boulevard
	CTpnd_020	Beaver Ruin Road Interchange Improvement at I-85
	GCmri_37	Five Forks Trickum Road Project from Oak Road to Ronald Reagan Parkway
	GCmri_309	Five Forks Trickum Road Widening from Cole Road to Killian Hill Road
	GCmri_13	Hamilton Mill Road Widening from North/South Bogan Road to Pucketts Mill Road
	AR_962	I-85 North at I-985 New Flyover Ramp
	CTpnd_025	Lawrenceville Suwanee Road Interchange Improvement at I-85
	GCmri_17	Lawrenceville Suwanee Road Widening from I-85 to Satellite Boulevard
	SUG_134	Peachtree Industrial Boulevard Capacity Improvement from Sugarloaf Parkway Phase 3 to SR 20/Nelson Brogdon Boulevard
	GCmri_22	Peachtree Industrial Boulevard Widening from McGinnis Ferry Road to Suwanee Dam Road
	GCmri_23	Peachtree Industrial Boulevard Widening from Medlock Bridge Road to Pleasant Hill Road
	GCmri_39	Peachtree Industrial Boulevard Widening from North of Sugarloaf Parkway to South of McGinnis Ferry Road
	GCmri_400	Peachtree Industrial Boulevard Widening from Pleasant Hill Road to Sugarloaf Parkway
	GVCID_018	S. Norcross Tucker Road Improvements from Jimmy Carter Boulevard to Osceola Court
	GCmri_50	Spout Springs Road Widening from SR 124/Braselton Highway to County Line
	CTpnd_001a	SR 140/Holcomb Bridge Road/Jimmy Carter Boulevard Capacity Improvements Peachtree Industrial Boulevard to Northern County Line
	GCmri_306	SR 20/Grayson Highway Widening from Ozora Road to Webb Gin House Road
	GCmri_304	SR 20/Grayson Highway Widening from SR 124/Scenic Highway to Sugarloaf Parkway
	GCmri_305	SR 20/Grayson Highway Widening from Sugarloaf Parkway to Webb Gin House Road
	GCmri_44	SR 324/Auburn Road from Fort Daniels Drive to Old Fountain Road/Jim Moore Road
	GCmri_313	SR 378/Beaver Ruin Road Widening from Indian Trail Road to Satellite Boulevard
	GCmri_040a	Sugarloaf Parkway Widening from Old Norcross Road to SR 316
	CTpnd_005a	US 23/SR 13/Buford Highway Capacity Improvements from County Line to Jimmy Carter Boulevard
	GCmri_45a	US 23/SR 13/Buford Highway from Old Peachtree Road to McGinnis Ferry Road
	GCmri_45b	US 23/SR 13/Buford Highway from Suwanee Dam Road to SR 20/Buford Drive/Nelson Brogdon Boulevard
	GCmri_30	US 29/SR 8/Winder Highway Widening from Paper Mill Road to SR 316
	SNE_135	US 78/Main Street Widening from SR 84/Grayson Parkway to SR 124/Scenic Highway
	CTpnd_007	US 78/SR 10/Stone Mountain Highway Parallel Road - South Side from Hewatt Road to Lake Lucerne Road/CD Connecting Bridge
	CTpnd_008	US 78/SR 10/Stone Mountain Highway Parallel Road - North Side from Lake Lucerne Road/CD Connecting Bridge to Rockbridge Road/Park Place Boulevard

Road Safety and Alignment

Project ID	Project Name/Description
LCI_GW_BUF_17	Allen Street Extension - Roadway, Sidewalks & Street trees from Main Street to Silver Street
GCsaf_064	Azalea Drive Horizontal Alignment from Braselton Highway to Ridge Road
LCI_GW_LAW21	Branson Street Extension from Neal Boulevard to Jackson Street
GCsaf_207	Britt Road at Old Norcross Tucker Road
GCsaf_001	Burns Road at East Fork Shady Drive Alignment
GCsaf_045	Club Drive Alignment from Greenview Way to Pleasant Hill Road
GCsaf_219	Cross Road from Kilgore Road to Gravel Springs Road
GCsaf_018	Dacula Road at Evergreen Oak Way Vertical Alignment
LCI_GW_DUL6	Davenport Road Extension from Buford Highway to Hill Street
GCsaf_030	East and West Mount Tabor Circle roadway width standardization from Blarney Way NW to Buford Highway
GCsaf_213	Five Forks Trickum Road at Rockbridge Road
GCsaf_108	Indian Trail Road at Tree Trail Apartments
GCsaf_046	Lester Road Alignment from Manchester Drive to Safehaven Drive
LCI_GW_DUL8	New Road A from Lawrenceville Street to Ridgeway Road
SU_176	Northolt Parkway Extension from Lawrenceville Suwanee Road to Satellite Boulevard
GCint_017	Rosebud Road at Centerville Rosebud Road
BUF_153	S Lee Street Extension from SR 20/Buford Drive to Satellite Boulevard
BER_141	South Berkeley Lake Road At-Grade Crossing Improvements
STK_005	SR 120/Duluth Highway at McDaniel Road
GCsaf_200	SR 378/Beaver Ruin Road at Chatham Circle
GCsaf_017	US 23/SR 13/Buford Highway at Ruby Forest Parkway Vertical Alignment
LCI_GW_SUW11	White Lane Operational Improvements/Repaving from Buford Highway to White Street

COUNTYWIDE PROJECTS

The list of projects below include countywide employment of short-, mid-, and long-range projects related to ITS/ ATMS system upgrades. These projects were not shown directly in the maps on the previous pages in this report because they encompass broad system upgrades throughout the County, and are not necessarily on a defined corridor or at a specific intersection. ITS/ATMS technologies will be instrumental for the County to stay ahead of emerging technologies in society, including signal operations improvements, and integration with connected technologies and vehicles. Communications upgrades and connecting transportation infrastructure to the TMC are essential components to maintain the effectiveness of Gwinnett's transportation system.

Level 1 Projects

	Project ID	Project Name/Description
Countywide	GCatms_ST4	Countywide Video Surveillance System Upgrades (Upgrade approximately 180 CCTV cameras)
	GCatms_ST5	ITS Communications and Asset Management Program (Implement web-based/ GIS asset database)
	GCatms_ST6	ITS Communications Upgrades 1 (Upgrade/ expand County ITS to include 4G cellular service)
	GCatms_ST7	Network Security and Operational Enhancements (Upgrade cabinet hardware to improve network security consistency and overall network compatibility).

Level 2 Projects

	Project ID	Project Name/Description
Countywide	GCatms_MT9	ITS Communications Upgrades 2 (Evaluate County fiber infrastructure and implement standardized fiber)
	GCatms_MT10	Traveler Information System Expansion and Upgrades 1 (Provide improvements and additions to traveler information services; improve data sharing between Gwinnett Transit and the County TCC)
	GCatms_MT11	ITS Safety Improvements 1 (Provide spot ITS infrastructure improvements)

Level 3 Projects

	Project ID	Project Name/Description
Countywide	GCatms_LT4	ITS Communications Upgrades 3 (Evaluate County fiber infrastructure and implement standardized fiber)
	GCatms_LT5	Traveler Information System Expansion and Upgrades 2 (Provide improvements and additions to traveler information services; improve data sharing between Gwinnett Transit and the County TCC)
	GCatms_LT6	ITS Safety Improvements 2 (Provide spot ITS infrastructure improvements)

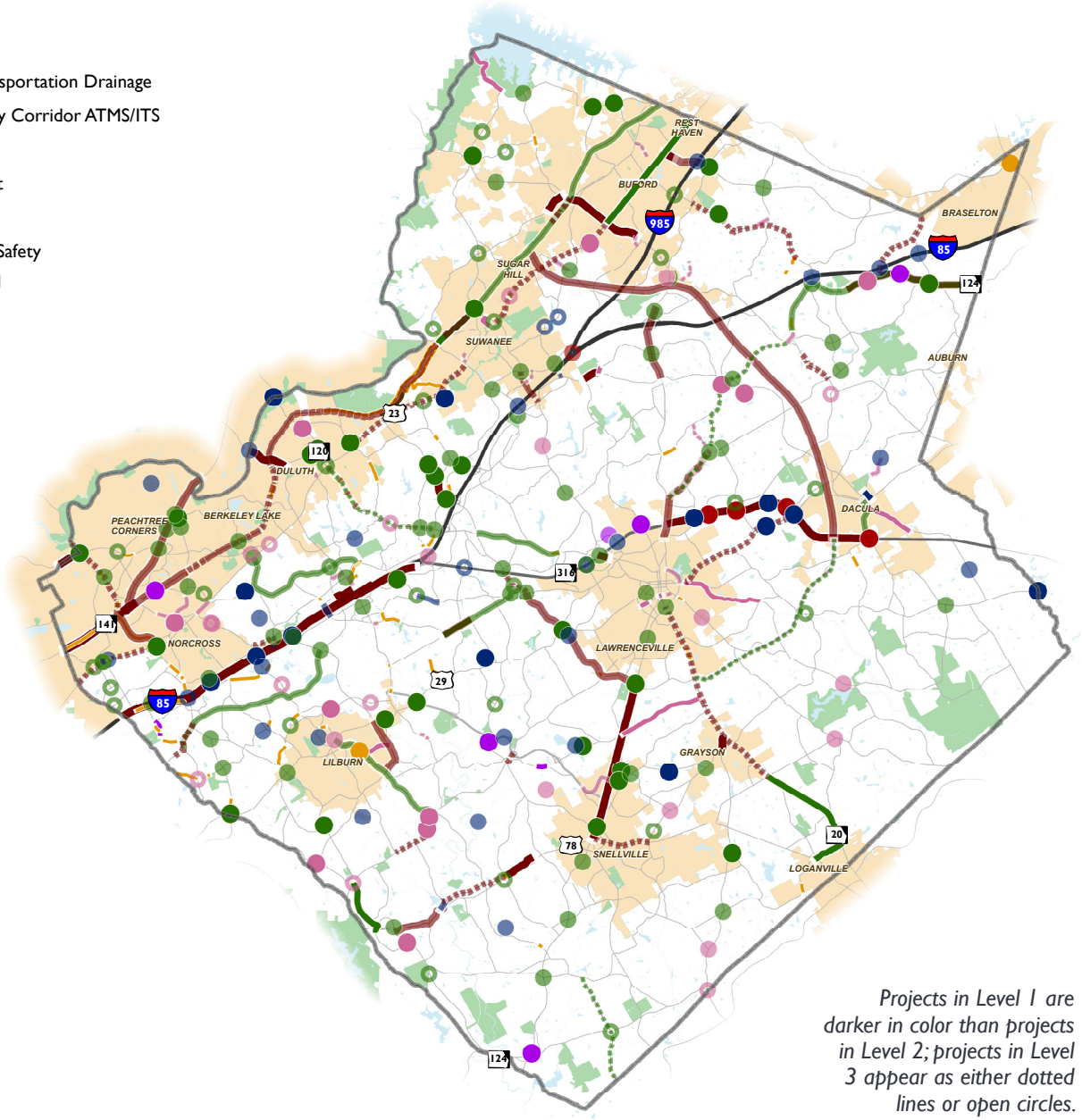
Destination2040 Projects, All Levels

Project Type

- Bridges, Culverts and Transportation Drainage
- Intersections and Roadway Corridor ATMS/ITS
- Major Roads
- Road Safety and Alignment
- School Safety
- Sidewalks and Pedestrian Safety

Funding Level/Time Period

- Level 1
- Level 2
- Level 3

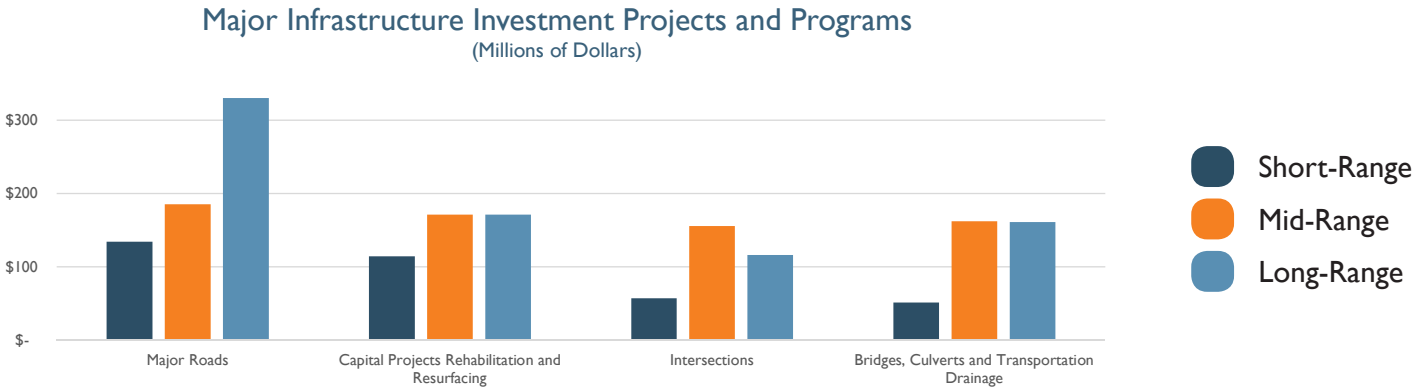


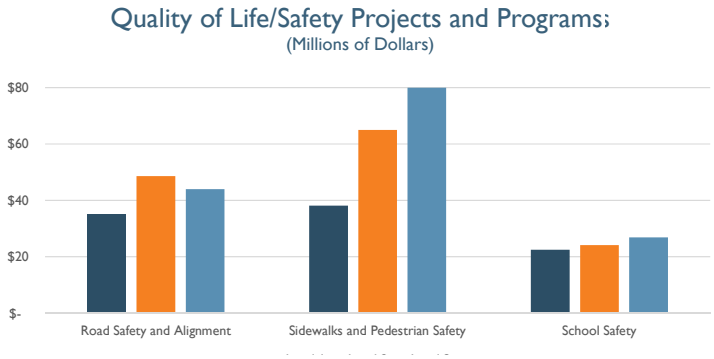
Projects in Level 1 are darker in color than projects in Level 2; projects in Level 3 appear as either dotted lines or open circles.

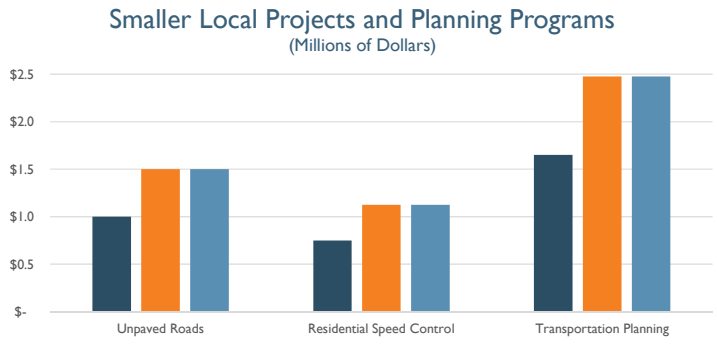
SPLOST Project Type	Level 1	Level 2	Level 3	Total by Project Type
Bridges, Culverts and Transportation Drainage	**12**	**25**	**8**	**45**
Intersections	**33**	**63**	**33**	**129**
Major Roads	**20**	**13**	**30**	**63**
Road Safety and Alignment	**20**	**22**	**22**	**64**
School Safety	**7**	**1**		**8**
Sidewalks and Pedestrian Safety	**55**			**55**
Total by Level	147	124	93	364

COMPARING SHORT-, MID-, AND LONG-RANGE PROGRAMS

The timeframes considered for this CTP include a collection of real projects and anticipated funding for projects yet unknown. In the program categories that include major investments, such as major roads, rehabilitation and resurfacing maintenance, intersections, and bridges, there are some significant increases in anticipated County contribution to projects. In the Major Roads category, the significant increase in County funds for the Long-Range program includes anticipated investment in several new major road interchange projects along with investment in the Sugarloaf Parkway extension. The spike in Intersections funding in the Mid-Range program includes investment in major ITS/ATMS expansion programs as identified in the ITS Master Plan, and Gwinnett County Signal System Evaluation.







Projects that do not require the same magnitude of investment as the major infrastructure projects above include Road Safety and Alignment, Sidewalks and Pedestrian Safety, and School Safety projects. It is notable that the Sidewalks project category is anticipated to aggressively increase program funding through the Long-Range program; this investment increase is intended to fund and implement trails as part of the 2017 Gwinnett Trails Plan. Many Road Safety and Alignment projects align with the ITS/ATMS programming noted for the Intersections program, and mimics the strong investment for Mid-Range implementation of the ITS Master Plan. It should be noted that investments made in one category can result in improvements to other categories. For example, the total scope of a major roadway project may include intersection improvements and almost always results in upgraded pedestrian safety infrastructure.

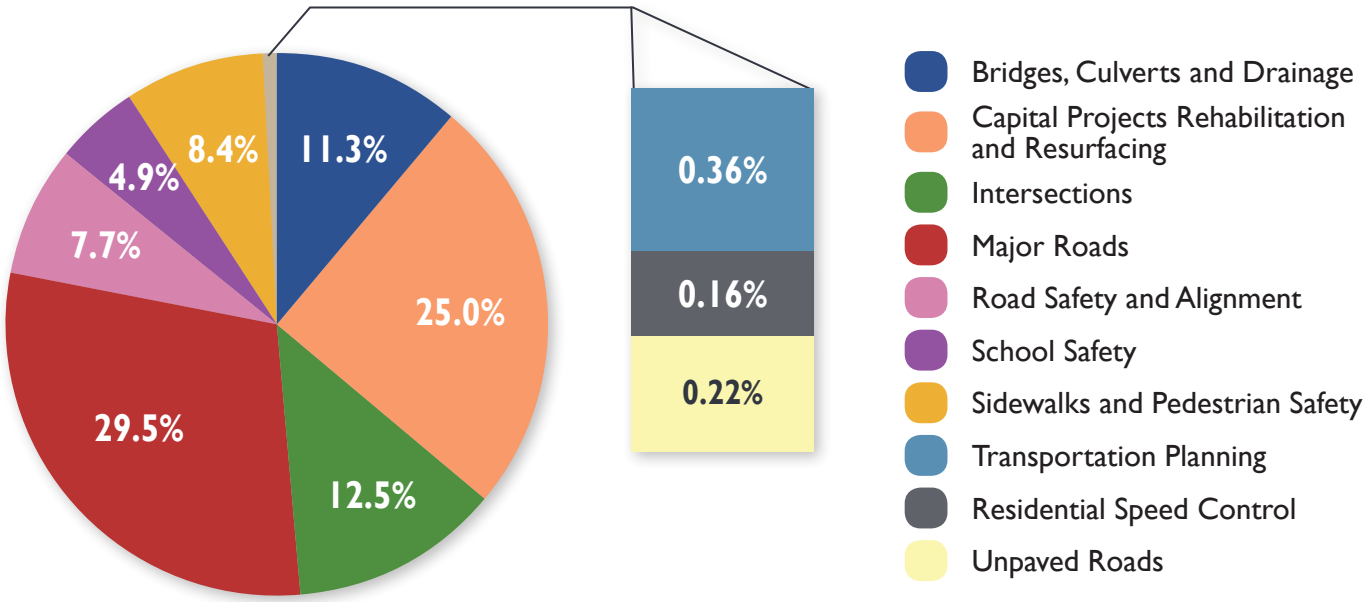
Programmed funding for Unpaved Roads, Residential Speed Control, and Transportation Planning supplement the overall funding program with much smaller programs, that reflect smaller associated project costs. These programs tend to act as set-asides for anticipated small projects that the County can be ready to implement as the need arises. The six-year Short-Range program funds are anticipated to proportionally increase to cover the nine-year durations of the Mid-Range and Long-Range programs. The following pages include detailed summaries of the funding programs for each of the project categories and funding periods.

Level 1

Gwinnett Short-Range (6-year) Project Funding	Category Allocations for Transportation	Gwinnett 2017 SPLOST Program		Other Non-County Funding	Total Funding Program
		Tier I* (Minimum Level)	Tier II** (Minimum Level)		
	Bridges, Culverts and Transportation Drainage	$46,000,000	$5,317,300	$94,500,000	$145,817,300
	Capital Projects Rehabilitation and Resurfacing	$114,000,000	$-	$36,000,000	$150,000,000
	Intersections	$45,000,000	$11,900,000	$25,513,500	$82,413,500
	Major Roads	$118,000,000	$16,300,000	$325,306,249	$459,606,249
	Road Safety and Alignment	$30,000,000	$5,000,000	$4,316,734	$39,316,734
	School Safety	$20,000,000	$2,500,000	$-	$22,500,000
	Sidewalks and Pedestrian Safety	$30,463,000	$7,617,200	$7,047,851	$45,128,051
	Transportation Planning	$1,650,000	$-	$-	$1,650,000
	Residential Speed Control	$750,000	$-	$-	$750,000
	Unpaved Roads	$1,000,000	$-	$-	$1,000,000
	Subtotal	**$406,863,000**	**$48,634,500**		
	Joint City/County Projects***	$30,845,770	$-		
	Total	**$486,343,270**		**$496,684,334**	**$979,027,604**

*Tier I is the amount that will be budgeted initially; it is 90% of estimated collections, a figure used in case collections come in lower that expected
**Tier II is an additional 10 percent that will be budgeted after a majority of the collections have been received and there is more certainty that final collections will reach the initial estimate.
*** Joint City/County projects may be allocated to any of the categories, pending City project selections.

Level 1 Anticipated Project and Program Funds

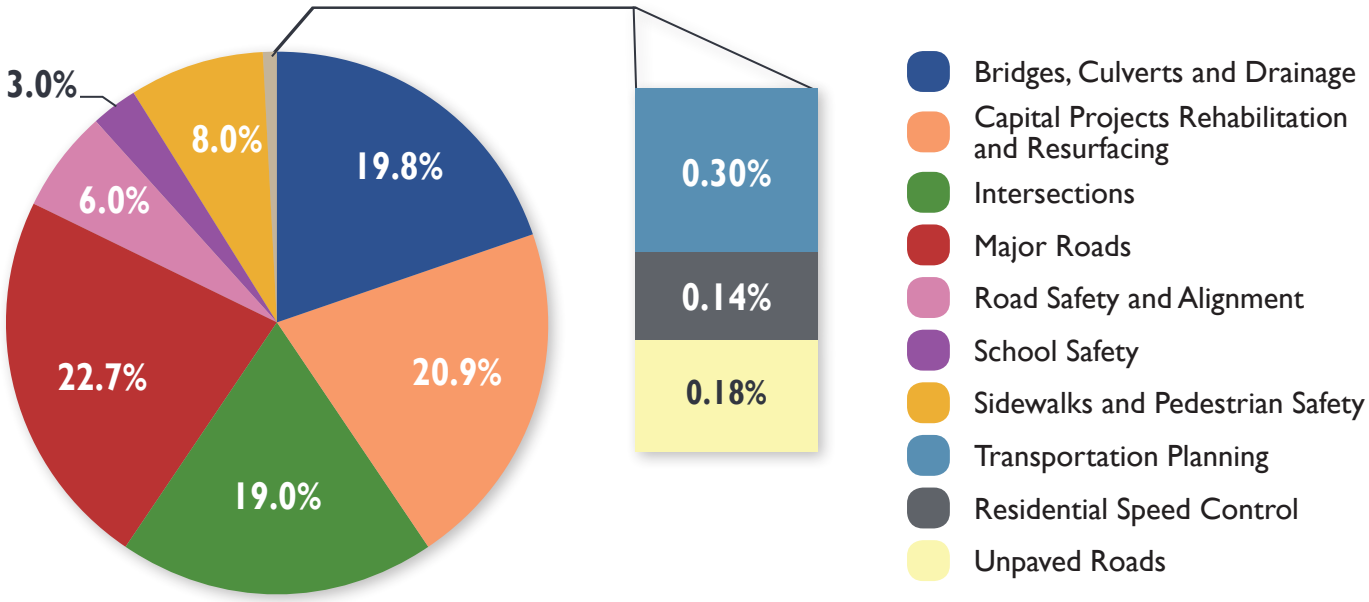


Level 2

Gwinnett Mid-Range (9-year) Project Funding	Projects Identified in this CTP		
Category Allocations for Transportation	Future SPLOST Program(s) & Other County Funding*	Other Non-County Funding**	Total Funding Program***
Bridges, Culverts and Transportation Drainage	$162,000,000	$365,400,000	$527,400,000
Capital Projects Rehabilitation and Resurfacing	$171,000,000	$-	$171,000,000
Intersections	$155,373,700	$52,625,000	$207,998,700
Major Roads	$185,253,086	$231,937,346	$417,190,432
Road Safety and Alignment	$48,579,616	$12,800,000	$61,379,616
School Safety	$24,125,000	$-	$24,125,000
Sidewalks and Pedestrian Safety	$65,000,000	$-	$65,000,000
Transportation Planning	$2,475,000	$-	$2,475,000
Residential Speed Control	$1,125,000	$1,236,000	$2,361,000
Unpaved Roads	$1,500,000	$-	$1,500,000
Total	**$816,431,402**	**$663,998,346**	**$1,480,429,748**

** Future SPLOST Programs and anticipated County funding sources are dependent on citizen votes and not guaranteed.*
*** Other Non-County Funds are estimated based on anticipated State, Federal, and other local funding sources, plus likely opportunities for leveraged funds.*
**** Project costs considered for County funding may be higher than approximated funding levels noted earlier in the report. Planning-level costs and County commitments are likely to evolve in the future, therefore, a perfect match between projected funding and current cost estimations is not expected.*

Level 2 Anticipated Project and Program Funds

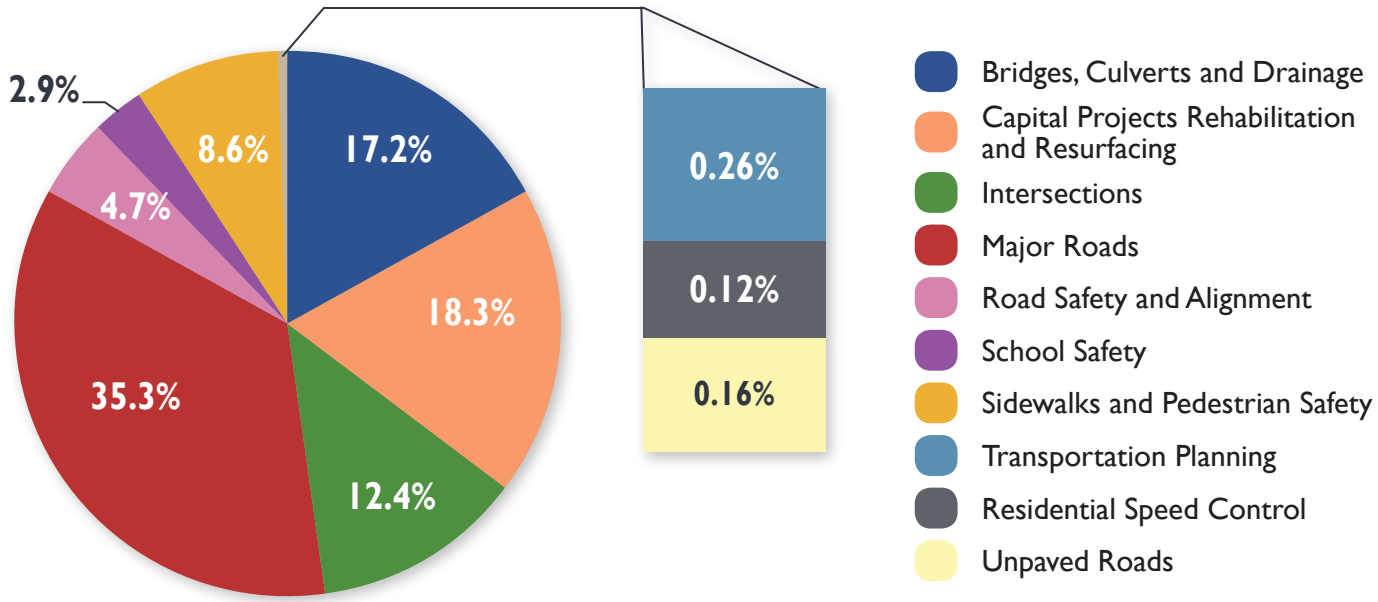


Level 3

Gwinnett Long-Range (9-year) Project Funding	Category Allocations for Transportation	Projects Identified in this CTP		Total Funding Program***
		Future SPLOST Program(s) & Other County Funding*	Other Non-County Funding**	
	Bridges, Culverts and Transportation Drainage	$160,881,000	$84,000,000	$244,881,000
	Capital Projects Rehabilitation and Resurfacing	$171,000,000	$-	$171,000,000
	Intersections	$116,045,600	$113,555,400	$229,601,000
	Major Roads	$330,100,000	$514,900,000	$845,000,000
	Road Safety and Alignment	$43,970,023	$20,325,440	$64,295,463
	School Safety	$26,875,000	$-	$26,875,000
	Sidewalks and Pedestrian Safety	$80,000,000	$-	$80,000,000
	Transportation Planning	$2,475,000	$-	$2,475,000
	Residential Speed Control	$1,125,000	$-	$1,125,000
	Unpaved Roads	$1,500,000	$-	$1,500,000
	Total	**$933,971,623**	**$732,780,840**	**$1,666,752,463**

** Future SPLOST Programs and anticipated County funding sources are dependent on citizen votes and not guaranteed.*
*** Other Non-County Funds are estimated based on anticipated State, Federal, and other local funding sources, plus likely opportunities for leveraged funds.*
**** Project costs considered for County funding may be higher than approximated funding levels noted earlier in the report. Planning-level costs and County commitments are likely to evolve in the future, therefore, a perfect match between projected funding and current cost estimations is not expected.*

Level 3 Anticipated Project and Program Funds



FIVE-YEAR ACTION PLAN

FIVE-YEAR ACTION PLAN

The Five-Year Action Plan outlines the appropriate steps for Gwinnett County staff and elected leadership to implement the recommendations of this CTP. The Plan identifies key partners for success and which processes should be initiated to best carry momentum towards Destination2040 completion. The Five-Year Action Plan is well-complemented by the 2017 SPLOST program, which has helped secure funding for the majority of projects identified in the short-range plan. Policy-related items may not require specific funding to complete but are noted in this chapter with action items to ensure they provide lasting benefit to the community in the future.

The Five-Year Action Plan focuses on the projects with identified funding sources that are likely to be initiated or completed in the first five years of this Comprehensive Transportation Plan. The Level 1 project list includes the likely program of projects for the first six years, corresponding with the 2017 Gwinnett SPLOST program plus additional projects with other funding sources. Additional projects with anticipated or identified funding support other than from local County funding include projects that are part of the Transportation Improvement Program (TIP), Regional Transportation Plan (RTP), or GDOT Work Program.

The table on the following pages shows the list of projects and policy-related items anticipated for initiation or completion over the next five to six years. In addition to the action item for next steps and description, a champion is listed (most often Gwinnett County) as well as partners who may assist the County with implementation.

FIVE-YEAR ACTION PLAN

GENERAL RECOMMENDATIONS

Destination2040 Program	Action Item	Local Sponsor	Local Champion	Coordinate With
ADOPT DESTINATION2040	Gwinnett County to adopt the Plan	Gwinnett County	GC BOC	
INCORPORATE DESTINATION2040 PROJECTS INTO NEXT UPDATE OF THE ATLANTA REGION'S PLAN	Work with ARC to identify which projects from Level 1 and Level 2 are most feasible for the newest Atlanta Region's Plan (scheduled for adoption in early 2020)	Gwinnett County and all Gwinnett Cities	GC P&D and City Planning	ARC
REVISE GWINNETT COUNTY'S UDO TO REFLECT POLICY RECOMMENDATIONS FROM DESTINATION2040	Gwinnett County should amend the UDO to include polices	Gwinnett County	GC P&D	
DEVELOP A PROJECT IMPLEMENTATION AND MONITORING PROGRAM	Gwinnett County and its cities should each develop a program to track progress on implementation of projects identified in this and future transportation plans	Gwinnett County and all Gwinnett Cities	GC DOT, GC P&D, City Planning, City DOT	

POLICY RECOMMENDATIONS

Destination2040 Program	Action Item	Local Sponsor	Local Champion	Coordinate With
TRANSPORTATION AND LAND USE POLICY RECOMMENDATIONS	The 2017 UDO update should take into account projects included in the CTP, Countywide Trails Master Plan, and Comprehensive Transit Development Plan. Incorporate land use and transportation planning concepts identified in the Transportation and Land Use Policy section of the report where possible.	Gwinnett County	GC DOT, GC P&D, and City Planning	
LONG RANGE ROAD CLASSIFICATION UPDATE/FUNCTIONAL CLASSIFICATION RECOMMENDATIONS	Adopt the Long Range Road Classification defined in this document, and incorporate into the latest UDO.	Gwinnett County	GC DOT	

ABBREVIATIONS:

ARC: Atlanta Regional Commission | **City Planning:** City Planning Department (or corresponding department) | **City DOT:** City Department of Transportation (or corresponding department) | **GCT:** Gwinnett County Transit | **GDOT:** Georgia Department of Transportation | **GC BOC:** Gwinnett County Board of Commissioners | **GC DOT:** Gwinnett County Department of Transportation | **GC IT:** Gwinnett County Department of Information Technology | **GC Parks & Rec:** Gwinnett County Department of Parks and Recreation | **GC P&D:** Gwinnett County Department of Planning and Development | **GC DWR:** Gwinnett County Department of Water Resources | **USDOT:** U.S. Department of Transportation

Destination2040 Program	Action Item	Local Sponsor	Local Champion	Coordinate With
BICYCLE AND PEDESTRIAN POLICY RECOMMENDATIONS	Incorporate the Priority Bicycle Network into the UDO, including an update on land-use policy and/or standards for implementation of bicycle facilities identified in the Priority Bicycle Network. Incorporate land-use/location-based pedestrian infrastructure standards into the UDO to complement the County's Citizen Service Request program for sidewalks and pedestrian facilities.	Gwinnett County	GC DOT and GC P&D	
TRANSIT POLICY RECOMMENDATIONS	Make improvements to the local and express transit service in the near term including new routes/infrastructure, route modifications/ additions, and technology and infrastructure enhancements. Complete a Comprehensive Transit Development Plan to assess short-, medium-, and long-term transit operations and infrastructure improvements.	Gwinnett County	GC DOT and GCT	TransDev
CONNECTED AND AUTOMATED VEHICLE POLICY RECOMMENDATIONS	Address 'now' and 'future' project implementation strategies as identified in the "Connected and Automated Vehicle Tool Box"	Gwinnett County	GC DOT and GC IT	ARC, GDOT, and USDOT
BRIDGES STATE OF REPAIR	Continue to regularly assess bridges throughout the County. Continue funding maintenance, repair, and replacement locally and/or through coordination with GDOT or Federal funding sources.	Gwinnett County, GDOT	GC DOT and GDOT	GDOT
PAVEMENT CONDITION	Maintain program to regularly maintain a PAVER/GIS database, making sure to match newly added County-maintained roadways from the PAVER database to GIS, using the field BranchID. Continue to fund Capital Projects Rehabilitation and Resurfacing through the SPLOST program and through state supported LMIG grants.	Gwinnett County	GC DOT	GDOT
ITS/ATMS	Implement projects identified in the ITS Master Plan, included in this CTP; additionally, identify and lock-in funding for priority corridor upgrades recommended in the Gwinnett County Signal System Evaluation. Identify opportunities to implement the system operations management strategies and staffing recommendations from the Gwinnett County Signal System Evaluation.	Gwinnett County	GC DOT and GC IT	
SPLOST MAINTENANCE PROGRAM	Continue to set-aside funds as part of the SPLOST program to provide an agile funding source for needs that cannot be anticipated by the planning process.	Gwinnett County	GC DOT	

Destination2040 Program	Action Item	Local Sponsor	Local Champion	Coordinate With
SIDEWALK PROGRAM	Continue the citizen request sidewalk gap and maintenance program. Continue adding or repairing sidewalks with every major roadway construction project to continue augmenting the existing network.	Gwinnett County	GC DOT	
TRAILS PLAN	Verify if any major roadway construction alignments are parallel with planned or proposed trail segments or can contribute to trail system expansion. Leverage reservation of ROW and/or construction cost-savings to implement side path trail construction concurrent with roadway construction.	Gwinnett County	GC DOT, GC Parks & Rec, and GC DWR	ARC
SAFETY	Continue to utilize the Road Safety and Alignment TSPLOST category and GDOT safety funds to implement safety improvement projects within the County. Implement a Countywide proactive safety improvement process/plan through the development of a Local Road Safety Plan (LRSP).	Gwinnett County	GC DOT	GDOT
TRANSPORTATION DEMAND MANAGEMENT	Increase marketing of the existing TDM and commuter incentive program, Georgia Commute Options through new TDM Coordinator Role.	Gwinnett County	GC DOT and GCT	ARC

PROJECT RECOMMENDATIONS

Destination2040 Program	Action Item	Local Sponsor	Local Champion	Coordinate With
PROJECT LIST IDENTIFIED FOR SHORT-RANGE/ LEVEL I FUNDING	Set aside construction funding and begin construction, and/or coordinate with partners to begin when project funding is available.	Gwinnett County and others (various)	GC DOT and others (various)	
PROJECT LIST IDENTIFIED FOR PARTIAL SHORT-RANGE/LEVEL I FUNDING	Set aside construction funding and/or coordinate with partners to secure project funding for project implementation beyond the five-year action plan.	Gwinnett County and others (various)	GC DOT and others (various)	
SET-ASIDE FUNDING FOR PROJECT PROGRAMS **(for which specific projects have yet to be identified)**	Identify and plan for projects, including quick-fix projects, that are identified for a short-range need during the five-year action plan period.	Gwinnett County	GC DOT	
PROJECT IMPLEMENTATION AND MONITORING PROGRAM	Gwinnett County and its cities should each develop a program to track progress on implementation of projects identified in this and future transportation plans	Gwinnett County and all Gwinnett Cities	GC DOT and City Planning	

GENERAL IMPLEMENTATION MONITORING

A plan is only as good as its implementation. The Destination2040 document outlines many policies and projects for implementation for more than 20 years in the future. The Five-Year Action Plan provides a framework for identifying the most important steps that need to be taken in the near term to advance the plan toward completion. A complement to the Five-Year Action Plan is a process for monitoring progress against goals. This process is valuable so adjustments can be made along the way and so future CTP efforts in the County can make necessary modifications based on lessons learned.

GENERAL COORDINATION

- Continue to work closely with the departments of Planning & Development, Water Resources, and Community Services (Parks & Recreation) to ensure funding is being used and leveraged efficiently and that combined efforts of the departments are greater than that of the entities working alone
- Continue regular coordination with its Cities and CIDs, GDOT and ARC, and neighboring counties and cities to ensure sound planning and project implementation
- Provide updates to the Board of Commissioners regarding progress on SPLOST and other project and policy implementation.

IMPLEMENTATION

- Use the Five-Year Action Plan to identify appropriate steps for advancing projects and policies
- Identify phasing of projects and interim milestones and funding schedules to advance the short-range projects
- Continue coordination with ARC and GDOT on key projects requiring state and federal funding in the Transportation Improvement Program and the Regional Transportation Plan
- Identify task leads for major policy elements, set a timeline for completion, and engage partners as needed to complete tasks

TRACKING

- Create spreadsheets or a database to track all project and policy implementation.
- Develop a set of performance metrics for each project type, such as intersection level of service, crash rates, transit ridership, or bicycle and pedestrian volumes
- Conduct before/after studies of implemented projects to assess impacts; these studies could be funded by Gwinnett County or by state or federal grants
  - Consider high-level measures outlined in the Fixing America's Surface Transportation (FAST) Act (the current federal transportation law)
  - Beyond FAST Act measures, consider and support additional targets set by the state and region

SOURCES

SOURCES

Page	Map/Chart/Image	Data Source
1	Introduction photo	Kimley-Horn
7	Public Engagement photos	Kimley-Horn
8	Public Outreach map	Kimley-Horn
13	SPLOST Committee photo	Gwinnett County DOT
22	LRRC map	Kimley-Horn; Gwinnett County DOT
24	PCI map	Kimley-Horn; Gwinnett County DOT Operations and Maintenance Division
26	Freight Intensive Clusters	Georgia Power Company; Consultant Analysis
27	Truck Parking Demand maps	Atlanta Regional Commission
28	Gwinnett County Transit System map	Kimley-Horn; Gwinnett County DOT
29	Transit Propensity vs. Survey Trip Origins map	Kimley-Horn; Atlanta Regional Commission; US Census
34	SAE Levels of Automation	http://safety.trw.com/wp-content/uploads/2016/01/AutomatedDriving_table_large.jpg
34	AV Technology and applications photos	http://www.govtech.com/fs/transportation/Waymo-Announces-Driver-Free-AV-Testing-in-Arizona.html; http://www.ultraglobalprt.com/; http://meetolli.auto; http://www.citymobil-project.eu/; https://www.ottomotors.com/
36	Bicycle Network maps	Pond; Gwinnett County DOT
37	Priority Bicycle Network map	Pond
38	Georgia Commute Options Logo	http://peachpass.com/commuter-credits
41	The Four Es of Safety	Kimley-Horn
44	Major Mobility Investment Program	GDOT
46	Short-Range Projects map	Kimley-Horn; SPLOST CPSC; Gwinnett County DOT
47-51	Level 1 Projects table	Kimley-Horn; SPLOST CPSC; Gwinnett County DOT
52	Mid-Range Projects map	Kimley-Horn; SPLOST CPSC; Gwinnett County DOT
53-56	Level 2 Projects table	Kimley-Horn; SPLOST CPSC; Gwinnett County DOT
57	Long-Range Projects map	Kimley-Horn; SPLOST CPSC; Gwinnett County DOT
58-60	Level 3 Projects table	Kimley-Horn; SPLOST CPSC; Gwinnett County DOT
61	Countywide Projects tables	Kimley-Horn; SPLOST CPSC; Gwinnett County DOT

SOURCES

Page	Map/Chart/Image	Data Source
62	Projects, All Levels map and table	Kimley-Horn; SPLOST CPSC; Gwinnett County DOT
63	Major Infrastructure Investment Projects and Programs	Kimley-Horn; SPLOST CPSC; Gwinnett County DOT
64	Level I Anticipated Project and Program Funds	Kimley-Horn; SPLOST CPSC; Gwinnett County DOT
65	Level II Anticipated Project and Program Funds	Kimley-Horn; SPLOST CPSC; Gwinnett County DOT
66	Level III Anticipated Project and Program Funds	Kimley-Horn; SPLOST CPSC; Gwinnett County DOT

APPENDIX

CONNECTED AND AUTOMATED TECHNOLOGY TOOLBOX

With the development and introduction of connected and automated vehicle (CAV) technologies, including the availability of a fully-autonomous vehicle, the infrastructure, investments, and planning to support the increasing presence of CAVs will need to be thoroughly strategized for the future. The "Connected and Automated Vehicle Tool Box" aims to integrate these transitions of the levels of autonomy and connectivity into practice for the future built environment. The toolbox may be used by local government agencies, planners, engineers, and developers to guide an application-to-practice list of needs for moving planned projects into implementation. The toolbox features broad areas of project types that will be influenced by the roll-out of CAV technologies, specifically on; transit, vehicular, advanced traffic management (ATM), bike and pedestrian, travel demand management, and land-use. The toolbox packages strategies into timeframes for project implementation – less than 5 years, between 5 to 10 years, and greater than 10 years. Within each time period, strategies are presented for two cases: 1) now: what should be addressed within the project implementation; 2) future: what elements could enhance agility of the project to more easily address advancements in CAV technologies.

ASSUMPTIONS/CONSTRAINTS

The following is a list of assumptions that were considered during the development of the CAV Tool Box.

- Each box should be considered for higher levels of autonomy and the impacts on a mixed fleet between those vehicles and legacy human-operated vehicles.
- Different types of infrastructure, land use, natural and human factors may result in different approaches to the toolbox.
- The timeline presented should be assessed with each iteration of the toolbox development. If the pace of CAV increases, this will require revised strategies and adjustments to the timeline defined.
- Technology is rapidly evolving; other technologies and significant advancements may dismiss or steer strategy direction.
- Ridesharing data availability is limited from Transportation Network Companies (TNCs), the toolbox assumes that TNCs will provide passenger data.

OTHER RESOURCES AND LINKS:

The following list includes research projects and federally maintained sites that can support the strategies prescribed in the CAV Toolbox.

- **USDOT Federal Automated Vehicles Policy, September 2016:** https://icsw.nhtsa.gov/nhtsa/av/
- **USDOT AV Policy Fact Sheet:** https://www.transportation.gov/AV-factsheet
- **Cybersecurity Best Practices for Modern Vehicles, October 2016:** https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0ahUKEwiT4smVj6zVAhUHLmMKHSMYBSQQFghDMAA&url=https%3A%2F%2Fwww.nhtsa.gov%2Fstaticfiles%2Fnvs%2Fpdf%2F812333_CybersecurityForModernVehicles.pdf&usg=AFQjCNFQGcFPoweTDxESzEW7yAewSsSoNA
- **NHTSA Automated Vehicles Web Site:** https://www.nhtsa.gov/technology-innovation/automated-vehicles
- **USDOT AV Research Activities:** Current and Complete Projects – https://ops.fhwa.dot.gov/regulationpolicy/avpolicyactivities/
- **NCHRP 20-24(98):** Connected/Automated Vehicle Research Roadmap for AASHTO – http://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=3824

CONNECTED AND AUTOMATED VEHICLE TOOLBOX

TRANSIT

Project Type	0-5 Years	
	Current Design Requirements	Agile Accommodations
PARK AND RIDE LOTS	Assess the opportunity of lots being converted to other purposes in the future and allow flexibility in land use and design of lots.	
TRANSIT STOPS		Consider future impacts of potential design requirements to accommodate AV transit vehicles.
VEHICLE PROCUREMENT	Assess the opportunities of testing an automated transit vehicle on a specific route.	Consider the current state of the CAV technology and impacts on vehicle requirements when developing procurement documents.
TRANSIT SIGNAL PRIORITY		Consider the impacts of connected vehicle technology on field equipment specifications.
ROUTE REVISIONS/ EXPANSIONS	Assess the potential for a test project to evaluate a specific existing route to determine the benefits of the operation an automated transit vehicle.	Consider the opportunity for dedicated AV routes/lanes on major arterials.
TRANSIT CROWDSOURCING		Consider the impacts of dynamic routing and the agility in transit stops in response to real time ridership needs.

5-10 Years		>10 Years	
Current Design Requirements	**Agile Accommodations**	**Current Design Requirements**	**Agile Accommodations**
Assess capacity needs of new lots based on range of available last mile solutions. Assess the potential to partner with fleet companies to lease excess capacity in existing lots.		Assess capacity requirements based on the current fleet composition and the public's adoption of AV.	Examine lot locations with respect to transit fleet operations and the potential to partner with fleet companies. Examine individual parking requirements (and ability to apply a mix of space configurations).
Define an enforcement strategy for onboarding of nonpaying passengers. Assess design requirements to accommodate AV transit vehicles. Assess design considerations for docking of AV at stops.	Consider the need for each of the defined stops (is transit migrating to become more demand responsive?) Consider the ability to address ADA requirements for AV at each stop.	Refine enforcement strategies for onboarding of nonpaying passengers. Integrate design requirements for AV transit vehicles. Assess design considerations for docking of AV at stops.	Consider the need for each of the defined stops (is transit migrating to become more demand responsive?) Consider the ability to address ADA requirements for AV at each stop.
Assess the current state of CAV technology and revise vehicle requirements accordingly. Assess the vehicle size requirements in response to changing ridership demands. Confirm transit AV will integrate with existing stops.	Consider future technology enhancements to accommodate two-way communications with dispatch. Consider the shift from individual vehicle management by a driver to fleet management from a dispatch facility.	Assess the vehicle size requirements in response to changing ridership demands. Assess the need for added security equipment for safety (two-way voice communications to dispatch). Confirm transit AV will integrate with existing stops.	Consider the shift from individual vehicle management by a driver to fleet management from a dispatch facility.
Assess the current state of CAV technology and revise vehicle requirements accordingly.	Consider the availability of system wide signal information and the agility of the transit fleet to reroute.	Assess the current state of CAV technology and revise vehicle requirements accordingly.	Consider the availability of system wide signal information and the agility of the transit fleet to reroute.
Assess the opportunity for dedicated AV routes/lanes on major arterials.	Consider the elimination of certain fixed routes.	Assess the opportunity for dedicated AV routes/lanes on major arterials.	Consider the elimination of certain fixed routes.
Plan for dynamic routing and agility in transit stops in response to real time ridership needs.		Plan for dynamic routing and agility in transit stops in response to real time ridership needs.	

VEHICULAR

Project Type	0-5 Years	
	Current Design Requirements	Agile Accommodations
TRAFFIC SIGNALS/ SIGNAL TIMING		Consider preliminary findings and lessons learned from the 2020 SPaT challenge. Consider the potential cost implications of DSRC implementation (capital and O&M). Consider design requirements to enhance detection equipment and controller equipment to collect and broadcast speed/ safety information.
RAIL CROSSINGS		Consider the potential to include DSRC equipment to broadcast the current state of crossings.
NEW ROADWAYS/ ROADWAY WIDENING		Consider the accommodation of AV within a mixed fleet and the impacts on roadway designs.
OPERATIONAL IMPROVEMENTS		Consider the safety and mobility impacts of a two-way-left-turn-lane as opposed to protected left-turn movements.
TRAFFIC CALMING		Consider emerging technologies that help reduce upstream vehicle speeds by communicating real time traffic conditions to AV.
PARKING		Consider the design impacts of future conversions of on-street parking to drop-off lanes. Consider changes to parking requirements for new developments. Consider potential impacts to revenue collection technology for parking.

5-10 Years		>10 Years	
Current Design Requirements	**Agile Accommodations**	**Current Design Requirements**	**Agile Accommodations**
Assess the applicability and relevance of lessons learned from the 2020 SPaT challenge. Assess the potential cost implications of DSRC implementation (capital and O&M). Assess design requirements to enhance detection equipment and controller equipment to collect and broadcast speed/safety information.	Consider the volume of data available and the ability of the Traffic Operations Center (TOC) to apply and enhance operations. Consider the use of connected vehicle data to continuously provide performance data and allow for retiming of signal phasing.	Assess the impacts on signal design and phasing. Assess the impacts on signal warrants for an individual traffic signal.	
Assess the requirements for including DSRC equipment to broadcast the current state of crossings.		Assess the requirements for including DSRC equipment to broadcast the current state of crossings.	
Assess federal or state requirements to support AV within a mixed fleet and the impacts on roadway designs.	Consider the opportunity of dedicated AV lanes or corridors. Consider current requirements for traffic control measures, signing, and lane striping.	Assess the design requirements to provide dedicated AV lanes or corridors. Assess design requirements necessary to provide standard traffic control measures, signing, and lane striping.	Consider the potential for narrower lanes on AV dedicated facilities.
Assess the safety and mobility impacts of two-way-left-turn-lane as opposed to protected left-turn movements.	Consider the impact of unconventional intersections with a mixed fleet. Consider changes to access management strategies.	Assess the impact of unconventional intersections with a mixed fleet. Integrate changes to access management strategies in policies and guidelines.	Consider additional unconventional intersections based on an increase in the percentage of AV within the fleet.
Integrate newer infrastructure strategies into designs. Assess the impacts based on a localized percentage of AV.		Integrate newer infrastructure strategies into designs. Assess the impacts based on a localized percentage of AV.	Consider the need for physical traffic calming infrastructure with an increased percentage of AV within the fleet.
Assess the design impacts to convert on-street parking to drop-off lanes. Integrate identified changes to parking requirements for new developments. Integrate changes in parking revenue technologies.	Consider the potential to convert off-street parking to other purposes. Consider design elements that allow easier repurposing for surface lots and larger parking structures.	Assess the potential to convert off-street parking to other purposes. Revise larger parking structures design requirements to allow repurposing in part/as a whole. Integrate changes to parking reqs. for new developments. Integrate changes in parking revenue technologies.	Consider changes in local policies and procedures that reflect current trends in parking demand.

ATMS

Project Type	0-5 Years	
	Current Design Requirements	Agile Accommodations
CCTV CAMERA		Consider additional coverage at major interchanges to monitor the performance of a mixed fleet.
COMMUNICATIONS		Consider bandwidth requirements to accommodate data collection and distribution via DSRC. Consider enhanced security requirements for data sharing. Consider methods of distribution of data made available from DSRC.
CONNECTED VEHICLES		Consider current data available within an agency and strategies to share with CV.

Bike Pedestrian

Project Type	0-5 Years	
	Current Design Requirements	Agile Accommodations
SIDEWALKS	Assess pedestrian/bike accessibility and safety impacts with CAV technology. Assess current initiatives related to ADA requirements with respect to AV.	Consider introducing CV technology with smart sidewalk technology.
GREENWAYS		Consider impacts of greenway crossings on surface streets.
BIKEWAYS/BIKE LANES		Consider the design impacts to bike lanes as AV's are introduced into the fleet. Consider additional education and outreach programs designed for both bicyclists and motorists.

5-10 Years		>10 Years	
Current Design Requirements	**Agile Accommodations**	**Current Design Requirements**	**Agile Accommodations**
Assess and design for additional coverage at major interchanges to monitor the performance of a mixed fleet.	Consider changes in surveillance strategies based on a mixed fleet.	Assess changes in standard operating procedures (SOPs) for surveillance of a mixed fleet.	Consider CCTV camera deployment strategies based on enhanced data made available from AVs.
Assess bandwidth requirements to accommodate data collection and distribution via DSRC. Assess enhanced security requirements for data sharing. Assess methods of distribution of data made available from DSRC.	Consider enhancements to communication infrastructure based on technology changes.	Assess changes in design requirements to reflect technology changes in communication infrastructure.	
Assess current data available within an agency and strategies to share with CV.	Consider an agency's ability to manage (store, analyze, apply) big data. Consider strategies to collect, process, and apply data collected from CV.	Assess an agency's ability to manage (store, analyze, apply) big data. Assess strategies to collect, process, and apply data collected from CV.	Consider an agency's ability to support the required big data infrastructure.

5-10 Years		>10 Years	
Current Design Requirements	**Agile Accommodations**	**Current Design Requirements**	**Agile Accommodations**
Assess the ability to accommodate future streetscape designs, such as drop-off lanes.	Consider introducing CV technology with smart sidewalk technology. (i.e., complete streets, ped/bike detectors)	Assess the integration of CV technology with smart sidewalk technology. (i.e., complete streets, ped/bike detectors)	Consider complete street guidelines for "smart" streets with connected pedestrian/ bicycle detectors.
Assess impacts of greenway crossings and interactions with AV on surface streets.		Assess impacts of greenway crossings and interactions with AV on surface streets.	
Assess the design impacts to bike lanes as AV's are introduced into the fleet. Assess additional education and outreach programs designed for both bicyclists and motorists.	Consider the inclusion of exclusive bike lanes with the design of dedicated AV lanes and facilities.	Formalize guidelines for the inclusion of exclusive bike lanes with the design of dedicated AV lanes and facilities.	Consider the design of bike lanes and interaction with narrower dedicated AV lanes.

Travel Demand Management

Project Type	0-5 Years	
	Current Design Requirements	Agile Accommodations
RIDESHARING (TRANSPORTATION NETWORK COMPANIES SUCH AS UBER/LYFT/ETC. [TNC]/PRIVATE)	Assess existing passenger data and study existing reports of ridesharing demand and impacts.	
CARPOOLING		

Land Use

Project Type	0-5 Years	
	Current Design Requirements	Agile Accommodations
REPURPOSING OF INFRASTRUCTURE	Assess a potential pilot for new infrastructure or "tactical urbanism" concepts in designated areas.	Consider existing infrastructure features/ areas that may be become minimized or obsolete with increasing numbers of AVs. Consider the need to conduct public workshops and outreach.
ACCESS MANAGEMENT		Consider the potential for a pilot/test project to evaluate left-turn treatments and access in a challenging built environment.
ENVIRONMENTAL		Consider AVs impacts on noise/emissions and wildlife.
ZONING		Consider the future impacts of AV on land development and zoning bylaws.

5-10 Years		>10 Years	
Current Design Requirements	**Agile Accommodations**	**Current Design Requirements**	**Agile Accommodations**
Assess future partnerships with developers or transit agencies.	Consider revising the approach toward facilities to allow casual carpooling via AVs. Consider partnerships with developers and transit agencies.	Integrate revised designs for casual carpool facilities and HOV lanes. Establish partnerships with developers and transit agencies.	Consider the impacts of AV on the needs for ridesharing facilities.
Assess the trends in AV and carpooling and the associated demands on infrastructure.	Consider revisions to carpooling programs and infrastructure based on trends in the cross-section of AV ridership.	Integrate revisions to carpooling programs and infrastructure based on trends in the cross-section of AV ridership.	

5-10 Years		>10 Years	
Current Design Requirements	**Agile Accommodations**	**Current Design Requirements**	**Agile Accommodations**
Assess the opportunities to reallocate space for new infill/public space. Conduct public workshops and outreach.	Consider the concept of "temporary" spaces that result from the decreasing need on infrastructure that is non-useful for AVs - focus on support to economic or social benefit.	Assess the opportunities to employ more permanent infrastructure in newly designated areas.	
Assess a potential pilot/ test project to evaluate left-turn treatments and access in a challenging built environment.	Consider future impacts in land-use and zoning decisions relating to right-of-way access points, especially for emergency vehicles. (EVAC)	Assess that access points are inclusive toward the needs of AV's and EVAC - reflect changes in the zoning ordinance.	Integrate accommodative design features that reflect AV technology needs into zoning ordinance and land use provisions.
	Consider the process and the ability to remove vehicle fuel stations. Consider the use of emission/ noise data to capture benefits/ impacts of AV. Consider studying local ecosystem/wildlife corridors by major arterials/ highways.	Assess remediation techniques for the removal of contaminated fuel station lots. Assess the ability to repurpose vehicle fuel stations.	Program for a regional study on how pollution, wildlife, and noise levels have changed.
Assess land-use techniques or ordinances that reflect AV technology. Assess the need to update the process for zoning bylaws for AV technology.	Consider beginning the process of amending new land-use zoning ordinances that reflect AV technology - consider shifts in development trends.	Assess the current trends related to sprawling and denser development. Assess the type of development attributed (i.e., affordable housing, mixed-use).	Consider the development of a master/regional plan that addresses the repurposing of dedicated space (i.e. parking space to bike sharing space). Review necessary zoning changes and land-use guidance documents.

OVERVIEW

Public involvement was an essential component of the CTP Update. Implementation of a hands-on, interactive and fresh approach to engaging the public combined with traditional outreach tools allowed broad public engagement opportunities and helped promote inclusion. By combining face-to-face outreach with an online presence, thousands of stakeholders have been engaged in a variety of ways.

Community stakeholders were engaged throughout four phases of the project:

Phase I: Inventory and Assessment of Existing Conditions
Phase II: Visioning and Evaluation Framework
Phase III: Assessment of Future Needs
Phase IV: Recommendations

During these project phases, the public was engaged in 27 key stakeholder interviews, 25 community pop up events, 12 public meetings and workshops, and seven additional meetings totaling approximately 1,000 people met face-to-face. Online engagement was made possible via a County-hosted webpage, a project-focused Facebook page with over 680 likes, and two online surveys that collected more than 7000 responses. More than 550 comments were received throughout the life of the CTP Update.

Phase I: Inventory & Assessment of Existing Conditions

After project initiation, the Inventory & Assessment of Existing Conditions phase began. Public engagement focused on informing and educating the public on the purpose and objectives of the CTP Update. During this phase, a Technical Advisory Committee representing key transportation planning agencies was also established to provide input and guidance on the technical aspects of the project. Two Stakeholder Groups, the Partner Agency Stakeholder Group and the Community Stakeholder Group, were formed to help guide the project, provide input, and represent the larger community. Participants included County departments, Cities, Community Improvement Districts, Chamber of Commerce, interest and advocacy groups, homeowners and citizen groups, religious institutions and service agencies.

Phase II: Visioning & Evaluation Framework

Public engagement during Phase II included the activation of the Technical and Stakeholder Groups; the first round of countywide public meetings; the launching of online engagement tools such as the project webpage, social media and an online survey; and a series of community event pop ups.

Advisory Committee Engagement

The first meetings of the Technical Advisory Committee and the Stakeholder Advisory Committee were both held on November 12, 2015 and included similar content. A total of 29 individuals attended the joint Technical Advisory Committee/Partner Agency Stakeholder Group meeting and 20 individuals attended the Community Stakeholder Group meeting. At both meetings, Committee Members were presented with data gathered during Phase I and were engaged in a visioning exercise designed to explore the most important goals for the transportation plan. Attendees were seated at tables with a member of the Consultant Team where they were asked three different questions. The three questions asked during the three different rotations were as follows:

1. Think about Gwinnett County in 5 years and 25 years…What is your vision for the County (not necessarily related to transportation)? What words/phrases best summarize your vision?
2. What aspects of transportation will support those descriptors? Not necessarily changes, just what aspects of transportation should be present? Consider long term aspects as well as short term ones.
3. What obstacles relative to transportation do we need to overcome in order to arrive at this place?

The input received was used to develop a draft Vision and Goals which was to be presented at Public meetings for comment.

The second meetings of the Technical and Stakeholder Groups were held on February 29, 2016 near the end of the Visioning & Evaluation Framework Phase and in advance of the first round of Public Meetings. Again, both meetings presented similar content to each respective group. A total of 26 individuals attended the joint Technical Advisory Committee/Partner Agency Stakeholder Group meeting and 17 individuals attended the Community Stakeholder Group meeting. The draft Vision and Goals statement was presented to both Committees for input. Committee Members were engaged in additional interactive polling activities as well as a series of table exercises regarding roadway, transit, and bicycle and pedestrian concerns.

Public Engagement

A total of six meeting events were hosted for the first round of public engagement:

- Tuesday, March 15th – Bogan Park Community Recreation Center
- Saturday, March 19th – Shorty Howell Park Activity Building

- Monday, March 21st – Lucky Shoals Park Community Recreation Center
- Tuesday, March 29th – Snellville City Hall Council Chambers
- Monday, April 18th – Dacula Park Activity Building
- Thursday, April 21st – Gwinnett County Department of Planning and Development

A total of 323 people attended the six meetings. The format and content of these meetings mirrored the second round of Committee meetings. After a brief open house period and a presentation by Gwinnett County staff and Consultants, the public was asked to review and weigh in on the draft Vision and Goals statement. Attendees were also engaged in a series of exercises designed to collect input regarding roadway, transit, and bicycle and pedestrian concerns.

In addition to the public meetings, community event pop ups offered another engagement opportunity during Phase II. Community event pop ups are an effective strategy to connect with the community during heavily attended community events such as popular festivals and sporting events. Smaller community events with a very specific focus allowed for a more strategic approach to reach out to groups that do not traditionally participate in the transportation decision-making process. Pop-ups included project displays, information and input opportunities. Seven community event pop-ups were hosted during Phase II, three of which were geared toward the County's senior population.

EVENT DATE	LOCATION/AUDIENCE
Thursday, March 17, 2016	Rhodes Jordan Park – General Public
Tuesday, March 22, 2016	Rock Springs Park – General Public
Thursday, March 24, 2016	Bay Creek Park – General Public
Thursday, March 31, 2016	Pinckneyville Park – General Public
Friday, April 1, 2016	Lawrenceville Fun Time at Bethesda Park Senior Center – Seniors
Tuesday, April 5, 2016	Dacula Rainbow at Dacula Park Activity Building – Seniors
Thursday, April 7, 2016	Shorty Howell Hi-Steppers at Shorty Howell Park Activity Building - Seniors

Table 1. Public Engagement Events

Online Engagement

In addition to a webpage, the project's online presence was complemented by the use of a project-based Facebook page that was launched during the first round of public meetings. Information such as engagement opportunities and links back to the project webpage was posted on a regular basis.

A MetroQuest survey was also launched during the Visioning & Evaluation Framework phase. The MetroQuest survey provided members of the community with an alternative way to engage from the comfort of their home or office. Though not a statistically valid assessment, the tool proved to be an effective way to reach the public. Over 5,000 individuals took the first MetroQuest survey.

Phase III: Assessment of Future Needs

Public engagement during Phase III included key stakeholder interviews; a series of community event pop-ups; and a series of focus group sessions.

Key Stakeholder Interviews

Key stakeholder interviews were initiated during the Assessment of Future Needs phase. Interviews were utilized to gain insight on transportation needs as it relates to specific user groups and were one-on-one sessions or small groups meetings that included a range of relevant discussion points. A total of 8 key stakeholder interviews were completed during Phase III with the following entities:

- Cities
  - City of Auburn
  - City of Berkeley Lake
  - Town of Braselton
  - City of Buford
  - City of Dacula
  - City of Duluth
  - City of Grayson
  - City of Lawrenceville
  - City of Lilburn
  - City of Loganville
  - City of Norcross
  - City of Peachtree Corners
  - City of Sugar Hill
  - City of Suwanee
- Community Improvement Districts
  - Evermore CID
  - Gwinnett Place CID
  - Gwinnett Village CID
  - Lilburn CID
- County Departments
  - Community Services (Parks and Rec, Health and Human Services, Senior Services)
  - Finance
  - Planning and Development
  - Water Resources
- Gwinnett County School System
- Higher Education
  - Gwinnett Technical College
  - Georgia Gwinnett College
  - Gwinnett County Public Library System
- Medical
  - Children's Hospital of Atlanta
  - Gwinnett Medical Center
  - Gwinnett County Health & Human Services
  - Kaiser Permanente
- Multimodal
  - Georgia Bikes
  - Georgia Commute Options
  - Gwinnett County Transit
  - Community representatives
- Youth
  - Gwinnett Student Leadership Team

Public Engagement

In addition to key stakeholder interviews, another round of community event pop-ups was hosted. Eleven community event pop-ups were hosted during Phase III, five of which were geared toward the County's senior population.

EVENT DATE	LOCATION/AUDIENCE
Tuesday, April 12, 2016	Get Up & Go at Rhodes Jordan Park Community Recreation Center - Seniors
Tuesday, April 12, 2016	Suwanee Goodtimers at Prime Timers Pointe at George Pierce Park - Seniors
Tuesday, April 12, 2016	Lenora Park - General Public
Wednesday, April 13, 2016	Bogan Gold Wing at Bogan Park Community Recreation Center - Seniors
Thursday, April 14, 2016	Best Friend Club at Lucky Shoals Park Community Recreation Center - Seniors
Thursday, April 14, 2016	Bryson Park - General Public
Tuesday, April 19, 2016	Peachtree Ridge Park - General Public
Tuesday, April 26, 2016	Evergreen at Mountain Park Activity Building - Seniors
Tuesday, April 26, 2016	Bethesda Park - General Public
Thursday, April 29, 2016	George Pierce Park - General Public
Saturday, April 30, 2016	Multi-cultural Festival at Gwinnett Place Mall - General Public
Thursday, May 5, 2016	Rabbit Hill Park - General Public

Table 2. Community Pop Up Events

As an additional means to connect with those populations that are often under-represented in traditional public forums, focus group sessions were hosted. These groups included racial and ethnic minority populations, low-income residents, youth and students, and others. Translation and interpretation services were provided as necessary. During Phase III, two focus group session were hosted – one in conjunction with the Center for Pan Asian Community Services and the other for the Hispanic and Latino community.

EVENT DATE	LOCATION/AUDIENCE
Tuesday, April 26, 2016	Gwinnett Place Mall/Center for Pan Asian Community Services Office - Pan Asian Community Focus Group
Wednesday, May 4, 2016	Meadowcreek High School

Table 3. Community Focus Group Events

Online Engagement

Online engagement via the project webpage and Facebook continued during Phase III. Information such as engagement opportunities and links back to the project webpage was posted on a regular basis.

Phase IV: Recommendations

Adjacent Communities Meetings

An Adjacent Communities meeting was held with representatives from neighboring jurisdictions to ensure cohesion between Gwinnett County and other municipalities that share a border. These municipalities include the following:

- Fulton County
- DeKalb County
- Rockdale County
- Walton County
- Barrow County
- Jackson County
- Hall County
- Forsyth County
- City of Sandy Springs
- City of Dunwoody
- City of Roswell
- City of Johns Creek
- City of Alpharetta
- City of Doraville
- City of Chamblee
- City of Stone Mountain
- Town of Carl
- City of Flowery Branch
- City of Cumming

The meeting, which was hosted on December 5, 2016, focused on the following:

- Overview of the CTP:
    - What is the CTP?
    - What has been accomplished so far?
        - Technical Advisory Committee and Community Advisory Committee
        - Public Meetings
        - Focus Groups
        - Presentations to County Commissioners
        - Existing Conditions Report and Needs Assessment Report
    - What are the next steps?
        - Development of criteria for project prioritization
        - Project selection

- Policy development
- Public meetings
- Recommendations Report
- Approval

- Interactive Table Exercises
  - Discussion of priority projects of relevance to Gwinnett

Advisory Committee Engagement

The third and final meetings of the joint Technical Advisory Committee/Partner Agency Stakeholder Group and the Community Stakeholder Group were held on February 13, 2017 near the end of the draft Recommendations Phase and in advance of the second and final round of Public Meetings. Similar content was presented to each respective group. A total of 28 individuals attended the Technical Advisory Committee/Partner Agency Stakeholder Group meeting and seven individuals attended the Community Stakeholder Group meeting. The meeting began with an open house session which included a series of input stations regarding transit, budgeting, major investments, and trails. A presentation was delivered that focused on potential projects, evaluation methodologies, and prioritization.

Public Engagement

A total of six meeting events were hosted for the second round of public engagement:

- Monday, February 20th – Lilburn City Hall
- Thursday, March 2nd – Snellville City Hall Council Chambers
- Monday, March 6th – Gwinnett County Justice & Administration Center
- Thursday, March 16th – Dacula Park Activity Building
- Saturday, March 18th – Shorty Howell Park Activity Building
- Monday, March 20th – George Pierce Park Community Recreation Center

A total of 164 people attended the six meetings. The format and content of these meetings mirrored the final Technical and Stakeholder Committee meetings. Each meeting began with an open house session which allowed attendees the opportunity to review draft outcomes and collect their input through a series of interactive activities. The interactive activities focused on the following topics:

- Budget allocation
- Trails
- Transit
- Major investments

At about the midway point of the meeting, the project team gathered attendees for a brief presentation that focused on previous stakeholder and public meetings, recent accomplishments, public feedback on priorities, how the plan addresses the feedback, and next steps. Following the presentation, attendees were invited to resume open house activities.

In addition to the meetings, a final round of community event pop-ups was hosted. The events were an opportunity for the public to provide input on budget allocation among projects. Pop-ups were hosted on three separate occasions.

EVENT DATE	LOCATION/AUDIENCE
Tuesday, March 3, 2017	Gwinnett County Justice & Administration Center – General Public
Saturday, February 25, 2017	Run the Regan Annual Road Race – General Public
Saturday, April 8, 2017	Duluth Car Show – General Public

Table 4. Final Round of Community Pop Up Events

Online Engagement

Online engagement via the project webpage and Facebook continued during Phase IV. A second MetroQuest survey was also launched during the Recommendations Phase. The MetroQuest survey provided members of the community with an opportunity to learn about and react to budget allocation, prioritizing major investments, and the Gwinnett Trails Plan. Over 1,100 individuals completed the second MetroQuest survey.

GWINNETT COUNTY LONG RANGE ROAD CLASSIFICATION METHODOLOGY

1. Researched how functional classification is developed at federal, state and local levels
2. Identified potential analysis variables used for classification and selected those that were deemed most relevant and/or had data already readily available from existing conditions inventory. The functional classification criteria for each of the 5 selected analysis variables was taken from the federal and/or state resources researched in Step 1.
    A. Volume
        - 2015 ADT
        - Projected 2040 ADT (from Model)

ADT (vehicles)	FUNCTIONAL CLASSIFICATION
80-700	Local
700-1,100	Local or Collector
1,100-6,300	Collector or Minor Arterial
6,300-7,000	Minor Arterial
7,000-14,000	Minor Arterial or Principal Arterial
14,000-27,000	Principal Arterial or Freeway/Expressway
27,000-35,000	Freeway/Expressway
35,000-55,000	Freeway/Expressway or Interstate
55,000-150,000	Interstate

B. Posted Speed

POSTED SPEED LIMIT (mph)	FUNCTIONAL CLASSIFICATION
0-30	Local or Collector
30-40	Local or Collector
40-50	Minor Arterial or Principal Arterial
50-60	Principal Arterial or Freeway/Expressway or Interstate
> 60	Principal Arterial or Freeway/Expressway or Interstate

C. Access Control

ACCESS CONTROL TYPE	FUNCTIONAL CLASSIFICATION
None	Local or Collector or Minor Arterial
Striped	Minor Arterial or Principal Arterial
Two-Way Left-Turn Lane	Minor Arterial or Principal Arterial
Raised Median	Principal Arterial or Freeway/Expressway
Divided	Freeway/Expressway or Interstate

D. Designation as Truck Route

TRUCK ROUTE STATUS	FUNCTIONAL CLASSIFICATION
No	Local or Collector or Minor Arterial
Yes	Principal Arterial or Freeway/Expressway or Interstate

E. Number of Lanes

NUMBER OF LANES	FUNCTIONAL CLASSIFICATION
2	Local or Collector
3	Collector
4	Collector or Minor Arterial or Principal Arterial or Freeway/Expressway or Interstate
5	Principal Arterial or Freeway/Expressway or Interstate
6	Principal Arterial or Freeway/Expressway or Interstate
7	Freeway/Expressway or Interstate

3. Developed codes to identify which functional classification the roadway would fall into based on each individual analysis variable.
   - Scale of 0-5
   - Created a leveled structure of coding for analysis variables that could cross between a range of functional classifications.
     - Created 0.5 values to represent in between categories: (e.g. A four lane road could be classified as an Interstate, Freeway/Expressway, Principal Arterial, Minor Arterial or Collector therefore different levels of coding were applied to this variable and others where this was this case.)

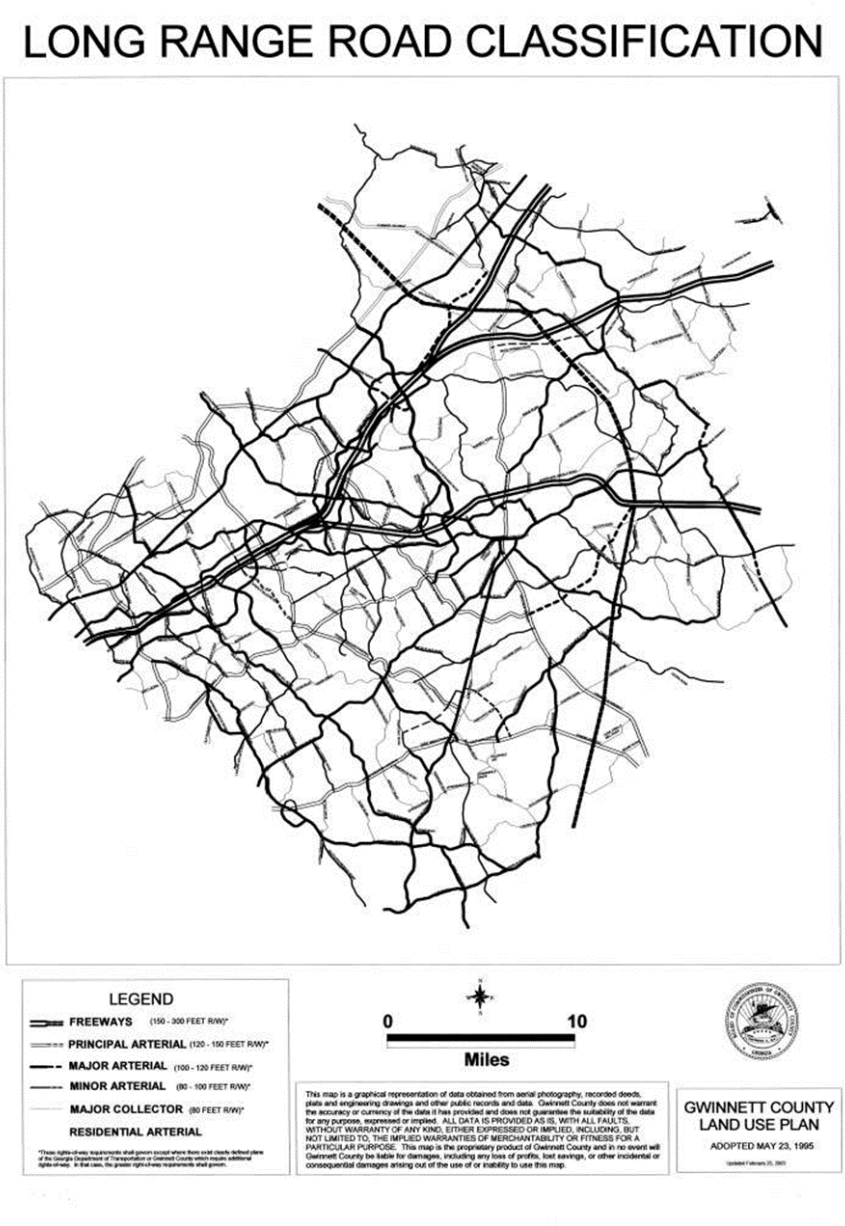
FC XX CODE	FUNCTIONAL CLASSIFICATION
0	Local
0.5	Local + Collector
1	Collector
1.5	Collector + Minor Arterial
2	Minor Arterial
2.5	Minor Arterial + Principal Artery
3	Principal / Major Arterial
3.5	Principal + Freeways / Expressways
4	Freeways / Expressways
4.5	Freeways + Expressways + Interstates
5	Interstate

4. Took the MODE, MEDIAN, AVERAGE and RANGE of all levels of scoring for all analysis variables to determine the proposed functional classification based on the Overall Score.
5. Took the MEDIAN and AVERAGE for the Access, Speed and Truck Route scores, as well as the 2015 ADT and Projected 2040 ADT to determine the proposed functional classification based on the Individual Score.

Review of the Gwinnett Unified Development Ordinance

Unified Development Ordinance Chapter 900 "Infrastructure, Streets, Sidewalks, Multi-Use Paths, Greenways"

The UDO frequently references that roadway improvements must be in accordance with the street classifications as shown on the officially adopted Gwinnett County Long Range Road Classification Map and details requirements for transportation-related land use criteria (p. 136).



Minimum Right-Of-Way for Street Improvements (900-10.2)

Table 900.1. Minimum Right-of-Way and Roadway Widths for New Streets and Project Access Improvements.

Street Category	Minimum Right-Of-Way [1]	Minimum Roadway [2]
Principal Arterial	120' TO 150'	6 through lanes with median
Major Arterial	100' TO 120'	67'
		4 to 6 through lanes with median
Minor Arterial	80' TO 100'	52' TO 66'
		4 through lanes with median
Major Collector	80'	52'
Minor Collector	60' TO 80'	28'
Local Street Non-residential Non-residential Cul-De-Sac	60' [3]	32'
	60' radius	50' radius
Local Street Residential – Urban Residential – Urban Cul-de-sac	50'	27'
	50' radius	40' radius
Local Street Residential – Rural [4] Residential – Rural Cul-de-sac [4]	60' [5]	24' [6]
	60' [5] radius	40' radius

[1] *The greater right-of-way width shall apply under circumstances as described in Section 900-10.2.*
[2] *Roadway width dimensions are back-of-curb to back-of-curb except where noted.*
[3] *Utility easement shall be provided in a location and size as required by the Department of Water Resources.*
[4] *Subdivisions zoned RA-200.*
[5] *May be reduced to 50 feet if curb, gutter, and piped drainage system is provided.*
[6] *Measured to edge of pavement. Curb and gutter is not required in RA-200 subdivision. Roadway width may be reduced to 23 feet if curb and gutter is provided (27 feet total width).*

Requirements of New Streets and Roadways (900-20)

- Local streets shall be laid out so that their use by through traffic will be discouraged. Traffic calming measures for new local streets are required to encourage and maintain maximum vehicle operating speeds of 25 mph. In order to achieve this objective, the maximum length of roadway section between speed control points shall be 500 feet. Such design and construction should be in substantial conformance with the Gwinnett County Department of Transportation Traffic Calming Design Guide for traffic calming measures and requirements.
- Minor collectors shall be provided to channel through traffic movements within a development, where appropriate to the design and a major thoroughfare is not proposed by the officially adopted Gwinnett County Long Range Road Classification Map. Also may be provided as central routes within large residential subdivisions, where appropriate to the design, based on project traffic demands exceeding 2,000 trips per day

Requirements of New Streets and Roadways (900-20)

- No lot shall be created that does not abut for at least 40 feet, except as otherwise noted in Section 230-10, Chapters 210 or 220, upon an open street which shall be either a public street,

a publicly approved street, publicly maintained street, or private street, and except for stormwater facility lots which shall abut for a minimum of 30 feet.

Public Improvements – Streets (210-50.14)

- The street network shall form a connected pattern (grid system), with a minimum of cul-de-sacs which shall be approved by the Director only in cases of topographical hardship
- Street shapes should be varied with loop streets, curving crescents, eyebrows, ovals, and courts providing visual interest and traffic calming effects.

Summary of FHWA Functional Class Criteria (old version)

- Link to FHWA functional class criteria old version:

Table II-1 -- The Hierarchy of functional systems

Rural areas	Urbanized areas	Small Urban areas
Principal arterials Minor arterial roads Collector roads Local roads	Principal arterials Minor arterial streets Collector streets Local streets	Principal arterials Minor arterial strets Collector streets Local streets

http://www.fhwa.dot.gov/planning/processes/statewide/related/functional_classification/fc02.cfm

- Principal Arterials (all categories)
  - Interstates
  - Other Freeways & Expressways = connecting links of non-Interstate rural principal arterials
  - Other Principal Arterials = connecting links of rural minor arterials
- Small Urban Areas
  - Same characteristics as urbanized areas but small urban areas will not generate internal travel warranting urban principal arterial service

Table II-2 -- Guidelines on extent of rural functional systems

	Range	(percent)
System	**VMT**	**Miles**
Principal arterial system	30-55	2-4
Principal arterial plus minor arterial road system	45-75	6-12*
Collector road system	20-35	20-25
Local road system	5-20	65-75

* With most states falling in the 7-10 percent range.

Table II-3 -- Guidelines on extent of urban functional systems

	Range	(percent)
System	**VMT**	**Miles**
Principal arterial system	40-65	5-10
Principal arterial plus minor arterial street systems	65-80	15-25
Collector street system	5-10	5-10
Local street system	10-30	65-80

Summary of FHWA Functional Class Criteria (2013 version)

- In 2013 FHWA updated the old version of their functional class criteria based on an analysis of 2008 HPMS (High Performance Monitoring System) data
- Below is a summary of the new criteria adopted that may be useful for our current study
- Rural States = those with max of 75% population in urban centers

Table 3-5: VMT and Mileage Guidelines by Functional Classifications - Arterials

		Arterials		
	Interstate	**Other Freeways & Expressway**	**Other Principal Arterial**	**Minor Arterial**
Typical Characteristics				
Lane Width	12 feet	11 - 12 feet	11 - 12 feet	10 feet - 12 feet
Inside Shoulder Width	4 feet - 12 feet	0 feet - 6 feet	0 feet	0 feet
Outside Shoulder Width	10 feet - 12 feet	8 feet - 12 feet	8 feet - 12 feet	4 feet - 8 feet
AADT[1] (Rural)	12,000 - 34,000	4,000 - 18,500[2]	2,000 - 8,500[2]	1,500 - 6,000
AADT[1] (Urban)	35,000 - 129,000	13,000 - 55,000[2]	7,000 – 27,000[2]	3,000 - 14,000
Divided/Undivided	Divided	Undivided/Divided	Undivided/Divided	Undivided
Access	Fully Controlled	Partially/Fully Controlled	Partially/Uncontrolled	Uncontrolled
Mileage/VMT Extent (Percentage Ranges)[1]				
Rural System				
Mileage Extent for Rural States[2]	1% - 3%	0% - 2%	2% - 6%	2% - 6%
Mileage Extent for Urban States	1% - 2%	0% - 2%	2% - 5%	3% - 7%
Mileage Extent for All States	1% - 2%	0% - 2%	2% - 6%	3% - 7%
VMT Extent for Rural States[2]	18% - 38%	0% - 7%	15% - 31%	9% - 20%
VMT Extent for Urban States	18% - 34%	0% - 8%	12% - 29%	12% - 19%
VMT Extent for All States	20% - 38%	0% - 8%	14% - 30%	11% - 20%
Urban System				
Mileage Extent for Rural States[2]	1% - 3%	0% - 2%	4% - 9%	7% - 14%
Mileage Extent for Urban States	1% - 2%	0% - 2%	4% - 5%	7% - 12%
Mileage Extent for All States	1% - 3%	0% - 2%	4% - 5%	7% - 14%
VMT Extent for Rural States[2]	17% - 31%	0% - 12%	15% - 33%	14% - 27%
VMT Extent for Urban States	17% - 30%	3% - 18%	17% - 29%	15% - 22%
VMT Extent for All States	17% - 31%	0% - 17%	16% - 31%	14% - 25%
Qualitative Description (Urban)	• Serve major activity centers, highest traffic volume corridors, and longest trip demands • Carry high proportion of total urban travel on minimum of mileage • Interconnect and provide continuity for major rural corridors to accommodate trips entering and leaving urban area and movements through the urban area • Serve demand for intra-area travel between the central business district and outlying residential areas		• Interconnect with and augment the principal arterials • Serve trips of moderate length at a somewhat lower level of travel mobility than principal arterials • Distribute traffic to smaller geographic areas than those served by principal arterials • Provide more land access than principal arterials without penetrating identifiable neighborhoods • Provide urban connections for rural collectors	
Qualitative Description (Rural)	• Serve corridor movements having trip length and travel density characteristics indicative of substantial statewide or interstate travel • Serve all or nearly all urbanized areas and a large majority of urban clusters areas with 25,000 and over population • Provide an integrated network of continuous routes without stub connections (dead ends)		• Link cities and larger towns (and other major destinations such as resorts capable of attracting travel over long distances) and form an integrated network providing interstate and inter-county service • Spaced at intervals, consistent with population density, so that all developed areas within the State are within a reasonable distance of an arterial roadway Provide service to corridors with trip lengths and travel density greater than those served by rural collectors and local roads and with relatively high travel speeds and minimum interference to through movement	

1- *Ranges in this table are derived from 2011 HPMS data.*

2- *For this table, Rural States are defined as those with a maximum of 75 percent of their population in urban centers.*

Table 3-6: VMT and Mileage Guidelines by Functional Classifications – Collectors and Locals

	Collectors		Local
	Major Collector[2]	Minor Collector[2]	
Typical Characteristics			
Lane Width	10 feet - 12 feet	10 - 11 feet	8 feet - 10 feet
Inside Shoulder Width	0 feet	0 feet	0 feet
Outside Shoulder Width	1 feet - 6 feet	1 feet - 4 feet	0 feet - 2 feet
AADT[1] (Rural)	300 - 2,600	150 - 1,110	15 - 400
AADT[1] (Urban)	1,100 - 6,300[2]		80 - 700
Divided/Undivided	Undivided	Undivided	Undivided
Access	Uncontrolled	Uncontrolled	Uncontrolled
Mileage/VMT Extent (Percentage Ranges)[1]			
Rural System			
Mileage Extent for Rural States[3]	8% - 19%	3% - 15%	62% - 74%
Mileage Extent for Urban States	10% - 17%	5% - 13%	66% - 74%
Mileage Extent for All States	9% - 19%	4% - 15%	64% - 75%
VMT Extent for Rural States[3]	10% - 23%	1% - 8%	8% - 23%
VMT Extent for Urban States	12% - 24%	3% - 10%	7% - 20%
VMT Extent for All States	12% - 23%	2% - 9%	8% - 23%
Urban System			
Mileage Extent for Rural States[3]	3% - 16%	3% - 16%[2]	62% - 74%
Mileage Extent for Urban States	7% - 13%	7% - 13%[2]	67% - 76%
Mileage Extent for All States	7% - 15%	7% - 15%[2]	63% - 75%
VMT Extent for Rural States[3]	2% - 13%	2% - 12%[2]	9% - 25%
VMT Extent for Urban States	7% - 13%	7% - 13%[2]	6% - 24%
VMT Extent for All States	5% - 13%	5% - 13%[2]	6% - 25%
Qualitative Description (Urban)	• Serve both land access and traffic circulation in higher density residential, and commercial/industrial areas • Penetrate residential neighborhoods, often for significant distances • Distribute and channel trips between local streets and arterials, usually over a distance of greater than three-quarters of a mile	• Serve both land access and traffic circulation in lower density residential, and commercial/industrial areas • Penetrate residential neighborhoods, often only for a short distance • Distribute and channel trips between local streets and arterials, usually over a distance of less than three-quarters of a mile	• Provide direct access to adjacent land • Provide access to higher systems • Carry no through traffic movement
Qualitative Description (Rural)	• Provide service to any county seat not on an arterial route, to the larger towns not directly served by the higher systems, and to other traffic generators of equivalent intra-county importance such as consolidated schools, shipping points, county parks, important mining and agricultural areas • Link these places with nearby larger towns and cities or with arterial routes • Serve the most important intra-county travel corridors	• Be spaced at intervals, consistent with population density, to collect traffic from local roads and bring all developed areas within reasonable distance of a minor collector • Provide service to smaller communities not served by a higher classification facility • Link locally important traffic generators with their rural hinterlands	• Serve primarily to provide access to adjacent land • Provide service to travel over short distances as compared to higher classification categories • Constitute the mileage not classified as part of the arterial and collectors systems

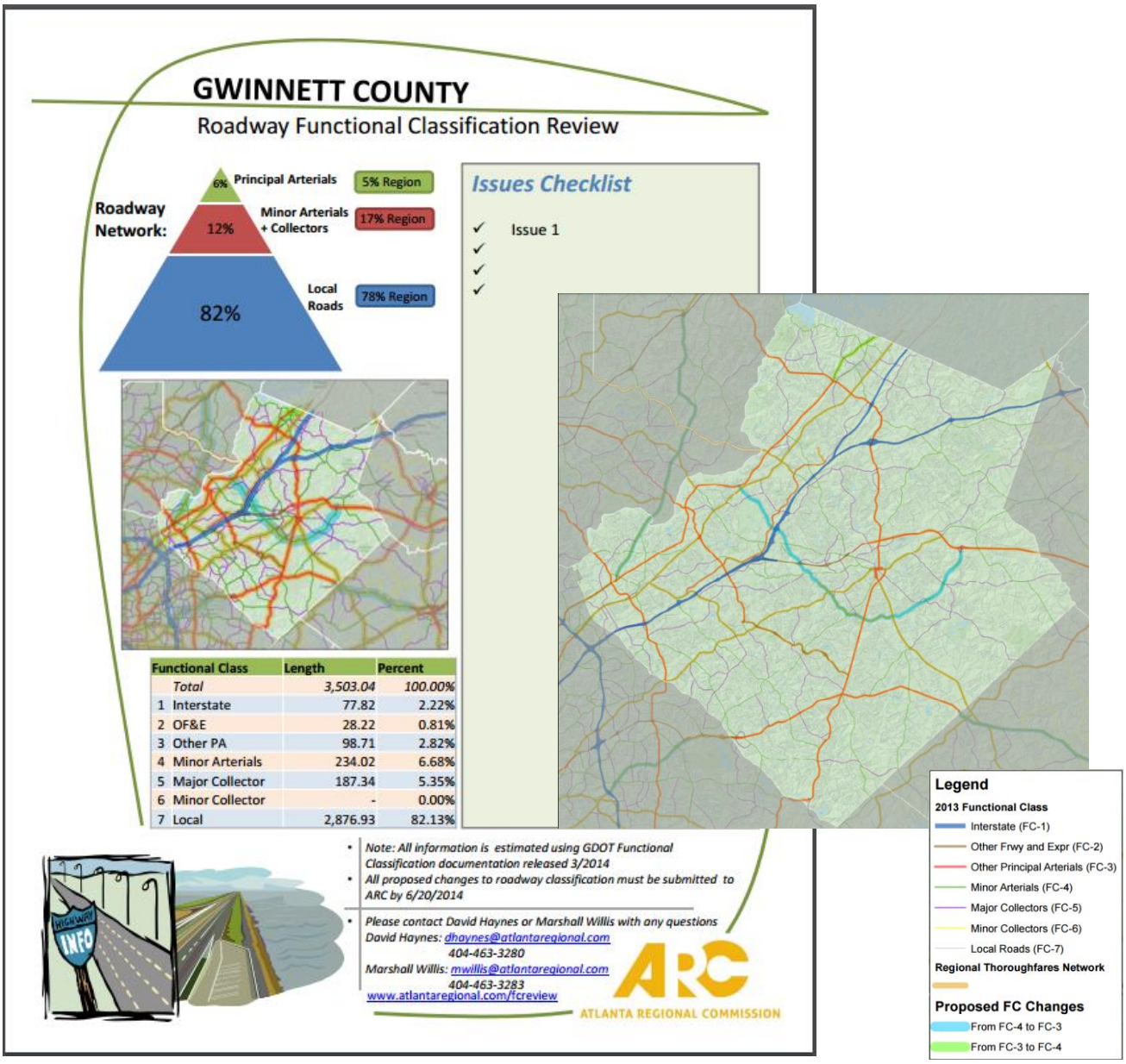
1- *Ranges in this table are derived from 2011 HPMS data.*

2- *Information for Urban Major and Minor Collectors is approximate, based on a small number of States reporting.*

3- *For this table, Rural States are defined as those with a maximum of 75 percent of their population in urban centers.*

GDOT/ARC Functional Re-Classification Review

- In 2014-2015 ARC and GDOT partnered to update the region's functional classifications due to the US Census Bureau's designation of Urban Areas and ARC's Board adoption of Atlanta's new Urban Area Boundary in 2013
    - Source: http://www.atlantaregional.com/about-us/board--committees/transportation-coordinating/functional-classification-review
- Fact Sheet used by ARC during the reclassification process is below
- Proposed edits to the Gwinnett County FC system reflected in ARC Gwinnett County FC Review map below (these edits were approved and are reflected in the current Gwinnett County GIS files)



TRAVEL DEMAND MODEL CRITERIA

Prioritization Criteria

Most new roadway projects or roadway capacity projects were prioritized using output from the Transportation Demand Model (TDM). These projects are measured on two metrics: Change in Zonal Volume to Capacity Ratio and Roadway Travel Time Index.

Change in Zonal Volume to Capacity Ratio

The first metric quantitatively measures the effect a project has on the roadway network around it. First an influence zone is created for each project – around widening projects, these zones are simply half a mile around the project; for new roadways (including new interchanges) these zones include the major roadways closest to the new facility in every direction.

Within each zone, the average Volume to Capacity ratio (V/C) is calculated in a No-Build scenario and in the appropriate Build Scenario (Level 1, Level 1+2, or Level 1+2+3). V/C ratios are a common metric used to measure congestion. Lower values indicate less congested roadways, while higher values indicate more congested roadways.

The net change in this average V/C ratio is then used as a prioritization metric. The larger, more negative change observed (indicating a reduction in the amount of congestion in the area around the project), the higher the projects priority.

Roadway Travel Time Index

The second metric measures how congested the project roadway itself is, after the improvement is complete. The TDM calculates the amount of time it would take to travel down each roadway segment if there was no traffic on the roadway, called Free-flow Travel Time. The TDM also calculates the estimated amount of time it would take to travel down each roadway segment in traffic, called Congested Travel Time. Based on these two factors, the Travel Time Index is calculated by dividing Congested Travel Time by Free-flow Travel Time. The Travel Time Index quantitatively describes how well a roadway performs – higher values indicate slower travel and more congestion while lower values indicate freer travel and less congestion.

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