

THE REGION'S PLAN



TRANSPORTATION ASSESSMENT

April 2015

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PHOTOS ON THE COVER:

1. MARTA TRAIN
2. Heels on Wheels Cyclists in Downtown Atlanta- Cameron Adams via Flickr

RENDERING ON THIS PAGE:

1. Image of the Atlanta BeltLine by Perkins + Will

INTRODUCTION

EVERYBODY IS AN EXPERT ON TRANSPORTATION

When it comes to how well the region's roads and transit services operate, individual perceptions are based on a narrow range of interactions with the system. If you commute by car from Rockdale County to the Northlake area for a 9 to 5 weekday job, your travel experiences are different from an older adult in Cobb County who relies on transit services to get to the grocery store or to meet friends for an evening at the theatre. The commuter from Rockdale County probably has an excellent grasp of traffic patterns along I-20 East and the eastern part of I-285 on weekday mornings and evenings. But how familiar is she with I-75 South through Henry County during a Spring Break weekend? Or how a disabled person living and working near her manages to make the same commute on a daily basis? And when shopping for fruits and vegetables at the local grocery store, how well does the Cobb County senior citizen appreciate the congestion challenges faced by the truck driver whose livelihood depends on getting those perishable items delivered on time?

With a region as large as ours, it's impossible for any single person to have a firm grasp of how well (or poorly) every roadway is functioning at all times of the day and how that might vary from day to day over the course of the year. Impressions are often shaped by the worst experiences, not the typical uneventful interactions. People stranded on a freeway during Snowpocalypse 2014 will remember that event much more vividly than the speed limit ride home they may have enjoyed a week later. A MARTA rider may notice about the delays caused by track maintenance on a Sunday afternoon, but may not think twice when the bus picks him up at the stop - right on schedule - each weekday morning.

None of these points should be perceived as trivializing the importance of individual experiences. These experiences are critical to understanding how the system operates and where the region needs to focus its energy on making improvements. We must find a way to aggregate those experiences, ensure a broad spectrum of viewpoints are represented, and put the failures and shortcomings into the proper context by objectively assessing what works as it should and what doesn't.



Which of these trips on the Connector through downtown would you remember more? But which actually occurs more frequently?

The purpose of this document is to step back from our own limited perspectives and provide higher level information that gives a more complete picture. There is a lot to be proud of in the Atlanta region with respect to the transportation system and the role it plays in making lives better and supporting the economy. However, there is significant room for improvement in several areas. This assessment examines both the assets and weaknesses so that policy officials can establish priorities and a baseline for moving forward. This understanding is essential to developing the Regional Transportation Plan (RTP). The RTP forms the transportation element of The Region's Plan, an effort scheduled for completion by March 2016.



Before exploring how the system is performing, it's helpful to define the term "Atlanta region" and share some basic information on how it's changing. Addressing today's challenges is only part of the puzzle. Because transportation investments can sometimes take many years, if not decades, to complete, the plan must ensure that the solutions identified are addressing tomorrow's challenges as well. A transportation project which makes sense today may not be the most effective approach to meet the needs of the region's citizens in 2030 or 2040.

WHAT IS THE ATLANTA REGIONAL COMMISSION AND WHAT ARE ITS BOUNDARIES?

ARC is the regional planning and intergovernmental coordination agency created by the local governments in the Atlanta region pursuant to legislation passed by the Georgia General Assembly. ARC is the forum through which officials in the Atlanta region confer to solve mutual problems and decide issues of regionwide importance. ARC engages in a continuous program of research, study, and planning of matters affecting the Atlanta region. As an area of greater than 1,000,000 population, ARC has authority under state laws as a Metropolitan Area Planning and Development Commission (O.C.G.A. 50-8-80).

In addition to being the official planning agency under state law for the 10-county region, ARC is also the transportation planning agency for a 19 county area the Atlanta region under federal law as the designated Metropolitan Planning Organization (MPO). In support of planning for transportation, ARC must develop a long-range forecast for population and households to ensure transportation activities are consistent with efforts to improve air quality. ARC also provides planning staff to the 15-county Metropolitan North Georgia Water Planning District (MNGWPD), whose mission is to develop comprehensive regional and watershed-specific water resources plans for implementation by local governments. ARC serves as the administrative agency for the 7-county Atlanta Regional Workforce Board (ARWB). Aging services and policy guidance are provided by ARC as the Area Agency on Aging (AAA). These boundaries are all depicted on the map on the following page [Map 1.1].

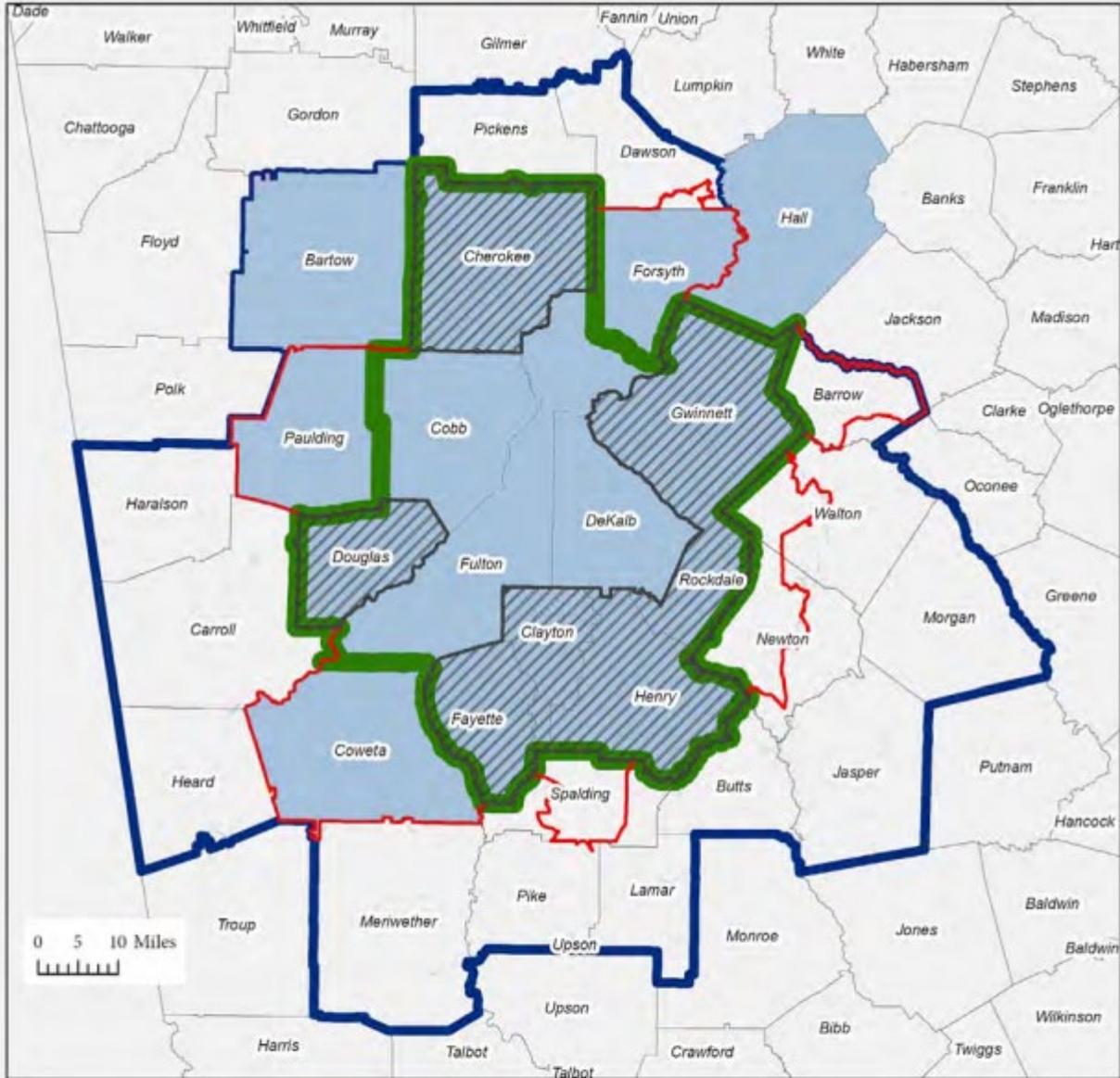
Information contained in this transportation assessment deals primarily with the 19-county MPO area. This boundary changed recently as a result of the 2010 United States Census results, so some data compiled prior to this revision will reflect the previous 18-county transportation planning area. A portion of Bartow County was previously included in the Atlanta MPO area, but the county has since formed its own MPO and is now responsible for all planning activities within its boundary. This reduction in Atlanta's MPO area was offset by the addition of parts of Dawson County and Pike County to the region.

In addition to data consistency challenges posed by a shifting MPO boundary, some analyses were conducted on the larger 20-county air quality region. This region does not include Dawson County and Pike County, but does include Bartow County, Carroll County, and Hall County. Even this boundary is subject to change in the near future as air quality standards and non-attainment areas are redefined by the U.S. Environmental Protection Agency.



We all know these boundaries are confusing, so if you have any questions about the geography used for various data in this assessment, please let us know and we'll do our best to explain it.

MAP 1.1. THE DIFFERENT DEFINITIONS OF THE ATLANTA METRO AREA



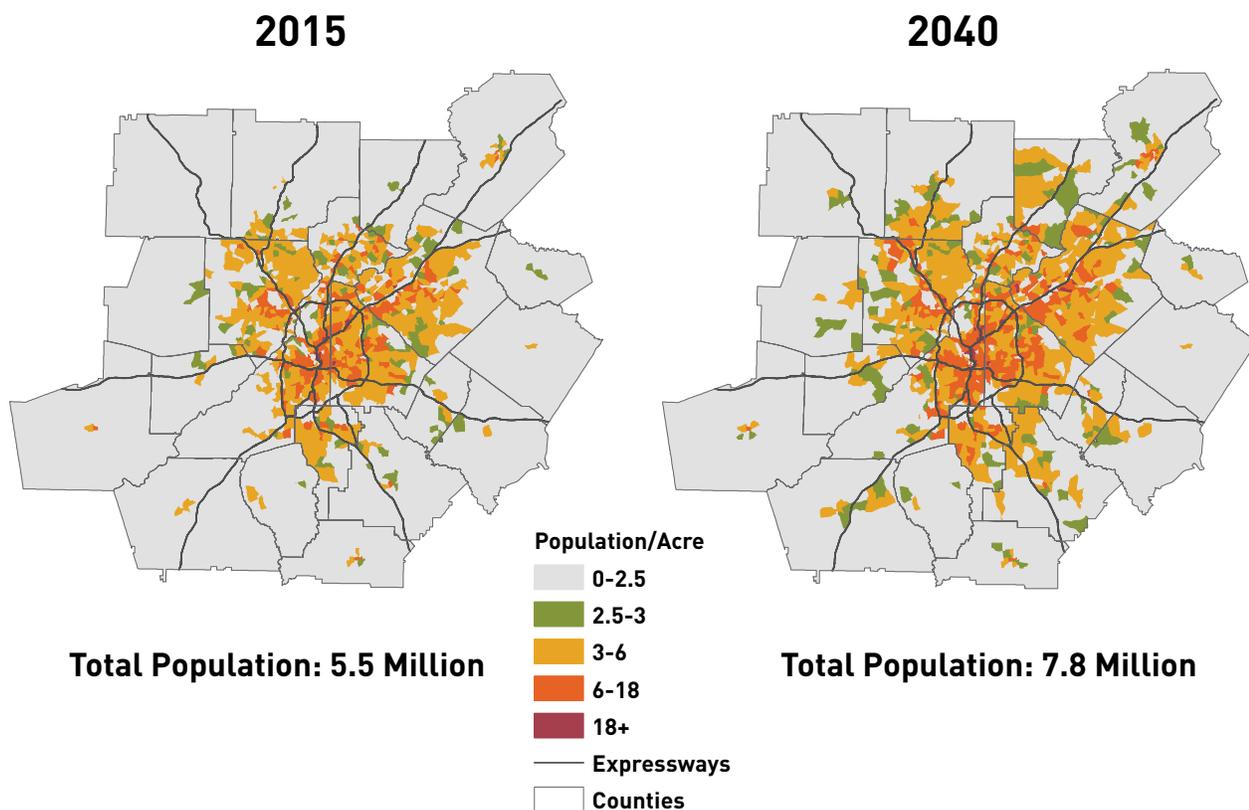
Learn more about ARC at:

www.atlantaregional.com/aboutus

THE REGION HAS CHANGED SIGNIFICANTLY IN RECENT YEARS AND MORE CHANGE IS ON THE WAY.

The Atlanta region today is home 5.5 million people. Over the next 25 years, we’re expecting to welcome another 2.3 million neighbors. Today, that works out to about 860 people for each square mile of land. In the future, each square mile will be home to about 1,200 people. While that sounds like a lot, it’s equivalent to each man, woman and child living in a house on a plot of land slightly less than ½ acre. By the standards of many metro areas around the country, and especially when compared to many other areas in the world, the Atlanta region currently is and will continue to be a low density metro area.

MAP 1.2. CHANGE IN POPULATION PER ACRE

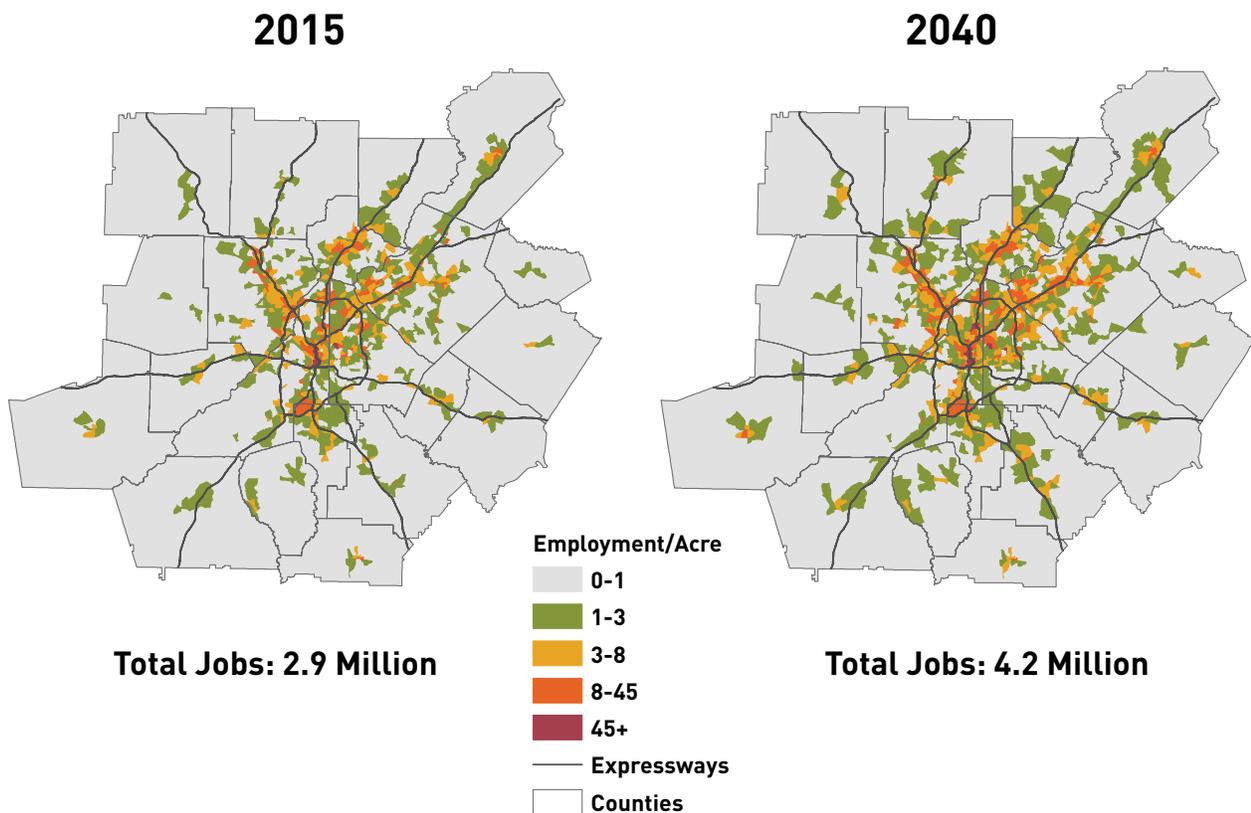


These new residents will not be spread evenly across the entire region. While most of the region’s housing will continue to be located in lower density suburban areas and those densities will likely not change substantially, major commercial and business centers are expected to see a significant residential component emerge. Areas around rail stations will draw a greater share of this growth than what was experienced in previous decades. This trend is already evident in Perimeter Center, which has grown from a traditional suburban commercial and business center into a thriving mixed-use community which thousands of people call home. This trend can also be seen along the Atlanta BeltLine’s Eastside Trail, where billions of dollars of investments has occurred in a corridor where transit service is still in the planning stages. Providing a variety of ways to travel to, from, within and along these densifying areas and corridors must be a priority for the region.

2.3 MILLION NEW PEOPLE WILL NEED TO GET TO JOBS AND OTHER DESTINATIONS.

Job growth will also rise roughly in proportion with the number of new residents. From about 2.9 million jobs today, the region will grow to over 4.2 million jobs by 2040. Jobs tend to be more concentrated than housing units with just a handful of major centers around the region comprising the bulk. Employment opportunities are forecast to cluster in familiar locations such as Downtown, Midtown, Buckhead, Perimeter Center, Cumberland/Galleria and Hartsfield-Jackson Airport. Most of these current centers are along or within I-285. The region is forecast to see greater density in suburban communities, such as southern Gwinnett County, northern Fulton County and central Henry County. The region must be making plans and defining projects to address congestion and expand travel options in such areas today - not waiting until the growth has already happened.

MAP 1.3. CHANGE IN NUMBER OF JOBS PER ACRE



While an emphasis area in recent years has been focused on relieving congestion during morning and evening weekday commute periods, only about 1 in 7 trips made in the region are directly related to getting to and from a job. The vast majority of the trips made involve activities such as going to lunch, running errands in the evening, or traveling to activities with friends and family over the weekend. For example, the primary concern of a student is likely to be getting to their classrooms and training facilities on time and cost effectively. Senior citizens may be most concerned in getting to a doctor's appointment or to a social engagement that keeps them mentally and physically active.

These types of trips often encounter congestion and accessibility challenges just as significant and complex as those experienced by a commuter trying to get to and from a major employment center. A 21st century transportation system must accommodate every kind of trip. For the Atlanta region to lure a new Fortune 500 company headquarters, to serve as a beacon for the best and brightest of the Millennial generation, and to be the type of place to live out your golden years, we must ensure that the transportation dialogue is broadened to address the issues facing all travelers at all times of day.



Learn more about the demographics of Atlanta region and these are changing at:

www.atlantaregional.com/info-center/arc-region

www.weaveatlanta.org

www.neighborhoodnexus.org

KNOWING WHERE TRIPS BEGIN AND END IS EASY. IT'S UNDERSTANDING HOW PEOPLE GET BETWEEN THOSE POINTS THAT'S A CHALLENGE.

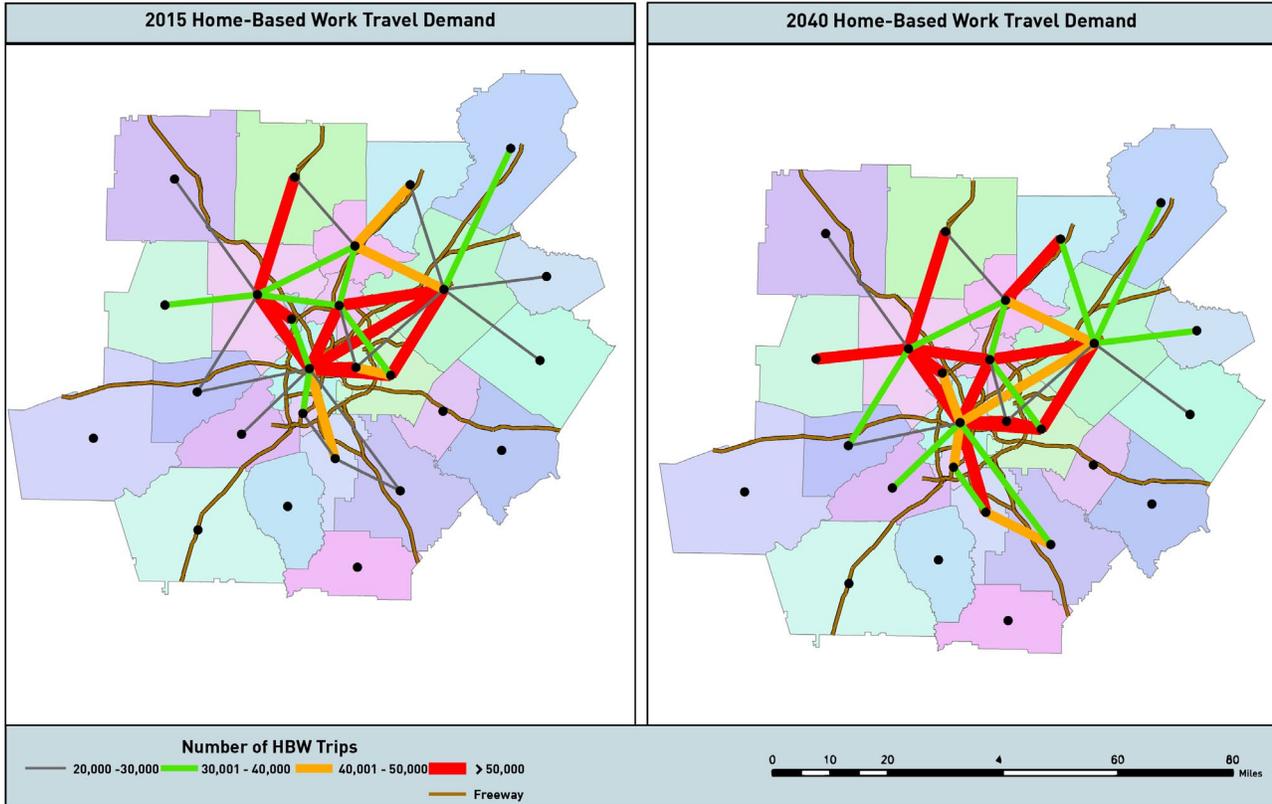
The U.S. census, housing permits, and private sector data can tell us a lot about where people live and work. But understanding how people and goods move between those points requires analysis, which is where ARC and its planning partners add value. These agencies rely on sophisticated models, real-time data aggregated from cellular phone use in determining travel speeds, and numerous other tools and sources to determine the underlying travel patterns.

What time do people leave for work? Do they drive alone, carpool or take transit? If they drive, what roads do they take? If they take the train or a GRTA Xpress bus, how do they get to the nearest station or park and ride lot? How many people rely on walking or riding a bicycle to get around for short trips?

These are just a few of the questions which must be answered in order to make rational recommendations on what improvements are needed.

The following maps illustrate the number of trips between home and the workplace being made across county lines today and in the year 2040, estimated using ARC's regional travel demand model.

MAP 1.4. 2015 AND 2040 HOME-BASED WORK TRAVEL DEMAND



These maps provide insight on relative travel patterns and how these shift over time. The increase in many suburb-to-suburb movements emphasize a well-known fact - not all people work in one of the traditional job centers near the center of the region. The region's trip patterns are dispersed and form a hub-and-spoke transportation network. These travel patterns also illustrate that large numbers of people are traveling long distances across county lines for work. While many transportation needs can be addressed by a local community, the region's economy is dependent on the ability of employees to move easily across jurisdictions. Every community has a stake in ensuring that the entire freeway, major highway and regional transit network are complementary and operate at the highest level possible.

Understanding commuting patterns has been, and will continue to be, an important element driving transportation policy decisions. However, it cannot be the only driver. Just as commuters frequently cross city and county boundaries to get to jobs, many other trips are also cross-jurisdictional in nature. The new Falcons stadium in downtown Atlanta and the new Braves stadium in Cobb County will draw visitors from all parts of the region and beyond. Likewise with festivals such as Tomorrow World in southern Fulton County and the Yellow Daisy Festival at Stone Mountain Park in DeKalb County.



The transportation needs of every single resident of the region are unique and should be given proper consideration in the planning process.

Travelers often pass right by the closest store to our house and drive a few extra miles to a different one which has a better selection or better prices. Proper consideration must be given to making sure the transport network works well for the freight industry so these goods are able to make their way to store shelves. Travel patterns are regional in nature, and the strategies and solutions the region implements must recognize this.

HOW IS THE INFORMATION IN THIS ASSESSMENT ORGANIZED?

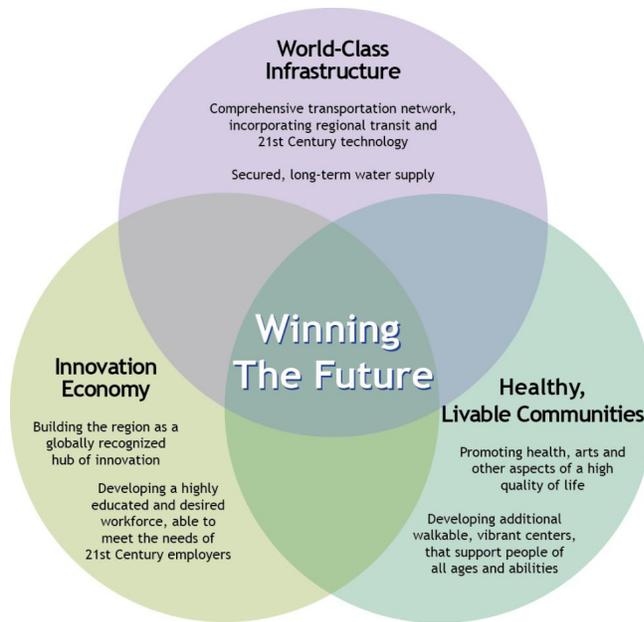


FIGURE 1.1 ARC Aspirational Vision Statements

In June 2014, the ARC Board defined six aspirational vision statements that The Region’s Plan and related initiatives will accomplish. The six statements are organized into three high level outcomes: 1) World-Class Infrastructure, 2) Innovation Economy, and 3) Healthy, Livable Communities.

While only one of these six statements would, at first glance, appear to relate directly to transportation, all six are in fact deeply related to each other and all are essential if the Atlanta region hopes to build on its accomplishments and continue to be successful through the remainder of the 21st century. The intertwined relationships are explored through the next three sections of this assessment, with each section tackling the question of how well the transportation system is supporting one of the three high level outcomes. In addition, various regional initiatives already in place are discussed.

In each section, this assessment provides a variety of data to support drawing conclusions and observations. Several of these key findings, or policy questions they raise, are highlighted throughout the document to assist the reader who wants to “get right to the point”. The data presented are not intended to be exhaustive, but rather to give the reader a general understanding of the issues and how various elements of the region’s transportation system are performing.

Federal law requires that regional transportation plans consider eight planning factors, so the data and maps included in this assessment were selected to ensure that all factors were being addressed within the context of the three defined outcomes presented above.

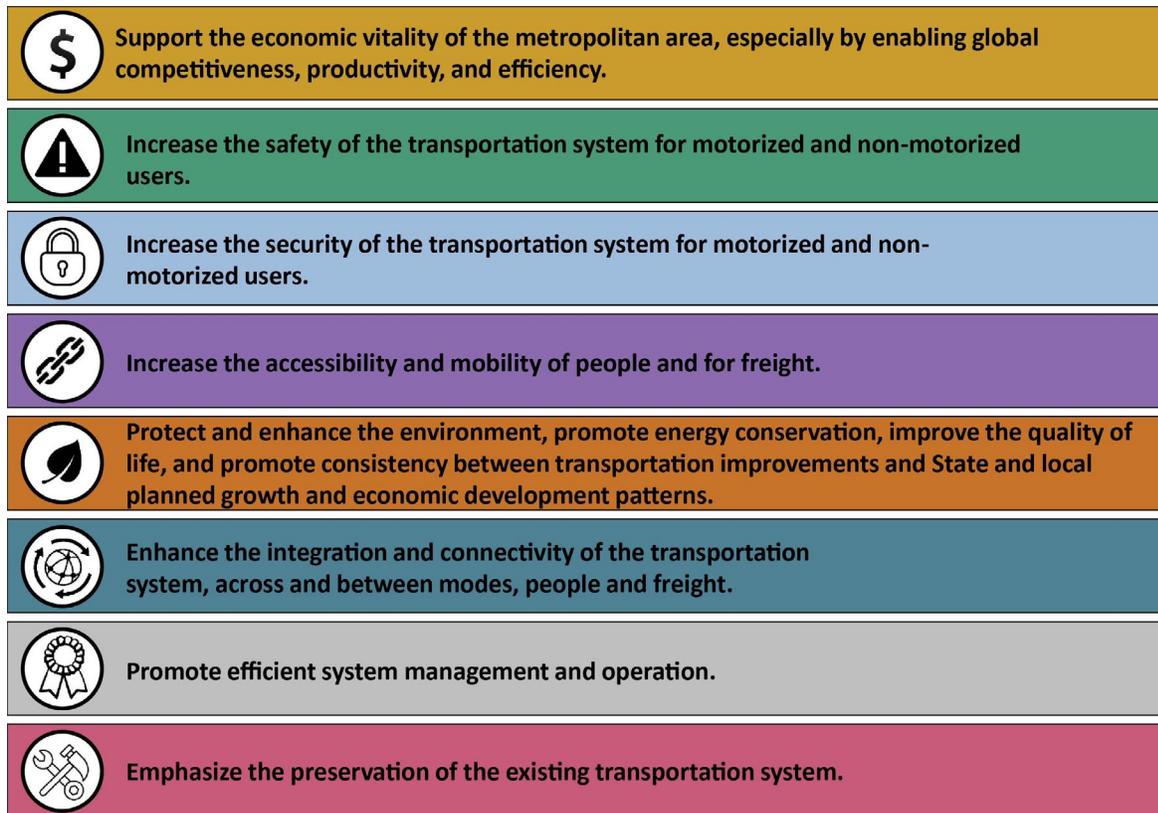


FIGURE 1.2 FEDERAL POLICY - 8 PLANNING FACTORS

This baseline analysis will be coupled with ongoing work investigating a variety of possible future conditions, identifying where data would support investment but no projects are currently planned, and exploring the richness of real-time "Big Data" which technology has recently produced. Additional data and information will be prepared and reviewed with stakeholders throughout the plan development process. New findings will be continuously integrated into this assessment, transforming it into a "living" document so that it remains as up-to-date and useful as possible. This iterative process will help ensure that discussions about potential solutions with the public and policy officials are forward thinking, proactive and supported by the best information and data available.

Other elements of the region's aspirational vision statements are addressed in the Regional Assessment / Introduction to The Region's Plan, a separate planning document required by state law. That document was completed in conjunction with this more in-depth analysis of transportation conditions. These two assessments provide a foundation for beginning the task of weighing the benefits and cost of various projects and programs and moving ahead with those offering the greatest opportunity for the Atlanta region and its people and businesses to achieve their full potential.

The final section of this assessment consolidates findings and observations into five overarching conclusions about how well our transportation network supports the region's vision for the future. The conclu-

sions are presented as “call to action” statements, each supported by additional qualitative and anecdotal evidence that digs beneath the data and explains the importance of the issue in everyday terms. Questions are posed related to each of the issues to begin the conversation.



Learn more about the Regional Plan at:

www.atlantaregional.com/the-regional-plan/get-informed

HOW WILL NEW INFORMATION BE INCORPORATED INTO THIS ASSESSMENT?

There is never a point in time at which all possible information and data has been collected, analyzed and documented in a manner that can be thoroughly integrated into the plan development process. Rather, new and updated information is constantly becoming available and the planning process must be nimble and integrate new data to the greatest extent possible. This assessment is intended to be a living document that is refreshed regularly in order to support not the only current plan update, but also all future updates and other related planning initiatives:

- **Transit propensity analysis** – The likelihood that residents of certain neighborhoods will be more dependent on public transportation services, either by choice or out of necessity, is being analyzed based on socio-economic and demographic data. Key findings of this analysis will be added to Section 4.
- **Network gap assessment** – The relationship between identified safety and congestion needs and existing projects in the RTP will be added to Section 2. Identifying these unmet needs will permit a more focused discussion on potential new investments to consider for the plan.
- **MetroQuest survey results** – As part of the plan development process, ARC will conduct a series of three online surveys. The first was completed in September 2014 and the results were documented in a report posted to the ARC website. The second survey will be complete in March 2015, while the third and final survey be completed in the summer of 2015. The surveys deal more with public perceptions and opinions regarding the transportation system, rather than the actual performance of the network.
- **Alternative futures analysis** – With rapid changes in society and technology, determining what improvements will be needed to meet mobility needs 20+ years into the future is an enormous challenge. The Region’s Plan attempts to address emerging trends to the extent possible. However, the magnitude of changes to how, when and where we will travel are difficult to quantify. ARC is currently investigating three possible “game changer” scenarios to help inform future plan



updates: 1) widespread adoption of autonomous vehicles; 2) increased dependence on data and services available through other technological advances; and 3) a more equitable distribution of jobs in major centers throughout the region.

- **Federal rulemaking** – USDOT is in the process of issuing rules on how to interpret the mandates of MAP-21, the most recent federal transportation legislation. These rules will establish performance measures related to safety, infrastructure condition and traffic congestion that must be used by MPOs across the country in development of their transportation plans. While ARC believes that the contents of this assessment adequately cover the metrics likely to be identified in the final rules, ARC will monitor the process closely throughout 2015 to ensure that the data and information used in the plan update are consistent with federal expectations. Various sections of this document will be revised as necessary as final rules are issued.



Look for a call-out box like this at the end of many sections with information on where you can find more information on that topic.

DOES THE REGION HAVE WORLD CLASS INFRASTRUCTURE?

This section provides an overview of metro Atlanta’s existing transportation infrastructure inventory, its condition, and travel demand performance. Many would consider Atlanta’s transportation infrastructure to be world class in its existing form. As is the case for every major city around the world, there is always the need to improve and expand the system in order to sustain and enhance the economy.

The list of Atlanta’s world renowned transportation infrastructure is impressive, including Hartsfield-Jackson Atlanta International Airport, the freeway system, and the Metropolitan Atlanta Rapid Transit Authority (MARTA) heavy-rail system.

This section will also assist planners and elected officials in determining objectives and targets for future transportation investment. A comprehensive understanding of the existing infrastructure is paramount towards developing strategies that help preserve and expand the infrastructure. This section does not evaluate individual infrastructure assets; rather it provides a system-level approach that should help provide the context needed for identifying corresponding investment strategies.



We're in a global competition for jobs and talent. To be a world class region it requires world class infrastructure.

WHEN WE TALK ABOUT THE TRANSPORTATION “SYSTEM”, WHAT DOES THAT MEAN?

To make sense of it all, it’s helpful to present the system as a set of inter-related facilities or networks. Many of the elements discussed in the following sections are not mutually exclusive, but they are distinct and have unique characteristics and issues.

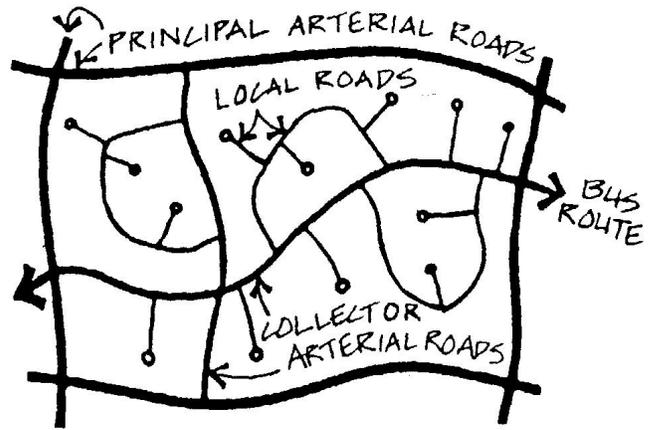
FUNCTIONAL CLASSIFICATION

The functional classification system is a hierarchy of roadway classes that helps determine how a particular roadway segment is designed, built, and maintained. The classification assigned to a roadway depends on the character of travel that currently exists and what other roads and destinations the roadway is connected to. While the Federal Highway Administration has already prescribed the classification scheme, it is up to state DOTs, MPOs, and local governments to collaborate on applying the scheme to their existing roadway networks.

The functional classification for the entire roadway network is reevaluated and updated after each decennial census. The Atlanta regional update is currently in progress, with principal arterials being updated in August 2014. Minor arterials and collectors will be subsequently updated in 2015. The following are the functional classes (in order of significance):

- Principal Arterial
 - Interstate
 - Other Freeways and Expressways

- Other
- Minor Arterial
- Collector
 - Major Collector
 - Minor Collector
- Local Roads.



Roadways can serve two main travel purposes: (1) access to land property, and (2) travel mobility. Although roads often serve both purposes, the road’s primary purpose is what usually defines its classification. Other considerations that determine a road’s classification include:

- Access control (e.g., number of intersections or adjacent access points);
- Proximity of the road to residential, commercial, or civic districts;
- Speed limit;
- Spacing between roadways;
- Average annual daily traffic (AADT)
- Facilitation of other modes of travel (e.g., mass transit service, heavy trucks, and bicycle or pedestrian facilities).

MAP 2.1. METRO ATLANTA FUNCTIONAL CLASSIFICATION SYSTEM

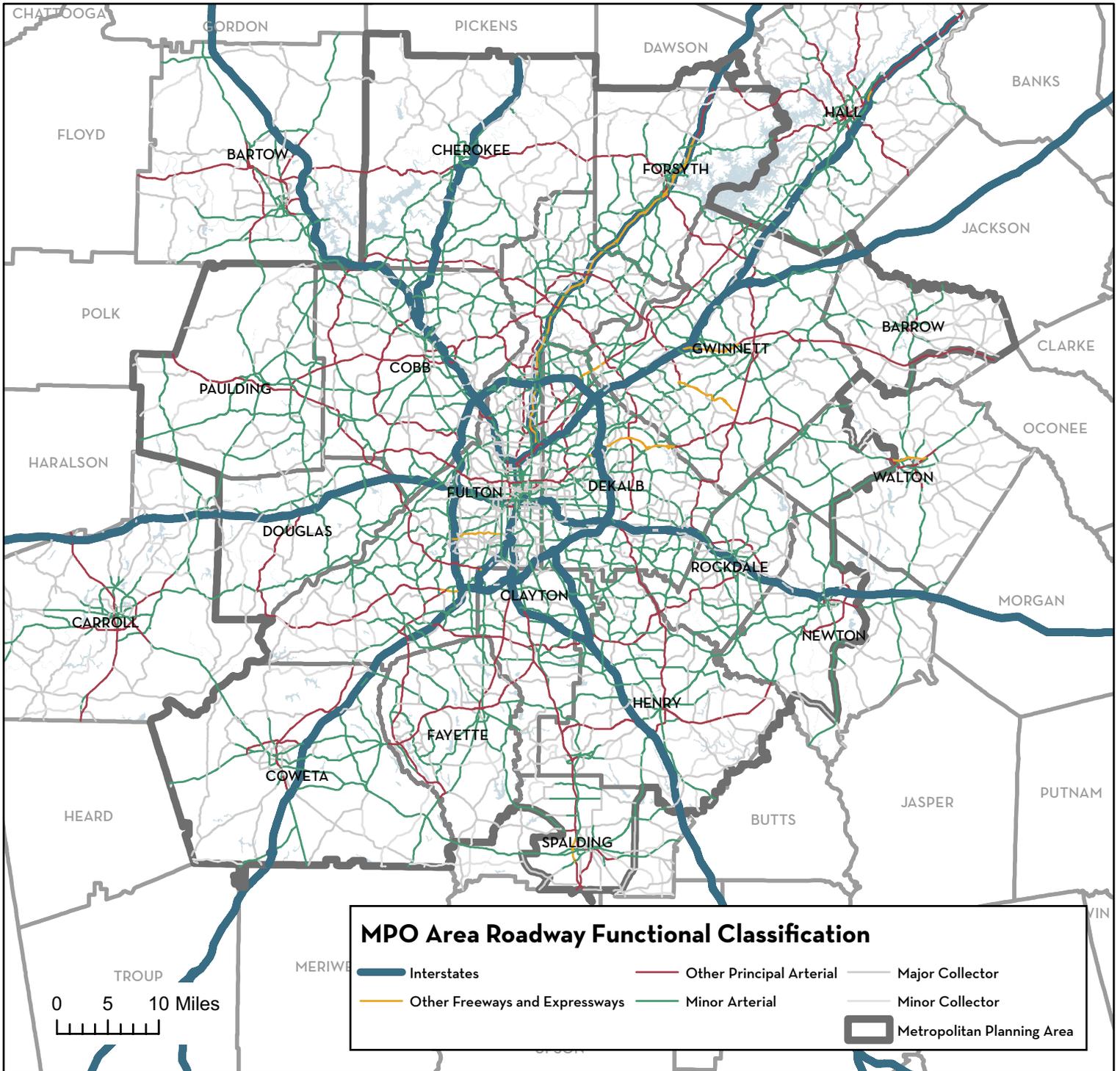


FIGURE 2.1 Roadway Mileage by Functional Classification (2013)

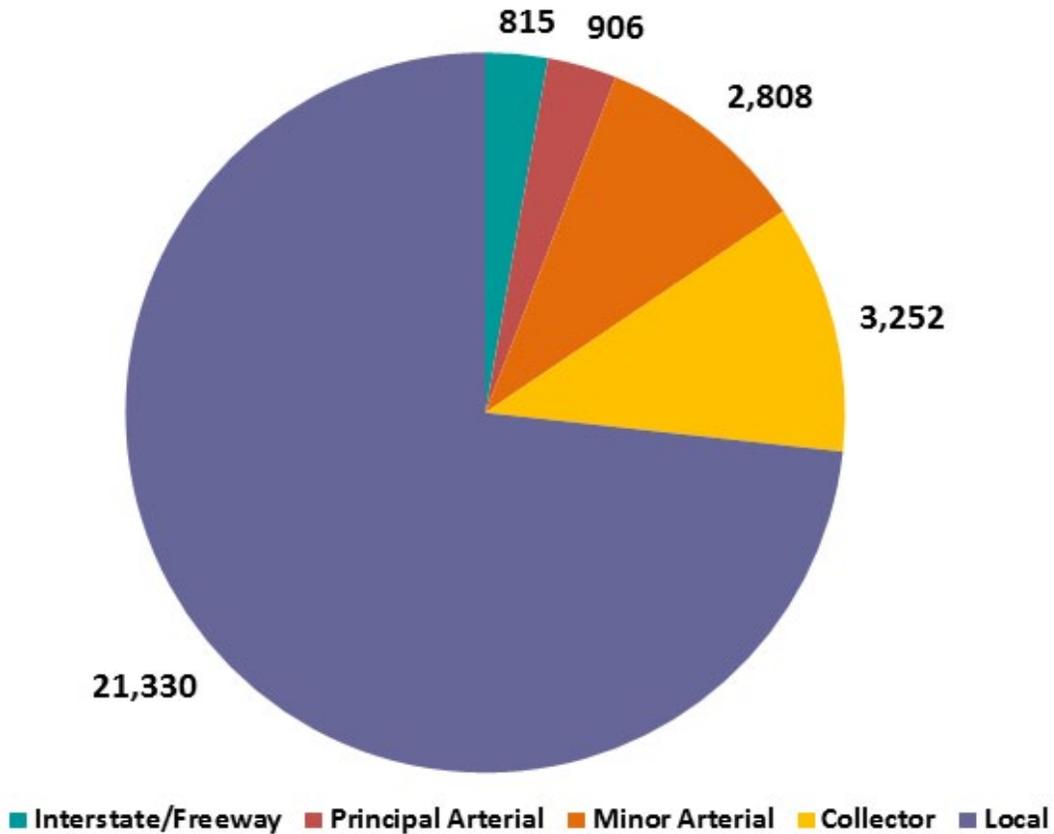


TABLE 2.1 PERCENTAGE OF ROADWAY MILEAGE BY CLASSIFICATION (2007 AND 2013)

Functional Classification	2007 Percent of Total Mileage	2013 Percent of Total Mileage
Interstate/Freeway	2%	3%
Principal Arterial	3%	3%
Minor Arterial	9%	10%
Collector	10%	11%
Local	76%	73%

The 2013 distribution percentages by classification are consistent with FHWA Highway Functional Classification Guidelines.¹ Below is an excerpt from the FHWA Highway Functional Classification: Concepts, Criteria and Procedures (2013) document sharing guidelines.

¹ FHWA Highway Functional Classification: Concepts, Criteria, and Procedures (2013 Edition), p. 22; http://www.fhwa.dot.gov/planning/processes/statewide/related/highway_functional_classifications/fcauab.pdf.

TABLE 2.2 FHWA MILEAGE GUIDELINES BY FUNCTIONAL CLASSIFICATION FOR URBAN STATES

Interstates	Other Free-ways & Ex-pressways	Other Principal Arterials	Minor Arterials	Major Col-lectors	Minor Col-lectors	Local Roads
1% - 2%	0% - 2%	4% - 5%	7% - 12%	7% - 13%	7% - 13%	67% - 76%

The overall change in distribution of centerline mileage among the functional classes between the 2007 and 2013 data is very minor. Local streets are usually the classification that continues to expand over time, as new subdivisions and localized street networks are implemented throughout the Atlanta region. The interstate/freeway percentage increased slightly, primarily due to the shift of approximately fifty (50) square miles from the Atlanta metropolitan planning area to the new Cartersville / Bartow County MPO. The roadways shifted out of the Atlanta area were primarily collectors and local streets.



Learn more about the how the region classifies its roadway system at:

www.atlantaregional.com/fcreview

ENHANCED NATIONAL HIGHWAY SYSTEM (NHS)

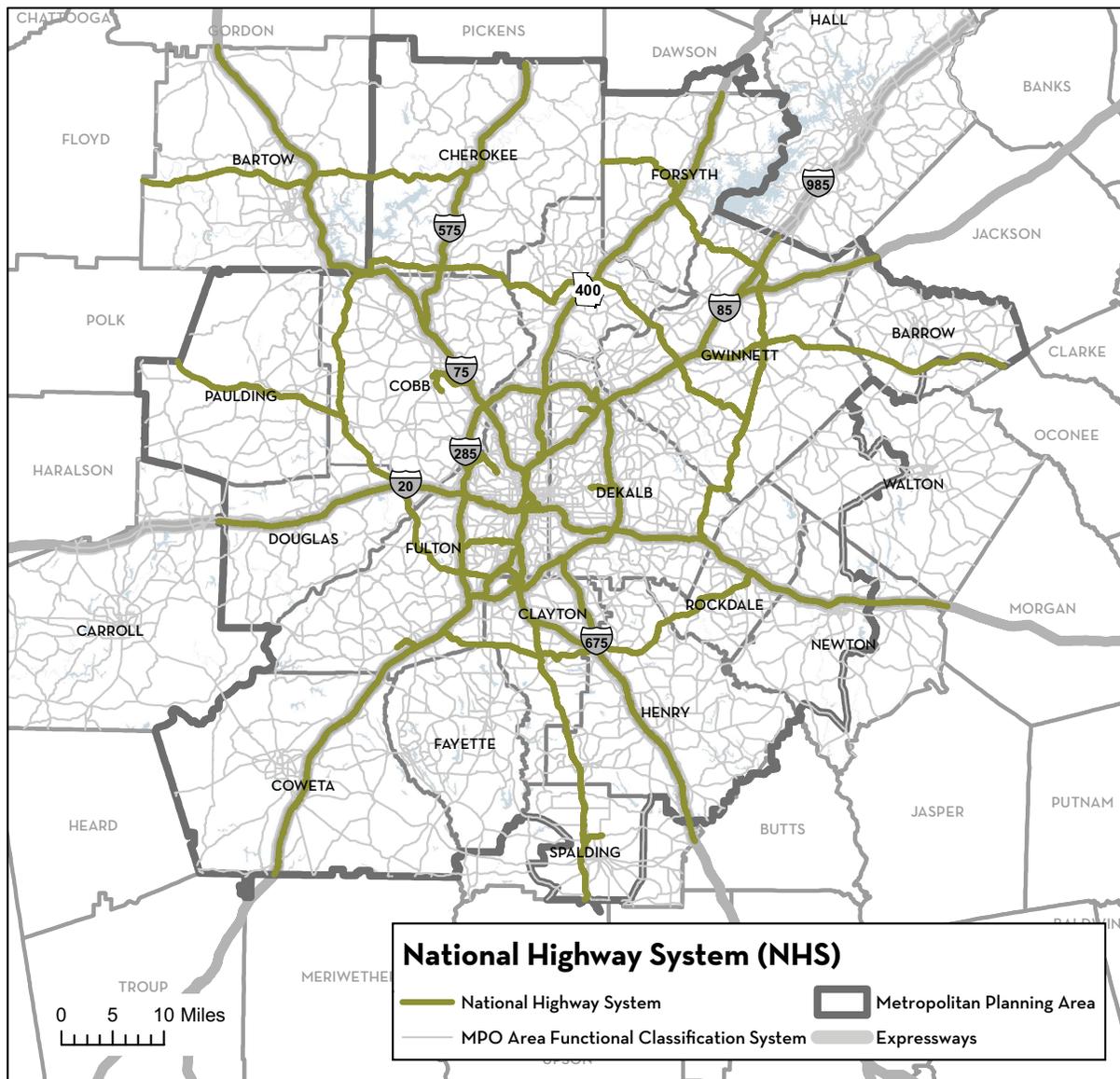
Pursuant to MAP-21 (the nation’s current surface transportation legislation), the enhanced National Highway System (NHS) must now include any facility that is designated as a principal arterial. The enhanced NHS is composed of approximately 220,000 miles of rural and urban roads serving major population centers, international border crossings, intermodal transportation facilities, and major travel destinations throughout the Nation. Each state makes a determination of which roadway facilities belong on the NHS, provided that they meet the NHS guidelines below:

- The **Interstate System**;
- All **principal arterials** (including those not previously designated as part of the NHS, prior to September 2012);
- **Intermodal connectors** (highways that provide motor vehicle access between the NHS and major intermodal transportation facilities²);
- **STRAHNET** (the network of highways important to U.S. strategic defense); and
- **STRAHNET** (connections to major military installations).

The Metro Atlanta portion of the enhanced NHS includes roadways that are most critical for sustaining interstate commerce, goods movement, and providing access to the region’s most important destinations such as Atlanta Hartsfield-Jackson International Airport, major employment centers, and the State Capitol. The NHS network in the Atlanta Metropolitan Planning Area consists of approximately 1,700 centerline miles, which is about 6% of the region’s total roadway centerline miles. Reconciling this network with the principal arterial functional classification changes made in August 2014 still remains to be done.

² The Federal Highway Administration defines an intermodal facility as: sea ports; rail and truck terminals; airports; and passenger transit terminals (http://ops.fhwa.dot.gov/freight/freight_analysis/nhs_connectors/role_nhs_conn/role_sys_conn_2.htm).

MAP 2.2. 2014 METRO ATLANTA NATIONAL HIGHWAY SYSTEM (NHS) MAP



The National Highway Performance Program (NHPP) is the dedicated Federal Highway Administration funding source for the NHS. The NHPP was established by U.S. Congress to: (1) maintain the condition and performance of the NHS; (2) construct new facilities on the NHS; and (3) ensure that investments of Federal-aid funds in highway construction are dedicated to support progress toward the achievement of performance targets established in the State's asset management plan for the NHS.

In fiscal year 2014³, the total amount of estimated NHPP funding available for the Nation was \$21.9 billion. The Atlanta region receives approximately \$300 million per year of NHPP funding (the amount varies each year). NHPP funding comprises approximately 60% of all FHWA funding available to the region. **Because a majority of federal funding must be committed to a small portion of the roadway network, it's imperative for the region to ensure that the NHS network reflects the most critical facilities for national, statewide and regional connectivity.**

3 The Georgia fiscal year begins July 1 and ends June 30 of the following calendar year.



Learn more about the National Highway System at:
www.fhwa.dot.gov/planning/national_highway_system

MANAGED LANES

“Managed Lanes” are defined as highway facilities or a subset of highway lanes that manage traffic in response to changing conditions, in order to preserve unimpeded traffic flow.⁴ Managed lanes can be distinguished into two methods: traditional (passive) management and active management. Traditional traffic management strategies include vehicle occupancy restrictions (e.g., high occupancy vehicle requirements - HOV); fixed-toll pricing; access control; and vehicle eligibility restrictions. The implementation of traditional strategies is typically permanent and do not respond to real-time traffic conditions. Active traffic management is the ability to dynamically manage recurrent (type that occurs on a regular basis due to too much traffic or a road design problem) and nonrecurrent (the type that varies based on crashes, construction, or special events) congestion based on prevailing traffic conditions, and maximizes the effectiveness of the facility by increasing throughput and safety using integrated technology. Active management strategies include:

- Variable speed limiting/speed harmonization;
- Temporary shoulder use/hard shoulder running;
- Junction control/ramp metering;
- Dynamic signing and rerouting; and
- Dynamic pricing/express toll lanes.

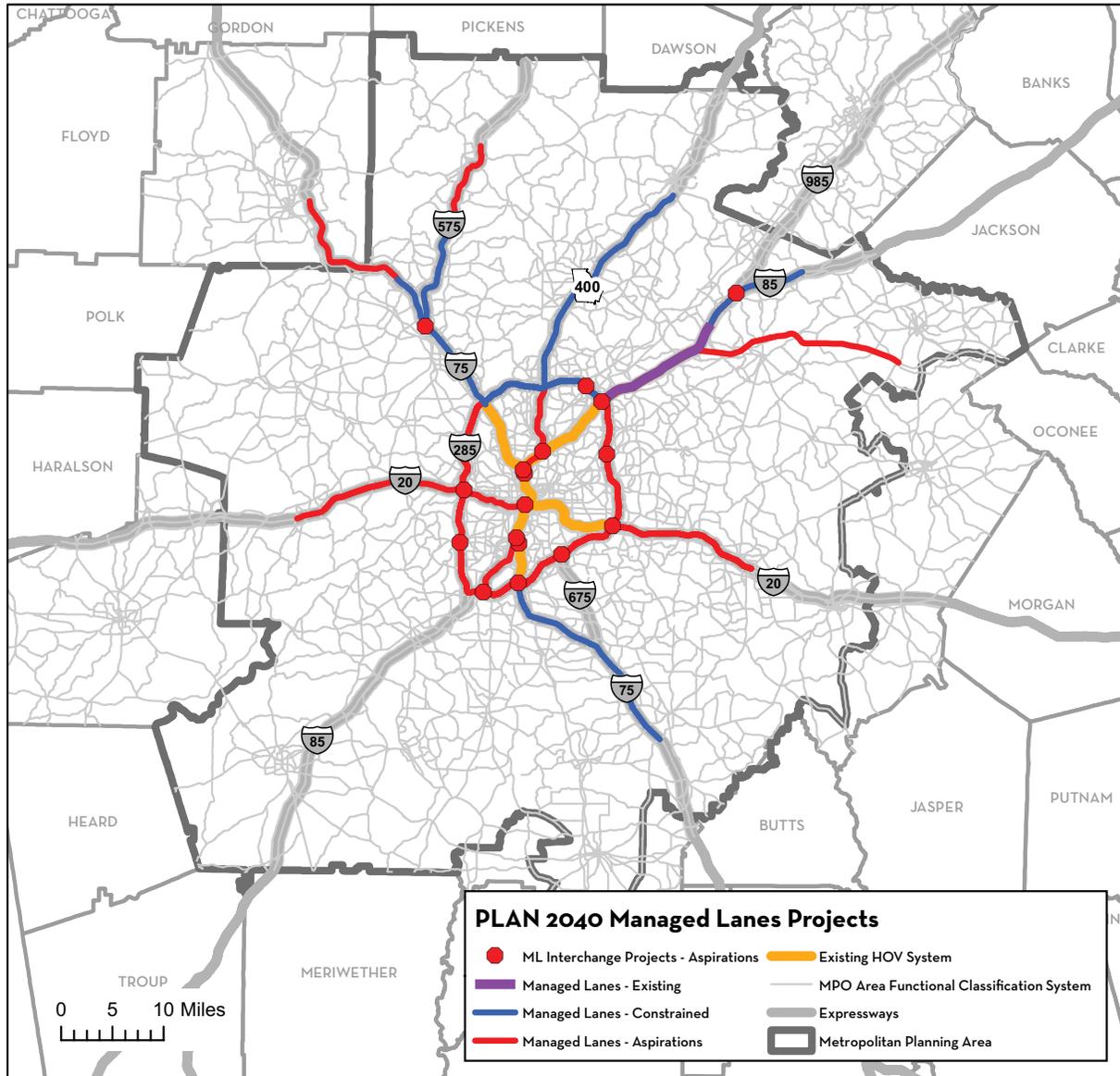
The existing HOV freeway segments, plus the I-85 High Occupancy Toll (HOT)⁵ lanes are currently the only major managed lane facilities in operation in the region. In addition, GDOT has deployed temporary shoulder use on a portion of Georgia 400 freeway and variable speed limits on the northern half of I-285. Temporary shoulder use involves the use of the inside or outside shoulder/emergency lane as a travel lane during congested periods to minimize recurrent congestion. Variable speed limiting/speed harmonization consists of dynamic and automatic reduction of speed limits upstream of areas of congestion, accidents, or special events, with the purpose of maintaining flow and reducing risk of collisions due to speed differentials.



⁴ FHWA Office of Operations - http://ops.fhwa.dot.gov/freewaymgmt/mngd_ins_hov.htm.

⁵ Along I-85 between Chamblee Tucker Road and Old Peachtree Road, buses and carpools with 3 or more people per vehicle can use HOT lanes free of charge. Single occupant vehicles and 2-person carpools are also allowed to use available capacity in the I-85 HOT lane if they are willing to pay a toll which varies depending on the level of congestion in the HOT lane and the adjacent non-tolled general purpose lanes. In this way, the managed lanes provide travelers the option of a reduced delay trip.

MAP 2.3. 2013 METRO ATLANTA MANAGED LANES (EXISTING AND PROPOSED)



GDOT is currently completing the Managed Lane Implementation Plan (MLIP), in coordination with its companion Metro Atlanta Operational Study (OPS). The system-wide MLIP focuses on identifying feasible locations for capacity-adding projects and reprioritizing existing projects in the long range plan. The segments and proposed managed lanes strategies are likely to be updated upon completion of the MLIP and OPS studies.

Because of the expense involved in expanding capacity on the freeways, the region faces no choice but to accept that whenever capacity can be added, its functionality may need to be preserved through priced management or other means.



Learn more about GDOT's managed lane plans at:

www.dot.ga.gov/travelingingeorgia/expresslanes

REGIONAL THOROUGHFARE NETWORK (RTN)

Based on a set of quantitative and qualitative criteria, ARC worked with GDOT and local governments to define the Regional Thoroughfare Network (RTN) in 2011. The composition of the RTN was primarily driven by the need to identify the region's most significant, non-freeway roadways. A Regional Thoroughfare is defined as:

“A transportation corridor that serves multiple ways of traveling, including walking, bicycling, driving, and riding transit. It connects people and/or goods to important places in Metropolitan Atlanta. It is managed by applicable special traffic control strategies and suitable land development guidelines in order to maintain travel efficiency, reliability, and safety for all thoroughfare users. In light of this special function, the thoroughfare network receives priority consideration for infrastructure investment in the Metro Atlanta region.”

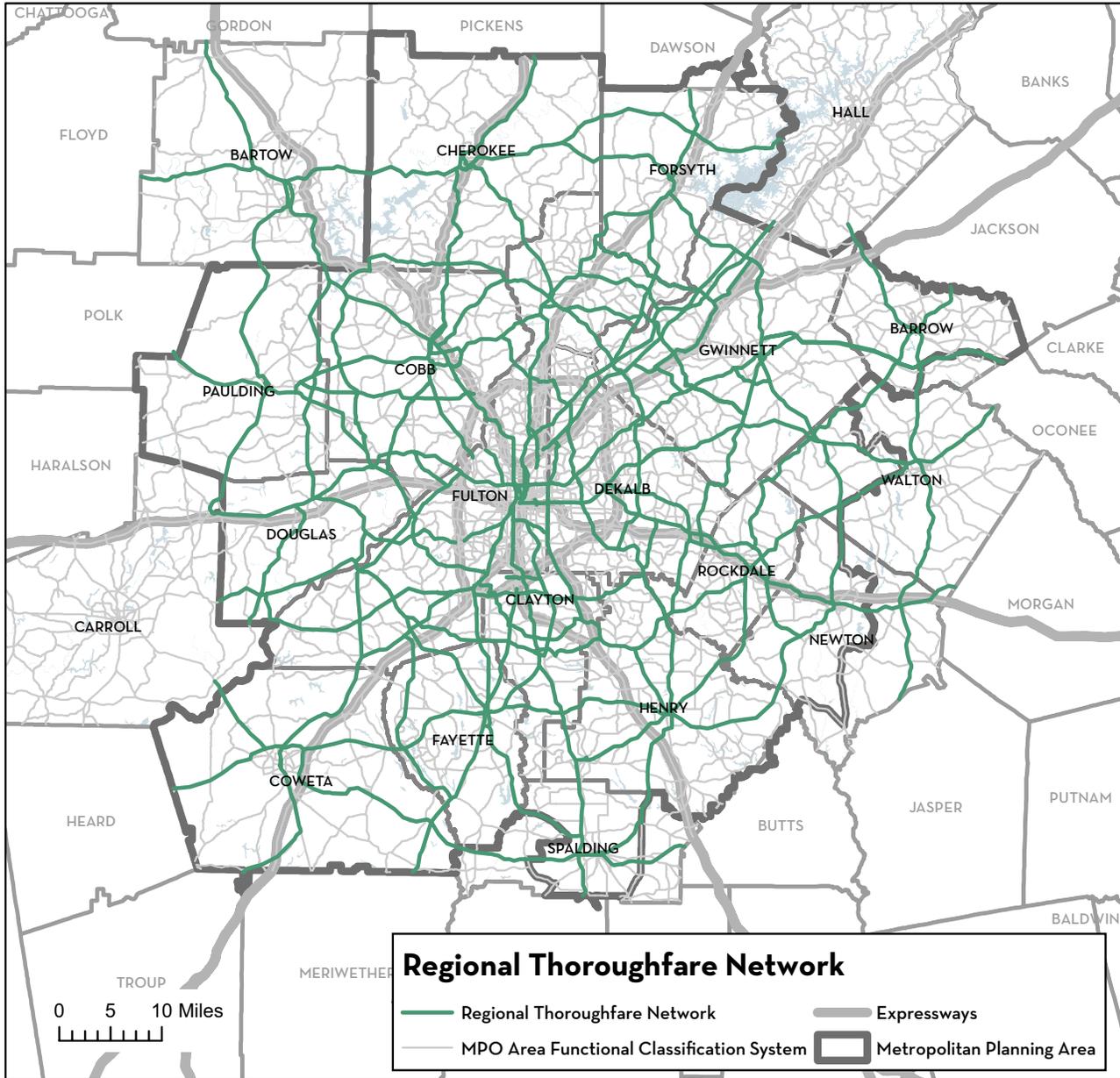
The RTN was just one of several deliverables that culminated from the Strategic Regional Thoroughfare Plan (SRTP) completed in October 2011. The RTN had not been identified soon enough to have been incorporated into the PLAN 2040 Transportation Needs Assessment. However, the PLAN 2040 RTP and the PLAN 2040 RTP Update both require that the RTN will be the priority network for Federal investment for mobility.

The following is a summarized list of the criteria used to identify the RTN:

- All National Highway System roadways (non-freeways only);
- All Principal Arterials (non-freeways only);
- “Regional Mobility Corridors” (facilities that are forecasted to average over 10,000 commute-based trips per day with an average trip length of 20 miles or more);
- All Regional Truck Routes (non-freeways only);
- “Concept 3” Premium Transit Roadway Alignments (roads proposed to accommodate bus rapid transit, arterial rapid bus, or light-rail transit);
- All GDOT Regional Traffic Operations Program (RTOP) Corridors

When applying these criteria, several of the candidate roads met at least two of the aforementioned criteria, but a road meeting any one criterion was enough to warrant inclusion onto the RTN. Once the RTN was identified, a separate set of criteria was used to classify the network, so that appropriate management and performance guidelines could be developed.

MAP 2.4. REGIONAL THOROUGHFARE NETWORK



Some key statistics regarding the 2011 RTN composition are:

- Total RTN centerline mileage: 1,800;
- RTN includes 93% of the non-freeway, "Concept 3" premium transit alignments;
- RTN accounts for 45% of the non-interstate, freight vehicle miles traveled; and
- The RTN facilitates 45% of all regional trips that are greater than 20 miles

TABLE 2.3 FHWA MILEAGE GUIDELINES BY FUNCTIONAL CLASSIFICATION FOR URBAN STATES

	Percent of Commute and Freight Trips	Regional Land Use Significance	Network Connectivity	Type of Transit (Existing or Proposed)
Level I	“High”	“Primary” – Serves 5 or more UGPM areas	Freeway-to-Freeway or Interstate Connector Route	“High” – Premium Transit Service on Segment
Level II	“Moderate”	“Intermediate” – Serves 3-4 UGPM areas	Freeway-to-Activity Center/ Town Center Connector	“Moderate” – Local Transit Service on Segment
Level II	“Low”	“Basic” – Serves 0-2 UGPM areas	Freeway-to- Other Limited Access or U.S. Route Connector or Other System Connector	“Basic” – Paratransit or No Transit on Segment

Another key deliverable from the SRTP was the Performance Monitoring report that evaluated the RTN using several performance related measures, to help identify the existing needs and challenges related to mobility. That documentation can be accessed from ARC’s website. **The 2011 RTN will be reassessed during the remainder of the functional classification update process occurring in 2015, with the intent being to streamline or unify many of the various networks relied upon for policy implementation (e.g., NHS, RTN, Regional Truck Route).**



Learn more about the Regional Thoroughfare Network at:

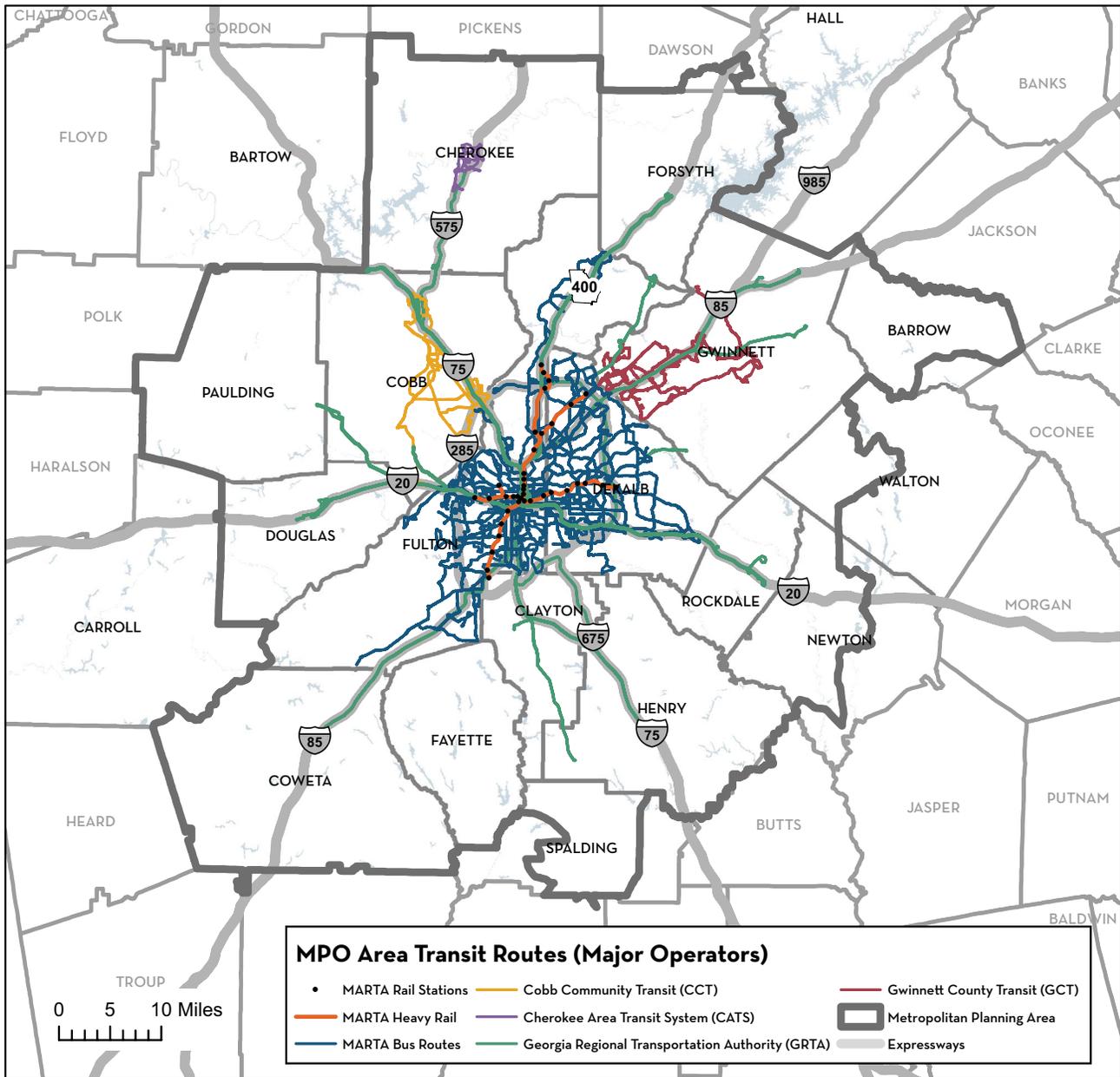
www.atlantaregional.com/srtp

www.atlantaregional.com/freight

TRANSIT NETWORK

The Atlanta region is currently served by five providers that, together, form the backbone of the regional transit system. As of the end of 2014, these providers were the Metropolitan Atlanta Rapid Transit Authority (MARTA), Cherokee Area Transportation Services (CATS), Cobb Community Transit (CCT), Gwinnett County Transit (GCT) and GRTA Xpress (Georgia Regional Transportation Authority). In addition, the City of Atlanta opened a modern streetcar route in Downtown Atlanta at the end of 2014. This 2.7 mile loop is the first section in a broader overall streetcar expansion strategy.

MAP 2.5. MAJOR TRANSIT OPERATORS IN THE ATLANTA REGION



Learn more about the region's existing transit network and system expansion plans at:

www.atlantaregional.com/transit

TDM PROGRAMS

Reducing Single Occupancy Vehicle Trips

The Atlanta's region's predominant development patterns and existing parking management policies have made driving alone an easy decision for most commuters, and in many cases, the only realistic option. Solo driving contributes to traffic congestion and worsens air quality. Even with transit options like MARTA and Xpress bus, the 2010 Metro Atlanta Regional Commuter Survey found that 82% of commuters still choose to drive alone. In an effort to combat this issue, the Atlanta Regional Commission established the first regional Transportation Demand Management (TDM) program in 1994, providing outreach to employers and commuters.



TDM is defined as a collection of strategies designed to reduce roadway congestion and demand for single occupancy vehicle travel by redistributing travel demand to alternative travel modes, times, and routes. The Atlanta region is a leader in the use of TDM strategies to minimize peak hour commuter congestion through the Georgia Commute Options program, which provides commuter incentives and employer assistance in the adoption of alternative commuting. Additionally, ARC provides significant funding to TDM efforts, such as providing grant funding to Transportation Management Associations to conduct commuter and employer outreach in six regional activity

centers, as well as a free commuter ride matching and a safety net program in which commute alternative participants receive a free ride home in the case of an unexpected event.

Currently, the Atlanta TDM program, with the assistance of the regional Transportation Management Associations, holds over 1,600 employer partnerships. Nearly 200 employers reporting at least 20 percent of all employee trips to the worksite involving alternatives to driving alone.

Even with the success of the historic TDM program, there is room for growth. The region has identified three areas that offer potential to continue to make gains in reducing single occupant vehicle trips as identified through the narratives below:

The Case for TDM as part of Small to Large Scale Construction Efforts

As the region continues to struggle with challenges around congestion and impacted mobility, major construction projects will be necessary to ensure the long-term mobility of our communities and the Atlanta region. Unfortunately, construction efforts tend to negatively impact mobility in the short-term. Many communities have started to use TDM strategies to minimize travel delays, assuring that travelers have alternative travel options, while also helping to build interest in new transportation services that may result from construction. Other regions have found TDM programs to be flexible, low cost, measurable and an opportunity to conduct robust outreach to commuters and regional employers.



In 2013, ARC adopted the Atlanta Regional Transportation Demand Management (TDM) Plan which is a long-range plan that defines a strategic framework for developing and integrating TDM strategies into

planning, project development and system operations investment decision-making. As part of this process, a key action and recommendation is to allocate a portion of construction project budgets to TDM marketing and messaging, in an effort to reduce travel delays and commuter productivity losses. While the region has taken small steps toward the use of TDM to address construction-related congestion, this process has not been widely adopted or incorporated in current large scale projects or budgets. **A broader expansion of the use of TDM to address construction-related delays and impacts is a logical next step for our region as projects such as the I-75/I-575 managed lanes and Georgia 400/I-285 reconstruction projects will produce impacts to current commute patterns.**

Transportation Network Companies (Uber, Lyft, Sidecar, etc)

As defined by the California Public Utilities Commission in 2013, Transportation Network Companies (TNCs) provide prearranged transportation services for compensation using an online-enabled application or platform (such as smart phone apps) to connect drivers using their personal vehicles with passengers. The creation of the TNCs definition was a clear effort to differentiate between traditional ridesharing and car sharing services where the cost is not shared among the ride and driver.

Today, a number of TNCs such as Uber and Lyft operate in the Atlanta region, providing rides to commuters and leisure travelers daily. However, their impact on the transportation network and the environment is unknown. While the San Francisco Municipal Transportation Agency recently released statics showing that taxi trips have reduced by nearly 50% after the introductions of TNCs into the market, there is little hard data to show the full impact of these services there or throughout the country. Currently, TNCs have little to no incentive to provide ridership statistics or impacts and fear doing so as they operate in a competitive marketplace. However, with the decrease of car ownership among the millennial demographic, there is potential for continued growth and adoption of TNC services over the long term as the companies provide customers both increased flexibility and reduced costs as compared to options available today.



The industry is ever changing due to increased competition among vendors, legal litigation from some taxi providers and possible regulations from cities, counties and states. However, many local governments have allowed these services to exist as they are defined today, possibly due to the popularity of the services provided. **More research is warranted to see the long term impacts of TNCs on our transportation network and impacts to options such as public transportation.**

REGIONAL VANPOOLING PROGRAM

In 2013, the Atlanta Regional Commission produced the Regional Vanpool Assessment Report. The purpose of the assessment was to provide short-term recommendations for the Atlanta region's vanpool programs and to identify issues and questions that can be addressed through long-term recommendations as part of the broader regional TDM Plan. The report summarized the region's strengths, weakness, opportunities and threats for future sustainability as the region currently faces growing populations that will increase demand on the transportation system, making TDM strategies like vanpooling more important than ever.



As of November 2014, the Atlanta region has a fleet of over 370 vanpools with an estimated 2,500 riders receiving incentive funding. While still large in scale, peer cities such as Houston move nearly 7,100 passengers on approximately 700 vans today. **Atlanta's complex funding structures, lack of coordination on roles and responsibilities and data that is not always linked to policy and programming decisions are among other weakness that have created**

lagging adoption of vanpooling in our region. The Georgia Regional Transportation Authority (GRTA), Douglas County and other key vanpool stakeholders are working towards the recommendations laid out in the Regional Vanpool Assessment; however these actions have been slow to implement among the multiple stakeholders who have various interests in vanpooling as a travel mode. Vanpooling as an option will need regional coordination to truly be successful and to make it a mode that is easily accessible by commuters everywhere.



Learn more about the region's TDM programs at:

www.atlantaregional.com/transportation/commute-options

www.gacommuteoptions.com

HIGHLIGHTING PLANNING IN ACTION

The concept of leveraging TDM concepts to improve transportation system efficiency is not new to the Atlanta region, as such services and programs have been around since the 1990's. While ARC programs the funds to support TDM in the RTP, most decision-making for TDM is not made through the regional planning process where local, regional, and state policymakers collaborate. There is no single organization that is the contractually defined TDM program leader, with different agencies funding and overseeing regional and local marketing and operations, limited data sharing, and other gaps. ARC and the region's TDM program stakeholders undertook a multiyear planning effort to further explore this issue. Adopted in 2013, the Regional TDM Plan is intended to help stakeholders leverage existing TDM programs and build on the TDM concepts within the metropolitan transportation planning process. The TDM Plan serves as a framework for developing and integrating TDM strategies into planning, project development and system operations and investment decision-making.

The TDM plan included an assessment of strengths, weaknesses, opportunities and threats associated with the existing network of TDM programs. Key weaknesses noted as part of this effort include:

- Growing population and prevailing development patterns have made driving alone "the easiest choice" for commuters in the Atlanta region
- TDM program decisions are not currently well aligned with the regional planning process.
- There is a perceived lack of formal leadership and lack of clarity in defined roles and responsibilities.
- Many programs and services are perceived to be in silos and poorly integrated.

To address these weaknesses, a set of priority strategies were developed. To learn more about these strategies and other key TDM Plan recommendations, visit www.atlantar-regional.com/tdmplan



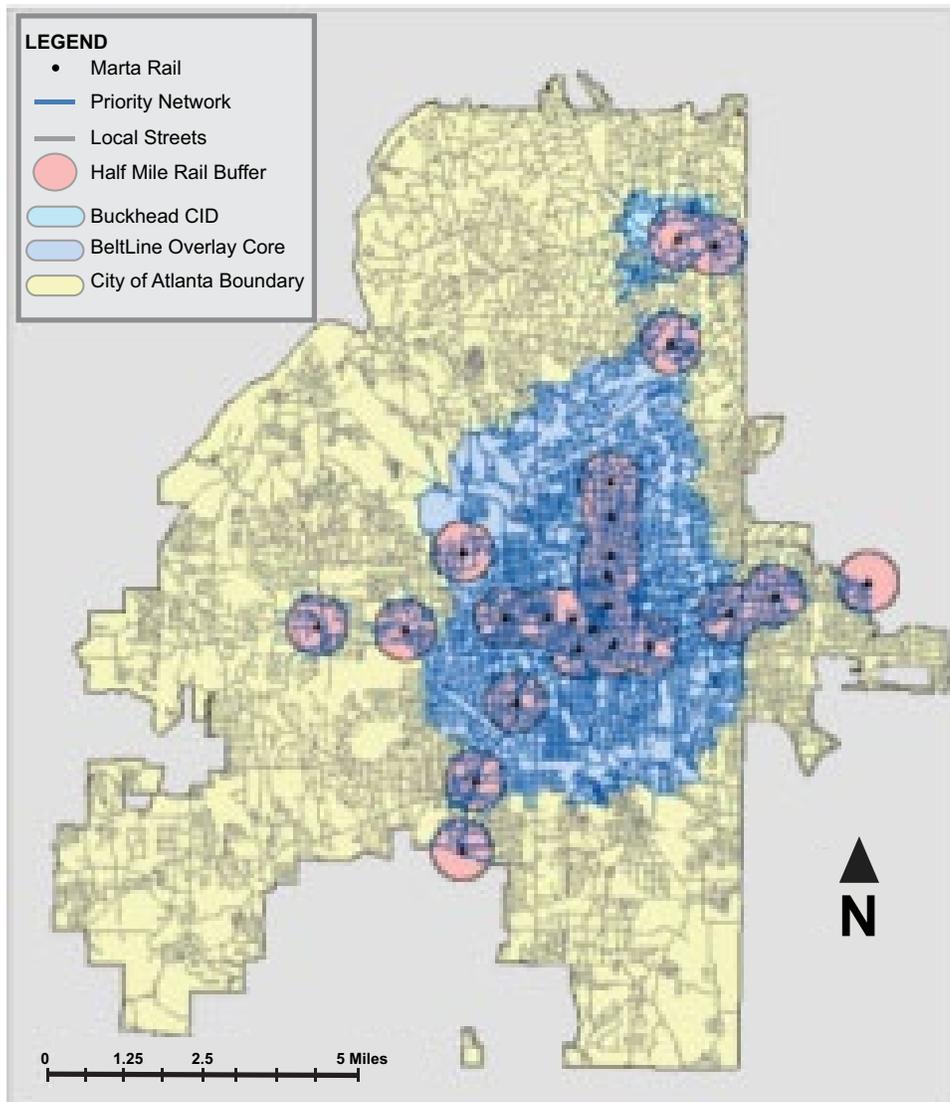
ACTIVE TRANSPORTATION

Walking

Walking serves as a low-cost, efficient, and healthy transportation option for short trips and forms the foundation for public transit as the majority of bus and rail trips begin and end by foot. Walking is a mobility option for many and addresses air quality and a variety of other regional transportation goals identified within The Region's Plan.

Like most large region's in the nation, the Atlanta Regional Commission and all local jurisdictions in the region have not compiled comprehensive pedestrian facility inventories. Georgia Tech researchers have studied sidewalk locations and conditions for inner Atlanta neighborhoods and MARTA stations.

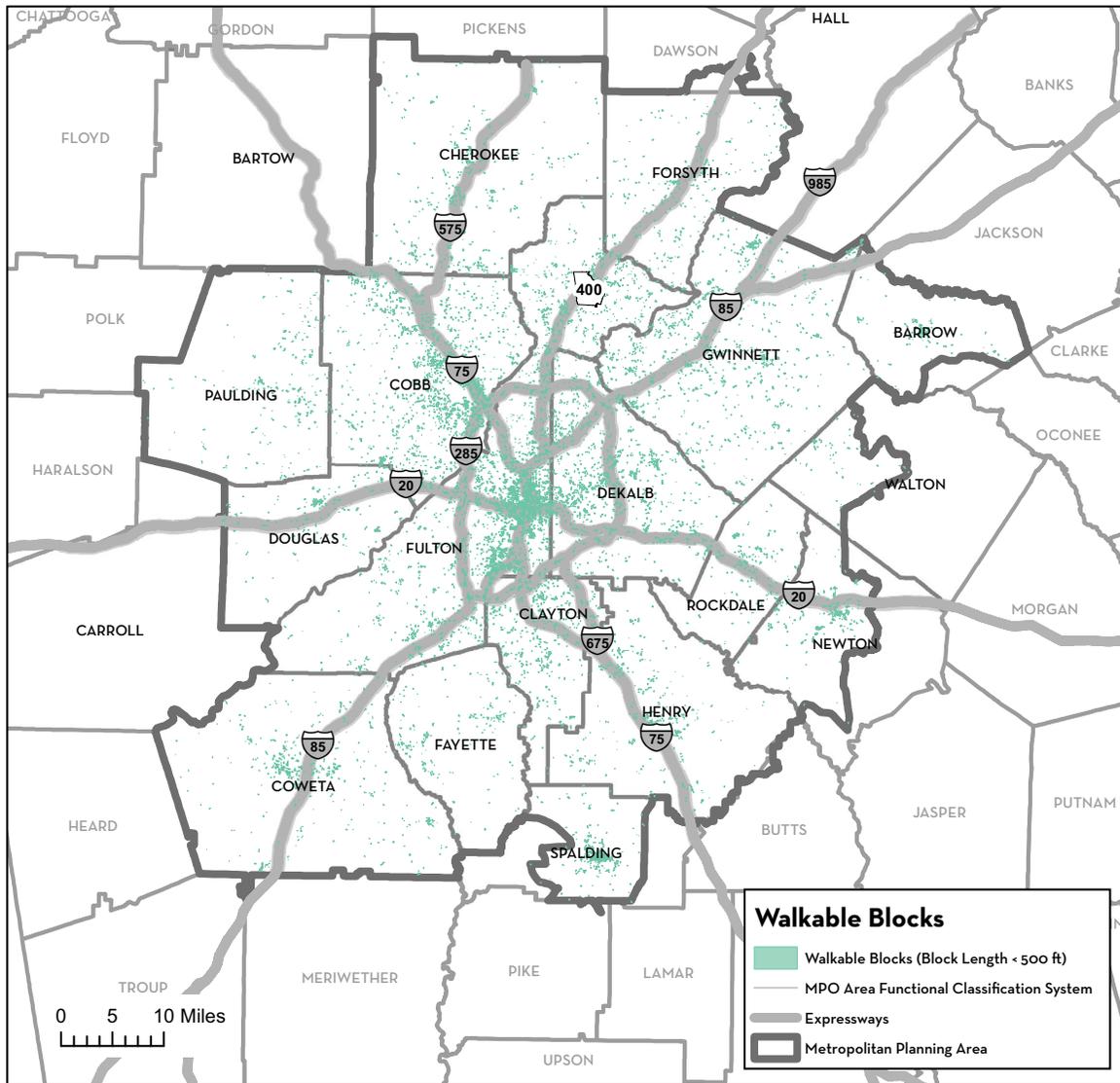
MAP 2.6. PEDESTRIAN FACILITIES IN THE CITY OF ATLANTA WITHIN A HALF-MILE OF RAIL.



Though time and labor intensive, a comprehensive inventory of sidewalk, crosswalk, midblock crossing, and ADA-compliant infrastructure would be an invaluable assets for the region. Regional stakeholders have identified several key components for improving walking and transit access within the region including installing new sidewalks, maintaining existing sidewalks, increasing and improving midblock crossing locations, ensuring all roadways and sidewalks are ADA compliant, ensuring all bus stops are safely and conveniently located, and many other elements.

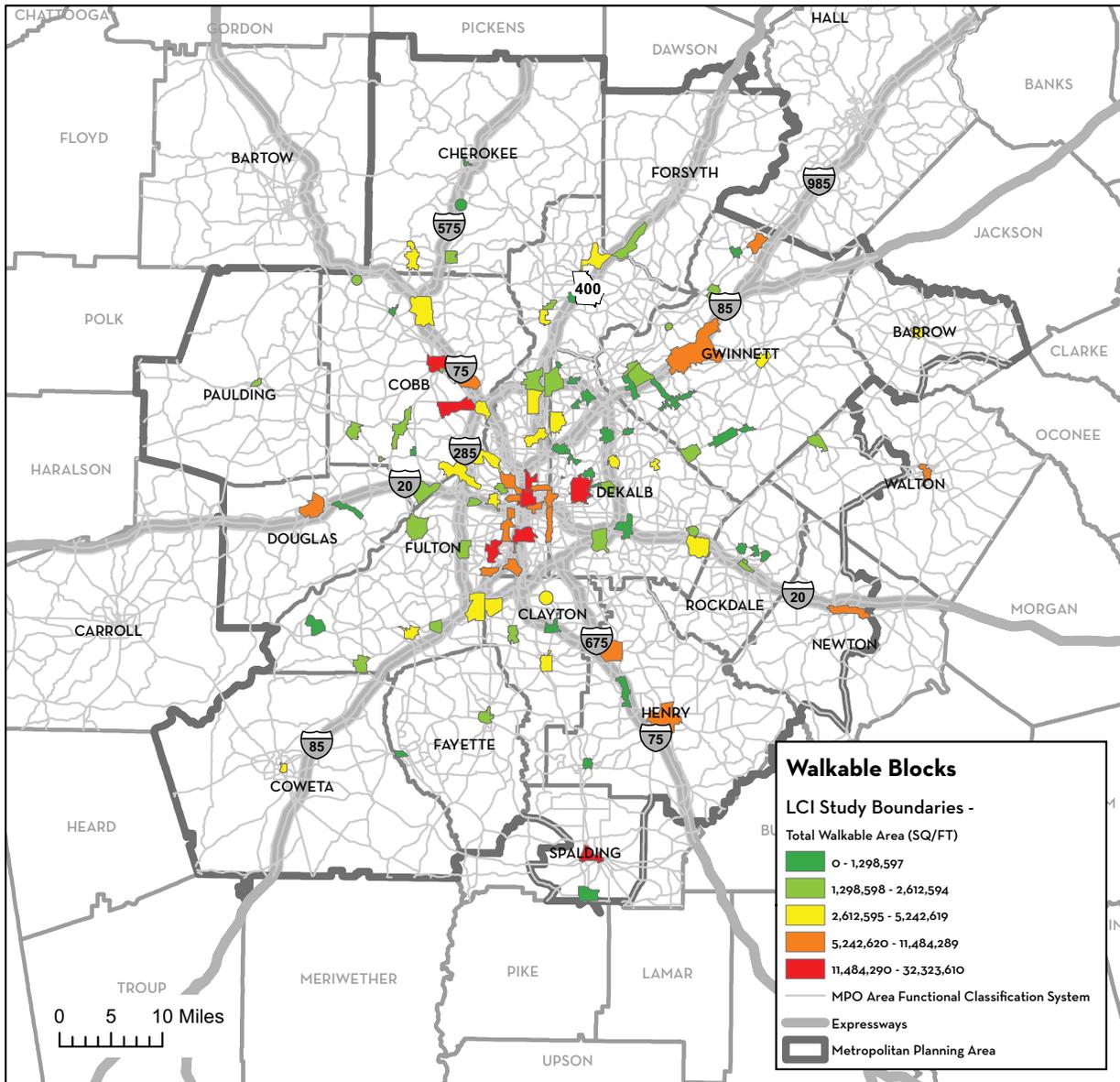
As a proxy for a detailed pedestrian infrastructure inventory at a regional scale, ARC calculated the block size for parcels across the region. Walkable blocks were those with an area less than 250,000 square feet and a perimeter/area ratio of less than 2 – this analysis estimates blocks with roughly 500’ lengths which is broadly assumed to be an average walkable block length.

MAP 2.7. REGIONAL WALKABLE BLOCK DISTRIBUTION

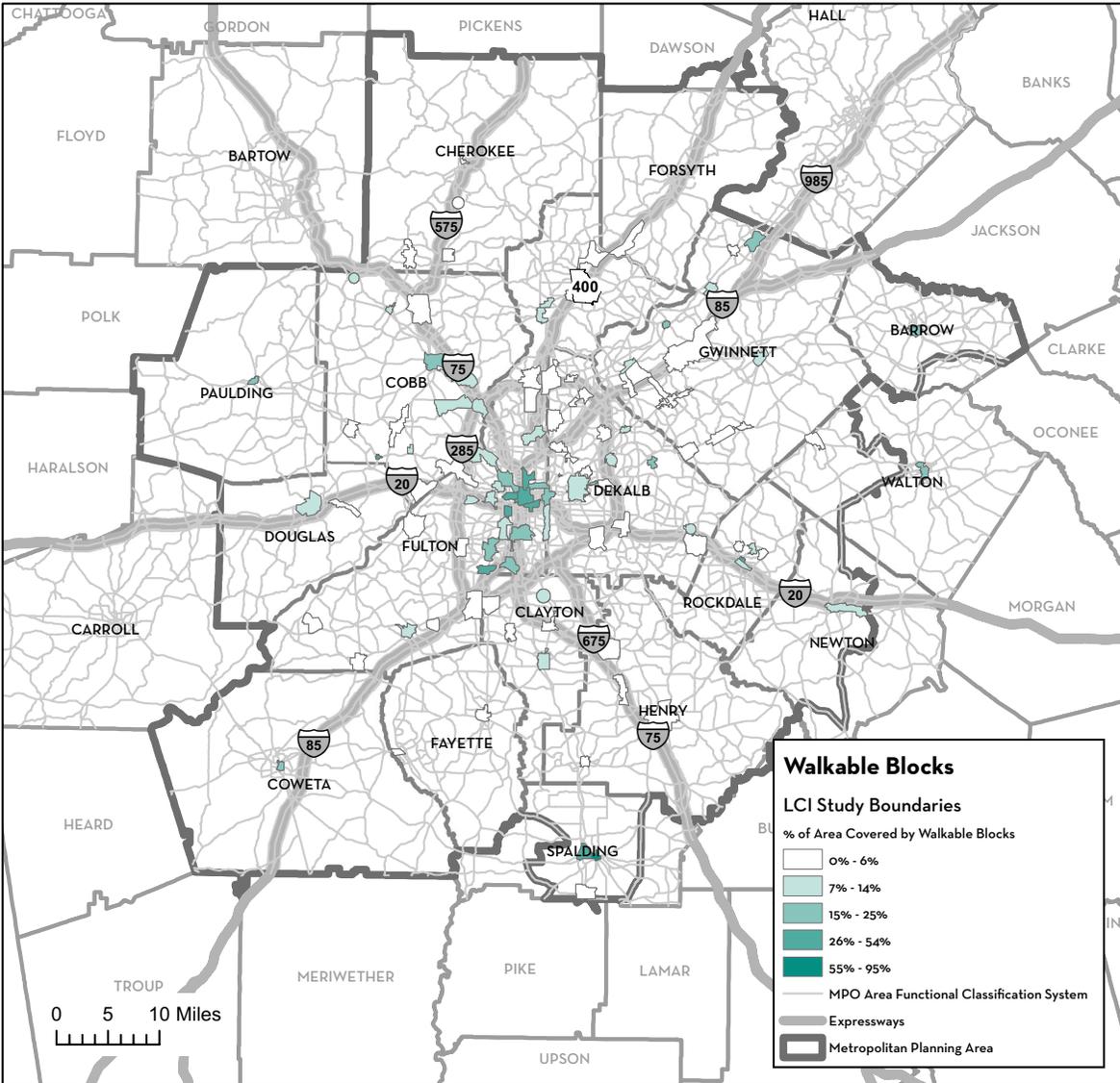


Looking forward, ARC has assessed regional activity centers based on the amount of walkable area within each center. Total walkable area assesses the amount of walkable blocks within an activity center while walkable density calculates the percentage of an activity center covered by walkable blocks. Walkable area equates with dense urban areas, historic town centers, and some regional activity centers. Walkable density is even more closely aligned to core areas, tapering off quickly to less walkable periphery areas.

MAP 2.8. WALKABILITY FOR LCI AREAS



MAP 2.9. LCI AREAS WALKABLE DENSITY

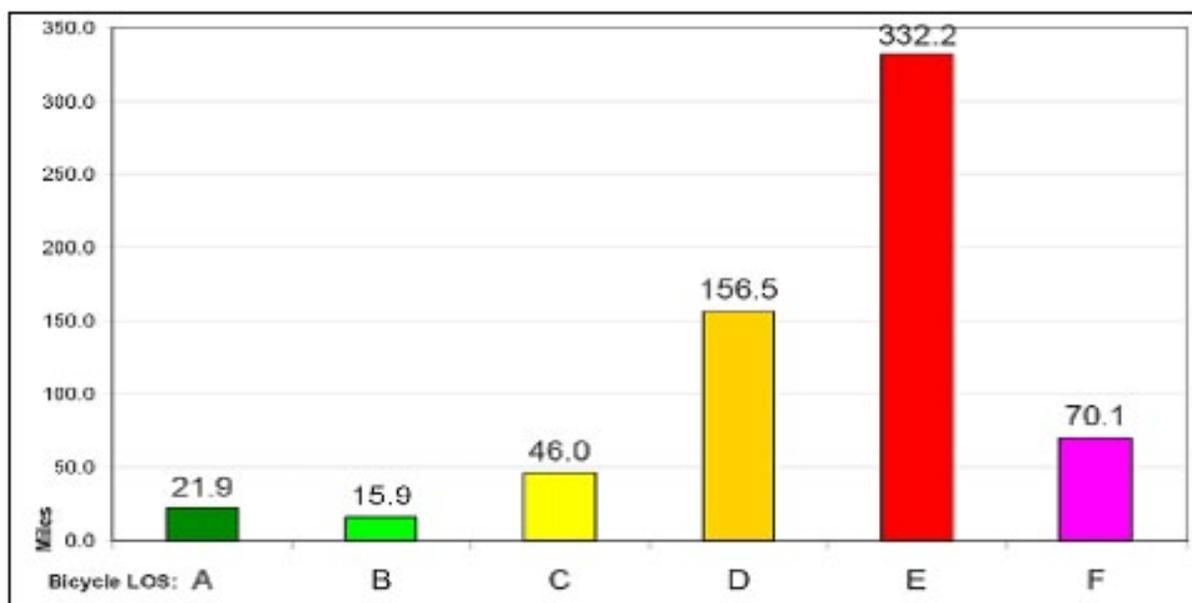


Bicycling

Bicycling serves as a low-cost, efficient, and healthy transportation option for short trips. Bicycling also supports public transit by expanding its accessibility radius for non-drivers, provides mobility for low-income populations, and addresses air quality and a variety of other regional transportation goals identified within The Region’s Plan.

Bicycling accommodation in the Atlanta Region remains at a low level. As illustrated below, the 2007 Atlanta Region Bicycle Transportation and Pedestrian Walkways Plan indicated that 62.6% of roadways in the bicycle study network have a Bicycle LOS “E” or “F”, yielding an overall Bicycle LOS score of “E.” Public surveying generally indicates levels of service C or higher as being comfortable for a wide range of bicycle riders.

FIGURE 2.2 BICYCLE FACILITIES LEVEL OF SERVICE (LOS)

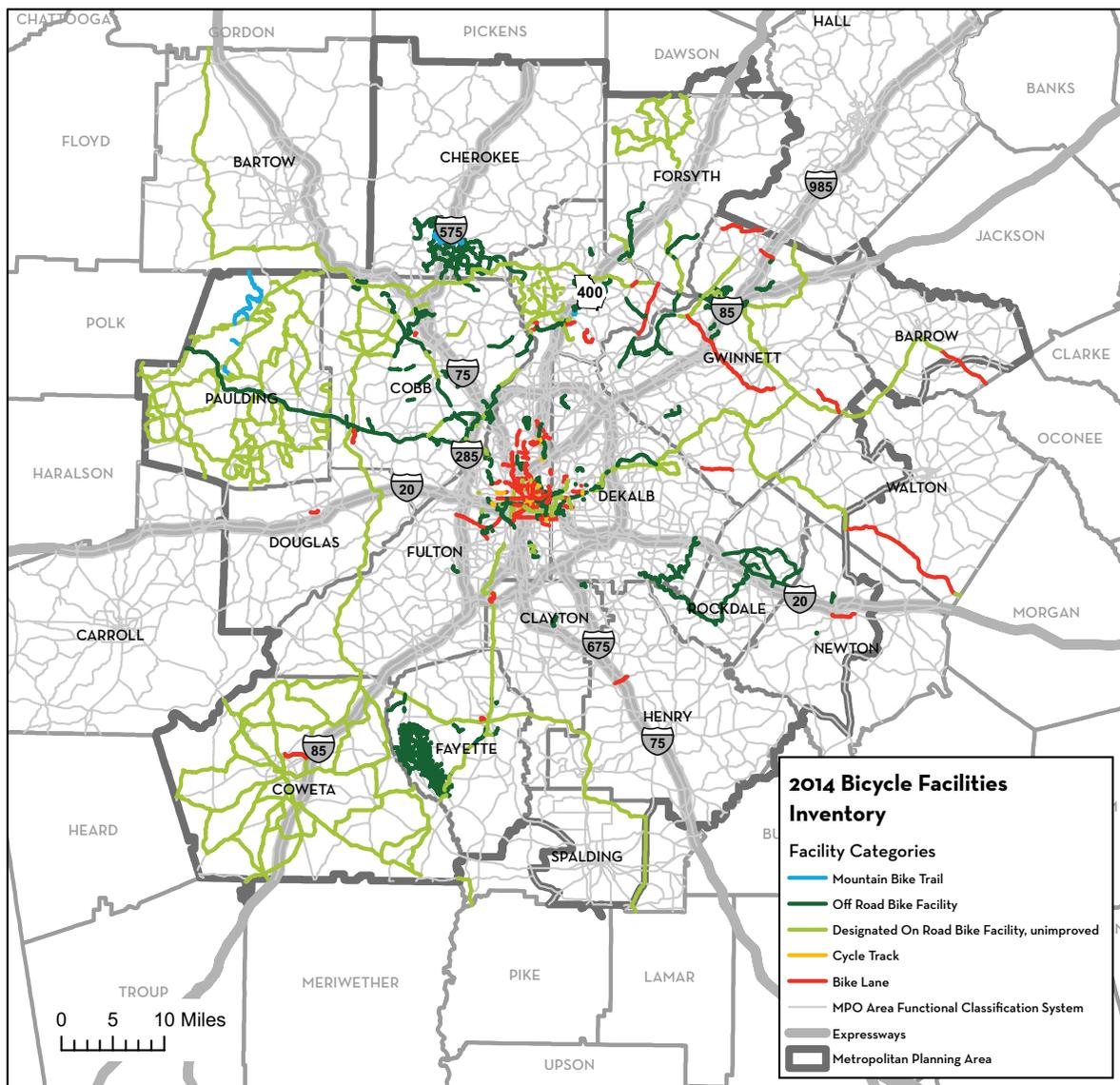


The Atlanta Regional Commission completed a bicycle facility inventory in 2014 which documented existing bicycle facilities in the 19-counties of the Atlanta region:

Protected Bicycle Lanes	8.22 miles
Bicycle Lanes	134.6 miles
Multi-Use Paths	467.6 miles
Designated On-Street Routes	904.8 miles

The Bicycle Facilities Inventory is shown on the following map. **While there are areas with a good density of high quality bike lanes and paths, there are large gaps which prevent the region from having a true world-class network of bicycle facilities.** In general, conventional and protected bicycle lanes provide bicycle facility connectivity within urban centers while multi-use paths create a nice opportunity for recreation and transportation in suburban or rural areas.

MAP 2.10. BICYCLE FACILITY INVENTORY



Learn more about the region's bicycle and pedestrian system at:

www.atlantaregional.com/bikeped

ARE WE ADEQUATELY MAINTAINING WHAT WE ALREADY HAVE?

ROADWAY NETWORK

73 percent of roadways in urban areas throughout the U.S. are rated as having a pavement condition level of “good.” In our region, approximately 95 percent of the Regional Strategic Transportation (RSTS) pavement is in “good” condition. This condition level in the region is well above the national average for roadways in urban areas. However, even minor deficient pavement locations are noticed by the traveling public and will require work.



The deficiency thresholds vary by roadway functional class. For example, the threshold used for this analysis for urban interstates is roughly equivalent to a GDOT Pavement Condition Evaluation System (PACES) rating of 68. PACES ratings are reported on a 100-point scale. GDOT recommends that a section of pavement be resurfaced when it reaches a PACES rating of 70.

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Although our roads are currently in reasonably good condition as a whole, to maintain a condition level of “good” through 2040 the region will need to invest more heavily in preserving roadways. Approximately \$4 billion will need to be invested in interstate roads, approximately \$2 billion will need to be invested into state owned roads (interstates excluded), and approximately \$1 billion will need to be invested into locally owned roads. In total roughly \$7 billion will need to be invested into our roads to keep us at the national average of 73% in good condition.

BRIDGES

Bridge sufficiency is a rating system used to assess bridges based on structural evaluation, functional obsolescence, and how essential the bridge is to the traveling public. Bridge sufficiency is evaluated based on over 20 factors in the National Bridge Inventory (NBI) database with a scoring of 0-100; 0 is defined as absolutely deficient and 100 being entirely sufficient. Bridges requiring improvement land into one of two statuses, Functionally Obsolete or Structurally Deficient. A functionally obsolete bridge is defined as being structurally sound but under performing in traffic flow. A structurally deficient bridge may be safe to use but contains a defect in need of repair. The severity of the defects is not indicated in the sufficiency score.

Analysis of bridges in the region shows the current condition level is generally 95 percent good. Much like our roads this value is above the national average. In 2006 approximately 90 percent of all bridges in U.S. met this definition of “good” condition based on whether or not a bridge is classified as Structurally Deficient (SD). Bridges that are not classified as SD are considered to be in “good” condition.

FIGURE 2.3 AGE OF REGIONAL BRIDGES

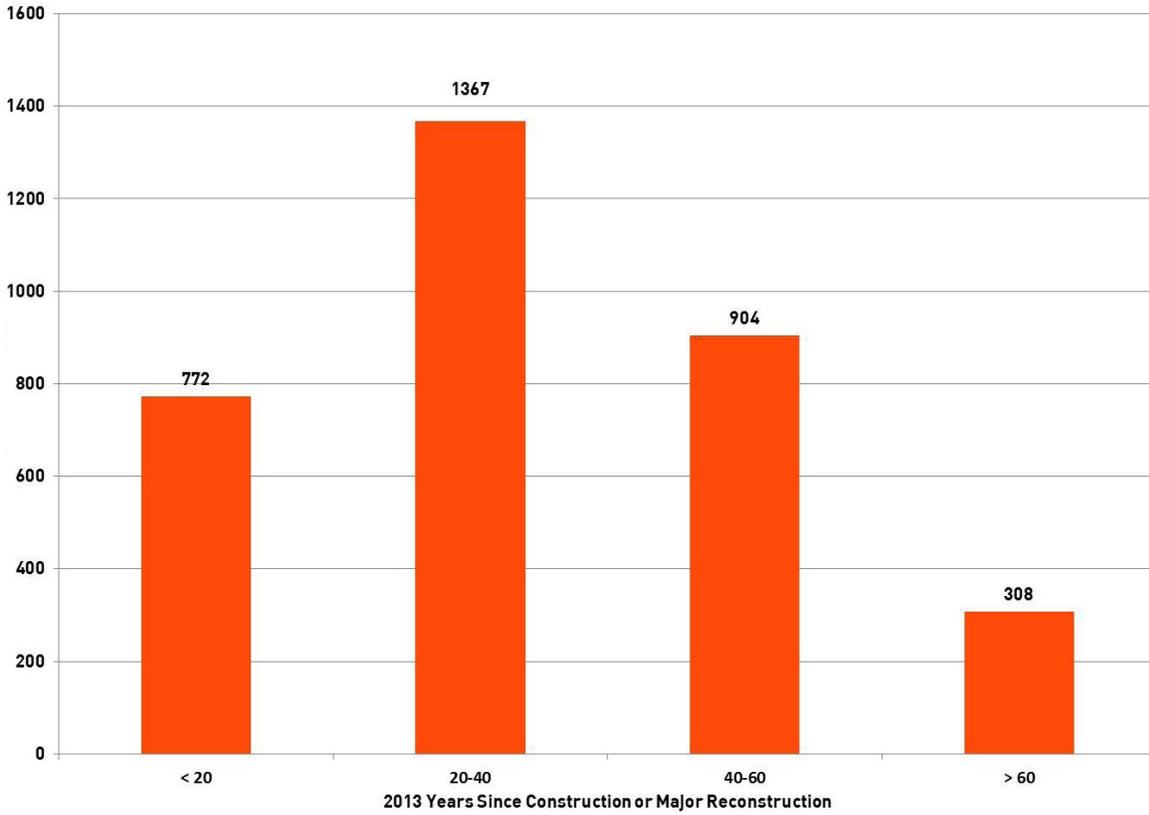
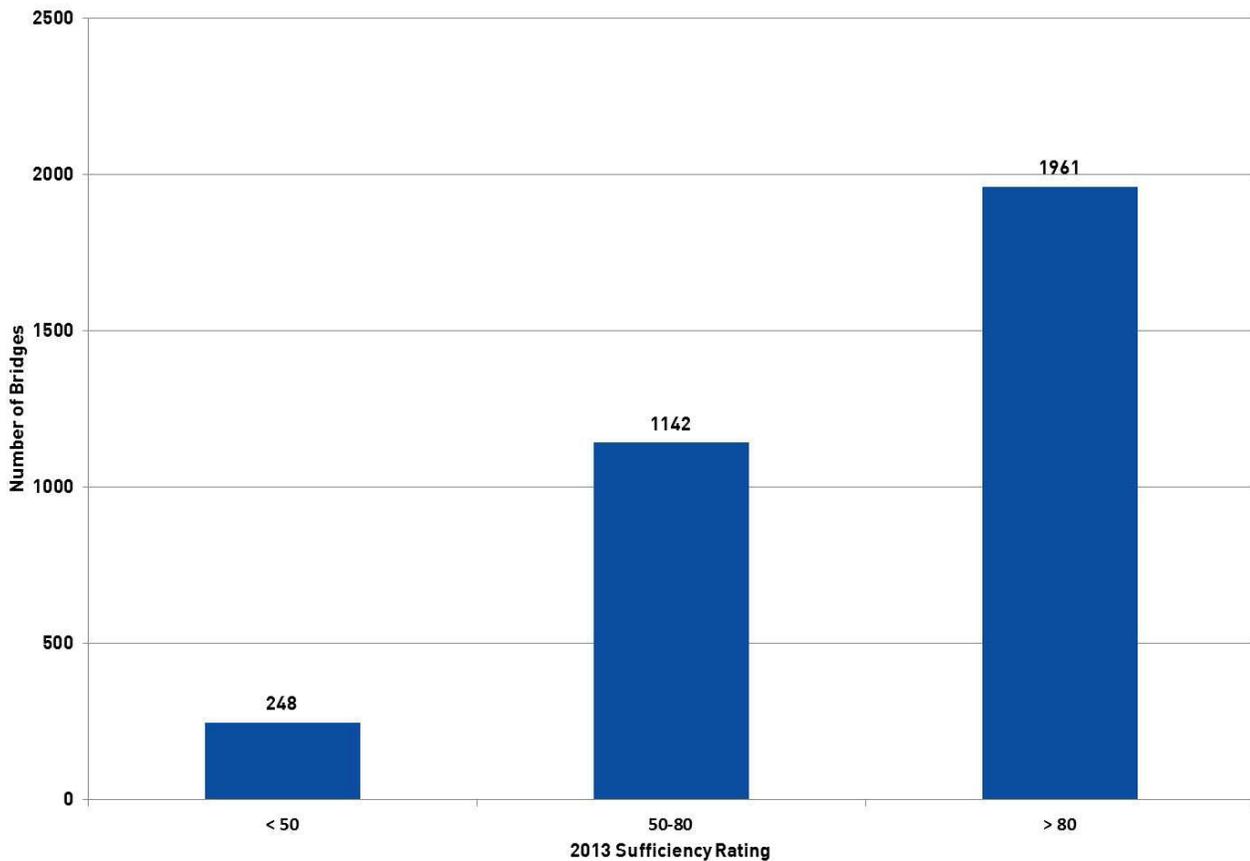
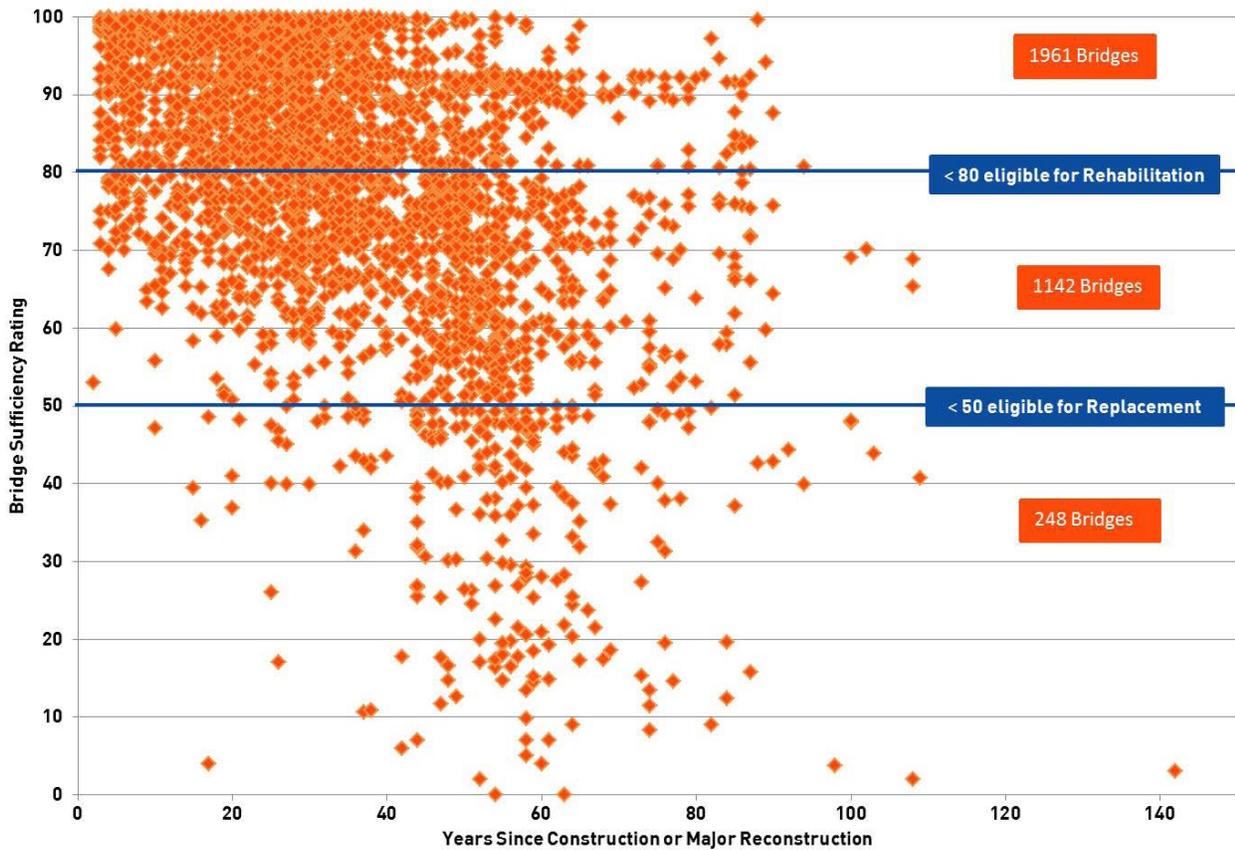


FIGURE 2.4 REGIONAL BRIDGE SUFFICIENCY SCORES



Bridge ages vary widely and many younger bridges are located along major interstate roads with higher traffic volumes, leading to a scattered distribution of sufficiency ratings across the region. There is a wide array of bridges scoring less than 50 percent on sufficiency, meaning there are bridges in all parts of the region in need of repair. There are 248 bridges with a sufficiency score of 50 percent or lower which be replaced. There are 1,142 bridges which are currently in the 50 -80 percent sufficiency rating score and are in need of rehabilitation or soon will need to be replaced in future. It would be beneficial to rehabilitate these bridges soon rather than wait until they need reconstruction. **As with pavement quality, while the region's bridges are in reasonable shape now, to fix those bridges in need of repair and then ensure that the rest remain in good condition will require a greater level of investment than we are currently making.**

FIGURE 2.5 REGIONAL BRIDGES BY AGE & SUFFICIENCY



TRANSIT SYSTEMS

To provide a high level understanding of the condition of the Atlanta region's transit system, an analysis of transit vehicle characteristics was performed utilizing 2012 data from the FTA's National Transit Database (NTD) across metro regions. This data was then refined to determine the average transit fleet age by mode and major mechanical failure rate per 100,000 vehicle revenue miles amongst transit operators in the region. A major mechanical failure is defined by the FTA as a failure of some mechanical element of a transit vehicle in revenue service that prevents it from completing a scheduled revenue trip or from starting the next scheduled revenue trip. This metric is a commonly used state of good repair measure. In order to provide points of comparison, a group of peer urbanized areas was established, informed largely by peer groupings identified by previous regional transit planning efforts such as the ARC Regional Transit Institutional Analysis study and the Transit Planning Board Concept 3 report. These peer urbanized areas roughly approximate to the Atlanta region in terms of population and variety of transit modes operated. This group of peers includes:

- Chicago, IL-IN
- Los Angeles-Long Beach-Anaheim, CA
- Miami, FL
- San Francisco-Oakland, CA
- Washington, DC-VA-MD

FIGURE 2.6 AVERAGE FLEET AGE BY MODE - SELECTED URBANIZED AREAS AVERAGE FLEET AGE BY MODE

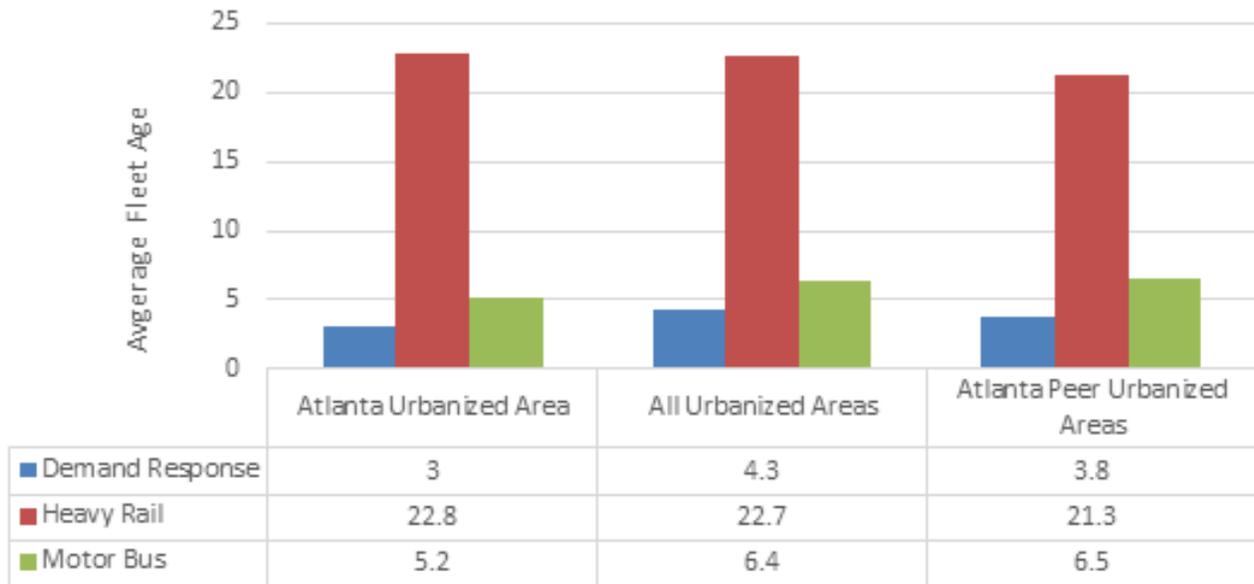
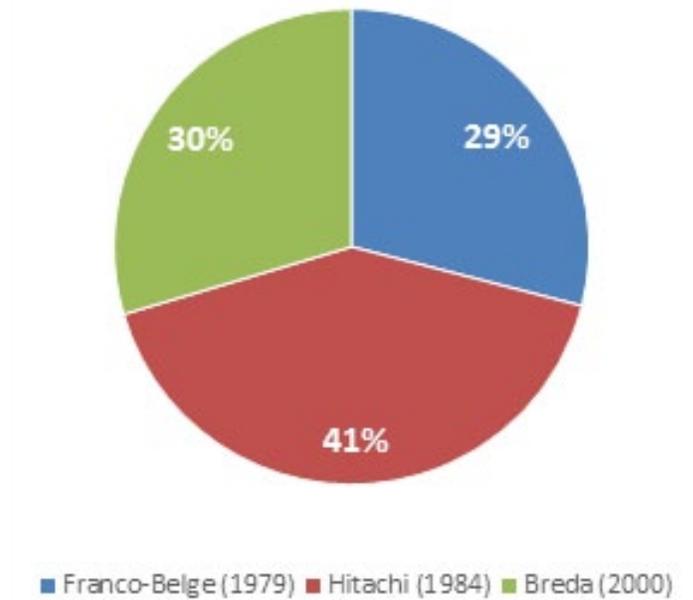


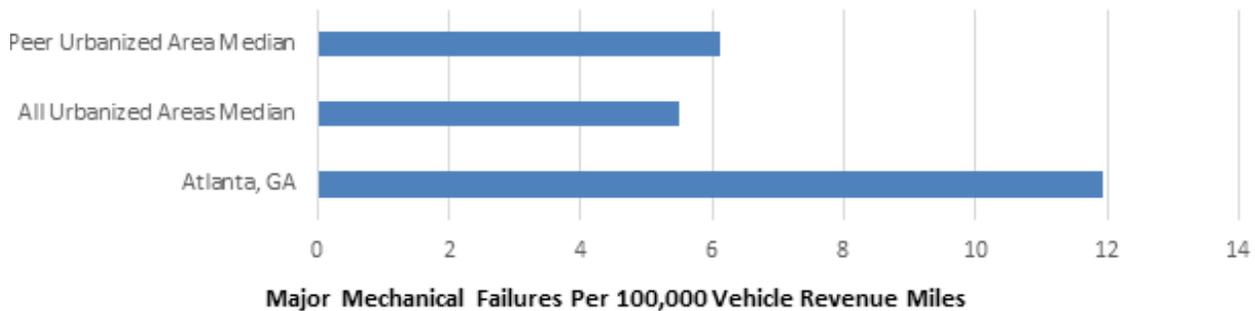
FIGURE 2.7 MARTA HEAVY RAIL FLEET BY MODEL AND YEAR



The average age of the motor bus and demand response transit vehicle fleet in the Atlanta Urbanized Area is lower than our peer regions.

While the findings do show that our heavy rail fleet is slightly older when compared to our peers, it should be noted that NTD data for vehicle fleet age is determined by year of purchase. Approximately 70 percent of the MARTA heavy rail fleet was overhauled in 2009 as part of an extensive rail car rehabilitation program. This program stripped each impacted rail vehicle down to its shell and rebuilt it from the ground up with new components and systems. MARTA estimates that by rehabilitating, rather than purchasing new rolling stock, the program saved approximately \$408 million in capital expenses and extended the useful life of overhauled vehicles by 15 years.

FIGURE 2.8 MAJOR MECHANICAL FAILURE RATE FOR ALL MODES - ATLANTA UZA AND PEERS



While the transit fleet in the Atlanta urbanized area is newer, the region does struggle with a higher rate of mechanical failures than our peers. The major mechanical failure rate for all transit vehicles in the Atlanta urbanized area is nearly twice as high. Additional research is necessary to fully understand the causes and circumstances which contribute to these findings in the Atlanta region. An increase in transit maintenance funding may be necessary to ensure a state of good repair across the transit vehicle fleet. Also, transit operators may want to consider measures which decrease wear and tear on the fleet by eliminating unnecessary vehicle miles.

The ARC Transit Fleet and Facilities Inventory report made several recommendations along these lines, which include creating opportunities for vehicles to layover in downtown Atlanta and adjusting commuter bus routes to terminate at end-of-line MARTA stations rather than downtown.

ACTIVE TRANSPORTATION

As noted earlier, the region lacks a comprehensive conditions data for common active transportation facilities such as sidewalks. The costs of such inventory work can be substantial at the local level. For example, in 2010 the City of Atlanta estimated that it would cost over \$1.2 million to perform a combined streets and sidewalks condition assessment. **While these facilities are typically constructed and maintained by local jurisdictions, it may be appropriate to allocate funding towards a regularly updated, regional active transportation facility assessment.**

HOW MUCH DEMAND ARE WE PUTTING ON OUR EXISTING SYSTEM?

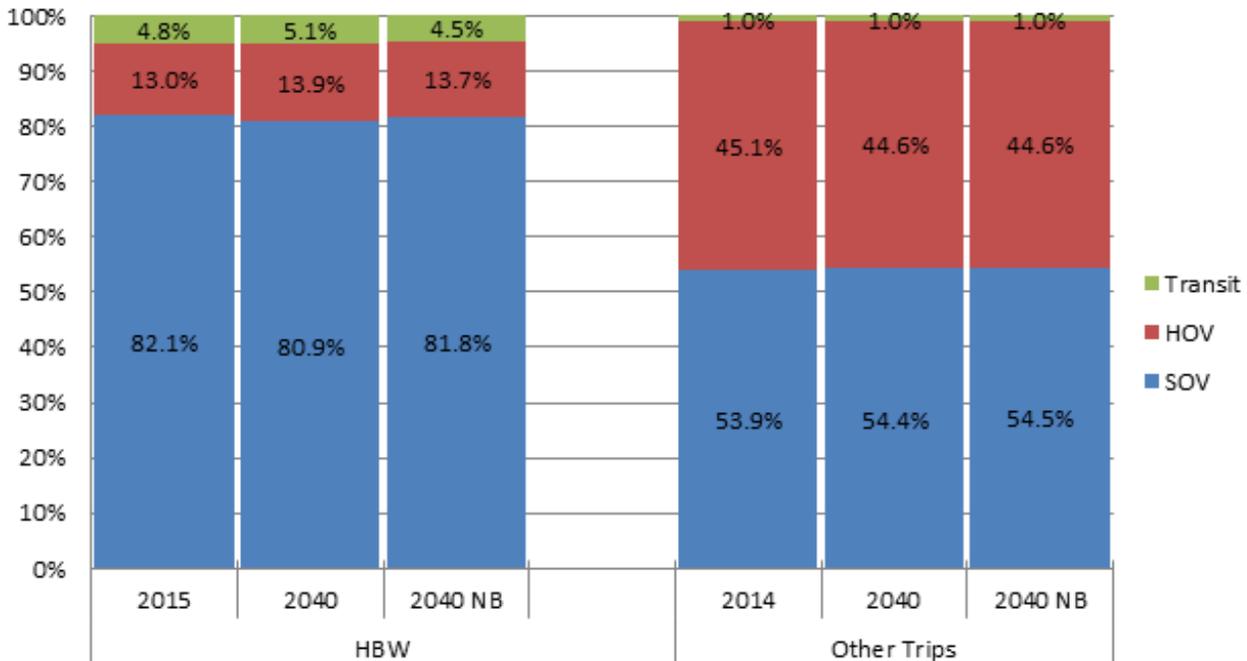
There are many ways to measure the work load being carried by the various elements of the system, so let's explore a few of them.

MODE SPLIT

The chart below shows how the region's workers get between home and work (denoted as HBW trips), which is predominately by a single occupant vehicle (SOV). Regional transit usage remains a small share of the total trips, accounting for roughly 5 % of the total. The share for other types of trips shows a marked increase in trips made by two or more people in the same vehicle (HOV), but an even smaller mode share for transit.

Barring radical shifts in the region's economic fortunes, land use patterns, or the impacts of technology, these figures are unlikely to significantly change between now and 2040. The two bars to the right in each group show what's anticipated under the region's current transportation plan (2040) and what would happen if none of the projects in the plan are actually implemented (2040 NB).

FIGURE 2.9 REGIONAL MODE SPLIT REGIONAL MODE SPLIT



VEHICLE MILES TRAVELED

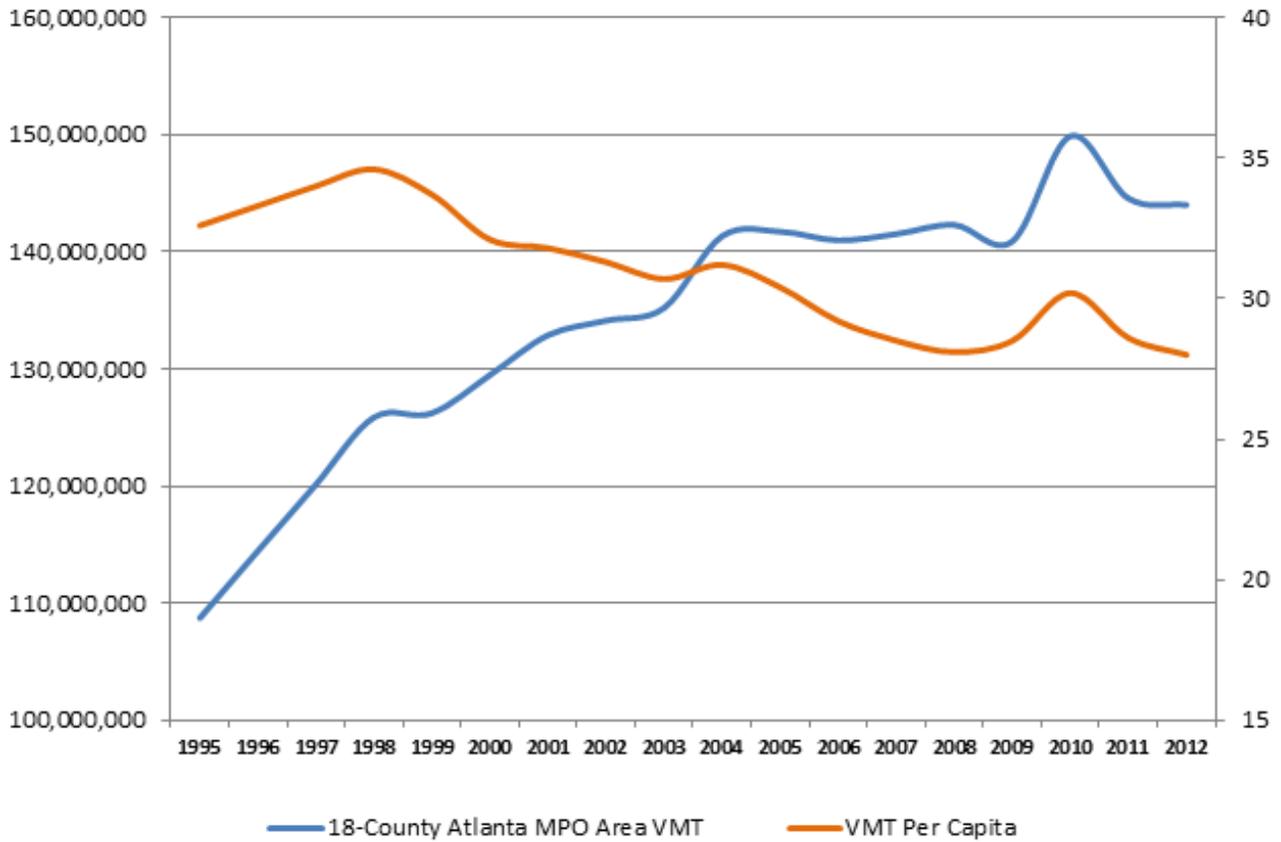
Vehicle Miles Traveled (VMT) can be another indicator of SOV trips and private vehicle use. VMT is the number of miles traveled in a vehicle in a specified area for a specified period of time. The Georgia Department of Transportation (GDOT) publishes average daily VMT data for every county in Georgia on an annual basis. In 2013, ARC compiled average daily VMT data for the Atlanta 18-county area from 1995-2012.

TABLE 2.4 AVERAGE DAILY VEHICLE MILES TRAVELED IN 18-COUNTY ATLANTA AREA, 1995 - 2012

Year	18-County Atlanta MPO Area VMT	% Change from Previous Year	VMT Per Capita
1995	108,730,647	n/a	32.6
1996	114,462,547	5.27%	33.3
1997	120,142,338	4.96%	34.0
1998	125,864,531	4.76%	34.6
1999	126,223,823	0.29%	33.7
2000	129,486,176	2.58%	32.1
2001	132,887,292	2.63%	31.8
2002	134,124,420	0.93%	31.3
2003	135,215,454	0.81%	30.7
2004	141,346,238	4.53%	31.2
2005	141,720,605	0.26%	30.4
2006	140,981,999	-0.52%	29.2
2007	141,520,280	0.38%	28.5
2008	142,289,456	0.54%	28.1
2009	140,889,000	-0.98%	28.5
2010	149,877,000	6.38%	30.2
2011	144,548,000	-3.56%	28.6
2012	143,994,000	-0.38%	28.0

Source: GDOT 445 Series Report, ARC Population Estimates

FIGURE 2.10 Average Daily Vehicle Miles Traveled for the Atlanta Area



In 2012, the average daily VMT in the Atlanta area was 143,994,000, a decrease of 0.4% from the previous year. The VMT per capita decreased by 2.1%, from 28.6 VMT per capita in 2011 to 28.0 VMT per capita in 2012.

TABLE 2.5 AVERAGE DAILY VEHICLE MILES TRAVELED FOR THE ATLANTA AREA

County	2010 Daily VMT	2010 Population	VMT Per Capita
Cherokee	6,058,383	214,346	28.26
Spalding	5,187,145	259,467	19.99
Cobb	14,972,462	688,078	21.76
Dekalb	12,828,693	691,893	18.54
Douglas	3,599,561	132,403	27.19
Fayette	2,834,697	105,567	26.85
Fulton	16,669,775	920,581	18.11
Gwinnett	18,595,832	805,321	23.09
Henry	5,723,761	203,922	28.07
Rockdale	2,212,940	85,215	25.97
10-County Atlanta RC	88,683,249	4,106,793	23.78
Barrow	1,870,020	69,367	26.96
Bartow	2,541,589	100,157	25.38
Coweta	3,688,181	127,317	28.97
Forsyth	4,903,450	175,511	27.94
Newton	2,738,156	99,958	27.39
Paulding	4,410,827	142,324	30.99
Spalding	1,223,635	64,073	19.10
Walton	2,481,272	83,768	29.62
Outer 8 Counties	23,857,131	862,475	27.04
18-County Area Total	112,540,380	4,969,268	25.23

Source: 2010 Activity Based Model and 2010 Census population data

In 2010, Paulding County (30.99) had the highest VMT per capita and Fulton County (18.11) had the lowest. The Activity Based Miles provides information on all trips originating from the county.

TABLE 2.6 AVERAGE DAILY INTERSTATE/FREEWAY VEHICLE MILES TRAVELED IN THE ATLANTA MPO AREA

County	Interstate/Freeway VMT	Daily VMT	% on Interstate/Freeway
Barrow	144,000	1,703,000	8%
Bartow	2,116,000	4,571,000	46%
Cherokee	1,367,000	5,439,000	25%
Clayton	2,883,000	7,417,000	39%
Cobb	5,399,000	18,288,000	30%
Coweta	1,333,000	3,812,000	35%
DeKalb	8,970,000	20,187,000	44%
Douglas	1,569,000	4,184,000	38%
Fayette	0	2,983,000	0%
Forsyth	947,000	4,184,000	23%
Fulton	15,351,000	31,837,000	48%
Gwinnett	5,371,000	20,289,000	26%
Henry	2,240,000	6,376,000	35%
Newton	712,000	2,989,000	24%
Paulding	0	3,033,000	0%
Rockdale	779,000	2,823,000	28%
Spalding	207,000	1,720,000	12%
Walton	100,000	2,159,000	5%
18-County Area	49,488,000	143,994,000	34%

Source: GDOT 445 Series Report

CONGESTION

The only way to quantify future roadway congestion is by estimating traffic flow through the use of a travel demand model or traffic simulation forecast. Yet, with the emergence of technology, computer capacity, and innovative thinking, the capability of analyzing existing travel conditions has expanded tremendously since the previous transportation assessment was done in 2009. This innovation has resulted in large-scale travel-related data set products that reflect actual, observed conditions. ARC purchased the 2010 HERE travel speed data set to support numerous congestion analyses.

HERE data, formerly known as NAVTEQ, is a statistically reliable vehicle speed data set that is captured by onboard GPS (global positioning system) technology that tracks each of the sample vehicle's time and position. HERE makes arrangements with several, anonymous companies and organizations that operate fleets of vehicles, and relies on those vehicles' movements to collect real-time speed data. HERE then

archives this GPS data for a given year and is then able to provide speed summary profiles. The following are some of the key 2010 HERE data attributes:

- The GPS speed profile data covers all major roads in the 20-County metro Atlanta area;
- The 2010 annual average hourly travel speeds are grouped by five day-of-week categories: (1) Mondays, (2) Tuesdays through Thursdays, (3) Fridays, (4) Saturdays, and (5) Sundays;
- TMC (traffic message channel) code identifiers⁶;
- Observed “free flow” speed (represent speed limits).

After processing and mapping the 2010 HERE speed profile data, the congestion on regionally significant roadways in the Atlanta area was analyzed. The analysis involved summarizing the average speeds for the analysis time period into vehicle levels of service (LOS). Below is a description⁷ of each service level:

- **LOS A** represents primarily free-flow operation. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Intersection control delay is minimal.
- **LOS B** represents reasonably unimpeded operation. The ability to maneuver within the traffic stream is only slightly restricted, and control delay at the intersection is not significant.
- **LOS C** represents stable operation. The ability to maneuver and change lanes between intersections may be more restricted, and longer queues at approaching intersections may contribute to lower travel speeds.
- **LOS D** indicates a less stable condition in which small increases in vehicular traffic may cause substantial increases in delay and decreases in travel speed. This operation may be due to adverse signal progression, high volume, or inappropriate signal timing at approaching intersections.
- **LOS E** is characterized by unstable operation and significant delay. Such operations may be due to some combination of adverse progression, high volume, and inappropriate signal timing at the approaching intersection.
- **LOS F** is characterized by traffic flow at extremely low speed. Congestion is likely occurring at the boundary intersection, as indicated by high delay and extensive queuing.

To help further describe the LOS concept, Table V depicts the associated degradation in travel speed for each of the LOS categories.⁸

6 The Traffic Message Channel (TMC) is a specific application of the FM Radio Data System (RDS) used for broadcasting real-time traffic and weather information.

7 HCM2010 – Highway Capacity Manual, Transportation Research Board of the National Academies.

8 HCM2010 – Highway Capacity Manual, Transportation Research Board of the National Academies.

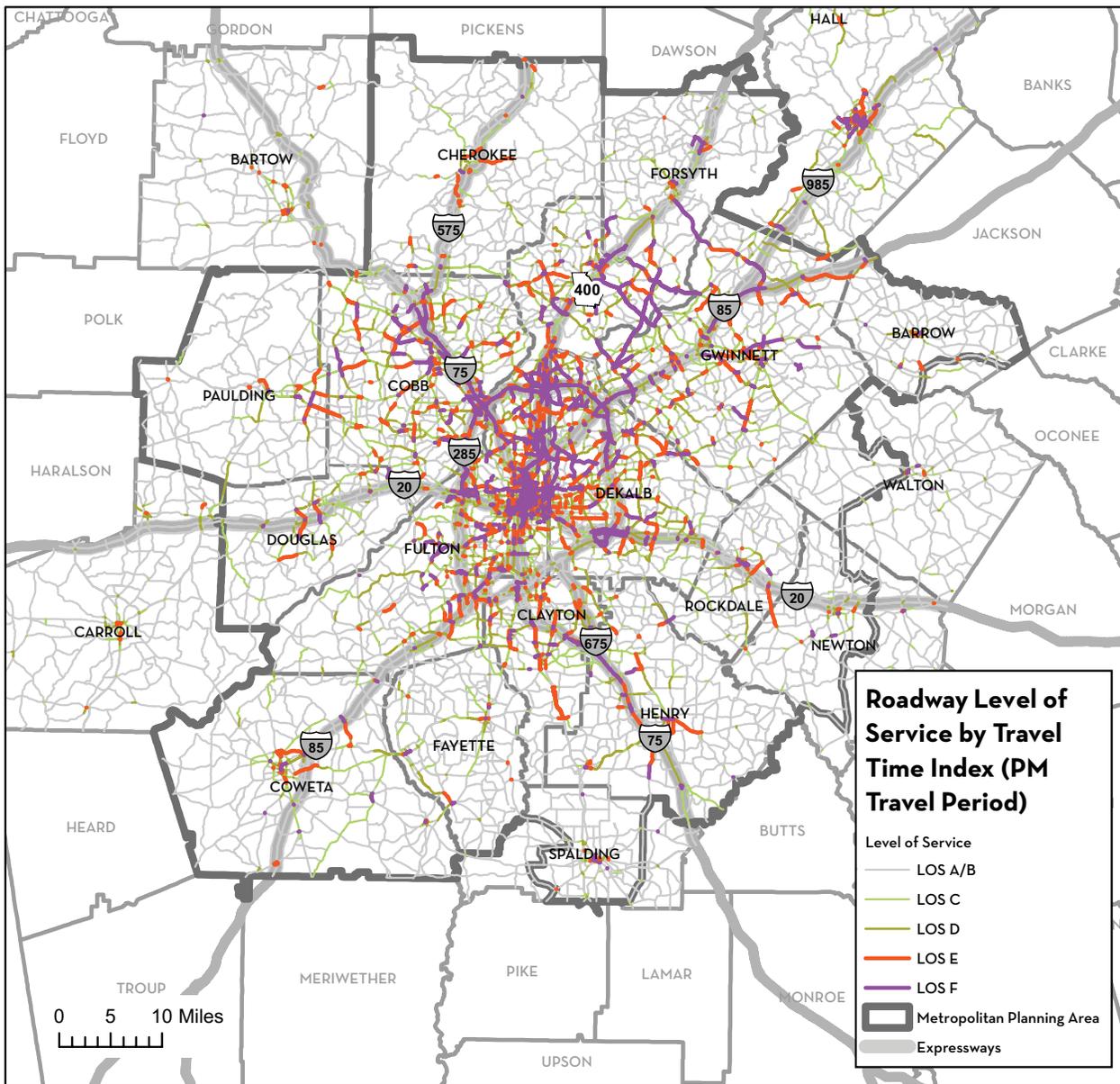
TABLE 2.7 LOS TRAVEL SPEED AS A PERCENTAGE OF FREE-FLOW SPEED

Level of Service	Travel Speed as A Percentage of Free-Flow Speed (e.g., posted speed limit)
A	>85% of the posted speed limit
B	>67 – 85% of the posted speed limit
C	>50 – 67 % of the posted speed limit
D	>40 – 50 % of the posted speed limit
E	> 30 – 40% of the posted speed limit
F	< 30% of the posted speed limit

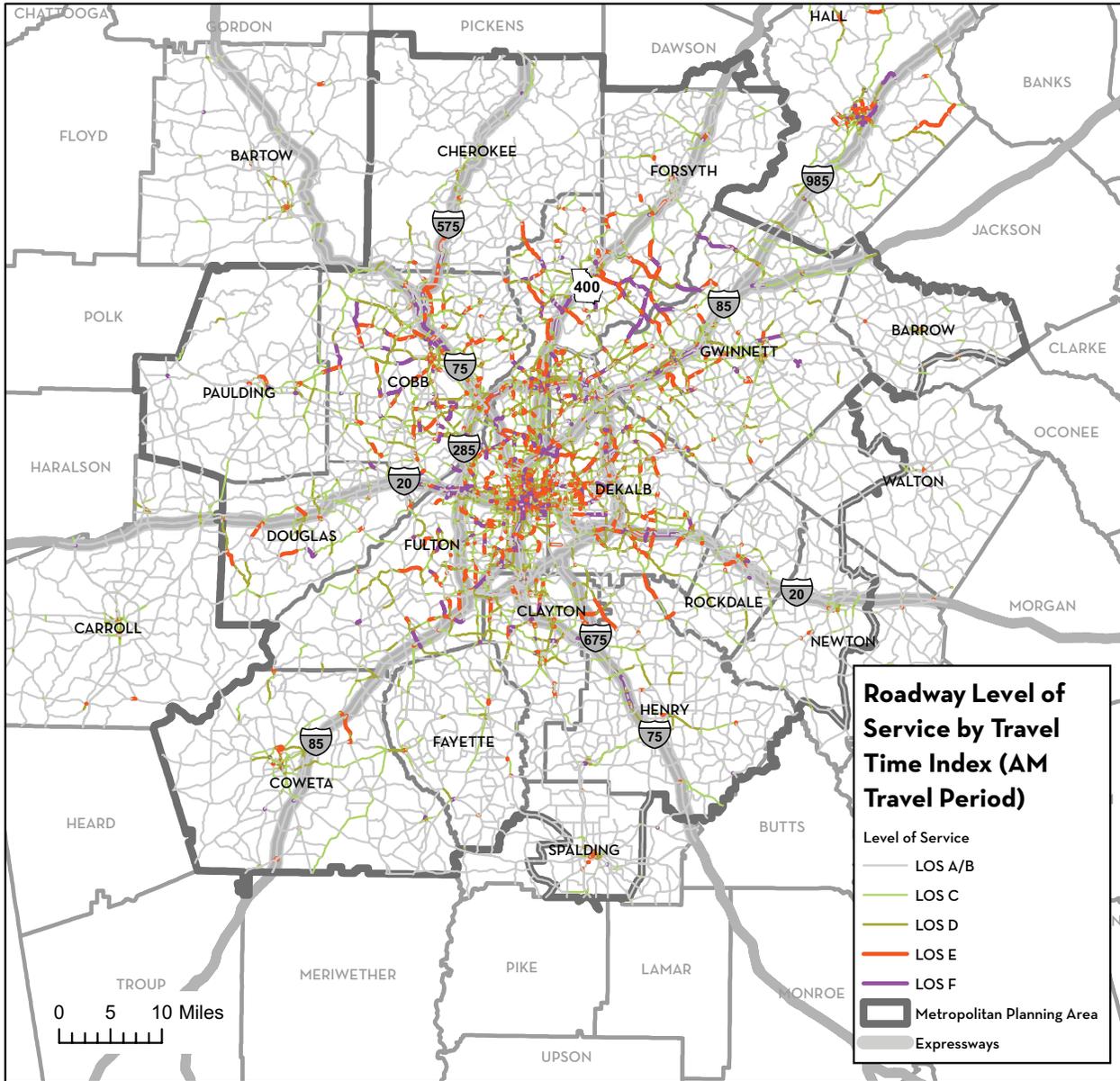
Maps 2-11 and 2-12, below, illustrate the LOS for the PM (3:00 PM – 7:00 PM) and AM (6:00 AM – 10:00 AM) time periods. The figures show that numerous facilities in the region are operating at a LOS of E or worse in either or both peak periods. Facilities that connect to major activity centers in Fulton, DeKalb, Cobb and Gwinnett counties are consistently operating at LOS E and F. In addition, the I-75 corridor in Clayton and Henry counties, and facilities that tie Gwinnett to Forsyth and North Fulton counties also demonstrate poor LOS.

Congestion is truly a regional issue, but a larger share of facilities in the core of the region are congested. Due to existing land uses, many facilities in these areas are not able to be widened to increase capacity and relieve congestion. These areas will require operational improvements and improved multimodal accessibility to help maintain mobility.

MAP 2.11. PM LEVEL OF SERVICE FROM THE TRAVEL TIME INDEX



MAP 2.12. AM LEVEL OF SERVICE FROM TRAVEL TIME INDEX



The fraction of mileage of each roadway functional class by LOS for the PM time period is illustrated in **Table 2.8**. Regionally, nearly a quarter of principal arterials are operating at LOS E or F for the PM period. While the percent of mileage of regional freeway, minor arterial and collectors operating at LOS E or F are low, these values do not reflect the volume of traffic impacted. In **Table 2.9**, the vehicle miles traveled by LOS show a better picture of the extent of congestion in the Atlanta region. When considering VMT instead of mileage by LOS, we see that a larger share of all facilities are operating at LOS E or F for the PM period. Over 30% of PM freeway VMT and more than a quarter of all PM VMT on the national highway system and the regional thoroughfare network occur at a LOS E or F.

TABLE 2.8 LOS FOR PM

Facility Type	LOS A/B	LOS C	LOS D	LOS E	LOS F	Total	LOS E/F
Freeway	75.6%	5.8%	4.7%	3.0%	10.9%	100.0%	13.9%
Principal Arterial	35.6%	21.0%	19.8%	12.8%	10.9%	100.0%	23.6%
Minor Arterial	75.2%	11.3%	7.0%	4.0%	2.5%	100.0%	6.5%
Collector	78.1%	8.3%	6.7%	4.0%	2.9%	100.0%	6.9%
Sum	72.4%	10.8%	8.1%	4.8%	4.0%	100.0%	8.8%
Regional Thoroughfare Network	49.2%	17.7%	14.8%	10.1%	8.1%	100.0%	18.3%
National Highway System	52.8%	14.8%	11.8%	9.2%	11.5%	100.0%	20.7%
ASTRO-MAP (Freight Network)	55.5%	16.9%	13.8%	7.9%	5.9%	100.0%	13.8%

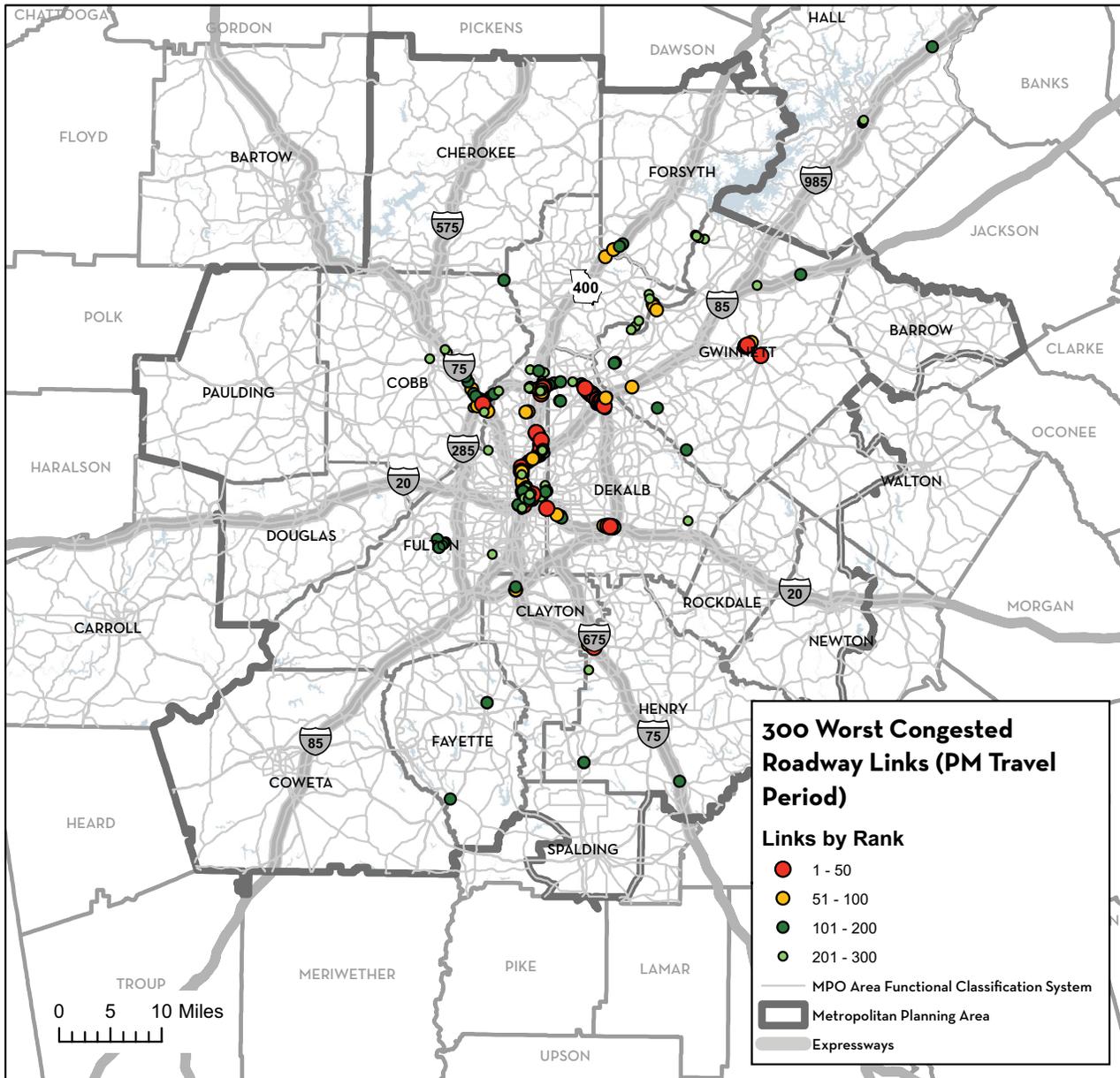
TABLE 2.9 LOS FOR ATLANTA REGION

Facility Type	LOS A/B	LOS C	LOS D	LOS E	LOS F	Total	LOS E/F
Freeway	64.7%	7.4%	5.6%	4.2%	18.1%	100.0%	22.3%
Principal Arterial	27.0%	20.4%	21.5%	16.0%	15.1%	100.0%	31.1%
Minor Arterial	60.5%	15.0%	11.1%	7.6%	5.8%	100.0%	13.4%
Collector	61.2%	13.0%	11.8%	7.0%	7.0%	100.0%	13.9%
Sum	55.5%	13.0%	11.2%	7.9%	12.5%	100.0%	20.4%
Regional Thoroughfare Network	36.0%	18.3%	17.7%	13.6%	14.4%	100.0%	28.0%
National Highway System	53.1%	10.9%	9.5%	8.0%	18.4%	100.0%	26.5%
ASTRO-MAP (Freight Network)	43.4%	17.5%	17.1%	11.5%	10.4%	100.0%	21.9%

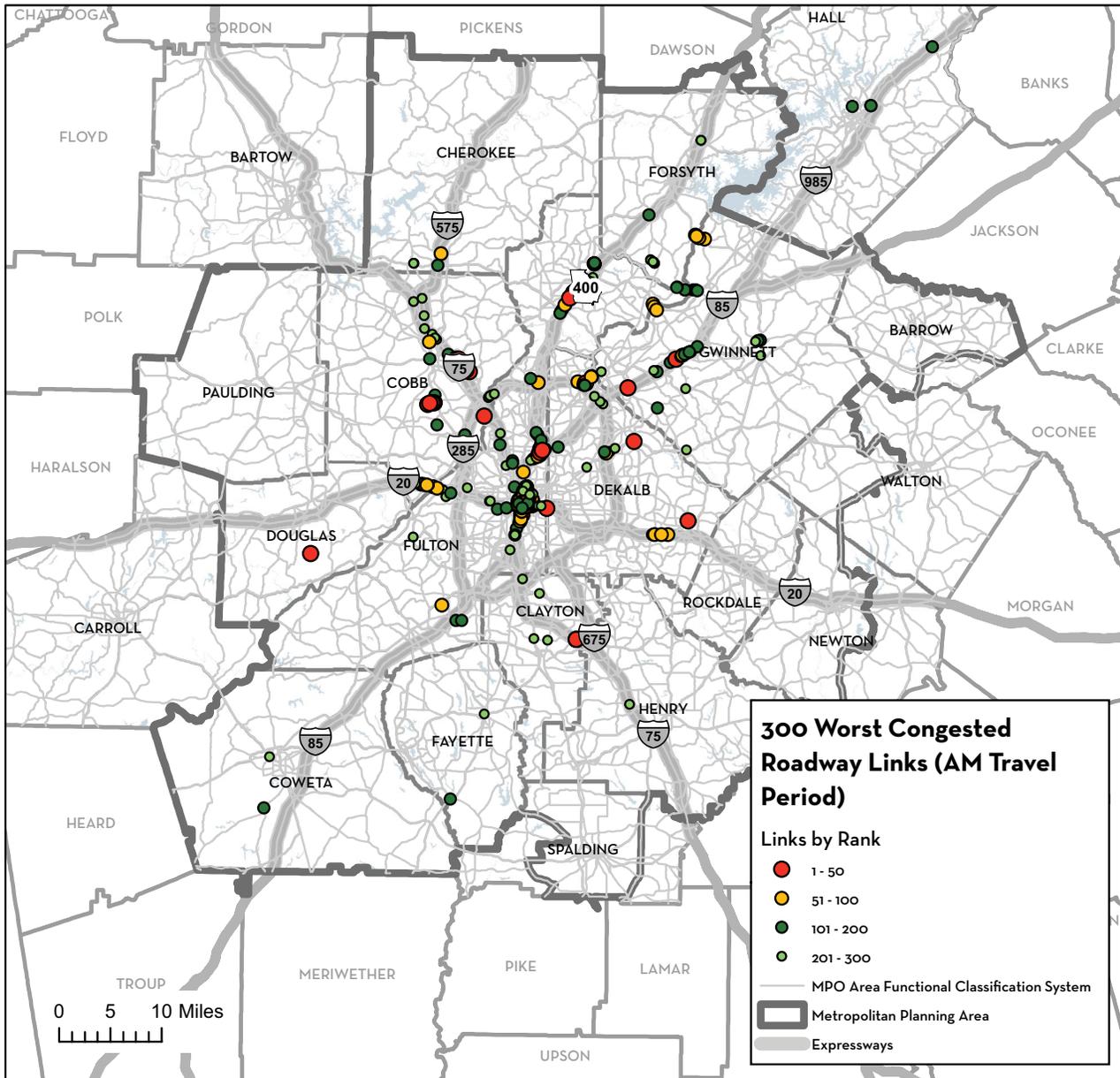
Maps 2-13 and 2-14, below, illustrate the 300 most congested individual stretches of roadway in the Atlanta region for both the AM and PM periods. While many facilities are congested in both the AM and PM periods, there are some differences due to changes in activity patterns by time of day.

In general, the PM period is more congested than the AM period. Extra traffic during the PM period is reflected in the figures with more congestion along the region’s core freeway facilities, especially along the I-285 “Top-End” from I-75 to I-85. During the AM period, I-285 “Top-End” is not as congested as SR 400 in North Fulton, and along I-20, from Douglas County to I-285. In all time periods, surface facilities in downtown Atlanta and along the downtown connector contain segments in the top 300 most congested sections of roadway in the region.

MAP 2.13. 300 WORST STRETCHES OF ROADWAY IN THE PM PERIOD



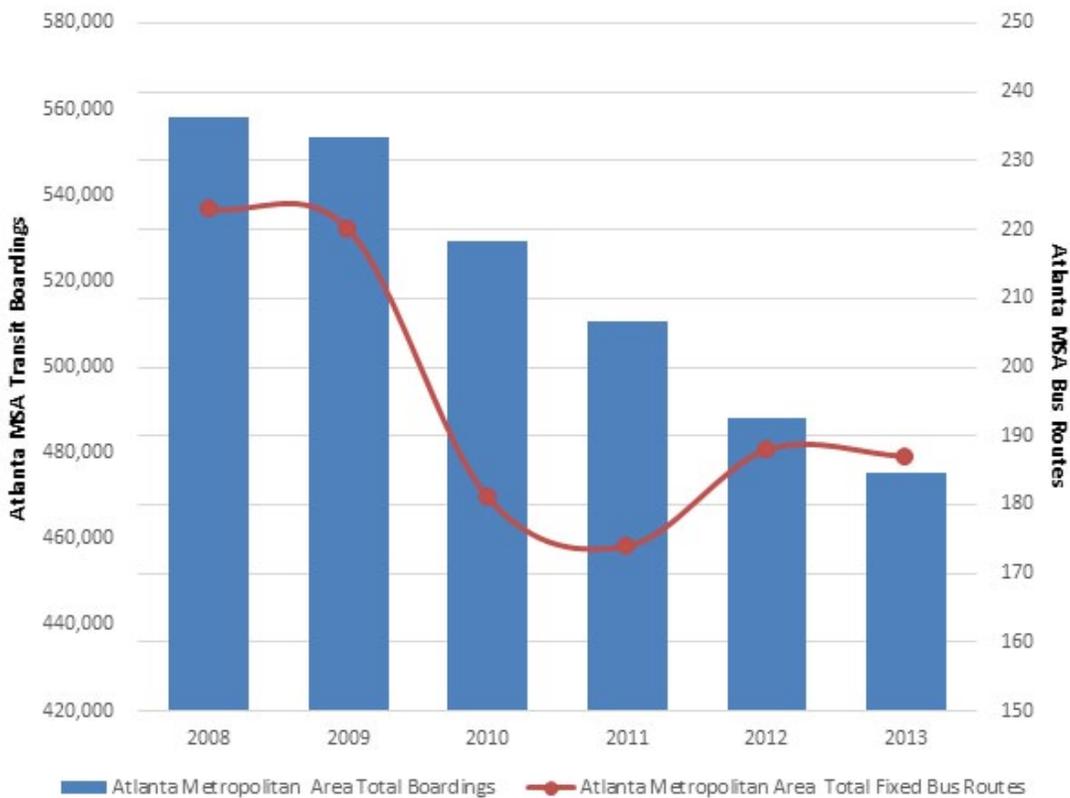
MAP 2.14. 300 WORST STRETCHES OF ROADWAY IN THE AM PERIOD



TRANSIT

Transit in the Atlanta region was impacted by the ongoing economic downturn in 2010. In March of that year, Clayton County’s local C-Tran service, which previously handled approximately 8,700 boardings per day, was discontinued after eight years of operation due to a lack of operating funding. In September, MARTA implemented a major restructuring of its system, reducing bus and rail service by more than 10% and also increasing fares. Gwinnett County Transit also implemented significant reductions in service due to budget shortfalls. These service modifications resulted in a 16% decrease in the number of total fixed routes operated in the Atlanta region between 2008 and 2013, which was followed by a 15% decrease in average weekday transit ridership in the region over the same period of time.

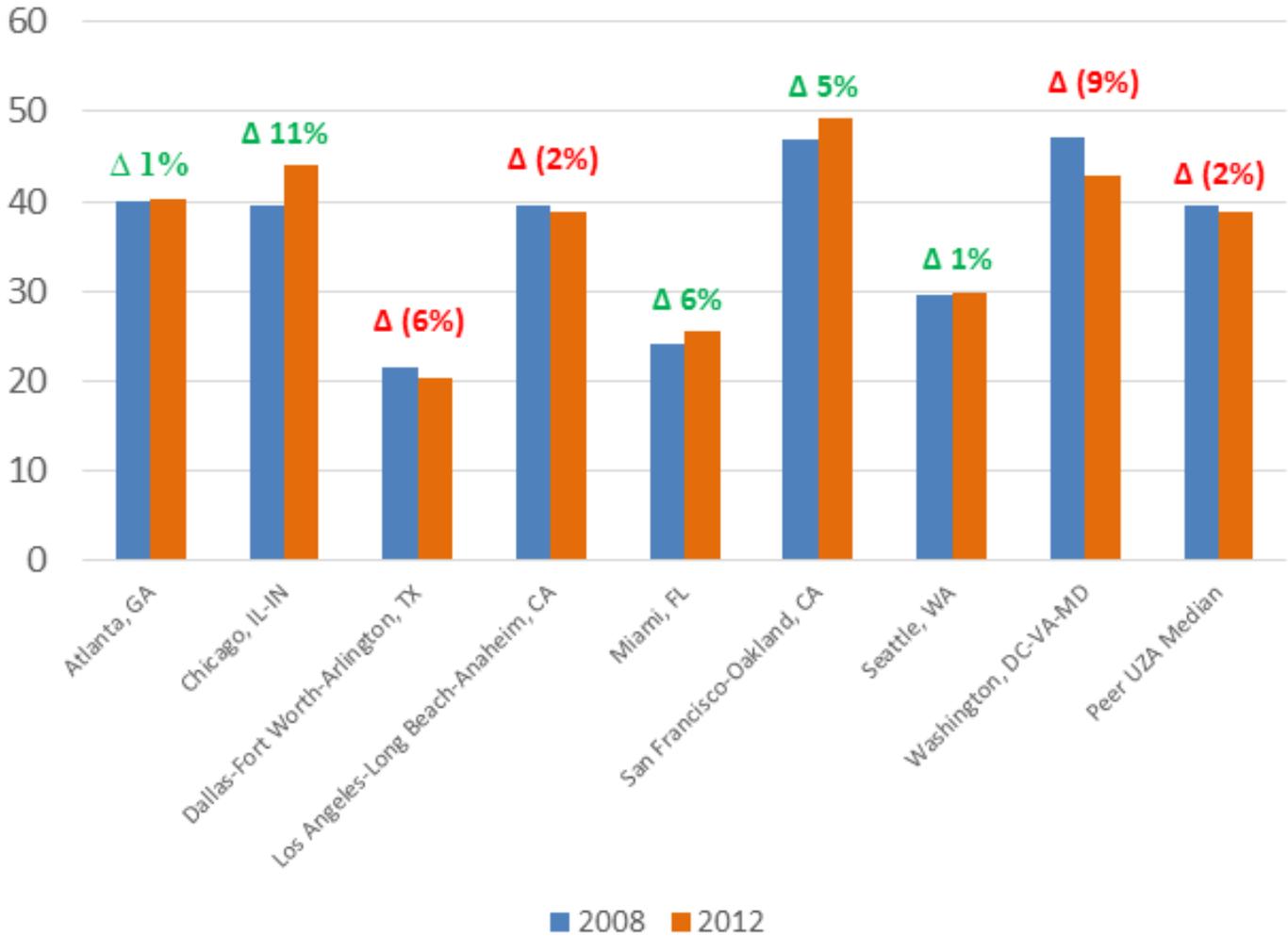
FIGURE 2.11 TRANSIT AVERAGE WEEKDAY BOARDINGS & FIXED ROUTES IN SERVICE



In November 2014, voters in Clayton County approved a binding referendum to join the MARTA system. As such, transit ridership is expected to increase in the near future as needed transit services will begin operations there in 2015.

While transit service adjustments appear to have had a major impact on transit ridership in the Atlanta region, the service that is provided appears to be relatively efficient when compared to peer regions with similar population and transit service characteristics. A commonly utilized measure of transit service efficiency is passenger trips per vehicle revenue hour. This metric examines the number of trips a transit service provider operates relative to the hours of service offered. Typically, higher values are realized by focusing service within areas with a higher population and employment density.

FIGURE 2.12 UNLINKED PASSENGER TRIPS PER VEHICLE REVENUE HOUR



The chart above compares the service efficiency of the Atlanta region’s transit service providers to a group of peer urbanized areas. These urbanized areas are similar to the Atlanta region in terms of population and the variety of transit modes operated. As shown, our region slightly outperformed the median of our peers in this metric between 2008 and 2012, increasing one percent to 40.3 unlinked passenger trips per vehicle revenue hour. **This finding suggests that transit operators in the Atlanta region are successfully routing service to the areas of highest demand.**

REGIONAL TRANSIT OPERATIONS COORDINATION

The presence of multiple transit operators in the Atlanta region presents unique service and operations coordination issues which ARC seeks to address. The Regional Transit Committee of the Atlanta Regional Commission is tasked with fostering transit operations coordination among the region’s network of transit agencies. Much of the committee’s work focuses on two key goals: improving regional inter-agency travel and increasing transit ridership. Currently, the region’s transit providers and ARC are working to improve the efficiency of transit fare collection, bus stop signage design, transit service route characteristics and open data formatting.

Fare Collection

In 2006, the region took a significant step in improving regional transit travel by implementing Breeze, the region’s automated fare collection system. The Breeze Card is a smartcard that is utilized by all four of the major transit operators, including CCT, GCT, GRТА and MARTA. MARTA currently operates the Breeze clearinghouse to support the region’s automated fare collection system. Inter-agency fare agreements exist between MARTA and each of the three Breeze Partners (CCT, GCT and GRТА). These agreements allow free or discounted transfers between the Breeze partners and MARTA.



While Breeze was a significant step forward in regional transit, there are several improvements still needed surrounding Breeze and regional transit. One of those opportunities is the creation of a regional transit pass product that would allow riders to utilize multiple transit agencies, thereby simplifying the current complicated process of transferring across agencies to complete a trip. There are a myriad of transfer options and costs associated with transfers when traveling by transit regionally. Understanding the transfer costs between agencies can be confusing for passengers, and the information is not always easily accessible on each transit operator’s website. A common transit currency for the region would eliminate the need for many passengers to purchase fare for multiple operators in order to make their daily commute.

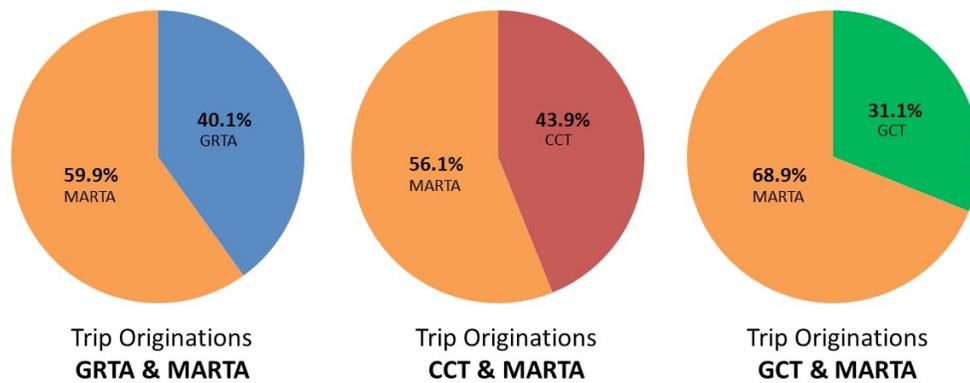
FIGURE 2.13 REGIONAL FARE COSTS.

Originate Trip	Base Fare	MARTA	CCT Local	CCT Flex	GCT Local	Streetcar	CCT Express	GCT Express Z1	GCT Express Z2	GRТА Green	GRТА Blue
MARTA	\$2.50	Free	Free	\$2.50	Free	Free	\$2.50	Free	Free	Free	Free
CCT Local	\$2.50	Free	Free	Free	N/A	N/A	\$2.50	N/A	\$5.00	\$3.00	\$4.00
CCT Flex	\$2.50	\$2.50	Free	Free	N/A	N/A	\$2.50	N/A	N/A	\$3.00	\$4.00
GCT Local	\$2.50	Free	N/A	N/A	Free	N/A	N/A	\$1.25	\$2.50	\$3.00	\$4.00
Streetcar	\$1.00	\$1.50	N/A	N/A	N/A	N/A	\$5.00	\$3.75	\$5.00	\$3.00	\$4.00
CCT Express	\$5.00	Free	Free	N/A	N/A	\$1.00	Free	\$3.75	\$5.00	\$3.00	\$4.00
GCT Express Z1	\$3.75	Free	N/A	N/A	Free	\$1.00	\$5.00	Free	\$1.25	\$3.00	\$4.00
GCT Express Z2	\$5.00	Free	\$2.50	N/A	Free	\$1.00	\$5.00	Free	Free	\$3.00	\$4.00
GRТА Green	\$3.00	Free	\$2.50	\$2.50	\$2.50	\$1.00	\$5.00	\$3.75	\$5.00	\$3.00	\$4.00
GRТА Blue	\$4.00	Free	\$2.50	\$2.50	\$2.50	\$1.00	\$5.00	\$3.75	\$5.00	\$3.00	\$4.00

Source: MARTA, CCT, GCT, GRТА

A 2013 Fare Efficiency Study by ARC put forth a roadmap to implementing such a regional transit pass, but warned that “agencies are reluctant to discontinue use of magnetic/paper media and fully commit to Breeze until concerns regarding revenue leakage and allocated costs are resolved.” Revenue leakage is an unintended result of the interagency fare agreements between MARTA and the other operators. Ideally these trip originations would be close to a 50/50 split between operators, but the data demonstrates otherwise.

FIGURE 2.14 RIDERSHIP TRANSFERS TRIP ORIGINATIONS BY AGENCY SOURCE: NEXTFARE



Unfortunately, some riders have learned how to circumvent the intent of the original transfer agreements. As a result, fare leakage is having an impact on fare box recovery for several operators. Additionally, the region lacks an equitable way to allocate costs from the regional Breeze clearinghouse and automated fare collection system among its Breeze partners. Currently, MARTA operates Breeze on behalf of the region. **The importance of resolving the issues surrounding sharing regional costs and revenues will continue to grow as regional partners will be unlikely to adopt next generation fare collection systems, such as mobile ticketing, if costs are not clearly defined.**

SIGNAGE AND INFORMATION

Because the Atlanta region’s core is serviced by four different transit providers (CCT, GCT, GRTA and MARTA), it is a goal of the systems to provide riders with a clear and concise way of finding where multiple operators service a single bus stop. In an effort to decrease the amount of transit signage, provide improved bus stop information and improve the perception of regional transit coordination, the Regional Transit Committee devised a unified bus stop signage design standard which all transit agencies can use. This standard is intended to have a significant impact on signage in the urban core of Atlanta, where all four transit operators currently overlap in service. With a unified design in place, there is now a need to identify a project sponsor to implement and maintain new unified signage.



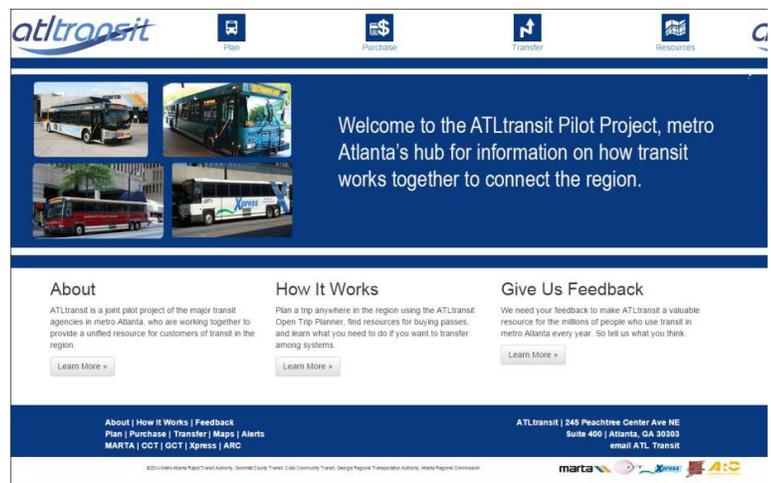
COMMUTER BUS ROUTE DESIGN

Commuter bus services provide convenient, limited stop transportation

from suburban and exurban park and ride facilities to large regional employment centers. Currently, most bus commuter services link in downtown and midtown Atlanta, which results in a large number of service miles that duplicate services already provided by other bus routes and rail services. An ARC-commissioned regional transit fleet and facilities study identified this issue and recommended that the region explore orienting services towards more of an expanded hub and spoke model, whereby bus services feed passengers into the rail network or high capacity bus services. By developing external hubs – either at key bus route convergence points or at periphery MARTA rail stations – service miles and operating expenses per transit vehicle mile could be reduced. While such a route structure could increase the transfer impact for transit riders, it could also allow more frequent service to be operated overall. Several of the region’s transit operators have completed or are currently conducting Comprehensive Analysis of Operations (COA) studies of their transit operations, which include study of route structures. **Further coordination through the ARC Transit Operators Subcommittee may be warranted to better understand the recommendations of these COA studies to see if an expanded external hub commuter bus routing scheme should be implemented.**

TECHNOLOGY AND DATA COORDINATION

While the various technologies that drive operations are distinct to each transit operator, the coordination of these systems and their data outputs is crucial to a well-functioning regional transit system. The ARC’s work to develop a regional transit data clearinghouse over the past few years left the region in a strong position to quickly respond to state lawmakers’ call for a regional transit trip planner. By adhering to a widely accepted open data specification for transit data—the General Transit Feed Specification (GTFS)—the region’s operators collectively launched AtITransit.org in only six months. This regional transit website delivers information about how to plan and pay for trips that span multiple transit service areas.



The region’s transit agencies are now evaluating various mobile ticketing platforms. As a part of that conversation, it has been encouraged that any transit apps that are developed be regional in nature, and there is significant potential to capitalize on the work that has been completed with the regional transit data clearinghouse. An integrated regional app could enable a customer to purchase fare, view schedules and routes, check real-time arrival information, as well as the ability to report customer concerns. **Moving forward, the region should continue to prioritize open data policies and standards while working to ensure that their technology systems fit into a regional strategy.**

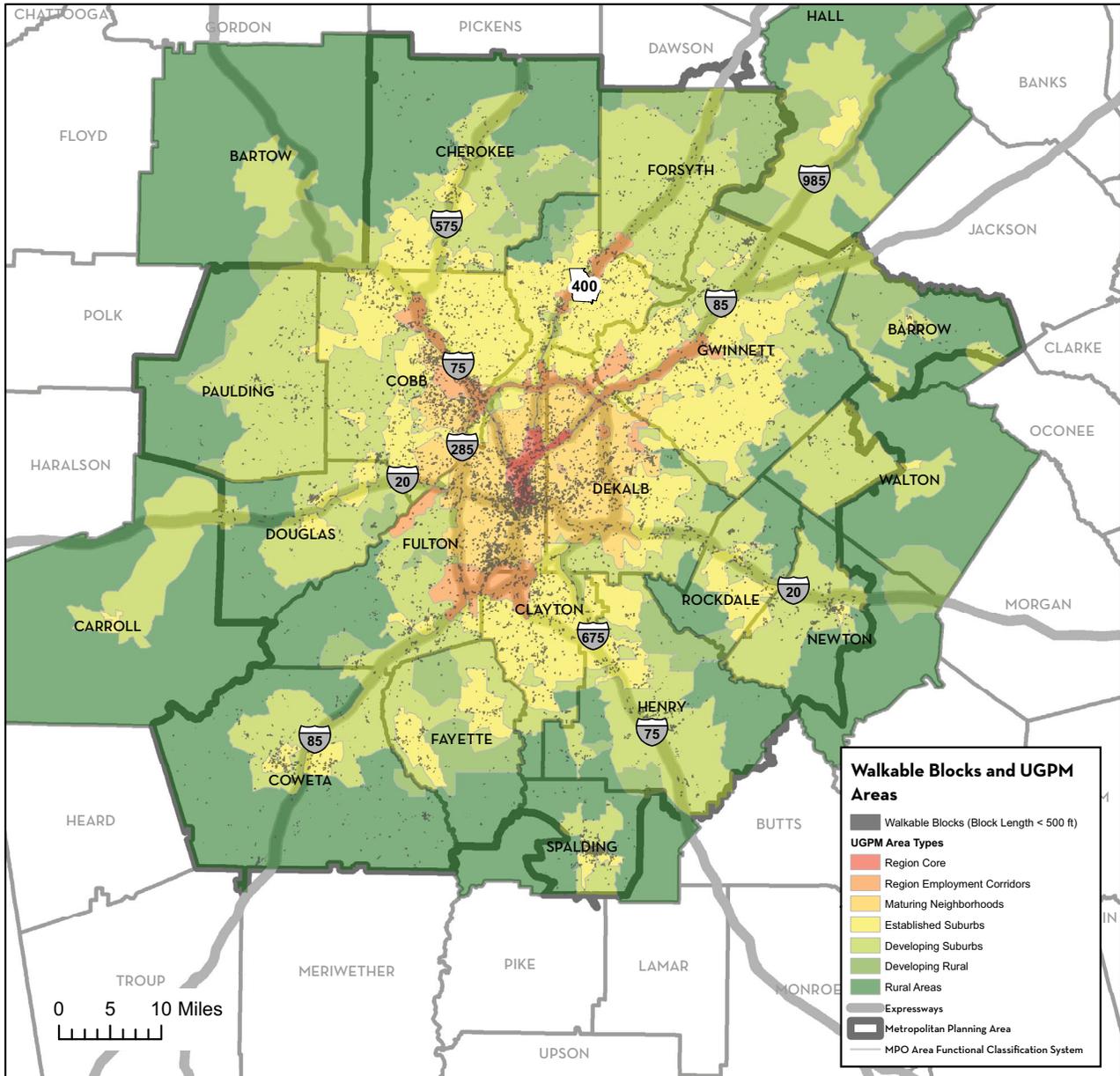
ACTIVE TRANSPORTATION

Examining walkable block sizes against the ARC’s Unified Growth Policy map there is a clear pattern of walkable areas tracking with three distinct UGPM area types – Urban Core, Regional Employment Corridors, and Maturing Neighborhoods. A significant number of walkable blocks exist in suburban and rural areas but generally at a lower rate and less consistently distributed.

REGIONAL WALKING & PEDESTRIAN TRANSPORTATION DEMAND

Using walkable block sizes as a proxy for walkable areas helps assess relative demand for walking trips across the region. Comparing walkable block sizes against the ARC's Unified Growth Policy map there is a clear pattern of walkable areas tracking with three distinct UGPM area types – Urban Core, Regional Employment Corridors, and Maturing Neighborhoods. A significant number of walkable blocks exist in suburban and rural areas but at a lower rate and less consistently distributed.

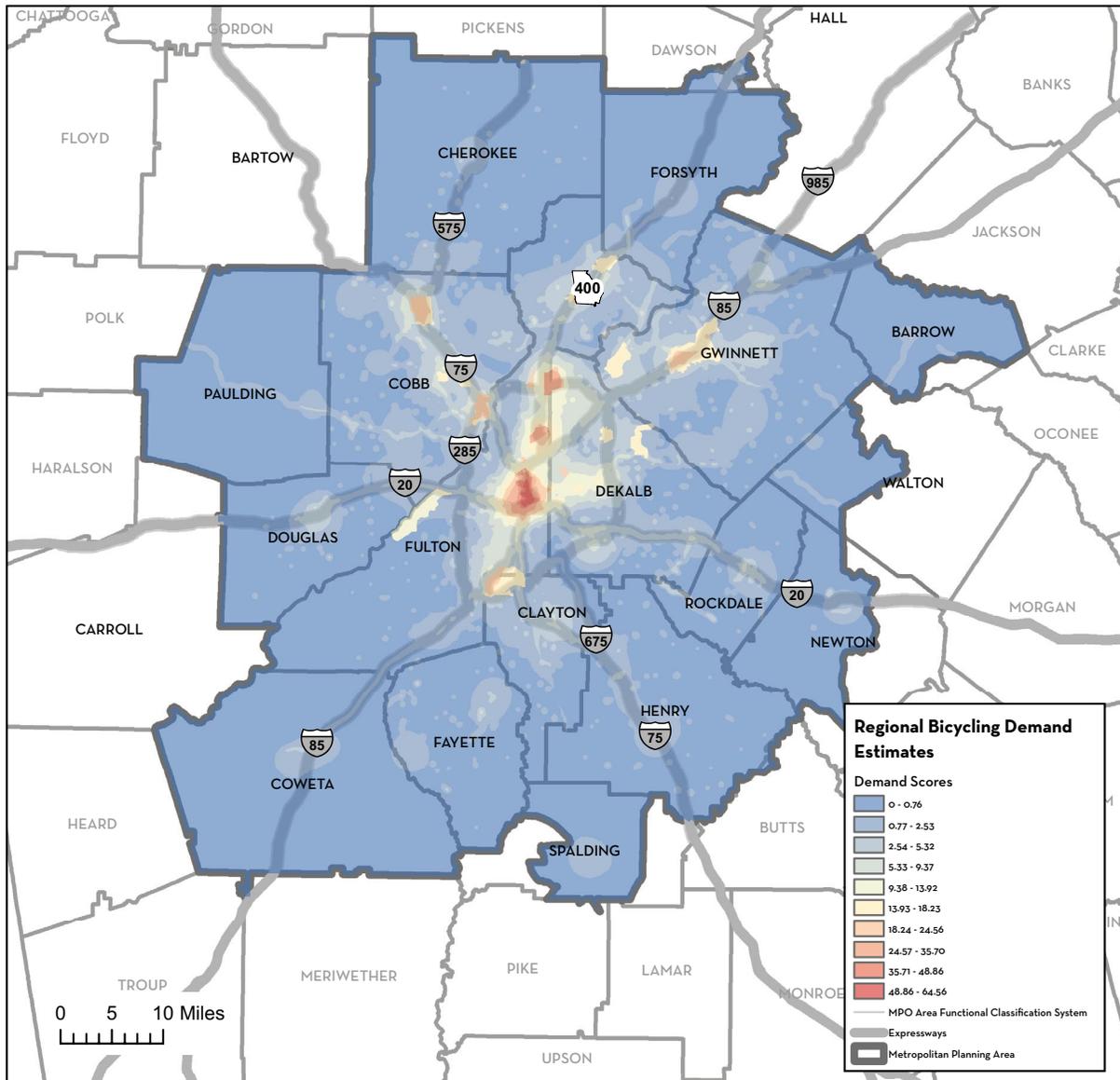
MAP 2.15. WALKABLE BLOCK SIZES & ARC UGPM AREA TYPES



REGIONAL BICYCLE TRANSPORTATION DEMAND

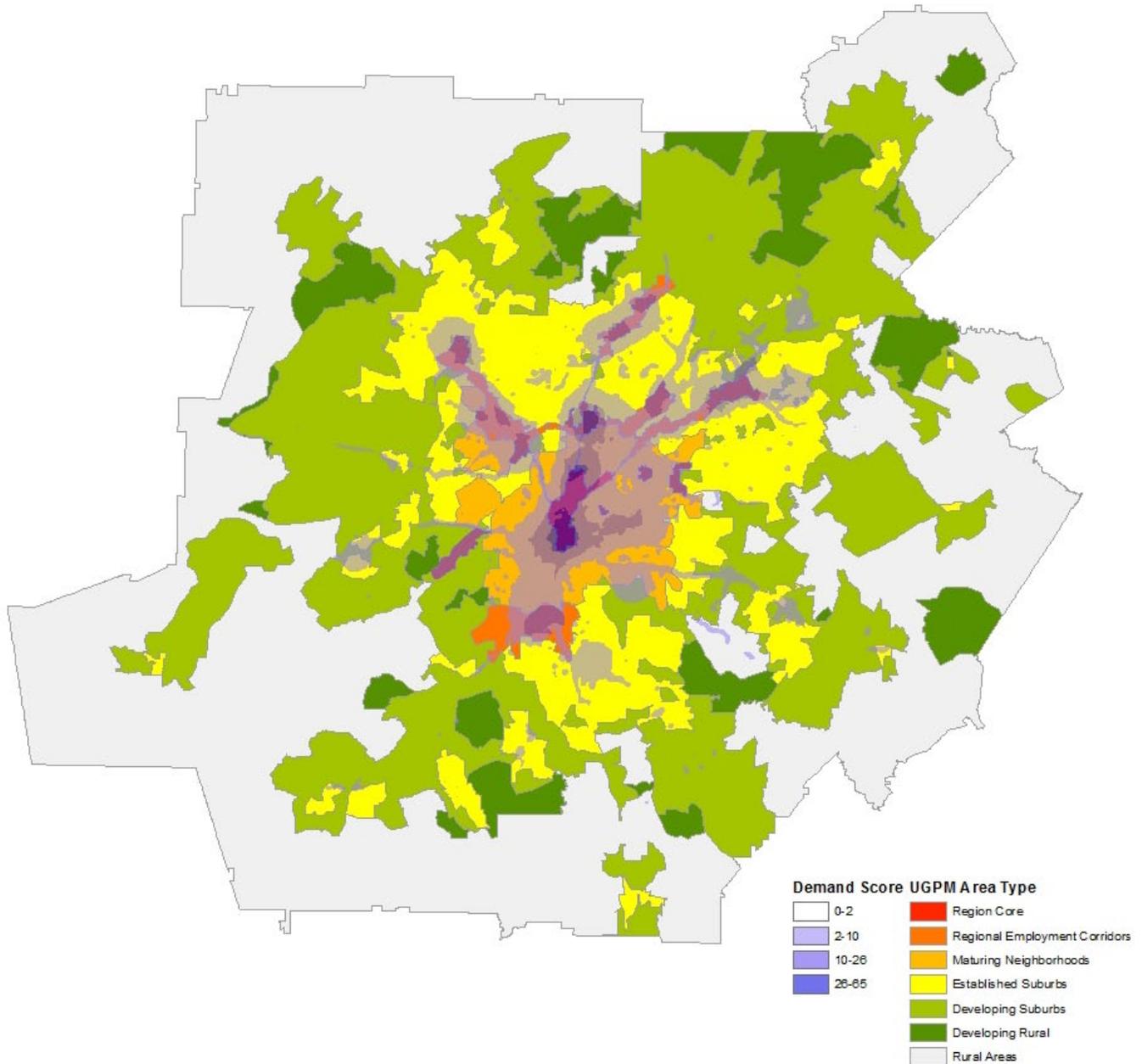
ARC has examined opportunities for closing gaps in the existing bicycle facility network as well as estimating areas of highest demand for bicycling transportation. Map 2.20 is a demand heat map that summarizes the potential interest in bicycling trips within the region. The map combines demographic factors, land use patterns, and transportation system elements that are conducive to bicycling trips. Demographic factors include population and employment densities; land use factors incorporate neighborhood and activity center distribution; and transportation elements address the distribution of bicycling infrastructure.

MAP 2.16. REGIONAL BICYCLE DEMAND



Examining bicycle transportation demand against the ARC's Unified Growth Policy map there is a clear pattern of bicycling potential tracking with three distinct UGPM area types – Urban Core, Regional Employment Corridors, and Maturing Neighborhoods. Scattered areas of moderate bicycle demand exist in suburban and rural areas but those areas are located around historic town centers or neighborhoods with a demographic profile consistent with higher bicycle transportation rates.

MAP 2.17. DEMAND FOR BICYCLING & ARC UGPM AREA TYPES



The lack of definitive data for walking and bicycling trips force comparisons of proxy measures. Looking at US Census trips against assumptions of demand for walking and bicycling within the region a clear pattern emerges – the highest levels of walking and bicycling occur within the core of the region, ARC’s UGPM areas defined as Urban Core, Regional Employment Centers, and Maturing Neighborhoods. Contributing factors are likely a combination of demographics – people more likely to want or need to travel by foot or bike – and denser development patterns with shorter, more convenient trip distances.

These conclusions do not take into account critical policy decisions around the need to address safety concerns or broader regional connectivity, but does lead to policy assumptions about supporting existing travel demand and land use patterns that correlate with higher levels of active transportation.

Walking and bicycling travel rates are uneven within the Atlanta region. The highest rates of bicycling and walking travel as well as the highest levels of demand are generally located within the densely developed areas in the region’s Unified Growth Policy Map. Walking and bicycling transportation should be supported on every roadway within the region to ensure safe and comfortable travel, but the concentration of walking and cycling demand leads to several policy implications for focusing limited transportation resources.

Policy implications for walking are to continue to focus pedestrian infrastructure within established urban areas and activity centers. Areas with walkable block sizes in addition to areas with high densities of pedestrian destinations attract and serve higher rates of walking transportation, as well as extending the effective reach of regional transit. A critical exception may be in areas with persistent or significant safety concerns where pedestrian infrastructure may make travel safer even in low-demand suburban or rural areas.

Policy implications for bicycling are likewise to focus dense networks of high-quality bicycle infrastructure within established urban areas with high potential for ridership. Outside dense activity centers there may be critical connections that provide “intra-urban routes” to support regional travel comfortably and conveniently. Bicycle infrastructure opportunities should also be examined in low-demand areas where scenic, natural, historic, and recreational destinations may attract high levels of ridership.

**HOW WELL IS OUR
TRANSPORTATION SYSTEM
SUPPORTING AN
INNOVATION ECONOMY?**

The Atlanta region is a major economic engine and driver of Georgia's economy. With roughly half of the state's population and more than 60 percent of the state's economic activity, metro Atlanta is critical to Georgia's financial well-being. Metro Atlanta is a diverse region anchored by the state capital, several of the state's most prestigious colleges and universities, numerous Fortune 500 headquarters and the world's busiest airport. These key assets help form the foundation that will allow an economy driven by innovation to grow and thrive in our region, securing prosperity and opportunity for all who call metro Atlanta home.

THE REGION HAS AN ECONOMIC COMPETITIVENESS STRATEGY IN PLACE TO HELP FOCUS OUR PRIORITIES.

The Great Recession challenged the Atlanta region on many levels, as it has many metro areas across much of the nation. In response to this downturn, ARC convened a group of residents and leaders to devise a Regional Economic Competitiveness Strategy for metro Atlanta. This effort provides a clear roadmap to address the post-recession challenges which threaten the region while bolstering the strengths which give us a competitive advantage over peer regions.

A clear strength identified by the strategy is our existing aviation and freight transportation infrastructure, which contribute significantly to the economic competitiveness of Metro Atlanta. These key assets support an innovation economy by providing the region's residents and goods easy access to global markets. It is essential that we protect and expand these assets in order for the region to take advantage of innovation economy opportunities such as the emerging manufacturing renaissance, which leverages new technologies such as 3D printing to dramatically decrease production costs. **An efficient system of surface and air freight transportation will be necessary to support the supply chain needs of a reinvigorated manufacturing industry.**

Maintaining the region's relatively young, highly educated workforce is a key challenge documented in the Regional Economic Competitiveness Strategy. Therefore it is critical to metro Atlanta's economy that we retain many of the graduates leaving the region's colleges and universities each year. **Because many young professionals want to live in settings where they are close to work, recreation, public transportation and social activities, it is important that the plan supports the regional and community activity centers which are positioned to meet the lifestyle expectations.**



Finally, emerging advancements in technology show promise to support the innovation economy through an increase in transportation system efficiency. For example, autonomous vehicles may dramatically increase the carrying capacity of our region's highways. The ubiquitous smart phone is changing how we move today by making on-demand transportation services such as Uber and Lyft possible. Plotting a course from point A to B is easier than ever today, thanks to trip planners such as Google Navigation and atltransit.org. **Exciting technological advancements will pose new policy questions which state and local policymakers must consider in order to best plan for the future.**



Learn more about the Metro Atlanta Competitiveness Strategy at:

<http://www.atlantaregional.com/local-government/economic-competitiveness>

TRANSPORTATION LINKS THE PRODUCTS OF THE INNOVATION ECONOMY TO GLOBAL MARKETS.

The ability to move freight, goods and services quickly is crucial to the innovation economy. Currently, the Atlanta region appears well positioned. The Atlanta region is one of the strongest and fastest growing logistics clusters in the nation. Metro Atlanta ranks fifth in the nation in transportation and logistics employment and the State of Georgia was recently ranked as the best state for logistics because of its air, ground, rail and sea facilities as well as corporate logistics centers and intellectual capital.

COMMERCIAL AIR SERVICE

Since 1998, Hartsfield-Jackson Atlanta International Airport (ATL) has been the busiest passenger airport in the world, moving over 94 million passengers in 2013. ATL is the largest employer in the state of Georgia and is responsible for billions of dollars of economic impact on the region. It has experienced an increase in domestic passengers and a significant increase in international passengers, with a total increase in passenger travel from 2005 to 2013 of 10.43%. It has also consistently been the busiest operations airport in the world since 2005, although it came in a close second behind Chicago's O'Hare airport in 2014. However, while the number of passengers has increased, there has actually been a decrease in domestic flight operations.

TABLE 3.1 ATL OPERATIONS AND PASSENGER ACTIVITY, 2005-2013

Year	AIRCRAFT OPERATIONS			PASSENGERS		
	Domestic	International	Total	Domestic	International	Total
2005	932,968	47,418	980,386	78,774,044	6,734,452	85,508,496
2006	915,691	60,756	976,447	76,264,446	8,073,855	84,338,301
2007	925,970	68,376	994,346	79,796,551	8,897,291	88,693,842
2008	911,510	66,573	978,083	80,416,839	9,180,491	89,597,330
2009	909,891	60,344	970,235	79,061,501	8,832,195	87,893,696
2010	888,203	61,916	950,119	80,099,037	9,139,022	89,238,059
2011	855,215	68,781	923,996	82,532,069	9,856,954	92,389,023
2012	862,101	68,209	930,310	85,659,485	9,854,343	95,513,828
2013	843,126	67,948	911,074	84,173,091	10,258,133	94,431,224
2012 - 2013 % Change	-2.20%	-0.38%	-2.07%	-1.74%	4.10%	-1.13%
2005 - 2013 % Change	-9.63%	43.30%	-7.07%	6.85%	52.32%	10.43%

Source: www.atlanta-airport.com

According to flight statistics for ATL, the airport has a direct economic impact of more than \$32.5 billion to the Metro Atlanta area and:

- Is the largest employer in the state of Georgia with over 58,000 employees;
- Serves 150 U.S. destinations and more than 75 international destinations in 50 countries;
- Has the tallest air traffic control tower in North America (398 feet or 121 meters) and the fourth tallest in the world;
- Averages more than 250,000 passengers a day; and
- Averages almost 2,500 arrivals and departures daily.

Air cargo activity (including domestic and international freight, express shipping, and mail) within the Atlanta region is dominated by ATL. There are three main air cargo complexes (North, Midfield and South), a Perishables Complex and a USDA Propagated Plant Inspection Station. The total on-airport air cargo warehouse space measures 1.3 million square feet, served by nearly 400 truck bays. There are 28 parking positions for cargo aircraft, 19 at the north complex and 9 at the south complex. This combined infrastructure allows ATL to serve all domestic air cargo hubs, primary international gateways, major metropolitan areas and over 40 international destinations.

In 2013, ATL handled 616,365 metric tons of air cargo, which is 6% less than 2012 and nearly 40% below the airport's peak in 2004. **Less cargo weight processed is not necessarily a cause for concern, however, if the reduction is due to trend towards smaller, high value freight**

such as electronics and luxury goods. How ATL aims to position itself within the global marketplace will be a key determinant in how much ground infrastructure is needed to support its air cargo functions in the future.

FIGURE 3.1 HARTSFIELD-JACKSON ATLANTA INTERNATIONAL AIRPORT FREIGHT MOVEMENT, 2001-2013



Source: www.atlanta-airport.com

Airport staff completed an update to the ATL master plan in September 2014. The goal of this plan is to provide a framework to support future airport development to meet forecast demand in a safe, cost effective, operationally efficient, and flexible manner. This master plan shows the need for continued capital investment in the future for the airport to remain competitive and handle future passenger and cargo demand. A number of capital projects were identified as a part of this plan, including:

- Replacement of the north and south parking decks
- Construction of the Runway 9L End around Taxiway to reduce taxiing delays
- South cargo complex expansion/reconfiguration
- East gate development to meet future demand
- Construction of an additional runway

All of these projects are within the footprint of the airport’s property and do not directly impact the surrounding transportation network. But there are indirect impacts which will need to be considered in the planning and design of the airport improvements. Growing passenger volumes may lead to the need for improvements to the freeway system and nearby public streets to continue a high level of safety and accessibility. Consolidation of cargo facilities will result in shifts to truck access routes and the region must examine whether the new routes will require modifications to meet the shifting travel demands.

GENERAL AVIATION AIR SERVICE

While the Atlanta region has experienced much of its prosperity as a result of having the world’s busiest passenger airport, other airports in the region play vital economic roles as well. These roles include serving as reliever airports to ATL, air cargo service, corporate flights, charter passenger service, supporting law enforcement and emergency response, flight instruction, personal flying, agricultural support, aerial surveying and observation, and more.

In addition to ATL, there are 13 primary, reliever and general aviation airports located in the Metro Atlanta area. The Federal Aviation Administration (FAA) defines these facilities as:

- Primary airports are publicly owned airports with scheduled air carrier service and more than 10,000 passenger boardings each year.
- Reliever airports are general aviation airports in metropolitan areas that provide alternatives to congested commercial airports or provide general aviation access to the surrounding area.
- General aviation airports are those not classified as commercial service airports and have limited or no scheduled passenger service.

TABLE 3.2 METRO ATLANTA PUBLIC AIRPORTS

FAA ID	Airport Name	County	Service Level	Category
ATL	Hartsfield-Jackson Atlanta International Airport	Clayton	Primary	Commercial
RYY	Cobb County-McCollum Field Airport	Cobb	Reliever	National
PDK	DeKalb-Peachtree	DeKalb	Reliever	National
FTY	Fulton County-Brown Field Airport	Fulton	Reliever	National
LZU	Gwinnett County - Briscoe Field	Gwinnett	Reliever	National
47A	Cherokee County Airport	Cherokee	General Aviation	Regional
CCO	Newnan Coweta County Airport	Coweta	General Aviation	Regional
FFC	Peachtree City-Falcon Field	Fayette	General Aviation	Regional
4A7	Clayton County - Tara Field	Henry	General Aviation	Regional
6A2	Griffin-Spalding County Airport	Spalding	General Aviation	Regional
WDR	Winder-Barrow Airport	Barrow	General Aviation	Local
9A1	Covington Muni Airport	Newton	General Aviation	Local
D73	Monroe-Walton County	Walton	General Aviation	Local
PUJ	Paulding Northwest Atlanta Airport	Paulding	General Aviation	Basic

HIGHLIGHTING PLANNING IN ACTION

THE ATLANTA AEROTROPOLIS ALLIANCE

Hartsfield-Jackson Atlanta International Airport and our smaller general aviation airports provide our region with unparalleled access to global and domestic markets, representing a key competitive advantage. The activity generated from these assets represents a prime economic development opportunity. One strategy for capitalizing upon this opportunity is the "aerotropolis" concept, which is an urban development form comprising aviation-intensive businesses and related enterprises surrounding an airport. Through preemptive planning and cooperation, regions across the country and throughout the world are putting the concept into action.

In response to the emergence of the aerotropolis concept as a development model, ARC has engaged local governments, business, citizens and others in the area surrounding Hartsfield-Jackson Atlanta International Airport. This collaboration led to the creation of the Atlanta Aerotropolis Alliance, a 501(c)(6) non-profit, focused on increased investment and economic development around the busiest airport in the world and the region's international "front door."

In 2015, the Atlanta Aerotropolis Alliance and ARC will work to develop the Atlanta Aerotropolis Blueprint, which will provide a comprehensive and coordinated plan of action that can be utilized for future development and reinvestment, transportation improvements, and greater economic development in the study area.

This collaborative aviation development strategy may also prove applicable to smaller reliever and general aviation facilities in the Atlanta region, such as Peachtree-DeKalb and Fulton County airport.

To learn more about the Atlanta Aerotropolis Alliance, visit AtlantaAerotropolis.org.



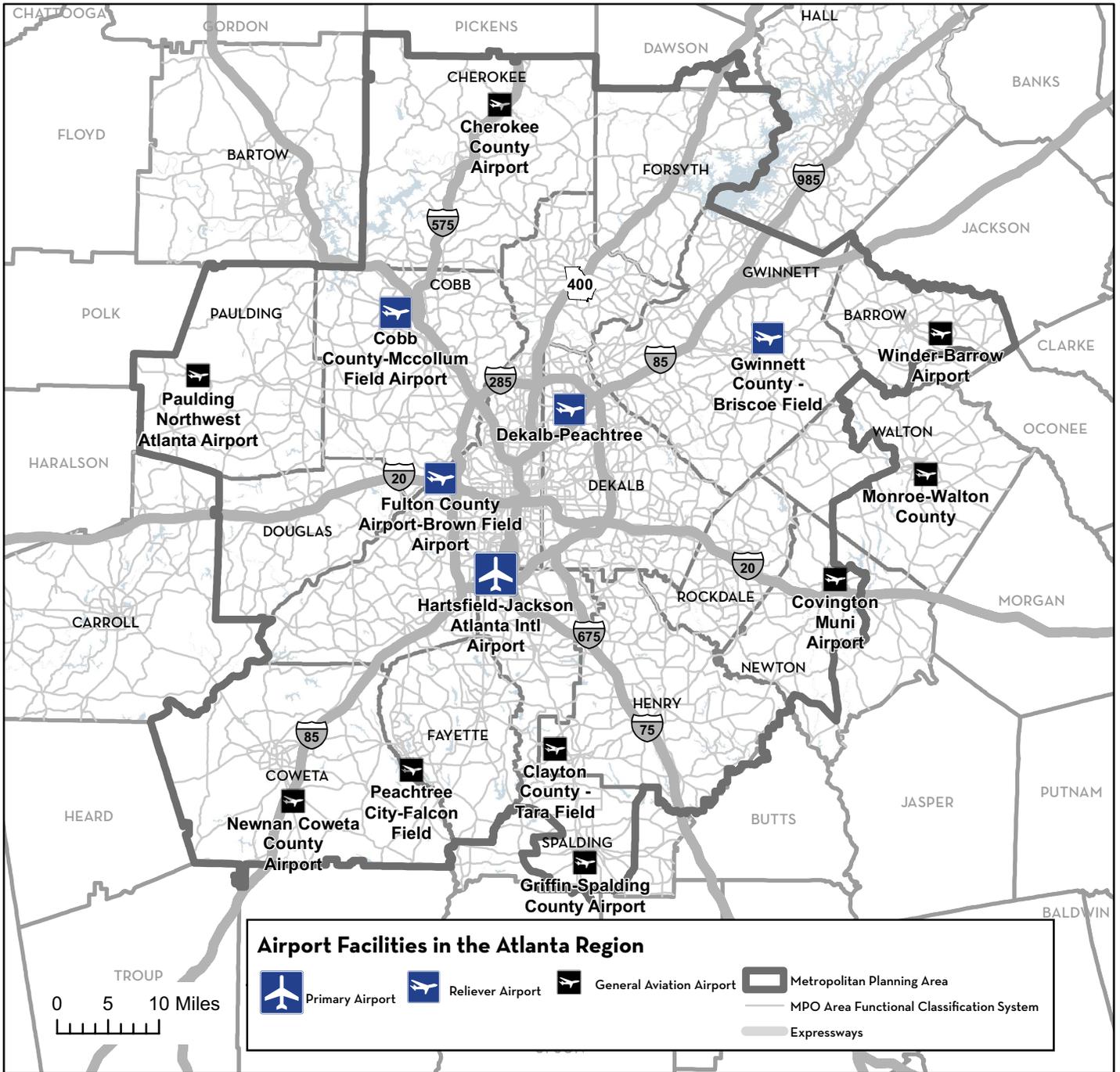
In addition to those shown previously in the table and mapped on the following page, there are additional military and private airport and air field facilities in Metro Atlanta.

Airports serving mostly general aviation operations have been divided into four categories based on existing aviation activity. These categories are:

- National – Supports the national and state system by providing communities with access to national and international markets in multiple states and throughout the United States.
- Regional – Supports regional economies by connecting communities to statewide and interstate markets.
- Local – Supplements local communities by providing access primarily to intrastate and some interstate markets.
- Basic – Supports general aviation activities such as emergency service, charter or critical passenger service, cargo operations, flight training, and personal flying.

The Atlanta region is one of the largest in the country served by a single commercial airport. Construction of a second large reliever airport has been determined economically nonviable for a variety of reasons, but there have been discussions in recent years about the possibility of existing airports providing a limited number of short-haul commercial routes. None of these have come to fruition yet, due in large part to significant public opposition.

MAP 3.5 METRO ATLANTA AIRPORT LOCATIONS



The FAA provides airport operations data on all primary and reliever airports, which includes all takeoffs and landings at each airport. ATL has significantly more annual operations than all of the reliever airports combined.

TABLE 3. 3 PRIMARY AND RELIEVER AIRPORT OPERATIONS

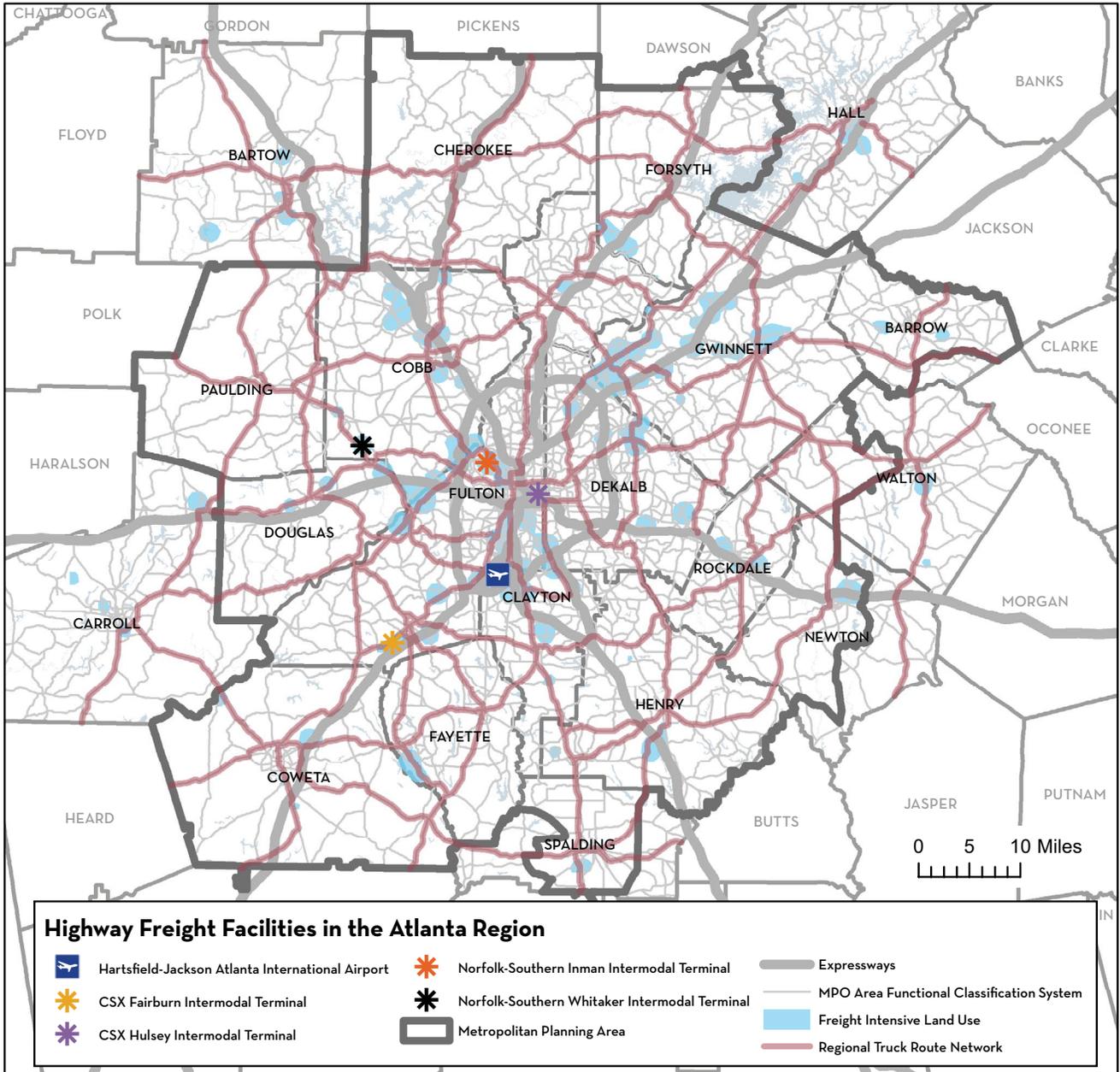
Airport Name	Annual Airport Operations					
	2008	2009	2010	2011	2012	2013
Hartsfield-Jackson Atlanta International Airport	978,084	970,258	950,119	923,991	930,098	911,074
DeKalb-Peachtree Airport	138,955	112,046	123,268	121,743	109,420	104,562
Gwinnett County - Briscoe Field	62,056	43,002	46,882	49,049	47,037	43,303
Cobb County-McCollum Field Airport	51,271	42,898	44,274	40,174	38,662	36,823
Fulton County Airport-Brown Field	61,458	44,480	40,423	36,700	32,663	30,974

There is a trend over this period of fewer annual operations at each airport. The reduction at ATL can be attributed primarily to airlines reducing service on less profitable routes and increasing occupancy on more economically viable routes. **Now that the economy is showing steady signs of progress and the system is operating at a greater efficiency, the trend should be monitored to determine if other forces may be at work causing continued downward pressure that are within the region's ability to correct.**

REGIONAL HIGHWAY FREIGHT FACILITIES

Regional highway freight facilities in the Atlanta region consist of two main networks. The first is the free-way system comprised of I-20, I-75, I-85, I-285, I-675, I-985. For our purposes, even though State Routes 400 and 316 are not part of the federally designated Eisenhower System of Interstate and Defense Highways, they look and function the same and are included with the other routes. The second system includes the most critical non-interstate arterials and intermodal connectors. This system was designated as part of the Atlanta Regional Truck Route Master Plan (ASTRoMaP) in 2010, and is called the Regional Truck Route Network.

MAP 3.6 REGIONAL HIGHWAY FREIGHT FACILITIES



Our region's interstate highways are the most critical roadway freight facilities in the Atlanta region. I-75 connects Atlanta to the Midwest, Florida, and international markets via I-16 and the Port of Savannah. I-85 connects Atlanta to the gulf ports of Mobile and New Orleans, as well as the automobile manufacturing cluster in west Georgia centered on the Kia Motors assembly plant in West Point, GA. I-85 also serves as the backbone of the Piedmont Atlantic Megaregion, which stretches from Birmingham, Alabama to Raleigh-Durham in North Carolina. I-20 provides connectivity to the southwest, the auto industry in Birmingham, AL and eastward to the Port of Charleston, SC.

Truck counts vary along each facility, but the State Traffic and Report Statistics (STARS) database compiled by the Georgia Department of Transportation show the following maximum daily volumes for each:

- I-75 North - 25,000
- I-285 West - 20,000
- I-75 South - 18,000
- I-285 South - 18,000
- I-285 West - 18,000
- I-85 North - 17,000
- I-20 West - 11,000
- I-20 East - 11,000

In particular, the I-75 corridor from Chattanooga south to Macon (and using the west wall of I-285 through metro Atlanta) is the heaviest travelled truck corridor in the region as well as the state of Georgia. This corridor experiences considerable delay at the interchanges of I-285 with I-75 North and I-285 with I-20 West. According to the 2013 Freight Performance Measures (FPM) report released by the American Transportation Research Institute (ATRI), those interchanges are the 2nd and 3rd worst interstate bottlenecks in the region. The worst truck bottleneck in our region occurs at I-285 and I-85 North.

As part of the FPM initiative, the American Transportation Research Institute (ATRI) and the Federal Highway Administration (FHWA) Office of Freight Management and Operations quantify the impact of traffic congestion on truck-based freight at 250 specific locations around the country in an ongoing basis. Their latest data shows the same three locations in the top 50 for the entire nation. It's worth noting that the ranking of all has declined somewhat over the past three years. Since none of these locations have seen major capacity or operational improvements within that time frame, the improved rankings may be due to lagging regional and state economies. If so, it would be reasonable to assume that as economic equilibrium is restored, these locations would begin creeping back up in the national rankings.



TABLE 3.4 ATLANTA INTERSTATE INTERCHANGES RANKED BY FREIGHT CONGESTION INDEX

Interstate Bottleneck		National Congestion Ranking (of 250 locations)	
Regional Rank	Location	2010	2013
1	I-85 North @ I-285	9	14
2	I-75 North @ I-285	20	24
3	I-20 West @ I-285	42	46
4	I-20 East @ I-285	58	64
5	I-20 @ I-75/85	79	91
6	I-75 @ I-85	102	>100
7	I-75 @ I-675	105	>100

Source: ATRI

Identifying cost-effective ways to reduce commercial vehicle delays at these interchanges must be one of our top priorities if we are to remain a region that is perceived as “open for business”.



Learn more about the region’s freight planning activities at:

www.atlantaregional.com/freight

REGIONAL TRUCK ROUTE NETWORK

The regional truck route network does not carry the volume of trucks that the interstates do. However it is a critical network that provides last mile connectivity and access to the region’s freight intensive land use and intermodal transportation facilities such as rail yards and Hartsfield-Jackson Atlanta International Airport.

The highest daily truck counts on the regional truck route network as derived from the State Traffic and Report Statistics (STARS) database compiled by Georgia Department of Transportation are:

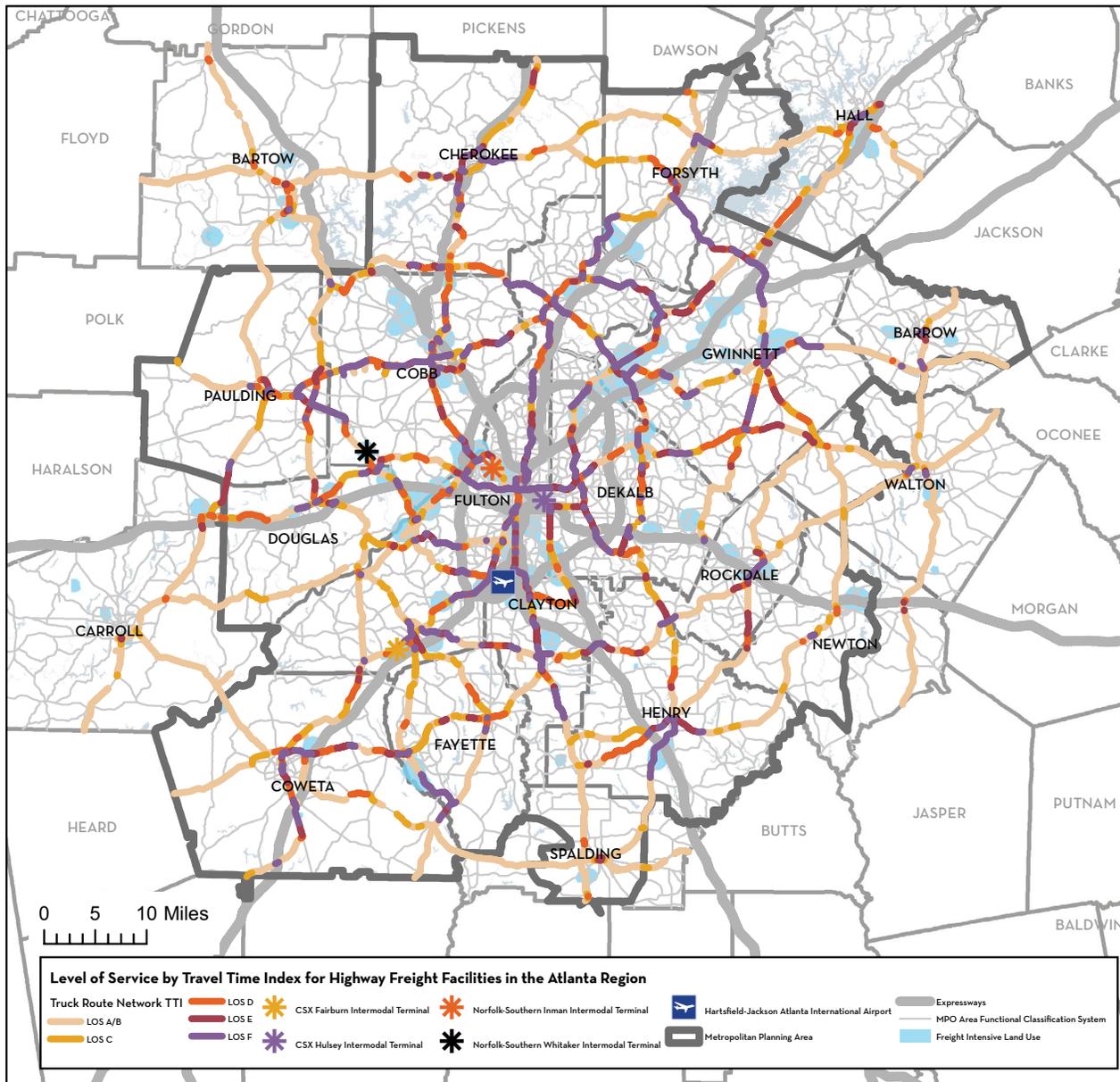
- Moreland Avenue in south Atlanta near the airport - 5,000
- Fulton Industrial Boulevard – 4,500

Delay on the network is concentrated around the airport, Inman intermodal yard, as well as in the rapidly growing distribution nodes in Henry County and Coweta County. Heavy commuter corridors in the inner ring suburbs of Cobb, North Fulton and Gwin-

nett counties also contain the heaviest congestion on the regional truck route network.

This pattern is demonstrated on the following map, which shows how long a trip actually takes compared to what it should take based on the speed limits. Roads with a ratio closer to one have a “level of service” of A or B, while those where actual travel times can sometimes be two to three times longer have an LOS of either E or F.

MAP 3.7 TRAVEL TIME INDEX ON THE REGIONAL TRUCK ROUTE NETWORK



 Learn more about the regional truck route network at:
www.atlantaregional.com/freight

REGIONAL RAIL FACILITIES

There are two primary Class I railroads operating in the Eastern United States, CSX Transportation and Norfolk Southern. Atlanta is served by both, along with three small railways. The Class I systems stretch from the Atlantic coast to the Mississippi River, and from the Gulf Coast to the Canadian border. There are several significant observations to make about their networks:

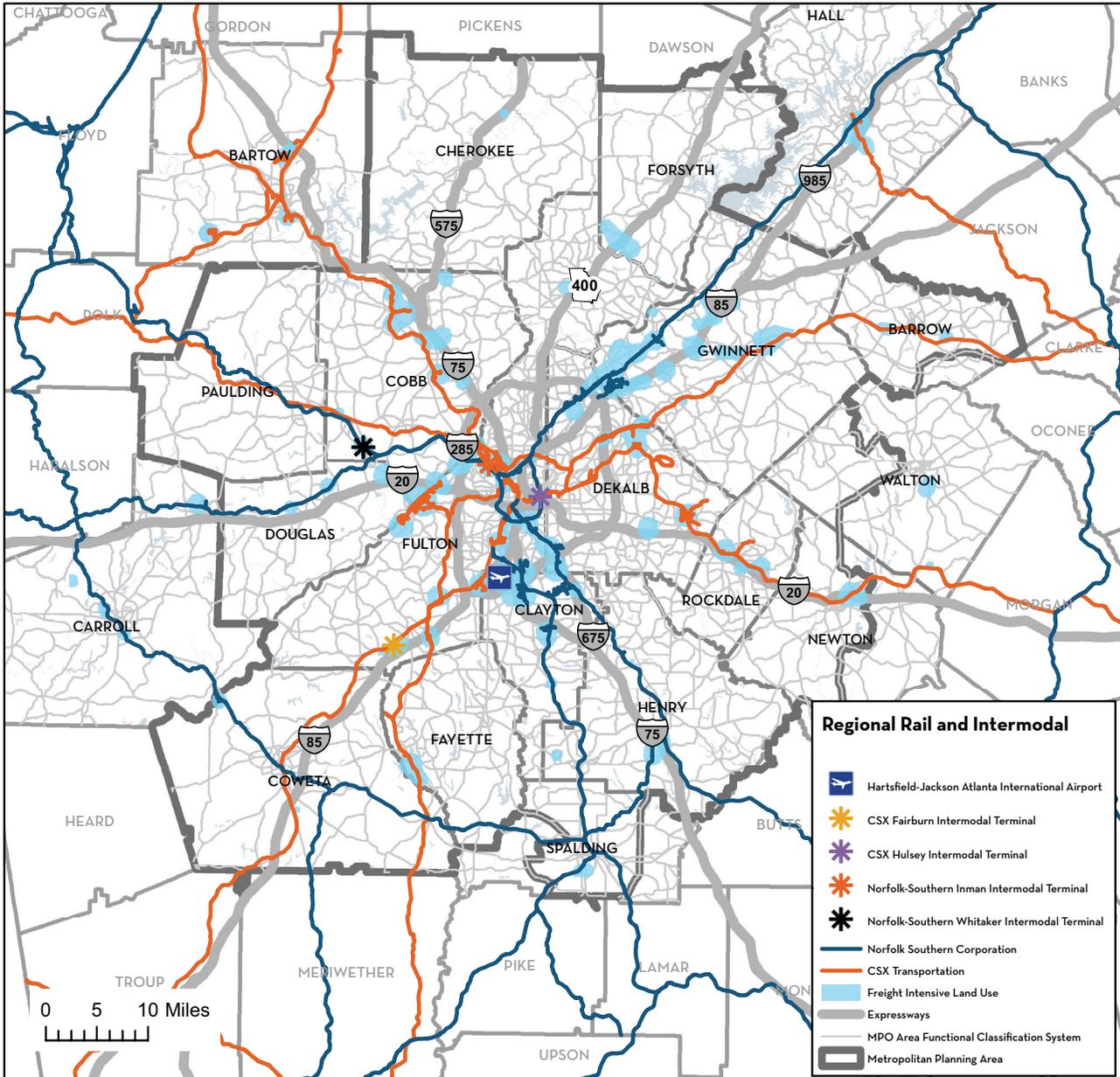
- There is a long gap caused by the Appalachian mountain range, which begins just north of Atlanta. The gap is bridged at a few points, but the bridging routes cross difficult terrain and are not fast, high capacity lines. Their chief purpose is to bring coal out of the mountains instead of to link eastern and western territory. The consequence of the gap is that from northern Georgia to Pennsylvania, both railroads have eastern and western sections. Partly because of the mountains, and also for reasons of history and economic geography, the route structure of the Class I railroads have a predominantly north/south orientation. In the southern states, there are east/west corridors flowing from the gateways of Memphis, New Orleans, and Meridian to Georgia and Florida, but the traffic flows most strongly toward the north.
- A consequence of the Norfolk Southern (NS) network layout is that Atlanta is the linchpin of its southern system. Its eastern and western halves are joined only at three places; Asheville NC through the Appalachians, Columbus GA over an unmodernized line, and Atlanta. Between Austell in Douglas County and Inman Yard on the west end of downtown, four corridors come together on a single right-of-way with double and triple tracking: the route to Ohio through Chattanooga, the route west via Birmingham, the route south to Savannah and Florida via Macon, and the route to Virginia through Charlotte. Seventy trains cross this section of network daily, which is as much volume as NS puts between Chicago and Toledo on its Midwestern main.



Source: AtlantaMetroSciences.com © Matt Robinson

To manage this bottleneck, classification yards surrounding Atlanta were developed by NS and its predecessors through the years, in order to reduce the intensity of operations in the metropolitan area. The closest of these yards is in Macon. Others at Sheffield, AL (near Muscle Shoals) and Linwood, NC (between Charlotte and Greensboro) were specifically constructed to relieve Atlanta, and there are additional facilities in Chattanooga and Knoxville that contribute to the same purpose.

MAP 3.8 REGIONAL RAIL FACILITIES



CSX Transportation (CSXT) has major corridors south, north, west and east that cross at Atlanta, and it maintains classification yards along them at Waycross, Nashville, Birmingham, and Hamlet, NC (between Charlotte and Fayetteville). However, for CSXT the center of southern operations is Waycross. Two main lines come there from Birmingham and Montgomery without touching Atlanta. There are lines to the ports at Savannah, Charleston, and Jacksonville, and there are links to the CSXT east/west corridor that follows I-10. For hundreds of miles north of Atlanta the CSX network is bifurcated and has no east/west connections. However, south of the city is a variety of routes, and even in metropolitan Atlanta there is more than one line, so that traffic crossing the region is not all funneled through the downtown right-of-way where CSX parallels Norfolk Southern. The upshot is that Atlanta is a primary market in the CSXT system, but less sensitive operationally than for NS.



The key pinch point affecting both railroads occurs at their Howell Junction connection, located at the east end of Tilford and Inman Yards on a CSX interlocking. **Grade crossings at this location would be expensive, but effective at improving train throughput in the center of the Atlanta crossroads.** With roadway congestion being such an important issue to the region, coupled with the forecast increases in truck traffic due to growth and the deepening of the Savannah harbor, maximizing the capacity of our freight rail network will be an important strategy to consider. Traditionally, the region's transportation plans have remained relatively silent on this portion of the system, but correcting the Howell Junction rail bottleneck will be essential to provide more flexibility to move cargo to, from and through the region by train rather than by truck.



Learn more about Georgia's statewide rail planning activities at:

www.dot.ga.gov/travelingingeorgia/rail/pages/staterailplan.aspx

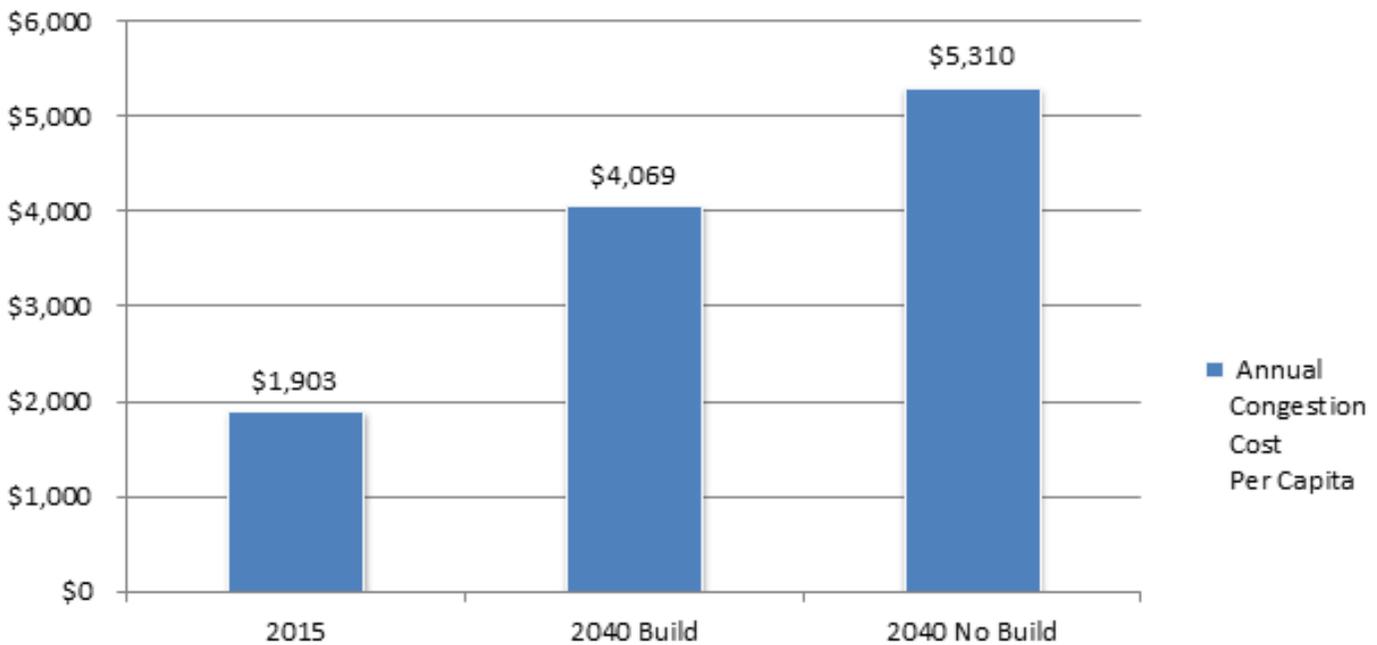
DEVELOPING AND SUPPORTING REGIONAL JOB CENTERS ARE KEY TO FUELING THE INNOVATION ECONOMY

Much of Metro Atlanta's growth over the past 60 years has taken place outside of the traditional central business district of Downtown Atlanta. This pattern of growth has resulted in the conversion of previously undeveloped rural land into suburban and exurban areas, while also increasing the distance between where people live and work.

THE REGION'S DISPERSED TRAVEL PATTERNS RESULT IN A PRICE FOR COMMUNITIES

Longer commutes have contributed to increased traffic congestion, which in turn has a direct impact on our wallets. By utilizing travel demand model outputs to measure the costs of wasted time and fuel due to travel delay, ARC estimates that the annual cost of congestion will be close to \$1,903 per person in 2015. Due to forecast increases in population and employment, this figure jumps to \$4,069 by the year 2040, in spite of the impact of planned transportation improvements through the PLAN 2040 RTP. Without those investments, the figure climbs to \$5,310 per person.

FIGURE 3.2 AVERAGE ANNUAL COST OF CONGESTION FOR RESIDENTS OF THE ATLANTA REGION



According to a 2010 survey executed in support of the Regional Economic Competitiveness Strategy, metro Atlanta residents identified transportation and congestion as the second biggest challenge facing the local economy today, behind only the state of the housing market. However, respondents indicated that transportation and congestion woes were the most significant challenges holding the region back. **Of the survey respondents who indicated that they were unlikely to remain living in the metro Atlanta area in the next five years, 55.8% cited traffic and congestion as a significant factor in their desire to relocate.** This was by far the most frequently cited factor influencing relocation decisions, emphasizing the challenge.

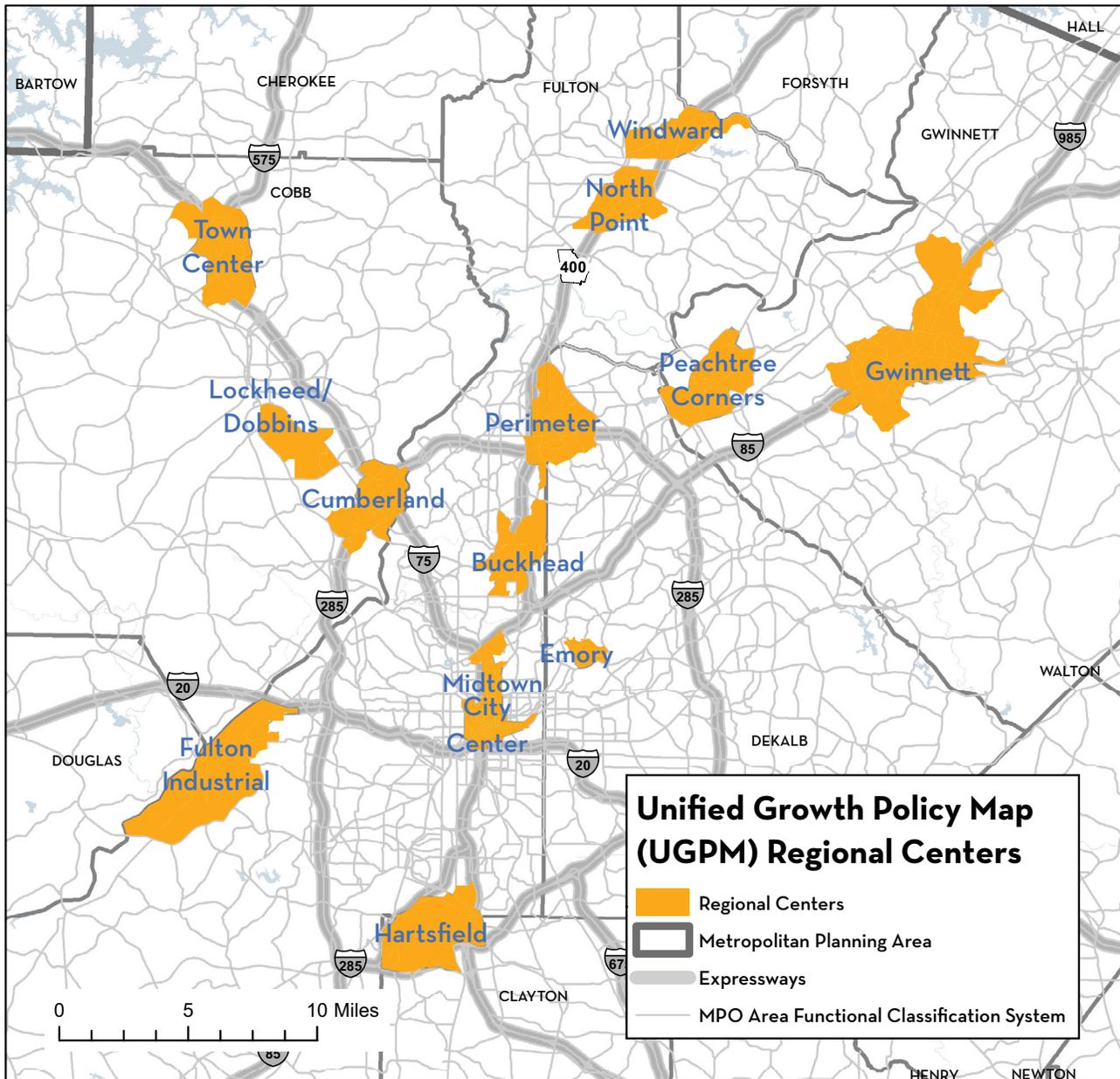
THE VALUE OF TRANSIT ORIENTED DEVELOPMENT

A key strategy listed within the Regional Economic Competitiveness strategy to address this issue is to encourage the expansion of transit-oriented development (TOD). TOD supports the expansion and establishment of existing and potential new employment centers. Some benefits of TOD include:

- A reduction in vehicle miles traveled, which in turn decreases congestion and improves air quality;
- An expansion of walkable communities that support healthy and active lifestyles;
- Potential for added value created through increased and/or sustained property values where transit investments have occurred; and
- An improvement in access to jobs and economic opportunity for all disadvantaged populations

The kind of high capacity transit service necessary to generate TOD is most feasible within concentrated areas of jobs and activity. ARC has identified 14 such areas, called Regional Centers, through its Regional Development Guide. The Regional Development Guide provides direction for future growth based on the areas and places found within the Unified Growth Policy Map (UGPM). It also defines a set of implementation priorities for UGPM areas and places. These implementation priorities are linked to PLAN 2040 objectives and identify measures to achieve desired development patterns. Regional Centers are defined by the UGPM as places which harbor 10,000 jobs or more within a core of approximately four square miles.

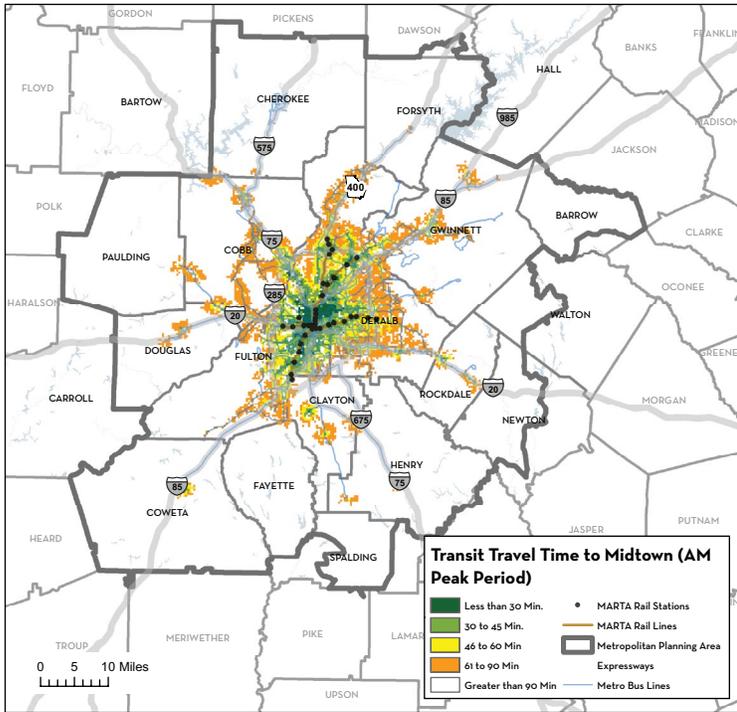
MAP 3.9 UNIFIED GROWTH POLICY MAP REGIONAL CENTERS



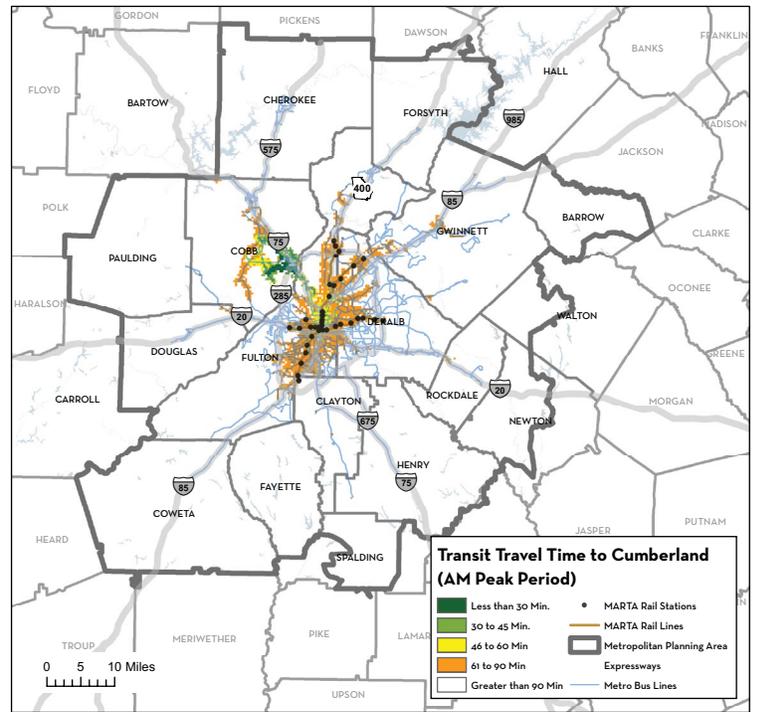
Regional centers which are well connected to regional transit service can draw from a much larger pool of potential employees than those which are not. To demonstrate this, ARC examined two Regional Centers for transit accessibility during the AM peak travel period. One of these Regional Centers (Midtown) is the focal point for various commuter bus, local bus and heavy rail transit stations. The other (Cumberland) is served by a more limited selection of local and commuter bus services.

Using the online program OpenTripAnalyst, ARC staff created maps of travel time to these areas during the AM peak period. As can be seen, Midtown's accessibility to MARTA heavy rail greatly increased the number of trips which can be made by transit within a 90 minute time frame.

TRANSIT TRIPS DURING AM PEAK COMMUTE TIME



MAP 3.10 Transit Travel Time to Midtown During AM Peak Period



MAP 3.11 Transit Travel Time to Cumberland During AM Peak Period

While these Regional Centers are similar in that they harbor tens of thousands of total jobs and people, the development characteristics vary from center to center. While a similar total number of people and jobs are found within both Midtown and Cumberland, there is a higher concentration of both in the denser Midtown Regional Center

FIGURE 3.3 CHANGE IN POPULATION DENSITY BY SELECTED REGIONAL CENTERS

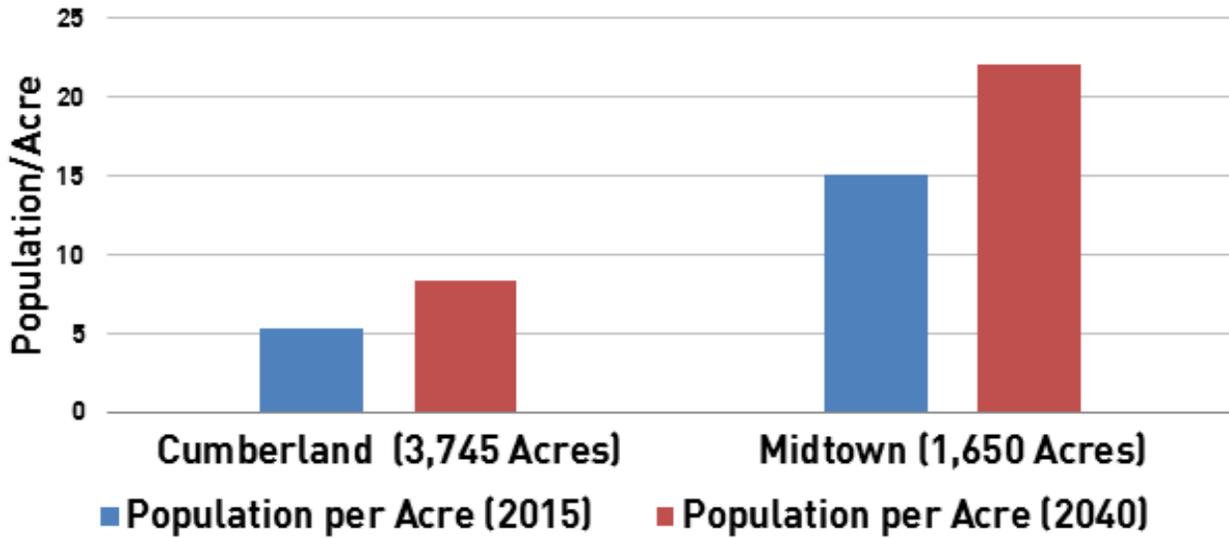
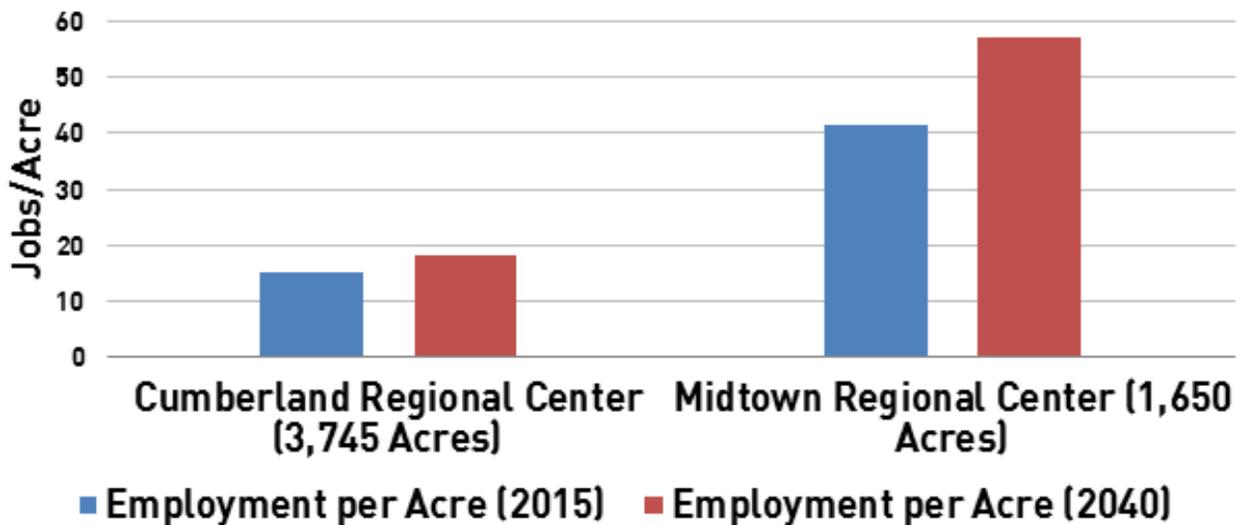


FIGURE 3.4 CHANGE IN JOB DENSITY BY SELECTED REGIONAL CENTER



Increased population and employment density will be necessary to make the high capacity transit operations necessary to support TOD feasible within these regional centers. Expanding the number of transit connected centers can provide our region with a competitive advantage to help retain young professionals necessary to support the innovation economy in Atlanta. **As such, encouraging more dense development within Regional Centers will be critical to ensuring future mobility within the region.**



Learn more about the UGPM, TOD and other land use planning activities at:

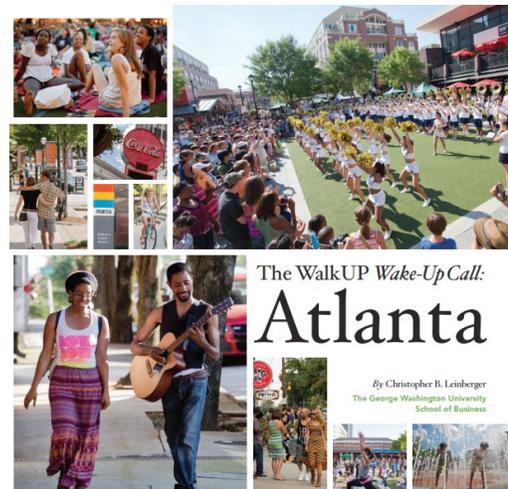
www.atlantaregional.com/land-use

www.atlantaregional.com/land-use/transit-oriented-development

WALKABLE URBAN PLACES

A study of Walkable Urban Places (WalkUPs) in the Atlanta region was conducted in 2013 by Chris Leinberger of the George Washington University School of Business. This form of development has a higher density than suburban development, employs multiple modes of transportation, and integrates many different real estate products in the same place. Leinberger believes that WalkUPs will drive tomorrow's national real estate industry and the economy, turning what was once a niche market into THE market.

Most of the areas identified as WalkUPs in Metro Atlanta are located in or directly adjacent to UGPM Regional Centers. **This correlation demonstrates that private developers are already investing in the types of commercial, residential and office buildings necessary to make regional centers successful.**



The study also highlighted the following:

- Metro Atlanta's walkable urban places are attracting an increasing share of new development and have seen a rise in rent premiums over drivable suburban areas.
- Leinberger's report puts the Atlanta region's WalkUPs into three categories: Current, Emerging and Potential.
- The report notes that from 1992-2000, roughly 13% of real estate investment in the region went into Current and Emerging WalkUPs. From 2001-2008, that number doubled to 26%. Since 2009, it more than doubled again, reaching 60%.
- Current and Emerging WalkUPs account for only 0.55% of the region's land area, but nearly 20% of the region's office, retail and other commercial real estate.
- Current and Emerging WalkUPs contain 22% of the region's jobs.
- Average rent for all development types in Current WalkUPs is 112% higher than in drivable suburban areas.
- Only 19% of office space delivered in the 1990s was built in then-established WalkUPs. This increased to 31% in the 2000s and to 50% in 2009-2013.



Learn more about the region's Walkable Urban Places at:

www.atlantaregional.com/land-use/walkups

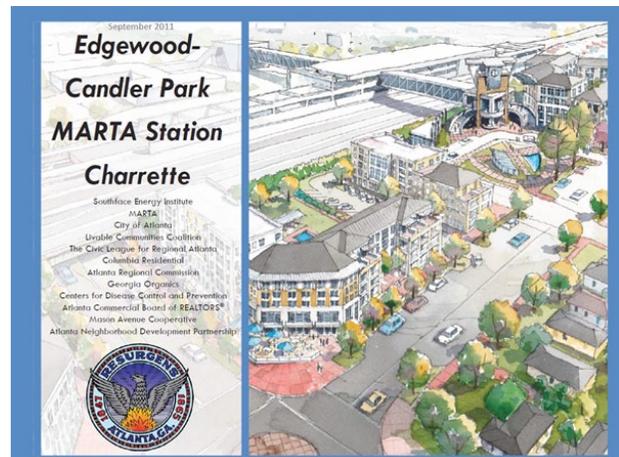
STRATEGIES ARE ALREADY IN PLACE TO CONTINUE THE MOMENTUM

ARC is working to encourage and support transit oriented development in regional centers, primarily through the Livable Centers Initiative (LCI) program. The LCI program awards planning grants on a competitive basis to local governments and nonprofit organizations to prepare and implement plans for the enhancement of existing centers and corridors consistent with regional development policies. It also provides transportation infrastructure funding for projects identified in the LCI plans.

To help implement the Regional Economic Competitiveness Strategy, ARC, in partnership with MARTA (Metropolitan Atlanta Rapid Transit Authority), has been working to promote TODs at MARTA heavy rail stations and ensure that these transit stations will have the necessary infrastructure and land uses to support planned and future TODs. Thirty-three of the existing thirty-eight MARTA heavy rail stations are located in an LCI study area.

In April 2011, ARC and the Southface Energy Institute led a design charrette for the Edgewood/Candler Park MARTA Station, which followed up on considerable planning work in this area. In 2011 and 2012, ARC, through the LCI Supplemental Study program, funded detailed TOD studies for three heavy rail transit stations. In 2013, also through the LCI Supplemental Study program, ARC provided funding to develop a plan for implementing transformational enhancements to three heavy rail transit stations in Midtown Atlanta.

MARTA is moving forward with TOD implementation and has selected development partners for the Edgewood/Candler Park Station, Avondale Station, and King Memorial Station. During the third quarter of 2014, MARTA released a Request for Qualifications for the Brookhaven/Oglethorpe Station TOD. They also released a Request for Expressions of Interest in the development of air rights above four of their most urban stations: Lenox, Arts Center, Midtown and North Avenue. MARTA, ARC, and the City of Atlanta are also hosting a community planning process for the Oakland City Station TOD.



Actions taken as a part of the Regional Economic Competitiveness Strategy, the planning and implementation of the ARC LCI program, and planning and implementation of TODs at MARTA stations are each contributing to Metro Atlanta's economic competitiveness. These planning and implementation strategies will help attract and retain young professionals in Metro Atlanta while also seeking to meet the demands of an aging population.



Learn more about the LCI program at:

www.atlantaregional.com/land-use/lci



Learn more about MARTA's transit oriented development program at:

www.itsmarta.com/tod.aspx

CHANGES IN TECHNOLOGY COULD CHANGE EVERYTHING.

Advancements in technology promise to increase the efficiency of all facets of transportation, from trip planning to vehicle operations. These increases in efficiency support the innovation economy through the promise of reduced congestion and increased productivity.

BROADBAND ACCESSIBILITY

A prime example may be found in the transformative impact of information and communications technology (ICT) which has advanced at a rapid pace over the last decade. Broadband internet connectivity, which forms the foundation of ICT, is a prime example of this advancement. An increasing proportion of the region's population now has access to broadband internet connections not available a decade ago, finally making the promise of telecommuting a viable alternative for many people.

According to the National Telecommunications & Information Administration, as of 2013 99.4% of Georgia's population has access to at least one broadband internet service provider¹. This near universal broadband availability could enable a growing number of employees and students to spend more time working from home by telecommuting or taking classes online, possibly reducing the number of peak-hour trips and spreading non-mandatory trips more evenly throughout the day. The education of our workforce and the growth of economic opportunity may depend upon policy that encourages equitable and unfettered access to ICT. **Equitable access to the Internet may evolve into a more important policy concern as the region moves into an increasingly networked age.**

SMART PHONES

Supported by this increased availability of high speed internet access, smartphone technology has already penetrated the consumer market widely enough to have lasting impacts on how we travel. As of 2014, about 71% of Americans now own a smartphone, a market shift which makes possible the business models of companies such as Uber and Lyft². The apparent success in the Atlanta region has shown that the transportation sector is not buffered from the potential disruptive nature of ICT. **Public transit agencies must react to and learn from these on-demand transportation networks in order to serve the public better. This may mean developing on-demand services of their own, reconfiguring their own transit networks and schedules, or finding a better way to integrate with these private efforts to serve the public.**

¹ nbt.gov/4m8i

² <http://www.nielsen.com/us/en/insights/news/2014/mobile-millennials-over-85-percent-of-generation-y-owns-smartphones.html>

OPEN DATA

The region should continue to consider how public investments can be maximized to take advantage of private sector efforts in the transportation and payments industries. One high return method is to adhere to emerging open data standards and making the data available for the public's use. For instance, as mobile payment technology permeates the market, there may emerge an open payment architectures that renders proprietary automatic fare collection systems artifacts of the past. By opening their fare structures to third parties, transit and toll road operators may be able to collect fare for a fraction of the cost of existing systems.

Adhering to open data platforms can save time and money for public agencies as well. A case study of this principle in action may be found by examining the implementation of the region's newest transit trip planning platform, AtlTransit.org. By adopting and adhering to a widely accepted open data specification for transit data—the General Transit Feed Specification (GTFS)—the region's transit operators collectively launched AtlTransit.org in only six months. This regional transit website delivers information about how to plan and pay for trips that span multiple transit service areas. The ARC's work to develop a regional transit data clearinghouse over the past few years left the region in a strong position to quickly respond to state lawmakers' call for to develop this service.

AUTONOMOUS VEHICLES



More than any of the aforementioned topics, rapid advancements in technologies required to make autonomous or self-driving vehicles a reality may have the greatest impact on transportation system efficiency. Over the next couple of decades, such vehicles are likely to be introduced into the market. The timing of widespread penetration and the impacts they will have on travel patterns, parking requirements and how we design and operate our roadways are still the subjects of intense debate between technologists, planners and sociologists. It's unlikely those debates will be resolved in the near future either. When and if self-driving vehicles become a dominant share of the region's automotive fleet, some believe they could increase the capacity of the current regional roadway network

because they operate more efficiently and will likely be safer. **With reduced congestion, increased network capacity, and a shift from SOV to shared-ride and transit modes, investment in the regional transportation system may be better allocated toward the management and maintenance of the current network rather than its expansion.** This may include investments in supportive ITS infrastructure as well as an increasing the region's financial commitment to maintaining the roadway existing system in a state of good repair.

Because of the enormous uncertainties surrounding this emerging technology, this will be a topic of great research interest by ARC in the coming years. A shift to autonomous vehicles in the coming decades could have the magnitude of impacts on our cities and transportation infrastructure as the conversion from horse and buggies and streetcars to private automobiles did in the first decades of the 20th century.

SHARED DATA

Substantial focus should be directed toward changes that will likely involve a shift in how the public and private sectors work together to provide an efficient transportation system. For example, agencies may begin sharing data feeds, such as traffic camera feeds, with private companies in exchange for detailed data about travel patterns or traffic operations. Alternatively, the need to compile speed, volume, and safety data by the government may disintegrate in favor of more precise data feeds from on-board vehicle systems.

Maximizing the potential of these technologically driven changes for our mobility will require a well-maintained and flexible infrastructure system and equitable access to the communications technologies enabling such changes to occur. The need to engage with private companies in efficient and effective public-private partnerships has never been greater. **Sharing has become a driving force in our economy and the government agencies must be in a position not only to take advantage of this force but also to become active participants. Ensuring that the region's existing technology systems are internally and externally interoperable has never been more critical.**

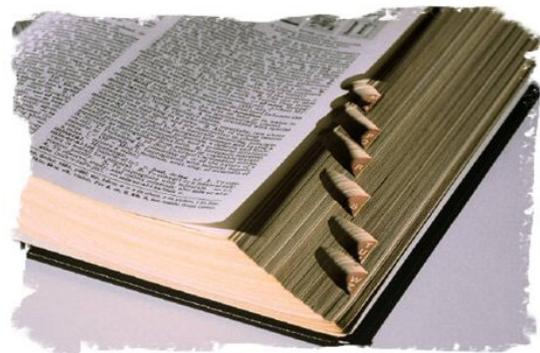
**HOW WELL IS OUR
TRANSPORTATION SYSTEM
SUPPORTING HEALTHY AND
LIVABLE COMMUNITIES?**

Without a doubt, our region has been immensely successful in terms of attracting people and jobs. Unfortunately, that growth has not been entirely without costs. While progress has been made in recent years, the Atlanta region continues to grapple with air quality issues, whose origins in part may be traced back to the proliferation of trips occurring in single occupant vehicles. While the total number and rate of vehicular crashes are down elsewhere in the state, here in the Atlanta region both of these statistics increased in 2013. The unintended consequences of several decades of suburban development, disinvestment and single-use zoning have contributed to the establishment of pockets of concentrated poverty with limited access to opportunity and essential services.

Issues such as these diminish the quality of life for everyone who calls metro Atlanta home. This section will further elaborate on the impacts of these threats and provide an assessment of efforts to mitigate these them through programs designed to encourage the establishment of healthy, livable communities throughout the Atlanta region.

HOW DO WE DEFINE HEALTHY AND LIVABLE?

Every person is likely to have slightly different interpretations of what it means for a community to be “healthy” or “livable”. Parents of young children may place more emphasis on clean air, large parks, good schools and a low crime rate than a young single adult might. The young adult, however, might prize a vibrant pedestrian-friendly shopping district, jogging paths and community festivals. An older disabled individual on a fixed income, on the other hand, may be most interested in affordable housing, quiet streets, and access to transit services.



Regardless of how any of us might individually define our ideal community, the key to effective regional planning is ensuring that there are a variety of places that each of us would be comfortable calling home. This section explores some of the factors that are important as we all make those individual assessments about health and livability. For the purpose of this assessment we'll use those terms interchangeably.

IS THE ATLANTA REGION AS A WHOLE HEALTHY AND LIVABLE?

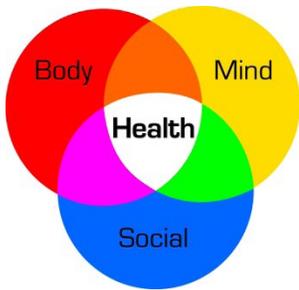
Following release of the regional plan in 2011 (termed PLAN 2040), Georgia Tech's Center for Quality Growth and Regional Development undertook a Health Impact Assessment (HIA) of the region and the plan. An HIA is a process that uses a variety of methods and approaches to identify and measure potential health impacts, both positive and negative, that may result from a particular policy or project. The HIA then linked these impacts to a given segment of the population, such as children, older adults, people living in poverty, or residents of a particular neighborhood.

Because there are so many different ways to measure health (or livability), a definitive answer to the question posed by this section's title simply isn't possible. But it is possible to look at individual metrics, the areas where results are significantly above or below the regional averages or accepted standards, and identify a possible path forward to improve the conditions as necessary. The final product of the HIA was a set of recommendations intended to inform decision-makers and the general public about the health-related issues facing the region and how the regional plan could help address them.

As defined by the HIA, health is not merely the absence of illness, but complete physical, mental, and social wellness.

In other words, just being free of chronic disease or being able-bodied does not mean that a person is healthy. Mental state and feeling that you are a valued member of the community are also important factors in assessing healthiness. Land use and transportation can have unintended effects on health, quality of life, and economic wellbeing in ways that have not been captured in conventional planning practices.

Many years ago, the greatest threats to health were communicable diseases, such as small pox and cholera, and pollution, from industries that emitted smoke and chemicals in the midst of the city. At this time, urban planning sought to reduce overcrowding, limit environmental exposures, and implement sanitary standards for water, sewer, and food processing. These changes successfully mitigated many of the health threats from earlier times, but gradually led to new health threats.



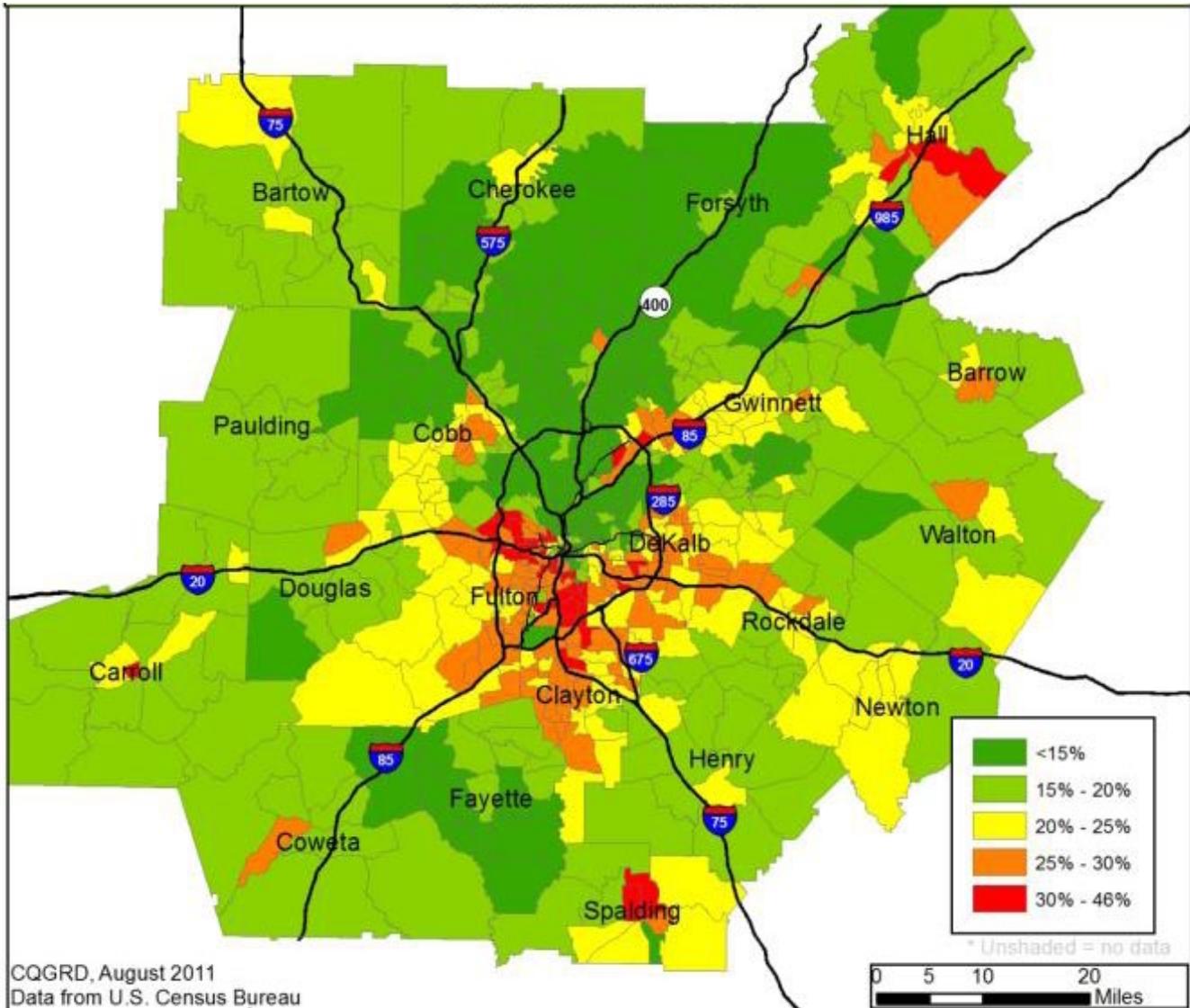
Low-density, single-use zoning resulted in cities with a separation of uses where few destinations were within walking distance of each other; driving replaced walking and transit as the dominant form of transportation. As it did, air pollution from cars increased, traffic fatalities became more common, and there was a decline in the amount of physical activity the average American engaged in on a daily basis. This urban form also made it harder for families of limited means to travel around the region for jobs and services, exacerbating socio-economic and health disparities.

Land use and transportation plans were never intended to discourage healthy lifestyles, but priorities changed over time and unintended consequences have revealed themselves. Research shows that it takes more than a doctor's visit and a gym membership for people to be healthy. Today, many metro Atlanta residents live in a place where healthy options are more expensive, more time consuming, or unavailable. The aspects of the man-made environment that enable or discourage healthy living, are known as health determinants. These health determinants are driven by decisions at many levels, from the individual to local, regional, state, and federal policies. When these policies have led to unintended negative consequences in the past, it has been truly unfortunate. Now, as the paths from planning and project select to health, wellbeing, and quality of life are becoming clearer, planners and policy-makers at every level have the responsibility to use this information to make better decisions.

The HIA identified five major areas in which regional planning activities were likely to impact health: 1) Safety and Security, 2) Access, Equity, and Economy, 3) Active Living, 4) Ecology & Environmental Quality, and 5) Civic Life / Social Connections. Observations and recommendations in that effort were structured around these five areas. Although not structured precisely the same, this section of the transportation assessment does provide data relevant to each of these five categories.

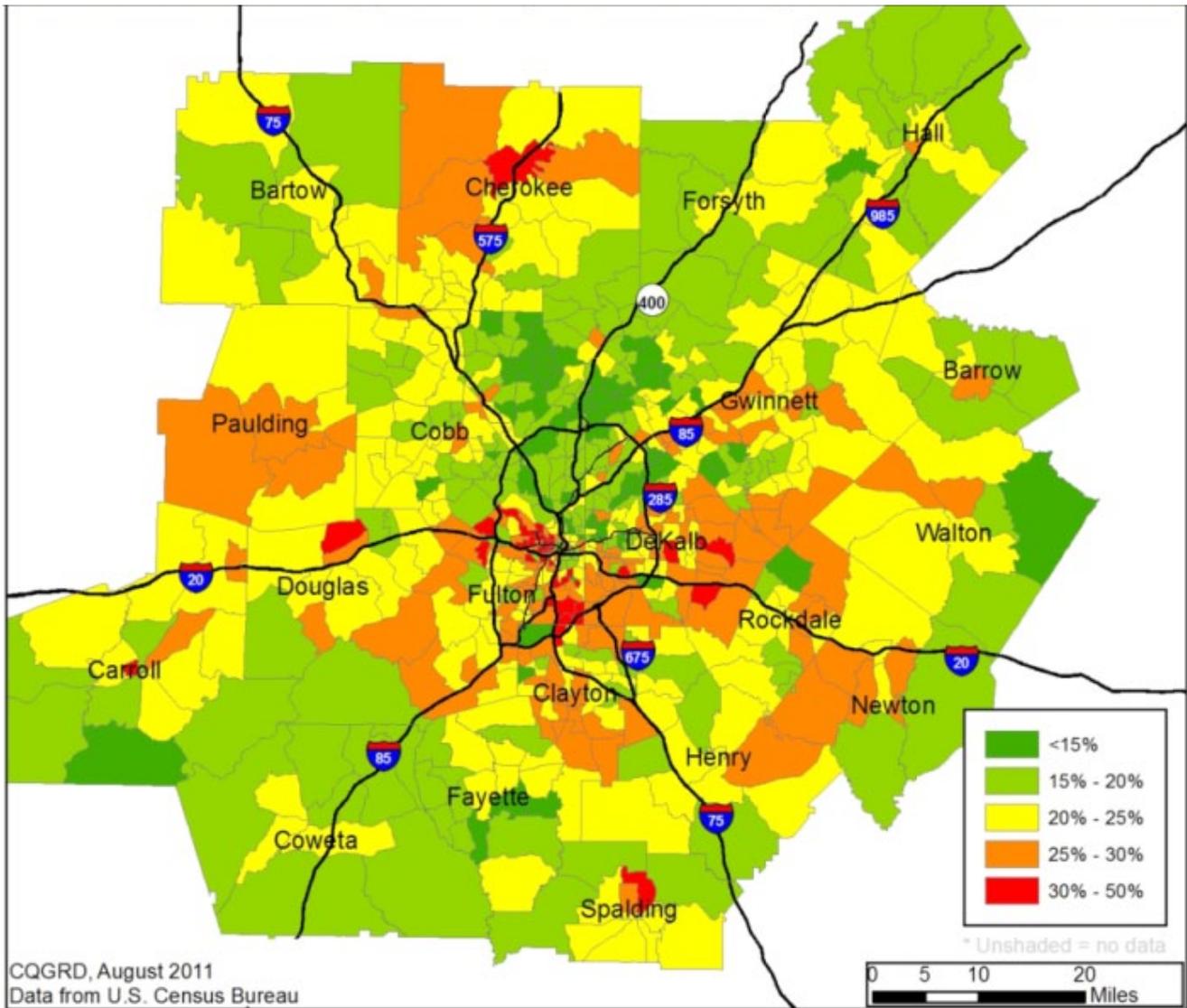
Although data and methodologies have continued to evolve in the years since the HIA was completed, it's worth including a few of the key findings of that effort. While the metric being reported and the mapped results may look different, the overarching findings from the HIA remain valid at the time this transportation system assessment was prepared.

MAP 4.1 HEALTH RISK RATING - CQGRD HEALTH IMPACT ASSESSMENT OF PLAN 2040



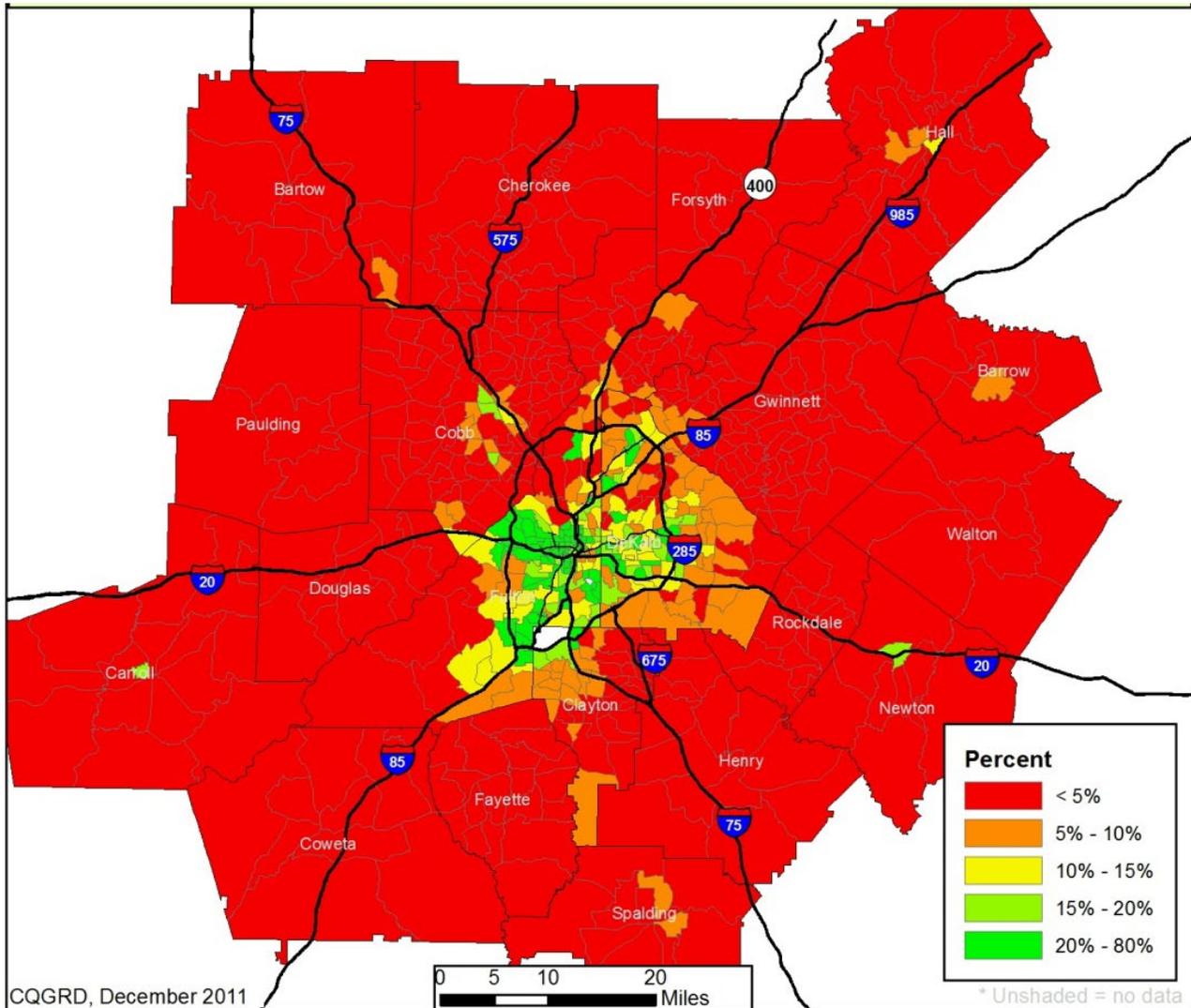
Health risk was defined by the HIA as a function of the proportion of residents or households under age 18, over age 65, headed by a single female, of color or ethnic identity, with less than a high-school degree (or equivalent) after age 25, unemployed, employed in a blue collar job, and below the federal poverty level. These groups were considered to more vulnerable to poor health outcomes due to a lack of financial resources, mobility and/or education. **The analysis showed that the health risk is highest in a rough triangular area with I-20 as the northern boundary and the “point” of the triangle in central Clayton County, although isolated pockets do exist in virtually every county.**

MAP 4.2 ECONOMIC RISK RATING - CQGRD HEALTH IMPACT ASSESSMENT OF PLAN 2040



Economic risk was based on what portion of a typical household's income within each area was dedicated to housing and transportation costs. While rents and housing values may be low and considered affordable by some, lower-income people residing in that area may still be stretched financially. **Areas attracting a high number of such individuals show up throughout the region, demonstrating that communities experiencing financial distress is not just an inner city problem.**

MAP 4.3 LEVEL OF ACTIVE COMMUTING - CQGRD HEALTH IMPACT ASSESSMENT OF PLAN 2040



While the previous maps showed how the transportation infrastructure is a factor in the mental (financial uncertainty caused by the cost of transportation) and social (lack of access to services) components of health, the level of active commuting has a direct relationship to the most common definition of health - that of physical well-being. Individuals who regularly walk, ride a bike or use transit are able to incorporate exercise into their daily routine more easily than those who sit behind the wheel of a car every day to get to work. Even these relatively modest amounts of physical activity can have dramatic impacts. Because of the low density of jobs and housing throughout most of the region, combined with lack of safe walking and biking facilities or transit services, these options are not viable for most people. **But this analysis does clearly show that where such services are provided and members of the community are open to using them, either by choice or out of necessity, use of these active modes can be high.**

The fact that usage levels within I-285 are so high provides a useful point to consider in discussions about roadway congestion. **Were it not for those people willing and able to walk, bike or take transit instead of driving to major job centers in the region's core, congestion levels on the roadways leading to and from those areas could be much worse than they already are.**



Learn more about the PLAN 2040 Health Impact Assessment at:

www.cqgrd.gatech.edu/research/atlanta-regional-plan-2040-health-impact-assessment

AIR QUALITY IN THE ATLANTA REGION IS IMPROVING, BUT STANDARDS KEEP GETTING TIGHTER.

Perhaps one of the most basic indicators of a healthy community is the quality of the air we breathe. Breathing polluted air can cause one's eyes and nose burn and make breathing difficult. Pollutants such as particulate matter and ground level ozone can trigger acute respiratory distress, such as asthma attacks. According to the CDC, asthma impacts 26 million adults and children (about 1 in 12) in the United States. Each year nearly 2 million asthma sufferers are forced by their condition to seek hospital emergency room assistance, while nearly 9 million more make asthma-related doctor's visits. All told, asthma-related impacts cost our nation \$56 billion each year.

The Clean Air Act Amendments of 1990 is a federal law to address these issues by protecting air quality in the United States. The law mandates that states meet federal clean air standards for six key pollutants tied directly to negative health impacts:

- Ground level ozone (O₃)
- Carbon monoxide (CO)
- Lead (Pb)
- Nitrogen dioxide (NO₂)
- Fine particulate matter (PM_{2.5})
- Sulfur dioxide (SO₂)



The United States Environmental Protection Agency (EPA) carries out the mandate of this act by establishing limits on how much of a pollutant can be in the air anywhere in the United States. These pollutant standards are referred to as National Ambient Air Quality Standards (NAAQS) and are determined by a review of the best science on health impacts of pollutant exposure. Areas exceeding the NAAQS are referred

to as nonattainment areas and are designated by the EPA. Currently, parts of metropolitan Atlanta are in nonattainment for both the eight-hour ozone and the annual fine particulate matter (PM_{2.5}) standards.

ARC is responsible for managing the process that ensures transportation plans and programs within the Atlanta nonattainment area, when implemented, do not cause or contribute to degraded air quality. This process is referred to as transportation conformity. Mobile (transportation-related) emissions, as calculated by ARC using travel-demand models and EPA emission models, must conform to established limits, or Motor Vehicle Emissions Budgets (MVEB), for nonattainment pollutants and/or their precursors. MVEB are set by the state air agency, the Georgia Environmental Protection Division (EPD), in the State Implementation Plan (SIP), and are approved by the EPA as adequate for use in the transportation conformity process.

OZONE

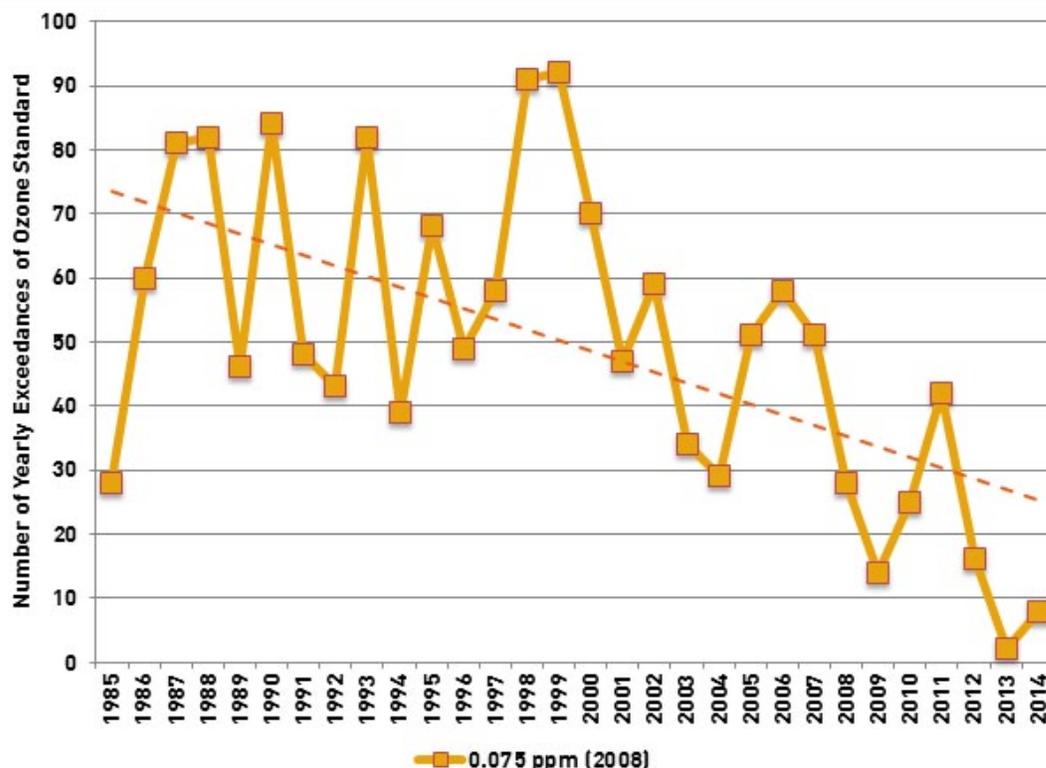
Ozone is formed when volatile organic compounds (VOCs) and nitrogen oxides (NOx) react with sunlight, typically reaching peak levels during the warm summer months. Sources of ozone precursors include coal-fired power plants, gas stations, natural sources and fuel combustion in cars and trucks. Ozone impacts the respiratory system causing irritation to the nose, throat and lungs. The long-term negative impacts of ozone are caused by the inflammation of the lungs when ozone is inhaled. This type of exposure can be compared to repeated sunburns and can lead to permanent scarring of lung tissue, loss of lung function and reduced lung elasticity.



Currently, the Atlanta region does not meet the latest federal standard for ozone. The region met the previous 1997 ozone standard in March 2011. However, in March 2008, EPA tightened the ozone standard to 0.075 parts per million (ppm) and a new 15-county portion of the Atlanta region was classified as nonattainment in July 2012. This action shrunk the nonattainment area, for the first time, from a 20-county area under the 1997 ozone standard. The region is classified as a marginal ozone nonattainment area, with an attainment date established in 2015.

The region continues to strive towards meeting the 2008 ozone standard by controlling emissions from mobile sources, power plants and industries. Some annual variation in the number of days that do not meet air quality standards is due to the impacts of local geography and changes in weather conditions, which cannot be controlled. In general, hot dry summers are worse for air quality than cool wet ones. Periods of drought or extreme heat often see more annual exceedances.

FIGURE 4.1 YEARLY EXCEEDANCES OF THE 2008 FEDERAL OZONE STANDARD



Advanced technology, such as cleaner fuel standards, more efficient cars and improved controls on industry and power generation have all led to a decrease in ozone violations in the Atlanta region in the past decade, perhaps to a greater degree than actual investments in our transportation infrastructure. The leveling-off of the long-term trend of increased vehicle miles traveled has also contributed to improved air quality by limiting the amount of emissions produced by the transportation sector. The improvement in air quality, as measured by fewer days that violate the ozone standard, has led to improved health outcomes for people in the Atlanta region.

In December 2014, EPA announced they would likely lower the ozone standard again, as part of an ongoing process to improve public health.

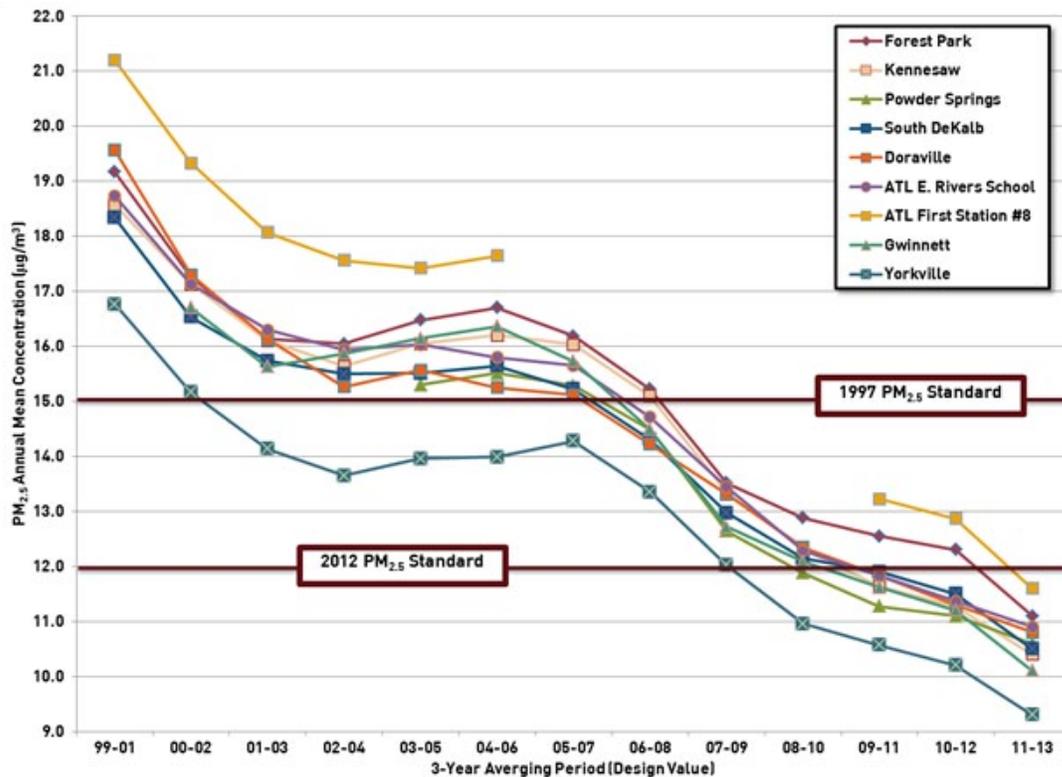
FINE PARTICULATE MATTER

Fine particulate matter is a term for particles and liquid droplets suspended in the air under 2.5 micrometers in diameter. These particles originate from a variety of sources including diesel trucks, power plants, wood stoves and industrial processes. The chemical and physical compositions of these various particles vary widely. Health risks associated with long term exposure to particulate matter include premature death from heart and lung disease, aggravation of heart and lung diseases and respiratory and cardiovascular effects.

In April 2005, the USEPA designated a 20-county area of metro Atlanta in nonattainment for failing to meet the 1997 annual fine particulate matter standard (PM_{2.5}). The region is currently showing clean data for the standard and a Maintenance Plan is pending EPA approval.

In 2012, EPA announced a new, tighter, annual $PM_{2.5}$ standard. Nationwide designations for this standard occurred in December 2014 but the region's designation was deferred due to air quality monitor data completeness issues. If the downward trend in exceedances continues, pending complete data, the region would expect to be attaining the 2012 $PM_{2.5}$ standard as well.

FIGURE 4.2 $PM_{2.5}$ DESIGN VALUE FOR THE ATLANTA REGION BY MONITOR



As with the improving trend in ozone violations, the reduced concentrations in $PM_{2.5}$ illustrated in the chart above are related to improvements in technology that control emissions from mobile sources, power plants and industries. In addition, the leveling-off of the long-term trend of decreased vehicle miles traveled has also contributed to improved air quality by limiting the amount of emissions produced by the transportation sector.

AIR QUALITY PERFORMANCE MEASUREMENT

ARC currently utilizes air quality performance measures as a means of determining how well the RTP enhances and protects the quality of life for the region's citizens. ARC's air quality measures offer a quantitative measurement to analyze this success.

The key performance measures for this goal are tons per day of transportation-related pollutants:

- Volatile Organic Compounds (VOC)
- Nitrogen Oxides (NO_x)
- Fine particulate matter (PM_{2.5})
- Carbon Dioxide (CO₂)¹



PLAN 2040, the Atlanta region's current long-range transportation and development plan, received an initial positive conformity determination under the eight-hour ozone standard and under the annual PM_{2.5} standard on September 6, 2011. Amendments to the plan, including a major update, all received positive conformity determinations on: December 14, 2012, September 23, 2013, April 30, 2014 and September 29, 2014. These determinations were made for the entire nonattainment area, and demonstrate that the regional transportation plan complies with all air quality requirements associated with the eight-hour ozone and annual PM_{2.5} standards, and with the Ozone SIP & Maintenance Plan currently in place.

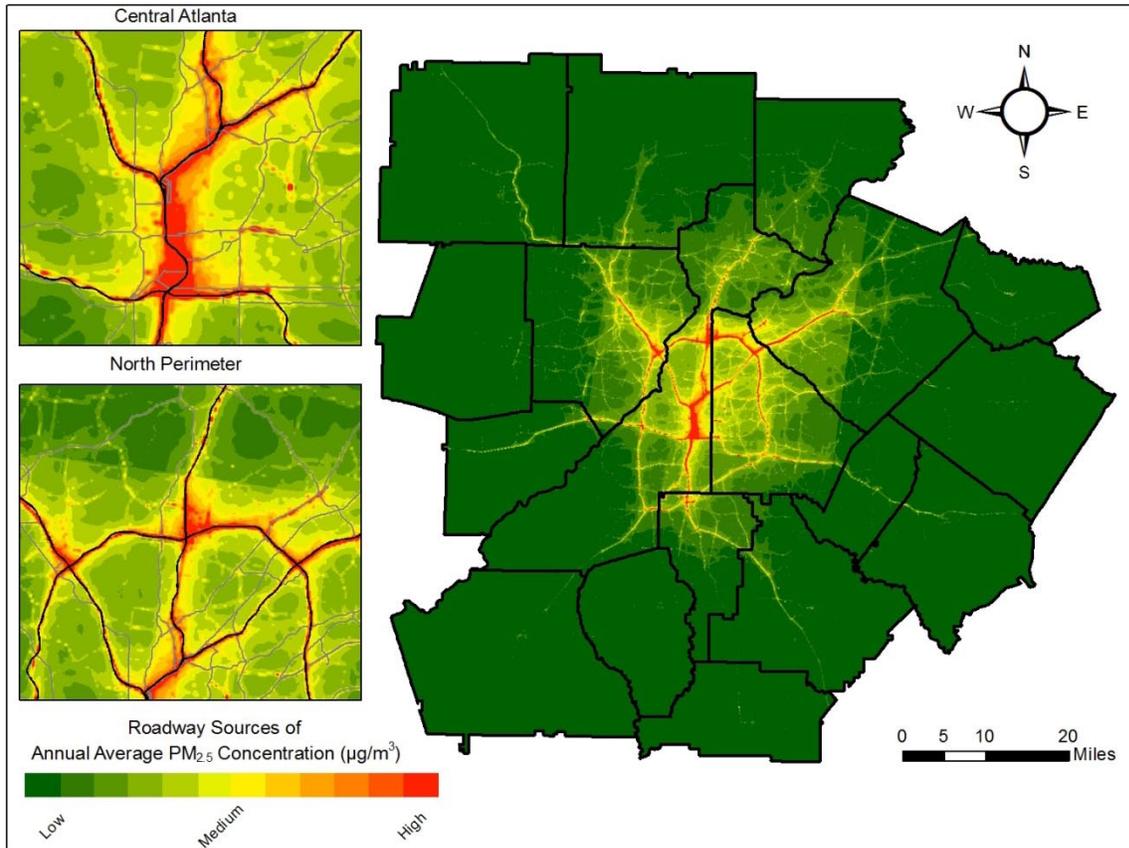
ATLANTA ROADSIDE EMISSIONS EXPOSURE STUDY (AREES)

In 2012, ARC initiated a long-term project to develop new air quality performance measures. The focus of these measures would be on local-scale emissions exposure, instead of regional control totals of pollutant emissions. The project, named the Atlanta Roadside Emissions Exposure Study (AREES), seeks to integrate ARC's transportation modeling outputs with emissions and dispersion models already developed by the EPA. PM_{2.5} emissions are modeled and dispersed in the region to assess local-scale impacts from the transportation system.

The AREES model is still in development, but preliminary information from the AREES model shows that concentrations of PM_{2.5} are highest near and upwind of major roadways and interstates. People living and working in major activity centers along the perimeter and in the core of the region are also exposed to more PM_{2.5} emissions.

¹ Carbon dioxide, while not a pollutant required for transportation conformity, is included in many ARC air quality analyses as a measure to track our region's contribution to global climate change.

MAP 4.4 NEIGHBORHOOD-LEVEL ROADWAY PM_{2.5} CONCENTRATIONS



Understanding the spatial relationship between transportation patterns and emissions allows planners to consider the health impacts of decisions related to the flow of people and goods in the Atlanta region. **Many of the people who live with the most exposure to poor air quality are not directly responsible for producing these emissions, so AREES also allows us to have more informed conversations about land use planning and environmental justice.** Using tools like AREES, we will be able to answer questions about transportation project performance integrated with public health on a local scale.



Learn more about the AREES results at:

Not yet available on the ARC website – Stay Tuned!

CLIMATE CHANGE CONTINUES TO GROW AS AN ISSUE THAT THE REGION MUST ADDRESS.

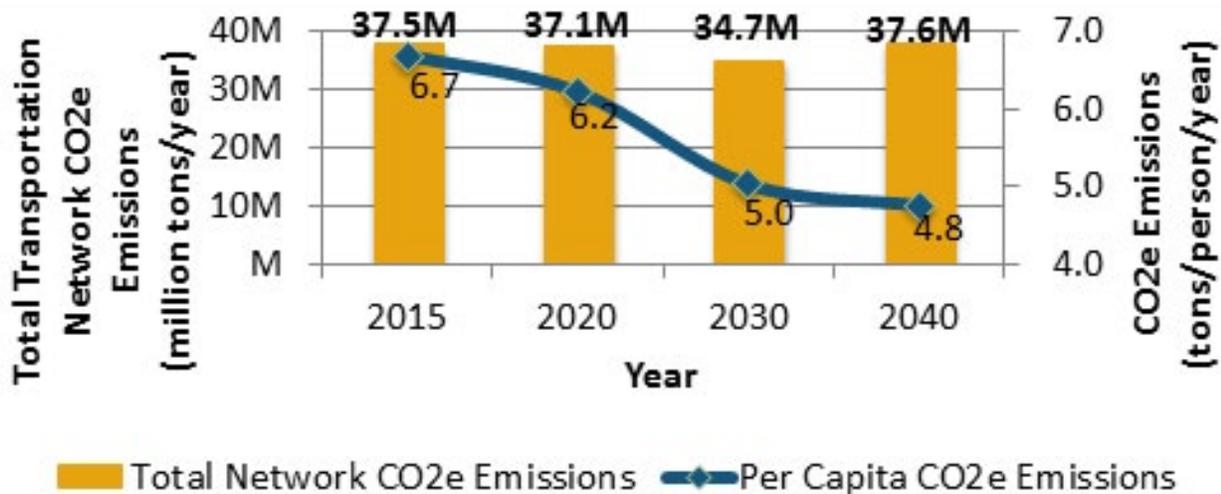
Regional planning for climate change is gaining more attention nationwide. Hundreds of local governments across the country have taken steps to reduce their greenhouse gas emissions.

Congress continues to debate possible comprehensive action to address the impacts of greenhouse gas emissions, other branches of the federal government, states, regions and cities across the United States have begun to take actions to reduce their contribution to climate change. Even if the substantial body of scientific knowledge pointing to the existence of climate change turns out to be incorrect, investments in CO₂ mitigation strategies provide positive air quality, safety, health and economic benefits.

Regions that take steps to understand their greenhouse gas emissions and provide their communities with policy options are taking a seat at the climate change national table. These communities will help to inform federal policy on the issue in the future. To meet federal requirements and to be good stewards of our environment for future generations, The Region's Plan must contain strategies that lead to reductions of primary pollutants as well as associated CO₂ emissions.

The transportation sector is responsible for roughly one-third of domestic greenhouse gas emissions. Transportation-related greenhouse gas emissions in the Atlanta region have reversed the decades-long trend of increase and have begun to decline. This decline is even more pronounced on a per-capita basis. The key policy driving this reduction is a series of EPA rules improving fuel economy along with a stabilizing trend in the per capita vehicle miles traveled by people in the region. These declines, while important, do not meet the goal put forward by scientists to reduce emissions by 80% of 2005 levels by 2050. This goal will help limit the worst expected impacts of climate change. More work will need to be done to reduce greenhouse gas emissions.

FIGURE 4.3 ABSOLUTE AND PER CAPITA TRANSPORTATION GREENHOUSE GAS EMISSIONS

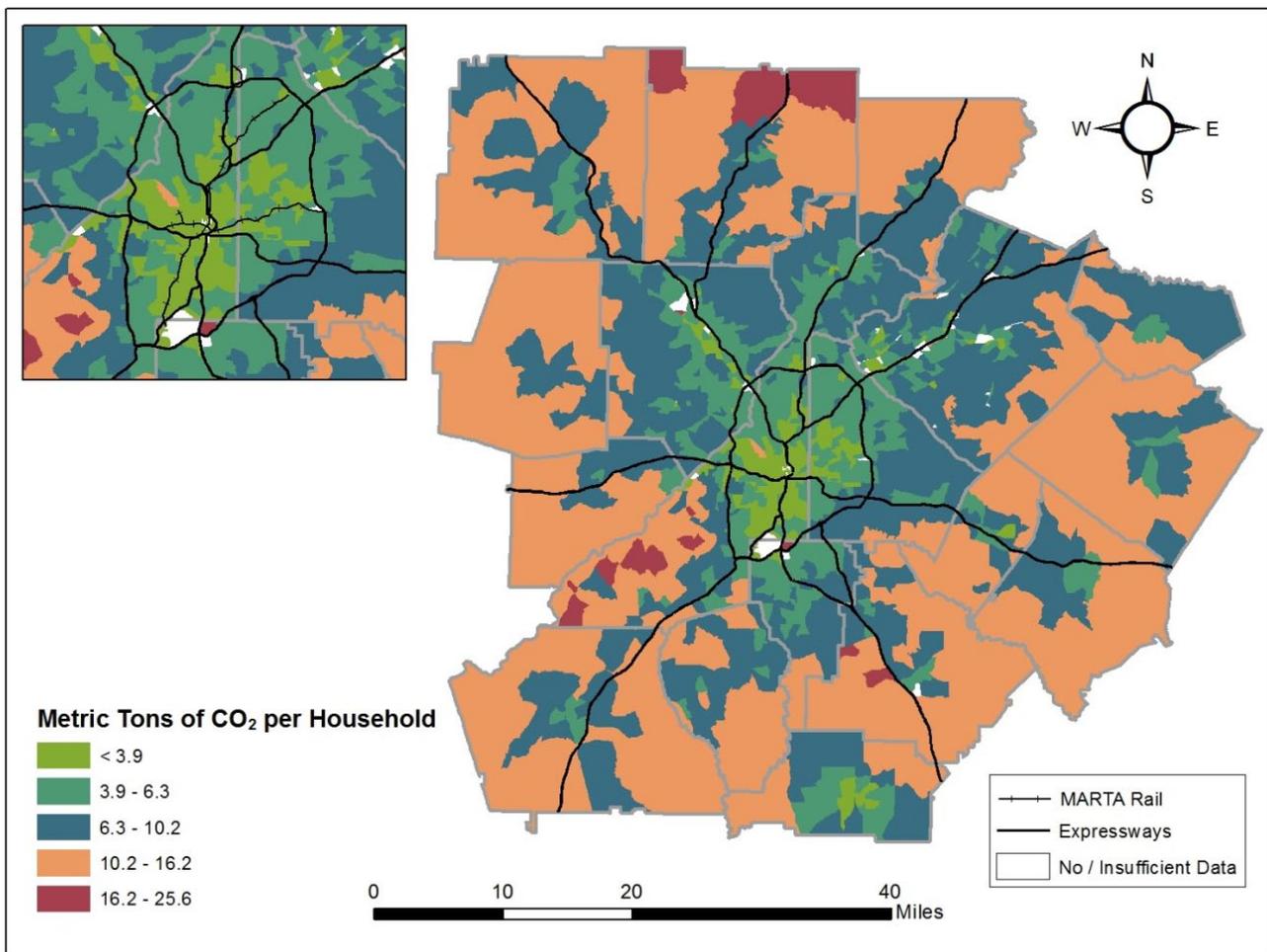


To better understand the behaviors and patterns that lead to greenhouse gas emissions in the region, ARC staff prepared a report² on the impact of community design on emission generation. The report focused on both residential (household electricity) and automobile emissions.

CO₂ emissions per household are lowest in the center of the region and along major transportation corridors in Cobb and Gwinnett Counties. Emissions are also minimized in historic town centers, like Griffin, Newnan and Conyers.

The key findings of the study suggest that strategies to further reduce emissions from the transportation sector should focus on improving multimodal accessibility, increasing transit share, increasing population density and increasing neighborhood walkability. Congestion is also a key factor in greenhouse gas emissions. Low travel speeds and idling lead to decreased vehicle efficiency and result in increased CO₂ emissions.

MAP 4.5 CO₂ EMISSIONS FROM AUTOMOBILE & HOUSEHOLD ELECTRICITY USAGE³



2 The full report can be accessed on ARC's website at <http://www.atlantaregional.com/climatechange>

3 An interactive version of the map is available online at <http://atlregional.github.io/climatechange>

The 2014 ARC study also investigated residential emissions, which account for approximately a third of total emissions. Ultimately, household residential emissions are directly related to how much energy is used in residences. Community zoning that allows for smaller residences can be a useful tool in helping reduce electricity-related CO₂ emissions.

ARC's Livable Centers Initiative (LCI) communities often exemplify the design characteristics that lead to low-carbon communities. LCI communities produce about 50% less transportation CO₂ emissions than non-LCI communities. The LCI program is focused on building mixed-use communities with good transportation and housing options. LCI communities rely less on automobiles for transportation, thereby reducing greenhouse gas emissions. In addition, communities near MARTA stations and in walkable locations, in urban and suburban areas of the region, also see around 60% less CO₂ emissions than the region on average.

While ARC has undertaken several projects to assess the region's carbon footprint and look at strategies to mitigate greenhouse gas emissions, not much has been done yet to address future impacts of climate change on our infrastructure. **Future work focus on system resiliency and adapting the existing system to the expected impacts of more intense and frequent weather events which could occur as a result of changes in the global climate.**



While our atmosphere does have a remarkable capacity to cleanse itself of the pollutants we add to it, the total volume of air encircling the globe, if compressed into a single sphere, is much tinier than you would expect.



Learn more about how the region is addressing the issue of climate change at:

www.atlantaregional.com/climatechange

ADDRESSING THE NEEDS OF THE TRANSPORTATION DISADVANTAGED.

Government policies and actions must not fall disproportionately upon those communities which have been historically marginalized or which have greater challenges in accessing and influencing policy officials. In general, the populations of greatest vulnerability of being left out of the Atlanta region's decision making process are households in poverty, African-Americans, and recent immigrants with limited command of the English language. Potential impacts could come from air pollution, noise, safety issues, hazardous materials, limited access to jobs, services and other opportunities, deflated property values, business and/or home displacement, or disproportionate costs of transportation. The social impact could also affect neighborhood cohesion and function as well as safety and aesthetics. In those situations where citizens have problems coming to the table, the region's leaders must find ways to do a better job of bringing the table to them.

POVERTY IN THE SUBURBS

A national report released by the Brookings Institution in 2010, *The Suburbanization of Poverty*, documented a marked growth in suburban poverty across the nation's metropolitan areas. Between 2000 and 2011, suburban poverty in metro Atlanta grew by 159%. About 88% of the region's poor now live in the suburbs, contrary to the stereotype that poverty is only an inner city problem. The report found that during that same period, the Atlanta region ranked fourth among all metropolitan areas in the growth of suburban poverty. This increase in poverty corresponds with increased low wage job opportunities and more inexpensive housing options found in many inner ring suburban locales in our region.



This trend of decentralizing poverty from the urban core to the less dense suburbs presents challenges, as many suburban communities in the Atlanta region lack the transit and active transportation infrastructure necessary to adequately meet the needs of the economically challenged, who often lack access to a personal vehicle. This mismatch between population needs and community assets limits opportunities to break cycles of poverty and represents a major obstacle to creating healthy, livable communities.

ENVIRONMENTAL JUSTICE PLANNING REQUIREMENTS



Learn more about the issue of poverty in the suburbs:

www.brookings.edu/research/papers/2010/01/20-poverty-kneebone

ARC emphasizes the importance of environmental justice in its transportation planning process. Title VI, Executive Order 12898 requires that ARC's transportation plans and programs:

- Provide a fully inclusive public outreach program.
- Prevent disproportional impact to minority and low-income communities.
- Ensure that low-income and minority citizens fully share in the benefits of the region's transportation infrastructure.

ARC's Environmental Justice program is interwoven into the regional planning process. Considerable attention is directed toward ensuring the fair and equitable distribution of benefits and burdens combined with equal opportunity for citizens to help shape the substance of regional plans and policies. ARC's comprehensive approach emphasizes outreach to all segments of the community; an equitable allocation of resources; broad based community partnerships; and balanced planning impacts.

ARC has incorporated the Model Guidelines for Public Participation developed by the National Environmental Justice Advisory Council as a guide for encouraging public participation in all aspects of environmental decision-making and to maintain honesty and integrity in the process.



ARC has implemented several positive programs to further the goals of environmental justice planning:

- Convening an equity-oriented workshop with key stakeholders to maintain ongoing dialogue on the Equitable Target Area (ETA) Index, planning checklist and outreach plan for under-represented citizens.
- Developing an update to the Equitable Target Area (ETA) Index.
- Leading and participating in an Equitable Transit Oriented Development Collaborative
- Ensuring that ARC's Regional Community Engagement Plan includes the Model Guidelines for Public Participation developed by the Public Participation and Accountability Subcommittee of the National Environmental Justice Council.
- Investments in environmental justice communities through the Livable Centers Initiative.

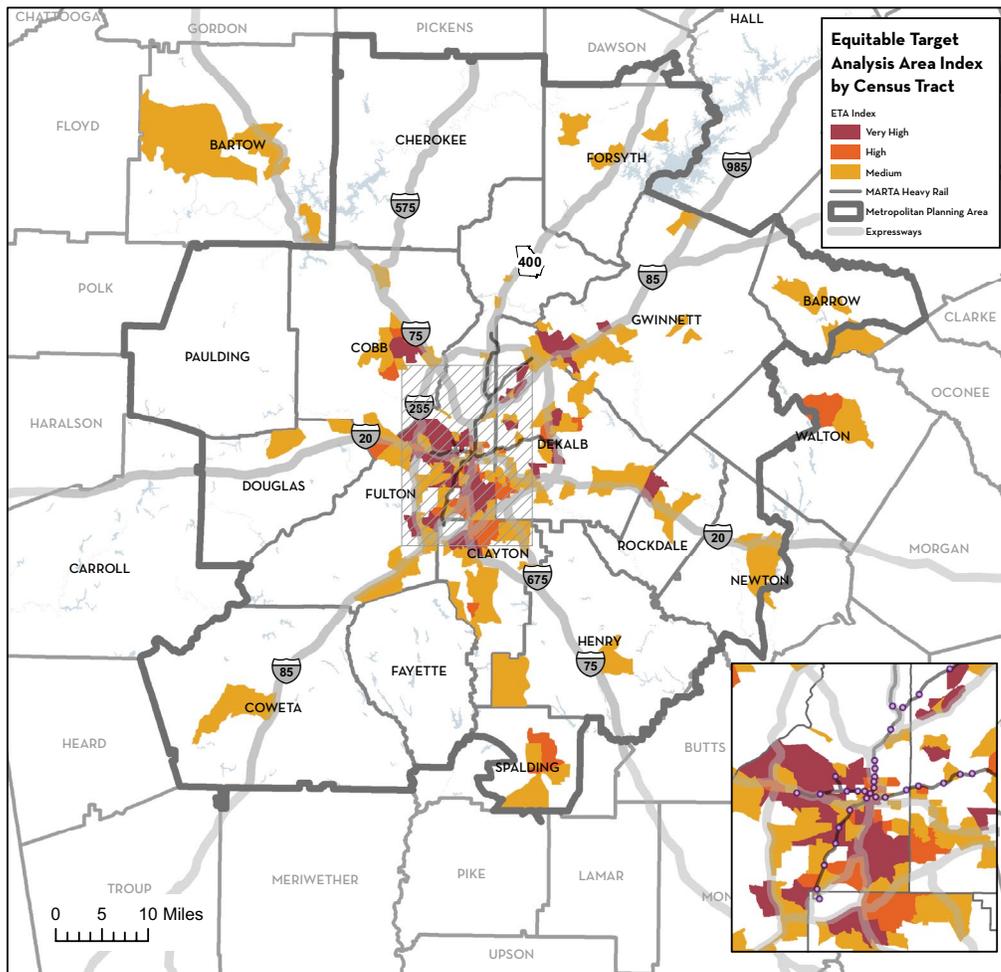
The quarterly equity-oriented workshops help environmental justice communities and their planning representatives understand and engage in a wide range of urban issues, as well as for ARC to achieve sound solutions when addressing social equity concerns related to transportation planning. These workshops welcome participation from many of Atlanta's environmental justice special interest groups. The Equitable Transit Oriented Development Collaborative also includes a focus on community engagement within environmental justice communities.

EQUITABLE TARGET AREAS

The Equitable Target Areas (ETA) Index is a tool ARC uses to better understand complexities in environmental justice communities and help the region make wise decisions regarding transportation investments. The index was reused for the Regional Transportation Plan, to identify environmental justice communities in the Atlanta region. 2010 Census race data and 2012 ACS 5-year poverty data were used to create the index at the census tract level.

This index is used to measure the impacts to ETAs by investments and programs contained within The Region's Plan on ETAs. It is also used as input for project prioritization and evaluation, monitoring resource allocation, and assisting in decision-making.

MAP 4.6 EQUITABLE TARGET AREA INDEX BY CENSUS TRACT

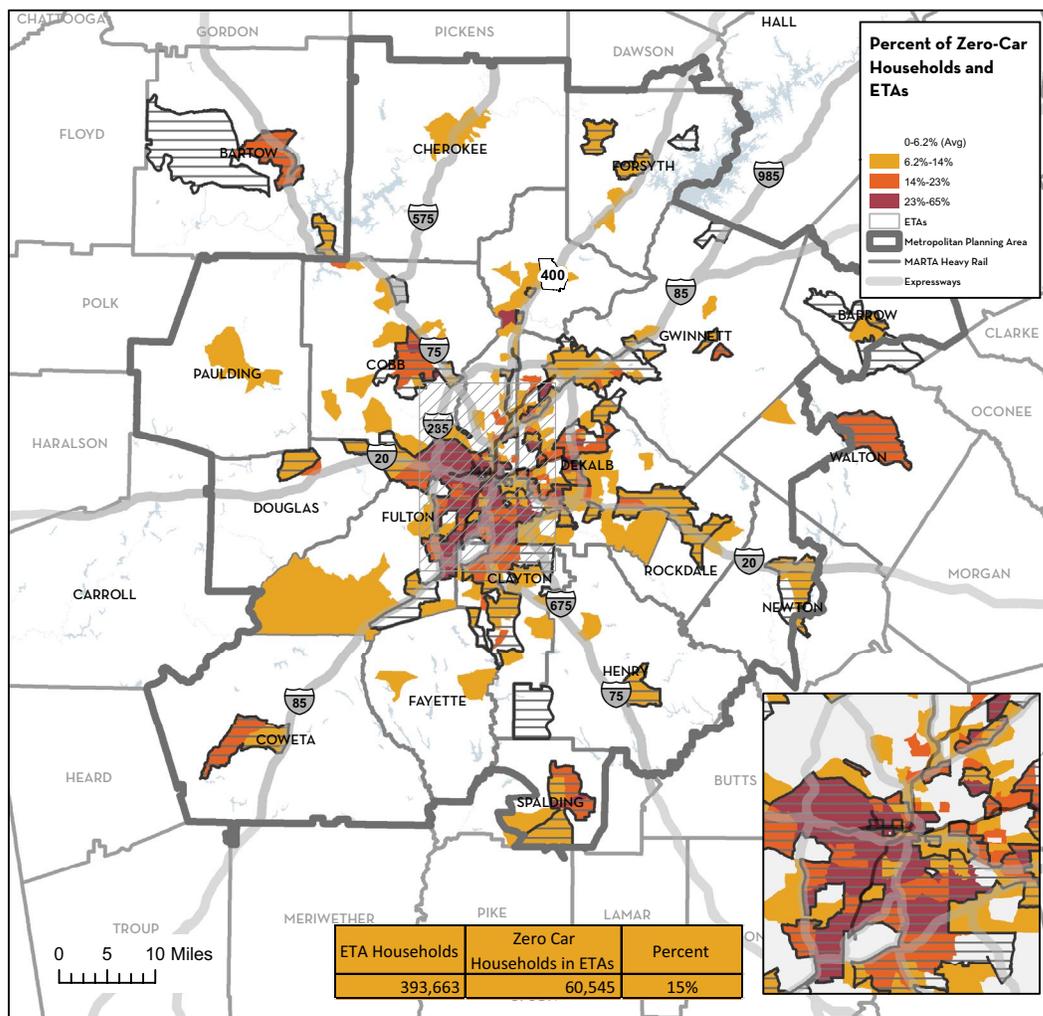


Areas of greatest vulnerability are concentrated in the western and southern sections of the City of Atlanta, the area within I-285 south of I-20, along several highway corridors (I-85 North / Buford Highway, I-75 North, I-20 West and I-20 East, US 19/41 South) and in certain parts of historic county seats throughout the region.

ACCESSIBILITY TO ESSENTIAL SERVICES BY TRANSIT

One way ARC is using the ETA Index is to study transit accessibility to essential services from these areas. The majority of transportation dollars in Georgia are dedicated to residents who drive. Infrastructure investments and fuel subsidies support those who have the ability and the funds to use an automobile as their primary mode of transportation. **Georgia has few options for those who are unable or unwilling to drive. Suburban and rural areas in particular lack the options non-drivers need.** According to the 2012 5-year American Community Survey, 6.2% of households in the 18-county region do not own a car. These zero car households tend to be concentrated in ETAs. Some of the zero car concentrations reach up to over 50% of households within a census tract.

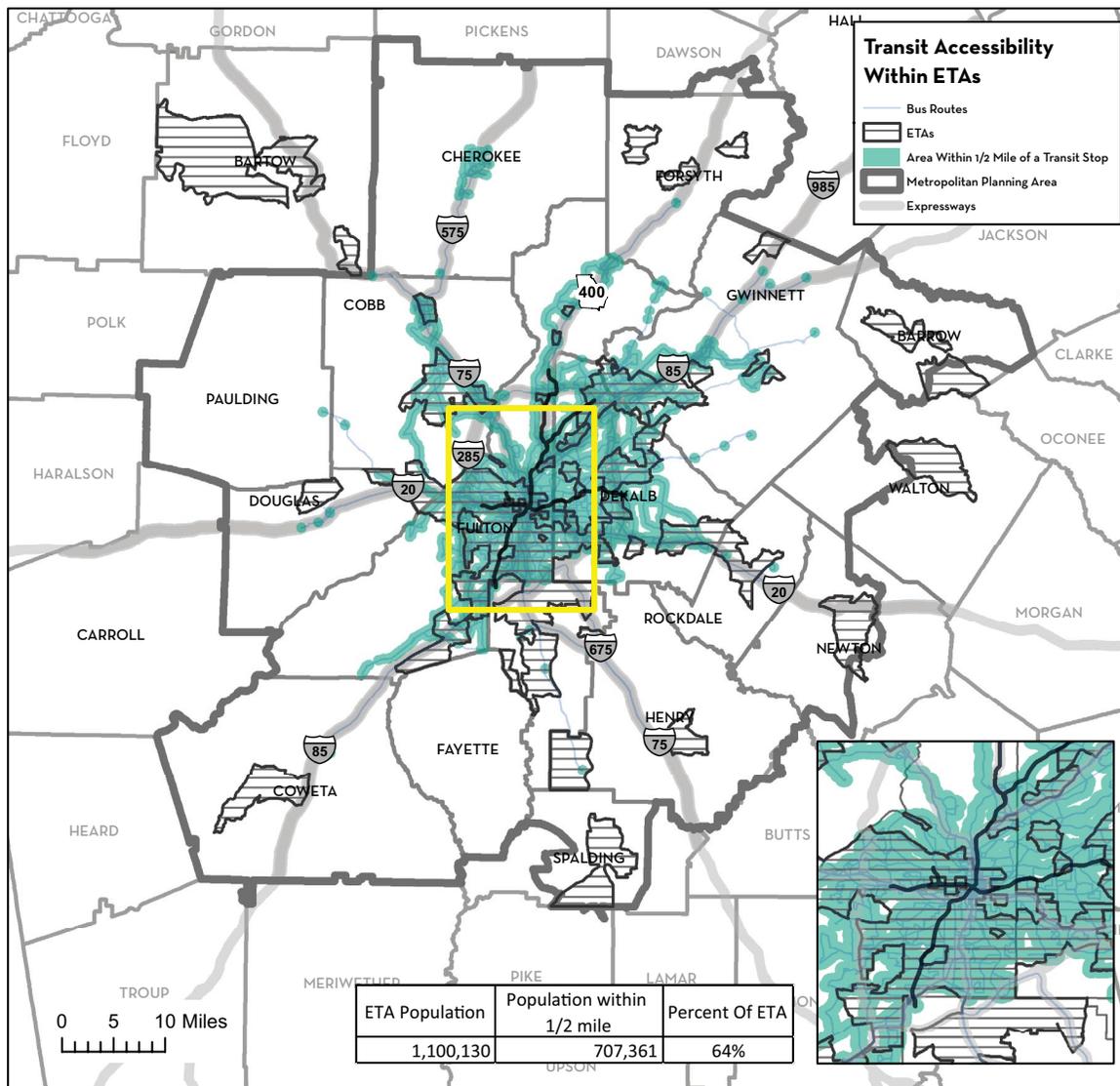
MAP 4.7 PERCENT OF ZERO CAR HOUSEHOLDS AND ETAs



As would be expected, there is reasonably good correlation between those areas identified as ETAs and those without access to a private automobile. Over the next 30 years the region will need to take a more comprehensive approach to transportation to assist the growing numbers of residents that cannot drive or choose not to drive. Investing in transportation options now will better prepare the state to manage an increasingly diverse population with increasingly diverse needs. Many other states and regions are investing significant dollars into transportation alternatives. There is greater interest at the federal level in transportation options than there has been for several decades.

Most of the areas in the core of the region are served by local or express transit systems. However, many of the areas in the outer rural counties do not have access to scheduled transit services. While Clayton County has just approved the MARTA tax, more needs to be done for areas where many households do not have a car. Existing transit services, including a half mile buffer around stations, are shown in the following figure with respect to ETAs.

MAP 4.8 TRANSIT ACCESSIBILITY AND ETAs



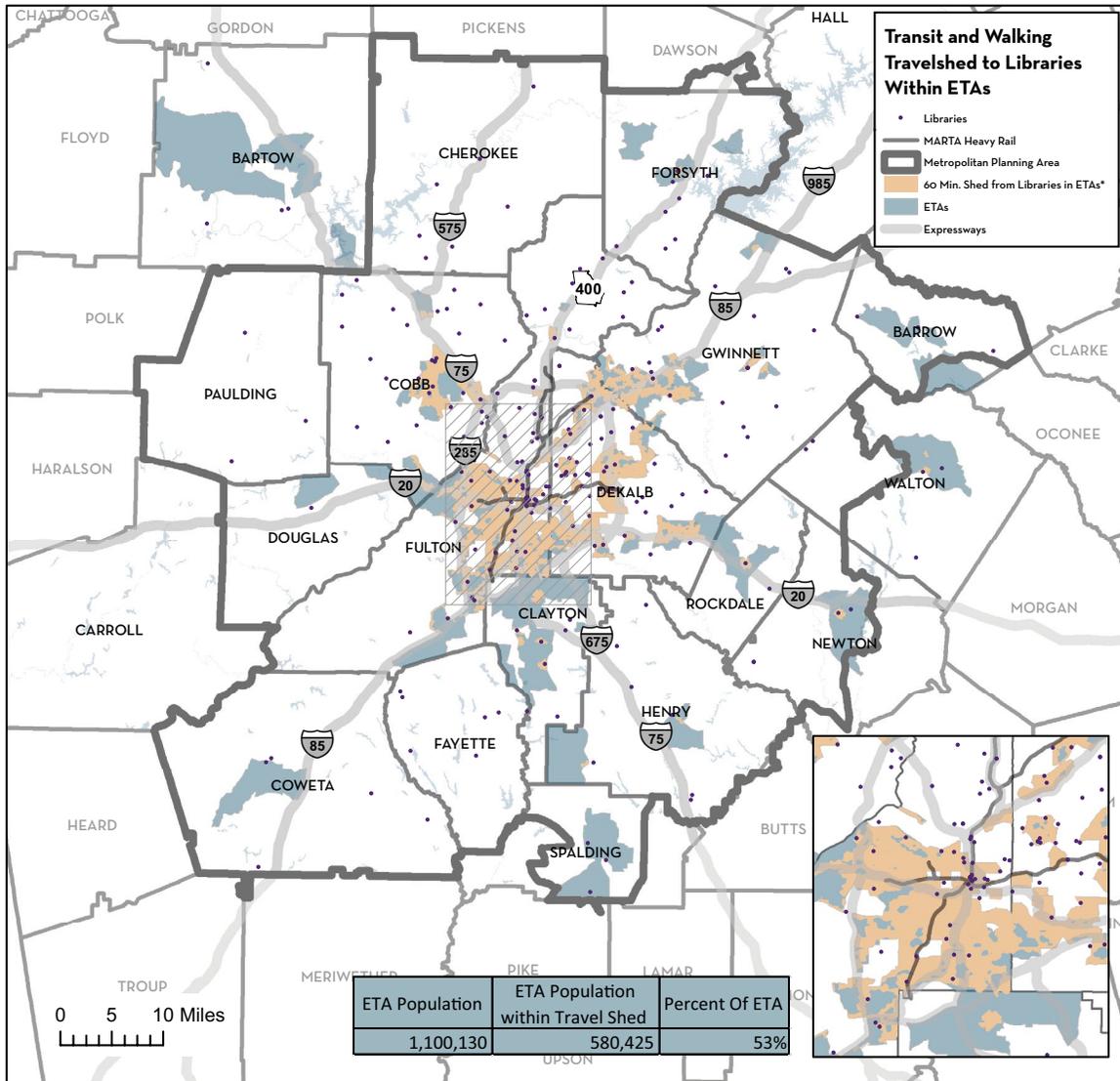
The lack of transit access in some of these areas, particularly those within historic suburban town centers, means that getting to and from many essential services can be difficult. And even residents within those ETAs with transit service may find that they are served only by a single bus route with infrequent service, which can still be severely limiting to mobility.

ARC conducted an analysis to determine how accessible essential services such as libraries, schools, grocery stores, and major hospitals are by transit. Assuming a transit patron is willing and able to walk up

to one-half mile at the beginning and/or end of a trip, the distance which can be traveled within a certain time by transit (termed a “travelshed”) can be calculated at a pretty fine grain of detail. The results were then overlaid with ETAs, as shown in the series of maps which follow. The portions of ETAs shown in grey cannot use transit to get to that service within the defined time period.

It’s important to note that it may be possible for somebody living within one of these areas to walk to a particular distance within 60 minutes, so the following maps may understate the overall level of accessibility to some degree.

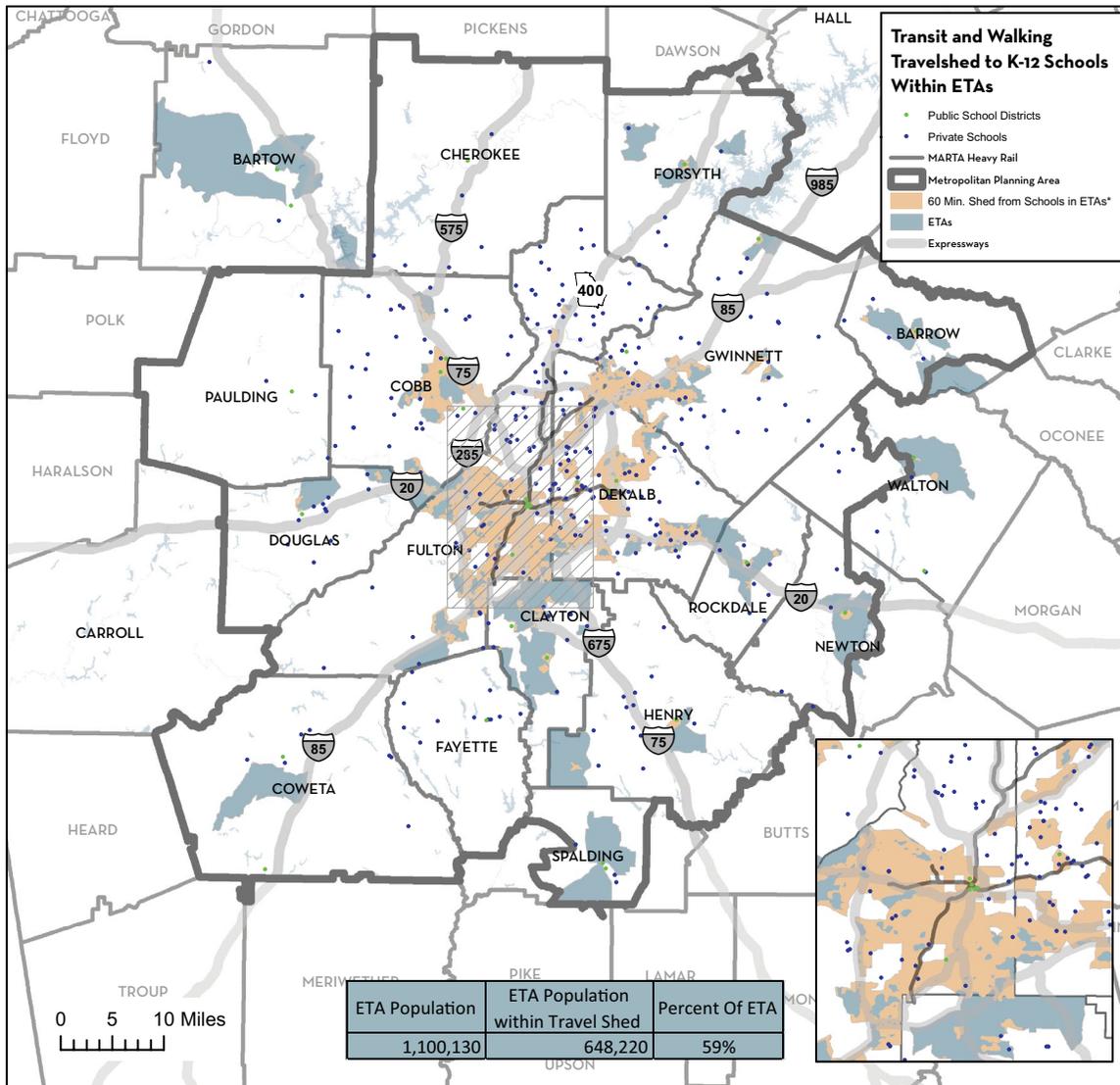
MAP 4.9 60 MINUTE TRANSIT TRAVELSHEDS FROM LIBRARIES IN ETAs



*Travelshed assumes approximately 1/2 mile of walking averaged on each end of the transit trip. ETA Census tracts is assumed for ETA population share estimates.

Virtually every major town center in the region has a library, so many people within the suburban ETAs shown in grey on this map could likely get to the library within an hour by walking. **There does not appear to be a serious disconnect between the proximity of libraries to ETAs and to those which are in non-ETAs.**

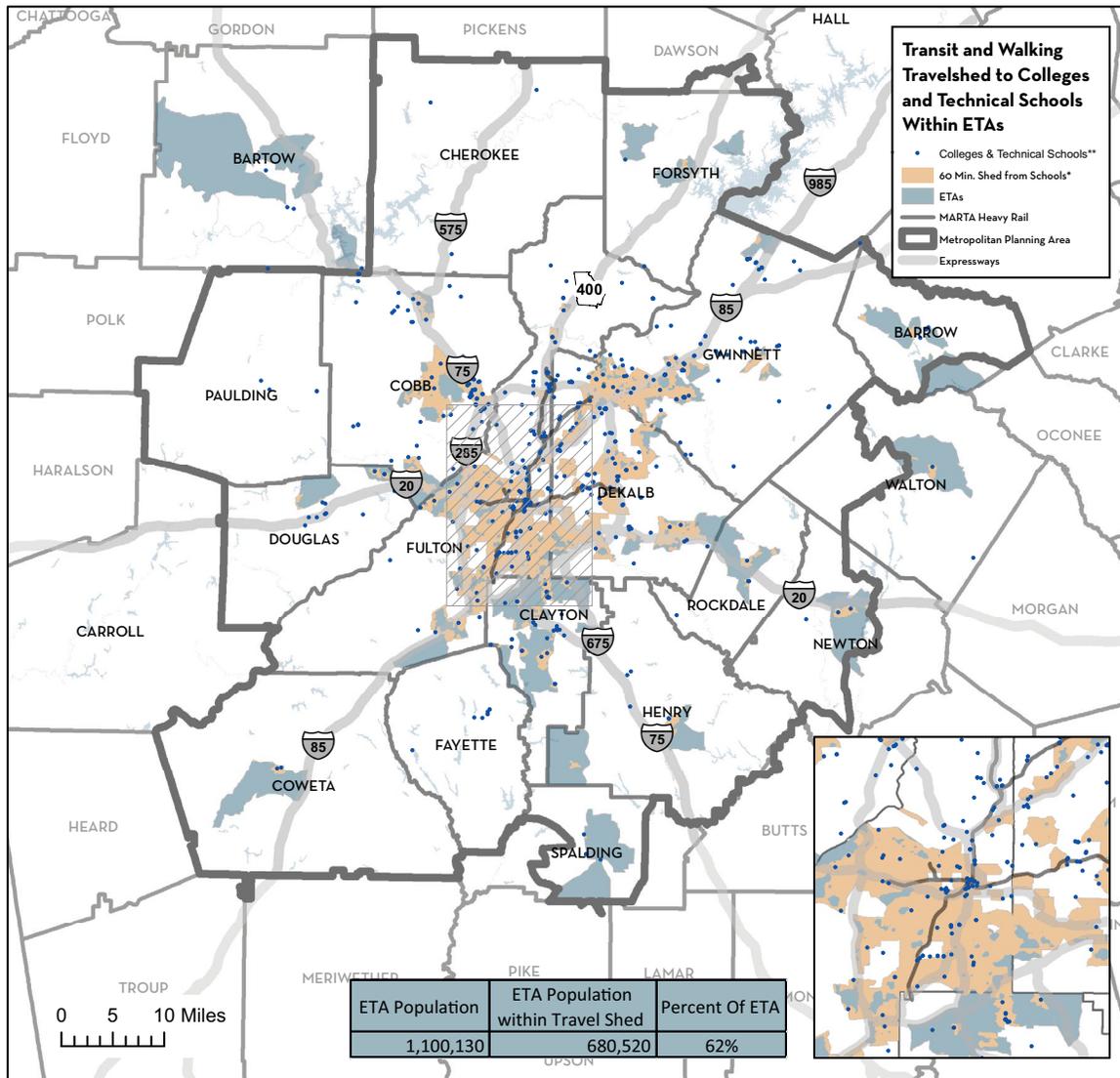
MAP 4.10 60 MINUTE TRANSIT TRAVEL SHEDS FROM GRADES K-12 SCHOOLS IN ETAS



*Travelshed assumes approximately 1/2 mile of walking averaged on each end of the transit trip. ETA Census tracts is assumed for ETA population share estimates.

Schools will typically be sited in close proximity to where people with children live and are “blind” to the demographics of those individuals. Although there are a handful of examples new of schools being located close to town centers, a trend has emerged in recent years where new schools built to accommodate growth are being located in more undeveloped areas where land is less expensive and there is room to grow in the future. And those schools tend to be large campuses, where all grades are housed on a single site. **As the trend of large campuses being built in outlying areas continues, people living in older more established communities will find it increasingly challenging to access those schools by public transit. And in many cases, these campuses are challenging to reach safely by bicycling or walking.**

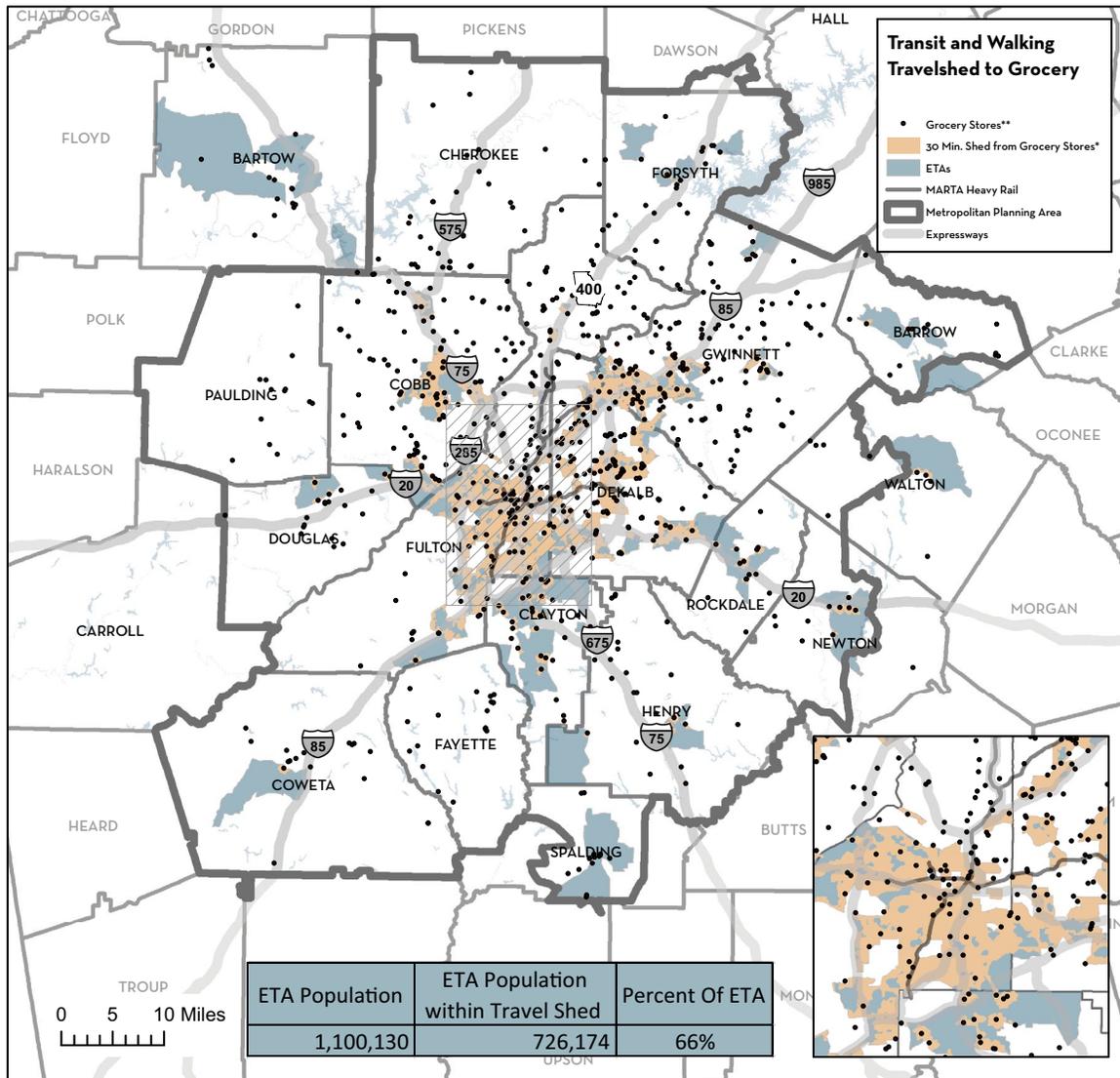
MAP 4.11 60 MINUTE TRANSIT TRAVEL SHED FROM UNIVERSITIES AND COLLEGES IN ETAS



**Shed assumes approximately 1/2 mile of walking averaged on each end of the transit trip. **Schools definition includes one year certification to doctorate degrees. ETA Census tracts is assumed for ETA population share estimates.*

Higher education facilities are smaller in number; therefore they are in general more difficult to access than grade schools. As with the recent trend in grade schools, colleges and universities (including technical trade schools) are often sited where there is ample room for expansion and parking for students and faculty. This often places them in areas not served by transit. **A more practical and cost-effective way to expand access to higher education for individuals within ETAs could be to focus efforts on ensuring they have access to computers.** For many degree programs, attending classes online instead of in a physical structure is a perfectly acceptable option.

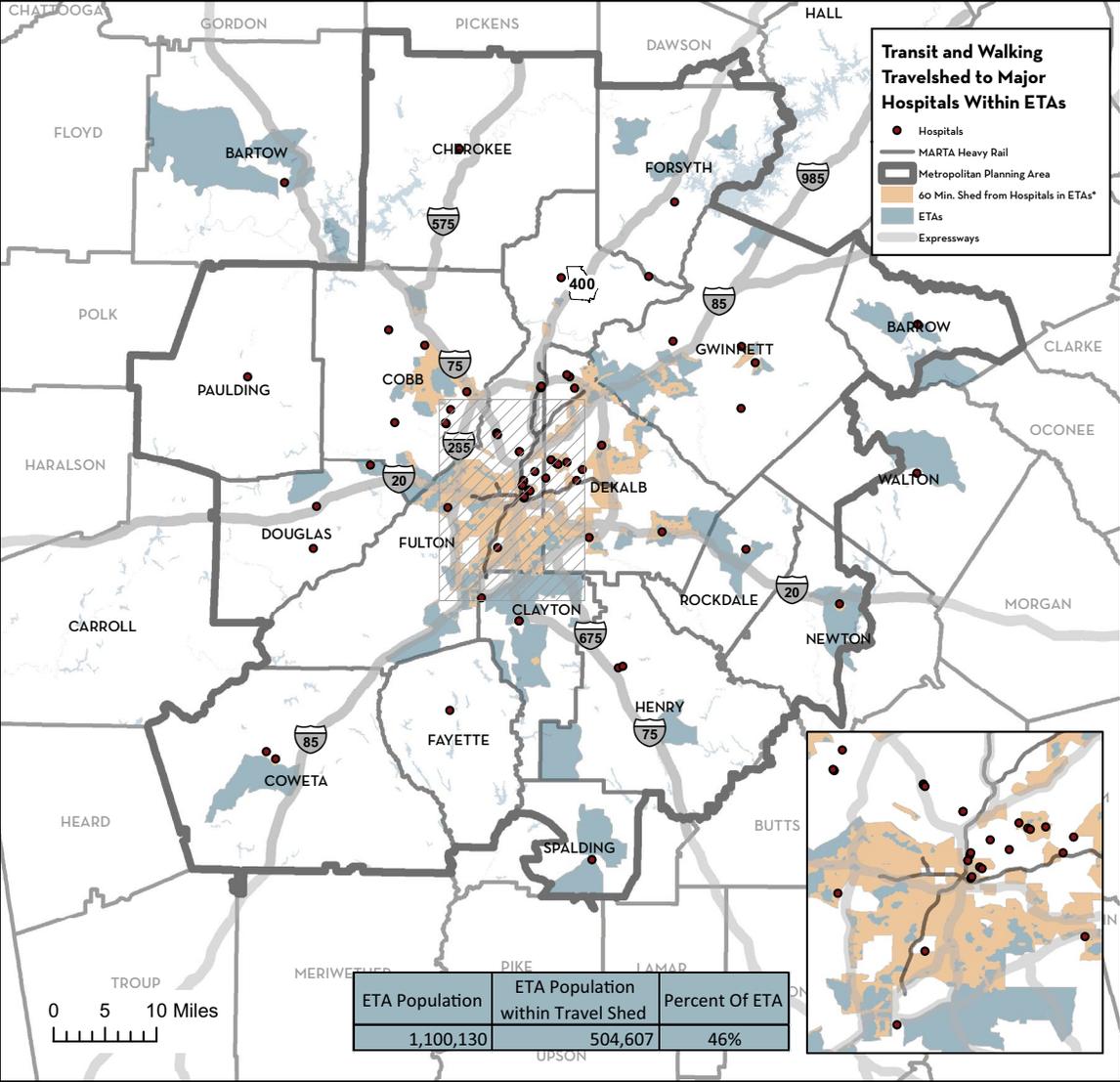
MAP 4.12 30 MINUTE TRANSIT TRAVEL SHEDS FROM GROCERY STORES IN ETAs



**Shed assumes up to 1 kilometer walking averaged on each end of the transit trip. **Grocery Store definition from NACIS and sale volume of at least 3,500,000. An equal distribution of population throughout ETA Census tracts is assumed for ETA population share estimates.*

Grocery stores are much more widely scattered around the region than the other essential services which have been mapped. Because many items purchased will be perishable, such as fresh fruits and vegetables or frozen items, a 30 minute maximum travel time was assumed rather than 60 minutes. This map would seem to indicate that levels of access are reasonably good, especially if one considers the possibility of trips completed entirely by walking, but it's likely that many facilities shown are not full-service grocery stores. Being able to purchase packaged and processed foods at a local convenience store is not the same as having the range of options afforded by a full-service grocery. **In order to better determine the level of convenient access individuals living within ETA areas have to groceries, it will be necessary to refine this analysis and better differentiate between the services and products actually provided by each facility shown.**

MAP 4.13 60 MINUTE TRANSIT TRAVEL SHEDS FROM MAJOR HOSPITALS IN ETAs



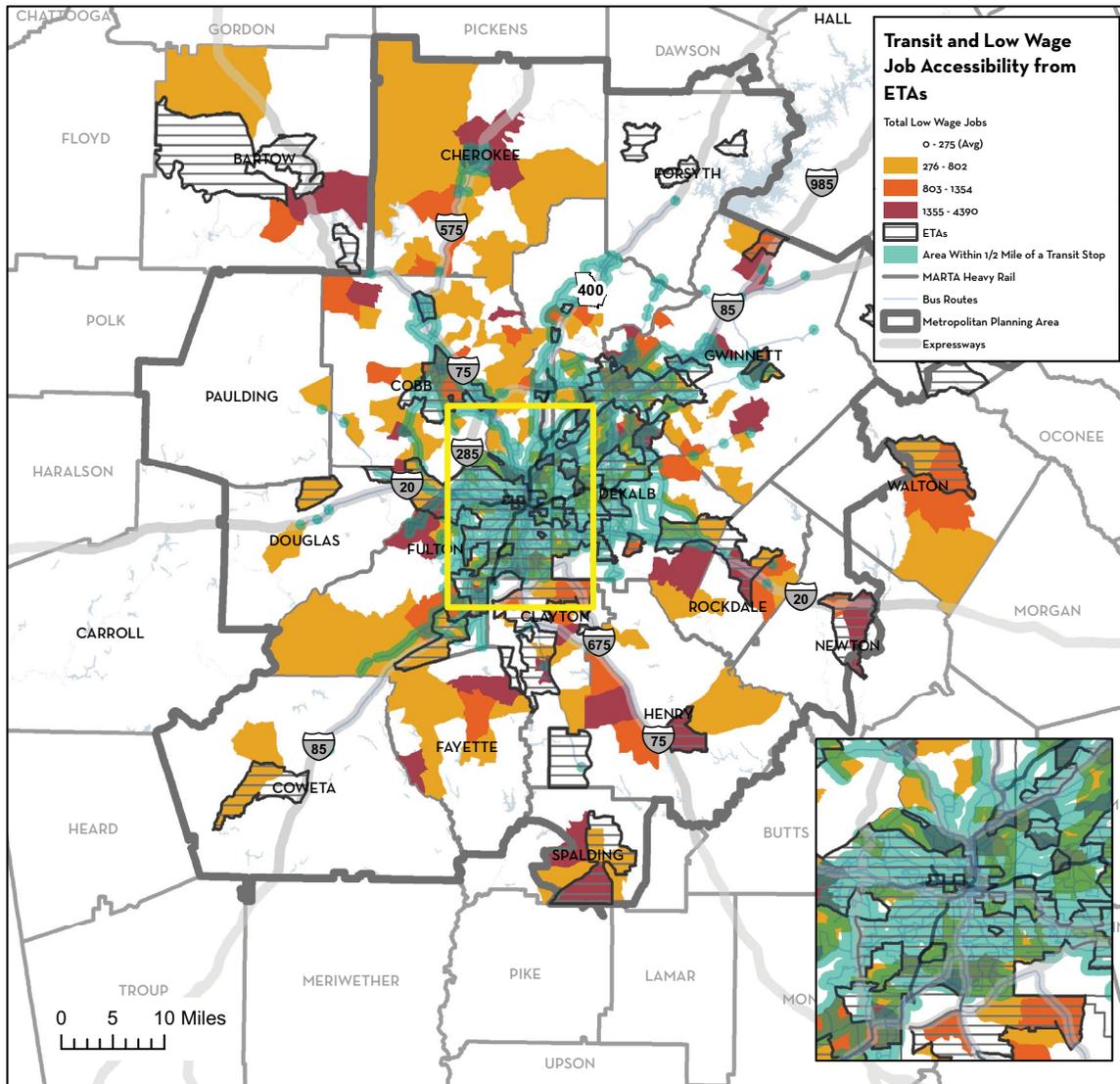
ETA Census tracts is assumed for ETA population share estimates.

Hospitals are the fewest in number of any of the essential services mapped to date, as would be expected. Therefore, the level of quick accessibility from ETAs is also correspondingly low. In the event of an emergency requiring a full-service hospital, though, an ambulance will almost always be a quicker option than public transportation. With the proliferation of emergency clinics in neighborhood pharmacies, the level of access to high quality medical care for minor illnesses and injuries is likely much better than this map depicts. **Determining the level of access to these clinics for routine medical needs would be an informative analysis to undertake.**

ACCESSIBILITY TO ENTRY LEVEL JOBS BY TRANSIT

Access to entry level jobs, which frequently pay low wages, can provide a first step out of poverty. However, if it costs too much or takes too much time to get there, the benefits of having that job are decreased. Using census data, the number of low wage jobs (earning less than \$1200/month) by census tract was found and compared to the Equitable Target Areas.

MAP 4.14 NUMBER OF LOW WAGE JOBS BY CENSUS TRACT AND TRANSIT ACCESSIBILITY



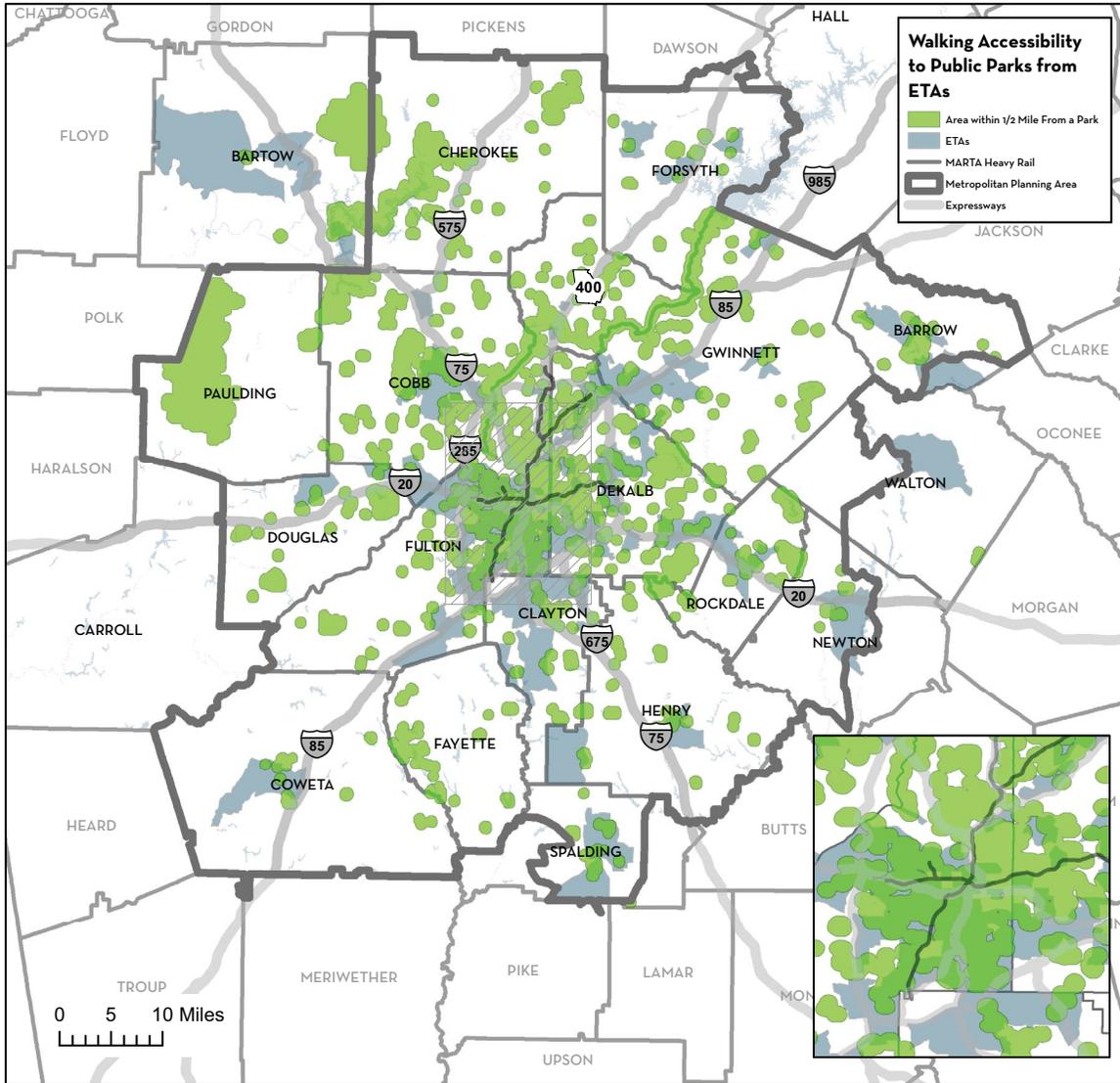
Transit and Low Wage Job Accessibility from ETAs

Many low wage jobs around the region are in located in widely dispersed retail developments built over the last couple of decades. Even when within close proximity to ETAs, accessibility by transit to these sub-urban developments is often not possible. Retail developments will always cluster in those areas where incomes and population densities, and thus the opportunity for profit, are highest. **In order to continue providing those shopping opportunities to local residents, the region must be deliberate about ensuring the people hired to run the registers, stock the shelves and sweep the floors can get to their jobs.**

ACCESSIBILITY TO PARKS BY TRANSIT

Accessibility to parks is also important to support public health. We have many parks in the region, but some areas still have limited accessibility to them via active transportation.

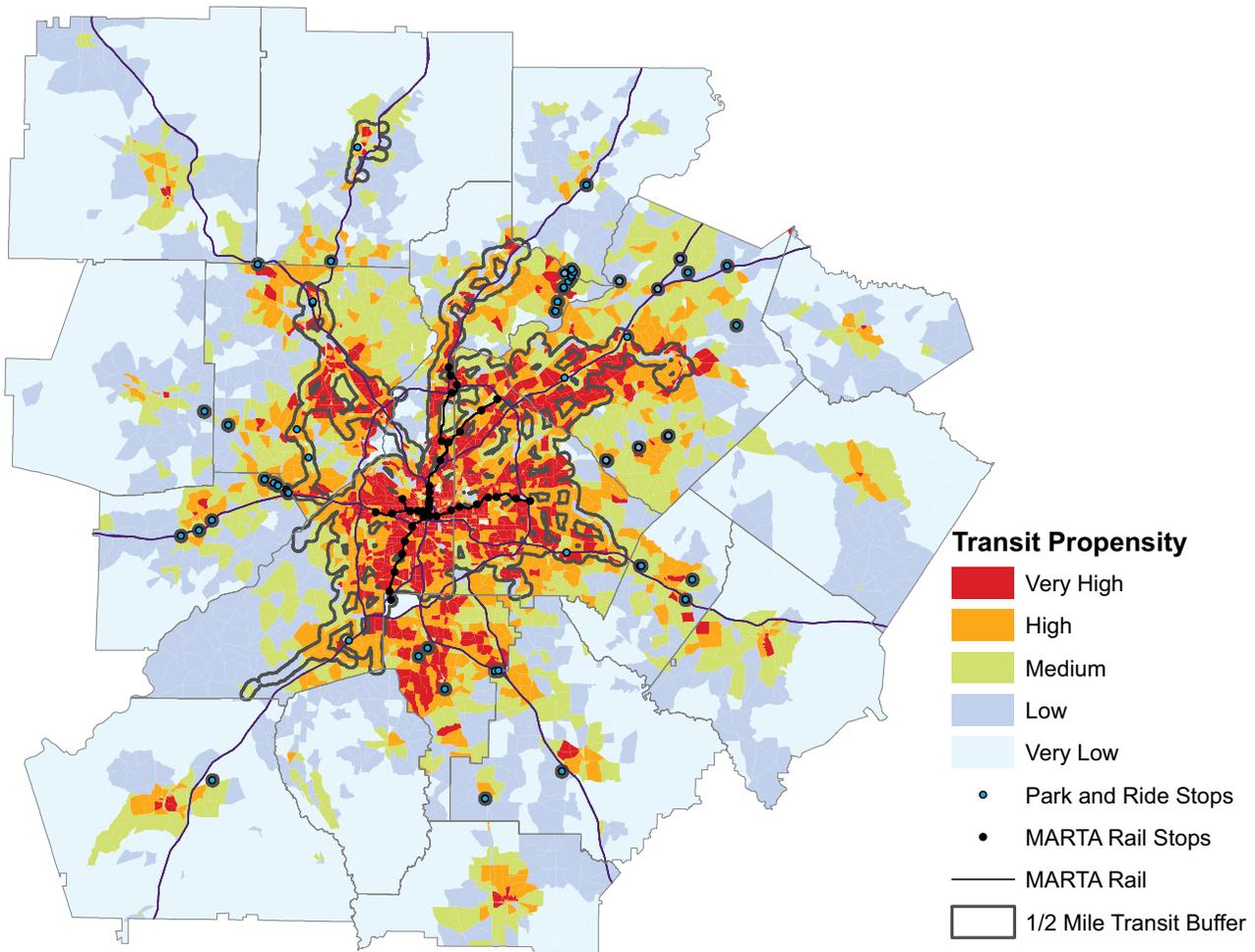
MAP 4.15 ACCESSIBILITY TO PUBLIC PARKS FROM ETAs



Walking Accessibility to Public Parks from ETAs

While parks are widely distributed around the region, our overall number and acreage lag behind other metro areas. The region is making improvements in this area, however. But it's clear that the most sensitive ETAs tend to be those with the least amount of access to a public park. While some may consider this to be optional, it's worth remembering that many of the individuals in question live in apartments and do not have access to the private yards enjoyed by homeowners. **If the region wants to be viewed around the nation as having a great quality of life, ensuring that communities have convenient access to nature, whether in a wilderness, a park, or in their own back yard, is essential.**

MAP 4.16 TRANSIT PROPENSITY



CLOSING THOUGHTS ON TRANSIT ACCESSIBILITY

The region's current transportation infrastructure fits the needs of many, but there are several areas where it may be difficult or impossible to travel efficiently without a vehicle or where the level of congestion makes using transit an attractive option for people who would ordinarily drive. The region must focus attention on these areas, particularly where they intersect with disadvantaged populations and a high percentage of choice riders. Accommodating these needs must be a critical strategy in developing a program of transportation strategies that addresses the full spectrum of travel needs in the region.



Learn more about the ETA methodology and analysis results:

Not yet available on the ARC website – Stay Tuned!

The Transit Propensity map focuses on both of these issues. Population density, employment density, low income households (making less than \$25,000), congestion level, and the percent of minorities were used to find areas with dependent riders and choice riders. The most obvious need is in Clayton County where MARTA was just approved to start service. There are also some pockets of transit need in the suburban town centers, where express and circulator bus services might be considered. One issue that needs to be researched more, however, is the frequency and types of services currently provided within the existing transit footprint. Upgrading heavily used bus lines to rail, and increasing the frequency and connectivity of the existing bus lines could bring a new level of alternative transportation mobility to the region.”

The current transportation infrastructure fits the needs of many, but there are several areas where it may be difficult or impossible to get around efficiently without a vehicle. The Region needs to focus more attention on these areas, particularly where they intersect with disadvantaged populations and a high percentage of zero car households. Accommodating these needs must be a critical strategy in developing a program of transportation strategies that addresses the full spectrum of travel needs in the region.

DETERMINING THE SAFETY OF ROADWAYS IS A MAJOR CHALLENGE.

Improving the safety of motorists and pedestrians is a longstanding goal for the region. However, in order to formulate effective policies and programs to reach this goal, reliable vehicular crash data is required to understand the scope of the issue. During the research phase of the Transportation Assessment, ARC staff undertook an extensive and detailed overview of the crash data retrieved from GDOT’s Georgia Electronic Accident Reporting System (GEARS). Every police jurisdiction in the State of Georgia is obligated to report all crashes, which are gathered into a database by a third party vendor. This firm then sells accident reports to people who wish to print them, instead of having to get them from the various police precincts, county courthouses, etc. The GEARS database is available for use by certain public users, such as police departments themselves, and transportation planners.

After an extensive analysis of the GEARS data, it was discovered that between one-third and one-half of crashes are coded at an incorrect location, due mainly to default settings within the software or when the crash report is not completed at the site of the incident. city hall, or county courthouse. **To enable better results when determining where safety improvements are needed, law enforcement agencies and GDOT must develop and implement a program to methodically clean existing data and protocols to improve the quality of future data as its collected.**

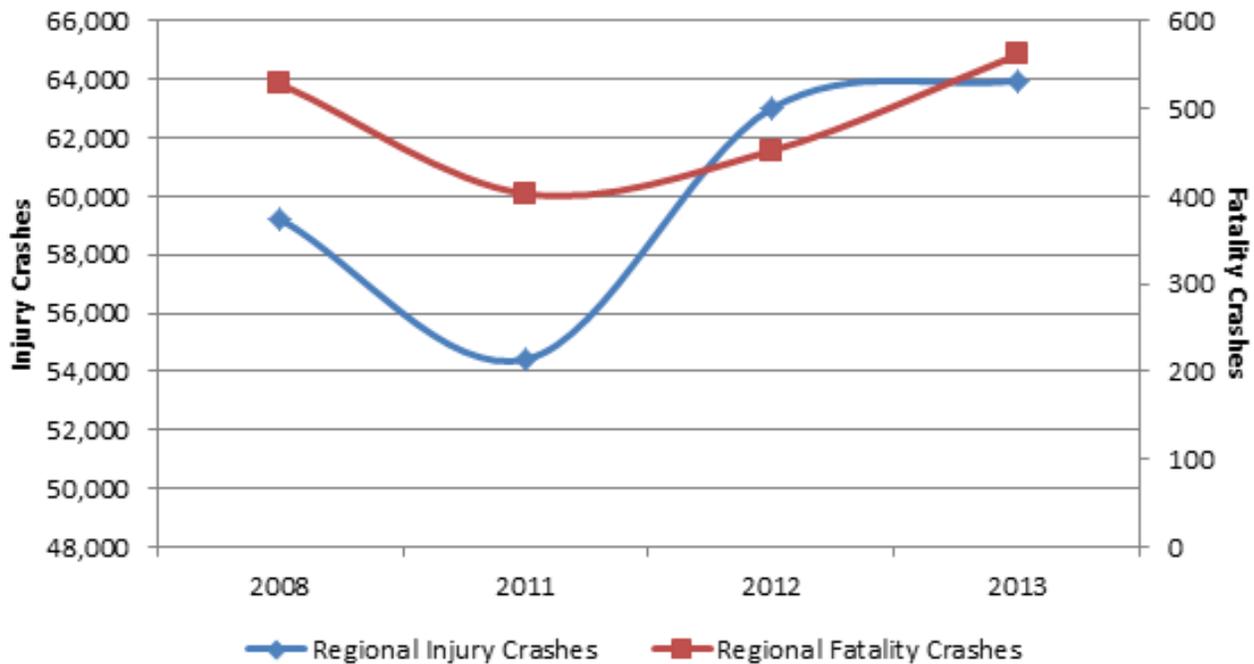
INJURY AND FATALITY CRASHES

The Metro Atlanta Region experienced a decline in fatal crashes from 2008 through 2012, but with a dramatic spike in 2013. The total number of traffic crash fatalities dropped from 528 in 2008 to 403 in 2011, but has since increased to 452 in 2012, and to 561 in 2013. The Metro Atlanta Region now makes up nearly 43% of all statewide fatal crashes, up from 35% in 2008.

Regionwide, crash injuries follow a similar pattern as fatalities, with a decrease from 2008 with 59,219 total injuries, to 2011, with 54,420 total injuries. In 2012, total injuries increased to 63,004 and to 63,955 in 2013.

Because the total number of miles driven (Vehicle Miles Traveled or VMT) has shown a downward trend in recent years, the regional fatality and injury crash rate has increased, from 1.01 in 2008 to 1.07 per 100 million VMT in 2013. The injury crash rate has increased from 113.55 injuries per 100 million VMT in 2008 to 121.7 in 2013.

FIGURE 4.4 REGIONAL INJURY AND FATALITY CRASHES



Crashes that result in a fatality are a small subset of all crashes in the region. Fulton, DeKalb, Gwinnett, and Cobb have the bulk of all fatal crashes in the Atlanta region, with 56% of the fatal crashes in 2012. Between 2008 and 2010, there was a decrease in fatal crashes in the region. However, 2013 values have increased to the highest number since 2008, with 561 fatal crashes, despite a continued decrease in fatal crashes statewide. Metro area fatal crashes now make up 42.6% of all statewide fatal crashes, up from 35% in 2008.

Another important metric is the number of fatal crashes per 100 million VMT. This statistic is also called a crash rate and helps account for the amount of traffic in an area. **The highest fatal crash rates are found in Barrow, Newton, and Spalding counties, with Barrow County doubling the fatal crash rate of the metro area on average.** The lowest fatal crash rates are found in Fayette, Fulton, Coweta, and Walton counties.

Because of the stagnation of VMT in the region, the fatal crash rate dropped between 2008 and 2010. However, due to the increase in fatalities in 2013, the regional fatal crash rate is higher than it has been since 2008, at 1.07 fatal crashes per 100 million VMT.

FIGURE 4.5 NUMBER OF FATAL CRASHES BY COUNTY IN 2013

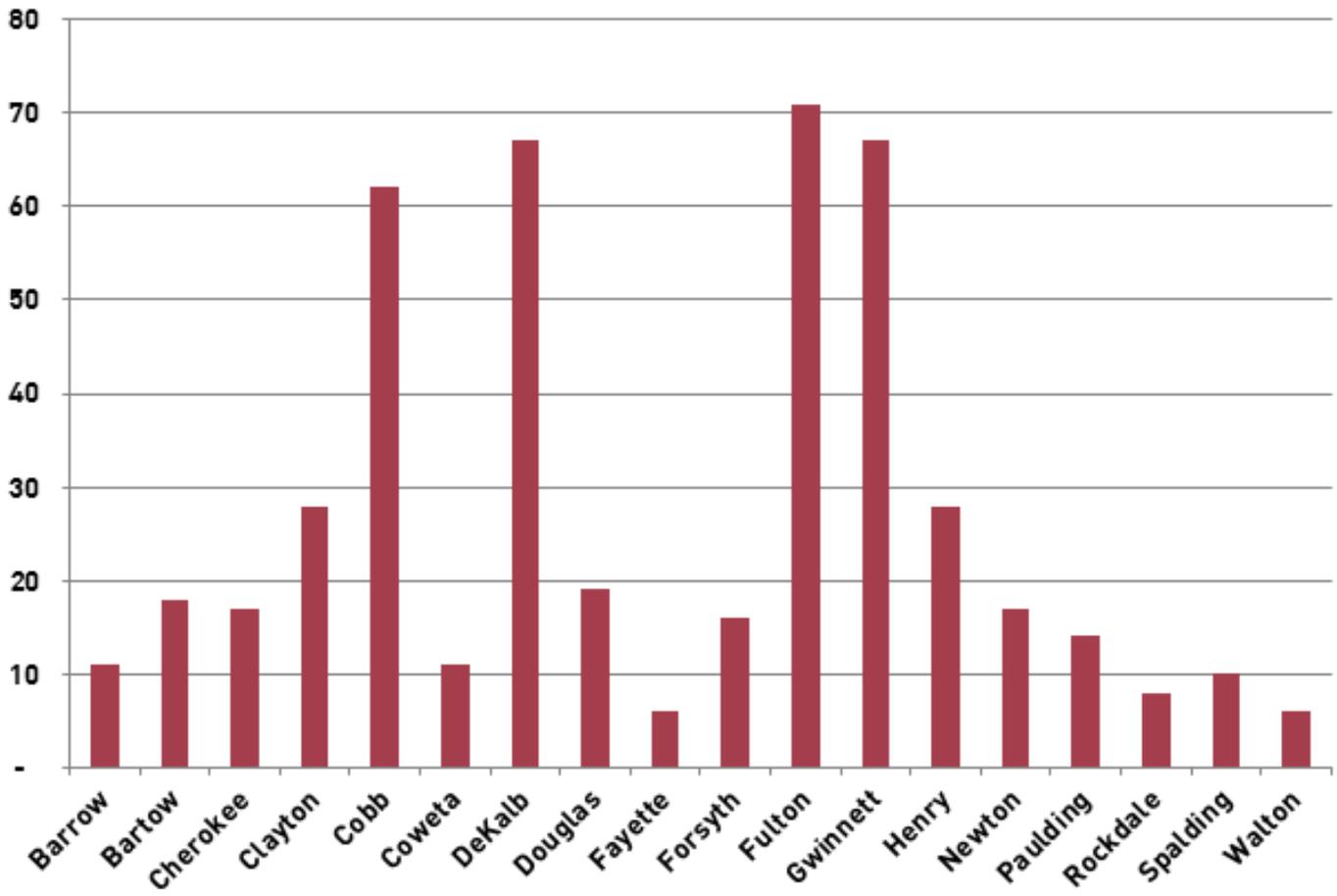
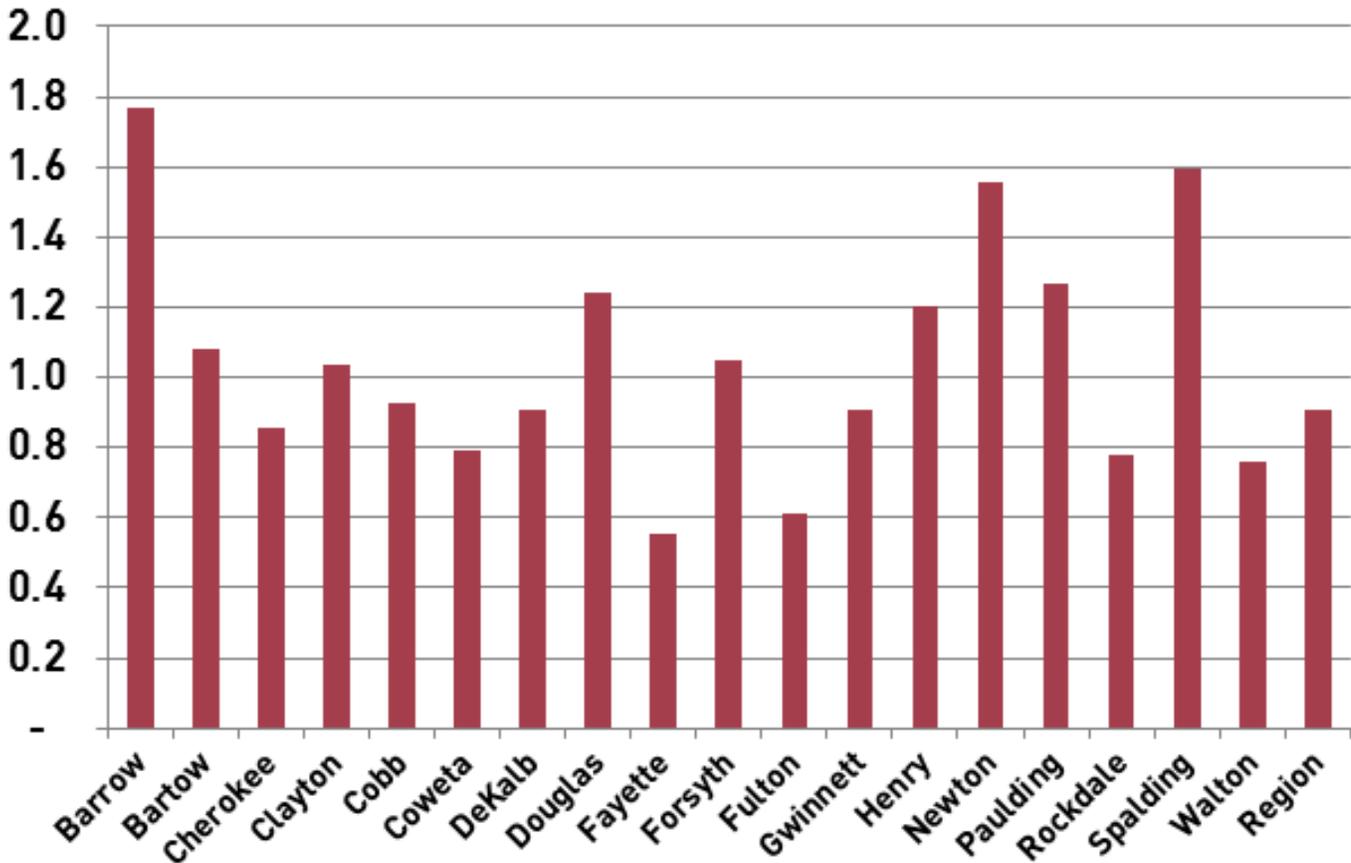


FIGURE 4.6 FATAL CRASH RATE BY COUNTY IN 2013



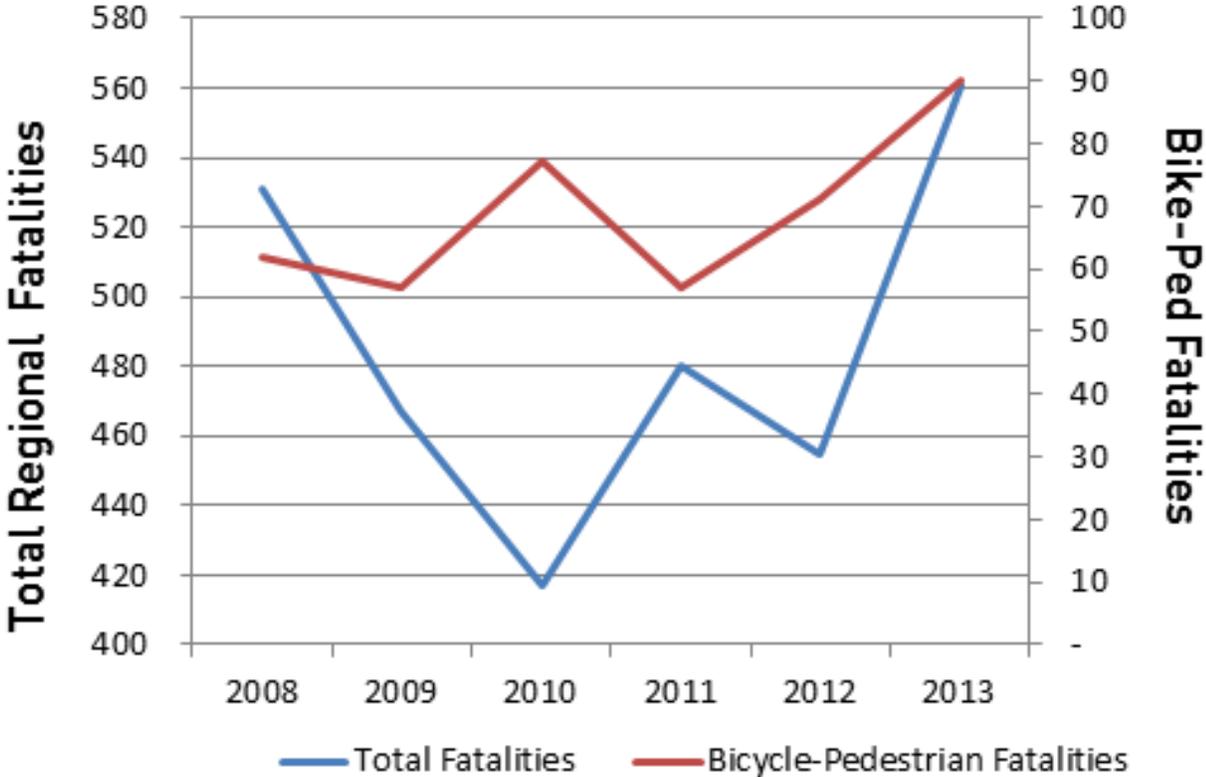
BICYCLE AND PEDESTRIAN CRASHES

Bicycle and pedestrian fatalities have increased from a total of 62 for the 18-county region in 2008 to 90 in 2013. This change amounts to a 45% increase in the Atlanta region, which contrasts to statewide total fatalities that are trending downwards, with a decrease of 13% over the same timeframe. As mentioned above, the total fatalities for the 18-county area have also increased, but only by 5.6%. The disparities in pedestrian and bicycle crashes, compared to total regional and statewide numbers could have a number of causes.

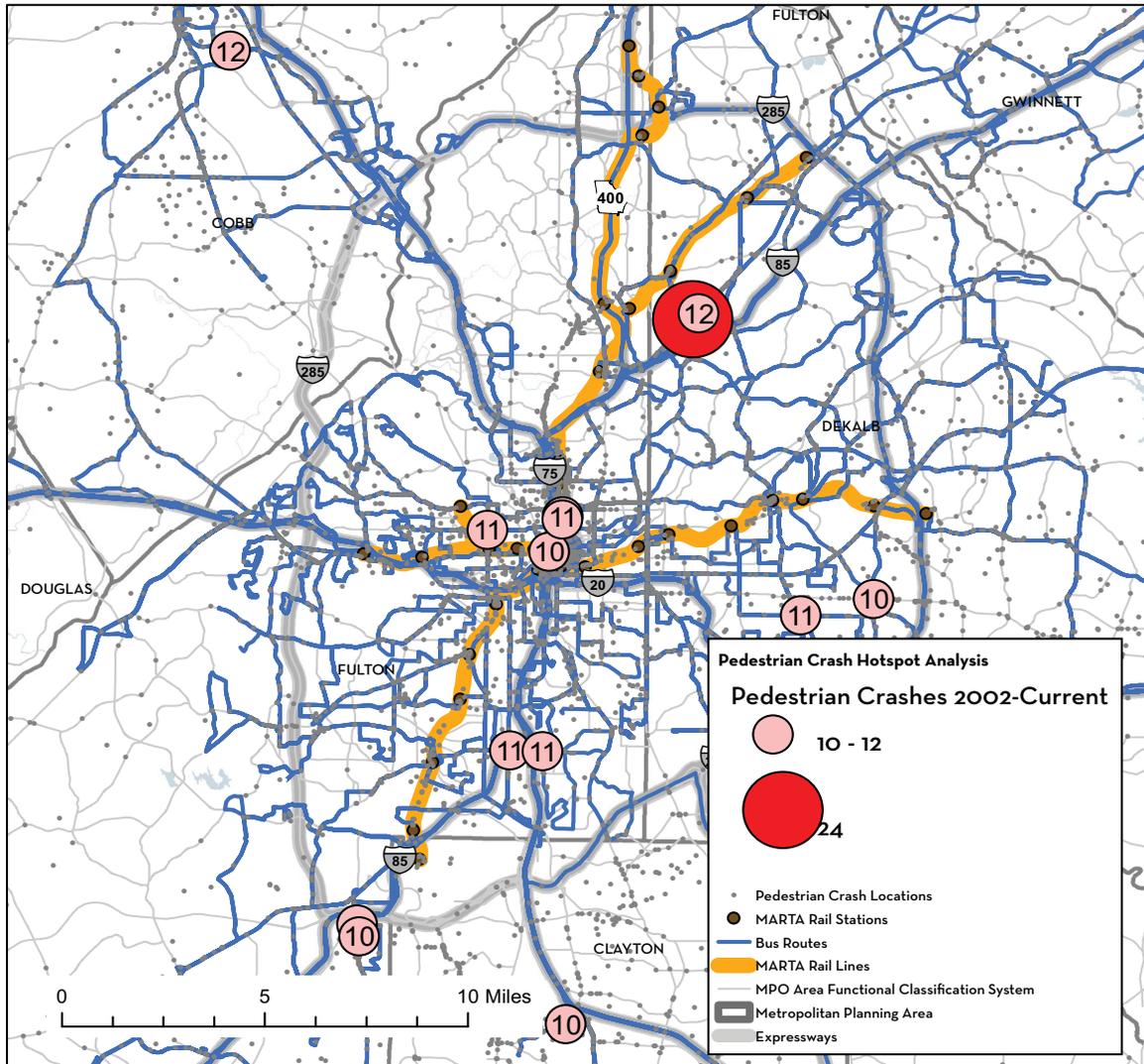
One primary cause of the increase is simply more people walking along dangerous corridors. This is partially related to the changing demographics of the regional suburbs, built with multi-lane, high speed roadways. **Suburban communities continue to attract people with lower incomes, and immigrants, who are more likely to be pedestrians and/or bicyclists. Multi-lane high speed corridors, where many of the apartment complexes serving these communities are located, have been shown to be more dangerous than two-lane streets.** With more pedestrian traffic mixed with automobiles in the region, the chances of potentially fatal interactions between vehicles and cyclists/pedestrians increases.



FIGURE 4.7 BICYCLE & PEDESTRIAN FATALITIES COMPARED TO TOTAL FATALITIES BETWEEN 2008 AND 2013

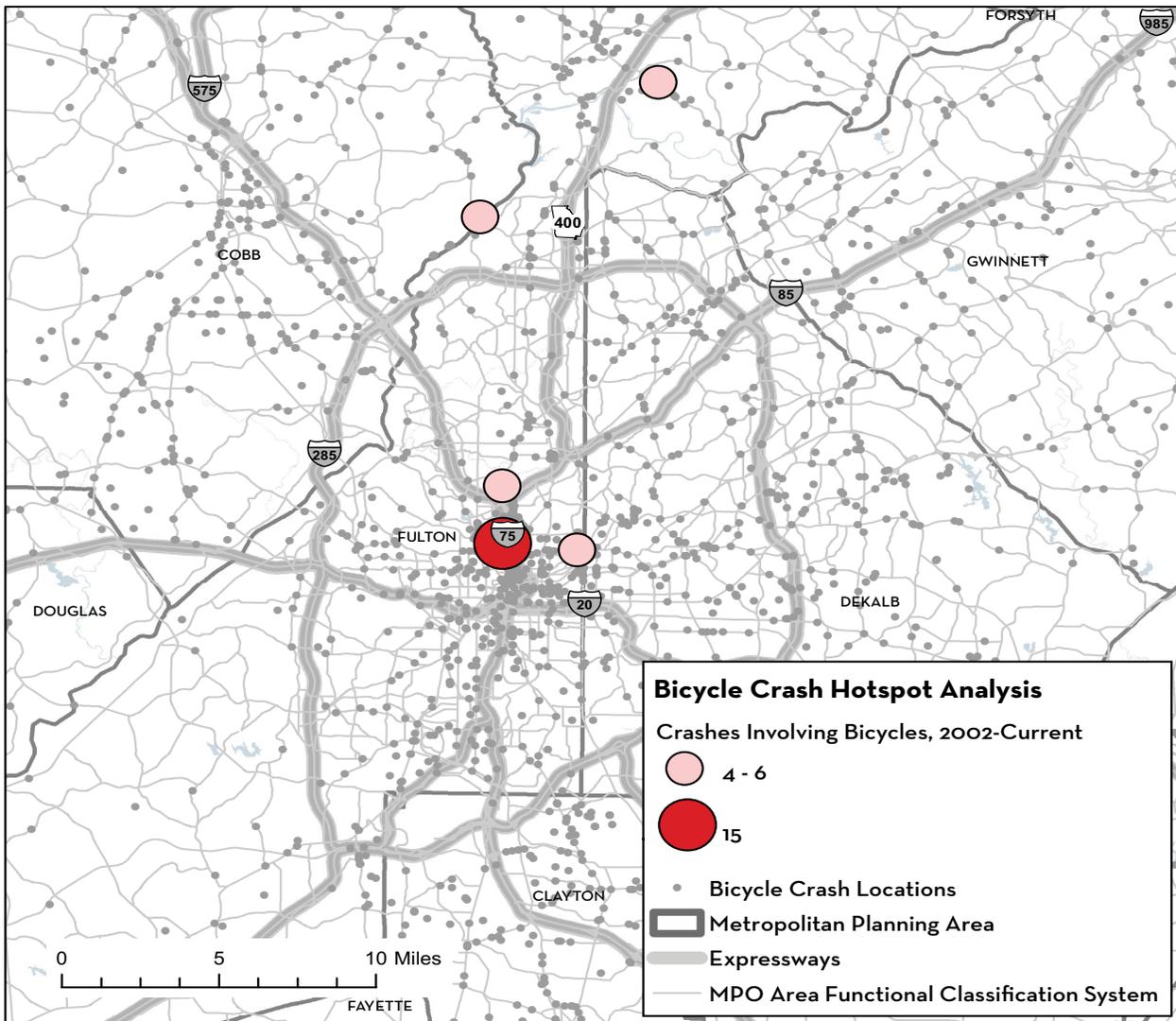


MAP 4.17 PEDESTRIAN FATALITIES COMPARED TO TOTAL FATALITIES BETWEEN 2002 TO PRESENT



As seen in the above map, the most dangerous intersections for pedestrians were at Buford Highway and North Cliff Valley Way and Briarwood Road, with 24 and 12 crashes, respectively, for a total of 36 pedestrian-involved crashes over a period of 12 years.

MAP 4.18 BICYCLE FATALITIES COMPARED TO TOTAL FATALITIES BETWEEN 2002 TO PRESENT



The most prevalent intersections for bicycle-involved crashes were at Ferst Street and Fowler Street, and Techwood Drive, and along Bobby Dodd Way, all on the Georgia Tech campus. These three locations account for 25 total bicycle-involved crashes.

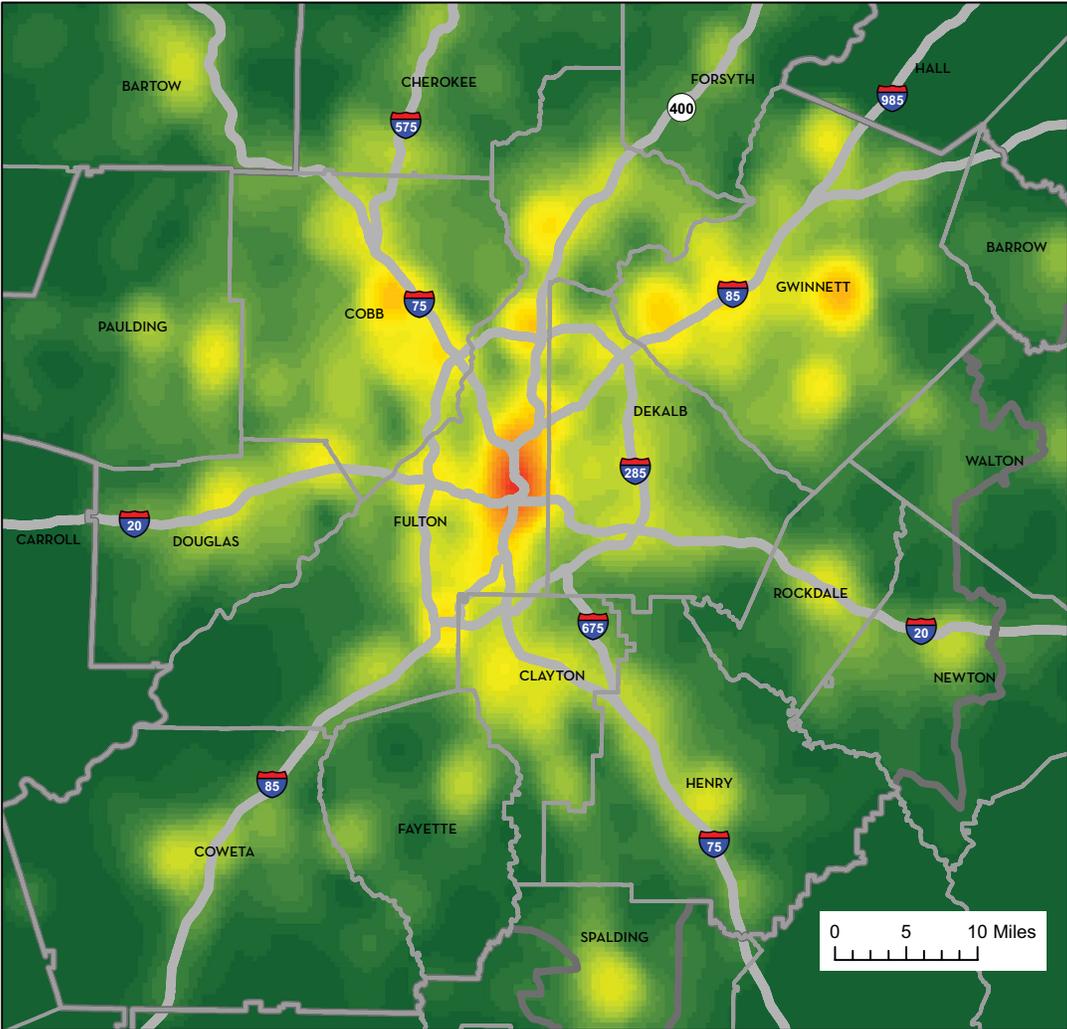
CRASH DENSITY

Crashes are not equally distributed across the region, but rather have a pattern that relates to variables like the amount of VMT and the design characteristics of facilities for motorists, cyclists and pedestrians. The red colors on the following map show the greatest densities of crashes in the region, falling off to orange, yellow, and green for the least density of crashes.

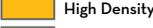
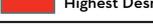
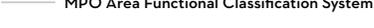
The map on the following page shows the greatest concentration of crashes along the major corridors of I-75 North, the top end of I-285, I-85 North, the eastern side of I-285, and I-20 East in DeKalb County. Also, there is a concentration of crashes in the city centers, and at the interchange of I-20 and I-285, as well as the interchange of SR 6 (Thornton Road) and I-20.



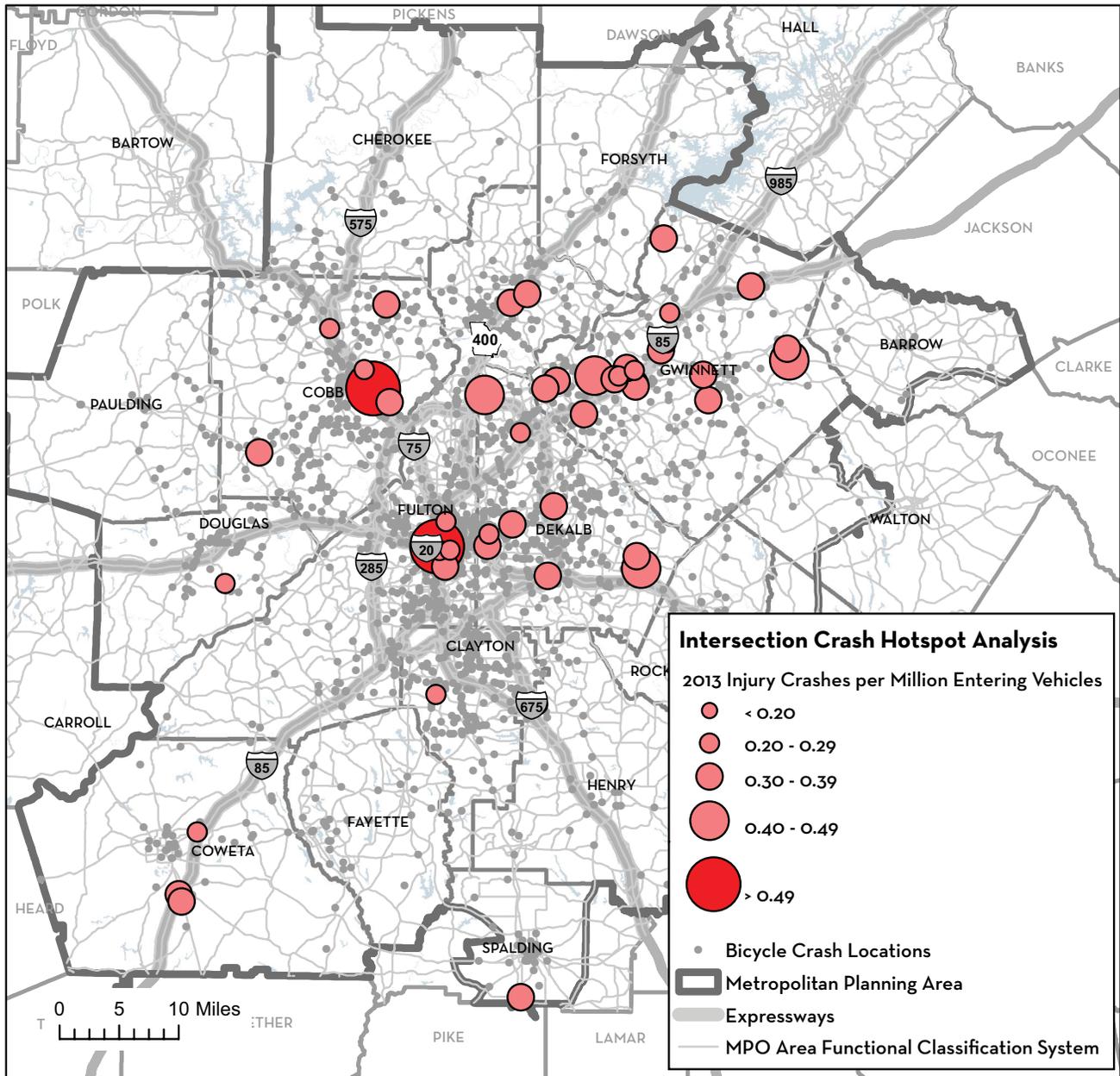
MAP 4.19 CRASH DENSITY MAP



Crash Density in the Atlanta Region

 Low Density	 Counties
 Medium Density	 Metropolitan Planning Area
 High Density	 Expressways
 Highest Density	 MPO Area Functional Classification System

MAP 4.20 INTERSECTION CRASH SPOTS 2013



The above map shows the intersections with the highest crash rates, as measured by injury crashes per million vehicles entering the intersection (MEV). The highest rates are found at the interchange of I-75 and the South Loop of Marietta Parkway, and at the intersection of Northside Drive and McDaniel Street. Notice that there are an abundant number of high crash rate intersections in Gwinnett County, found along Satellite Boulevard and Sugarloaf Parkway, among many other locations.

THE TRANSPORTATION PROGRAM HELPS IMPLEMENT HEALTHY, LIVABLE COMMUNITIES THROUGH THE LCI PROGRAM.

The Livable Center's Initiative (LCI) was created by ARC in 1999 to encourage local governments to better link transportation improvements with land-use and development strategies to create safe, livable and economically sustainable communities consistent with ARC's regional policies.

The LCI Program has three primary goals:

- Encourage a diversity of mixed-income residential neighborhoods, more jobs, shopping and recreation choices in major employment and town centers
- Provide access to a range of travel modes including bus, rail transit, roadways, walking and biking to enable access to all uses within the area
- Develop an outreach process that promotes the involvement of all stakeholders

The realization of these goals leads to communities in which more trips may be realistically taken by walking, cycling or transit. This potential for mode shift can help mitigate the aforementioned threats of decreased air quality, access to services for the disadvantaged and safety in the Atlanta region, further supporting the goal of implementing healthy, livable communities. LCI seeks to help communities prepare plans that will enhance their existing centers and communities while reducing vehicle miles traveled and improving air quality by encouraging development in 'centers' and away from undeveloped areas. The LCI program allows communities to take advantage of the existing infrastructure and private investments already committed. It seeks to bring a new level of livability to the Atlanta region by spurring cities, counties and communities of all sizes to undertake planning for their activity centers, town centers and corridors.



The creation of a new downtown in Smyrna is a shining star demonstrating the power and potential of the LCI program.

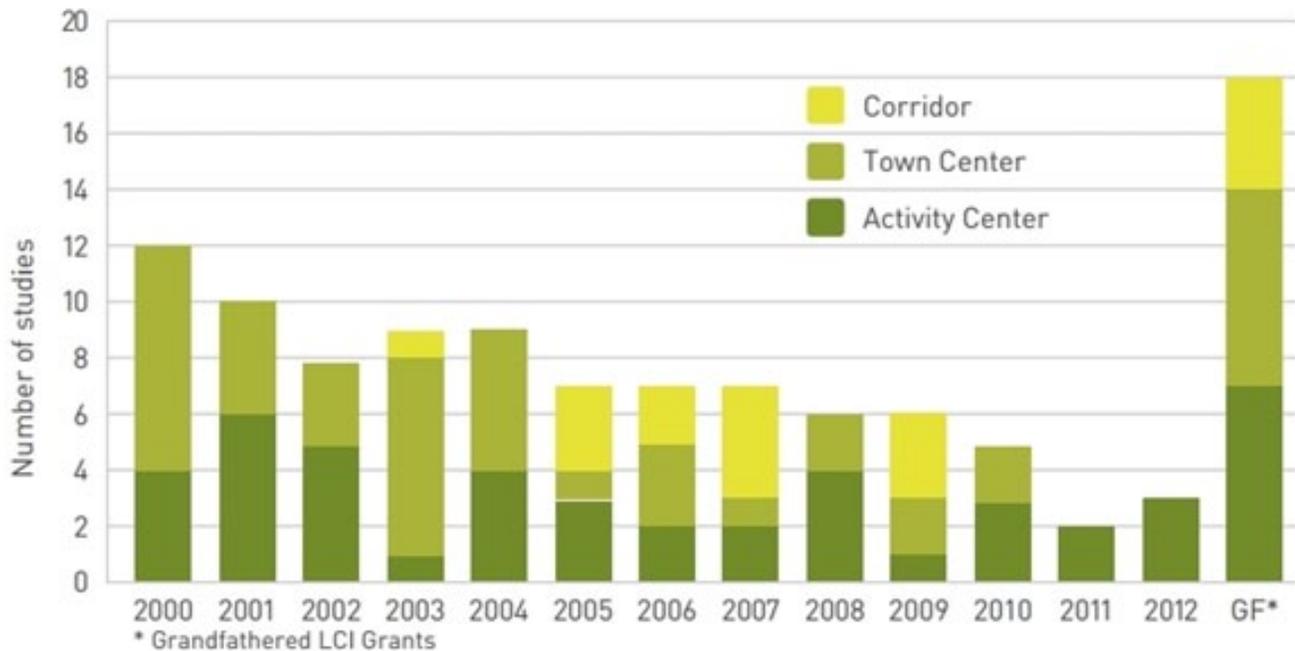
FUNDING STRATEGY

The LCI transportation program is supported through availability of Surface Transportation Program (STP) funding in which ARC has been granted programming authority over by the Federal Highway Administration. When ARC established the LCI program in 1999, a commitment of \$350 million was made for the implementation of transportation projects identified through LCI studies. In 2004, the ARC Board increased LCI transportation funds to \$500 million as part of the 2030 RTP and this commitment was extended through PLAN 2040. The first year of funding for LCI transportation projects was FY 2003. As of 2013, \$203 million has been programmed through FY 2017 for design, right-of-way and construction of 96 projects found in 55 LCI communities.

STUDIES

Local governments and non-profit organizations utilize the program to conduct studies and prepare plans that will improve the livability and economic sustainability of their town centers, activity centers and corridors. Over the past 12 years 92 recipients (local governments and Community Improvement Districts - CID) have received grants to perform LCI studies, which include consideration of land use, transportation, housing policies and a market analysis within each study area. A number of communities, 18 in total, were accepted into the LCI program through a process that allows a community to complete an “LCI-equivalent” study with outside funding.

FIGURE 4.8 NUMBER AND TYPE OF NEW LCI STUDIES

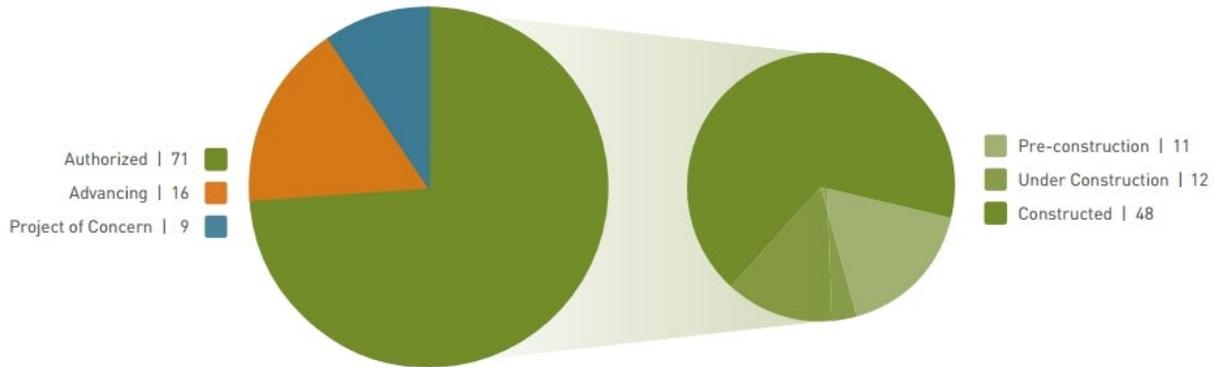


Transportation improvements are a critical component of the LCI program because they allow for direct implementation of a community’s LCI plan. In addition to planning assistance, the LCI program assists local governments and CIDs in the development and implementation of their LCI plans by funding transportation projects recommended by each study.

PROJECTS

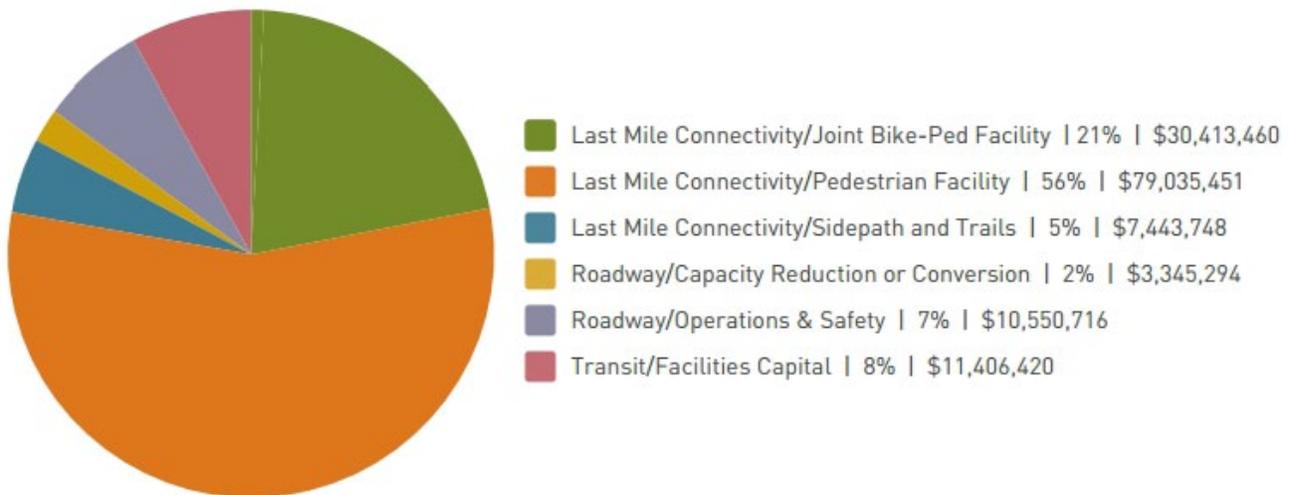
As of the time this assessment was prepared, of the 96 projects awarded funds for implementation under the LCI program, 48 have been constructed, 12 are under construction and 11 are in pre-construction. In November 2011, ARC approved 13 additional transportation projects for LCI funding, totaling \$34 million in federal funds and an additional \$12 million in local funds. The calculations contained in this report do not reflect nine of these 13 projects, as they are currently in the scoping phase and are not yet programmed in the Transportation Improvement Program (TIP).

FIGURE 4.9 STATUS OF LCI TRANSPORTATION PROJECTS (FY 2003 – FY 2013)



Since the inception of LCI, the transportation projects have focused on reducing vehicle miles traveled (VMT) and improving air quality through increased bicycle, pedestrian and transit mode shares with healthier, more vibrant communities. Typical improvements include sidewalks, crosswalks, multi-use trails, multi-modal corridors, roadway operations improvements and bike lanes. Transit station improvements have also been funded through the program. The majority of funding historically has gone to pedestrian facility improvements. A significant portion of transportation dollars (\$24.2 million) has been focused on area improvements around MARTA rail stations to make them more accessible to transit patrons.

FIGURE 4.10 LCI TRANSPORTATION PROJECT FUNDING BY PROJECT CATEGORY



LEVEL OF DEVELOPMENT ACTIVITY WITHIN LCI AREAS

To assess the total impact of the LCI program’s investment in plans and transportation improvements on the development pattern of our region, ARC staff analyzed development data from Co-Star, a real estate information company. This information allows ARC to compare the amount of development in LCI areas to the amount of development in the entire region. The data reported in the LCI Development spreadsheets contained 1,285 completed development projects in 15 counties: Barrow, Cherokee, Clayton, Cobb, DeKalb, Douglas, Fayette, Forsyth, Fulton, Gwinnett, Henry, Newton, Paulding, Rockdale and Spalding. Although LCI areas make up less than five percent of the total land area within the 15 counties, they are responsible for a substantial amount of the area’s development, on average. These numbers indicate that growth is concentrated in LCI areas, supporting both LCI and PLAN 2040 goals to reverse sprawling development patterns.

TABLE 4. 1 LCI SHARE OF REGIONAL DEVELOPMENT BY CATEGORY

	LCI Communities	15-County Region	LCI Share
Land Area	132,984	2,705,263	5%
Office Development, 2000 - 2012	18,125,597	49,962,947	38%
Commercial Development, 2000 - 2012	15,290,719	69,527,002	24%
Residential Development, 2000 - 2012	35,593	491,621	7%

LCI communities have attracted much of the region’s office and commercial development in recent years. As a result, employment opportunities are numerous in LCI communities. According to the 2010 Census, LCI communities contain 36 percent of the jobs in the 13-county region.

Given the concentration of jobs and office development in LCI areas, the LCI program is helping to make these areas more transit-supportive. All major transit capacity projects currently under evaluation in the Atlanta region traverse LCI areas. Examples include the Cobb County’s Connect Cobb BRT study and MARTA’s I-20 East Transit Initiative, which will connect with 12 separate LCI communities with the rest of the region’s transit network.

While LCI areas have attracted an overwhelming share of the office and commercial development, they lag behind in residential development, demonstrating a “spatial mismatch” in where employees live and where their jobs are located. In order to create an environment where people can walk or bike to work, school or shopping, the residential share of development in LCI areas should be equal or proportionate to office and commercial development. **To address this issue in the future, the scope of the LCI program may need adjustment to encourage increased residential development within study areas. Such a policy shift would help LCI better meet program goals and increase its effectiveness as a method for building healthy, livable communities.**



Learn more about the LCI program at:

www.atlantaregional.com/lci

HIGHLIGHTING PLANNING IN ACTION

LIFELONG COMMUNITIES

The 21st century offers the promise that people may live longer than ever before and communities throughout the United States and in many parts of the world are experiencing a dramatic increase in older adult populations. The Atlanta region is no exception to this trend. Data from the 2010 Census reveal that adults aged 45-65 make up the fastest growing population segment in the Atlanta region. Demographic projections estimate that by 2030, one in five residents of the Atlanta region will be over the age of 60.

Increased longevity impacts all aspects of our communities and the Atlanta region must adjust to accommodate the growing numbers of older adults. Communities in our region often lack the amenities and services that allow senior citizens to remain healthy and engaged throughout their lifetime. This is a particularly pressing issue in the Atlanta region. A recent study by Transportation for America projected that if no action is taken, 90% of seniors in the Atlanta metro region will have poor transit access as they age in communities where car use is a must.

ARC's Lifelong Communities Initiative is an effort to support local communities as they work to foster a high quality of life for residents of all ages. As part of the initiative, ARC has developed a set of core principles that support the creation of a Lifelong Community. Many of these principles are harmonious with major areas of focus for LCI transportation investments, such as eliminating pedestrian barriers to transit stops and stations or expanding options for mobility by creating gridded street networks within activity centers.

For more information about ARC's Lifelong Communities Initiative and other activities related to meeting the needs of our growing senior population, visit www.AtlantaRegional.com/LLC



CALL TO ACTION

The preceding sections of this assessment identified a number of specific findings and observations about how well the Atlanta region’s transportation system and existing programs meet the definition of “world class”, support the region’s economy, and contribute to healthy and livable communities. The transportation system provides us with many reasons to be proud. But like any major metro area, there are shortcomings that must be addressed in order to maintain and build upon the region’s reputation as a great place to live, work, play and do business.

In this section, findings are summarized into five overarching transportation challenges facing the region: 1) funding, 2) congestion, 3) accessibility, 4) safety and 5) equity. None of these challenges are unique to the region and the terms will resonate with residents of urban areas across the country. But there are circumstances related to each of these challenges distinct from those in other regions and will warrant a focused effort to address.

These five challenges are presented as “burning issues”, with each framed in terms of outcomes the region must achieve to “win the future”. Each call to action is followed by a discussion of why achieving the outcome is vital to the success of the Atlanta region and all of its communities, along with a few questions which will be important to answer if we hope to “Win the Future”. It’s impossible at this stage of the process to identify every possible question that may arise during the process, so consider them a starting point for an ongoing dialogue about our shared future.



The region will need to tackle these burning issues in a variety of ways. The Region’s Plan will include a set of cross-cutting objectives and policies that exemplify our core values and provide a guide for how we intend to overcome our challenges in a realistic and broadly supported manner. As of the time this assessment was prepared in April 2015, seven draft transportation objectives were under consideration. These may change following additional conversation with the public and policymakers in the coming months. Once the objectives and supporting policies are finalized in the summer of 2015, they will be used to guide decisions on specific projects and programs to include in the transportation element of The Region’s Plan.

WE MUST INVEST MORE IN OUR TRANSPORTATION SYSTEM

World class cities invest in their infrastructure to expand the number of ways for people and goods to move around efficiently and safely. Today's system was designed to accommodate a lower density development pattern, a formula which worked well to grow the region's economy throughout the latter half of the 20th century. But that formula has become unsustainable and we are now at a pivotal moment in determining how the region should continue to grow.



Many of our suburban roads now serving large subdivisions were once tranquil country byways. They were not designed for the way we use them today.

For example, too much traffic is being forced along narrow two-lane roads constructed in an era when traffic was light and slower moving. Many regional freeways are overwhelmed by commute traffic and trucks for large parts of the day and expanding capacity would be prohibitively expensive. The footprint of the transit network is too limited to serve the needs of those who cannot drive, or those who want to have other options. Sidewalks and biking disconnected, even in denser parts of the region where those types of trips make more sense than other options. All of these systems become more expensive to maintain as they age, with the bill now coming due for major rehabilitation projects for the massive amount of infrastructure built in the latter half of the 20th century.

In recent years, calls for being more efficient in how and where financial investments are made in order to “get the biggest bang for our buck” have resulted in a leaner transportation program relying on objective data. But multiple rounds of belt-tightening have not fully solved the problem. To use an analogy, making transportation investment decisions is similar to managing a household budget. The homeowner can defer or eliminate unnecessary purchases such as a new television or clothes when money is temporarily tight, but if routine household expenses continue to rise and her paycheck remains flat, the problem will continue to become ever more acute. Her ability to pay the mortgage, utility bills and repair bills will become a challenge as well, regardless of how many “nice to have” items she may cut from the household budget.

That's the situation the Atlanta region finds itself in now: how do we maintain what we already have, while still accommodating continued rapid growth, all on a stagnant budget that isn't enough to accomplish either? Innovative finance strategies, public private partnerships and downsizing projects are important elements of the solution, but even they are proving inadequate to address the myriad of needs.



The belt has already been tightened about as much as it can possibly be.

A FEW POLICY QUESTIONS FOR THE REGION TO CONSIDER RELATED TO FUNDING

INCLUDE:

- What is the value added to the region's economy and quality of life of local communities by a well maintained and well designed system?
- What's the return on investment for basic maintenance projects versus major system expansion projects?
- How much will the region's national and world image be impacted if parts of the system fail due to neglect or underinvestment?
- Should certain types of projects be implemented only with state or local funds, rather than federal funds, in order to expedite their delivery and reduce overall costs?
- What are the budgetary implications of building a more resilient system that can recover quickly from severe weather events, domestic terrorism or other major system disruptions?
- How does the Georgia Constitution's restriction on using gas tax revenue solely on roads and bridges impact those communities where increasing biking, walking and transit usage may be more effective strategies to addressing local transportation challenges?



Even something as mundane as a noise barrier can become an attractive feature that increases land values and fosters pride in our public spaces. But is the extra cost worth it?

CONGESTION THREATENS THE ECONOMIC COMPETITIVENESS OF THE REGION, IMPACTING QUALITY OF LIFE AND OUR NATIONAL IMAGE

The Atlanta region is home to Fortune 500 companies, has a booming filming and tourism industry, is the cradle of the American civil rights movement and has a denser tree canopy than almost any other metro area of its size in the country. Yet the first reaction of many people around the rest of the country when asked about the Atlanta region almost always is about traffic congestion. Even if they have not visited here, they will often offer that they've heard from others who have that traffic is bad. Is that really what we want to be renowned for?

While it's undeniable that significant portions of the highway and street network do experience significant congestion on a routine basis, our region's reputation may be overstated. Even though traffic may be heavy, many roadways operate at or near the speed limit throughout most of the day. And even those roadways experiencing congestion frequently have free flow conditions during the midday, evening and weekend periods. It's reasonable to make an argument that congestion would be non-existent on many roads if it weren't for crashes, stalls and debris blocking the way.



Wouldn't it be nice for our region to be better known for this instead of traffic?

So where does this reputation for extreme traffic congestion come from? Some of it is warranted because congestion is an indicator of a strong economy, where the pace of growth has exceeded the ability of the transportation system to keep up with demand. This is true of any economically vibrant city around the globe. But some may stem from the level of exposure many commuters have to congested conditions due to long travel distances and a lack of options. A person commuting 25 miles to his job each way in the morning and evening is almost guaranteed to encounter some portion of the route where congestion flares up regularly. Many parts of the region lack a comprehensive network of surface streets that can siphon traffic away and around those hot spots, so the commuter has no choice but to endure that choke point, leaving him feeling trapped and frustrated. Even if 20 miles of the commute occurred at the speed limit, it's those five miles of stop and go traffic that can double or triple the overall trip time and color this commuter's perceptions of how bad congestion was along the entire route.

Despite conventional wisdom, we must recognize that congestion is not a problem for most of the network for large portions of the day. Barring the occasional incident, congestion tends to be concentrated along segments of certain corridors at certain times of the day. With limited financial resources, the region must identify and target the underlying cause of congestion in those areas and be open to a wider array of potential solutions than adding lanes where traffic flow slows during the morning and evening commute period.

A FEW POLICY QUESTIONS FOR THE REGION TO CONSIDER RELATED TO CONGESTION INCLUDE:

- Could local communities address congestion in some areas more effectively by creating additional network connections and increasing the density of their street grid?
- How can communities balance the travel needs of motorists passing through an area with the quality of life and economic concerns of local residents and businesses?
- How can governments help prevent future congestion through more thoughtful land use decisions, operational improvements and more aggressive demand reduction strategies?
- Where capacity expansion is not viable to reduce congestion in the area?
- What can the region and local governments do to incentivize more development in areas where road and transit capacity already exists in order to avoid making existing problem locations even worse?
- What has to happen for more people to voluntarily switch from driving alone to taking transit, walking or biking for some of their trips?
- What is the region's priority for investing limited funds – tackling today's problems or trying to get ahead of tomorrow's potential problems?
- Should parking policies be used in some areas to reduce traffic and shift trips into other modes?



While greatly valued for the solitude they provide, we pay a high congestion price due to neighborhoods like this. Connectivity is limited and all traffic must funnel onto a limited number of overwhelmed roadways to get anywhere. Is this a price we're OK with?

ACCESSIBILITY ISSUES REQUIRE MORE EMPHASIS IF WE HOPE TO ATTRACT AND RETAIN MILLENNIALS AND AGING ADULTS

The Atlanta region should strive to be the type of place which meets the needs of people of all ages and abilities. Young adults add a dynamic flavor to an area and force us to challenge conventional wisdom by demanding new approaches to old problems. Older adults bring the wisdom and practical experience of their years to the region, along with a great deal of free time and disposable income. They can be an enormous asset to the economy, as well as providing checks and balances in discussions about what strategies may be workable and which ones aren't.

For young adults, the Atlanta region offers top-notch higher education opportunities, affordable housing, good career opportunities, and the types of vibrant urban areas that generation seeks out. For older adults, the Atlanta region has plenty of recreational and volunteer opportunities, excellent medical facilities and a huge diversity of communities in which to call home.

A key challenge is that many of the places of importance to these two groups aren't well connected, except by automobile. And these are two groups whose members are interested in options other than the car to get around. The Millennial generation places enormous value on electronic connectivity, with less emphasis on physical mobility. And when they do need to travel, car-sharing services, bicycling, walking and transit are often the preferred methods. Aging Boomers, on the other hand, lived through a period of our nation's history where the car was the ultimate symbol of freedom. Many are hesitant to give up their keys, but declining cognitive and motor skills are leaving many with no choice but to find other ways to get around. Some, however, willingly make changes in order to save money or to lead a simpler and slower paced life.

Frequently, it's not the "mainline" part of the journey which is most problematic, but rather making the short connections at either end of the trip. Bus and rail services can carry somebody across a county, but that may be of little help to an individual in a wheelchair if well designed and maintained sidewalks aren't available between the station and the front door of a business. A paved path can make a 10 mile commute viable by bicycle, but a potential rider may be discouraged if there is no way to get the last mile between the path and her office except along a busy high-speed road. These first mile / last mile connections are critical if we want to maximize the potential of these other travel options. While important for all generations, their absence can be a major factor for a young adult or retiree considering whether the Atlanta region is a good place to call home.



If you're somebody who wants or needs to use transit to travel, is this an image that would encourage you to walk to a transit stop?

A FEW POLICY QUESTIONS FOR THE REGION TO CONSIDER RELATED TO ACCESSIBILITY INCLUDE:

- Should the region focus more resources on small projects that “close the gap” by improving local area circulation and accessibility?
- How do we ensure that roadways safely accommodates the needs of bicyclists, pedestrians and transit riders?
- What areas would benefit most from circulator shuttles and how can the region and local communities encourage their use?
- How can we increase the number of homes, jobs and other destinations accessible by high quality sidewalks and bicycle facilities?
- How can local communities retrofit their historic town centers and adjacent neighborhoods so they are more desirable to those young and older adults who aren’t interested in living in a dense urban environment?
- How can the region and local communities prevent older adults from becoming isolated when they chose to “age in place” in homes where transit service is not cost effective due to low densities?
- How can public and private sector partners help identify, create and nurture communities that are designed to maximize accessibility to existing transit services and make these communities affordable and desirable for those groups with the highest propensity to use transit?



Downtown Decatur has many of the elements sought by people of all ages, but at a more intimate scale that some would prefer. How can the region create more places like this?

THE REGION MUST PROTECT AND IMPROVE THE HEALTH AND SAFETY OF ALL OF OUR RESIDENTS.

A challenge emerging for metro Atlanta is that it can be unsafe for pedestrians and bicyclists. While pedestrians and bicyclists do have an obligation to follow the law and not take unnecessary risks, transportation agencies must improve designing the transportation system where the temptation to take those risks is



minimized. Is it acceptable to have signals so widely spaced along a high speed roadway with numerous apartments catering to lower income residents who are dependent on a bus for their travel needs? Likewise, how many bicyclists put their own lives at risk by running red lights and stop signs to save a few seconds on their ride?

While relieving traffic congestion and reducing motorist travel times are important goals, they cannot be the sole objective of the region's transportation planning efforts. Ensuring that people arrive at their destination safely must be given just as much, if not more, consideration than how long the trip takes. Achieving this requires education, enforcement and behavioral changes, which are not directly under the purview of The Region's Plan to address. But where transportation agencies can make the system safer through good design that

The top end of I-285 now features variable speed limits, an initiative which aims to slow traffic in advance of congestion in order to reduce crashes. Finding the right balance of convenience and safety is a challenge.

FUTURE POLICY QUESTIONS FOR THE REGION TO CONSIDER RELATED TO HEALTH AND SAFETY INCLUDE:

- What changes are needed to get better quality data so transportation agencies can do a better job understanding where crashes are occurring and what caused them?
- How can this information be shared in a manner that agencies can determine investment priorities and develop proactive work programs without exposing them to increased risk of negligence lawsuits in the interim?
- How do agencies ensure resources are being dedicated to fixing locations where a design flaw is contributing to the crash history, rather than it being a series of coincidental events caused by basic human error?
- Should local, county and state governments adopt more rigorous complete street and access management policies for roadway projects?
- Should roads with transit service be retrofitted to provide more frequent and convenient crossings for pedestrians?
- How can enforcement, education and design be used to encourage safer driving behavior, particularly in areas with larger numbers of walkers and bicyclists?
- Would an increased emphasis on routine maintenance, such as ensuring clogged drains do not caused standing water or that unpruned vegetation doesn't block views, reduce the number of crashes?
- What can be done to minimize conflicts in areas where high levels of freight activity interface with residential or commercial traffic, including bicyclists, walkers and transit patrons?



Could improving our efforts to incorporate the needs of bicyclists into our roadways result in better adherence to the law?

CULTIVATING PROSPERITY IN ALL COMMUNITIES AS A KEY CONSIDERATION IN DESIGNING AND PRIORITIZING TRANSPORTATION STRATEGIES.

While a bit simplistic and not always true, there is wisdom in the saying “if you build it, they will come”. In some cases, it can happen almost overnight, as evidenced by the phenomenal amount of growth along Atlanta’s Eastside Trail over the past few years. In other cases, the payoff may not occur for years, or even decades. Developers and local governments are doing a much better job lately directing growth along the MARTA rail network, as demonstrated by recent announcements by State Farm and Mercedes Benz to build new headquarter campuses with direct access to the system.

The center of gravity for development in the region is still well north of the geographic center, but there are signs that the pendulum is beginning to shift. Much work remains to be done, however, to give all parts of the region an equal opportunity to share in the benefits of growth. Congestion in western, southern and eastern areas may not be as widespread or severe as in the northern swath of the region, but there are locations that are strained by traffic. In any conversation about congestion, however, the erroneous impression can be given that congestion is exclusively a northside issue.

But just because congestion may not be as significant an issue elsewhere in the region, that doesn’t mean there aren’t transportation needs. Throughout the region, there are troubling signs of disinvestment in the existing transportation system that can discourage developers from giving some areas due consideration. Poor pavement condition, malfunctioning traffic signals, lack of transit options for low income and disabled residents, badly maintained rights-of-way, shattered sidewalks, and clogged storm drains are often more daunting challenges in these areas than congestion.

Some parts of the region are able to compensate for a lack of state and federal funding through a combination of local option sales taxes or funds generated through community improvement districts. But in areas of widespread poverty and few businesses to generate these sources of income, even minor maintenance projects are difficult to afford. And when these issues go unaddressed, it can create a downward economic spiral as potential new businesses and residents are turned away due to the atmosphere of neglect and decay the lack of routine maintenance creates. The entire region must work together to find a way to stop this cycle. The economic development potential of a road surfacing project in a distressed area could be just as significant as a new interchange or roadway might be to a more affluent community. While the immediate impact may not be as large, such a project could be an inexpensive way to inject a spark of life into parts of the region which have fallen further and further behind over the years.



Some people may find it difficult to understand the region’s emphasis on congestion when even the most basic of maintenance needs aren’t being met in their communities.

FUTURE POLICY QUESTIONS FOR THE REGION TO CONSIDER RELATED TO HEALTH AND SAFETY INCLUDE:

- Should the region adopt clear “fix it first” policy that prioritizes routine maintenance projects?
- Since federal funds cannot be used for routine maintenance on many facilities, what is a viable revenue source to address maintenance needs in areas with limited financial resources?
- How can the region measure the economic impact of routine maintenance projects and give them fair consideration against higher profile and more expensive projects?
- Can the region measure equity based on areas with similar levels and types of needs, rather than the term being defined by political boundaries that bear no relationship to trip patterns?
- How can the region and local communities collaborate to encourage development of new employment and commercial centers in underserved areas in order to improve access to essential services?



It would be naïve to promise that everybody will end up with an equal share of the transportation funding pie. But we should do everything possible to ensure that everyone has the opportunity to compete for a fair share.

WINNING THE FUTURE

The Atlanta region continues to be a beacon for individuals and businesses with high ambitions. We have many assets and strengths to draw upon and are well positioned to remain successful well into the future. Yes, we have some serious transportation challenges that need to be addressed, but they are not insurmountable.

The Region's Plan will provide that blueprint for success and this assessment will be a core source of information to guide future conversations about policies, strategies and projects. The immediate next step in the process is to formalize a policy framework for the overall plan. This will be completed in the summer of 2015, setting the stage for refreshing the transportation component of the plan in the latter half of the year. Moving forward, this assessment concludes with seven draft transportation objectives around which more detailed policy discussions will occur.

1. Preserve, maintain and operate the existing multimodal transportation system to provide for reliable travel.
2. Provide regional transit systems and travel options to reduce dependence on single-occupant vehicles to reduce emissions, increase economic competitiveness and improve livability.
3. Strategically expand the transportation system while supporting local land use plans.
4. Provide for a safe and secure transportation network.
5. Promote an accessible and equitable transportation system for all users, including individuals with disabilities, older adults and individuals with low incomes, and for all modes.
6. Support the reliable movement of freight and goods.
7. Prepare for and foster the application of advanced technologies to vehicle movement and infrastructure connectivity.



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