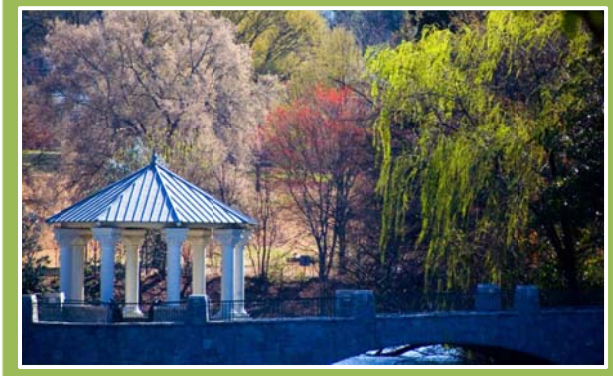
Volume I: PLAN 2040 Regional Transportation Plan (RTP)

March 2014 Update

REGIONAL TRANSPORTATION PLAN

Chapter 1 - Introduction



March 2014 Update

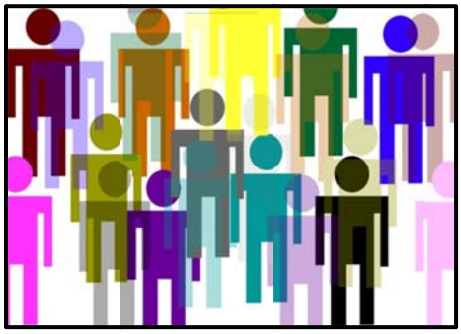
Chapter 1
Introduction

Table of Contents

What is the Atlanta Regional Commission?

The Atlanta Regional Commission (ARC) is the metropolitan Atlanta region's planning and intergovernmental coordination agency. It serves a variety of different roles for the greater Atlanta region. Many of ARC's responsibilities are defined by either state or federal legislation, while others have evolved over the years in response to a number of critical regional planning issues. The primary roles of ARC are summarized below.

- ARC is responsible for comprehensive planning under state law as the designated Metropolitan Area Planning and Development Commission (MAPDC).
- As an area of greater than 1,000,000 population, ARC is also defined as a Regional Commission (RC) to assist local governments with the planning process and to prepare and to implement comprehensive regional plans.
- ARC is the federally designated Metropolitan Planning Organization (MPO) for Atlanta. As the MPO, the ARC is responsible for developing a multi-modal, financially constrained transportation plan that meets all federal transportation and Clean Air Act planning requirements.
- ARC provides planning staff to the 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 Atlanta Regional Workforce Board (ARWB).
- ARC also serves as the Area Agency on Aging (AAA) providing services and policy guidance to address aging issues.

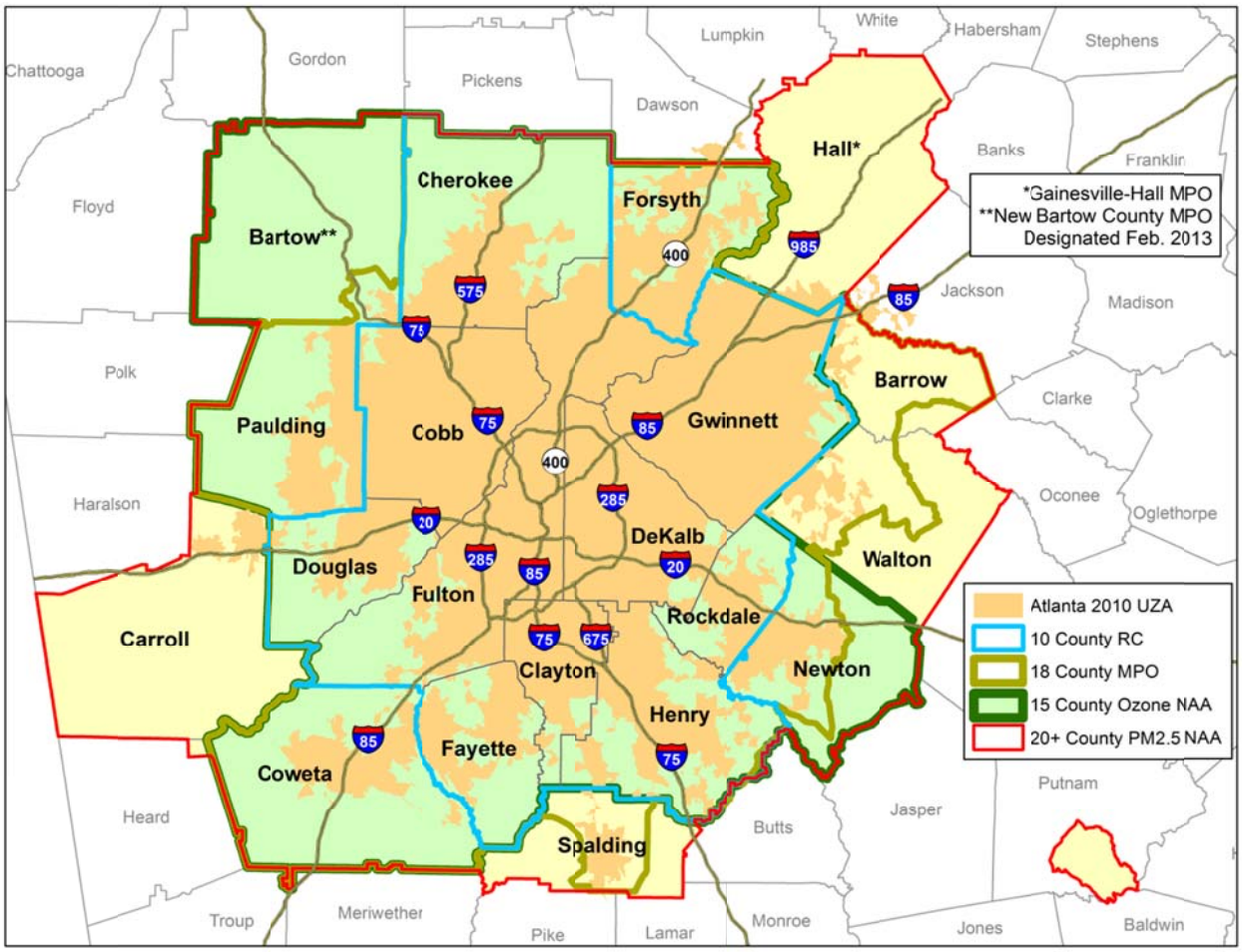


ARC is composed of local governments throughout the region. Its boundaries vary by planning responsibility and include 10 counties for purposes of its MAPDC and RC functions, all or parts of 18 counties for its MPO functions, all or parts of 22 counties for purposes of Clean Air Act nonattainment area planning, 15 counties for water planning purposes, and seven and 10 counties for workforce and aging planning purposes, respectively. Figure 1-1 and Table 1-1 illustrate the boundaries specific to the transportation planning in the Atlanta region.

Working with the region's citizens, elected officials, and policy makers to develop and implement regional plans, ARC develops a regional vision to lead the region to a sustainable future.

As part of the organization's work efforts, ARC provides professional planning initiatives to serve as a catalyst for regional progress by focusing leadership, attention and planning resources on key regional issues.

Figure 1-1: Atlanta Transportation Planning Boundaries



Why are there multiple planning boundaries?

ARC's multiple planning boundaries can be confusing. There are several reasons for the boundaries, relating to planning requirements from the State of Georgia and the federal government, which define "region" differently for various programs (see table on the following page).

Table 1-1: Atlanta Transportation Planning Boundaries (as mapped in Figure 1-1)

Boundary Name	Regional Commission (RC)	Metropolitan Planning Organization (MPO)	Ozone Non-Attainment Area (8 hour standard)	Particulate Matter (PM 2.5) Non-Attainment Area
Number of Counties	10 counties	All of 13 counties; parts of 5 counties	15 counties	All of 20 counties; parts of 2 counties
Planning Responsibilities	ARC is the State designated Metropolitan Area Planning & Development Commission (MAPDC), with the responsibilities of an RC. Every Georgia county must be a member of an RC. RCs facilitate intergovernmental coordination and provide comprehensive planning assistance and other services to constituent jurisdictions.	MPOs develop transportation plans for the current urbanized area, as defined by the US Census, and the area likely to become urbanized within 20 years, as determined through the planning process. ARC currently serves as the MPO for all or part of 18 counties. Four additional counties (Carroll, Dawson, Pike and Jackson) must be included in a metropolitan planning process by 2016 as a result of an expansion of the urbanized area following the 2010 census. Discussions related to a possible expansion of the ARC MPO planning area are ongoing. Bartow County has formed its own MPO since Cartersville exceeded the 50,000 minimum population threshold in the 2010 census.	In May 2012, EPA implemented a new 8-hour standard for ozone, reducing the nonattainment area for this pollutant from 20 counties to 15 counties.	EPA designated this non-attainment area in 2005. The region attained this standard in 2012 and is in the process of being designated as a maintenance area. However, a new stricter standard is being considered by EPA which could result in some counties being designated as non-attainment again during 2014.

What is PLAN 2040?

ARC recognizes that regional needs related to transportation, land use, environment, economy, housing, and human services are interrelated. PLAN 2040 is ARC's innovative effort to tackle these cross-cutting planning challenges in one guiding document. PLAN 2040 serves as both the regional transportation plan and regional comprehensive plan, defining both transportation and land use policy and investment strategies to address regional needs across these multiple planning emphasis areas. Through a collaborative effort among local, state and federal planning partners, PLAN 2040 guides regional growth through its specific investment strategies and programs for metro Atlanta through the year 2040.

PLAN 2040 represents the most comprehensive regional plan prepared to date, presenting a unified vision addressing land use and transportation.

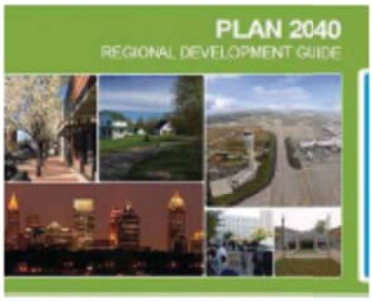
The vast majority of PLAN 2040 investment strategies are defined in the regional transportation plan. As the MPO for the Atlanta region, ARC is required by the U.S. Department of Transportation (USDOT) to develop a long-range Regional Transportation Plan (RTP) that covers a minimum 20-year time span. This long-range plan helps guide the prioritization and funding of transportation investments for the region and must be updated every four years in air quality nonattainment areas. Transportation planning is a continual process of examining the transportation challenges facing the Atlanta region and identifying a plan of action to improve transportation system performance. PLAN 2040 includes a fiscally constrained $58.6 billion program (in year 2014 dollars) of transportation projects and strategies that successfully addresses regional challenges. These investment strategies were directly informed by the rigorous comprehensive planning and technical analysis conducted as part of the Georgia Department of Community Affairs (DCA)-required Regional Agenda which defines the planning process for detailing housing, land use, and other strategies that influence regional growth and development.

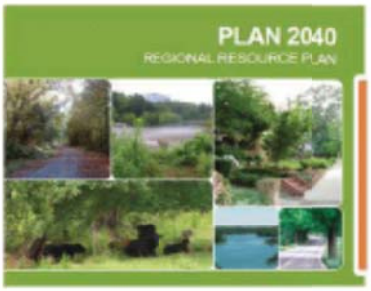
PLAN 2040 meets all state and federal guidelines and regulations for regional comprehensive and transportation plans, including financial constraint, federal air quality requirements and an implementation program that defines roles and actions for the many parties in the region that implement regional plans and programs, including local governments.

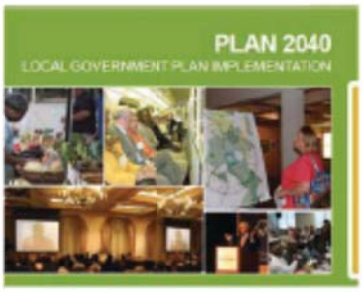
PLAN 2040 increases awareness of how land in the region is developed and used and how land use is linked with transportation system performance. It provides an understanding of the characteristics that improve travel conditions and create positive environments for living, working and travelling in the region. It is a comprehensive and coordinated strategy for regional development with complementary, multi-modal transportation system investments to support sustainable regional growth in the future.

PLAN 2040 is comprised of two primary elements: 1) the Regional Agenda, as mandated by the Georgia DCA; and 2) the Regional Transportation Plan, as mandated by USDOT. Plan documentation is structured around a large set of interrelated documents, which collectively comprise the Regional Agenda and the RTP. A list of the documents which collectively constitute PLAN 2040 is provided below. All documents are available on-line at:

[www.atlantaregional.com/plan2040.](http://www.atlantaregional.com/plan2040)







- The **Regional Assessment** confirms the region's needs and identifies critical findings that lay the groundwork for policy and program development during subsequent steps in the comprehensive planning process.

- The **Stakeholder Involvement Plan** lays out a strategy that ensures that PLAN 2040 reflects the full range of regional values and desires by involving a diverse spectrum of stakeholders in developing the plan.

- The regional **Vision** includes the Vision, Goals, Objectives and Principles that guide PLAN 2040.

- The **Regional Development Map**, also known as the Unified Growth Policy Map (UGPM), lays out the region's vision to accommodate anticipated growth. The UGPM is comprised of Areas and Places. Areas describe predominant land use patterns throughout the region. Places reflect concentrated uses that have generally defined boundaries and provide greater detail within Areas.

- The **Regional Development Guide** elaborates on the UGPM by providing a defining narrative for each regional Area and Place. Among other things, it includes a written description, pictures, listing of specific land uses desirable in each Area and Place, and identification of Implementation Priorities, which are measures to achieve the desired development patterns. The Regional Development Guide also addresses implementation of the Georgia Quality Community Objectives (QCOs) for the Atlanta region.

- The **Regional Resource Plan** describes how activities and planning of local governments, land trusts and conservation or environmental protection groups and state agencies' activities in the region will be coordinated and how identified Regionally Important Resources (RIRs), such as areas of conservation and recreational value, historic and cultural resources, and areas of agricultural and scenic value, will be managed.

- The **Local Government Plan Implementation** document includes Performance Standards for Local Governments. The standards are divided into minimum and excellence achievement thresholds.

- The **ARC Implementation Plan** document includes the Regional Sustainable Five Year Work Program, as well as new regional needs and strategies ARC will undertake to implement PLAN 2040.

- The **Regional Implementation Partners** document identifies activities that will be undertaken by regional partners to support the implementation of PLAN 2040. Activities of state agencies, quasi-governmental organizations, and non-profit groups are documented through a Five Year Work Program similar to ARC's Implementation Plan.

- This **Regional Transportation Plan (RTP)** examines the region's transportation needs through the year 2040 and provides a framework to address anticipated growth through systems and policies. The RTP provides a comprehensive statement of the regional future transportation needs as identified by local jurisdictions, the State and other stakeholders. It contains strategies aimed at improving mobility and access, and defines both short- and long-term transportation strategies and investments to improve the region's transportation system.

- The **Transportation Improvement Program (TIP)**, contained within the RTP, provides a financially constrained six year program of improvements between FY 2014-2019. While federal planning requirements require the first four years of the TIP to be balanced by year, subsequent years of the TIP and long-range element of the RTP (2020 and beyond) are balanced by funding periods.

- The **Conformity Determination Report (CDR)** demonstrates that the region's transportation strategies meet federal air quality requirements. It is Volume II of the RTP document set.

In addition to fulfilling regional planning requirements set forth by DCA and USDOT, PLAN 2040 is also consistent with and supports the Georgia Statewide Strategic Transportation Plan (SSTP) that was completed in 2010 and updated in 2013. The SSTP identifies a strategy to transform Georgia's transportation to support GDP growth and increase jobs across the state. Additional discussion of the SSTP and its relationship to an ongoing update to the federally mandated Statewide Transportation Plan (SWTP) is included in Chapter 2.

PLAN 2040 was originally adopted by ARC in July 2011. Various elements of the overall plan have had minor updates since that time, but the overarching themes addressed by those documents and the vision they lay out for the Atlanta region have remained consistent. While the RTP element has experienced several amendments and administrative modifications to the project list since 2011, the entire

transportation component of PLAN 2040 was not comprehensively updated and approved by ARC until March 2014. All information contained in this document reflects that comprehensive update.

For reader clarity, the following nomenclature is used throughout the rest of this document:

- **PLAN 2040** – The comprehensive regional plan for both transportation and land use
- **PLAN 2040 RTP** – A general reference to the transportation element of PLAN 2040
- **PLAN 2040 RTP (July 2011)** – The transportation element of PLAN 2040 as adopted in July 2011
- **PLAN 2040 RTP (March 2014 Update)** – This document set, which represents a thoroughly revised transportation element of PLAN 2040 and was adopted in March 2014
- **RTP** – Generally used as a shorthand reference to this version of the long-range transportation plan, but occasionally used also as a generic reference any long-range transportation plan prepared by an MPO (not necessarily specific to the Atlanta region)

PLAN 2040's Sustainability Focus

During early 2010, ARC released the PLAN 2040 Regional Assessment, including specific findings that were communicated to the ARC Board and Committees and stakeholders. Numerous meetings and interviews with elected officials and stakeholders took place throughout 2010 and were used to review the PLAN 2040 Regional Assessment Findings and frame the needs of the region.

Sustainability balances environmental, social, and economic objectives to achieve the region's growth vision.

The theme of "sustainability" was selected as an overarching concept for the development of PLAN 2040. The term was defined through meetings of ARC committees, and the Vision, Goals and Objectives for completing PLAN 2040 were adopted by the Atlanta Regional Commission in July 2010.

Based on input from regional stakeholders, the final list of Findings reflects the regional issues and opportunities to be addressed through PLAN 2040. The Vision and Goals of PLAN 2040 originate from these regional Findings, as well as the findings of Fifty Forward, a 50-year visioning effort for the Atlanta region initiated by ARC in 2008.

Early in the process leading up to adoption of a new PLAN 2040 RTP in March 2014, the Regional Assessment's emphasis on sustainability, and the basic framework defined for addressing it, were deemed to still be adequate and relevant. As a result, no changes to PLAN 2040's visions, goals or objectives were required.

What Are the Federal Transportation Planning Requirements?

In developing RTPs, ARC follows the federally-required transportation planning process, with a detailed focus on making decisions and project recommendations in a transparent and logical manner. The Atlanta region's transportation planning process was last certified by the Federal Highway Administration and Federal Transit Administration on October 3, 2011, as required by 23 USC 134(i)(5) and 49 USC 5305(e).

On July 6, 2012, President Barack Obama signed the Moving Ahead for Progress in the 21st Century (MAP-21) federal funding bill into law. This legislation replaced the Safe, Accountable, Flexible, and Efficient Transportation Equity Act – A Legacy for Users (SAFETEA-LU), which was the governing legislation when the PLAN 2040 RTP was originally adopted in 2011.

MAP-21 defines funding levels and federal priorities for surface transportation programs for highways, highway safety, and transit for two years: FY 2013 and 2014. The legislation provides for about $105 billion in federal funding over those two years, which is only slightly less than annual appropriations under SAFETEA-LU. While funding levels remain relatively flat, MAP-21 did implement several important reforms. Most notably, numerous funding programs were consolidated and the overall number of programs was reduced by almost two-thirds. While a series of administrative modifications to the RTP in early 2014 adjusted funding source data for active projects in order to prevent implementation delays, a comprehensive reassessment of the entire program to ensure consistency with MAP-21 priorities, policies and funding levels was deferred until this update.

The federal transportation planning section of MAP-21 lists eight planning factors which must be considered as part of the transportation planning process for all metropolitan areas. These factors, which remain identical to those implemented under SAFETEA-LU are listed in Table 1.1. Each planning factor has been considered as part of the RTP development, as noted throughout various sections of this document. The planning factors have been addressed as appropriate, given the scale and complexity of many of the issues, including transportation system development, land use, employment, economic development, human and natural environment, and housing and community development.

In addition to the eight planning factors, a number of more specific transportation planning provisions are defined in the Code of Federal Regulations (CFR) that outline the various required elements of a metropolitan area transportation plan. These transportation planning requirements are codified in Title 23 CFR 450.306 and CFR 450.322 and are referenced throughout various sections of the document. Each requirement also is listed in Appendix D-1 in checklist format, with page number references identifying

where each is addressed in the RTP. Many of these remain unchanged from SAFETEA-LU, so the minimum planning requirements of MAP-21 are still being met.

Table 1-2: MAP-21 Planning Factors

Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency.
Increase the safety of the transportation system for motorized and non-motorized users.
Increase the security of the transportation system for motorized and non-motorized users.
Increase accessibility and mobility of people and freight.
Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns.
Enhance the integration and connectivity of the transportation system across and between modes, people and freight.
Promote efficient system management and operation.
Emphasize the preservation of the existing transportation system.

What Guidance Did the ARC Board and Committees Provide?

Throughout the PLAN 2040 development process, the ARC Board and Committees provided direction to technical staff regarding key policy directions and recommendations. Monthly meetings were held for the heads of ARC's policy committees to direct the plan development process. Regular briefings were made to both technical and policy committees. At major milestones, ARC staff received policy guidance:

- In February 2009, the ARC Board approved a resolution to develop a regional unified plan that specifies a strategic vision and seeks a comprehensive approach to accommodate economic and population growth sustainably in the Atlanta region through the year 2040.

- In March 2010, the ARC Board approved a resolution for the PLAN 2040 Regional Assessment, Transportation Public Participation Plan (TPPP), and the Regionally Important Resources (RIR) Map. These documents reflect an innovative stakeholder involvement process for PLAN 2040 and the identification of needs to address in Plan recommendations.

- In July 2010, the ARC Board approved a resolution adopting PLAN 2040's Vision, Goals & Objectives. This Vision guides development of PLAN 2040 recommendations.

- In July 2011, the ARC Board approved DCA-required elements of PLAN 2040 concurrent with approval of the RTP.

- In August 2012, the ARC Board approved the Community Engagement Plan, which serves an update to the TPPP that guided development of the July 2011 version of the PLAN 2040 RTP. A Limited English Proficiency Plan was approved at the same time and further defines how to better reach populations for whom English is not their primary language.

- In August 2012, the ARC Board approved an updated TIP/RTP Blueprint, which defines how policy guidance is reflected in project list documentation and serves as a "user's manual" for project sponsors.

- Throughout late 2012 and most of 2013, a subcommittee of Transportation and Air Quality (TAQC) members of the ARC Board met on a regular basis to review interim work products of staff and provide specific policy direction on a variety of issues. Senior staff of the Georgia Regional Transportation Authority (GRTA) and Georgia Department of Transportation (GDOT) also actively participated.

- In April 2013, the ARC Board approved a Decision Making Framework for this update to the PLAN 2040 RTP. This document ensures consistency with the Statewide Strategic Transportation Plan and defines regional priorities for directing limited financial resources to projects and programs. The framework was also approved by the GRTA and GDOT Boards.

- In March 2014, the ARC Board approved an updated PLAN 2040 RTP and FY 2014-2019 TIP.

How Were the Public and Other Stakeholders Involved?

PLAN 2040 reflects input and feedback gained through unprecedented involvement of policy makers, regional leadership, stakeholders and the general public. ARC sought to ensure that PLAN 2040 reflects the full range of regional values and desires by involving a diverse spectrum of opinions and discussions in development of the plan. The PLAN 2040 stakeholder and public outreach efforts meet the requirements of both the Georgia DCA and USDOT for developing and sharing regional plans.

The PLAN 2040 Stakeholder Involvement Program was developed for the plan adopted in 2011 and continues to lay out a program of activities with local governments in the Atlanta region as well as other stakeholders to ensure that broad input and support for PLAN 2040 goals, policies, transportation investments and programs are achieved. Outreach activities for PLAN 2040 are based on the Regional Community Engagement Plan adopted in 2012, formerly the Regional Transportation Public Participation Plan, and are supplemented by the existing ARC committee and task force structure.

The PLAN 2040 participation process involved any person expressing interest in its activities and outcomes as well as targeting participants who should have a say in the plan development. For planning purposes, three broad audiences were identified within the jurisdictions served by ARC:

- Policy-making elected/appointed officials from local, regional and state jurisdictions. This also included interaction with federal officials who establish and review rules and regulations in the planning process. Public planning partner staffs, which prepare their jurisdictional plans, provide background information on local issues and advise officials were targeted within this audience.

- State and local private sector leadership and interested people within special interest groups that consistently engage in PLAN 2040 issues.

- Individuals or groups that participate in ARC activities based on short-term, issue-driven concerns.

Innovative efforts to engage the public include online public meetings.

The techniques used for PLAN 2040 sought to match these stakeholders with the best venue to seek, discuss and gather input. The range of techniques varied from the use of direct conversation to large group meetings. The goal of the techniques was to have meaningful two-way dialogue on issues and potential solutions on a continuous basis throughout the planning timeframe. Specific techniques used for stakeholder and public participation included, but were not limited to:

- ARC Board and Committee meetings and mini-retreats
- Workshops
- On-line public meetings
- Neighborhood forums
- Stakeholder group discussions
- Polls/Surveys
- Mobile open house
- Telephone town halls

Information on PLAN 2040 was distributed in many formats:

- PLAN 2040 website (primary vehicle for information distribution)
- Printed brochures and handouts
- PLAN 2040 Quick Guides
- Broadcast conversations
- Media outreach
- Presentations
- Face to face discussions with staff planners and citizens

In 2012, ARC hosted a series of telephone town hall meetings, branded as Wireside Chats, to connect individuals directly with elected officials and transportation planning staff, offering an opportunity for live Q& A.

The PLAN 2040 participation process is described in detail along with its results in Appendix F. More specific information on the outreach conducted for updating the RTP element of PLAN 2040 is included, along with a report of comments received and responses provided during the official review period.

Did Everybody Have a Voice in the Process?

ARC considers needs of the transportation disadvantaged and environmental justice communities in every step of the regional planning process, forming a core consideration in decisions. Environmental justice public policy seeks to ensure that harmful human health or environmental effects of government activities do not fall disproportionately upon those with low income and minority populations living and working within the community.

An environmental justice program was an integrated facet of PLAN 2040's development process. ARC utilizes a broad range of outreach strategies and technical tools to assess the needs and concerns of minority and low-income residents in the Atlanta region. ARC's community partnerships provide opportunities for environmental justice organizations to convene listening sessions in their neighborhoods and provide resources to help low-income individuals participate in the planning process. This multi-layered framework incorporates the voices of low-income and minority populations and reflects them in policies and projects:

- Community Engagement Plan - Identifies goals, policies and procedures as guidance and reflects input from the public, including Environmental Justice groups.
- ARC's Social Equity Advisory Committee - Provides advice and guidance and facilitates new relationships; includes members from regional Environmental Justice communities.
- Focus Groups and Listening Sessions - Create an understanding of concerns and provide a community perspective on potentially adverse impacts and benefits.
- Studies and Surveys - Enhance ARC's understanding of transit dependent populations as well as parameters for the analysis of benefits and burdens.

Potentially vulnerable populations identified in Environmental Justice policy include African-American, American Indian, Asian, Hispanic, the elderly, children or people with disabilities. 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 be on neighborhood cohesion and functioning as well as safety and aesthetics.

How Are the RTP Documents Organized?

Volume 1: PLAN 2040 Regional Transportation Plan provides an overview of the process to develop the PLAN 2040 RTP (March 2014 Update) and outlines the transportation policies, investments, and programs that the Atlanta region will pursue through the year 2040. A financial strategy to fund projects is identified, along with plan management strategies to implement RTP recommendations.

The following chapters are included in Volume I:

Chapter 1 – Introduction
An overview of the integrated transportation and land use planning process conducted as part of PLAN 2040.

Chapter 2 – Trends
Defines trends in population, employment, land use and travel patterns affecting the Atlanta region and identifies needs that are addressed in PLAN 2040. Alternative growth scenarios are presented and discussed in relation to their impact on regional needs.

Chapter 3 – Process
An overview of the organizing principles used to develop PLAN 2040 and support more specific RTP recommendations. Detail is provided as it relates to the performance-based planning approach for the RTP.

Chapter 4 – Strategies
PLAN 2040 RTP transportation investments are detailed, broken down by the major plan emphasis areas of system modernization, demand management and system expansion. The ability of the RTP to address transportation performance measures is discussed throughout the chapter.

Chapter 5 – Finances
Available financial resources are discussed, including how PLAN 2040 meets federal fiscal constraint requirements for RTPs. This chapter also provides a discussion of future funding options.

Chapter 6 – Delivery
This chapter presents a management plan that identifies actions to implement the RTP within the overall PLAN 2040 framework.

The document set also includes a number of appendices, which provide in-depth data and information supporting the various chapters listed above. References are made throughout each of the chapters to appendices where the reader can learn more about particular topics. These appendices are:

Appendix A – Project Listings
Detailed costs, scope and schedule information for all projects and programs comprising the plan are included in a variety of tables in this appendix. Supports summary information contained in Chapter 4.

Appendix B – Supportive Financial Information
This appendix includes calculations and charts explaining how revenue projections were developed, essential for ensuring that the plan is fiscally constrained. Supports summary information contained in Chapter 5.

Appendix C – Technical Analysis
Project evaluation methodologies and performance outcomes are detailed in this appendix. Supports summary information contained in Chapters 3 and 4.

Appendix D – Development Guidance
This appendix contains a variety of regional policy resolutions and federal guidance important in making RTP process and funding decisions. All chapters of the plan are supported by this information.

Appendix E – Model Documentation
The RTP must help the region meet federal air quality standards and provide benefits that support broader regional goals. A regional travel demand model is the primary technical tool used to produce data supporting these analyses. Chapter 4 of this volume, as well as Volume II: Conformity Determination Report, are the two narrative sections which rely most heavily on model data. This appendix provides extensive technical information demonstrating that the model is state-of-the-practice and produces reasonable results.

Appendix F – Public Comment Report
This appendix describes how the plan was vetted with the public, summarizes comments received and includes responses to those comments.

In addition, a second volume to the RTP document set provides technical evidence that the plan meets federal air quality emissions budgets. This information is contained is **Volume II: Conformity Determination Report**.

REGIONAL TRANSPORTATION PLAN

Chapter 2 - Trends

March 2014 Update

Chapter 2
Trends

Table of Contents

What are Our Major Opportunities and Challenges?

The first critical step in the transportation planning process involves identifying investment needs. Needs identification begins with evaluating transportation system performance in the context of regional growth and development trends that drive travel patterns, specifically:

- Population, employment and various socioeconomic characteristics that impact the number and type of trips made within the region
- Land use and development conditions that shape trip-making patterns and access to key destinations.

Nationally, only Houston and Dallas added more population from 2000 to 2010 than the Atlanta region.

Needs analysis occurs for both current-year travel conditions, given existing land use and transportation systems, and projected travel conditions, assuming certain changes in land use, population and employment growth over time. The needs analysis for the PLAN 2040 RTP was greatly enhanced through the initial Regional Assessment work conducted as part of the overall PLAN 2040 efforts. The Regional Assessment can be found at www.atlantaregional.com/plan2040. As the first required element of the Regional Agenda, it presents a detailed overview of existing transportation and land use conditions in the Atlanta region. The findings of the Regional Assessment laid the groundwork for policy and program development of the RTP and helped to inform transportation project selection.

While many aspects of the Needs Assessment conducted for the original PLAN 2040 RTP (July 2011) remain valid, a great deal of updated data has been incorporated into the current version of the plan. This chapter focuses on trends in population, employment, land use, and travel patterns affecting the Atlanta region and summarizes key findings of the Regional Assessment and subsequent data review and update activities. It also provides an overview of detailed alternatives scenario analysis that was conducted to inform policy discussion around preferred growth and investment strategies for the region.

The Atlanta region, for perhaps the first time in history, is experiencing a challenge to the fundamental conditions that propelled the region to prosperity and growth for the past four decades. The Atlanta region has grown and expanded largely on the basis of the several trends:

- National migration trends to the Southeast
- Federal funding programs that supported highway construction and decentralized growth
- Access to one of the world's busiest airports

- Inexpensive land
- Low cost of living, business costs and wages
- Proximity to major ports, substantial opportunity for higher education, homegrown and new Fortune 500 business headquarters as well as national facilities such as the Centers for Disease Control (CDC)

These conditions have prompted Atlanta to become one of the fastest-growing regions in the nation, accommodating large amounts of population and employment growth. This growth has brought many benefits to the region, including evolving from a small regional center to a major international player economically. Despite a historically strong economy and an overall good quality of life over the last few decades, the region is still in the early stages of recovering from the Great Recession. While it is unclear when a sustained and robust economic recovery will occur, recent trends are encouraging. Although it appears that the recovery is slowly gaining momentum, the overall transportation and land development patterns built to accommodate growth in the latter half of the 20th century and the first decade of the 21st century are already severely strained and do not appear to be sustainable going forward.

While the current period has created much uncertainty, it should be anticipated that metropolitan Atlanta will continue to be one of the fastest-growing regions in the nation. In fact, the Transportation Update projects that an additional 2.6 million people will be living and working in the region by the year 2040. Each new and existing resident places demands on infrastructure, public services and the region's natural systems. This Update must address the numerous challenges associated with both existing and projected growth conditions. These challenges will need to be addressed comprehensively in order to ensure the long-term viability and global competiveness of the Atlanta region.

How Fast Are We Growing?

The Growth Engine of the Sunbelt

As the Southeast's premiere metropolis, the Atlanta region's growth was a primary driver of the Sunbelt's population explosion in the post-World War II era. Between 1950 and 1970, the region maintained a robust rate of growth that averaged over 3% annually - more than twice the rate of the Depression years of the 1930s and almost a percentage point higher than during the war years of the 1940s. Apart from brief periods of slower growth during economic downturns in the 1970s and 1980s, the region maintained the 3% average annual growth rate up until the early 1990s, when the economic recession that hit the nation slowed the region's growth rate to less than 2% annually.

The 1996 Olympics stimulated a period of unprecedented growth and prosperity for the Atlanta region and Georgia.

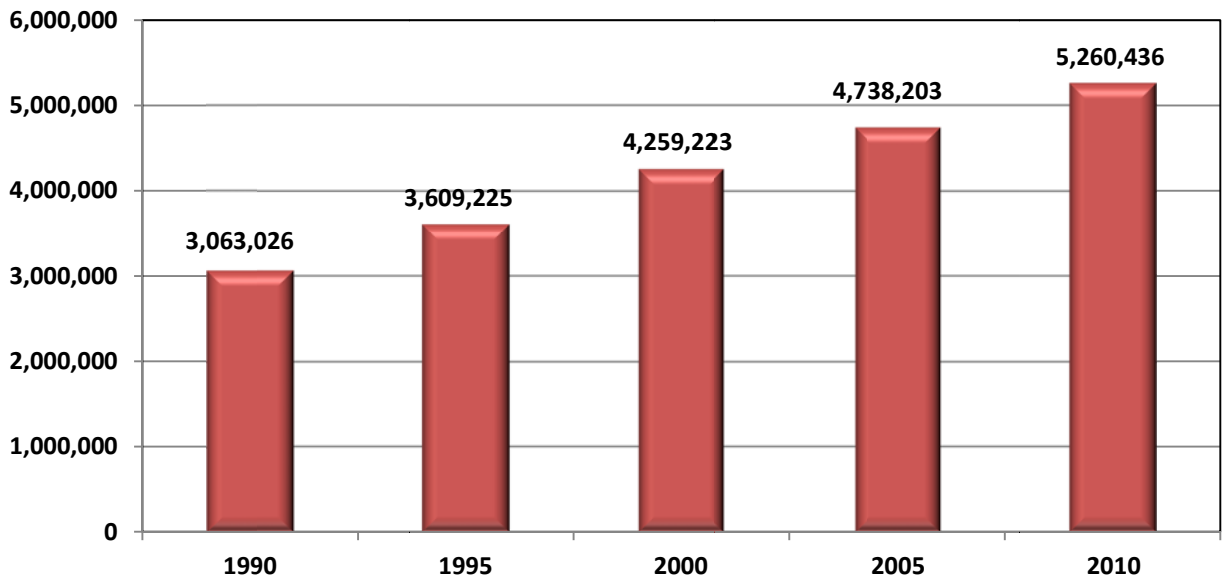
As the Atlanta region ramped up efforts in preparation for hosting the 1996 Centennial Olympic Games, the 20-county region quickly shook off the effects of the recession, recording its largest single-year population increase ever in 1994-1995: 123,477 persons. After the Olympics, the 20-county region experienced a very robust level of growth, adding an average of 100,000 new residents annually during the latter half of the 1990s.

In 2001, the national and regional economies drifted into recession with the 20-county region's growth slowing to only 46,800 in 2003-2004. In the mid-2000s, the region resumed the robust rates of growth that it experienced in the 1990s, registering an increase of 97,600 persons between 2004 and 2005, followed by an increase of 111,700 in 2005-2006. However, this most recent boom was short lived due to the onset of the recession in late 2007.

Despite the fact that the first decade of the 21st Century was bookended by two recessions, the Atlanta region saw the addition of approximately 1 million new residents over the ten-year period – resulting in a total population of 5.26 million residents in the 20-county region in 2010 (see Figure 2-1). This is a healthy growth rate of 2.1% but represents a slowing from the 3.4% average annual population increase from 1990-2000.

Since 2010, regional policy debate has centered around the adverse impacts of congestion, limited water resources and economic challenges from the Great Recession on regional growth. However, trends have indicated that the region's growth has remained resilient, while continuing to slow on an average annual basis compared to earlier higher growth periods.

Figure 2-1: Atlanta 20-County Region Population (1990-2010)



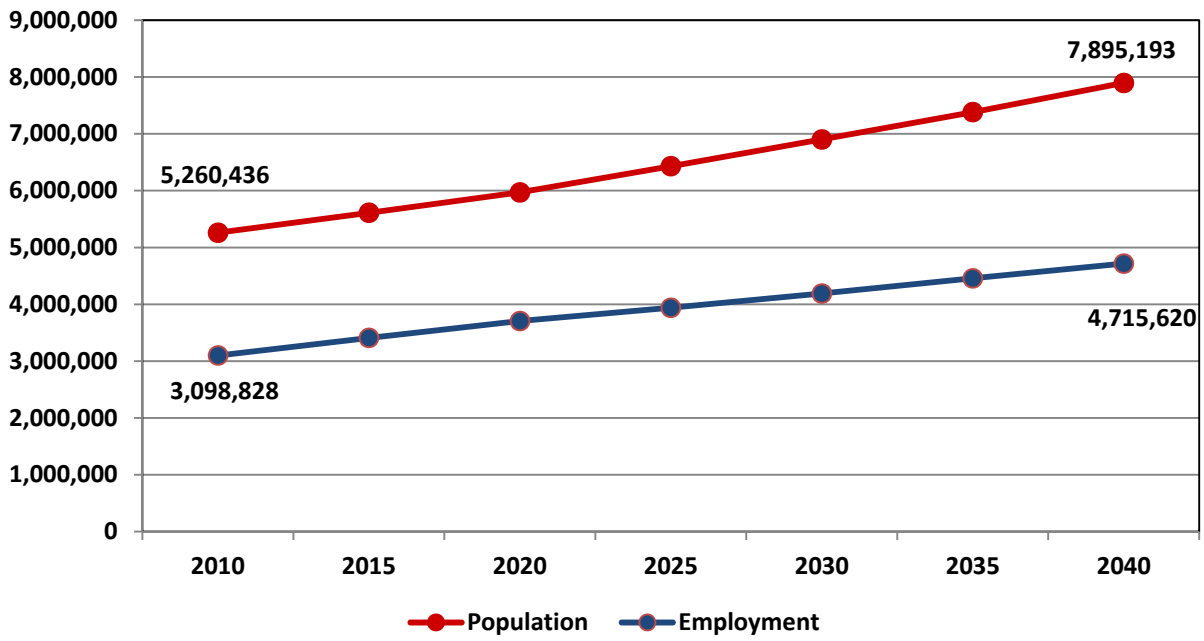
Future Growth – A Region of Nearly Eight Million

Long-range transportation planning is informed by estimates of future population and employment conditions that drive trip-making patterns and travel needs. Regional population and employment forecasts were prepared for this update of the PLAN 2040 RTP for the 20-county transportation and air quality planning domain. Detailed information regarding population and employment forecasts at the regional and subregional level is available on-line at www.atlantaregional.com, and is summarized below.

In the years 2010 through 2040, the 20-county Atlanta region is projected to add 2.6 million residents for a total population of nearly 7.9 million (see Figure 2-2). Although such a population increase could be labeled as robust, this is actually a departure from historical trends as the average annual growth rate during this period is forecasted to be a more modest 1.36% (the region maintained annual growth rates of 3% between the 1950s and the 2000s.) This forecasted growth rate represents an average annual growth of 87,825 people. Despite the fact that growth rates have slowed compared to not only past trends but to previous forecast series, this forecasted growth is significant enough to place a heavy burden on regional infrastructure, which is already strained by the robust growth experienced over the past 60 years.

Employment for the 20-county Atlanta region is projected to increase by 1.6 million jobs between 2010 and 2040, for a total job base of 4.7 million (see Figure 2-2). The average annual growth rate during this period is forecast at 1.4%.

Figure 2-2: Forecasted Population and Employment Growth in Atlanta 20-County Region (2010-2040)



It is notable that absolute job totals are higher in this RTP update than those adopted as part of PLAN 2040 and its associated RTP in July 2011. The explanation is an increase in the historic baseline for jobs in the region. The historic base in 2007 is higher by 400,000 jobs than the comparable levels in the PLAN 2040 modeling. The total job numbers in this update remain higher than earlier PLAN 2040 forecasts all the way through the forecast horizon, though the gaps in the series narrow as the forecast horizon year of 2040 approaches. This narrowing occurs because the forecast job growth in the current update is lower than the job growth forecast by the original PLAN 2040, which was completed and adopted before depth of recession and slowness of recovery were known. In sum, the job totals associated with this forecast series have increased compared to past series, but the job growth called for in this forecast has decreased compared to past series.

At the county level, growth in the core counties of Gwinnett and Fulton counties will be the primary driver of the region's overall population growth over the next thirty years. As shown in Table 2-1, both counties are forecast to add 429,800 and 309,900 new residents respectively – comprising approximately 28% of the region's growth in the years 2010-2040.

Table 2-1: Forecasted Population Growth by County (2010-2040)

County	Population			
	2010	2040	Total Change	Percent Change
Cherokee	214,346	394,898	180,552	84.2%
Clayton	259,424	315,175	55,751	21.5%
Cobb	688,078	867,037	178,959	26.0%
DeKalb	691,893	859,397	167,504	24.2%
Douglas	132,403	204,829	72,426	54.7%
Fayette	106,567	140,716	34,149	32.0%
Fulton	920,581	1,230,497	309,916	33.7%
Gwinnett	805,321	1,235,122	429,801	53.4%
Henry	203,922	401,400	197,478	96.8%
Rockdale	85,215	129,902	44,687	52.4%
Total 10-County Region	**4,107,750**	**5,778,973**	**1,671,223**	**40.7%**
Barrow	69,367	128,898	59,531	85.8%
Bartow	100,157	156,605	56,448	56.4%
Carroll	110,527	165,989	55,462	50.2%
Coweta	127,317	236,111	108,794	85.5%
Forsyth	175,511	415,208	239,697	136.6%
Hall	179,684	332,498	152,814	85.0%
Newton	99,958	184,300	84,342	84.4%
Paulding	142,324	256,410	114,086	80.2%
Spalding	64,073	98,003	33,930	53.0%
Walton	83,768	142,198	58,430	69.8%
Total 20-County Region	**5,260,436**	**7,895,193**	**2,634,757**	**50.1%**

Two of the fastest-growing counties in the nation over the last two decades – Henry and Cherokee – will continue to grow rapidly over the forecast period. Henry County will nearly double its 2010 population by 2040, leading the 10-county regional commission (RC) area in percentage increase. It is forecasted to add roughly 197,500 people for a 97% increase, while Cherokee will add 180,500 for an 84% increase. This absolute growth ranks them third and fourth, respectively, in the 20-county area. The City of Atlanta's recent population surge will also continue.

While the 10-county RC area will capture over 63% of the 20-county area's growth, more large percentage gains are found in the 10 counties falling outside the RC region, but within the air quality non-attainment area. Six counties outside of the ARC RC area are expected to double or nearly double their population during 2010-2040. Forsyth County ranks first in percentage growth, increasing their population by 137%. Every county in the "external 10" will grow by 50% or more in the 2010-2040 period.

Evolving Travel Patterns and Options

Updates in projected regional population and employment trends, reflecting the latest economic and demographic factors, significantly influence travel in the region. The location and types of land use that are correlated with population and employment characteristics significantly affect travel needs, travel distances and the modes of travel used. Taken together, these direct the types of investment strategies that comprise the RTP.

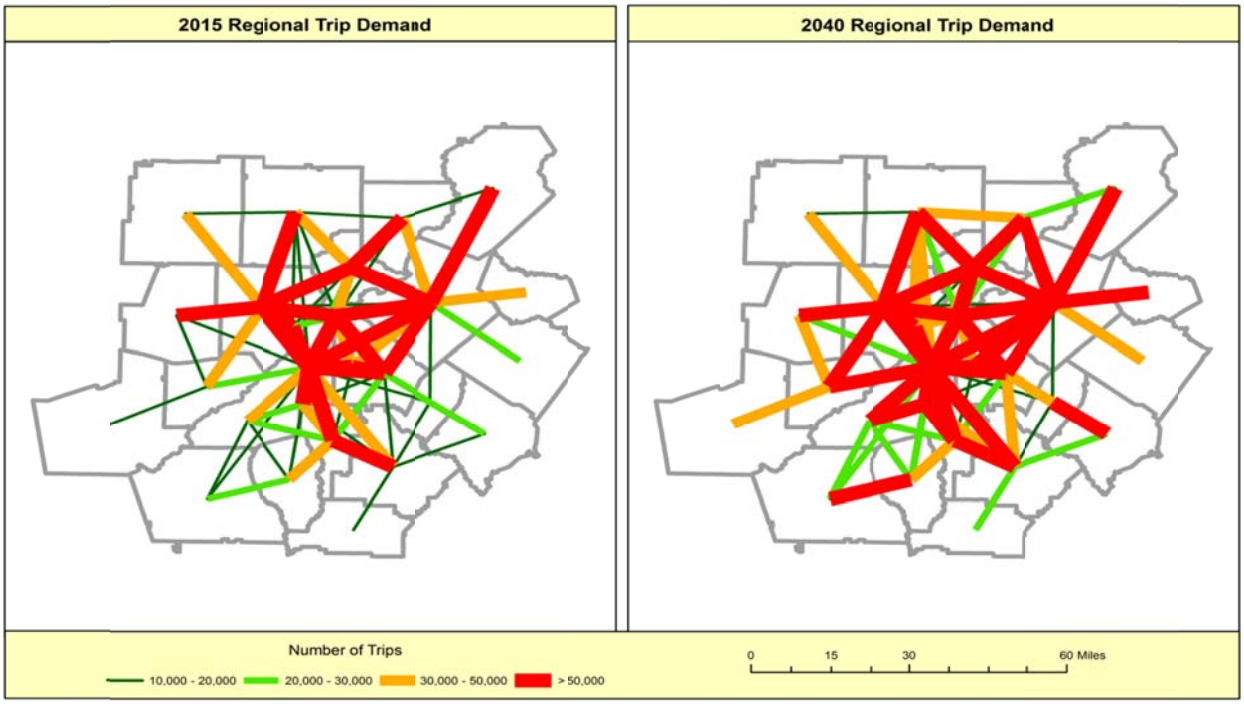
Regional travel demand patterns, both existing and forecast to the year 2040, are illustrated Figure 2-3. The thickest red lines represent the highest volumes of travel demand. The five central counties of Fulton, DeKalb, Gwinnett, Cobb and Clayton accommodate the majority of trips both now and in the future. The region's major activity centers are located in these counties.

The Atlanta region is the freight and logistics center of the Southeast, contributing to complex daily travel patterns.

By 2040, significant changes in travel patterns and volumes are anticipated, reflecting the complexity of travel as population and employment increase. Travel demand to and from activity centers on the south side of the region in Henry, Fayette and Coweta counties emerge. Many of the areas close to major employment centers experience a large number of external trips from suburban communities. Counties such as Clayton, Douglas, Paulding, eastern DeKalb, Rockdale and Newton see a large percentage of their total workforce leaving their county each day. Several counties on the edge of the region, such as Bartow, Carroll and Hall, experience relatively few external trips to other destinations within the 20-county region. These counties are less interconnected with the core of the Atlanta region, producing more internal trips to local employment centers or external trips to other regions.

Many factors help predict how residents in the Atlanta region travel. Some of these factors include determining types of trips, travel time, cost and mode of travel. ARC updates this information every 10 years through surveys and census data. ARC uses the survey information to understand who, where, when and how much people will travel.

Figure 2-3: Daily Regional Travel Demand (2015-2040)



Impact of Evolving Travel Patterns

Figure 2-3 illustrates existing and future demand for travel; the general flow of trips within the region. Today, most trips are focused on major centers such as Cobb/Marietta, Downtown/Midtown, Perimeter, DeKalb, and Gwinnett Place. By 2040, many suburban centers will increasingly attract trips from exurban areas, leading to more complex travel patterns. Per federal planning requirements, ARC considers future travel patterns in making PLAN 2040 recommendations.

In general, home to work trips remain predominately single occupancy vehicle (SOV) in nature. Even the Central Business District (CBD), which has one of the highest transit mode splits in the region, sees about two-thirds of its commuting trips arrive via SOV. Regional transit usage remains a small share of all trips made in the region, accounting for roughly 5%, due in large part to its absence as a viable option to and from many locations. But where transit does exist, it serves a significant portion of tripmaking activity, such as in the CBD where about one in four commuter trips are made by transit.

Congested Vehicle Hours Traveled (VHT) is forecasted to increase approximately 180% by 2040.

The Atlanta region has an ambitious transit concept, commonly known as "Concept 3," which is defined in greater detail in Chapter 3. This transformational strategy includes expansion of fixed-guideway transit in many urban and suburban locations in the region. Initial analysis indicates that in spite of the major investments in the region's activity centers through Livable Centers Initiative (LCI) studies and projects, more assertive policies are needed to support the establishment of transit centers in the region.

Few areas outside of the region's core currently have the residential and employment densities and infrastructure to support travel options other than by car. Identifying opportunities where adequate densities and a supportive mix of land uses are appropriate and feasible in order to increase the viability of transit will continue to be an important policy discussion in implementing PLAN 2040.

Over the past 10+ years, ARC's LCI Program has spurred cities, counties and communities to undertake planning and create transportation-efficient land use strategies for activity centers, town centers and corridors. Analysis of these studies supports conclusions that land use patterns can reduce per capita vehicle miles of travel, even while expanding the population and employment within the study areas. Balancing jobs and housing within LCI areas, increasing the overall diversity of land uses and improving the multi-modal transportation network all work in concert to produce tangible travel and emission benefits. The LCI program provides the framework for transit-supportive communities in the future. More information about the LCI Program is available at www.atlantaregional.com/lci.

What Trends Did the Regional Assessment Identify?

Early in the PLAN 2040 process in 2009 and 2010, ARC developed a comprehensive Regional Assessment to define the planning context for the Atlanta region and highlight critical transportation and land use issues that needed to be considered as part of PLAN 2040. Regional policy makers reviewed and commented on these findings, which were used to shape the plan development process and inform plan recommendations. These regional findings highlight the complex planning challenges facing the region and are summarized in the following sections. Where appropriate, information from the original assessment has been revised to ensure recommendations of this PLAN 2040 RTP update reflect current conditions and the best possible forecasts of future conditions.

Urban Expansion Continues

Further Outward Expansion Will Adversely Impact the Region's Capacity to Meet Current and Future Needs

ARC population and land cover analysis indicates that the urban expansion of the developed areas in the region may be slowing. Suburban areas are still expanding into exurban communities as employment sheds grow. The dynamic of increasing urbanized area size adversely impacts the ability of the region to implement needed transportation programs and projects, in addition to local challenges of meeting service needs in growing communities. Land use and land cover changes have significant impacts on stream conditions, as well as impacting many services provided by local governments, including water and wastewater systems, parks, libraries, fire and public safety services.

The Atlanta region has many rural areas, several of which are likely to experience growth pressures in the coming years.

Compared to other regions in the U.S., the Atlanta region has developed an overall footprint that has not been matched with corresponding infrastructure investments. This could be viewed as doing more with less, but realistically, it represents perhaps the region's biggest challenge moving forward.

Much of the available land for development in the Atlanta region has been used for low-density residential uses. While substantial areas exist in commercial centers or corridors for redevelopment, the fact is that new development on vacant land and redevelopment are not the same. Redevelopment takes longer, requires different strategies and can be more expensive. In addition, many local governments may seek to limit the intensity of development on redevelopment sites.

The expansion of the Atlanta urbanized area, while slowing in the 2000-2010 period, continues at a rate faster than that of peer regions. Atlanta is significantly larger and less dense than Dallas, the region's

closest peer. Phoenix, a region often compared with Atlanta, is actually twice as dense as the Atlanta region. With no natural barriers to restrain where development occurs, the region has seen a philosophy of separating land uses dominate the development pattern through the region. This development pattern will increasingly place a strain on providing adequate public services, including transportation infrastructure.

Urbanizing counties on the exurban fringe of the region often have large-scale needs for expensive infrastructure projects with costs higher than the revenues generated to fund them. For example, in many cases formerly rural two-lane roads have traffic volumes that exceed 10,000 to 15,000 vehicles per day, with geometrics that create safety problems as traffic increases. Furthermore, transit options are limited because densities have not increased to a level needed to support transit services, leaving most transportation improvements limited to highway-related capacity and operational projects.

Conserving Our Water Supply is Critical

The Long-Term Economic Success of the Region Is Directly Tied to the Availability of Water

The Atlanta region relies primarily on surface water from rivers and storage reservoirs as its main source of water supply. In fact, surface water provides more than 99% of the water supply in the Metropolitan North Georgia Water Planning District (Metro Water District). This planning district covers 15 counties. More information is available at www.northgeorgiawater.org.

The Chattahoochee basin accounts for approximately 73% of the permitted available water supply in the Metro Water District. Residential water use, including single and multi-family use, accounts for 53% of the Metro Water District's total water use.

The availability of water resources directly affects the location of growth within the region, with areas that rely on Lake Lanier facing questions regarding long-term supplies.

Lake Lanier and Allatoona Lake have played a key role in assuring an adequate water supply for the region since their construction by the U.S. Army Corps of Engineers in the1950s. Current planning assumes that federal reservoirs will continue to operate to meet water supply needs of the region.

Congestion Threatens the Health of the Regional Economy

Access to Employment Opportunities in the Region's Most Developed Centers will be Critical

According to the 2012 Texas Transportation Institute Report, the Atlanta region has the 7th worst congestion in the nation.

The region has struggled with addressing the challenges of congestion in recent years, with varying levels of success. This urgency has become more pronounced since the economic downturn of the latter part of the last decade. Many other regions are using Atlanta's high congestion level as their recruitment tool. Established job centers in the Atlanta region recognize the need to tie economic development and transportation agendas to each other, especially as these areas transition from outlying "edge cities" to more urban-scaled activity centers that support a wide range of land uses and economic activities. In the coming decade, it is important to implement a creative congestion relief strategy that can be sustained within expected funding levels.

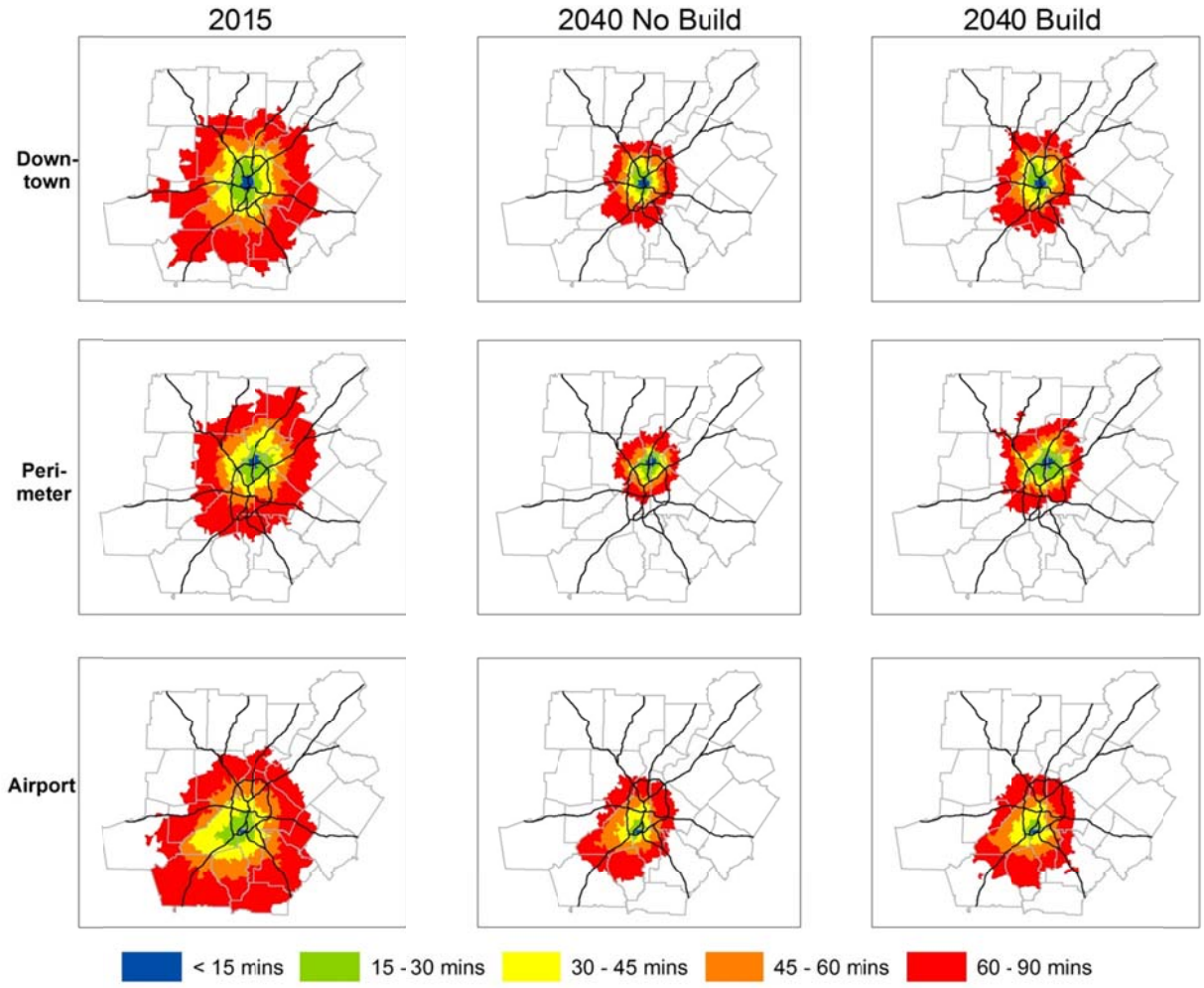
One indicator of the impact of congestion on the regional economy is illustrated by a comparison of peak to off-peak travel times to the Atlanta Central Business District (CBD) (see Figure 2-4). More than three million people in the Atlanta region can access downtown Atlanta, in 40 minutes or less, during off-peak periods. This decreases to 1.3 million people during peak travel periods. This shrinks the peak period travel shed to that of a smaller city, similar to Raleigh-Durham, Nashville and Charlotte. Addressing these mobility needs was a critical consideration in the development of the PLAN 2040 RTP (March 2014 Update).

Demographics are Changing Rapidly

The Composition of the Region's Eight Million Residents in 2040 will be Very Different from the Population of Today

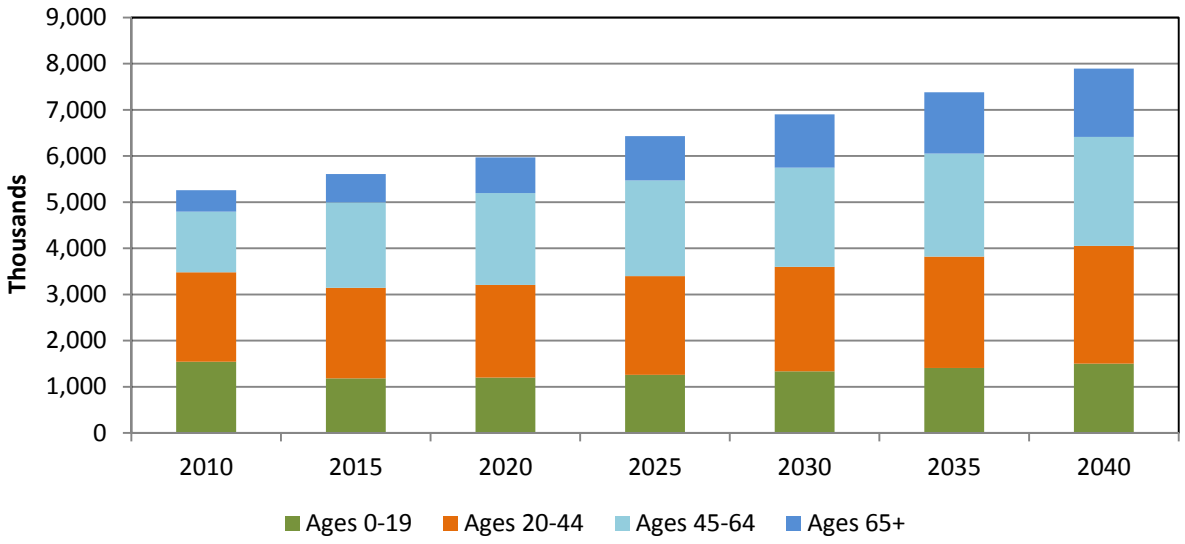
The Atlanta region has been one of the fastest-growing metropolitan areas in the nation for decades, reaching a population of 4 million in the 10-county region at the turn of the century. The magnitude of growth in the Atlanta region has generated significant economic activity in the region but also has resulted in numerous challenges related to sustaining the economic, environmental and social health of the region in the long-term.

Figure 2-4: Impact of Congestion on Regional Travel Times (2015-2040)



The Atlanta region will undergo a dynamic shift in the racial and ethnic profile over the next 30 years as the growth rate of minority population groups continue to outpace that of the population as a whole. More notable related to impacts on the transportation system, however, are the significant shifts related to the age of the population. The 20-county region is forecast to grow older over the next three decades, as shown in Figure 2-5. Between 2010 and 2040, growth among the senior population (65 years and older) will comprise 39% of overall population growth within the 20-county region. The proportion of senior residents in the 20-county region is forecasted to grow from 8.9% in 2010 to 18.8% of the total population in the 20-county region by 2040.

Figure 2-5: Forecasted Growth by Age Group in the 20-County Region (2010-2040)



This changing population composition will lead to changing demands for housing and transportation. Increased need for transit and human services will occur. More pedestrian-friendly communities, as residents age and are unable to independently use vehicles to access employment and services, will also increase.

Meeting the needs of a changing population does not fall to social and education systems alone, but also to a built environment and supportive infrastructure that allows these individuals to be independent and active.

Housing Preferences are Shifting

Demographic and Market Forces that Shape Residential Needs Will Change the Types and Locations of Housing Demanded

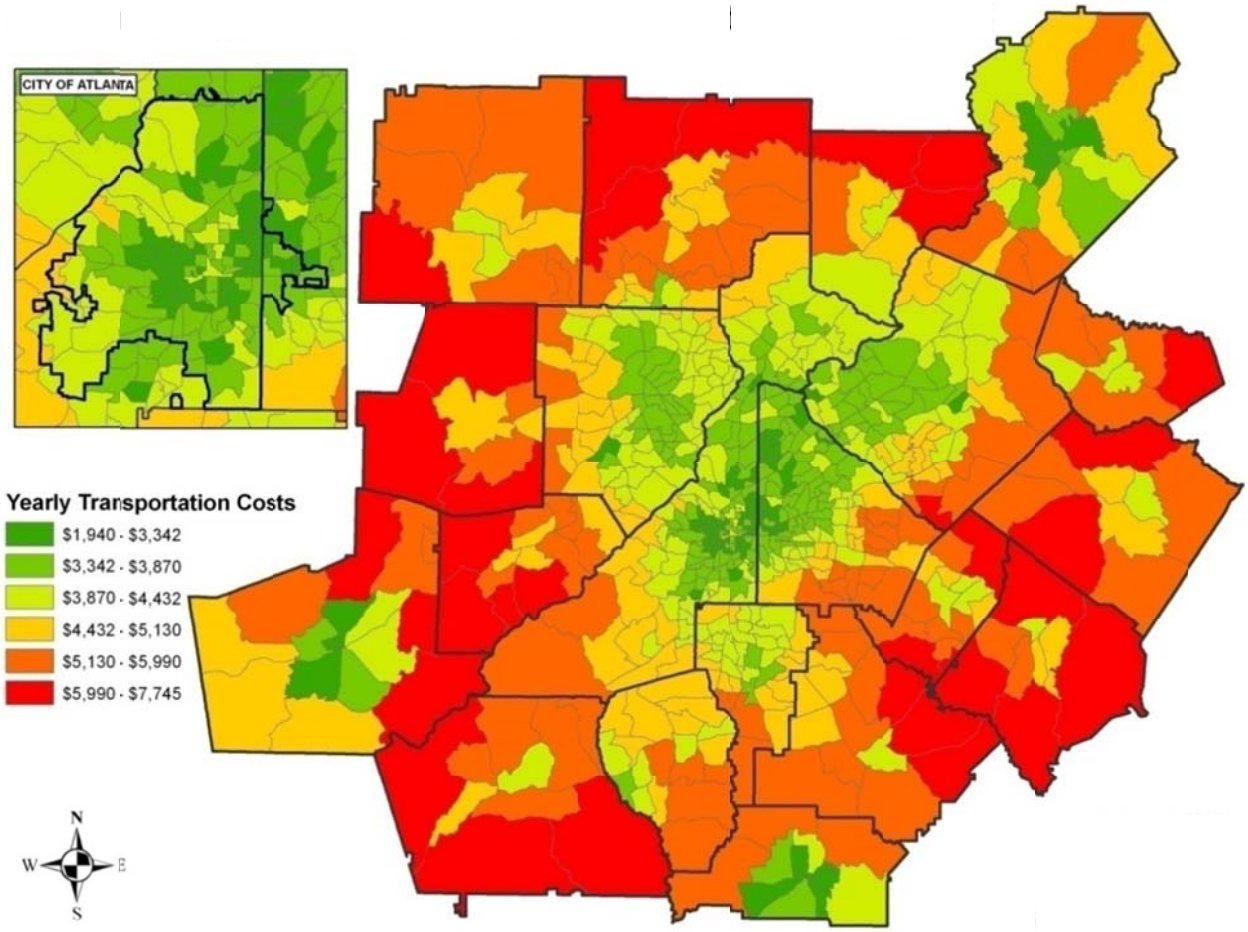
Future housing demands are changing, with increasing construction of multi-family housing such as townhomes and condominiums.

The vast majority of housing available in the Atlanta region has been constructed over the past 40 years. In fact, nearly 28% of the housing stock in the Atlanta region has been built between 2000 and 2012. The development community, working within local government regulatory environments, has done a remarkable job of delivering substantial quantities of housing to meet historic and recent demands, but it is uncertain if this supply is aligned with future consumer needs.

A majority of households in the Atlanta metro consist of two persons or fewer (58% according to the 2012 American Community Survey). The share of households in the Atlanta region that have more than two people is expected to continue to decline over the course of the next thirty years. Current household sizes and future trends suggest a mismatch between current housing stock and the needs of current and future households. National research suggests that the nation as a whole is undergoing a fundamental shift in the typical household one would expect. Three decades ago, approximately half of households had children, compared to 21% expected nationally by the year 2030.

The Atlanta region has experienced tremendous growth over the past several decades. Much of this growth has been fueled by the region's ability to supply housing affordable to the workforce mostly in the region's suburban counties. This pattern has been supported by relatively inexpensive travel costs, particularly in terms of the cost of gasoline. Rising fuel costs are likely to place significant strain on household budgets. The region's housing supply limits options to reduce these costs through household location choices. Figure 2-6 illustrates the range of transportation costs throughout the region.

Figure 2-6: Average Annual Household Transportation Costs (2010)



Both Urban and Rural Areas Require Attention

The Region Must Continue to Plan for Growth While Better Coordinating Management of Environmental, Cultural, and Historic Resources. Differences between Cities, Counties, and Other Areas of the Region Must be Understood to Gain Regional Support and Greater Cooperation.

Research is showing that many urban neighborhoods across the country are experiencing dramatic transformations where residential housing is replacing parking lots, underutilized commercial sites and former industrial sites. Furthermore, permit data show that in several regions there has been a dramatic increase in new construction in central cities and older suburbs, reflecting a fundamental shift in the real estate market.

Future development trends suggest a residential market near mass transit stops, infill areas in suburban markets with existing traffic problems and mixed-use construction in urbanizing suburban nodes. Outer-

ring suburbs and exurban areas may experience greater losses as the market demand continues to shift toward infill neighborhoods.

The Atlanta region has developed programs and policies to assist with adding necessary urban amenities to areas in need of these improvements, particularly through the LCI Program. In July 2009, ARC hosted a work session of the Urban Land Institute (ULI) to review existing plans and programs. The panel recognized significant progress that had been made by the region in terms of supporting appropriate development in the region's town and activity centers, but they also recognized that future development in these areas may be even more intense than ARC or local governments are currently anticipating. This group also concluded that the region is currently failing to have a proactive approach to development and conservation initiatives in suburban and exurban communities. Many of these areas are looking for alternatives to recent suburban development patterns, but currently do not have adequate support or guidance from ARC on alternative strategies.

ARC and local governments should pursue a systematic, strategic and comprehensive planning effort to acquire, protect and manage conservation lands, open space, green space and agricultural/farmlands in perpetuity in order to develop a green infrastructure network. A variety of greenspace types will create a rich, cohesive and sustainable inventory of interconnected natural habitats, open spaces and rural lands that will serve numerous functions, including buffers to development, recreational areas, growth management tools and sources of economic development.

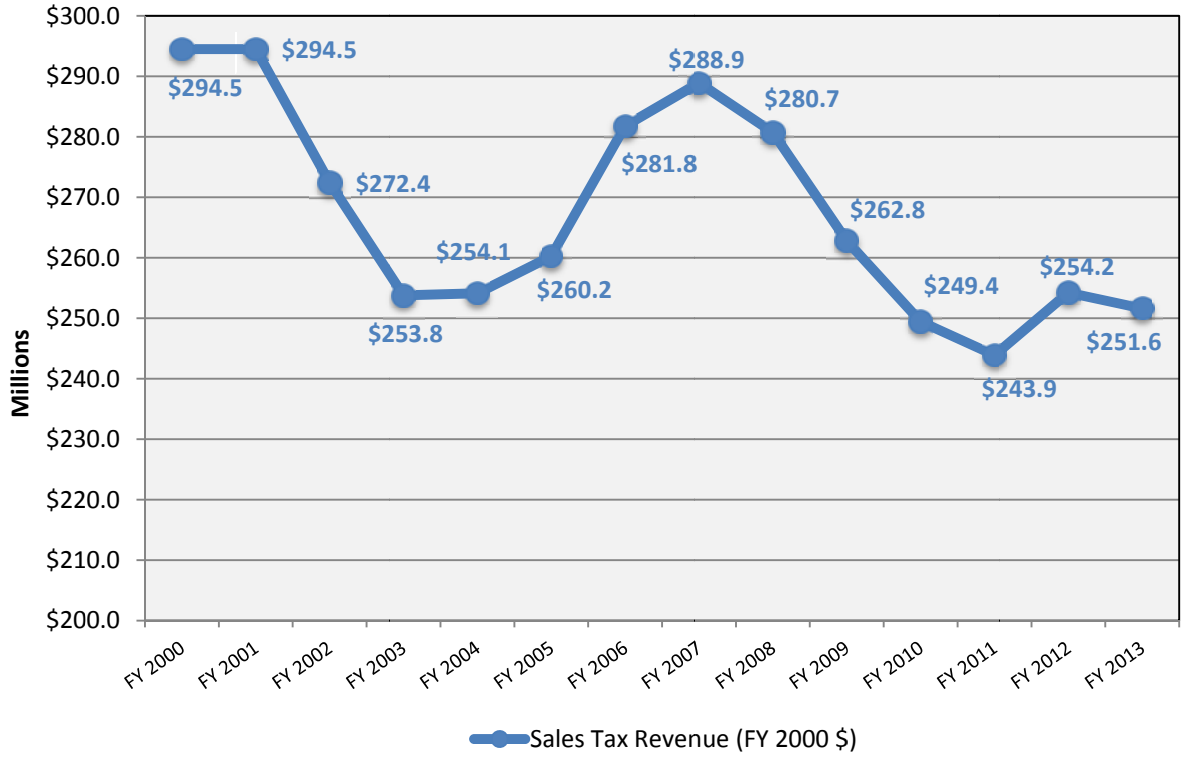
Finances are Becoming More Constrained

Not Only Does the Region Need Increased Funds for Transportation, but also Better Management of Existing Assets

The region has experienced a significant decrease in its capacity to implement large-scale transportation projects while maintaining existing transportation assets and infrastructure in good condition. Forecasts indicate that regional sales tax receipts will not return to pre-recession levels until the 2014 period, while the region continues to see increased demands for transportation infrastructure associated with growth.

Local sales tax receipts comprise the primary funding source for most transportation maintenance and improvement projects sponsored by local governments and the Metropolitan Atlanta Rapid Transit Authority (MARTA). The economic recession has resulted in an unprecedented decrease in funding. An assessment of Fulton and DeKalb county sales tax receipts reveals the depth of the challenge. As shown in Figure 2-7, in year 2000 dollars, MARTA had 14.6% less funding in 2013 than in 2000.

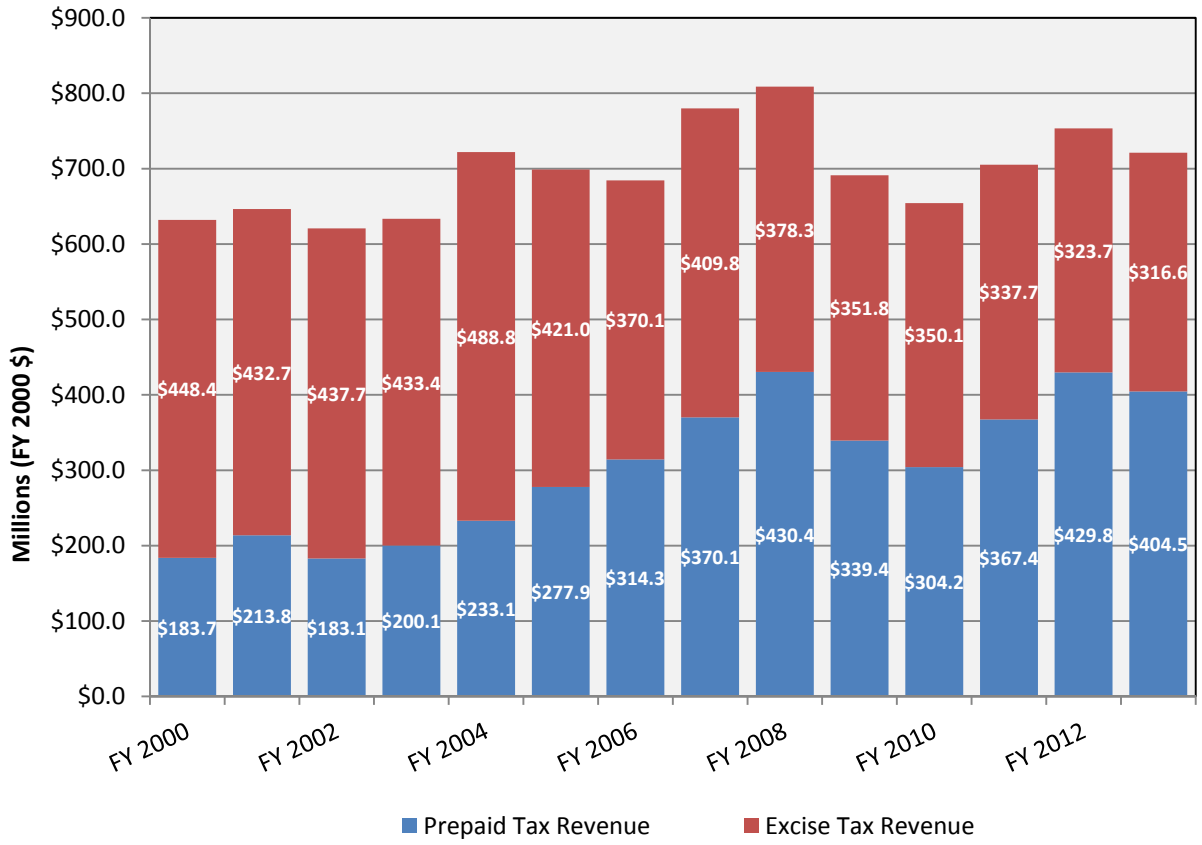
Figure 2-7: Historical Real Value of MARTA Sales Tax Receipts (FY 2000-2013)



Sources: GSU Fiscal Research Center/ Bureau of Labor Statistics Consumer Price Index

Transportation funding at the state level has rebounded since the start of the Great Recession and now shows an increase over the last thirteen years in real terms (Year 2000 dollars). As illustrated in Figure 2-8, the real value of total fuel tax revenue collected by the state has increased 14.1% between the fiscal years 2000 and 2013.

Figure 2-8: Total State Revenue from Motor Fuel Taxes (FY 2000-2013)



Sources: Georgia Department of Revenue/Bureau of Labor Statistics Consumer Price Index

However on the federal level the motor fuel funding trends have been ominous as the national motor fuel tax rates are flat rather than percentage-based. The federal funding crisis is based on declining Vehicle Miles Traveled (VMT), increasing fuel efficiency of the overall fleet and the eroding value of the current federal motor fuel tax rates. These trends have led to decreased funds flowing into the Highway Trust Fund (HTF), the primary source of federal aid for major transportation projects. The impact is reflected in the HTF's funding deficit, with planned expenditures at 30% above expected revenue. Without some type of federal policy changes, these trends may lead to less federal funding to Georgia and the Atlanta region in coming years.

Integration, Cooperation and Partnerships are Essential

The Region Is Well Positioned for an Economic Recovery, but Must Be Able To Seize Opportunities. In Order to Maintain Prosperity Regional Partners Must Work Collaboratively among All Levels of Government and with Private and non-Profit Sectors.

Growth and expansion of the region have resulted in a region that is tremendously complex, making it difficult to provide one-size-fits-all policy solutions. As described previously and throughout the Regional Assessment, the Atlanta region and the State of Georgia are facing significant short- and long-term challenges.

The decades leading up to the Great Recession represent a period of growth that may not be experienced again in the PLAN 2040 planning period. As the region slowly inches toward a recovery, it is uncertain if expectations will begin to approach that of the 1990s and mid-2000s or if the region will embrace a "new normal" represented by continued growth that may be more manageable in terms of magnitude.

The Atlanta region has a long-standing tradition of cooperation among local governments. ARC must build on this record of success and bring together local governments, the private sector, non-governmental organizations and the State to cooperatively address the most pressing issues facing the region. Interviews and conversations with regional leaders in 2009 revealed that ARC's existing coordination mechanisms provide a significant foundation to build on, but there are key opportunities that must be explored, including:

- ARC should determine if there is a role to play in education. The region must improve graduation rates and provide a workforce that can support economic opportunity.
- The region must create a sense of unity among the diverse perspectives around the region, while also recognizing that different areas of the region have different needs.
- ARC must build in accountability and near-term expectations in long-range planning efforts.
- Local buy-in is the key to successful regional programs, including those for transportation and land use.
- The region must nurture partnerships around the region and the state, in order to maintain prosperity and attract new, strong businesses.
- The region must recognize that many present and coming challenges have global influences; innovation will be the key to our long-term success.

How Can We Control Our Future?

Envisioning Alternate Futures

The Regional Assessment provides a comprehensive overview of multiple factors that will influence the shape of the region in the future. But what does this mean regarding differing growth options the region can pursue in the future? As part of PLAN 2040, a detailed examination of alternative growth and development options was undertaken to help policy and decision makers better understand the impact of growth patterns on the region.

Eight different land use scenarios were examined to test their effects on land conservation, mode share, congestion mitigation and access to jobs (see Table 2-2). By looking at these scenarios, insight was gained on the potential impacts that different land use patterns could have on transportation system performance.

Of the eight scenarios, three were analyzed in-depth:

- Ultra Sprawl
- Concentrated Growth
- Local Policy (UGPM/LCI)

The results of the scenario analysis show that the relationship between land use patterns and planned transportation infrastructure does matter, and that the impact can be dramatic. Each scenario represents a future with advantages and disadvantages, yet it is clear that if only greenfield areas are developed (the Ultra Sprawl scenario), the transportation system would perform the worst and the Region would suffer the most negative environmental impact.

As a contrast to Ultra Sprawl, the Concentrating Growth scenario substantially reduces travel demand on the transportation system, but only does so because travel is so difficult due to the severe congestion. If the Local Policy scenario were realized, substantial improvement would be seen compared to the base case forecast across all measures. In one of the most critical measures of transportation mobility - the time actually spent traveling- the Local Policy scenario performs best. Land use has an undeniable critical impact on future mobility.

The findings of this scenario work greatly influenced development of the PLAN 2040 RTP (July 2011) and, although not revisited in the intervening time, have carried forward into this document. For an in-depth discussion of each scenario, the lessons learned and how those were reflected in transportation investment recommendations, refer to this earlier documentation, available at www.atlantaregional.com/rtp.

Table 2-2: Regional Growth Scenarios Descriptions

Scenario Name	Land Use Assumptions
Base Case	The "Needs Assessment Forecast" based on the previous RTP forecast with PLAN 2040 regional control totals for population and jobs
Concentrated Growth	All future household and job growth occurs inside the Core (approximately bounded by I-285) of the region
Urbanized Area Only	All future household and job growth inside the 2000 Urbanized Area
Ultra Sprawl	All household growth in undeveloped greenfield areas (No infill or redevelopment). Employment is the same as the "Base Case" Forecast
Water Constrained	No new household and employment growth in Lake Lanier dependent areas. All future households and jobs allocated to areas not dependent on Lake Lanier
Southside Growth	All job growth allocated to the Southside (south of I-20) to achieve Jobs-to-household ratio equal to the Northside (north of I-20)
Local Policy (UGPM/LCI)	Allocate household and employment growth based on the Locally Derived Regional Unified Growth Policy Map and LCI areas, and implement minimum UGPM density recommendations (used newly-defined Mega Corridor areas)
Transit Oriented Development (TOD)	Allocate household and job growth to TOD areas (Traffic Analysis Zones)

Fifty Forward

Fifty Forward was a 50-year visioning effort initiated in 2008 and completed in 2010 by ARC in collaboration with regional stakeholders. Over this two year period, ARC engaged the region's political, civic and business leadership, as well as the general public in a broad dialogue about shaping the future of the Atlanta region. The Fifty Forward effort resulted in a vision for the Atlanta Region that informed the PLAN 2040 vision statement.

Through a series of public forums, Fifty Forward incorporated policy advice from a Steering Committee of local leaders, technical advice from topic-based working groups and input from neighborhood forums conducted by The Civic League for Regional Atlanta. Eight topical papers were produced on the following: Demography & Diversity, Energy, Land Use & Housing, Megaregions, Community Health, Sustainability, Innovation & Technology, and Transportation.

The Fifty Forward effort resulted in a vision for the Atlanta Region that both informs and furthers the PLAN 2040 Vision statement. In addition to input for regional leaders and residents, Fifty Forward asked

experts to describe how the world is changing and what implications these changes might have for the Atlanta region. As illustrated in Table 2-3, seven trends drive innovation and change. Three basic conclusions were reached:

- The world, and the Atlanta region with it, is changing rapidly – whether we want it to or not
- Defining a preferred future for our region is an imperative
- Taking bold action to bring about that preferred future is mandatory

Table 2-3: Seven Trends Driving Innovation and Change

Population	**Our population continues to grow, getting older and more diverse.**
Globalization	Human, financial and intellectual resources are more mobile over a larger space than ever before, and as a result, competition for them grows ever more intense.
Energy	Consumption continues to trend upward and toward reliance on non-renewable sources. As the limits and environmental impacts of these sources become ever more clear, the leader in promoting a shift to renewable resources will be the winner.
Federal Policy	Current policy is moving in the direction of investments that build community and conserve resources.
Environment	Climate change has moved to the forefront of the global consciousness and governments at all levels are assessing their impact on it.
Technological Innovation	Technology is an enabler and catalyst of social and economic progress and its advancement is occurring at an ever increasing rate.
Economy	Increasingly the global and national economies are driven by knowledge workers and creative workers. Innovation is critical to success in the 21st Century.

The consensus from Fifty Forward was that ***the metropolitan Atlanta region of the future will be a sustainable place that anticipates change rather than reacts to it***. Clear vision is balancing the needs of the three elements of community sustainability – economy, environment, and people – and designing plans, programs and projects that leverage global and national trends to the collective benefit of our region. In order to keep pace with the evolving 21st Century global economy, the region must focus on:

- The availability and use of clean and renewable energy resources
- The development of an educated, skilled innovative and creative workforce
- New types of economic development that build on the region's current resources and creative talent in info/nano/bio technology, as well as the entertainment industry
- The development of relationships with strong higher education institutions in the region and leveraging the cutting edge work done in them to create a new green economy
- The creation of a strong regional arts and culture scene

The environment, both natural and built, is the foundation on which life in the region is nurtured and sustained. Natural resources such as land, water and air should be used wisely. Doing so will require focus on:

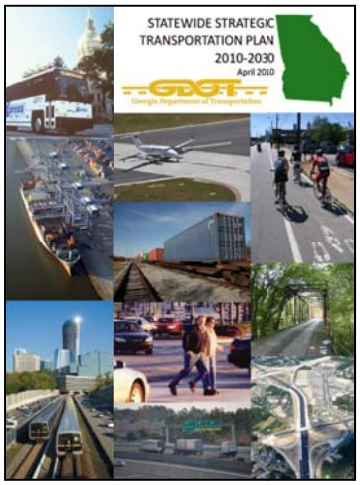
- Perceiving the interdependence of our communities and resources within the region
- Understanding the impact of the use of energy resources on the quality of air and water
- Designing communities and buildings with an understanding of the impacts on consumption of energy, land and water resources
- Modes of travel around the region and within communities

Ultimately, the success of the region comes down to the people who choose to live here. Decisions made, actions taken and the capacity for economic prosperity and environmental preservation are all people based. Expanding the capacity of the region's population to sustain itself will require focus on:

- Attracting, creating and retaining a diverse and innovative population
- Leveraging that diversity as a strength in the global marketplace
- Sustaining and cultivating the tradition of an active and engaged civic sector
- Ensuring everyone has the possibility of improving their health, education, cultural awareness and standard of living

Fifty Forward's focus on sustainability was a key influence in the development of PLAN 2040's vision, goals, and objectives. In the two years since PLAN 2040 was adopted in July 2011, that same philosophy has continued to drive regional policy discussions and was the foundation for this PLAN 2040 RTP update.

How Do State and Regional Plans Relate?



ARC closely worked with the State in developing the Statewide Strategic Transportation Plan. PLAN 2040 reflects statewide planning visions, including an emphasis on developing a managed lane network to improve access to employment centers

In 2010, the State of Georgia completed the Statewide Strategic Transportation Plan (SSTP) which put in place a new investment strategy supported by new resources to transform Georgia's transportation network, improve performance, and improve GDP and job growth over the next 30 years. The first legislatively required biennial update to the SSTP was completed in September 2013. The overall direction of the original SSTP and the 2013 update were important in formulating recommendations for this RTP.

The SSTP update reflected two principal changes in the underlying financial assumptions and transportation priorities: 1) the passage of a 1% sales tax for ten years for transportation projects in three regions of the state (none in metro Atlanta); and 2) enactment of the new federal transportation law MAP-21. Neither of these issues, however, impacted the general direction of the SSTP or its goals, objectives and strategies.

The goals and objectives of the SSTP are structured to address four fundamental questions about the state's transportation system:

1. What do Georgia's citizens and businesses expect and need from their transportation network?
2. What levels of performance will attract and keep businesses and talent in Georgia's economy?
3. What characteristics or features in a transportation system will make Georgia an attractive place to live?
4. What will it take in terms of investment to drive growth across the state?

The approved goals of the SSTP are:

- Support Georgia's economic growth and competitiveness
- Ensure safety and security
- Maximize the value of Georgia's assets, getting the most out of the existing network
- Minimize impact on the environment

In addressing these goals, the SSTP focuses new resources across three broad categories, with more specific investment priorities identified for each:

- Statewide freight and logistics
  - Interchange improvements and last-mile connectivity are critical investments to be made, even in the most limited funding scenario.
  - New bypass facilities are high priority "support future growth" investments if additional revenue sources can be developed.
  - The state should preserve the option to create a new intermodal facility with the supporting facilities it might require. These programs would "transform the network" and are worth pursuing if there is private-sector interest and sufficient funding available.
- People mobility (excluding metro Atlanta)
  - Enhance economic development by improving freight.
  - Implement the existing transportation plans and analyze how demand management and alternative development patterns could improve the effectiveness of those plans.
  - Improve safety in rural areas.
- People mobility in metro Atlanta
  - With existing funds:
    - Focus local improvement funds and pedestrian infrastructure investment on existing employment centers that have mixed-use zoning, transit and clear plans to attract residential development.
    - Operate express buses in HOT/express lanes.
    - Weight funding for arterials toward employment center mobility and connectivity.
    - Weight funding for HOT/express lanes on interstates versus arterial roads.
  - With new funds:
    - Augment the Bus Rapid Transit (BRT) network and premium circulators with other long-haul transit that connects suburbs to the core.
    - Augment the BRT network with new short-haul transit service (circulators) and BRT stations.
    - Ensure the core transit system can operate at levels that maintain Atlanta's competitiveness with peer cities.
    - Expand BRT to major employment centers.

In response to SSTP recommendations, the PLAN 2040 RTP (March 2014 Update) has increased emphasis on system modernization, devoting additional funds toward preservation activities. Emphasis is also placed on improving access to key employment centers through managed lane system strategies. Transportation project selection procedures were updated to specifically reflect metrics from the SSTP, including those for accessibility to employment centers. Many of these strategies and the processes used to arrive at funding decisions are explored in greater detail in later sections of this plan.

The SSTP recommends priority investments for the State. For the Atlanta region, emphasis is placed on improving arterials and developing a managed lane network. Transit improvements, without the aid of

additional regional funds, will focus on expanding the region's bus network, particularly in corridors with managed lanes.

Under MAP-21, GDOT is also required to develop and regularly update a Statewide Transportation Plan (SWTP) for the entire state. This plan has many similarities with a regional plan, but generally is geared heavily towards broader policies and priorities than specific projects. In May 2013, GDOT began a two-year process to update the SWTP and integrate it with the existing SSTP. The result will be a plan that provides a comprehensive look at all transportation issues facing Georgia now and through the year 2040. It will include growth trends and projections, economics, existing conditions, future needs and an investment strategy for transportation in the state. ARC will continue to work with GDOT to ensure that the future SWTP and regional plans are complementary.

REGIONAL TRANSPORTATION PLAN

Chapter 3 - Process

March 2014 Update

Chapter 3
Process

Table of Contents

Figures

Tables

What is the PLAN 2040 Vision?

As outlined in Chapter 2, the PLAN 2040 Regional Assessment identified key findings that framed the needs of the Atlanta region. These were communicated to stakeholders as well as the ARC Board and Committees and were a key input into the development of a Vision for PLAN 2040. In addition to the Regional Assessment Findings, the Fifty Forward visioning effort, Statewide Strategic Transportation Plan and input from stakeholders and the public were also used to help develop the Vision for PLAN 2040.

The defined PLAN 2040 vision statement is:

Visionary leadership for sustainable growth by balancing environmental responsibility, economic growth and social needs while maximizing benefits to all.

The theme of "sustainability" was selected as an overarching concept for guiding the development of PLAN 2040. This theme was defined through meetings of ARC Committees and the Vision, Goals and Objectives for PLAN 2040 were adopted by the ARC Board in July 2010. All of these were reviewed and it was determined that they were still adequate and relevant to guide development of the PLAN 2040 RTP (March 2014).

What are the Goals of PLAN 2040?

The Vision is supported by three goal statements that help articulate the desired end product of the PLAN 2040 process:

- Lead as the Global Gateway to the South
- Encourage Healthy Communities
- Expand Access to Community Resources

It was agreed that the Atlanta region is well positioned for greater success, but only if local governments, businesses and citizens are prepared for changes to the way they live and do business. PLAN 2040 encourages those key changes that will be needed to foster sustainable regional growth that effectively balances environmental, economic and social needs of the people living and working in the Atlanta region.

Lead as the Global Gateway to the South

The Atlanta region is one of the nation's primary centers of commerce and culture. Maintaining this position of preeminence is critical to the region's future.

This goal articulates the region's ambition to lead the State to future prosperity, sustaining existing assets while creating new competitive advantages for the future.

Encourage Healthy Communities

The region's most important assets are the people who reside here, with supporting healthy communities a centerpiece of PLAN 2040. Without a healthy population, the region's economic and social sustainability outcomes cannot be achieved.

Expand Access to Community Resources

An important function of the transportation system is to connect people with community resources. PLAN 2040 seeks to expand access by providing reliable travel alternatives to regional centers.

Expanding access to community resources will be increasingly important in the future. The region's population makeup is changing, with older and younger population shares increasing concurrent with the overall population becoming more racially and ethnically diverse.

What are the Objectives and Principles of PLAN 2040?

ARC defined a number of specific Objectives to help define how PLAN 2040's Vision and Goals will be achieved and to help focus subsequent program development and project evaluation activities for the RTP. Objectives, developed with input from regional policy makers, cover a wide range of desired outcomes for the region.

- Increase Mobility Options for People and Goods
- Foster a Healthy, Educated, Well Trained, Safe and Secure Population
- Promote Places to Live with Easy Access to Jobs and Services
- Improve Energy Efficiency While Preserving the Region's Environment
- Identify Innovative Approaches to Economic Recovery and Long Term Prosperity

A set of Principles was also defined. Principles are the equivalent of policies to help guide development and implementation of PLAN 2040.

Increase Mobility Options for People and Goods

PLAN 2040 focuses on increasing the mobility options for people and goods in the region. This objective addresses Findings from the Regional Assessment that show most of the region has very limited travel options other than by car and that the changing makeup of the region's population will require more travel choices. While all five objectives listed above have some relevance to policy and funding recommendations for transportation, this is the one which has the most direct and obvious connection to the RTP.

Principles supporting this objective include:

- Assuring the preservation, maintenance and operation of the existing multimodal transportation system.
- Continuing to implement cost effective improvements such as sidewalks, multi-use trails, bicycle lanes, and roadway operational upgrades to expand transportation alternatives, improve safety, and maximize existing assets.
- Maintaining industrial and freight land uses at strategic locations with efficient access and mobility.
- Maintaining and expanding infrastructure to support air and rail travel and transport.
- Strategically targeting roadway capacity improvements to serve regionally significant corridors and centers.

Foster a Healthy, Educated, Well Trained, Safe and Secure Population

PLAN 2040 seeks to improve the social well-being of the region's citizens through focused strategies that improve people's lives. Without a healthy and well-educated population, economic prosperity is at risk, leading to a decrease in the competitiveness of the region compared to national peers.

Principles supporting this objective include:

- Building communities that encourage healthy lifestyles and active living for all ages, with provisions for healthcare, education, recreation, cultural arts and entertainment opportunities.
- Promoting a regional community that embraces diversity – age, ethnicity and lifestyle – as its strength.
- Promoting access to quality schools, career training and technology literacy to provide a workforce that can support economic opportunity.
- Promoting public safety efforts to create vibrant and safe 24-hour communities.

Promote Places to Live with Easy Access to Jobs and Services

The competitive future of the region depends, in large part, on ensuring that the region offers a broad array of housing that accommodates a variety of lifestyles. All types of housing types are needed to serve future growth and to help attract and retain a strong labor force, including those in urban, suburban and rural settings.

Principles supporting this objective include:

- Building compact development in existing communities with integrated land uses that will minimize travel distances and support walking, cycling and transit.
- Increasing housing, services and employment opportunities around transit stations.
- Providing a range of housing choices to accommodate households of all income levels, sizes and needs and to ensure that workers in the community have the option to live there.
- Protecting the character and integrity of existing neighborhoods, while also meeting the needs of the community.

Improve Energy Efficiency While Preserving the Region's Environment

The Atlanta region is home to a rich natural environment, creating an invaluable resource for communities. Opportunities exist to improve energy efficiency while preserving the environment.

Principles supporting this objective include:

- Conserving and protecting environmentally-sensitive areas and increasing the amount and connectivity of greenspace.
- Continuing to enhance stewardship of water resources throughout the region.
- Promoting energy-efficient land development and infrastructure investments that foster the sustainable use of resources and minimize impacts to air quality.
- Encouraging appropriate infill, redevelopment and adaptive reuse of the built environment to maintain the regional footprint and optimize the use of existing investments.

Identify Innovative Approaches to Economic Recovery and Long Term Prosperity

The Atlanta region is one of the nation's great economic centers. However, the economic downtown has significantly impacted the region's citizens and governments. Regional leadership must identify innovative approaches to ensure future prosperity.

Principles supporting this objective include:

- Focusing financial resources and public investments in existing communities.
- Establishing a region-wide economic and growth management strategy that includes federal, state, regional and local agencies, as well as non-governmental partners.
- Enhancing and diversifying economic development activities to include sectors like life sciences, logistics and transportation, agribusiness, energy and environmental technology, healthcare and eldercare, aerospace technology and entertainment and media production.
- Leveraging the diversity of the region – people, places and opportunities – to continue to attract business and residents.

How Are Goals, Objectives and Principles Implemented?

While the Vision, Goals, Objectives and Principles define the desired future of the Atlanta region and the general approach for achieving that future via PLAN 2040, additional detail is needed in crafting the RTP. This includes translating the Vision, Goals, Objectives and Principles into a regional growth strategy that promotes and reinforces sustainable land use that can be supported by transportation systems, programs, and projects that, taken together, facilitate progress in achieving the Vision for the region.

Translating the broader Vision and Goal statements of PLAN 2040 into a discrete plan development process occurred in the following key ways:

- Preparation of Regional Development Guide and Unified Growth Policy Map (UGPM).
- Increased focus on Livable Centers Initiative
- Enhanced, strategic focus on critical regional transportation systems:
  - Regional Strategic Transportation System (RSTS) - identifies facilities which the region has agreed will be considered for federal funding investment; this is a less extensive network than federal eligibility rules allow.
  - Regional Thoroughfare Network (RTN) - identifies a subset of roadways within the RSTS which serve as primary mobility corridors and receive highest priority for federal funding considerations; also provides management guidelines to ensure that PLAN 2040 goals and objectives are met for roadway facilities.
  - Concept 3 - defines the vision for transit expansion in the region.
  - Regional Truck Route Network - defines the most significant facilities for the movement of freight in the region.
  - Regional bicycle and pedestrian network - identifies the most critical centers and corridors for future bicycle and pedestrian facilities.

Unified Growth Policy Map and Development Guide

To accommodate the region's anticipated growth in a sustainable fashion, the region must plan for a different type of development than it has seen in recent decades. The Regional Development Guide provides direction for future growth based on the Unified Growth Policy Map (UGPM). Additional information on both the Development Guide and UGPM is available at www.atlantaregional.com/plan2040.

The UGPM is comprised of Areas and Places. Areas describe predominant land use patterns throughout the region. Places reflect concentrated uses that have generally defined boundaries and provide greater detail within Areas. The Development Guide provides the following for each Area and Place identified on the UGPM:

- A detailed map showing the specific location in the region
- A written description that includes a defining narrative and issue summary
- Guidelines for recommended building height and development density
- Pictures that characterize development patterns that are typical and desirable
- Implementation Priorities, defined by the PLAN 2040 objectives, that identify measures to achieve desired development patterns and suggest possible action toward the attainment of regional goals

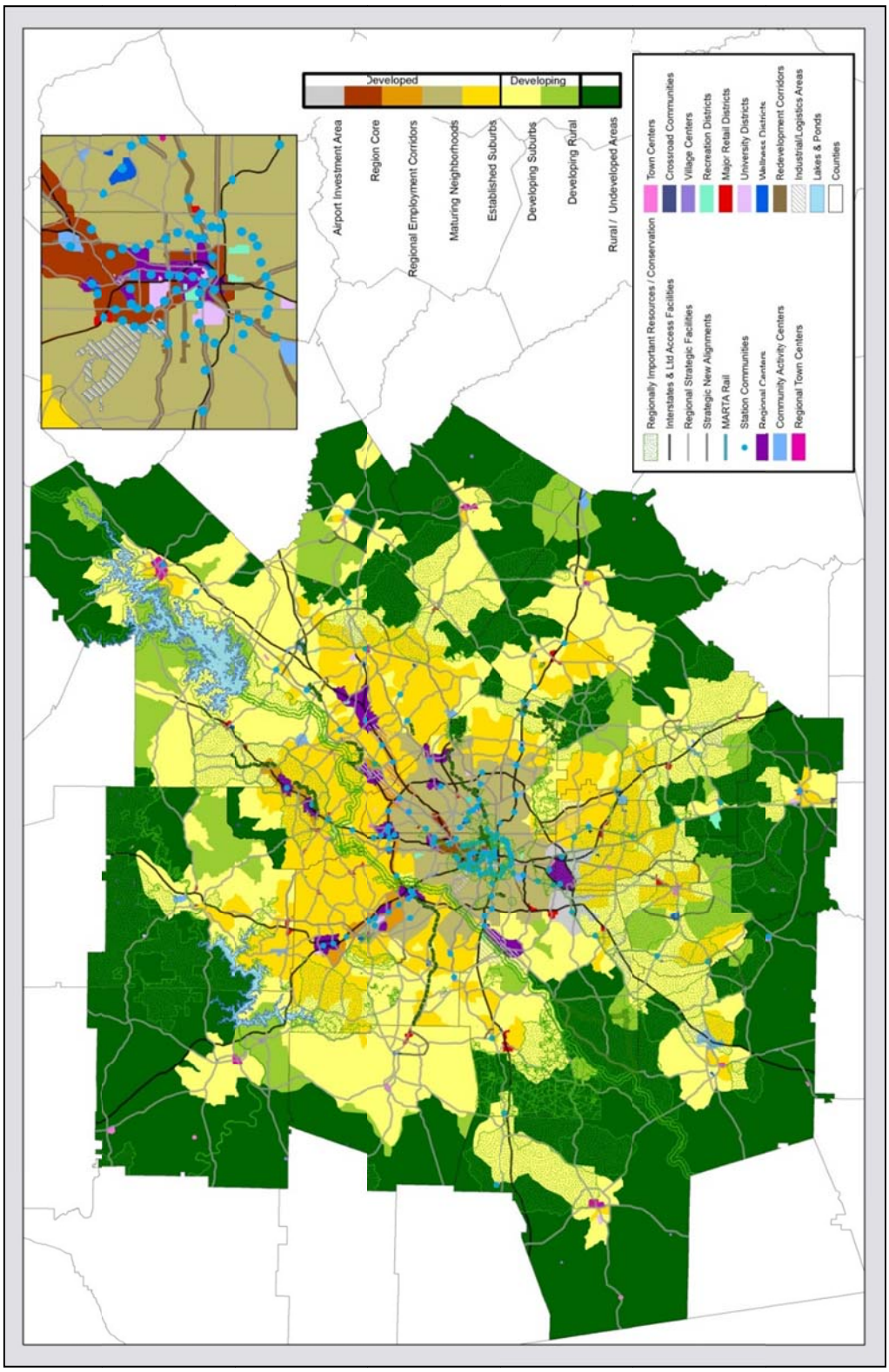
The UGPM and Development Guide supported PLAN 2040 RTP recommendations through:

- **Evaluation of Potential Transportation Investments** – The specific policies and outcomes identified in the UGPM and Development Guide were applied in evaluating potential projects for inclusion in the RTP. For example, transportation investments that were inconsistent with regional growth objectives were not recommended for federal funding.
- **Identification of Transportation Programs** – Based on the vision articulated in the UGPM and Development Guide, existing transportation programs were extended and modified to support desired outcomes. New programs were also identified to meet PLAN 2040 objectives. For example, the Livable Centers Initiative (LCI) program is continued in PLAN 2040. This program helps support core regional vision objectives such as fostering growth in transit-supportive communities.

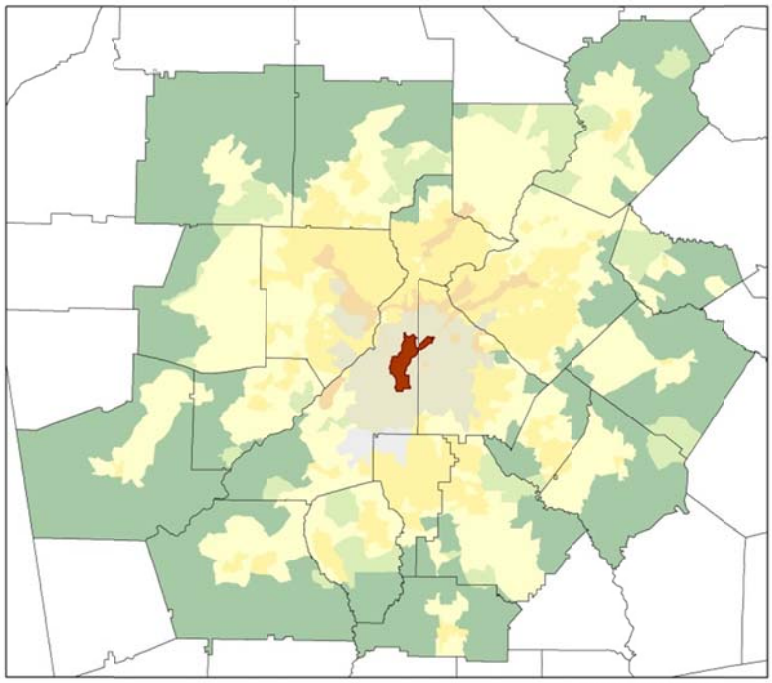
Figure 3-1 illustrates the UGPM. The UGPM provides a coherent vision for the future development of the region. The PLAN 2040 RTP (March 2014 Update) transportation investments discussed in Chapter 4 support this vision. The UGPM is the foundation of the RTP in that it identifies desired future growth, including the nature and density of future communities, and assists in identifying existing and future transportation needs.

On the following pages are descriptions of the key Areas and Places identified and described in the UGPM and Development Guide.

Figure 3-1: Unified Growth Policy Map



Regional Core



The Region Core, shown in red, is the major economic, cultural and transportation hub of the region.

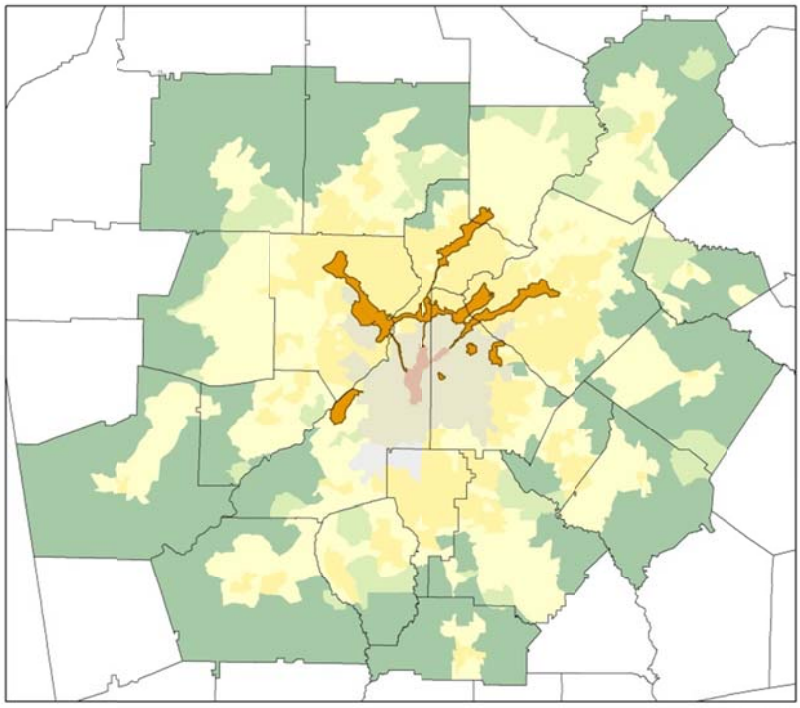
This area is the densest in terms of employment, residential, and cultural offerings throughout the region, with the most developed transit service in the region.

The Region Core can handle the most intense development due to the amount of infrastructure already in place; however, this infrastructure may need improvements due to its age.

Regional Core transportation implementation priorities:

- Enhance pedestrian connectivity across streets through design standards such as shorter blocks, mid-block crossings, shorter crossing distances, ADA compliance and other measures
- Prioritize preservation and enhancement of existing transit systems and facilities
- Explore options for innovative parking management strategies, including dynamic pricing, shared parking, parking maximums and unbundled parking
- Maintain connectivity within and efficient access to and through the Core, which serves as the major regional transportation hub
- Integrate Lifelong Communities principles in addition to ADA compliance to ensure a comprehensive approach to connectivity and accessibility
- Enhance mobility and accessibility for all by creating Complete Streets that accommodate all modes of transportation (cars, transit, bicycles and pedestrians)
- Increase numbers of bicycle commuters and recreational riders through implementation of bicycle lanes, paths, bike parking and safety and encouragement programs

Regional Employment Corridors



Regional Employment Corridors, shown in orange, represent the densest development outside of the Region Core.

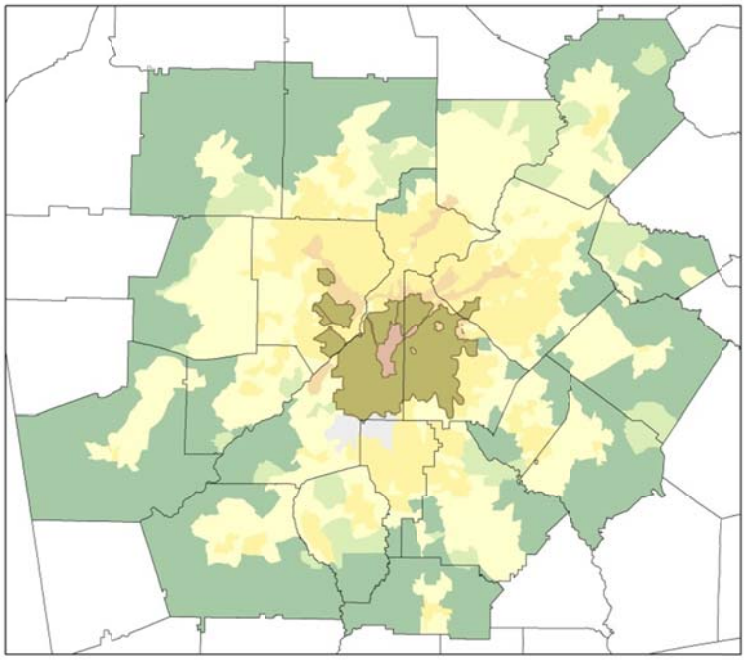
The Regional Employment Corridors connect the various Regional Centers and the Region Core via existing or planned high capacity transportation facilities. These areas need to increase in housing or job density and focus primarily on improving connectivity between Centers and the Region Core.

These areas often buffer the denser parts and the less dense parts of the region. These areas often face greater peak hour congestion, therefore transit station areas and transit right-of-way (ROW) need to be preserved within Regional Employment Corridors.

Regional Employment Corridors transportation implementation priorities:

- Establish strategies for improved road design, such as establishing minimum connections to existing road networks and evaluating excess capacity of existing roads
- Enhance pedestrian connectivity across streets through design standards such as shorter blocks, mid-block crossings, shorter crossing distances, ADA compliance and other measures
- Prioritize preservation of existing transit, increase frequency and availability of transit options and increase access to circulators through Regional Employment Corridors
- Improve general operations and local and regional service needs within Regional Employment Corridors
- Explore options for innovative parking management strategies, including shared parking
- Incorporate appropriate end-of-trip facilities, such as bicycle racks, showers/ locker rooms, within new and existing development
- Develop and implement access management plans along major thoroughfares
- Enhance mobility and accessibility for all by creating Complete Streets that accommodate all modes of transportation (cars, transit, bicycles and pedestrians)
- Increase numbers of bicycle commuters and recreational riders through implementation of bicycle lanes, paths, bike parking and safety and encouragement programs

Maturing Neighborhoods



Maturing Neighborhoods, shown in tan, are areas in the region characterized by older neighborhoods that include single family and multifamily development, as well as commercial and office uses at connected key locations.

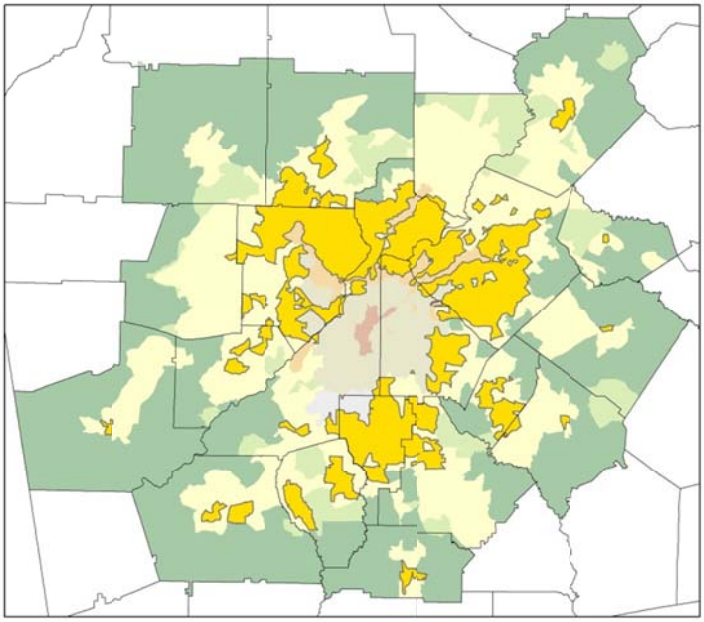
Though commercial and office buildings are aging, they are often incorporated into neighborhoods, providing an active mix of uses and amenities. Maturing neighborhoods are denser than established suburbs and the development pattern is more similar to that of pre-1970s urban development.

These areas represent the part of the region that is facing infill and redevelopment pressures. In many cases, the infrastructure is in place to handle the additional growth, however in some areas, infrastructure is built out with limited ability to expand. This may constrain the amount of additional growth possible in certain areas. Many arterial streets in this area are congested due to their use as a regional route for commuters. Limited premium transit service is available in these areas.

Maturing Neighborhoods transportation implementation priorities:

- Maintain and expand both local and regional transit services, including local and express bus, bus rapid transit (BRT), light rail and heavy rail
- Improve safety and quality of transit options by providing alternatives for end-of-trip facilities (such as bicycle racks) and sidewalks and/ or shelters adjacent to bus stops
- Create redundancy with new alignments or parallel routes rather than expanding capacity to improve traffic through this area to other regional areas and places
- Promote programs that encourage safe walking and biking while reducing traffic congestion such as Safe Routes to School
- Establish strategies for improved road design, such as establishing minimum connections to existing road networks, incorporating traffic calming measures and improved local road design
- Integrate Lifelong Communities principles in addition to ADA compliance to ensure a comprehensive approach to connectivity and accessibility

Established Suburbs



Established Suburbs, in gold, are areas in the region where suburban development has occurred. These areas are characterized by strip commercial development, single family subdivisions, and offices in limited locations.

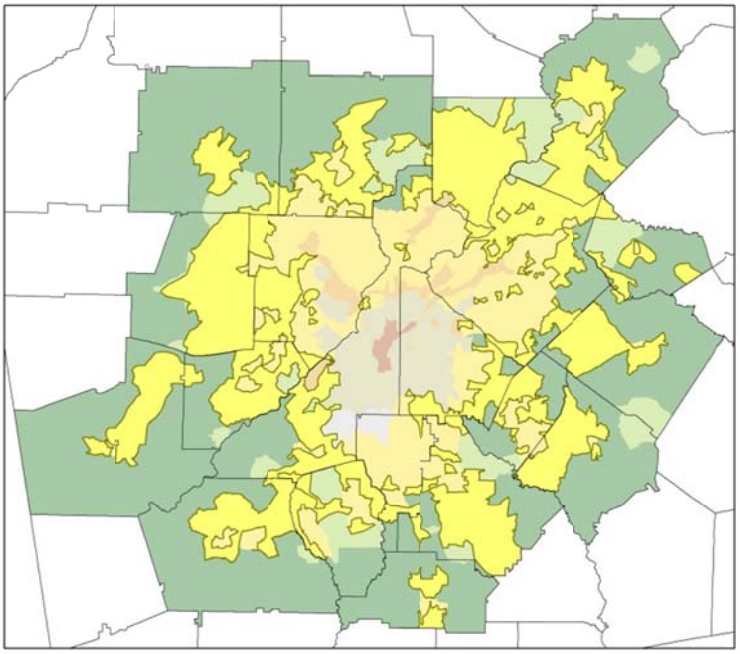
These areas represent the part of the region that has just recently reached "build out." With few remaining large parcels for additional development, these are the areas in which the region may see the least amount of land use change outside of retail/ commercial areas.

While there is still room for limited infill, these areas may begin to focus more on redevelopment over the next 30 years. Within this area, infrastructure is built out with limited ability to expand, which may constrain the amount of additional growth that is possible.

Established Suburbs transportation implementation priorities:

- Maintain a state of good repair and maintenance of the existing transportation network
- Maintain and expand access to regional transit services, including bus rapid transit (BRT), light rail and heavy rail
- Establish strategies for improved road design, such as establishing minimum connections to existing road networks
- Promote programs that encourage safe walking and biking while reducing traffic congestion such as Safe Routes to School
- Improve sidewalk connectivity along arterials, collectors and local streets throughout Established Suburbs
- Provide multi-use trails, dedicated bike lanes and dedicated pedestrian routes to provide alternative transportation options throughout Established Suburbs
- Promote improved sidewalk connectivity with traffic calming measures and refuge islands for more than two lanes of traffic
- Utilize strategies that make the environment feel safe, including sensory cues at decision points (junctions or grade changes), adequate pedestrian lighting, crossable streets, countdown crossing signals, and signal timing suitable for slower walking speeds
- Evaluate roadways for excess capacity and retrofitting potential to incorporate bike and pedestrian facilities, enhance options for transit, etc.

Developing Suburbs



Developing Suburbs, in yellow, are areas in the region where suburban development has occurred, and the conventional development pattern is present but not set.

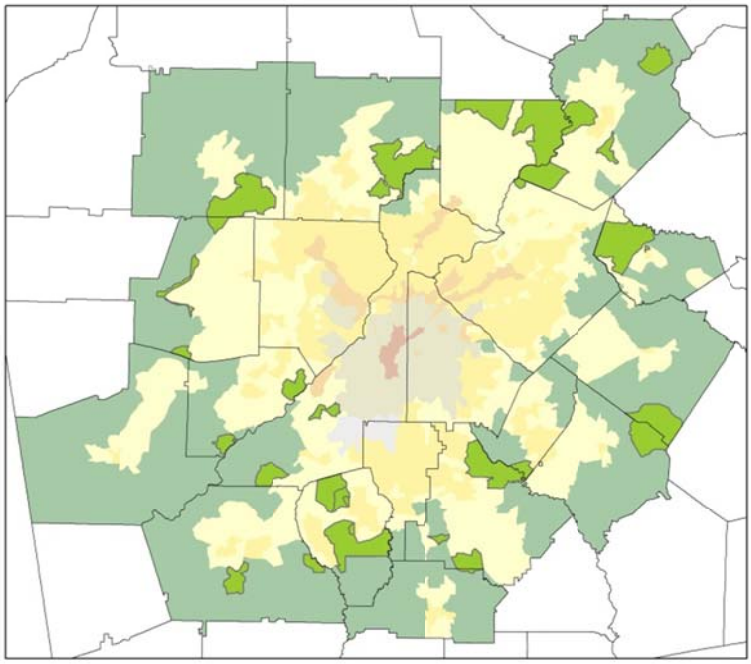
These areas represent the extent of the urban service area. The region should strive to develop these areas in a more sustainable way than the existing development model.

Limited existing infrastructure in these areas will constrain the amount of additional growth that is possible. Some transportation improvements may be needed within these developing suburbs, but care should be taken not to spur unwanted growth.

Developing Suburbs transportation implementation priorities:

- Connect new development to the existing road network and adjacent developments and the use of cul-de-sacs or other means resulting in disconnected subdivisions should be discouraged
- Promote the continuity of publicly maintained streets and pedestrian infrastructure
- Prioritize issues of safety of existing transportation infrastructure rather than capacity expansion or development of new infrastructure
- Promote improved sidewalk connectivity with traffic calming measures and refuge island for more than two lanes of traffic
- Utilize strategies that make the environment feel safe, including sensory cues at decision points (junctions or grade changes), adequate pedestrian lighting, crossable streets, countdown crossing signals, and signal timing suitable for slower walking speeds
- Incorporate bicycle and pedestrian and multi-use path connectivity, including where possible, connecting cul-de-sacs to each other or to community facilities, such as schools, along non-motorized paths or walkways

Developing Rural Areas



Developing Rural Areas, in light green, are areas in the region where little to no development has taken place, but where there is development pressure.

These areas are characterized by limited single-family subdivisions, individual large single-family lots, agricultural uses, protected lands and forests.

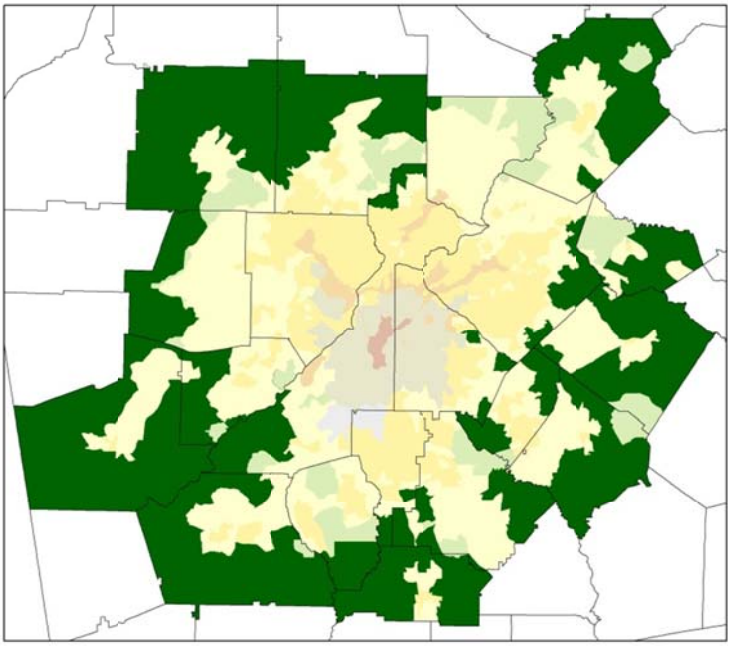
The region should strive to protect these areas by limiting infrastructure investments to targeted areas and allowing no development or only low-intensity development.

Limited existing infrastructure in these areas will constrain the amount of additional growth that is possible. Some transportation improvements may be needed in developing rural areas, but care should be taken not to spur unwanted growth.

Developing Rural Areas transportation implementation priorities:

- Anticipate possibilities of commuter rail through Regional Town Centers and Town Centers in Developing Rural Areas
- Promote the continuity of publicly maintained streets and pedestrian infrastructure
- Prioritize issues of safety of existing transportation infrastructure rather than capacity expansion or development of new infrastructure
- Ensure the continued efficiency of trucking and shipping routes through the region
- Maintain rural road characteristics and protect scenic corridors

Rural Areas



Rural Areas, shown in dark green, are areas on the periphery of the region where little to no development has taken place or where there is little development pressure. These areas are characterized by sporadic large single family lots, agricultural uses, protected lands, and forests. These areas outline the developed and developing areas, as well as the limits to the urban service area in Atlanta region.

Many people living in these areas desire to keep them rural in character. Within rural areas, confusion may exist regarding appropriate development densities for rural intensity uses. Most rural zoning categories have 1 unit per acre minimums, which if implemented would lead to dramatic changes in character for some rural areas. Increased development may also threaten existing rural economic uses, including forestry and agriculture.

The region should strive to protect these areas by limiting infrastructure investments to targeted areas and allowing no development or only low intensity development. There is a need for additional preservation of critical environmental locations, as well as agricultural and forest uses. There will be a need to maintain existing transportation infrastructure, but care should be taken to not spur unwanted growth by inappropriate expansion of infrastructure capacity.

Rural Areas transportation implementation priorities:

- Anticipate possibilities of commuter rail through Regional Town Centers and Town Centers in Rural Areas
- Promote the continuity of publicly maintained streets and pedestrian infrastructure
- Prioritize issues of safety of existing transportation infrastructure rather than capacity expansion or development of new infrastructure
- Ensure the continued efficiency of trucking and shipping routes through the region
- Maintain rural road characteristics and protect scenic corridors

Livable Centers Initiative

The LCI Program, which began in 2000, awards planning grants on a competitive basis to local governments and non-profit organizations to prepare plans for the enhancement of existing centers and corridors consistent with regional development policies. As an incentive to implementing plan recommendations, the LCI Program also provides federal funding to construct transportation projects identified in LCI studies. More information on the LCI Program is available at www.atlantaregional.com/lci.

The LCI Program goals are consistent with broader PLAN 2040 goals and objectives:

- Encourage a diversity of housing, employment, commercial, shopping and recreation land uses at the transit station, local and regional center level accessible by people of all ages, abilities and income levels;
- Enhance access to a range of travel modes including transit, roadways, walking and biking and increase roadway connectivity to provide optimal access to all uses within the study area; and,
- Foster public-private partnerships and sustained community support through an outreach process that promotes the involvement of all stakeholders, including those historically underserved or underrepresented.

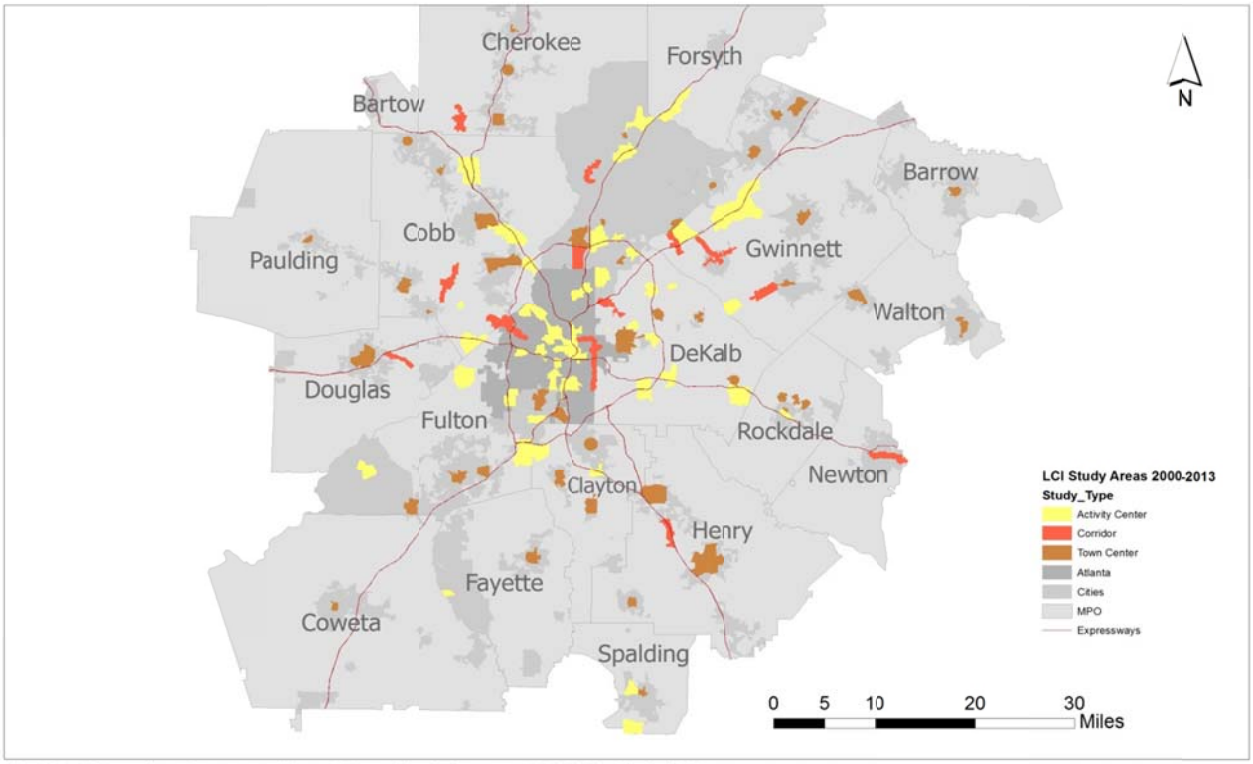
Since its inception, the LCI program has provided $18 Million to more than 100 communities for planning studies and $174 Million to 63 communities for 105 projects that bring the LCI vision to life. Below is an example project from the Emory Village LCI which not only improved safety and operations of a complicated intersection and provided bicycle facilities and improved pedestrian access, but also created a valuable public space and a gateway to Emory University.

Emory Village before the LCI project

Emory Village after the LCI project

As illustrated in Figure 3-2, LCI communities are identified throughout the region. PLAN 2040 considered the location of these communities in drafting plan and program recommendations presented in Chapter 4.

Figure 3-2: Livable Centers Initiative Communities



LCI Study Areas by Study Type 2000-2013

Strategic Focus on Critical Regional Transportation Systems

To support the identification of specific transportation investments for the RTP, the PLAN 2040 Vision, Goals and Objectives are operationalized through identification of several critical, regional transportation systems. Similar to the UGPM, these systems articulate regional priorities for future investments and establish policy for the implementation of PLAN 2040. By identifying modal networks, ARC will be able to focus limited funds for implementation of strategic projects to maintain and improve the most essential parts of the overall regional transportation system. Monitoring system performance is an essential focus of PLAN 2040 and is discussed in further detail in Chapter 6.

Regional Strategic Transportation System (RSTS)

PLAN 2040 recommends focusing limited federal transportation funds on the Regional Strategic Transportation System (RSTS). This network was originally defined in 2006 and updated during development of the original PLAN 2040 RTP which was adopted in July 2011. The RSTS furthers the

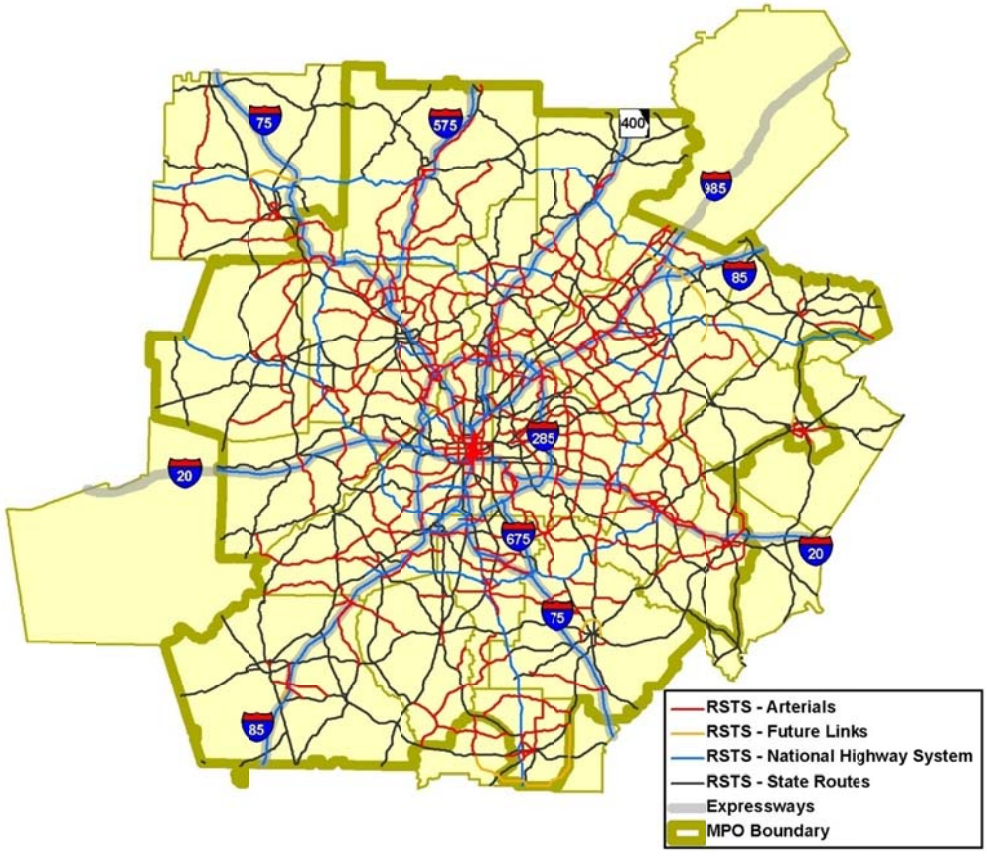
development of an integrated multimodal transportation system to facilitate the safe and efficient movement of people and goods, including addressing current and future transportation demand. It is a critical element in identifying roadway and transit strategies. It is ARC policy to only fund roadway and transit capacity expansions on RSTS facilities.

The RSTS accommodates the region's most critical trip movements and is comprised of (see Figure 3-3):

- Interstate highways and freeways;
- National Highway System (NHS) classified facilities and State highways, including intermodal connectors for freight facilities;
- Existing and future regional transit service; and
- Principal arterials, critical minor arterials and other facilities that provide continuous, cross-regional mobility by ensuring adequate spacing of major roadways that connect regional activity centers, town centers and freight corridors.

These multimodal facilities and services operate on a regional scale and are essential in meeting mobility and accessibility goals. Major roadway system expansion or transit expansion may reduce congestion and provide additional travel choices as measured at a corridor or regional scale.

Figure 3-3: Regional Strategic Transportation System (RSTS)



Regional Thoroughfare Network (RTN)

The RSTS provides a framework for identifying regional facilities that are critical to the movement of goods and people, while identifying priority facilities for the use of federal-aid funding for capacity expansions. However, additional refinement of the RSTS is needed to help in policy planning. This need is met through the Regional Thoroughfare Network (RTN), which defines guidelines and strategies for maximizing the effectiveness of the system as a whole, rather than its individual segments. More information on the Strategic Regional Thoroughfares Plan is available at www.atlantaregional.com/srtp.

A thoroughfare is a transportation corridor that serves multiple ways of traveling, including walking, bicycling, driving and riding transit. It connects people and goods to important places in the region. It is managed by applying 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 regional function, the thoroughfare network receives priority consideration for infrastructure investment in the Atlanta region.

The RTN has several purposes that further PLAN 2040 RTP development:

- Highlight non-freeway corridors that promote regional commute patterns
- Accommodate Concept 3 premium transit services (light rail transit, bus rapid transit)
- Serve as a priority network for performance monitoring (Congestion Management Process requirement) and facilitate PLAN 2040 RTP plan management monitoring and reporting initiatives (outlined in Chapter 6)
- Serve as the basis for selecting future locations for multimodal corridor studies

As illustrated in Figure 3-4, the RTN is classified into levels that correspond with specific management guidelines and strategies. The RTN will be modified on an on-going basis as part of each RTP update.

Concept 3 Transit Vision

Concept 3 (see Figure 3- 5) is the Atlanta region's official aspirational long-range vision for transit expansion. It was developed through a collaborative, multi-year effort originally led by the Transit Planning Board, a predecessor to today's Regional Transit Committee (RTC). The regional transit vision was first adopted in 2008. The RTC initiated an update to Concept 3 that was adopted in November 2012 and now serves as the transit element of the Aspirations Plan of the RTP. The Aspirations Plan represents all needs identified in the region and is discussed in Chapter 4.

Additional information on Concept 3 is available at www.atlantaregional.com/transit.

Figure 3-4: 2011 Regional Thoroughfare Network

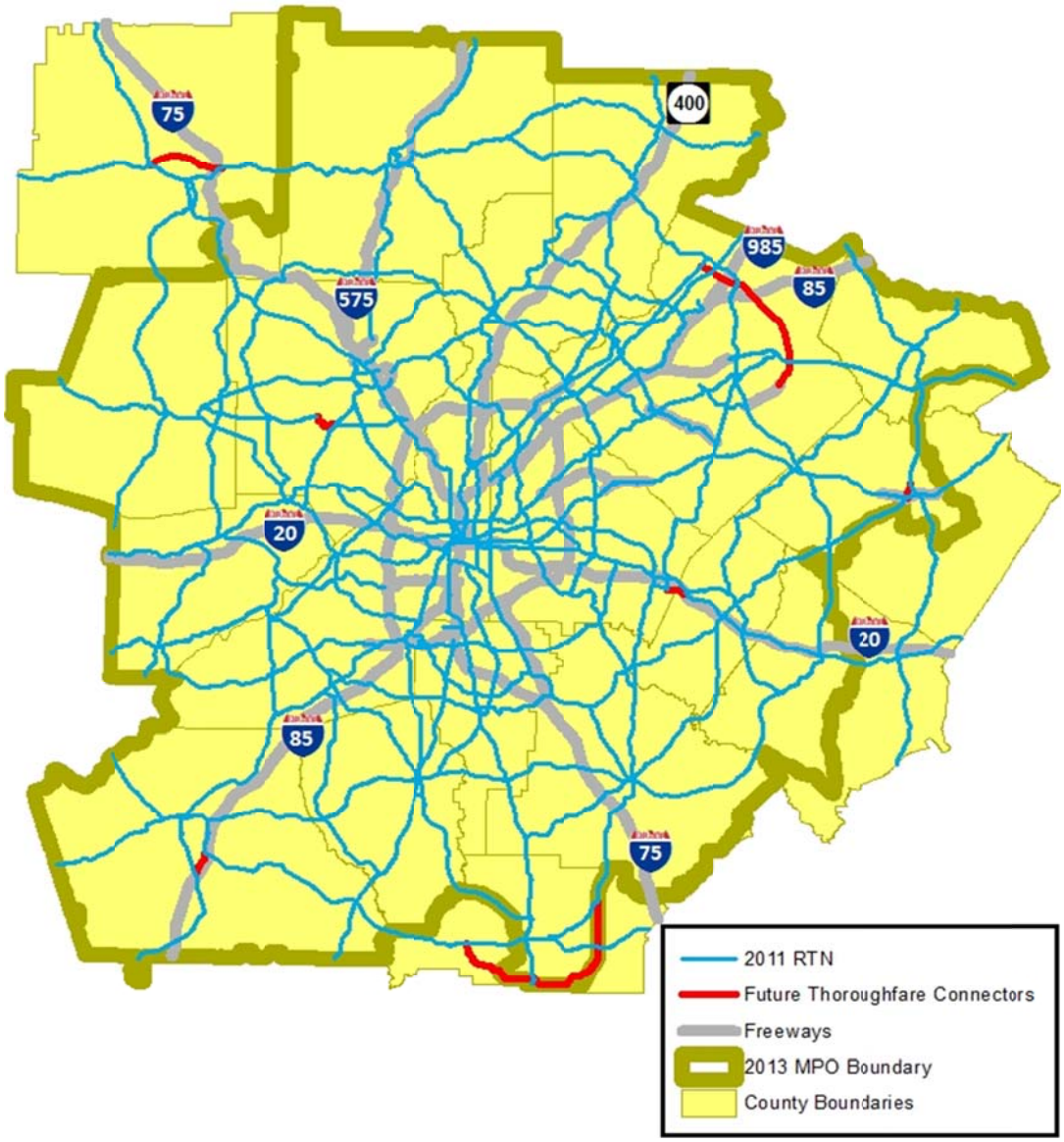
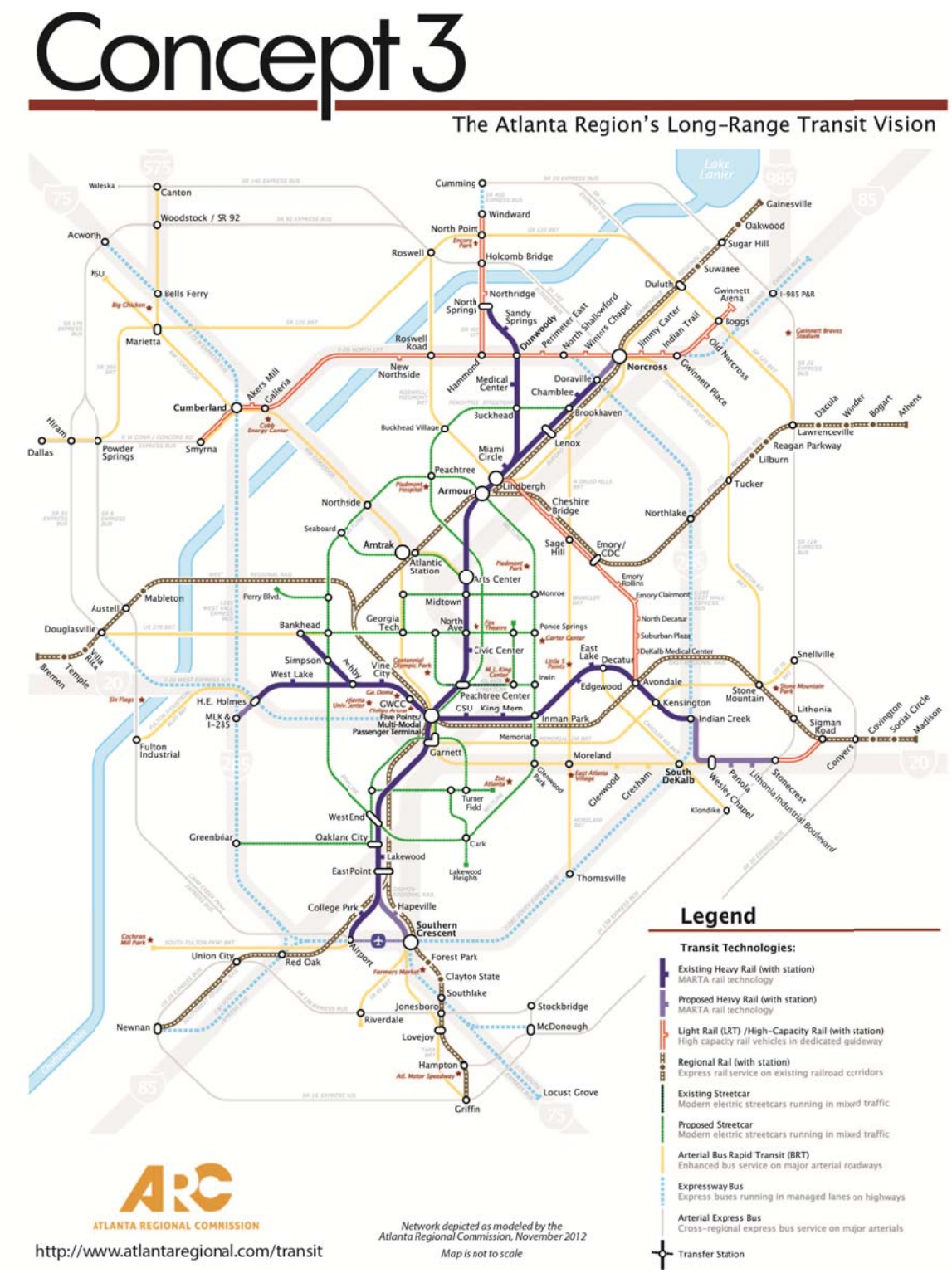


Figure 3-5: Concept 3 Transit Vision



Atlanta Strategic Truck Route Network (ASTRoMaP)

The 2008 Atlanta Regional Freight Mobility Plan (www.atlantaregional.com/freightplan) noted that the region has discontinuous routes serving freight truck traffic. Many truck routes are not logical in that they may stop at jurisdictional boundaries or conflict with restrictions placed in adjacent communities. It was recognized that additional study was needed to address issues pertaining to truck routing and operations. One of the additional follow-up activities included the development of a regional truck route network as well as associated policies and guidelines.

As growth in trips associated with the freight industry has grown and will continue to grow, the supporting transportation system must take steps to meet the challenges of existing traffic volumes, and plan for the efficient movement of that traffic into the future. The region has few continuous routes by which trucks may travel over the metropolitan region.

In response to the recommendation from the Freight Mobility Plan, ARC developed the Atlanta Strategic Truck Route Master Plan (ASTRoMaP). This project, in cooperation with state and local government bodies and agencies, produced a truck route system designed to provide regional access and which will also guide current and future decision making on regional transportation priorities.

Figure 3-6 illustrates the ASTRoMaP network. Policies, guidelines and design strategies that impact freight planning were developed for this network, with specific emphasis placed on addressing at-grade rail crossings and intersection geometrics. Additional information on ASTRoMaP is available at www.atlantaregional.com/truckrouteplan.

Regional Bicycle and Pedestrian Network

The Atlanta Regional Commission has identified a strategic bicycle and pedestrian network of regionally significant corridors that connect to town centers, major activity centers, and LCI communities. Federal funding for bicycle and pedestrian improvements is directed to this network due to its ability to serve regional bicycle and pedestrian trips. This concept seeks to make regional corridors and centers more multi-modal, improving safety, mobility, and accessibility for pedestrians and bicycles.

Figure 3-6: Strategic Truck Route Network

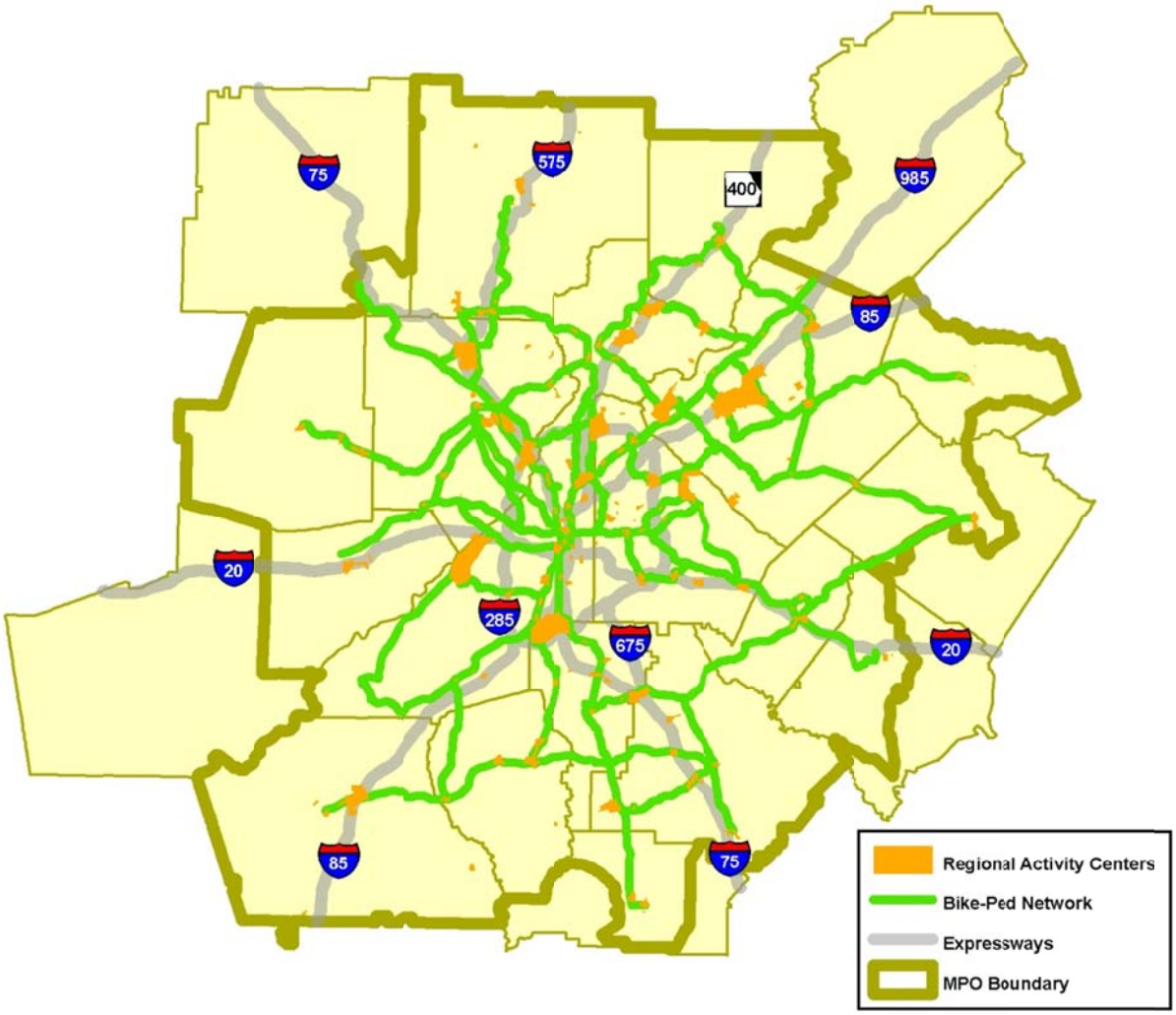
The current regional network was developed in the 2007 *Atlanta Region Bicycle Transportation and Pedestrian Walkways Plan* (www.atlantaregional.com/bikepedplan) and seeks to provide regional connectivity for bicycling and walking transportation along key regional corridors. The Regional Bicycle and Pedestrian Network is illustrated in Figure 3-7.

The PLAN 2040 RTP and the *Atlanta Region Bicycle Transportation and Pedestrian Walkways Plan* seek to improve system performance for bicyclists, pedestrians, transit riders, and all other roadway users. The ARC planning process for non-motorized modes focuses on safety, mobility and economic development as key emphasis areas for specific technical criteria. Safety may be measured by reductions in crashes, crash exposure, and the implementation of crash reduction factors. Mobility measures include connectivity within and between high-demand activity centers, improved levels of

service/comfort along corridors, and mode shift regionally. Economic development may include a range of livability measures including improved access to high-demand destinations, assessments of current and future demand, balancing regional equity concerns, and improving public health outcomes.

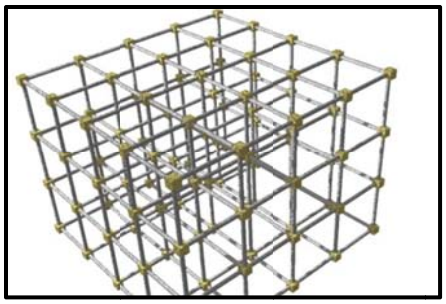
Future efforts for non-motorized planning will seek to refine these emphasis areas and technical measures. System performance can be measured for improvements along regional policy networks and within regional activity centers and high-demand areas. Some policy emphasis areas, such as crash reduction and safety hotspots, may be considered regionwide regardless of location along the policy network.

Figure 3-7: Regional Bicycle and Pedestrian Network



PLAN 2040 RTP Project and Program Selection

Original Framework (July 2011 RTP)



The project selection for PLAN 2040 RTP (July 2011) resulted from a performance-based process originally designed around four Key Decision Points (KDPs) that provided a logical and transparent approach for selecting roadway and transit expansion projects into the constrained element of the plan. This process was summarized in the PLAN 2040 RTP (July 2011) documentation. Generally, the original project evaluation methodology included a comparative analysis of transportation performance between future-build and future no-build scenario conditions. The future was represented by assumptions and forecasts for the year 2040. There was limited ability to account for actual current conditions in that analysis due to a lack of sufficient real-time data at a regional scale.

Interim Developments

MAP-21, the SSTP, and new performance data influenced the PLAN 2040 RTP (March 2014 Update) analysis.

Since the July 2011 adoption of PLAN 2040, there have been some key policy developments that are now incorporated in this RTP update. Most notably, President Barack Obama signed the new federal transportation authorization bill: MAP-21 (moving Ahead for Progress in the 21st Century) on July 6, 2012. This is a pivotal law making because it is the first time that the federal transportation planning regulations require a performance-based planning process. Also, the first Statewide Strategic Transportation (SSTP) Progress Report was delivered in 2012, showing how progress is being made in Metro-Atlanta and the entire of State of Georgia towards achieving certain performance goals.

In the midst of this policy evolution was also the advancement of technology and innovation that was taking place. New transportation performance detection technologies have emerged that can provide more comprehensive and detailed analysis, and with more credibility. Moreover, the experience and familiarity with various performance measuring applications like traffic models and simulation applications has expanded throughout the private and public sectors.

ARC facilitated an in-depth, collaborative process that involved both technical and policy focused officials from around the region, in order to synthesize all of these developments into streamlined guidance for the March 2014 RTP Update. This included several, multi-agency project evaluation workshops, the establishment of the Roadway Operations and Capacity and Managed Lanes Subcommittees. There was also on-going coordination among the ARC, GRTA, and GDOT boards to help sustain the policy direction for prioritization.

Revised Framework (March 2014 RTP)

The original performance framework has since been updated to reflect the collaboration involved with synthesizing these developments, and is now referred to as the Decision-Making Framework for the PLAN 2040 Transportation Update (see Appendix D-2). This updated framework was adopted by the ARC Board on April 24, 2013. The Decision-Making Framework is a guideline for prioritizing the RTP and measuring performance, and established systemwide measures, which are consistent with MAP-21 and the SSTP. The corresponding project evaluation process stems from this document. While the new framework applies to both transit and roadway investments, the process summarized below focuses on roadway improvements. Because of the limited number of transit projects actively under development, the process for defining that component of the RTP emphasized projected ridership, financial viability and overall readiness and resulted from extensive consensus-building with transit project sponsors.

The project evaluation process for the March 2014 RTP Update shifts the focus away from estimating future impact of roadway projects, towards assessing current needs. The information culminating from current conditions assessment augments the future-based information resulting from the original 2010 methodology. Focusing on a current condition analysis helps to identify whether the current priorities are addressing today's needs. Also, existing conditions based analysis seems to be more credible to stakeholders – especially when making performance comparisons by location. The results are less speculative than building comparisons from forecasted information. Given the emergence of proprietary historical travel data, this RTP update became an ideal opportunity for carrying out this type of analysis.

Through the Decision-Making Framework, this RTP incorporates some of the measures identified in MAP-21 and the SSTP. MAP-21 creates a streamlined and performance-based surface transportation program and requires the planning process to be performance-based. The bill established the following National Performance Goals (explained in more detail in Appendix C-1):

1. Safety
2. Infrastructure Condition
3. Congestion Reduction
4. System Reliability
5. Freight Movement and Economic Vitality
6. Environmental Sustainability
7. Reduced Project Delivery Delays

This RTP also incorporated the following relevant SSTP Performance Metrics into the project evaluation process:

1. Average Number of Workers reaching major employment centers by car or transit in 45 minutes;
2. Annual congestion cost;
3. Average commute time;
4. Number of people taking reliable trips per day;
5. Number of traffic fatalities;
6. Peak-hour freeway VMT;
7. Peak-hour freeway speed;

Not every one of either the MAP-21 or the SSTP measures could be readily incorporated into a roadway segment or roadway project level analysis. In many cases, it is because the data is not available at that scale. However, the goal is to be able to address each of these measures at that scale during future RTP updates, where applicable. Therefore, TCC Roadway Operations and Capacity Subcommittee ultimately recommended the following performance categories to be applied to the roadway and RTP project level analysis conducted for this update:

Table 3-1: RTP Performance Areas, Measures, and Data Sources

Performance Area	Dedicated Performance Measure/Metric	Data Source
Congestion/Mobility	**Weighted Maximum Travel Time Index** (ratio of congested travel time over free-flow travel time)	2010 HERE Geographical and Traffic Data
Safety	**Injury and Fatality Crash Rate** (injury and fatality crashes per 100 million vehicle miles traveled)	2009 GEARS (Georgia Electronic Accident Reporting System) Data and the ARC 2010 Regional Travel Demand Model Output
Employment Accessibility	**Accessibility Ratio** (percent of all vehicle trips that originate or are destined to one or more UGPM major activity centers)	ARC 2010 Regional Travel Demand Model Output
Travel Demand	**Average 2010 Weekday Traffic Volume**	ARC 2010 Regional Travel Demand Model Output

Various roadway-segment and project level measures were calculated, based upon the table above. The primary application used to process and analyze the data was a geographic information system (GIS). Much of the work involved processing the data into geospatial results in order to depict relative need as defined by each performance area. The two scales that were analyzed were: (1) roadway segment level and (2) RTP roadway project level.

One of the improvements provided by this process was the ability to evaluate roadway operational improvement projects. They weren't evaluated based on performance, rather based on existing conditions, and could be evaluated on the same scale as the capacity expansion projects. The original methodology completely neglected these types of projects from any analysis because the data was unavailable at the time the methodology was determined.

Providing an existing condition analysis offered new insight into the planning process and provided another dimension to the array of project-level information that was used to re-prioritize the PLAN 2040 RTP Update (March 2014). A more detailed explanation of the methodology is included in Appendix C-1, and the RTP project-level results are incorporated in Appendix C-2.

REGIONAL TRANSPORTATION PLAN

Chapter 4 – Strategies

March 2014 Update

Chapter 4
Strategies

Table of Contents

Figures

Tables

How is PLAN 2040 Strategic?

In crafting an investment program for the PLAN 2040 RTP (March 2014 Update), ARC considered a number of important, but often competing, questions:

- How much does the region invest in the maintenance, system efficiency and expansion of the regional transportation system when needs exceed available revenue?
- What are the trade-offs of investing in one transportation priority over another?
- How should ARC consider specific project performance characteristics in assembling a package of investments to address the plan's various goals?

PLAN 2040 must consider the trade-offs of investing in one transportation priority rather than another.

As discussed in Chapter 3, ARC identified the investment plan in a systematic way, starting with investment tradeoff discussions among transportation partners and stakeholders, followed by a performance assessment of individual projects. Chapter 4 presents RTP investment strategies, highlighting the vision of the individual programs and projects identified in Appendix A.

An effective investment strategy for the RTP identifies a transportation system that operates at a regionally significant scale and influences the region's long-term growth, development, and quality of life. These regional transportation systems are part of larger systems that connect to other parts of the nation, as well as part of local systems that provide access to community resources. A rational, coordinated, and clearly defined approach to funding and programming for regionally significant systems, across all levels of government and all modes of transportation, is essential to the implementation of PLAN 2040.

Constrained and Aspirations Elements of the Plan

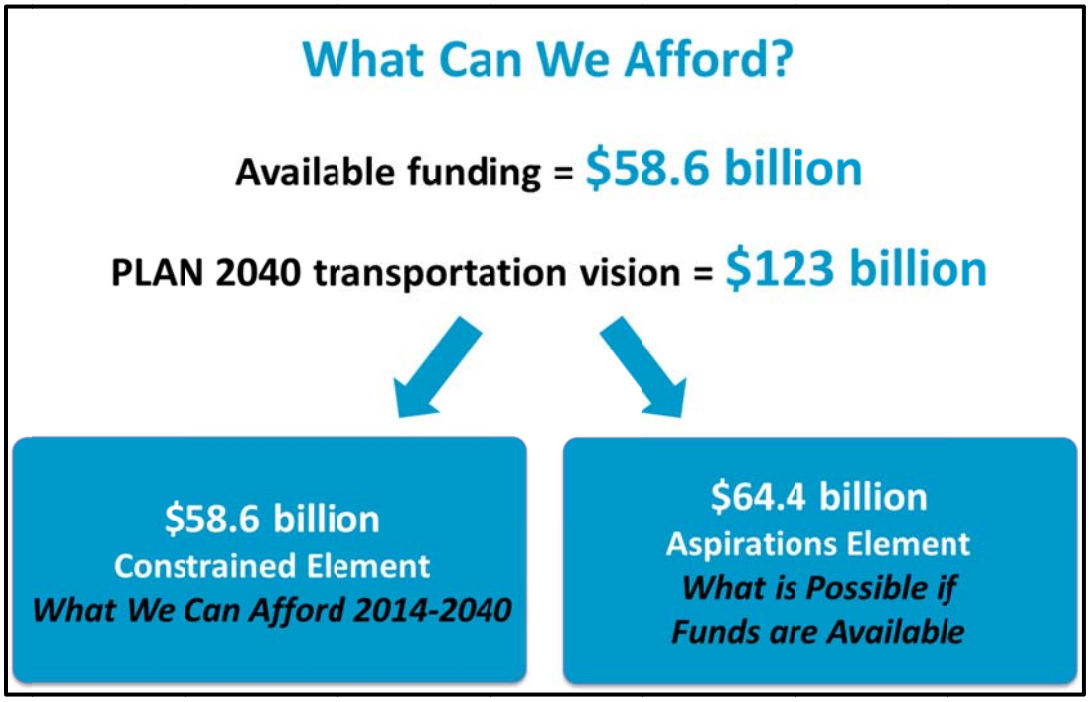
The PLAN 2040 RTP (March 2014 Update) includes two elements:

- The first, a financially constrained element, reflects the investments the region can afford between 2014 and 2040, based on currently available revenue streams which can reasonably be expected to continue for the foreseeable future.
- The second element, the Aspirations Plan, includes other regional investments if funding were available by 2040. The Aspirations Plan helps the region and state understand the level of unmet needs while also providing a future transportation vision.

As illustrated in Figure 4-1, the overall cost for the financially constrained RTP is approximately $58.6 billion (current year 2014 dollars). The RTP's cost in year of expenditure (YOE) dollars is $79.1 billion. As a rule, all costs in this Chapter are provided in current year 2014 dollars, unless indicated otherwise.

An additional $64.4 billion of major roadway and transit expansion projects, as well as roadway, bridge, and transit preservation and operating needs, are also included in the Aspirations Plan. The total cost of identified transportation strategies in Plan 2040 is approximately $123 billion (rounded).

Figure 4-1: Relationship between the Constrained Element and the Aspirations Element



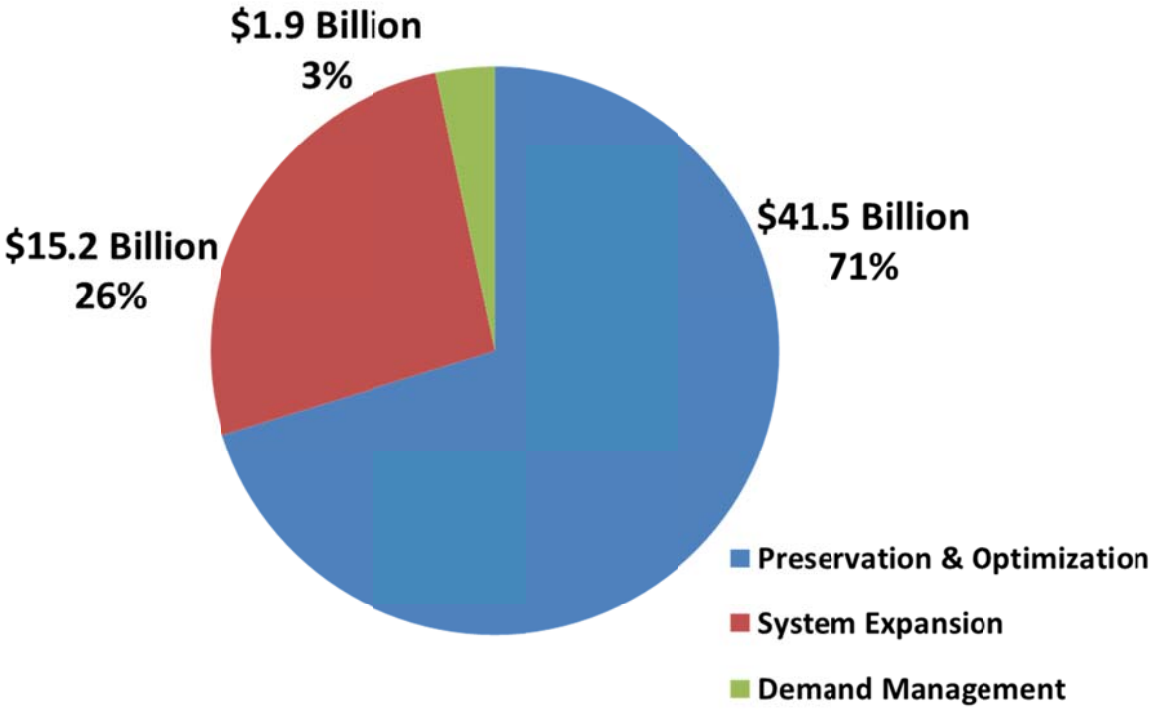
Investment Priority Areas

For the financially constrained element of PLAN 2040, three priority areas, totaling $58.6 billion (current year 2014 dollars), are used to organize and present investment recommendations for the RTP (see Figure 4-2):

- Infrastructure Modernization – Infrastructure Modernization is the largest portion of PLAN 2040 investments at 71%, or $41.5 billion. These projects and programs maintain, operate, and improve the efficiency of existing infrastructure. Example projects include road and bridge resurfacing, replacement of buses and rail cars, and retiming of traffic signals.
- Demand Management - The Demand Management category includes other plan elements, with the focused outcome to reduce and shorten vehicular trips within the region. Demand Management funding is $1.9 billion, or 3% of the RTP. Example Demand Management projects include bicycle and pedestrian facilities, employer services, ridesharing, and special studies.

- System Expansion – The System Expansion category comprises the second largest portion of PLAN 2040 investments at 26%, or $15.2 billion. The Atlanta region added the third most people of any region in the last decade, and is expected to add nearly another 3 million by 2040, creating the need to respond to growth. Example projects in this category include roadway widening, reconstructed interchanges, managed lanes, and fixed-guideway transit expansions.

Figure 4-2: Investment Priority Areas



Appendix A identifies project-specific capital and operational projects. However, many expenses and costs associated with operations and maintenance do not lend themselves to listing as line items in a database. For example, per MAP-21 planning requirements, PLAN 2040 must account for yearly maintenance costs to resurface regional roadways each year.

What Does the RTP Do For Infrastructure Modernization?

Modernizing transportation infrastructure requires the expenditure of 71% of total regional resources, such as projects to resurface interstate highways, upgrade traffic signals and repair bridges.

The PLAN 2040 RTP's highest regional priority is placed on Infrastructure Modernization. Examples of these project types include resurfacing roads and streets and operating the regional transit network.

Infrastructure Modernization comprises 71% of the RTP, or $41.5 billion. Appendix A identifies maintenance and operational program funding categories for specific maintenance and operational projects to be identified at a later date. These programs are generally grouped as the AR-1** series in the project list. Future TIPs will depict actual projects funded out of the program categories.

Maintains Systems in a State of Good Repair

As more money is spent on maintaining existing roads and transit, there is less available for addressing other transportation needs. To better understand the financial implications of this aging infrastructure, ARC analyzed the physical conditions of the region's pavement, bridges, and transit infrastructure. While there are significant unknowns associated with projecting transportation infrastructure conditions into the future, this type of analysis informs the allocation of limited resources over the plan horizon.

Road and Bridge Infrastructure Modernization

Nearly $600 million of federal-aid road and bridge modernization projects are in included in the FY 2014-2019 TIP.

Approximately 95 percent of RSTS pavement is in good condition. This condition level is well above the national average for roadways in urban areas. For example, in 2006 approximately 73 percent of pavements in urban areas throughout the U.S. met this definition of "good." In general, deficient pavements are noticeable by the traveling public and require significant 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.

Based on an analysis of bridges in the region, the current condition level is about 95 percent good. Again, this value is above the national average. In 2006, approximately 90 percent of all bridges in U.S. met this definition of good. "Good" condition is defined 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. An SD classification does not imply that a bridge is unsafe. Rather, it implies that a bridge has structural needs and requires substantial work.

Pavement conditions on the RSTS have been projected into the future using an FHWA tool called the Highway Economic Requirement System – State Version (HERS-ST). Bridge conditions in the region have also been projected into the future using an FHWA tool called the National Bridge Inventory Analysis System (NBIAS).

System preservation analysis conducted as part of the PLAN 2040 Update indicates that $17.2 billion is needed to maintain roads and bridges at today's levels. Maintaining regionally strategic roadways at today's levels requires $10.1 billion and an additional $7.1 billion for bridges. PLAN 2040 provides $13.3 billion in road and bridge preservation, allowing the region to exceed prior preservation targets of 70% in fair or better condition. However, this funding level is inadequate to maintain existing condition levels.

Transit Infrastructure Modernization

Maintaining the region's bus and rail systems in a State of Good Repair is essential if public transportation systems are to provide safe and reliable service to thousands of daily riders. Transit State of Good Repair includes measuring the condition of transit capital assets, prioritizing local transit re-investment decisions and preventive maintenance practices.

While roadway-related infrastructure has a longer history developing existing metrics, such as pavement ratings and bridge sufficiency, transit research is underway to identify similar metrics. FTA is leading national efforts to address the State of Good Repair by collaborating with transit providers on needed research.

Almost $780 million in transit operations and modernization funds are included in the FY 2014-2019 TIP, supporting the region's existing transit infrastructure.

The PLAN 2040 RTP (March 2014 Update) places continued emphasis on supporting roadway and transit preservation. $23.0 billion is provided to replace buses and rail cars, support operations, and upgrade supportive infrastructure. PLAN 2040 assumes that existing core transit services for MARTA and other transit systems will be maintained by meeting core funding needs. In addition to formula funding available through FTA, PLAN 2040 includes a new Transit Capital and Preventive Maintenance emphasis area, under the STP Urban funding program. The program is one of five emphasis areas identified for the $70 million of STP Urban funding available each year in the TIP.

Over the past two years, regional transit operators have implemented cost efficiencies, including major service reductions. These actions have reduced operating costs, leading to a more sustainable financial structure.

Transportation System Management and Operations (TSM&O)

Only 40% of roadway congestion is attributable to recurring delay (routine commute traffic). The PLAN 2040 RTP (March 2014 Update) allocates $3.5 billion of investment to target the remaining 60%. TSM&O investments "take back" the capacity lost to non-recurring events such as incidents, bad weather, and inadequate signal timing. Besides reducing congestion, TSM&O investments help improve safety, security, and travel time reliability. These types of strategies are notorious for being more cost effective than capacity-adding investments because they are much cheaper and quicker to implement or maintain.

PLAN 2040 focuses $3.5 billion in investment on technology programs such as the Regional Traffic Signal Timing Program. Many of these progams result in benefit-to-cost ratios as high as 16 to 1.

TSM&O improves vehicular delay by implementing more sophisticated and organized traffic management and control. Below are some example projects/programs included in this plan update:

- Regional Traffic Operations Program (RTOP) Traffic Signal Synchronization and Communication;
- Freeway Variable Speed Limits (VSL);
- HERO (Highway Emergency Response Operators);
- Maintenance and Repair of ATMS (advanced traffic management systems) Technology;

The Georgia NaviGAtor system has been a marquee investment strategy for freeways since before the 1996 Centennial Olympics. However, arterial traffic operations management has not been a major focus until GDOT initiated the RTOP in 2010. The GDOT RTOP is one of the most notable and comprehensive strategies that will be expanded as part of the RTP update. Over the past two years, RTOP has reduced the total number of stops on its corridors by 8.3%, and has also reduced stopped time delay by 12%. During the past year RTOP has ssaved commuters over 700,000 gallons of lost fuel associated with operational and capacity delay.

The plan update also funds several key arterial signal system upgrades in local jurisdictions and major employment centers (e.g., Perimeter, Buckhead, and Midtown). The signal upgrades will result in more efficient intersection turning movement and ingress/egress at major destinations. These types of projects have historically been difficult to measure and evaluate, unlike roadway capacity projects. During this update, ARC has initiated the beginning steps towards evaluating roadway TSM&O projects, where applicable. Appendix C-1 provides an some insight on how roadway project evaluation for RTP

purposes may evolve in the future. Additionally, Appendix C-2 contains the results of a current conditions assessment of every applicable roadway project (capacity and operations) based on observed performance data. This Current Conditions Assessment serves as an update to the Congestion Management Process (CMP).

Traffic incident management has also become an emerging strategy because of its cost effectiveness in reducing delay. The PLAN 2040 Update expands the existing HERO coverage to I-20 West (Douglas County) and I-85 South (Coweta County). Funding for variable speed limit, hard shoulder running, and flexible lanes have also been earmarked for freeway corridors that will be determined by the GDOT Metro Atlanta Operational Planning Study, scheduled to be complete in 2014.

PLAN 2040 includes a new Roadway ITS / Operations / Incident Management emphasis area, under the CMAQ funding program. The program is one of five emphasis areas identified for the $29 million of CMAQ funding available each year in the TIP.

Keeps Goods Moving

The Atlanta region is a global leader in freight and logistics, forming a key component of the economy's economic base. Fully 30%, or 675,000, of the region's jobs are engaged in one of the four freight dependent industry sectors of manufacturing (NAICS 31 -33), retail trade (NAICS 44-45), wholesale trade (NAICS 42), or transportation and warehousing (NAICS 48-49). The twenty-county Atlanta region is home to nearly 700 million square feet of industrial space. All told, the region is the third largest inland port in the United States behind only Chicago and Dallas. This global logistics presence is built on world class infrastructure in four modal pillars:

- **Air** –Hartsfield-Jackson Atlanta International Airport (H-J AIA) is the world's busiest, with more than 2,600 daily takeoffs and landings. H-J AIA is also the 11th largest cargo airport in the U.S. Delta Airlines is the top carrier of air freight cargo at Hartsfield.

- **Truck** – The region is one of five U.S. cities served by three major interstate highways. Approximately 25% of the U.S. population is within a one day truck drive from Atlanta. More than 80% of the U.S. commercial and consumer markets can be reached within 2 days.

Freight movement is a critical component of the transportation network. In Austell, Norfolk Southern's Whitaker Intermodal Terminal is the largest intermodal yard east of the Mississippi.

- **Rail** – With CSX and Norfolk Southern, Atlanta is served by two Class I railroads, four intermodal terminals, multiple classification and bulk rail yards and direct service to the Port of Savannah.

    - **Sea** – The region benefits from being only 250 miles from the Port of Savannah, the 4th largest and fastest growing container port in the U.S.

Freight is vital to the regional economy and is central to the Atlanta region's growth. ARC strives to facilitate freight and logistics growth through transportation planning work. Two major freight plans, The Atlanta Freight Mobility Plan (2005) and the Atlanta Truck Route Master Plan (2010), provide the guiding input for ARC's freight policies. The main objective of ARC's freight planning effort is to develop a framework for facilitating and enhancing freight mobility and goods movement in the region, improving the region's economic competitiveness, and minimizing environmental and community impacts.

PLAN 2040 freight policy is also aligned with state freight policy as set by the Georgia Statewide Freight and Logistics Plan and national freight policy as set by the federal transportation funding bill, MAP-21. The state freight plan incorporates all of the major improvements recommended in PLAN 2040. MAP-21, for the first time, attempts to create a national perspective on freight by setting a national policy for goods movement.

ARC is committed to strengthening the freight and logistics industry by funding small area freight studies. Currently, two industrial Community Improvement Districts have used ARC funds to complete master plans which examine needed local infrastructure improvements as well as market conditions, workforce issues, and other trends that will affect the health of the freight dependent business in those areas.
PLAN 2040 includes a new Freight Operations and Safety emphasis area, under the STP Urban funding program, geared towards improving freight mobility in and through the Atlanta region through lower cost, quick fix improvements. The program is one of five emphasis areas identified for the $70 million of STP Urban funding available each year in the TIP. Project examples include improving intersections and railroad crossings, signal timing and other ITS, access management, and truck passing lanes.

Other major roadway projects such as system to system interchange improvements on I-285 at I-75 North, I-85 North and I-20 West will have significant benefits for truck mobility at these key national freight bottlenecks.

Appendix C-2 contains the results of a current conditions assessment of key capacity and operations projects on the roadway network, based on observed performance data. Each project's relationship to the regional freight route network is shown.

Provides a Safe and Secure Transportation Network

Safety

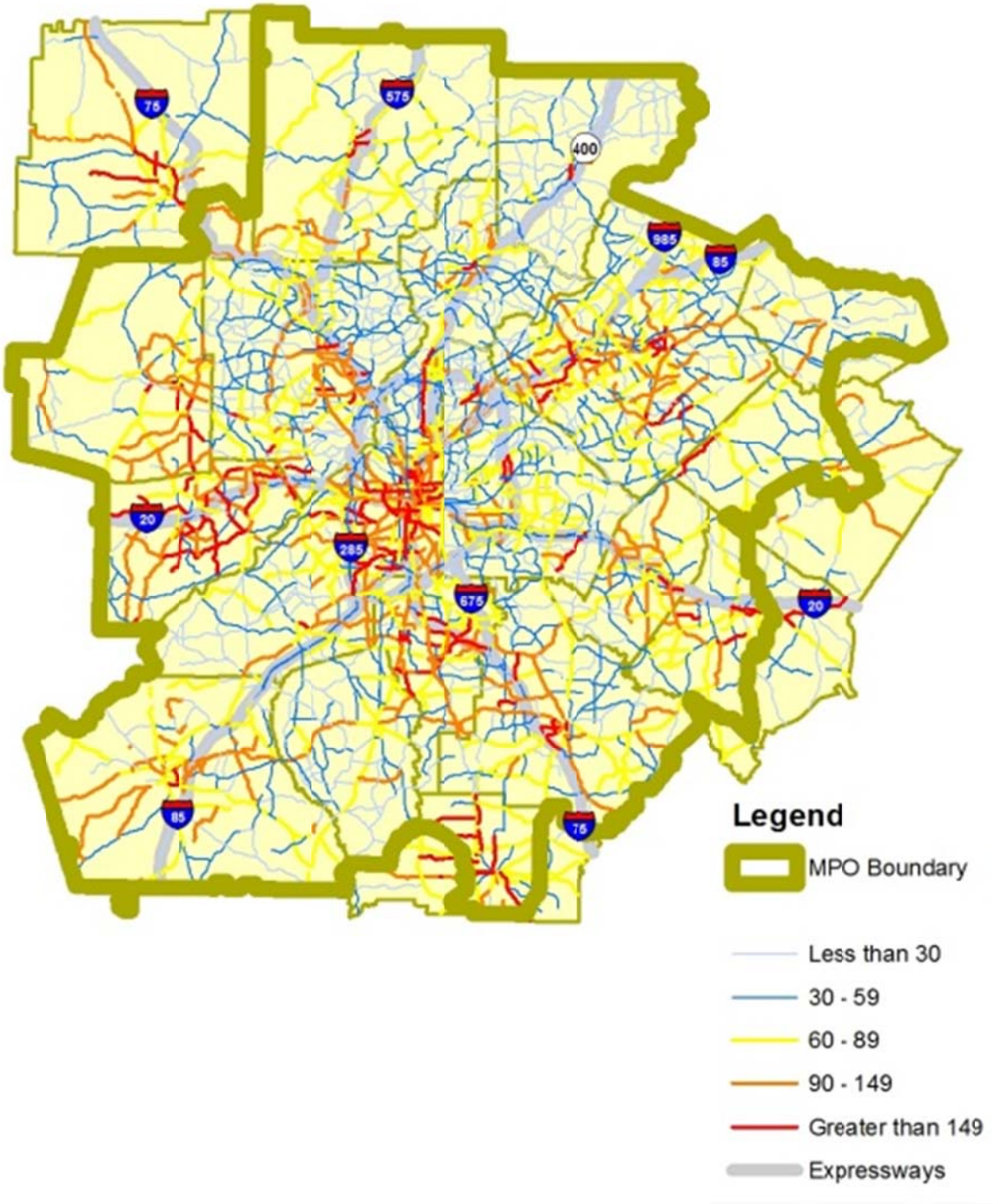
During the early development of the PLAN 2040 RTP (March 2014 Update), ARC reviewed all available crash data for the 18-county region for the calendar years 2009 through 2011. This data included all crashes reported, including those involving property damage only, injuries and fatalities. Crashes where a pedestrian or bicyclist was involved were also represented in the analysis. In total, for all three years, there were over 300,000 crashes recorded. In keeping with MAP-21 guidance, there was a concentration on injury and fatality crashes for the extensive analysis conducted by ARC staff. The details of this analysis are explained in Appendix C-2.

After the analysis, it was determined that the best data to be used were the crashes recorded from calendar year 2009. This was because after 2009, the program to ensure geographic accuracy was discontinued by GDOT due to budgetary constraints.

For the final analysis, the crash locations were joined with vehicle miles traveled (VMT) calculated by the 2010 travel demand model network, then crash rates were calculated, using the number of injury and fatality crashes per 100 million VMT, an industry standard. This technique was applied to the whole region (see Figure 3), and then each of the proposed RTP projects were assigned a crash rate, weighted by segment length of the project. This allowed the RTP projects to be analyzed based on the crash rate, calculated using actual crash totals and precise locations.

PLAN 2040 includes a number of new programmatic emphasis areas intended to address multimodal safety issues. The Last Mile Connectivity, Roadway Safety, Freight Safety, Transit Capital and Preventive Maintenance, and Roadway ITS / Operations / Incident Management emphasis areas all have a strong safety component to the project selection process. All of these are funded through a combination of STP Urban and CMAQ funding programs. Combined, a total of about $99 million is available each year of the TIP from these two funding sources.

Figure 4-3: Roadway Crash Rates (per 100 million VMT)



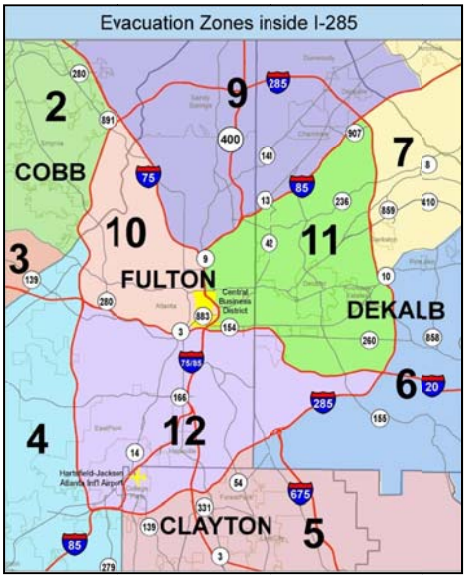
Security

Security planning, a relatively new federal planning requirement, is a central element of ARC's overall planning efforts. Since 2008, ARC and regional partners have developed working relationships to address regional security needs. The specific focus has been on developing evacuation plans for the region, with a detailed evacuation plan prepared in 2009 and follow-up work underway.

As part of the Regional Evacuation Coordination Plan, the Metro Atlanta Urban Area Security Initiative (UASI) and regional partners identified evacuation zones and pinpointed at-risk populations, with the final outcome being development of regional evacuation routes. Regional policy makers, emergency managers, and first responder agencies provided guidance to this process, including identification of suitable facilities to address various evacuation scenarios. ARC was key to this process in providing much of the underlying data that supported this process. Through its participation on the Traffic Incident Management Enhancement (TIME) Task Force Board, ARC staff played a critical role in convening various law enforcement personnel together to discuss evacuation strategies and alternatives.

ARC considers security planning in many efforts, including the preparation of the Atlanta Regional Evacuation Coordination Plan.

Several follow-up phases have been completed, to provide more tactical plans for facilitating large-scale evacuations The 2011 Regional Thoroughfare Network described in Chapter 3 was developed in partial consideration of the evacuation planning efforts.



Evacuation Zones are identified to assist in security planning. Parts of the region, such as those inside of I-285, are assigned to an evacuation zone to guide decision-makers in the event of a security event.

What Does the RTP Do For Demand Management?

Takes Bold Steps toward Focused Growth through Livable Centers

Capitalizing on the region wide momentum generated through a decade of support for livable communities and tighter integration of transportation and land-use planning, PLAN 2040 continues efforts to focus growth in established communities. ARC and other Regional Commissions within the 18 county MPO are updating regional growth visions, resulting in a new Unified Growth Policy Map and Development Guide, forming a regional blueprint that expresses growth desires for the Atlanta region.

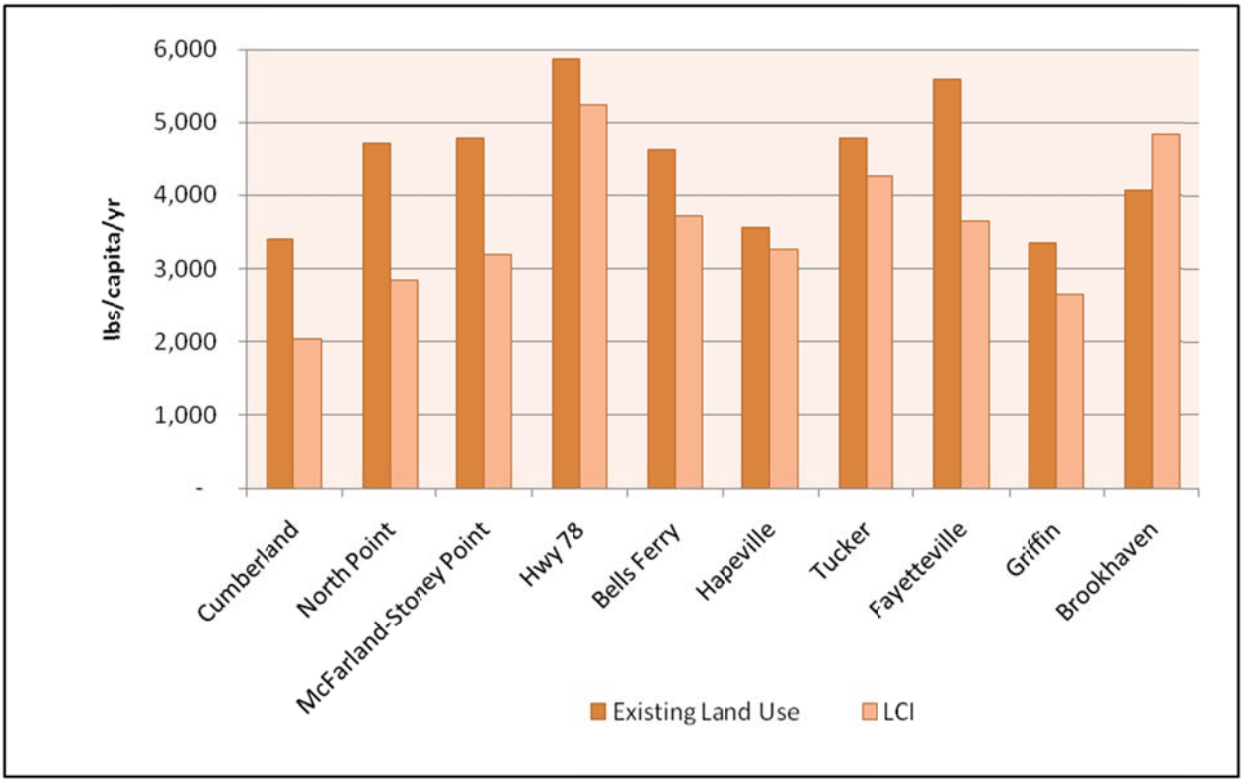
Planning Grants and technical assistance are available through the Livable Centers Initiative (LCI) program to assist local jurisdictions with the transformation of centers to those that can support transit, being well-planned complete communities. This incentive-based approach to regional planning has already been embraced through completion of over 100 LCI studies. As of the date of this plan, 105 projects found in 63 LCI communities are either already complete, under construction or are actively being developed.

PLAN 2040 supports the continued implementation of the Livable Centers Initiative program, with $270 million in funding still available for future projects. Featured as a Case Study on FTA's Livability Website, the LCI program contributes to reduced vehicle trips and emissions.

To help continue to nurture LCI communities, PLAN 2040 continues the original commitment of $500 million to the program, with over $270 million still remaining available for commitment to future projects. The program is one of five emphasis areas identified for the $70 million of STP Urban funding available each year in the TIP. Planning efforts, and the projects resulting from them, will support multimodal travel, more livable neighborhoods, and the development of jobs and housing in existing town centers and near transit.

Encouraging future growth within LCI areas increases transit ridership, promotes more bicycle and walking trips, and shortens the length of automobile trips, thus helping to reduce both vehicle miles traveled and emissions of carbon dioxide and other pollutants. People living in focused, compact neighborhoods of the type envisioned for LCI communities travel fewer vehicle miles each day than those in other areas. This translates into a directly proportionate reduction in carbon dioxide emissions from personal travel. As illustrated in Figure 4-4, which shows results from a 2008 study of program effectiveness, decreases in CO_2 emissions are apparent. It is possible that future analyses will show even more dramatic results as the communities continue to mature and development patterns change.

Figure 4-4: Impact of LCI Program on 2008 Vehicle GHG Emissions



Note: At the Bookhaven site, population increases more than employment resulting in higher VMT and CO_2.

LCI programs encourage local jurisdictions to plan and implement strategies linking transportation improvements with land use development strategies to create sustainable, livable communities consistent with regional development policies. These strategies often include new or enhanced pedestrian walking environments and bicycle facilities. More information on the LCI Program is available at www.atlantaregional.com/lci.

Improves Equitable Access to Mobility

Mobility Management

A key PLAN 2040 strategy is to develop and implement mobility management — a centralized system that provides information about transportation options, and coordinates responses to requests for transportation services. By serving as a clearinghouse for information about transportation options, mobility managers can facilitate the most cost-effective solution or service for the traveler.

$250,000 was included in the previous TIP for a study to examine opportunities to implement a one-click regional mobility management call center. That study is currently underway and its outcomes will be incorporated into future plan updates.

PLAN 2040 funds the examination of the feasibility of implementing a call center strategy. Depending on the results of this study, additional funding may be allocated in future RTPs and TIPs to support this objective.

The main objectives of mobility management are to:

- Improve access to and enhance transportation options for the public, particularly low-income, elderly and disabled populations.
- Foster education and awareness of available mobility options and transportation services by streamlining information in one centralized location.
- Facilitate coordination to strengthen relationships and foster partnerships that will lead to coordinated service delivery, reduce gaps, eliminate overlap, and improve customer experience
- Improve coordination to ensure safe, affordable, and efficient delivery of service, benefiting both customers and transportation providers.

Human Services Transportation

PLAN 2040 supports a comprehensive Human Services Transportation (HST) program. HST includes a broad range of service options designed to meet the needs of the region's transportation disadvantaged including older adults, persons with disabilities and individuals with lower incomes.
These individuals have unique and varying needs, which require a variety of transportation services to ensure quality of life. Planning and Coordinating HST helps to improve the efficiency of limited resources, reduce duplication of services, and improve customer satisfaction.

In March 2013, the ARC adopted the 2012-2013 Coordinated Human Services Transportation Plan limited update, which provides a framework for the Atlanta region to improve mobility for the older adult, low

income, and disabled populations. More information on the Coordinated HST Plan is available at www.atlantaregional.com/hstplan.

Under MAP-21 the previous three Federal Transit Administration (FTA) HST Programs were consolidated under other programs, Section 5310 Enhanced Mobility of Seniors and Individuals with Disabilities (now includes Section 5317 New Freedom), Section 5307 Large Urban Bus and Section 5311 Rural and Small Urban Bus (now includes Section 5316 Job Access and Reverse Commute).

ARC and MARTA administer the Large Urban Bus programs for the Atlanta region, the Department of Human Services and ARC administers the Enhanced Mobility of Seniors and Individuals with Disabilities Program for the Atlanta region and state of Georgia, while the Georgia Department of Transportation administers the Rural and Small Urban program for the state of Georgia. The goals and objectives for the programs are documented in the region's Coordinated HST Plan.

Lifelong Communities

ARC is coordinating with the Toco Hills/ DeKalb County Livable Centers Initiative Plan currently underway to incorporate findings from the lifelong community charrette plan.

PLAN 2040 supports through policy and actions the continuation of the Lifelong Communities (LLC) Initiative. PLAN 2040 details a series of actions to support Lifelong Communities in the Implementation Program. This program works with local communities to achieve three primary goals: promote housing and transportation options, encourage healthy lifestyles, and expand information and access. Rather than a top down prescription, strategies emerge from local community partnerships to form the region's response to the growing aging population.

The older adult population in the Atlanta region is growing at a tremendous rate. Most individuals over 60 have lived in the region for at least three decades and plan to stay for many more. However, our cities, counties, and neighborhoods are not designed for an aging population. Lifelong Communities are places where individuals can live throughout their lifetime; they provide a full range of options to residents, insuring a high quality of life for all.

Designing a Lifelong Community by definition requires that residents, planners, and elected officials make decisions not only for the current population but the residents who will live in the community well into the future. Urban design and land use issues must first be addressed before any site in the Atlanta region can adequately support the specialized programs, policies, and building types of a Lifelong Community.

Additional information about ARC's Lifelong Communities Initiative is available at www.atlantaregional.com/aging.

Equitable Target Areas

To assess how well the RTP addresses historic inequities in the levels of transportation funding in certain parts of the region, an analysis was conducted of investments in communities known as "Equitable Target Areas" (ETA). These communities have larger than average proportions of minority, elderly, or impoverished populations. The analysis methdology can be found in Appendix C-3 and a summary of the findings is included in a later section of this chapter.

In future plan updates, ARC will continue to investigate ways of improving the analysis, which will include a qualitative analysis of projects in the ETA. For example, instead of looking at total dollars invested in the ETA, the ARC will look at what projects directly benefit the area, as well as the impact of such projects as roads being widened, some of which do not directly benefit the areas through which they traverse. In addition to the project analysis the ARC will be undertaking, the agency is currently working on an air pollution dispersion model, which will allow for studying the effects of air pollution on areas around major thoroughfares, thus measuring the impact of air pollution on the ETA.

Makes the Region More Bikeable and Walkable

The TIP identifies bicycle and pedestrian mobility, accessibility, and safety as an emphasis area for future projects calls for federal funding under the Transportation Alternatives Program and the Last Mile Connectivity element of the STP Urban Program.

Bicycling and walking are important forms of transportation throughout the Atlanta region. Many shorter trips can be accomplished on foot or by bike, including commuting to work, accessing transit, and traveling within regional activity centers. Many longer trips can pair walking or bicycling with regional transit for first and last mile connectivity. Walking and bicycling continue to grow in importance as transportation costs and congestion increase and as individuals pursue healthier activities.

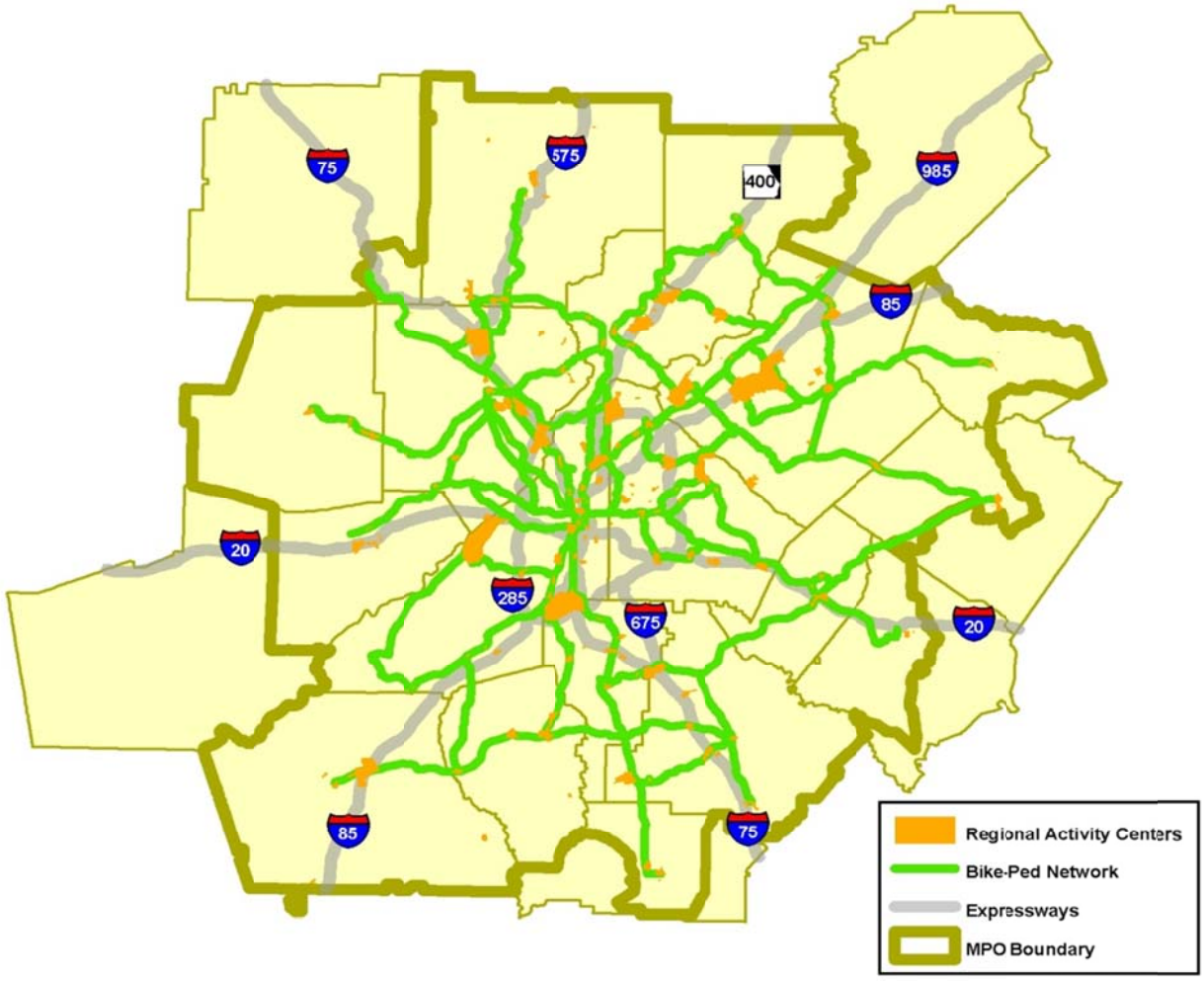
The Atlanta region has seen astounding recent growth in the numbers of cyclists and pedestrians going to work, school, shopping and elsewhere, but more can be done to encourage these trips — and to make them safer and more convenient. ARC promotes safe, functional, and regional bicycle and pedestrian mobility and continues to refine its planning process to address new needs and trends.

The 2007 Atlanta Region Bicycle Transportation & Pedestrian Walkways Plan (www.atlantaregional.com/bikepedplan) identified a network of regionally significant corridors and centers to focus federal funding investments for bicycle and pedestrian improvements. This focus seeks to make regional corridors and centers more multi-modal, improving safety, mobility, and accessibility for pedestrians and bicycles. The network is illustrated in Figure 4-5.

In 2012, a new Last Mile Connectivity program was one of five emphasis areas defined for the $70 million of STP Urban funding available during each year of the TIP. The focus of the program is to build locally oriented bicycle and pedestrian infrastructure in support of this network. In 2013, the ARC awarded $14.3 million in federal Transportation Alternative funds, a new federal program implemented under MAP-21, towards a range of regionally significant bicycle and pedestrian projects across the region. Overall funding for bicycle and pedestrian infrastructure in the region, including local investments, is projected at approximately $1.5 billion through the year 2040.

In addition, the LCI Program (discussed earlier in this chapter) provides extensive funding for pedestrian and bicycle infrastructure as part of its program focus to create live-work-play communities. Approximately $270 million of the original $500 million commitment remains to be committed to projects identified through the LCI planning process.

Figure 4-5: Proposed Regional Bicycle and Pedestrian Network



Upcoming efforts for improving bicycle and pedestrian transportation include refining the location and limits of regional priority corridors, examining circulation within major activity centers, forecasting levels of demand along corridors and within land use character areas, and evaluating long-term trends. Planning efforts in the region seek to increase walking and cycling trips and demonstrate the safety, connectivity, mobility, and livability improvements gained through investing in bicycle and pedestrian infrastructure.

Provides Commute Options

Commute Options are intended to help people change their travel behavior to meet their travel needs by using different modes other than the single occupant vehicle (SOV), traveling at different times, making fewer or shorter trips, or taking different routes with the goal of reducing traffic congestion and air pollution.

Transportation Demand Management (TDM) encompasses a set of strategies to increase the use of commute options. According to the survey by the Center for Transportation and the Environment, 18% of all metro Atlanta commuters carpool, vanpool, use transit, bike, walk or telework three or more days per week. TDM is one of five emphasis areas identified for $29 million of CMAQ funding available each year in the TIP.

Through the Georgia Commute Options program (www.gacommuteoptions.com) and other partnerships with local governments and non-profits, the PLAN 2040 RTP (March 2014 Update) provides over $107.5 million to support focused commute option programs:

- **Carpooling** – Encouraging opportunities for vehicles with at least 2 or more commuters to share the ride to and from work using their personal vehicles
- **Vanpooling** – Supporting the establishment of vanpools with a group of 7-15 people who share the ride to and from work
- **Transit** - Providing incentives for increased transit use.
- **Biking and Walking** – Encouraging bicycling and walking trips
- **Teleworking** – Reducing trips through working at home that increases productivity, reduces traffic congestion and improves air quality.
- **Flexible work schedules** – Reducing peak period trips through alternative work days and times

The successes of TDM programs, developed in strong partnerships with Employer Service Organizations (ESOs), local governments, and non-profits, have had a significant impact on the region:

$20.5 million in the FY 2014-2019 TIP supports ridesharing and employer services that encourage commute options. This successful partnership program, including Employer Service Organizations and Transportation Management Associations, each day helps eliminate 1.4 million vehicle miles of travel from our roads.

- Keeping 700 tons of pollution out of the air each day – the equivalent weight of 17 dump trucks
- Working with 1,600 employers and property managers that are partners of ESOs
- Helping businesses start and expand telework programs, more than 12,000 teleworkers have been impacted since 2005
- Creating an initiative to curb unnecessary diesel engine idling with 40 additional participating organizations across Georgia, ranging from industrial fleets to city government facilities

In December 2013, ARC adopted the Atlanta Regional TDM Plan which provides a framework for developing and integrating TDM strategies into planning, project development and system operations, and investment decision-making. It expands upon traditional TDM strategies, such as those described above, to increase and market travel choices beyond work commutes and makes the connection of TDM programs with livability, sustainability, transit, walking and biking, system operations, economic development, climate change, healthy communities, and active aging. These additional connections will augment existing transportation programs in the Atlanta region through improvements to the built environment that reduce barriers and increase transportation choices.

More information about the Atlanta Regional TDM Plan is available at www.atlantaregional.com/tdmplan.

Helps Protect the Environment

In the time since the original PLAN 2040 RTP was adopted in 2011, $17 million has been authorized to fund a program to reduce railroad-related emissions. Modern engines are fuel efficient and environmentally friendly.

The PLAN 2040 RTP (March 2014 Update) modernizes transportation infrastructure and pursues programs that reduce emissions, including those that encourage climate change mitigation. These initiatives cover a broad array of strategies to reduce emissions:

- Purchase of Clean Fuel Buses
- Transit System Modernization, Including Electrical System Upgrades
- Intelligent Operations Systems (ITS)
- Livable Centers Initiative
- Climate Change Scenario Planning
- ARC Green Communities Program
- Transportation Demand Management (TDM) Programs
- State/Local Policies
- Fifty Forward

Clean vehicle and technology programs are one of five emphasis areas identified for $29 million of CMAQ funding available each year in the TIP.

What Does the RTP Do For System Expansion?

To support the region's expected growth and improve the quality of transportation service to people and businesses, the PLAN 2040 RTP (March 2014 Update) identifies a wide range of major capital investments to expand the region's multimodal transportation network.

Identification of future projects in the RTP is required for projects in the region to be eligible to receive federal transportation funds or obtain federal approvals. It identifies the major transportation capital projects that will be pursued between now and 2040. These projects must meet the federal requirement of fiscal constraint and conform to air quality requirements.

These system expansion projects are the most thoroughly evaluated due to the significance of the impacts they will have in supporting the regional vision. Due to the length of time required to develop such projects, accurately identifying their scopes and budgets within the long-range plan promotes efficient, cost-effective implementation as they advance through initial concept and engineering stages.

This part of the RTP includes descriptions of high-priority major capital projects that the region will pursue between now and 2040. These include a balance of transit, highway, and multimodal projects, distributed throughout the region. Specific system expansion projects are identified in the complete RTP project list contained in Appendix A.

The PLAN 2040 RTP (March 2014 Update) devotes 27% of currently available financial resources, or $15.2 billion, to system expansion projects. The largest system expansion category is general roadway capacity improvements at $6.9 billion, followed by managed lanes at $4.2 billion (which provides benefits for both occupants of private vehicles and patrons of bus transit services operating on those lanes). Transit expansion is constrained due to limited funding from the Federal New Starts funding program. $4.1 billion of transit expansion projects are included in the PLAN 2040 Update.

The evaluation process used to prioritize selected system expansion projects is described in Appendix C, along with the results. Note that these are high-level results used for informing the dialogue about the need and purpose of candidate projects. Ranking projects based solely on these results was not attempted. As projects proceed, they will require extensive additional detailed study and engineering. Project-level studies produce different results, appropriate to the level of detail needed for implementation. The results in the individual evaluations are intended to provide only a general idea of comparative benefits.

Prices Highway Travel Demand through Managed Lanes

The PLAN 2040 RTP (March 2014 Update) relies to a significant extent upon the ability to construct managed lane facilities to meet the growing transportation needs in the region. The planned network of these priced facilities is necessary to allow construction of new and expanded transportation facilities while also allowing the opportunity for more efficient management of corridor demand using tools such as variable and dynamic pricing.

Over the next two years over 56 miles of new Managed Lanes will be constructed on I-75 North, I-75 South and I-85 North.

"Managed lanes" is a general term used for a wide variety of roadway facilities which have their usage restricted in some way. These restrictions may include time of day, vehicle occupancy rates, or pricing (or some combination of all of them). The existing network of High Occupancy Vehicle (HOV) lanes on portions of I-75, I-85 and I-20, also commonly referred to as express lanes, and the High Occupancy Toll (HOT) lanes on I-85 North are all managed lanes by definition. Along I-85 between Chamblee Tucker Road and Old Peachtree Road, buses and ccarpools with 3 or more people per vehicle can use 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.

Regions throughout the country are implementing managed lanes to better manage freeway systems, expand the choices available to travelers, and improve transit service. The PLAN 2040 RTP (March 2014 Update) defines a regional managed lane network. "Rule of thumb" funding assumptions for longer range projects were incorporated into the plan, each of which will be revisited and updated as necessary as design and implementation coordination activities begin in earnest.

As demonstrated by GDOT's adopted Managed Lanes System Plan (MLSP), the pricing of freeway capacity can be an effective means of making progress toward performance objectives to reduce emissions, driving and delay. In 2013, GDOT undertook a major update of this plan and is rebranding it as the Managed Lane Implementation Plan (MLIP). Although final recommendations were not yet available at the time of this RTP being adopted, programming details for several projects in the development pipeline were reflected. As discussed in various ARC committee meetings as part of the RTP update process, the MLIP is exploring additional types of managed lane applications, such as "shoulder running" in conjunction with managed lanes in the peak period, where appropriate. An example of shoulder running is shown in the photo.

The Atlanta region's existing managed lane network, which is founded on the principle of choice, demonstrates the benefits of congestion pricing, and acts as a stepping-stone toward more comprehensive pricing strategies in the future. To keep traffic flowing freely, toll rates on the managed lanes will adjust dynamically to balance supply and demand based on data from roadway sensors used to monitor traffic conditions. This concept also creates synergy with future express bus service expansions, allowing those transit services to provide more reliable trip times.

The Atlanta region opened the first price managed HOT lane, on I-85 North, in the summer of 2011. This is a 16 mile long facility between Chamblee Tucker Road on the south and Old Peachtree Road on the north. Use has grown steadily in the two subsequent years and now exceeds projections by averaging over 19,000 vehicles per day. Data show that during peak travel periods in the morning and afternoon, 90% to 97% of all trips have an average travel speed of 45 mph or greater, significantly higher than the adjacent free lanes. The average time saved by users in the morning averages 20 minutes, and the afternoon user sees a savings of about 16 minutes. In addition to those who choose to ride transit, about 14% of travelers have a toll-free trip along the corridor by virtue of participating in a 3+ carpool.

GDOT is actively advancing projects along three other corridors and expects to complete them by 2018:

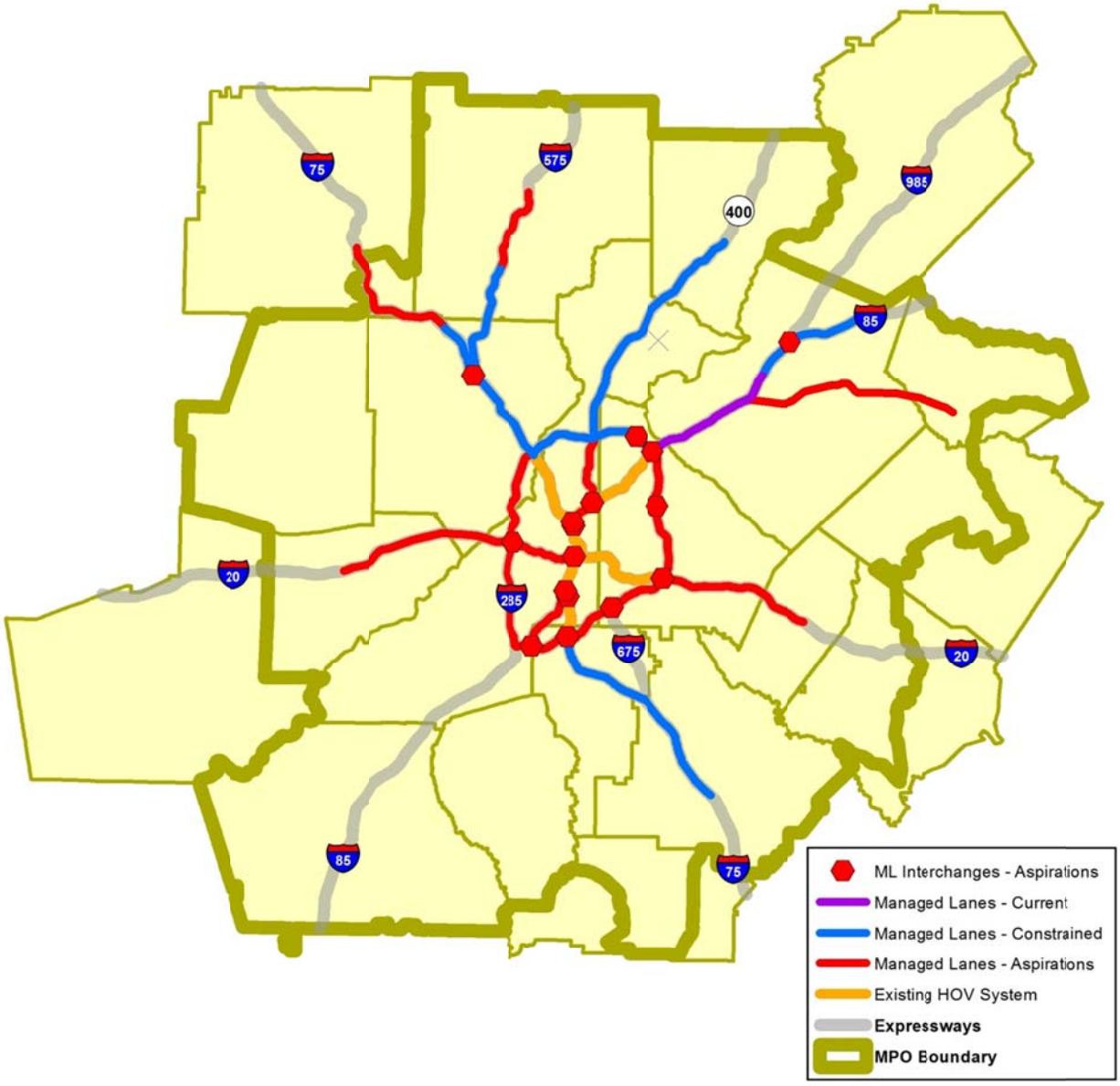
- I-75 North from Akers Mill Road to Hickory Grove Road / I-575 from I-75 North to Sixes Road
- I-75 South from SR 138 to SR 155
- I-85 North from Old Peachtree Road to Hamilton Mill Road

These managed lanes, as well as all other similar projects in the PLAN 2040 RTP, are not envisioned to involve the conversion of existing HOV lanes. They will, instead, be new capacity and are not intended to result in the reduction in the number of non-tolled general purpose lanes. The previous version of the PLAN 2040 RTP adopted in July 2011 did envision the conversion of all existing HOV lanes inside I-285 to HOT lanes in the near future, but those recommendations have not carried forward into this version of the RTP.

Figure 4-6 illustrates PLAN 2040 recommendations for the managed lanes system, building off the work of GDOT's adopted MLSP, as well as the MLIP still under development. The constrained RTP includes $4.2 billion and 104 miles of the network that can be built by 2040. An additional 148 miles of freeway corridors, as well as enhancements to large segments of the existing network, will be served by managed lanes if additional resources on the order of $10.0 billion can be identified to implement the aspirations element of the plan. Toll backed financing is likely to be a key element in delivering these managed lanes.

Initial concept descriptions are contained in the project lists in Appendix A, although the exact design concept (number of lanes and use restrictions) for each facility will be finalized during project design and engineering.

Figure 4-6: Planned Managed Lane Network



Delivers the Next Generation of Transit

Transit is vital to the Atlanta region's citizens and its economy. Transit services provide environmentally sustainable mobility alternatives with reliable travel times that enable residents to access jobs and essential services. Transit also provides visitors with options for getting around during their stay in the region. According to recent ridership survey data, about 45% of transit trips are work related and 40% of riders do not own or have access to a car.

Originally adopted in 2008, Concept 3 marked a major milestone in regional transportation history. Developed through a collaborative, multi-year effort led by the Transit Planning Board, a predecessor to today's Regional Transit Committee (RTC), Concept 3 is a long-term, aspirational, multifaceted strategy for pursuing priority transit expansion projects. The RTC initiated an update to the regional transit vision that was adopted in November 2012. This update reflects the latest planning, project scopes, and cost estimates for transit expansion projects around the region. This consensus vision allows the region to focus its funding and implementation advocacy efforts at the Georgia State Capitol and in Washington, D.C., with the goal of all transit partners to deliver the next generation of transit expansion for the Atlanta region.

Many questions remain to be answered, however, before elements of the region's transit vision can become reality. First and foremost is the issue of how ongoing maintenance and operating costs of expanded services will be covered. In many cases, it is less of a challenge for a transit operator to secure funds for "one-time" capital construction costs than it is for ongoing long-term operating and maintenance costs. Existing revenue streams, from the 1% sales tax paid by Fulton County and DeKalb County for MARTA, to the local government budgets used by Gwinnett County Transit and Cobb Community Transit, to the annual state appropriations for GRTA Xpress, are currently barely adequate to maintain existing routes and services. Expansion of the region's transit network beyond its current footprint will require new long-term stable funding streams which have yet to be identified.

In addition to the funding challenge, there are also institutional barriers which will need to be addressed before a truly integrated regional transit network can become reality. There is currently no operator with the legal authority to operate rail service beyond the boundaries of Fulton County or DeKalb County. And while numerous bus routes do connect the existing MARTA rail lines and other destinations in the core of the region with suburban counties, most of those routes run "closed door" for the majority of their length, meaning there is no opportunity to pick up or drop off passengers along the way.

The Regional Transit Committee, an ARC policy committee, recently approved a three-year work program designed to continue moving the region and its stakeholder agencies forward on these and other important transit implementation issues. Some of the key activities to be undertaken by staff include:

- Developing and deploying a regional trip planner using real-time information
- Procuring and installing unified bus stop signage in downtown and Midtown Atlanta
- Developing a unified bus stop and bus route numbering scheme
- Identifying opportunities for shared transit assets
- Developing and implementing a regional fare policy and a universal fare product
- Identifying a strategy for coordinated marketing efforts
- Identying priority bus corridors and appropriate infrastructure and operational improvements
- Developing a framework for regional paratransit eligibility and service coordination

As illustrated in Figure 4-7, Concept 3's $20 billion capital expansion plan includes extensive expansion of transit to many additional counties. In developing the RTP's financially constrained transit element, ARC worked closely with those transit agencies with projects that are actively being planned to determine what segments or phases are likely to be implemented first, once funding arrangements have been secured. Many corridors are currently being advanced through initial design and engineering stages, with the goal of establishing a firm concept and budget that will guide future decisions that will need to be made on how services will be funded and operated.

ARC recognizes that transit agencies, which are actively studying these corridors, desire to implement new services well before the horizon year of PLAN 2040. But federal law requires that an RTP be fiscally constrained and reflect funding streams which are already available or can be reasonably assumed available at some point in the future. With the defeat of the regional sales tax referendum in July 2012, it is not prudent to assume any new regional funding source for transportation improvements, particularly transit, will become available in the near term. And while most agencies have identified sources which could be used to construct and/or maintain new services, such as federal New Starts or local Tax Allocation District revenues, none of these proposals as yet represent cash "in hand".

PLAN 2040's transit expansion vision includes over $20 billion in new projects, with $4.1 billion included in the financially constrained element. Many future expansions are similar to the downtown Atlanta streetcar project opening in Spring 2014.

Until more concrete funding scenarios can be established for any of the identified first phase projects, the financially constrained transit element of the RTP is limited to $4.1 billion of investments, with the vast majority of those funds being placed in the outer years of the planning horizon. ARC will continue working with sponsor agencies to determine when and if funding and operational issues have been sufficiently addressed that a project can be brought forward into earlier years of the plan. As new projects are brought into service, Transit Service Start-Up Operations Assistance is identified as one of five emphasis identified for the $29 million of CMAQ funds available each in the TIP.

Figure 4-7: Regional Transit Expansion Vision

Listed below are the key elements of the PLAN 2040 RTP (March 2014 Update) constrained transit element and their current development status. Additional details on the status of each project is available in Appendix A-5:

Georgia Multimodal Passenger Terminal (MMPT)

The MMPT will bring together various bus and rail transit services in a centralized downtown Atlanta location. GDOT is currently working with a Master Development team, comprised of Forest City Enterprises, the Integral Group and Cousins Properties (FIC) to conceptualize a master plan for the MMPT area. At the same time, the Environmental team, led by HNTB Corporation, conducted environmental studies to understand the impacts of the project. The environmental work should be complete in late 2014, allowing the project to move forward into active development if funding can be identified.

Clifton Corridor Transit Initiative

An alternatives analysis has been completed by MARTA to determine the need for high-capacity transit connections between the Lindbergh Center/Armour Yard area in north-central Atlanta to Clifton Road employment centers and the City of Decatur in west-central DeKalb County. The Clifton Corridor includes some of the largest activity centers in metro Atlanta without convenient access to the interstate system or MARTA rail connections. These conditions have created high levels of traffic congestion on a severely limited network of roadways. The corridor is home to a number of well established residential communities and several major employers such as Emory University, Emory Healthcare, the Centers for Disease Control and Prevention (CDC), the Veterans Administration Medical Center & Regional Offices, and the DeKalb Medical Center. The study resulted in the selection of a specific alignment and technology that best meets the transit needs for the corridor. The next step is to advance the project into detailed environmental impact work. The PLAN 2040 RTP (March 2014 Update) includes a first phase of the project, which is the construction of a light rail connection between the Lindbergh MARTA station and Emory University.

I-20 East Transit Initiative

MARTA, in conjunction with DeKalb County, the Federal Transit Administration (FTA) and the City of Atlanta, is identifying transportation and environmental impacts associated with the development of high-capacity transit service from downtown Atlanta to the Mall at Stonecrest in southeastern DeKalb County. Specifically, the project will result in improvements to east-west mobility and accessibilty to jobs and housing by providing a high-capacity transit alternative in the I-20 East Corridor, which is currently unavailable. In addition, the project will support and provide

opportunities for economic development and revitalization as DeKalb County prepares the corridor for anticipated growth for the remainder of the 21st Century. The study has identified a specific alignment and technology that best meets the transit needs for the corridor and a detailed analysis of environmental impacts of that alignment is underway. The PLAN 2040 RTP (March 2014 Update) includes a first phase of the project, which is the extension of MARTA heavy rail from the Indian Creek station south along I-285 and east along I-20 to Wesley Chapel Road. The first phase also includes bus rapid transit service from the Five Points MARTA station in downtown Atlanta to the same area.

Atlanta Streetcar and BeltLine

ATLANTA STREETCAR

Atlanta BeltLine

In the spring of 2014, the first new rail transit service in the region in over a decade will begin operation in downtown Atlanta. Funded in part by a federal TIGER grant, the Atlanta streetcar will run on a 2.7 mile one-way loop through downtown, connecting the Centennial Olympic Park on the west to the Martin Luther King, Jr. Historic District on the east. Plans are in place to extend the streetcar network in coming years throughout the city along several major roadways. Atlanta Beltline, Inc. (ABI) has also made significant progress in recent years in conducting environmental work, acquiring property and building parks and multi-use paths along a network of abandoned rail lines encircling the city. The ultimate BeltLine concept also includes rail service and it was defined in the previous RTP as a separate project from the downtown streetcar. Over the past two years, however, the City of Atlanta has completely overhauled its transit implementation strategy and integrated the two projects into a seamless network of connected streetcar and light rail routes. The PLAN 2040 RTP (March 2014 Update) includes funding in the constrained element for only a first phase of this transit network, which involves extending the new downtown streetcar alignment both east and west to intersect with the BeltLine corridor. Portions of the southwest and northeast segments of the BeltLine are also funded. Both ABI and the City have set aggressive schedules for completion of the entire network and ARC will continue working with them to reflect the latest delivery schedule in the regional plan as funding sources are secured.

Connect Cobb

Connect Cobb

Northwest Transit Corridor Alternatives Analysis

Connect Cobb Transit Alternatives Analysis

Cobb County recently completed an Alternatives Analysis to investigate transit options and their impact on mobility, livability and connectivity in the I-75 North and US 41 corridors. The corridor is one of the most congested in the region and a large percentage of the nearly 40% of Cobb residents now working within the county travel along US 41. The preferred transit concept involves bus rapid transit operating in separate lanes along much of US 41 in Cobb, with connections to Atlanta via the I-75 HOV lanes. The first phase of the project included in the constrained element of the PLAN 2040 RTP (March 2014 Update) includes construction of the dedicated guideway along US 41 from Kennesaw State University to

the Cumberland/Galleria area. Some funding is also included for supportive infrastructure at the Midtown MARTA station in Atlanta where the BRT service will terminate.

Connect 400 Transit Initiative

MARTA is currently investigating the need for high-capacity transit connections between the Perimeter Center area, near the interchange of I-285 and SR 400 in the City of Sandy Springs, and McGinnis Ferry Road in northern Fulton County. The corridor draws commuters from throughout the region and is the origin point for many commuter trips bound for central Atlanta, Gwinnett, and Cobb Counties. These conditions have created high levels of traffic congestion on GA 400 and the few east-west arterials which cross the expressway. The study will result in the identification of a specific alignment and technology or locally preferred alternative that best meets the transit needs for the corridor. Once this selection has been made, an environmental impact statement will be developed followed by engineering and design activities. The PLAN 2040 RTP (March 2014 Update) includes funding for construction of two transit centers at Holcomb Bridge Road and North Point Mall, purchase of 17 new buses for 5 new bus routes to serve the new transit centers, and preliminary engineering, final design & property acquisition for a future MARTA rail extension from the North Springs station to Holcomb Bridge Road.

Implements Strategic Roadway Capacity Enhancements

Interchanges

The region's interstates and freeways are impacted by population and employment growth. Interstates and freeways currently accommodate a significant percentage of the region's peak period travel. A focus of the PLAN 2040 RTP (March 2014 Update) is to address regional bottlenecks through interchange projects.

A core strategy of PLAN 2040 is to address these locations to improve safe access to employment centers and major roadways. Investments may include upgrades to existing interchanges or building new ones (see Figure 4-8).

Over $530 million is included in the FY 2014-2019 TIP to improve inchange bottlenecks, such as the $8.7 million project at I-285 West and SR 6 (Camp Creek Parkway)

Figure 4-8: Interchange Projects

- The constrained element of the plan includes 36 interchange projects totaling $2.27 billion.
- An additional 32 projects totaling $1.62 billion are identified in the aspirations element of the plan.

Addressing bottlenecks at interstate interchange locations is an important need to address based on the Regional Assessment and the work associated with the Atlanta Region Freight Mobility Plan. A sample of interchange projects scheduled for completion before the end of this decade include:

- I-285 West at SR 6 (Camp Creek Parkway) in southern Fulton County – Reconstruct as Diverging Diamond
- SR 316 at SR 81 and SR 11 in Barrow County – New Interchanges
- I-75 North at Windy Hill Road in Cobb County – Reconstruct as Diverging Diamond
- I-85 South at Poplar Road in Coweta County – New Interchange
- SR 400 at SR 140 (Holcomb Bridge Road) in northern Fulton County – Upgrades
- I-20 East at Panola Road in DeKalb County – Upgrades
- I-75 South from SR 331 to I-285 – Collector / Distributor Lanes

Due to the heavy traffic flow on regional interstates, many interchange projects are also coordinated with other mainline capacity projects, including managed lanes. Interchange design is coordinated with proposed interstate project cross-sections. Many studies are underway to reevaluate regional interstates and update RTP concepts, where necessary.

General Purpose Roadway Capacity

PLAN 2040 includes $5 billion of arterial capacity projects, of which $1.85 billion is proposed within the six years of the TIP period. The SR 92 realignment in Douglasville, which has been in engineering and right-of-way acquisition stages for years, is one of the largest commitments, with over $65 million programmed in FY 2014 for construction.

Roadways in the region serve many purposes and accommodate different types of travel including transit vehicles, automobiles, the movement of freight, pedestrians, and bicycles. The local streets and arterials that connect our communities are typically used for shorter trips, while the region's highways connect hundreds of thousands of motorists each day to major centers for jobs, education, shopping, and recreation.

This network is comprised of several key components including facilities which serve regional transportation needs, provide service to regional activity centers, aid in intra-community connectivity, and maintain access to and from areas outside of the region.

The Regional Strategic Transportation System and Thoroughfares Network, which are identified in Chapter 3, are systems of the major roadways across the region that connect our communities and activity centers, move high volumes of traffic, and are key to goods movement. These facilities also provide essential alternate routes for cross-regional travel when incidents occur on another part of the network. For all these reasons, it is critical for the region's economy that these roadways form a coherent network and function efficiently and safely for all users.

Several considerations helped determine when it is appropriate to add capacity to the arterial network. As explained in the plan development process discussed in the previous chapter (and further detailed in Appendix C-1), these considerations included:

- Focus on the most congested corridors.
- Encourage multi-jurisdictional and key subregional priorities.
- Consider the location of key emergency evacuation routes.
- Support the movement of freight.
- Emphasize cost effectiveness.

The constrained PLAN 2040 RTP (March 2014 Update) includes nearly 200 arterial widenings or new alignment projects which collectively add 998 lane-miles of capacity to the arterial network. Of the nearly $5 billion investment, fully one-third of the cost will be borne by local governments through SPLOSTs

and other funding sources. When the aspirations element of the plan is included, arterial capacity is proposed to increase by an additional 2,158 lane-miles, at an incremental cost of nearly $9.5 billion.

A sample of much-needed and long-anticipated arterial capacity projects which will be under construction before the end of the decade includes:

- SR 92 realignment in Douglas County
- SR 20 widening from I-575 to Scott Road in Cherokee County
- US 19/41 (Tara Boulevard) widening from Flint River Road to Tara Road in Clayton County
- SR 360 (Macland Road) widening in Cobb County
- Newnan Bypass Extension in Coweta County
- Lithonia Industrial Boulevard Extension in DeKalb County
- East Fayetteville Bypass Segment 1 in Fayette County
- SR 141 (Medlock Bridge Road) widening in northern Fulton County
- SR 9 (Atlanta Highway) widening in Forsyth County
- US 23 (Buford Highway) widening in Gwinnett County
- Jodeco Road widening in Henry County
- SR 162 (Salem Road) widening in Rockdale County and Newton County
- SR 92 widening in Paulding County
- SR 16 widening in Spalding County
- Monroe East Connector in Walton County

When adding capacity to the arterial system, it must be done in a way that meets the needs of all users and modes. This concept results in what is called in a "complete street". When we plan to widen a road, we must also include things like amenities to support transit services along those corridors, provide pedestrian and bicycle facilities, safe crossings and intersections, and take into consideration the needs of all users young and old, driver and non-driver. This policy is key to providing safe access to community resources for all residents and helps to create a healthy community.

For the freeway network, GDOT's general policy is that mainline capacity projects within the Atlanta region will be managed lanes. In other words, the construction of additional general purpose "free" lanes is not the preferred option. There are two general exceptions to this policy, however:

- Where there are currently only two lanes in each direction
- Auxiliary "add/drop" lanes between two interchanges to create longer and safer weave zones

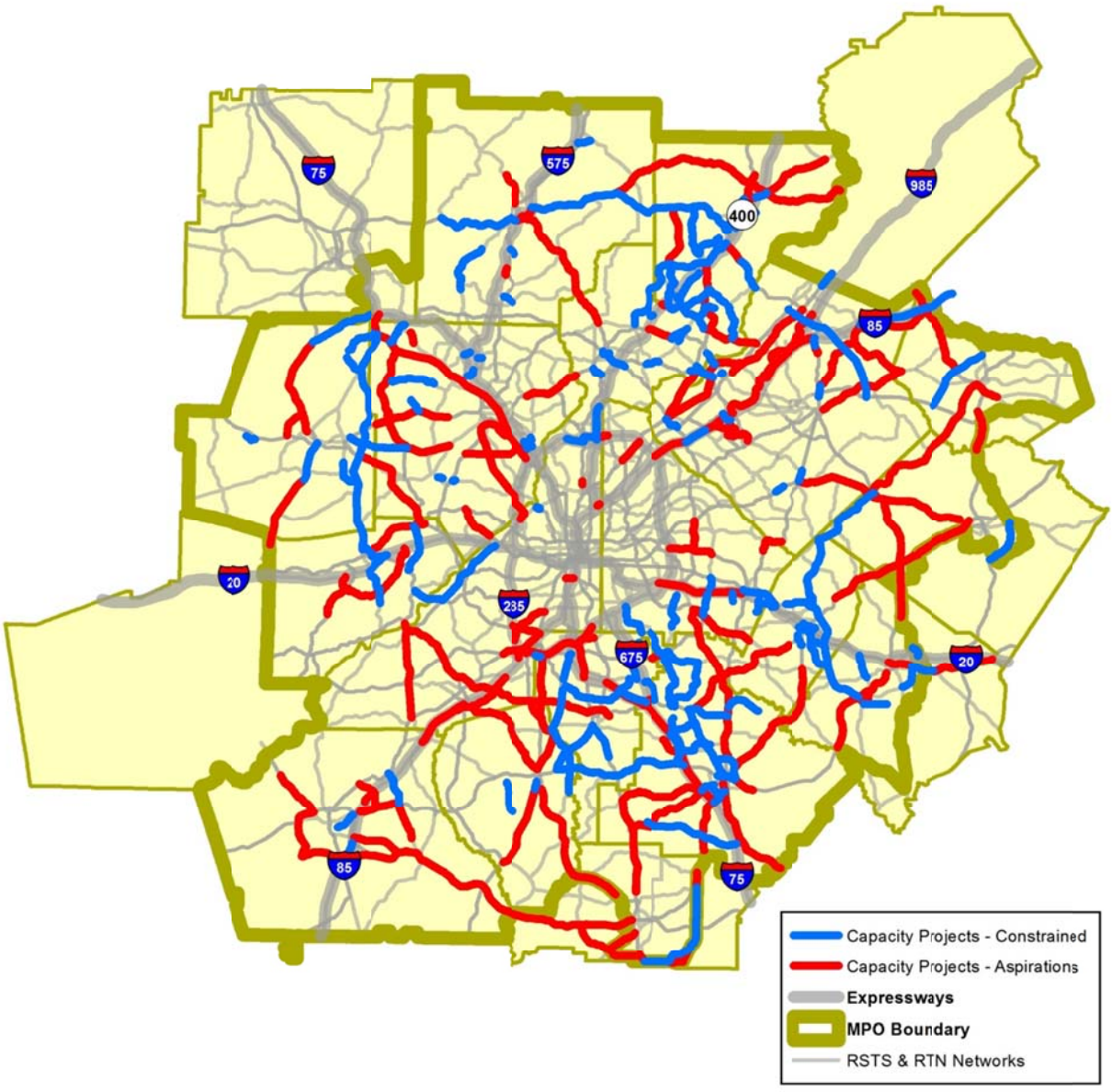
Because of these restrictions, only a small number of non-managed capacity projects are proposed for the freeway network within the TIP period:

- I-85 North northbound auxiliary lane from Jimmy Carter Boulevard to Indian Trail-Lilburn Road
- I-85 North widening from Hamilton Mill Road to SR 211
- I-85 North widening from SR 211 to SR 53

No additional projects of this nature are proposed within the constrained element of the plan, but five projects representing a combined $654 million commitment are included in the aspirations element.

Figure 4-9 shows the locations of all general purpose roadway capacity projects in the PLAN 2040 RTP (March 2014 Update).

Figure 4-9: General Purpose Roadway Capacity Projects



How is the Congestion Management Process Used in Developing Single-Occupant Vehicle (SOV) Capacity Project Recommendations for PLAN 2040?

As a nonattainment area exceeding 200,000 population, the Atlanta region must meet special federal planning requirements to expand roadway capacity. These regulations require a Congestion Management Process (CMP) be in place that Identifies congestion management strategies and identifies single-occupant vehicle (SOV) projects. PLAN 2040 uses the CMP in several ways to develop recommendations:

Identifying the location and magnitude of congestion. ARC monitors conditions on the transportation network to identify congested locations. These locations are evaluated and ranked according to severity.

Consultation with stakeholders on possible solutions. Regional stakeholders evaluate the source of the congestion. This evaluation occurs through mechanisms such as the CMP and special studies, including Comprehensive Transportation Plans (CTPs).

Evaluation of Alternatives. Before implementing a capacity project, non-capacity adding alternatives are explored. If these alternatives are not appropriate, capacity-adding projects may be implemented.

Due to the severe congestion on most regional arterials, the CMP also focuses on ranking congested facilities in order to focus the expenditure of limited funding resources. ARC prepares congestion rankings for use of regional stakeholders in making funding decisions. The latest congestion ranking information is included in Appendix C-2.

What Are the Anticipated Results of RTP Investments?

This section provides an assessment of how well the project investment decisions of the PLAN 2040 RTP (March 2014 Update) align with overall plan goals and objectives. The results showcase the RTP's expected impact on key regional indices such as mobility, safety, economic growth and environmental impact in the year 2040.

Summary of RTP Regional Performance Results

Most of the impacts were derived from the ARC 20-county travel demand model by comparing the financially constrained PLAN 2040 RTP scenario with other scenarios:

- **2010 Base Scenario** – This scenario correlates to current conditions in the Atlanta region. Population, employment, and the transportation network are held at 2010 levels.
- **2040 No-Build Scenario** – This scenario assumes no capacity improvements are made to the region's transportation infrastructure out through the year 2040. Population and employment are set at forecasted 2040 levels.
- **PLAN 2040 Constrained Scenario / PLAN 2040 Build Scenario** – This scenario is the financially constrained portion of PLAN 2040. Funding for transportation infrastructure improvements is limited to what can reasonably assumed to be available based on expected federal, state and local sources. Population and employment are set at forecasted 2040 levels.

The No-Build and PLAN 2040 constrained scenarios all assume the same population and employment forecasts out to the year 2040. The only variable allowed to change is the transportation network, which ensures changes in plan-level performance measures are a result of changes in the modeled infrastructure and not population or employment altering trip destinations choice.

No comparisons have been made to date with a transportation network that includes all of the projects defined in the aspirations element of the plan. Beginning in mid-2014, a major redefinition of the aspirations element will be undertaken, with the intent being to produce a project list which is more strategic in nature and is more closely aligned with potential future funding strategies. ARC anticipates that substantial performance analyses of various aspirational scenarios will be conducted as part of those efforts.

Table 4-1 contains RTP-level performance measure scores evaluated for each scenario in the areas of mobility, connections/access, economic growth and safety. Values that are based on an index set 2010 levels at 1.0. A lower ratio indicates a decline in that variable, while a higher ratio indicates an increase. In addition, the PLAN 2040 Constrained Scenario was evaluated for its impact on air quality/greenhouse gas emissions, supply and demand considerations, social equity and other variables.

Supplementary analysis results and system level performance metrics are contained in Appendix C-2.

Table 4-1: RTP Level Performance Measures

Performance Emphasis Area	Measure Description	2015 Base		2040 No-Build		2040 Constrained	
Mobility	**Average commute travel time by auto / transit (in minutes)**	Walk to Transit	58	Walk to Transit	60	Walk to Transit	60
		Drive to Transit	59	Drive to Transit	79	Drive to Transit	77
		Automobile	39	Automobile	61	Automobile	53
Connections / Accessibility	**Worker access to employment centers within 45 minutes by car (index)***	1.0		0.57		0.77	
	Worker access to employment centers within 45 minutes by transit (index)*	1.0		0.87		1.10	
	Average number of jobs within 45 minutes of home for typical person	472,677		308,360		400,015	
	Percent of system adequately maintained	System condition cannot be forecast using a regional travel demand model. As explained on pages 4-4 to 4-6 of this chapter, the amount of funding available is not sufficient to maintain conditions at current levels, but is adequate to maintain road, bridge and transit infrastructure at an acceptable level.					
Economic Growth	**Annual congestion cost per person**	$1,862		$5,023		$3,900	
	Number of reliable trips in peak period	89,065		132,518		215,406	
	Peak-hour highway VMT	17,377,388		22,146,969		22,044,383	
	Peak-Hour highway speed (mph):	General Lanes : 41 Managed Lanes: 48		General Lanes : 29 Managed Lanes: 41		General Lanes : 32 Managed Lanes: 44	
	Peak period truck delay (hours)	101,722		419,156		323,544	
Safety	**Annual Fatalities**	Fatalities cannot be forecast using a regional travel demand model. PLAN 2040 includes funding for a number of programs aimed at improving multimodal safety, as outlined on page 4-10 of this chapter and in project lists in App. A.					
	Incident Response and Clearance Time	Incident response and clearance times cannot be forecast using a regional travel demand model. PLAN 2040 continues and expands funding for two programs operated by GDOT which have proven effective. The Towing Recovery Incentive Program (TRIP) provides incentives for the quick removal of large commercial vehicles following incidents. Since 2007, average roadway clearance times have dropped by 2 hours and 45 minutes. The cost savings of a single incident is greater than the cost of the entire program for a full year. The Highway Emergency Response Operators (HERO) program is focused on passenger vehicles and smaller commercial vehicles.					

* Future measures are compared to a baseline value of 1.0 assigned to results from the 2015 model network year, which is the network year most closely representing current conditions.

Why do congestion costs increase in the future, even after investing $58.6 billion to expand and operate the system through the PLAN 2040 RTP (March 2014 Update)? The majority of funding committed over the next 25+ years will be required for maintaining and operating the existing network, leaving only $15.2 billion for large-scale expansion projects. The Atlanta region currently has the 7th worst congestion in the nation and is expected to add another 3 million people by the year 2040. This base level of congestion and added growth, with limited funding to address needs, is insufficient to "move the needle" in regard to congestion.

Recognizing this challenge, PLAN 2040 recommends enhanced land use strategies to encourage growth patterns that increase transit use. Ultimately, congestion relief will closely be tied to the region's success in changing growth patterns versus depending on expensive transportation capacity projects.

The RTP's Contribution to PLAN 2040 Performance Results

As explained in Chapter 1, the RTP is the transportation element of PLAN 2040, which is a more comprehensive plan that encompasses land use recommendations and addresses a variety of other issues important to the region's growth, economy and quality of life. While transportation system performance is an important contribution to determining how well PLAN 2040 is achieving its vision, goals and objectives, these measures alone do not provide the complete picture. Chapter 6 of this document presents the concept of an annual Regional Scorecard, which integrates transportation, land use and other criteria into a single product which will help the region track how well PLAN 2040 is being implemented.

Alignment of Roadway Investments with Priority Networks

Not all indicators of the how well the RTP supports PLAN 2040's vision, goals and objectives can be derived from empirical modeling. In some cases, professional judgment must be employed to determine whether federal and state roadway investments are being made where the needs are greatest or are likely to yield the greatest benefits.

Appendix C-2 includes data showing how nearly 200 major roadway projects align with such locations. When viewed collectively, the results clearly show that investments are being made where the benefits will be most pronounced and/or will positively impact the largest number of people, even if a detailed technical analysis of those benefits isn't possible using existing models or tools.

77% of the projects are located on a regional thoroughfare or a controlled access highway.

56% of the projects are located on the regional freight network or a controlled access highway.

43% of the projects are located on facilities which carry 10,000 vehicles or more per day.

40% of project locations experience LOS "D" conditions or worse during a typical evening peak period.

52% of the projects are located on facilities which experience a crash rate higher than the regional average of 60 per million vehicle miles of travel.

16% of the projects are located on facilities where 40% or more of the traffic during the evening peak period has an original and/or destination within one of the region's major job centers.

Perhaps the best indicator, though, is that fully 60% of the projects met three or more of these six thesholds.

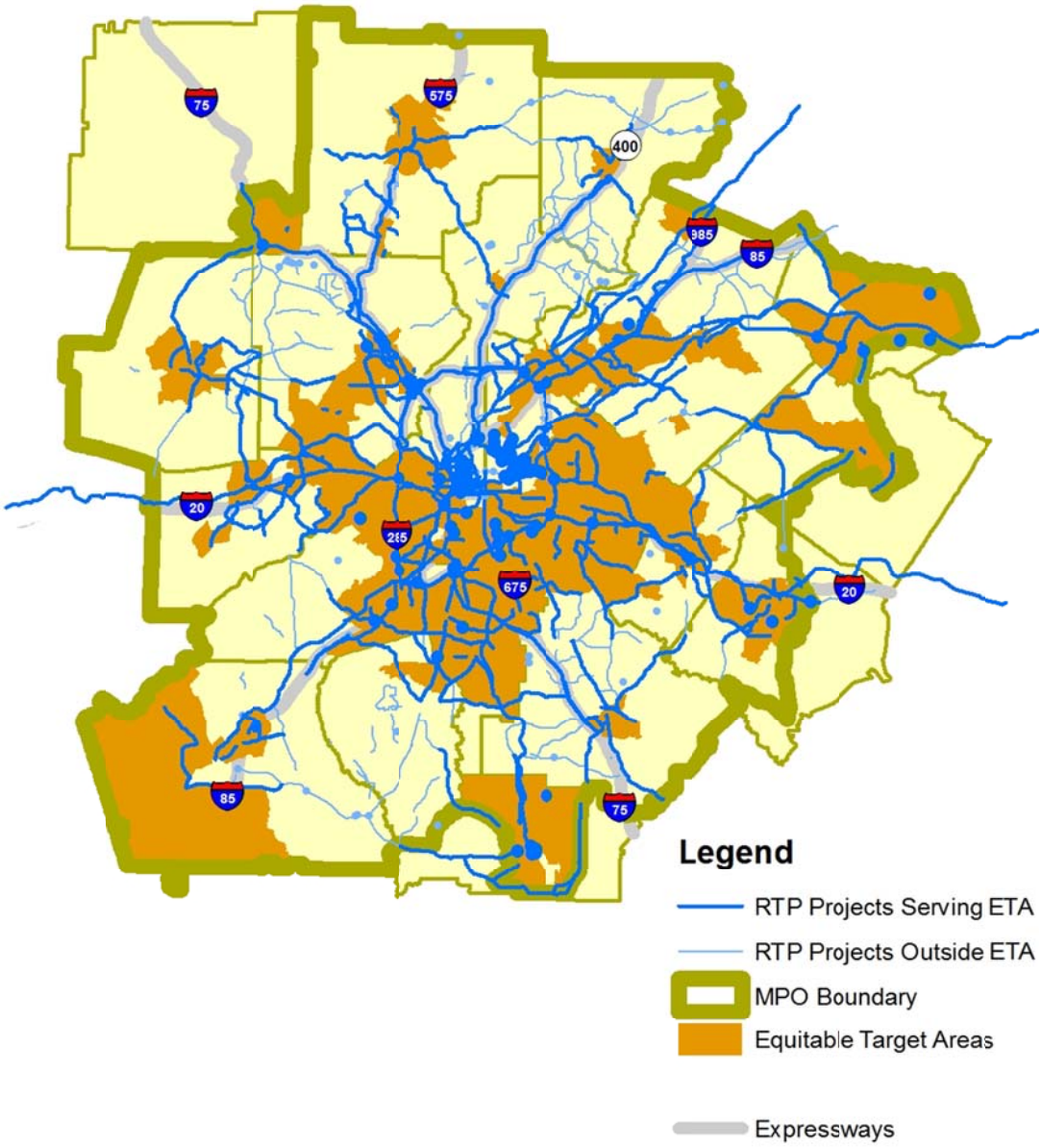
Level of Investment in Equitable Target Areas

The Equitable Target Area (ETA) Index was developed to identify environmental justice (EJ) communities in the Atlanta region and to help ensure a proportionate distribution of programs and investments across the region. An earlier section of this chapter described a few specific initiatives which target the specific needs of those communities and individuals who have either been historically underrepresented in the decisionmaking process or have unique mobility needs which require specialized options. The methodology used to identify these communities is explained in Appendix C-3.

The mere expenditure of funds on transportation projects within the physical boundaries of a community is certainly not a perfect indicator of how well the plan addresses needs and balances burdens and benefits fairly across the region. For example, a road capacity project which displaces community residents in order to reduce travel times for commuters simply passing through the area may be considered more of a detriment than a benefit. Alternately, a transit service linking a distressed community with jobs elsewhere in the region may have the majority of its "footprint" outside the community, but the mobility and access benefits it offers may heavily weight towards its residents.

The question of what is a beneficial investment and what is detrimental will continued to be explored in greater depth in future plan updates. As an initial step, though, the constrained RTP project list was mapped against ETA communities in order to assess how the level of financial commitment compared to non-ETA parts of the region. This map is shown in Figure 4-10.

Figure 4-10: Constrained RTP Projects and Equitable Target Areas



The results indicate that 32% of all programmed and long range RTP projects will be invested in ETA communities. Approximately one-third of the region's land area lies within these areas, demonstrating that the spatial distribution of projects is equitable. In addition, per capita investment levels in projects within or immediately adjacent to these areas is approximately $2,200 higher than in non-ETA parts of the region. However, as stated earlier, the location of a project is not necessarily a metric of who is actually deriving the benefits of the projects, merely a starting point for a continued dialogue on how the region can continue striving for more equitable outcomes.

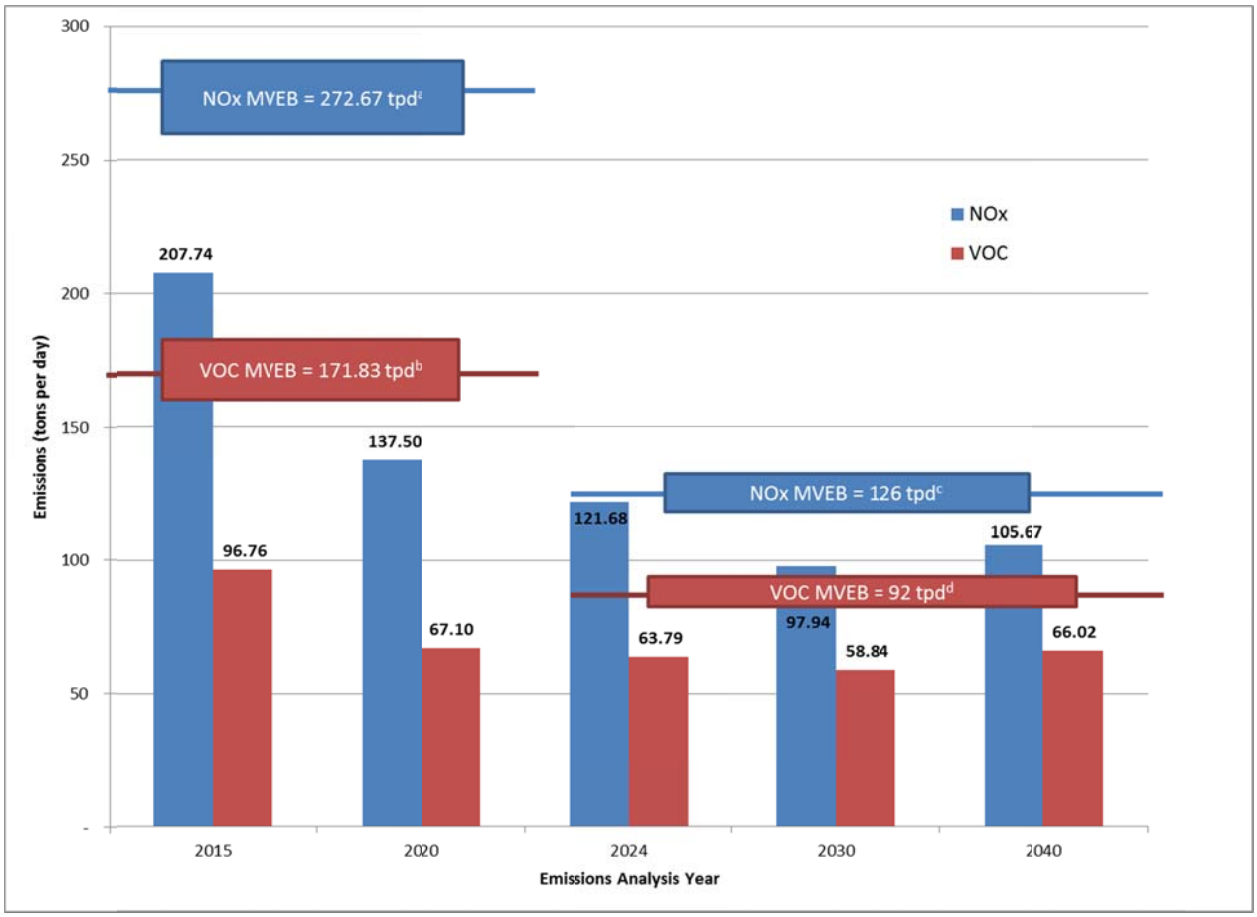
Air Quality Improvements

The PLAN 2040 RTP (March 2014 Update) supports the air quality program in several ways. The Atlanta region is in nonattainment for ground level ozone and fine particulate matter, two of the six pollutants regulated under the Clean Air Act. ARC provides support in meeting state and federal mandates for air quality.

Climate change impacts the regional planning process and many of programs that help to reduce greenhouse gas emissions also advance the goals of community livability, environmental sustainability, and decrease our dependence on foreign oil imports.

Based on the results of emissions modeling for the RTP, the region successfully meets federal air quality requirements, as shown in Figure 4-11.

Figure 4-11: Transportation Related Emissions and Air Quality Budgets



Additional detail on how the PLAN 2040 RTP (March 2014 Update) meets federal air quality requirements can be found in **Volume II: PLAN 2040 Conformity Determination Report**.

REGIONAL TRANSPORTATION PLAN

Chapter 5 – Finances

March 2014 Update

Chapter 5
Finances

Table of Contents

What are the Recent Trends in Transportation Finance?

Funding for transportation projects come from a variety of sources, including federal participation in projects such as the Atlanta Streetcar.

Funding for transportation in the state of Georgia and the Atlanta region determines the level of future transportation investments. These investments are needed to maintain and replace roadways, bridges, trains and buses. A growing community such as the Atlanta region also must invest in needed system improvements, including those that support growth that respects community values. These system expansion strategies range from bicycle/pedestrian and transit improvements for many intown communities, to interchange reconstructions for interstate bottlenecks that threaten the region's economic health.

The financially constrained element of the PLAN 2040 RTP (March 2014 Update) forecasts that approximately $58.6 billion of funding is available between 2014 and 2040. Future funding comes from a variety of sources, such as local sales taxes, state motor fuel taxes, and federal support through the Highway Trust Fund (HTF).

Even in the midst of flat federal funding and limited funding capacity for transit projects, the region continues to bring major projects to successful completion.

The Atlanta Streetcar, funded in 2010 in part by a competitive federal TIGER grant and innovative funding from the City of Atlanta, will open in the late spring of 2014. The first major transportation public private partnership in the history of Georgia will begin construction in 2014, with the Northwest Corridor Managed Lanes project. The SR 92 reconstruction in downtown Douglasville, a safety need and congestion bottleneck, will also begin construction in 2014. More complex interstate bottleneck relief projects, critical to supporting the regional economy, are in the pipeline, such as the I-75 South collector-distributor lanes at the I-285 interchange in Clayton County.

In November 2013, voters in both Gwinnett and Henry Counties supported Special Purpose Local Sales Tax (SPLOST) referendums that included significant investments in transportation. The three-year Gwinnett County SPLOST is forecast to provide approximately $275 million for transportation projects, including cities, in the community. A six-year Henry County SPLOST is forecast to generate approximately $86 million for county-sponsored transportation projects, exclusive of an additional $27 million that will be dedicated to city-sponsored projects of various types.

Budgeted state motor fuel receipts, the primary funding source for maintenance grants to local governments and required match for major roadway-related projects, have increased 19% ($128 million) between the 2011 and 2014 state budgets. 2014 budgeted state motor fuel receipts now exceed pre-recession 2007 receipts. This increase in transportation receipts, while insufficient to meet the overall demand for transportation project funding, has permitted GDOT to continue to support funding for critical programs such as Local Maintenance & Improvement Grants (LMIG) while providing state match on large-scale transportation projects such as the Northwest Corridor project.

The lifting of onerous congressional balancing requirements in 2013 allows GDOT flexibility in tackling large-scale projects. Signed by Governor Deal in 2013, HB 202 waives the requirement to balance funds by congressional districts for all interstate improvements, certain freight corridor projects and projects of regional significance. These exemptions reflect that the interstates and freight corridors are a state priority, with the cost not being borne solely by one or two congressional districts. These exemptions assist the Atlanta region by providing state funding flexibility in addressing high-cost projects.

The ability of MARTA to maintain stable operations, and overall financial health, has improved significantly over the past year. Through the implementation of cost savings initiatives, MARTA's FY 2013 operating expenses were reduced 9% from $435 million to $396 million. This action allowed MARTA to end FY 2013 with a positive $9 million impact on reserves vs. an expected $33 million loss. In fact, the financial picture for MARTA has improved to the point that $80 million in reserves are expected by 2018.

While several positive trends and actions have occurred since 2011, many financial challenges remain.

In July 2012, regional 1% sales referenda failed in all five special tax districts contained either partially or totally within the 18-county ARC transportation planning region. In the 10-county ARC district alone, a successful referendum would have generated approximately $8.5 billion in transportation funding over a 10 year period. While the 10-county regionwide referendum was defeated by a margin of 63% to 37%, a majority of voters in the City of Atlanta did vote in favor of the ballot measure.

Federal funding to Georgia remains flat, as the nation grapples with meager growth in revenues to the Highway Trust Fund. While the MAP-21 transportation bill reauthorization has provided stable funding through FY 2014, continued infusions of additional federal funds from other sources will likely be required to just maintain consistent transportation spending levels.

Local government capital budgets have not fully recovered from the severe decline in property tax digests during the Great Recession. This has most significantly impacted local governments in Fulton and DeKalb counties which cannot pass SPLOSTs due to their long-standing 1% sales tax commitment to MARTA and a cap on overall sales tax rates which can be imposed.

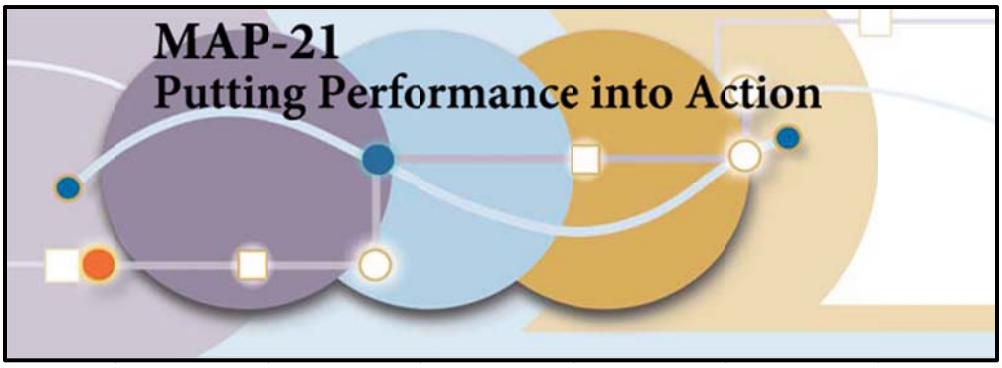
ARC must ensure that the PLAN 2040 RTP (March 2014 Update) remains fiscally constrained per federal guidelines. A transportation plan is considered financially constrained if projected project costs do not exceed projected revenues that are reasonably expected to be available during the time frame of the plan. Once the federal government completes the Conformity Determination process showing that the RTP meets all federal requirements – of which fiscal constraint is an obligatory component – projects can be funded and implemented as programmed in the plan.

The RTP's financial assumptions and forecasts are developed in consultation with ARC's Financial Planning Team. Composed of representatives of federal and state agencies, public transit operators, and other stakeholders, the Financial Planning Team reviews major assumptions regarding the levels of future revenues and cost estimation methodologies. The plan's financial forecasts reflect this close working partnership.

This chapter provides a broad overview of the financial assumptions that underpin the PLAN 2040 RTP (March 2014 Update), with more detailed funding and cost tables provided in Appendix B.[1]

[1] The revenue and cost data presented in this chapter, unless otherwise noted, is presented in its real value, fixed at the FY 2014 value of the US dollar. Appendix B provides additional information on Year-of-Expenditure (YOE) revenues and costs.

What Changed Under MAP-21?



Since the passage of the Moving Ahead for Progress in the 21st Century (MAP-21) federal transportation program reauthorization, signed by President Obama in July 2012, a new program structure for developing long-range transportation plans and transportation improvement programs (TIPs) has come into effect. According to the Federal Highway Administration (FHWA), the major changes include:

- Consolidation of the major transportation programs into seven (7) major components: (1) National Highway Performance Program (NHPP); (2) Surface Transportation Program (STP); (3) Congestion Mitigation and Air Quality Improvements Program (CMAQ); (4) Highway Safety Improvement Program (HSIP); (5) Railway-Highway Grade Crossing Program; (6) Metropolitan Planning; and (7) Transportation Alternatives.
- Provision of $37.7 billion per year in formula transportation funding as follows:
  - National Highway Performance Program ($21.8 billion)
  - Surface Transportation Program ($10.0 billion)
  - Highway Safety Improvement Program ($2.4 billion)
  - Congestion Mitigation and Air Quality Improvement Program ($2.2 billion)
  - Transportation Alternatives Program ($0.81 billion)
  - Expansion of financing capacity for transportation infrastructure through the loans and tolling/pricing provisions
  - Provision of resources for emergency relief ($0.1 billion) and Projects of National and Regional Significance ($0.5 billion in FY 13 only)
- Higher priority for freight-related projects
- Provision of funding for research, technology deployment, training and education in transportation.
- Requirement to utilize performance-based planning and programming approaches at the State and regional/MPO levels
- Provisions to accelerate the environmental process for projects and programs and overall project delivery

Unlike previous federal transportation authorizations, MAP-21 has a 27-month life span, expiring on September 30, 2014.

How is Inflation Considered?

Revenue forecasts and future cost estimates are significantly impacted by inflation, which erodes the purchasing power of revenue sources, while driving up future project costs. Because federal planning requirements stipulate that inflation be reflected for both costs and revenues, or year of expenditure (YOE), the inflation forecasts in the PLAN 2040 RTP (March 2014 Update) are used to adjust both revenue sources and costs to current year (2014) dollars.

RTP inflation forecasts differ for the TIP (2014-2019) and long-range (2020-2040) periods. Based on consultation with the Financial Planning Team, a rate of 2% is applied to the TIP period and 2.2% for the long-range period, which includes projects and programs for 2020 and beyond. The plan's long-range element is divided into two periods: 2020-2030 and 2031-2040. Since projects outside of the TIP period are not given a specific year for construction, a midpoint year is established to estimate inflation. For the 2020-2030 period, the year 2025 is used to inflate current year cost estimates. For the 2031-2040 period, 2035 is used as a midpoint for inflation assumption purposes.

How Much Funding is Available?

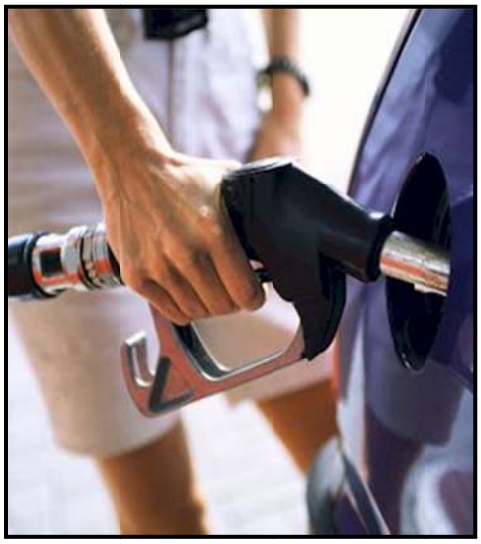
Funding forecasts are developed in consultation with the U.S. Department of Transportation (USDOT), Georgia Department of Transportation (GDOT), Georgia Regional Transportation Authority (GRTA), Metropolitan Atlanta Rapid Transit Authority (MARTA), and the Georgia State Road and Tollway Authority (SRTA). The Financial Planning Team met during 2012 and 2013 to discuss major funding trends and issues. A key component of these discussions was to determine the level of funding available to implement the PLAN 2040 RTP (March 2014 Update). Revenues to fund transportation plans and programs are anticipated from four primary sources – federal, state, local, and private funds. This section will summarize the funding assumptions and estimates calculated from these sources agreed upon by the Financial Planning Team.

In general, the PLAN 2040 RTP (March 2014 Update) reflects the current funding environment:

- Collectively, federal, state, local, and private funds have not kept up with population growth and needs;
- MAP-21, the latest federal transportation funding reauthorization, provides a slower funding growth rate (1.4%) than previous reauthorization bills; and
- E-commerce has eroded sales tax revenues, particularly impacting local governments and MARTA.

Additional detail relating to federal highway and transit funding anticipated for the RTP follows.

Federal Funding



Federal resources comprise the second largest share of system expansion funds after local funding. In July 2012, a new reauthorization, *Moving Ahead for Progress in the 21st Century* (MAP-21), was enacted and reauthorized the collection and expenditure of federal funds for transportation programs.

Funding in the federal transportation bill comes from federal taxes on fuel, heavy-duty trucks, and, to a lesser extent, general funds. Taxes are charged for each gallon of fuel purchased (18.4 cents per gallon for gasoline and 24.4 cents per gallon for diesel). Tax revenues paid into the Highway Trust Fund, which is separated into two accounts – a highway account and a mass transit account. The highway account receives about 84% of the proceeds from gasoline fuel taxes and 16% is dedicated to the mass transit account.

According to the Congressional Budget Office (CBO), the current trajectory of the Highway Trust Fund is unsustainable. Starting in federal fiscal year 2015 (October 1, 2014), the trust fund will have insufficient resources to meet all of its obligations, resulting in steadily accumulating shortfalls.

Since 2008, the Congress has avoided such shortfalls by transferring a cumulative $41 billion from the general fund of the Treasury to the Highway Trust Fund. The Congress has enacted an additional transfer of $12.6 billion that is scheduled to occur in 2014. If lawmakers choose to continue authorizing such transfers, they would have to transfer an additional $15 billion in 2015 and increasing amounts in subsequent years to prevent future shortfalls, if spending was maintained at the 2013 level, as adjusted for inflation.

A key challenge facing Georgia and the Atlanta region is this pending fiscal cliff in the HTF. Bringing the trust fund into balance in 2015 would require entirely eliminating the authority in that year to obligate funds (projected to be about $51 billion), raising the taxes on motor fuels by about 10 cents per gallon, or undertaking some combination of those approaches.

The PLAN 2040 RTP (March 2014 Update) includes the assumption that policy action will be taken to maintain the solvency of the HTF. The obligation limits for Georgia are used as the base to forecasting federal funds. Current federal funding levels are then forecast to increase in the future. The source of federal funding growth rates is MAP-21. Based on revenue increases in MAP-21, a 1.4% annual growth rate is applied to forecast federal funds.

The primary sources of federal surface transportation funding are through the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA).

FHWA and FTA Funding

In current-year 2014 dollars, as illustrated in Table 5-1, ARC forecasts that approximately $17.54 billion of federal highway funds and $4.75 billion of federal transit funds will be available to the region through the years 2014 to 2040. In total, ARC forecasts that the region should receive approximately $22.29 billion in federal funds, in current year 2014 dollars, over the life of PLAN 2040. Federal planning requirements, however, specify the calculation of PLAN 2040 revenue forecasts and costs in year-of-expenditure (YOE) dollars. Total YOE federal funds are forecast at $30.09 billion.

Table 5-1: Forecasted Federal Funding for the Atlanta Region

Source	2014 $ (current year)	YOE $
FTA	$4.75	$6.73
FHWA	$17.54	$23.36
Total	$22.29	$30.09

Source: ARC

In consultation with the Financial Planning Team, baseline estimates are forecast to increase for both FHWA and FTA sources by 1.4% annually. This rate is less than base line inflation in the TIP (2%) and long-range periods (2.2%).

To determine FHWA funding during the FY 2014-2019 period, the Atlanta region's share of statewide federal funds was developed in consultation with GDOT as part of the development of the State Transportation Improvement Program (STIP). Long-range funding share assumptions reflect recent changes to state congressional balancing assumptions from HB 202. HB 202 waives the requirement to balance funds by congressional districts for all interstate improvements, certain freight corridor projects and projects of regional significance. The Atlanta region's share of statewide employment was agreed to by the Financial Planning Team as a method to help determine a regional share of revenues. ARC's share of statewide FHWA funding is assumed to be 58.8% from 2020-2030 and 60.1% from 2031-2040.

The available federal highway funds are net principal and interest payments on outstanding and anticipated GARVEE and GRB bonds during the RTP timeframe. The Georgia State Financing and Investment Commission and the State Road and Tollway Authority provided information on bond debt payment. These debt payment obligations have been accounted for in the level of available funding.

FTA funding comes from two primary sources in 1) formula funds and 2) discretionary programs. Formula funds are allocated directly to regional transit operators. Formula funds are forecast to increase at a rate of 1.4% annually, yielding $3.08 billion in current 2014 dollars.

Determining future FTA discretionary funding is based on determining a reasonable amount of funding that could be made available to the region in the future. In consultation with the Financial Planning Team, a forecast of approximately $2.00 billion is made for discretionary funding sources. This figure was determined based on historical funding for New Starts in the nation. Per capita figures were developed for major metropolitan areas in the nation, with an annual average of over $16 per capita funding allocated for large peer transit providers in the nation.

State Funding

The State of Georgia collects two types of taxes on motor fuels to help fund transportation investments: an excise tax and a 'prepaid' sales tax. The Motor Fuel Excise Tax is a tax based on the volume (gallons) of fuel purchased. The excise tax rate levied on a gallon of gasoline is 7.5 cents per gallon, which has been in force since 1971 and is not indexed for inflation. Since this tax is based solely on the volume of gasoline sold, revenues are strongly correlated with vehicle-miles traveled, and the fuel economy of motor vehicles traveling on roads in the state. As such, improved engine technology, higher vehicle fuel efficiency and overall inflation have counteracted the efficacy of this tax.

Georgia also collects the Prepaid Motor Fuel Sales Tax which is a four-percent (4%) sales tax on the average retail price of fuel, which is determined by the State on a semi-annual basis using a weighted average indexed retail sales price for each type of fuel. Three percent is dedicated to transportation and the remaining one percent is allocated to the State General Fund. Revenues from this tax rise and fall with the price of gasoline. However, frequent fluctuations in the revenue stream are minimized by the method that the State collects the sales tax.

Budgeted state motor fuel receipts, the primary funding source for maintenance grants to local governments and required match for major roadway-related projects, have increased 19% ($128 million) between the 2011 and 2014 state budgets. 2014 budgeted state motor fuel receipts of $804 million now exceed the pre-recession 2007 receipts.

The methodology used to forecast state funds emphasizes extrapolating budgeted funding amounts into the future at a rate of 2.2% (rate of long-range inflation). This conservative approach yields approximately $18.4 billion statewide through the year 2040. The Atlanta region's forecast share follows the same methodology used to estimate federal funds. Based on the region's forecast share of population and employment yields a regional statewide funding forecast of $10.89 billion in current 2014 dollars or $14.55 billion in YOE dollars through 2040 (see Table 5-2). Additional information on state forecasts is provided in Appendix B.

Table 5-2: Forecast Net Funding from State Motor Fuel Taxes and General Fund ($billions)

Source	2014 $ (current year)	YOE $
State	$10.89	$14.55

Source: ARC

Local Funding

Local funding for transportation comes primarily from two sources: Special Purpose Local Option Sales Taxes (SPLOST) and local general fund expenditures.

In the Atlanta region, local governments typically dedicate a portion of SPLOST revenues to fund transportation, with dedicated funds typically ranging from 30% to 100% of total SPLOST revenues. In FY 2011 alone, SPLOST revenues generated $1.16 billion statewide and $514 million (44.5% of state total) in the 18-county MPO. Fulton and DeKalb counties, the largest and 3rd largest counties respectively in Georgia, do not have access to SPLOST funding options due to state sales tax ceiling caps. Many counties have a long-term history of approving and renewing SPLOST programs. Typically running for approximately 5 years, SPLOST programs are subject to voter approval and run for a limited period, and are therefore not a dedicated annual source of transportation funding.

Other local general fund expenditures for transportation must go through an annual budgeting process and compete against other uses. This makes general funds also a volatile source of transportation funding. SPLOST (including MARTA) and local general fund revenue historically account for roughly 95% of all local transportation funding.

Recent trends in local transportation funding have been impacted by national and state economic conditions since 2007. It is estimated that the local property tax digests, or the total taxable value of property within a jurisdiction, have decreased an average of 18% from peak 2008 levels, ranging from a reduction of 4% in Spalding County to about 35% in Paulding County. This is significant because roughly 85% of the roadway lane miles, 52% of bridges, and 47% of travel in the region occurs on locally-owned roads and bridges.

Local revenues reasonably expected to be available for transportation were based on an evaluation of historic funding levels from four sources – general funds, special assessments, SPLOST, and miscellaneous funds. FHWA reports historical local transportation expenditures from general funds, special assessments, and miscellaneous sources in the FHWA Statistics Reports series. For PLAN 2040, this data source was supplemented by local government budget research. For local taxes (or SPLOST) applied to transportation, a survey of local entities was conducted to determine the current level of transportation expenditures. In addition, historical information on SPLOST data is available through the Georgia Department of Revenue.

As illustrated in Table 5-3, $7.36 billion in current 2014 dollars or $9.71 billion in YOE dollars of local funds can reasonably be anticipated for the implementation of transportation strategies through the year

2040. This amount does not include local transit funding. Not all of these funds are allocated in the RTP as most local governments only formulate five-year capital budgets to identify potential projects. PLAN 2040 does not assume the availability of major new local funding sources, such as a regional transportation sales tax, in the constrained plan. Additional information is available in Appendix B.

Table 5-3: Forecast Local Funding (Non-Transit) ($billions)

Source	2014 $ (current year)	YOE $
Local	$7.36	$9.71

Source: ARC

Local Support for Transit

In Georgia, as required by the Georgia Constitution, state motor fuel tax revenues cannot support transit or any transportation purpose other than roadways and bridges. Since there is not a dedicated state funding source for transit, the stability of state general funds allocated to transit as well as locally derived transit funds are crucial to the future of Georgia's transit systems. The U.S. Department of Transportation requires a commitment for operating support from state, regional, or local governments before allowing federal funds to be spent on the construction and implementation of transit projects. The majority of transit operating funds must come from state and local funding resources as federal transit operating funds are very limited.

MARTA Resources

MARTA is the only transit system in the region supported by a multi-jurisdiction sales tax, in the form of a one-percent sales tax levied in the City of Atlanta and Fulton and DeKalb Counties. As forecasted by MARTA through a contract with Georgia State University, the sales tax generates approximately $12.65 billion in current 2014 dollars ($17.33 billion in YOE dollars) from 2014 through year 2040. Additionally, MARTA is expected to receive over $2.8 billion in 2014 dollars ($4.0 billion in YOE dollars) in farebox receipts over the same period. Adequate funding resources are available for MARTA over the life of the RTP to support MARTA sponsored projects in the plan.

One of the more noticeable effects of the recent economic downturn has been depressed retail sales, which in turn, has negatively impacted sales tax revenues across the country. The challenging fiscal climate, in addition to the sharp cost increases in the nonresidential construction industry worldwide in the years 2004-2008, has induced the authority into making significant cuts in service. MARTA also operates under a state

requirement that they spend 50 percent of the sales tax money they receive on capital improvements and the other half on operations.

PLAN 2040 continues to recommend that the Georgia Legislature allow MARTA flexibility in allocating sales tax revenues between operations and capital. This action would allow MARTA the flexibility to distribute funds where needed, while at the same time giving the region the ability to respond dynamically to volatile economic conditions.

Since 2007, MARTA has undertaken a number of cost containment measures to balance expenditures against its available resources. These measures have included freezing employee wages for five years, mandatory two-week furloughs, reduction of 700 positions and layoffs of 400 employees and efforts to reduce employee medical costs.

The agency's leadership team has initiated other efforts to optimize the use of the system's available funding. These recommendations reflect those included in a 2012 management audit of the organization by the firm, KPMG, as well as the MARTA leadership team's priorities. Examples of the actions that are underway include:

- Personnel cost containment - including actions to reduce healthcare, retirement, and Worker's Compensation obligations
- Reduction in the number of senior management positions
- Consideration of changes in sourcing, including privatizing certain functions
- Developing new revenue sources

Local Transit Funding (Non-MARTA)

Several local jurisdictions (counties) in the Atlanta region operate their own transit systems, including Cobb Community Transit, Cherokee Transit, Douglas County Rideshare, Henry County Transit, Paulding Transit, and Gwinnett County Transit. Local funding for these systems depends on local general fund support, along with some federal assistance. Due to the impact of declining property values, general fund property tax revenues for the region's local governments have decreased; thus, in turn, negatively impacting available funding for local transit services.

For systems, more financing options are available, including state support, farebox returns, and local Tax Allocation Districts. In total, there will be an estimated $794 million in 2014 dollars ($948 million in YOE dollars) in local funding available for the operation and expansion of local transit systems in the Atlanta region over the lifespan of the RTP. These funding sources include farebox returns and local funding support. Supporting these local government funding sources, the State of Georgia included about $8 million in the FY 2014 budget to fund the Georgia Regional Transportation Authority's Xpress bus service.

Private Funding

Since the early 2000s, GDOT had been pursuing public-private partnership (P3) opportunities, including proposals to widen and enhance portions of I-285, I-75 North, and I-575. Over the past three years, state P3 policy has evolved. While private sector investment opportunities via P3s are still under consideration for implementing portions of the Metro Atlanta Managed Lane Implementation Plan, the State's leadership is more focused on delivering major projects via more conventional delivery methods. The Northwest Corridor and Multimodal Passenger Terminal are planned to be completed with over $277 million (year of expenditure dollars) in private resources.

A future area of emphasis among stakeholders is expanding the use of P3 funding opportunities to implement transit investments. Negotiations regarding the development of the proposed Multimodal Passenger Terminal are currently underway with a private consortium. Additional work is underway to expand the use of P3's to advance the construction of the Atlanta Streetcar and Beltline. Future plan updates will monitor the progress of transit-related P3 initiatives, with the goal to advance the implementation of these projects such as the Atlanta Streetcar and Beltline.

How Were Project Costs Estimated?

In 2007, USDOT introduced a planning requirement (Federal register, Vol. 72, No. 30) mandating that revenue and cost estimates included in an RTP be converted to their year of expenditure (YOE) dollar values through applying a forecasted inflation rate.

In response and in coordination with the Financial Planning Team, ARC staff conducted a review of two construction inflation rate indexes, including (1) producer price index for highway construction and (2) the core consumer price index. Both indices are provided by the U.S. Bureau of Labor Statistics. After evaluating both indices over a twenty-year period and researching forecasts performed by the Survey of Economic Forecasters and the Congressional Budget Office (CBO), it became apparent that there will be weak inflationary pressure over the coming years as the global economy recovers from the Great Recession and the market absorbs excess capacity. Given these trends, ARC forecasts that the long-range average annual inflation rate will be roughly 2.2% beyond 2019.

For each RTP process, ARC updates project cost using the best available local information, including the experience of local governments, transit providers and GDOT in delivering transportation projects. Both ARC and GDOT maintain costing tools that are available to local governments to assist in developing project cost estimates. More detailed planning level cost estimates are developed during local Comprehensive Transportation Plans. GDOT has extensively updated project costs as part of this plan update. All major projects have completed significant planning and environmental analysis, yielding updated project costs. Therefore, the PLAN 2040 RTP (March 2014 Update) cost estimates are sound and reasonable using the latest available information.

ARC reviewed the GDOT online construction bid database to obtain current Atlanta area representative project cost information for a variety of project types, such as roadway widenings, (by number of lanes), new location roadways, intersection improvements and bridges. Project types were further broken into urban and rural categories. The bid tabulations (by project type) were then used to develop typical roadway costs on a per lane mile basis. To further refine the costing tool, discussions were held with GDOT personnel, local government DOT, local Public Works personnel, transportation contractors, suppliers and design professionals.

What is the Relationship of the TIP to the RTP?

Inclusion in the PLAN 2040 RTP (March 2014 Update) means that a major regional project has been identified as a regional priority for funding and is part of the region's financial plan. The Transportation Improvement Program (TIP) represents the implementation of recommendations from the long-range plan into a short-term six-year program of improvements and consists of the regionally approved list of priority projects to be advanced. A project's presence in the TIP represents a critical step in the authorization of funding for a project. Specific TIP projects are identified in Appendix A-1.

As required by federal law, the TIP document must list all projects that intend to use federal funds, along with regionally significant projects that do not necessarily receive federal funding. Projects of all surface transportation modes are included in a TIP – i.e. bicycle, pedestrian, freight-related, and innovative air quality projects, as well as the more traditional highway and transit projects. Regionally significant projects must be drawn from the region's long-range transportation plan, and all projects in the TIP must help implement the goals of the long-range plan.

In 2012, ARC approved an updated set of rules created to ensure the implementation and completion of TIP projects by their respective sponsors. These rules were published in a document titled *RTP/TIP Blueprint 2012*, which is available on ARC's website. With the intent of serving as a convenient guide for regional project sponsors, the *Blueprint* carefully outlines the standard practice and procedures governing the programming and implementation of projects in the region's TIP. This document will be updated periodically as the need arises.

How Is Fiscal Constraint Demonstrated?

The PLAN 2040 RTP (March 2014 Update) presents the challenge of balancing the region's needs in the face of widening funding gaps. ARC has worked closely with its regional planning partners – US DOT, GDOT, MARTA, GRTA, SRTA, and local governments – to prioritize projects according to need and impact relative to achieving the stated objectives of PLAN 2040.

A significant portion of these projects were derived from regional system plans that have been completed over the past five years, such as the Managed Lanes System Plan, the Concept 3 Regional Transit Vision, and the Regional Freight Plan.

Meeting Federal Financial Constraint Requirements

The RTP current year 2014 costs are estimated at $58.6 billion (see Table 5-4). Federal funds comprise $22.2 billion of forecast revenues.

Table 5-4: PLAN 2040 Funding for Major Program Areas in Current Year 2014 Dollars

	Source					
Plan Category	Federal	State	Local	Private Partnerships	Other (Fares, User Fees)	Total
System Expansion Programs						
Managed Lanes	$1,975,000,000	$725,000,000	$0	$60,000,000	$1,428,000,000	$4,188,000,000
Transit	$1,669,000,000	$290,000,000	$1,953,000,000	$171,000,000	$0	$4,083,000,000
Arterial Highway	$4,357,000,000	$1,000,000,000	$1,602,000,000	$0	$0	$6,959,000,000
Expansion Subtotal	**$8,001,000,000**	**$2,015,000,000**	**$3,555,000,000**	**$231,000,000**	**$1,428,000,000**	**$15,230,000,000**
Demand Management						
Bicycle/Pedestrian	$689,000,000	$3,000,000	$757,000,000	$0	$0	$1,449,000,000
Other Programs (TDM)	$338,000,000	$6,000,000	$76,000,000	$0	$0	$420,000,000
Demand Management Subtotal	**$1,027,000,000**	**$9,000,000**	**$833,000,000**	**$0**	**$0**	**$1,869,000,000**
Preservation and Optimization						
Transit Operations/Preservation	$3,125,000,000	$338,000,000	$16,032,000,000	$0	$3,485,000,000	$22,980,000,000
Roadway Operations/Preservation	$9,172,000,000	$3,919,000,000	$2,205,000,000	$0	$0	$15,296,000,000
Other System Optimization/Safety	$887,000,000	$193,000,000	$2,163,000,000	$0	$0	$3,243,000,000
Preserv. / Optim. Subtotal	**$13,184,000,000**	**$4,450,000,000**	**$20,400,000,000**	**$0**	**$3,485,000,000**	**$41,519,000,000**
TOTALS	**$22,212,000,000**	**$6,474,000,000**	**$24,788,000,000**	**$231,000,000**	**$4,913,000,000**	**$58,618,000,000**

Source: ARC

Federal funds, a core consideration of financial constraint, are balanced based on expected revenues from the Federal Highway Administration and the Federal Transit Administration. As illustrated in Table 5-5, the RTP meets federal financial constraint requirements with balances for both FTA and FHWA funds.

Table 5-5: Federal-Aid Funding Balances in Current Year 2014 Dollars ($billions)

Source	Revenues	Costs for PLAN 2040 RTP (March 2014 Update)	Balances
FTA	$4.75	$4.75	$0
FHWA	$17.54	$17.46	$0.08
Total	**$22.29**	**$22.21**	**$0.08**

Source: ARC

The PLAN 2040 RTP (March 2014 Update) Year of Expenditure (YOE) costs are estimated at $79.1 billion (see Table 5-6). Federal funds comprise $29.9 billion of forecast revenues (see Table 5-7).

Table 5-6: PLAN 2040 Funding for Major Program Areas ($YOE)

Plan Category	Source					
	Federal	State	Local	Private Partnerships	Other (Fares, User Fees)	Total
System Expansion Programs						
Managed Lanes	$2,493,000,000	$855,000,000	$0	$60,000,000	$1,914,000,000	$5,322,000,000
Transit	$2,656,000,000	$470,000,000	$3,021,000,000	$217,000,000	$0	$6,364,000,000
Arterial Highway	$5,410,000,000	$1,234,000,000	$2,040,000,000	$0	$0	$8,684,000,000
Expansion Subtotal	**$10,559,000,000**	**$2,559,000,000**	**$5,061,000,000**	**$277,000,000**	**$1,914,000,000**	**$20,370,000,000**
Demand Management						
Bicycle/Pedestrian	$849,000,000	$3,000,000	$998,000,000	$0	$0	$1,850,000,000
Other Programs (TDM)	$395,000,000	$7,000,000	$89,000,000	$0	$0	$491,000,000
Demand Management Subtotal	**$1,244,000,000**	**$10,000,000**	**$1,087,000,000**	**$0**	**$0**	**$2,341,000,000**
Preservation and Optimization						
Transit Operations/Preservation	$4,114,000,000	$474,000,000	$21,563,000,000	$0	$4,875,000,000	$31,026,000,000
Roadway Operations/Preservation	$13,075,000,000	$5,418,000,000	$2,909,000,000	$0	$0	$21,402,000,000
Other System Optimization/Safety	$916,000,000	$199,000,000	$2,853,000,000	$0	$0	$3,968,000,000
Preserv. / Optim. Subtotal	**$18,105,000,000**	**$6,091,000,000**	**$27,325,000,000**	**$0**	**$4,875,000,000**	**$56,396,000,000**
TOTALS	**$29,908,000,000**	**$8,660,000,000**	**$33,473,000,000**	**$277,000,000**	**$6,789,000,000**	**$79,107,000,000**

Source: ARC

Table 5-7: Federal-Aid Funding Balances in Year of Expenditure ($YOE) ($billions)

Source	Revenues	Costs for PLAN 2040 RTP (March 2014 Update)	Balances
FTA	$6.72	$6.72	$0
FHWA	$23.36	$23.18	$0.18
Total	**$30.08**	**$29.90**	**$0.18**

Source: ARC

The FY 2014-2019 TIP meets federal financial constraint requirements. Federal planning rules require that costs not exceed revenues for the first four years of the TIP. ARC and GDOT closely coordinated on developing forecasts and balancing the ARC TIP with expected revenues in the Statewide Transportation Improvement Program (STIP). Financial balancing for FHWA programs within the TIP period is determined in consultation with GDOT, as GDOT is responsible for balancing these funding programs statewide. Beyond the TIP period, ARC forecasts available resources based on historic levels and expected growth rates, considering the relative funding distributions expected for the Atlanta region.

FHWA funding is balanced for the FY 2014-2019 TIP as illustrated in Table 5-8. For financial balancing purposes, the TIP is divided into two tiers. Federal planning requirements hold the first four years of the TIP (Tier 1) to a higher standard of certainty than subsequent years. Tier 2 illustrates expected project costs and funding for FY 2018-2019. Project costs in the first four years of the TIP (FY 2014-2017), consistent with federal financial balancing requirements, do not exceed available revenues for each year.

Table 5-8: FY 2014-2019 Yearly TIP Balances – Federal Highway Administration Funds ($YOE)

PROGRAM CATEGORY	2014	2015	2016	2017	2018**	2019**	2014-2019 Total
Congestion Mitigation & Air Quality Improvement (CMAQ)	$ 29,000,000	$ 73,707,412	$ 29,000,000	$ 29,000,000	$ 29,000,000	$ 29,000,000	$ 218,707,412
Donor State Bonus				$ 2,580,500			$ 2,580,500
Federal Earmark Funding	$ 26,534,502	$ 23,505,936	$ 8,475,245	$ 6,353,585	$ 719,921		$ 65,589,189
Highway Safety Improvement Program (HSIP)	$ 27,649,000	$ 30,464,000	$ 29,159,200	$ 29,159,200	$ 30,557,200	$ 32,076,556	$ 179,065,156
National Highway Performance Program (NHPP)	$ 131,379,046	$ 183,165,131	$ 196,391,596	$ 162,707,692	$ 313,466,916	$ 274,154,920	$ 1,261,265,301
National Highway Performance Program (NHPP) Exempt	$ 10,627,200	$ 10,733,600	$ 10,840,000	$ 11,058,400	$ 11,186,400	$ 11,186,400	$ 65,632,000
Public Land Discretionary	$ 1,180,000	$ 1,180,000	$ 1,670,000				$ 4,030,000
Safe Routes to School Program	$ 5,300,000	$ 294,000	$ 210,000	$ 210,000	$ 1,563,088	$ 1,474,274	$ 9,051,362
STP - Enhancements	$ 7,584,800	$ 8,359,800	$ 7,526,400	$ 9,203,097	$ 7,084,800	$ 9,694,880	$ 49,453,777
STP - Off-System Bridge	$ 244,800			$ 1,342,216			$ 1,587,016
STP - Statewide Flexible (GDOT)	$ 199,862,983	$ 113,334,418	$ 172,340,212	$ 227,822,699	$ 263,258,823	$ 177,640,054	$ 1,154,259,189
STP - Urban (>200K) (ARC)	$ 60,391,564	$ 70,000,000	$ 70,000,000	$ 70,000,000	$ 70,000,000	$ 70,000,000	$ 409,291,564
TAP - Urban (>200K) (ARC)	$ 14,360,000	$ 7,200,000	$ 7,200,000	$ 7,200,000	$ 7,200,000	$ 7,200,000	$ 50,360,000
TIFIA Loan*	$ 275,000,000						$ 275,000,000
TIGER V Discretionary Grant*	$ 18,000,000						$ 18,000,000
Transportation, Community and System Preservation	$ 782,640						$ 782,640
Total Cost per Year	**$ 807,896,535**	**$ 521,944,297**	**$ 532,812,653**	**$ 554,056,889**	**$ 734,037,148**	**$ 612,427,084**	**$ 3,763,174,606**
Running Total Cost	**$ 807,896,535**	**$ 1,329,840,832**	**$ 1,862,653,485**	**$ 2,416,710,374**	**$ 3,150,747,522**	**$ 3,763,174,606**	
Forecast Revenue (GDOT STIP Estimates for FY 2014)	**$ 807,896,535**	**$ 647,193,942**	**$ 657,543,190**	**$ 668,041,215**	**$ 678,685,319**	**$ 713,228,023**	**$ 4,172,588,224**
Running Total Revenue	**$ 807,896,535**	**$ 1,455,090,477**	**$ 2,112,633,667**	**$ 2,780,674,882**	**$ 3,459,360,201**	**$ 4,172,588,224**	
Running Total Balance (Revenues less Costs)	**$ -**	**$ 125,249,645**	**$ 249,980,182**	**$ 363,964,508**	**$ 308,612,679**	**$ 409,413,618**	

* Unique one-time funding sources which substantially increased the FY 2014 total

** Fiscal years 2018 and 2019 are not considered to be a part of the federally mandated four-year TIP. FY 2018 and FY 2019 are not fiscally constrained by year. Instead, they are fiscally constrained by planning period timespans.

Source: ARC

FTA funding is balanced for the FY 2014-2019 TIP as illustrated in Table 5-9. ARC revenue forecasts do include assumptions for limited discretionary funding. FTA revenue forecasts include assumptions for future discretionary funded projects to be determined in the future that are not yet programmed in the TIP. However, only discretionary projects with secured funding are included in the TIP period in order to maintain the fiscal constraint requirement. Project costs in the first four years of the TIP (FY 2014-2017), consistent with federal financial balancing requirements, do not exceed available revenues for any year.

Table 5-9: FY 2014-2019 TIP Balances - Federal Transit Administration Funds ($YOE)

PROGRAM CATEGORY	2014	2015	2016	2017	2018*	2019*	2014-2019 Total
Bus - New (80/20)	$ 3,470,000	$ 15,480,000	$ 1,550,000	$ 1,550,000	$ 1,550,000	$ 1,550,000	**$ 25,150,000**
Bus and Bus Facilities Program	$ 5,415,512	$ 5,415,512	$ 5,415,512	$ 5,415,512	$ 5,415,512	$ 5,415,512	**$ 32,493,072**
Clean Fuels Formula Program	$ 3,700,000	$ 3,700,000	$ 3,700,000	$ 3,700,000	$ 3,700,000	$ 3,700,000	**$ 22,200,000**
Enhanced Mobility of Seniors and Individuals with Disabilities	$ 1,200,000	$ 1,200,000	$ 1,200,000	$ 1,200,000	$ 1,200,000	$ 1,200,000	**$ 7,200,000**
State of Good Repair Grants	$ 48,591,797	$ 48,591,797	$ 48,591,797	$ 48,591,797	$ 48,591,797	$ 48,591,797	**$ 291,550,782**
Transit Nonurbanized Area Formula	$ 760,000	$ 760,000	$ 760,000	$ 760,000	$ 760,000	$ 5,760,000	**$ 9,560,000**
Transit Urbanized Area Formula Program	$ 63,936,800	$ 63,936,800	$ 63,936,800	$ 63,936,800	$ 63,936,800	$ 63,936,800	**$ 383,620,800**
Total Cost per Year	**$ 127,074,109**	**$ 139,084,109**	**$ 125,154,109**	**$ 125,154,109**	**$ 125,154,109**	**$ 130,154,109**	**$ 771,774,654**
Running Total Cost	**$ 127,074,109**	**$ 266,158,218**	**$ 391,312,327**	**$ 516,466,436**	**$ 641,620,545**	**$ 771,774,654**	
Forecast Revenue (GDOT STIP Estimates for FY 2014)	**$ 127,074,109**	**$ 139,084,109**	**$ 125,154,109**	**$ 125,154,109**	**$ 125,154,109**	**$ 130,154,109**	**$ 771,774,654**
Running Total Revenue	**$ 127,074,109**	**$ 266,158,218**	**$ 391,312,327**	**$ 516,466,436**	**$ 641,620,545**	**$ 771,774,654**	
Running Total Balance (Revenues less Costs)	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	

* Fiscal years 2018 and 2019 are not considered to be a part of the federally mandated four-year TIP. FY 2018 and FY 2019 are not fiscally constrained by year. Instead, they are fiscally constrained by planning period timespans.

Source: ARC

What Options Exist for Additional Future Funding?

Leaders and stakeholders realize that the continuing growth and prosperity that the region has enjoyed over the last fifty years will be dependent in part on its ability to upgrade, rehabilitate, and expand its transportation infrastructure to meet future challenges. Identifying new and more sustainable sources of funding for regional transportation infrastructure has become a growing priority for ARC and its regional planning partners. This section briefly details some of the ongoing work in identifying new sources of funding for transportation in the Atlanta region.

Addressing Financial Challenges

Reliable and efficient transportation infrastructure is key to the region's prosperity, yet it is falling behind other regions, several of which have invested significantly to create and maintain modern, world-class systems. Symptoms of decline include the impacts of traffic congestion, painful cuts to public transit, limited traffic management technology systems, an increasing backlog of deferred maintenance on roads and bridges, and aging buses, trains, and transit stations.

ARC urges the federal government, the State of Georgia, transit agencies, and local governments to develop innovative financing to support a world-class transportation system for this new century. The costs of congestion are serious, including lost time and fuel, decreased productivity, inefficient freight movements, and pollution. More importantly, substandard transportation systems impact citizens' perceptions of their quality of life and important global and local business opportunities for the region are thwarted. Transportation user fees should reflect these costs in a more effective manner. Revenue sources, such as the federal and state gas tax, should be reevaluated to halt the continual declines in purchasing power. As vehicles become more fuel-efficient over time, alternatives to traditional financing mechanisms must be implemented.

As described previously, the PLAN 2040 RTP (March 2014 Update) allocates funds using performance-driven criteria. Transportation project sponsors must prioritize efforts to maintain, enhance, and modernize the existing system, especially with respect to delivering them expeditiously. Major capacity projects should be given preference only where the benefits outweigh costs. Examples of enhancements and modernizations that should be pursued include better traveler information systems, more modern buses and trains that improve the passenger experience, arterial roadway improvements, transit system extensions, and integrating more multimodal approaches in our transportation designs to facilitate active transportation.

The PLAN 2040 RTP (March 2014 Update) recommends changing how transportation is funded by:

Pursuing public-private partnerships, where appropriate

Among various public-private partnership (P3) opportunities, each has its pros and cons and there is no single financial arrangement which is applicable to every situation. Thus, the RTP recommends particular consideration of the design-build implementation strategy, which GDOT has used to reduce costs and shorten the duration of project development and construction. ARC supports these efforts, in coordination with its agency partners, where there is a clear public benefit to these partnerships.

Creating cost and investment efficiencies

ARC supports the ongoing work across agency partner organizations to identify and address fiscal shortfalls and correct economic inefficiencies of the current system. These changes are vitally important to improve the economic growth, fiscal efficiency, and the safety and security of the region's transportation system. Since multiple agency partners participate in these transportation functions, a regionwide, coordinated process for seeking cost and investment efficiencies is important to the region.

To prioritize spending on system preservation, modernization, and expansion, project evaluation criteria should continue to be improved, including quantitative models to predict impacts. Performance criteria should guide how funds are allocated by the federal and state governments. State allocations should be based on need, including a reassessment of the State's congressional district balancing requirements.

Implementing congestion pricing

Applying supply-and-demand economic principles can reduce congestion by providing an incentive for drivers to alter their travel behavior. Near-term expansion of congestion pricing in other key regional corridors, such as I-75 North and South, will enhance mobility and help to fund needed improvements.

Reevaluating motor fuel tax levels

As primary sources of transportation funding, the levels of federal and state motor fuel taxes have not been sufficient to fund maintenance, operations, and capital improvements. Georgia's state fuel tax has not been changed since the late 1970s, over 35 years ago. Until a replacement for these sources are identified, the tax rates need to be reevaluated and indexed to keep pace with inflation.

Instituting a replacement for motor fuel taxes in the long term

Motor fuel taxes will likely need to be replaced within 20 years as vehicles become more fuel-efficient or switch to alternative energy sources. One "pay as you drive" strategy is to fund transportation through fees based on vehicle miles traveled (VMT). If implemented carefully, VMTs are a more efficient user fee than motor fuel taxes, wherein motorists are able to evade paying the full costs of their use of roads and highways.

REGIONAL TRANSPORTATION PLAN

Chapter 6 – Delivery

March 2014 Update

Chapter 6
Delivery

Table of Contents

What is Plan Management?

As defined in Chapter 3, the ARC's performance-based planning approach for PLAN 2040 consists of two elements: plan development and plan management. Chapter 3 provides details related to how the plan was developed and manner in which projects and programs were prioritized. This section provides detail related to ensuring that those projects and programs are delivered and achieve the intended results.

Developing PLAN 2040 is only the first step; ensuring beneficial results is the true measure of success.

Plan management means delivering on RTP commitments as a supporting element of the broader PLAN 2040. The goal of plan management is to answer two basic questions:

- Is the region doing what it said it would do?
- Are these actions having the desired effects?

Note that these questions are most appropriately applied holistically to the entire PLAN 2040, not just the RTP. From an external perspective, the ability to answer these questions improves transparency and accountability. Internally, plan management provides ARC with actionable data which may be utilized to improve implementation efforts and inform the development of future plans.

The ARC plan management strategy consists of two components:

1. **Tracking the internal progress** towards successful plan delivery by reporting the delivery status of ARC agency work activities as outlined in the annual *PLAN 2040 Implementation Program*.
2. **Reporting the observed outcomes** as a result of the successful delivery of these items.

ARC will compile the results of these two components on an ongoing basis within the *PLAN 2040 Regional Scorecard*. This online reporting platform provides citizens and stakeholders a clear and intuitive means of holding both ARC and its partners accountable for the successful delivery of PLAN 2040. A first iteration of the ***Regional Scorecard*** (www.atlantaregional.com/scorecard) was launched in conjunction with the State of the Region Breakfast in November 2013 and it is expected that key findings from the scorecard process will become an integral component of the annual event's agenda.

How is Internal Progress Tracked?

This component of the plan management strategy will involve monitoring the degree to which PLAN 2040 Goals and Objectives are being supported through the timely delivery of agency work activities described within ARC's PLAN 2040 Implementation Program. This area of plan management is focused on holding ARC accountable for carrying out agency work activities supportive of PLAN 2040 goals and objectives. Following ARC's internal progress towards PLAN 2040 implementation will induce improved plan outcomes by ensuring that plan management concepts are integrated early into the ARC planning process. This integration will help to avoid a disconnect between plan development and plan management and will increase ARC's accountability for implementing adopted strategies and action items that are necessary for the Vision, Goals and Objectives of PLAN 2040 to be realized.

Objectives

The work activities found in the *PLAN 2040 Implementation Program* are categorized by adopted PLAN 2040 Objectives. These objectives, which are discussed in more detail in Chapter 3 as they relate to PLAN 2040 Vision and Goals, are listed below:

- Increase mobility options for people and goods.
- Foster a healthy, educated, well trained, safe, and secure population.
- Promote places to live with easy access to jobs and services.
- Improve energy efficiency while preserving the region's environment.
- Identify innovative approaches to economic recovery and long-term prosperity.

Through adoption of and annual updates of the *PLAN 2040 Implementation Program*, ARC outlines agency work activities whose execution supports each of these Objectives.

Implementation Scale

The implementation scale will be consistent, except for the addition of a "complete" category, with that used for the annual *Breaking Ground Report*. That document tracks the progress of spending federal transportation funds in the most recently completed fiscal year of the Transportation Improvement Program (TIP). In this broadened approach for PLAN 2040, each action item is assigned to one of the following categories:

- **Complete** – Staff have successfully finished a work activity
- **Advancing** – Sufficient progress was made towards fulfilling a multi-year work activity
- **Delayed** – The work activity was delayed
- **Dropped** – The work activity has been dropped from the *Implementation Program* and will no longer be implemented.

Reporting Results

The delivery status of all work activities for the previous fiscal year will be detailed within each annual update of the *PLAN 2040 Implementation Program*. In turn, these results will be aggregated into cumulative measures for each objective and summarized in the *2040 Regional Scorecard*. ARC staff will complete the work program tracking element annually so that the results are available on a regular basis as an internal management tool. Regular meetings will be used as a time to review agency progress in addressing PLAN 2040 objectives and will provide multiple opportunities throughout the year to adjust internal resources, as needed, to ensure adequate progress is being made.

How Are Outcomes Reported?

This component of the plan management process focuses on assessing the performance impacts of PLAN 2040 in the context of the document's Goals and Objectives. Plan indicators have been identified to help track trends in the overall performance of the region's transportation system, community resources, economy, environment and people. These indicators will be monitored over time and will serve a means to evaluate plan effectiveness.

The use of plan indicators can lead to better outcomes by focusing attention on regional values adopted and approved as part of PLAN 2040. They help ARC, elected officials, planning partners and the public understand if over time the policies and projects defined in the plan are having the desired effects, in the context of PLAN 2040 Goals and Objectives. Plan indicators also provide a feedback mechanism for subsequent planning cycles, by indicating the degree to which PLAN 2040 recommendations produced expected results.

Implementation Scale

ARC will use a hybrid approach for measuring the degree to which the plan is achieving desired outcomes, with both qualitative and quantitative facets. Table 6-1 identifies the measures that will be monitored by ARC, organized by PLAN 2040 Objective. The data rendered from these measures will form the quantitative foundation for assessing plan performance and will be calculated based on current system conditions from various sources.

To the extent possible, ARC will also back-calculate the measures using historic data. For example, calculating the measures from 2000 through 2010 would provide a historical context for evaluating future performance. Measures will be monitored annually to form trend lines to both gauge and improve plan outcomes through data-driven policy adjustments at the regional level.

The quantitative data points from each measure are then rolled into five objective-specific scorecard grades, which are symbolized by the simple pictograph illustrated in Figure 6-1. This qualitative summary of plan performance represents the executive level of plan performance reporting.

Figure 6-1: Regional Scorecard Cumulative Measure Pictograph

Table 6-1: Performance Monitoring Framework for Regional Scorecard

PLAN 2040 Objective	Key Questions	Scorecard Indicators
Promote places to live with easy access to jobs and services	Are there enough housing options with access to jobs?	Growth of workers living near employment centers in the Atlanta region
		Percentage of individuals spending more than 30 percent of income on housing costs
		Percentage of workers with less than a 45 minute one-way commute to work
	Do residents have easy access to community amenities like arts establishments?	"Creative establishments" per capita
Identify innovative approaches to economic recovery and long-term prosperity	Is our economy diverse enough to compete globally?	Total value of annual exports in the Atlanta region
		Atlanta region's share of all annual patents developed in the 99 largest metropolitan areas
		Location quotients for strategic business sectors in the Atlanta region
	Is our economy recovering from the Great Recession?	Unemployment rate
		Atlanta region gross metropolitan product
		Case Shiller home price index for Atlanta region
Improve energy efficiency while preserving the region's environment	Are we minimizing impacts to air quality?	Percentage of commuters with "green commutes"
		Exceedances of the federal ozone standard in the Atlanta region
		3-year average annual concentration for Atlanta PM_{25} monitors
	Are we being good stewards of our water resources?	Per capita water use within the 15-county water planning district
Increase mobility options for people and goods	Are mobility solutions implemented on time?	TIP project advancement rates
	Is mobility improving?	Congestion cost per Atlanta urbanized area auto commuter
		Congestion index for Atlanta metropolitan area
		Annual hours of delay per auto commuter
Foster a healthy, educated, well trained, safe and secure population	Are our residents prepared for a 21st century economy?	Percentage of adult population with at least a bachelor's degree
		Atlanta region education gap
		High school graduation rate
		Percentage of 16-19 year-olds not enrolled in high school
	Are children entering school ready to learn?	Percentage of children of low income families enrolled in the Georgia Pre-Kindegarten Program
	Are our residents healthy?	Percentage of population who are obese
	Are older adults thriving?	Percentage of adults aged 65 and over living in poverty

Reporting Results

ARC will calculate each measure annually and incorporate the results within the *PLAN 2040 Regional Scorecard*, which will be presented to stakeholders and the general public. In addition to offering an intuitive platform to easily grasp progress towards meeting PLAN 2040 Goals and Objectives, the *Regional Scorecard* tracks many of the same metrics across peer regions, thereby giving citizens, elected officials and other key stakeholders a means of assessing our region's competitiveness on a national scale.

It is also expected that the objective metrics reported in the scorecard will be compared to public opinion survey results to assess where reality and perceptions may not align. Identifying these differences will provide valuable insight into policy decisions and public information campaigns in the years to come. The results of the first *Metro Atlanta Speaks* survey were presented at the November 2013 State of the Region Breakfast and will serve as an important data input for next RTP update expected to begin in mid-2014. The initial 2013 Regional Scorecard results are shown in Figure 6.2.

Figure 6-2: 2013 Regional Scorecard Results

ARC will report plan outcomes though the Regional Scorecard to ensure PLAN 2040 Goals and Objectives are met.