# Volume I: PLAN 2040 Regional Transportation Plan (RTP)



# Chapter 1 - Introduction



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#### 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 illustrates the boundaries specific to the transportation planning in the Atlanta region.

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.



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.

GORDON \TTOOGA PICKENS DAWSON BANKS FRANKL CHEROKEE HALL 400 FLOYD BARTOW FORSYTH JACKSON MAD POLK BARROW GWINNETT COBB CLARKE PAULDING CONEE 285 HARALSON WALTON DEKALB FULTON DOUGLAS ROCKDAL CLAYTON 675 CARROLL MORGAN NEWTON FAYETTE 75 COWETA 85 JASPER HEARD BUTTS SPALDING PIKE LAMAR

Figure 1-1: Atlanta Transportation Planning Boundaries

Color				
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	20 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 a RC, RCs facilitate intergovernmental coordination and provide comprehensive planning assistance and other services to constituent jurisdictions.	The 2000 census identified an expansion of the Atlanta urbanized area that encompassed portions of 9 counties. MPOs develop transportation plans for the current and future urbanized areas. ARC serves as the MPO for all or part of these 18 counties.	In April 2004, EPA implemented a new 8-hour standard for ozone. ARC has coordinated since that time with GHMPO's planning efforts to demonstrate conformity for the entire nonattainment area.	EPA designated this non-attainment area in December 2004. In early 2006, ARC performed a technical analysis for the 20+ county non-attainment area which demonstrates conformity to PM 2.5 requirements.

#### 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 below).

#### 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 crosscutting 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.

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 comprises an RTP consisting of a \$60.9 billion program (in year 2012 dollars) of 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
represents the most
comprehensive
regional plan
prepared to
date, presenting
a unified vision
addressing land
use and
transportation.

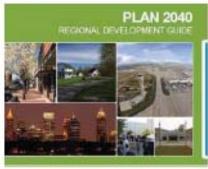
PLAN 2040 increases awareness of how land in the region is developed and used and how land use is linked with transportation system performance. It provides an understanding of the characteristics that improve travel conditions and create positive environments for living, working and travelling in the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

The PLAN 2040 document is structured around two primary products. It fulfills the requirements of the Regional Agenda as mandated by the Georgia DCA and the RTP as mandated by US DOT. PLAN 2040 is a compilation of several key components that are available on-line at:

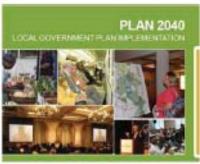
#### www.atlantaregional.com/plan2040

- 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, quasigovernmental 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 2012-2017. 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 (beyond 2018) are balanced by funding periods.
- The Conformity Determination Report (CDR) demonstrates that the region's transportation strategies meet federal air quality requirements. This document is included in Volume II.

In addition to fulfilling regional planning requirements set forth by DCA and US DOT, PLAN 2040 is also consistent with and supports the Georgia Statewide Strategic Transportation Plan (SSTP) that was completed in 2010. The SSTP identifies a strategy to transform Georgia's transportation to support GDP

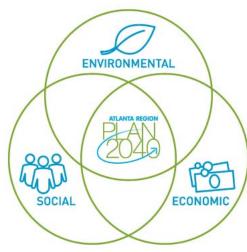
growth and increase jobs across the state. Additional discussion of the SSTP is included in Chapter 2.

#### **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.

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



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

## Meeting Federal Transportation Planning Requirements in Developing the PLAN 2040 RTP

In developing the PLAN 2040 RTP, ARC has followed 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 5, 2007, as required by 23 USC 134(i)(5) and 49 USC 5305(e).

On August 10, 2005, President George W. Bush signed the Safe, Accountable, Flexible, and Efficient Transportation Equity Act — A Legacy for Users (SAFETEA-LU). SAFETEA-LU is the Federal authorization of funding for surface transportation programs for

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highways, highway safety, and transit for the 5-year period 2005-2009. As of May 2011, a new reauthorization bill has not been adopted to replace SAFETEA-LU, but existing programs have been extended through continuing funding resolutions.

The federal transportation planning provisions of SAFETEA-LU list eight planning factors which must be considered as part of the transportation planning process for all metropolitan areas. These factors are summarized in Table 1.1, below. Each planning factor has been considered as part of PLAN 2040 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 SAFETEA-LU that outline the various required elements of a long- (and short-) range transportation plan. These transportation planning requirements are codified in Title 23 CFR 450.322 and are referenced throughout various sections of the document. Each requirement also is listed in checklist format with page number references identifying where each is addressed in PLAN 2040, in Appendix D-1 of this report. The minimum planning requirements of SAFETEA-LU are applicable to, and are met by, PLAN 2040.

#### **Table 1-1: SAFETEA-LU 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

#### Following ARC Board and Committees Guidance

Throughout the PLAN 2040 process, the ARC Board and Committees provided direction to technical staff regarding key policy directions and recommendations for PLAN 2040. 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 guidance on PLAN 2040 direction:

- In <u>February 2009</u> 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 <u>March 2010</u> the ARC Board approved a resolution for the PLAN 2040 Regional Assessment, Stakeholder Involvement Plan, 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 <u>July 2010</u> the ARC Board approved a resolution adopting PLAN 2040's Vision, Goals & Objectives. This Vision guides development of PLAN 2040 recommendations.
- In <u>July 2010</u>, at a regional PLAN 2040 retreat, regional policy makers reviewed and provided direction on the plan including how to allocate funding to key program areas of the RTP. This direction increased resources devoted to transportation system preservation and operations, while maintaining a demand management programs and strategic system expansions. A PLAN 2040 RTP Performance Framework was also presented to guide the evaluation and selection of programs and projects for inclusion in the RTP.
- In <u>February-March 2011</u>, ARC policy committee members and other elected officials reviewed draft PLAN 2040 RTP recommendations and provided feedback.
- In <u>March 2011</u>, the ARC Board formally submitted a draft of the DCA-required elements of PLAN 2040 to the State of Georgia. Final approval of these documents is targeted to be approved with the adoption of PLAN 2040 in July 2011.

#### Stakeholder Involvement and Public Outreach

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 opinion and discussion in development of the plan. The PLAN 2040 stakeholder and public outreach efforts meet the requirements of both the Georgia DCA and US DOT for developing and sharing regional plans.



Early in the process, the PLAN 2040 Stakeholder Involvement Program was developed 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. These activities were based on the Regional Transportation Participation Plan and supplemented 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, and can provide background information and advise officials were targeted here. In seeking unique
ways to receive
input into PLAN
2040, ARC formed
a close partnership
with the Civic
League for Regional
Atlanta to
successfully sponsor
multiple series of
neighborhood
summits.

- 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.

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



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

Innovative efforts to engage the public include online public meetings

The PLAN 2040 participation process is described in detail along with its results in Appendix F. Included in this appendix is a report of comments received and responses provided.

#### Considering the Needs of the Transportation Disadvantaged

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 multilayered framework incorporates the voices of low-income and minority populations and reflects them in policies and projects:

- ARC's Transportation Public Participation 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.
- <u>Studies and Surveys</u> 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.

#### **Organization of the Regional Transportation Plan**

Volume 1 – PLAN 2040 Regional Transportation Plan provides an overview of the process to develop the PLAN 2040 RTP 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:

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

<u>Chapter 2 – Trends and Forces Impacting the Future.</u> 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.

<u>Chapter 3 – Plan Development Framework.</u> 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.

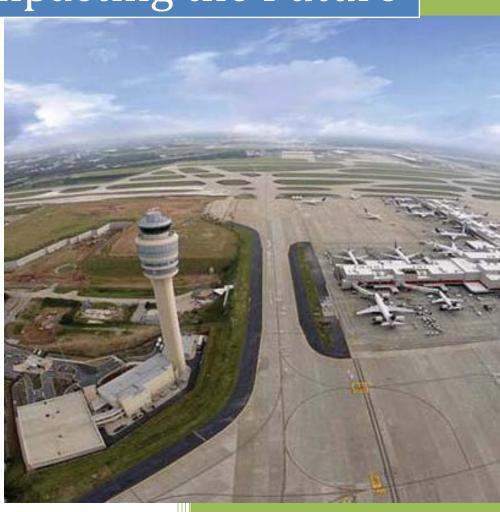
<u>Chapter 4 – Investing Strategically in Transportation</u>. PLAN 2040 transportation investments are detailed, broken down by the major plan emphasis areas of system modernization, demand management, and system expansion. The ability of PLAN 2040 to address performance measures is discussed throughout the chapter.

<u>Chapter 5 – Financial Plan and Future Funding Options.</u> 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.

<u>Chapter 6 – Delivering the Plan.</u> This chapter presents a management plan that identifies actions to implement the RTP.



# Chapter 2 - Trends and Forces Impacting the Future



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## Growth of the Atlanta Region - Opportunities and Challenges



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

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; and
- Land use and development conditions that shape trip-making patterns and access to key destinations.

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 PLAN 2040, which can be found at <a href="https://www.atlantaregional.com/plan2040">www.atlantaregional.com/plan2040</a>. The Regional Assessment, the first required element of the Regional Agenda (reference Section 1, page 1-4), presented 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.

This chapter focuses on trends in population, employment, land use, and travel patterns affecting the Atlanta region and summarizes key finding of the Regional Assessment. 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 Center 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 strong economy and an overall good quality of life that has developed over the last few decades, the region is currently dealing with a significantly distressed regional economy as the result of economic struggles at the national level. It is unclear when a sustained economic recovery will occur, but it is likely that the conditions that were present during the past 40-plus years that enabled continuous and rapid growth will return in the early years of PLAN 2040. In addition, the overall transportation and land development patterns built to accommodate this growth are already 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. And, in fact, PLAN 2040 projects that an additional 2.8 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. PLAN 2040 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.

#### Regional Growth

#### The Growth Engine of the Sunbelt



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

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 percent 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 percent 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 percent annually.

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. 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 over the following year. However, this most recent boom was short lived due to the onset of the recession in 2008. Despite the fact that the first decade of the 21st Century was bookended by two recessions, the Atlanta region saw the addition of approximately 1.2 million new residents over the ten-year period – resulting in a total population of 5.5 million residents in the 20-county region in 2010 (see Figure 2-1).

In recent years, a regional policy debate has centered around the adverse impact of congestion and limited water resources on regional growth. However, trends have indicated that the region's growth has remained resilient despite these setbacks.

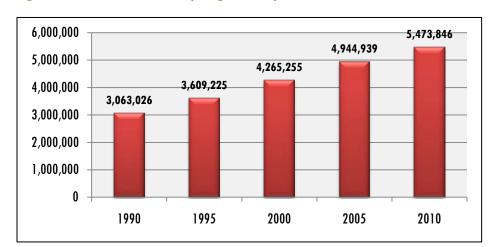


Figure 2-1: Atlanta 20-County Region's Population 1990 - 2010

#### Future Growth - A Region of Over 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 PLAN 2040 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 <a href="https://www.atlantaregional.com">www.atlantaregional.com</a>, and is summarized below.

In the years 2010 through 2040, the 20-county Atlanta region is projected to add 2.8 million residents for a total population of nearly 8.3 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 1.69 percent (the region maintained annual growth rates of 3 percent between the 1950s and the 1990s.) This forecasted growth rate represents an average annual growth of 92,749 people. Despite the fact that growth rates have slowed, 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.

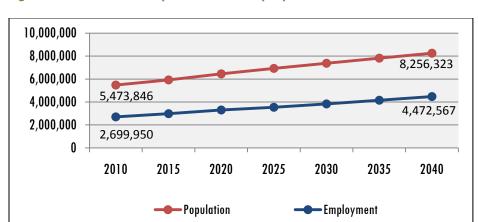


Figure 2-2: Forecasted Population and Employment Growth in the Atlanta 20-County Region

Growth in Fulton and Gwinnett 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 521,000 and 571,000 new residents respectively – comprising approximately 42 percent of the region's growth in the years 2000-2040.

Table 2-1: Forecast Population Growth by County 2000-2040

	Population			
County	2000	2040	Total Change	Percent Change
Cherokee	141,903	402,995	261,092	184.0%
Clayton	236,517	325,026	88,509	37.4%
Cobb	607 <b>,</b> 751	849,933	242,182	39.8%
DeKalb	665,865	925,017	259,152	38.9%
Douglas	92,174	257,034	164,860	178.9%
Fayette	91,263	187,968	96,705	106.0%
Fulton	816,006	1,337,248	521,242	63.9%
Gwinnett	588,448	1,159,795	571,347	97.1%
Henry	119,341	433,984	314,643	263.7%
Rockdale	<i>7</i> 0,111	162,961	92,850	132.4%
Total 10-County Region	3,429,379	6,041,961	2,612,582	76.2%
Barrow	46,144	133,072	86,928	188.4%
Bartow	76,019	169,990	93,971	123.6%
Carroll	87,268	191,989	104,721	120.0%
Coweta	89,215	249,997	160,782	180.2%
Forsyth	98,407	390,056	291,649	296.4%
Hall	139,277	349,995	210,718	151.3%
Newton	62,001	202,044	140,043	225.9%
Paulding	81,678	285,101	203,423	249.1%
Spalding	58 <b>,</b> 417	115,012	56,595	96.9%
Walton	60,687	155,025	94,338	155.5%
Total 20-County Region	4,228,492	8,284,242	4,055,750	95.9%

Two of the fastest-growing counties in the nation – Henry and Cherokee – will also continue rapid growth. Henry County is forecast to more than triple its 2000 population by 2040 to lead the 10-county RC area. It is forecasted to add 315,000 people, while Cherokee will add 261,000. 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 region will capture almost 67 percent of the 20-county area's growth, most of the largest percentage gains are found in the 10 counties falling outside the RC region, but within the air quality non-attainment area. Several counties outside of the ARC RC area are expected to more than triple their population during 2010-2040. Forsyth County ranks second in percentage growth, 2000-2040, increasing their population by 296 percent. The other counties whose 2000 populations are forecast to triple by 2040 are Paulding, up 249 percent and Newton, up 226 percent.

#### **Evolving Travel Patterns and Options**

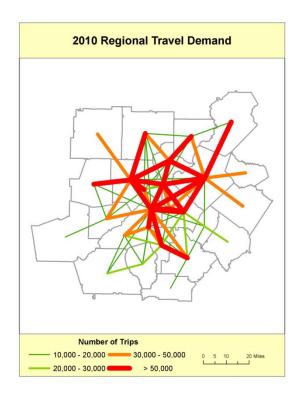


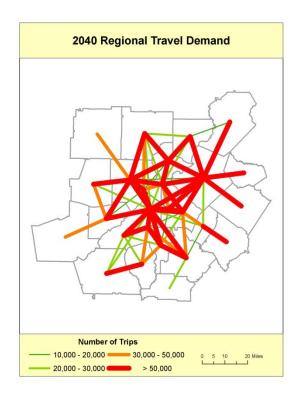
The Atlanta region is the freight and logistics center of the Southeast, contributing to complex daily travel patterns

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 an 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.

Figure 2-3: Daily Regional Travel Demand 2010-2040





#### **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.

By 2040, significant changes are illustrated and reflect 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.

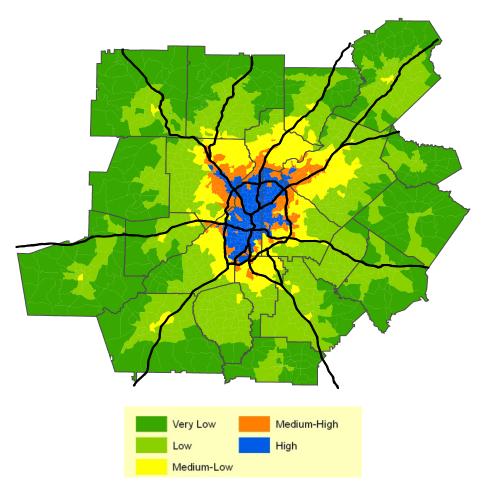
Congested Vehicle Hours Traveled (VHT) is forecasted to increase approximately 110% by 2040.

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 nearly 64 percent of its home based work trips arrive via SOV. Regional transit usage remains a small share of the total trips, accounting for roughly 5 percent. However, the CBD sees approximately 25 percent of its home based work trips use transit.

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.

Figure 2-4 illustrates that few areas outside of the region's core will have the residential and employment densities and supportive infrastructure by 2040 to support travel options other than by car. Addressing the need to provide adequate densities and a supportive mix of uses for fixed-guideway transit expansions is an important policy discussion in PLAN 2040 as is providing safe and accessible infrastructure for pedestrians and bicyclists.

Figure 2-4: Multi-Modal Accessibility



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 <a href="https://www.atlantaregional.com/lci">www.atlantaregional.com/lci</a>.

#### Summary of Regional Assessment Findings

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.

#### **Urban Expansion of Region**

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



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

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.

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 has significantly increased more than other 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.

#### **Water Supply and Conservation**

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



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

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 percent of the water supply in the Metropolitan North Georgia Water Planning District. This planning district covers 15 counties. More information is available at <a href="https://www.northgeorgiawater.org">www.northgeorgiawater.org</a>.

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

Lake Lanier and Lake Allatoona have played a key role in assuring an adequate water supply for the Metro Water District since their construction by the U.S. Army Corps of Engineers in the 1950s. Current planning assumes that federal reservoirs will continue to operate to meet water supply needs of the region. Recent changes to Corps operations of these lakes beginning in 2006 represent a dramatic change from previous operations.

These changes are a significant challenge to the region's water supply and potentially represent significant impacts to the region's economy. The operation of the reservoirs is the subject of on-going litigation of which the outcome is uncertain. These uncertainties represent a significant challenge in planning for the long-term ability of the region to provide adequate water to support the region's existing and forecasted population.

#### 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 2010 Texas Transportation Institute Report, the Atlanta region has the 11th worst congestion in the nation.

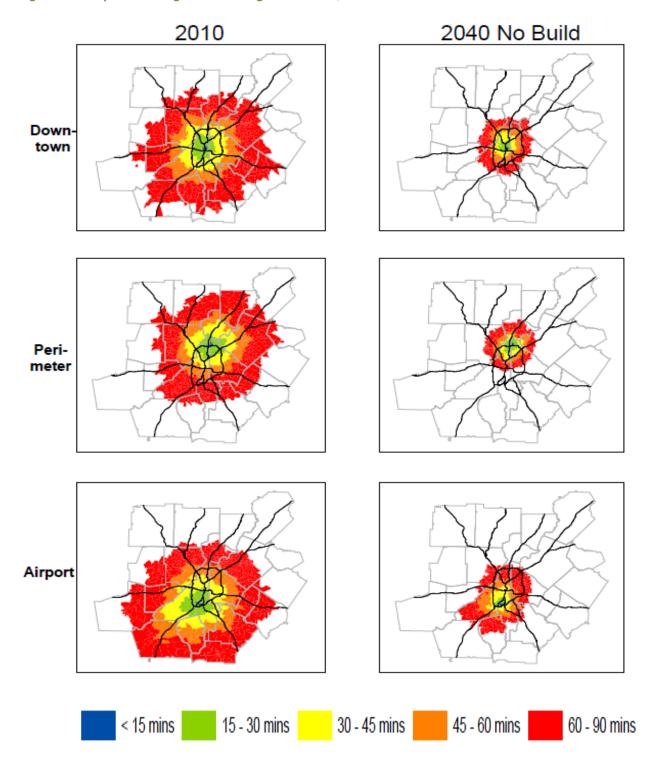
The region has struggled with addressing the challenges of congestion in recent years, with varying levels of success.

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 urbanscaled 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 implemented 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 2-5). More than three million people 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 is critical in the development of PLAN 2040.

Figure 2-5: Impact of Congestion on Regional Travel, Travel Times



#### **Dynamics of Population Growth Will Greatly Impact Region**

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.

The Atlanta region will undergo a dynamic shift in the racial and ethnic profile over the next 30 years. Additionally, the region will also experience significant shifts related to the age of the population. As shown in Figure 2-6, the ratio of working age individuals to non-working age will change dramatically as the region will have many more residents in 2040 who are not working age. The share of population over the age of 65 will increase dramatically, as will the share of children in the region.

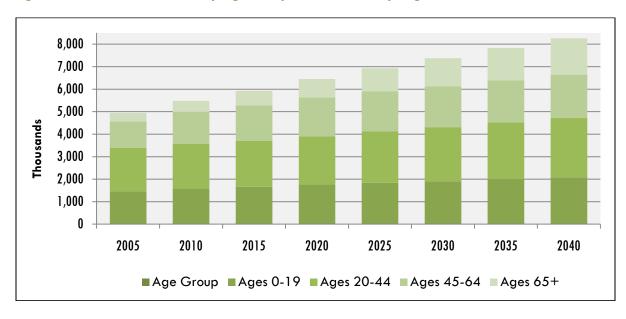


Figure 2-6: Forecasted Growth by Age Group in the 20-County Region

The 20-county region is forecast to grow older over the next three decades. Between 2010 and 2040, growth among the senior population (65 years and older) will comprise 37 percent 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 percent in 2010 to 19.5 percent of the total population in the 20-county region by 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.

#### **Current Housing Supply vs. Future Demand**

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, more than 20 percent of the housing stock in the Atlanta region was built between 2000 and 2007. 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 region consists of two persons or fewer. 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 percent expected nationally in 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 2-7 illustrates the range of transportation costs throughout the region.

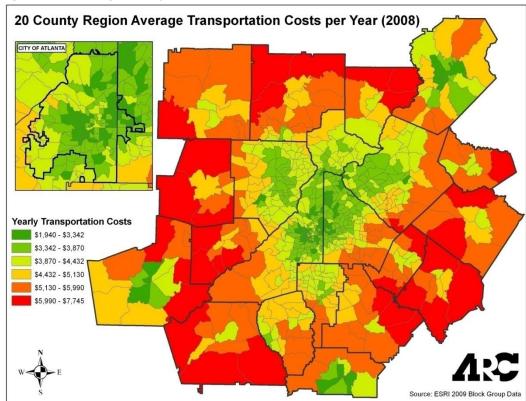


Figure 2-7: Average Transportation Costs

### The Region Must Focus On both Urbanized Areas and Conservation Areas

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. Outering 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 an all-day 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.

### The Region, State, and Nation Have Experienced a Decrease in the Financial Capacity to Fund Needed Transportation Improvements

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 2-8, in year 2000 dollars, MARTA had 16 percent less funding in 2009 than in 2000.

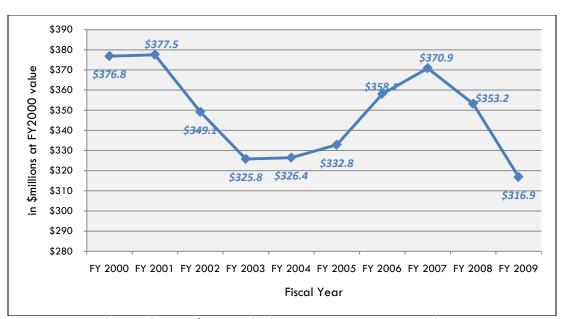


Figure 2-8: Historical Real Value of MARTA Sales Tax Receipts, FY 2000-2009

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

Transportation funding at the state level has decreased throughout the last decade, in real terms (Year 2000 \$). The current economic recession and the resulting levels of unemployment have contributed to a drop in total motor fuel tax revenue. As illustrated in Figure 2-9, total fuel tax revenue collected by the state has dropped 12.2 percent between the fiscal years 2008 and 2009, lower in real terms than in 2000.

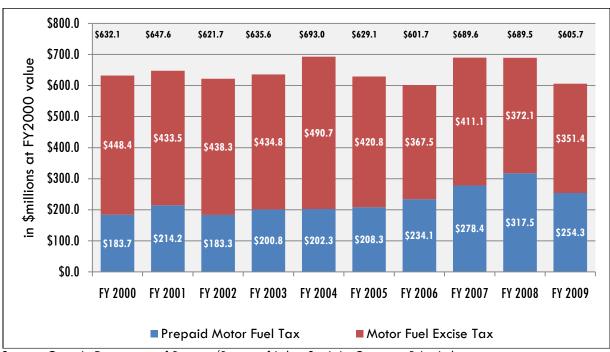


Figure 2-9: Total State Revenue from Motor Fuel Taxes: FY 2000-2009

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

Nationally, the motor fuel funding trends are also ominous. The federal funding crisis is based on declining Vehicle Miles Traveled (VMT) and the increasing fuel efficiency of the overall fleet. Both trends 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 percent 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.

As shown in Figure 2-10, while the Atlanta region grew from 10 to 18 counties over the past decade, real federal revenues dropped from \$615 million per year to \$560 million. This figure is important because federal sources are what most local governments rely on to fund major transportation capital expansion projects, while state and local funding is largely used for matching funds or minor transportation improvements and maintenance.

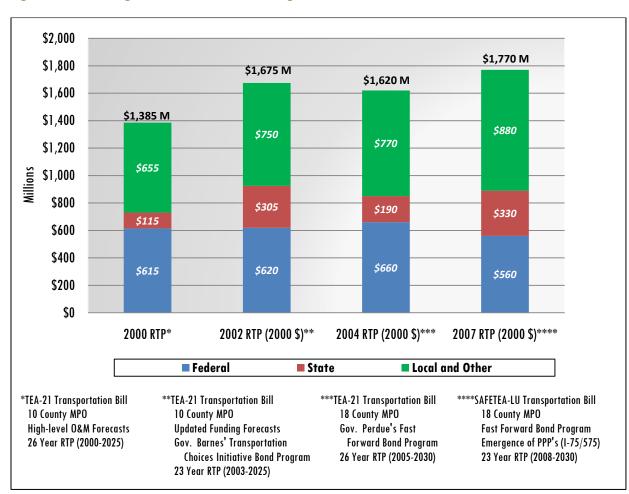


Figure 2-10: Average Annual Revenues during Prior RTP Periods

## Keys to Implementation and Recovery: Integration, Cooperation and Partnership

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 last 15 years in the Atlanta region in particular represent a period of growth that is may not be experienced 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.



## **Envisioning Alternative Futures**

The Regional Assessment provided 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.

Metropolitan Atlanta has been one of the nation's fastest growing places for almost sixty years. Economic success, combined with rapid outward expansion, also made the metro area one of the most congested. The additional, projected 3 million new residents in the region by 2040 will only add to that congestion. One of the main questions addressed by PLAN 2040 is how to best accommodate that growth.

Understanding differing growth scenarios help policymakers and the public understand the benefits and impacts of alternative futures. As part of PLAN 2040 development, eight different land use scenarios were examined to test their affect 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.

**Table 2-2: Regional Growth Scenarios Descriptions** 

Scenario Name	Land Use Assumptions
Base Case	The "Needs Assessment Forecast" based on the Envision6 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 Jobsto-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)

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

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

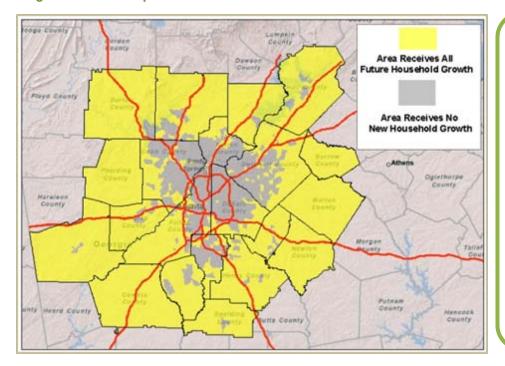
The results of the scenario analysis show that the relationship between land use patterns and planned transportation infrastructure does matter, and that the impact can be dramatic. Each scenario represents a future with advantages and disadvantages, yet it is clear that if only greenfield areas are 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.

#### "Ultra Sprawl" Scenario

The Ultra Sprawl scenario shows the potential implications of continued suburban and exurban development by testing what would happen to the transportation system if the region grew only in currently undeveloped areas (see Figure 2-11).

Figure 2-11: Ultra Sprawl Scenario



Due to lack of multimodal transportation infrastructure in these areas and longer distances between where people live and work, people drive more. Transportation strategies alone will not solve congestion problems.

In this scenario, employment grows as reported in the base case scenario, but all household growth is concentrated in greenfield areas, defined here as those areas where at least 20 percent of developable land is undeveloped as of the year 2009. As the map shows, much of the region today meets the definition of a greenfield area, which simply means the region is still dominated by low-density suburban development.

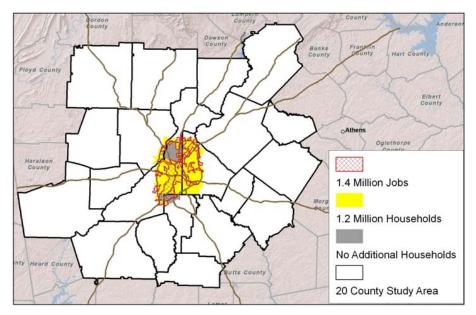
As a result of the Ultra Sprawl scenario, the share of population in the current greenfield areas increases from some 45 percent in 2010, to 66 percent in 2040.

#### "Concentrated Growth" Scenario

The Concentrated Growth scenario illustrates, more than any of the other scenarios, the need for a balanced approach to land use development and future transportation infrastructure (see Figure 2-12).

In this scenario, household and employment growth is generally concentrated within the region's urban core — within the I-285 perimeter — but specifically concentrated around future transit infrastructure within the region's urban core. As a result of the Concentrated Growth scenario, the share of the region's population living within these areas dramatically increases from roughly 19 percent in 2010, to 48 percent by 2040.

Figure 2-12: Concentrated Growth Scenario

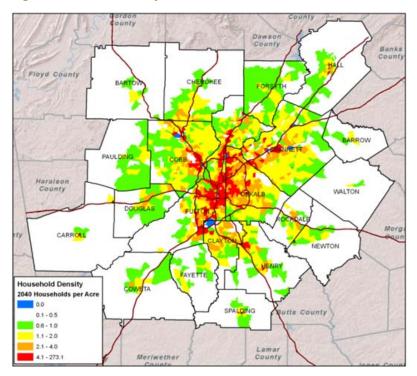


Because growth is concentrated in such a small area of the region, travel via roadways becomes more difficult as congestion becomes hyper-concentrated in the core. Thus, land use alone is not enough to solve congestion problems.

#### "Local Policy (UGPM/LCI)" Scenario

The Local Policy scenario (Figure 2-13) shows the importance of striking the right balance between land use decisions and transportation investments. This scenario maximizes household and employment growth in Livable Center Initiative (LCI) areas, while employing the minimum densities recommended in the Unified Growth Policy Map (UGPM) for the rest of the region. The result is a reallocation of 50% of the growth expected in rural areas to areas near employment centers, LCI areas and other activity centers in the region.

Figure 2-13: Local Policy Scenario



The Local Policy scenario concentrates growth in areas that already have infrastructure, and this, coupled with aggressive investment in transportation infrastructure, improves upon many measures of congestion.

#### **Lessons Learned**

Each scenario was evaluated relative to each other (see Figure 2-14), assessing the ability to address several key metrics:

- Congestion Mitigation
- Accessibility to Jobs
- Land Consumption
- Mode Share

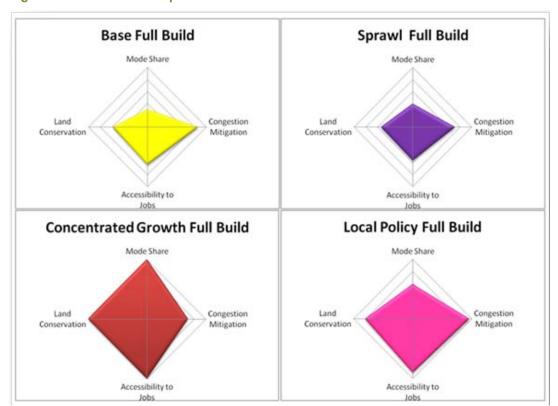


Figure 2-14: Relative Comparisons between Scenarios

The Concentrated Growth scenario performs well on most performance measures. It did not, however, perform well on the critical measure of improving regional congestion. The exaggerated pattern of the Concentrated Growth scenario makes north-to-south travel almost impossible, and travel conditions in the urban core, inside of I-285, would be drastically worse than they are today.

The land use pattern of the Ultra Sprawl scenario did not perform well on any measure. The sprawl of the future is not just like the sprawl of the past. Travel distances for potential new suburbs would be unsustainably longer than those today. Vehicle Miles Traveled (VMT) under the Sprawl scenario is more than 20% higher than in the Concentrated Growth scenario.

As compared to the Ultra Sprawl scenario, Concentrated Growth substantially reduces VMT, but only does so because travel is so difficult in the core due to severe, localized congestion. This shows that land use changes alone, even the dramatic ones that were tested in the Concentrated Growth scenario, are not enough to improve traffic congestion. In fact, no other scenario documents this better. The Concentrated Growth Scenario had the lowest VMT and highest transit trips of any scenario with the full build-out of the transportation network. It also had among the highest congestion costs. The practical realities are clear.

If the Local Policy scenario were realized, the region would see substantial improvement compared to the base case forecast on all measures. In one of the most critical measures of transportation sustainability - the time actually spent traveling - the Local Policy scenario performs best. The Local Policy scenario had the lowest congestion cost among all other scenarios.

The Concentrated Growth scenario saves the most land, and the Ultra Sprawl Scenario consumes the most. The Local Policy scenario, while not saving as much land as the Concentrated Growth scenario, does save almost 50% more land than the Ultra Sprawl scenario.

In doing a final comparison among all scenarios, the Ultra Sprawl scenario presents multiple challenges. It would use the most land and is the most mismatched with planned transportation infrastructure, given the

performance measure results. Again, the Concentrated Growth scenario performs well across a number of measures, except relieving regional traffic congestion, which is critical for the future vitality of this region.

The Local Policy scenario, with its focus on regional centers and developing where infrastructure already exists, maximized the use of existing and planned transportation infrastructure. While it does not provide the highest level of environmental protection, it does perform substantially better than the base case and Ultra Sprawl scenarios, and it is more realistic future. This Local Policy scenario was ultimately selected as the growth strategy for PLAN 2040 and is described in more detail through the Unified Growth Policy Map (UGPM) and Regional Development Guide.

The lesson, therefore, of the scenario exercise is to be strategic in allocating infrastructure to the places that have already planned well to accommodate growth in targeted areas. To a large extent, ARC has been pursuing this policy in the past through programs like Livable Centers Initiative (LCI) and the UGPM.

#### Fifty Forward

Fifty Forward was a 50-year visioning effort initiated in 2008 by ARC in collaboration with regional stakeholders. Over a 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. More information is on Fifty Forward is available at <a href="https://www.atlantafiftyforward.com">www.atlantafiftyforward.com</a>.

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 informed 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:

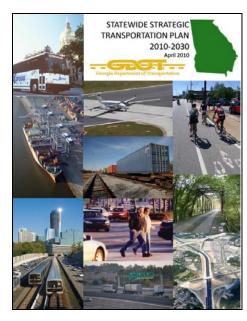
- Perceiving the interdependence of our communities and resources within the region
- Understanding the impact of the use of energy resources on the quality of air and water
- Designing communities and buildings with an understanding of the impacts on consumption of energy, land and water resources
- 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 and was a key influence in the development of PLAN 2040's vision, goals, and objectives.

#### Statewide Strategic Transportation Plan



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 priorities and recommendations from the SSTP provided additional guidance in the development of the PLAN 2040 RTP. The SSTP focuses new resources across three broad categories: statewide freight and logistics, people mobility in metro Atlanta, and people mobility in the rest of the state. PLAN 2040 is consistent with the major directions of the SSTP, working closely with State policymakers in developing recommendations.

Improvements to statewide freight and logistics through roadway improvements, rail capability improvements, GRIP corridors that align with high-volume freight routes, and improvements that address the worst bottlenecks and connectivity gaps on the network were are critical to GDP growth and creating new jobs across Georgia.

The SSTP identifies 3 important components for reducing congestion costs, improving trip reliability, and addressing "shrinking talent pools" for employers in the Atlanta region. These include demand management, supply expansion focused on employment centers and reliable modes, and better matching the supply and demand by coordinating transportation investment with future development patterns. Focusing on reliable modes such as managed lanes because they have a "dual purpose" resulting in the highest return for the state is a priority. Dual-purpose investments are those that can be used by both car

drivers and transit users (e.g., Bus Rapid Transit, express bus, and vanpools). The strategy for Atlanta also includes rail transit and emphasizes keeping the core rail system operating efficiently, then expand "short haul" lines that connect to the core, and finally, as resources become available, add longer-haul rail selectively to transform the network over time.

People mobility in rural areas and medium-sized cities is well supported by the current network, however investments in new capacity and safety needs will be needed over the next 30 years. In the urban areas, demand management and coordinating transportation investment with development patterns will also be critical.

In response to SSTP recommendations, PLAN 2040 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.

As illustrated in Figure 2-15, 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.

Level 2: Level 3: Level 4: Existing funds, Existing funds Burning Transform no direct fees with direct fees platform and GA's transp (\$12-19B1 avail.) (\$20-29B1 avail.) econ. growth (\$57B1 avail. (\$63B1 avail.) HOT lanes Base network (~240 miles) Full network (add'l 120 miles) BRT/Express Arterials People mobility: - Suburban network (~1500 miles) metro Atlanta Address Base central network<sup>3</sup> (300-400 miles) today's Full central network (add'l 200 miles) burning Core transit system platform - Reduced operations (50-70% of current) Full (100%) operations Base network (~\$7B) People mobility: rest of state Full network (add'l \$7B) Savannah port last-mile Freight transport Interstate interchanges Streetcars and "short trip" transit People mobility: Enable and metro Atlanta support Other streetcars/ premium circulators economic • NW bypass growth Freight · Rail improvements engines transport Intermodal/GRIP connectivity People mobility: . Long -haul transit (e.g., light and heavy rail) **Transform** Georgia's Metro "big ticket" road projects4 transportation Commuter and intercity rail (between Metro network people mobility Atlanta and other Georgia cities/towns)

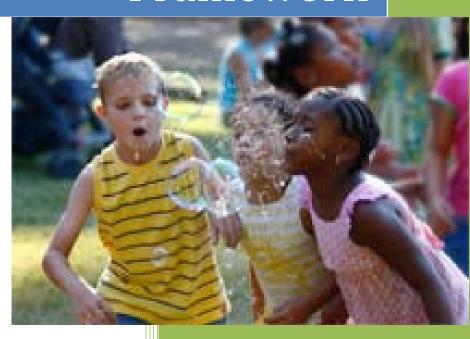
Figure 2-15: SSTP Investments Included by Funding Level

Source: Statewide Strategic Transportation Plan 2010-2030

These priority investments will complement planned investments in maintenance and operations of the existing highway and transit system, and will ensure that Georgia moves forward into the future as a leader in the mobility of people and goods. More information on the SSTP is available at <a href="https://www.it3.ga.gov">www.it3.ga.gov</a>.



# Chapter 3 – Plan Development Framework



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#### **Guiding the Way**

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.

In July 2010, ARC adopted a Vision statement to guide development of PLAN 2040.

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 a Vision, Goals and Objectives for PLAN 2040 were adopted by the ARC Board in July 2010.

#### **PLAN 2040 Vision and Goals**

The PLAN 2040 vision statement is: Visionary leadership for sustainable growth by balancing environmental responsibility, economic growth and social needs while maximizing benefits to all.

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

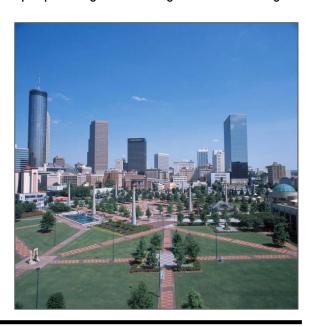
- Lead as the Global Gateway to the South
- Encourage Healthy Communities
- Expand Access to Community Resources

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

## Goal: 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.



## Goal: Encourage Healthy Communities

The region's most important asset is the people that 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.



#### **Goal: 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, older and young population shares are increasing while becoming more diverse.

#### **PLAN 2040 Objectives and Principles**

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.

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

#### **Objective: 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.

PLAN 2040 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.

# Objective: 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.

PLAN 2040 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.

# Objective: 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.

PLAN 2040 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.



# Objective: Improve Energy Efficiency While Preserving the Region's Environment

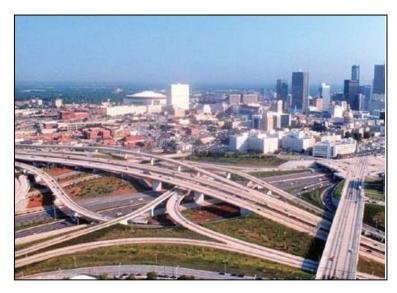
The Atlanta region is home to a rich natural environment, creating an invaluable resource for communities. Opportunities exist to improve energy efficiency while preserving the environment.

PLAN 2040 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.

# Objective: 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.



PLAN 2040 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.

# Applying Goals, Objectives, and Principles within the Plan Development Process

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 the most critical regional facilities for federal funding.
  - Regional Thoroughfare Network (RTN) provides management guidelines to ensure that
     PLAN 2040 goals and objectives are met for roadway facilities.

- O 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 <a href="https://www.atlantaregional.com/plan2040">www.atlantaregional.com/plan2040</a>.

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:

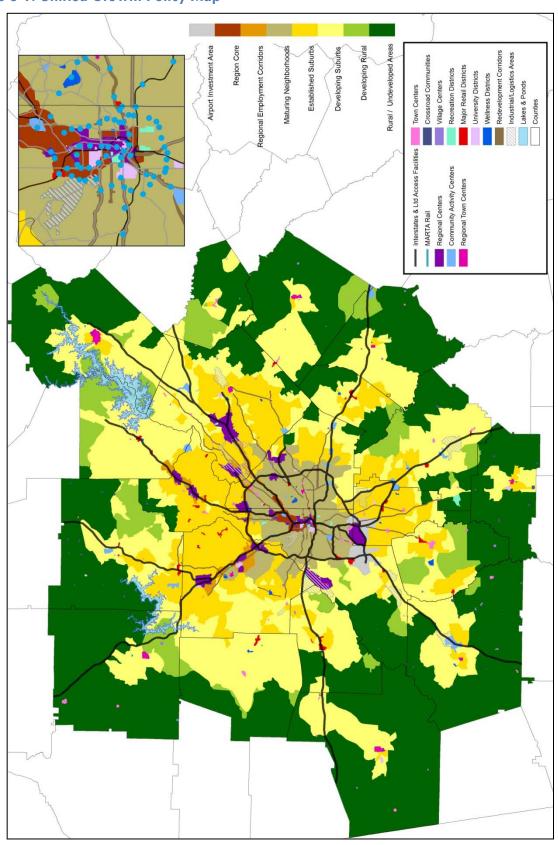
- A detailed map showing the specific location in the region
- A written description that includes a defining narrative and issue summary
- Guidelines for recommended building height and development density
- Pictures that characterize development patterns that are typical and desirable
- Implementation 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.

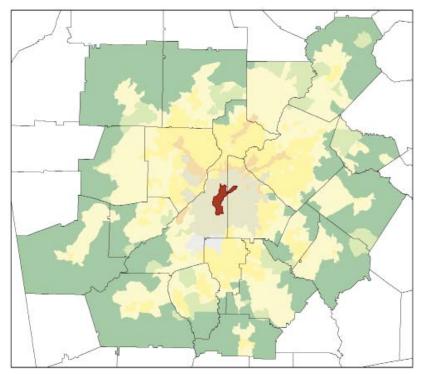
Figure 3-1 illustrates the UGPM. The UGPM provides a coherent vision for the future development of the region. The PLAN 2040 transportation investments discussed in Chapter 4 support this vision. The UGPM is the foundation of the RTP in that it identifies desired future growth, including the nature and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

Figure 3-1: Unified Growth Policy Map



Below is a description of the key Areas and Places identified and described in the UGPM and Development Guide.

#### **Regional Core**



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

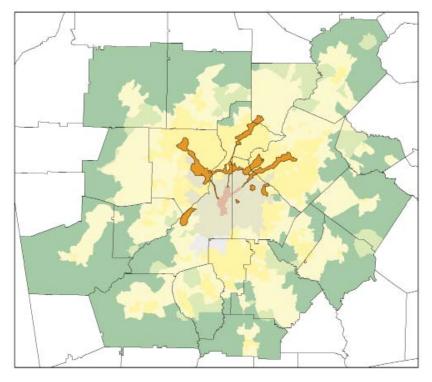
This area is the densest in terms of employment, residential, and cultural offerings throughout the region, with the most developed transit service in the region.

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.

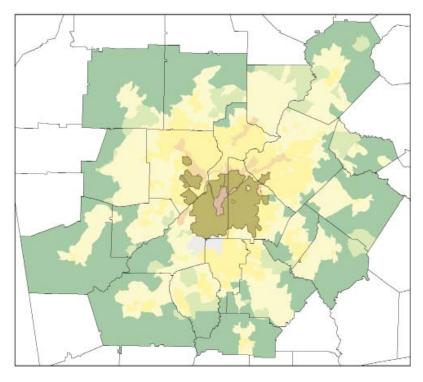
#### Regional Employment Corridors transportation implementation priorities:

- 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 singleand multifamily development, as well as commercial and office uses at connected key locations.

Though commercial and office buildings are aging, they nonetheless 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.



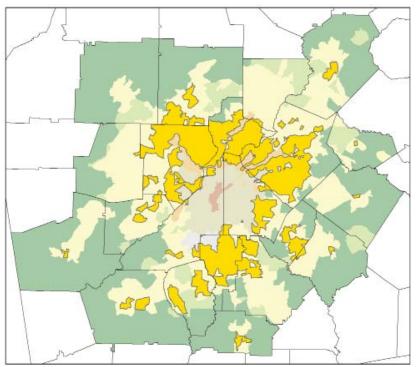
These areas represent the part of

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:**

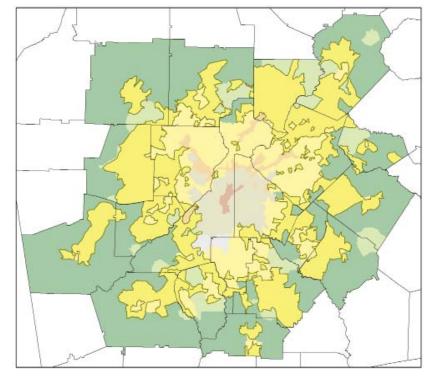
- Maintain a state of good repair and maintenance of the existing transportation network
- Maintain and expand access to regional transit services, including bus rapid transit (BRT), light rail and heavy rail
- Establish strategies for improved road design, such as establishing minimum connections to 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:**

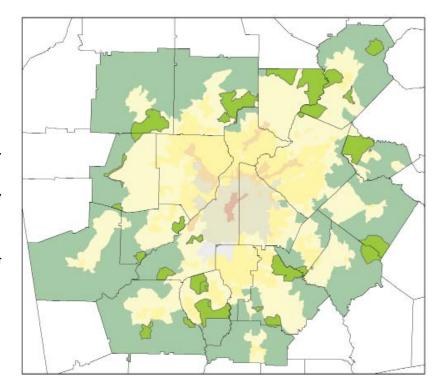
- Connect new development to the existing road network and adjacent developments and the use of cul-de-sacs or other means resulting in disconnected subdivisions should be discouraged
- Promote the continuity of publicly maintained streets and pedestrian infrastructure
- Prioritize issues of safety of 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 nonmotorized 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.

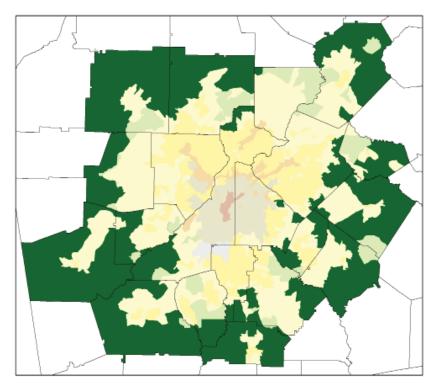
#### **Developing Rural Areas transportation implementation priorities:**

- 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.

There is a desire by many living in and governing these areas 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 will 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**

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. To assist in realizing plan recommendations, the LCI Program also provides federal funding to implement transportation projects identified in LCI studies. More information on the LCI Program is available at <a href="www.atlantaregional.com/lci">www.atlantaregional.com/lci</a>. The LCI Program goals relate to PLAN 2040 Goals and Objectives:

- Encourage local governments to plan and implement strategies that link transportation improvements with development strategies
- Provide planning grants to develop transportation efficient land use studies
- Link implementation actions to receipt of transportation project funding
- Take advantage of existing infrastructure in centers and corridors

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.

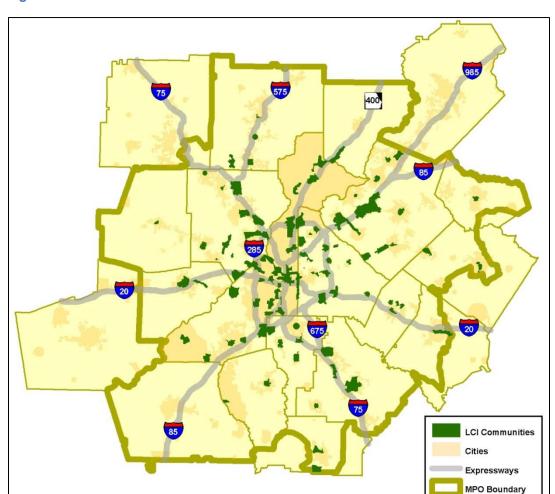


Figure 3-2: Livable Centers Initiative Communities

#### **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.

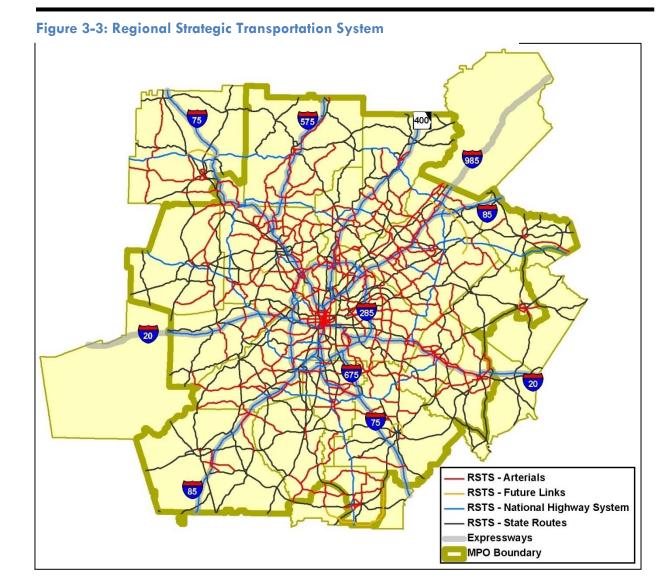
#### **Regional Strategic Transportation System**

PLAN 2040 recommends focusing limited federal transportation funds on the Regional Strategic Transportation System (RSTS), developed in 2006 and updated as part of PLAN 2040 RTP development. 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. PLAN 2040 updated RSTS route designations, including a thorough review by regional stakeholders during PLAN 2040 development.

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, ensure adequate spacing of major roadways and 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.



#### 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) identified in the Strategic Regional Thoroughfares Plan 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 <a href="https://www.atlantaregional.com/srtp">www.atlantaregional.com/srtp</a>.

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

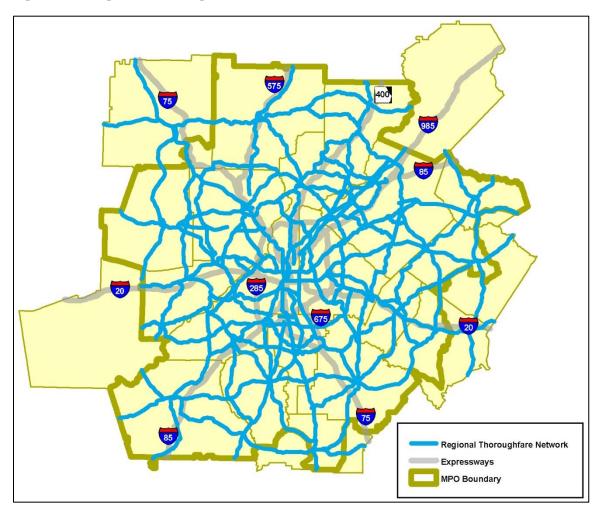
regional function, the thoroughfare network receives priority consideration for infrastructure investment in the Atlanta region.

The RTN has several purposes that further PLAN 2040 development:

- Identify guidelines and strategies to manage the operations of the RTN based on regional travel trends and land use characteristics.
- Serve as a priority network for performance monitoring (which is a Congestion Management Process requirement) and facilitate PLAN 2040 RTP Plan Management Process which is 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.

Figure 3-4: Regional Thoroughfare Network



#### **Concept 3 Transit Vision**

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

Sizes Road

Moditock / 58 92

Monditock / 58 92

Mo

O Stockbridge

Locust Grove

Figure 3-5: Concept 3 Transit Vision

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

Regional Rail (with station)

Arterial Express Bus

Transfer Station

#### Atlanta Strategic Truck Route Network (ASTRoMaP)

The 2008 Atlanta Regional Freight Mobility Plan (<a href="www.atlantaregional.com/freightplan">www.atlantaregional.com/freightplan</a>) 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 of truck-related movements has and will continue to occur, 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, including the State and participating county and municipal governments, designed a truck route system to provide regional access that will guide current and future decision making. Additional information on ASTRoMaP is available at <a href="https://www.atlantaregional.com/truckrouteplan">www.atlantaregional.com/truckrouteplan</a>.

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.

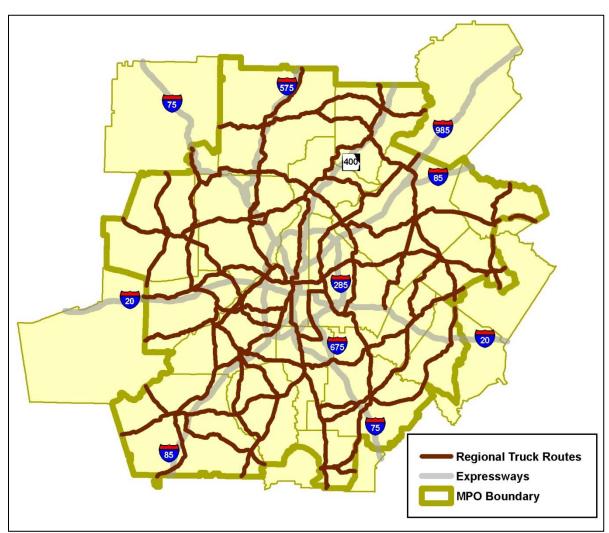


Figure 3-6: Strategic Truck Route Network

#### **Regional Bicycle and Pedestrian Network**

Through the 2007 Atlanta Region Bicycle Transportation and Pedestrian Walkways Plan (<a href="www.atlantaregional.com/bikepedplan">www.atlantaregional.com/bikepedplan</a>), ARC 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.

The Regional Bicycle and Pedestrian Network is illustrated in Figure 3-7.

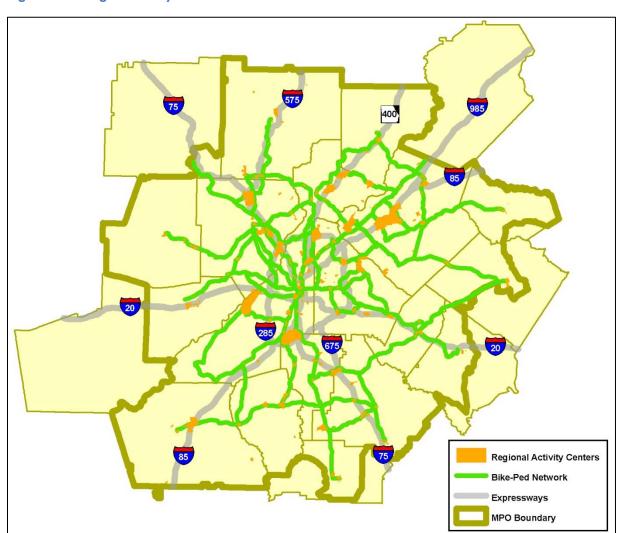


Figure 3-7: Regional Bicycle and Pedestrian Network

#### **PLAN 2040 RTP Project and Program Selection**

ARC has become increasingly proactive in implementing performance-based planning over the last several years. Significant transportation funding issues serve as an immediate driver for developing more structured and transparent performance-based decision-making processes.

ARC developed a performance-based planning process to guide development of PLAN 2040. The performance-based process for the RTP element of PLAN 2040 consists of two pieces: plan development and plan management.

A key component of this process is the development of a performance framework for the RTP which organizes development activities within the context of broader PLAN 2040 Goals and Objectives, setting the stage for subsequent plan management and plan delivery activities. Because the RTP comprises the majority of specific investments made in PLAN 2040, it is critical to define a framework to communicate how transportation investment decisions are made.

A performance framework connects Goals and Objectives into a coherent decisionmaking process.

The plan development piece and RTP performance framework are described in this Chapter. Detail is provided on the performance measures used to support plan development and the technical methods used to implement the performance assessment procedures. The plan management piece, which relates to plan delivery, is described in Chapter 6. Additional details on specific project evaluation procedures are detailed in Appendix C.

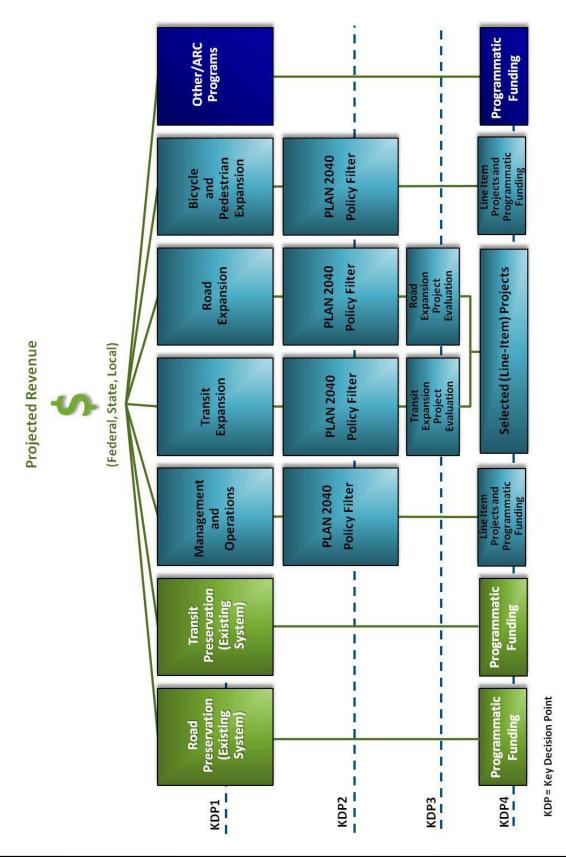
As part of PLAN 2040 RTP development, the performance framework was designed to convey the following:

- Key resource allocation steps that occurred during the transportation plan development process
- Performance assessment that occurred at each step and how it was used to inform the decisions made at that point
- Linkage to long-range goals and objectives, to ensure decisions were made with the desired end state in mind.

The RTP performance framework was developed in consultation with ARC stakeholders and reflects feedback received during two performance measurement workshops. It was also presented to ARC's committees for input.

The performance framework is organized around four Key Decision Points (KDP), each of which impacts, on some level, the allocation of projected transportation revenue over the plan horizon. More specifically, each KDP represents a specific point in the transportation plan development process where ARC made some level of resource allocation decision, either funding provisions or funding restrictions. Organizing the framework around KDPs allows ARC to directly communicate the various resource allocation steps that were made as part of the plan development process, and highlight which of these steps were influenced by an objective performance assessment. While exact funding allocations were not identified for each program in the early stages of the framework, general priorities were made that helped guide investment decisions. This framework is shown in Figure 3-8.

Figure 3-8: RTP Performance Framework



#### Key Decision Point 1 - Conduct Program-Level Scenario Analysis

The first step of the performance framework was to discuss available funding across various transportation programs. Programs, in this case, refer to groupings of similar types of investments strategies (i.e., projects). The allocation of funds at this step is intended to be a critical first link between stated PLAN 2040 policy and RTP development. While specific funding amounts were not allocated to every category, generalized breakdowns were made among system expansion vs. system modernization programs and projects.

#### **Define Program Types**

Program types align with prior *Envision6* programs (previously defined as System Preservation, System Management, and Expansion) to ensure a connection with the previous plan process, but are more (mode) specific to enable ARC to link PLAN 2040 policy direction more directly to KDP1 analysis.

#### **Develop Performance versus Funding Trendlines for Preservation Programs**

Performance trendlines establish the general relationship between the performance impact of each program given certain funding levels. For the roadway and bridge preservation categories, trendlines are intended to help isolate key funding thresholds associated with performance, e.g., Is there any point of diminishing return between funding and performance. Is there a clearly optimal level of funding?

Additional information on the program-level measures and methods that were established for trendline development to support KDP1 analysis across program types is available in Appendix C.

#### **Use Performance Trendlines to Define Funding Allocation Scenarios**

Once trendlines were established for preservation program areas, they were used to help determine an optimal fund distribution across all other program types, in line with PLAN 2040 policy direction. Given current funding issues associated with maintaining existing transportation infrastructure, the preservation analysis was used as a starting point for determining the initial fund distribution (i.e., a "preservation first" scenario) in the following manner. Preservation funding needed for the following was determined:

- Funding to preserve the existing roadway system (bridges and pavement) at current performance levels, and
- Funding to maintain the transit system at existing service levels and within state of good repair.

Funding levels needed to support (targeted) pavement and bridge maintenance conditions for the roadway system over the plan horizon were defined. Key policy question asked at this step included:

- How do Georgia's roadway maintenance expenditures compare to other states'?
- Can existing maintenance levels be sustained over time?
- What level of road maintenance will be acceptable, given current funding constraints?
- Will some level of deterioration in road maintenance funding be required to support adequate investment in other program areas?
- Should there be a shift in funds towards other projects that reduce longer-term preservation costs?

Total preservation funding needs were evaluated in terms of cost to support targeted roadway maintenance levels (bridge and pavement). Remaining funds available for allocating across other program areas were identified.

#### **Evaluate Funding Distribution Scenario**

For preservation programs, fund distribution scenarios were evaluated in terms of overall impact on the program area using the performance versus funding trendlines.

#### **Define Preferred Funding Scenario**

The key outcome of the KDP1 analysis was a preferred funding allocation of constrained revenue across each of the program areas. In July 2010, MPO policy makers instructed staff to emphasize increased funding for preservation in PLAN 2040. This emphasizes the region's preservation needs while still allowing for strategic expansion of the transportation system to accommodate future growth.

# **Key Decision Point 2 – Apply Policy Filter**

The second step of the performance framework, KDP2, involved reviewing potential projects for consistency with PLAN 2040 policy, with the intent to advance only those projects that support the direction of the plan. The policy filter was only applied to programs that yield line-item investments in the RTP (as opposed to general funding programs).

#### **Define Policy Filters**

Policy filters link specifically to four of the program areas: Management and Operations, Transit Expansion, Road Expansion, and Bicycle and Pedestrian Expansion. Policy filters interject PLAN 2040 Principles into the RTP development process, in particular land use policy, as a means to directly coordinate the transportation and land use elements of PLAN 2040. Policy filters reflect the following:

Align investment with strategic, priority transportation systems such as:

- Regional Strategic Transportation System
- ASTRoMaP truck route network
- Bicycle and Pedestrian network
- Concept 3 transit network
- Align investment with Unified Growth Policy Map area types to encourage coordinated transportation and land use strategies.

Accommodate additional considerations such as:

- Safety need
- Statewide Strategic Transportation Plan priorities
- Projects already under development ("in the pipeline")
- Project readiness

#### **Review Potential Investment Options against Policy Filters**

The universe of transportation projects under consideration for the PLAN 2040 RTP was compared against each of the policy filters. Documentation of each project reviewed and the results of policy filter cross-check were compiled for follow-up discussion with project sponsors and is available in Appendix C.

#### Advance Projects That Are Consistent with PLAN 2040 Policy to Project-Level Evaluation

Only those projects consistent with PLAN 2040 policy proceeded to KDP3 for evaluation for consideration for federal funding.

# **Key Decision Point 3 - Project Evaluation**

The third step in the performance framework was to evaluate and score projects that have passed through the policy filters, using performance measures that align with the strategic direction of PLAN 2040. Performance measures used at KDP3 were organized according to RTP Emphasis Areas, as shown in Table 3-1.

Table 3-1: RTP Emphasis Areas

RTP Emphasis Area	PLAN 2040 Objectives						
	Mobility Options for People and Goods	Healthy, Educated, Well Trained, Safe and, Secure Population	Residential Choice in Locations Accessible to Jobs and Services	Energy and Resource Efficiency while Preserving Region's Environmental and Critical Assets	Innovative Approaches to Economic Recovery and Long-Term Prosperity		
Mobility	<b>♦</b>				<b>*</b>		
Connections and Access	<b>•</b>	•	•		<b>•</b>		
Safety		•					
Economic Growth		•	•		•		
Community/ Environment		•	•	<b>•</b>			
State of Good Repair				<b>•</b>			

The RTP emphasis areas are intended to:

• "Bridge" the more comprehensive PLAN 2040 Goals and Objectives to RTP-specific outcomes

- Link to transportation criteria that ARC must address as part of plan development (SAFETEA-LU planning factors)
- Link to potential Federal performance measures that are expected to be implemented via reauthorization, if not sooner
- Demonstrate a many-to-many relationship between intended RTP outcomes and the Objectives of PLAN 2040
- Help ARC manage expectations regarding the intended impact of transportation investment decisions

Project-level evaluations were focused on road expansion and transit expansion projects. Project evaluation was conducted *within* road and transit capacity programs to provide a relative comparison between road projects and a relative comparison between transit projects, separately.

Project evaluation measures were drawn from acceptable, ongoing practice in the region and state (consistent with existing MARTA evaluation criteria and SSTP criteria) and are supported by methods that use readily available data and tools. In addition, project-level measures were kept to a vital few that are easy to communicate to ARC stakeholders and decision-makers.

Performance measures for KDP3 were presented and vetted with ARC staff and stakeholders at the two performance framework workshops. Initial recommendations were subsequently refined by ARC staff to be more in line with internal modeling resources.

#### **Benefit/Cost Calculation**

As part of project-level evaluation, a Benefit/Cost (B/C) estimate was calculated for each project. A number of modifications to the previous Envision6 project-level B/C calculation were applied for PLAN 2040.

These B/C updates were applied for roadway capacity project evaluation only. Transit projects applied a surrogate B/C in which the project score was used as the benefit/numerator and total project cost was used as the cost/denominator for calculation. Additional detail on the B/C methodology and calculations is available in Appendix C.

#### Integrating Project-Level Performance Results with Benefit/Cost Information

The result of KDP3 was a ranked list of high-performing projects for both road and transit expansion programs, with an associated B/C evaluation for each. Both of these key evaluation results were used to inform project selection for the draft plan. A tiered approach was used to integrate project-level performance impact and B/C results.

Project-level results were plotted using the 100-point performance score and B/C, for roadway and transit projects separately. B/C and scoring thresholds were defined, as needed, to produce a reasonable distribution of projects into four tiers:

- Tier 1 Highest priority projects with high predicted performance and highest B/C ratio;
- Tier 2 Medium priority projects with high predicted performance, but lower B/C ratio;
- Tier 3 Medium priority projects with lower predicted performance, but higher B/C ratio; and
- Tier 4 Lowest priority projects with low predicted performance, and low B/C ratio.

# **Key Decision Point 4 - Project Selection**

The performance-based process did not stop at the project evaluation level, with projects programmed according to the list identified at KDP3. The KDP3 evaluation was used to identify the best performing projects, most cost effective projects within their respective program area, in the context of PLAN 2040 Goals and Objectives. Given funding constraints impacting PLAN 2040, ranked and tiered project lists do not serve as the sole determinant of project priority (i.e., costs to fund "good" projects are likely to significantly exceed available revenue). As part of plan development, ARC packaged high-performing projects across multiple program areas into a meaningful, implementable regional plan following rational steps:

#### Map High-Performing Projects for Each Program Area

Maps were produced in GIS for road and transit programs with project (performance) score, B/C results, and Tier identified. These maps were overlaid against other key planning criteria such as Equitable Target Areas (ETAs) that are used to define transportation disadvantaged areas, lifelong community or LCI areas.

#### **Identify Complimentary Investments**

ARC reviewed the results of project-level evaluation in relation to how projects did (or did not) complement one another across program areas, as well as other planning criteria considered in the previous step.

#### **Select and Program Projects Accordingly**

Based on the results of the first two steps, projects that demonstrated positive performance impacts in a cost-effective manner, with complimentary benefits across other program areas, were prioritized for funding in the RTP (given available funding revenue).

#### **Evaluate Draft Plan**

Once the draft plan was assembled from these projects, it was evaluated using plan-level performance measures that align with RTP emphasis areas. Plan-level measures, as opposed to project-level measures, reflect performance analysis that is inclusive of all roadways and transit in the model network/MPO planning area. Plan-level measures are meaningful at the network level and reflect performance of the cumulative investment strategy on the entire transportation system. The measures used are mode neutral to reflect the impact of proposed investment strategies for all system users. Plan-level measures are shown in Table 3-2.

Table 3-2: Plan-Level Performance Measures

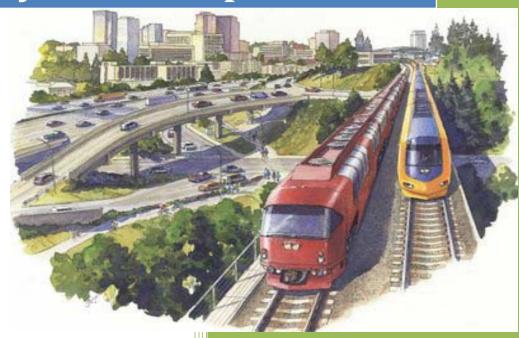
RTP Emphasis Area	Plan-Level Measure		(A) Description (B) Data Source		
Mobility	Average Commute Time	(A) (B)	Average travel time by auto and transit for HBW trip per commuter.  ARC travel model.		
Connections/ Access	Activity/Employment Center Travel Shed	(A) (B)	Average number of workers reaching major activity/employment centers within 45-minute (autos and transit).  ARC travel model.		
Safety	Injury/Fatal Crash Rate	(A) (B)	Number of injury and fatal crashes per 100M VMT. Georgia CARE, ARC travel model.		
Economic Growth	Jobs and Growth	(A) (B) (A) (B)	Change in GDP and jobs for the region resulting from travel time (delay) savings.  Georgia Heat equations.  Peak-Hour Freeway Speed: Managed lanes, HOV versus General Purpose.  ARC travel model.		
	Cost Savings	(A) (B)	Annual congestion cost savings.  ARC travel model.		
Community/ Environment	Emissions	(A) (B)	NO <sub>x</sub> , VOC, PM <sub>2.5</sub> , and GHG. ARC travel model, emissions model.		
State of Good Repair	Roadway and Transit Condition	(A) (B)	Percent pavement, bridge, and transit infrastructure in good condition.  HERS/NBIAS (trendlines), level of transit preservation funding.		

#### Compare Fund Distribution Results to Preferred Funding Allocations for System Preservation Levels

The fund distribution reflected in the draft plan was compared to the preferred funding allocation identified in KDP1. This feedback mechanism ensured that high-level policy direction was maintained throughout plan development.



# Chapter 4 – Investing Strategically in Transportation



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# Strategically Investing

In crafting an investment program for the PLAN 2040 RTP, 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 identifies 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 PLAN 2040 RTP investment strategies, highlighting the vision of the individual programs and projects identified in Appendix A.

An effective investment strategy for the PLAN 2040 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.

# Financially Constraining the PLAN 2040 RTP and the Aspirational Vision

The PLAN 2040 RTP includes two elements:

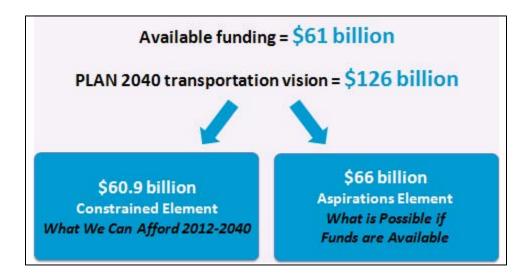
- The first, a financially constrained element, reflects the investments the region can afford between 2012 and 2040.
- The second element, the Aspirations Plan, includes other regional investments if funding were available by 2040. The Aspirations Plan helps the region and state understand the level 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 \$60.9 billion (current year 2012 dollars). PLAN 2040's cost in year of expenditure (YOE) dollars is \$83.6 billion. As rule, all costs in this Chapter are provided in current year 2012 dollars, unless indicated otherwise.

Federal planning requirements restrict projects in the RTP to only those that can be afforded within forecast revenue streams

An additional \$66 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 strategies in Plan 2040 is \$126 billion (rounded).

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

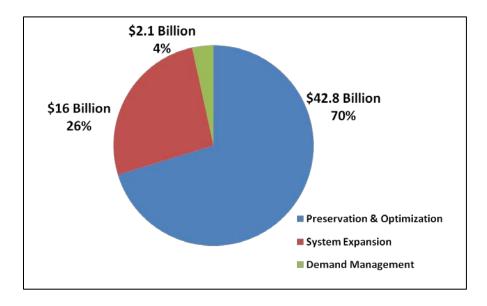


# Implementing the PLAN 2040 RTP through Investment Priority Areas

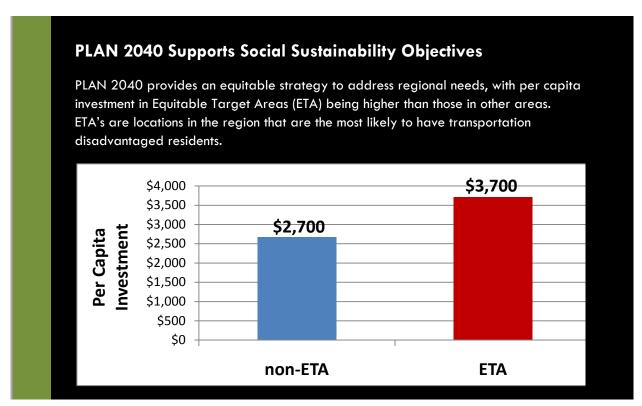
For the financially constrained element of PLAN 2040, three priority areas, totaling \$60.9 billion (current year 2012 dollars), are used to organize and present investment recommendations for the RTP (see Figure 4-2):

- Infrastructure Modernization Infrastructure Modernization is the largest portion of PLAN 2040 investments at 70%, or \$42.8 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. The region's policy makers, at a July 2010 retreat, directed ARC staff to increase this category's emphasis in PLAN 2040.
- <u>Demand Management</u> 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 \$2.1 billion, or 4% 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 \$16 billion. The Atlanta region added the third most people of any region in the last decade, and is expected to add 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 SAFETEA-LU planning requirements, PLAN 2040 must account for yearly maintenance costs to resurface regional roadways each year.



# Infrastructure Modernization



Modernizing transportation infrastructure requires the expenditure of 70% of total PLAN 2040 resources, an increase of 11% from the previous RTP, Envision6

PLAN 2040's highest regional priority is placed on Infrastructure Modernization. A major emphasis shift has evolved in PLAN 2040, with regional stakeholders recognizing the need to adequately maintain and operate existing transportation facilities. Examples of these project types include resurfacing roads and streets and operating the regional transit network.

At the July 2010 ARC Board retreat, regional policy makers instructed that additional funds be allocated to infrastructure modernization in PLAN 2040. Based on detailed infrastructure analysis, PLAN 2040 allocates sufficient funds to maintain 70% of roadway and bridges on the RSTS in good condition by 2040. The financially unconstrained aspirations plan maintains 95% of roads and bridges in good condition.

Infrastructure Modernization comprises 70% of the RTP, or \$42.8 billion. Appendix A identifies specific maintenance and operational projects and program funding categories for specific maintenance and operational projects, serving as placeholders for the future projects for which PLAN 2040 does not currently identify. Future TIPs will depict actual projects funded out of the program ategories. Systemwide maintenance and operational costs are in Appendix A.

# Maintaining Systems in a State of Good Repair

The population and economic growth discussed in Chapter 2 was possible in large part because of the region's extensive roadway and transit network. This network is a tremendous resource for the region and is currently in excellent condition for roads and bridges. However, as this infrastructure ages, the cost of maintaining it will increase.

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**



\$560 million of road and bridge modernization projects are in included in the FY 2012-2017 TIP.

The amount of needs, however, greatly exceeds available revenues.

Currently, 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 deficient 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 Structural 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

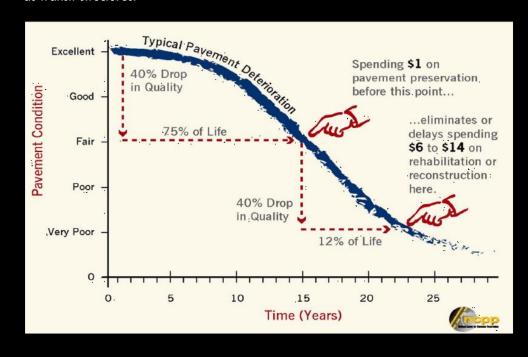
Highway Economic Requirement System – State Version (HERS-ST). Bridge conditions in the region have also been projected into the future using an FHWA tool called the National Bridge Inventory Analysis System (NBIAS).

System preservation analysis conducted as part of PLAN 2040 indicates that \$24 billion is needed to maintain roads and bridges at today's levels. PLAN 2040 increases infrastructure modernization funding to 70% of the total plan, providing \$16.5 billion in road and bridge preservation. However, this funding level is inadequate to maintain existing condition levels. An additional \$8 billion of road and bridge preservation programs are included in the financially unconstrained aspirations plan.

# Fast Fact: Percent of Pavement and Bridges in Good Condition Today: 95% PLAN 2040 Constrained: 70%

## Why timely funding for infrastructure preservation is critical.

Deferring maintenance costs ultimately results in unnecessarily higher long-range costs to maintain facilities. For example, delays in maintaining pavement lead to higher costs. As illustrated in the figure, for each \$1 spent before pavement quality drops below "fair" condition later saves from \$6 to \$14 dollars in major rehabilitation work. This example, while for road pavement, is applicable to other categories such as transit structures.



#### **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. MARTA is one of the nation's leaders in developing improved asset management systems, receiving a \$1.3 million grant in 2010 to develop an asset management system to track the condition of the agency's fleet, facilities, and equipment.

PLAN 2040 places continued emphasis on supporting roadway and transit preservation. \$22.8 billion is provided to replace buses and rail cars, support operations, and upgrade supportive infrastructure. PLAN 2040 assumes that

Almost \$240 million in federal rail modernization funds are included in the FY 2012-2017 TIP, supporting the region's existing transit infrastructure.

existing core transit services for MARTA and other transit systems will be maintained by meeting core funding needs. It also assumes that the 50-50 restriction for use of MARTA sales tax receipts (50 percent must be used for operations and the other 50 percent for capital) will continue to be lifted in the future, based on past action by the Georgia Legislature.

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.

An example of the increasing need to keep the transit system in good repair is the Brady Mobility Facility. Used to operate and maintain MARTA's paratransit fleet, it was built in 1974 and it has not undergone significant renovation since that time.



# **Maximizing System Performance through Technology**

The Atlanta region is the 11<sup>th</sup> most congested region in the nation for travel delay, according to data compiled by the Texas Transportation Institute. The effects of this congestion on our daily lives — and on the overall regional economy — are significant and costly. Individuals pay with the time that is lost while stuck in traffic, and businesses lose productivity and revenues as their employees take longer and longer to travel to work.

PLAN 2040 focuses \$3.6 billion in investment on programs such the Regional Traffic Signal Timing Program. Funding is provided to continue projects such as the signal timing program, which has upgraded over 80 traffic signal systems, consisting of over 900 signalized intersections, resulting in a benefit-to-cost ratio of 16 to 1.



Opportunities to relieve congestion are challenging, owing to several key factors. The Atlanta region's interstates are now a mature system, with capacity increases possible at only a limited number of locations – primarily congested interstate bottlenecks such as where two interstates come together. Finances in today's economy are constrained, and adequate funding for large transportation projects is often not available due to competing needs and rising construction costs. The challenge is to maximize system performance through innovative, cost-effective strategies, and thereby reduce the need for new, large-scale capital investments.

Regional management and operations strategies are targeted to optimize the performance of existing transportation infrastructure. These strategies include expansion of regional ITS systems, enhancing traffic incident management, and traffic signal coordination. These strategies improve mobility, improve access to information for travelers, reduce traveler delays, and enhance public safety and security.

Through \$3.6 billion of investments, PLAN 2040 includes several important system optimization programs:

- ITS Operations and Support
- HERO Operations and Support
- Maintenance of ATMS Equipment
- ATMS: System Integration and Navigator Development
- Regional Traffic Signal Optimization Project

# **Keeping Goods Moving**

The Atlanta region is a global leader in freight and logistics, forming a key component of the economy's economic base. The region is the business and distribution center of the Southeast, with the nation's fifth-largest concentration of supply chain employment and 103,000+ jobs. The region's freight industry supports economic development throughout the Southeast:

\$75 million is invested in the freight improvement program in the FY 2012-2017 TIP. Freight movement is a critical component of the transportation network. In Austell, Norfolk Southern' Whitaker Intermodal Terminal is the largest intermodal yard east of the Mississippi.



- Air Home to the world's most traveled airport, Hartsfield-Jackson Atlanta International, with more than 2,600 daily takeoffs and landings. Hartsfield-Jackson is ranked 12th in U.S. air cargo traffic.
- **Ground** The region is one of five U.S. cities served by three major interstate highways. More than 80% of the United States' commercial and consumer markets can be reached within two truckload delivery days. The region is ranked 6th in ground freight movement in U.S.
- Rail Access to the most extensive rail system in the Southeast is provided with 4,900 miles in Georgia. Georgia is ranked 6th in rail intermodal O & D traffic.
- **Sea** The region benefits being only 250 miles to the Port of Savannah, the fastest growing and fourth-largest container port in the U.S.

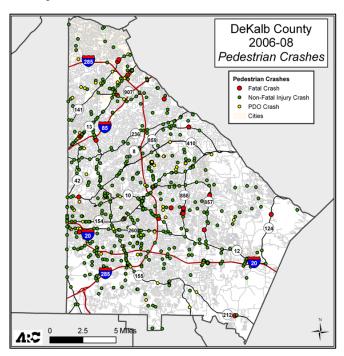
Freight is vital to the regional economy and is central to the Atlanta region's growth. ARC undertakes major transportation planning work in many areas including freight. The main objective of ARC's freight planning effort is to develop a framework for facilitating and enhancing freight mobility and goods movement in the region, improving the region's economic competitiveness, and minimizing environmental and community impacts. ARC completed the Atlanta Region Freight Mobility Plan and Atlanta Region Strategic Truck Route Master Plan, outlining a vision for freight.

PLAN 2040 includes a new funding program geared towards improving freight mobility in and through the Atlanta region through lower cost, quick fix improvements. Examples include improving intersections and railroad crossings, signal timing and other ITS, access management, and truck passing lanes. This program is funded at a minimum of \$75 million between 2014-2017, with projects for this funding to be selected in 2012.

In addition, other improvements to roadways accomplished through preservation, optimization, and expansion also benefit the movement of goods in and through the Atlanta region.

# **Providing a Safe and Secure Transportation Network**

#### **Safety**



State and local partners closely monitor the location of pedestrian crashes are to identify potential strategies. As illustrated in DeKalb County, these crashes tend to have specific patterns along major corridors.

A traffic accident takes place every 2.8 minutes across the MPO planning area, costing the region \$4.7 billion a year, and contributing to more than half of traffic congestion. ARC closely coordinates with GDOT and the Governor's Office of Highway Safety to identify and fund needed safety projects.

ARC closely monitors collision hot spots and high-crash intersections to better understand the relationship between crashes and congested roadways. By closely monitoring how many, how severe, what kind and where motor vehicle crashes happen on the region's roadways, information can be used to help local, state and federal agencies pinpoint high-risk locations, identify contributing factors and determine roadway safety needs. Crashes involving pedestrians, bicyclists and commercial vehicles are also examined.

PLAN 2040 includes several dedicated funding program to address safety needs. These programs are designed to improve safety for all modes, including pedestrians, bicyclists, trucks, cars, and transit. A new PLAN 2040 program, the General Purpose Roadway Operations and Safety Program, will allow new projects to be funded starting in FY 2014 to address crash hot spots. Supplementing existing safety initiatives such as the Railroad & Highway Protection Device Program, a minimum of \$50 million in additional funding will address regional needs.

Additional funding programs also improve the conditions of bicyclists and pedestrians. A new \$50 million Last Mile Connectivity Program is included in the FY 2012-2017 TIP to fund projects that improve safety at high-crash locations. This program is focused on improving access to transit facilities.

The FY 2012-2017 TIP includes a \$230 million roadway safety program funding to address high crash locations in the region.

#### PLAN 2040 supports the Georgia Strategic Highway Safety Plan.



Addressing safety needs is a core foundation of PLAN 2040. PLAN 2040 includes a variety of safety programs addressing all modes. The State of Georgia, through the planning activities of GDOT and the Governor's Office of Highway Safety (GOHS), has a coordinated approach to identifying safety needs and projects. PLAN 2040 supports the priority goals of the Highway Safety Plan (HSP). These goals establish outcomes for highway safety:

- Increase the rate of observed safety belt use from baseline 89.6% in 2008 to 91% by the end of FFY 2010 for drivers and front seat outboard passengers.
- Reduce the alcohol related fatality rate (BAC = .08+) from estimated 2008 baseline of 0.38 fatalities (416) per 100 million VMT to 0.37 (404) per 100 million VMT (based on 110,290 million VMT).
- Reduce the percentage of speed related fatal crashes from baseline 21% in 2008 to 19% by the end of FFY 2010.
- Reduce the percentage of pedestrian related fatal crashes from baseline 9.8% (146) in 2008 to 9.7% by end of FFY 2010.
- Continue implementation of the Strategic Highway Safety Plan with all roadway safety stakeholders in Georgia.

ARC closely works with GDOT to incorporate projects in the FY 2012-2017 TIP that support the HSP. Based on analysis of crash data, projects are selected for funding. Recognizing the need to respond to crash hot spots in the future, on-going funding programs are designed to meet future safety needs. These programs address all modes, including bicyclists and pedestrians.

#### **Security**



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

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. Specific focus in on developing evacuation plans for the region, with a detailed evacuation plan prepared in 2009 and follow-up work underway.

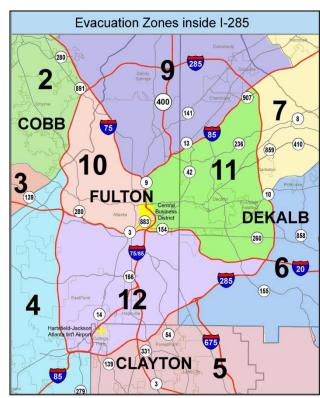
As part of the Regional Evacuation Plan, ARC and

regional partners identified evacuation zones and pinpointed at-risk populations, with the final outcome being development of regional evacuation routes. Regional policy makers provided guidance to this process, including identification of suitable facilities to address various evacuation scenarios.

A second phase of this security planning effort is underway, to better understand the transportation network enhancements needed to implement recommendations. This effort has been closely tied to the development of the Regional Thoroughfare Network, including coordination with implementing evacuation

routes.

Evacuation Zones are identified to assist in security planning. Parts of the region, such as those inside of 1-285, are assigned to an evacuation zone to guide decision-makers in the event of a security event.



# **Demand Management**

# Taking Bold Steps toward Focused Growth through Livable Centers



PLAN 2040 supports the Livable Centers Initiative program with \$320 million in funding. Featured as Case Study on FTA's Livability Website, the LCI program contributes to reduced vehicle trips and emissions.

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 91 LCI studies. More than \$160 million in transportation projects are currently allocated for the preliminary engineering, right-of-way acquisition, and construction of 90 projects found in 56 LCI communities.

To help nurture LCI communities, PLAN 2040 provides \$320 million, which supports multimodal travel, more livable neighborhoods, and the development of jobs and housing in existing town centers and near transit.

Encouraging future growth into LCI's 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's 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 4-3, decreases in CO<sub>2</sub> emissions are apparent from the program.

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, many of which include new or enhanced streetscape improvements, and bicycle pedestrian facilities. More information on the LCI Program is available at <a href="https://www.atlantaregional.com/lci">www.atlantaregional.com/lci</a>.

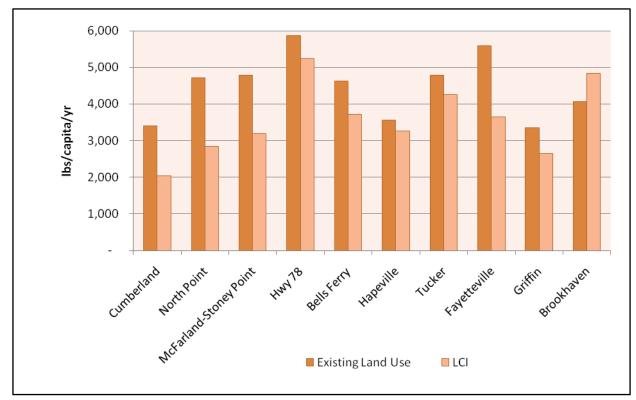


Figure 4-3: Impact of LCI Program on 2008 Vehicle GHG Emissions

Note: At the Bookhaven site, population increases more than employment resulting in higher VMT and CO<sub>2</sub>.

# **Providing 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.

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.

\$250,000 is included in the FY 2012-2017 TIP for a study to examine opportunities to conduct a regional mobility management call center study. Regional stakeholders indicate that this action will help improve the delivery of services to the region's transportation disadvantaged.

The main objectives of mobility management are to:

- Improve transportation options for the public, particularly low-income, elderly and disabled populations
- Reduce confusion about what transportation options are available by consolidating transportation information in one centralized location
- Improve coordination among all transportation service providers, enhancing commitments to delivering service



• Through coordination, provide cost-effective 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 different needs and require a variety of transportation services to ensure quality of life. Planning and Coordinating HST helps to improve the efficiency of limited transportation resources, reduce duplication of services, and improve customer satisfaction.



In April 2010, the ARC adopted the Coordinated Human Services Transportation Plan, 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 <a href="https://www.atlantaregional.com/hstplan">www.atlantaregional.com/hstplan</a>.

There are three Federal Transit Administration (FTA) HST Programs, the Section 5316 Job Access and Reverse Commute (JARC) program, Section 5317 New Freedom program, and Section 5310 Elderly and

\$21 million is included in the TIP to support HST programs such as New Freedom and the Job Access and Reverse Commute initiatives

Persons with Disabilities program.

ARC and MARTA administer the JARC and New Freedom programs for the Atlanta region while the Department of Human Services administers the Elderly and Persons with Disabilities program for the state of Georgia. The goals and objectives for the programs are documented in the region's Coordinated HST Plan.

#### **Lifelong Communities**



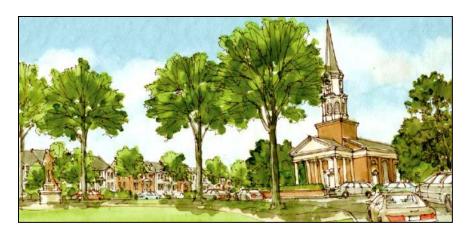
PLAN 2040 supports through policy and actions the continuation of the Lifelong Communities (LLC) Initiative. PLAN 2040 details a series of action to support Lifelong Communities in the Implementation Program. This program works with local communities to achieve three primary goals: promote housing and 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 <a href="https://www.atlantaregional.com/aging">www.atlantaregional.com/aging</a>.



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

# Making the Region Bikeable and Walkable



Beginning in 2014, the FY 2012-2017 TIP provides \$12.5 million per year for a new bicycle and pedestrian mobility, accessibility, and safety program.

Bicycling and walking are important forms of transportation for shorter trips, access to transit, and within regional activity centers. As transportation costs and congestion increase, walking and bicycling continue to grow in importance. ARC promotes safe, functional, and regional bicycle and pedestrian planning and continues to update its process to address new needs and trends.

Each day in the Atlanta region, residents use their bikes and feet to take make trips that do not rely upon a car. Yet despite the already high number of cyclists and pedestrians going to work, school, shopping and elsewhere, more can be done to encourage these trips — and to make them safer and more convenient.

The 2007 Atlanta Region Bicycle Transportation & Pedestrian Walkways Plan (<a href="www.atlantaregional.com/bikepedplan">www.atlantaregional.com/bikepedplan</a>) identified a network of regionally significant corridors and centers to focus federal funding investments for bicycle and pedestrian improvements. This network is illustrated in Figure 4-4.

A new funding program has been identified in the TIP at a minimum of \$12.5 million a year, to build bicycle and pedestrian infrastructure in support of this network. Projects to be funded out of this program will be identified in 2012. Total funding for bicycle and pedestrian infrastructure in PLAN 2040 total \$1.6 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. PLAN 2040 continues funding for the LCI Program at \$320 million.

PLAN 2040 provides \$1.6 billion to implement regional bicycle and pedestrian projects in support of the Regional Bicycle and Pedestrian Network.

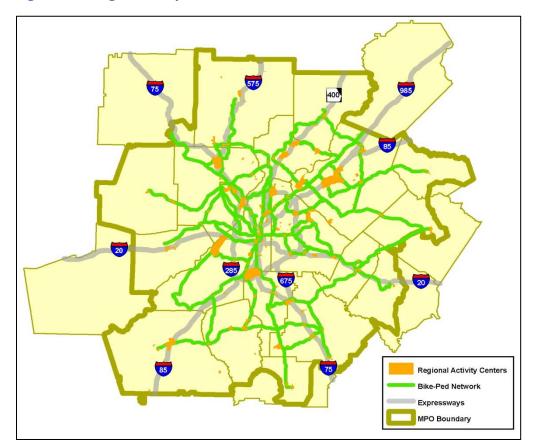


Figure 4-4: Regional Bicycle and Pedestrian Network

# **Encouraging Commute Options**



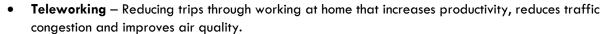
Commute Options are intended to reduce traffic congestion and air pollution by eliminating SOV trips and/or decreasing the length of those SOV trips. Transportation Demand Management (TDM) encompasses a set of strategies to increase the use of commute options. According to the survey by the Center for Transportation and the Environment, 18% of all metro Atlanta commuters carpool, vanpool, use transit, bike, walk or telework three or more days per week.

Through the RideSmart program (<u>www.myridesmart.com</u>) and other partnerships with the Clean Air Campaign, PLAN 2040 provides over \$80 million to support focused commute option

\$20 million in the FY 2012-2017 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

#### 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





The successes of TDM programs, developed in strong partnerships with organizations such as the Clean Air Campaign, have had a significant impact on the region:

- 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 either The Clean Air Campaign or one of the Atlanta region's transportation management associations
- 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

# **Protecting the Environment**



PLAN 2040 allocates over \$17 million to fund a program to reduce railroad-related emissions. Modern engines are fuel efficient and environmentally friendly.

PLAN 2040 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.

PLAN 2040 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:

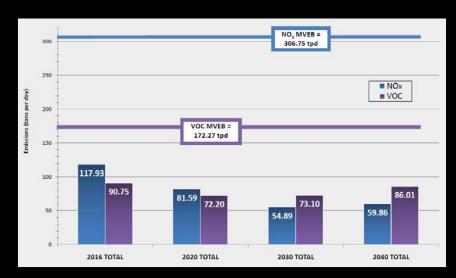
- Purchase of Clean Fuel Buses
- Transit System Modernization, Including Electrical System Upgrades
- Intelligent Operations Systems (ITS)
- Livable Centers Initiative
- Climate Change Scenario Planning
- ARC Green Communities Program
- Transportation Demand Management (TDM) Programs
- State/Local Policies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

Based on the results of emissions modeling for PLAN 2040, the region successfully meets federal air quality requirements. Additional detail on how PLAN 2040 meets federal air quality requirements can be found in Volume II – PLAN 2040 Conformity Determination Report.

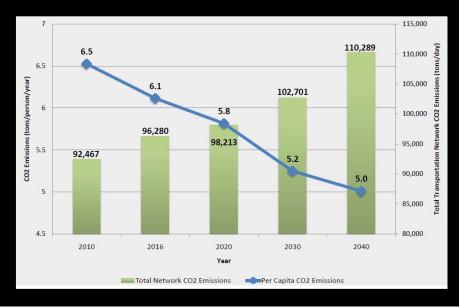
## How Effective Is PLAN 2040 in Protecting the Environment?

A key PLAN 2040 sustainability objective is to protect the environment. One way Transportation does this is by limiting the emission of harmful substances that can damage the environment. PLAN 2040 strategies are leading to broad environmental improvements.

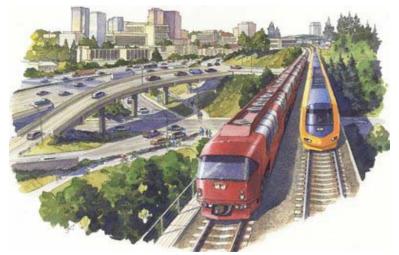
While the PLAN 2040 Conformity Determination has additional information on how federal air quality requirements are met, transportation-sector emissions fall well below federal particulate budgets, as well as ozone precursor budgets listed below:



The federal government is also concerned regarding the impact of transportation emissions on climate change. CO2 emissions, the primary contributor to greenhouse gases, are drastically reduced on a per capita basis in PLAN 2040.



# **System Expansion**



To support the region's expected growth and improve the quality of transportation service to people and businesses, PLAN 2040 identifies capital investments expanding the capacity of Regional Strategic Transportation System.

These projects must be reflected in PLAN 2040 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.

Although these major capital projects account for only 26% of the total investment in transportation, they have been thoroughly investigated and evaluated in terms of how they support the regional vision. Due to the length of time required to develop major capital transportation projects, accurately identifying a system of improvements within the long-range plan promotes efficient, cost-effective implementation of these projects.

This subsection includes descriptions of high-priority major capital projects that the region should 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 Appendix A.

The PLAN 2040 devotes 26% of RTP resources, or \$16 billion, to system expansion projects. The largest system expansion category is general roadway capacity improvements at \$7 billion. The managed lanes concept has experienced significant changes in comparison to the Envision6 RTP. These costs comprise \$5.4 billion of the total system expansion costs. Transit expansion is constrained due to limited funding from the Federal New Starts funding program. \$3.5 billion of transit expansion projects are included in PLAN 2040.

Evaluation results for individual projects are included in Appendix C. Note that these are high-level informational results, and 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.

# Pricing Highway Travel Demand through Managed Lanes



Managed lanes, also referred to as Express lanes or high-occupancy toll (HOT) lanes, are carpool lanes with the added benefit of allowing

Over \$2.1 billion of priced managed lanes projects are programmed in the FY 2012-2017 TIP, including major expansion on I-75/575 in Cobb and Cherokee Counties.

buses and high-occupancy carpools (3 or more people per vehicle) to use the lanes free of charge. Non-carpoolers are allowed to use available capacity in the lanes, too — for a price. In this way, express lanes provide travelers the option of a delay-free trip.

Regions' throughout the country are implementing managed lanes to better manage freeway systems, expand the choices available to travelers, and improve express bus service. The Atlanta region will open the first priced managed lane, on I-85 North, in the summer of 2011. National surveys show most managed lane travelers use the lanes just a few times a week, or even less.

PLAN 2040 creates a regional managed lane network. 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. (For more information, see the MLSP at <a href="http://dot.ga.gov/informationcenter/programs/studies/managedlanes/Pages/default.aspx">http://dot.ga.gov/informationcenter/programs/studies/managedlanes/Pages/default.aspx</a>). An extensive listing of managed lane projects is in

An extensive listing of managed lane projects is in Appendix A.

The Atlanta region's managed lane network, which is founded on the principle of choice, will demonstrate the benefits of congestion pricing, and will act as a stepping-stone toward more comprehensive pricing strategies in the future. To keep express lane traffic flowing freely, toll rates will adjust dynamically to balance supply and demand based on data from roadway sensors used to monitor traffic conditions.

The managed lanes network also will ensure that the region has a priority system that functions as the number of carpools and buses grow in the future. Even if HOT lanes were not built, many regional HOV lanes will eventually become too crowded during peak commute periods, and travel time advantages for buses and carpools will diminish.

# Fast Fact:

Number of Reliable Trips in Peak Travel Period

Today: 49,000

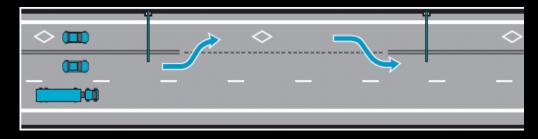
PLAN 2040 Constrained: 127,000

PLAN 2040 Vision: 366,000

The initial segments of the priced managed lanes network open in late summer 2011 with the conversion of 16 miles of existing High Occupancy Vehicle (HOV) lanes to High Occupancy Toll (HOT) lanes on I-85 from Chamblee Tucker Road, just south of I-285, to Old Peachtree Road. The new HOT lanes will take the place of the existing HOV lanes. Other priced HOT lanes will open on I-75 South in Clayton and Henry County in 2014 and on I-75/I-575 in Cobb County and Cherokee County in 2015.

#### How High-Occupancy Toll (HOT) Lanes Work

- Non-carpool drivers with a windshield mounted toll tag can choose to pay a toll and use the express lane.
- Transit vehicles, eligible carpools (3+), and vanpools can use the express lane at no charge.



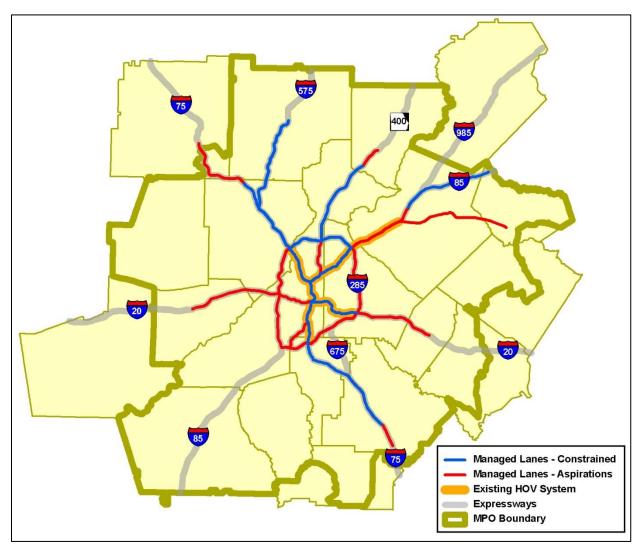
- 1. Double yellow lines separate the express lane.
- 2. Electronic signs will display the current toll for solo drivers.
- 3. The toll will vary based on the level of congestion in the express lane and will be adjusted to maintain a minimum speed.
- 4. Signs and lane striping at access points will provide drivers safe entry and exit.
- 5. For non-carpool drivers who choose to use the express lane, an overhead antenna will read their windshield mounted toll tag and the correct toll will be applied to their account.

Figure 4-5 illustrates PLAN 2040 recommendations for the managed lanes system, building off the work of GDOT's adopted Managed Lanes System Plan. The constrained RTP includes \$5.4 billion and 151 miles of the network that can be built by 2040. Private investment is a key component to paying for these managed lanes. The total 374 mile, \$16.5 billion vision (shown in red and blue), will also leverage private resources through public-private partnerships.

This concept also creates synergy with future Express Bus and Bus Rapid Transit expansions allowing those transit services to provide reliable trip times.

While the exact design concept (number of lanes and use restrictions) for each facility will be finalized during project design and engineering, the initial concept is for most of these facilities to have two managed lanes in each direction. Pricing assumptions are finalized during the design of each project.

Figure 4-5: Managed Lane Network



# **Delivering the Next Generation of Transit**



Over \$100 million is included in the FY 2012-2017 TIP to begin transit expansion, including design and purchasing right of way for the Atlanta Multimodal Passenger Terminal

Transit is vital to the Atlanta region. It provides mobility alternatives, supports the regional economy, improves environmental sustainability, and offers reliable trip opportunities. Transit provides a vital function within the regional transportation system:

- 40% of transit riders do not own or have access to a car
- 3 out of 4 transit riders are employed
- 45% of transit riders use it to get to work

The 2008 adoption of 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, multifaceted strategy for pursuing priority transit expansion projects. Because it signifies a firm consensus on this important issue, Concept 3 allows the region to focus its advocacy in Washington, D.C., to deliver the next generation of transit expansion for the Atlanta region. This vision serves as the transit element of the Aspirations Plan of the RTP.

# Fast Fact:

Percent Increase, over
Today's Levels, in Peak Hour
Access to Employment within
45 Minutes

PLAN 2040 Constrained: 13%

PLAN 2040 Vision: 72%

While several major transit expansions are planned for the later years of PLAN 2040's financially constrained element, with an extensive vision also included in the aspirations element.



PLAN 2040's transit expansion vision includes \$20 billion in new projects, with \$3.5 billion included in the financially constrained element. Many future expansions are similar to the downtown Atlanta streetcar project opening in late 2012.

As illustrated in Figure 4-6, Concept 3's \$20 billion capital expansion plan includes extensive expansion transit to all regional counties, with the exception of Fayette County. PLAN 2040's financially constrained transit expansion plan consists of \$3.5 billion, including:

- Alternatives analysis for light rail projects in Cobb and Gwinnett Counties
- Multimodal Passenger Terminal in Atlanta
- I-20 East Corridor from downtown Atlanta to the Stonecrest Mall area in DeKalb County
- Clifton Corridor from Lindbergh to Emory to Decatur
- Beltline and Streetcars in Atlanta

# Why is funding for transit expansion limited?

Federal planning requirements limit the amount of projects in the financially constrained element to the funding expected to be available. Transit operators have limited funds for expansion and the state of Georgia's motor fuel taxes is limited to roads and bridges. Federal funds for major transit expansions are limited and very competitive, restricting the region's capacity to significantly expand transit without the aid of additional funding resources.

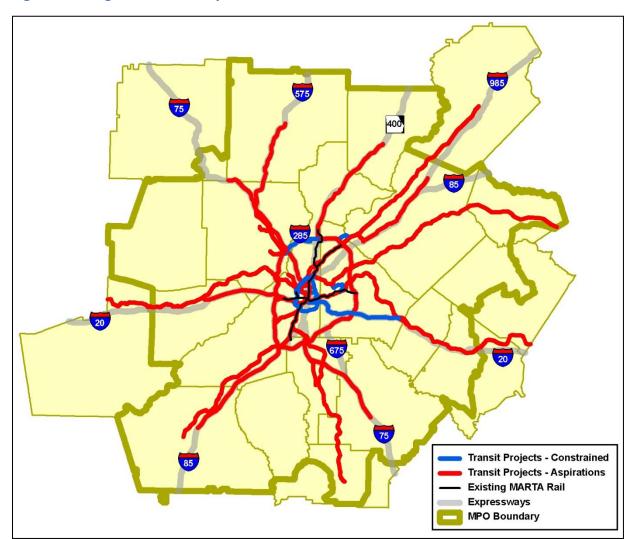


Figure 4-6: Regional Transit Expansion Vision

# **Implementing Strategic Roadway Capacity Enhancements**



Over \$400 million is included in the FY 2012-2017 TIP to improve congested interstate bottlenecks, such as the \$25 million improvement of I-75 and Jodeco Road in Henry County.

#### **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 PLAN 2040 is to address regional bottlenecks through interchange projects. An extensive listing of interchange bottleneck relief projects is available in Appendix A.



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 4-7).

- The constrained plan includes 29 interchange projects totaling \$1.5 billion.
  - This full \$2.4 billion vision of

over 50 interchanges (shown in red and blue), improves access to key regional centers.

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. Important interchange improvements included in the overall RTP strategies address these bottlenecks in the region (examples):

- I-285 (numerous locations)
- I-85 / Poplar Road (Coweta)
- I-20 / SR 138 (Rockdale)
- I-20 / I-285 (west Fulton County)
- I-20 / I-285 (east DeKalb County)

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.

# Fast Fact:

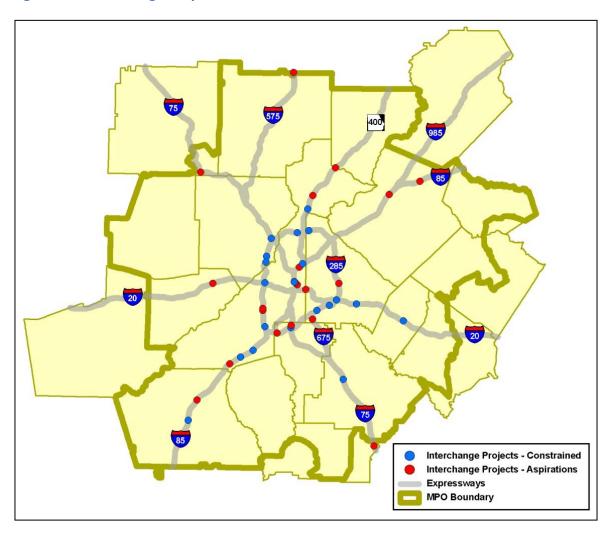
Annual Congestion Cost Per Person

Today: \$1,270

PLAN 2040 Constrained: \$3,460

PLAN 2040 Vision: \$2,530

Figure 4-7: Interchange Projects



# Why do congestion costs increase in the future, even after investing \$60.9 billion in PLAN 2040?

While the total cost of PLAN 2040 is \$60.9 billion, only \$15.9 billion is for large-scale expansion projects. The Atlanta region currently has the 11<sup>th</sup> 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 vs. depending on expensive transportation capacity projects.

#### **Arterials**

The people of the Atlanta region utilize our major roadways (or arterials) every day, whether by car, bus, truck, bike, or on foot. The Regional Strategic Transportation System and Thoroughfares Network 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. It is critical that these roadways function efficiently, and sometimes that requires adding capacity to them or building brand new roads.

The constrained PLAN 2040 RTP arterial program includes over 516 miles totaling more than \$5.8 in investments to widen or build new roadways in our region (see Figure 4-8). The entire vision for adding roadway capacity to our transportation system includes 1,370 miles totaling \$14 billion (shown in red and blue).

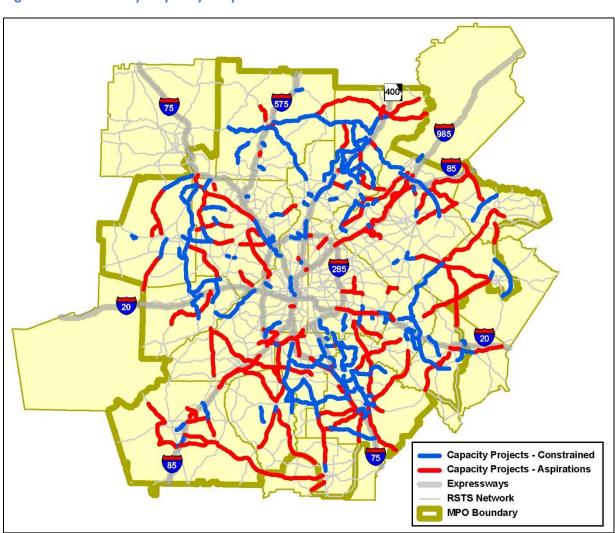


Included in this strategy to add roadway capacity is to do it in a way that meets the needs of all users and modes – also known as Complete Streets.

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.

\$1.9 billion of arterial capacity projects are programmed in the FY 2012-2017 TIP. Many of these projects, such as \$33 million to construct the SR 92 project in Douglasville, improve safety and congestion at major road-railroad bottlenecks.

Figure 4-8: 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:

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

<u>Consultation with stakeholders on possible solutions</u>. 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).

<u>Evaluation of Alternatives</u>. 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. Additional information on the CMP is available at <a href="https://www.atlantaregional.com/cmp">www.atlantaregional.com/cmp</a>.



# Chapter 5 – Financial Plan and Future Funding Options



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### **Financial Plan**



Financial assumptions reflect economic growth forecasts from groups such as the Federal Reserve.

The region is currently dealing with a distressed regional economy as the result of economic struggles at the national level. The recession, which began in late 2007, has left a lasting impact on local and state governments across the country in the form of severely declining tax revenues and a significantly reduced level of resources.

The majority of the Atlanta region's transportation system, such as fixed-guideway transit, arterials, and limited-access highways, were built with federal funding. Uncertainty in how the federal government will manage the increasingly limited national transportation budget in the future is an important consideration for transportation plan development.

Over the past several years, ARC has tracked worsening trends impacting the financial capacity of the region to fully fund needed transportation plans and programs. These trends include a potential decline in future federal transportation funding for transit and roads, a further decline in the purchasing power of state motor fuel taxes, and cost inflation in the construction industry. Additionally, the economic downturn that began at year-end 2007 has contributed to significant reductions in the levels of funding for local governments — many of which depend on local SPLOSTs for capital infrastructure improvements — as well as for the State, which has been impacted by decreasing motor fuel sales tax revenue.

ARC must ensure that PLAN 2040 remains fiscally constrained per federal guidelines. A transportation plan is considered financially constrained if projected project costs do not exceed projected revenues. These requirements apply to both long-range and short-range transportation plans for constructing, operating and maintaining planned projects. Once the federal government completes the Conformity Determination process showing that PLAN 2040 meets all federal requirements — of which fiscal constraint is an obligatory component — projects can be funded and implemented as programmed in the plan.

PLAN 2040's financial assumptions and forecasts are developed in consultation with ARC's Financial Planning Team. Composed of representatives of major transit operators, federal and state agencies, and other stakeholders – the Financial Planning Team reviews major assumptions regarding the levels of future revenues and cost estimation methodologies. PLAN 2040 financial forecasts reflect this close working partnership.

Per federal planning requirements, in nonattainment and maintenance areas, the financial plan addresses financial strategies to ensure implementation of transportation control measures (TCM). All TCMs are now

either implemented or now under construction, with the I-85 HOV to HOT lanes conversion opening in the summer of 2011.

This chapter provides a broad overview of fiscal constraint, with more detailed funding and cost tables provided in Appendix B.<sup>1</sup>

# **Understanding Inflation**

Revenue forecasts and future cost estimates are largely driven 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, the inflation forecasts in PLAN 2040 are used to adjust both revenue sources and costs to current year (2012) dollars.

PLAN 2040 inflation forecasts differ for the TIP (2012-2017) and long-range (2018-2040) 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 2018 and beyond. PLAN 2040's long-range element is divided into two periods: 2018-2030 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 2018-2030 period, the year 2024 is used to inflate current year cost estimates. For the 2031-2035 period, 2034 is also used as a midpoint for inflation assumption purposes.

# **Forecasting Financial Resources**

Funding forecasts are developed in consultation with the U.S. Department of Transportation, Georgia Department of Transportation, Georgia Regional Transportation Authority, Metropolitan Atlanta Rapid Transit Authority, and the State Road Tollway Authority. The Financial Planning Team met between 2009 and 2011 to discuss major funding trends and issues. A key component of these discussions was identifying the level of funding available to implement PLAN 2040.

Revenues to fund transportation plans and programs are anticipated from four primary sources – federal, state, local, and private funds.

# **Federal Funding**



Federal motor fuel tax rates have remained constant since 1993 – 18.4 cents per gallon for gasoline and 24.4 cents per gallon for diesel. Over time, the real value of this funding source is falling.

<sup>&</sup>lt;sup>1</sup> The revenue and cost data presented in this chapter, unless otherwise noted, is presented in its real value, fixed at the FY 2012 value of the US dollar. Appendix B provides additional information on Year-of-Expenditure (YOE) revenues and costs.

Federal transportation funding is authorized through transportation bill authorizations, covering a 5-year period. The last transportation bill, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) authorized the collection and expenditure of funds for transportation. Since a new reauthorization bill has not been approved, federal programs are currently funded through extensions of SAFETEA-LU.

Funding in the transportation bill comes from federal taxes on fuel, heavy-duty trucks, and, to a lesser extent, general funds. Tax revenues are tracked through the Highway Trust Fund (HTF) which is separated into two accounts — a highway account and a mass transit account. The highway account is by far the larger of the two accounts, comprising roughly 90% of the HTF.

Historically, the HTF has carried a positive net balance (or savings account) due to federal decisions to annually distribute or spend less than incoming tax revenues. The balance of the HTF has declined to the point where it is now insolvent, meaning that more money is going out rather than coming in. In the meantime, Congress has taken action by authorizing periodic injections of federal general fund revenues and rescinding underutilized funding from states in order to maintain solvency at current spending levels.

The obligation limits for Georgia in FY 2010 (the most recent annual funding released by the U.S. Department of Transportation) are used as the base to forecasting federal funds to which funding growth rates from the Congressional Budget Office's (CBO) March 2011 Baseline Forecast are applied. According to the CBO, Federal Highway Administration (FHWA) obligation authority will increase 1.635% annually, while Federal Transit Administration (FTA) funds will increase at a rate of 1.731% annually.

Estimates for the Atlanta region's share of statewide federal transportation funds is based in direct correlation to the region's share of the statewide population. In the interests of maintaining equitable funding, Georgia state law requires state and federal transportation funding to be balanced by Congressional District. The 18-county region, as reported by the 2010 U.S. Census Bureau, accounts for nearly 51.5% of Georgia's population. It is anticipated that the population share will grow to 59% by the year 2040, based on previous growth trends. PLAN 2040 assumes that the ARC region will receive this share of future transportation funding, consistent with state Congressional balancing requirements.

In current year 2012 dollars, as illustrated in Table 5-1, ARC forecasts that approximately \$17.8 billion of federal highway funds and \$4.1 billion of federal transit funds will be available to the region through the years 2012 to 2040. In total, ARC forecasts that the region should receive approximately \$22 billion in federal funds – at their current year value - over the life of PLAN 2040. Federal planning requirements specify the calculation of PLAN 2040 revenue forecasts and costs in year-of-expenditure (YOE) dollars. Total YOE federal funds are forecast at \$30.1 billion.

Table 5-1: Forecast Federal Funds

Source	2012 \$ (current year)	YOE \$
FTA	\$4.15	\$5.63
FHWA	\$1 <i>7</i> .83	\$24.51
Total	\$21.98	\$30.15

Sources: Congressional Budget Office/Federal Register/ARC

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.

# **State Funding**



Georgia's per capita spending for transportation is the 2<sup>nd</sup> lowest in the nation, only ahead of Tennessee.

The State of Georgia collects two types of taxes on motor fuels to help fund transportation investments.

- Motor Fuel Excise Tax: This is a tax based on the volume (gallons) of fuel purchased. The amount of the excise tax on gasoline is 7.5 cents per gallon, which has been used 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 and higher fuel efficiency of vehicles has counteracted the efficacy of this tax.
- Prepaid Motor Fuel Sales Tax: Georgia also collects a 4-percent sales tax on the average retail price of fuel, known as the Prepaid Motor Fuel Sales Tax. 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. The Prepaid Motor Fuel Sales Tax is collected on a cent-per-gallon rate that is set using a weighted average indexed retail sales price for each type of fuel. The weighted indexed retail sales price is determined and published in the months of November and May in order that they are enacted at the beginning and mid-point of each fiscal year.

The counteracting effects of the two fuel taxes have contributed to a steady level of total state fuel tax revenue over the past ten years. However, this stability in revenue is making it increasingly difficult to meet the needs of a rapidly growing population in Georgia—and more specifically Metro Atlanta. The real value of the revenues generated by the Motor Fuel Excise Tax has dropped dramatically as motor vehicles have become more fuel-efficient and rising gas prices have reduced the level of demand—dropping -21.6 percent in the 2000-2009 period (an average annual rate of -2.6 percent).

Approximately 6.3 billion gallons of motor fuel were consumed in the state of Georgia in 2009 – representing a 3-percent drop in motor fuel consumption from the prior year. Subsequently, forecasts by leading researchers in the energy industry indicate a gradual decline in motor fuel consumption over the next 30 years due to the growing number of consumers purchasing motor vehicles that operate at higher fuel efficiencies or with alternative fuel technology.

As illustrated in Table 5-2, the 18-county Atlanta region is expected to receive up \$9.75 billion in funding from state resources over the course of PLAN 2040. However, exact funding will vary from this amount as some state funding is used for facilities not on the Regional Strategic Transportation System (local roadway resurfacing via the Local Maintenance and Improvement Grant (LMIG)). State motor fuel funds are forecast to increase by 2.6%, with additional information provided in Appendix B.

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

Source	2012 \$ (current year)	YOE \$
State	\$9.75	\$13.49

Source: ARC

To supplement motor fuel tax revenues, the state allocates general funds to the Georgia Department of Transportation that are typically earmarked for a particular use such as transit, airport aid, rail, and ports and waterways. However, these funding allocation sums have been significantly reduced since the onset of the financial downturn in FY 2008. For example, in FY 2009, roughly \$25.1 million in general fund expenditures was allocated to the Georgia Department of Transportation. However, the state reduced this allocation from the state general fund to \$10.3 million in FY 2010 and further reduced it to \$6.9 million in FY 2011.

The state funding amounts illustrated in Table 5-2 are net amounts after debt service payments on bonds that have been issued by the State of Georgia for the construction of roads and transit facilities. Bond transportation funding is a valuable tool enabling needed facilities to be built sooner than the traditional pay as you go method. Bonds can be backed and transportation projects funded from a variety of anticipated state revenue sources including state motor fuel funds, federal transportation funds, toll revenue, or any combination of these sources. It is important to note, however, that bonds obligate future funds reducing the flexibility of future revenues. A balance must be maintained that allows needed projects to be built in a timely manner while still preserving sufficient future funds to meet currently unanticipated needs.

# **Local Funding**



Local governments provide the majority of total transportation funding at 39%. The primary source of this funding is from sales taxes and local government general funds.

Local funding for transportation comes primarily from two sources: Special Purpose Local Option Sales Taxes (SPLOST or local imposts) and local general fund expenditures. In the Atlanta region, local areas 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 2009 alone, SPLOST revenues in the Atlanta region generated nearly \$500 million. In addition, most counties have a long-term history of approving

and renewing SPLOST programs which typically run for around 5 years. SPLOST programs are subject to voter approval and run for a limited period, and are therefore not a dedicated guaranteed source of transportation funding. Similarly, local general fund expenditures for transportation must go through an annual budgeting process and compete against other uses. This makes general funds also a potentially unstable source of transportation funding. SPLOST (including MARTA) and local general fund revenue historically account for roughly 95% of all local transportation funding.

Local revenues reasonably expected to be available for transportation investments over the next 22 years (through year 2040) 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 imposts (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, \$6.6 billion (current year) 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	2012 \$ (current year)	YOE \$
State	\$6.6	\$9.0

Source: ARC

# **Transit Funding**



Regional transit operators have streamlined services in response to a constrained funding environment.

Systems such as GRTA have adjusted to present economic conditions by eliminating routes with limited ridership.

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. 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.

#### **MARTA Resources**

Adequate funding resources are available for MARTA over the life of the RTP to support MARTA sponsored projects in the plan. MARTA is the only transit system in the region supported by a multi-jurisdiction sales tax, in the form of a 1-percent sales tax levied in the City of Atlanta, Fulton, and DeKalb Counties. As forecasted by MARTA through a contract with Georgia State University, the sales tax generates approximately \$13.7 billion (current year 2012 dollars) from 2012 through year 2040. Additionally, MARTA is expected to receive \$5.6 billion in farebox receipts and other non-federal revenues over the same period.

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. In response to MARTA's financial challenges, the state granted MARTA a temporary three-year suspension of its "50/50 Rule - granting MARTA a greater degree of discretion to apply its revenues in a flexible manner.

PLAN 2040 recommends that the legislature continue to allow MARTA flexibility in allocating sales tax revenues between operations and capital. This action in the future allows MARTA the flexibility to address distribute funds where needed, allowing the region to respond to volatile economic conditions. MARTA approved a fare increase in late June 2011. This fare increase will allow MARTA to stabilize financial conditions and restore some previously eliminated services. These restoration of these routes, and associated changes in revenues, will be reflected in future RTP update conformity determinations.

#### Local Transit Funding (non-MARTA)

Several local jurisdictions in the Atlanta region operate their own transit systems – including Cob Community Transit in Cobb County, and Gwinnett County Transit. Local funding for these systems depend on local general fund support. Due to the impact of the decline in the real estate market assessments, general fund property tax revenues for the region's local governments has decreased; thus in turn negatively impacting available funding for local transit services.

For planned new systems, more financing options are available – including state support, farebox returns, and local Tax Allocation Districts. In total, there will be an estimated \$2.4 billion (current year 2012 dollars) in local funding available for the operation and expansion of local transit systems in the Atlanta region over the course of PLAN 2040.

# **Private Funding**

PLAN 2040 places increased reliance on the use of public private partnerships (P3) to implement transportation projects. Since the adoption of the last RTP, Envision6, the Georgia Department of Transportation has been aggressively pursuing P3's. In PLAN 2040, several major projects in the TIP and long-range periods are planned to be implemented using this financing tool. In total, \$3.2 billion (current year 2012 dollars) in private funding will contribute to the total resources of PLAN 2040.

P3's will play a prominent role in the construction and operation of future managed lanes projects in the region —with the NW Corridor project slated to be the earliest managed lane project to be completed using P3. Consisting of managed lanes improvements on I-75/I-575 in Cobb and Cherokee Counties, over \$1 billion in private resources will be secured to implement the project within the FY 2012-2017 TIP

period. Additional phases within the proposed managed lanes network are to be completed in the long range period with over \$2.1 billion in private resources to be allocated towards the construction and operations of managed lanes facilities on I-85 North (Gwinnett/Barrow), I-75 South (Clayton), I-285 (Cobb, Fulton, DeKalb), and SR 400 (Fulton).

P3 funding also expands opportunities to implement transit investments. Negotiations regarding the development of the proposed Multimodal Passenger Terminal are currently underway with a private consortium. Approximately \$150 million in private resources will be used to implement this critical project, which is to be located in the heart of Downtown Atlanta and to serve as a foundation of the region's transit expansion strategy.

# **Forecasting Project Costs**



ARC's Costing Tool considers the cost of recent projects in developing future costs. This tool helps local governments develop cost estimates for future projects. Examination of projects such as the \$48 million Sugarloaf Parkway Extension in Gwinnett County, opened in December 2010, allow planning level cost estimates to be developed.

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 coordination with the Financial Planning Team – ARC staff conducted a review of two construction inflation rate indexes – producer price index for highway construction and the core consumer price index – both provided by the 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 CBO, it became apparent that there will be weak inflationary pressure over the coming years as the global economy recovers from the 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 percent beyond 2018.

The first step ARC undertook in updating project costs was to place all cost information from *Envision 6* into current year dollars. All cost estimates contained in *Envision 6* were in 2007 dollars based on the costing tool and results of engineering and special planning studies.

To update *Envision 6* cost estimates to reflect current conditions, ARC developed an updated costing tool. ARC reviewed the GDOT online construction bid database to obtain current Atlanta area representative project cost information for a variety of project types, i.e., 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 personal, transportation contractors, suppliers and design professionals.

ARC then used the updated costing tool to re-cost applicable projects in *Envision 6*. The spike in construction costs during the real estate boom in the years 2004-2008 led to a sharp increase in construction costs – averaging an increase of 10 percent annually. However, the subsequent downturn showed an abrupt halting in construction cost increases, as construction costs have increased at an average of less than 1 percent annually since 2008.

In addition to using the updated costing tool, ARC staff conducted extensive outreach with local jurisdictions and project sponsors to further refine cost estimates. Often this resulted in additional cost increases due to increasing project scope or previously unidentified costs such as environmental mitigation. This pushed the overall average cost increase to over 30%. Ultimately, the increases led to a multi-billion dollar funding shortfall (in current year dollars) making it necessary to remove projects from *Envision 6* in order to develop a fiscally constrained plan.

# **Understanding the Transportation Improvement Program (TIP)**

Inclusion in *PLAN 2040* 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 program of improvements and consists of the regionally approved list of priority projects to be advanced during a three to four-year timeframe. A project's presence in the TIP represents a critical step in the authorization of funding for a project. It does not, however, represent a commitment of funds, an obligation to fund, or a grant of funds. 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 2010, the ARC Board approved a new set 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 2010, 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 implementations of projects in the region's TIP.

# **Financial Plan Balancing**

PLAN 2040 presents the challenge of balancing the region's needs in the face of widening funding gaps. The Atlanta Regional Commission 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:

- 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 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, Concept 3, and the Regional Freight Plan.

### **Current Year (2012) Dollars**

Table 5-4 illustrates the costs of the projects included in the constrained RTP by category – which result in a total sum of \$60.9 billion (in current year 2012 dollars) over the life of PLAN 2040. As discussed in earlier chapters, the region faces the challenge of the rebuilding and preserving its aging infrastructure; thus, the largest funding category is Road/Bridge Preservation. Operation of the existing MARTA system represents the next largest funding category, followed by highway expansion and transit operations and capital replacement outside of the MARTA network.

An item of note is the growing financial contribution from local sources in the Atlanta region, which represents the largest funding category in the constrained plan – accounting for over \$27 billion in funding. Innovative financing also plays an increased role in PLAN 2040, with \$3.3 billion in funding from private resources through P3's.

Table 5-4: PLAN 2040 Funding for Major Program Areas in Current Year (2012) Dollars (\$millions)

Project Types	Federal	State	Local	Private	Totals
System Modernization					
Transit	\$3,297,000,000	\$355,000,000	\$19,184,000,000		\$22,836,000,000
Roadway/Bridge Preservation	\$8,884,000,000	\$5,189,000,000	\$2,333,000,000		\$16,406,000,000
System Optimization and Safety	\$1,504,000,000	\$231,000,000	\$1,819,000,000		\$3,554,000,000
Demand Management					
Bicycle and Pedestrian	\$911,000,000	\$6,000,000	\$666,000,000		\$1,583,000,000
Other Programs/Initatives	\$468,000,000	\$11,000,000	\$94,000,000		\$573,000,000
System Expansion		\$0			
Managed Lanes Expansion	\$994,000,000	\$1,181,000,000		\$3,1 <i>77</i> ,000,000	\$5,353,000,000
Transit Expansion	\$999,000,000	\$305,000,000	\$2,035,000,000	\$1 <i>5</i> 0,000,000	\$3,490,000,000
Roadway Expansion	\$4,670,000,000	\$1,047,000,000	\$1,456,000,000		\$7,173,000,000
Totals	\$21,727,000,000	\$8,325,000,000	\$27,588,000,000	\$3,327,000,000	\$60,967,000,000

Source: ARC

Table 5-5 illustrates in more detail how funding from each of the federal sources are financially constrained in PLAN 2040.

Table 5-5: Federal-Aid Funding Balances in Current Year (2012) Dollars

Source	Revenues	PLAN 2040 Costs	Balances
FTA	\$4,151,000,000	\$4,005,000,000	\$146,000,000
FHWA	\$17,828,000,000	\$17,721,000,000	\$107,000,000
Total	\$21,979,000,000	\$21,726,000,000	\$253,000,000

Source: ARC

# Year-of-Expenditure Dollars — Meeting Federal Financial Constraint Requirements

#### **PLAN 2040 Balancing**

While PLAN 2040 reports current year (2012) dollars throughout most of the Plan, federal regulations are explicit that funds must be balanced using inflated year-of-expenditure (YOE) dollars. PLAN 2040 YOE costs are \$83.68 billion (see Table 5-6). Federal funds comprise \$29.3 billion of forecast revenues.

Table 5-6: PLAN 2040 Funding for Major Program Areas in Year-of-Expenditure Dollars (\$millions)

Project Types	Federal	State	Local	Private	Totals
System Modernization					
Transit	\$4,308,000,000	\$448,000,000	\$26,141,000,000		\$30,897,000,000
Roadway/Bridge Preservation	\$12,511,000,000	\$7,327,000,000	\$3,867,000,000		\$23,704,000,000
System Optimization and Safety	\$1,881,000,000	\$279,000,000	\$2,534,000,000		\$4,694,000,000
Demand Management					
Bicycle and Pedestrian	\$1,171,000,000	\$7,000,000	\$970,000,000		\$2,148,000,000
Other Programs/Initatives	\$565,000,000	\$11,000,000	\$113,000,000		\$689,000,000
System Expansion		\$0			
Managed Lanes Expansion	\$1,452,000,000	\$1,293,000,000		\$4,374,000,000	\$7,119,000,000
Transit Expansion	\$1,559,000,000	\$383,000,000	\$3,185,000,000	\$191,000,000	\$5,319,000,000
Roadway Expansion	\$5,890,000,000	\$1,304,000,000	\$1,915,000,000		\$9,110,000,000
Totals	\$29,337,000,000	\$11,052,000,000	\$38,726,000,000	\$4,565,000,000	\$83,680,000,000

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 5-7, PLAN 2040 meets federal financial constraint requirements with balances for both FTA and FHWA funds.

Table 5-7: Federal-Aid Funding Balances in Year-of-Expenditure Dollars

Source	Revenues	PLAN 2040 Costs	Balances
FTA	\$5,634,000,000	\$5,536,000,000	\$98,000,000
FHWA	\$24,514,000,000	\$23,799,000,000	\$48,313,000
Total	\$30,148,000,000	\$29,335,000,000	\$146,313,000

#### FY 2012-2017 Transportation Improvement Program Balancing

The FY 2012-2017 Transportation Improvement Program 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 2012-2017 TIP as illustrated in Table 5-8. For financial balancing purposes, the TIP is divided into 2 tiers. Federal planning requirements hold the first 4 years of the TIP (Tier 1) to a higher standard of certainty than subsequent years. Tier 2 illustrated expected project costs and funding for FY 2016-2017. Project costs in the first four years of the TIP (FY 2012-2015), consistent with federal financial balancing requirements, do not exceed available revenues for each year.

Table 5-8: FY 2012-2017 Yearly TIP Balances - Federal Highway Administration Funds (\$YOE)

Program Category	2012	2013	2014	2015	2016*	2017*	2012-2017 Total
Bridge (Off-System)	\$2,023,000	\$2,973,000	\$1,483,000	\$610,000	\$172,000	\$3,226,000	\$10,487,000
Bridge (On-System)	\$12,223,000	\$15,248,000	\$5,993,000	\$23,407,000	\$40,303,000	\$28,436,000	\$125,610,000
Bridge Discretionary	\$0	\$0	\$0	\$2,581,000	\$0	\$0	\$2,581,000
Congestion Mitigation and							
Air Quality	\$39,443,000	\$33,429,000	\$39,504,000	\$39,400,000	\$33,600,000	\$39,400,000	\$224,776,000
Congestion Mitigation/Air							
Quality (100%)	\$0	\$6,150,000	\$0	\$0	\$6,150,000	\$0	\$12,300,000
Federal Earmark Funding	\$3,587,000	\$6,786,000	\$492,000	\$2,865,000	\$226,000	\$0	\$13,956,000
High Priority Projects from							
TEA-21	\$7,227,000	\$8,981,000	\$2,820,000	\$0	\$0	\$0	\$19,028,000
Interstate Maintenance	\$7,695,000	\$9,095,000	\$7,695,000	\$11,746,000	\$27,611,000	\$7,695,000	\$71,537,000
Minimum Guarantee	\$5,130,000	\$10,000,000	\$10,000,000	\$10,000,000	\$10,000,000	\$10,000,000	\$55,130,000
National Highway System	\$132,712,000	\$85,804,000	\$61,807,000	\$95,747,000	\$239,680,000	\$31,422,000	\$647,172,000
Recreational Trails	\$427,000	\$427,000	\$427,000	\$427,000	\$428,000	\$428,000	\$2,564,000
SAFETEA-LU Earmark	\$15,008,000	\$13,387,000	\$26,597,000	\$946,000	\$950,000	\$0	\$56,888,000
STP - Enhancements	\$9,613,000	\$9,692,000	\$8,892,000	\$8,892,000	\$8,892,000	\$8,892,000	\$54,873,000
STP - Rail Hazard Elimination	\$1,475,000	\$1,510,000	\$1,544,000	\$1,578,000	\$1,539,000	\$1,539,000	\$9,185,000
STP - Rail Protective Devices	\$1,475,000	\$1,510,000	\$1,544,000	\$1,578,000	\$1,539,000	\$1,539,000	\$9,185,000
STP - Safety	\$21,249,000	\$21,742,000	\$22,237,000	\$22,731,000	\$10,389,000	\$10,389,000	\$108,737,000
STP - Statewide Flexible							
(GDOT)	\$108,318,000	\$168,843,000	\$135,981,000	\$146,180,000	\$449,118,000	\$245,084,000	\$1,253,524,000
STP - Urban (>200K) (ARC)	\$162,576,000	\$82,815,000	\$77,592,000	\$81,229,000	\$79,931,000	\$77,070,000	\$561,213,000
Surface Transportation							
Priorities (Earmark)	\$500,000	\$0	\$0	\$0	\$0	\$0	\$500,000
Transportation							
Enhancement	\$475,000	\$0	\$0	\$0	\$0	\$0	\$475,000
Transportation, Community							
and System Preservation	\$1,361,000	\$0	\$0	\$0	\$0	\$0	\$1,361,000
Total Cost Per Year	\$532,519,000	\$478,393,000	\$404,608,000	\$449,916,000	\$910,527,000	\$465,118,000	\$3,241,081,000
Running Total Cost	\$532,519,000	\$1,010,912,000	\$1,415,520,000	\$1,865,435,000	\$2,775,963,000	\$3,241,081,000	
ARC Forecast	\$545,214,000	\$555,158,000	\$595,389,000	\$606,431,000	\$617,653,000	\$629,060,000	\$3,548,907,000
Running Total Revenue	\$545,214,000	\$1,100,372,000	\$1,695,762,000	\$2,302,193,000	\$2,919,846,000	\$3,548,907,000	
Running Total Balance (Revenues Less Costs)	\$12,695,000	\$89,460,000	\$280,242,000	\$436,758,000	\$143,883,000	\$307,826,000	

<sup>\*</sup> Fiscal years 2016 & 2017 are not considered to be a part of the federally-mandated 4-year regional TIP, and as such are not considered to be fiscally constrained, and have not been evaluated by USDOT as to their compliance with any of the other federal programming requirements.

FTA funding is balanced for the FY 2012-2017 TIP as illustrated in Table 5-9. Federal costs between FY 2012-2017 are \$190 million less than expected revenues. ARC revenue forecasts do include assumptions for limited discretionary funding. FTA revenue forecasts includes assumptions for future TBD discretionary funded projects 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 fiscal constraint. Project costs in first four years of the TIP (FY 2012-2015), consistent with federal financial balancing requirements, do not exceed available revenues for each year.

Table 5-9: FY 2012-2017 TIP Balances - Federal Transit Administration Funds (\$YOE)

Program Category	2012	2013	2014	2015	2016*	2017*	Total
5307 Discretionary	\$17,000,000	\$0	\$0	\$0	\$0	\$0	\$17,000,000
5309 Discretionary	\$8,703,000	\$1,550,000	\$1,550,000	\$1,550,000	\$1,550,000	\$1,550,000	\$16,453,000
Bus - New (80/20)	\$3,450,000	\$3,700,000	\$3,700,000	\$3,700,000	\$3,700,000	\$3,700,000	\$21,950,000
Clean Fuels	\$840,000	\$0	\$0	\$0	\$0	\$0	\$840,000
Clean Fuels Formula Program	\$1,563,000	\$1,594,000	\$1,600,000	\$1,600,000	\$1,600,000	\$1,600,000	\$9,557,000
Job Access and Reverse							
Commute	\$981,000	\$1,001,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$5,983,000
New Freedom	\$0	\$0	\$0	\$0	\$0	\$43,000,000	\$43,000,000
Rail Modern - Fixed Guideway							
(80/20)	\$37,768,000	\$38,330,000	\$40,320,000	\$40,320,000	\$40,320,000	\$40,320,000	\$237,377,000
State of Good Repair	\$19,680,000	\$0	\$0	\$0	\$0	\$0	\$19,680,000
Transit for Elderly/Disabled	\$783,000	\$799,000	\$800,000	\$800,000	\$800,000	\$800,000	\$4,782,000
Transit Nonurbanized Area							
Formula	\$723,000	\$738,000	\$760,000	\$760,000	\$760,000	\$760,000	\$4,501,000
Transit Urbanized Area Formula							
Program	\$61,565,000	\$62,797,000	\$63,213,000	\$63,213,000	\$63,213,000	\$63,213,000	\$377,214,000
Total Cost Per Year	\$153,057,000	\$110,508,000	\$112,943,000	\$112,943,000	\$112,943,000	\$155,943,000	\$758,337,000
Running Total Cost	\$153,057,000	\$263,565,000	\$376,508,000	\$489,451,000	\$602,394,000	\$758,337,000	
ARC Forecast	\$153,057,000	\$153,826,000	\$156,488,000	\$159,197,000	\$161,953,000	\$164,756,000	\$949,277,000
Running Total Revenue	\$153,057,000	\$306,883,000	\$463,371,000	\$622,568,000	\$784,521,000	\$949,277,000	
Running Total Balance							
(Revenues Less Costs)	\$0	\$43,318,000	\$86,863,000	\$133,117,000	\$182,127,000	\$190,940,000	

<sup>\*</sup> Fiscal years 2016 & 2017 are not considered to be a part of the federally-mandated 4-year regional TIP, and as such are not considered to be fiscally constrained, and have not been evaluated by USDOT as to their compliance with any of the other federal programming requirements.

# **Future Funding Options**

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 renovate 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, an increasing backlog of deferred maintenance on roads and bridges, and aging buses, trains, and stations.

ARC urges the federal government, the State

Indian Trail PAR PAR PAR

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. 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.

PLAN 2040 allocates funds using performance-driven criteria. Transportation sponsors must prioritize efforts to maintain, enhance, and modernize the existing system. Major capacity projects should be given preference only where the benefits outweigh costs. Examples of enhancements and modernizations that should be pursued include more modern buses and trains that improve the passenger experience, better traveler information systems, targeted transit extensions and arterial improvements, and multimodal approaches such as integrating bicycling and pedestrian accommodations in roadway design.

PLAN 2040 recommends changing how transportation is funded by:

#### Pursuing public-private partnerships

Among various public-private partnership (P3) strategies, each has its pros and cons. PLAN 2040 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's recommendations address ongoing fiscal shortfalls and 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.

The region needs to unite around its transportation priorities, particularly regarding the construction of major capital projects recommended in PLAN 2040, which have been carefully evaluated to improve operations, access, mobility, and economic opportunity. The "fiscally constrained" major capital projects, as required by federal regulations, have the highest priority to move toward completion.

#### Creating cost and investment efficiencies

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 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 implementation of congestion pricing on various parts of the transportation network, such as on I-85 North, will enhance mobility and help to fund needed improvements.



Implementing congestion pricing, such as the I-85 HOT lanes project, provides innovative solutions to mobility challenges

#### 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. 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, which do not require users to pay the full costs of their road use.



## **Transportation Investment Act of 2010**



Potential revenues from the Transportation Investment Act are not included in the financially constrained element of PLAN 2040. If approved in 2012, PLAN 2040 will be amended to include these projects

The Transportation Investment Act was signed into law in June 2010, putting the future of Georgia's transportation in the voters' hands. Elected officials in each of the state's 12 regions will develop a list of projects to be funded by a one percent sales tax. Georgians will vote on the tax in the 2012 primary elections. The potential regional sales tax is forecast to generate approximately \$8.7 billion over 10 years. However, PLAN 2040 does not assume this as a revenue source for the constrained RTP.

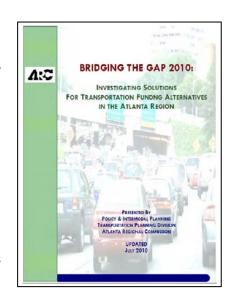
Should the tax pass in a region, all revenue collected there would stay in that region. Local governments would share 15 percent of the revenues to be spent on any projects they choose. The other 85 percent will be used to fund the list of projects created by each region's transportation roundtable.

The Transportation Investment Act required each of the regions to have a roundtable of elected officials that will develop a project list that will be available to voters before they go to the polls. The roundtables include the chairperson of each county commission in the region and one mayor from each county in the region.

### Other Future Funding Alternatives

ARC has researched various potential sources of revenue for funding the capital, maintenance, and operating costs of existing and future transportation infrastructure to serve the Region's growing needs. The resulting report - Bridging the Gap 2010: Investigating Solutions for Transportation Funding Alternatives in the Atlanta Region - is intended to help evaluate and estimate potential revenue from financial alternatives available at the Federal, State, Regional, and local levels that could be available to fund the Plan 2040 RTP. Presented to the region's policy makers, this document highlights several alternatives to help fill the region's funding gap.

Table 5-10 shows the potential yield of various funding alternatives. While significant regional discussion has been held on the mechanism will only partially fulfill the Region's transportation needs; thus underlining the urgent need to identify other potential funding sources for the region's transportation infrastructure.



In support of PLAN 2040, a discussion of funding options was held during 2010. A report, Bridging the Gap 2010: Investigating Solutions for Transportation Funding Alternatives in the Atlanta Region, was presented alternative transportation funding options for the region to consider both now and in future RTP updates.

Table 5-10: Potential Funding Sources for Transportation - 2010-2040

Potential Funding Mechanism	Tax Levied	Revenue Generated (2010-2040)
Motor Fuels Excise Tax Rate Increases	1-cent	\$1.2 billion
(additional <u>State</u> revenue)	2-cent	\$2.4 billion
(dddiilolidi <u>Sidie</u> levelide)	3-cent	\$3.6 billion
Promoid Motor Fuel Sales Tay Ingresses	1% Increase	\$5.8 billion
Prepaid Motor Fuel Sales Tax Increases (additional <u>State</u> revenue)	2% Increase	\$11.6 billion
(dddiilolidi <u>Sidie</u> levelide)	4% Increase	\$23.3 billion
Regional Vehicle Registration/License Plate Fees	5-Dollar Fee	\$650.8 million
Regional Vehicle Registration/License Plate Fees	10-Dollar Fee	\$1.3 billion
Transportation Investment Act (10-County ARC/2013-2022)	1% Sales Tax	\$7.9 billion
Regional Millage Rate Increase		
Net M&O	(0.5 Mils/1 Mil)	\$3.9 billion/\$7.9 billion
Industrial	(1 Mil/2 Mils)	\$417 million/\$833 million
Commercial	(1 Mil/2 Mils)	\$2.2 billion/\$4.4 billion
Regional Vehicle Ad Valorem Tax Increase	(1 Mil/2 Mils)	\$513 million/\$1.0 billion
Regional Income Tax Increase (levied by MPO counties)	0.5% Increase	
If Incomes Grow at 1 % Annually		\$12.3 billion
If Incomes Grow at 2% Annually		\$18 billion
If Incomes Grow at 3% Annually		\$26.8 billion
Statewide Income Tax Increase-Regional Share	0.5% Increase	
If Incomes Grow at 1% Annually		\$11.4 billion
If Incomes Grow at 2% Annually		\$16.8 billion
If Incomes Grow at 3% Annually		\$25.3 billion
Regional Vehicle Miles Traveled Tax	1.5 Cents/Mile	\$25.3 billion
Regional Venicle Miles Traveled Tax	2 Cents/Mile	\$33.7 billion
Parking Fees* (Annually for 20 Years in <u>City of</u> <u>Atlanta</u> )		
Transactional Tax	(\$1 x 200,000 spaces)	\$75.9 million-\$181.1 million
Ownership Tax	(10% for 50,000 spaces at \$90/month)	\$5.4 million-\$13.4 million



# Chapter 6 – Delivering the Plan



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# **Delivering the Plan: Plan Management**



Developing the RTP is only the first step; focusing on results is critical to the region's policymakers

As defined in Chapter 3, the ARC's performance-based planning approach for the PLAN 2040 RTP consists of two pieces: plan development and plan management. Chapter 3 provided detail related to the plan development piece. This section provides detail related to the plan management piece.

Plan management, as applied in the context of the PLAN 2040 RTP, is focused on *delivering* the regional transportation plan. The intent 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 effect?

From an external perspective, the ability to answer these questions improves transparency and accountability. Internally, plan management provides ARC with information to improve implementation efforts and influence the development of future plans.

The plan management approach developed for the PLAN 2040 RTP contains the following three tracks:

- 1. Tracking Business Practices (Internal/Agency Success)
- 2. Tracking Project Implementation (Regional/Interagency Success)
- 3. Measuring Plan Impacts (External/Plan Success)

ARC will compile the results of these three tracks in an Annual Regional Transportation Plan Management Report. The Annual Regional Transportation Plan Management Report will monitor progress for the three tracks and present actionable strategies for revising or refining the ARC work program accordingly.

# Tracking Business Practices (Internal/Agency Success)

The Tracking Business Practices component of the Plan Management Process involves monitoring the degree to which PLAN 2040 Goals and Objectives are being implemented through the RTP. In a financially constrained RTP, developed in an environment of limited funds, adherence to a set of core business practices that link to stated plan goals and objectives can directly influence the successful implementation of the plan. The business track is focused on monitoring these practices and reporting **internal/agency success** as it relates to plan delivery. Business tracking measures will serve as leading indicators of successful PLAN 2040 RTP delivery.

Tracking business practices will support improved plan outcomes by ensuring that plan delivery concepts are integrated early into the ARC planning process. This integration will help to avoid a disconnect

between plan development and plan delivery and will increase ARC's accountability for implementing adopted strategies and action items that are necessary for PLAN 2040 Goals and Objectives to be attained.

ARC will use a qualitative approach for measuring the degree to which PLAN 2040 goals and objectives are being addressed through the RTP. This approach requires the following:

- Identify the objectives that should to be incorporated into the plan management process
- Develop action items for each objective
- Develop an implementation scale to measure progress

### **Objectives**

The business tracking effort will be organized around ARC-adopted PLAN 2040 Objectives, which represent critical outcomes that the region is seeking. 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.

#### **Action Items**

ARC has identified a number of transportation-related action items that can directly influence each of these Objectives. These action items draw from the five-year PLAN 2040 Implementation Program, which is currently required by the DCA Regional Planning Rules. They are intended to complement the PLAN 2040 implementation effort, but be more specific to the ARC transportation work program to enable a direct connection between transportation plan delivery and ARC transportation-related resources. Linking the business tracking element of the RTP plan management process to the broader PLAN 2040 implementation effort also provides ARC a means to directly incorporate the PLAN 2040 principles of sustainability into its transportation-related business decisions and ensures that ARC will be consistently tracking and monitoring RTP support for advancing PLAN 2040. Table 6-1 lists the PLAN 2040 Objectives and a transportation-related action items for each.



During the coming years, ARC will annually report on progress in meeting PLAN 2040 outcomes

#### Table 6-1: Action Items for Tracking Business Practices (Internal/Agency Success)

#### Improve mobility options for people and goods

- 1. Update requirements of Comprehensive Transportation Plan (CTP) Program for CTPs funded via PLAN 2040 in the following manner:
  - To require consistency with PLAN 2040 vision, goals, and objectives
  - To require consistency with PLAN 2040 adopted transportation systems (e.g., RSTS, ASTRoMaP, Thoroughfares network)
  - To require that plans reflect the PLAN 2040 UGPM and Regional Development Guide in evaluating and selecting solutions
  - To require a detailed regulatory action plan to illustrate process and schedule for adopting land use and housing policy needed to support transportation investments, into local ordinances and policies
- 2. Require multimodal corridor and project scoping studies funded via PLAN 2040 to reflect the following:
  - PLAN 2040 vision, goals and objectives
  - PLAN 2040 adopted transportation systems
  - PLAN 2040 UGPM and Regional Development Guide in evaluating and selecting solutions
  - Complete streets concepts and principles in evaluating and selecting solutions
  - Include access management plan to ensure function and performance of corridor is maintained over time, protecting the initial capital investment
- 3. Link implementation assistance for projects programmed in the TIP to project sponsor demonstration of the following:
  - Project scope consistent with PLAN 2040 vision, goals, and objectives
  - Project scope consistent with adopted PLAN 2040 transportation systems
  - Complimentary land use/housing policies needed to support project performance and protect investment
    over time have been adopted by local jurisdiction. (Note if project derived from CTP or multimodal
    corridor study funded via PLAN 2040 (see #1 and #2), the plans to adopt complimentary land
    use/housing policies should have been previously established, providing sponsor mechanism to ensure they
    are in place as part of project development activities.)
- 4. Provide implementation assistance for priority Concept 3 projects funded via PLAN 2040, to include:
  - Working with project sponsors and local jurisdictions on project development and project funding initiatives, e.g., staff support via RTC
  - Providing staff resources to identify needed densities, supporting infrastructure (transportation and land use), and funding to support transit capital investment and operations
- 5. Ensure projects provided to Regional Roundtable and its Executive Committee by the MPO for the regional transportation sales tax are consistent with PLAN 2040 vision, goals and objectives and adopted PLAN 2040 transportation systems.
- 6. Update criteria and process for selecting bicycle, pedestrian, roadway operations, and safety projects for the TIP to be consistent with PLAN 2040 vision, goals and objectives.
- 7. Cross-check project scopes funded via LCI Transportation (Implementation) Program against PLAN 2040 vision, goals and objectives and adopted PLAN 2040 transportation systems for consistency. Report project development activities as part of RTP Plan Management Project Tracking.

- 8. Expand tracking and reporting processes (such as for the LCI Program) to other mobility-related programs funded via PLAN 2040. Work with GDOT to determine funding eligibility for these programs. Identify and track projects funded via PLAN 2040 programs and report project delivery status as part of RTP Plan Management Project Tracking. Programs may include:
  - LCI Implementation
  - TDM and Air Quality
  - Freight Operations and Safety
  - Roadway Operations and Safety
  - Bicycle and Pedestrian Mobility, Accessibility and Safety
  - Roadway Preservation and Maintenance
  - Transit Preservation and Maintenance
- 9. Require any new project included in PLAN 2040 update/amendment to be drawn from CTP or corridor/sub-regional study that reflects requirements of Action Items #1 and #2.

#### Foster a healthy, educated, well trained, safe, and secure population

- 10. Expand tracking and reporting processes (such as for the LCI Program) to other safety-related programs funded via PLAN 2040. Work with GDOT Office of Safety to determine funding eligibility for safety programs. Identify and track projects funded via PLAN 2040 safety programs and report project delivery status as part of RTP Plan Management Project Tracking. Programs may include (see Action Item #8).
- 11. Provide Environmental, Land Use, Aging, Governmental Services, TDM and Workforce Development Divisions formal period of review for PLAN 2040 (proposed) transportation projects for PLAN 2040 updates/amendments, and incorporate feedback into project list prior to submittal for public and federal review.
- 12. Incorporate results of PLAN 2040 Health Impact Assessment into future plan development and update activities.

#### Promote places to live with easy access to jobs and services

- 13. Expand tracking and reporting processes (such as for the LCI Program) to other transportation access-related programs funded via PLAN 2040 (e.g., JARC, New Freedom Transit). Work with federal, state and regional partners to determine funding eligibility for transportation-access programs, in line with PLAN 2040. Identify and track projects funded via PLAN 2040 transportation-access programs and report project delivery status as part of RTP Plan Management Project Tracking.
- 14. Work with ARC's Land Use Division to build local/county-level partnerships in economic/activity center areas to promote residential opportunities that support PLAN 2040 transportation investments.
- 15. Research and report on primary and secondary education issues in economic/activity center areas that may be impacting residential choice; build partnerships with local school boards that address link between residential location, school citing and transportation services in areas of proposed PLAN 2040 investment (building from ongoing work of ARC Governmental Services Division).

#### Improve energy efficiency while preserving the region's environment

- 15. Expand tracking and reporting processes (such as for the LCI Program) to other operations-related programs funded via PLAN 2040. Work with GDOT to determine funding eligibility for these programs. Identify and track projects funded via PLAN 2040 operations programs and report project delivery status as part of RTP Plan Management Project Tracking. Programs may include (see Action Item #8).
- 16. Partner with GDOT to initiate state climate action plan.

- 17. Develop interagency/interdisciplinary project oversight teams to better integrate planning-level environemental work with subsequent NEPA activities.
- 18. Create environmental coordination and analysis team within ARC.

#### Identify innovative approaches to economic recovery and long term prosperity

- 19. "Package" project delivery for transportation investments made via PLAN 2040 so that complementary projects can be completed in a manner that brings overall implementation costs down; e.g.,
  - Ensure complementary transit (or freight) projects advance in tandem with MLSP phasing;
  - Cross-check capacity-adding projects against CMP and study recommendations for other regional networks (ASTRoMaP, bike/ped, Concept3) to ensure all modes and users are accommodated as appropriate in projects that add capacity; and/or
  - Flag project corridors with existing maintenance needs and communicate to project sponsor to incorporate maintenance issue into project development activities.
- 20. Aggressively pursue non-traditional finance options to implement PLAN 2040 and close the PLAN 2040 funding gap; e.g.,
  - Work with GDOT PPP program to define potential new PPP options for identified PLAN 2040 projects;
  - Leverage non-traditional revenue sources (capital and O&M) as part of project development process for priority projects.
- 21. Track planned federal expenditures compared to actual federal expenditures each year.
- 22. Expand tracking and reporting processes (such as for the LCI Program) to other maintenance-related programs funded via PLAN 2040. Work with GDOT to determine funding eligibility for these programs. Identify and track projects funded via PLAN 2040 maintenance programs and report project delivery status as part of RTP Plan Management Project Tracking. Programs may include (see Action Item #8).

# Implementation Scale

The implementation scale will be consistent with that used for the annual *TIP Breaking Ground Report*, but slightly expanded to include an additional "complete" category, as defined below. In this approach, each action item is assigned to one of the following categories:

- Complete Agency has sufficiently addressed an action
- Advancing Work on the action item is proceeding as planned
- Delayed Work on the action item is delayed
- Dropped The action item has been dropped and will no longer be implemented.

# **Reporting Results**

Each action item will be summarized for each Objective to measure implementation success for each. Results will be rolled up into one cumulative measure of PLAN 2040 RTP implementation, "percent action items progressing". This chart, where applicable, will be augmented in the *Annual Regional Transportation Plan Management Report* with a qualitative assessment of major agency accomplishments and significant challenges affecting progress towards each objective.

ARC staff will complete the business tracking element semi-annually so that the results are available on a regular basis as an internal management tool. Brief, semi-annual meetings can 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 progress is being made.

# Tracking Project Implementation (Regional/Interagency Success)



The public depends on governments to deliver on promises, including delivering projects on time and within budget.

The Tracking Project Implementation component of the plan management process involves monitoring the degree to which projects and programs identified in the PLAN 2040 RTP are carried out. It focuses on projects and programs that are critical to supporting PLAN 2040 Goals and Objectives. Because project development activities extend largely outside the area of ARC influence, this component will serve to monitor and report overall **regional/interagency success** as it relates to implementing PLAN 2040. Project tracking measures serve as leading indicators of successful PLAN 2040 implementation. They will enable ARC to understand the successes and challenges the region is making toward implementing PLAN 2040 priority projects and programs that address stated goals and objectives.

# **Projects and Programs to Monitor**

ARC will use a qualitative approach for measuring the degree to which key PLAN 2040 projects and programs are being implemented. The project track is intended to complement and expand the *TIP Breaking Ground Report* for the purposes of the *Annual Regional Transportation Plan Management Report*. This will occur in several ways:

• The TIP Breaking Ground Report tracks the progress of projects included in the most recent fiscal year of the TIP. For the Annual Regional Transportation Plan Management Report, project tracking will be expanded to track key projects and programs in the remaining five years of the TIP and in the long-range element of the plan.

- The TIP Breaking Ground Report tracks progress by four broad categories of projects: Road/Bridge, Bike/Ped, Transit, and Other. For the Annual Regional Transportation Plan Management Report, project tracking will occur for more specific project types, in line with PLAN 2040 project type definitions. These may include:
  - o Transit/Capital
  - Transit/Operations and Maintenance
  - Roadway/ General Purpose Capacity
  - Roadway/Managed Lanes
  - Roadway/Interchange (Capacity, Upgrade)
  - Roadway/Bridge (Capacity, Upgrade)
  - Roadway/Operations and Safety
  - o Bike/Pedestrian

Project tracking for these project types will occur for both the TIP and long-range element of the plan.

- The TIP Breaking Ground Report does not currently track projects by program type, with the exception of the Livable Centers Initiative (LCI) program. The Annual Regional Transportation Plan Management Report will track projects across a broader range of programs that may include:
  - LCI Implementation
  - o TDM and Air Quality
  - Freight Operations and Safety
  - o Roadway Operations and Safety
  - Bike/Ped Mobility, Accessibility and Safety
  - Roadway Preservation and Maintenance
  - Transit Preservation and Maintenance

In the long-range component of the transportation plan, funding set-asides are used as placeholders for future funding. They become more critical in terms of project development, however, in the short-range TIP as projects are identified and implemented each year, in line with program funding levels. Projects funded out of these set-asides are typically exempt and/or are smaller in scale, allowing them to proceed through project development process more quickly than major capital investments. Many times the detail related to the number and type of projects funded out of these set-asides is not captured, inhibiting ARC's ability to report on the successes and/or challenges associated with each program. Project tracking for these programs will occur for the TIP, only.

# **Implementation Scale**

The implementation scale will be consistent with that used for the business practice component (which is consistent with current *TIP Breaking Ground Report categories*, with the inclusion of an additional "complete" category). In this approach, each project will be assigned to one of the following categories to measure implementation progress:

- Complete Project is complete
- Advancing Work on the project is proceeding as planned
- Delayed Work on the project is delayed
- **Dropped** The project has been dropped and will no longer be implemented.

Note that the measure of progress for each of these categories may differ slightly whether or not a project is being tracked in the short-range or long-range elements of the plan. For example, a long-range project may be advancing simply if additional study is occurring, while in the TIP it may be advancing only if the Preliminary Engineering, Right-of-Way, or Construction phases are proceeding as programmed. Similarly, in the long-range plan a project may be shown as dropped if the project scope has changed significantly enough that it is no longer consistent with initial PLAN 2040 proposal, while in the TIP a project may be dropped only if the project sponsor has decided not to implement. This level of detail will be addressed clearly in the narrative of the annual report.

### **Reporting Results**

Results of the annual *TIP Breaking Ground Report* for each fiscal year will be synthesized, along with project tracking results for the remainder of the TIP and the RTP, in the context of broader, long-range PLAN 2040 Goals and Objectives. The *Annual Regional Transportation Plan Management Report* will focus not only on the status of project phases in the TIP and RTP, but global trends that are impairing (or expediting) project development activities. For example, are the scopes of projects that are advancing through project development and implementation consistent with the scope envisioned in the long-range plan to address PLAN 2040 objectives? Are the types of projects being funded via priority ARC programs consistent with PLAN 2040 objectives? If not, what recommendations can staff provide policy makers regarding changes to project development activities?

ARC will complete the project track annually, as part of the full *Annual Regional Transportation Plan Management Report* which will be provided to ARC staff, stakeholders and the general public.

# Measuring Plan Impacts (External/Plan Success)



Successfully implementing PLAN 2040 will lead to an improved quality of life for the Atlanta region.

The Measuring Plan Impacts component of the plan management process focuses on assessing the performance impacts of the RTP in the context of PLAN 2040 Goals and Objectives. Plan measures are a targeted set of system-level performance measures that are used to track trends in the overall performance of the region's transportation network. The measures link to PLAN 2040 Goals and Objectives via the RTP emphasis areas (defined previously in Chapter 3) in order to demonstrate a clear

linkage between transportation system impacts and desired plan outcomes. These measures will be monitored over time and will serve as lagging indicators of **plan success**.

The use of plan measures 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 RTP are having the desired effects, in the context of PLAN 2040 Goals and Objectives. Plan measures also provide a feedback mechanism for subsequent planning cycles, by indicating the degree to which PLAN 2040 recommendations produced expected results.

ARC will use a quantitative approach for measuring the degree to which the plan is achieving desired outcomes. Figure 6-2 identifies the measures that will be monitored by ARC. These measures will be calculated based on current system conditions, and monitored each year to provide a trend line to gage system and plan performance. 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.

Performance measures selected for the RTP plan measures track were cross-checked against both the GRTA Metropolitan Atlanta Performance Report and the annual ARC Transportation Fact Book; both of which collect empirical data and report on multiple transportation system performance trends each year. Figure 6-2 also documents the measures included in these documents for comparison purposes. The RTP plan measures draw on other efforts as needed, but avoid duplication. The intent of this component of the plan management effort is to provide a concise set of high-level performance data to present a "bigger picture" of system performance in the context of PLAN 2040 desired outcomes. As such, the measures identified in Table 6-2 link as closely as possible to the measures used during plan development, which are describe in Chapter 3.

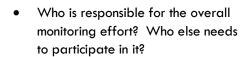
ARC will calculate each measure annually and include the results in the *Annual Regional Transportation Plan Management Report*, which will be provided to ARC staff, stakeholders and the general public.

Table 6-2: Plan Measures for RTP Plan Management

PLAN 2040 RTP Emphasis Area	RTP Plan Management Measure	GRTA Annual MAP Measure	ARC Transportation Fact Book Measure
Mobility	Peak period travel time, sample roadway monitoring network	<ul> <li>Freeway travel time index</li> <li>Planning time index</li> <li>Buffer time index</li> <li>Daily vehicle miles traveled (VMT) per person or driver</li> <li>Transit passenger miles traveled</li> <li>Annual transit passenger boardings</li> </ul>	<ul> <li>Average daily VMT</li> <li>Registered drivers per household</li> <li>Commuters registered with ridesmart</li> <li>Number of vanpools</li> <li>Employees in Employer Service Organization areas</li> <li>HOV lane volumes</li> <li>ITS inventory</li> <li>Metro signal performance</li> </ul>
Connections and Access	Population within 45 minute travel time (road or transit) of key activity and employment centers	<ul> <li>Population and employment within walk distance to transit</li> <li>Transit revenue service hours</li> <li>Passenger trips per transit service hour</li> <li>Number of vanpools</li> </ul>	<ul> <li>Average weekday transit boardings and rail station entries</li> <li>Average weekday park and ride lot, MARTA lot usage</li> </ul>
Safety	Number of injury and fatal crashes per 100M VMT (at regional level for all crashes)	<ul> <li>Traffic Crash Fatalities</li> <li>Bike/Ped Fatalities</li> <li>Roadway Clearance Time</li> </ul>	<ul> <li>Crash rate (vehicle, bike, ped)</li> <li>Fatality rate (vehicle, bike, ped)</li> </ul>
Economic Growth	• Jobs		<ul> <li>International airport freight movement</li> <li>International airport passenger and operations</li> </ul>
Community/ Environment	<ul><li>Air quality violations</li><li>VMT per capita</li></ul>	Daily Vehicle Emissions	<ul> <li>Bike/ped facility miles</li> <li>Bike/ped mode share</li> <li>Bike count</li> <li>Air quality violations</li> <li>LCl transportation projects by county and type</li> </ul>
State of Good Repair	<ul> <li>Roadway condition rating (pavement and bridge)</li> <li>Transit condition rating</li> </ul>	<ul> <li>Pavement condition rating</li> </ul>	

# **Monitoring and Reporting**

As part of the PLAN 2040 RTP plan management process, ARC will develop a monitoring and reporting protocol for each of the tracks defined above. The protocol will answer the following types of questions:





- How will information be compiled from the various participants? Where will it be stored?
- What is the timeline for compiling and reporting results?
- What format should the results be provided in (e.g., hard copy brochure; a page on the ARC web site; an interactive, on-line dashboard; etc.)?
- What is the appropriate feedback mechanism to link monitoring results to internal ARC work program?