



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 www.atlantaregional.com/plan2040. 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 findings 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 competitiveness 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.

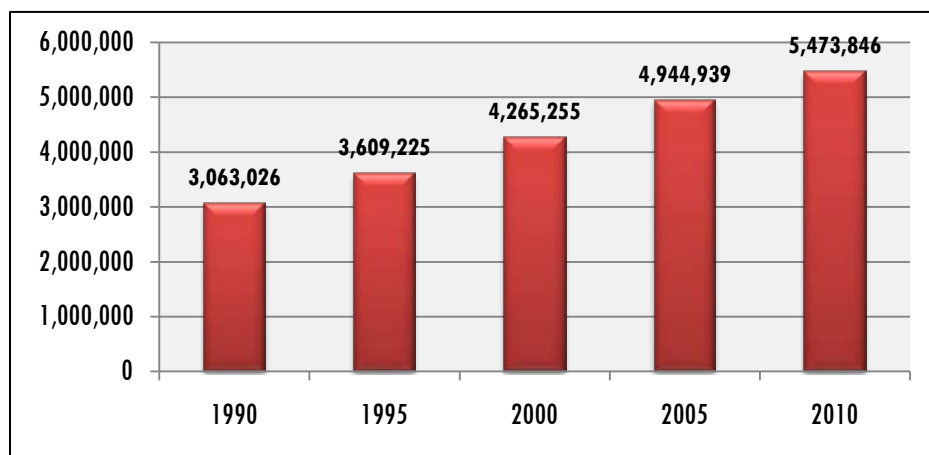
As the Atlanta region ramped up efforts in preparation for hosting the 1996 Centennial Olympic Games, the 20-county region quickly shook off the effects of the recession, recording its largest single-year

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

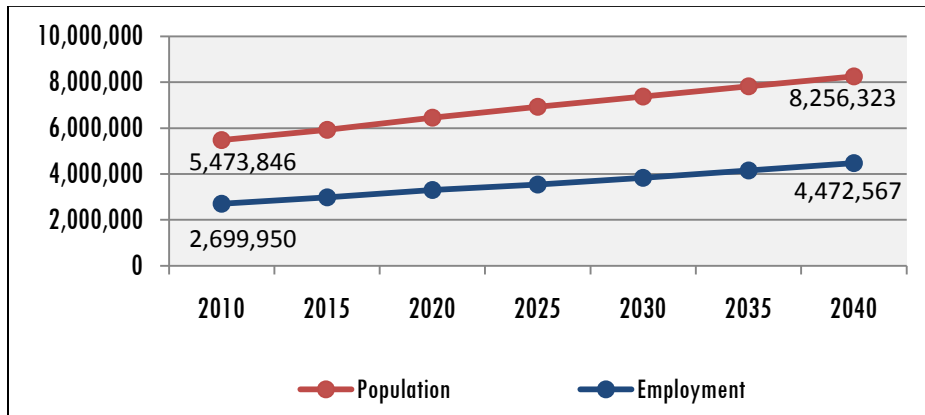


Future Growth – A Region of Over Eight Million

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 www.atlantaregional.com, 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

County	Population			
	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	607,751	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	70,111	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	58,417	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

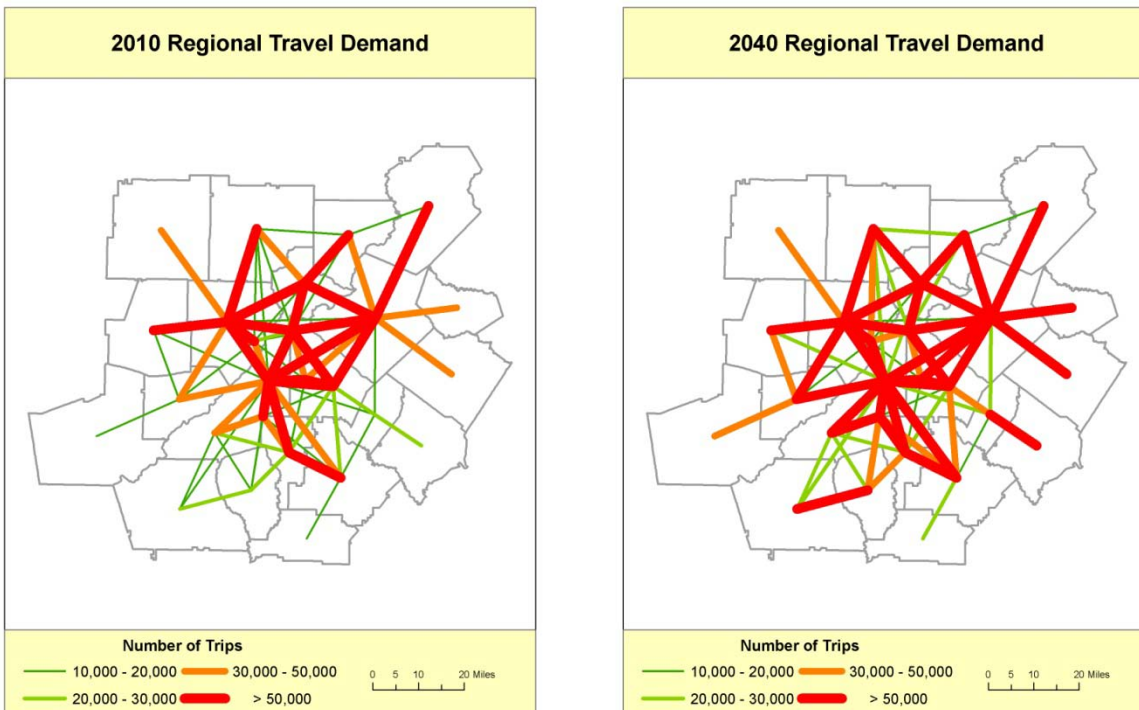


The Atlanta region is the freight and logistics center of the Southeast, contributing to complex daily travel patterns

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.

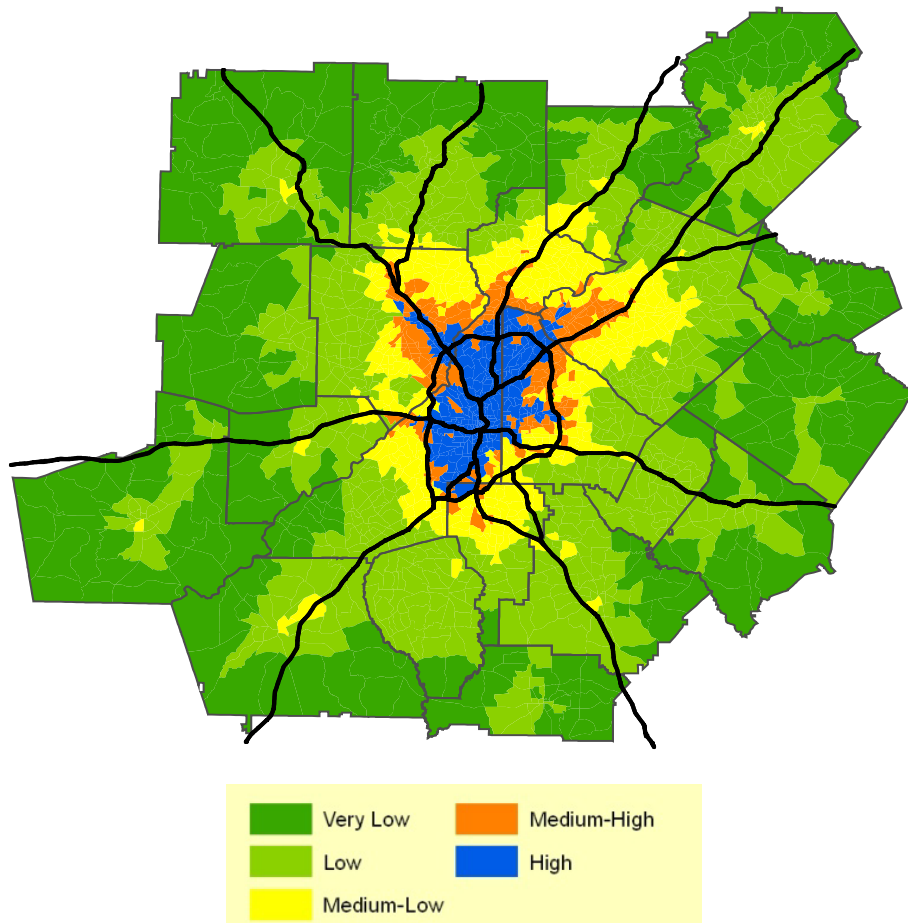
Congested Vehicle Hours Traveled (VHT) is forecasted to increase approximately 110% by 2040.

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 www.atlantaregional.com/lci.

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 long-term 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 www.northgeorgiawater.org.

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.

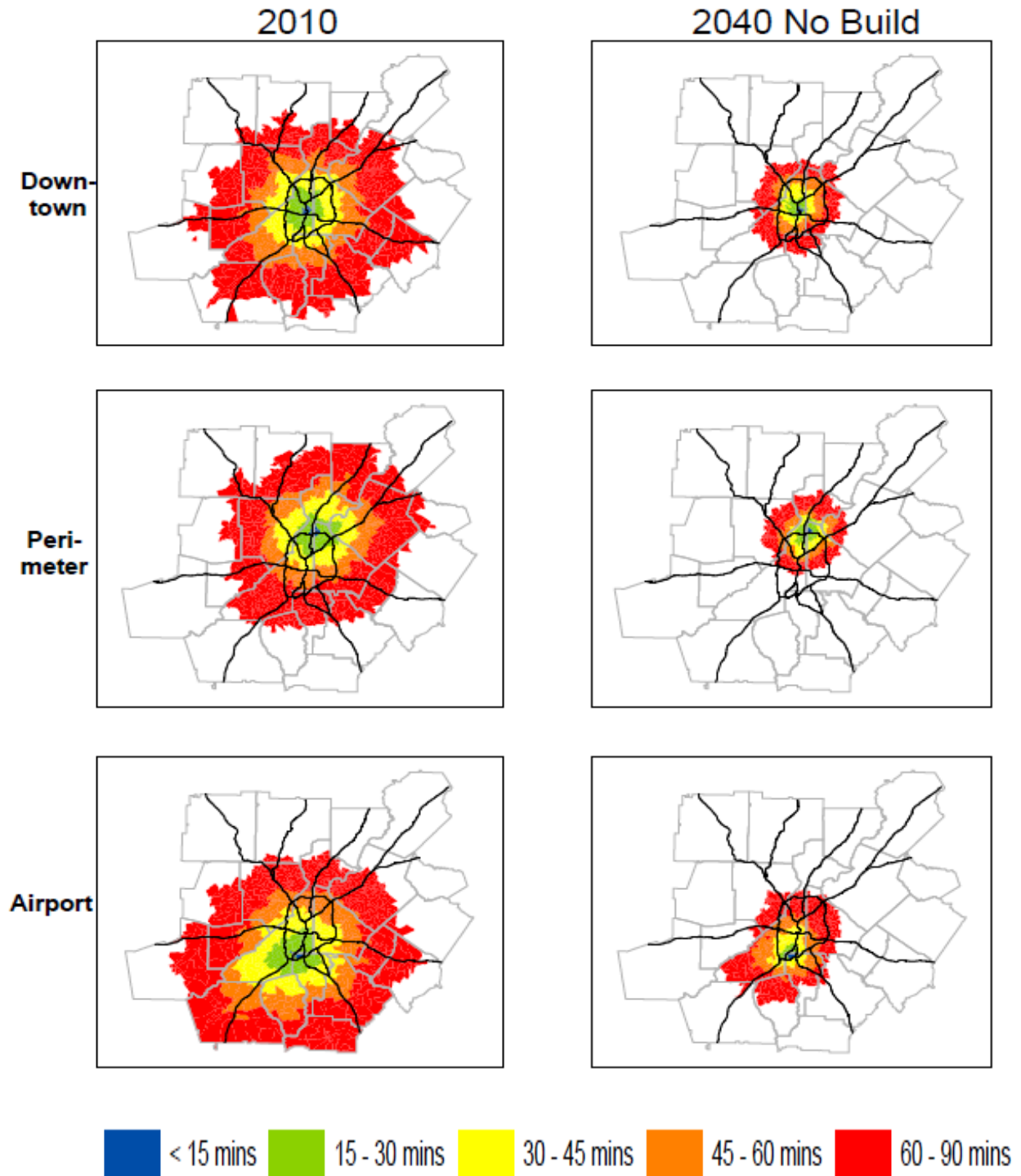
The region has struggled with addressing the challenges of congestion in recent years, with varying levels of success.

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 urban-scaled activity centers that support a wide range of land uses and economic activities. In the coming decade, it is important to implement a creative congestion relief strategy that can be 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



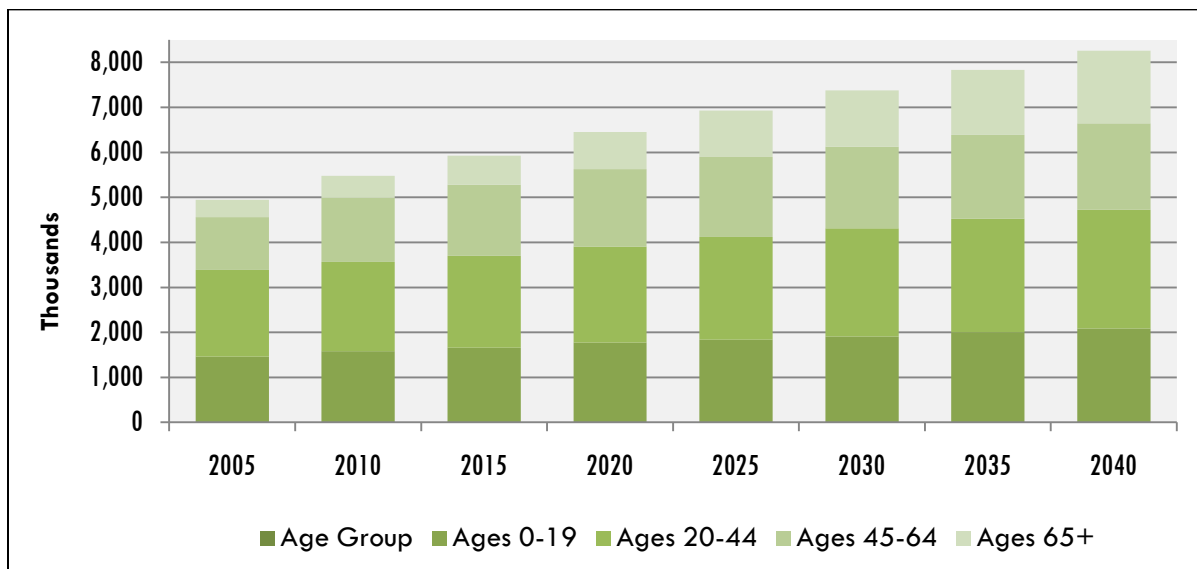
Dynamics of Population Growth Will Greatly Impact Region

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



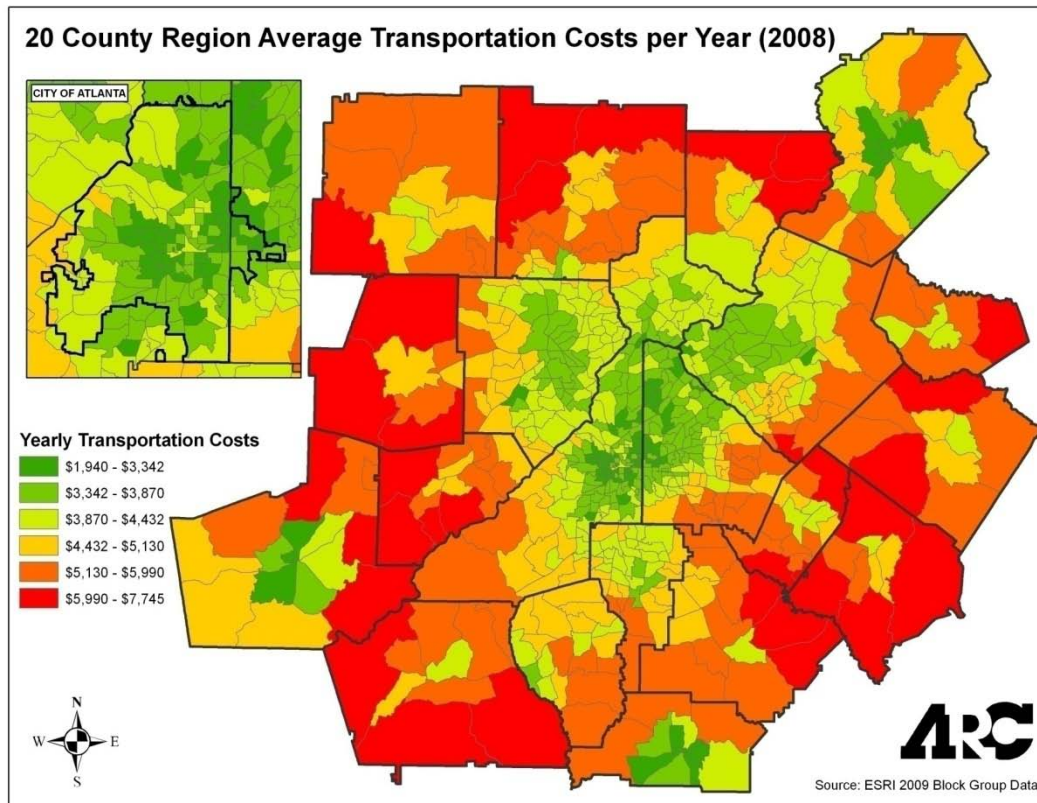
Future housing demands are changing, with increasing construction of multi-family housing such as townhomes and condominiums

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

The Atlanta region has developed programs and policies to assist with adding necessary urban amenities to areas in need of these improvements, particularly through the LCI Program. In July 2009, ARC hosted 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.

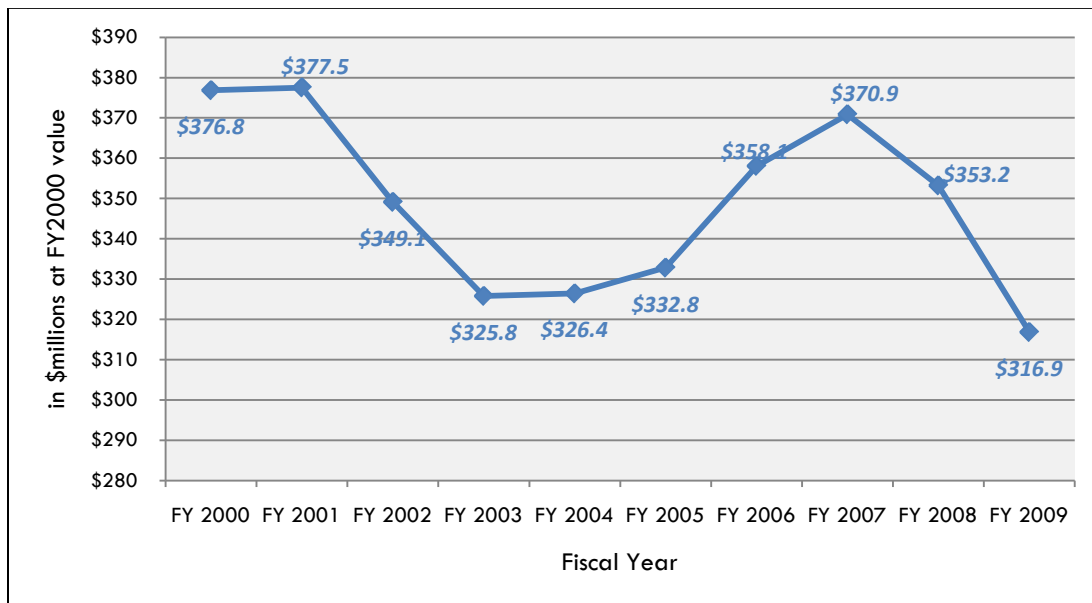
The Region, State, and Nation Have Experienced a Decrease in the Financial Capacity to Fund Needed Transportation Improvements

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.

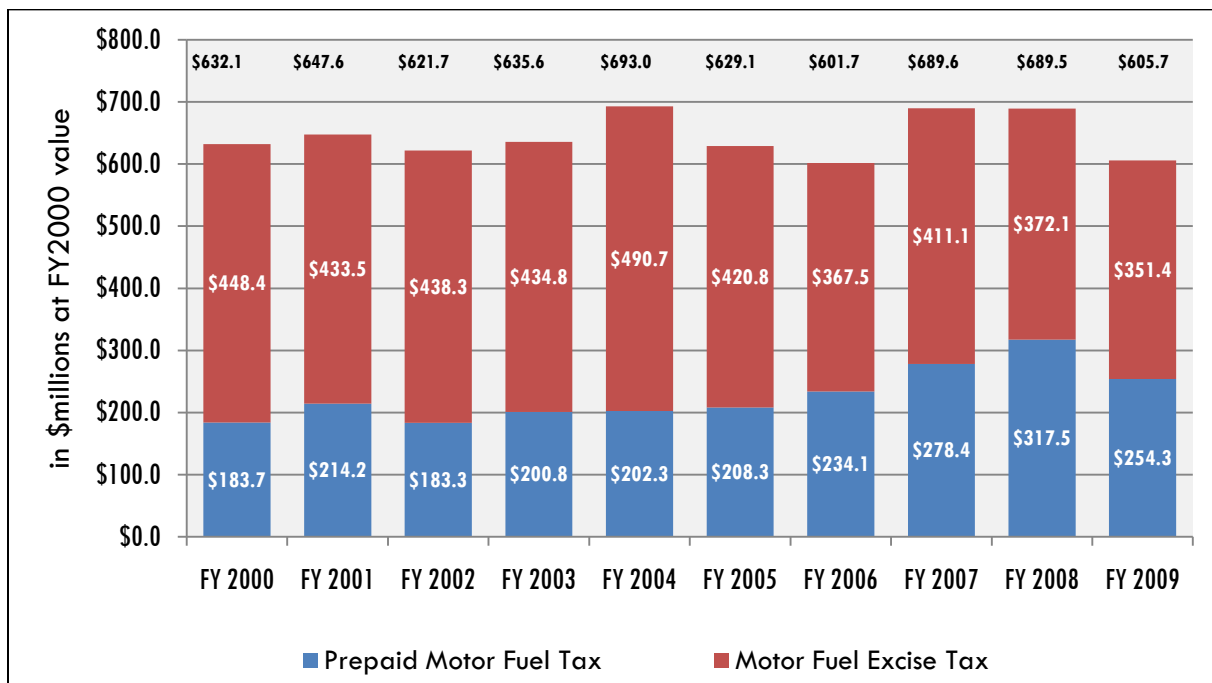
Figure 2-8: Historical Real Value of MARTA Sales Tax Receipts, FY 2000-2009



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

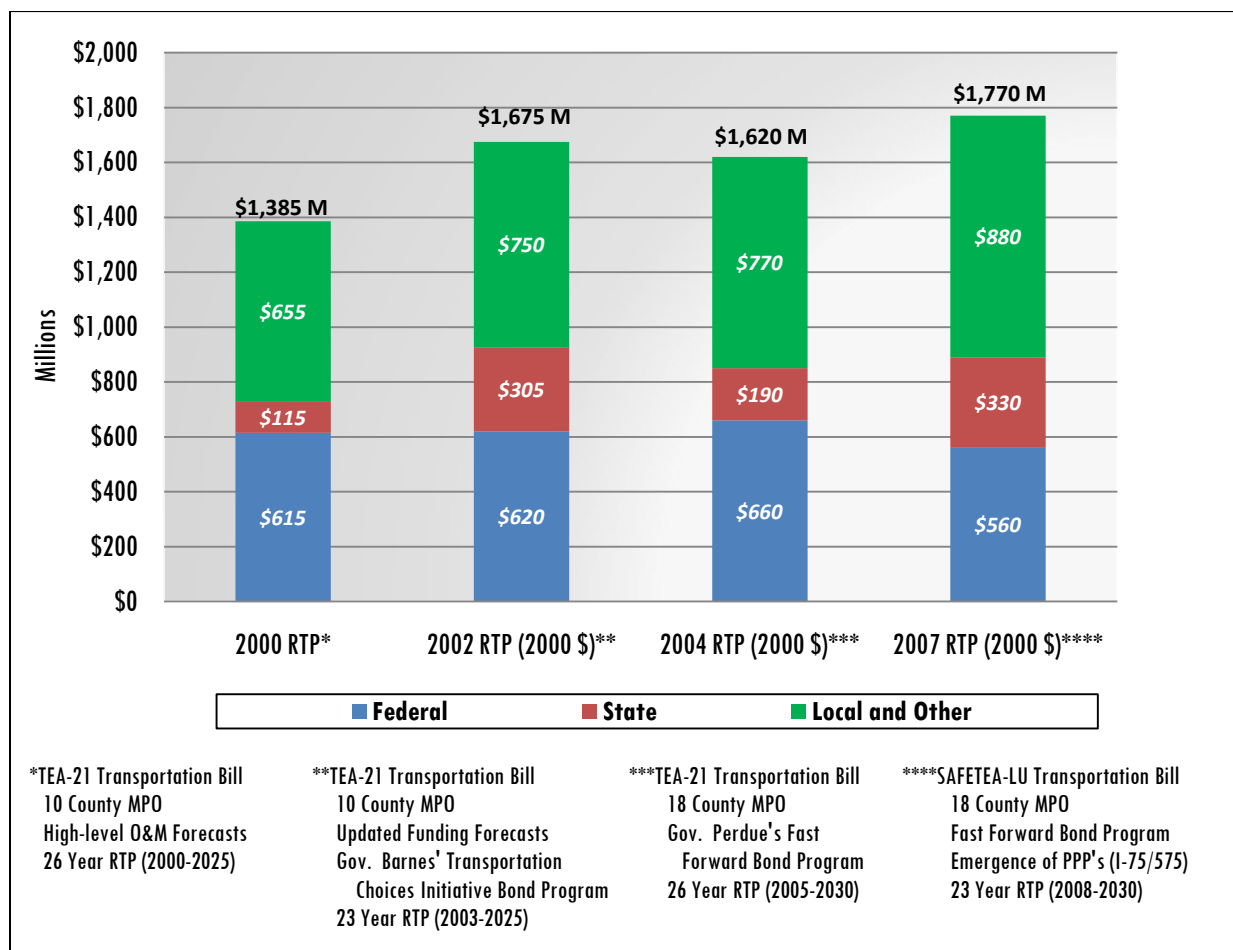


Sources: Georgia Department of Revenue/Bureau of Labor Statistics Consumer Price Index

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

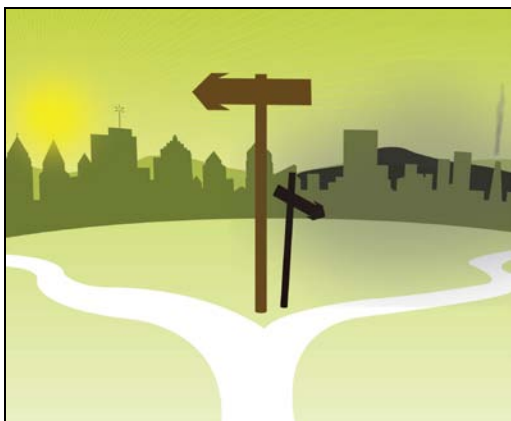
The Region Is Well Positioned for an Economic Recovery, but Must Be Able To Seize Opportunities. In Order to Maintain Prosperity Regional Partners Must Work Collaboratively among All Levels of Government and with Private and non-Profit Sectors.

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 Jobs-to-household ratio equal to the Northside (north of I-20)
Local Policy (UGPM/LCI)	Allocate household and employment growth based on the Locally Derived Regional Unified Growth Policy Map and LCI areas, and implement minimum UGPM density recommendations (used newly-defined Mega Corridor areas)
Transit Oriented Development (TOD)	Allocate household and job growth to TOD areas (Traffic Analysis Zones)

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

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

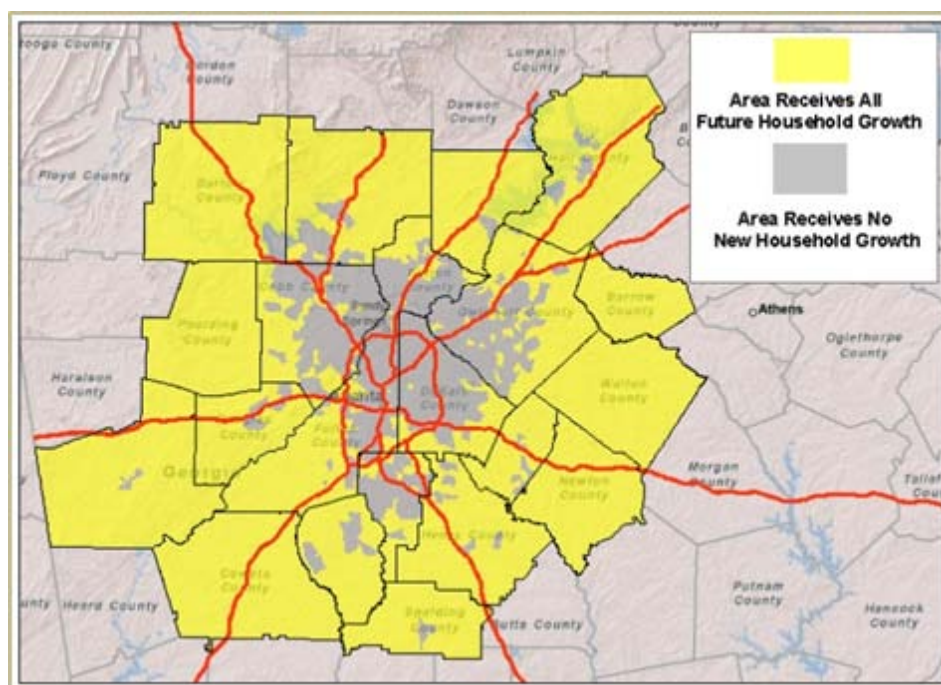
The results of the scenario analysis show that the relationship between land use patterns and planned transportation infrastructure does matter, and that the impact can be dramatic. Each scenario represents a future with advantages and disadvantages, yet it is clear that if only greenfield areas are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

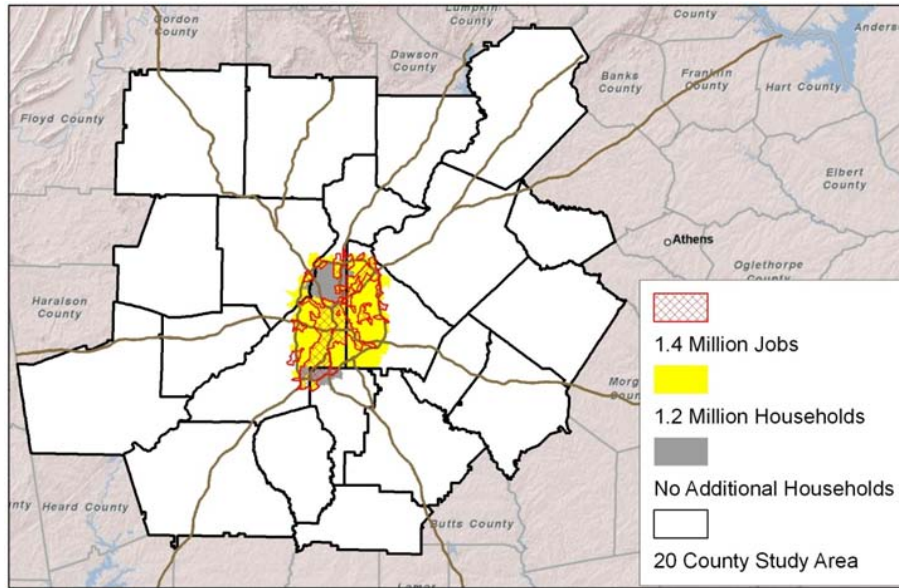
As a result of the Ultra Sprawl scenario, the share of population in the current greenfield areas increases from some 45 percent in 2010, to 66 percent in 2040.

“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

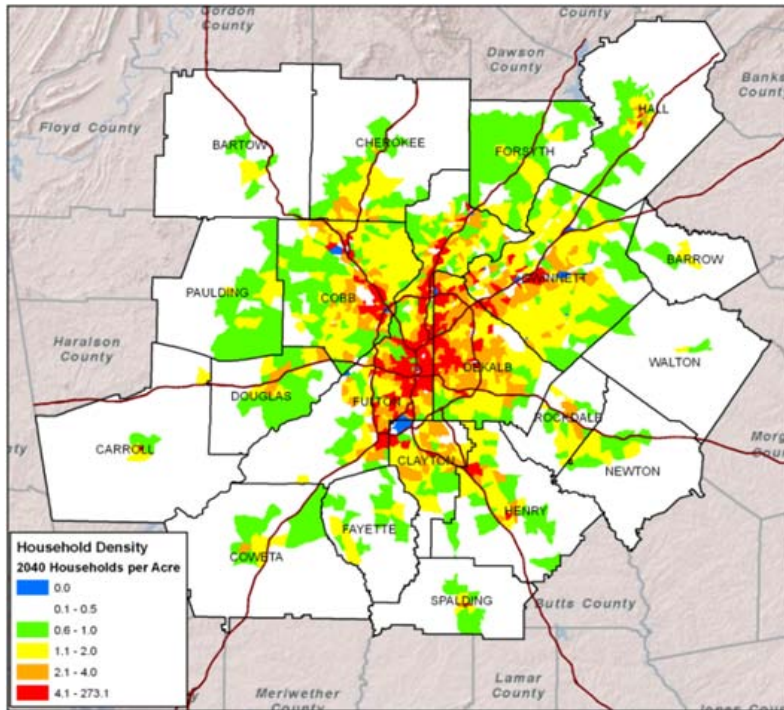


Because growth is concentrated in such a small area of the region, travel via roadways becomes more difficult as congestion becomes hyper-concentrated in the core. Thus, land use alone is not enough to solve congestion problems.

“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



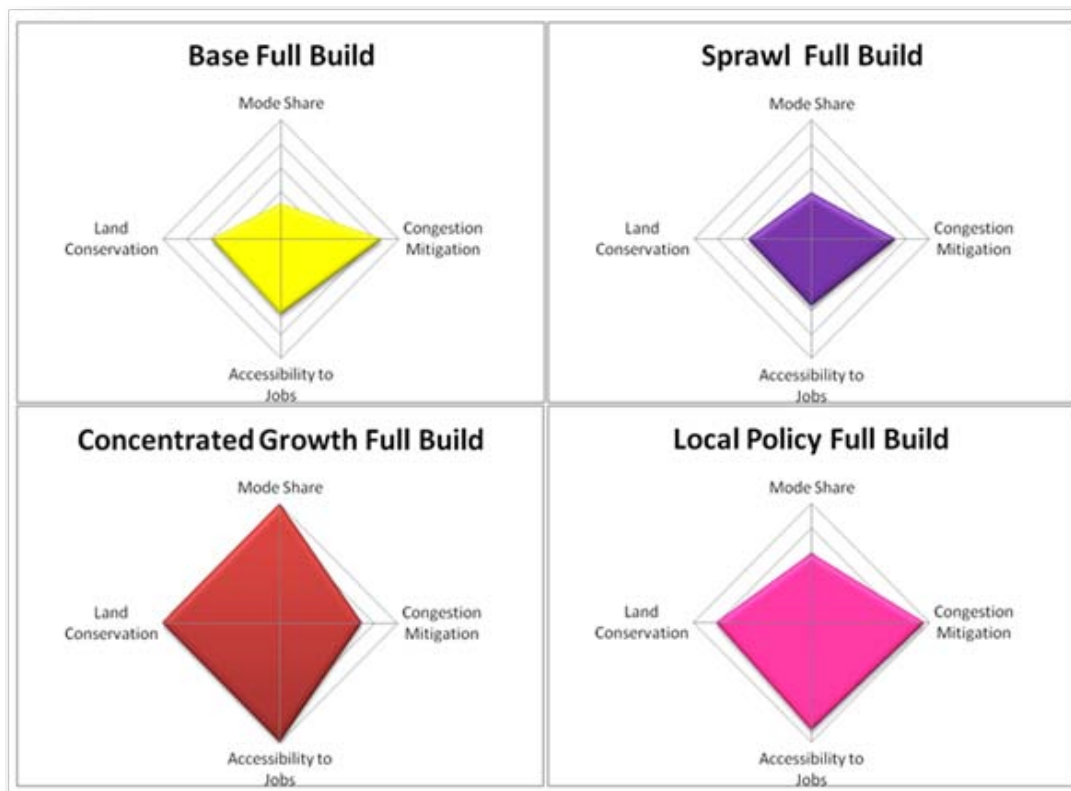
The Local Policy scenario concentrates growth in areas that already have infrastructure, and this, coupled with aggressive investment in transportation infrastructure, improves upon many measures of congestion.

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 www.atlantafiftyforward.com.

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:

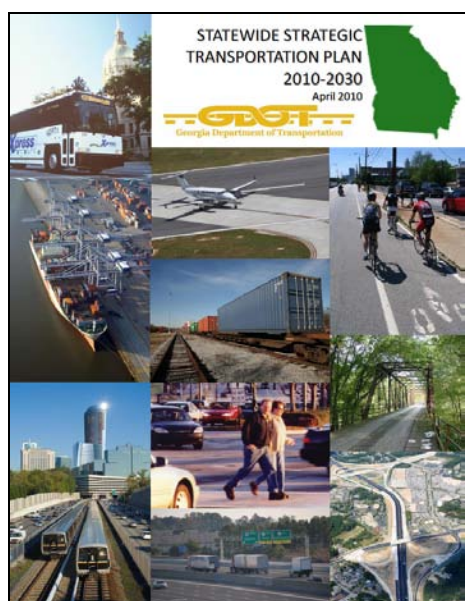
- Perceiving the interdependence of our communities and resources within the region
- Understanding the impact of the use of energy resources on the quality of air and water
- Designing communities and buildings with an understanding of the impacts on consumption of energy, land and water resources
-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

Figure 2-15: SSTP Investments Included by Funding Level

			Level 1: Existing funds, no direct fees (\$12-19B ¹ avail.)	Level 2: Existing funds with direct fees ² (\$20-29B ¹ avail.)	Level 3: Burning platform and econ. growth (\$57B ¹ avail.)	Level 4: Transform GA's transp. network (\$63B ¹ avail.)
Address today's burning platform	People mobility: metro Atlanta	* HOT lanes				
		- Base network (~240 miles)		✓	✓	✓
		- Full network (add'l 120 miles)			✓	✓
		* BRT/Express		✓	✓	✓
		* Arterials				
	- Suburban network (~1500 miles)	✓				
	- Base central network ³ (300-400 miles)		✓	✓	✓	
	- Full central network (add'l 200 miles)			✓	✓	
	* Core transit system					
	- Reduced operations (50-70% of current)	✓	✓			
- Full (100%) operations			✓	✓		
People mobility: rest of state	* Base network (~\$7B)	✓	✓	✓	✓	
	* Full network (add'l \$7B)			✓	✓	
Freight transport	* Savannah port last-mile	✓	✓	✓	✓	
	* Interstate interchanges	✓	✓	✓	✓	
Enable and support economic growth engines	People mobility: metro Atlanta	* Streetcars and "short trip" transit				
		- Beltline		✓	✓	✓
	- Other streetcars/premium circulators			✓	✓	
	Freight transport	* NW bypass			✓	✓
		* Rail improvements			✓	✓
* Intermodal/GRIP connectivity			✓	✓		
Transform Georgia's transportation network	People mobility: metro Atlanta	* Long-haul transit (e.g., light and heavy rail)				✓
	Statewide people mobility	* Metro "big ticket" road projects ⁴				
		* Commuter and intercity rail (between Metro Atlanta and other Georgia cities/towns)				✓

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 www.it3.ga.gov.