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PART 2: THE PLAN

In response to the issues raised in Part 1, Part 2 narrates how the Unified Plan was developed through a scenario building and testing process and it presents the priorities and policies of the Plan that resulted from that process. Part 2 organizes these results by grouping related issues and polices around five themes. It concludes with the expected outcomes of the Unified Plan in the form of a Composite Policy Map and more detailed maps for each of the five themes.

A. FUTURE ESTIMATES AND PROJECTIONS

A.1 Introduction

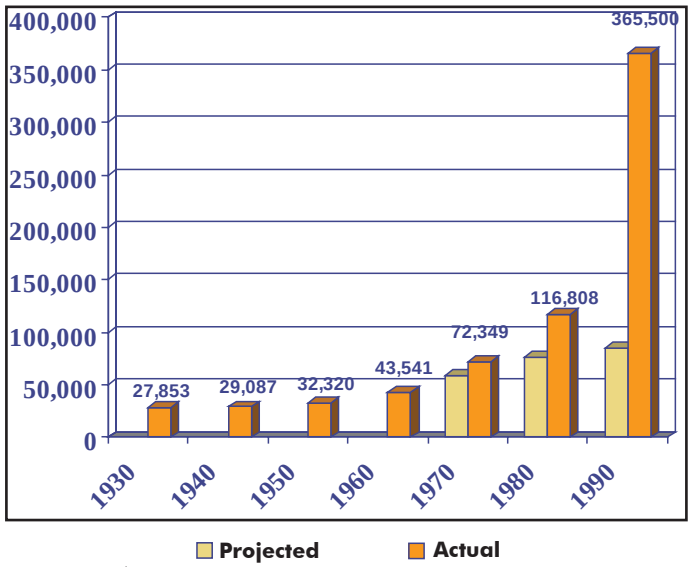
Socioeconomic forecasting was a keystone of the Unified Plan process. Although much of Gwinnett has developed over the past 40 years, much new growth will still occur over the next two decades. Estimating the amount and the nature of this growth was crucial to determining a variety of plan policies and strategies.

The exceedingly rapid and extensive growth of the Atlanta region has made forecasting jobs and households difficult. Previous regional projections that included future growth

Socioeconomic forecasting was a keystone of the Unified Plan process.

numbers for Gwinnett have generally been too small, with projected numbers often exceeded years before the projection's outlying target dates. Figure 35 on the following page illustrates this large gap between projections and actual outcomes. The reasons for this perpetual lag in matching forecasts to local realities include significantly underestimating existing population levels which are used as the current starting point, underestimating future rates of growth, and the sometimes prolonged execution of the models.

Figure 35: Past Projections Compared to Actual Results



Source: Census and ARC

To avoid such lags and underestimates, the Unified Plan process incorporated forecasts based on a methodology developed by Dr. Thomas Hammer that has been applied several times to the Atlanta region. This methodology has yielded more up-to-date forecasting information for the region as a whole as well as for all its constituent local jurisdictions.[1]

The following section provides a summary of the key results of this forecasting process. (A full description of the methodology and detailed results of the forecasting is presented in Appendix C of this plan. All tables and other data shown here are from the work of Dr. Thomas Hammer who developed all of the regional and local projections and forecasts used during the plan process.)

A.2 Employment Driven Regional Growth

In keeping with past history where Gwinnett County growth was driven in large part by the changing economic and population trends for the entire Atlanta region, the projections for this Unified Plan began with an analysis of future regional trends. Projections were then developed for Gwinnett as a subset of these regional developments. The Unified Plan forecasting determined that Gwinnett will be part of an economically strong and still rapidly growing Atlanta region, a future that brings with it many significant opportunities as well as some daunting challenges.

Economic growth will be persistent, but not without its fluctuations. Overall, it will proceed at a slower pace than in prior decades. Nevertheless, even with lower rates than pre-2000 growth, these annual rates are all more than twice as large as the expected U.S. employment growth rates and exceed the latter after 2010 by a nearly constant one percent margin. For demographic reasons, the region's employment per capita will hold almost constant after 2015 even though the U.S. position erodes substantially.

The fastest-growing sectors, with percentage gains in the triple digits, are professional and technical services (combined here with corporate management offices for a 119 percent increase); administrative support services (150 percent); educational services (118 percent); and health services and social assistance (135 percent). All of these were among the region's eight sectors that tripled in employment between 1975 and 2005. The others were construction, information, arts-recreation and food services.

Table 22 shows the breakdown of regional economic growth for each of the counties within the Atlanta region, including employment, households, and population.

1 These applications include: Northern Sub-Area Study for parts of 6 counties north of Atlanta centered on the GA400 corridor and a regional assessment sponsored by the Greater Atlanta Chamber of Commerce.

Table 22: Summary of County-Level Forecasts for the Atlanta Region

	Total Employment				Households				Population			
	2005	2030	Change	% Ch.	2005	2030	Change	% Ch.	2005	2030	Change	% Ch.
Barrow County	16,974	40,824	23,850	141%	20,895	44,129	23,233	111%	59,130	118,760	59,630	101%
Bartow County	38,581	62,549	23,969	62%	31,658	61,296	29,637	94%	88,650	162,939	74,289	84%
Butts County	7,368	17,698	10,330	140%	7,179	18,288	11,109	155%	20,931	50,888	29,958	143%
Carroll County	36,435	61,063	24,628	68%	38,369	74,141	35,772	93%	104,626	193,541	88,915	85%
Cherokee County	47,748	133,851	86,103	180%	63,569	130,831	67,261	106%	181,871	353,359	171,488	94%
Clayton County	115,047	145,553	30,506	27%	91,879	126,940	35,061	38%	267,031	356,181	89,150	33%
Cobb County	321,009	413,356	92,347	29%	245,978	292,662	46,684	19%	661,526	767,649	106,123	16%
Coweta County	34,452	62,182	27,730	80%	38,391	76,784	38,393	100%	108,776	205,222	96,446	89%
Dawson County	7,214	39,480	32,267	447%	7,657	28,910	21,253	278%	19,559	73,118	53,559	274%
DeKalb County	335,543	379,279	43,736	13%	251,853	270,583	18,730	7%	677,053	724,958	47,905	7%
Douglas County	40,085	69,948	29,863	74%	40,509	69,052	28,542	70%	111,341	180,051	68,710	62%
Fayette County	44,355	83,978	39,622	89%	36,189	56,501	20,312	56%	103,486	153,696	50,210	49%
Forsyth County	42,680	173,283	130,603	306%	48,256	130,184	81,928	170%	138,282	346,330	208,048	150%
Fulton N. of I-285	194,846	345,125	150,278	77%	119,321	174,899	55,579	47%	312,177	442,275	130,097	42%
Fulton Central & S	529,437	690,940	161,503	31%	220,461	294,160	73,698	33%	554,937	738,908	183,971	33%
Gwinnett County	315,838	482,890	167,052	53%	246,140	361,827	115,687	47%	719,849	1,019,166	299,317	42%
Hall County	69,041	108,252	39,211	57%	54,999	100,290	45,291	82%	164,525	291,190	126,665	77%
Haralson County	8,200	14,254	6,053	74%	10,917	20,893	9,977	91%	28,245	50,798	22,553	80%
Heard County	2,673	4,334	1,662	62%	4,204	7,976	3,772	90%	11,326	20,335	9,009	80%
Henry County	47,655	118,136	70,481	148%	57,855	131,128	73,273	127%	165,621	355,475	189,855	115%
Jasper County	3,233	7,096	3,864	120%	4,813	12,890	8,076	168%	13,055	32,927	19,873	152%
Lamar County	3,972	5,120	1,148	29%	5,899	9,186	3,287	56%	16,365	24,365	8,000	49%
Meriwether County	6,194	8,873	2,679	43%	8,690	13,564	4,874	56%	22,887	34,116	11,230	49%
Newton County	20,970	53,945	32,975	157%	30,826	69,984	39,158	127%	85,441	186,691	101,250	119%
Paulding County	24,869	66,903	42,034	169%	38,114	84,803	46,688	122%	110,817	230,936	120,119	108%
Pickens County	7,278	30,002	22,724	312%	11,266	32,970	21,703	193%	28,281	80,447	52,166	184%
Pike County	3,370	6,910	3,540	105%	5,608	13,014	7,406	132%	16,018	35,137	19,119	119%
Rockdale County	35,475	57,256	21,781	61%	26,965	37,731	10,766	40%	78,123	106,182	28,059	36%
Spalding County	26,021	32,342	6,321	24%	22,907	29,787	6,880	30%	61,153	76,411	15,258	25%
Walton County	18,631	59,616	40,985	220%	26,372	67,184	40,812	155%	74,746	178,369	103,622	139%
Total Region	2,405,192	3,775,039	1,369,847	57%	1,817,741	2,842,583	1,024,842	56%	5,005,827	7,590,420	2,584,593	52%

Source: ARC; Dr. Tommy Hammer

A.3 Increasing Regional Population and Regional Diversity

As Table 22 shows, the projected strong long-term economic growth of the region will support persistent population growth. The total population of the 29-county Atlanta region is forecasted to increase from just over 5 million persons in 2005 to approximately 7.6 million persons in 2030 and 8.3 million in 2035. As with employment growth, the region's forecasted annual population growth rates are modest by previous metro Atlanta standards, but nevertheless exceed the corresponding U.S. rates by 0.8 percent to 1.0 percent per year, with the gap steadily increasing after 2015. A most notable aspect of this growth is the shifting of various racial or ethnic groups within the overall regional totals.

Table 23 summarizes the Atlanta region's population forecasts in 1990, in 2005 and projected out through 2035 in total and by racial group. Table 24 depicts the varying percentages of each racial group in 1990, in 2005 and projected out through 2035.

Tables 23 and 24 show the demographic transition in the Atlanta region. Until 1990 this mainly involved substitutions of African-American for white inhabitants, but the pattern has since broadened with the rapid influx of Hispanic and Asian migrants to the region. Each of these three groups is expected to continue increasing its share of the overall regional population throughout the life of the Unified Plan with the Hispanic category increasing the most.

Table 24: Forecasted Regional Demographics by Percent

	Percentages of Racial/Ethnic Group				
	White	Black	Asian	Hispanic	Total
1990	71.8%	24.6%	1.6%	2.0%	100.0%
1995	66.4%	26.5%	2.6%	4.5%	100.0%
2000	61.6%	28.2%	3.4%	6.8%	100.0%
2005	56.8%	29.8%	4.2%	9.2%	100.0%
2010	54.4%	30.6%	4.5%	10.5%	100.0%
2015	52.1%	31.4%	4.9%	11.7%	100.0%
2020	49.7%	32.1%	5.2%	12.9%	100.0%
2025	47.4%	32.8%	5.6%	14.2%	100.0%
2030	45.1%	33.4%	6.0%	15.5%	100.0%
2035	42.9%	34.0%	6.3%	16.8%	100.0%

Source: ARC; Dr. Tommy Hammer

The massive growth of Hispanic households is not unique to Gwinnett County or the Atlanta metropolitan area. According to a 2005 study by the Pew Hispanic Center,[2] the Hispanic population is growing faster in the South than anywhere else in the United States. Across a broad swath of the region, sizeable Hispanic populations have emerged suddenly in communities where Latinos were a sparse presence just a decade or two ago.

What is somewhat unique to Atlanta is the rapid diversification certain areas, including Gwinnett, are experiencing. Furthermore, other ethnic groups are also extensively distributed in the region.

2 Hispanic Center, The New Latino South, July 2005

Table 23: Forecasted Regional Population by Racial Group

	Number of Persons by Racial/Ethnic Group					Change Per Year	
	White	Black	Asian	Hispanic	Total	Absolute	Percent
1990	2,271,623	778,212	51,660	63,358	3,164,853	N/A	N/A
1995	2,464,579	984,446	96,309	168,596	3,713,930	109,815	3.25%
2000	2,701,199	1,237,349	151,061	297,649	4,387,258	134,666	3.39%
2005	2,845,548	1,490,731	209,681	459,867	5,005,827	123,714	2.67%
2010	2,964,845	1,665,904	246,068	569,851	5,446,668	88,168	1.70%
2015	3,078,001	1,854,234	288,786	691,776	5,912,797	93,226	1.66%
2020	3,190,468	2,059,530	336,579	830,097	6,416,674	100,775	1.65%
2025	3,305,026	2,285,596	390,867	989,270	6,970,760	110,817	1.67%
2030	3,424,457	2,536,240	453,066	1,173,751	7,587,514	123,351	1.71%
2035	3,551,539	2,815,268	524,596	1,387,995	8,279,398	138,377	1.76%

Source: ARC; Dr. Tommy Hammer

Figures 36 through 39 show the distribution of four different groups and how large concentrations of each have settled in Gwinnett.

Figure 36: Population Born in Mexico

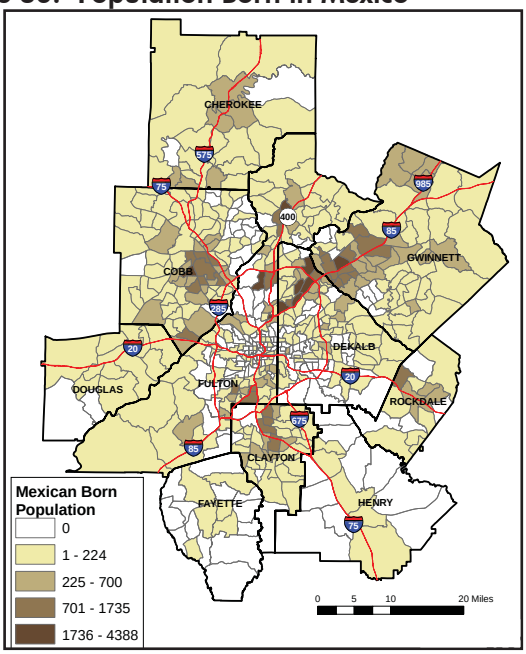


Figure 37: Population Born in India

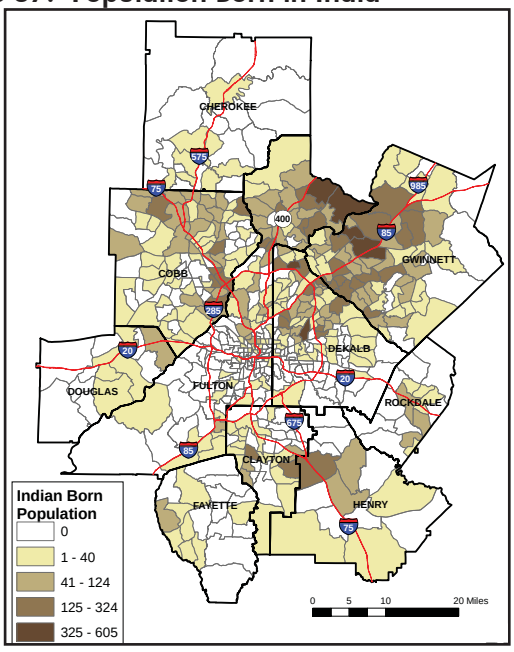


Figure 38: Population Born in Nigeria

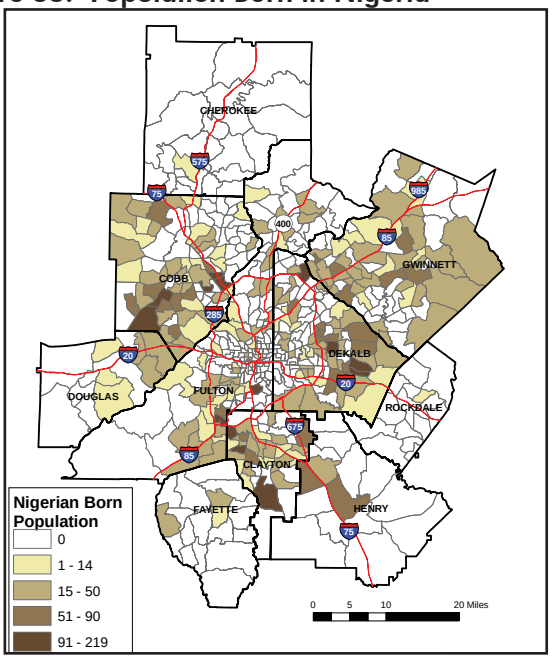
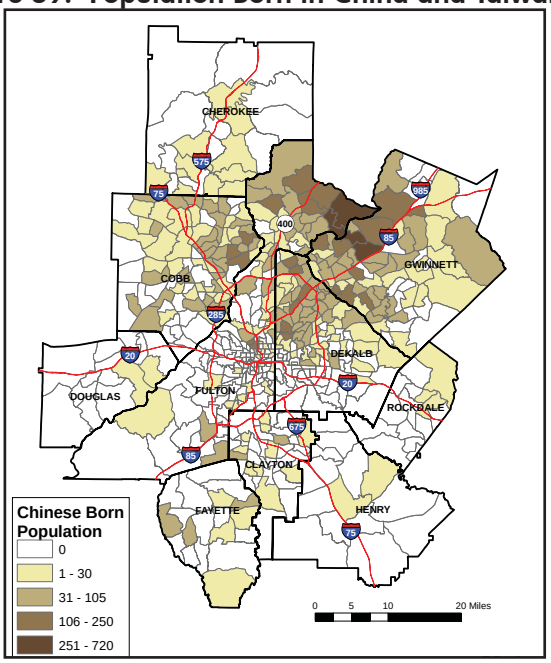


Figure 39: Population Born in China and Taiwan



For Figures 36 - 39, lighter shades indicate smaller concentrations of population and darker shades indicate larger concentrations of populations of people born in the specified countries.

Data Source for the figures is the 2000 Census.

A.4 County-Level Forecasting

Forecasts for Gwinnett County are derived from the regional allocation results and show that Gwinnett will continue to capture a sizeable share of regional employment growth. Table 25 breaks down this forecasted growth by different occupation groups. Gwinnett's forecasted gains generally follow the pattern for the region. The most notable increases will be in Finance, Insurance and Real Estate (FIRE), professional and management services, administrative support services, educational services and health and social services. All of these will at least double their 2005 levels. The county is also expected to achieve a relatively large gain in arts, entertainment and recreation.

Figure 40 simplifies the data in Table 25 by aggregating them into three broad categories – Industrial, Office and Consumer.

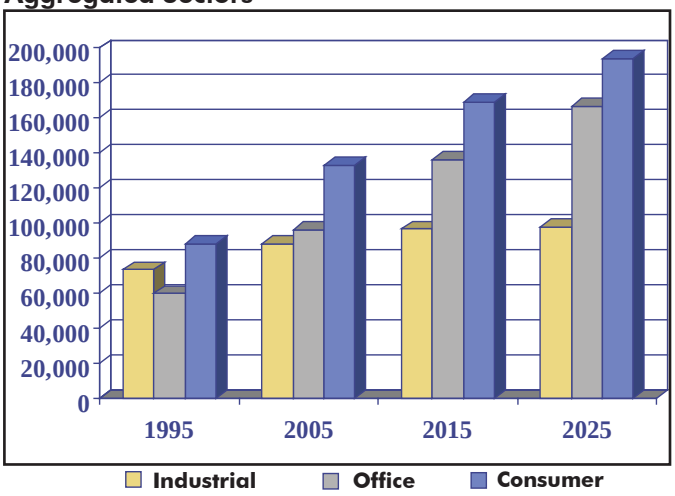
Table 26 shows the County's expected population growth rates and future number of households in each of five income levels over 5-year intervals from 2005 to 2030.

As the last row of the table shows, population growth progressively tapers off from 2.0 percent to 0.9 percent per year. Table 26 also gives the actual and expected percentage distributions of households by five income levels. The Gwinnett County figures show declines in the shares of households occupying the upper three quintiles and increases in the two bottom quintile shares. This lowering of the county's income profile would continue a trend that started in the 1980s. Gwinnett's combined share in the top two quintiles fell from 55 percent in 1980 to 52 percent in 1990 and fell to 47 percent in 2005. Thus according to this forecast, by 2030 Gwinnett will be a fully middle-class area rather than upper-middle-class area, moving Gwinnett toward the regional average. Note that the population and household totals were modestly revised upwards in the scenario process.The final numbers are shown in Tables 32a through 33.

Table 25: Gwinnett County Employment Forecasts

	2005	2010	2015	2020	2025	2030
Extractive activities	629	527	440	369	313	272
Construction	21,681	23,071	24,175	25,061	25,797	26,454
Durable goods mfg	16,269	16,215	15,481	14,400	13,311	12,548
Nondurable goods mfg	6,625	7,648	8,106	8,189	8,085	7,984
Wholesale trade	32,891	36,126	38,055	39,167	39,952	40,897
Retail trade	42,663	46,464	48,407	49,082	49,082	48,997
Transportation & utilities	6,170	6,512	6,719	6,875	7,066	7,378
Information	10,280	12,395	13,690	14,389	14,716	14,896
Finance, insur'nc & real est	20,407	24,678	27,836	30,192	32,056	33,740
Professional & mgmt serv	28,947	36,591	43,421	49,550	55,091	60,158
Admin support services	31,609	38,669	45,560	52,245	58,688	64,852
Educational services	3,336	4,455	5,675	6,941	8,194	9,379
Health & social services	20,307	25,263	30,177	34,996	39,667	44,134
Arts, entertainment & rec	2,966	4,209	5,058	5,578	5,836	5,895
Accommodations	1,746	1,831	1,873	1,883	1,874	1,859
Food services	22,905	26,036	28,309	29,968	31,261	32,434
Other services incl rental	15,559	17,584	19,089	20,251	21,247	22,256
Fed. & state government	5,325	6,062	6,566	6,920	7,204	7,499
Local government	26,157	29,774	33,045	36,046	38,851	41,538
Total	316,472	364,112	401,682	432,102	458,291	483,169

Figure 40: Gwinnett Employment Growth by Aggregated Sectors



A.5 Implications

The projections cited above are essentially "trends" projections. However, that should not imply that they are inevitable. Without policy intervention, current trends will result in a decline from an upper- to a middle-class area. Indeed, a large part of the process in developing the Unified Plan focused on the potential consequences of these significant shifts in employment base, income levels and population characteristics and how they could be mitigated or reversed.

The employment growth and demographic patterns that the projections indicate have several consequences for the policies and action steps in the Unified Plan. For one, they indicate that there will be increasing demand for land for office-based employment and a decreased demand for land to support such economic sectors as manufacturing, and warehousing and distribution. Also, the small increase of retail employment when compared to the expected growth of the population supports that Gwinnett today may be "over-retailed." That is the prime reason many of the County's commercial areas are undergoing a slow decline.

Table 26: Future Population and Household Income Levels by Quintiles

Households by Income	2005	2010	2015	2020	2025	2030
Lower Quintile	33,122	39,213	45,388	51,707	58,231	65,018
Lower-Middle Quintile	46,329	52,961	59,496	65,989	72,496	79,073
Middle Quintile	51,298	56,255	60,438	63,865	66,558	68,535
Upper-Middle Quintile	59,214	64,789	69,427	73,134	75,914	77,774
Upper Quintile	56,177	60,520	64,026	66,886	69,290	71,427
Total Households	246,140	273,738	298,775	321,582	342,489	361,827
Total Population	719,849	795,444	861,985	920,660	972,657	1,019,166
Annual % Change		2.0%	1.6%	1.3%	1.1%	0.9%

The Unified Plan focused on the potential consequences of these significant shifts in employment base, income levels and population characteristics and how they could be mitigated or reversed.

An increasing population brings with it an increased demand for housing, but the nature of that demand will shift from today's market which is dominated by single-family housing and relatively high prices. As the population becomes more middle class and has a significantly higher proportion of the lower and lower-middle income sectors, the types of housing that will be needed and affordable will shift accordingly. This has important implications for future land use demand, as well as what the County will need to do regarding access to housing opportunities and related community services.

The next section shows how a scenario building and testing process addressed these and other implications of the anticipated employment and demographic changes. These concerns include such topics as land use, transportation planning, provision of infrastructure such as water and sewer, public safety needs and the fiscal impacts of various growth levels on the County's expenditures and revenues.

B. TOWARD GWINNETT 2030: USING SCENARIOS TO DEVELOP THE UNIFIED PLAN

B.1 Beyond Visioning: Why Scenarios lead to Better Planning

Gwinnett County is a complex place built upon multiple forces that have caused its star to burn brightly since the 1970s. Forecasting Gwinnett County's future is equally complex. There are too many forces at work and too many competing issues in Gwinnett to easily recognize the "right" future and then construct a new Unified Plan around that vision.

A plan to guide the complex decision-making needed in the future requires a deeper understanding of these various forces. Determining which forces Gwinnett can manage through the policies and actions recommended by the Unified Plan and which forces will remain largely immune to such direct intervention was an important part of the planning process. The wide range of stakeholder interests and priorities which further added to the difficulty of drafting a plan that could secure widespread support.

To work through the complexities, the Unified Plan process applied an intensive scenario building and testing approach. Scenario building is a specific procedure for documenting and analyzing different planning alternatives that make the eventual choosing of a preferred plan a well informed and defensible decision. Scenario building and testing is not the same as the more typical "'vision" phase of many planning efforts. The differences are crucial.

- Visioning tends to focus on what would be desirable and acceptable. Scenarios also incorporate what is possible and plausible, regardless of how desirable its implications.

- Visioning tends to end with development of a consensus view of what a community desires. Scenarios push the envelope in thinking about future possibilities; primarily through constructing a range of alternative visions that work toward highly contrasting – often polarized – goals or priorities. (This makes scenarios much different from the usual "low, medium, high" growth approach of many plans that only amount to looking at different intensities or pace of change for the same general outcome.)

- Visioning tends to downplay implementation costs and impacts. Scenarios explore what it would take to make a potential future really happen (or avoid a less than desirable outcome), including costs, and how to deal with the likely impacts.

Evaluation and testing of various scenarios was the principle method to determine what combinations of future goals and actions made the most sense for Gwinnett. The County will face a future that is only partially foreseeable. Yet, by evaluating a plausible range of futures and their related policies, Gwinnett has acquired a ready repertoire of responses to inform decision makers if future conditions play out in ways that veer off from the course assumed by the adopted plan. This ability to cope more quickly and more effectively with changing circumstances is one of the major payoffs of engaging in scenario development and testing.

What the Scenarios Were…. and What They Were Not

1. Scenarios were possible futures worthy of pondering. They were not inevitable, merely plausible.
2. The original scenarios were never to be recommendations nor plans that might be adopted, but their testing did help define the eventual Comp Plan content.
3. They were not merely "visions." Instead, these scenarios provoked thinking about the consequences of making different choices.
4. They were not intended to be liked or disliked. Although aspects of each scenario did surface some of the desires and some of the fears of different stakeholder groups, the scenarios made no attempt to either satisfy or to frustrate any particular group.
5. While presented as "stories" about the future, the scenarios incorporated substantial research and analysis of current local and regional trends and Gwinnett's present and potential strengths and problems.
6. Each scenario played out different ways of coping with such driving forces as the growth or stagnation of the regional economy, the degree that traffic congestion could be managed, or the fiscal capabilities of the County.
7. Each scenario story was translated to County-wide concept maps that showed different possible distributions of potential future development.
8. The initial scenarios did not detail the policies and actions that would need to be funded and implemented to secure desired outcomes or avoid or temper harmful ones. [This is why they were not draft "plans".] Such "policies" were determined after the initial scenario testing showed what problems were likely to arise.
9. The values and goals of stakeholders eventually came strongly into play as the process developed possible policies for the final round of scenario testing.
10. Plans are results; planning is a process. Scenarios made the process better.
11. Rehearsing the consequences of different choices through scenario testing allows better informed planning decisions and equips Gwinnett County to cope more quickly and more effectively with changing circumstances.

B.2 Main Sources of Scenario Content

A variety of sources contributed to constructing the initial scenarios. An initial source was the Community Assessment (Appendix A). This document highlights many current trends and issues that the Unified Plan needed to address. Much of this information was presented in Part 1.C on Trends and Driving Forces. The Community Character and Areas of Special Attention maps that are part of the Community Assessment, done in the early stages of Unified Plan development, were more an anticipation of desired outcomes rather than definitive future designations. Emphasizing or expanding different aspects of the maps (e.g., varying the location and extent of mixed-use centers, redevelopment areas, or rural conservation areas) was one way to distinguish the different scenarios geographically without becoming overly location specific too soon in the process. The data compiled for this document, the Community Character and Areas of Special Attention maps developed as part of the assessment and the extensive list of Local Issues and Opportunities all suggested a variety of topics and concerns that could be combined in different ways to suggest plausible but contrasting future outcomes.

A second source of scenario content was an analysis of potential regional trends that could have a strong bearing on Gwinnett County's own possibilities. Current trends assume an overall expansion of the Atlanta region along the general lines of recent years. The likely result for Gwinnett would be an increase of about 122,000 households and 167,000 jobs. But what if the region's growth slows or major employers fail to show up? Or what if growth accelerates, as it has done several times before, resulting in the regional economy bringing new opportunities to Gwinnett? Either a sharp slowdown or a sharp acceleration of growth would mean that policies and actions suitable for supporting the trend assumptions would have to change accordingly. Similarly, trends in income and immigration patterns could accelerate or stabilize. The scenarios needed to take such possibilities into account and suggest ways to cope with such positive or negative changes of fortune.

The concerns and goals of the various stakeholder groups were important sources of contrasting, sometimes polarized, priorities that the scenarios needed to stand out from each other.[3] Discussions with various stakeholder representatives revealed potential conflicts such as keeping taxes low versus the need for more funding of improvements such as roads, rising public safety costs or increased demand for social services. Another contrasting pair of commonly expressed ideas was uneasiness about the increasing social and economic division between the southwest and northeast areas of the County versus the desire to facilitate and speed up minority assimilations.

These concerns and goals were gathered in large part through interviews and extended discussions with a variety of parties that included:

1. Local officials, including the Board of Commissioners
2. Government agency department heads and staff
3. Non-profit groups including those focused on environmental, social service, job training and housing issues
4. Private sector groups such as the Chamber of Commerce
5. Representatives from each of the nine participating municipalities which included Norcross, Lilburn, Berkeley Lake, Duluth, Suwanee, Buford, Dacula, Lawrenceville and Grayson.

3 The overall public outreach process associated with this Plan is summarized in Appendix A

Four groups in particular were very fruitful sources of scenario ideas and subsequent plan policies:

1. The Planning Advisory Committee (PAC) a group of 25 representatives of various local interests, a number of whom were appointed by the Board of Commissioners. Much work with the PAC in early- to mid-2007 focused on defining and refining the scenarios and reviewing the results of the scenario evaluation process.
2. The Technical Advisory Committee (TAC), a group of representatives from various Gwinnett agencies, several of the Cities within Gwinnett, and key planning staff that met on a regular basis throughout the planning process.
3. The results of the Chamber of Commerce sponsored Partnership Gwinnett initiative which raised many of the same concerns as other stakeholders but also offered its own program of recommended actions regarding education, redevelopment and the need for more cultural attractions as part of a more effective economic development strategy.
4. Focus groups representing a variety of Gwinnett's growing minority communities provided insight into the opinions and priorities of segments of the community whose voices are only infrequently heard in Countywide public discussions.

In addition to such stakeholder and committee sources, the scenarios also built upon the findings of Robert Charles Lesser and Company (RCLCo) regarding current and potential economic development opportunities and studies of current and future housing needs by Dan Immergluck of the Georgia Institute of Technology and by Bay Area Economics (BAE).[4] Another source of scenario ideas was an October 2006 all-day County/Consultant forum on current growth trends, transportation, housing and infrastructure issues, and the fiscal resources available to the County. The rapid development of scenarios was made possible by the extensive Geographic Information Systems (GIS) database maintained by the County and updated for this Plan.

B.3 Scenario Building and Refinement

B.3.1 Initial Concepts and Detailing

Using and adapting ideas from all these varied sources led to an initial pool of four future alternatives:

- A **Middle of the Pack** scenario that was essentially a playing out of current trends under much the same approach to policies and funding as today.

- A **Regional Slowdown** scenario that played out the consequences of a slowdown of the regional Atlanta economy and the stresses it would likely bring to Gwinnett.

- An **International Gateway** scenario that represented Gwinnett benefiting from an acceleration of regional growth and a shift of the local economy to a more tech based and service based foundation.

- A **Radical Restructuring** scenario that had the same general level of growth as the Middle of the Pack trends alternative but explored the possibilities of Gwinnett's cities – existing as well as several new incorporations – expanding and becoming the dominant centers of growth and economic development.

To put numbers to these scenarios, the scenario building process assigned various estimates of future growth that ranged from approximately 20 percent above to 20 percent below current trends based on the fundamental assumptions of a particular scenario. Nevertheless, this work is not merely a "high, medium or low" variation of current trends regarding jobs and population. These projections also assumed different land use patterns and different mixes of income levels, types of jobs and types of households and infrastructure that were specific to the different assumptions about each of the scenarios. Table 27 on the following page provides a detailed overview of how each of these initial scenarios affected or responded to a variety of "driving forces" and some of the anticipated results.

4 Summaries of these studies are appended to this plan.

Table 27: Summary of Driving Forces' Impacts on Initial Scenarios

	International Gateway	Middle of the Pack	Regional Slowdown
Regional/U.S. economic situation	• Atlanta is the high-tech hub for the Southeast • U.S. economy is strong	• Atlanta region continues to prosper	• Atlanta region has become less attractive than competing urban centers • Existing businesses stop growing and new businesses are locating elsewhere
Gwinnett's population in 2030	• 1.2 million people (434,000 households) • Represents a 76% increase over today • Represents a 20% increase over trend	• 1.04 million people (362,000 households) • Represents a 47% increase over today • Represents no increase over trend	• 901,000 people (320,000 households) • Represents a 30% increase over today • Represents a 12% decrease below trend
Number of jobs in Gwinnett in 2030	• 650,000 jobs • Represents a 106% increase over today • Represents a 35% increase over trend	• 483,000 jobs • Represents a 53% increase over today • Represents no increase over trend	• 400,000 jobs • Represents a 27% increase over today • Represents a 17% decrease below trend
Jobs/Housing balance	• 1.5 jobs per household • Limited workforce housing • In-commuting from north and west	• 1.32 jobs per household • Better jobs/household balance than 2005 (1.29) but regional job growth increases out-commuting	• 1.25 jobs per household • As more and more affluent residents move out, housing prices stagnate. • Gwinnett increasingly the "affordable" choice of workers priced out of Atlanta and other suburbs
Employer and workforce composition	• High-tech, information workers • Young professionals and the "creative class" • International and multicultural	• Many of the traditional light industrial and warehouse and distribution employers have left Gwinnett in search of cheaper land and less congestion • Construction industry businesses have moved on as well • Not able to attract critical mass of high-tech workers or entrepreneurs	• Accelerating out migration of the professional middle classes (all races and ethnicities) • Average incomes become lower and lower
Countywide Vision/Policy	• Use public sector resources to make Gwinnett a "preferred place" to attract new businesses and residents (includes improved schools, cultural amenities, greenways, public wi-fi network, etc.)	• Ongoing reluctance to borrow money and a persistent aversion by the active citizenry to most forms of tax increases. • County cuts discretionary spending for parks, recreation, open space acquisition, environmental restoration, and cultural events.	• Increased economic stresses eats away at the cooperation formed in happier times between elected officials wedded to "little government" attitudes and the business community that increasingly supports a more interventionist approach.
Quality of public K-12 education	• Actively worked to improve • High tech skills best in State	• Schools built in the 1980s and 1990s are in need of extensive upgrades • Schools are no longer the magnet to residents and business that they once were	• Declining test scores • Unequal performance among different schools undermines general confidence in overall school system
Impact of Gwinnett College	• College's MBA and public policy program attracts graduate students from surrounding countries	• Moderate success, but does not attract spin-off businesses or large number of students	• Stagnant; has failed to develop as hub of high powered spin-offs.

	International Gateway	Middle of the Pack	Regional Slowdown
Congestion mitigation measures	• Regional congestion pricing • Dedicated truck lanes /facilities • Increased number travel options (e.g.., transit) • 15 percent telecommuting rate	• Congestion pricing • Intersection redesign • Counter flow lanes	• Metered ramps on I-85 but little else.
New roads	• Improved Chattahoochee crossings • Sugarloaf Parkway extension constructed	• Sugarloaf Parkway extension constructed but only reaches GA316 east of Lawrenceville by 2015, to PIB by 2030. • Second extension a toll facility because of limited funds.	• New Roads: Few or None • Upgrading and maintenance of existing network constantly lags need • Transit only buses in mixed traffic
New transit options	• Transit extended to Dacula along proposed "Brain Train" right of way • New rail transit service along NS rail line connecting Norcross, Duluth, Suwanee, Sugar Hill, Buford to downtown Atlanta	• Transit extends into Norcross and up I-85 corridor to Duluth	• Norcross underwrites bus rapid transit (BRT) to Doraville MARTA station
Impact of ethnic diversity	• Capitalize on the diversity for access to world and international markets • Asia and Latin America provide new sources of capital and entrepreneurship	• Truly diverse community, no majority group • Differences between more affluent northeast Gwinnett and poorer southwest and southeast Gwinnett become more pronounced	• Some ethnic coalitions succeed locally, but no bigger alliances with ability to affect County-wide policies
Redevelopment opportunities	• Well-targeted redevelopment incentives • County steps up CID planning	• More resources for revitalization • Much higher density development and redevelopment fueled by Asian entrepreneurs	• Redevelopment efforts are not successful
Crime and social problems	• Crime "hotspots" diminished and overall crime rates in line with the region's other jurisdictions • Improved social services for "at risk" segments of population	• County policies increasing proactive housing and social services	• Higher proportion of less affluent households raises demand for social services • Private sector funding for nonprofits dries up • County must step in to cover costs
Sewer expansion policies	• Upgrade existing sewer to support I-85 area intensifications • Limited extensions into northeast and southeast Gwinnett • Reduce reliance on inter-basin transfers and pump stations	• Sewer covers the entire county	• Maintenance of complex system and construction of new treatment plant is very, very expensive

Initial rounds of review and discussions with such groups as the TAC and the PAC led to dropping the Radical Restructuring alternative, in large part because of its many complications and the degree to which many of its assumptions – e.g., that a number of cities would pursue very expansionist annexation policies and several new cities would incorporate – seemed less plausible than those of the other scenarios. The other three scenarios received further detailing and refinement, including highly generalized depictions of their geographic implications. (See Figures 41 through 43).

Beyond the descriptions, overall numbers and concepts associated with the scenarios, generalized depictions of their spatial patterns were developed. Figures 41 through 43 capture the land use concepts for the three surviving scenarios.

Figure 41: Regional Slowdown Scenario

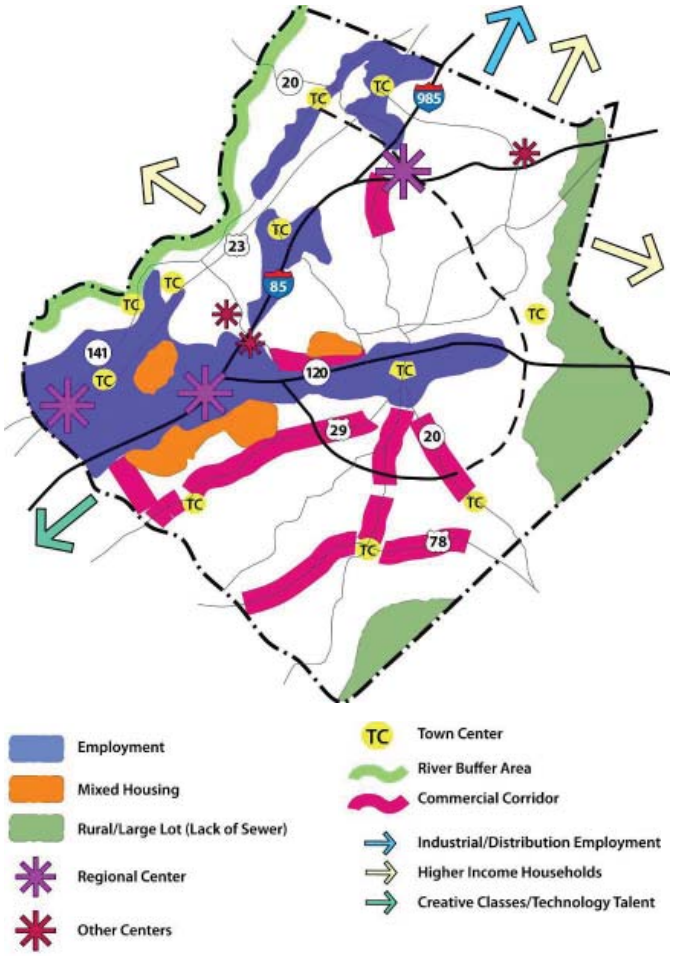


Figure 42: Middle of the Pack Scenario

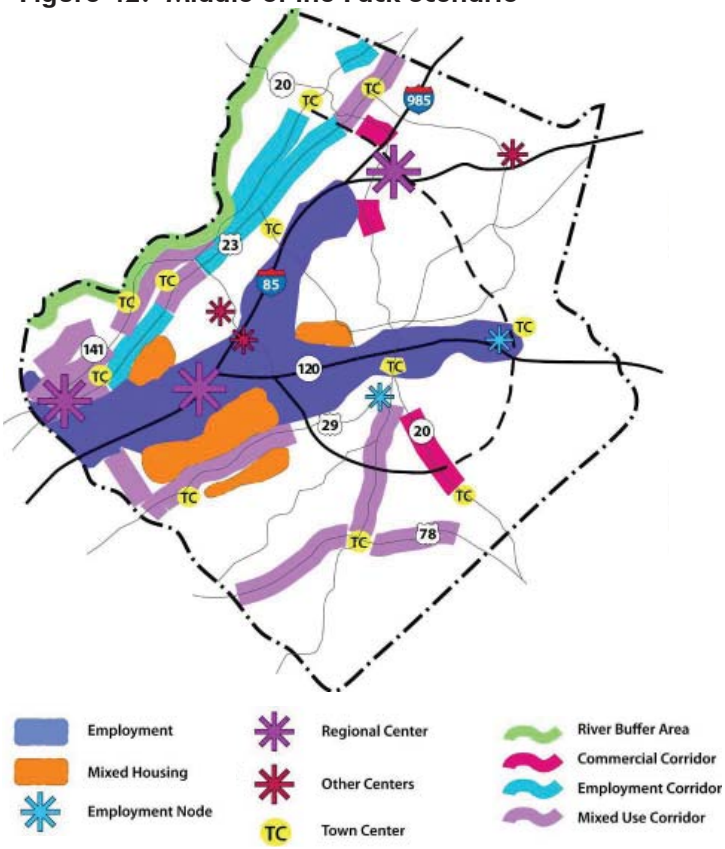
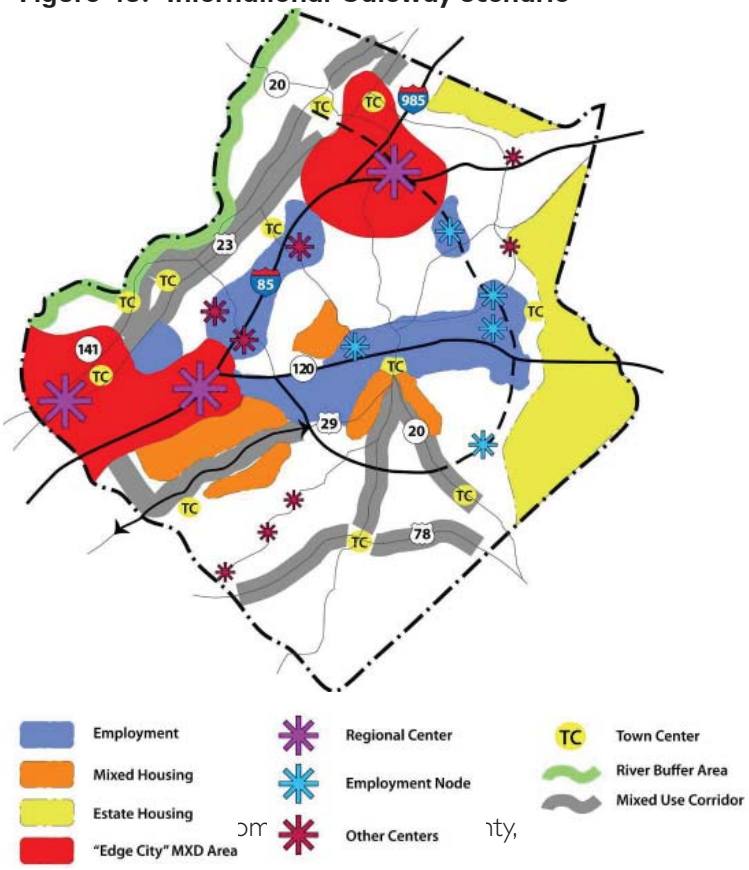


Figure 43: International Gateway Scenario

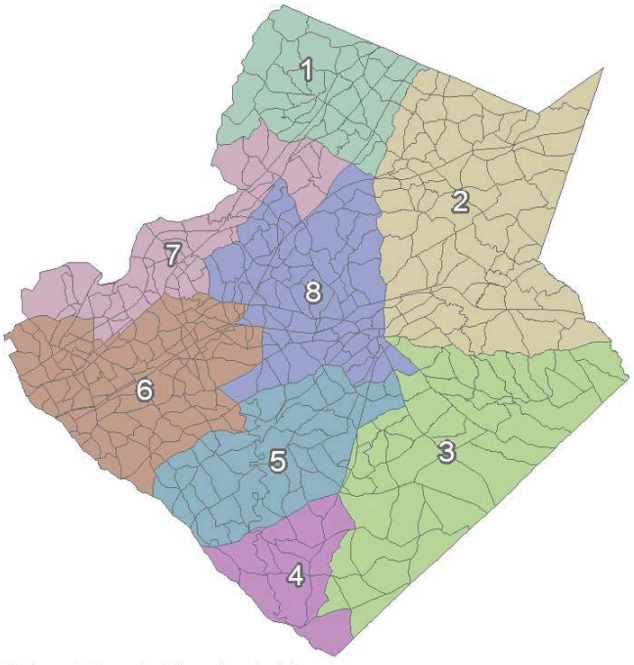


the general concepts represented by the above sketches to a more specific and concrete allocation of land uses was a significant effort that required a modeling or simulation process. Because the distribution of future land uses is at the heart of the Unified Plan, it is very important to clearly understand the method used to develop these allocations. The next section describes the approach and methodology used to allocate land uses so the scenarios could be tested for their impacts and become the basis for determining needed policies and actions to counter such impacts or better promote the goals of the particular scenario. Appendix C presents more detail on the methodology.

B.3.2 Converting Scenario Concepts into Land Use Allocations

The land use allocations were a two step process, mixing modeling with expert judgment, starting at a coarser geography of 8 Sub-County Areas or SCAs and proceeding to a finer grain of Traffic Analysis Zones or TAZs that are used to model transportation demand (see Figure 44). This in turn is based on a parcel level database in the county's GIS. These processes are each described in turn below.

Figure 44: Statistical Analysis Sub-County Areas Showing TAZs within Them



Sub-County Areas

To better portray such local variations in the allocations for each scenario, Gwinnett County was subdivided into eight sub-county areas (SCAs) to which future jobs and households were allocated.

The plan alternatives were developed and quantified in an extended process spanning more than a year. The first step, described earlier, consisted of developing a "market-driven" forecast that described probable conditions through 2030 in the absence of any major policy changes. This scenario was quantified in terms of economic and demographic variables for Gwinnett County and the eight SCAs using a county and sub county level allocation model described in the Appendix. The model results were then subjected to a multistage review process in which the consultant team and county staff assessed the physical feasibility and probable market acceptance of the new development forecasted for each SCA. This coarse level of allocation sufficed for initial reviews. The resulting consensus forecast was dubbed the "Middle of the Pack" scenario and held unchanged thereafter.

The various scenarios described in the previous section were initially quantified by drawing upon the Middle of the Pack forecast and a description of build-out conditions under present zoning rather than by reusing the allocation model. Starting with pre-specified population and employment totals, the high-growth International Gateway scenario was fleshed out in several versions involving different assumptions about residential settlement patterns, dwelling types, income distributions and employment levels. Regional Slowdown became a scaled-down version of the Middle of the Pack alternative with more adverse income trends.

Transportation Analysis Zones (TAZs)

The conversion of the SCA level forecasts, treated as control totals, down to the finer geography of TAZs was accomplished through an allocation model. This model converted projected growth in population, households and jobs to needed acreages for various use categories and was then used a set of allocation rules to distribute such acreages to appropriate locations throughout the county.

To convert employment and household projections to acreages, densities of future growth were established with

the guidance of RCLCo, the Plan's market analysts. Tables 28 and 29 give these densities (or intensities expressed as Floor Area Ratios or FARs) for non-residential and residential land uses. (More detail on these conversions and on other related assumptions can be found in Appendix D).

Table 28: Non-Residential Intensities (expressed as Floor Area Ratios)

Land Use Type	Major Activity Center (MAC)	County
CR (Commercial Retail)	0.5	0.25
OP (Office Professional)	0.5	0.25
IP (Institutional Public)	0.5	0.25
Light Industry	0.25	0.25
Heavy Industry	0.13	0.13
MUR (Mixed Use in MAC only)	1	N/A
MU (Mixed Use)	0.5	0.5

To distribute these projected land use acreages to various locations, a broad set of 12 influencing factors was applied to rate the relative attractiveness of land for development (see Table 30 for the 12 land use categories used). These 12 factors are common sense in nature, but the weight given them in influencing land use allocation was an initial judgment that was refined numerous times by the team and County for their outcomes and plausibility. Table 31 reflects the final weightings used.

Additional features of the allocation process warrant mention. These addressed exclusions, conversion difficulty and overlays.

Table 30: Land Uses Allocated

Commercial
CR (Commercial retail)
OP (Office Professional)
IP (Institutional Public)
LI (Light Industry)
HI (Heavy Industry)
Residential
EST (Estate)
SF (Single Family)
TH (Townhouse)
HDR (high density residential)
UHDR (Ultra high density)
Combined
MU (Mixed Use)
MUR (Mixed Use only in Major Activity Center)*

** "Major Activity Centers" are retail/service centers expected to exceed 1 million suare feet of floor space by 2020.*

Exclusions: Some parcels are entirely inappropriate for certain types of development, whether due to their physical character (such as a farm on a parcel which is nothing but bedrock) or policy nature (historic sites are not available for office development). As a result, a large modifier is added to these parcels to ensure that they are not developed for a given use. Appendix C provides these details.

Conversion Difficulty: Conversion difficulty captures the difficulty (as opposed to the categorical exclusion) of converting from one land use to another. For example, it may be very easy to change land use from a low intensity residential estate land use to another use but more difficult

Table 29: Residential Density (Households per Acre)

	Middle of the Pack		International Gateway				
Land Use Type	Major Activity Center	County	MXD	Rural	SCA 6, 7, 8	Major Activity Center	County
SF (Single Family)	3	3	6	0.5	4	3	3
TH (Townhouse)	10	10	10	10	14	10	10
HDR (High Density Residential)	18	18	18	18	22	18	18
UHDR (Ultra High Density Residential)	25	25	25	25	32	25	25
MU Res (Mixed Use Residential Part)	10	10	10	10	10	10	10
MUR Res (Mixed Use Res. Part in MAC only)	30	N/A	N/A	N/A	N/A	30	N/A

to change very dense multifamily development to single-family types.

Overlays: Certain land uses may be allocated as a policy "given" rather than be subject to the more free-for-all aspects of a market-simulating allocation model. For example a deliberate policy choice to designate an area Ultra High Density residential or as an Estate area would override the allocation mechanism of the model.

The sequence in which land uses are allocated is crucial since the first categories allocated have a much larger set of options than the last uses allocated. The logic of the allocation priority used in the modeling was that the Overlays should go first, followed by the "highest and best" uses that would outbid lesser uses to gain their preferred locations. Table 32 shows the sequence used in the model.

Multiple iterations of each scenario and many tweaks to the model were needed before the team was satisfied that the land use patterns and outcomes were persuasive enough for testing. The land use outcomes are reported at the TAZ level (Appendix C). Planning Sector boundaries incorporate numerous TAZs so that the summation by District is simple.

The actual allocation in the model is done at the parcel level but this is an illustrative and hypothetical allocation.

Table 32: Land Use Allocation Sequence

1	Ultra High Density Residential (UHDR)
2	Estate Residential (EST)
3	Institutional (IP)
4	Office Professional (OP)
5	Mixed Use (MU)
6	Commercial Retail (CR)
7	High Density Residential (HDR)
8	Townhouse (TH)
9	Single Family Residential (SF)
10	Light Industrial (LI)
11	Heavy Industrial (HI)

While the model knows if land is vacant, it is entirely unaware of whether a particular parcel is actually available for development or constrained. This is not a problem when the results are summed into the TAZ level since each TAZ has many parcels and the errors of detailed allocation that inevitably accompany such modeling "come out in the wash." Consequently, no reporting occurs at the parcel level.

Figures 45 and 46 use a dot matrix technique to highlight the overall differences in distribution of jobs and households and their varying intensities between the Middle of the Pack and the International Gateway scenarios.

Table 31: Land Use Category Weightings

	CR	OP	IP[1]	LI	HI	MUR[2]	MU[2]	EST[3]	SF	TH	HDR	UHDR[2]
Cluster of Similar use		1		2	2				3	4	4	
Proximity to Hwy Interchange		4		4	4						4	
Proximity to Principal Arterials						2	2			3		
Proximity to Roads									5			
Proximity to City Center		3										
Proximity to Commercial Center		4				2					3	
Proximity to Park									2	1	2	
Proximity to School												
Parcel Size				1	1							
Proximity to Employment Center										2	2	
Proximity to Executive Housing		5							3			
Traffic Count	5											

1 Allocated along with OP
2 Had overlay layers
3 No New Estate was expected in the model, except that all remaining agriculture land use was changed into estate in the International Gateway scenario

Figure 45: Households & Employment in 2030 - Middle of the Pack

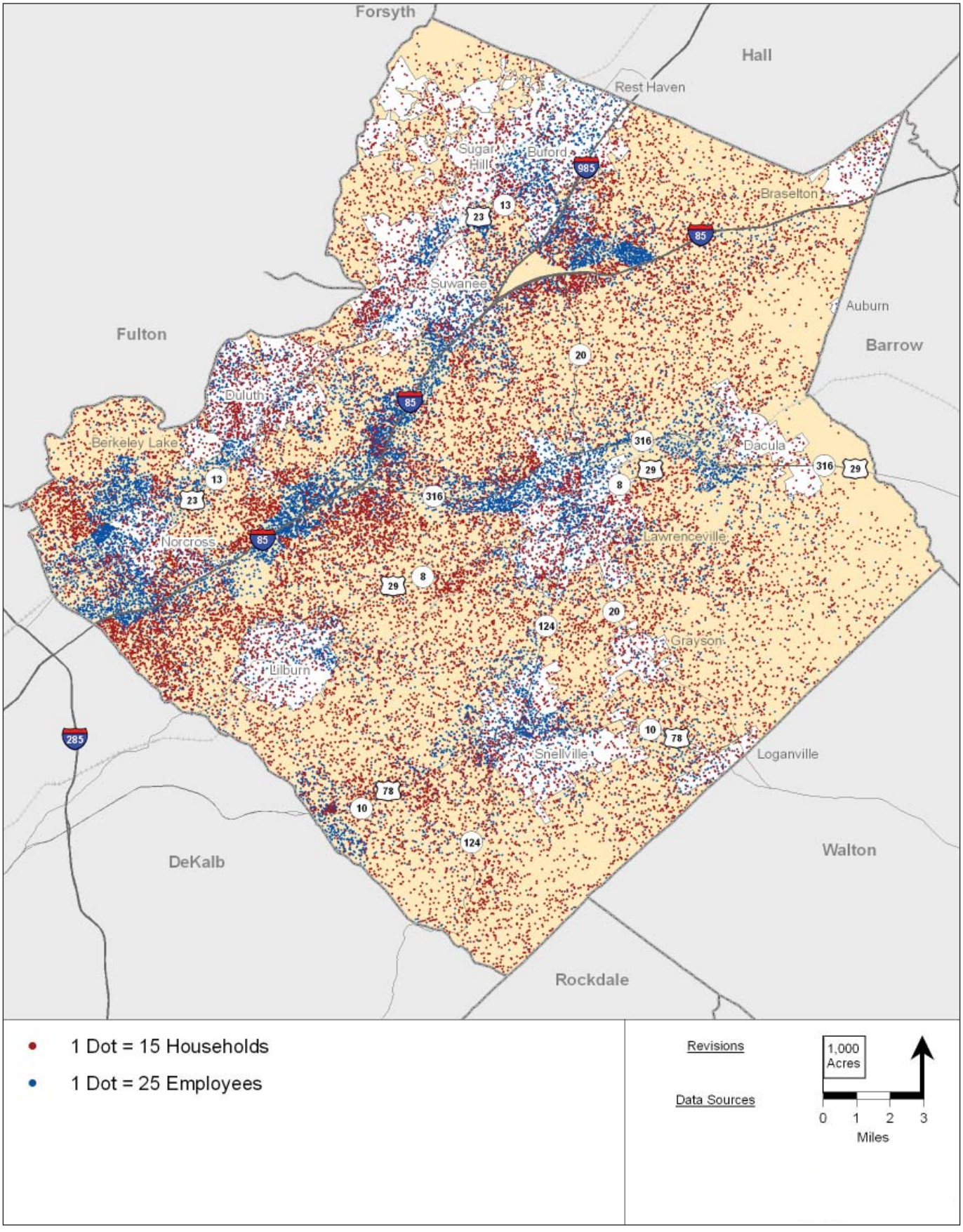
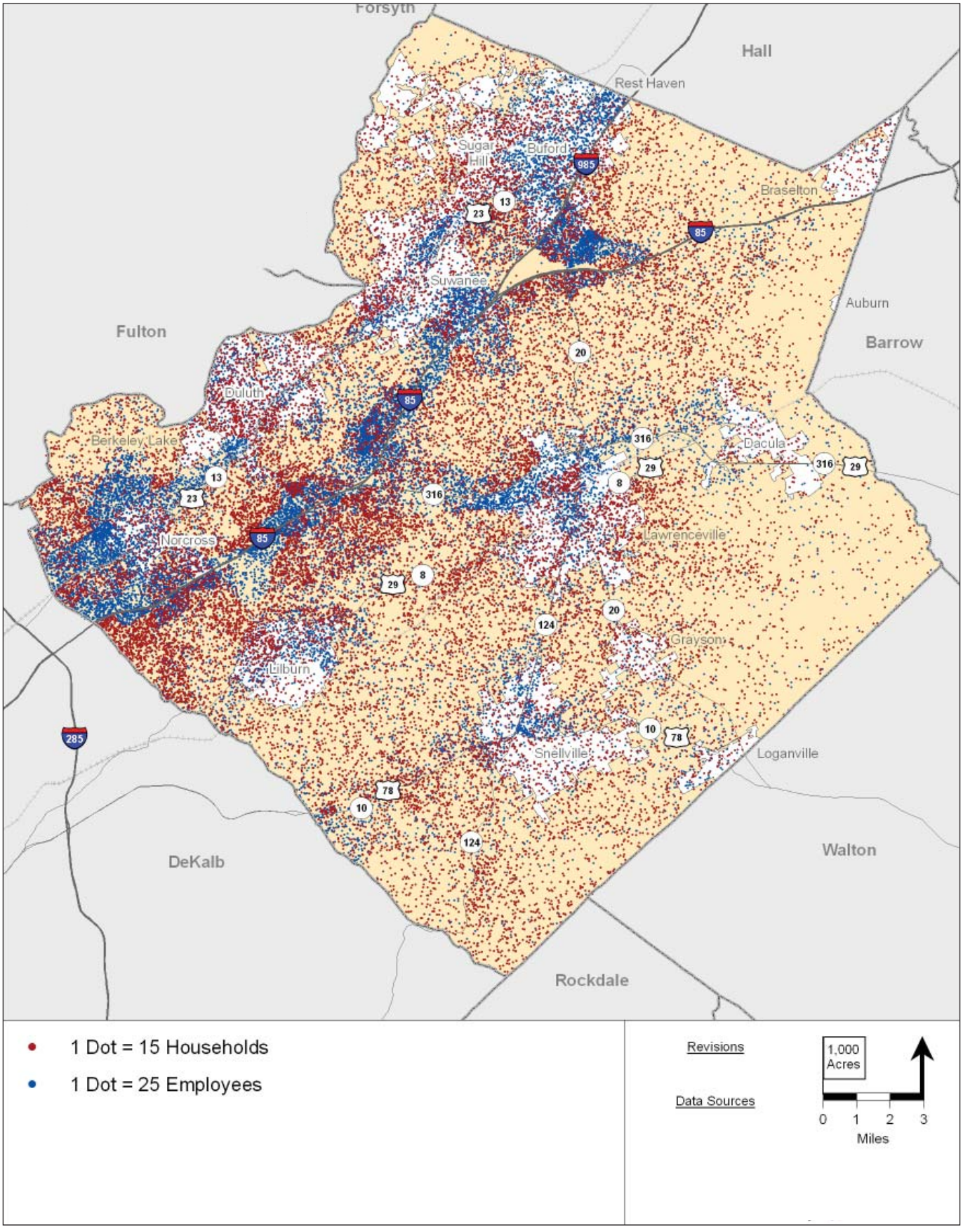


Figure 46: Households & Employment in 2030 - International Gateway



B.3.3 Final Refinements

Following initial impact modeling and fiscal evaluations, several significant adjustments occurred. The most important was a decision to drop further consideration of the Regional Slowdown scenario. This was done because the consensus was that in response to a major slowing of regional growth Gwinnett would not remain passive, but would actively try to reposition itself. Furthermore, the Middle of the Pack scenario already showed aspects of a loss of momentum and challenges, such as expansion of areas needing redevelopment, impacts on the tax revenue base, loss of higher income families and difficulties in attracting new economic sectors to replace declining ones.

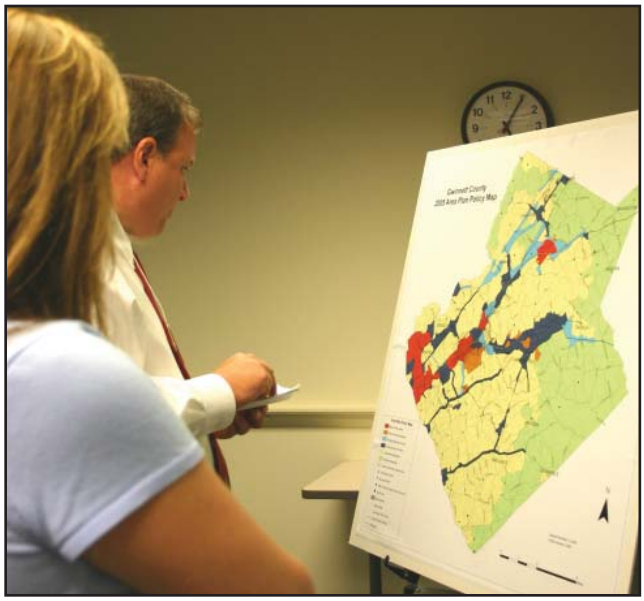
Another important decision was to reconceptualize key aspects of the International Gateway scenario. First, to make the scenario more plausible, the overall levels of growth were reduced approximately 5%. More important was a shift in the overall geography of the original version. The original version had future employment more dispersed and much residential growth as suburban low and medium density in the northeast and southeast areas of the County. In contrast, the revised International Gateway (henceforth simply called the International Gateway scenario) variation concentrated more employment and residential growth in the area between the I-85 corridor and the Chattahoochee River boundary of the County.

This shift in the land use patterns was partly in response to on-going efforts to create a new county to Gwinnett's west. Under this proposal much of north Fulton County would detach itself from the remainder of Fulton and become an independent Milton County. Even if not formed, due to its concentration of wealth and power along Georgia Highway 400, this area is poised to become the leading economic development center of the region. By improving roadway connections to Georgia 400 and concentrating jobs near Gwinnett's western boundary, Gwinnett will better position itself to shift its own employment profile to a more service and technology oriented base. Another highlight of this scenario is making the GA 316 corridor near Lawrenceville a biomedical and technology employment corridor. But the main economic development needs of Gwinnett would be obtaining a greater share of the region's office employment market by aligning itself more closely to the economic centers along the Georgia 400 corridor, even if Milton County never materializes. Increased mixed-use development and provisions for large areas of "preferred office development" are the key policies to make this aspect of the scenario work.

Another important reason for the International Gateway shift of land uses and intensities to the area between the I-85 corridor and the Chattahoochee was the physical and cost efficiencies of upgrading public utilities, especially the sewer system, to serve significant redevelopment within this area as opposed to expanding and upgrading sewer mains and related infrastructure throughout the County. The Department of Water Resources (DWR) has determined that the sewage treatment network in the area between the I-85 corridor and the Chattahoochee will need major upgrades under any future scenario. DWR determined that the scale of such upgrades can be increased to meet the needs of the International Gateway scenario at less cost than having to do some lesser level of upgrade and install extensive new infrastructure throughout the eastern portion of Gwinnett that is not served by public sewer.

This revised pattern of future economic development will require redevelopment of many single-use commercial or light industrial areas into higher density mixed-use centers. Furthermore, average densities for different residential categories were raised and the mix of housing types was tilted a bit more toward attached and multifamily units in the I-85 and SR 316 corridors, as well as along key arterials, especially west of I-85. Concurrent with such increased densities is the need to better disperse townhouse and multi-family developments in the County rather than concentrate them in only a relatively few areas as under past land use and zoning practices. This scenario also envisioned redeveloping such aging concentrations of multifamily housing and replacing them with a more diverse mix of housing types.

Such shifts would allow Gwinnett to maintain a relatively low development density in the northeast and eastern area of Gwinnett, in large part through limiting sewer system extensions. This aspect of the International Gateway scenario stemmed in part from the desire of some stakeholders to retain aspects of Gwinnett's "rural" landscape and better provide for the anticipated market for large lot "executive housing" that the International Gateway economic development goals will generate. However, as borne out by the fiscal modeling, the main benefit to the County is to significantly reduce future



costs of servicing wall-to-wall, more costly suburban development by concentrating more future growth in other parts of the County where infrastructure improvements will be required to support higher intensity commercial and employment growth. Without this shift in development intensity from east to west, the growth and economic prosperity envisioned for the International Gateway scenario will never be achieved.

A third source of International Gateway revisions were the results of preliminary traffic model runs on all three of the scenarios that emerged from the scenario development work of late winter and early spring 2007. By spreading higher levels of future growth throughout the County, the original International Gateway land use allocations resulted in also spreading high levels of future traffic congestion and traffic delays throughout the County. Furthermore, such dispersal also diminished the ability of any reasonably designed transit system to help alleviate such problems. Concentrating more future growth in the area between the I-85 corridor and the Chattahoochee was felt to limit the spread of congestion across the County and to enable needed road network improvements to be focused on a fewer number of key arterials. More effectively concentrating jobs and households in fewer corridors would make it easier for transit to more effectively serve potential transit ridership.
(The Economic Development and Fiscal Responsibility theme map in Section D.2 shows the primary geographic results of the changes made for the International Gateway scenario.)

B.4 Scenario Forecasts

The Countywide forecast described in Part 2, Section A provided overall totals for jobs, population and incomes. Nevertheless, these figures also hide how different parts of Gwinnett have often highly contrasting economic and demographic characteristics and how these contrasts were even more accentuated by the premises of the two main scenarios.

Tables 33a through 34e summarize sub-area data for both the Middle of the Pack and International Gateway scenarios based on the sub-areas used for the land use allocations described on pages 78-79.[5] A map of the SCAs can be found on page 77. The highlighted rows of Tables 34a, b and e show the differences of the Gateway scenario from those of the Middle of the Pack. The overall totals in the tables reflect minor adjustments made in the course of the scenario work in Part 2, Section A.

Comparing these two sets of data further emphasizes the differences between the two scenarios and shows how they are not simply a variation on the "low, medium, or high" approach to the same basic outcome. The International Gateway scenario has much higher employment in SCAs 1 and 6, more moderate increases in SCAs 7 and 8, and substantially lower employment elsewhere. The shift of future development from east to west that helps differentiate the International Gateway scenario from Middle of the Pack scenario is seen in how SCAs 2 and 3 have lower households and population in the International Gateway alternative than the Middle of the Pack scenario. The differences in the two scenarios are not just in number of jobs or households or where they are located. The International Gateway scenario contains a significantly higher overall income profile (measured as the sum of differences for the two upper income groups). The income gaps between the two scenarios are especially large for SCAs 4, 5, 7 and 8. Only SCA 1 – which would have much more employment and housing of higher-density types in the International Gateway scenario – has a lower income profile in the International Gateway than the Middle of the Pack scenario.

5 Income is now described using a four-way classification to fit the classifications that the transportation model used to generate future travel demand requires

Table 33a: Characteristics of Middle of the Pack Scenario - 2030 Employment

	SCA 1	SCA 2	SCA 3	SCA 4	SCA 5	SCA 6	SCA 7	SCA 8	Total
Construction	2,942	6,146	5,485	1,421	3,126	4,498	3,649	5,637	32,905
Manufacturing	1,796	4,846	1,198	610	1,219	8,664	3,418	6,959	28,710
TCU	1,132	2,443	621	409	865	6,482	3,368	4,543	19,863
Wholesale Trade	3,702	6,022	1,167	1,019	1,712	15,596	5,794	12,514	47,525
Retail trade	6,258	13,433	7,705	3,003	7,348	27,135	8,181	14,977	88,039
FIRE	2,850	5,229	3,451	956	2,039	9,799	4,774	8,590	37,687
Services	11,719	19,473	12,415	6,006	15,351	53,097	22,828	40,068	180,958
Government	4,097	7,531	6,262	1,920	4,795	10,250	5,091	12,086	52,031
Total	**34,496**	**65,124**	**38,304**	**15,343**	**36,455**	**135,520**	**57,104**	**105,374**	**487,719**

Table 33b: Characteristics of Middle of the Pack Scenario - 2030 Households by Relative Income

	SCA 1	SCA 2	SCA 3	SCA 4	SCA 5	SCA 6	SCA 7	SCA 8	Total
Bottom 14.3%	2,863	3,996	3,841	2,392	4,171	14,225	4,086	7,498	43,073
Next 31.94%	7,836	15,645	16,967	7,793	12,498	33,880	10,592	18,735	123,947
Next 35.22%	10,927	29,054	25,310	7,165	15,155	22,025	13,253	18,388	141,277
Top 18.54%	4,165	12,110	8,312	2,477	7,904	7,218	9,755	8,931	60,871
Total	**25,791**	**60,804**	**54,430**	**19,828**	**39,728**	**77,348**	**37,688**	**53,552**	**369,168**

Table 33c: Characteristics of Middle of the Pack Scenario - 2030 Households by Units in Structure

	SCA 1	SCA 2	SCA 3	SCA 4	SCA 5	SCA 6	SCA 7	SCA 8	Total
SF Detached	19,422	51,014	46,921	14,209	31,082	29,575	24,761	34,650	251,633
SFA & duplex	2,233	4,360	3,936	1,780	3,654	7,426	3,049	6,103	32,540
3 to 9	1,712	2,668	1,843	2,058	2,847	15,370	4,061	5,096	35,655
10 or more	2,284	2,702	1,662	1,695	2,119	24,876	5,794	7,640	48,773
Mobile home	141	61	69	86	25	101	21	62	567
Total	**25,791**	**60,804**	**54,430**	**19,828**	**39,728**	**77,348**	**37,688**	**53,552**	**369,168**

Table 33d: Characteristics of Middle of the Pack Scenario - 2030 Households by Persons in Household

	SCA 1	SCA 2	SCA 3	SCA 4	SCA 5	SCA 6	SCA 7	SCA 8	Total
1 person	5,735	11,742	9,825	3,858	6,914	20,830	8,492	11,042	78,438
2 persons	7,890	17,864	16,443	5,549	11,300	21,450	11,245	14,324	106,066
3 persons	5,036	12,648	11,471	4,193	8,678	13,929	7,490	11,222	74,666
4 persons	4,409	11,945	10,424	3,807	8,078	10,040	6,884	10,435	66,023
5 persons	1,701	4,336	4,317	1,592	3,217	5,650	2,451	4,218	27,482
6 persons	589	1,576	1,323	535	1,052	2,867	766	1,507	10,215
7+ persons	430	692	626	294	489	2,581	361	804	6,277
Total	**25,791**	**60,804**	**54,430**	**19,828**	**39,728**	**77,348**	**37,688**	**53,552**	**369,168**

Table 33e: Characteristics of Middle of the Pack Scenario - 2030 Population by Household Status

	SCA 1	SCA 2	SCA 3	SCA 4	SCA 5	SCA 6	SCA 7	SCA 8	Total
In households	69,752	169,756	153,290	56,278	114,069	212,447	100,691	151,597	1,027,880
In group quarters	231	7,363	325	223	241	3,533	210	1,374	13,500
Total population	**69,983**	**177,120**	**153,615**	**56,501**	**114,310**	**215,980**	**100,901**	**152,972**	**1,041,380**

Table 34a: Characteristics of International Gateway Scenario - 2030 Employment

	SCA 1	SCA 2	SCA 3	SCA 4	SCA 5	SCA 6	SCA 7	SCA 8	Total
Construction	5,849	6,520	4,161	1,435	2,871	8,864	5,182	7,464	42,344
Manufacturing	2,304	3,827	669	451	778	10,209	3,530	7,407	29,175
TCU	2,058	2,079	355	264	508	10,048	4,309	5,448	25,069
Wholesale Trade	6,573	4,282	672	726	964	20,410	7,429	15,007	56,063
Retail trade	9,066	12,322	4,584	2,597	6,231	36,760	8,722	15,648	95,929
FIRE	5,237	4,556	2,151	836	1,697	18,440	6,250	10,195	49,363
Services	24,411	17,964	7,581	4,324	10,471	90,270	33,184	51,985	240,190
Government	6,971	6,319	3,889	1,397	3,548	15,633	5,896	13,165	56,818
Total	**62,471**	**57,867**	**24,061**	**12,030**	**27,068**	**210,632**	**74,501**	**126,319**	**594,950**
% Above MOP	81%	-11%	-37%	-22%	-26%	55%	30%	20%	22%

Table 34b: Characteristics of International Gateway Scenario - 2030 Households by Relative Income

	SCA 1	SCA 2	SCA 3	SCA 4	SCA 5	SCA 6	SCA 7	SCA 8	Total
Bottom 14.3%	4,566	2,758	2,596	1,647	2,563	14,782	3,111	6,172	38,196
Next 31.94%	11,474	12,495	13,061	6,539	9,547	44,932	9,541	17,597	125,186
Next 35.22%	15,292	25,869	21,466	8,830	18,418	37,997	17,691	25,397	170,961
Top 18.54%	5,602	12,227	8,020	3,502	10,509	8,987	14,798	12,391	76,036
Total	**36,934**	**53,349**	**45,142**	**20,519**	**41,038**	**106,698**	**45,142**	**61,557**	**410,378**
% Above MOP	43%	-12%	-17%	3%	3%	38%	20%	15%	11%

Table 34c: Characteristics of International Gateway Scenario - 2030 Households by Units in Structure

	SCA 1	SCA 2	SCA 3	SCA 4	SCA 5	SCA 6	SCA 7	SCA 8	Total
SF Detached	22,305	42,668	38,910	14,054	31,041	37,884	26,577	37,550	250,988
SFA & duplex	5,361	4,599	3,151	2,035	4,126	11,713	5,161	6,985	43,130
3 to 9	3,652	2,969	1,535	2,323	3,242	21,028	5,543	7,123	47,415
10 or more	5,369	3,051	1,465	1,969	2,575	35,888	7,818	9,767	67,903
Mobile home	247	63	81	139	53	184	43	132	942
Total	**36,934**	**53,349**	**45,142**	**20,519**	**41,038**	**106,698**	**45,142**	**61,557**	**410,378**

Table 34d: Characteristics of International Gateway Scenario - 2030 Households by Persons in Household

	SCA 1	SCA 2	SCA 3	SCA 4	SCA 5	SCA 6	SCA 7	SCA 8	Total
1 person	8,226	10,391	8,210	4,005	7,268	29,163	10,449	12,895	90,608
2 persons	11,295	15,648	13,619	5,739	11,643	29,472	13,376	16,421	117,212
3 persons	7,211	11,095	9,510	4,338	8,959	19,123	8,957	12,891	82,083
4 persons	6,309	10,443	8,622	3,934	8,290	13,762	8,135	11,906	71,402
5 persons	2,435	3,791	3,569	1,645	3,299	7,730	2,894	4,809	30,171
6 persons	844	1,379	1,095	553	1,080	3,941	907	1,722	11,521
7+ persons	616	604	517	304	500	3,507	423	912	7,382
Total	**36,934**	**53,349**	**45,142**	**20,519**	**41,038**	**106,698**	**45,142**	**61,557**	**410,378**

Table 34e: Characteristics of International Gateway Scenario - 2030 Population by Household Status

	SCA 1	SCA 2	SCA 3	SCA 4	SCA 5	SCA 6	SCA 7	SCA 8	Total
In households	99,854	148,699	126,964	58,201	117,458	291,782	119,876	173,643	1,136,476
In group quarters	231	7,378	326	223	241	3,539	210	1,376	13,524
Total population	100,085	156,076	127,289	58,424	117,700	295,321	120,086	175,019	1,150,000
% Above MOP	43%	-12%	-17%	3%	3%	37%	19%	14%	10%

B.5 Scenario Policies

A final step in constructing the scenarios was the development and application of various policies to make the scenarios more achievable or to diminish some of their potential negative impacts. Because the International Gateway scenario is a marked change from today's status quo, most of the policies developed in response to the needs of the scenarios applied to the International Gateway. In contrast, the Middle of the Pack alternative is largely a market driven trends alternative that requires fewer new purposeful initiatives to be fulfilled.

The final list of 33 policies developed for the scenarios emerged from a pool of 90 potential policies that represented a variety of viewpoints and approaches – e.g., TAC and PAC priorities, the priorities of other stakeholder groups, the need to address issues of concern to members of the Board of Commissioners and the consultants' experience dealing with similar issues in other jurisdictions. For each policy, the team determined the relative cost, level of difficulty, and short-, medium-, and long-term impact. The team also evaluated how well each policy met various transportation, fiscal, land use, preferred place, and housing goals. Stakeholder interest or potential support for each policy was also evaluated.

To assist with the policy prioritization process, the various evaluation criteria results were compiled and the policies were sorted by how well they met different criteria sets. With this information in hand, numerous reviews and discussions with the TAC, the PAC, and agency heads led to a culling of the list based on lack of significance, excessive costs versus likely outcomes, legal considerations, and in some cases, a merger of policies that were very similar in intent and approach.

These policies continued to be refined through the drafting of the final version of the plan. Section D.2 describes the five themes used to organize the Unified Plan recommendations and sorts this final list of polices in relation to the theme to which each policy directly relates.

B.6 Why the Plan Retains Two Alternatives

Because this plan process sought to avoid a single state endpoint and give the County a good deal of flexibility in addressing future circumstances, neither of the final two scenarios became a "final choice." One, International Gateway, is the "preferred" alternative, and the Unified Plan builds most of its recommendations around this preference. At the same time, the Unified Plan recognizes that a more trends-based outcome is possible and that this is a less desirable outcome.

Gwinnett County is today at a turning point. If current trends are allowed to continue, the County's slow decline along the Middle of the Pack lines seems inevitable. This may result in the eventual loss of the regional leadership position the County has assumed in recent decades. Unfortunately, taking the steps required to arrest the decline and strike a new path toward excellence and renewed economic prosperity will not be easy. The policies laid out in the next chapter on themes will require sustained effort well beyond the terms of the current sitting Board. Furthermore, the projected regional growth that fueled this scenario may not materialize. The next chapter focuses on a desired future, the general outcome stemming from the International Gateway scenario, that the County should strive to bring about. Nevertheless, the County will need to be prepared for a different outcome if it cannot (or chooses not) to take the actions required to secure this desired future.

Gwinnett County is today at a turning point. If current trends are allowed to continue, the County's slow decline along the Middle of the Pack lines seems inevitable.

Key Scenario Characteristics

MIDDLE OF THE PACK SCENARIO

- Atlanta region continues to prosper: Gwinnett continues to benefit but remains a modest draw economically.
- Population and Employment
  1. 1.04 million people (369,000 households)
     a. 47% increase over today
  2. 487,000 jobs
     a. 53% increase over today
- County's median income levels decline to more resemble that of the region as a whole.
- Despite some leveling of proportions of well off and less well off, economic differences between the more affluent Northeast and the more modest, more multicultural southwest and southeast remain noticeable.
- Construction industry, light industrial, warehouse, and distribution employers have mostly left by about 2025 due to congestion, rising land costs and approach of buildout.
- Congestion improvement measures limited to those with little cost and little risk to implement ; relief is marginal and congestion limits growth of higher end economic segments
- Development pattern doesn't change much from today. The scale of development remains fairly low-density over much of the County with pockets of increased density at key activity centers. Sewer (in one form or another) eventually serves the entire county.
- Emphasis shifts from growth to maintenance of quality and revitalization of older areas.
- Increased percentage of County's budget goes toward maintaining existing facilities and operations rather than new capital improvements.
- More incentives for redevelopment. This includes new zoning code provisions, tax breaks, density bonuses, and fast track approvals, but minimal public sector investments.
- County policies rely on CIDs which are fairly successful in preventing widespread disinvestment and inspire additional corridor-based CIDs.
- County policies become increasing proactive on housing issues—upkeep of established neighborhoods, work force housing and affordability.
- Sugarloaf Parkway extension constructed but only reaches GA316 east of Lawrenceville by 2015, extended to PIB as toll facility by 2030.
- County continues to rely on non-profits to address many human service and cultural needs.

INTERNATIONAL GATEWAY SCENARIO

- U.S. economy is strong and Atlanta is the high-tech hub for the Southeast.
- Very substantial job growth attracted to the region
- Much of Gwinnett's economic vitality pivots off proximity to North Fulton County, the region's economic center.
- Public sector resources invested in facilities and programs and "quality of life" resources that make Gwinnett a "preferred place" for new businesses and residents.
- Wider use of public – private partnerships to plan and build needed infrastructure and implement qualitative visions of Partnership Gwinnett; e.g. better education,
- Counties and Cities coordinate efforts to attract "quality" growth and locate "quality of life" features.
- Population and Employment
  1. 1.15 million people (410,300 households)
     a. 67% increase over today
     b. 11% increase over Middle of the Pack scenario
  2. 594, 950 jobs
     a. 89% increase over today
     b. 22% increase over Middle of the Pack scenario
- Transportation, Infrastructure and Land Use policies are coordinated to protect and enhance the economic development primacy of Gwinnett between the I-85 corridor and north Fulton County.
- Major economic development and redevelopment investments in selected arterial corridors.
- Additional and improved river crossing to improve access to and from the Georgia 400 corridor and future Fulton County and Forsyth County centers
- Primary jobs promoted are academic, scientific, financial services.
- GA 316 corridor becomes a focus for County's R and D businesses. International and multicultural components of workforce grow as do international and multicultural components of employment base and sources of investment.
- Less dense, "rural" patterns prevail over much of northeast and eastern Gwinnett.
- Other countries also provide tourism revenue (for example, the visitors of the new Hindu temple which has been constructed in Lilburn).

C. TESTING AND EVALUATION

C.1 Final Results

One way the Unified Plan differs from many plans is in the extensive testing and analysis of the various possibilities represented by the different scenarios. Once a final round of detailing of both the International Gateway and the Middle of the Pack scenarios was completed, these final versions then underwent further evaluation using various models that projected likely impacts and linked the results to enable determination of how varying specific aspects of the scenario (e.g., land use densities or transit levels) affected other factors

The evaluation of the scenarios focused on three areas that have a profound influence on future land use and economic development potential and the ability of the County to fund and operate those facilities, infrastructure and services needed to fully implement the Unified Plan. These were the:

1. Transportation Network
2. Sewage Treatment System
3. Fiscal Capabilities of County

We will review these in turn.

Three areas that have a profound influence on future land use and economic development potential: transportation, sewage treatment and the fiscal capabilities of the County.

C.1.1 Transportation

In Part 1.C, Section 6, the existing transportation network and traffic conditions were reviewed and issues identified. In this section the results of analyzing the two land use/transportation scenarios, in which levels of growth and transportation improvements are matched, are presented. The results of implementing the land use changes without corresponding transportation improvements are also explored. Transit options are also analyzed.

This section differs from the Comprehensive Transportation Plan (CTP) in that the CTP addressed and tested one final scenario – the Middle of the Pack – and a limited transportation network, all in line with the guidelines for such documents. The Unified Plan, however, also tackles more ambitious and extensive scenarios and compares them to the CTP analysis.

Overall Changes in Trip Making

An important factor driving Gwinnett's future congestion is growth in work-related trips because they occur at peak hour. Table 35 shows that the number of daily Gwinnett-based work trips is expected to increase over the planning period. In addition, there will be growth in intra-Gwinnett work trips. However, as a percentage of total work trips, the intra-county work trips are forecast to decrease over the planning period, despite the large growth in local jobs assumed in the International Gateway scenario. This is likely because the region overall is seeing an increase in jobs in the International Gateway scenario and more Gwinnett residents will travel outside the county to these.

Table 35: Changes in Trip Generation: 2005-2030

	2005	2030 Middle of the Pack Scenario	2030 International Gateway Scenario
All Gwinnett Based Work Trips	575,500	696,600	791,200
Intra-Gwinnett Work Trips	390,600	406,000	475,000
Percent Intra-Gwinnett Work Trips	68%	58%	60%

The Travel Model and its Application

The ARC travel demand model, as enhanced by the study team, was used to examine present and future year travel demand and congestion in Gwinnett County. Enhancements included further subdividing the County's existing 306 traffic analysis zones (TAZs) by adding another 176 zones. This 58 percent increase results in a much finer grain analysis of development impacts on travel. Furthermore, collector roads that were absent from the original ARC highway network were added. The highway, transit, and socioeconomic data files associated with the zone structure changes were also modified. (Appendix J presents a full description of the model enhancements and refinements.)

Present day analysis used year 2005 household and employment data from ARC to test the performance of the 2005 roadway network (discussed in Part 1 of this Plan). The 2030 socioeconomic data developed for the Gwinnett County Unified Plan was used to test the performance of the 2030 transportation network. Three transportation futures were modeled:

- Middle of the Pack socioeconomic and land use data on the Middle of the Pack transportation network,
- International Gateway socioeconomic and land use data on the International Gateway transportation network, and
- International Gateway socioeconomic and land use data on the Middle of the Pack transportation network.

This final hybrid shows how the transportation system would perform if the population and job increases forecast for the International Gateway scenario are realized, but associated transportation investments are not. This provides important feedback to decision makers when approving projects in relation to transportation improvements.

Transportation Networks

The two scenarios have different transportation networks which were judged to be roughly appropriate to the level of growth envisaged in the scenarios. Tables 36 and 37 summarize the assumptions in each network, and Figures 47 and 48 show the tested networks and indicate the greater breadth of the International Gateway network.

Table 36: Key Features of the Alternative Networks

	2005	2030 Middle of Pack Scenario	2030 International Gateway Scenario
Lane miles of road (per model)	2,662	2,953	3,549
Heavy rail stations	0	0	3
Commuter rail stations	0	0	6
Regional bus routes in Gwinnett County	3	9	19

The travel model classifies roads by function and reports results by these categories. Note that these are not the same functional classes used for the County's Major Thoroughfare Map (Figure 79) referenced in Part 3.D. Also, note that local road miles in 2005 are greater than in 2030. There are a couple of explanations for this. One is that some of the committed projects may be conversions of local roads to arterials. Another is that ARC may have revised the roadway classification coding between the 2005 13-County model and the 2030 20-County model. This anomaly affects the roadway classification based results and means that those results should not be compared to the

Table 37: Roadway Functional Classification in the Travel Demand Model

	2005	Percent of Total	2030 Middle of Pack Scenario	Percent of Total	2030 International Gateway Scenario	Percent of Total
Total Lane miles of road (per model)	2,662		2,953		3,549	
Freeways	385.7	14.5%	537.6	18.2%	683.0	19.2%
Arterials	1691.8	63.5%	1940.2	65.7%	2392.7	67.4%
Local Road*	584.9	22.0%	475.1	16.1%	473.2	13.3%

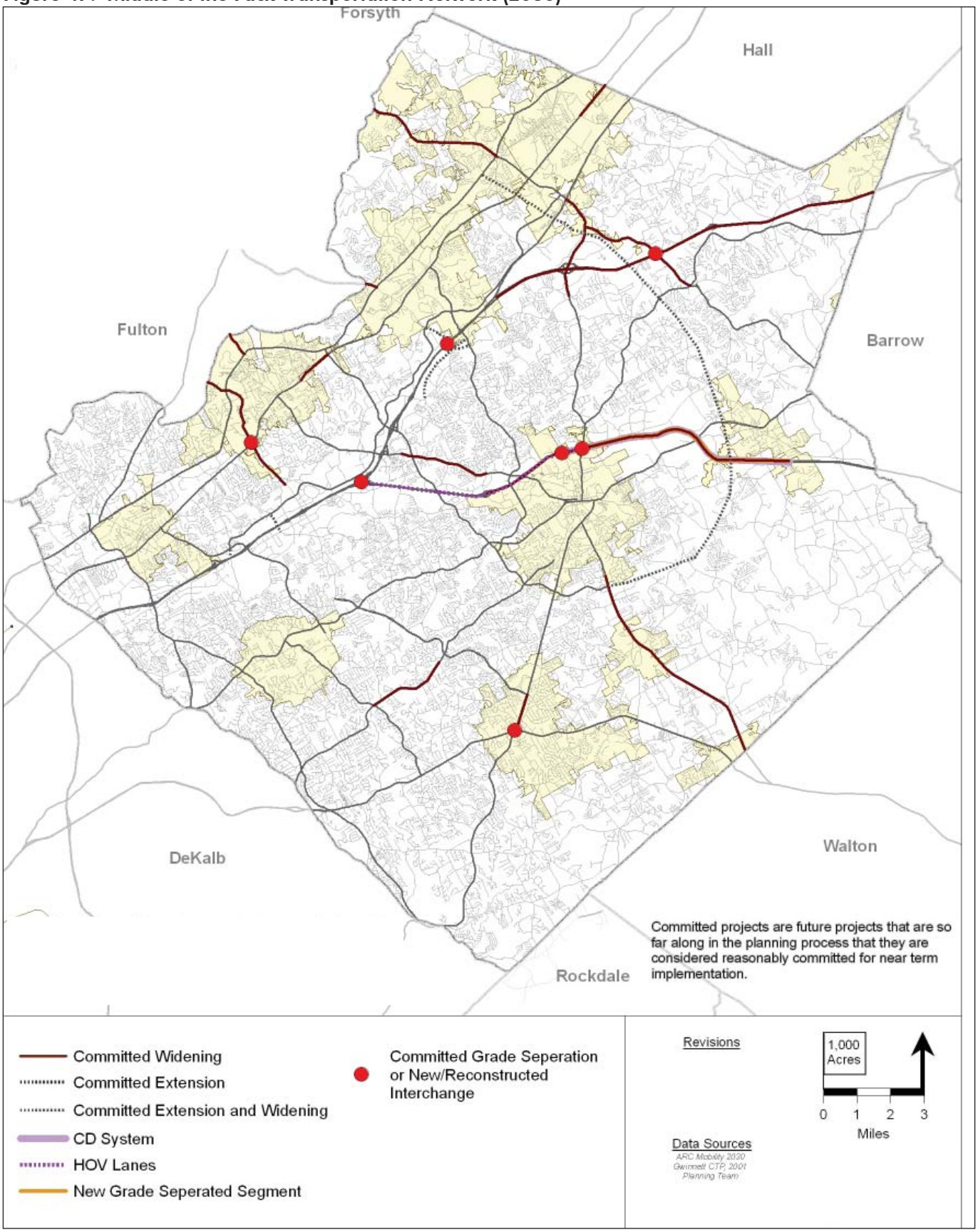
** Local Road includes Major and Minor Collectors and other local roads*

Table 38: Key Improvements of Middle of the Pack Network

Project Name	Description	Project Limits
I-85	Build Interchange	at SR 324
SR 316 HOV	Build Managed Lanes	I-85 to SR 20
SR 120	Widen to 4 lanes	State Bridge (Fulton) to PIB
McGinnis Fy. Rd. Bridge	Widen to 4 lanes	Over Chattachoochee River
State Bridge Rd.	Widen to 6 lanes	SR 141 (Fulton) to PIB
McGinnis Fy. Rd.	Widen to 4 lanes	Sargent Rd. (Fulton) to PIB
Five Forks Trickum Rd.	Widen to 4 lanes	Oak Rd. to Killian Hill Rd.
SR 20	Widen to 6 lanes	I-985 to SR 324
SR 20	Widen to 8 lanes	SR 324 to I-85
SR 20	Widen to 8 lanes	I-85 to Rock Springs Rd.
SR 20 Loganville Hwy.	Widen to 4 lanes	Plantation to Ozora
SR 20 Loganville Hwy.	Widen to 4 lanes	Ozora to SR 81 (Walton)
SR 20	Widen to 4 lanes	Burgess Rd. (Forsyth) to PIB
SR 120	Widen to 4/6 lanes	Atkinson to Riverside
SR 13 Buford Hwy.	Widen to 4 lanes	Old P'tree. to Sugarloaf Pkwy.
SR 23 Buford Hwy.	Widen to 4 lanes	Thompson Mill Rd. to Friendship Rd. (Hall)
McGinnis Fy. Rd. Ext.	Build 4 lanes	Satellite Blvd. to L'ville.-Suwanee
SR 324 Gravel Spr Rd.	Widen to 4 lanes	SR 20 to I-85 N
SR 324 Gravel Spr Rd.	Widen to 4 lanes	I-85 N to SR 124
SR 124 Scenic Hwy.	Widen to 6 lanes	U.S. 78 to Ronald Reagan
Pleasant Hill Rd.	Widen to 6 lanes	Old Norcross to Chatt. River/PIB
Five Forks Trickum Rd.	Widen bridge to 4 lanes	Yellow River
SR 20 Bridge	Widen to 4 lanes	Over Chattachoochee River
SR 324 Bridge	Widen to 4 lanes	Over I-85
Sugarloaf Pkwy. Ext.	Build 4 lanes	SR 20 Grayson Hwy. to SR 316
East X-County Conn.	Build 4 lanes	SR 316 to SR 20 Buford Dr.
East X-County Conn.	Build 4 lanes	SR 20 Buford Dr. to PIB
W. Liddell/Club Conn.	Build 4 lanes	Satellite Blvd. to Shackleford Rd.
I-85 Bridge	Build 4 lanes	at W. Liddell/Club Conn.
I-85	Widen to 6 lanes	I-985 to Hamilton Mill Rd.
I-85	Widen to 6 lanes	Hamilton Mill Rd. to SR 211
SR 316	Widen to 6 lanes, Gr Sep, and CDs	Cedars Rd. to Drowning Creek Rd.
SR 316	Widen to 6 lanes, Gr Sep, and CDs	E. of Walther Blvd. to E. of SR 20
SR 316	Widen to 6 lanes	Riverside Pkwy. to Walther Blvd.
SR 316	Widen to 6 lanes	E. of SR 20 to W. of Progress Ctr. Ave.
I-85	Build Interchange	at McGinnis Fy. Rd. Ext.
I-85	Interchange Reconstruction	at SR 316
I-85 Bridge	Build 4 lanes	at Hillcrest/Satellite Conn.
N'brook Pkwy/Old P'tree	Widen/Build 4 lanes	Old P'tree/N. Brown Rds to L'ville-Suwanee Rd/Horizon Dr
Pleasant Hill Rd.	Grade Separation	at Buford Hwy. and NS RR

Source: Gwinnett County Comprehensive Transportation Plan, April 2008

Figure 47: Middle of the Pack Transportation Network (2030)



2005 results, but should rather be compared across future scenarios or within the individual scenario. (This is only an issue on Table 40: LOS by Roadway Classification.)

The Middle of the Pack transportation network is a fiscally-constrained transportation alternative. It only includes existing roads and transit routes and committed projects. Committed projects are those that are so far along in the planning and funding process that they are considered highly likely to occur during the planning time frame. Table 38 on the following page lists the new transportation projects included in the Middle of the Pack Scenario.

The CTP estimates that construction of the projects shown on the following page will cost approximately $1.6 billion. Figure 47 shows the 2030 Middle of the Pack network. This is also the network used for the 2008 Comprehensive Transportation Plan together with the socio-economic/land use inputs from the Middle of the Pack scenario.

The International Gateway transportation network is much more aggressive than the Middle of the Pack. Not only does it include the committed projects noted previously, it also includes the additional projects shown in Table 39.

The substantial transit investments identified in the International Gateway scenario are entirely consistent with the Transit Planning Board (TPB) Concept Plan 3. Both plans include the extension of transit rail into Gwinnett with possible stations at Norcross, Indian Trail, and Gwinnett Place Mall. Both plans also include the construction of two commuter rail lines, with four stations on the "Brain Train" (a proposed commuter rail line between Atlanta and Athens), and two stations along the Norfolk Southern Railroad lines that run parallel to I-85. It should be noted that even though only two station locations were tested in the travel demand model for the I-85 corridor commuter rail line (one station between Buford and Sugar Hill and another in Duluth), the plan is not suggesting that other cities along the line (e.g., Norcross or Suwanee) are not candidates for stations. There is also an increase in regional bus service including bus rapid transit (BRT) service between Dacula and downtown Atlanta and between the Mall of Georgia and Perimeter Center, and the Mall of Georgia and Alpharetta. Aggressive service characteristics are also assumed for these evaluations. For example, bus rapid transit service had 20 to 30 minute headways in the peak period and had comparable service levels to MARTA.

The CTP estimated the cost of the additional International Gateway scenario roadway improvements at **$1.4 billion**, making for a total of **$3 billion** worth of improvements, an increase of 89% over the CTP. There are no cost estimates for the transit improvements whose capital funding would be a complex mix of Federal, State and local dollars. Figure 48 portrays the 2030 International Gateway network. Figures 49 and 50 show the transit improvements.

Table 39: Key Improvements of International Gateway Network beyond Middle of the Pack

Project Name	Description	Project Limits
I-85 HOV	Build HOV Lanes	SR 316 to Hamilton Mill Rd.
SR 316 HOV	Build HOV Lanes	SR 20 to Drowning Creek Rd.
Beaver Ruin Rd	Widen to 6 lanes	Reagan Pkwy. Ext. (West Fork) to I-85
U.S. 78/SR 10	Widen to 6 lanes	SR 124 to SR 84
U.S. 78/SR 10	Widen to 6 lanes	SR 84 to SR 81
SR 23 Buford Hwy.	Widen to 4 lanes	Sugarloaf Pkwy. To SR 20
SR 316	Widen to 6 lanes	W. of Progress Ctr. Ave. to E. of Cedars Rd.
Hillcrest Rd/Tech Dr	Widen to 4 lanes	Willow Trail Pkwy to Singleton Rd
Hillcrest/Satellite Connector	Build 4 lanes	Willow Trail Pkwy to Beaver Ruin Road
Oakbrook Pkwy Ext.	Widen/Build 4 lanes	Indian Brook Way to Hillcrest Rd
Reagan Pkwy Ext.	Build 4 lanes	Pleasant Hill Road to Beaver Ruin Road
Reagan/Club Connector	Build 4 lanes	Reagan Pkwy. Ext. (North Fork) to Club Dr at Shackleford
S. Bogan Rd.	Upgrade	Hamilton Mill Rd to SR 20
Satellite/Old Peachtree Connector	Build 4 lanes	Smithtown/Sawmill Rds to Horizon Dr/Old Peachtree Rd
SR 120	Widen to 6 lanes	Lawrenceville-Suwanee Rd to Langley Dr
SR 124	Widen to 4 lanes	East of Hamilton Mill Rd to Spout Springs Rd
SR 124	Widen to 4 lanes	SR 20 to e. of Hamilton Mill Rd
SR 20	Widen to 6 lanes	SR 124 to Hurricane Shoals Rd
SR 324	Widen to 4 lanes	SR 124 to Dacula Rd
Thompson Mill Rd	Widen to 4 lanes	Buford Hwy (SR13) to N. Bogan Rd
Willow Trail Pkwy Extension	Build 2 lanes (1-way?)	Hillcrest Rd to Beaver Ruin Rd
I-85 North CD Lane	Add 1 CD lane (NB only)	I-985 to SR 20
Peachtree Pkwy Widening	Widen to 6 lanes	PIB to Fulton County
Abbotts Bridge Rd Widening	Widen to 6 lanes	PIB to Medlock Bridge Road
Five Fork Trickum Widening	Widen to 4 lanes	Oak Rd. to Sugarloaf Parkway
Ronald Reagan Pkwy Extension	Build 4 lanes	SR 124 to U.S. 78
Beaver Ruin Rd/Langford Rd Connector	Build 2 lanes	Beaver Ruin Rd to Langford Rd
Beaver Ruin Rd Extension	Build 4 lanes	Buford Hwy to PIB
PIB CD System and Grade Separation	Build 4 CD lanes	Peachtree Pkwy to Sugarloaf Pkwy
Reagan Pkwy Ext.	Build 4 lanes	Pleasant Hill Road to Beaver Ruin Road
PIB CD System and Grade Separation	Build 4 CD lanes	
Toll mainline	Peachtree Pkwy to Sugarloaf Pkwy	
Satellite Blvd Super-arterial	Build 2 CD lanes	
Make Satellite Blvd limited access roadway	Pleasant Hill Road to SR 20	
Dacula Rd/Harbins Rd/New Hope Rd Widening	Widen to 4 lanes	From Auburn Rd to Loganville Hwy
Hamilton Mill Rd Widening	Widen to 4 lanes	From Buford Hwy to SR 124
Satellite Blvd Extension	Build 4 lanes	From Buford Dr (SR 20) to Thompson Mill Rd
Collins Industrial Way/Hillcrest Green Dr Connection	Build 2 lanes	Collins Industrial Way to Hillcrest Green Dr
Satellite Blvd/Indian Trail Rd Connection	Build 4 lanes	From Satellite Blvd to Indian Trail Road

Source: Gwinnett County Comprehensive Transportation Plan, April 2008

Figure 48: International Gateway Transportation Network (2030)

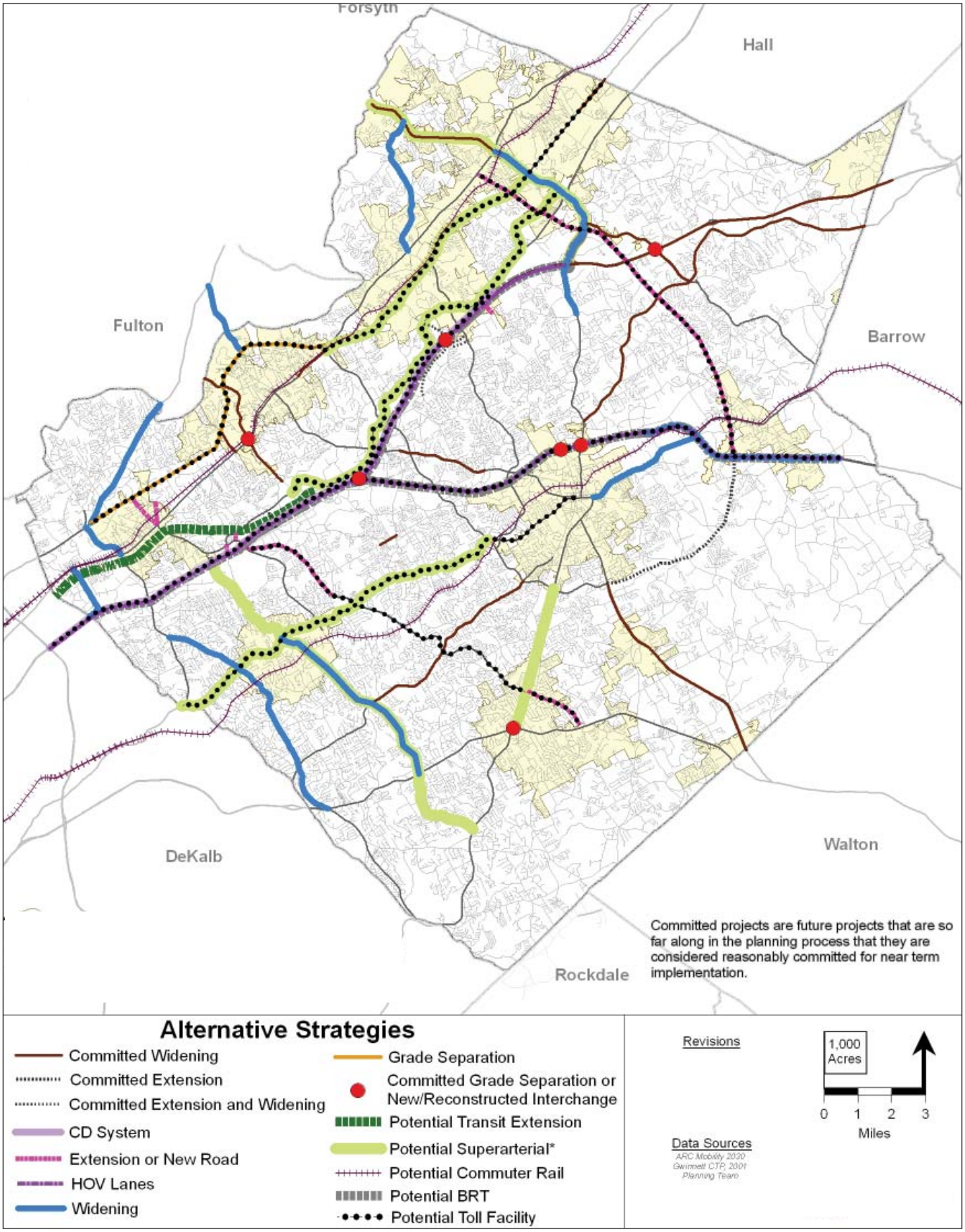


Figure 49: Potential 2030 Transportation Network - Commuter Rail

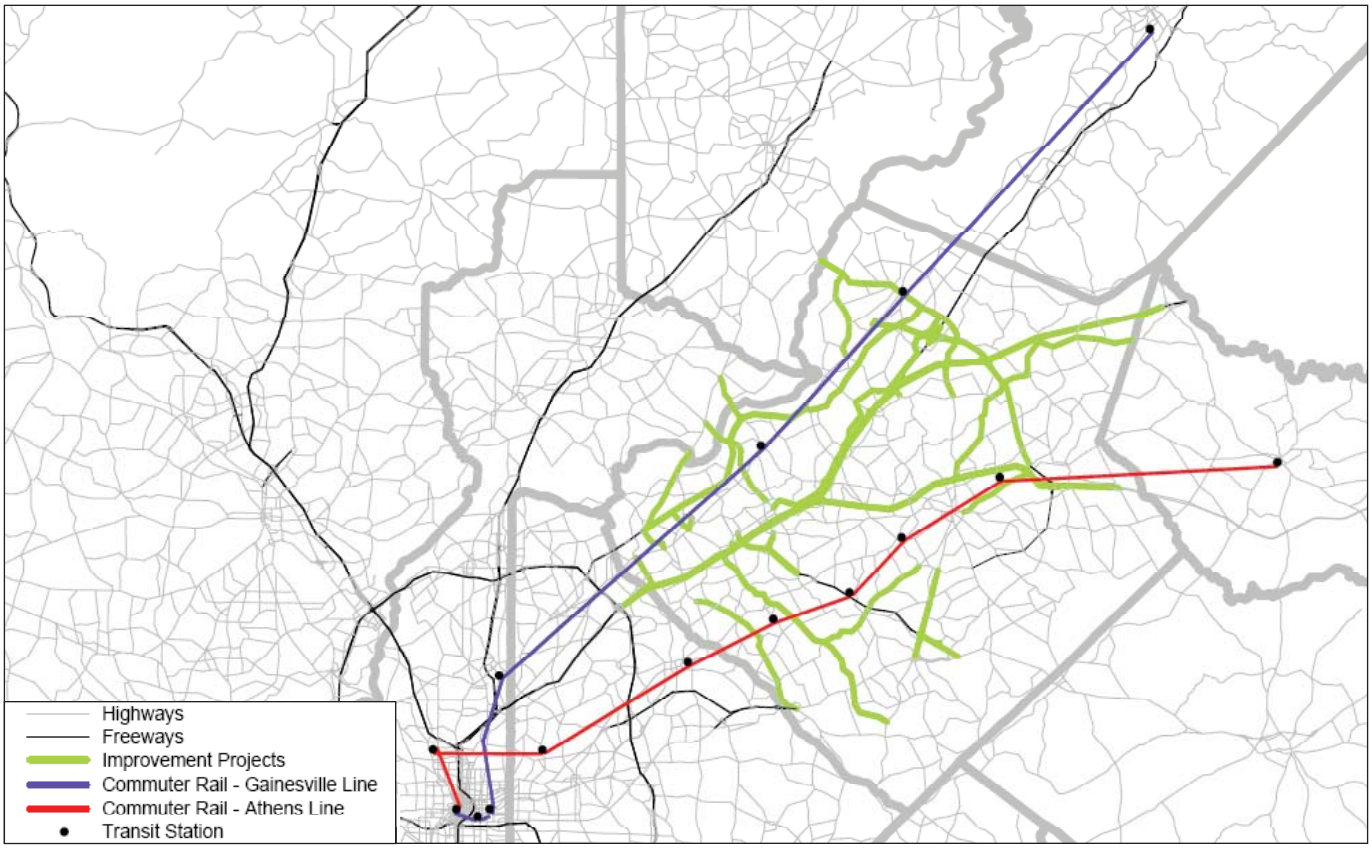
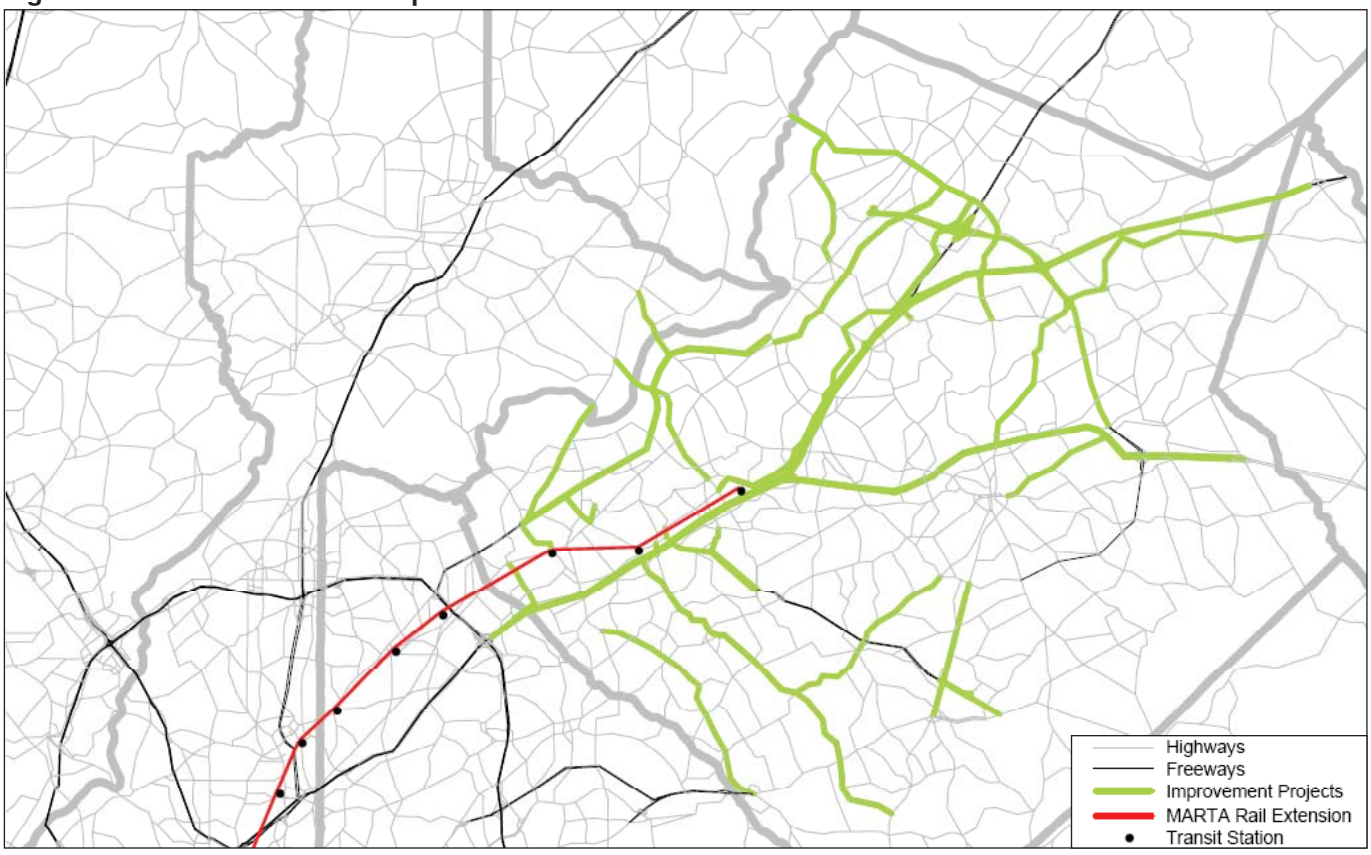


Figure 50: Potential 2030 Transportation Network - MARTA Rail Extension



Indicators

This study uses several indicators or Measures of Effectiveness (MOEs) to synthesize the results of the travel demand model runs. The indicators show how the networks perform under the different scenarios. The key indicators presented here are for Level of Service, Duration of Congestion, Vehicle Hours of Delay, Accessibility, and Travel by Mode.

Overall, the indicators show a significant increase in congestion between 2005 and 2030 under all scenarios. Much of this increase appears in the southwestern part of the County, which is already congested. Areas in less densely developed parts of Gwinnett also show worsening congestion over the 25-year period.

Level of Service

Level of service (LOS) is a measure of how severe congestion is during the peak period. Traffic ranges from free flowing traffic to standstill. There are six levels of service ranges (LOS A through LOS F) typically used to evaluate traffic conditions. The Transportation Planning Handbook prepared by the Institute of Transportation Engineers defines the different levels of service as follows:

LOS A: Free flow with individual users virtually unaffected by the presence of others in the traffic stream.

LOS B: Stable flow with a high degree of freedom to select speed and operating conditions but with some influence from others.

LOS C: Restricted flow which remains stable but with significant interactions with others in the traffic stream. The general level of comfort and convenience declines noticeably at this level.

LOS D: High-density flow in which speed and freedom to maneuver are severely restricted and comfort and convenience have declined even though flow remains stable.

LOS E: Unstable flow at or near capacity levels with poor levels of comfort and convenience.

LOS F: Forced flow in which the amount of traffic approaching a point exceeds the amount that can be served, and queues form, characterized by stop-and-go waves, poor travel times, low comfort and convenience, and increased accident exposure. It is important to note that in the context of a regional travel demand model, LOS F also refers to a situation where the forecast demand exceeds the amount that can be served.

Figures 51 through 54 show the levels of service in 2005 and under the three 2030 alternatives during the PM peak period. The six LOS categories have been collapsed into three: free flow to high density flow (LOS A through D), near capacity (LOS E), and at capacity/stop and go (LOS F). Table 40 on page 98 lists the number of lane miles and percentage of the total network that falls into the different LOS categories. The table has been broken into three roadway classifications: freeway, arterial, and local. It should be noted that the local category includes collectors and local streets.

Overall, the table shows that massive investment in roadway improvements in the International Gateway scenario manages to maintain and, in some cases, even improve the performance of the road system compared to Middle of the Pack and even the 2005 situation. The effects of the International Gateway land use growth without the network improvements reflect severe deterioration throughout (last two columns of table).

Figure 51: 2005 PM Rush Hour LOS

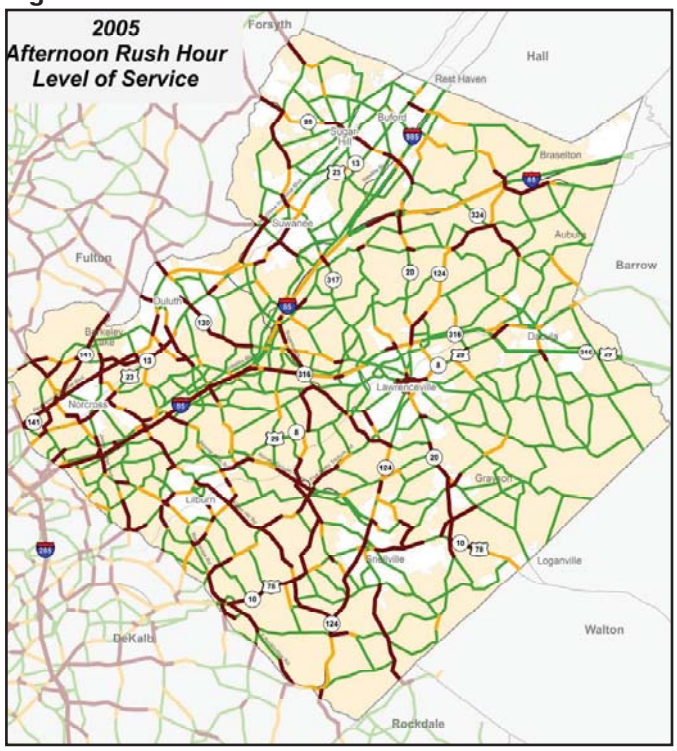


Figure 52: 2030 PM Rush Hour LOS - MOP

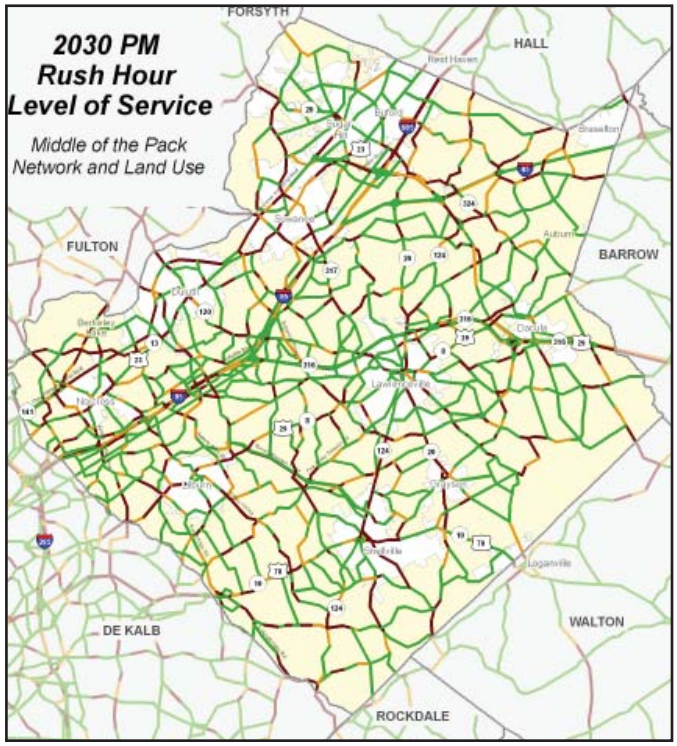


Figure 53: 2030 PM Rush Hour LOS - International Gateway

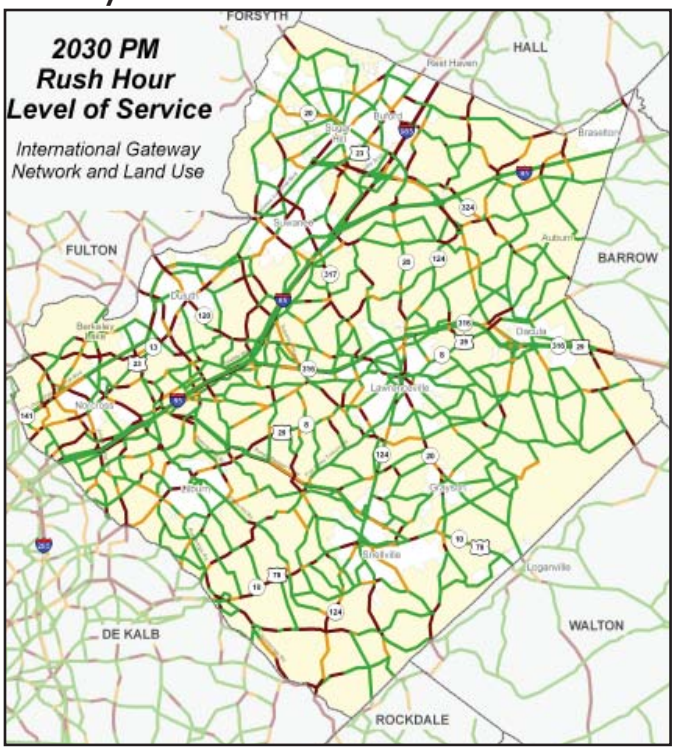
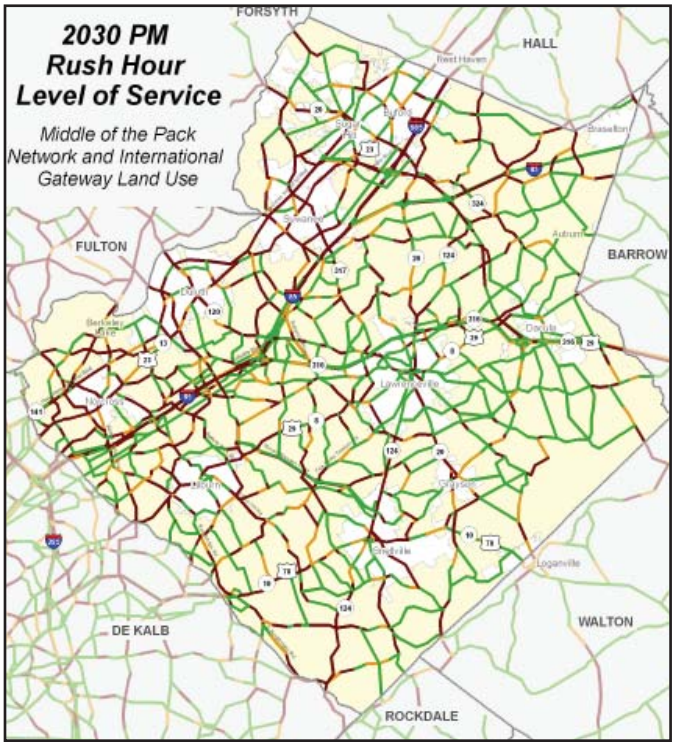


Figure 54: 2030 Rush Hour LOS - MOP and International Gateway



2030 PM Peak Hour Level of Service (LOS)

- Uninterrupted flow (LOS A through D)
- Near capacity (LOS E)
- At capacity/congested (LOS F)

1,000 Acres
0 1 2 3 Miles

In the Middle of the Pack and International Gateway scenarios LOS improves in the freeway category – a greater percentage of lane miles are LOS D or greater and a smaller percentage is LOS F. There is a slight increase in segments operating at LOS E. The International Gateway land use Middle of the Pack Transportation network alternative has slightly worse percentages for LOS D or better than 2005, and many more segments operating at LOS E and F. In general, arterials operate better in the International Gateway Scenario and much worse in the International Gateway land use Middle of the Pack Transportation network alternative. Local roads appear to fare better in 2005 than in the future scenarios (based on the percentage of local roads at LOS D or better); however, this is due to the greater number of local roads in the 2005 network (as mentioned at the beginning of this section). The percentages for LOS E and F are very similar between 2005 and the Middle of the Pack and the International Gateway scenarios. The International Gateway land use Middle of the Pack Transportation network alternative is much worse.

Duration of Congestion

Duration of Congestion shows how long the congestion lasts by lane miles. The duration of congestion maps (Figures 55 - 58) and Table 41 show, as with level of service, that the investment in the system associated with the International Gateway scenario produces congestion periods that are somewhat worse than 2005 but better than in the Middle of the Pack scenario. Overall, the duration of congestion is increasing – especially in the International Gateway land use-Middle of the Pack Transportation network alternative, where the duration is considerably worse than 2005 conditions.

Table 40: Level of Service by Roadway Classification in Lane-Miles

	2005	Percent of Total	Middle of the Pack Scenario	Percent of Total	International Gateway Scenario	Percent of Total	2030 IG LU/MoP Network Alternative	Percent of Total
Freeway								
LOS D or better	280.7	10.5%	400.0	13.5%	534.9	15.1%	322.9	10.9%
LOS E	24.9	0.9%	51.3	1.7%	68.9	1.9%	93.3	3.2%
LOS F	80.1	3.0%	86.3	2.9%	79.3	2.2%	121.4	4.1%
Arterial								
LOS D or better	1321.8	49.6%	1,412.2	47.8%	1,855.0	52.3%	1,189.4	40.3%
LOS E	133.0	5.0%	201.4	6.8%	210.5	5.9%	227.0	7.7%
LOS F	237.0	8.9%	326.5	11.1%	327.2	9.2%	523.8	17.7%
Local								
LOS D or better	571.9	21.5%	462.9	15.7%	457.9	12.9%	441.1	14.9%
LOS E	7.1	0.3%	7.8	0.3%	10.7	0.3%	19.2	0.7%

Table 41: Duration of Congestion

Duration	2005	Percent of Total	Middle of the Pack Scenario	Percent of Total	International Gateway Scenario	Percent of Total	2030 IG LU/MoP Network Alternative	Percent of Total
< 2 hours	2135.6	80.2%	2166.7	73.4%	2724.7	76.8%	1862.1	63.1%
2 - 6 hours	471.8	17.7%	675.9	22.9%	714.1	20.1%	820.4	27.8%
6 - 10 hours	49.1	1.8%	107.8	3.7%	103.6	2.9%	251.8	8.5%
> 10 hours	5.9	0.2%	2.4	0.1%	6.5	0.2%	18.7	0.6%
Total Lane Miles	2,662		2,953		3,549		2,953	

Figure 55: 2005 Duration of Congestion

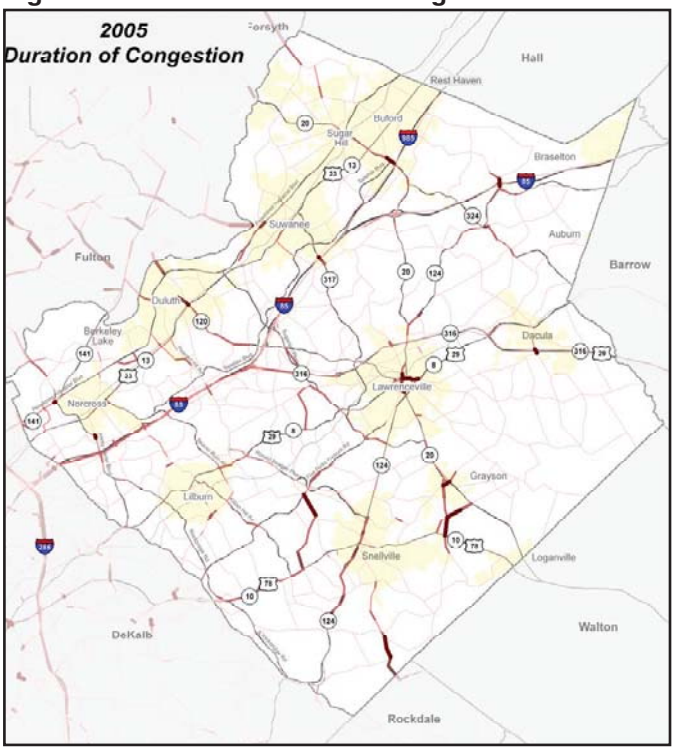


Figure 56: 2030 Duration of Congestion - MOP

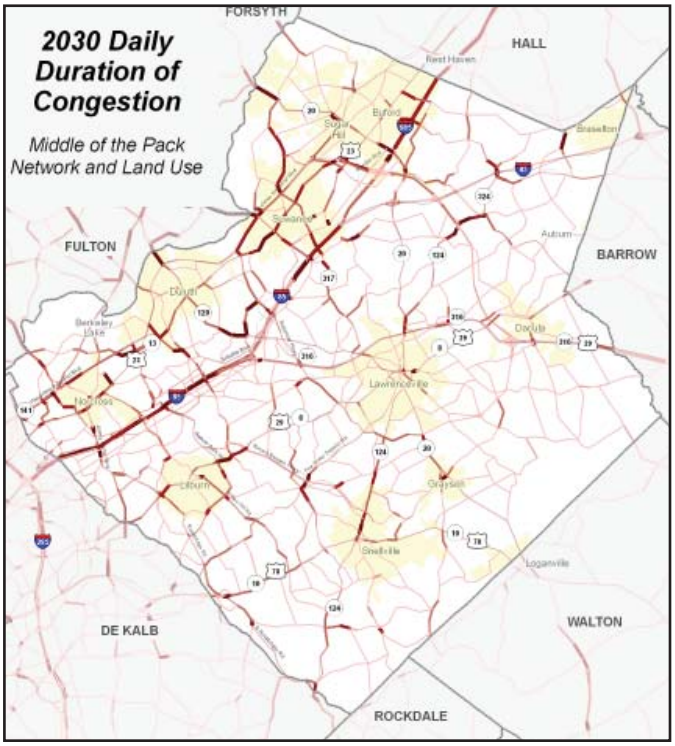


Figure 57: 2030 Duration of Congestion - International Gateway

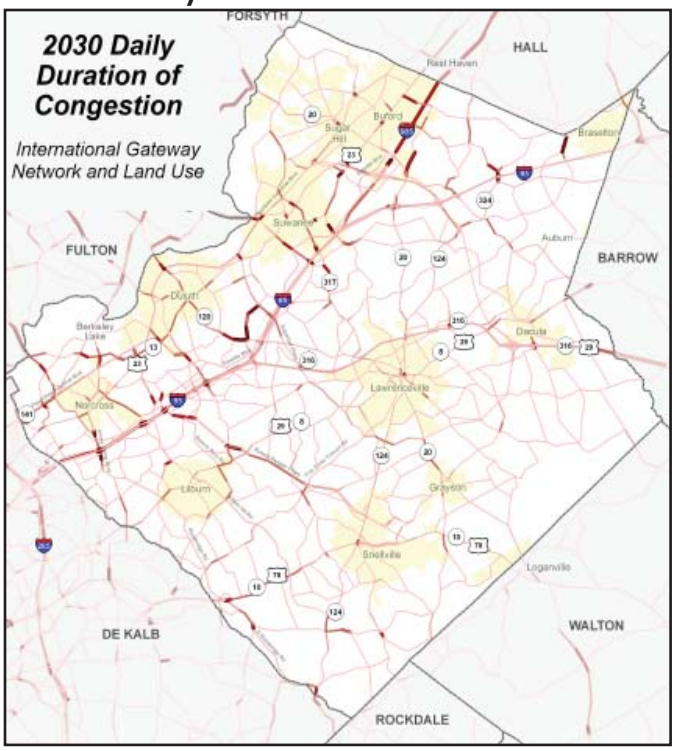
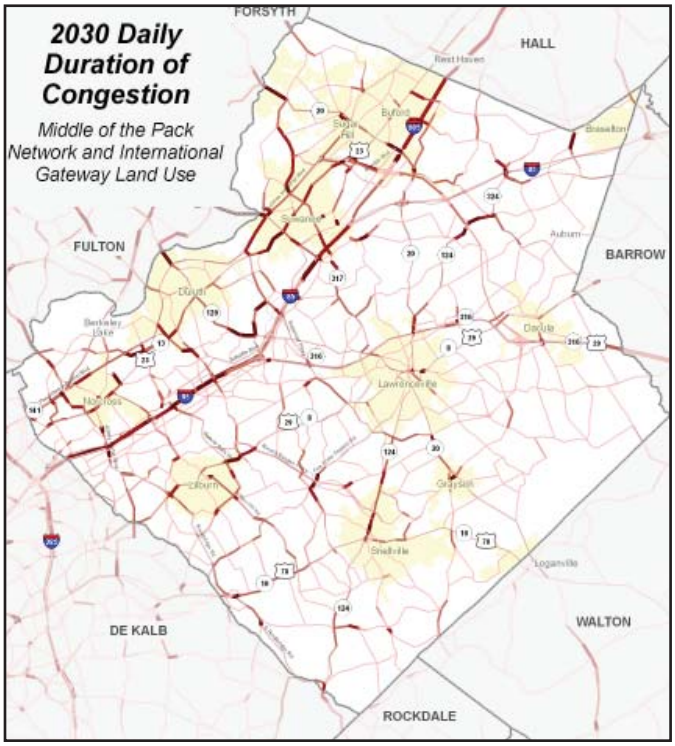
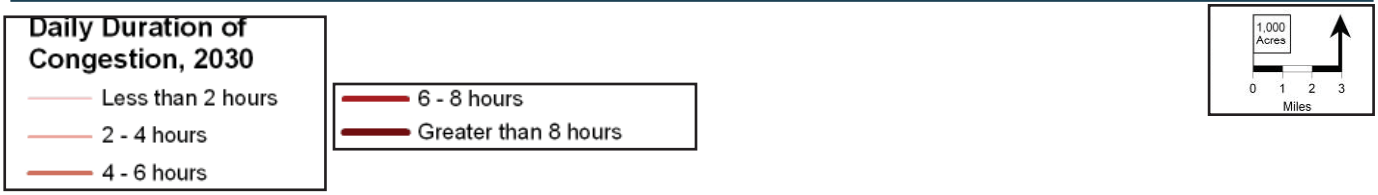


Figure 58: 2030 Duration of Congestion - MOP and International Gateway





Vehicle Hours of Delay

Vehicle hours of delay is a measure of the extent of congestion. It calculates how many vehicles are delayed and for how long. The table below shows the total hours of vehicle delay during the weekday AM and PM peak periods. As the table below indicates, the PM peak has more hours of vehicle delay than the AM peak in 2005 and under all 2030 scenarios. The AM peak tends to have fewer vehicle hours of delay because people are more able to spread out their morning trips (for example, leave for work earlier) and typically are not making many stops along the way. During the PM peak period, people tend to leave at similar times and also make multiple stops on the way home (for example, running errands or shuttling children to different activities). In addition, the AM peak period is dominated by work trips while there are more non-work trips (for example, shopping trips) in the PM peak period.

The increased delay associated with the International Gateway Scenario is likely related to the fact that there are many more work trips in the International Gateway Scenario than in the Middle of the Pack Scenario. Again the effects of accommodating the development of International Gateway without supporting infrastructure are very negative.

Table 42: Hours of Delay (Peak Hour Work Trips)

	2005	2030 Middle of the Pack Scenario	2030 International Gateway Scenario	2030 IG LU/MoP Network Alternative
AM Peak	62,100	93,100	100,100	152,300
PM Peak	82,200	201,800	206,500	344,900

Figures 59 through 62 show the differences between the scenarios quantified in Table 42. However, because so many of the roads have such high levels of delay, it is difficult to easily discern variations between them.

Accessibility

Another indicator measuring the transportation network's effectiveness is accessibility, the relative ability to get where one wants to go. This measure uniquely addresses the land use/transportation nexus. The two components of accessibility are mobility (the speed or time of travel between two points) and proximity (the distance between two points). The more workplaces a person can access within a given period of time from their home, for example, the better the accessibility. Better accessibility means more opportunities. The travel demand model calculated the relative accessibility of each TAZ with regard to how many jobs can be reached from the TAZ. Figures 63 through 65 show the number of jobs that can be reached within 30 minutes from each TAZ. The model takes congestion into account when calculating accessibility.

Not surprisingly the areas along the I-85 and GA Hwy 316 transportation corridors show the highest level of accessibility while the areas further away from the corridors show less accessibility. The International Gateway Scenario, which includes a greater number of jobs, shows many more accessible TAZs than the Middle of the Pack Scenario and some more accessible TAZs in the International Gateway land use Middle of the Pack network alternative. In addition, the TAZs with the highest levels of accessibility are clustered in the southwest part of the County. Redevelopment of this area is a key element of the International Gateway land use. Despite congestion, in other words, the co-location of more jobs and housing has significant accessibility benefits.

Figure 59: 2005 Afternoon Vehicle Hours of Delay

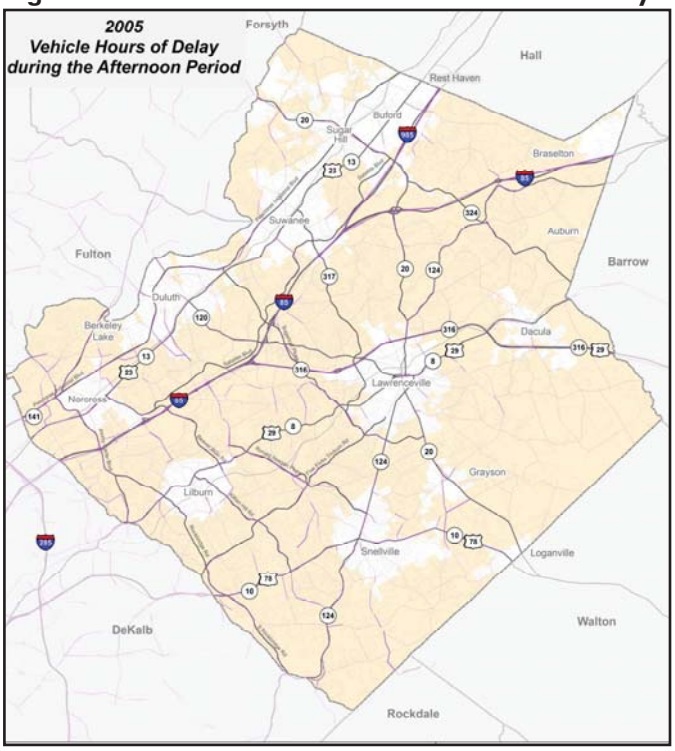


Figure 60: 2030 Afternoon Vehicle Hours of Delay - MOP

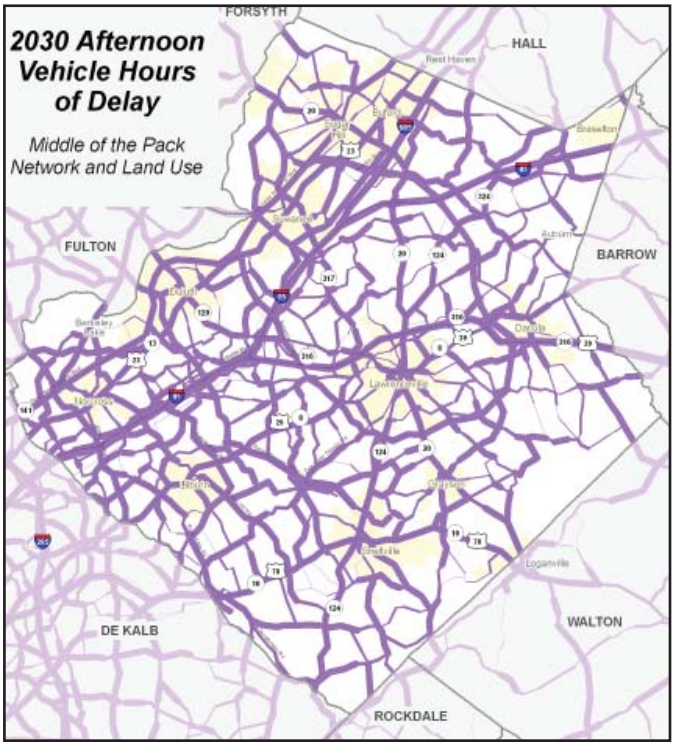


Figure 61: 2030 Afternoon Vehicle Hours of Delay - International Gateway

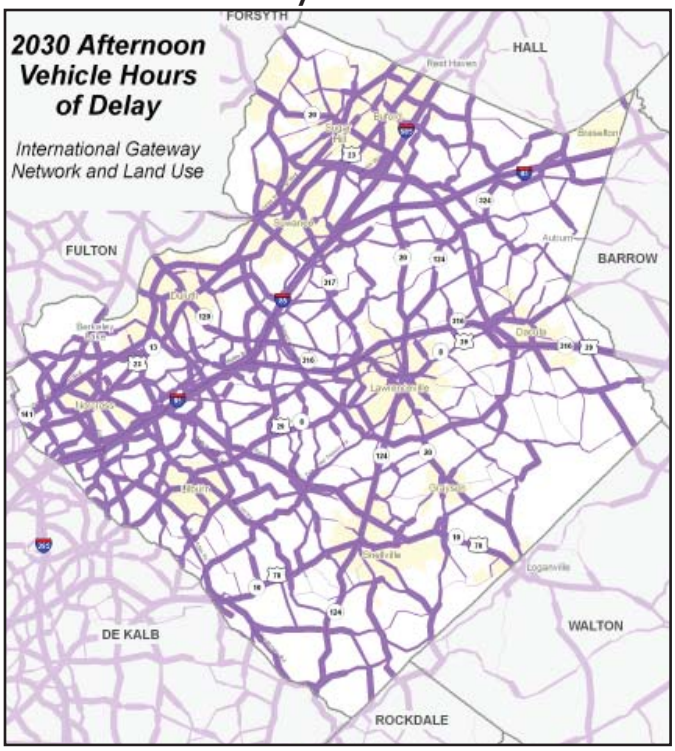
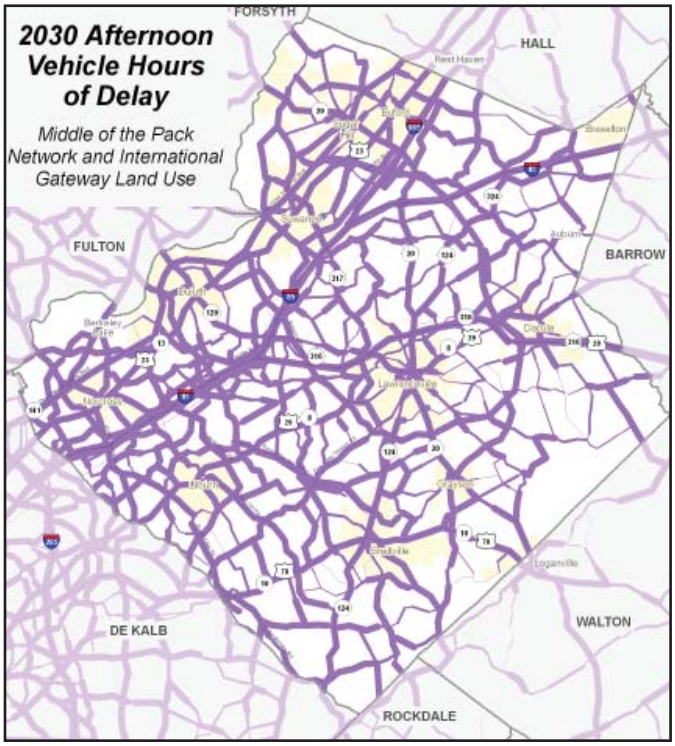


Figure 62: 2030 Afternoon Vehicle Hours of Delay - MOP and International Gateway



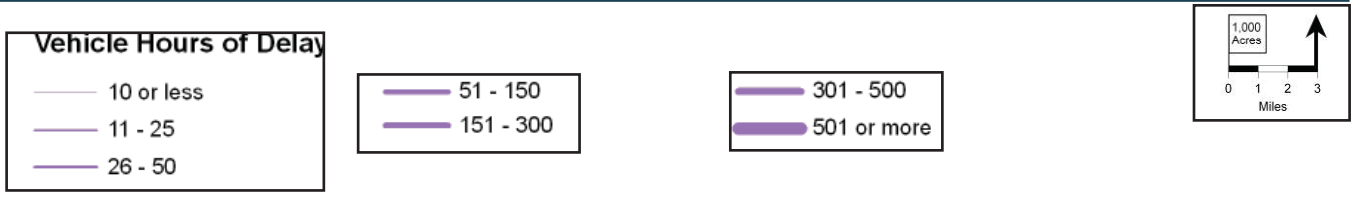


Figure 63: 2030 Accessibility - MOP

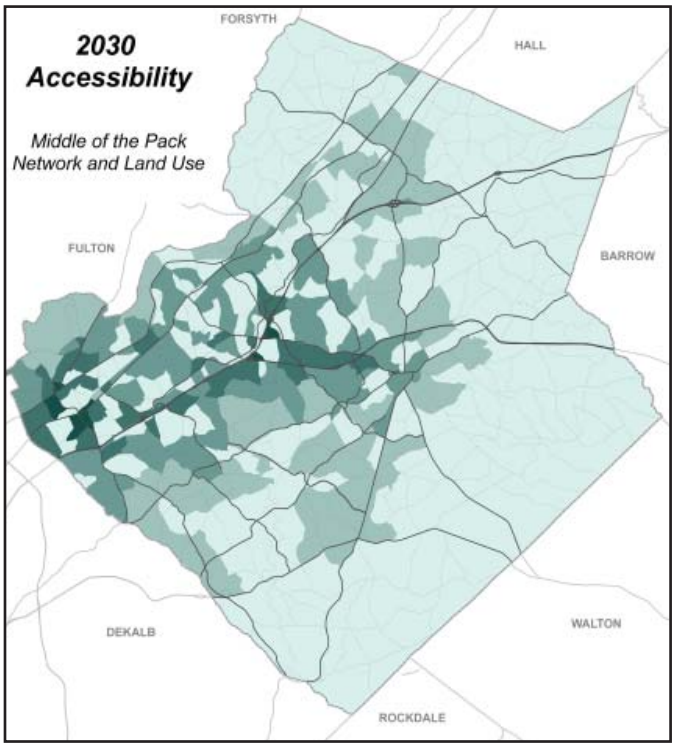


Figure 64: 2030 Accessibility - International Gateway

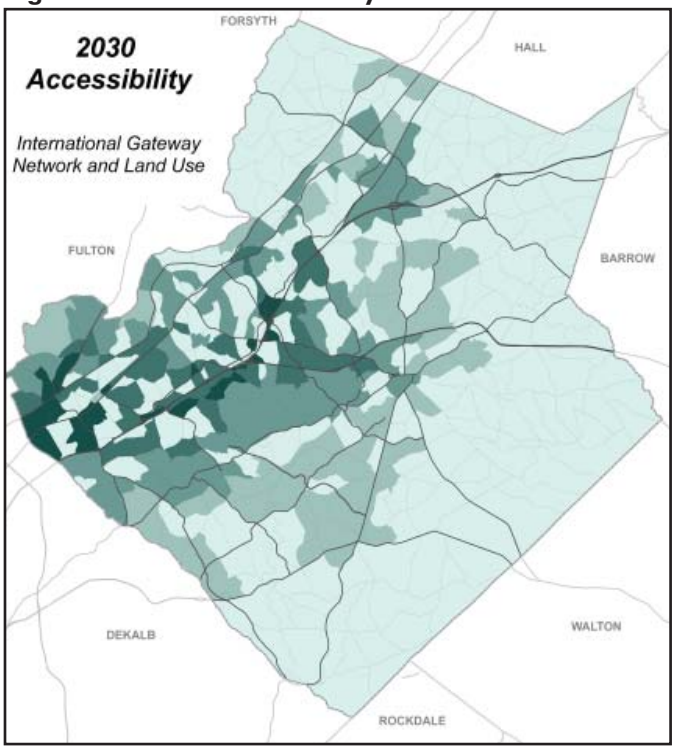
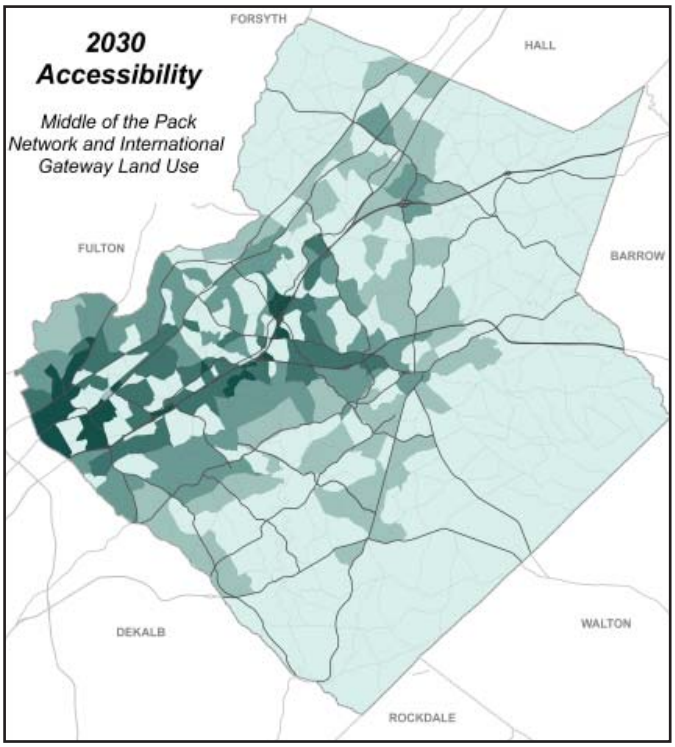
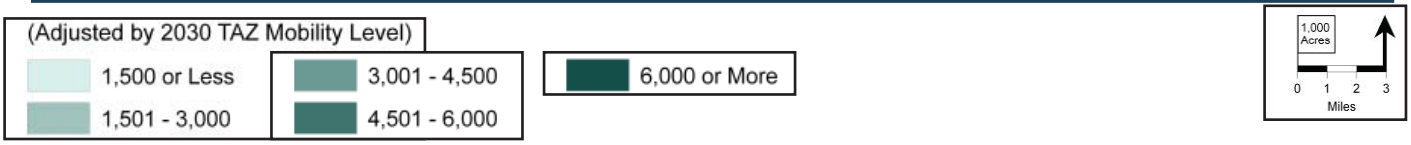


Figure 65: 2030 Accessibility - MOP and International Gateway





Travel by Mode

The transportation model generates statistics about the modes of travel that are used for Gwinnett-based work trips. It provides information on the number of drive alone trips, carpool trips, and transit trips. It should be noted that the model is based on gasoline prices from several years ago and does not reflect the most recent increases, which have begun to spark increased transit use and carpooling. The information presented in this section should, therefore, be viewed not as absolutes, but as information on comparisons between scenarios.

As the following two tables show, the model indicates that in 2030 between 81.2 percent and 85.5 percent of trips will be drive alone, between 13.1 percent and 15.5 percent will be carpool, and between 1.4 percent and 3.5 percent will be by transit. In 2005, the percentages were 86.1 percent drive alone, 13 percent carpool, and 0.9 percent by transit. Not surprisingly, the International Gateway Scenario, which has a very aggressive transit network, shows the highest transit mode split.

For reference, the U.S. Census's 2006 American Community Survey indicates the following mode splits for the Atlanta-Sandy Springs-Marietta Metropolitan Statistical Area: 77 percent drive alone, 11 percent carpool, 4 percent public transportation, 1 percent walk, 2 percent other, and 5 percent work at home.

Mode split statistics were also calculated for each sub-county area. A table showing the number of trips, mode split, and since 2005 for each SCA can be found in the Appendix. For convenience, the SCA Map is reproduced on page 77. Below are some highlights:

Transit Usage

- SCA 6, in the southwest part of the County, has the highest transit usage under all conditions – current and future. In 2005, it had a 2.8 percent transit share. The Middle of the Pack Scenario has a 4.2 percent transit share. The International Gateway Scenario has a 9 percent share. The International Gateway land use with Middle of the Pack network Alternative has a 4.7 percent transit share. This is not unexpected. This area is near the existing MARTA stop in Doraville and will have increased transit service in the future scenarios. It is also an area that currently has and is expected to continue to have higher density housing and lower car ownership.

- The second highest transit rates are not uniform. In 2005, SCA 8 had the second highest transit rate at 0.9 percent. This could be because of the many commuter bus lines that go through the area. With the two Middle of the Pack transportation network alternatives, SCA 4 had the second highest rates at 1.7 percent for the Middle of the Pack land use and transportation Scenario

Table 43: Number of Gwinnett-Based Work Trips

	2005	2030 Middle of the Pack Scenario	2030 International Gateway Scenario	2030 IG LU/MoP Network Alternative
Gwinnett-Based Work Trips – Total Trips	575,500	694,100	788,900	788,700
Gwinnett-Based Work Trips – Drive Alone	495,200	593,600	640,900	653,500
Gwinnett-Based Work Trips – Carpool	75,000	91,100	120,400	122,100
Gwinnett-Based Work Trips – Transit	5,300	9,400	27,600	13,100

Table 44: Percentage of Gwinnett-Based Work Trips

	2005	2030 Middle of the Pack Scenario	2030 International Gateway Scenario	2030 IG LU/MoP Network Alternative
Gwinnett-Based Work Trips – Total Trips	100.0%	100.0%	100.0%	100.0%
Gwinnett-Based Work Trips – Drive Alone	86.1%	85.5%	81.2%	82.8%
Gwinnett-Based Work Trips – Carpool	13.0%	13.1%	15.3%	15.5%
Gwinnett-Based Work Trips – Transit	0.9%	1.4%	3.5%	1.7%

and 1.5 percent for the International Gateways land use and Middle of the Pack transportation network alternative. In the International Gateway Scenario, SCA 7 had the second highest transit usage rate at 3.0 percent. This could be associated with the high increase in services going along the I-85 corridor.

- SCA 3, in the southeastern part of the County, has the lowest transit usage. Zero in 2005, 0.2 percent in the Middle of the Pack Scenario, 0.6 percent in the International Gateway Scenario, and 0.3 percent in the International Gateway land use with Middle of the Pack network Alternative.

- SCAs 1 and 2 also have very low transit usage rates (between 0.1 percent in 2005 and 1.0 percent under the International Gateway Scenario).

Carpool Rates

- In the future scenarios, SCA 6 also has the highest carpool rates: 18 percent in the Middle of the Pack Scenario, 22.2 percent in the International Gateway Scenario, and 23.1 percent in the International Gateway land use with Middle of the Pack network Alternative. In 2005, SCA 4 had the highest carpool rate at 14.5 percent (SCA 6 was second with 14 percent).

- In the future scenarios, SCA 8 has the second highest carpool rates – 14.6 percent in the Middle of the Pack Scenario, 16.5 percent in the International Gateway Scenario, and 16.4 percent in the International Gateway land use with Middle of the Pack network Alternative.

- The lowest carpool rates are found in SCA 7 in 2005 (11.3%) and in SCA 3 in all future scenarios (10.0 percent in the Middle of the Pack Scenario, 10.1 percent in the International Gateway Scenario, and 9.9 percent in the International Gateway land use with Middle of the Pack network alternative).

- The second lowest carpool rates are in SCA 8 in 2005 (12.6 percent), SCAs 1 and 2 (11.4 percent) in the Middle of the Pack Scenario, SCA 4 in the International Gateway Scenario (11 percent) and in the International Gateway land use and Middle of the Pack transportation network (11.3 percent).

- In SCAs 2 through 5, carpool rates decreased in all future scenarios over 2005 rates. In SCAs 6 though 8 carpool rates increase in all future scenarios over 2005. In SCA 1, it goes down in the Middle of the Pack scenario, but increases in the others.

- Of the four SCAs that see increases in carpooling in the future scenarios, SCAs 6 and 7 see the greatest increase in the International Gateway land use Middle of the Pack transportation network alternative and SCAs 1 and 8 saw the greatest increase in the International Gateway Scenario.

Drive Alone Rates

- In 2005, the highest drive alone rates were in SCA 7 at 87.0 percent. In the future conditions, SCA 3 has the highest percentages: 89.8 percent in the Middle of the Pack Scenario, 89.3 percent in the International Gateway Scenario, and 89.8 percent in the International Gateway land use with Middle of the Pack network Alternative.

- SCA 6 also has the lowest drive alone percentages in all conditions: 83.3 percent in 2005, 77.8 percent in the Middle of the Pack Scenario, 68.8 percent in the International Gateway Scenario, and 72.2 percent in the International Gateway land use with Middle of the Pack network Alternative.

Comparing the Different Transit Modes

Even though the CTP's transit network is modest, as part of the analysis conducted for the CTP, five different transit mode scenarios were tested: 1) the Gainesville Commuter Rail Line; 2) the Athens Commuter Rail Line; 3) Light Rail Transit (LRT) along Satellite Boulevard, Indian Trail Road, Buford Highway, ending at the Doraville MARTA station; 4) Transit rail extension to Gwinnett Arena/Chamber of Commerce; and 5) three additional express bus lines that go from Mall of Georgia to Windward Parkway in Alpharetta, Mall of Georgia to Perimeter (GA 400/I-285), and Dacula (near Old Freeman Mill Road at SR 316) to Downtown Atlanta. That analysis provides interesting information about what the ridership would be if each project were the only transit improvement made. The analysis also shows the impact of different headways (or frequencies) on ridership. This information can help decision makers think about what transit projects to move forward since it will be difficult and cost prohibitive to do them all.

The information shown in Table 45 is for the Middle

of the Pack land use scenario only. This analysis was not performed on the International Gateway land use scenario.

Not surprisingly, the results show that increased frequency results in more riders. This is true for all five alternatives. The transit rail extension provides the greatest increase in riders, significantly higher than provided by LRT, which provided the second highest number of riders. Express bus with 5 to 10 minute headways attracted more riders that the two commuter rail lines combined with similar headways. However, ridership on express bus drops off significantly once headways increase.

It is important to note that the ridership figures are not cumulative. That is, if the County were to implement all of the transit projects, the projected ridership would not be the sum of the individual projects' ridership. This is because some of the projects serve similar areas and populations so building both would cause riders to choose between the alternatives.

Conclusions

- It will be difficult for the County to simply build its way out of congestion. The $1.6 billion of roadway improvements shown in the Middle of the Pack scenario and the additional $1.4 billion of roadway improvements do not reduce congestion compared to today. They do, to various degrees, reduce the rate at which congestion worsens. However, it is clear that if Gwinnett continues to grow its population and job base and does not make various roadway improvements, then traffic congestion will become much worse. It should be noted that traffic will likely never get as bad as forecasted because people will change their travel behaviors in response to worsening congestion. They may change their travel routes, arrive at work earlier or later, telecommute more, carpool, move closer to their jobs, or the jobs themselves may relocate within the County.

It will be difficult for the County to simply build its way out of congestion. It should be noted that traffic will likely never get as bad as forecasted, because people will change their travel behaviors in response to worsening congestion.

- It will also be difficult for the County to rely on transit to build its way out of congestion. The percentage increases in transit ridership are large in the International Gateway scenario, however, in absolute numbers, the gains are quite modest – only 27,000 daily transit trips in the transit-heavy International Gateway scenario. For the investment required to implement the projects, the results are very modest. However, if gas prices continue to rise and more commuters ride transit, the situation may change.

- The sensitivity analysis prepared for the CTP shows that a MARTA extension to Gwinnett Place Mall has the greatest potential to attract riders. However, this extension would be very expensive, especially in light of the number of potential riders. Implementing a high service level bus rapid transit system will incur lower costs and is an incremental way to attract drivers out of their private vehicles and into transit. In order for transit service to attract riders who have travel

Table 45: Ridership Benefits of Different Transit Improvements

Transit Alternative	Gainesville Commuter Rail			Athens Commuter Rail			Light Rail Trasit			Transit Rail Extension			Express Bus		
Headway	5	15	40	5	15	40	5/10	10/15	15/30	5/10	10/15	20/30	5/10	15/30	30/60
Ridership	4,400	2,800	1,100	2,700	2,200	1,200	17,100	12,800	7,600	42,300	34,900	20,100	7,900	1,500	900

choices, it will need to provide customers with quality services. That is, the trips need to be fast and frequent; the ride needs to be clean, comfortable, and safe; and the experience needs to be positive.

- Overall, given the very high capital cost of commuter rail service, this analysis raises questions about the cost effectiveness of commuter rail. It is important to note, however, that the Middle of the Pack scenario land use has significantly fewer jobs than the International Gateway scenario and a lesser concentration of jobs and housing in the I-85 and GA Hwy 316 corridors. Additional analysis, therefore, beyond that done for this plan is needed to resolve the transit mode question.

- The analysis indicates that implementing land use policy changes that concentrate jobs and housing in key areas can help reduce the growth in congestion and improve transit and carpooling usage. While these measures will not eliminate congestion, they do appear to allow the County to accept some additional growth without causing dramatic increases in congestion and delay.

- Gwinnett (and the Atlanta region) will likely need to look at congestion pricing to alleviate peak hour gridlock and increase the viability of transit. This kind of solution, now implemented internationally in several countries and being piloted in several U.S. cities, seems the way of the future. High-occupancy toll (HOT) lanes are one form of congestion pricing[6] but a much more comprehensive, electronically-based approach will need to be contemplated. While the full benefits of congestion pricing will only be realized on a regional scale, Gwinnett can realize some benefits from pricing policies within the County from a carefully constructed local program.

Land use policy changes that concentrate jobs and housing in key areas can help reduce congestion and improve transit and carpooling usage.

C.1.2 Sewer Infrastructure Testing

Sewer capacity is seen as one of the major infrastructure challenges for the timeframe of this Plan. The current system and challenges it presents were described in Part 1, Section C.7 of this document.

The County has been divided into 60 sewer sub-basins for planning purposes. These sub-basins, largely coinciding with drainage areas, allow us to consider the impact of wastewater flows in localized areas. Flow projections for each scenario have been calculated by the Gwinnett County Department of Water Resources (DWR) based on population and employment forecasts provided by the consultant team to the Department of Planning and Development.

The Department of Water Resources has created a set of five maps to help demonstrate the differences in wastewater flows resulting from the two primary scenarios considered in the Unified Plan – Middle of the Pack and International Gateway. Four of the maps compare the historical flows from 2007 with the projected flows for 2030; one map directly compares the difference in the 2030 flow projections for the two scenarios.

A short description for each map follows:

6 HOTlanes allow buses and private vehicles with a certain number of passengers a free ride in a designated lane, while vehicles that do not meet the minimum passenger requirement can use the lane for a fee,

Figure 66: Increase in Flows from 2007 Actual – 2030 MOP

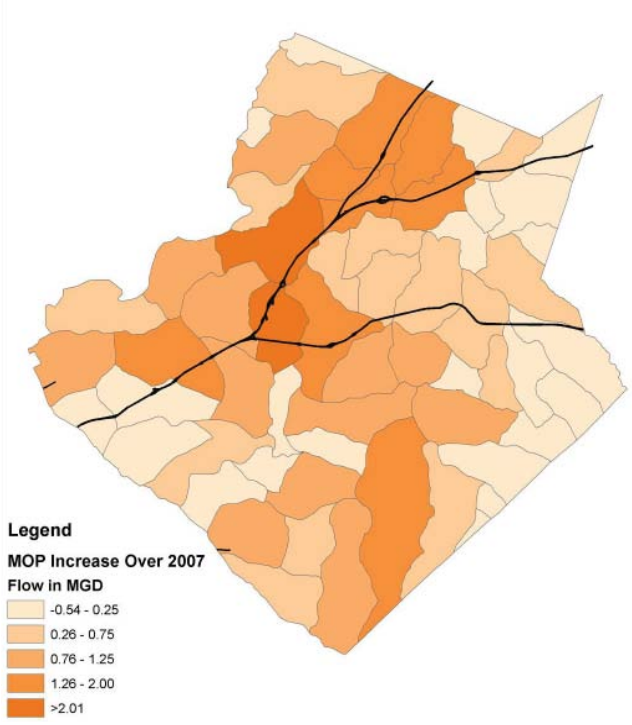
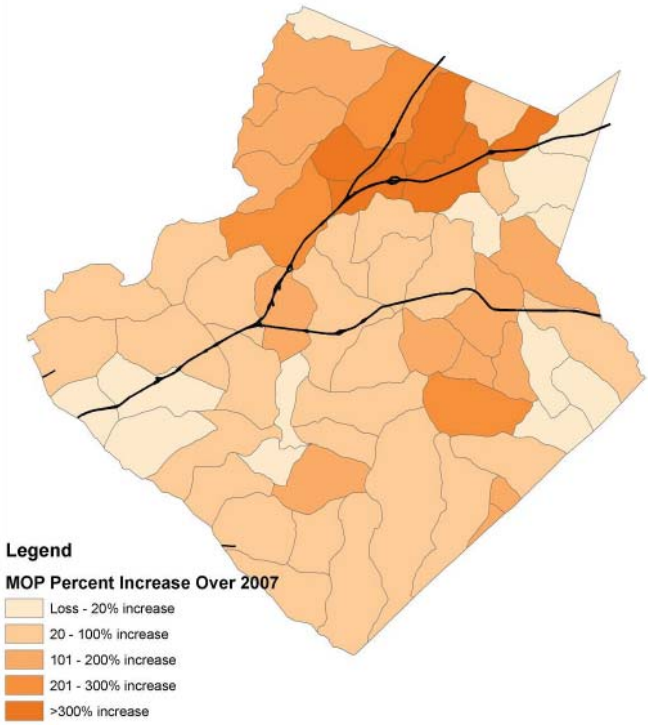


Figure 66 illustrates the increase in wastewater flows from 2007 projected for the Middle of the Pack scenario. This change in wastewater flows has been divided into five categories. The lightest shade represents the most stable flow, while the increasingly darker shades represent greater flow increases.

Figure 67: Percent Increase in Flows from 2007 Actual – 2030 MOP



While knowing the actual increase in flow is important, the percent of increase sheds more light on the impact of the change to the County. Figure 67 illustrates the percent of change from today based on the Middle of the Pack scenario. The smaller the percentage increase the less impact those flows will have on infrastructure needed to support the flows; the darker shades represent potential areas of major infrastructure improvements.

Figure 68: Increase in Flows from 2007 Actual – 2030 Gateway

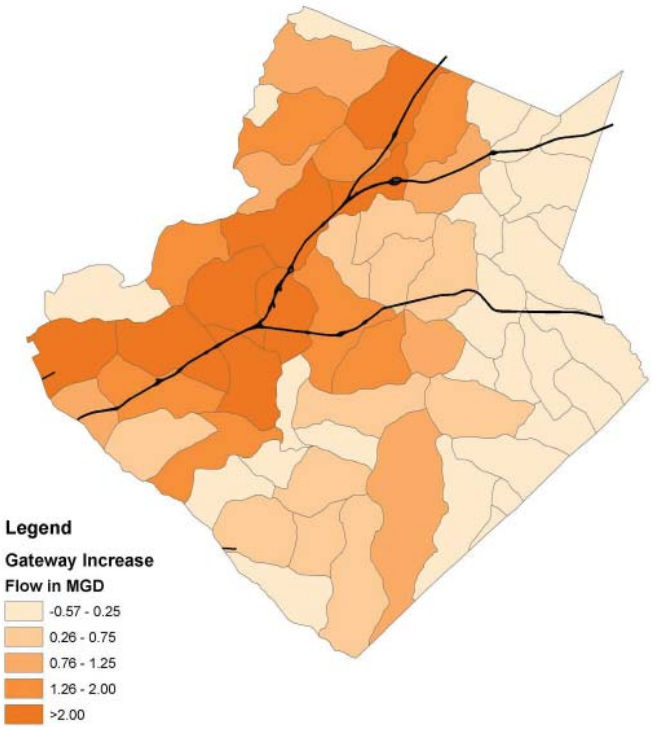


Figure 68 illustrates the increase in wastewater flows from 2007 based on the International Gateway scenario. This change in flow has been divided into five categories. The lightest shade represents the most stable flows, while the darker shades represent greater flow increases.

Figure 69: Percent Increase in Flows from 2007 Actual – 2030 Gateway

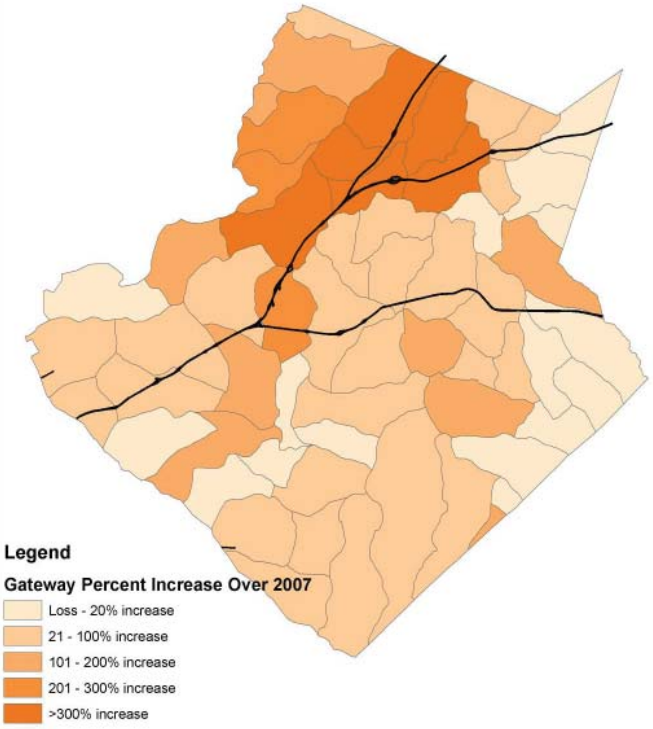


Figure 69 illustrates the percent of change from today based on the 2030 International Gateway scenario. The smaller the percentage increase the less impact those flows will have on infrastructure needed to support the flows; the darker shades represent potential areas of major infrastructure improvements.

Concentrating more growth presents a challenge, but that challenge would, for the most part, be quite predictable, focused, and planned for appropriately.

Figure 70: 2030 Flow Gateway vs. MOP

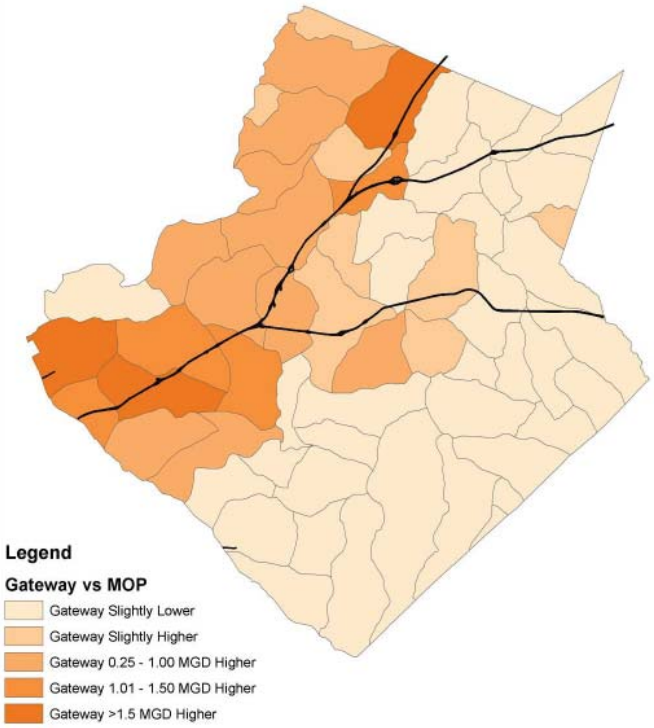


Figure 70 illustrates the difference in the wastewater flows between the two scenarios for each of the sewer sub basins. The light shades indicate areas where the impact is nearly the same for both scenarios and the darker shades indicate areas where the Gateway scenario creates significantly more flow than the Middle of the Pack scenario. As you would expect, the largest difference is seen along the I-85 corridor.

These projected wastewater flows translate directly to major future investment needs. For the most part, these infrastructure needs occur in areas which have previously been shown to experience capacity constraints and already have identified infrastructure improvement needs such as replacement or parallel interceptors. Concentrating more growth in these areas presents a challenge, but that challenge would for the most part be quite predictable, focused, and planned for appropriately. Additionally, a policy decision to not extend sewer into the now-rural eastern area of the County, as in the International Gateway scenario, would allow capital dollars to be focused to improve areas in the western part of the County along the highway corridors. This would further support the revitalization and economic development initiatives in this plan. Ensuring that the sewer system is upgraded and expanded in key locations is one of the most important measures Gwinnett can take to protect its economic development potential.

C.1.3 Fiscal Consequences

This section is derived from the detailed fiscal analysis included as Appendix H in the Volume 3 Appendices to this Plan. Readers seeking a full understanding of this important work should review that Report authored by Dr. Robert Eger, formerly of Georgia State University.

Overview of Approach and Key Assumptions

Gwinnett County annually provides the Georgia Department of Community Affairs (DCA) operating expenses and revenue data along with capital costs. Enterprise funds, such as the water and sewer fund in Gwinnett County are not part of the data supplied to the State. Some of the data was presented earlier in Part I Section C.9 of the Plan. Using the data provided to DCA, estimated expenses and revenues for Gwinnett County were projected for the year 2030 using a fiscal forecasting program developed by the Georgia Institute of Technology called WebFIT.™ Using this model, 2030 estimates of expenditures and revenues were developed for all three scenarios.

Only the estimate for the Slowdown scenario resulted in a budgetary surplus using the WebFIT™ Model. This counterintuitive outcome was analyzed and plausible explanations were developed to account for the unexpected results.

- First, the WebFIT™ outcomes do not take into consideration any direct changes in services based on the changing socio-economic conditions proposed in the scenario. This is a well-documented limitation of this model.
- The second explanation is that changes in the capital investment required in maintaining the county infrastructure is based on FY2005 spending and therefore does not consider any infrastructure needs beyond FY2005 spending levels although the SPLOST revenues are included.
- Third, WebFIT™ estimates do not address the varying stages of development that currently exist and that will exist within the county in 2030. Instead, WebFIT™ treats all areas in Gwinnett County as identical in terms of service needs.

To address the limitations inherent in the WebFIT™ estimates, an Alternative model was derived. The Alternative model uses the fiscal operating base as reported in the County's financial reports. This fiscal base is composed of all operating expenses and revenues including the enterprise fund for water and sewer. Since the water and sewer facilities and services are wholly owned by the County, they are considered an integral part of County operations and are treated as operating for purposes of this modeling effort.

The removal of capital costs renders the analyses independent of each other; although the revisions result in the loss of direct comparability between the analyses, the Alternative model is able to focus on operating expenses and revenues, by far the largest component of the budget. The Alternative analysis also eliminates two other known limitations of the WebFIT,™ the inability to address changes in socio-demographic conditions and the treatment of all County areas as equal in service requirements. This ability to relax some of the assumptions of the WebFIT™ model provides a more accurate analysis of potential operating

Table 46: Poverty Estimates for 2030 by Sub-County Area (SCA)

	SCA 1	SCA 2	SCA 3	SCA 4	SCA 5	SCA 6	SCA 7	SCA 8	County
July 1, 2005 est.	6.85%	3.11%	3.21%	5.26%	3.78%	14.82%	4.94%	7.26%	7.44%
Gateway 2030	7.23%	3.33%	3.42%	5.56%	4.03%	15.50%	5.27%	7.69%	7.86%
Middle 2030	6.50%	4.23%	4.20%	8.36%	6.77%	20.57%	8.29%	10.73%	9.62%
Slowdown 2030	8.21%	5.51%	5.37%	10.17%	8.51%	24.20%	10.51%	13.17%	12.10%

expenses and revenues.

Alternative Model Estimates

Table 46 provides poverty estimates by sub-county area and scenario. These estimates were developed using the July 2005 American Community Survey as the base, which is the identical base used in the estimates provided by Dr. Thomas Hammer. These estimates suggest that by 2030 poverty will increase in Gwinnett County in the Middle and Slowdown scenarios. The most dramatic change is in the Slowdown scenario, while in the International Gateway Scenario poverty levels are similar to those in 2005.

Table 47: Population Estimates for 2030

Scenario	Population Estimate
Gateway 2030	1,136,476
Middle 2030	1,027,880
Slowdown 2030	887,847

Alternative Model Results for Each Scenario

Using the poverty change and the population estimates (Table 47), the 2030 operational expenses and revenues are projected for each of the scenarios.

The Slowdown scenario results are shown in Table 48. This low growth scenario shows the largest change in total expenditures of the scenarios. Revenue of $913 million is projected resulting in a deficit in the range of $109 million to $259 million. This leads to low and high operational expenses which are noted as an operational expenses range. This deficit is in the range of 11.9 percent to 28.4 percent of total estimated revenues. Driving this outcome is the large change in poverty forecasted for Gwinnett causing a large rise in the costs of services, particularly in police and fire services.

Table 48: Summary Expenditure and Revenue Estimates for Regional Slowdown Scenario

Scenario	Estimates
Slowdown Revenue	$913 million
Slowdown Expenditure	$1,022 to $1,172 million

The Middle scenario results are shown in Table 49 This steady-state scenario shows the low range of total expenditures identical to that of the Gateway scenario. Revenue is estimated at $1,025 million realizing a deficit in the range of $3 million and $84 million. This deficit is in the range of 0.3% and 8.2% of total estimated revenues. At the low estimate of expenditures this is a breakeven scenario and at the high end of expenditures there is a deficit. This steady state scenario may leave Gwinnett County at breakeven in the year 2030 or has a potential revenue shortfall of about 8% in 2030.

Table 49: Summary Expenditure and Revenue Estimates for Middle of the Pack Scenario

Scenario	Estimated Range
Middle Revenue	$1,025 million
Middle Expenditure	$1,028 to $1,109 million

The Gateway scenario results are shown in Table 50. In this scenario the police and fire expenses in 2030 are higher than the Middle scenario on the low range but lower on the upper range. This scenario assumes limited suburbanization on the east side of Gwinnett County, which will directly affect the operational expenditures. Sensitivity analysis of the scenarios suggest that the savings resulting from a lower density east side are on the order of $27 million in 2030. This assumption was not made for either the Slowdown or Middle scenarios. Expenditures overall have a much smaller range than either the Slowdown scenario or the Middle scenario. Revenue is estimated at $1,090 million, realizing a surplus in the range of $45

A Dilemma: Funding Transportation Improvements

Congestion mitigation, transit allocation, and project costs are common impediments when growth is forecasted in a long range fiscal estimation. What options do local governments have to address the funding shortfalls revealed? This discussion draws from the fiscal analsyis conducted for the Unified Plan which is contained in Appendix __.

Current Funding Sources and Patterns

A limiting factor for local governments, such as Gwinnett County, is the intergovernmental complexity of surface transportation financing. The Georgia Department of Transportation (GDOT) assistance for local government streets and roads primarily is provided through two programs, the Local Assistance Road Program (LARP) which is designated exclusively for resurfacing, and State Aid contracts, which cities and counties can use for any type of road or bridge work.

The LARP funding for Gwinnett County, with its large population within the unincorporated areas, shows it is receiving a larger amount of funding than its comparable counties and both the state average and median over the past 2 years. Funding through state aid, however, is uneven when compared to LARP funding. These two years of funding are important since they represent a change in funding by the GDOT. Gwinnett County's unincorporated areas received a total of $4.3 million for resurfacing and $2.5 million for road and bridge for the two year time period. If we assumed, for example, that the road and bridge funding would be available continuously in this amount, the Ronald Reagan Parkway extension, at a projected cost of $48.2 million, will be substantially underfunded.

Structural Challenges

Gwinnett County, like most local governments, raises highway funds almost entirely from own source revenues, property taxes and the general fund. This is in contrast to state governments which raise about 75 per cent of revenues for highways and transit from gas taxes and vehicle fees. Even when local officials are willing to take a chance by imposing additional or new taxes for transportation, a state may not allow change. So what can local governments, like Gwinnett County, do to provide needed infrastructure without changing state law?

Other Options

There are limited resources in federal aid for municipal and county governments, but that makes up only about 2% of the total funds used for road construction. Other sources that have been used are income tax, state aid, property tax, sales tax, and other revenue. Currently, SPLOST, property tax, and other tax revenue sources such as TAD and CIDs are the limited sources local governments have to provide local roads and bridges. As noted earlier, State Aid and LARP are minor sources of revenues for large projects. Debt financing as either pay-as-you-go or general obligation bonds are an additional option. Currently, Georgia law does not allow for a local option gasoline tax as found in Florida.

Georgia law does allow for public-private partnerships, however the sale of a road to a private corporation as a basis for revenue as found in toll fees has not yet been accomplished in Georgia. Several states, such as Virginia, have used public-private partnerships, such as the Pocahontas Parkway project in 1998. Projects that meet the regional importance criteria can apply to the Transportation Infrastructure Finance and Innovation Act (TIFIA) for financial aid. This federal program makes credit available in the form of secured loans, loan guarantees, and standby lines of credit for projects; however this program does not alleviate the need to raise revenues.

The bottom line is that in Georgia local governments have a limited ability to raise revenues outside of general fund revenues and debt financing. Given that state aid to local roads is limited, choices such as public-private partnerships may provide options under Georgia Law. The use of a local option gasoline tax, currently not allowed under Georgia Law, but currently in use in Florida, could provide local governments with additional choices for funding projects.

million to $62 million. This surplus is in the range of 4.1 percent to 5.7 percent of total estimated revenues. This is the only scenario that produces a potential budgetary surplus result.

Table 50: Summary Expenditure and Revenue Estimates for International Gateway Scenario

Scenario	Estimated Range
Gateway Revenue	$1,090 million
Gateway Expenditure	$1,028 to $1,045 million

Alternative Model Outcomes

Overall the three scenarios result in very different fiscal outcomes. When poverty and cost allocation are taken into account, the Alternative model, which incorporated a series of socioeconomic issues, provides a very intuitive outcome. In an economic slowdown, as forecasted with the Slowdown scenario, Gwinnett County's operating budget is projected to have a deficit throughout the expenditure range. In the Middle scenario, a steady state based on FY2005, Gwinnett County is projected to have two potential outcomes based on the expenditure range and those results are breakeven or deficit. Throughout the expenditure range of the Middle scenario, the County never produces a fiscal surplus. In the Gateway Scenario, revenues exceed expenditures throughout the expenditure range, providing the County with a fiscal surplus.

The effects of the Evaluation Results on Plan Policies and Priorities can be summarized as follows:

- Maximize policies that maintain current income levels and attract new higher income residents.
- Maximize policies that will facilitate new jobs in high wage economic sectors.
- Minimize major expansions of new suburban development in under- serviced areas.
- Strongly promote new sources of funding for infrastructure.

Continuing a "business as usual" policy will not generate sufficient revenue to fund ambitious initiatives such as new roads, major infrastructure upgrades, or major transit initiatives that could support more significant changes in Gwinnett's future.

Conclusion

The results of the evaluation became the basis for developing or adjusting the various components of the theme based plan features and policies that Part 2, Section D describes.

This evaluation process revealed both areas of opportunity and areas of deep concern. The results of the evaluation process were a prime factor in the development of specific plan policies and actions to underpin the many opportunities for Gwinnett's continued prosperity and well being, and actions needed to mitigate or avert the more troubling aspects of potential future events.

The fiscal analysis of the scenarios demonstrated that continuing a "business as usual" policy which reinforces the current trends (Middle of the Pack Scenario) will not generate sufficient revenue to fund ambitious initiatives such as new roads, major infrastructure upgrades, or major transit initiatives that could support more significant changes in Gwinnett's future.

D. THE CENTRAL THEMES

D.1 Overview

The organization of the Plan around themes rather than traditional "elements" is the most apparent thing that makes this Gwinnett Unified Plan different from the typical comprehensive plan

The themes are organizing concepts expressed as the major challenges that Gwinnett must meet to help make the Gwinnett of 2030 a stable, attractive and prosperous place in which to live and work. Using themes enables different threads of the overall story to be woven together and even the more complex interrelationships of different issues to be clearly shown (e.g., how economic development requires good transportation planning and a sound approach to housing choices).

The themes that this Unified Plan uses to present its major recommendations are:

1. Maintain Economic Development and Fiscal Health
2. Foster Redevelopment
3. Enhance Mobility and Accessibility
4. Provide More Housing Choices
5. Keep Gwinnett a "Preferred Place"

The following section provides an overview of what topics are covered under each of these five themes and how many of these items are linked to other themes. It also lists the major policies that will be needed to fulfill them. (Details of the policies, who is responsible for their implementation, phasing of actions and expected outcomes are in Part 3 of this plan.)

Note: The maps that follow each theme show the most important spatial results of carrying out the policies associated with each theme and should be referenced in future land use and zoning decisions. Nevertheless, these maps do NOT cover all of the policies and actions needed to achieve the Unified Plan's goals and priorities. All future decisions regarding implementation of any of the policies cited here must also refer to the more detailed explanations of their intent and expected outcomes that are detailed in Part 3.A of this plan.

D.2 The Details

D.2.1 Theme 1: Maintain Economic Development and Fiscal Health

Economic Development

Gwinnett's ability to grow its economic base is fundamental to its long term fiscal abilities to sustain the infrastructure, government services, and publicly provided amenities that will be a big part of its overall well being and attractiveness as a "preferred place."

Maintaining economic development is not merely a question of capturing and adding more jobs to those that are already here. Two decades from now Gwinnett's economic base will inevitably be different from today's business and job profile. For example, the migration of many light industrial and manufacturing jobs will likely persist. Growth based industries such as homebuilding could also decline as Gwinnett matures and further out regional jurisdictions become the main arena of suburban change.

The types of businesses and jobs that can be attracted in place of Gwinnett's diminishing sectors is a major concern of this Unified Plan in large part because the results will have direct and significant implications for the income profile of Gwinnett's residents, the value of its residential and business properties and, as a consequence, its tax base.

Gwinnett long ago ceased to be a bedroom community for commuters to other jurisdictions. Where in 1980 there were 0.3 jobs for every person, in 2000 there were 0.5 jobs for every person. In that respect Gwinnett has become one of regional Atlanta's most "job rich" jurisdictions. Furthermore, in 2005 some 68% of Gwinnett residents worked in the County.

Despite such recent job growth, there is no guarantee that Gwinnett will continue to capture a generous share of the Atlanta area's continued long term economic expansion. Nor is it just a question of increasing numbers. There is also no guarantee that Gwinnett will attract a good share of the jobs that the more advanced (and usually better paying) sectors of the regional economy will generate.

The economic policies in the Plan should address the

following questions. These questions have emerged in our work so far on the Plan:

- How to increase Gwinnett's technology and science oriented employers and other sectors such as financial services that create many high skilled, high pay jobs,
- How to avoid an over-reliance on commercial retail as a source of tax revenues
- Whether retaining some base of light industrial and manufacturing is desirable and at what costs
- To what degree can and must employment land be protected for the highest value uses vis-à-vis uses that are more immediately marketable but bring lower long term benefit
- What demands a more technology and service oriented employment base will place on local government services and education systems
- Why better regional and local accessibility and mobility (e.g., to North Fulton County) are crucial for Gwinnett's economic future
- How big infrastructure projects that support economic development can be funded and maintained
- To what degree must Gwinnett offer (and can it afford) various economic development incentives to compete with its regional rivals

Fiscal Health

The winds of change blowing over Gwinnett will ultimately reshape its fiscal landscape. The consistent housing and job growth that has fueled the economy over three decades is projected to slow and with it the underpinnings of the County's enviable fiscal base. As a result, this planning effort included a rigorous investigation of fiscal futures in order to answer the following questions:

- How will the projected economic base changes affect property and sales tax?
- How will the projected changes in income profile affect revenues and expenditures?
- Are there cost-effectiveness thresholds for infrastructure that are sensitive to wall-to-wall buildout of the County?
- Will SPLOST funds continue to support necessary infrastructure expansions?
- Can the County continue to rely on a pay-as-you-grow fiscal philosophy?
- What other financing tools should Gwinnett prepare?
- How much of its potential tax capacity does Gwinnett actually capture?
- Will a millage rate increase become inevitable?

Major Policies and Strategies

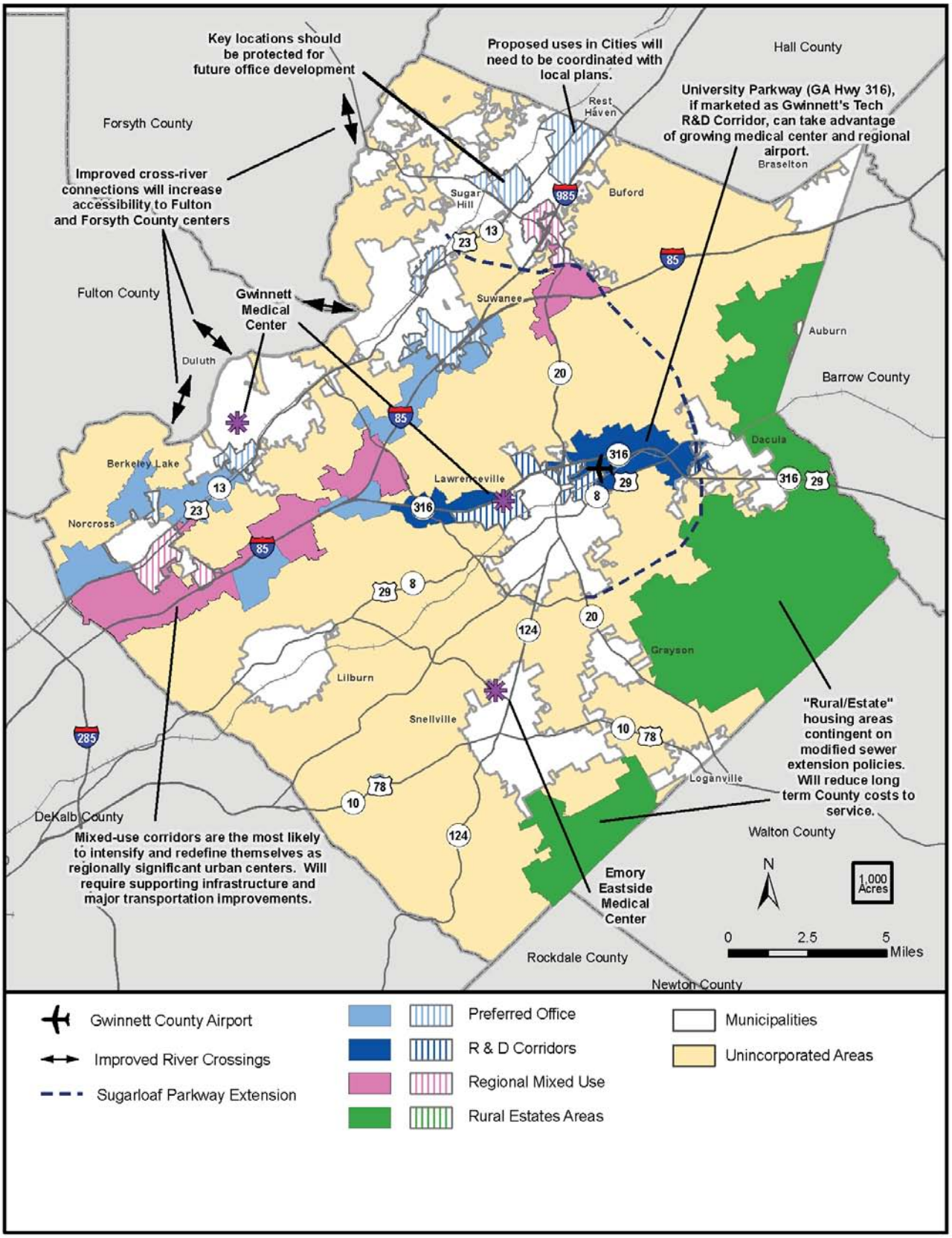
Economic Development

- Policy 1.1: Promote Major Mixed-Use Developments
- Policy 1.2: Protect Large, Well-Located Parcels/Areas for Office Use through Proactive Rezoning
- Policy 1.3: Strategic Placement of Sewer
- Policy 1.4: Use Transfer of Development Rights (TDR) for Rural-Estate Housing in the East

Fiscal Health

- Policy 1.5: Revise Current Millage Rates
- Policy 1.6: Promote University Parkway (GA Hwy 316) Corridor as Gwinnett's Research and Development Belt
- Policy 1.7: Employ Debt Financing of Major Infrastructure
- Policy 1.8: Obtain Appropriate Balance of Retail

Figure 71: Economic Development / Fiscal Balance Map



D.2.2 Theme 2: Foster Redevelopment

Redevelopment is not merely a question of improving older properties or adding more features or amenities such as landscaping or better lighting. As with any maturing county, Gwinnett will increasingly need to promote redevelopment based on a redefinition of purpose of its older areas if it is to avoid finding itself saddled with wide swathes of substandard, vacant or severely underused properties. This concern is especially acute for Gwinnett's extensive acreage of aging strip commercial and traditional shopping center developments much of which may represent an excess of supply for such spaces. Nevertheless, redevelopment priorities will also apply to areas of aging housing units and to former light industrial or manufacturing sites for which replacement uses will need to be determined.

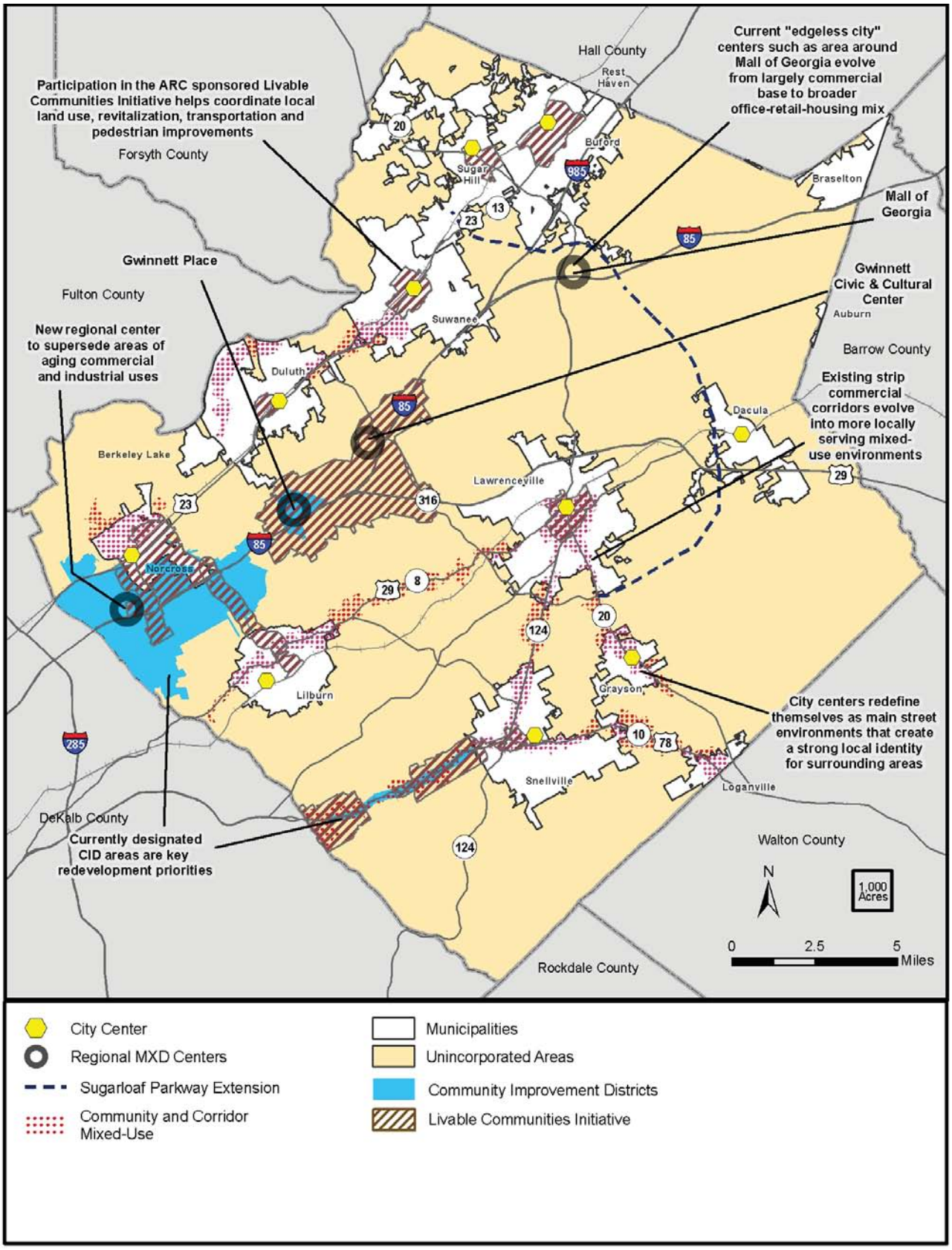
Redevelopment can be expensive and can be much more difficult (and riskier) than building on and the improvement of "greenfield" locations. As Gwinnett matures, it will need to recognize the full extent of its redevelopment needs and opportunities and institute a number of incentives and initiatives to address them. This theme therefore responds to the following questions and concerns:

- Is the existing and planned extent of purely commercial excessive in some areas?
- Is some form of mixed-use a better basis for the long term viability of some retail dominated sites?
- How much will Gwinnett's economic development goals depend on widespread redevelopment?
- To what degree can allowing higher densities or intensity of uses increase the likelihood of a property being redeveloped?
- How effectively can existing redevelopment tools such as community improvement districts (CID) or tax allocation districts (TAD) help promote redevelopment? What new tools can be added?
- To what extent should the public sector bear some of the costs of redevelopment—land assembly, infrastructure upgrades, major road improvements, parking garages?
- To what extent should the public sector bear some of the risks of redevelopment (loan guarantees, deferred taxes, etc.)?
- Can redevelopment help ease Gwinnett's housing affordability problems?
- How can redevelopment incorporate public amenities such as local parks, venues for community events, pedestrian and bike linkages to adjacent neighborhoods, restoration of environmental features and functions, etc?

Major Policies and Strategies

- Policy 2.1: Institute a Variety of Redevelopment Incentives and Bonuses
- Policy 2.2: Promote Densification in Specific Areas Designated for Mixed-Use Through TDRs, Rezoning, Increased Infrastructure Capacity
- Policy 2.3: Use Tax Allocation Districts (TADs)
- Policy 2.4: Promote Shared Infrastructure Facilities
- Policy 2.5: Allow "Corner Stores" within Specified Medium/Higher Density Areas as "Floating Zones"

Figure 72: Foster Redevelopment Map



D.2.3 Theme 3: Maintain Mobility

Perhaps no issue raises more complaints among Gwinnett residents and businesses than traffic congestion. It is also the most intractable (and expensive) issue to resolve – largely because it is a regional-scale problem over which no single jurisdiction can fully prevail. Nevertheless, Gwinnett can do more to remove or reduce the impact of a number of obstacles to better access to centers and attractions within Gwinnett and the region. Gwinnett can also do more to improve movement on the local roads and arterials within Gwinnett. Because increasing traffic congestion may be the greatest long term threat to its economic future, Gwinnett will need to do whatever it can to minimize congestion.

This theme focuses on those actions that Gwinnett can take to better manage travel demand and mobility.

- Land use patterns and intensities are prime determinants of how much traffic is generated. The two scenarios included in this plan will have noticeably different results in this respect.
- Most of Gwinnett's existing developments are poorly connected to each other forcing many minor trips to share arterials with regional traffic. This theme addresses ways to diminish this.
- Transit will not end congestion but it can play a bigger role in tempering it and can provide those without ready access to cars a way to live better. But what forms of transit might work best in Gwinnett and where?
- Better access to North Fulton and its GA400 corridor is key to Gwinnett developing a more office based local economy and to Gwinnett attracting as residents some of those employees in more affluent North Fulton jobs. How can Gwinnett make it easier to get back and forth to North Fulton?
- Too many Gwinnett residents or commuters must work their way across much of the County to I-85 to then get to such greater Atlanta locations as Downtown Atlanta, Midtown, Buckhead, or the various I-285 centers like Perimeter. In what ways might Gwinnett reduce this dependency on I-85?
- How can Gwinnett encourage and better provide for both pedestrians and bicycles within and between Gwinnett's neighborhoods as well as to their locally serving businesses?
- Are there any innovative ways that Gwinnett can fund transportation improvements and enhancements – new road lanes, grade separation at key intersections, new rights-of-way, transit options such as some form of Bus Rapid Transit, MARTA extension into Gwinnett, pedestrian connections between developments, etc.?
- Which highways are best suited for applying congestion management fees? Will such charges on regional arteries like I-85 require regional cooperation or can it apply just within Gwinnett? How can toll avoidance behavior be managed to not adversely impact alternative routes ?

Major Policies and Strategies

- Policy 3.1: Enhance Signal Coordination and Intelligent Transportation Systems (ITS)
- Policy 3.2: Manage Access on Arterials
- Policy 3.3: Enhance Incident Management (Traffic Control Center)
- Policy 3.4: Establish a Road Connectivity Requirement for New Development
- Policy 3.5: Create Transit-Oriented Development (TOD) at Appropriate Sites through Proactive Zoning
- Policy 3.6: Establish a More Extensive Transit System
- Policy 3.7: Pursue Strategic Road Widening and New Alignments

Figure 73: Maintain Mobility and Accessibility Map- Transit

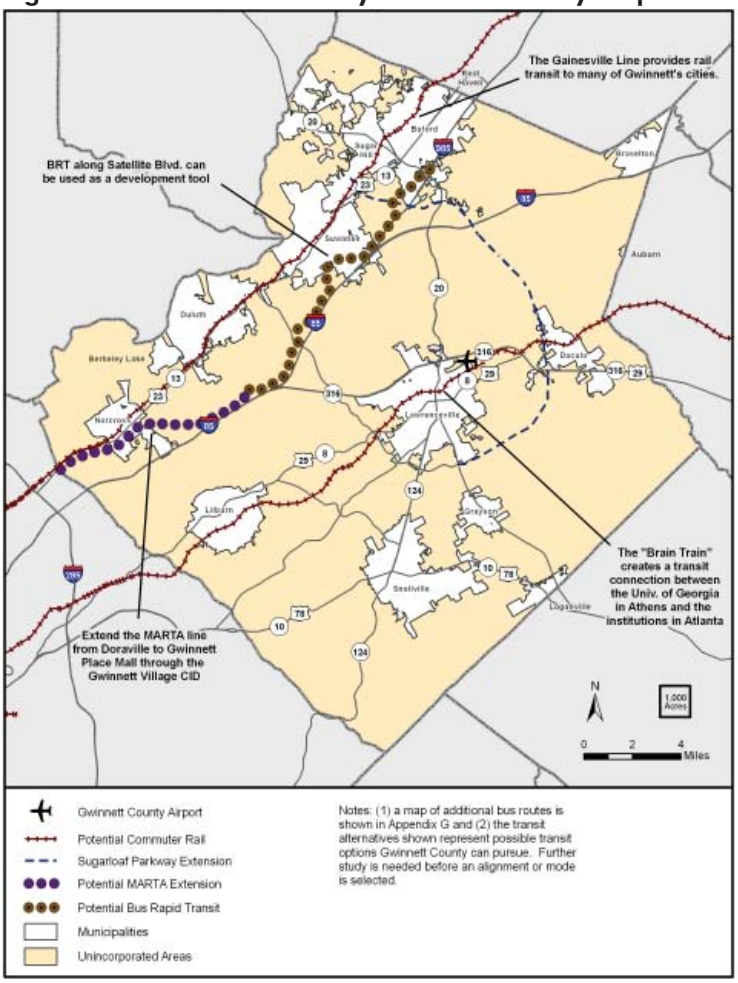
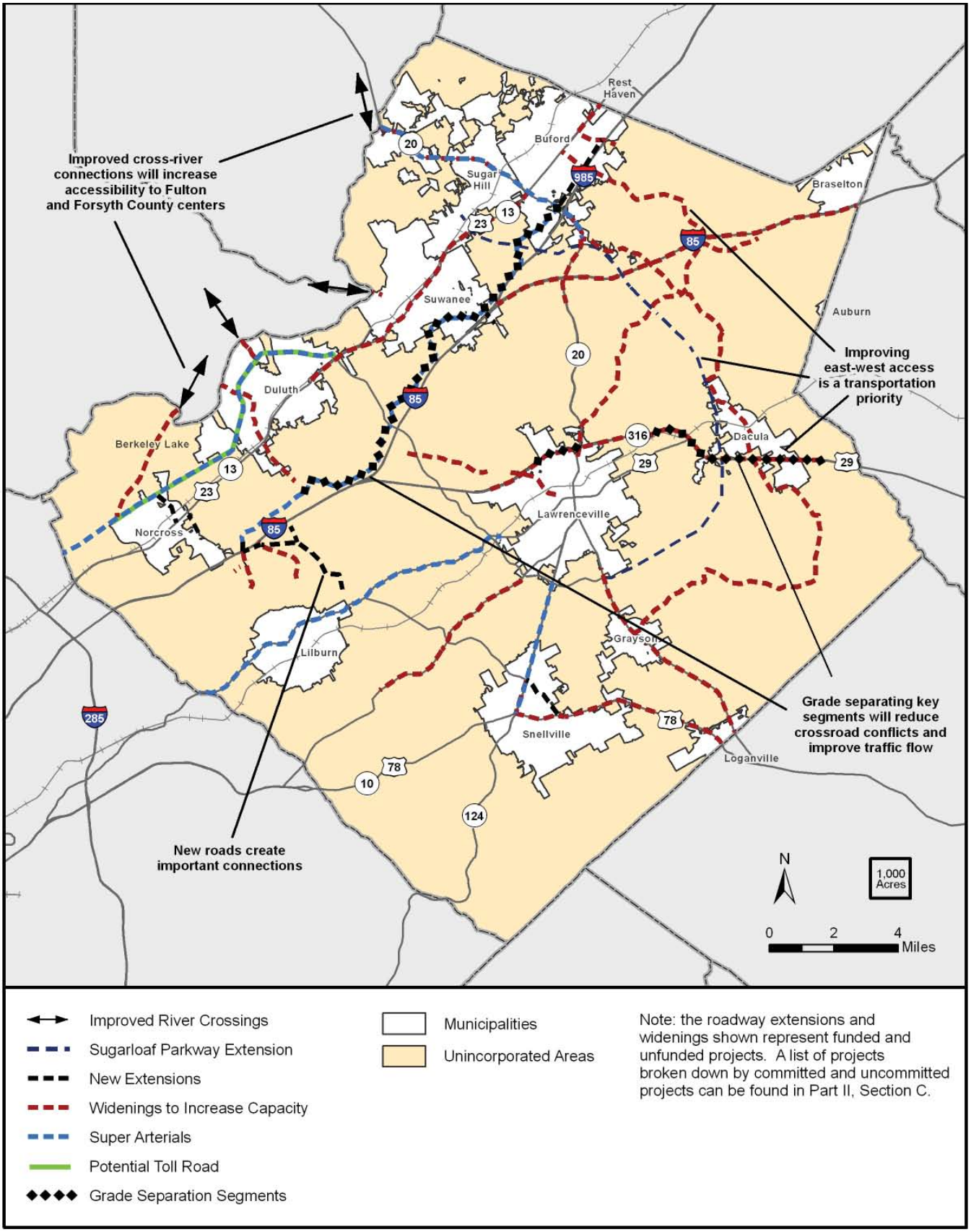


Figure 74: Maintain Mobility and Accessibility Map - Roads



D.2.4 Theme 4: Provide More Housing Choices

The declining quality of some of the County's oldest residential developments has been a growing concern. But, given the overall quality of most Gwinnett neighborhoods, the full range of Gwinnett's housing issues may not be readily apparent to many. As time passes however, the number of current or potential problems demanding attention and resources will increase and dealing with Gwinnett's housing issues will become more complex.

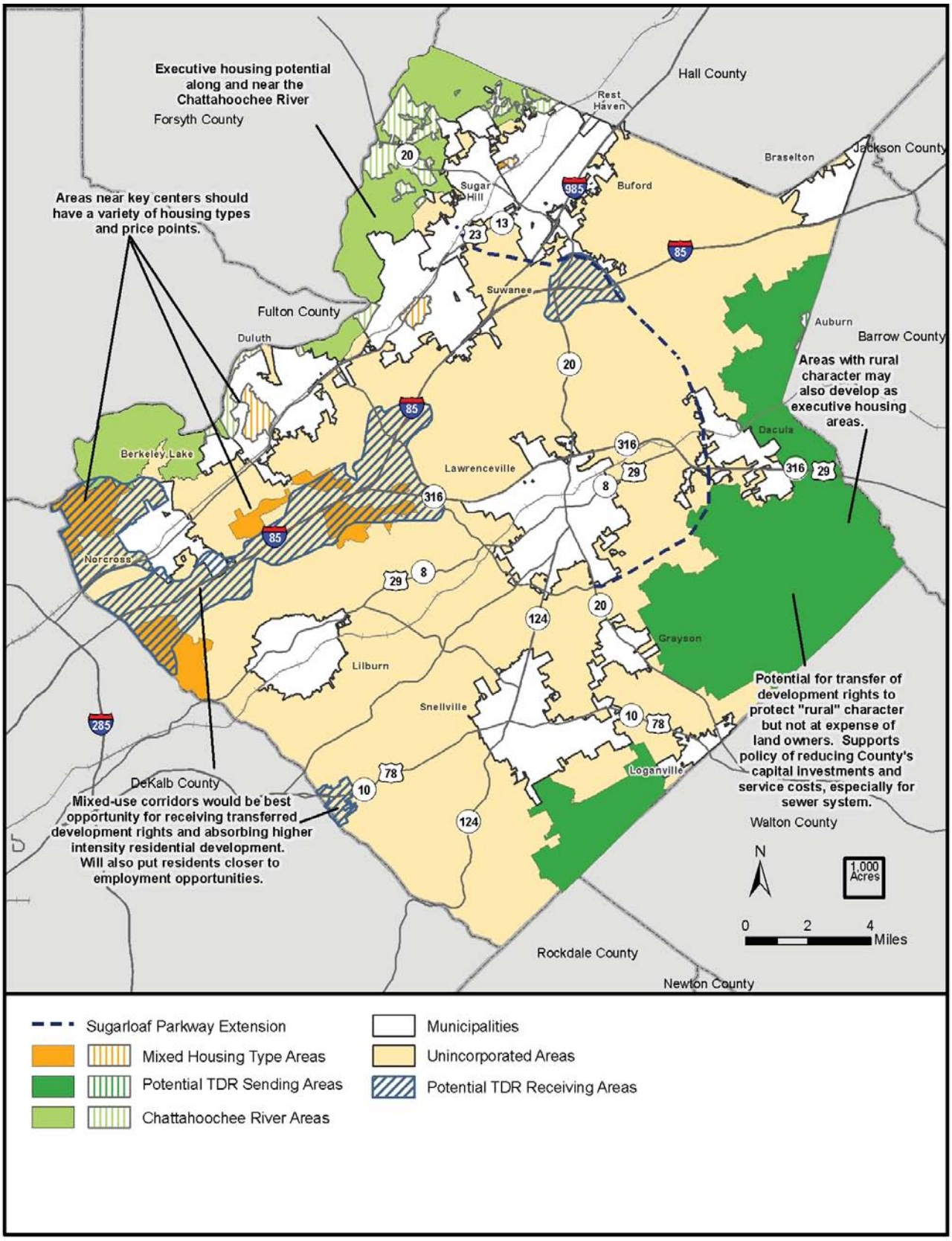
This theme recognizes this growing complexity and links housing issues to such topics as successful economic development and the overall quality of life of those who choose (and are able) to live in Gwinnett. Economic development and housing issues are intricately linked.

- How well each set of concerns is handled can create opportunities or problems for dealing with the other. Job creation and housing demand are, rather obviously, closely linked.
- If Gwinnett grows many jobs, there will be increased demand for nearby housing. If housing cannot be provided for all of the job sectors being created, it will lead to increased commutes in and out of the County (and increased congestion) or even to such employers seeking alternative locations outside Gwinnett.
- Rising or stagnating average incomes will directly affect the type of housing sought and built, how well neighborhoods are maintained, neighborhood stability and, in the case of extremes, the degree of foreclosures or scale of homelessness within Gwinnett.
- Housing needs and preferences are also directly influenced by changing demographics. For example, the large family sizes of many ethnic groups may be keeping household sizes at present levels or slightly higher rather than following the current trend of decreasing average household sizes. Other social trends with implications for changes in household size include the overall aging of the population, increases in non-traditional family organization (e.g. through divorce and custody decisions), differences in how various ethnic groups organize their households (e.g. large extended families), the size of disabled or otherwise dependent special needs populations.

Providing the housing supply to meet all this increasingly varied demand is also becoming more complex. As long as Gwinnett was in a rapid growth mode based on a vast influx of middle class and more affluent households seeking single-family detached environments, the for-profit housing market has generally been able to meet Gwinnett's housing needs. This may be less and less true in the future for a variety of reasons, not the least of which being any prolonged extension or expansion of the current difficulties in the economics of home construction and financing of home purchases. Consequently, this theme also covers the prospects that non-profit providers and County government itself may need to increase their influence over or direct involvement in providing housing opportunities and maintaining the quality of the Gwinnett's housing.

Certain parts of Gwinnett are acquiring a noticeable ethnic flavor – e.g., Koreans in the Duluth area, South Asians in the southwest portions of Gwinnett. Nevertheless, the analysis of housing patterns described in the Trends and Driving Forces section (Part 1.C.5) revealed that the separation of where different racial or ethnic groups live is not highly pronounced and that many groups are increasingly dispersed through much of the County, not gravitating to only certain locations. One of the key challenges of the housing policies of the Unified Plan is to maintain such a pattern, in part by land use decisions that help provide for a variety of housing types and price levels over much of Gwinnett. Also it is important that redevelopment of areas that today have concentrations of poverty or ethnic exclusivity take place in ways that do not simply reconstitute such situations.

Figure 75: Housing Choices Map



Major Policies and Strategies

- Policy 4.1: Establish and Provide Access to More Executive Housing Areas
- Policy 4.2: Preserve Existing Workforce Housing
- Policy 4.3: Expand Maintenance and Rehabilitation Assistance to Homeowners and Small Businesses
- Policy 4.4: Expand Senior Housing Options

These interventions are also an economic development strategy.

D.2.5 Theme 5: Keep Gwinnett a "Preferred Place"

By such important measures as average incomes, neighborhood quality, quality of schools and quality of government services, Gwinnett today is a good place to live and work. Tomorrow it could be even better – a "preferred place" within the Atlanta region to live, work, play and relax.

This theme describes and ties together a broad array of issues that underpin the often cited but rarely explicitly detailed concept of "quality of life." Among these issues are those related to the environment, open space and recreation, culture and entertainment, the quality of development and adding more amenities and convenience to Gwinnett's neighborhoods. Although the items cited below may seem like a random grab bag of ideas, they all relate to the need to more energetically and purposefully pursue aspects of living in Gwinnett that have not yet fully gotten their due.

Achieving this "preferred place" status requires more than resolving the problems and fulfilling the goals that the preceding four themes address. Achieving those goals will create a more efficient and more sustainable framework for economic prosperity, decent and affordable housing and the ability to get around with less difficulty. All of these are important aspects of life in Gwinnett, but, as such initiatives as **Partnership Gwinnett** point out, they are insufficient in themselves to make Gwinnett more than just another successful suburban setting. To go beyond this, one should imagine the improvement in overall quality of life in Gwinnett if many of the kinds of amenities and features cited in this theme were built into every new development, every redevelopment and, where possible, into existing developments.

Issues tied to quality of the built environment that this theme covers are:

- Fashioning a more connected network of open space, environmental features, and greenways, especially in areas where these features are now highly fragmented or isolated from each other.
- Acquiring surplus industrial or commercial sites for open space or recreation facilities in highly developed areas, especially where such facilities are now missing or overstressed.
- Providing more incentives to enhance the open space/green space within new neighborhoods or redeveloped areas, especially mixed use areas.
- Improving the overall quality of architecture and public spaces such as streets; especially enhanced development aesthetics within employment and commercial sites.
- Allowing "corner stores" and other neighborhood oriented services within a "floating zone" category in planned residential areas as long as they can meet specified criteria regarding type of business, size of business, number of nearby households and accessibility by pedestrians, etc.
- Creating stronger incentives to protect and enhance the County's remaining historical resources and its cultural landmarks as signature elements of its overall identity.

A New Center for Gwinnett

One unique type of mixed use center that relates directly to many of the issues tied to maintaining and enhancing the attractiveness of Gwinnett's quality of life is the development of a new cultural, civic and symbolic center for Gwinnett County. Although some of the small cities within Gwinnett have been working toward creating attractive and energized mixed use town centers, the County itself does not have any center of its own that would:

- Be a critical mass of civic, cultural, entertainment and arts attractions
- Be a principal venue for community events such as bazaars, holiday celebrations, fairs and festivals.
- Symbolize that Gwinnett is maturing into a more urban and urbane community with a more defined identity.
- Exemplify that Gwinnett's quality of life amenities are comparable to the best in the southeast United States.

Ideally, such a center should be highly pedestrian friendly, provide for easy pedestrian access to all attractions (once someone has arrived at the Center), and include a range of major venues and smaller attractions and entertainment providers in close proximity to each other. Such a center should also be the heart of Gwinnett's arts and culture community and be the location of numerous special exhibits and special events. It should be a place that is active 18 hours a day, that draws people from all across Gwinnett and from other nearby jurisdictions as well.

The most logical place for such a center is the area around the existing Gwinnett Center. It is highly accessible, located within one of the regional scale mixed use corridors that the Unified Plan promotes. With its convention facilities, its Arena and its Performance Center, this complex already has some of the features that can help anchor an exciting mix of various attractions. However, the current highly auto-oriented nature of the existing complex and its surroundings negates much of what a regionally significant and locally cultural center should be.

To create the type of center that is a real "place" along the lines of a big city 'arts district" or entertainment center area will require a commitment to planning and urban design principles that include:

- Basing the center on a grid of connecting, highly pedestrian-friendly streets that ties together all major attractions and that can be fronted by numerous uses between the main attractions.
- Much of the center should be occupied by "cultural incubator" spaces geared specifically to the needs of the arts community – e.g., work-live units.
- There should be a sufficient variety of outdoor public spaces to meet the various needs of the center and to create interest in visiting the center – green spaces for relaxation, more urban hard surface spaces for events, more outdoor amenities such as public art, fountains, etc.
- Parking must not dominate the environment between attractions but should be subordinate to both the pedestrian realm and the street frontage architecture.
- Creating such an environment will require a concerted effort by the public and private sectors. Various incentives to attract and support a variety of small scale privately-run cultural and entertainment should be part of such a strategy. A key role in helping implement such a strategy would be the participation of a non-profit, privately endowed Arts Council as outlined in Policy E.6 in Part 3, Section A.1 of this Unified Plan.

School Issues

One issue important to Gwinnett's quality of life is the quality of its school system, long a source of local pride and one of the strongest magnets drawing new families to Gwinnett. The Unified Plan does not deal with school issues directly. Nevertheless, the different scenarios will affect school issues through their varied outcomes regarding increasing or decreasing population in specific sections of the County (which affects the number of schools needed and where they can be located). Another way the scenarios would affect schools is by by leading to different type of household income structure in maintaining today's overall high proportion of affluent households.

In addition to better treating its physical framework, Gwinnett needs to nurture its cultural resources and talents. Two relatively easy ways to achieve this are:

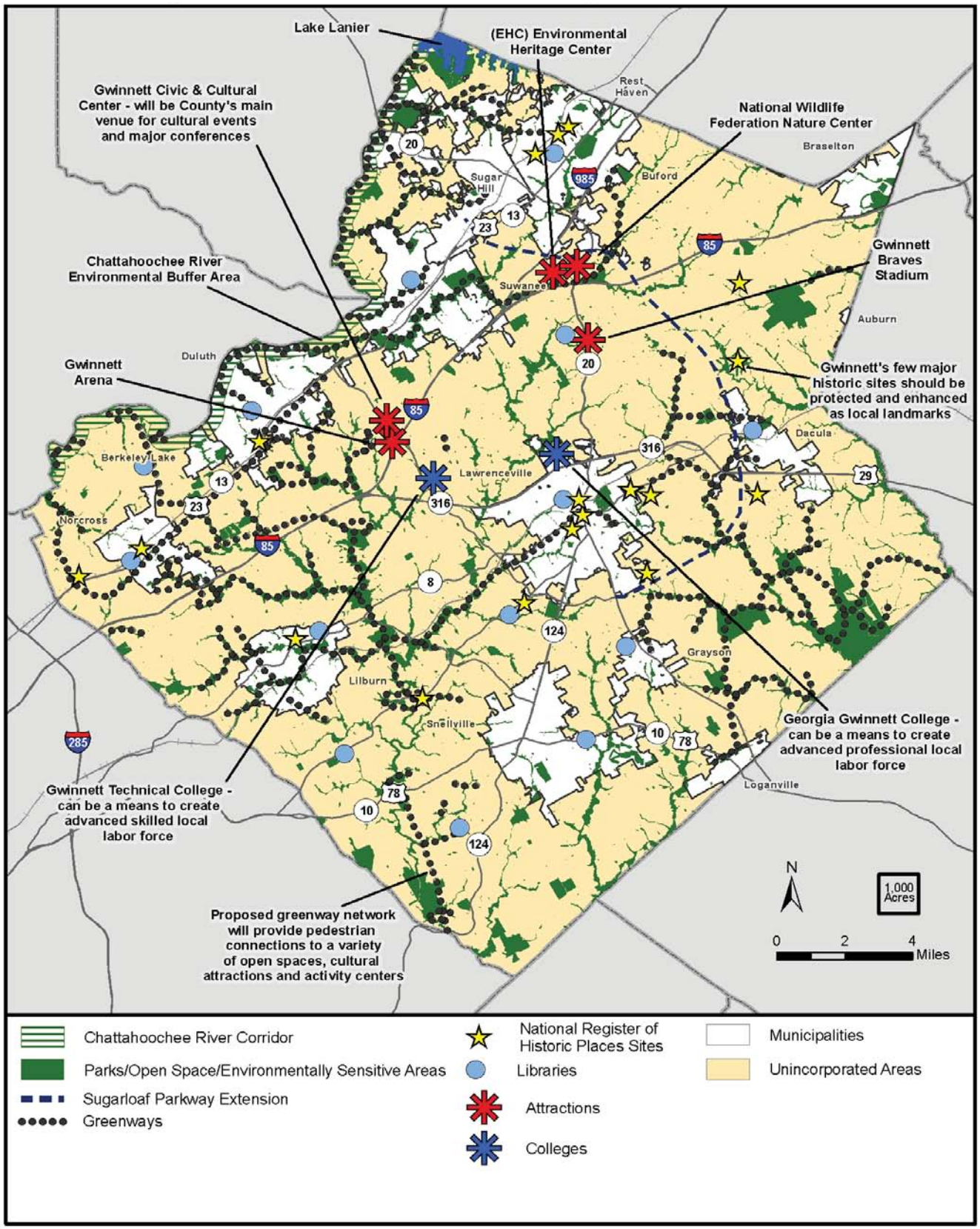
- Expanding (and funding) the role of the Arts Community as a leading promoter and supporter of locally based artists and cultural events.
- Providing venues to celebrate the growing cultural diversity of the County through special holiday events, fairs, music performances, "foodways" festivals and so on.

The International Gateway scenario places much significance on the County better tapping into the talents, energy and financial resources of the many ethnic groups that are now here and growing in numbers. As important as this diversity will be as a driver of a new type of Gwinnett economy, it should also be embraced as a source of the fun and enjoyment which are also part of living in a "preferred place."

Major Policies and Strategies

- Policy 5.1: Improve the Walkability of Gwinnett's Activity Centers and Neighborhoods
- Policy 5.2: Support and Promote the Expanded Four Year College
- Policy 5.3: Invest in After School Programs
- Policy 5.4: Enhance Development Aesthetics
- Policy 5.5: Provide Venues to Celebrate Growing Cultural Diversity of County
- Policy 5.6: Expand Presence of "Arts Community"
- Policy 5.7: Provide Incentives for Enhanced Open Space/Trails
- Policy 5.8: Use Development Regulations to Create Local Parks
- Policy 5.9: Acquire Surplus Industrial or Commercial Sites for Open Space/Recreation

Figure 76: Preferred Place Map



Why No Parcel-Based Land Use Map?

One of the biggest differences between this Unified Plan and its predecessors is the absence of a parcel-based land use plan. Instead, the Composite Policy Map and the various Theme Maps as well as the Key Future Land Use Actions Map are the main guide to how many Unified Plan policies are located across Gwinnett. There are several reasons why the Unified Plan does not present a more detailed parcel based land use map that has traditionally been a feature of past comprehensive plans:

- The previous future land use maps were, in fact, depictions of current land uses at the time the plan was adopted or updated and a depiction of future land uses based on anticipated growth in areas that had not yet been developed – e.g., current RA-200 zoned areas transitioning to quarter acre lots.
- This made such a map a quasi-zoning map rather than a real guide to the intended spatial application of major policy decisions.
- The Unified Plan stresses big issues and big consequences and emphasizes the overall collective impact of the plan's key policies and actions.
- A detailed parcel-based land use map in effect asserts there is only one possible and best end state that can be achieved by the Plan.
- The Unified Plan however, addresses two possible futures and stresses that we need to be able to deal with each of them in equally effective ways.
- Gwinnett is far too complex for a comprehensive plan to detail all the decisions that need to be made regarding the relationships of land uses, local streets, open space location and functions, and protected areas. A parcel-based map implies a comprehensive plan has accomplished this impossible feat.
- Such localized details are better handled in doing sector plan maps whose smaller scale and more local focus makes it easier to properly coordinate, in an informed way, such decisions. That is why the Unified Plan advocates for sector planning and depicts the recommended districts shown on Figure 1 (page 7). Planning in Gwinnett County in the years to follow will address the formulation of these sector maps.

E. THE SYNTHESIS

The following section constitutes an overall summary of the interactions of the five themes and the supporting road network.

This section features the key summary graphic of the plan – the Composite Policy Map. This map is a conceptual synthesis of the geographic relationships and interactions of selected key policies from each of the five theme maps. This Composite Policy Map provides the primary overview of the desired outcomes of the International Gateway scenario which is the Unified Plan's "preferred alternative."

Conclusion

In combination, the Composite Policy Map, the five theme maps, and the Future Development Map (Figure 78 in Part 3) are the major guidance for staff, agencies, the public, and the Board of Commissioners on future decisions for the County regarding land use, transportation improvements and needed infrastructure such as sewer system upgrades. These maps provide a framework for many details of plan implementation such as developing the various sector plans, key rezonings and other more location specific decisions. Part 3 presents a framework for carrying out the Unified Plan's goals and policies.

Figure 77: Composite Policy Map