

2040 TRANSPORTATION PLAN SOCIOECONOMIC DATA STUDY

Base and Future Year Data Technical Memorandum

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Prepared by Transport Studio, LLC



Southern Georgia Regional Commission

Valdosta-Lowndes M P O

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2040 TRANSPORTATION PLAN SOCIOECONOMIC DATA STUDY

The study area includes the four county transportation planning area for the Valdosta-Lowndes Metropolitan Planning Organization (VLMPO) shown below. Transport Studio developed population and employment data required for the MPO’s travel demand model for the 2010 base year through the 2040 planning horizon in 5-year increments. This includes population and households, median income, school enrollment, and employment by category.

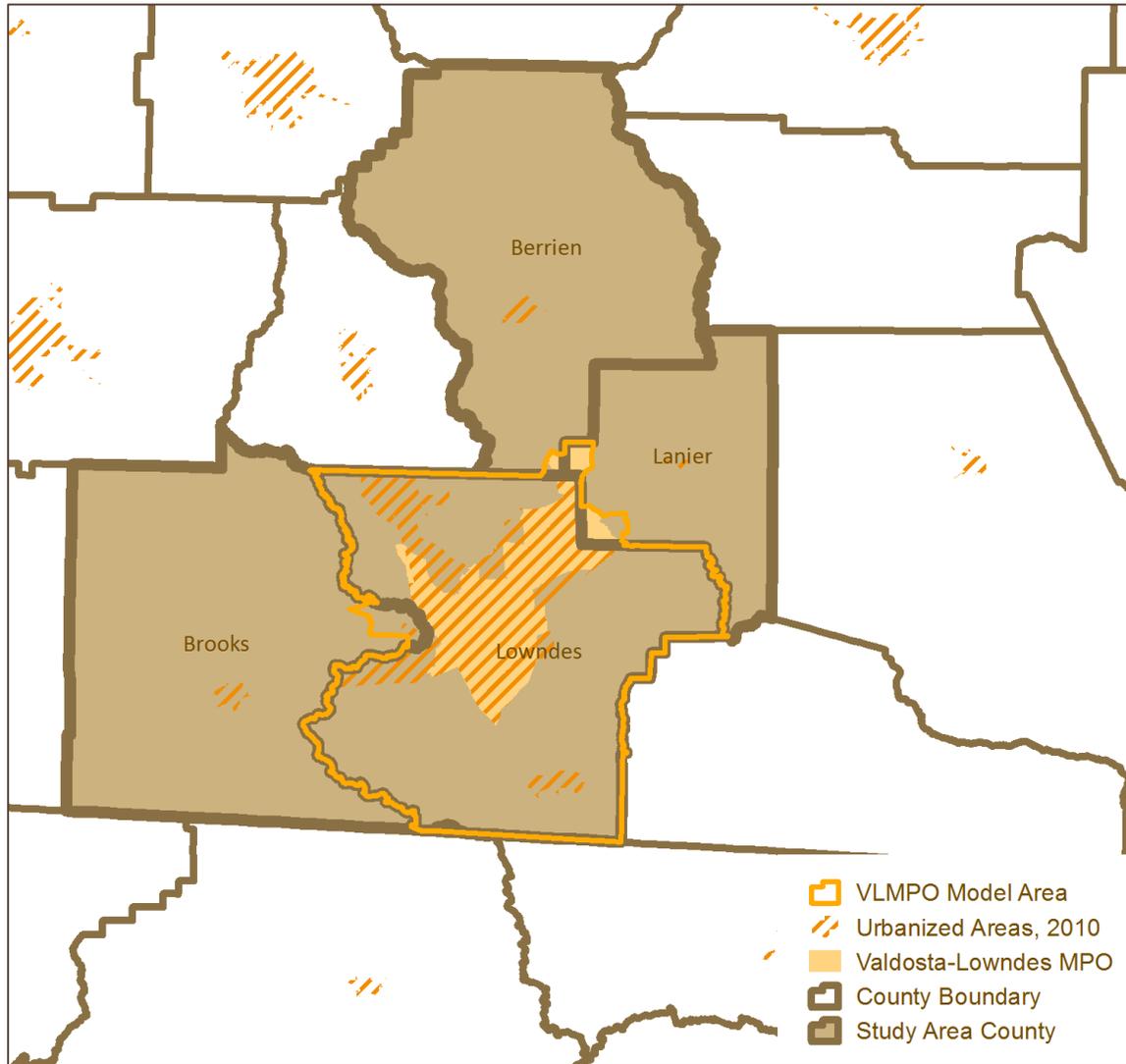


Figure 1 Study Area

Socioeconomic data and future projections are the basis for policy decisions within the Valdosta-Lowndes study area. Quality data developed in a transparent process is therefore critical. Transport Studio’s socioeconomic projection method takes advantage of detailed land use data provided by SGRC, and incorporates specific growth areas that are anticipated. We use ArcMap GIS to estimate the land area available for growth between the base year and the horizon years, and apply population and employment change to the requested Census boundaries and traffic analysis zones. Our method complies with applicable Georgia Department of Transportation (GDOT) and Department of Community Affairs (DCA) guidance.

LONG RANGE TRANSPORTATION PLAN DATA

The data developed for the transportation planning process represent population and employment for application in the VLMPO model; the data comply with the GDOT *Travel Demand Model Development Procedures*. GDOT planning staff approved interim project deliverables.

The travel demand model uses four employment categories: service, retail, manufacturing, and wholesale. The table below shows what types of labor are assigned to each model employment category. Service is a broad category, incorporating most professional employment.

GDOT Model Category	Department of Labor Category
	Goods-Producing
Service	Agriculture, Forestry, Fishing & Hunting
Service	Mining
Service	Construction
Manufacturing	Manufacturing
	Service-Providing
Service	Utilities
Wholesale	Wholesale Trade
Retail	Retail Trade
Service	Transportation and Warehousing
Service	Information
Service	Finance and Insurance
Service	Real Estate and Rental and Leasing
Service	Professional, Scientific & Technical Svc
Service	Management of Companies and Enterprises
Service	Admin., Support, Waste Mgmt, Remediation
Service	Education Services
Service	Health Care and Social Assistance
Service	Arts, Entertainment, and Recreation
Retail	Accommodation and Food Services
Service	Other Services (except Public Admin.)
Omit	Unclassified - industry not assigned
	Total – Government
Service	Federal Government
Service	State Government
Service	Local Government

The travel demand model estimates trips made on the region’s highway network based on the population and employment data inputs. The resulting projected traffic volume helps the region understand the need for future transportation investments.

LOWNDES COUNTY PLANNING DATA

Data developed for the Lowndes County comprehensive plan takes full advantage of DCA’s published tables and guidance. Additional base year variables were obtained from the US Census Bureau, Chamber of Commerce, school boards, private schools, higher education institutions, and Moody Air Force Base. Data was summarized at the Census tract, block group, and county-wide level.

BASE YEAR DATA

The study team developed base year population and employment data for 2010. We summarized data at the Census block group, Census tract, and traffic analysis zone (TAZ) level. Because TAZ-level data will be used for travel demand modeling, we adjusted estimates per GDOT guidance and for consistency with modeling procedures. Data was obtained from a range of sources including the following:

- US Census Bureau 2010 Decennial Census data and 2010 American Community Survey five-year estimates
- Bureau of Economic Analysis employment data
- Department of Labor jobs data, as reported in the Local Employer-Household Dynamics program
- SGRC
- Valdosta-Lowndes County Chamber of Commerce
- Valdosta State University
- Moody Air Force Base
- Georgia Department of Education
- Various websites that compile data on private schools as well as individual private school websites

The table below shows a summary of base year control totals. TDM refers to the VLMPO travel demand model.

2010 Base Year Data	Lowndes County	Berrien County	Brooks County	Lanier County	Total
Census Population	109,233	19,286	16,243	10,078	154,840
Census Households	39,747	7,443	6,457	3,608	57,255
County-wide Jobs, BEA	54,271	4,278	3,668	1,610	63,827
Traveling Population in TDM Region	106,561	41	2,720	1,459	110,781
Households in TDM Region	43,370	21	1,166	483	45,040
Jobs in TDM Region	54,271	1	65	5	54,342
TDM Region-wide Jobs-Housing Ratio					1.21

The 2010 base year travel demand model socioeconomic data includes population, households, and median income by zone. (A zone refers to a traffic analysis zone, or TAZ, as delineated by the VLMPO for transportation planning.) The study team summed population and housing data from Census blocks within each TAZ to achieve preliminary TAZ-level data. Because the travel demand model generates trips based on population, non-traveling population was removed from the control totals and specific TAZs where appropriate. Examples of non-traveling populations include correctional facility inmates and nursing home residents. We also verified populations that are typically under-reported in Census figures, including military troops and college/university students. For

consistency with model equations, household totals were adjusted to include dormitory group quarters that the Census does not report as occupied housing units. The study team assigned the median income reported in the 2010 American Community Survey at the tract level to the traffic analysis zones and block groups in each tract. We also calculated the base year jobs-housing ratio for the model area. The jobs-housing ratio in a region is commonly used to express the region’s jobs-housing balance. A balance is achieved when a jurisdiction has a roughly equal number of jobs and resident labor force. A ratio of about 1.5 is typically considered balanced, assuming that about 1.5 workers live in each household.¹ The 1.2 jobs-housing ratio in the Valdosta-Lowndes MPO region is consistent with the region’s average workers per household of 1.25 to 1.3 (per the 2010 Census).

For the portion of each county in the travel demand model boundary, the study team reviewed major employer job and location data. A sampling of major employers in the region includes Moody Air Force Base, Dillard’s Distribution Center, South Georgia Medical Center, Sam’s Club, Target, and Valdosta State University. These major employers and any other employer with more than 100 employees documented by the Chamber of Commerce were verified in the job counts for each zone and Census boundary. We adjusted job counts by industry classification where applicable. After adjusting, we estimate the following control totals by employment category:

2010 TDM Base Year Data	Lowndes County	Berrien County	Brooks County	Lanier County	Total	Percent of Total
Manufacturing	3,608	0	3	0	3,611	7%
Service	35,684	1	44	1	35,730	66%
Retail	14,009	0	2	4	14,015	26%
Wholesale	970	0	16	0	986	2%
Jobs in TDM Region	54,271	1	65	5	54,342	100%

Note that job counts within each County and category may not exactly match the targets above due to rounding or due to corrections applied to specific employers.

The sections below describe population and employment data for each county in the study area.

LOWNDES COUNTY

- Base year Census population is 109,233 in Lowndes County for 2010. Transport Studio will allocate 106,561 persons to Traffic Analysis Zones (TAZs) in the county; 2,958 people live in group quarters and do not travel. We added 286 people to Moody Air Force Base to match the resident population reported by MAFB staff (for a total 2010 on-base population of 834). Valdosta State University population was verified. The Census reports 2,766 people in group quarters on campus, which is consistent with VSU reported on campus population.
- There were 39,747 households reported in the Census. We added households for group quarters such as dormitories to the socioeconomic data resulting in 43,370 households. (This avoids having a TAZ with nonzero population and zero households.)
- Base year socioeconomic data employment should match the 2010 Bureau of Economic Analysis (BEA) county-wide employment totals for Wage and Salary Employment of 54,271 for Lowndes County. This control total was submitted to GDOT in June and approved. We used Department of Labor data retrieved through the Census LEHD as well as Chamber of Commerce data to allocate the employment to zones. Major employers were verified and adjusted as appropriate.

¹ Per Ewing (1996), a balanced ratio is 1.3 to 1.7 jobs per household; Per Cervero (1991), a balanced ratio is 1.4 to 1.6 jobs per household.

- Student enrollment in Lowndes County includes public and private schools, colleges, and universities. Base year data was collected from the South Georgia Regional Commission, the Georgia Board of Education, Valdosta State University, private school websites, and various companies that compile data on private schools. Total student enrollment in 2010 is estimated at 34,974 students.

LOWNDES COUNTY COMPREHENSIVE PLAN DATA

The additional data collected for Lowndes County comprehensive planning include housing, population, labor force, race, age, and educational attainment variables. Census housing data such as housing units, household income, owner and renter –occupied units, vacancy rates, the number of units per dwelling, and age of housing units were collected at the county and tract level. Educational attainment and labor force participation were also collected at the tract and county levels. Census data for population, racial composition, and age were collected at the block group level as well as at the tract and county level.

The study team followed Census Bureau guidelines to estimate daytime population; daytime population is approximately total resident population plus workers employed in the area minus workers living in the area.

The file baseyear.xlsx contains a worksheet titled “readme” that lists all base year variables and their metadata, including field names and Census file sources. Many of these variables were also projected into the future, as discussed in the Future Year Projections section below.

BERRIEN COUNTY

- Base year Census population is 19,286 in 7,443 households for 2010. Within the study area, there were 41 people in 21 households. There are no group quarters in the travel demand model study area.
- Base year county-wide wage and salary employment is 4,278. Within the study area, employment is 1 job. We used Department of Labor employer data, adjusted as appropriate to determine jobs within the study area. The base year is consistent with the prior LRTP 2006 base year data of zero jobs in the study area.

BROOKS COUNTY

- Base year Census population is 16,243 in 6,457 households for 2010. Within the study area, there were 2,720 people in 1,166 households. There are no group quarters in the travel demand model study area.
- Base year county-wide wage and salary employment is 3,668. Within the study area, employment is 65 jobs. We used Department of Labor employer data, adjusted as appropriate to determine jobs within the study area. Brooks County was not included in the prior LRTP 2006 base year data.

LANIER COUNTY

- Base year Census population is 10,078 in 3,608 households for 2010. Within the study area, there were 1,459 people in 483 households. There are no group quarters in the travel demand model study area.
- Base year county-wide wage and salary employment is 1,610. Within the study area, employment is 5 jobs. We used Department of Labor employer data, adjusted as appropriate to determine jobs within the study area. It is consistent with the prior LRTP 2006 base year data of zero jobs in the study area.

The maps below show the population and employment distribution by zone in the travel demand model boundary. Figure 2 and Figure 4 show statistics totaled by zone, while Figure 3 and Figure 5 are gross density by zone.

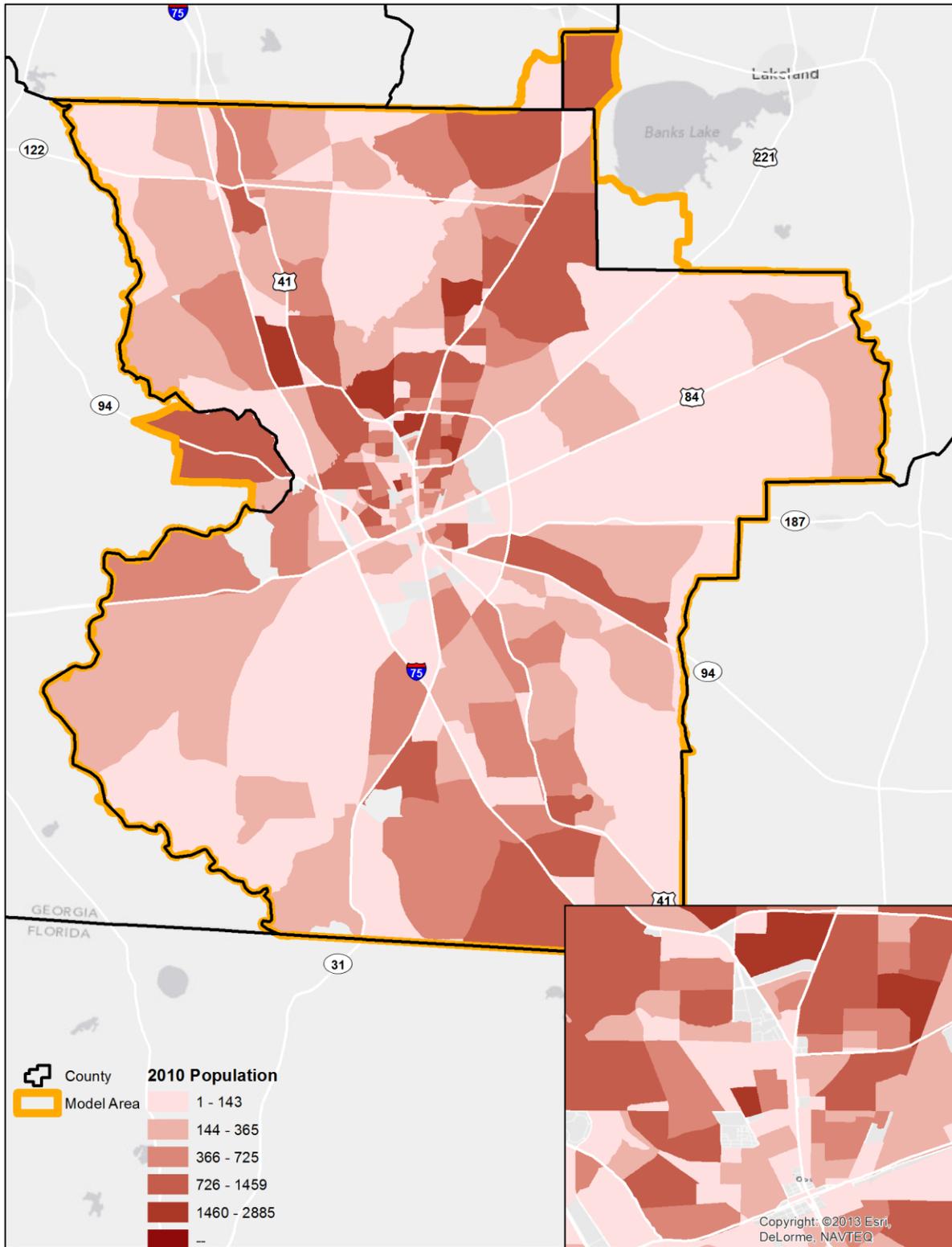


Figure 2 Base Year Population by Zone

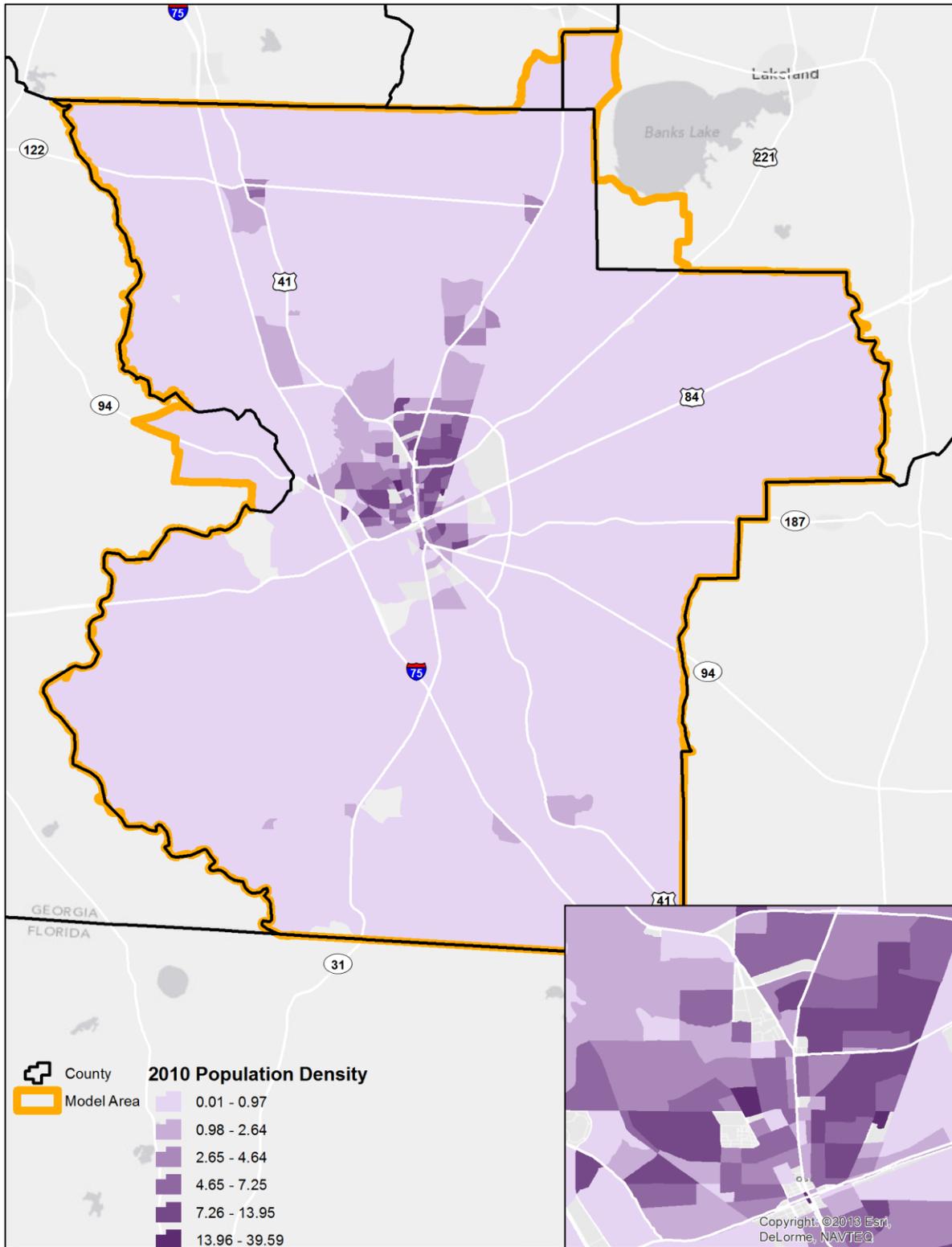


Figure 3 Base Year Gross Population Density

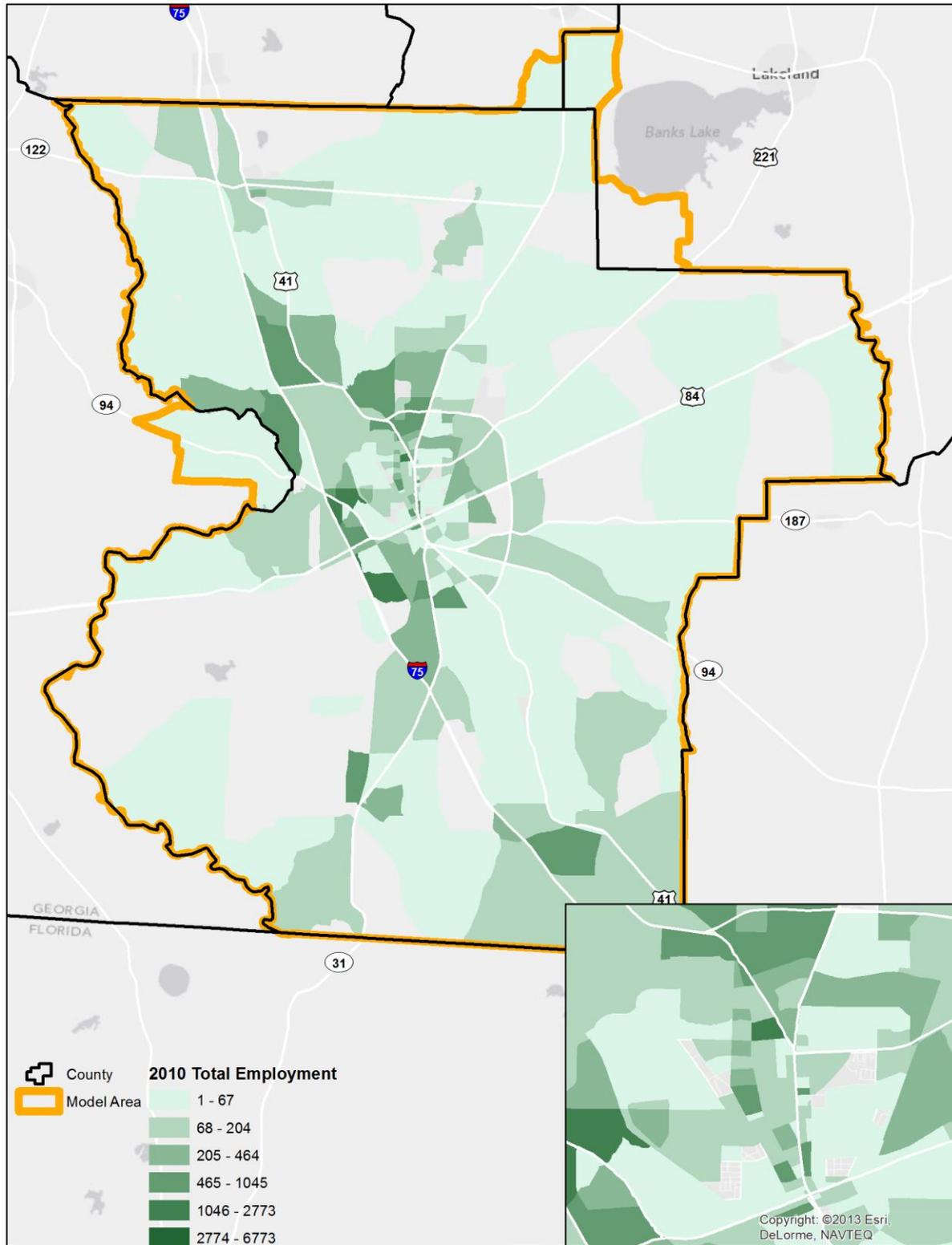


Figure 4 Base Year Employment by Zone

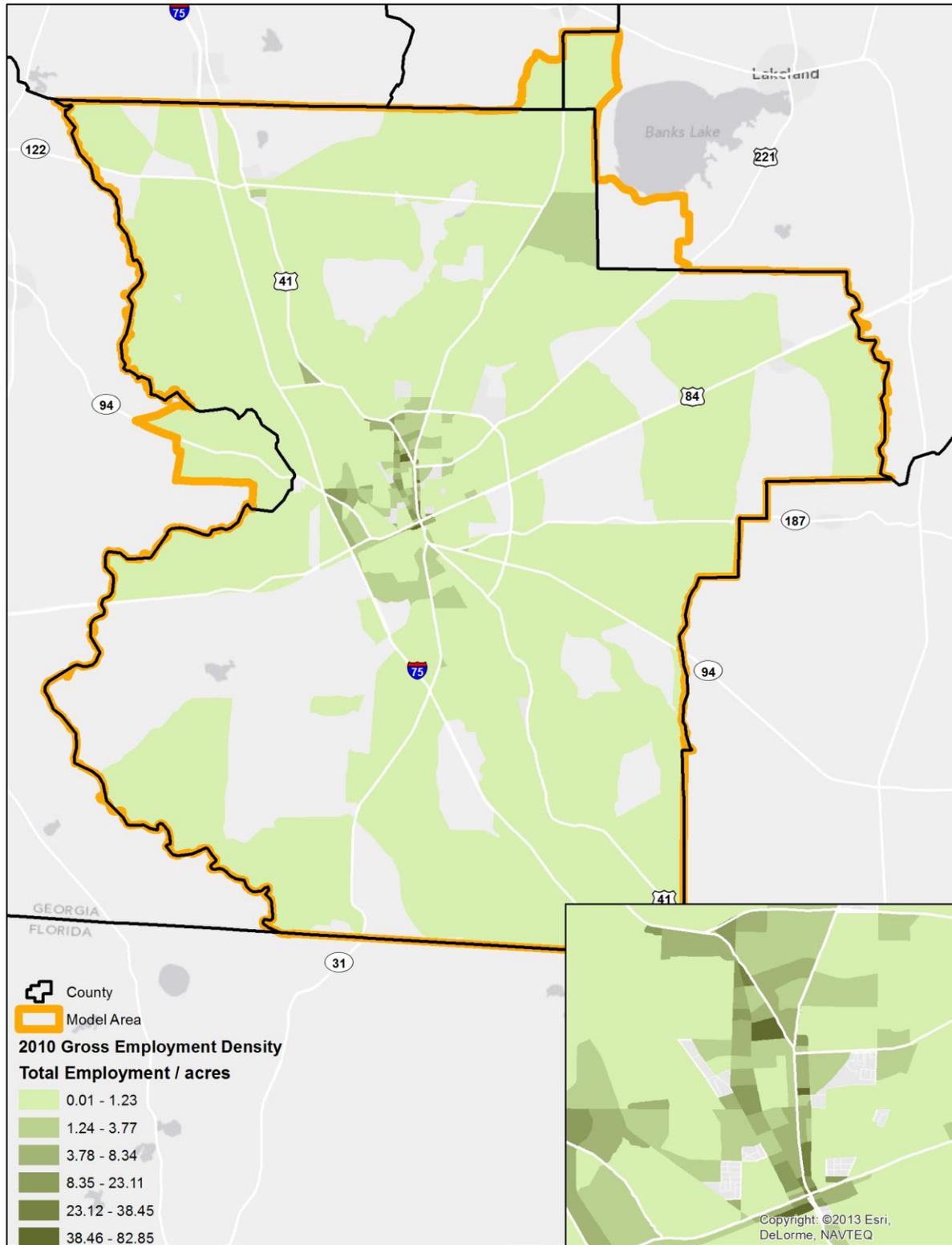


Figure 5 Base Year Gross Employment Density (Jobs per Gross Acre)

FUTURE YEAR PROJECTIONS

The Valdosta-Lowndes Metropolitan Planning Organization long range transportation plan and Lowndes County Comprehensive Plan share a 2040 horizon year. Transport Studio projected socioeconomic population and employment variables out to 2040 based on historic growth and assumptions about future development patterns. The future population and jobs were then assigned to developable areas as described below.

GROWTH TARGETS

County-wide population targets were developed for each of the four counties in the study area. Small area projections were developed for the portions of Brooks, Berrien, and Lanier County in the model boundary. The study team collected population projections from various sources, including the Department of Community Affairs (DCA). The currently available projections from the DCA follow the linear growth trend observed from 1980 to 2000 and apply the historic growth rate to the 2000 population in order to project future year population totals. Transport Studio developed linear trend projections based on historic population growth from 1980 to 2010 in order to take advantage of the latest Census data available.

Lowndes County population projections from various sources are summarized in the table below. The population growth trend developed for the previous Long Range Transportation Plan (LRTP) results in the lowest horizon year projection at 140,680 people. As shown, the projections developed for Department of Natural Resources (DNR) state water planning by the Carl Vinson Institute are higher than projections developed by other agencies. For 2030 and 2040, the DNR projection is between 20% and 30% higher than other sources.

We used the linear trend based on Decennial Census population from 1980 to 2010 to project control totals for this study. These control totals are shown on the bottom line of the table below for comparison purposes.

Lowndes County Population Projections				
	2030	2035	2040^{1, 2, 3}	2050
2035 LRTP (VSU CBER)	128,589	134,697	140,680 ¹	--
Comprehensive Plan	132,094	--	--	--
DCA trend based on 1980 to 2000 data	128,330	--	141,990 ²	--
DNR (Carl Vinson Institute for OPB)	156,650	--	186,781 ³	221,892 ³
Linear trend based on 1980 to 2010 growth (used for population projections in this study)	135,296	142,292	149,288	163,280

1. The VSU CBER projection for 2040 was developed by applying the linear equation used for the 2035 LRTP to year 2040.
2. The DCA population projection for 2040 was developed by applying a linear trend to DCA data for prior years. If an exponential trend is applied to the DCA data, the 2040 projection is 151,130.
3. The 2040 and 2050 DNR data are based on the 2010-2030 projections used for State Water Planning purposes and extrapolated to 2040 and 2050 by OPB.

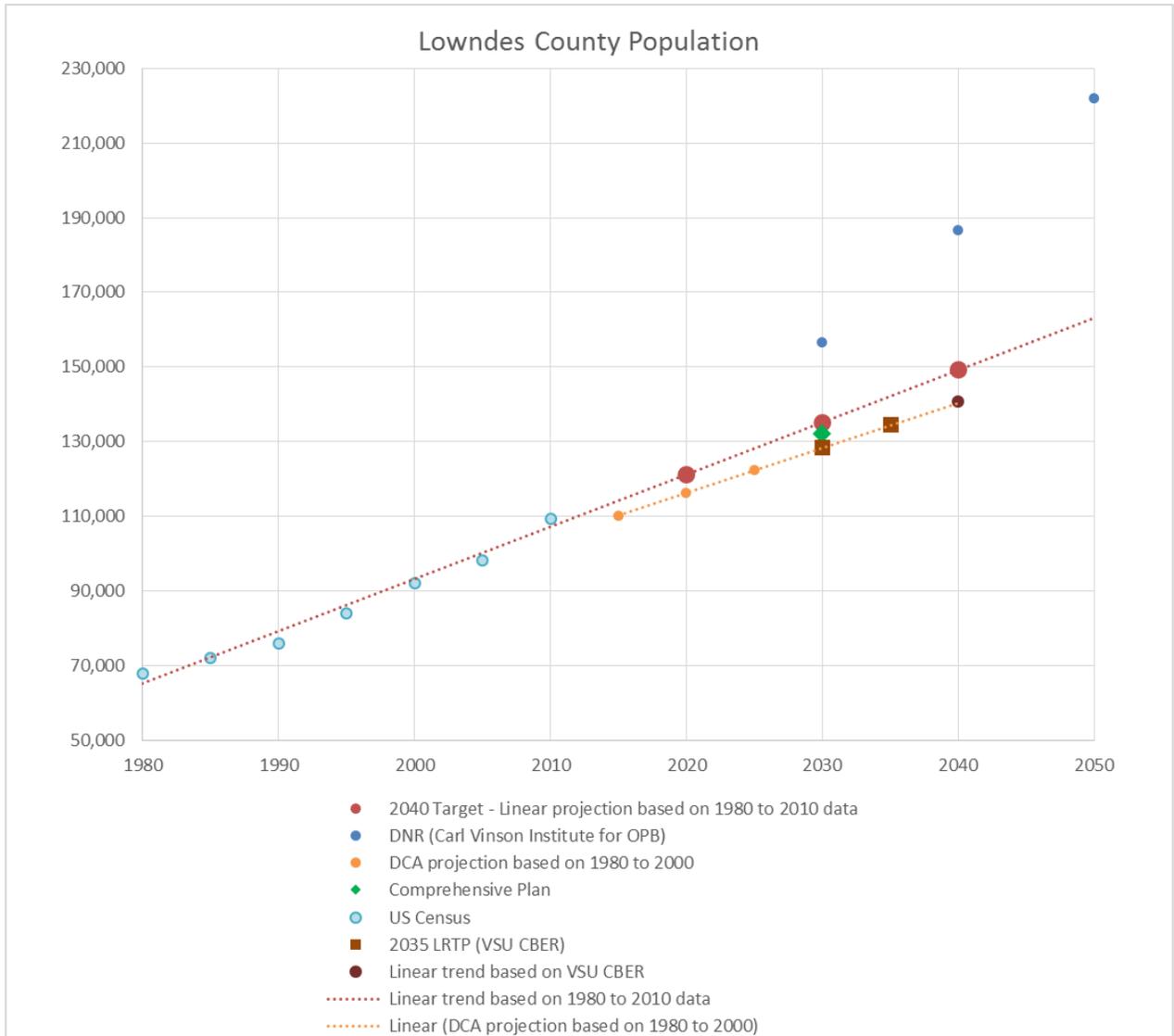


Figure 6 Lowndes County Population Growth

Similar comparisons are shown for the three other counties below. Based on the comparison of projections, the study team recommends using the linear trend based on growth from 1980 to 2010 for the transportation and comprehensive planning efforts.

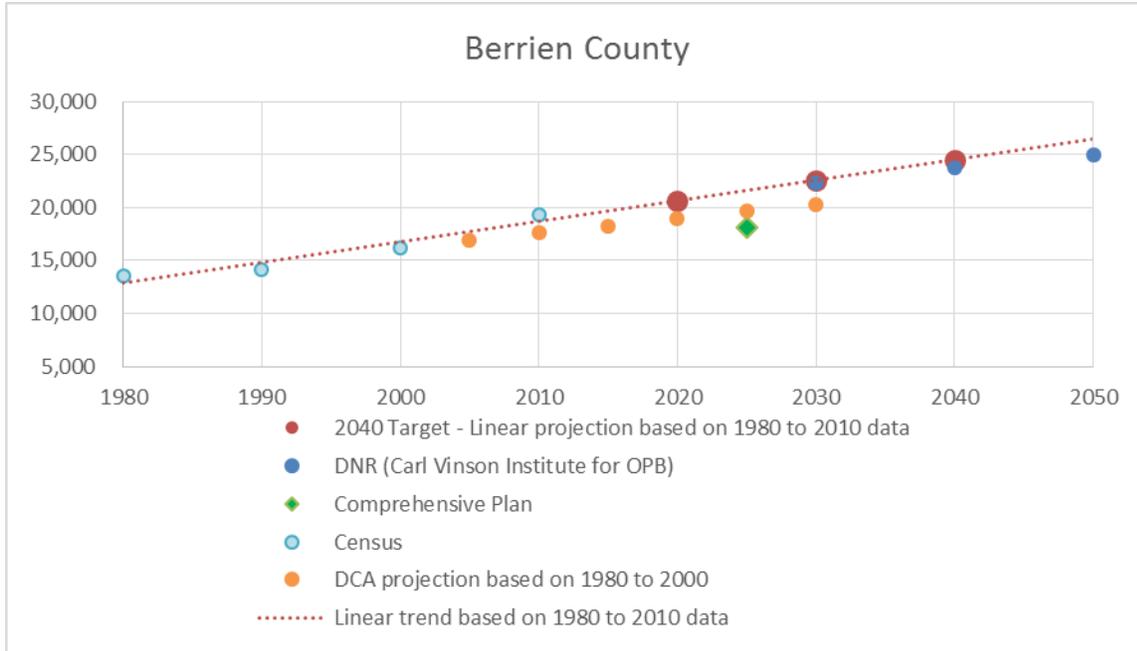


Figure 7 Berrien County Population Growth

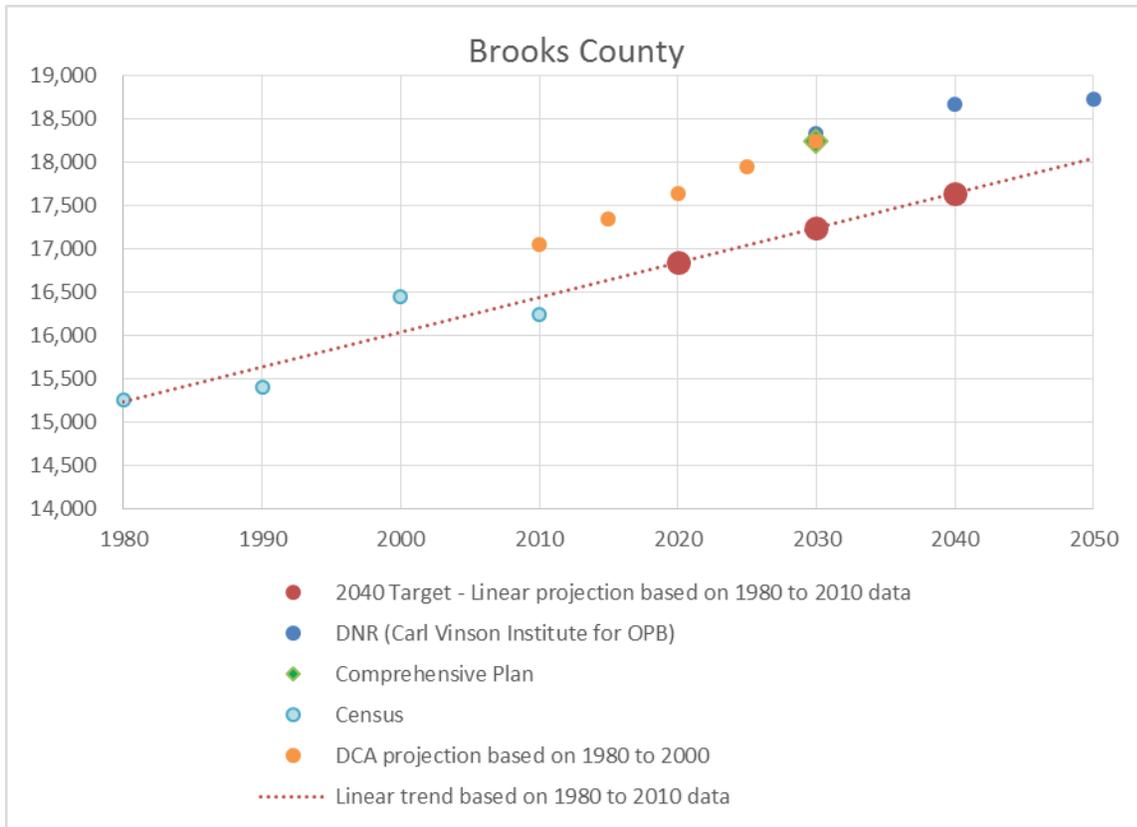


Figure 8 Brooks County Population Growth

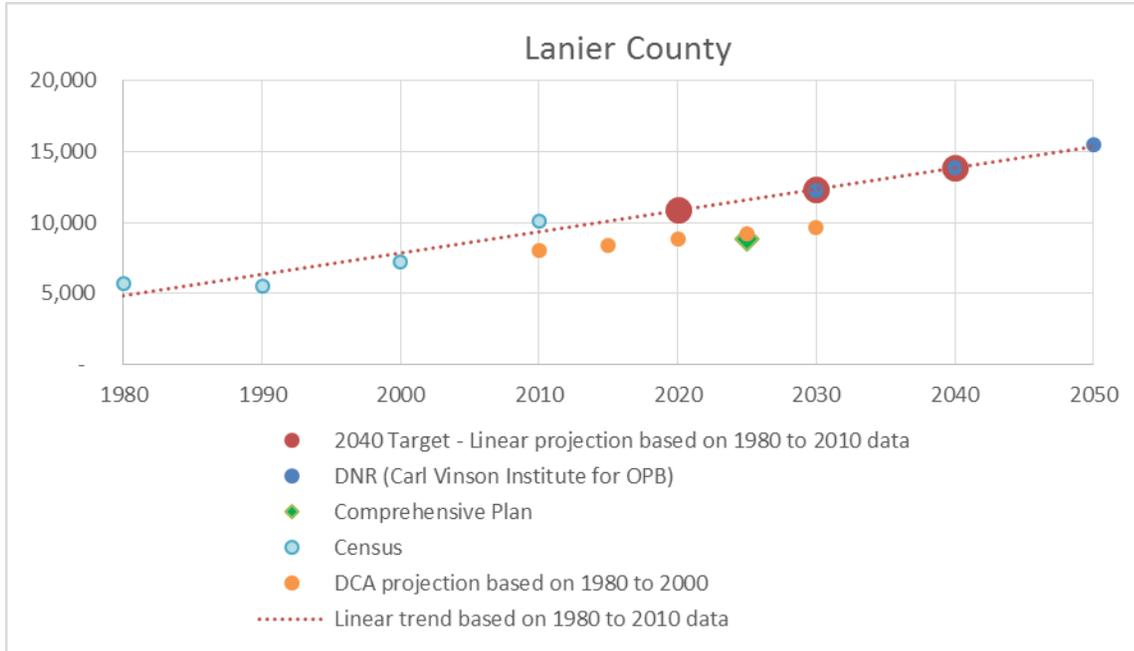


Figure 9 Lanier County Population Growth

Household targets were established by multiplying population targets by average population per household estimated from 2010 Census data. We assumed that the population per household in each zone remains constant over time. (A zone refers to a traffic analysis zone, as delineated by the VLMPO for transportation planning.) Once household targets were set for the future, the team developed employment targets based on the jobs-housing ratio in the base year, as well as the proportion of employment in each category in the base year. We assumed that the jobs-housing ratio and the proportion of employment in each category will remain stable into the future. Because neither stakeholders nor staff reported a known future development that is reasonably expected to impact median income, the study team also assumed that median income will be stable in the study area. Note that travel demand model median income input should not be inflated to future year dollar values because the model equations are validated to base year dollars. We therefore did not adjust for inflation in future years.

Targets for all variables are shown in the table below in ten-year increments.

Year	County	County-wide Population	Travel Demand Model (TDM) Area Variables						
			TDM Population	TDM Employment	Manufacturing Employment	Service Employment	Retail Employment	Wholesale Employment	TDM Households
2040	Lowndes	149,288	146,302	76,082	5,057	50,025	19,634	1,366	59,472
2040	Berrien	24,514	841	1	0	1	0	0	342
2040	Brooks	17,644	3,720	65	3	44	2	16	1,512
2040	Lanier	13,868	3,959	5	0	1	4	0	1,609
2040	Total	205,314	154,822	76,153	5,060	50,071	19,640	1,382	62,935
2030	Lowndes	135,296	132,590	68,632	4,562	45,126	17,713	1,231	53,898
2030	Berrien	22,578	574	1	0	1	0	0	233
2030	Brooks	17,242	3,387	65	3	44	2	16	1,377
2030	Lanier	12,370	3,126	5	0	1	4	0	1,271
2030	Total	187,486	139,677	68,703	4,565	45,172	17,719	1,247	56,779
2020	Lowndes	121,305	118,879	61,183	4,067	40,229	15,792	1,095	48,325
2020	Berrien	20,641	308	1	0	1	0	0	125
2020	Brooks	16,841	3,053	65	3	44	2	16	1,241
2020	Lanier	10,872	2,292	5	0	1	4	0	932
2020	Total	169,659	124,532	61,254	4,070	40,275	15,798	1,111	50,623

The population and employment distribution achieved the targets for each category within one percent for the 2040 horizon year and within five percent for the interim years. The distribution, or allocation, of population and employment is described in the section that follows. The appendix contains targets for interim years in five-year increments.

DISTRIBUTION OF POPULATION AND EMPLOYMENT

In order to allocate future growth, Transport Studio developed a GIS-based process using local input. We've used a similar process for MPOs in Georgia and Florida. The process is outlined in the steps below:

1. Identify land that is not suitable for development. This includes (but is not limited to) conservation lands, open water, parks, greenspace, cemeteries, and Department of Defense lands.
2. Identify developed land (including any areas likely to redevelop) based on existing land use data. Account for land that has developed since the 2010 base year, and account for the resulting change in housing and jobs. SGRC staff identified one area for redevelopment.
 - a. Create a layer of stable, developed land area
 - b. Create a layer of redevelopable land
3. Identify regional Growth Areas, zoning, water/sewer access, and development restrictions on land suitable for future development. Assign parameters for density and intensity of development in Growth Areas. Assess zoning in each jurisdiction and create a generalized system of future land use based on zoning for those areas outside of identified Growth Areas.

4. Distribute growth to developable land according to Growth Areas. Using the calculated developable area in each category, assign population and employment to each zone by category. Verify county-wide totals and study area totals for each horizon year. Adjust assumptions as needed to match county-wide and study area totals.

The process is outlined in the diagram below.

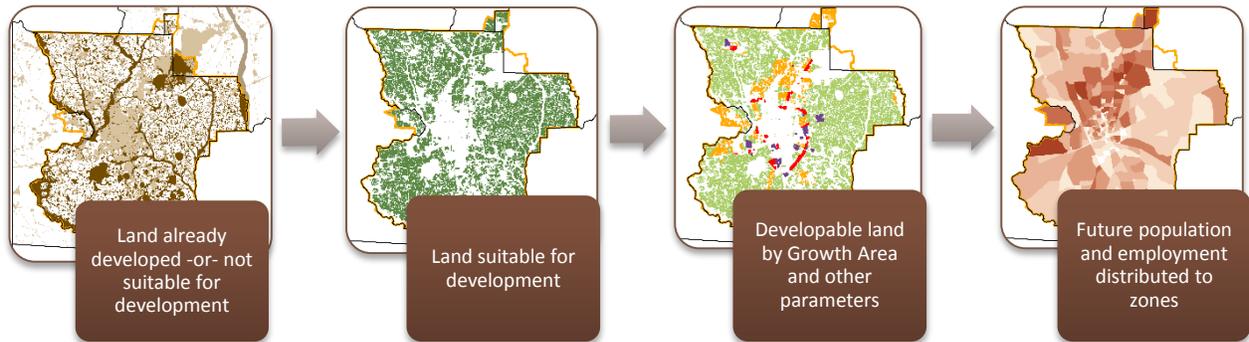


Figure 10 Growth Allocation Process

SGRC and local staff identified future Growth Areas targeted for development with a general land use, such as residential, industrial or commercial. These growth areas were also categorized by timeframe of likely development and capacity for new development. The following table shows the range of growth areas identified.

SGRC Growth Area Categories		
Type	Timeframe	Capacity
Industrial	Short term	Low
Residential	Mid Term	Medium
Institutional	Mid-Long Term	High
Commercial	Long Term	
Residential/Industrial		

Base on the categories above, Transport Studio developed parameters for each growth area’s employment categories, development year, and employment intensity or household density, as appropriate. Capacity translated to household density in residential areas and jobs per acre of developable land in other areas. Growth determined by these parameters was checked against population and employment targets for each county; we adjusted the parameters iteratively until targets were met within reason.

Characteristics that affect the population and employment assigned to each developable area include the following, in order of importance:

1. School locations, where additional students and employees were assigned
2. Moody Air Force Base, where population and employment is based on input from staff
3. Growth Area type and capacity
4. Access to water or sewer infrastructure (defined as within 400 feet of existing service)
5. Groundwater recharge areas (where density is reduced per current land development regulations)
6. Zoning, for those areas outside of Growth Areas that have existing access to water or sewer service

The map below shows the Growth Areas by type.

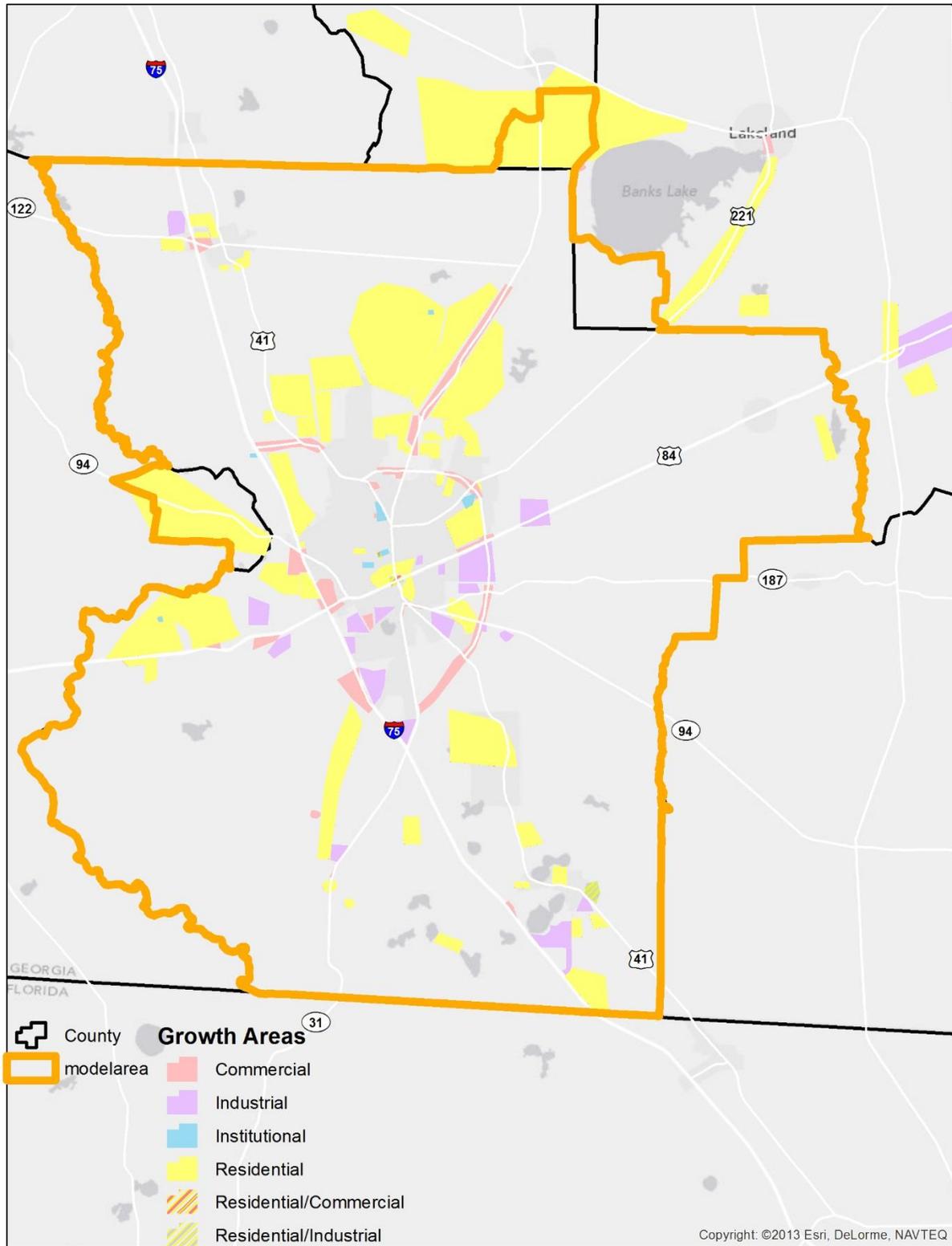


Figure 11 Growth Areas Identified by SGRC

The diagram below shows how land available for development is classified and assigned future development in an example traffic analysis zone (TAZ).

- A. The TAZ contains portions of three types of Growth Areas, industrial, commercial, and residential.
- B. Land that is not available for development is removed. The green areas are both suitable for development, and are not already developed.
- C. The areas shaded darker are in a Growth Area and are available for development. These areas are assigned households, based on the calculated residential acres, and jobs based on the commercial and industrial acreage. Green areas are available for development but are not within a Growth Area.
- D. Finally, the land that is available for development but is outside of a Growth Area is assigned households and jobs based on the underlying zoning, only if the land has access to water or sewer service. The crosshatch shows areas with access to water or sewer service in 2013. The areas that are green and crosshatched *may* be assigned jobs or households, depending upon the underlying zoning.

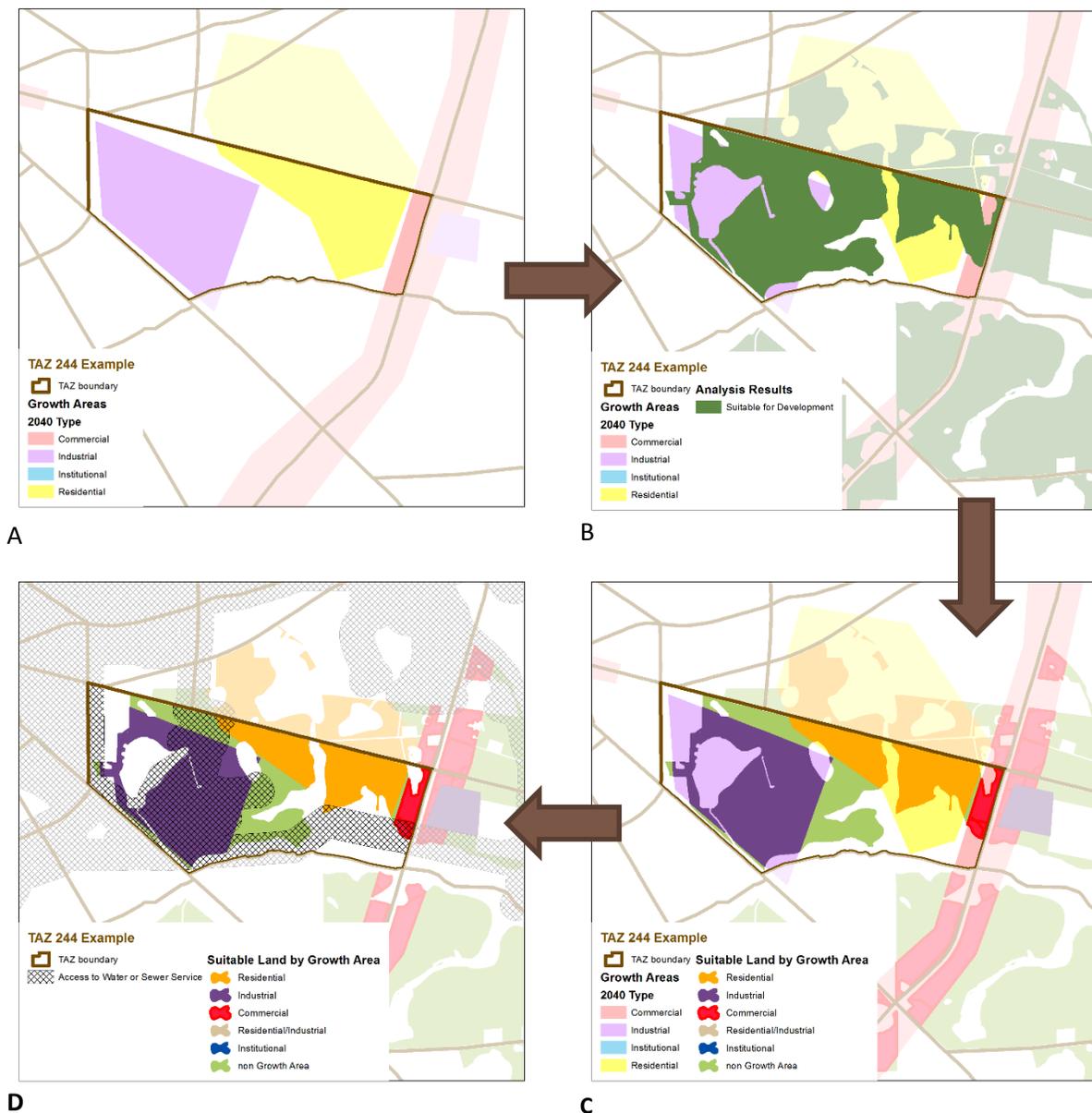


Figure 12 Future Development Example

The appendix contains similar maps representing the process for the entire study area.

Note that a significant amount of land was identified as an industrial Growth Area. The target for manufacturing and wholesale employment will be met well before these Growth Areas are built out. To limit the employment allocated, we assumed that only those long term industrial Growth Areas with current access to water or sewer infrastructure would develop by 2040. The Growth Areas shown as industrial and long range in the map below were not assigned jobs by the 2040 horizon year.

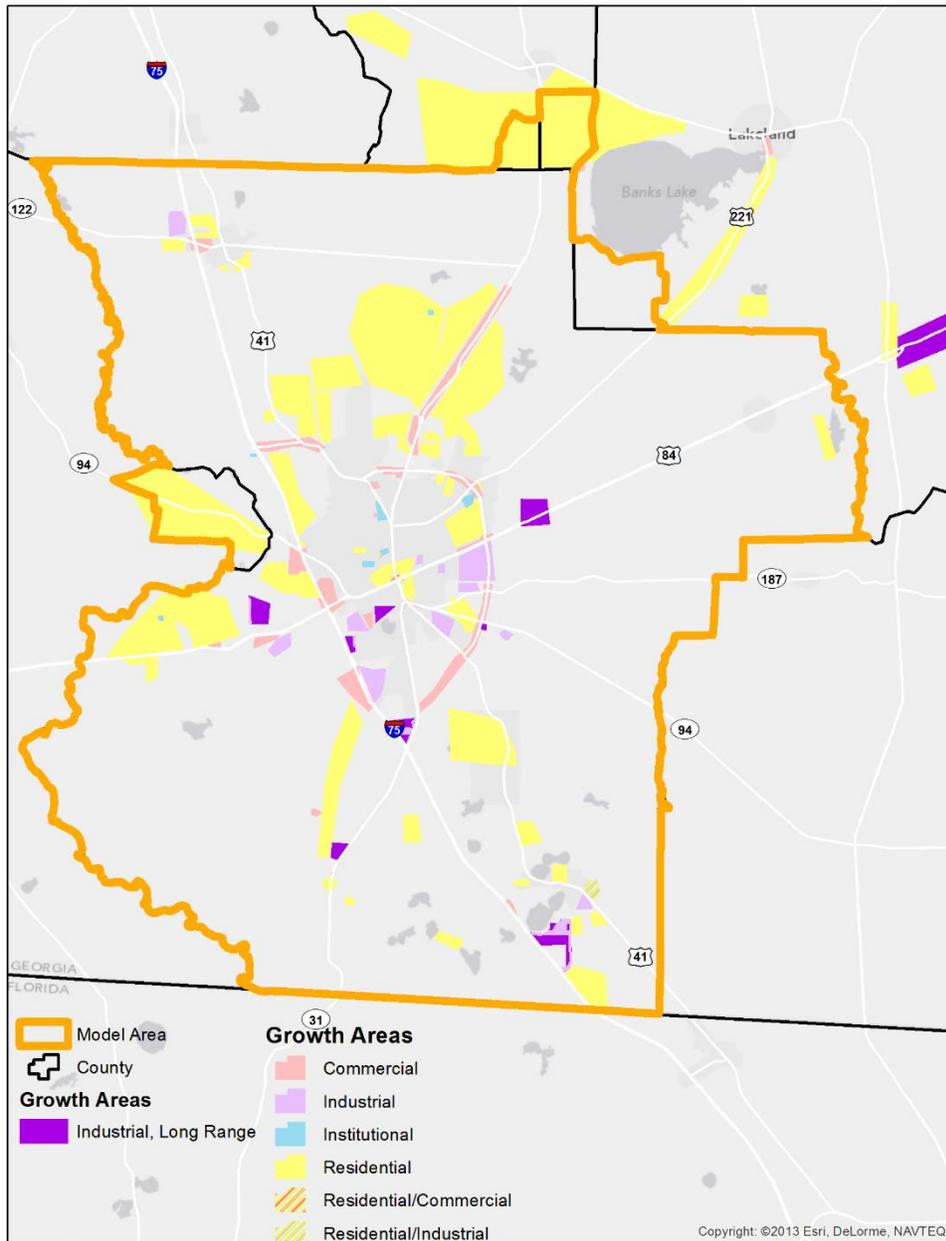


Figure 13 Long Term Industrial Growth Areas

ALLOCATION OF STUDENTS

Transport Studio assumed that enrollment in primary and secondary schools will increase proportionately to population growth. We assumed that existing schools, two new elementary schools and the new Pine Grove High School will accommodate additional students. Valdosta High School is planned to relocate between 2015 and 2020. We assumed that City of Valdosta schools will absorb only 0.2% increased enrollment per year and that Lowndes County Schools will accommodate the additional public school students. We assigned a 1% annual increase to private schools. The figure to the right shows change in school enrollment between the 2010 base year and 2040.

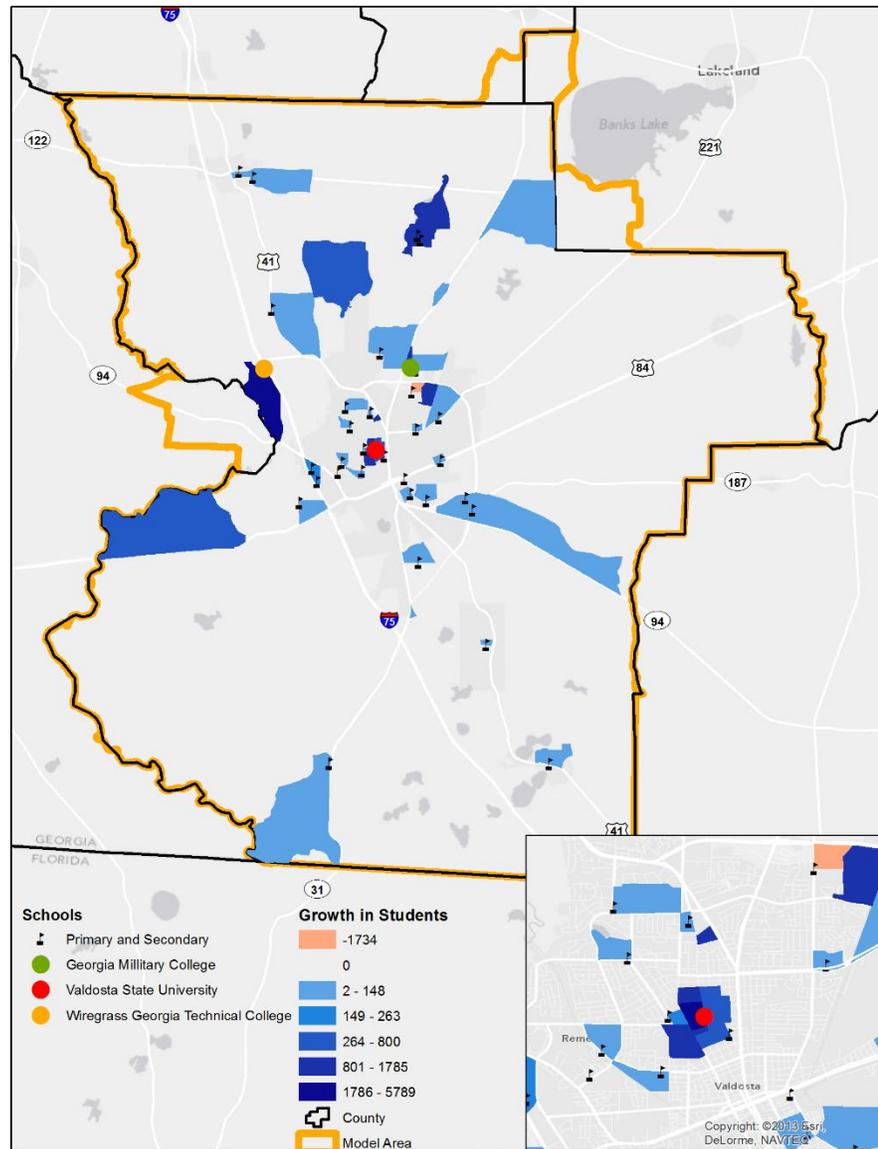


Figure 14 Change in Student Enrollment from 2010 to 2040

Post-secondary institutions grow at independent rates based on their prior growth.

We assumed that Valdosta State University enrollment will grow at 2.5% per year. We assumed that Georgia Military College will grow at 3% per year. We assumed that Wiregrass Technical College enrollment will grow at 2.5% per year. Service employment at each school was increased proportionately with increase in student enrollment.

POPULATION AND EMPLOYMENT DISTRIBUTION RESULTS

The map below shows the resulting change in employment from 2010 to the 2040 planning horizon by traffic analysis zone. The only reduction in employment occurs on Moody Air Force Base, per information provided by the base staff. The largest increases are in designated Growth Areas. Significant growth occurs in commercial and industrial areas along major corridors in the region.

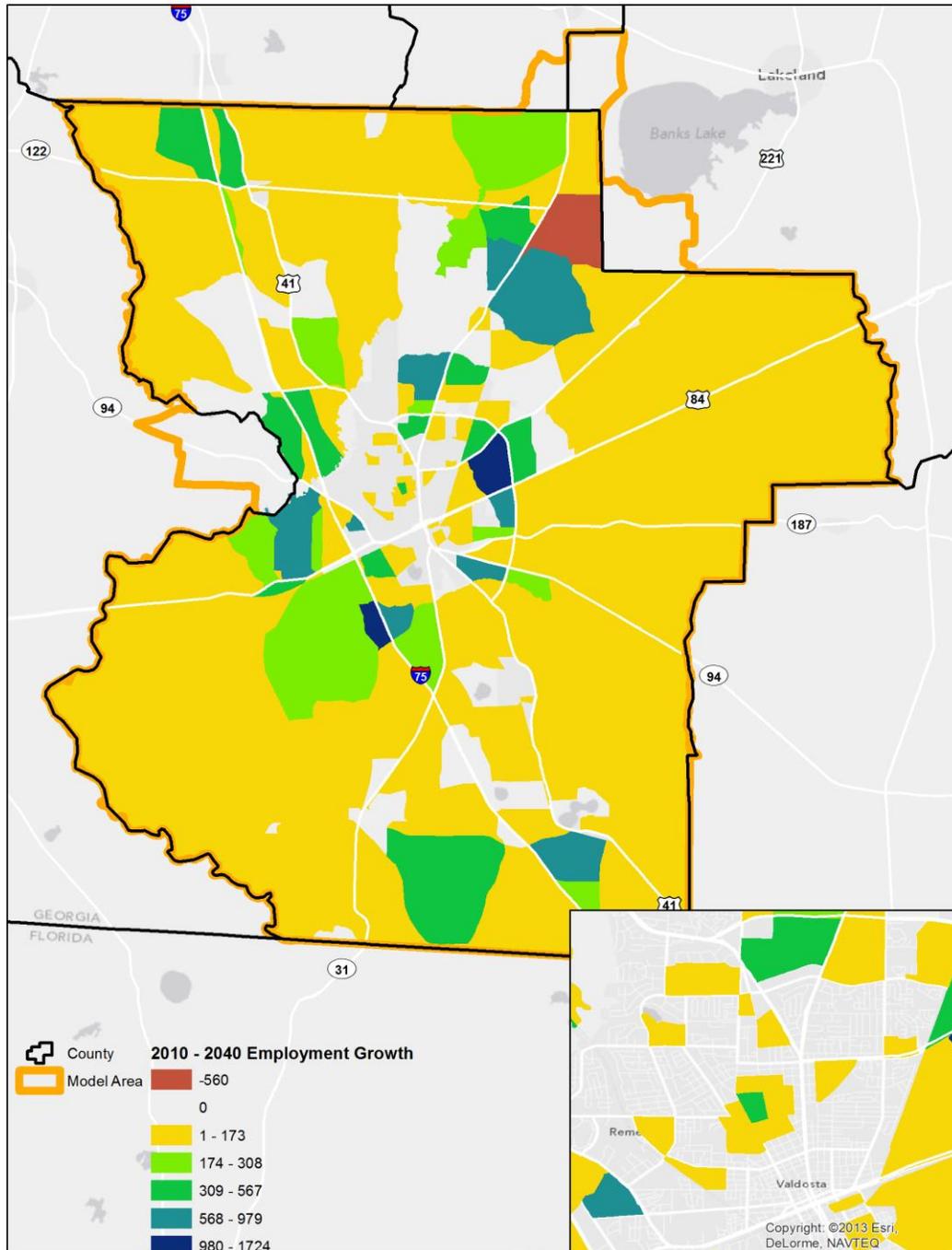


Figure 15 Employment Growth from 2010 to 2040 by Zone

The map below shows the change in population between 2010 and 2040. The Growth Areas along SR 125 to the north of Valdosta, and along US 84 to the west of Valdosta contain a significant amount of residential development. Most of the population growth occurs outside of the city of Valdosta. The only reduction in population occurs on Moody Air Force Base.

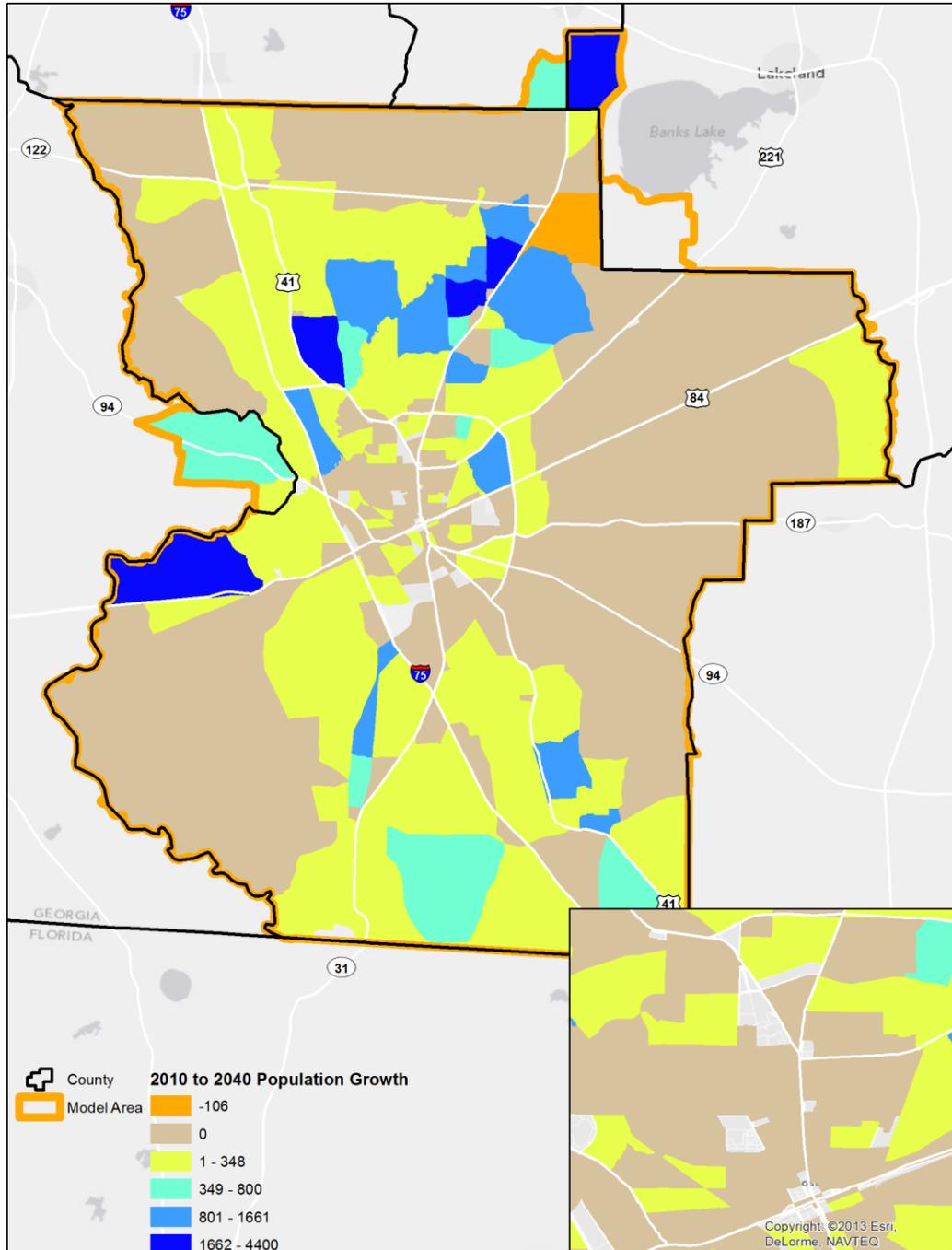


Figure 16 Population Growth from 2010 to 2040

The maps below show 2040 population, population density, employment, and employment density by TAZ. Figure 18 and Figure 20 are helpful in visualizing the population and employment projections because they show gross density by zone. While Valdosta remains the population center in the region, the projected development along major corridors results in increased population densities elsewhere, particularly along SR 125, US 84, and US 41.

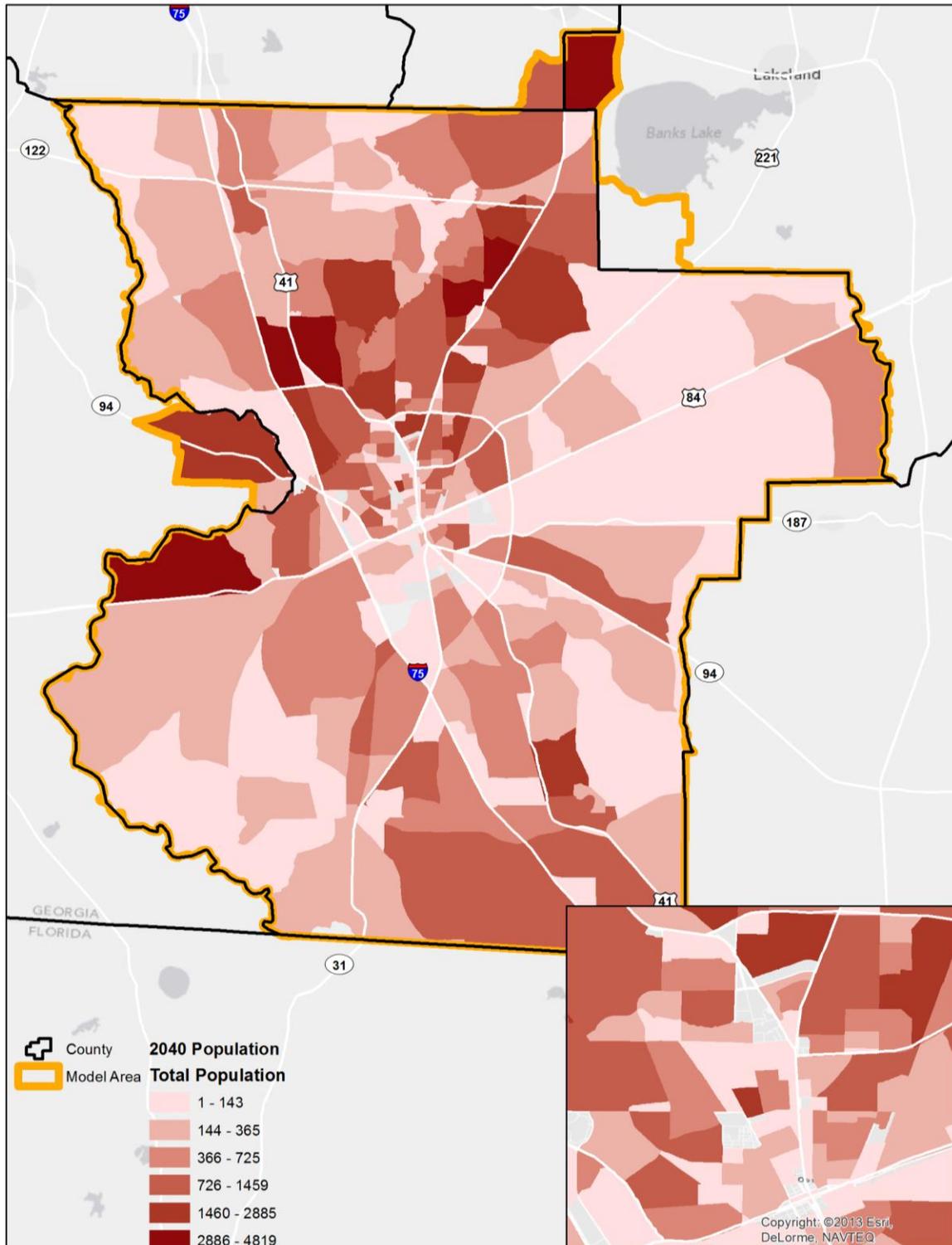


Figure 17 2040 Population Projections by Zone

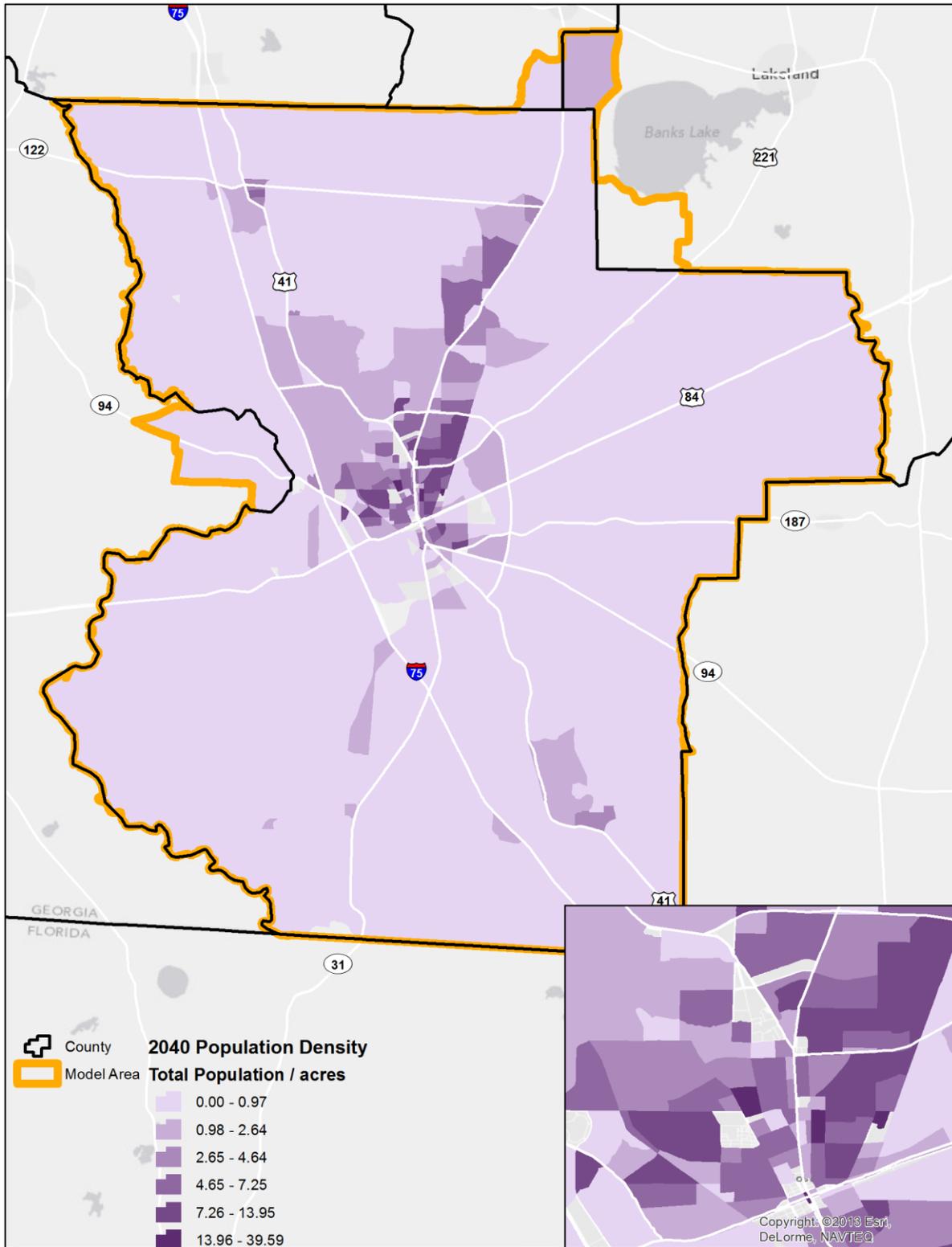


Figure 18 2040 Gross Population Density

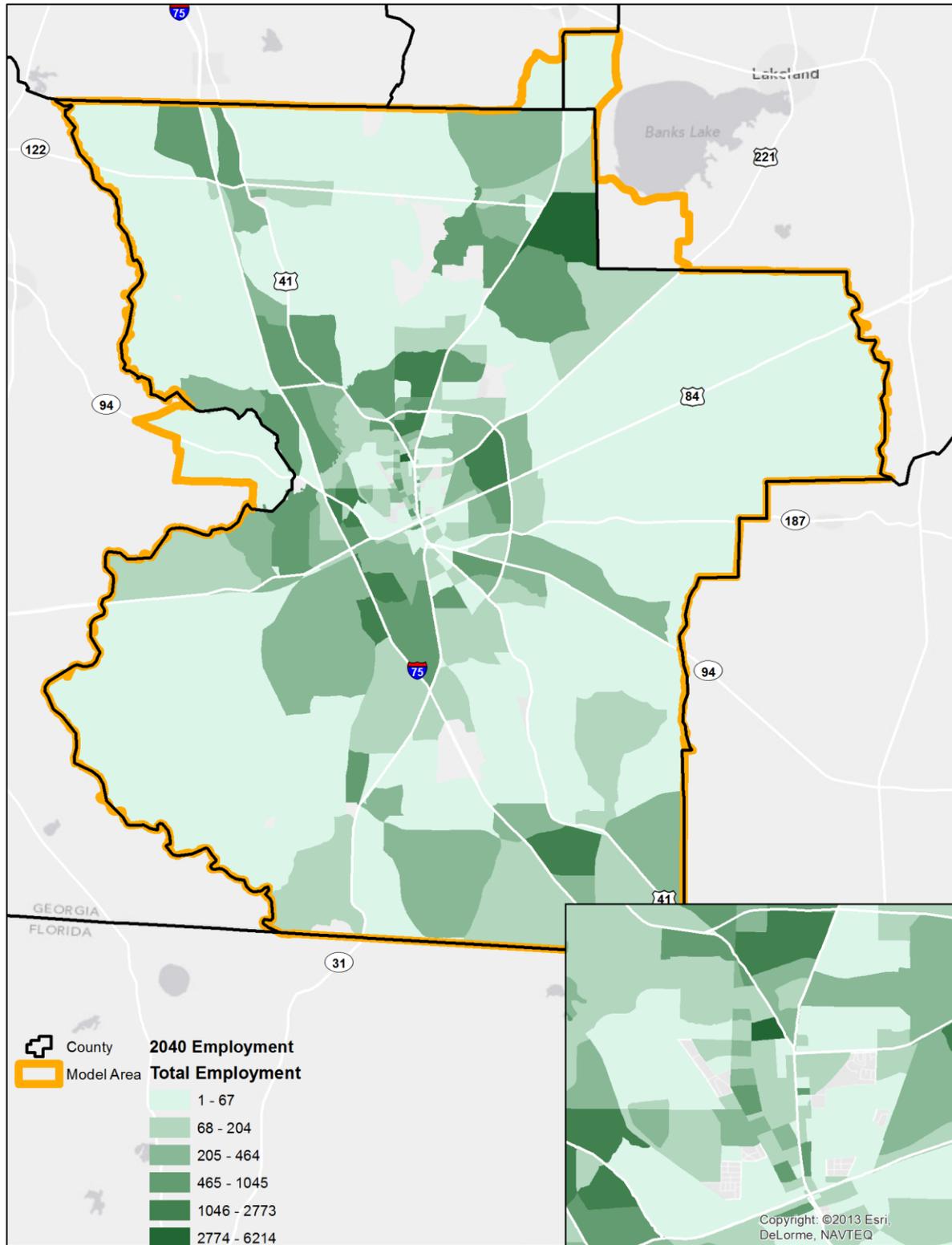


Figure 19 2040 Employment Projections by Zone

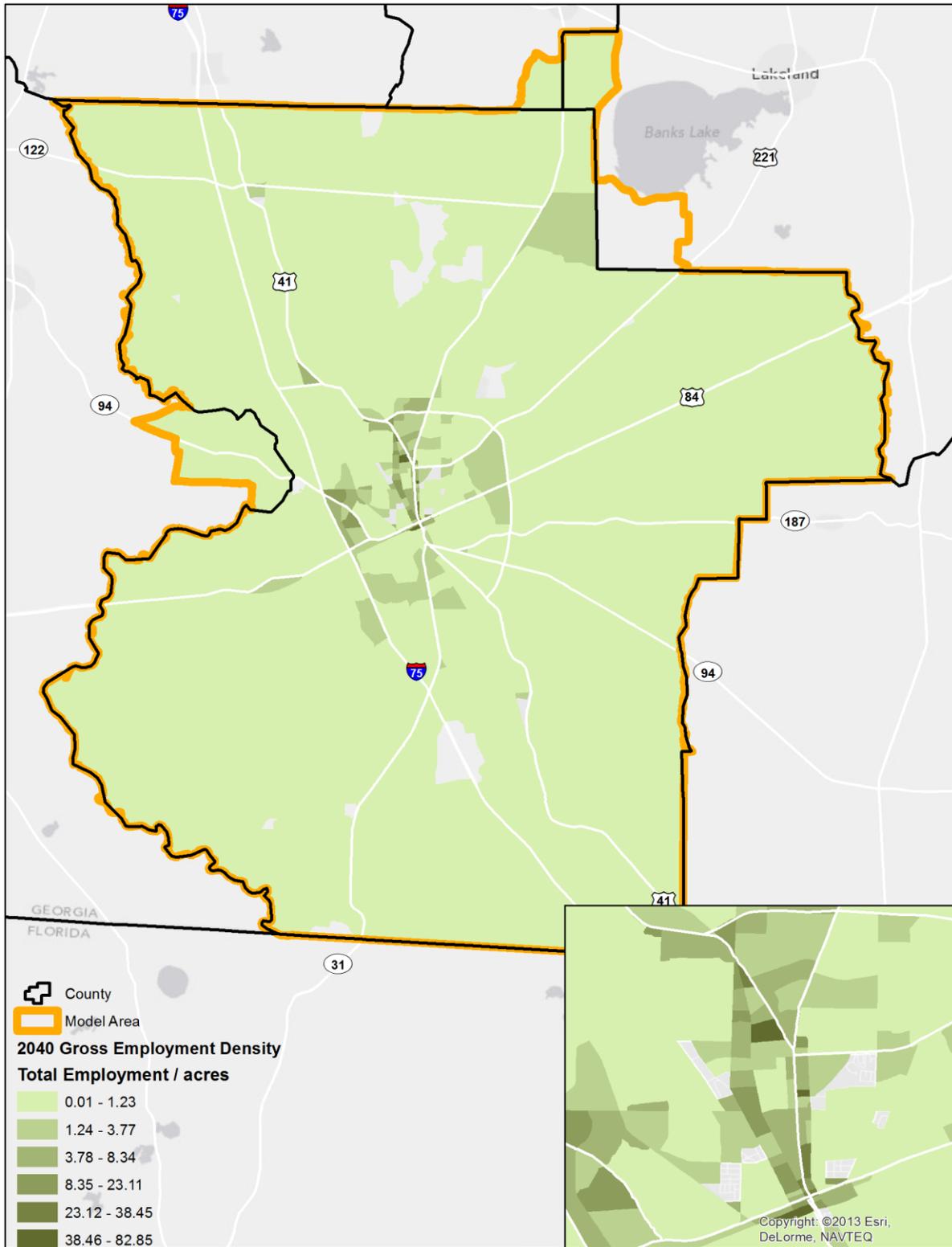


Figure 20 2040 Gross Employment Density by Zone

2040 HORIZON YEAR FINDINGS

Because the developable area in designated Growth Areas was sufficient to accommodate almost all of the projected growth by 2040, little growth was assigned outside of designated Growth Areas. A small amount of household growth (six percent of total growth to 2040) was assumed in developable areas zoned residential with existing access to water or sewer service. This is a reasonable assumption as areas with access to water and sewer service are likely to develop even if they are not within an identified Growth Area.

All of the job increases in retail, manufacturing, and wholesale sectors were accommodated in the developable portions of commercial and industrial Growth Areas. As mentioned above, the land identified for industrial growth exceeds what will be needed to accommodate the 2040 manufacturing and wholesale employment targets.

Because Growth Areas did not accommodate the 2040 service sector job target, we did assign service jobs (based on zoning) to developable land with existing access to water and sewer service outside of Growth Areas. Growth Areas accommodated 60 percent of the service employment growth to 2040. *The share of service employment in Growth Areas could be increased by assuming a higher value for service jobs per acre.* However, the current assumption is consistent with the range of jobs per acre for other employment categories.

INTERIM YEARS

The study team developed additional projections at five-year intervals. We assumed linear growth trends between the base year and 2040 projections to establish interim year targets in each socioeconomic category. Then, we assumed horizon years for the Growth Area timeframes provided by SGRC and local staff. The timeframes were short term, mid-term, mid-long term, and long term. We tested a range of assumptions until the targets for each interim year were met within five percent. The assumed horizon years for development are shown in the map below in ten-year increments. The recommended assumptions about timing of future development are:

1. Commercial, industrial, and institutional development to 2020 will occur in short term Growth Areas and mid-term Growth Areas with water or sewer access, and about half of those areas zoned appropriately with water and sewer access.
2. Commercial, industrial, and institutional development to 2030 will occur in mid-term Growth Areas that are not already developed.
3. Commercial, industrial, and institutional development to 2040 will occur in mid-long term and long term Growth Areas, with the exception of long term industrial areas without access to water/sewer service, which will develop after 2040.
4. Residential development to 2020 will occur in short term residential Growth Areas.
5. Residential development to 2030 will occur in short term, mid-term, mid-long term, and some long term residential Growth Areas, as well as areas zoned residential with access to water and sewer service. The long term Growth Areas with water and sewer access are included in the 2030 residential acreage.
6. Residential development to 2040 will include long term Growth Areas without existing access to water and sewer service.

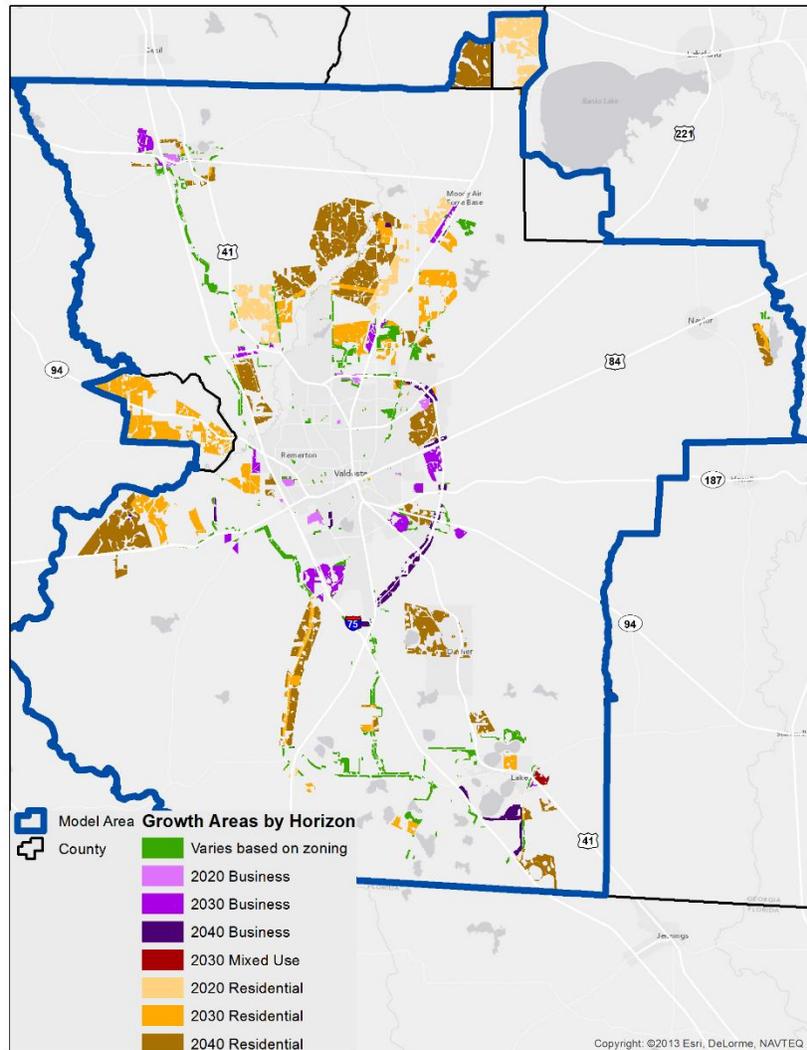


Figure 21 Growth Areas by Projected Development Horizon

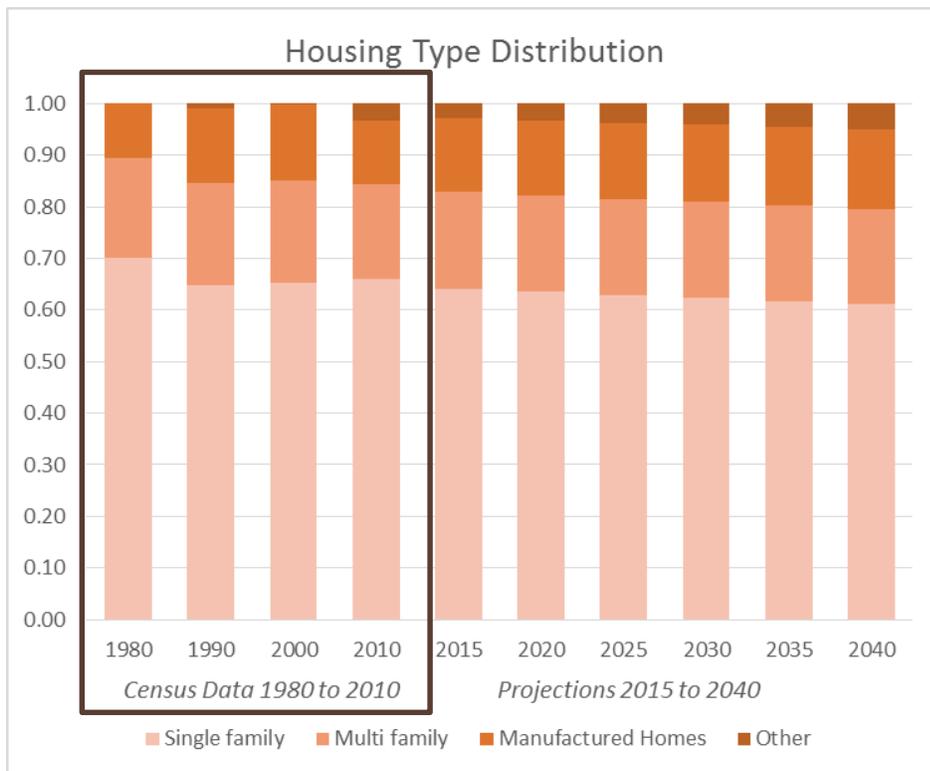
LOWNDES COUNTY PROJECTIONS FOR COMPREHENSIVE PLANNING

In addition to the transportation planning data discussed in the sections above, the study team developed projections for population, housing, age, educational attainment, race, and the labor force for comprehensive planning in Lowndes County.

In general, projections for specific variables follow the trend established by Decennial Census data from 1980 to 2010. Housing variable trend lines were estimated based on the proportion, or share, of total housing units. For example, to project the number of single family housing units into the future, we calculated the share of all housing units that were single family over time, and projected the share into the future. The calculated and projected shares, and resulting single family unit projections, are shown in the table below.

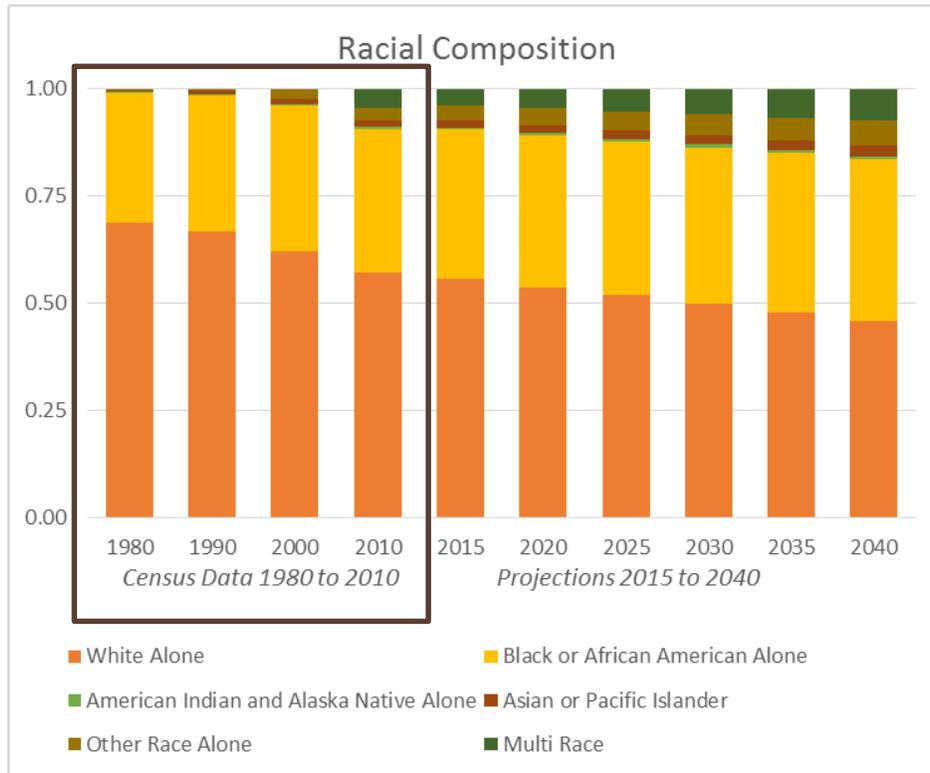
	Census Data				Projections					
	1980	1990	2000	2010	2015	2020	2025	2030	2035	2040
SF units share of all housing units	0.70	0.65	0.65	0.66	0.64	0.63	0.63	0.62	0.62	0.61
SF units	17,033	18,719	23,831	28,966	29,945	31,789	33,594	35,357	37,082	38,764

The figure below shows a summary of housing types reported in the Decennial Census and projected into the future for all of Lowndes County. This is an example of a trend in the distribution of characteristics amongst all housing units.



Similarly, projections of population characteristics follow the historic trend from 1980 to 2010. As an example, the racial composition of the Lowndes County population is shown below. The trend established from 1980 to 2010

was projected forward to 2040. The resulting distribution was used to project absolute population in each race category. Note that multi-race was not a response available to Census takers until 2010.



CONCLUSION

The 2040 Socioeconomic Data Study included data collection, projecting demographics into the future, and allocating future growth to small areas such as traffic analysis zones, Census block groups, and Census tracts.

The study team recommends a county-wide review and revision of Census boundaries to reflect physical boundaries and homogenous areas, where applicable. Traffic analysis zone boundaries should be revised to follow Census boundaries and guidelines established by the Georgia Department of Transportation. Consistent boundaries facilitate coordinated planning and data collection. Accurate boundaries also facilitate an accurate Census count, which is critical to population-based funding for the region. The Local Update of Census Adresses is a good opportunity to review Census boundaries and propose changes as needed to the Census Bureau.

The study team has developed one set of future year socioeconomic projections based largely on the Growth Areas identified by local and regional staff. The development patterns and policies associated with these Growth Areas should be assessed during the upcoming comprehensive plan efforts. The travel demand model and GIS should be used where possible to evaluate the performance of future development alternatives. Finally, the horizon year projections should be adjusted as new data becomes available. Given the recent economic uncertainty, few specific developments were identified as likely to occur within the planning horizon. As development proposals make their way through the planning pipeline, the distribution of population and jobs should be updated as needed. Local and regional staff should continue to coordinate with major employers and developers into the future.

APPENDIX

The table below shows total population and employment variables in five year increments. Note that county-wide population is total population while TDM population has been adjusted for use in the travel demand model, as discussed in the Growth Targets section above.

Year	County	County-wide Population	Travel Demand Model (TDM) Area Variables						
			TDM Population	TDM Employment	Manufacturing Employment	Service Employment	Retail Employment	Wholesale Employment	TDM Households
2040	Lowndes	149,288	146,302	76,082	5,057	50,025	19,634	1,366	59,472
2040	Berrien	24,514	841	1	0	1	0	0	342
2040	Brooks	17,644	3,720	65	3	44	2	16	1,512
2040	Lanier	13,868	3,959	5	0	1	4	0	1,609
2040	Total	205,314	154,822	76,153	5,060	50,071	19,640	1,382	62,935
2035	Lowndes	142,292	139,053	72,635	4,942	47,511	18,854	1,328	54,943
2035	Berrien	23,546	441	1	0	1	0	0	226
2035	Brooks	17,443	3,767	65	3	44	2	16	1,596
2035	Lanier	13,119	3,495	5	0	1	4	0	1,311
2035	Total	196,400	146,756	72,706	4,945	47,557	18,860	1,344	58,076
2030	Lowndes	135,296	132,590	68,632	4,562	45,126	17,713	1,231	53,898
2030	Berrien	22,578	574	1	0	1	0	0	233
2030	Brooks	17,242	3,387	65	3	44	2	16	1,377
2030	Lanier	12,370	3,126	5	0	1	4	0	1,271
2030	Total	187,486	139,677	68,703	4,565	45,172	17,719	1,247	56,779
2025	Lowndes	128,301	125,693	65,993	4,504	43,139	17,164	1,186	50,043
2025	Berrien	21,610	41	1	0	1	0	0	21
2025	Brooks	17,042	3,266	65	3	44	2	16	1,382
2025	Lanier	11,621	3,030	5	0	1	4	0	1,310
2025	Total	178,573	132,030	66,064	4,507	43,185	17,170	1,202	52,756
2020	Lowndes	121,305	118,879	61,183	4,067	40,229	15,792	1,095	48,325
2020	Berrien	20,641	308	1	0	1	0	0	125
2020	Brooks	16,841	3,053	65	3	44	2	16	1,241
2020	Lanier	10,872	2,292	5	0	1	4	0	932
2020	Total	169,659	124,532	61,254	4,070	40,275	15,798	1,111	50,623
2015	Lowndes	115,269	113,077	58,609	3,901	38,534	15,146	1,028	45,600
2015	Berrien	19,964	41	1	0	1	0	0	21
2015	Brooks	16,542	2,720	65	3	44	2	16	1,166

Year	County	County-wide Population	Travel Demand Model (TDM) Area Variables						
			TDM Population	TDM Employment	Manufacturing Employment	Service Employment	Retail Employment	Wholesale Employment	TDM Households
2015	Lanier	10,475	2,245	5	0	1	4	0	897
2015	Total	162,250	118,083	58,680	3,904	38,580	15,152	1,044	47,684
2010	Lowndes	109,233	106,561	54,264	3,610	35,673	14,009	972	43,370
2010	Berrien	19,286	41	1	0	1	0	0	21
2010	Brooks	16,243	2,720	65	3	44	2	16	1,166
2010	Lanier	10,078	1,459	5	0	1	4	0	483
2010	Total	154,840	110,781	54,335	3,613	35,719	14,015	988	45,040

The four maps below provide a look at the interim steps in growth allocation for the study area.

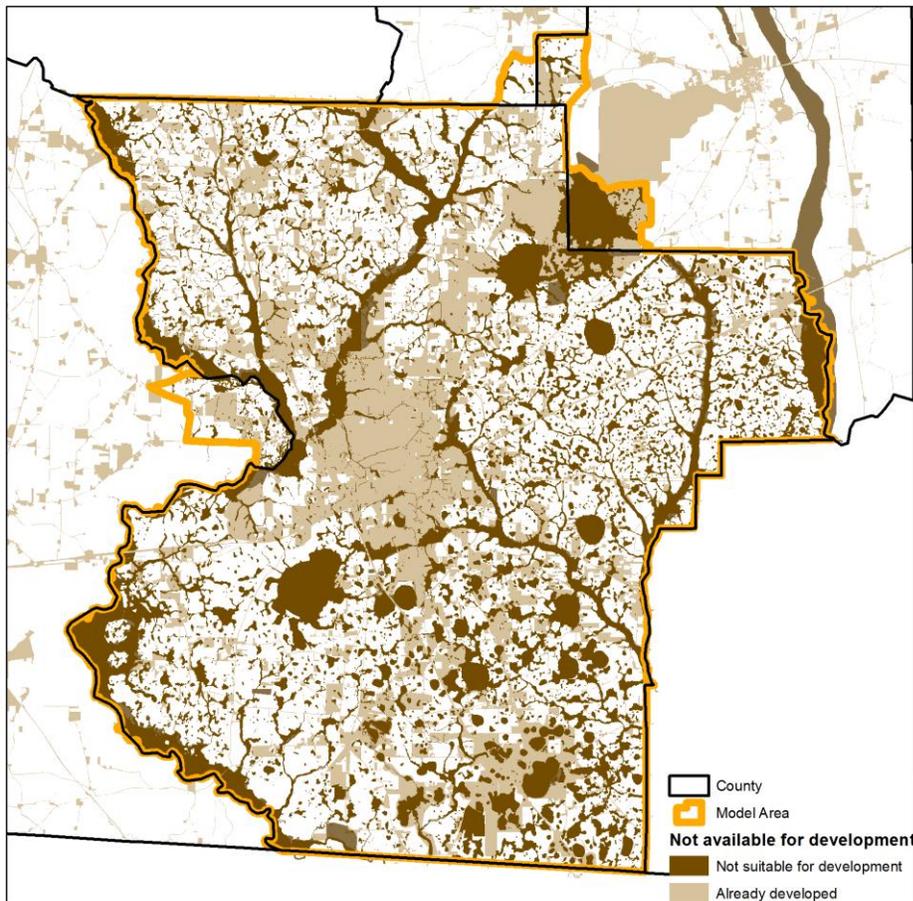


Figure 22 Land Not Suitable for Development or Already Developed

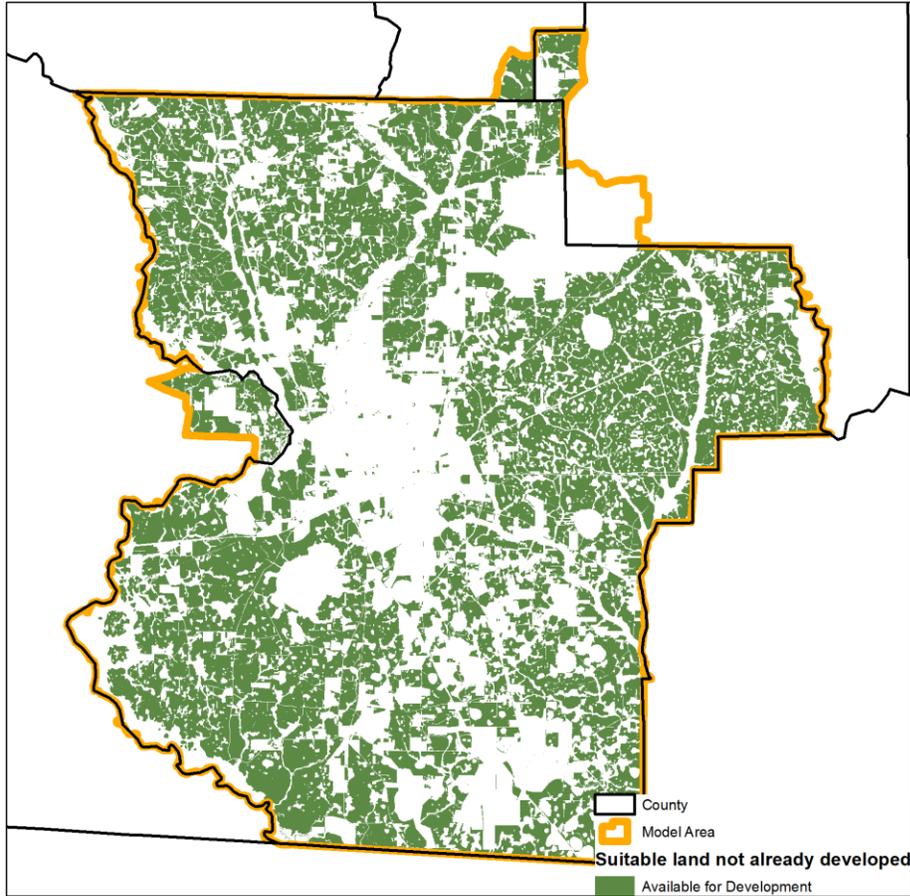


Figure 23 Land Available for Development from 2010 to 2040

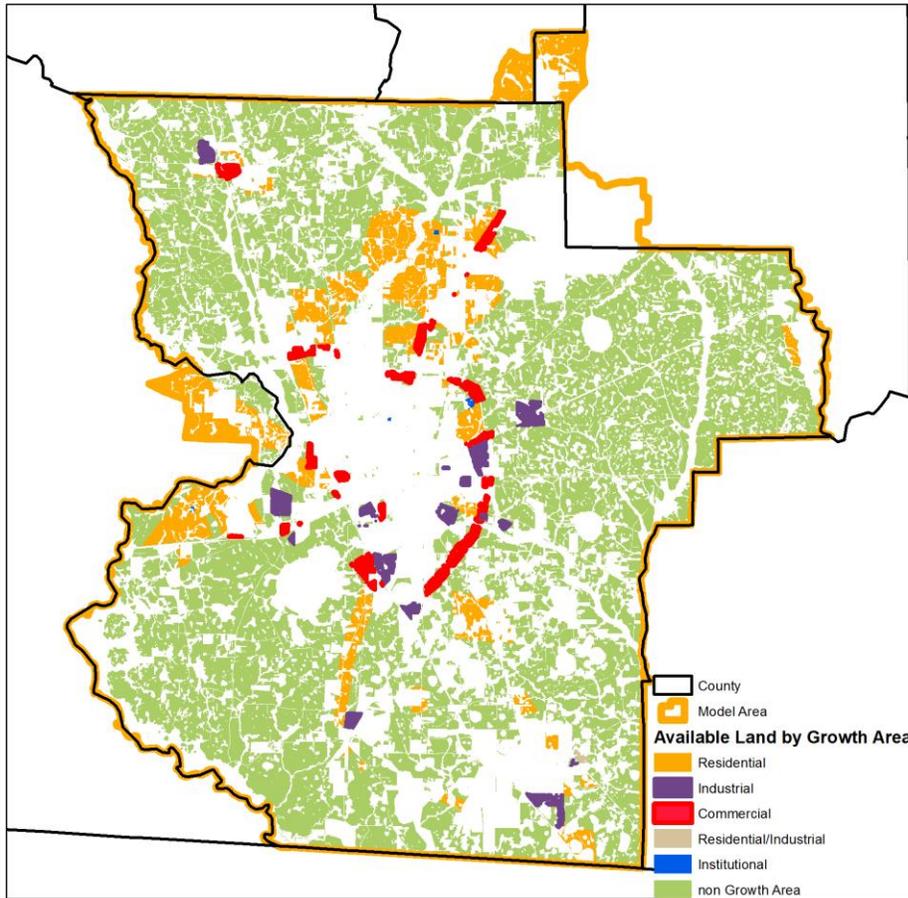


Figure 24 Areas Available for Development by Growth Area Type (emphasis added to commercial and industrial areas)

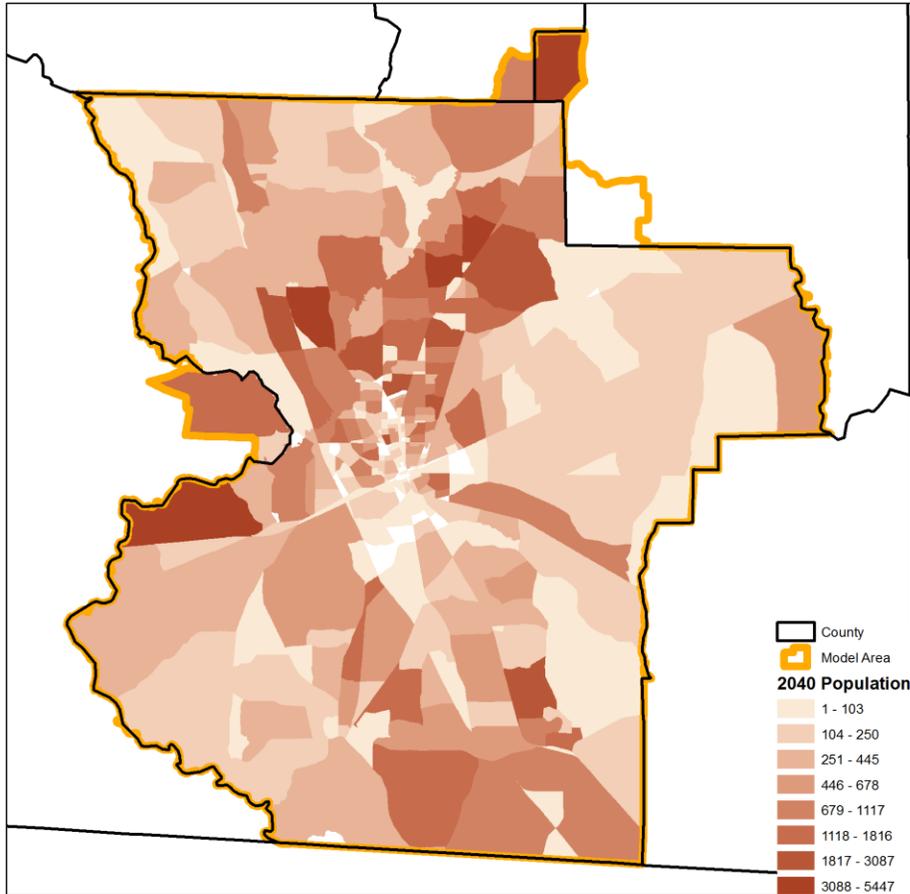


Figure 25 2040 Population Allocation by Zone

The map below shows the growth areas and traffic analysis zone boundaries for reference. The developable land within each Growth Area was calculated by TAZ to project future residential and business development in the TAZ.

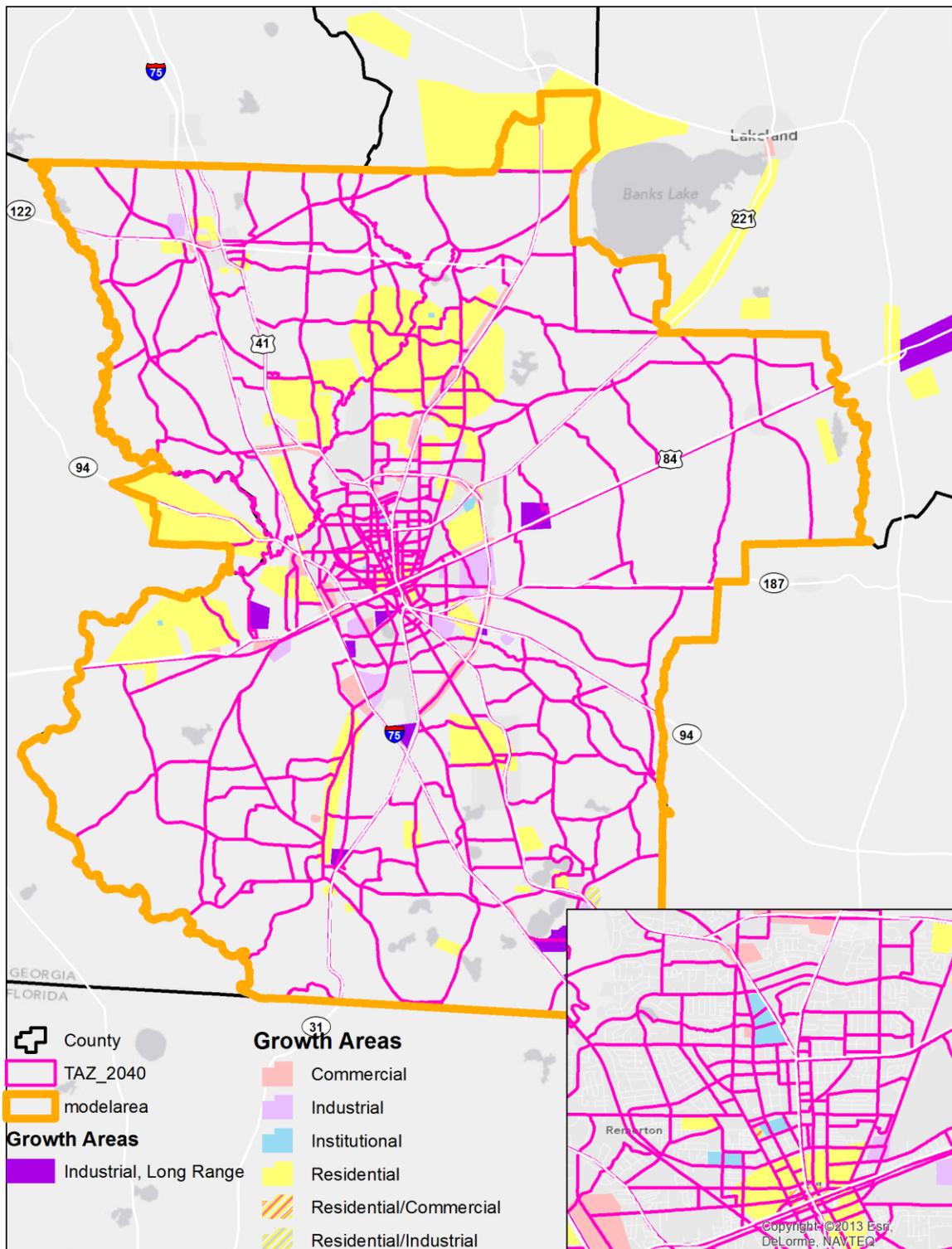


Figure 26 Growth Areas and Traffic Analysis Zone Boundaries