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# Carroll County, Georgia

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# Community Assessment

2008 Update prepared by:

<b>Carroll County Department of Community Development</b>	<b>PRISM Associates</b>	<b>University of West Georgia</b>
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from the 2005 Update prepared by:

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## ***I. Introduction***

### ***A. Community Profile***

Carroll County is located in western Georgia and is part of the Atlanta Metropolitan Region. The County was formed from Cherokee and Creek Territory in 1826 through the Indian Springs Treaty. Incorporated areas within the county are Carrollton, Villa Rica, Temple, Bowdon, Whitesburg, Bremen, Mount Zion, and Roopville.

The County has an area of 504 square miles and is located 45 miles west of Atlanta and 90 miles east of Birmingham. The estimated population of Carroll County in 2006 was 107,325 residents. In recent years, the county has experienced a significant rate of growth, a 23% increase since the 2000 Census. The population is expected to double by 2030.

### ***B. Purpose and Scope***

The Carroll County, Georgia ("County"), Comprehensive Plan Update (the Plan) establishes Carroll County's vision for its future and guides decisions to implement that vision through the year 2030. The future expressed in the Plan reflects local community values, ideals and aspirations. The Plan advocates managed growth through effective coordination between the County's service providers. By managing community change, the County will preserve its assets and promote positive change that will enhance its residents' quality of life.

The Georgia Department of Community Affairs adopted the "Standards and Procedures for Local Comprehensive Planning," effective May 1, 2005. These standards require a Comprehensive Plan to be comprised of a Community Assessment with Data Appendix, Community Participation Plan and Community Agenda. For the Community Assessment, the county must include the following components: 1) a list of potential issues and opportunities; 2) an analysis of existing development patterns including areas of special concern and character areas; 3) an evaluation of existing policies for consistency with the Quality Community Objectives (QCOs); and 4) an analysis of growth trends. A Public Participation Plan is also required to ensure adequate public and stakeholder input throughout the planning process.

The Community Agenda is comprised of the community's vision for the future and its strategy in achieving that vision. Through the visioning process, the county will develop implementation strategies to guide future development patterns and suggest further action for the issues and opportunities identified in the assessment.

### ***C. Document Format***

The Comprehensive Plan Update examines the existing conditions of the community and articulates a County vision. The plan includes a Community Assessment with a Data Appendix, Public Participation Plan, and Community Agenda. The Community Agenda will be completed after the Community Assessment and Public Participation Plan have been approved.

The following list of chapters outlines the major areas found in the Data Appendix, Appendix A.



**Chapter I – Population Element** – reviews demographic information and projects future population growth. This element addresses historic and projected population and household growth, residency, age, race, mobility, education and income of Carroll County’s population. The projections are the basis for determining future land use, housing, infrastructure, services and economic opportunity needs.

**Chapter II – Natural and Historic Resources Element** – describes the natural environment and historical assets of Carroll County and establishes policies intended to mitigate the impacts of community growth on natural resources and to retain the historic significance of Carroll County sites. The community characteristics examined include: topography, climate, soils, hydrology, green spaces, vegetation, wildlife and historical assets.

**Chapter III – Housing Element** – examines the existing state of the housing stock, projects future housing needs, and sets forth policies to enhance and maintain the community’s housing opportunities. The element considers the age of housing, number of dwellings, residential development trends, housing types, homeownership, housing cost, projected housing needs, and the local, state and federal programs needed to meet the housing need.

**Chapter IV – Local Economy Element** – examines Carroll County’s local economy, including: the existing mix of activities, wages, employment, labor force, economic development activities and resources. Goals, objectives and policies in this element are the basis for local government participation in economic development activities in coordination with other public and private entities.

**Chapter V – Community Facilities and Services Element** – inventories and evaluates public facilities and services including: transportation, water treatment, wastewater treatment, public safety, schools, libraries, park and recreational opportunities and utility services. The level of service standards established in this element are fundamental to the County’s growth management program.

**Chapter VI – Transportation Element** – inventories and evaluates the existing transportation network, including roads, bridges, signalization, airports, railroads, parking, public transportation and pedestrian and bicycle paths. This element identifies goals, objectives, and policies in order to effectively serve the needs of citizens and businesses.

**Chapter VII – Land Use Element** – describes the existing land use and zoning patterns within the County and establishes the land use pattern necessary to accommodate future growth. This element identifies key issues, including the relationship between land use, infrastructure and intergovernmental coordination, and establishes appropriate objectives, policies and strategies (action programs).

**Chapter VIII – Intergovernmental Coordination Element** – directs the user to key intergovernmental goals, objectives, and strategies contained in the Plan.



Together with the reference information included in the appendices, the Community Assessment, Public Participation Plan and Community Agenda comprise the Carroll County, Georgia Comprehensive Plan -- a guide to the future growth of the County and its cities.

## ***II. Identification of Potential Issues and Opportunities***

### **A. List of Potential Issues and Opportunities<sup>1</sup>**

#### ***1. Key Natural and Historic Resources Issues***

The following key issues relating to natural resources were identified through the citizen participation and visioning process.

##### ***a. Managing stormwater***

The hilly terrain and erosion-prone soils of Carroll County increase the importance of local stormwater management. In addition to providing opportunities for valuable recreational and open space amenities, effective management of increased runoff from development is essential to:

- Protect lives and property from flooding;
- Protect the quality of surface and ground waters; and
- Retain wildlife habitat and corridors.

##### ***b. Protecting valuable natural resources***

While Carroll County is largely rural today, growth pressures within the Atlanta metropolitan area promise additional development of large areas of the County. To retain the quality of life that attracts residents and business owners to Carroll County, the Comprehensive Plan should describe the resources to be protected and potential strategies to protect those resources, including:

- Protection of woodland areas and heritage trees;
- Protection of wetlands, rivers, streams and lakes;
- Conservation of prime agricultural land;
- Protection of steep slopes from inappropriate development and erosion;
- Preservation of historical resources; and
- Retention of meaningful green spaces.

##### ***c. Protecting historic resources***

While Carroll County does not currently have a complete inventory of its historic resources, it can use its development review process to minimize historic resource loss. Prior to development approval, the County has the opportunity to evaluate potential resources and explore alternatives to retain them. Ultimately, the County should use its geographic information system to maintain an inventory of historically and archaeologically significant sites, so it can facilitate the preservation of valuable sites.

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<sup>1</sup> The text in the section, "List of Potential Issues and Opportunities" was taken verbatim from the *Carroll County, Georgia Comprehensive Plan Update*, Chapters 2-8, prepared by Michael Lauer, Planning Works, adopted in October, 2005.



**2. Key Housing Issues**

The following housing issues were identified by participants in focus group meetings, interviews, community workshops and Steering Committee workshops as the critical issues that need to be addressed by the Comprehensive Plan.

**a. Enhancing the jobs/housing balance**

Efforts of the County, its communities, Carroll Tomorrow and other groups have focused on the need to increase the number and quality of jobs available in the County. One measurable objective for the Comprehensive Plan to establish is to increase the ratio of jobs to housing units. The combination of the jobs housing ratio and average wage rates would provide a useful benchmark to measure economic development progress.<sup>2</sup>

**b. Developing more diversified housing mix**

Carroll County has experienced strong demand for manufactured homes and starter homes. While the Mirror Lake development represents a more upscale market, much of this development is in Douglas County and the majority of new residential development in Carroll County is geared to more modest market segments. The County needs to foster a more diverse housing market and seek to increase average home prices to levels that better reflect those of the Atlanta Metropolitan area as a whole.

**c. Coordinating affordable housing provision with cities**

Carroll County has historically had more affordable housing than the region. However, as market demands increase, the cost of housing is likely to increase and accelerate the proportion of households spending more than 30 percent of their incomes on housing. The County should coordinate with cities to ensure that there is safe and adequate affordable housing for very low, low and moderate income households. These units should be located in relatively close proximity to employment opportunities and public services.

**3. Key Economic Development Issues**

The following economic development issues were identified by participants in focus group meetings, interviews, community workshops and Steering Committee workshops as the critical issues needing to be addressed by the Comprehensive Plan.

**a. Implementing a coordinated county-wide economic development program**

Carroll Tomorrow has been working towards a coordinated economic development program that will improve employment opportunities for all County residents and improve the fiscal capabilities of the cities and the County to provide public facilities and services. To achieve this end, Carroll Tomorrow is working to support existing employers and attract more high quality employers. Attracting better jobs requires competitive locations for employers and a high quality workforce available to fill the jobs. Improving the quality of Carroll County's work force is a high priority.

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<sup>2</sup> The housing/job ratio was 1.239 in 2000 according to Census data.



**b. *Supporting agricultural industry***

Agriculture is an important sector of the County’s economy, contributing over \$40 million annually. While the County desires to increase local employment and housing opportunities, the timing, location and design of development will affect the long-term viability of agricultural operations. In addition to the loss of agricultural land when new development occurs, residential encroachment into agricultural areas can interfere with agricultural operations if residences are located downwind of poultry or cattle operations or are adjacent to farms. The Comprehensive Plan should identify prime agricultural lands and identify equitable strategies to support the long-term retention of viable agricultural operations.

**c. *Enhancing the jobs/housing balance***

Efforts of the County, its communities, Carroll Tomorrow and other groups have focused on the need to increase the number and quality of jobs available in the County. One measurable objective for the Comprehensive Plan to establish is to increase the ratio of jobs to housing units. The combination of this jobs housing balance and average wage rates would provide a useful benchmark to measure economic development progress.

**d. *Protecting industrial and agricultural areas from encroachment***

Carroll County’s emphases on economic development and retention of agri-business mandate the protection of industrial and agricultural areas from encroachment by uses that would interfere with industrial and agricultural operations. These uses frequently generate noise, glare, truck traffic and odors that are undesirable to adjacent residents. By designating areas intended for these operations and protecting those areas from residential encroachment, the County can increase the long-term viability of these vital economic engines.

**4. *Community Facilities Issues***

The following growth issues were identified by participants in focus group meetings, interviews, community workshops and Steering Committee workshops as the critical issues needing to be addressed by the Comprehensive Plan.

**a. *Coordinating school development with county-wide growth***

Over the next 20 years, the Carroll County School District is likely to be the most significant developer in the County. School location decisions will affect demands for infrastructure (particularly road, water and wastewater system improvements) and development pressures. The locations of new schools should be coordinated with the locations of projected growth to ensure that adequate infrastructure can be provided and to minimize school busing costs.

**b. *Coordinating with other service providers***

To provide cost-effective services, the Carroll County Water Authority and other public service providers need to know the location, intensity, timing and amount of new development. The plan should provide guidance on all of these aspects of development.





*c. Coordinating growth with provision of adequate public facilities*

One of the greatest growth management challenges is coordinating the efficient development of infrastructure with the development of land uses that create demands for that infrastructure. The Comprehensive Plan should provide a framework for coordinating the public investments by indicating the location, use, intensity and timing of development.

**Water** - The key water issues are securing adequate supplies of water and distributing enough water to provide for everyday needs and fire suppression. The opening of the CCWA reservoir in 2003 has created an adequate supply of water to meet demands through the planning period, subject to completion of improvements required to store and distribute the water.

**Wastewater** - Wastewater service availability is one of the key limitations to urban and suburban intensity growth. Without centralized service, residential densities and non-residential development potential are limited. Centralized sanitary sewer systems currently are provided in Villa Rica, Temple, Carrollton, Bremen, Bowdon and the Fairfield PUD. Carrollton, Temple and Villa Rica will need to increase wastewater capacities to serve projected growth. Additional demands from planned suburban growth areas could be met by community systems, provided that the County and CCWA establish appropriate standards for design, management and funding of the systems. The key wastewater issues that the County needs to address are: ensuring that new development is adequately served; providing for safe and efficient service; and coordinating municipal and community systems so they can be integrated in the future, if necessary to meet environmental standards or improve operating efficiencies.

**Schools** - With a 10-year \$165 million improvement plan providing for construction of new schools and improvements to existing schools, the Carroll County School District is likely to be one of the most significant development forces in the County during the planning period. Schools will create demand for infrastructure and can stimulate residential growth. The primary challenges that should be addressed by the Plan include:

- Ensuring that development decisions are coordinated with classroom capacity; and
- Coordinating school siting with growth and capital improvement decisions.

*d. Maintaining fiscal integrity*

The quality of life in Carroll County is contingent on the County's continued ability to provide high quality services at a reasonable cost to taxpayers. To achieve these ends, the Comprehensive Plan should describe the County's strategies to:

- Enhance the local property and sales tax bases more rapidly than the fiscal obligations for capital facilities, operations and maintenance;
- Ensure that new development funds the costs of capital facilities required to serve that new development;



- Ensure that facilities and services are planned in a way that allows ongoing operations without significant increases in the costs to residents and businesses; and
- Target capital investments to areas that will best achieve the types of growth desired by the County.

**5. Key Transportation Issues**

The following transportation issues were identified by participants in focus group meetings, interviews, community workshops and Steering Committee workshops as the critical issues needing to be addressed by the Comprehensive Plan.

**a. Transportation**

The transportation system affects most citizens' quality of life on a daily basis. To ensure that the transportation system continues to effectively serve the needs of residents and businesses, the Plan should guide public investments and development decisions in ways that:

- Maintain adequate road capacity and minimize delays due to traffic congestion;
- Maintain road safety, so that roads are safe for drivers, pedestrians, and bicyclists, as well as the residents and businesses located along the roads;
- Protect primary road corridors from inappropriate development patterns. While Highways 27 and 61 have been identified and zoned as future commercial corridors, emerging development patterns illustrate the inadequacy of existing development regulations to protect the function and appearance of these key entry corridors. Better access control is needed to minimize future losses in roadway safety and capacity. Better appearance codes (e.g., landscaping and building design standards) are needed to protect the long-term viability of the corridor and to prevent future blight; and
- Protect scenic road corridors from clearing and encroachment of development. Carroll County has numerous State Highways (e.g., State Highways 5, 113, and 166) that exemplify the rural character that makes the County such a desirable place to live and visit. Scattered development along these roadways illustrates the vulnerability of this rural character. Protecting the scenic beauty of these corridors through buffers, setbacks and strict driveway spacing standards will help retain an asset that will pay dividends to future residents by protecting roadway capacity and providing an attractive environment for residents and economic development prospects.

**b. Protect gateways and entry corridors**

As mentioned above, the State highways that provide access to and through the County shape visitors' and residents' opinions of the County. Ensuring that land uses are compatible with the desired character of the corridor, as well as with other uses in the corridor will make the County a more attractive place to live, work and conduct business.



**6. Key Planning Issues**

The following growth issues were identified by participants in focus group meetings, interviews, community workshops and Steering Committee workshops as the critical issues needing to be addressed by the Comprehensive Plan.

**a. Reinforcing community growth goals/policies**

The County's comprehensive plan must be coordinated with the plans of the cities. The coordinated planning through intergovernmental agreement should address land use patterns and infrastructure at the edges of communities and provide a template for coordinated decision-making in these areas.

**b. Ensuring a balanced land-use mix**

Carroll County encompasses urban, suburban and rural areas that are under pressure from residential development serving housing demands from the Atlanta Metropolitan Area. Much of this demand is for starter homes that generate greater fiscal burdens than benefits for the County. The County's fiscal and economic health depends on balancing the mix of residential and non-residential land uses as well increasing the proportion of up-scale housing and retaining a viable agricultural community that produces tax revenue with few service demands.

**c. Land use compatibility**

Land use compatibility is essential to protect the integrity of residential neighborhoods and unincorporated communities, as well as the viability of agricultural operations, corridors, activity centers, mixed use and industrial development areas. Compatibility is not defined solely by densities. Adjacent development at different densities may be compatible if the proposed use will enhance property and economic values, be buffered, and/or provide similar designs where different unit types abut. Carroll County's emphasis on economic development and retention of agri-business mandates the protection of industrial and agricultural areas from encroachment by residential uses that would interfere with industrial and agricultural operations. Agricultural and industrial uses frequently generate noise, glare, slow traffic, chemicals, fertilizers and odors that are undesirable to adjacent residents. By designating areas intended for these operations and protecting those areas from residential encroachment, the County can increase the long-term viability of these vital economic engines.

**d. Provide compatible diversity within neighborhoods**

Avoid homogeneity and provide diverse housing opportunities while ensuring neighborhood stability and compatibility.

**e. Planning for growth and development**

Carroll County has experienced extraordinary growth over the last 30 years. This has emphasized the importance of planning for and effectively managing growth through a growth management process that:

- Results in predictable, timely and equitable development approval decisions;



- Involves stakeholders in decisions early in the planning and development process – at times when they can have the most significant impact on development patterns; and
- Facilitates effective enforcement of zoning, development and building codes.

*f. Protecting Key Transportation Corridors*

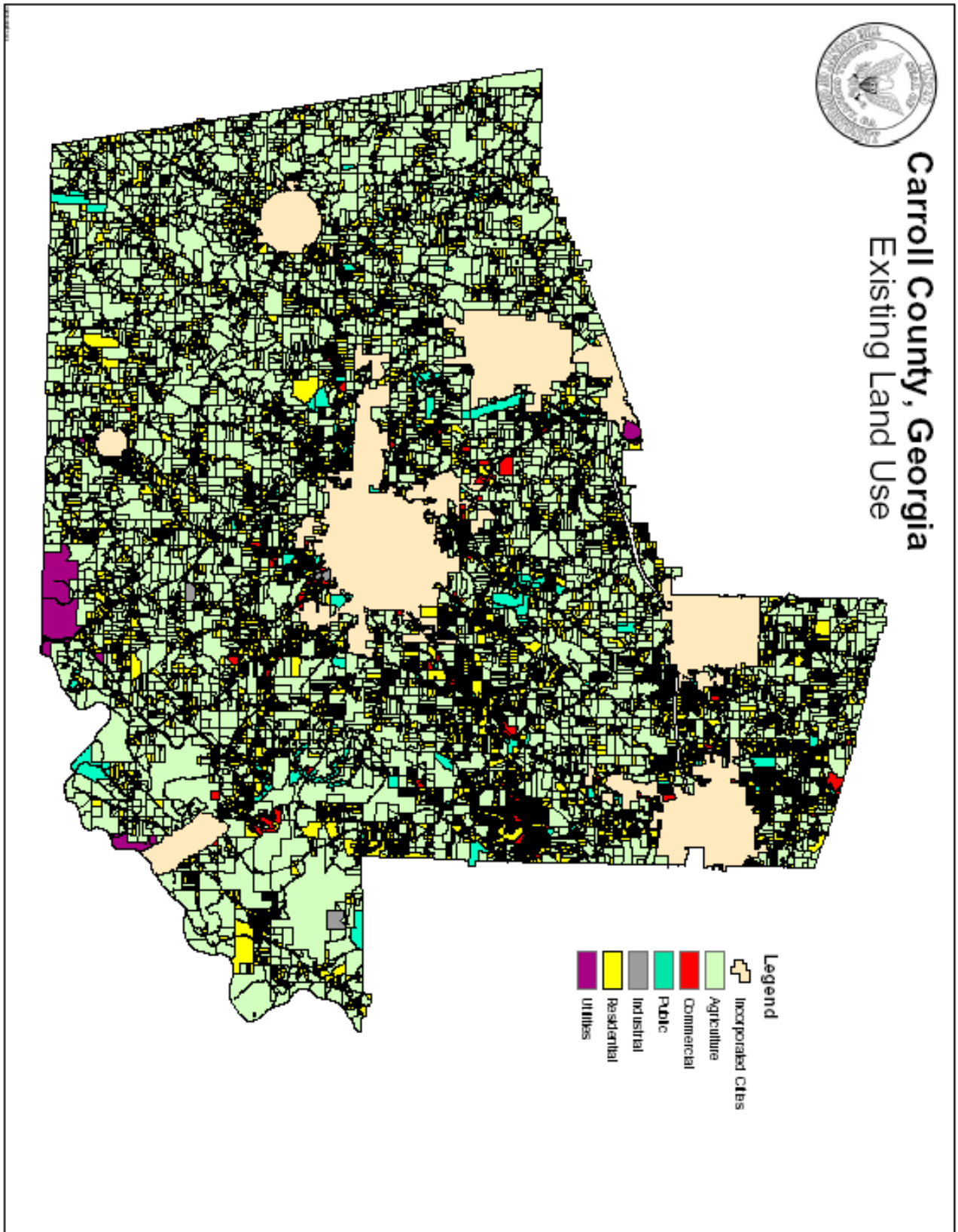
Highways 61 and 27 have experienced a hodge-podge development pattern that detracts from the function and appearance of the corridors. Future land use and development patterns should protect the capacity of these and other arterial roadways and ensure that development will strengthen the character and vitality of the County as a whole.

*III. Analysis of Existing Development Patterns*

*A. Existing Land Use Map*



Map 1: Existing land Use (2007)





**B. Areas Requiring Special Attention**

**1. *Areas of significant natural or cultural resources***

- Sites and Districts listed on or eligible for the National Register of Historic Places
- Georgia Historical Markers and Select Local Historical Sites
- McIntosh Reserve
- Prime Agricultural Lands
- Green Spaces, Woodland areas, Heritage Trees, Water Supply Watersheds, Wetlands, Rivers, Streams, Lakes, Steep Slopes

**2. *Areas where rapid development or change of land uses is likely to occur***

- Urban Growth Areas
- Corridors (State Highways)
- Large vacant tracts in the suburban tiers

**3. *Areas where the pace of development has outpaced, or may soon outpace, the availability of community facilities and services, including transportation***

- Highway 101 vicinity
- Siting new schools could be difficult if adequate infrastructure is not available. Also, schools can stimulate rural residential growth and this would require better coordination of growth and capital improvement decisions by stakeholders.

**4. *Areas in need of redevelopment and/or significant improvements to aesthetics or attractiveness***

- Older residential subdivisions and mobile home parks with dilapidated housing
- Deteriorated commercial structures

**5. *Large abandoned structures or sites, including those that may be environmentally contaminated.***

- No structures or sites found

**6. *Areas with significant infill development opportunities***

- Vacant tracts along the Corridors (already zoned *Commercial*)

**7. *Areas of significant disinvestments, levels of poverty, and/or unemployment***

- Timberlake Estates
- Bowdon Junction Special Tax District



**C. Recommended Character Areas**

**1. Sub Areas**

The following is a list of planning sub-areas that have distinct characteristics, opportunities, and issues. These areas are shown on the *Character Areas* map.

**a. Rural Countryside**

This, the largest of all proposed character areas, is best identified as rural areas of the county consisting of hills and dells that are a mix of active timberlands, pine forest, rolling active and inactive pastures and farmland, creek bottoms, low density and large lot residential uses, a sampling of small scale commercial undertakings, and other rural endeavors. These uses are random throughout the County and often exist side-by-side.

Predominantly residential areas may have been historically defined by thriving rural churches, small mills, and a livelihood associated with rivers and nearby forests and farms, but may now be associated with residents desire to live in a more natural and secluded setting within a reasonable commute to work. There is some transitioning from older prefabricated homes to modern residential styles. The displacement of farm, pasture, and timberland by very large estate homes and low-to-medium density subdivisions is not an uncommon occurrence.

Overall, these areas are best identified by their pristine bucolic nature with a mix of farms and forest.

**b. Natural Recreation Sites**

Carroll County is host to a number of unique areas prime for recreational activities. These areas are held in private or public ownership, have clearly defined boundaries, and typically have historical, ecological, or cultural significance. While the County contains many small parks, the Natural Recreation Sites character area is more specific to larger areas with specific themes. McIntosh Reserve, for example, offers abundant passive recreation and open space along the Chattahoochee River. Other sites include the future Blackjack Mountain Park, the future Little Tallapoosa Park, and John Tanner State Park.

**c. Riparian Corridors**

While Carroll County has many creeks, streams, ponds, and other bodies of water, there are two large and significant rivers within the County's borders. These are the Little Tallapoosa and Chattahoochee Rivers. This character area includes those rivers and the natural areas along them. Development is evident along these bodies of water, but their banks are generally wooded. Other Riparian Corridors include Turkey Creek and Snake Creek.

**d. Crossroads Communities**

Those places within the County that have a special sense of place are Crossroads Communities. Specifically, they are the areas of the County that have special meaning to its residents. These areas can be located at the intersection of two streets



or can be linear along a single street. In all cases, the Crossroad Community contains an epicenter that meets local needs via churches, community/recreation centers, cemeteries, eateries, convenience stores, gas stations, and/or some unique landmark. These sites are frequently visited by the surrounding neighbors, offering a means for repeated interaction. Overtime, relationships are formed and sentimental feelings become attached to the area as a smaller, more personal community within the County.

The communities identified in Carroll County are:

- ★ Legion Lake
- ★ Banning
- ★ Lowell
- ★ Tyus
- ★ Clem
- ★ Hulett
- ★ Burwell
- ★ Hickory Level
- ★ Sand Hill
- ★ Bowdon Junction
- ★ Bucktown
- ★ Veal
- ★ Cross Plains
- ★ Center Point

**e. *Special Purpose Residential***

These include residential developments that were/are planned and developed with an explicit purpose in mind, such as a specific recreation or social activity. These neighborhoods likely have lakes that are key amenities. There are currently three neighborhoods in this character area: Lyon’s Landing, Fairfield Plantation, and Buttercup Farms.

Lyon’s Landing is a fly-in community with a 3,000 foot lighted runway for residents to use. Homeowners typically are small aircraft owners and have lots that feature hangers. Community features include gated entry, Clubhouse with pool, lighted tennis court, two lakes, and walking trails.

Fairfield Plantation is a large planned community developed with resort-type recreation as a cornerstone. This gated neighborhood features a championship golf course, country club, staffed recreation center, pool, mini-golf, playground, lakes, and a beach resort area. Fairfield was originally developed in the 1970s and now features over 1,500 homes.

Buttercup Farms is a planned (not yet constructed) equestrian/residential community in the southwest part of the County. The site consists of 353 acres and is designed for 17 lots. The site will feature a compacted gravel road (that will be privately maintained) throughout the development, along with a riding trail.





*f. Urban Development*

The areas immediately surrounding the incorporated cities (on the periphery) in Carroll County are expectedly more developed than other areas within the County. Water and sewer are more readily available in these areas than elsewhere, creating the greatest pressure for development. These areas are predominantly residential, but significant commercial activity is also present. Typical characteristics include: low pedestrian orientation, high open space, high to moderate degree of building separation, scattered civic buildings, and varied street patterns with copious use of cul-de-sacs. Every location within this character area may not represent all of the identifiers listed, but they are moving in that direction.

*g. Utility Centers*

This character area is comprised of those employers in the County who have a large physical and economic impact upon the County, and whose business involves intensive industrial uses. There are currently three sites in this character area: Plant Wansley, Plant Yates, and Plantation Pipeline.

**2. Transportation Corridors**

Carroll County is traversed by significant highways and a major interstate. The placement of these roadways has certainly affected the landscape. With Carrollton as the exception, the eastern portion of the County is more developed than the west, while north Carroll County tends to be more populated than the southern regions of the County. For this reason, the personality of any given corridor will fluctuate depending on what area of the County it is located. Therefore, transportation corridors cannot simply be assigned only one designation. It may be the case that portions of the same road lay within different corridors.

*a. Scenic*

As the name implies, Scenic Corridors are roads that are flanked by picturesque, rural land. Most highways within Carroll County are wholly or partially scenic. The natural highways should also prohibit large quantities of billboards and signs being put up. If billboards and signs are going to be allowed, they must all appear to have similar characteristics in design. Authorities should enforce strict littering ordinances on all businesses and residents.

*b. Industrial Transition*

There is only one identified Industrial Transition Corridor within Carroll County, which is Highway 27 north of Carrollton. This segment of Highway 27 would have previously fit somewhere between scenic and commercial, but the increased attention it has been given by the industrial sector has altered that status. A major distribution center for Wal-Mart is located along Highway 27 and there are plans to expand it. The success of the distribution center has Highway 27 poised to become more industrial in nature.



**c. *Eclectic Commercial***

Similar to “standard” commercial corridors, the Eclectic Commercial Corridor is defined by the land fronting on either side of a heavily traveled thoroughfare that connects two or more commercial nodes. Also similar to other commercial nodes, this character area is rapidly developing; residential land uses are under pressure to transition to commercial land uses (typically strip malls). However, new residential developments, some older single-family homes, large amounts of wooded areas, and active pastures can be found here.

**d. *Interstate 20 Gateway***

Interstate 20 is a broad corridor that serves most traffic coming to and going through Carroll County. The interstate is often the gateway to the community.

**e. *Intermediate Connectors***

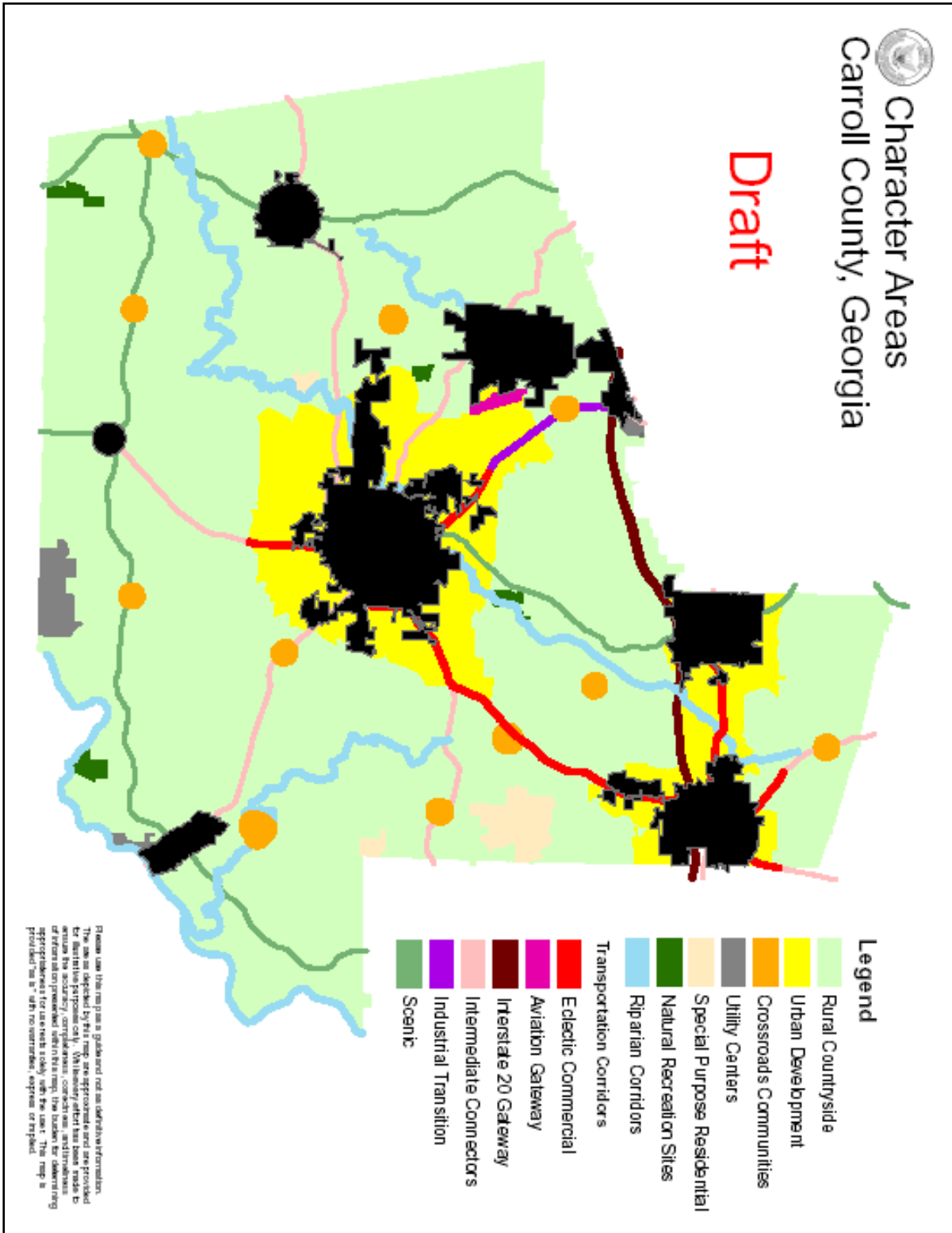
Carroll County is fortunate to have a large network of highways. The Intermediate Connectors are those state highways that are not under tremendous developmental pressure and are even rural in nature (even though they do have a mixture of uses). The Corridor Development Plan Ordinance, a development overlay zone, governs construction along the Intermediate Connectors as well as all state and federal highways within the County.

**f. *Aviation Gateway***

This character area consists solely of the West Georgia Regional Airport. The airport is a key piece of the transportation network and is utilized by citizens and businesses alike. Also, the airport is an important part of local economic development efforts.



Map 2: Character Areas





#### ***IV. Analysis of Consistency with QCOs***

##### **A. Assessment of Consistency with QCOs<sup>3</sup>**

###### **1. *Traditional Neighborhoods Objective***

*Traditional neighborhood development patterns should be encouraged, including use of more human scale development, compact development, mixing of uses within easy walking distance of one another, and facilitating pedestrian activity.*

Carroll County has seen an increase in Planned Unit Development (PUD) communities. These communities allow for a mixture of land uses and emphasize home clustering and greenspace. In addition, the Corridor Development Plan Ordinance provides for connectivity between developments on state highways and schools, parks, or other public facilities. Other than the PUD zoning class, our zoning ordinance separates commercial and residential uses and practically requires travel by automobile. County ordinances do not offer development standards for traditional non-PUD neighborhoods (although development standards are in place for developments along state highways).

###### **2. *Infill Development Objective***

Communities should maximize the use of existing infrastructure and minimize the conversion of undeveloped land at the urban periphery by encouraging development or redevelopment of sites closer to the downtown or traditional urban core of the community.

Carroll County adopted an Urban Growth Areas future land use category in 2005 in order to maximize land potential near our cities and have access (or potential access) to adequate public facilities. Carroll County adopted the Corridor Development Plan Ordinance in 2002 to enable quality development (including elements such as façade treatment, landscaping, and downlighting) along the state highways within the County. Some development, however, has spread to areas with inadequate public facilities.

###### **3. *Sense of Place***

Traditional downtown areas should be maintained as the focal point of the community or, for newer areas where this is not possible, the development of activity centers that serve as community focal points should be encouraged. These community focal points should be attractive, mixed-use, pedestrian-friendly places where people choose to gather for shopping, dining, socializing, and entertainment.

Carroll County places a high value on agricultural lands and believes these lands add to our quality of life. Carroll County is a leader in farmland preservation and is exploring Transfer of Development Rights (TDR) possibilities. We also regulate

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<sup>3</sup> A portion of the text in the section, "Assessment of Consistency with QCOs" was taken from the *Growth Alternatives Analysis Report*, prepared by Michael Lauer, Planning Works in December, 2002.



signage and mandate quality design in construction along our state highways. Historically, residential developments in the unincorporated County occurred without mixed-use and pedestrian-friendly features. However, in recent times, the County has seen a rise in PUD rezoning applications that pay heed to these planning principles.

**4. *Transportation Alternatives Objective***

Alternatives to transportation by automobile, including mass transit, bicycle routes, and pedestrian facilities, should be made available in each community. Greater use of alternate transportation should be encouraged.

The Comprehensive Plan should guide public investments and development decisions in ways that maintain road safety, so that roads are safe for drivers, pedestrians, and bicyclists, as well as the residents and businesses located along the roads. Carroll County lacks an intra-County public transportation system. However, we are a statewide leader in greenspace acquisition and farmland protection. We believe this will lead to enhanced transportation alternatives through linkages between parks and other protected properties. There are limited areas with sidewalk availability in unincorporated Carroll County. Overall, there is a lack of connectivity between people and the places where they work and play.

**5. *Regional Identity Objective***

Each region should promote and preserve a regional “identity,” or regional sense of place, defined in terms of traditional architecture, common economic linkages that bind the region together, or other shared characteristics.

Carroll County promotes regional identity through efforts with the Chattahoochee-Flint Regional Development Center and the Atlanta Regional Commission. Some of these programs with regional impact include transportation planning, historic preservation planning, and aging services. Carroll County is a regional tourism, medical, and educational hub and is connected to nearby counties by highly traveled corridors. Attractions include John Tanner State Park, McIntosh Reserve, and the University of West Georgia. Carroll County is also a regional and state leader in the agricultural industry. A local farmers market has been established to promote regional products. We are also working on a trail planning effort with the nearby counties of Coweta, Douglas, and Fulton.

**6. *Heritage Preservation Objective***

The traditional character of the community should be maintained through preserving and revitalizing historic areas of the community, encouraging new development that is compatible with the traditional features of the community, and protecting other scenic or natural features that are important to defining the community’s character.

Carroll County works cooperatively with stakeholders in preservation efforts. There are historic sites and districts in the County, including those on the National Register of Historic Places. Carroll County is currently undertaking a Historic Inventory. The results of this inventory will provide further direction on preservation efforts.



We are pursuing certification by the Georgia Scenic Byways program to preserve and promote scenic vistas. We also look for opportunities to utilize our Geographic Information System (GIS) to assist preservation efforts.

**7. *Open Space Preservation Objective***

New development should be designed to minimize the amount of land consumed, and open space should be set aside from development for use as public parks or as greenbelts/wildlife corridors. Compact development ordinances are one way of encouraging this type of open space preservation.

Carroll County participates in the Georgia Community Greenspace Program. Our subdivision regulations require a percentage of each new residential development to be set aside as greenspace. The last Special Purpose Local Option Sales Tax (SPLOST) allowed for the purchase of parks and other greenspace areas.

**8. *Environmental Protection Objective***

Environmentally sensitive areas should be protected from negative impacts of development, particularly when they are important for maintaining traditional character or quality of life of the community or region. Whenever possible, the natural terrain, drainage, and vegetation of an area should be preserved.

Carroll County enforces strict buffers in Water Supply Watersheds. Erosion control is a key concern for the County and we devote two officers to this effort. Since beginning GIS a few years ago, the County is continually utilizing the tool to better address environmental protection. Carroll County is also encouraging development on public sewerage and community septic systems in high-growth areas (not relying solely on private septic tanks).

**9. *Growth Preparedness Objective***

Each community should identify and put in place the pre-requisites for the type of growth it seeks to achieve. These might include infrastructure (roads, water, sewer) to support new growth, appropriate training of the workforce, ordinances and regulations to manage growth as desired, or leadership capable of responding to growth opportunities and managing new growth when it occurs.

Through the Comprehensive Plan, Carroll County should provide a framework for coordinating the public investments by indicating the location, use, intensity, and timing of development. Key issues the County must address are water, wastewater, schools, transportation, and stormwater. Our Comprehensive Plan and the accompanying Future Land Use map guide high-density growth by creating Urban Growth Areas and Suburban Tiers (these two areas are slated for potential public sewerage and community septic systems). Carroll County believes growth preparedness will result in predictable and equitable development decisions and will heavily involve all stakeholders early in the planning and development process.



**10. *Appropriate Businesses Objective***

The businesses and industries encouraged to develop or expand in a community should be suitable for the community in terms of job skills required, long-term sustainability, linkages to other economic activities in the region, impact on the resources of the area, and future prospects for expansion and creation of higher-skill job opportunities.

Carroll Tomorrow, our local economic development organization, is leading the effort to target industries that will thrive in Carroll County. The general plan is to target capital investments to areas that will best achieve the types of growth desired by the County. To attract better jobs, there are needs to ensure that there are competitive locations for employers and there is a high quality workforce available to fill the jobs. While the County desires to increase local employment and housing opportunities, the timing, location, and design of development will affect the long-term viability of agricultural operations.

**11. *Employment Options Objective***

A range of job types should be provided in each community to meet the diverse needs of the local workforce.

Carroll Tomorrow has been working towards a coordinated economic development program that will improve employment opportunities for all County residents. To achieve this end, Carroll Tomorrow is working to support existing employers and attract more high quality employers. One measurable objective for the Comprehensive Plan to establish is to increase the ratio of jobs to housing units. The combination of this jobs housing balance and average wage rates would provide a useful benchmark to measure economic development progress.

**12. *Housing Choices Objective***

A range of housing size, cost, and density should be provided in each community to make it possible for all who work in the community to also live in the community (thereby reducing commuting distances), to promote a mixture of income and age groups in each community, and to provide a range of housing choice to meet market needs.

Carroll County encompasses urban, suburban, and rural areas that are under pressure for residential development to serve the housing demands from the Atlanta Metropolitan Area. Much of this demand is for starter homes that generate greater fiscal burdens than benefits for the County. The County's fiscal and economic health depends on balancing the mix of residential and non-residential land uses. The majority of new residential development is geared to more modest segments. The County needs to foster a more diverse housing market and seek to increase average home prices to levels that better reflect those of the Atlanta Metropolitan area as a whole.



**13. *Educational Opportunities Objective***

Educational and training opportunities should be readily available in each community – to permit community residents to improve their job skills, adapt to technological advances, or to pursue entrepreneurial ambitions.

Carroll County is a regional leader in post-secondary educational choices. The University of West Georgia and West Central Technical College are located in Carroll County. Our post-secondary institutions work closely with local and regional industries in providing workforce training, a constant labor supply, and small business development services. Carroll County offers a wide range of K-12 educational choices.

**14. *Regional Solutions Objective***

Regional solutions to needs shared by more than one local jurisdiction are preferable to separate local approaches, particularly where this will result in greater efficiency and less cost to the taxpayer.

Carroll County and its communities participate in economic development planning through Carroll Tomorrow. Carroll County is one of many service providers involved in making decisions affecting the timing and location of growth in our County. Coordination is essential to ensure that decisions of each service provider support county-wide growth goals, resulting in more efficient use of taxes and fees. To provide cost-effective services, the Carroll County Water Authority and other public service providers need to know the location, intensity, timing, and amount of new development.

**15. *Regional Cooperation Objective***

Regional cooperation should be encouraged in setting priorities, identifying shared needs, and finding collaborative solutions, particularly where it is critical to success of a venture, such as protection of shared resources or development of a transportation network.

The County's Comprehensive Plan must be coordinated with the plans of its communities to ensure that it supports long-term community growth needs and fosters community vitality. Carroll County provides shared services for some of its communities (such as plan review, E-911, fire rescue, animal control, and others). Carroll County cooperates in planning with the Chattahoochee-Flint Regional Development Center and the Atlanta Regional Commission.

**V. *Supporting Analysis of Data and Information***

**A. *Analysis***





1. **2005 Update – Growth Scenarios<sup>4</sup>**

The following scenarios were developed during the 2005 Comprehensive Plan Update by the County’s planning consultant, based on significant public input and subsequently refined by the Comprehensive Plan Steering Committee. The scenarios, which reflect different land use mixes, different distributions of population, different approaches to growth management, and different levels of coordination between the County and other service providers, are summarized as follows:

a. **Rural Residential**

This pattern of scattered low-density residential development throughout the County reflects current zoning and recent development trends. While some more intensive development has been occurring adjacent to existing communities and along the Hwy. 61 corridor, significant development has occurred in agricultural areas and along rural arterial corridors on large lots.

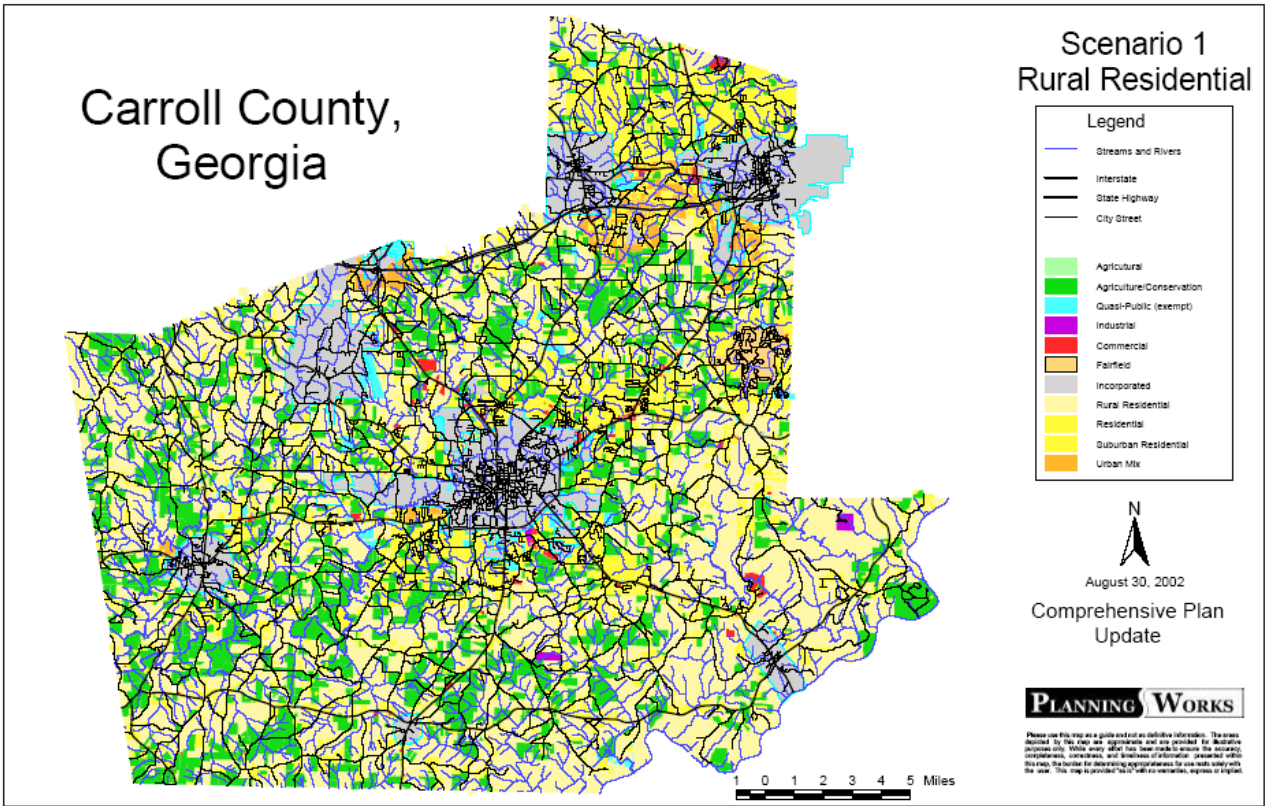
The Rural Residential scenario has the advantages of requiring little policy change, maintaining existing land use and development expectations and minimizing public infrastructure costs for centralized wastewater systems. However, this scenario is inconsistent with nearly all of the State and County goals because it maximizes consumption of agricultural land; increases public costs for provision most public services, including the two costliest services (roads and schools); inhibits long-term community growth; will lead to greater traffic congestion and air pollution; and will erode the rural character of the County more rapidly than the other growth scenarios.

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4 The text in the section, “2005 Update – Growth Scenarios” was taken verbatim from the *Growth Alternatives Analysis Report*, prepared by Michael Lauer, Planning Works in December, 2002.



*Map 3: Scenario 1 – Rural Residential*





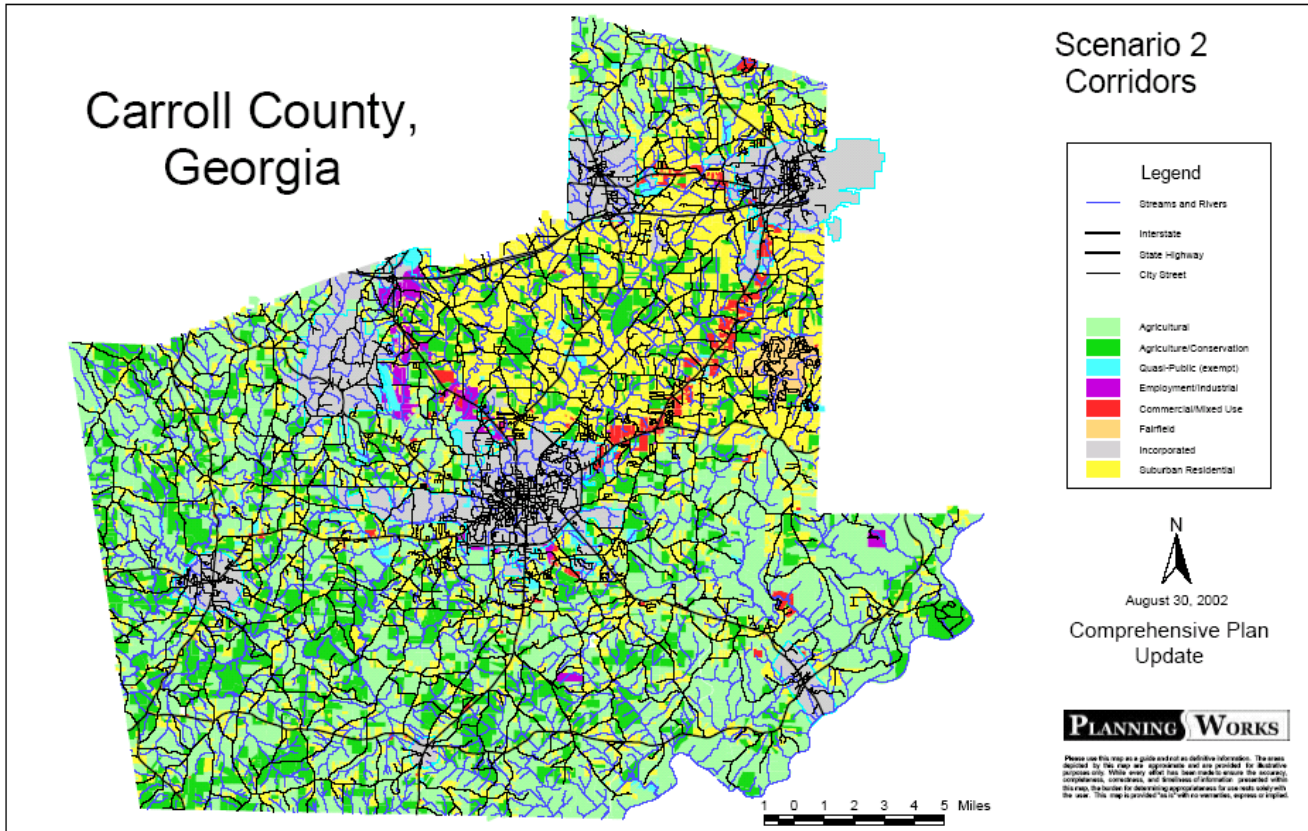
***b. Corridors***

This growth pattern, which is a slightly modified version of Carroll Tomorrow’s conceptual growth plan, focuses development and public infrastructure investment to support that development within the Highway 61 corridor between Villa Rica and Carrollton and along U.S. Highway 27 between Bremen and Carrollton. While more intensive residential development than allowed by existing zoning will be authorized north and east of Carrollton, significantly less development would be authorized within rural areas of the County currently zoned for agriculture.

The Corridors scenario reserves the greatest amount of land for economic development; helps retain agricultural areas and the rural character of the County; is consistent with most of the State and County growth goals; and provides development opportunities that will facilitate the establishment of a greenway along the Little Tallapoosa River. However, the minimum 20-acre lot size in agricultural areas will reduce development expectations and property values. Additionally, this scenario presumes that community sewer systems would be established throughout the northeastern quadrant of the County, which will require the establishment of administrative functions that don’t currently exist. Developments relying on community systems will facilitate conservation subdivision, but will require expertise to: view the design of systems, guarantee ongoing funding for maintenance, operation and replacement of systems, and monitor on-going system operations.



Map 4: Scenario 2 – Corridors





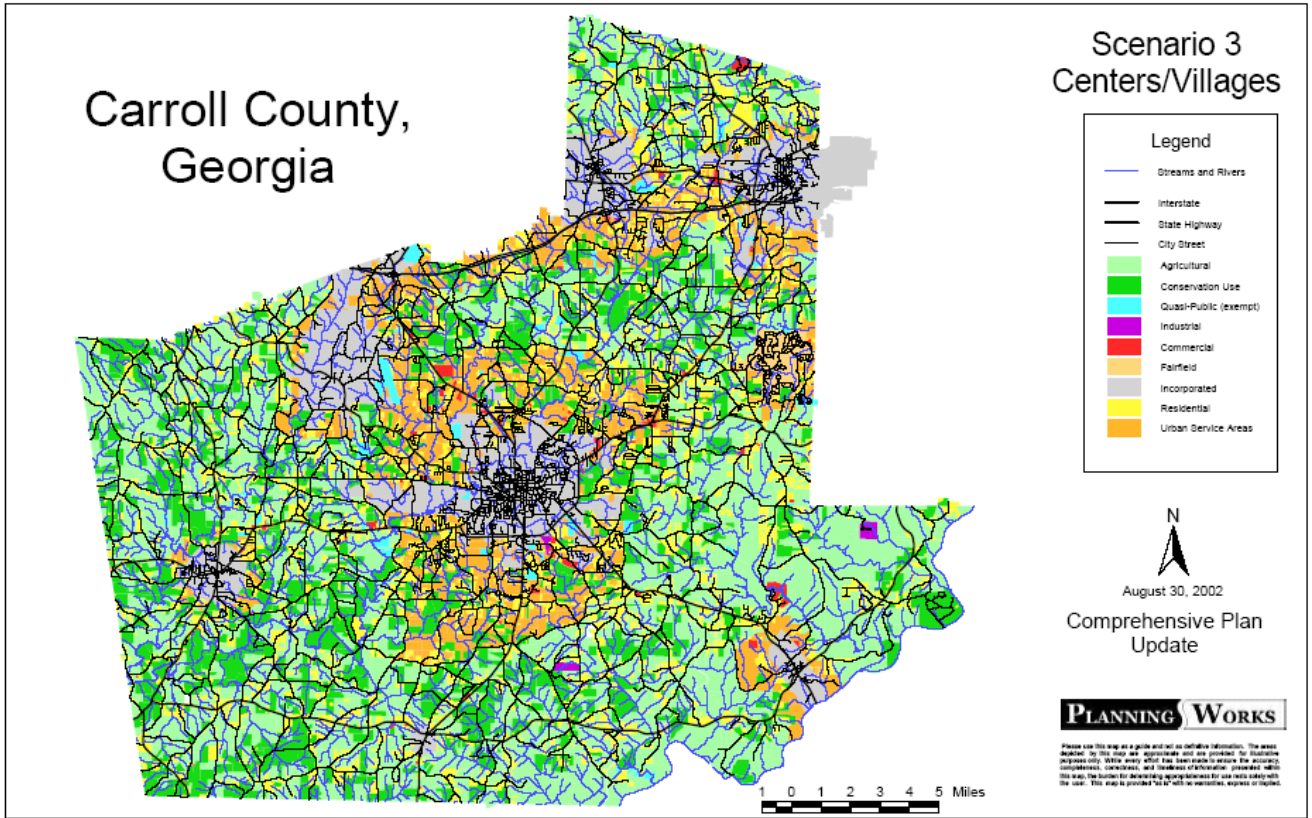
*c. Centers*

This growth pattern assumes a much greater level of coordination between the County and cities in the management of growth within each city's planned utility service area (USA). Most new development would occur within these USA areas at intensities sufficient to support the development of centralized sewer systems. Rural/agricultural areas would be limited to much lower densities than are authorized today.

The Centers scenario is most consistent with State and County goals and objectives, and will result in the least fiscal impact to the County and its residents. Additionally, this scenario will provide the greatest support for the growth of communities within the County. However, this scenario will require extensive coordination between the cities, the County and other service providers to address growth issues in planned urban service areas. Both this and the Corridors scenarios also will require a strong commitment to offset decreased values in agricultural areas through a variety of compensatory techniques.



Map 5: Scenario 3 – Centers/Villages







## 2. *2005 Update – Preferred Growth Scenario*<sup>5</sup>

The Land Use Element establishes a preferred growth pattern that was defined by the County’s Coordinated Planning Committee (CPC) after conducting a thorough analysis of the relative impacts of three alternative growth scenarios. Each of the scenarios represented distinct growth patterns that would accommodate projected population and employment growth in distinct ways. A “Rural Residential” scenario was based on historical zoning practice with an assumption that centralized wastewater service would be confined to existing city limits and some limited annexation areas. A “Corridors” scenario directed most of the County’s growth to existing cities and areas along the key transportation corridors of I-20, SH 61 and U.S. 78. A “Centers/Villages” scenario identified growth areas around each of the cities that would be anticipated to capture all urban and suburban growth.

Each of the scenarios was evaluated for:

- the ability to accommodate projected growth;
- impact on community character in incorporated and unincorporated areas;
- effect on timber and agricultural productivity;
- promotion of economic development prospects;
- transportation and utility costs and impacts;
- community facility and service costs; and
- consistency with the goals established by the CPC.

After evaluating each of the alternatives (see summary analysis in **Appendix C**) and input from the public, the Planning Commission and the Board of County Commissioners, the CPC selected a preferred alternative that incorporates elements of all three growth alternatives and is reflected in the maps, objectives and policies of this Land Use Element.

**Exhibits 118, 119 and 120** demonstrate that the preferred alternative has sufficient capacity to accommodate projected growth. Based on the projected population growth that would occur between the years 2000 and 2030: 24,425 dwelling units will be developed County-wide; Commercial and industrial development will occupy an additional 8,072 acres; and Using the County’s potential maximum buildout at 123,023 dwelling units at proposed densities, the 30 year projected growth of 24,425 dwelling units will leave room for 98,598 dwelling units for post-2030 growth.

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<sup>5</sup> The text in the section, “2005 Update – Preferred Growth Scenario” was taken almost verbatim from the *Carroll County, Georgia Comprehensive Plan Update*, p 142-146, prepared by Michael Lauer, Planning Works, adopted in October, 2005. PRISM Associates and Carroll County Planning made modifications to the projections in 2008.



**Exhibit 118: Projected Residential Growth**

2000 Population	87,268
2030 Projected Population	148,421
Population Increase 2000 - 2030	61,153
Persons Per Household	2.63
Occupied Dwellings	23,252
Vacancy Rate (assumed)	5%
Additional Dwelling Units Needed	24,415

*Source: Planning Works, modifications by PRISM Associates and Carroll County Department of Community Development*

**Exhibit 119: Commercial and Industrial Development Projections**

2000 Population	87,268
2030 Projected Population	148,421
Population Increase 2000 - 2030	61,153
Commercial and Industrial Acres	9,547
2000 Commercial and Industrial Acres Per Person	0.11
Additional Acres from Population Growth	6,727
Additional Acres for Local Market Capture (20%) <sup>6</sup>	1,345
Total Additional Commercial and Industrial Land (acres)	8,072

*Source: Planning Works, modifications by PRISM Associates and Carroll County Department of Community Development*

<sup>6</sup> The local market capture accounts for additional acreage needed to accommodate new commercial and industrial development that provides goods, services and jobs that County residents currently travel outside the County to obtain. As the population grows the variety of viable economic activities increases, which retains and circulates dollars within the local economy.





**Exhibit 120: Development Potential of Preferred Scenarios**

	Growth Tiers					Total
	Cities/UGAs	Commercial Corridor	Suburban (sewered)	Suburban (unsewered)	Rural	
Total Vacant Land (acres)	28,876	1,102	7,746	13,177	106,001	156,902
Land Required for Non-Residential Development (acres)	8,840	1,102	0	0	0	9,942
Remaining Vacant Land (acres)	20,036	0	7,746	13,177	106,001	146,960
Average Density (dwellings per acre)	3 dwellings per acre	NA	3 dwellings per acre	1 dwelling per acre	1 dwelling per 4 acres	
Development Potential (dwelling units)	60,107	0	23,239	13,177	26,500	123,023
Projected Dwelling Units						24,425
Surplus Residential Development Potential (dwelling units)						98,598

*Source: Planning Works, modifications by PRISM Associates and Carroll County Department of Community Development*

***Growth Tiers***

The Growth Tiers Map illustrates that form the basis for distinguishing land use and infrastructure policies required to achieve the preferred scenario. While better defined by objectives and policies in subsequent sections of this Element, these tiers include:

- *Cities* – currently incorporated areas that are not subject to this Comprehensive Plan.
- *Urban Growth Areas (UGAs)* – areas that could readily be served by municipal water and wastewater services in the next 25 years. UGA development is intended to include most future retail employment growth that is not located in existing cities and residential development relying on centralized water and sewer service.
- *Transportation Corridors and Centers* – transportation corridors with mixed use and commercial development following Highways 61 and 27 with nodal centers at critical interchanges with major arterials.
- *Suburban Sewered (S-1)* – areas that currently include a mix of rural and suburban development are planned for suburban densities of two to four units per acre on centralized water and sewer service. Some areas will be served by community systems and others by municipal or regional systems. All development will be designed to retain the existing rural character of this tier. Because centralized wastewater service will be available, development may occur at densities of two to six dwellings per acre subject to transfer of development rights (see Objective LU-8 and subsequent policies).



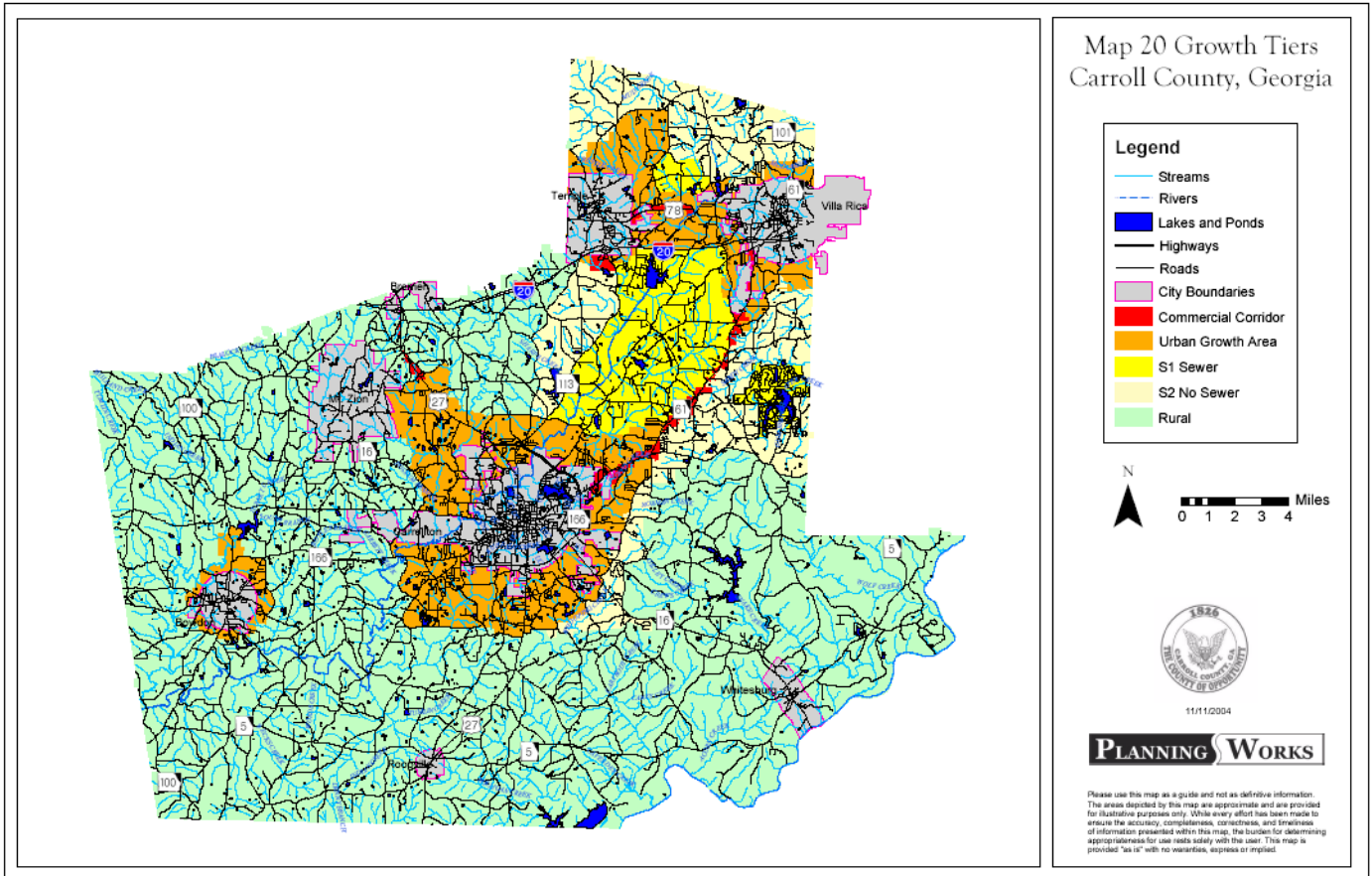
- *Suburban Unsewered (S-2)* – areas that will accommodate rural residential development relying on centralized water systems and a mix of community wastewater systems and on-site service. Average density without community systems will be approximately one dwelling per acre. Up to two units per acre may be developed on community systems.
- *Rural* – These areas consist primarily of farm, ranch and timber lands that are zoned “Agriculture”. Other than buildout of approved and existing subdivisions, future development in this tier will occur at densities of one dwelling per four acres.

Within the two suburban tiers, the use of cluster development patterns will be encouraged provided adequate water and wastewater facilities are available. Cluster subdivision patterns will be implemented through the County’s land development regulations.

Within Urban Growth Areas, traditional neighborhood development (TND) will be encouraged. TND’s feature central public open spaces (commons, squares, and parks) adjacent to a mixed-use (commercial, institutional and residential) centers with urban densities. Within TND neighborhoods, mobility is created through a connective grid street pattern, which can be modified with curvilinear streets, if needed, to meet topographical conditions.



Map 6: 2005 Growth Tiers





### ***3. 2008 Update – Current Trends***

Since the 2005 Update, growth in Carroll County has slowed and permits have decreased dramatically, likely due in part to the issues with the sub-prime mortgage fallout that is occurring across the nation. Permits for single detached residential are down 68% from 890 in 2002 to 285 in 2007. Multi-family applications have decreased from 13 in 2002 to 0 in 2007. In contrast, interest in Commercial Growth has increased during this time frame, with the city of Carrollton’s expansion of sewer northward along the Highway 166 corridor and Villa Rica’s expansion southward along the Highway 61 corridor.

The county anticipates that housing demand will recover in the next few years. Demand for residential units is expected to continue between Carrollton and Villa Rica and along Interstate 20 between Villa Rica and Temple. With the potential expansion of South Fulton Parkway on the horizon, there could be an increased demand for housing in Eastern Carroll County in coming years.

### ***B. Compliance with Rules for Environmental Planning Criteria***

#### ***1. Carroll County Watershed Protection Overlay District***

It is essential that the quality and supply of public drinking water be reasonably protected. This ordinance provides for the establishment of buffer zones around perennial streams, specifies allowable impervious surface districts within watersheds, and requires the use of best management practices for land use within the water supply districts. Natural protection such as buffer areas are the best able to filter rainfall and stormwater runoff prior to that water flowing into perennial streams, which lead to water supply reservoirs. Minimizing the transport of pollutants and sediments to the water supply reservoirs guarantees a healthy yield from the water supply watersheds. This protection is necessary for the enhancement of public health, safety and welfare as well as to assure that surface sources of drinking water are of high quality and reasonably free from contaminating sources in order to be treated to meet all state and Federal drinking water standards.

#### ***2. Wetlands and Groundwater Recharge Areas***

Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. The State of Georgia has identified “significant recharge areas” which have been provided on maps by the Department of Natural Resources in Hydrologic Atlas 18 (1989 edition) and have also mapped the and created a database of freshwater



wetlands, both of which are made available to the County in GIS format and have been overlaid with the County's current parcel layer.

In these areas restrictions include: no new sanitary landfills without synthetic liners and leachate collections systems, no new permits for land disposal of hazardous waste, new facilities that handle hazardous waste must have impermeable pads with spill and leak collection systems, above ground chemical and petroleum storage must have secondary containment systems, new agricultural waste impoundments must have liners, minimum lot size requirements for septic systems if within recharge area (10% increase in lot size based on Department of Health Manual for Onsite Septic), and finally wetlands permits (404) shall be required through Army Corps of Engineers.

### **3. *River Corridor Protection Areas***

The Chattahoochee Corridor Plan adopted by the Atlanta Regional Commission extends from Buford Dam through Fulton and Douglas Counties and encompasses all land within 2,000 feet of the banks of the Chattahoochee River. River Corridors are identified as buffer strips of land that flank major rivers (rivers with average annual flow of at least 400 cubic feet per second). The strip would be at a minimum 100 feet horizontally on both sides of the river as measured from the river bank. Within Carroll County only the Chattahoochee River qualifies as a major river, however, the Comprehensive Plan did identify a corridor adjacent to the Little Tallapoosa as well as the Chattahoochee Rivers as future greenway corridor. Therefore, even though the Little Tallapoosa does not meet the minimum flow requirement, the County should consider establishing a river corridor district in this location.

### **4. *Mountain Protection Areas***

The mountains of Georgia are characterized by steep slopes, thin soils, and, because of the natural stresses placed on such environments, they require special protection. Land-disturbing activity on the high-elevation, steep-slope mountains of Georgia potentially threatens the public health, safety, welfare, and economic progress of the state. All land that lies above 2,200 feet elevation shown on a U.S. Geological Survey quadrangle map shall meet the elevation criterion for classification as a protected mountain. All land that has a slope of 25 percent or greater for at least 500 feet horizontally as shown on a U.S. Geologic Survey quadrangle map or contained in a U.S. Geologic Survey computer data file (Digital Elevation Model) shall meet the slope criterion for classification as a protected mountain. The area know as Blackjack Mountain has an elevation of 1,545 Feet and an eastern slope that exceeds 25% for a distance greater than 500 feet horizontally shown on a U.S. Geological Survey quadrangle map and may be considered for protection.

### **C. *Analysis of Consistency with Service Delivery Strategy***



Carroll County’s Service Delivery Strategy was readopted in 2005 by the county and its eight municipalities. Negotiations are currently underway, and the Service Delivery Strategy will be updated at the same time as the Comprehensive Plan in October 2008.

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# Carroll County, Georgia

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## Data Appendix

2008 Update prepared by:

<b>Carroll County Department of Community Development</b>	<b>PRISM Associates</b>	<b>University of West Georgia</b>
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from the 2005 Update prepared by:

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## APPENDIX A.

### CHAPTER I. POPULATION

#### *A. INTRODUCTION*

The changes in the population and demographic characteristics will have profound impacts on the economic, social and physical environment of the County. Population increases generate demands for additional facilities and services. The different needs of age and income segments of the population shape demands for housing, services and infrastructure. Elderly population groups create demands for communal housing types, medical services, passive recreational opportunities and public transportation. Families and individuals between 50 and 65 require a greater mix of housing types and more urban settings. Families with young children generate demands for day care facilities, schools, athletic recreational opportunities and a mix of transportation options.

This Chapter summarizes the various demographic indicators used to develop the County's Comprehensive Plan. A detailed demographic analysis is contained in the Carroll County Demographic & Economic Analysis report prepared by *Market Street Services, Inc.* as part of the "Carroll Tomorrow" process.

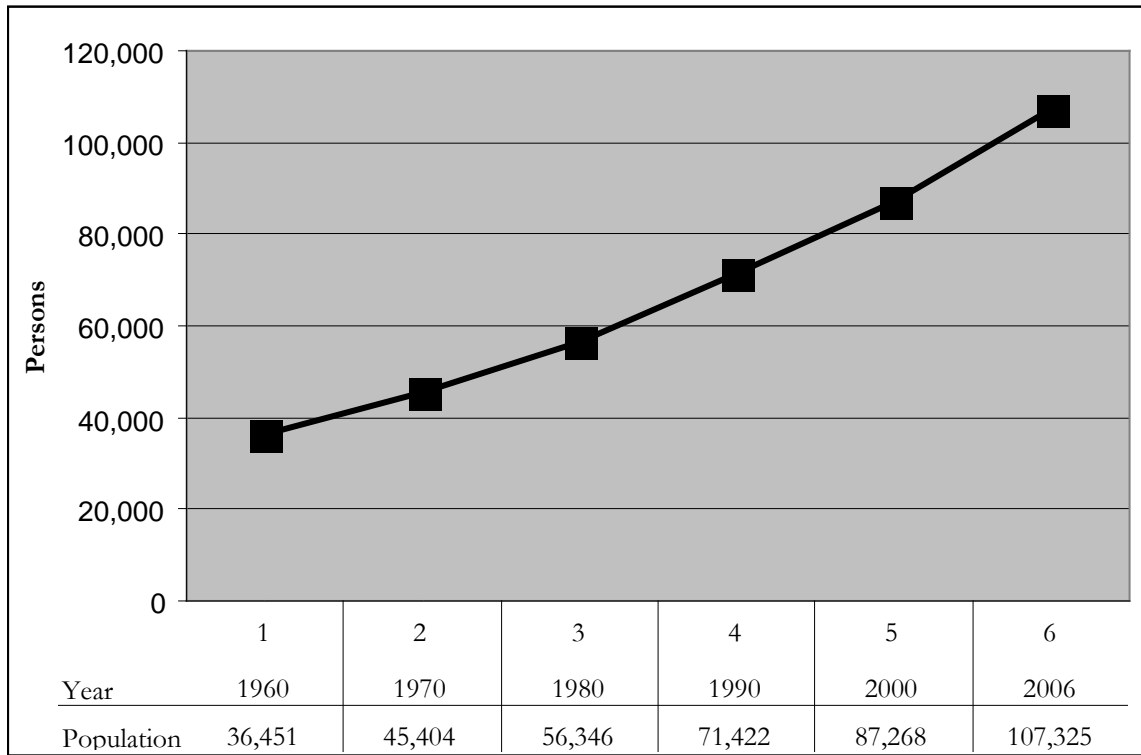
#### *B. TOTAL POPULATION*

**Exhibit 1** illustrates the steady population increases experienced since 1960, which have averaged 10,163 persons per decade or 1,016 people per year. During the period of 1985-1990, Carroll County's population grew by 11.8%, which surpassed the State's population growth rates of 8.6% during the same time period (**Exhibit 2**). While the County's growth rate lagged behind the State's between 1990 and 2000, the County's population increased by 22.2%. From 2000 to 2006, the county has experienced a 23% growth rate.

Analysis of population distribution from 1990–2000 depicts a primary growth corridor in Carroll County that is located in the northeast area of the County along Interstate 20 (I-20). During the 1990's, population growth was concentrated in the northeast part of the County as shown in **Map 1** in **Appendix B**. Due to proximity and transportation access to Atlanta, Villa Rica has experienced rapid population and employment growth. This trend will likely continue, necessitating effective city-county planning to accommodate growth without straining fiscal, infrastructure, social and land resources.



**Exhibit 1: Total Population (1960-2000)**



Source: U.S. Census

**Exhibit 2: Population Growth Trends (1985-2006)**

Year	Carroll County		Georgia	
	Number	Percent Change	Number	Percent Change
1985	63,884		5,967,891	
1990	71,422	11.8%	6,478,216	8.6%
1995	79,345	11.1%	7,332,335	13.2%
2000	87,268	10.0%	8,186,453	11.6%
2006	107,325	23.0%	9,363,941	14.4%

Source: Georgia Department of Community Affairs, [www.georgiaplanning.com](http://www.georgiaplanning.com)

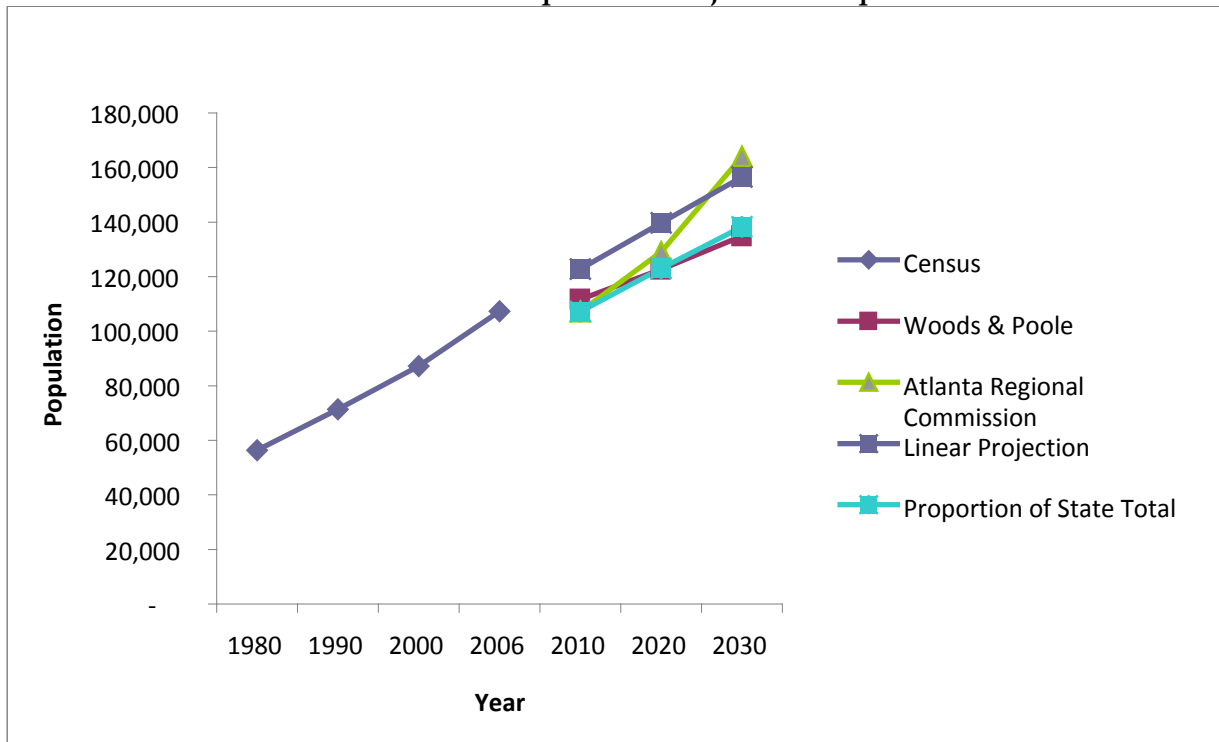
### ***C. POPULATION PROJECTIONS***

Between 1990 and 2000, the population of Carroll County increased 22%. Located on the urban fringe of the Atlanta metropolitan region, it is estimated that this population growth trend will accelerate for the foreseeable future. **Exhibits 3 and 4** project Carroll County's population growth according to the cited sources. These projections range from a low of 134,848 to a high of 163,979.





Exhibit 3: Population Projection Graph



Source: U.S. Census, Woods & Poole Economics, Inc. & Atlanta Regional Commission

The Woods and Poole projection suggests a population increase of 47,580 by 2030, while a proportion of state population would allow for 51,045 additional residents. Linear regression based on 1980-2000 U.S. Census data projects a population increase of 69,275 by 2030. The Atlanta Regional Commission projected the largest increase in population over this period with 76,711.

The range of projections by different sources highlights the uncertainties of the range of growth. While the County must anticipate and be prepared to meet demands created by the high range of growth projections, it also must be prepared for economic shifts that result in slower growth through periods of recession. To accomplish this, the Plan anticipates rapid long-term growth, but recommends that facility investment and development phasing should be tied to shorter-term growth as determined by close monitoring of development activity throughout the County.



**Exhibit 4: Population Projection Table**

Year	Census	Woods & Poole	Atlanta Regional Commission	Linear Projection	Proportion of State Total
1980	56,346				
1990	71,422				
2000	87,268				
2006	107,325				
2010		111,663	107,172	122,786	107,142
2020		122,624	129,120	139,664	122,980
2030		134,848	163,979	156,543	138,313

*Source: U.S. Census, Woods & Poole Economics, Inc. & Atlanta Regional Commission*

The Census Bureau estimates that the County’s population reached 107,325 in July 2006. Since each of the remaining projections was derived through statistical projection methods, selecting the midpoint projection (148,421) provides a reasonable projection on which to base future demands. Long-term projections (2005-2030) should primarily be used for analysis of ongoing service obligations and development capacity. Short-term projections (2010-2020) should be used for capital facility planning. Projections should be compared with annual estimated population figures based on development activity to refine both short and long-term projections.

**Exhibit 5** provides annual projections from the years 2005 to 2015. The Plan is based upon a total population in 2015 of 120,114.

**Exhibit 5: Annual Population Projections (2005-2015)**

Year	Population
2005	104,386
2006	107,325
2007	108,521
2008	109,731
2009	110,954
2010	112,191
2011	113,732
2012	115,295
2013	116,880
2014	118,486
2015	120,114

*Source: U.S. Census, Calculations by PRISM Associates*

**Exhibit 6** reflects the long-term population based on the midpoint of the range of projections in **Exhibit 4**. The midpoint results in a 2020 population of 128,597 and a 2025 projection of 148,421. This annual growth rate is consistent with the trends in Carroll County and other areas in the urban fringe of Atlanta.



### Exhibit 6: Midpoint Population Projection

Year	Population
2005	104,386
2010	112,191
2015	120,114
2020	128,597
2025	138,154
2030	148,421

Source: Calculations by PRISM Associates

#### D. URBAN VS. RURAL

Carroll County's rural population is increasing faster than the population of its cities, reflecting substantial sprawl development and lowering of land densities. As earlier noted, the County-wide population grew by nearly 22.2% in the 1990's, while the population living in unincorporated Carroll County increased by 31% (**Exhibit 7 and 8**). In the 1990's, adjusting for the de-annexation of approximately 2,300 residents from Villa Rica, over 70% of the new County residents located in unincorporated areas. Since 2000, the percentage of new unincorporated population growth has increased at a lower percentage than the cities of Mt. Zion, Temple and Villa Rica.

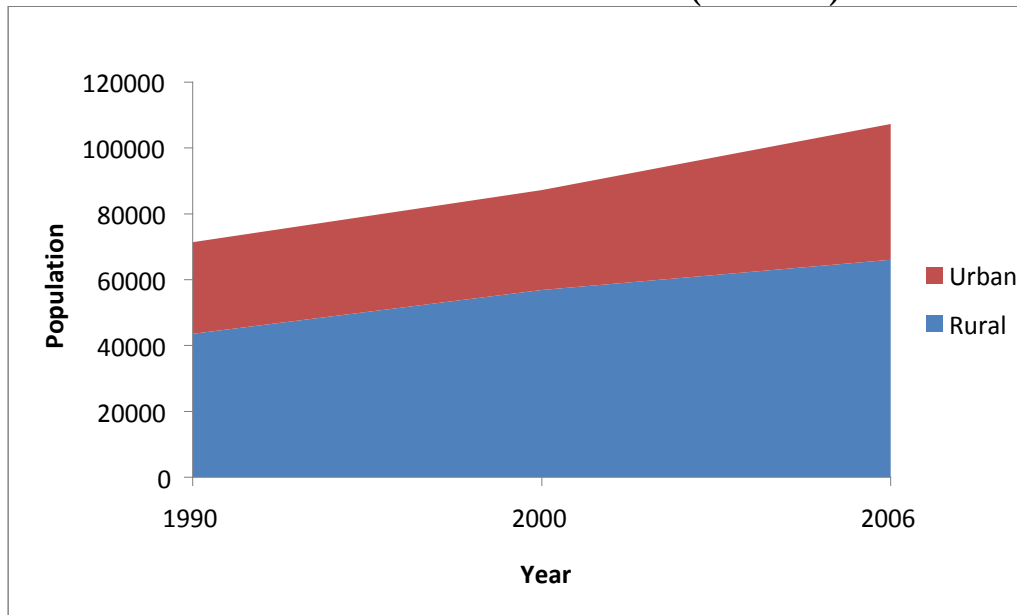
### Exhibit 7: City & Unincorporated Population (1990-2006)

	1990	2000	Percent Change (1990 - 2000)	2006	Percent Change (2000 - 2006)
Unincorporated	43,598	56,901	30.51%	66,069	16.11%
Bowdon	1,981	1,959	-1.11%	1,986	1.38%
Carrollton	16,029	19,843	23.79%	21,878	10.26%
Mt. Zion	511	1,275	149.51%	1,513	18.67%
Roopville	248	177	-28.63%	198	11.86%
Temple	1,870	2,383	27.43%	4,050	69.95%
Villa Rica	6,542	4,134	-36.81%	11,045	167.17%
Whitesburg	643	596	-7.31%	586	-1.68%
Total Population	71,422	87,268	22.19%	107,325	22.98%

Source: U.S. Census, [www.census.gov](http://www.census.gov)



Exhibit 8: Urban & Rural Growth (1990-2006)



Source: U.S. Census, [www.census.gov](http://www.census.gov)

### *E. AGE DISTRIBUTION*

**Exhibit 9** illustrates the age distribution and growth trends of the past two decades. Due to immigration, the working age group between 25 and 34 has continuously exceeded 14% of the total population and contributing to the increase in school age children. Population over age 65 has grown in absolute numbers from 5,940 in 1980 to 10,113 in 2005. This population cohort has slowly declined as a percent of the total population from 10.5% in 1980 to 9.7% in 2005. The population age distribution in Carroll County mirrors that of the State of Georgia and only slightly differs from the United States as a whole (**Exhibit 10**).



Exhibit 9: Carroll County Age Distribution (1980-2005)

Age Cohort	1980		1985		1990		1995		2000		2005	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Under 5 years	4,117	7.27%	4,751	7.47%	5,378	7.48%	5,655	7.24%	6,220	7.06%	7,818	7.49%
5 to 9 years	4,688	8.27%	4,812	7.56%	5,405	7.52%	5,731	7.34%	6,507	7.39%	6,907	6.62%
10 to 14 years	4,926	8.69%	4,847	7.62%	5,286	7.35%	6,011	7.70%	6,363	7.23%	7,158	6.86%
15 to 19 years	6,084	10.74%	6,056	9.52%	6,588	9.17%	6,429	8.23%	7,512	8.53%	8,118	7.78%
20 to 24 years	5,631	9.94%	6,541	10.28%	6,901	9.60%	7,048	9.02%	7,619	8.65%	9,211	8.82%
25 to 29 years	4,586	8.09%	5,530	8.69%	5,915	8.23%	5,757	7.37%	6,487	7.37%	9,500	9.10%
30 to 34 years	4,284	7.56%	5,122	8.05%	5,944	8.27%	6,431	8.23%	6,498	7.38%	8,545	8.19%
35 to 39 years	3,644	6.43%	4,651	7.31%	5,426	7.55%	6,291	8.06%	6,754	7.67%	7,710	7.39%
40 to 44 years	3,039	5.36%	3,787	5.95%	4,944	6.88%	5,329	6.82%	6,557	7.45%	7,403	7.09%
45 to 49 years	2,603	4.59%	3,110	4.89%	4,102	5.71%	5,039	6.45%	5,694	6.47%	6,913	6.62%
50 to 54 years	2,422	4.27%	2,727	4.29%	3,412	4.75%	4,388	5.62%	5,319	6.04%	5,731	5.49%
55 to 59 years	2,353	4.15%	2,608	4.10%	2,814	3.92%	3,335	4.27%	4,284	4.87%	5,225	5.01%
60 to 64 years	2,349	4.15%	2,506	3.94%	2,466	3.43%	2,720	3.48%	3,462	3.93%	4,034	3.86%
65 years and over	5,940	10.48%	6,561	10.31%	7,294	10.15%	7,933	10.16%	8,767	9.96%	10,113	9.69%
Total Population	56,666	100.00%	63,609	100.00%	71,875	100.00%	78,097	100.00%	88,043	100.00%	104,386	100.00%

Source: Data from Woods & Poole, Calculations by PRISM Associates



Exhibit 10: 2000 Population by Age

Age Cohort	Carroll County		Georgia		United States	
	Number	Percent	Number	Percent	Number	Percent
Under 5 years	8,161	7.60%	698,935	7.46%	20,359,097	6.80%
5 to 9 years	7,074	6.59%	671,546	7.17%	19,760,300	6.60%
10 to 14 years	7,150	6.66%	668,385	7.14%	20,658,495	6.90%
15 to 19 years	8,176	7.62%	705,103	7.53%	21,556,691	7.20%
20 to 24 years	9,440	8.80%	651,722	6.96%	20,957,894	7.00%
25 to 34 years	17,346	16.16%	1,338,667	14.30%	39,819,999	13.30%
35 to 44 years	15,586	14.52%	1,472,645	15.73%	44,011,577	14.70%
45 to 54 years	13,936	12.98%	1,316,787	14.06%	43,113,382	14.40%
55 to 59 years	6,013	5.60%	538,098	5.75%	17,963,909	6.00%
60 to 64 years	3,974	3.70%	395,174	4.22%	13,472,932	4.50%
65 to 74 years	5,905	5.50%	505,861	5.40%	19,161,503	6.40%
75 to 84 years	3,345	3.12%	294,712	3.15%	13,173,533	4.40%
85 years and over	1,219	1.14%	106,306	1.14%	5,089,774	1.70%
Total Population	107,325	100.00%	9,363,941	100.00%	299,099,087	100%*

Source: 2006 Population Estimates, U.S. Census, [www.census.gov](http://www.census.gov), Calculations by PRISM Associates. \* Minor discrepancies may occur due to rounding.

**Exhibit 11** provides youth dependency and aged dependency ratios that reflect the number of people in the working age population for every young person and older person not in prime wage earning years. These ratios reflect a better ratio between the workforce and those dependent on the workforce for goods and services than in the nation as a whole. This factor together with other economic indicators, reflect a strong healthy work force population. In terms of the youth dependency ratio there is only a 0.01 person variation between Carroll County and Nation which is currently at 2.18 and a .09 percent variation between Carroll County and the State, which is 2.08. The aged dependency ratio shows a wider variation. Consistent with its high percentage of residents over age 64 compared to Georgia and Carroll County, the United States had 4.79 people in the working age range for every aged person. Georgia and Carroll County had 6.30 and 6.33 respectively, which reflects the strong in-migration of working age residents in recent years.

Over the next few decades the trends indicate that the working age population will continue to show positive increases due to the community's location at the fringe of Atlanta's metropolitan area, the relative affordability of housing, the job market and the overall quality of life.



Exhibit 11: 2000 Dependency Ratios

Age Group	Carroll County		Georgia		United States	
	Number	Percent	Number	Percent	Number	Percent
Youth (0-19)	30,561	28.48%	2,743,969	29.30%	82,334,583	27.50%
Working (20-64)	66,295	61.77%	5,713,093	61.01%	179,339,693	59.90%
Aged 65+	10,469	9.75%	906,879	9.68%	37,424,811	12.50%
Total Population	107,325	100.00%	9,363,941	100.00%	299,099,087	100.00%
Youth Dependency	2.17		2.08		2.18	
Aged Dependency	6.33		6.30		4.79	

Source: 2006 Population Estimates, U.S. Census, [www.census.gov](http://www.census.gov), Calculations by PRISM Associates. \* Minor discrepancies may occur due to rounding.

*Woods & Poole Economics, Inc.*, in a somewhat contradictory manner, projects that by the year 2030, individuals aged over 65 will make up an increasing portion of the population while youth will remain relatively constant as a percentage of total population (**Exhibit 12**).

Exhibit 12: Carroll County Projected Population Age Distribution by Percent (2010-2030)

Age Cohort	2010	2015	2020	2025	2030
Age 0 to 4	7.4%	7.5%	7.3%	6.9%	6.7%
Age 5 to 9	7.3%	7.2%	7.4%	7.2%	6.9%
Age 10 to 14	6.2%	6.9%	6.9%	7.1%	7.0%
Age 15 to 19	7.5%	6.7%	7.5%	7.5%	7.8%
Age 20 to 24	8.1%	7.8%	7.1%	8.0%	8.0%
Age 25 to 29	7.4%	6.6%	6.3%	5.7%	6.5%
Age 30 to 34	9.0%	7.4%	6.6%	6.3%	5.8%
Age 35 to 39	7.8%	8.6%	7.2%	6.4%	6.2%
Age 40 to 44	6.8%	7.3%	8.1%	6.8%	6.1%
Age 45 to 49	6.5%	6.3%	6.9%	7.6%	6.4%
Age 50 to 54	6.1%	6.1%	6.0%	6.6%	7.3%
Age 55 to 59	5.0%	5.5%	5.6%	5.5%	6.1%
Age 60 to 64	4.4%	4.5%	5.0%	5.1%	5.0%
Age 65 to 69	3.4%	3.9%	3.9%	4.4%	4.5%
Age 70 to 74	2.8%	3.0%	3.5%	3.5%	3.9%
Age 75 to 79	1.8%	2.1%	2.2%	2.6%	2.6%
Age 80 to 84	1.2%	1.3%	1.5%	1.6%	1.8%
Age 85 & Over	1.2%	1.3%	1.2%	1.2%	1.3%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

Source: *Woods & Poole Economics, Inc.*

The continued growth in working/child bearing age individuals will increase demands for schools and affordable starter housing stock. The number of retirees and “empty nesters” will grow at a slower rate than the working age group. With growth in all population groups, the County will experience demands for a mix of recreational opportunities, housing types and personal services.



**F. RACE AND ETHNICITY**

Racial diversity within Carroll County has fluctuated between 1985 and 2006. Between 1985 and 1990, the proportion of the population categorized by the Census Bureau as “white” remained constant, but decreased between 1990 and 2006 from 82.8% to 76.9% of the total population. This is partially due to the option for Hispanics to identify their race as “other”<sup>7</sup>. The African American population increased from 16.2% and 16.9% of the total population between 1985 and 2006, with a slight decline during the 1990s. Other racial categories increased as a percent of the total population with the most significant increase occurring among those of Hispanic origin, 0.8% to 4.3%. Native Americans decreased from .30% to .08% as of the 2006 Population Estimate.

**Exhibit 13: Carroll County Racial & Ethnic Composition by Percent (1985-2006)**

Race Category	1985	1990	1995	2000	2006
White	82.40%	82.80%	80.90%	79.40%	76.89%
Black & African American	16.20%	15.60%	15.90%	16.10%	16.89%
Hispanic Origin	0.80%	0.80%	1.80%	2.50%	4.26%
Indian & Alaska Native	0.20%	0.20%	0.20%	0.30%	0.08%
Asian or Pacific Islander	0.20%	0.30%	0.50%	0.60%	0.72%
Other	0.20%	0.20%	0.70%	1.10%	1.15%
Total Population	100.00%	100.00%	100.00%	100.00%	100.00%

Source: 2004 Carroll County Comprehensive Plan, U. S. Census, www.census.gov, Calculations for 2006 Percentages by PRISM Associates

The Hispanic and Latino populations increased by 253% during the 1990’s. Despite this increase, Carroll County remains less diverse racially and ethnically than Georgia and the United States as a whole (**Exhibit 14**).

**Exhibit 14: 2000 Race and Hispanic & Latino Origin Population by Percent**

Race Category	Carroll County	Georgia	United States
White	78.43%	62.30%	74.04%
Black & African American	17.10%	30.04%	12.80%
Indian & Alaska Native	Suppressed	0.56%	1.42%
Asian & Pacific Islander	0.95%	3.07%	5.06%
Other	3.52%	4.03%	6.69%
Totals	100.00%	100.00%	100.00%
Hispanic & Latino (all races)	4.24%	7.34%	14.46%

Source: 2000 U.S. Census, www.census.gov, Calculations for 2006 Percentages by PRISM Associates

Racial composition projections issued by *Woods & Poole Economics, Inc.*, suggest a slow diversification pattern (**Exhibit 15**). Minority races are projected to comprise only a small percentage of the population. Overtime this trend will only marginally increase the number of different cultural activities conducted within the community and diversification of the consumer preferences of Carroll County citizens.

<sup>7</sup> The term “Hispanic” refers to a broad range of ethnic groups who may be considered members of the white, black, or other races.



**Exhibit 15: Carroll County Projected Racial & Ethnic Composition (2010-2030)**

Race Category	2010	2015	2020	2025	2030
White	77.78%	77.61%	77.54%	77.37%	76.99%
Black & African American	16.98%	16.94%	16.80%	16.69%	16.61%
Indian & Alaska Native	0.29%	0.30%	0.31%	0.32%	0.32%
Asian & Pacific Islander	1.03%	1.26%	1.47%	1.69%	1.93%
Hispanic, any Race	3.92%	3.88%	3.87%	3.93%	4.14%
Total	100.00%	100.00%	100.00%	100.00%	100.00%

Source: Woods & Poole Economics, Inc., Calculations by PRISM Associates

### G. MIGRATION & MOBILITY

Carroll County has experienced a net in-migration of residents over the past decade. Of the total population growth during the 1990's, 42% was natural increase,<sup>8</sup> 56% was in-migration from domestic locations and 2.8% was migration from other countries. The large in-migration rate is typical for areas adjacent to metropolitan areas. The natural population increase produces youth while in-migration includes a mixture of age groups.

In many metropolitan fringe communities, those who in-migrate often work outside of the community, closer to the metropolitan core. Although Carroll County does attract workers from neighboring counties, a significant number of Carroll County residents work outside the County. According to Census data, as of 1990, nearly 31% of the County's residents were employed outside the County. The percentage of residents working outside the County increased to 38% by 2000. This means that 17,138 of the 45,100 residents in the civilian labor force in the year 2000 commuted to jobs outside Carroll County. The percentage of Carroll County commuters driving alone increased from 79.0% of all commuters in 2000 to nearly 80% in 2006 (**Exhibit 16**), while the percentage carpooling or taking public transportation decreased by 0.4%. Mean commuting time was 28 minutes in 2000.

**Exhibit 16: Commuting to Work**

	2000		2006	
	Number	Percent	Number	Percent
Commuting workers 16 years and over	39,730	100.00%	49711	100.00%
Drove alone	31,384	78.99%	39747	79.96%
In carpools	6,168	15.52%	7314	14.71%
Using public transportation	111	0.28%	348	0.70%
Using other means	418	1.05%	1211	2.44%
Walked or worked at home	1,649	4.15%	921	1.85%

Source: U.S. Census 2000 & 2006 Population Estimate, www.census.gov, Calculations by PRISM Associates

<sup>8</sup> Natural increases account for expected population changes after accounting for births and deaths.



## H. EDUCATIONAL ATTAINMENT

**Exhibits 17** shows that, although the overall educational attainment of Carroll County is low relative to the state and nation, the disparity lessened during the from 2000 to 2006. In 2000, nearly 30% of all people over the age of 25 in Carroll County had not graduated from high school, however, by 2006 this figured decreased to 23%. Despite significant gains in educational attainment during the 2000s, the County's population in this area still lags behind the State and nation.

**Exhibit 17: Educational Attainment (2000-2006)**

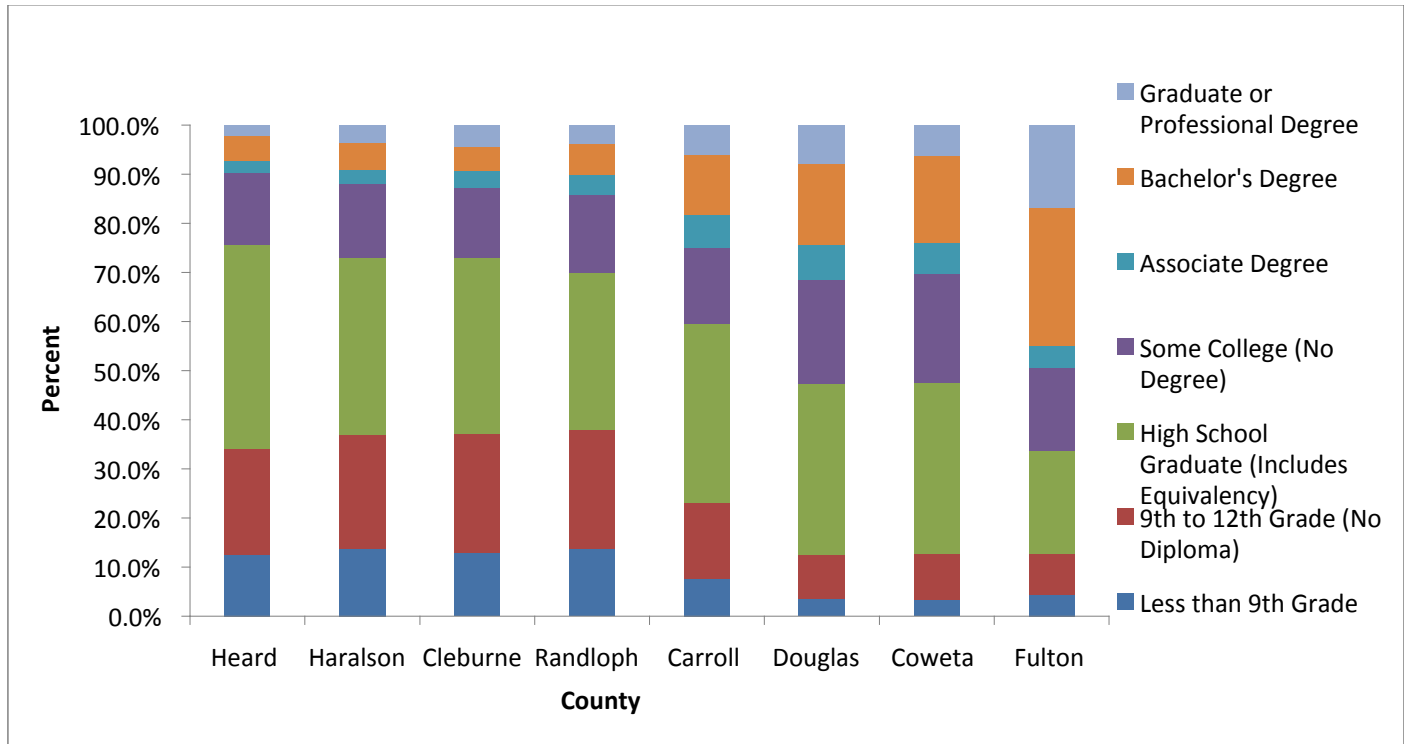
Education Level	2000			2006		
	Carroll County	Georgia	United States	Carroll County	Georgia	United States
Less than 9th Grade	10.10%	7.60%	6.90%	7.56%	6.38%	6.50%
9th to 12th Grade (No Diploma)	18.90%	13.90%	11.50%	15.46%	11.43%	9.44%
High School Graduate (Includes Equivalency)	34.20%	28.70%	29.60%	36.51%	30.35%	30.18%
Some College (No Degree)	16.80%	20.40%	20.60%	15.57%	2.01%	19.49%
Associate Degree	3.50%	5.20%	6.50%	6.67%	6.49%	7.39%
Bachelor's Degree	9.80%	16.00%	16.10%	12.29%	17.35%	17.10%
Graduate or Professional Degree	6.70%	8.30%	9.00%	5.94%	9.24%	9.90%
Total for Adult Population 25 & Over	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Percent high school graduate or higher	71.10%	78.60%	81.70%	77.00%	82.20%	84.10%
Percent bachelor's degree or higher	16.50%	24.30%	25.10%	18.20%	26.60%	27.00%

Source: 2000 U.S. Census, [www.census.gov](http://www.census.gov), Calculations by PRISM Associates

Carroll County's level of educational attainment compares favorably to other rural counties (Cleburne, Haralson, Heard and Randolph), but lags behind levels in the urbanized counties (Coweta, Douglas and Fulton). **Exhibit 18** shows the education level attained in neighboring counties as a percent of population over the age of 25. Rural counties have a higher number of people without post secondary education while urban counties exhibit a higher percent of college attendees.



**Exhibit 18: Educational Attainment for Neighboring Counties by Percent (2000)**



Source: 2000 U.S. Census, www.census.gov

**Exhibit 19** summarizes various educational statistics for students within Carroll County. Over the past 5 years, annual high school graduation test scores have decreased. High school drop out rates between 2002 and 2006 ranged between 6.1% and 7.8%. Approximately one-third of Carroll County high school graduates attend state public colleges. Public technical school attendance by high school graduates has ranged between 10.4% (2004) and 17.8% (2006).

**Exhibit 19: Educational Statistics (2002-2006)**

Statistic	2002	2003	2004	2005	2006
H.S. Graduation Test Scores					
English/Language Arts	93.0%	95.0%	92.0%	91.0%	92.0%
Mathematics	89.0%	88.0%	87.0%	86.0%	86.0%
Social Studies	80.0%	77.0%	74.0%	76.0%	76.0%
Science	65.0%	63.0%	58.0%	58.0%	64.0%
H.S. Dropout Rate	6.1%	7.8%	6.5%	5.8%	6.5%
Grads Attending Georgia Public Colleges	34.5%	28.8%	27.1%	26.2%	30.6%
Grads Attending Georgia Public Technical Schools	15.3%	11.3%	10.4%	12.5%	17.8%

Source: Georgia Department of Education



Pre-secondary student achievement is measured by the Criterion-Referenced Competency Test (CRCT), administered annually to students in grades 1 to 8. The Legislature mandated CRCT testing system by the Georgia Department of Education to:

- Diagnose individual student strength and weaknesses as it related to the federal Department of Education’s Quality Core Curriculum; and
- To evaluate the quality of education being provided by districts and the state as a whole.

The CRCT tests all students in the academic areas of reading, English/language arts and mathematics.

**Exhibit 20** shows the CRCT test results for 4<sup>th</sup> graders in the Carroll County, Carrollton and Bremen school districts. Between 2005 and 2007, 4<sup>th</sup> graders in the Carroll County School District demonstrated marked improvement in all academic areas, with the greatest improvement occurring in English/Language arts and mathematics. The Carrollton City School District improved in reading and mathematics. Fourth graders in the Bremen School District improved significantly in reading and slightly in English/Language arts, while scores in mathematics remained relatively steady. Overall, 4<sup>th</sup> graders in the Bremen School District exhibit a higher level of competency than those in the Carroll County and Carrollton School Districts.

**Exhibit 20: 4<sup>th</sup> Grade Criterion-Referenced Competency Test Scores (2005-2007)**

Test Categories	2005			2006			2007		
	Does Not Meet Standards	Meets Standards	Exceeds Standards	Does Not Meet Standards	Meets Standards	Exceeds Standards	Does Not Meet Standards	Meets Standards	Exceeds Standards
<b>Carroll County Schools</b>									
Reading	17%	41%	42%	17%	58%	25%	17%	53%	31%
English/Language Arts	22%	55%	23%	23%	55%	22%	17%	54%	29%
Mathematics	34%	55%	10%	24%	63%	13%	26%	53%	21%
Social Science	15%	68%	17%	10%	77%	13%	12%	66%	22%
Science	13%	66%	21%	10%	69%	21%	26%	50%	25%
<b>Carrollton City Schools</b>									
Reading	17%	35%	48%	23%	44%	33%	14%	48%	38%
English/Language Arts	21%	53%	26%	27%	47%	26%	16%	46%	38%
Mathematics	32%	50%	18%	26%	51%	23%	20%	46%	34%
Social Science	14%	72%	14%	15%	69%	16%	13%	66%	21%
Science	16%	60%	24%	16%	57%	27%	31%	47%	21%
<b>Bremen City Schools</b>									
Reading	7%	28%	65%	5%	44%	50%	4%	43%	54%
English/Language Arts	10%	53%	37%	11%	50%	40%	7%	35%	58%
Mathematics	12%	66%	22%	8%	55%	37%	7%	51%	42%
Social Science	6%	52%	42%	2%	59%	38%	3%	44%	53%
Science	6%	50%	44%	3%	49%	48%	10%	38%	52%

Source: Georgia Department of Education



**Exhibit 21** shows the CRCT results for 8<sup>th</sup> graders in the County's school districts. As with the 4<sup>th</sup> graders, the 8<sup>th</sup> graders in the Bremen School District have better achievement than those in the Carroll County and Carrollton districts. The Carroll County and Bremen School Districts improved in all subject areas between 2005 and 2007. The Carrollton School District 8<sup>th</sup> graders improved in reading and mathematics but remained steady in English/language arts.

**Exhibit 21: 8<sup>th</sup> Grade Criterion-Referenced Competency Test Scores (2005-2007)**

Test Categories	2005			2006			2007		
	Does Not Meet Standards	Meets Standards	Exceeds Standards	Does Not Meet Standards	Meets Standards	Exceeds Standards	Does Not Meet Standards	Meets Standards	Exceeds Standards
<b>Carroll County Schools</b>									
Reading	24%	31%	45%	15%	73%	12%	15%	71%	14%
English/Language Arts	29%	50%	21%	21%	56%	23%	17%	60%	24%
Mathematics	39%	47%	13%	35%	52%	13%	30%	52%	18%
Social Science	17%	60%	23%	18%	57%	25%	21%	53%	26%
Science	36%	60%	4%	34%	57%	10%	31%	56%	13%
<b>Carrollton City Schools</b>									
Reading	17%	25%	58%	10%	68%	22%	11%	64%	25%
English/Language Arts	16%	40%	44%	12%	40%	48%	13%	47%	39%
Mathematics	24%	45%	31%	17%	42%	41%	14%	52%	33%
Social Science	14%	57%	29%	12%	52%	37%	21%	40%	39%
Science	20%	65%	15%	19%	52%	29%	21%	54%	25%
<b>Bremen City Schools</b>									
Reading	3%	29%	67%	2%	80%	18%	3%	68%	28%
English/Language Arts	7%	39%	54%	5%	55%	40%	3%	57%	40%
Mathematics	11%	50%	39%	8%	42%	49%	4%	51%	45%
Social Science	5%	47%	47%	5%	52%	44%	7%	35%	59%
Science	7%	70%	23%	5%	46%	48%	7%	52%	41%

Source: Georgia Department of Education

Enrollment data for Carroll County, Carrollton and Bremen Schools and information on post-secondary education is provided in the Community Facilities and Services Element of this Plan (**Chapter VI**).



**I. HOUSEHOLDS**

Census data indicates that in the year 2000 there were 32,808 households in Carroll County with an average of 2.66 people per household. 39.3% of households included persons under the age of 18, slightly higher than the State figure. Carroll County exhibits a relatively high proportion of female heads of households (12.3% of all households). However, married couple families still comprise a majority of all households, with over 55% of the total. Householders living alone comprised 21.2%, with single persons over the age of 65 comprising 7.6% of total households. Non-family households comprise only 5.8% of all households. *Woods & Poole Economics, Inc.* projects that household size will decrease to 2.63 people per household by 2030. The total number of households projected in **Exhibit 21** is based on the mid-range population projection shown in **Exhibit 6**.

**Exhibit 22: Carroll County Projected People Per Household**

Year	Households	People Per Household
1985	23,231	2.75
1990	26,355	2.71
1995	29,496	2.69
2000	32,808	2.66
2005	39,540	2.64
2010	42,985	2.61
2015	46,376	2.59
2020	49,651	2.59
2025	53,136	2.60
2030	56,434	2.63

Source: \* U.S. Census, [www.census.gov](http://www.census.gov), *Woods & Poole Economics, Inc.*, and *PRISM Associates*

**Exhibit 23** shows the projected increase in households and the number of additional housing units required to accommodate the projected population growth, assuming a standard statistical 5% vacancy rate.

**Exhibit 23: Carroll County Projected New Households and Housing Needs**

Year	Total Households	New Households	Housing Units
2005	39,540	6,733	7,069
2010	42,985	3,445	3,617
2015	46,376	3,391	3,561
2020	49,651	3,275	3,439
2025	53,136	3,485	3,659
2030	56,434	3,298	3,462
Total		23,626	24,807

Source: *Woods & Poole Economics, Inc.*, Calculations by *PRISM Associates*



**J. INCOME & POVERTY**

The U.S. Census Bureau reports that the 1997 median household income in Carroll County was \$34,061 while the State figure was \$36,372. Per capita income in Carroll County was \$18,840. **Exhibit 24** shows that income levels in Carroll County are projected to lag behind the State. Children and adults in Carroll County experience relatively high poverty rates, with an estimated 14.7% of the population living in poverty and 23.4% of the County’s children living in households with incomes below the poverty limit.<sup>9</sup> The low levels of income reflect historically low education attainment, the high proportion of single parent households, and reliance on lower paying manufacturing jobs. If County residents continue the progress in educational attainment and local economic development initiatives are successful, the gap between Carroll County and the State as a whole should narrow. **Exhibit 25** indicates historical household income by range.

**Exhibit 24: Income\* Characteristics (2000-2030)**

Year	Carroll County		Georgia	
	Per Capita	Mean Household	Per Capita	Mean Household
2000	\$23,413	\$62,819	\$30,331	\$80,719
2005	\$23,566	\$62,653	\$30,049	\$78,897
2010	\$23,750	\$62,394	\$31,751	\$82,305
2015	\$25,054	\$65,336	\$33,798	\$86,867
2020	\$26,472	\$68,995	\$36,033	\$92,435
2025	\$28,004	\$73,321	\$38,463	\$98,982
2030	\$29,625	\$78,327	\$41,063	\$106,556

\* Projected in 2004 dollars, Source: Woods & Poole Economics, Inc.

The influence of the white-collar metropolitan commuting population has significantly enhanced the overall income during the 1990’s. As shown in **Exhibit 26**, in 1990 31.3% of Carroll County households had an annual income above \$50,000. This increased to 41.8% by the year 2000, with a substantial percent (17.8%) earning over \$75,000. Although these figures aren’t adjusted for inflation, household incomes are clearly rising.

9 1997 Model Based Estimate, U.S. Census Bureau, www.census.gov.

**Exhibit 25: Carroll County Household Income Range (1980-1990)**

<b>Income Category</b>	<b>1990</b>	<b>1995</b>	<b>2000</b>	<b>2005</b>
Less Than \$10,000 (2000 constant dollars)	14.3%	12.8%	11.6%	10.9%
\$10,000 - \$19,999	15.9%	15.0%	14.2%	13.4%
\$20,000 - \$29,999	16.5%	15.1%	13.9%	13.2%
\$30,000 - \$44,999	21.9%	20.0%	18.5%	18.2%
\$45,000 - \$59,999	14.9%	15.2%	15.4%	16.3%
\$60,000 - \$74,999	7.7%	9.0%	10.0%	10.6%
\$75,000 - \$99,999	4.5%	7.0%	9.0%	9.5%
\$100,000 - \$124,999	2.6%	3.0%	3.3%	3.5%
\$125,000 - \$149,999	0.6%	1.2%	1.6%	1.7%
\$150,000 - \$199,999	0.3%	0.7%	1.0%	1.1%
\$200,000 or more	0.7%	1.1%	1.5%	1.6%

Source: Georgia Department of Community Affairs, [www.dca.state.ga.us](http://www.dca.state.ga.us)

### ***K. CONCLUSIONS OF POPULATION ELEMENT***

Growth in Carroll County over the last three decades has altered the character of many parts of the County and promises dramatic change in the next two decades. The County's annual growth rate of 2.3% mandates that local decision-makers plan for provision of vital public facilities and services. Limited funding will require the County to coordinate with local service providers to balance the provision of public facilities with the demands of new growth.

The primary implications of recent growth trends are the needs to:

- Designate sufficient areas to accommodate projected population growth and non-residential development areas to meet future residents' employment shopping and service needs;
- Maintain a jobs/housing balance, so Carroll County does not exclusively become a bedroom community for commuters; and
- Provide for adequate public facilities to meet the needs of an increasing population.

The in-migration of professional workers will bring higher education levels, higher incomes and increased retail and service markets to the County. While these are positive characteristics, their increased politically active presence is likely to lead to higher demands for public facilities and services.

Many of the recent migrants to Carroll County live in rural estate development that has been created without regard to the cost of providing public facilities and services in rural areas. This pattern increases problems of sprawl in affecting decline in downtown and existing neighborhoods, environmental deterioration, rising usage of energy, loss of prime agricultural lands, fiscal imbalance in the provision of services, and loss of rural character. Allowing unmanaged rural estate housing will exacerbate existing inefficiencies in providing public facilities and services to rural areas, while altering the rural character and natural environment of the County. The Plan's policy and regulatory shift towards somewhat more concentrated urban center/corridor growth, adequate public facility standards and other growth management techniques will reinforce the vitality of the County's cities and neighborhoods and improve the efficiency of service provision.





The impact of this growth on the financing of public facilities and services is a critical concern of Carroll County and its municipalities due to the demands of a growing population and the significant cost of public infrastructure. Funding of public facilities constitutes a long-term investment in the health of the community and is a powerful economic development tool for all sectors of the economy. More efficient use of existing and new infrastructure will accommodate increased population growth while making best use of scarce tax dollars. The density, design, location and mix of uses create varied public facility and service costs, and these factors must be considered when reviewing zoning and subdivision regulations and approval of development.

Differing population groups also require a different mix of public and private facilities. During the decade of the 1990's, there was nearly 26% growth in the population under the age of 18 in Carroll County. The rate of growth in school age children is quite high though lower than growth in Georgia as a whole (26.4%) during the same period. The Carroll County School District has proposed approximately \$165,000,000 of school facilities improvements to accommodate increasing enrollment through the year 2009 and to enhance the learning environment intended to increase achievement. Projected population growth will further increase the District's capital facilities needs.

While overall education and income improvements have been made since 1990, the existing population includes significant numbers of people with low income, poorly educated, living in female-headed households and/or dependent on low-wage jobs. The wage earners in these households provide labor for service, retail and blue-collar manufacturing positions. This mix of attributes emphasizes the need to invest in schools, trade skills, diverse employment growth, together with increasing affordable housing.

In addition to increases in younger school age children, the college student population will continue to increase, primarily on the strength of the University of West Georgia's enrollment growth. Due to physical constraints at other public universities in the State, the Board of Regents project an enrollment increase of 50% to 15,000 students in the next 10 years. The college student population brings increased education levels, a part-time labor force and a demand for non-single family housing options. The increasing aged population also requires housing alternatives to the typical single-family subdivision. The creation of multi-family and accessory housing will occur primarily in the cities, but the County can take an active role in promoting urban housing and targeting housing options to defined unincorporated urban areas.



## CHAPTER II. NATURAL AND HISTORIC RESOURCES

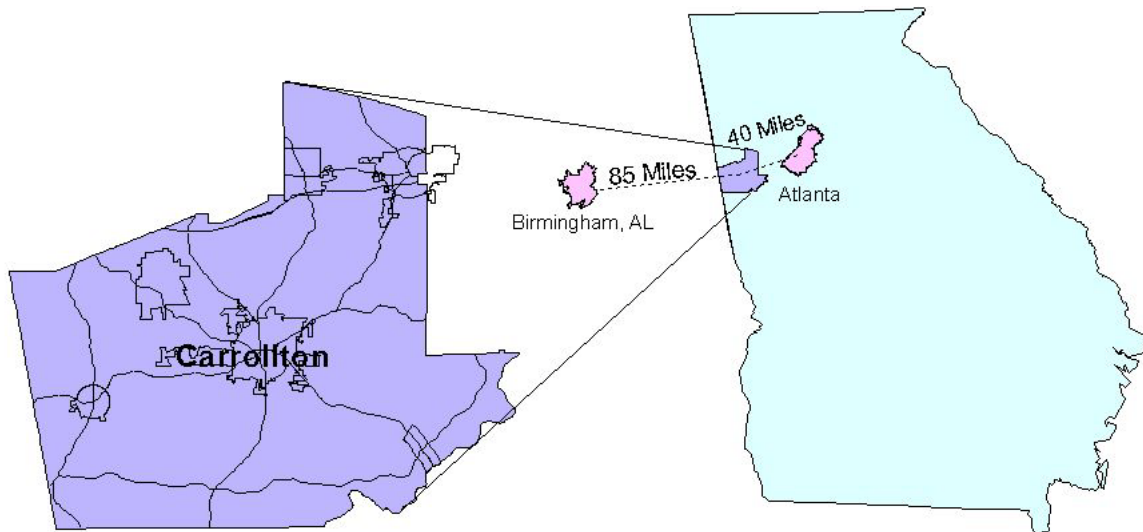
### A. INTRODUCTION

The natural and historical resources of a community represent powerful and finite assets to the community's quality of life. Long-term economic and cultural stability is dependent on wisely using and conserving these resources so that they may be enjoyed by future generations of residents and visitors. Properly preserved and promoted, these resources can provide economic opportunities that are unique to Carroll County. Once these resources are altered or exhausted, they are permanently changed, often in ways that reduce their usefulness for the future. This Chapter describes the community's physical and historic assets, identifies key issues, and establishes policy regarding the natural setting, environmental assets and historic resources of Carroll County.

### B. LOCATION

Carroll County's geographic location within the Atlanta Metropolitan area provides opportunities for metropolitan services, while retaining the cherished "small community" atmosphere. The County is situated along the western border of Georgia adjacent to Alabama proximately 40 miles west of Atlanta (**Exhibit 26**). Interstate 20 crosses the northeastern portion of the County connecting the major metropolitan areas of Atlanta and Birmingham, Alabama. Carroll County includes all or part of 8 municipalities: Bowdon, Bremen, Carrollton (County seat), Mt. Zion, Roopville, Temple, Villa Rica and Whitesburg (**Map 2, Appendix B**). The map also shows Fairfield Plantation a large, but unincorporated residential development along the eastern boundary of the County.

**Exhibit 26: Location Map**



### C. TOPOGRAPHY/GEOLOGY

As depicted in **Map 3 in Appendix B**, Carroll County's topography is characterized by gently to steeply sloping hillsides with numerous drainage basins that flow in a general southwest direction. Elevations range from 700 ft. mean sea level (msl) to 1,600 ft. msl (196 – 454 meters) with Blackjack Mountain rising to 1,550 ft. msl (476 meters) in the southwestern corner of the County. The County is located within the physiographic province of the Piedmont Plateau south of the Blue Ridge and



Appalachian Mountain ranges. Within this region the primary bedrock formation is metamorphic schist or gneiss.

### ***1. Steep Slopes***

Steep slopes (defined as land with slopes of 25% or greater) are located throughout the County. Many of these steep slopes are not suitable for development, particularly those adjacent to drainageways. Development on any steep slope is subject to natural hazards due to soil instability, but development along drainageways can increase erosion and sedimentation of streams. Steep slopes can be protected by adopting development standards that minimize development, land disturbance, and erosion while retaining stabilizing vegetative cover on and immediately above those slopes. **Map 4** in **Appendix B** shows where steep slopes are located within the County.

### ***2. Protected Mountains***

The Georgia Environmental Planning Criteria defines “protected mountains” as,

“... all land area 2,200 feet or more above mean sea level that has a percentage slope of 25 percent or greater for at least 500 feet horizontally and shall include the crests, summits, and ridge tops which lie at elevations higher than any such area”.<sup>10</sup>

Based on this definition, Carroll County does not contain any protected mountains because there are no locations with an elevation in excess of 1,600 feet mean sea level (msl). The highest elevations in the County range between 1,500 and 1,550 msl and are located along the north County border. However, under the provision for exceeding 25% slope for a distance greater than 500 feet, Blackjack Mountain in Southwest Carroll may qualify as a protected mountain.

## ***D. CLIMATE***

Overall the climate is mild and has four distinct seasons. Carroll County lies within a humid sub-tropical climatic classification zone. Mountains within the region block most cold air masses, which results in mild winters. The mountains also cause warm, moist air masses from the Gulf of Mexico to release precipitation before moving to the north and east. Snow occasionally falls, but accumulations are rare.

Consistent with the humid sub-tropical climate, average daily temperatures are considered mild in both winter and summer (**Exhibit 27**). Only once every ten years do temperatures reach above 100 degrees and only slightly more than half of the mornings during the winter season experience temperatures below freezing. Due to the hilly terrain, micro-climates exist where direct solar exposure may extend the typical two-hundred-day growing season. Shaded valleys may be cooler than exposed slopes.

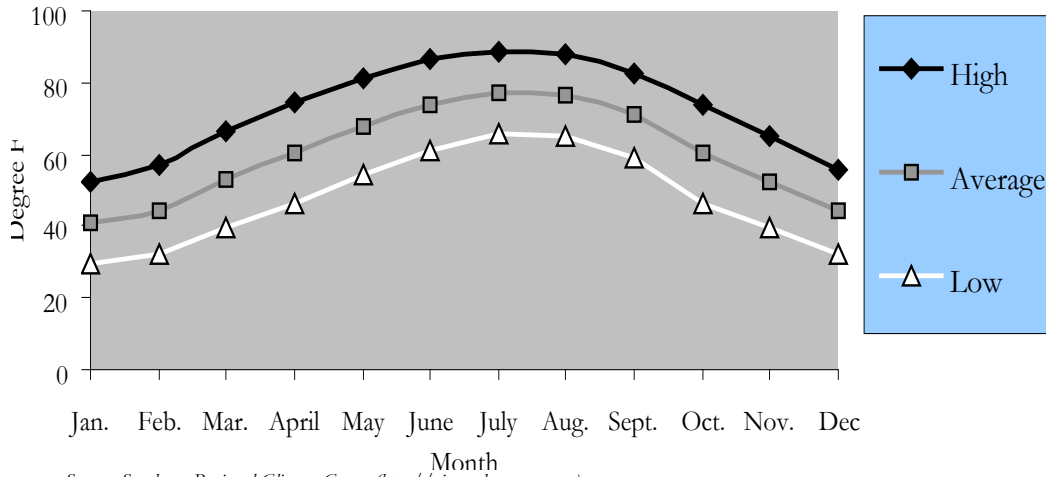
Annual precipitation averages fifty-one inches and is fairly evenly distributed throughout the year, averaging up to five and six inches per month in winter and summer (**Exhibit 28**). Three to four inches of precipitation falls per month during the spring and autumn seasons.

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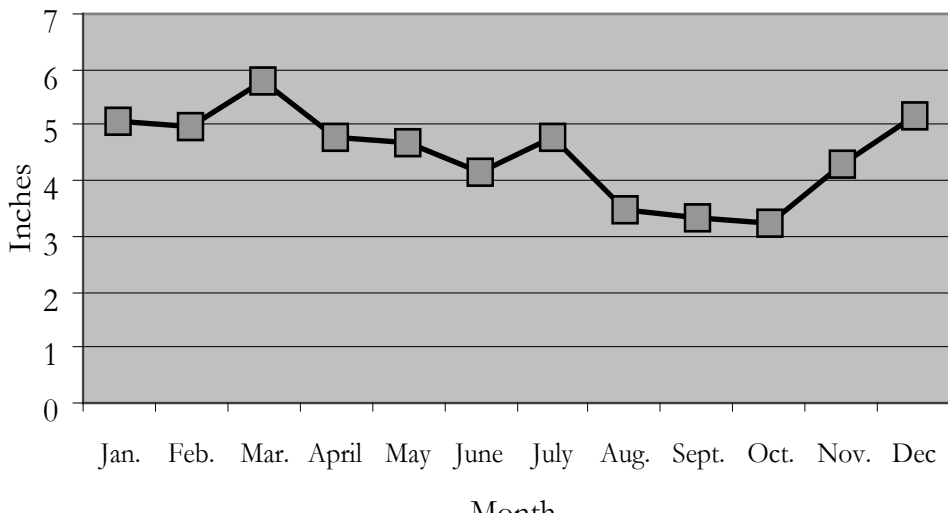
<sup>10</sup> State of Georgia, O.C.G.A. 12-2-8(c)(2).



**Exhibit 27: Carroll County Temperatures**



**Exhibit 28: Carroll County Average Rainfall**



When compared to select major cities, Carrollton gets a substantial amount of rainfall. Los Angeles receives an average total annual precipitation amount of 12.0 inches, while Miami receives 57.2 inches (**Exhibit 29**). Carrollton gets only 3.5 inches of rain less than Miami. Of the comparison cities, Chicago has the lowest average high temperature of 58.6 F while Miami has an average high of 82.9 F. Carrollton is third in average high temperature with an average high temperature of 72.8 F, less than Dallas' 76.3 F. Carrollton's average low temperature of 47.5 F is moderate compared to Miami's 66.3 F and Chicago's 39.5 F.



**Exhibit 29: Temperature and Precipitation Comparisons**

City	Average High Temperature	Average Low Temperature	Average Total Precipitation
Los Angeles, California	70.4	55.5	12.0
Dallas, Texas	76.3	54.6	33.7
Chicago, Illinois	58.6	39.5	35.8
Seattle, Washington	59.4	44.6	37.2
Kansas City, Missouri	63.6	43.7	37.6
Washington, DC	66.6	48.9	39.0
Boston, Massachusetts	59.0	43.6	41.5
<b>Carrollton, Georgia</b>	<b>72.8</b>	<b>47.5</b>	<b>53.7</b>
Miami, Florida	82.9	66.3	57.2

Source: National Climate Data Center

## ***E. SOILS***

### ***1. Soil Classifications***

**Map 5 in Appendix B** shows the soils of Carroll County. Soil composition coupled with slope and groundcover help define the use of land by dictating construction techniques, infrastructure construction and land stewardship techniques. Over 50% of the county’s soils are composed of Madison association blends (**Exhibit 30**).

#### *Madison – Tallapoosa*

The Madison – Tallapoosa soils are mostly located northeast and southwest of Carrollton and throughout the county on broad inter-stream ridges and on slopes adjacent to drainageways. These soils have a brown gravelly fine sandy loam texture. This soil association has a low shrink-swell potential and is excessively to well-drained. Slopes range from 6% to 10% with moderate limitations to on-site wastewater facilities on gentle slopes.

#### *Madison – Louisa – Tallapoosa*

This soil type is usually located down slope from the Madison – Tallapoosa soils on 2% to 25% slopes and has moderate limitations for on-site wastewater facilities on gentle slopes. The topsoil is described as brown gravelly fine sandy loam. Below the first five inches the subsoil is a red clay loam. Notable concentrations of this soil are located on Blackjack Mountain in the southwest and in the northwest portions of Carroll County.

#### *Davidson – Muscella*

Davidson – Muscella soils consist of red, gravelly loam topsoil with red clay loam approximately 6 inches below the surface. There is a band of this soil association running from southwest of Villa Rica to southwest of Roopville along ridges and on gentle side slopes. Typical slopes range from 6% to 10%. On steeper slopes this soil is subjected to severe erosion. Most of the soils in this association have moderate to slight limitations for on-site septic systems.

#### *Hulett – Grover*

The Hulett – Grover soil type is prevalent around Bowdon Junction in the north and is usually down slope from the Davidson – Muscella soils on low inter-stream divides. This soil is characterized as brown gravelly-sandy loam on low, broad ridges with slopes between 2% and 10%. The limitations for on-site septic tank systems are slight to moderate while limitations on oxidation ponds are moderate to severe.



**Exhibit 30: Carroll County Soils**

Soil Type	Acres	Percent
Augusta loam	2,300	0.73%
Buncombe loamy sand	995	0.31%
Chewacla	25,000	7.90%
Congaree	6,510	2.06%
Davidson gravelly loam	24,990	7.90%
Grover gravelly sand loam	6,250	1.98%
Gullied land	75	0.02%
Hulett gravelly sandy loam	35,995	11.38%
Iredell gravelly sandy loam	150	0.05%
Louisa gravelly sandy loam	21,110	6.67%
Louisburg stony loamy sand	8,045	2.54%
Madison gravelly loam	162,865	51.48%
Masada sandy loam	5,360	1.69%
Musella clay loam	2,860	0.90%
Tallapoosa gravelly clay loam	8,910	2.82%
Wilkes stony loam	1,535	0.49%
Worsham silt loam	900	0.28%
Water	2,500	0.79%
<b>Total Acres Evaluated</b>	<b>316,350</b>	<b>100.00%</b>

*Source: Soil Survey – Carroll and Haralson Counties Georgia, U.S. Department of Agriculture, March 1971*

*Louisburg – Wilkes*

This soil type is excessively to well-drained upland soil and characterized by grey-brown shallow stony topsoil with sandy or silty clay loam subsoil. Much of this soil type is located east and southwest of Whitesburg in southern Carroll County. There are severe limitations to on-site septic systems in this soil association due to the slope of the land.

*Masada*

These brownish alluvial, gravelly-sandy-loam soils are located on stream terraces. Approximately 7 inches below the gravelly-sandy-loam surface, the clay loam subsoil ranges in depth from 54 inches to 8 feet. There are slight limitations for the use of septic tanks and foundation construction, and in low lying areas, the land may be subjected to flooding.

*Congaree – Buncombe*

Congaree – Buncombe soils are well-drained alluvial soils with level slopes ranging from 0% to 4%. Generally, these soils are located along the Chattahooche River and Whooping Creek. Typically located in floodplains, these soils have yellowish-brown topsoil to 13 inches in depth with silty loam subsoil to an approximate depth of 41 inches. Due to frequent flooding, this soil association has severe limitations for homesites and on-site septic systems.

*Chewacla – Augusta*

These are poorly drained alluvial soils with slopes ranging from 0% to 6%. Soils structure includes



dark brown silty loam topsoil to a depth of 9 inches with olive-brown sandy clay loam that can reach depths of 8 feet. These soils can be found along the Little Tallapoosa River and its tributaries. Due to flood hazards, homesites and septic tanks are severely limited. Oxidation ponds may be built in areas near the base of uplands.

Soils within Carroll County generally have a low shrink-swell potential, which increases the stability and durability of foundations and road bases. There are areas in the county with steep slopes that are prone to erosion without proper slope stabilization. Deforestation increases the erosion of most soils in the study area. Most soils are well drained except the Chewacla – Augusta soils located along natural waterways.

**2. Prime Agriculture Soils and Forest Land**

In March 1971, the U.S. Department of Agriculture issued soil survey rankings for soil types by their suitability for field crops through capability groupings. The rankings account for soil limitations for use as cropland, risk of damage to the soil when cultivated and the way soil responds to treatment. Soils ranking Class I or II are considered prime agricultural soils with few impediments to crop production. **Exhibit 31** shows the amount and type of Class I and II soils within Carroll County. There are 39,550 acres of prime agriculture soils, which accounts for only 12.5% of the total County land area. Most of the prime agriculture soils reside along riparian corridors and were created and periodically enhanced by alluvial deposits during flood events.

**Exhibit 31: Prime Agriculture Soils**

Detailed Soil Type	Acres	Percent
Congaree	6,510	2.06%
Davidson Gravelly Loam, 2 to 6 Percent	4,205	1.33%
Grover Gravelly Fine Sandy Loam, 2 to 6 Percent	1,840	0.58%
Hulett Gravelly Sandy Loam, 2 to 6 Percent	15,110	4.78%
Iredell Gravelly Fine Sandy Loam, 2 to 6 Percent	150	0.05%
Madison Gravelly Fine Sandy Loam, 2 to 6 Percent	7,380	2.33%
Masada Fine Sandy Loam, 2 to Percent	2,645	0.84%
Masada Gravelly Sandy Loam, 2 to Percent	1,710	0.54%
<b>Total Prime Agriculture Soils</b>	<b>39,550</b>	<b>12.50%</b>
<b>Non-Prime Agriculture Soils</b>	<b>276,800</b>	<b>87.50%</b>
<b>Total Acres</b>	<b>316,350</b>	<b>100.00%</b>

*Source: Soil Survey – Carroll and Haralson Counties Georgia, U.S. Department of Agriculture, March 1971*

Although soil productivity is the primary determinant of agriculture suitability, non-soil factors also influence an individual site’s attractiveness for agriculture production. Most non-soil factors are related to development activities, such as infrastructure improvements, existing land uses and future land use designation.

Carroll County contains a significant amount of forestland, which is shown on **Map 18 (Appendix B)**.



## ***F. HYDROLOGY***

The Little Tallapoosa and Chattahoochee Rivers convey water southwesterly through Carroll County. The Chattahoochee River meanders along the southeast border of the county while the Little Tallapoosa River runs from Villa Rica, through Carrollton, and south of Bowdon to the County's west border with Alabama. The drainage divide between these two rivers splits the County with the Chattahoochee River basin in the southeastern third of the county and the Tallapoosa River basin in the northwest two-thirds. The boundary between the two basins runs southwest from Villa Rica, through Roopville. Significant tributaries to these rivers running through Carroll County include Snake and Whooping Creeks flowing into the Chattahoochee River and Big Indian and Buck Creeks flowing into the Little Tallapoosa River.

### ***1. Floodplain***

Carroll County's rolling hills and valleys direct runoff through moderately narrow floodplains (**Map 6 in Appendix B**). Land within the 100-year floodplain accounts for 7.37% of the total land area of 321,313 acres (502 sq. miles) or approximately 23,696 acres (37 sq. miles). Floodplain widths reach an approximate maximum of ½ mile along the Little Tallapoosa River, Chattahoochee River and tributaries. The County has adopted and enforces floodplain development regulations in accordance with the National Flood Insurance Program as stipulated by FEMA. These regulations minimize the loss of property and life by requiring structures built in the floodplain to be flood-proofed by elevating the structure to avoid inundation.

### ***2. Protected Rivers***

**Map 6 in Appendix B** shows riparian zones adjoining rivers, streams and lakes that offer a vegetative buffer between the water body and cleared land that produces storm water runoff. Alluvial soils deposited through flood events are typically high in agriculture productivity along these floodplains but often are poorly drained. The following areas are defined as "River Corridors" under the Georgia Environmental Planning Criteria:

"... all land not regulated ... in the areas of a perennial stream or watercourse with an average annual flow of at least 400 cubic feet per second as defined by the United States Geological Survey and being within 100 feet on both sides of the river as measured from the river banks at mean high water."<sup>11</sup>

The riparian corridors shows in **Map 6 in Appendix B** exceed the width requirements for state defined river corridors. However, the map does indicate regions in which erosion control, vegetation retention, septic tank limitations, impervious surfaces prohibition and other pollution mitigation measures should be taken.

### ***3. Groundwater Recharge Areas***

Groundwater recharge areas are regions where the soils and underlying rock strata allow water to leach into the groundwater supply. Protecting groundwater recharge areas from activities that contribute to groundwater pollution promotes healthy public and private water supplies. **Map 7 in Appendix B** shows the groundwater recharge areas within Carroll County, which are characterized by thick soils that allow for the retention of surface water by percolation. Identified groundwater

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<sup>11</sup> State of Georgia, O.C.G.A. 12-2-8(e)(3).





recharge areas are generally located on upland regions adjacent northwest and southeast of the Little Tallapoosa River.

The Georgia Department of Natural Resources reviews numerous state permits for conformance with specific performance standards within these recharge areas. Residential development that occurs within these areas requires minimum acreage for on-site wastewater systems consistent with **Exhibit 32**.<sup>12</sup>

**Exhibit 32: Minimum On-Site Wastewater System Acreage Standards in Groundwater Recharge Areas**

Pollution Susceptibility Area	Department of Human Resources Standard	Pollution Susceptibility Adjustment	Minimum Acreage for New Home
High	43,560 sq. ft.	150%	65,340 sq. ft.
Medium	43,560 sq. ft.	125%	54,450 sq. ft.
Low	43,560 sq. ft.	110%	47,916 sq. ft.

**4. Wetlands**

Identified wetlands within Carroll County consist of riparian areas along river corridors, lakes, ponds and other bodies of water (**Map 7, Appendix B**). The Georgia Department of Natural Resources defines “freshwater wetland” as:

“... those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions”<sup>13</sup>

Timber, wildlife management, wastewater treatment and recreational uses are acceptable in wetlands. Any construction, land use or land disturbance encroaching within a wetland requires issuance of a Section 404 permit to ensure compliance of activities with the Clean Water Act. Carroll County requires that a federally approved Section 404 permit be obtained prior to the issuance of any local development permit.<sup>14</sup>

**5. Public Water Supplies and Water Supply Watersheds**

**Map 7a in Appendix B** shows the Little Tallapoosa River and Chattahoochee River Basins that supply groundwater to the County. The primary source of raw water for Carrollton is the Upper Little Tallapoosa River (ULTR). The Little Tallapoosa headwater begins in Forsyth and Dawson Counties north of the Atlanta Metropolitan areas and bisects Carroll County from Villa Rica to the southwest corner of the County. Within the Little Tallapoosa River Basin Management area, which covers approximately 700 square miles in five Georgia Counties (Carroll, Haralson, Paulding, Heard and Polk), there are seven (7) municipal wastewater discharge points.<sup>15</sup>

12 State of Georgia, Department of Human Resources, Manual for On-Site Sewage Management Systems.

13 State of Georgia, Department of Natural Resources, Rules of Georgia Department of Natural Resources Environment Protection Division – Chapter 391-3-16 Rules for Environmental Planning Criteria, 391-3-16-.03(3)(a).

14 Carroll County, Georgia, Carroll County Subdivision Ordinance, Section 8.7, pg. 31.

15 Georgia Department of Natural Resources – Environmental Protection Division, Tallapoosa River Basin Management Plan 1998 (1998), Pg ES-3.



Within Carroll County, the ULTR watershed covers approximately 95 sq. miles and is used as a source of drinking water, recreational opportunities, wildlife habitat and wastewater disposal. The Cities of Temple and Villa Rica discharge treated wastewater into the river upstream of Carrollton's water treatment facility. Within the ULTR basin rapid development and increased reliance on private on-site wastewater treatment has accelerated water quality deterioration. According to the Georgia Department of Natural Resources, residual industrial contamination from aging "brownfield" industrial sites has discharged metals into the Little Tallapoosa in Carrollton. In addition, urban stormwater runoff from Carrollton, Temple and Villa Rica adds to the pollutants in the river. Federal stormwater release standards do not apply to urban run-off until the community's population is greater than 100,000 people.<sup>16</sup>

In order to secure long-term raw water resources in the region, the West Georgia Regional Water Authority has proposed to construct the West Georgia Regional Reservoir (WGRR) north of Carroll County. As designed, the WGRR would have a volume of 96,700 acre-feet with a surface elevation of 1,010 MSL.<sup>17</sup> If constructed the volume and release rates will be governed in part by the Alabama – Coosa – Tallapoosa River Basin Allocation Formula Agreement, which is a cooperative agreement between the States of Georgia and Alabama to equitably allocate natural water resources for the benefit of both States. This agreement does not restrict the specific use of water only the amount that must be released to Alabama.

The Section 404 Application for the City of Carrollton's Whooping Creek Impoundment included the following analysis of water supplies in Carroll County:

Historically, Carrollton and Carroll County have been proactive in developing water supply and distribution resources. In 1993, Carrollton completed construction of the Sharpe Creek Raw Water Impoundment, and in 1998 completed an expansion of its water treatment plant from 8.0 MGD to 12.0 MGD. In 1986 Carroll County residents approved a Special Purpose Local Option Sales Tax (SPLOST) for the purpose of developing water resources throughout the County. SPLOST funds have enabled the Carroll County Water Authority to install a total of 750 miles of water distribution mains serving the most highly developed portions of the County. In April of 2000, the Carroll County Water Authority broke ground for construction of Raw Water Impoundment and Water Treatment Facilities in the Snake Creek Basin. The initial 2.0 MGD phase of Water Authority treatment capacity will come on line in 2001, and an additional 2.0 MGD increment will be available in 2002 upon completion of the Snake Creek Impoundment.

**Exhibit 33** shows the capacities of the water systems in Carroll County, according to the Whooping Creek Impoundment Section 404 Application.

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<sup>16</sup> *Id.*, Pg ES-4.

<sup>17</sup> State of Georgia and the State of Alabama, ACT Allocation Formula Agreement – Alabama-Cossa-Tallapoosa River Basin (May 1, 2003), Pg 9.



**Exhibit 33: Water System Capacities**

<b>Municipal System Description</b>	<b>Current Capacity (MGD)</b>	<b>Future Capacity (MGD)</b>
City of Carrollton		
Conventional Surface Water Treatment	12.00	12.00
Wells	0.20	0.40
Carroll County Water Authority		
Conventional Surface Water Treatment	0.0	13.50
Wells	0.70	1.00
City of Bowdon		
Conventional Surface Water Treatment	1.00	2.90
City of Roopville		
Wells	0.09	0.09
City of Temple		
Conventional Surface Water Treatment	0.28	0.28
City of Villa Rica		
Conventional Surface Water Treatment	1.0	1.50
City of Whitesburg		
Wells	0.03	0.03
Potential External Supplies		
Douglas County Water Authority	2.50	0.0 <sup>18</sup>
Heard County Water Authority	0.40	0.0
<b>Totals</b>	<b>18.20</b>	<b>31.70</b>

*Source: City of Carrollton Whooping Creek Impoundment Section 404 Application.*

The southeastern region of the County lies within the Chattahoochee River basin, which extends southeast from Union County in the northeast corner of the state, to Carroll County and south along the western border with Alabama. There are approximately two (2) million people living within the Chattahoochee River Basin in Georgia, with nearly 1.5 million living in the Atlanta metropolitan area.<sup>19</sup> Uses of the river and water resources include: municipal water and wastewater, recreation, navigation, irrigation, industrial water supply and hydropower. As demands within the basin increase, competition for water resources has increased. Georgia, Alabama and Florida have adopted the Apalachicola – Chattahoochee – Flint River Basin Allocation Formula Agreement, which ensures that specified quantities of water to flow through Georgia to Alabama and Florida. According to the Georgia Department of Natural Resources, water quality within the basin is good and has been improving due to the adoption and enforcement of stringent major wastewater discharge standards. However, water quality downstream of the Atlanta metropolitan area is impaired.

<sup>18</sup> The Douglas and Heard County Water Authorities are not able to commit to long-term (greater than five years) water supplies.

<sup>19</sup> Georgia Department of Natural Resources – Environmental Protection Division, Chattahoochee River Basin Management Plan 1997 (1997), Pg ES-2.



The priority water quality issues within the basin are:

- Violations of water quality standards for metals associated with urban non-point source runoff;
- Violations of water quality standards for fecal coli form bacteria, associated with both urban and rural non-point source runoff; and
- Erosion and sedimentation, variously associated with construction, agriculture, forestry and unpaved rural roads, leading to degradation of aquatic habitat, which can reduce biological diversity.

### ***6. Water Quality Initiatives***

Pollutants arise from a variety of point and non-point sources in the County. Many modest sized lakes in Carroll County provide recreational opportunities and present an opportunity for residential development. Lakeside development is attractive for residential development. It is common for rural residential development to use on-site wastewater facilities that release contaminants that leach through soil into groundwater or surface water. Concentrations of contaminants from septic systems can enter water supplies and degrade water quality. A similar concern relates to agricultural operations. Pesticides and herbicides from farm operations, as well as animal waste from poultry and livestock operations can leach into streams and groundwater supplies and degrade water quality. Urban runoff, a lack of erosion control and a general loss of riparian corridor vegetation also contribute to the deterioration of water quality.

A recent study of the Upper Little Tallapoosa watershed was conducted by The Source Water Stewardship Exchange Team, with assistance from the University of Massachusetts and the Trust for Public Lands. While the study found that water quality within the watershed is in fair condition overall, the report notes that non-point source pollution needs to be managed to ensure long-term water quality. This proactive study recommends the following strategies to protect water quality:

- Establish a county-wide sewerage management authority to own and operate decentralized sewerage systems to serve future developments in areas not served by existing public sewerage utilities;
- Establish a county department of environmental health under the County Commission with authority to develop and implement an integrated environmental health program county-wide;
- Work with state environmental officials or utilize local code enforcement resources to institute systematic inspection of all sewage disposal systems serving residences located on the shoreline of Lake Buckhorn;
- Design and conduct an in-depth baseline water quality assessment of Lake Buckhorn and potentially other key water bodies in the watershed, such as Lake Carroll and Sharps Creek Reservoir;
- Evaluate the potential impact on ULTR water quality of wastewater disposal areas projected to serve Carrollton, Villa Rica and Temple into the future;
- Identify top priorities for voluntary purchase or conservation easements in the Upper Little Tallapoosa Watershed;
- Establish a substantial, reliable local funding source for land protection;
- Seek expansion of the Georgia Forest Legacy Program to include Carroll County;
- Create a mechanism for inspection and enforcement of construction site activities;



- Apply “smart” stormwater design features to new development by altering construction standards in order to reduce stormwater runoff and increase infiltration;
- Create a Soil and Water District Technician position at the West Georgia Soil and Water Conservation District (SWCD) that focuses solely on Carroll County, or establish a Soil and Water Conservation District that serves only Carroll County;
- Fence cattle out of streams and restore riparian buffers;
- In cooperation with Georgia Environmental Protection Division staff and NRCS, evaluate adequacy of waste handling facilities and practices at existing poultry producing operations in the watershed; and
- Create a public-private partnership to prioritize and fund restoration and best management practices, to slow farm and forest conversion and to help secure restoration and conservation funding (an Agricultural and Woodland Owner’s Council).<sup>20</sup>

Through the Source Water Stewardship Program, the Trust for Public Land (TPL), a national non-profit land conservation organization, has been working with local officials and stakeholders to develop a strategic plan to preserve and improve water quality in the Upper Little Tallapoosa River watershed. The program goal is to provide watershed planning guidance for local decision makers in a manner that coordinates multi-jurisdictional activities by establishing specific implementation strategies. The Upper Little Tallapoosa River Watershed Project is intended to:

- Raise public awareness about drinking water, its vulnerability to land use changes, and the importance of protecting it through watershed protection and stewardship.
- Improve inter-jurisdictional communication and planning.
- Create more consistent and effective regulatory protections between jurisdictions.
- Develop useful, high quality data to assist decision-making.
- Identify clear priorities for land conservation and forest management.
- Identify creative voluntary and regulatory strategies for protection, including effective financial incentives and agreed-upon best management practices.
- Identify ways to supplement existing funding for planning and enforcement. Create an action plan that is agreed on by state, local and nonprofit partners that will position the Little Tallapoosa watershed for future funding, and create strong partnerships to carry out that plan.

Implementation of these recommendations is primarily the responsibility of Carroll County, cities and State agencies. To promote consistency between policy and actions, the Source Water Stewardship Exchange Team’s recommendations have helped shape the policies and implementation tasks advocated within this Plan.

While not explicitly addressing water quality issues, the Georgia Water Coalition is a statewide organization dedicated to retaining water resources as a public asset rather than a public commodity. To accomplish its goal, the Coalition conducts lobbying efforts primarily through petitions, information dispersal and legislative contacts.<sup>21</sup> The coalition currently has 70 member organizations.

<sup>20</sup> Source Water Stewardship Exchange Team, Upper Little Tallapoosa River Watershed – Source Water Stewardship Exchange Team Report (April 30, 2003).

<sup>21</sup> Georgia Water Coalition, Will Georgia’s Water Remain a Protected Public Resource ... or will it be Sold to the Highest Bidder? (Pamphlet).



**G. VEGETATION AND WILDLIFE**

Natural vegetative cover consists of pine, oak and hickory trees on upland locations with willow, beech, poplar, dogwood and ash trees in the lowlands. Forested areas are primarily located in the southeast and northwest areas of the County, areas where timber operations have been active. A significant amount of land has been deforested for agricultural pursuits.

Carroll County is home to many wildlife species. Lakes, ponds, and streams are inhabited by various fish species; most common are Blue Gill, Bass, and Channel Catfish. Fowl include turkeys, ducks, Bobwhites, and Mourning doves. Mammalian fauna located within Carroll County include deer, beaver, rabbit, and squirrel. **Exhibit 34** lists the threatened and endangered animal species of concern in Carroll County and potential threats to those species.

**Exhibit 34: Threatened and Endangered Species in Carroll County**

Species	Federal Status	State Status	Habitat	Threats
<b>Animals</b>				
Bald eagle ( <i>Haliaeetus leucocephalus</i> )	T	E	Inland waterways and estuarine areas in Georgia.	Major factor in initial decline was lowered reproductive success following use of DDT. Current threats include habitat destruction, disturbance at the nest, illegal shooting, electrocution, impact injuries, and lead poisoning.
Bluestripe shiner ( <i>Cyprinella callitaenia</i> )	No Federal Status	T	Brownwater streams.	
Hightscale shiner ( <i>Notropis hypsilepis</i> )	No Federal Status	T	Blackwater and brownwater streams.	
Stippled Studfish ( <i>Fundulus bifax</i> )	No Federal Status	E	Coosa and Tallapoosa River systems. Pools, stream margins and backwaters over sand or rocky substrate.	Restricted distribution and are extremely rare. Habitat loss due to dam and reservoir construction, habitat degradation, and poor water quality. Populations are fragmented due to reservoirs. Vulnerable to extirpation in GA as a result of single catastrophic event.
<b>Plants</b>				
Bay star-vine ( <i>Schisandra glabra</i> )	No Federal Status	T	Twining on subcanopy and understory trees/shrubs in rich alluvial woods.	
Monkey-face Orchid ( <i>Platanthera integrilabia</i> )	No Federal Status	T	Red maple-blackgum swamps; also on sandy damp stream margins; or on seepy, rocky, thiny vegetated slopes.	
Piedmont barren strawberry ( <i>Waldsteinia lobata</i> )	No Federal Status	T	Rocky acedic woods along streams with mountain laurel; rarely in drier upland oak-hickory-pine woods.	



Source: U.S. Fish and Wildlife Service, available at [http://athens.fws.gov/angered/counties/carroll\\_county.html](http://athens.fws.gov/angered/counties/carroll_county.html).

The Georgia Native Plant Society is dedicated to the preservation of native plants and to the education of the general public of their importance and how to use them in our woodlands and landscapes. Carroll County is located in a region that is very rich in diversity of native plants. Also, Carroll County has much acreage in its natural state, including land used for passive recreation, for citizens and visitors to observe and appreciate the beauty of those plants. These properties offer every micro climate possible in zone 7B, contributing to the great plant diversity in the County.

The Georgia Native Plant Society contributes to Carroll County's natural beauty through its native plant rescue program, which includes certified rescue facilitators. When an area of the County has been designated by an owner or developer to be disturbed and cleared, GNPS representatives meet with the owners and sign agreements for qualified rescuers to participate in the removal of valuable and sometimes rare plants to be relocated to public or private gardens or recreational areas such as one of the county's passive recreational areas. The activity actually becomes a partnership between the owner and the Society. It is not uncommon for the owner to be publicly recognized for the "gift" of plants. The process in no way interferes with the plans of the owner or interrupts the development.

One example of these activities is an ongoing project to relocate native azaleas from a private owner to McIntosh Reserve. Last year, twenty-eight azalea plants were relocated to the reserve and this year forty will be planted. GNPS has also offered its assistance with relocating plants along the Greenway Path along the Chattahoochee River. The Society sees County property as natural repositories for rescued plants.

## ***H. AIR QUALITY***

Carroll County was included within the Atlanta Metropolitan Statistical Area as a result of the 2000 Census. The Environmental Protection Agency (EPA) mandates that MSA Counties meet Federal air quality standards. However, the Georgia Department of Natural Resources (GDNR) – Environmental Protection Division is evaluating whether Carroll County should be excluded from these requirements. The GDNR's report is currently under review by the EPA.

### ***1. Emissions Testing***

In the event that Carroll County is determined to fail air quality standards, owners of automobiles and trucks with model years between 1979 and 2000 will need to undergo emissions testing prior to registration. Vehicles that fail emissions testing must be repaired to reduce emissions and retested. In the event that a vehicle fails the second test, a repair waiver may be granted provided certain conditions apply. Most metropolitan Atlanta Counties have mandatory vehicle emission inspections.

### ***2. The Clean Air Coalition***

Formed in 1996, The Clean Air Coalition is a nonprofit organization that seeks to improve air quality by reducing traffic congestion. The Coalition, which has a broad based public and private membership, is partially funded through the U.S. Department of Transportation's Congestion Mitigation and Air Quality fund (CMAQ). The Coalition provides technical and educational support and incentives to employees and employers who implement traffic demand control techniques. Transportation and work schedule options such as teleworking, carpooling, vanpooling, flextime and



the use of transit are congestion reduction strategies supported by The Clean Air Coalition. While a healthier environment is the Coalition's goal, it stresses the value of reduced transportation costs and enhanced employee productivity as valid economic reasons to reduce congestion.

### ***I. GREENSPACES***

Carroll County has initiated a county-wide Greenspace Program that is a collaborative effort between the County and five of its municipalities. The Carroll County Greenspace Plan is a comprehensive document that identifies scenic views and watersheds targeted for preservation. The goals of the program are to preserve 20% of Carroll County's land base while protecting watersheds and drinking water quality. The program is to be implemented through a variety of tools including: transferable development rights, zoning and subdivision code revisions, landscape ordinances and use of special purpose local option sales tax (SPLOST) funding.<sup>22</sup> Major obstacles to implementation of the plan are identified as the high costs of land acquisition and a lack of sewer service that makes the clustering of homes difficult. Authorization of the use of community wastewater systems could help overcome limitations on cluster development. A related effort includes participation in the West Georgia Watershed Assessment Program.

Within Carroll County there are approximately 3,000 acres of state, public and private recreational facilities. There are a number of lakes and parks providing recreational opportunities, including: the McIntosh Reserve, John Tanner State Park, Lake Carroll, Lake Buckhorn and Lake Tisinger. The John Tanner State Park occupies 139 acres west of Carrollton, which was operated as a private park from 1954 until 1971. John Tanner State Park offers camping, lodging, fishing, boating, swimming, and other outdoor recreational and passive activities. The park boasts the largest sand swimming beach of any state park in Georgia.

County operated recreational facilities consist of the McIntosh Reserve located along the Chattahoochee River in southern Carroll County. The Reserve is named after Chief William H. McIntosh, a leader of the Creek Indians who was murdered on his plantation in 1825 by Upper Creek Indian warriors in revenge for McIntosh's alliance with the Federal government during the War of 1812 and for selling Indian land. His plantation lies within the 487-acre reserve. Numerous passive recreational activities may be conducted year round. Camping, fishing, hiking and picnicking facilities are available along with several special events throughout the year. In addition to recreational opportunities, the reserve is an environmental, cultural and educational asset to Carroll County and the region.

Initially formed by large landowners in neighboring Fulton County in 2001, the Chattahoochee Hill Country Alliance (CHCA) is a nonprofit organization dedicated to conserving existing greenspaces, preserving land values and promoting sustainable development. With support from The Nature Conservancy, The Georgia Conservancy and the National Park Service, CHCA's initial focus was to develop a Master Plan for a 40,000-acre region in southern Fulton County and preserve natural resources in the region. The intent of the Master Plan is to promote:

- The importance of conservation and preservation of greenspace;
- The continuation of agriculture and its associated rural services;

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<sup>22</sup> On November 3, 2003, County residents overwhelmingly approved a SPLOST that included \$13 million for greenspace acquisition and protection.





- Future growth that occurs in a compact pattern with a mix of residential, commercial and retail uses to enhance the surrounding community;
- A range of housing choices to provide options for all incomes and ages;
- Connectivity for pedestrians, bicyclists and motorists; and
- Design that is socially responsible, environmentally friendly and economically sound.

The Chattahoochee Hill Country Community Plan recommends the use of village/hamlet development centers, three types of protection buffers (Rural, Scenic and Riparian), transferable development rights (TDRs) and sustainable rural design guidelines.

On April 2, 2003, after legislative efforts at the State and County levels, the Chattahoochee Hill Country Overlay District of Fulton County was created by the Fulton County Board of Commissioners to facilitate the use of TDRs to preserve rural resources. Implementation details of the TDR program are being finalized and will include the use of a "TDR Bank" to facilitate timely and predictable transactions. Currently, the CHCA is seeking funding to seed the "TDR Bank". Through a Livable Communities Initiative grant from the Atlanta Regional Commission, the CHCA is developing a sustainable village design to serve as a model for future village and hamlet developments. Groundbreaking for the first hamlet, the Serenbe Community, is scheduled for late 2003. The establishment of a TDR program and the sustainable village design guidelines are major accomplishments towards achieving the organization's vision.

The influence and vision of the CHCA has grown. The CHCA has enjoyed a growing support base, which now includes power companies, local governments and state agencies. The Coweta Chapter of the CHCA was formed in Coweta County to pursue similar activities to those completed in Fulton County. In addition to activities in Coweta County, the Alliance's growing vision includes preservation and trail interests in Carroll and Douglas Counties. Although currently in a draft stage, the CHCA led an effort to develop a regional trails and greenspace plan that incorporates parts of Carroll, Coweta, Douglas and Fulton Counties. Carroll County contributed to the funding of the Plan. The Chattahoochee Hill Country Regional Greenway Trail Plan connects 3 county parks, 2 state parks and private greenspaces. This Comprehensive Plan coordinates Carroll County's greenspace program with the Regional Greenway Trail Plan.

## ***J. CARROLL COUNTY CULTURAL RESOURCES***

### ***1. Scenic Views***

Carroll County is full of charming and scenic areas. While the following list from the 1992 Comprehensive Plan is subjective, it identifies the main scenic vistas that help define Carroll County.

In northern Carroll County, John Tanner State Park offers visitors a pleasant, scenic setting for recreational enjoyment. The Georgia Highway 113 corridor between the north side of Carrollton and I-20 provides scenic viewsheds in all directions. Highpoint Road, located in the northwestern corner of the County, traverses a prominent ridge, offering spectacular vistas east and west.

In eastern Carroll County, the view from Oak Mountain, just east of the City of Carrollton, is superb in every direction. Motorists travelling Georgia Highway 166 from the Carroll-Douglas line to Four Notch Road can enjoy the scenic countryside, as well



as the scenic and historic Hulett Community. Another impressive view, particularly in the early morning, is from the ridgetop overlooking Whooping Creek at Georgia Highway 5. McIntosh Reserve, a County-owned passive recreation area on the Chattahoochee River near Whitesburg, provides visitors with scenic views of the Chattahoochee River from the vantage point of Council Bluff, and at river level along nature trails. Another scenic area in the same vicinity of the County is Snake Creek at Banning Mill.

There are a number of scenic areas in southern Carroll County. Both Roopville-Veal Road and Hilltop Road near Roopville provide scenic vistas of the surrounding countryside. Motorists travelling US Highway 27 north of the Lowell Road intersection can enjoy a spectacular viewshed east and west. The Clem Lowell and Jones Mill areas in Southeast Carroll are scenic, offering bucolic views. The area surrounding Oak Grove Road, Bonner Goldmine Road, and Bethesda Church Road is a particularly scenic area of rolling hills. Blackjack Mountain, Carroll County's highest elevation, is located in extreme southwestern Carroll County and provides spectacular east and west vistas of western Georgia and eastern Alabama.

In western Carroll County, Georgia Highway 100 traverses several ridges which offer scenic vistas of western Georgia and eastern Alabama.

Development in the northern areas of the County threatens the scenic vistas in those areas. The County recently purchased Blackjack Mountain, preserving it as open space, as well as property along Highway 113. Highways 5, 100, and 113 have been proposed as scenic byways. The Georgia Scenic Byways program is administered by the Georgia Department of Transportation. Designated scenic byways must have a Corridor Management Plan in place that identifies steps to preserve the scenic vista.

## ***2. Other Cultural Resources***

Significant residential resources include the Folds House.

Significant commercial resources include the central business districts of the incorporated towns in Carroll County.

Significant industrial resources include the Banning Mill, the Southwire Company, GoldKist, and the gold mine outside of Villa Rica.

Significant institutional resources include several old schools, including Burwell and Tyus, two public schools, and Oak Mountain Academy, located near Oak Mountain and named after the one-room schoolhouse that was Norman Rockwell's painting, and several churches, including the abandoned Smith Chapel, Veal Church, which has been nominated for the National Register, Whitesburg Baptist Church, Victory United Methodist Church, and campgrounds and camp meetings at Shiloh UMC in Burwell community, Old Camp UMC on Tyus Road)

Significant transportation resources include the old rail lines that created "Bowdon Junction".



Significant rural resources include the large number of unincorporated communities, such as Banning, Burwell, Clem, Hickory Level, Lowell, Kansas, Sand Hill, Tyus, Victory, Veal, Cross Plains and Byer's Crossroads. Other resources include the Round Barn near Hickory Level and Johnson's Sweet Potato Curing Shed off US 27 South that used to be a drop-off point for area students attending Berry College in Rome, resulting in US 27 being named Martha Berry Highway by GDOT.

### ***K. CARROLL COUNTY HISTORIC AND ARCHEOLOGICAL RESOURCES***

There are numerous historical resources within Carroll County that contribute to the long-term understanding of local, state and national historical events and culture. The economic, educational and social value of these resources is often underestimated and therefore requires the County, cities, state and citizens to actively promote the preservation of Carroll County's unique historical assets. In cooperation with the cities, citizen groups and the RDC, Carroll County has taken measured steps to identify, protect and promote the most important historic sites in the County. These partnerships are evident in efforts to create a historic district in Bowdon, preserve the Stockmar Gold Mine in Villa Rica, renovation of the Folds House in Carrollton, and the nomination of the Veal School to the National Register of Historic Places. Continuing and strengthening the effectiveness of these and similar efforts can help preserve vital cultural resources for future generations.

While the Carroll Tomorrow economic development initiative has rightly focused on the promotion of clean industry within the County, this initiative has also recognized the value of historic preservation as a vital ingredient to maintaining and enhancing the community's quality of life.<sup>23</sup> However, historic preservation and promotion can spawn modest locally owned entrepreneurial enterprises that support the tourism market. Rural tourism is typically built upon local historical events and places, unique value added agriculture and/or attractive environmental resources. The relative impact of the tourism industry in Carroll County may never be a driving force for local employment, but it is one sector in which small local businesses can import monetary resources without incurring significant local costs.

#### ***1. Historic Resources Inventory***

##### ***National Register of Historic Places***

The National Register of Historic Places is the country's official list of cultural resources worthy of protection. The National Register is administered by the National Park Service and was created pursuant to the National Historic Preservation Act of 1966. Once a site is selected for the Register a number of benefits accrue to the community and property owner. Among these include:

- On-going national, state and local recognition of the significance of the site;
- Special consideration in the planning of Federal or federally assisted projects; and
- Greater eligibility for various tax breaks and other incentives.

**Exhibit 35** lists the sites on the Register in Carroll County as of the end of year 2007. Although not listed on the National Register, there are several historically significant buildings and sites in the County that have attracted preservation efforts, including: Wick's Tavern, the Pony Truss Bridge, McIntosh Reserve, and the Banning Mill.

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<sup>23</sup> Carroll Tomorrow. Economic Development Strategy (June 2000). Pg 21.

**Exhibit 35: Carroll County Sites on the National Register of Historic Places**

Resource Name	Location	City	Listed
Bonner-Sharp-Gunn House	West Georgia College Campus	Carrollton	5/13/1970
Burns Quarry	Information Restricted	Carrollton	8/29/1977
Dorough Round Barn and Farm	North of Hickory Level on Villa Rica Road	Hickory Level	1/20/1980
Carroll County Courthouse	Corner of Newnan and Dixie Streets	Carrollton	9/18/1980
U.S. Post Office	402 Newnan Street	Carrollton	4/18/1983
South Carrollton Residential Historic District	Roughly bounded by RR tracks, Harmon and West Avenues, Bradley, Mill and Garrett Streets, Tillman and Hill Drives	Carrollton	6/28/1984
Lovvorn, Dr. James L., House	113 E. College Street	Bowdon	5/19/1988
McDaniel--Huie Place	1238 SR and 166 West	Bowdon	5/24/1990
Whitesburg Baptist Church	662 Main Street	Whitesburg	10/22/2002
North Villa Rica Commercial Historic District	Roughly bounded by Southern Railroad, North Avenue, and East Gordon and West Church Streets	Villa Rica	12/31/2002
Williams Family Farm	55 Goldworth Rd.	Villa Rica	03/25/2005
Eric Vernon Folds House	1575 Highway 16 S	Carrollton	8/24/2005
Veal School	2753 Old Columbus Rd.	Roopville	12/22/2005
Mandeville Mills and Mill Village Historic District	Roughly centered on Aycock, Lovvorn, and Burson Sts.	Carrollton	04/19/2006
Carrollton Downtown Historic District	Around the downtown square, bounded by Johnson Avenue to the north, White Street to the east, Mill Street to the south, and Barnes Street to the west.	Carrollton	5/4/2007

Source: National Register Information System, [www.nr.nps.gov/](http://www.nr.nps.gov/)

### *Georgia Historical Markers*

In 1951, the Georgia General Assembly created the Georgia Historical Commission (GHC), which was charged with promoting the preservation of historical resources and the dissemination of information to increase the citizen's knowledge and awareness of Georgia's historical people, places



and events. Between 1952 and 1959, the GHC embarked on an aggressive program to erect historical markers at County Courthouses and significant historical sites and buildings associated with Sherman’s march through Georgia. After 1959, few markers were placed. **Exhibit 36** lists the GHC historical markers located within Carroll County.

In 1973, the GHC was disbanded and many of their functions were transferred to the Georgia Department of Natural Resources (DNR). Between 1973 and 1997, the DNR focused on maintenance of existing GHC markers and dedicated very few new markers. Due to budgetary considerations, the responsibility for research, placement and maintenance of new markers was transferred to the Georgia Historical Society (GHS) in 1997. DNR is still responsible for maintenance of markers placed before 1997. The GHS receives an annual appropriation from the Georgia General Assembly to research, cast, erect and dedicate approximately 20 markers a year. In addition to the GHC, DNR and GHS markers, cities, counties, institutions and local/regional historical societies have commemorated historical people, places and events by a variety of means, but most commonly with plaques or signs.

**Exhibit 36: Georgia Historical Markers in Carroll County**

Marker Title	Location	Marker Number
Charles Carroll of Carrollton	Newman and Dixie Streets, Carrollton	022-1
Last Land in Georgia Ceded by the Creeks	Maple Street at western city limits, Carrollton	022-2
McIntosh Reserve	West McIntosh Circle off Georgia Highway 5	022-3
West Georgia College	Front College Drive off Maple Street, Carrollton	022-4
Six Industrial Giants	Tanner and Newton Streets, Carrollton	022-5
Sacred Harp Singing	SE corner of U.S. 27 and I-20 interchange at Holly Springs Church	022-6
Site of Bowdon College	West College Street at Bowdon High School, Bowdon	022-7
Thomas A. Dorsey Father of Gospel	U.S. 78 at South Dogwood Drive, Villa Rica	022-8

Source: Carl Vinson Institute of Government, the University of Georgia

*Select Local Historical Sites*

The following paragraphs describe a selection of the prominent historic resources of Carroll County. The identified resources do not represent an all-inclusive historic resource inventory and the omission of a specific resource does not denote a lack of importance to the cultural heritage of the County and state.

*McIntosh Reserve.* Located along the Chattahoochee River in southern Carroll County, the McIntosh Reserve is named after Chief William H. McIntosh, a leader of the Creek Indians. Chief McIntosh was murdered on his plantation in 1825 by Upper Creek Indian warriors in revenge for McIntosh’s alliance with the Federal government during the War of 1812 and for selling Indian land. His



plantation and gravesite lie within the 487-acre reserve. The County operates and maintains recreational facilities on the reserve. Numerous passive recreational activities may be conducted year round. Camping, fishing, hiking and picnicking facilities are available along with several special events throughout the year. In addition to recreational opportunities, the reserve is an environmental, cultural and educational asset to Carroll County and the region.

*Banning Mills.* Recently nominated for the National Register of Historic Places, the Banning Mill site is a pre-civil war textile factory that provided uniforms and other products to the Confederate Army. The mill is located on the banks of the Snake River near Whitesburg. During Sherman's march through Georgia, destruction of the mill was avoided due to difficulties in locating the site. Currently, the Banning Mill is used as a conference center with guest rooms and a full service restaurant.

*Wick's Tavern.* Wick's Tavern, commonly known as the "Old Town Tavern", was built in 1830 by New York immigrant John B. Wick. The tavern was one of the original commercial structures built in the gold rush town of Hixtown. Hixtown would later be renamed Villa Rica to symbolize the importance of gold mining in and around the town. The tavern is the only remaining commercial structure from the Hixtown era and is a prime example of Dutch style timber frame construction. In modern times, encroaching commercial development threatened the structure, which has been moved to downtown Villa Rica where it is undergoing restoration to its 1830 appearance. The "Friends of Wick's Tavern" non-profit organization was formed in 1998 to facilitate the preservation and sustainable use of the structure.

*Whitesburg Baptist Church.* Listed to the National Register on October 22, 2002, the Whitesburg Baptist Church's architecture uniquely captures the spiritual tenets of the Baptist faith. Built around 1875, the small church included gender specific entrances and excellent examples of Gothic Revival architecture.

*Other Significant Resources.* There are numerous small historic and cultural attractions and points of interest including: Chief William McIntosh Museum, National Creek Indian Museum, Temple Old Town District, Oak Lawn at Carrollton – Pre-Civil War Greek Revival House, Stockmar gold mine and Plantation Records/Archives Storage and Historical Research Facility in Carrollton. Carroll County has a significant number of civil war attractions including several confederate cemeteries.

## ***2. Historic Preservation Activities***

One of the most widely used financial incentives for the preservation and rehabilitation of historic structures and sites are tax credits. There are three potential tax-based incentives that may be used to protect Carroll County's historic resources: IRS charitable contributions, Federal Rehabilitation Investment Tax Credits (RITC) and State preferential property tax assessments.

*IRS Charitable Contributions.* Similar to the use of perpetual conservation easements for the preservation of land resources, historic preservation easements may be donated to non-profit historic preservation or governmental entities. The value of the easement is equal to the fair market value of the property prior to the placement of the easement minus the fair market value once burdened by the easement. Once the easement value is determined and the easement transferred to the preservation entity, the donator contribution claim with their income tax filing. The tax deduction will be figured as a percentage of the easement value and in certain situations may reduce



the property owner's income tax burden over a period of year. Due to the complexity and frequent modifications of tax law, easement grantors should seek tax preparation advice to ensure that the maximum advantage is sought.

*Federal Rehabilitation Investment Tax Credits (RITC).* The RITC provides property owners who substantially rehabilitate eligible structures with income tax deductions. There are two types of eligible structures:

- Buildings listed or eligible to be listed on the National Register of Historic Places; or
- Non-historic buildings built before 1936.

Rehabilitation of National Register eligible structures can accrue a 20% tax deduction based on the cost of rehabilitation. In order to qualify, rehabilitation costs must exceed \$5,000 and the property must be used for income-producing activities for 5 years after rehabilitation. Non-historic structure rehabilitation can accrue a 10% tax deduction based on the cost of rehabilitation, provided that a certain percent of external walls remain as part of the structure, the cost of rehabilitation must exceed \$5,000 and the structure must be used for non-residential income-producing purpose for at least 5 years. of the easement may file a charitable

*State Preferential Property Tax Assessments.* During the 1989 legislative session, the Georgia General Assembly passed a preferential property tax assessment program for the substantial rehabilitation of historic property. Under this legislation, the tax assessment value of certified property is frozen at the current value for up to 8 ½ years. The property being rehabilitated must be listed or eligible for listing on the Georgia Register of Historic Places or be within a recognized historic district. Substantial rehabilitation occurs when structural improvements are made that increase the structures fair market value by:

- 50% for residential structures;
- 75% for mixed use (residential and non-residential) structures; and
- 100% for commercial and professional use structures.

The Historic Preservation Division of the Department of Natural Resources (DNR) must certify that the rehabilitation conforms to the DNR standards for rehabilitation. Once DNR certification is received, the property owner must file a claim with the County Tax Assessor's Office, which determines if the property value increase meets the property value appreciation standards listed above. The property tax freeze may apply to the value of structures and up to 2 acres of land.

In addition to the historic preservation programs discussed above, many infrastructure and redevelopment programs may be used to revitalize aging buildings and infrastructure. For instance, it is common for federal Intermodal Surface Transportation Efficiency Act (ISTEA) funds to be used for the rehabilitation of historic transportation structures such as train depots and bridges. Brownfield redevelopment programs, which target the environmental clean up and reuse of aging industrial sites, frequently require that historic structures be renovated to allow viable adaptive reuse.

### ***3. Archeological Preservation Activities***

In response to requests to preserve and protect abandoned family cemeteries, graveyards, and burial grounds, the Board of Commissioners established a Cemetery and Burial Oversight Committee in the summer of 2000. The Committee was charged with the primary purpose of identifying, preserving and protecting, and planning for the maintenance of abandoned cemeteries, graveyards,



and burying grounds. As a secondary purpose, the Committee was charged with protecting special historical, cultural or aesthetic interests of value.

The Committee is available to the Planning Commission to investigate claims that are raised in zoning debates that archeological or historic resources will be impacted or encroached by proposed development. In addition to raising public awareness and support for cemetery preservation, the Committee has undertaken, in cooperation with the Historical and Genealogical Societies of the County, an update of a publication to identify the location and names of those buried within the County. The aim of this endeavor is to provide historians and genealogists with much needed information as they research the history or families of Carroll County, Georgia.

#### ***4. Local Regulatory Tools***

The power of municipalities and counties to control land use, structures and development through zoning and subdivision allows for the regulatory preservation of historical resources. The most commonly used local regulatory preservation tool is the enactment of historic overlay zoning districts. Historic overlay districts may apply to urban and rural areas and are designed to ensure that land uses, new structures, improvements and site design are compatible with the historic nature of the area subject to the overlay district. Typically, improvements to existing historic structures must not detract from the historical significance of the structure or the neighborhood.

None of the local municipalities nor the County have adopted historic overlay districts. The RDC provides model historic overlay ordinances and technical assistance in the development of historic preservation ordinances.





## CHAPTER III. HOUSING

### A. INTRODUCTION

One of the most basic of human needs is shelter. The quantity and quality of housing within a community is directly tied to the economic and physical well being of residents. Different segments of the population place various demands on the housing market. The housing stock should provide a range of housing options that suit the needs of the community. This element reviews housing information, identifies key housing issues and provides policy guidance on housing related concerns.

### B. RESIDENTIAL DEVELOPMENT

Exhibit 37 shows the accelerating growth in residential development in Carroll County, as well as the increasing value of new construction. This trend has slowed in recent years, due in part to the sub-prime mortgage fallout, but is expected to rebound.

**Exhibit 37: Table - Residential Building Permits and Dwelling Units For Unincorporated Carroll County (1990-2007)**

Year	Single Family	Single Family Valuation	Multi-Family <sup>24</sup>	Dwellings in Multi-Family	Multi-Family Valuation	Total Valuation	Total Dwelling Units
1990	431	\$26,437,364	2	8	\$154,000	\$26,591,364	439
1991	453	\$28,646,685	13	87	\$1,934,333	\$30,581,018	540
1992	401	\$27,454,125	2	10	\$185,000	\$27,639,125	411
1993	398	\$27,030,089	6	32	\$732,128	\$27,762,217	430
1994	554	\$34,477,275	3	12	\$279,800	\$34,757,075	566
1995	467	\$32,746,054	5	16	\$391,748	\$33,137,802	483
1996	590	\$41,096,896	7	42	\$1,049,242	\$42,146,138	632
1997	820	\$50,225,457	12	58	\$1,497,770	\$51,723,227	878
1998	926	\$66,900,450	11	102	\$5,026,624	\$71,927,074	1028
1999	1,257	\$92,955,569	27	229	\$8,961,718	\$101,917,287	1486
2000	1,650	\$133,292,578	49	206	\$6,837,173	\$140,129,751	1856
2001	1,709	\$137,775,085	66	634	\$27,762,831	\$165,537,916	2343
2002	890	\$104,793,400	13	41	\$585,000	\$105,378,400	931
2003	899	\$64,139,660	30	60	\$1,350,000	\$65,489,660	959
2004	820	\$63,493,111	7	11	\$300,000	\$63,793,111	831
2005	594	\$50,499,004	1	2	\$45,000	\$50,544,004	596
2006	463	\$41,053,264	1	2	\$45,000	\$41,098,264	465
2007	285	\$27,611,667	0	0	0	\$27,611,667	285
Totals	13,607	\$1,050,627,733	255	1552	\$57,137,367	\$1,107,765,100	15,159

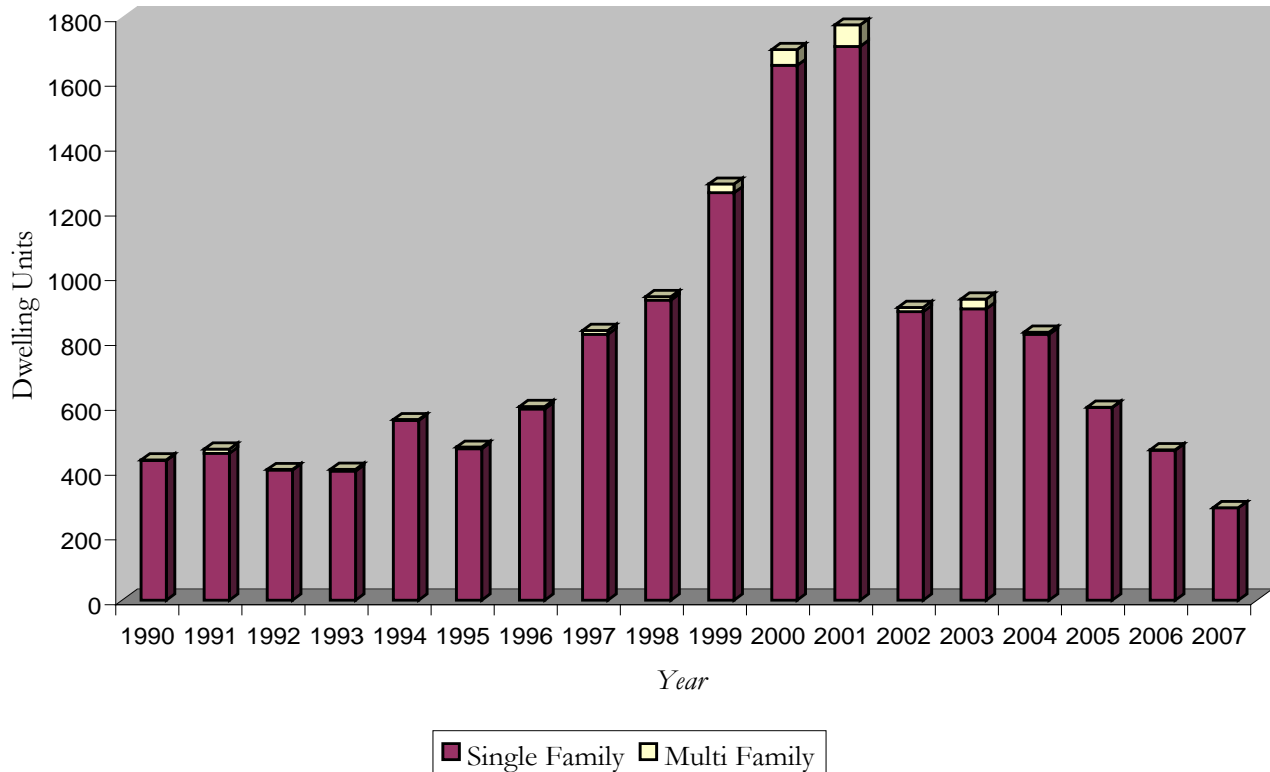
*Source: Carroll County Planning and Zoning Department*

Exhibit 38 shows the increased proportion of multifamily development built from 1997 to 2003, most of which has been located in Villa Rica or Carrollton. In recent years, the number of multifamily projects has decreased significantly.

<sup>24</sup> Multi-family residential structures are buildings that include more than one (1) distinct dwelling.



**Exhibit 38: Graph - Residential Building Permits and Dwelling Units (1990-2007)**



Source: Carroll County Planning and Zoning Department

Despite the recent surge in multifamily construction, the dominant housing type is detached single-family dwellings, which increased as a percentage of total housing units in the 1990's. The percentage of manufactured homes, mobile homes and trailers decreased over the same time period from 20.1% to 18.1%. In 1990, multi-family housing made up 13.7% of dwelling units. By 2000, the percent dropped to 13.0%. This decrease is reflected in the building permit data, which indicates that between 1990 and 1999 multi-family dwellings made up only 9.5% of all permitted dwelling units. However, the number of multifamily dwelling units permitted in 2001 surpasses the total number permitted between 1990 and 1999. This surge in multi-family housing tapered off in 2002 due to elevated vacancy rates and lower interest rates, which moved some families from renters to owners (**Exhibit 38**). This suggests that the multi-family housing market is absorbing the new units, which reduces the pressure to build more units. Over time as the multi-family dwellings accommodate existing demand, vacancy rates will decline and the pressure to build additional units will increase again.

In the year 2000, the vacancy rate of rental property was 7.7% with an overall vacancy rate of 7.3%. Vacancy rates between 5% and 10% generally indicate a good balance between supply and demand. Vacancy rates for owner occupied units tend to be somewhat lower than for rental units, so these figures both reflect a healthy real estate market and adequate housing supplies. There were 2,499 vacant structures, with 30.9% of them for rent. Affordable<sup>25</sup> and workforce housing demands

25 The U.S. Department of Housing and Urban Development defines "Affordable Housing" as housing that costs less than 30% of household income for low-, very low - and extremely low-income families. A family of 4 living within Carroll County would be



remain high due to low-income levels and the high number of single parent households that typically survive on one income. In 2000, 18.1% of all dwellings in Carroll County were mobile homes or trailers, which eclipses the State figure of 12.0%.

### C. HOUSING STOCK

According to the 2000 U.S. Census, Carroll County’s urban and rural housing stock consisted of 34,067 dwelling units, compared to 27,735 units in 1990, an increase of 6,331 or 22.8%. These dwelling units vary in structure size, number of units per structure, age and condition.

#### 1. Mix of Types

**Exhibit 39** shows that detached single-family housing grew as a percentage of total dwelling units during the 1990’s in the County, region and State. Within the Chattahoochee-Flint RDC region, single-family detached housing made up nearly three-quarters of all dwelling units in the year 2000, which is a greater proportion than in Carroll County or the state.

While Carroll County has a lower proportion of single-family dwellings than the region from 1990 to 2000, where 73.3% of housing is single-family detached, the County has a greater proportion of manufactured homes. By 2006, the percentage of single-family homes in Carroll County increased to 71.7%. Over 18% of the dwellings within Carroll County in 2000 were manufactured homes while the region and state have 14.2% and 12.0%, respectively. In 2006, the number of manufactured homes declined to 9.9%. Overall, the state has a diverse housing stock when compared to the region and County with fewer single-family detached dwellings and more multi-dwelling structures. The prevalence of manufactured homes and multi-family housing generally indicates a greater supply of affordable housing, but it also indicates a lower average value, which translates to greater fiscal strain because there is less tax revenue per unit of demand for services.

**Exhibit 39: Carroll County Dwelling Units per Structure (2000-2006)**

Dwelling Units in Structure	2000				2006			
	Carroll County		Georgia		Carroll County		Georgia	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1-unit, detached	23,057	67.68%	2,107,317	64.21%	31,782	71.70%	2,555,944	65.99%
1-unit, attached	410	1.20%	94,150	2.87%	2,090	4.72%	133,264	3.44%
2 units	1,049	3.08%	90,370	2.75%	863	1.95%	91,577	2.36%
3 or 4 units	981	2.88%	132,535	4.04%	1,350	3.05%	124,190	3.21%
5 to 9 units	1,300	3.82%	173,385	5.28%	1,988	4.49%	217,839	5.62%
10 to 19 units	682	2.00%	129,276	3.94%	1,235	2.79%	179,592	4.64%
20 or more units	414	1.22%	155,453	4.74%	637	1.44%	166,382	4.30%
Mobile home	6,165	18.10%	394,938	12.03%	4,380	9.88%	403,819	10.43%
Boat, RV, van, etc.	9	0.03%	4,313	0.13%	-	0.00%	798	0.02%
Total	34,067	100.00%	3,281,737	100.00%	44,325	100.00%	3,873,405	100.00%

Source: U.S Census

considered low-income with an annual income of \$54,400 or less. Workforce housing is affordable to moderate income households.



**2. Age and Condition of Stock**

In Carroll County, a majority of houses were built after 1970 (**Exhibit 40**). Seventy-seven percent (77.7%) of the Carroll County housing stock was constructed within the last 30 years. In 1990, 66.6% of housing units in the County were on collective (public or private) water systems, with only 36.9% having public sewage treatment service.

Historic residential structures, which may be considered for the National Register of Historic Places generally must be over 50 years old, be relatively unaltered for the past 50 years, and have architectural or historical significance to local heritage. Based on the age of housing in Carroll County, over 12.68% of County structures may have some historic significance, although they may not be appropriate for the National Register.

The age of the housing stock and the rate at which older homes are removed from the stock provides insight into the condition of older homes and the level of effort being made to retain historic residential structures. Poorly maintained older homes provide affordable housing although in some cases legitimate health concerns may be present. Well-maintained historic homes provide neighborhood stability, retain the historic character of communities and provide a supply of housing options with beautiful interior and exterior architecture. In addition, historic homes tend to be located adjacent to shopping areas in which historic home dwellers may conveniently shop. Historic homes often provide an affordable housing option if they are adequately maintained or rehabilitated.

**Exhibit 40: Age of Housing**

Time Period	Number	Percent
Built 2005 or later	2,065	4.66%
Built 2000 - 2004	7,697	17.36%
Built 1990 - 1999	7,707	17.39%
Built 1980 - 1989	8,319	18.77%
Built 1970 - 1979	8,652	19.52%
Built 1960 - 1969	2,856	6.44%
Built 1950 - 1959	1,407	3.17%
Built 1940 - 1949	2,389	5.39%
Built 1939 or earlier	3,233	7.29%
<b>Total</b>	<b>44,325</b>	<b>100.00%</b>

Source: 1990 & 2000 U.S. Census, [www.census.gov](http://www.census.gov)

**Exhibit 41** indicates that during the 1980's there was an attrition of older homes during which 28.4% of the dwellings built prior to 1940 were removed from the housing stock. A significant number of these structures were likely demolished. Carroll County's rate of historic housing loss was identical to the State's and slower than that of the region (30.1%). The remaining housing stock was only reduced by 8.4% in Carroll County during the 1990's. This suggests that the remaining stock is being maintained to a greater degree than prior to the 1990. The slowing attrition trend also occurred in the region and state.



**Exhibit 41: Dwelling Units Built Prior to 1940 in Housing Stock (1980-2000)**

Year	Carroll County		RDC		Georgia	
	Number	Percent Change	Number	Percent Change	Number	Percent Change
1980	3,835		14,997		296,662	
1990	2,747	28.4%	10,489	30.1%	212,294	28.4%
2000	2,517	8.4%	9,344	10.9%	192,972	9.1%

Source: 1980, 1990 & 2000 U.S. Census

### 3. Housing Condition

One way to measure housing condition is to track the number of housing units with complete kitchen and plumbing facilities. The U.S. Census collects information about these facilities, although the 1980 Census did not request information on kitchen facilities. A housing unit contains complete kitchen facilities if it has a sink with piped water, a range or a cook top and a stove, and a refrigerator. Complete plumbing facilities include hot and cold piped water, a flush toilet, and a bathtub or shower. **Exhibit 42** shows that housing conditions have been improving in Carroll County and the State since 1980, with the percentage of units lacking such facilities falling. While Carroll County had a higher rate of housing without plumbing facilities than the State in 1980, it is now below State levels in both categories. This trend continues in 2006.

**Exhibit 42: Condition of Housing Stock**

Condition	1980		1990		2000		2006	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
<b>Carroll County</b>								
Total Housing Units	20,321		27,736		34,067		44,325	
Lacking Complete Plumbing Facilities	865	4.26%	361	1.30%	252	0.74%	125	0.28%
Lacking Complete Kitchen Facilities	n/a	-	258	0.93%	274	0.80%	125	0.28%
<b>Chattahoochee-Flint Regional Development Center</b>								
Total Housing Units	62,845		82,520		104,796			
Lacking Complete Plumbing Facilities	4,226	6.72%	1,404	1.70%	1,077	1.03%		
Lacking Complete Kitchen Facilities	n/a	-	1,083	1.31%	1,098	1.05%		
<b>State</b>								
Total Housing Units	2,028,350		2,638,418		3,281,737		3,873,405	
Lacking Complete Plumbing Facilities	75,618	3.73%	28,462	1.09%	29,540	0.90%	12,072	0.31%
Lacking Complete Kitchen Facilities	n/a	-	24,014	0.91%	31,717	0.97%	12,356	0.32%

Source: 1980, 1990 & 2000 U.S. Census, 2006 Population Estimate

### D. OCCUPANCY AND OWNERSHIP

As of 1980, Carroll County's home ownership characteristics were nearly identical to those of the Chattahoochee-Flint Regional Development Center (RDC) service area, which includes Coweta, Carroll, Heard, Troup and Meriwether Counties (**Exhibit 43**). The percent of home ownership was 5% less within the entire state than Carroll County and the RDC. Since 1990, Carroll County has exhibited a higher ownership rate than the State of Georgia, but slightly lower than the RDC region.



The ownership rate within the County rose moderately from 63.5% in 1990 to 65.3% by 2000. Currently, in 2006, the rate of ownership has decreased to 62.3%. The number of vacant housing units decreased during the 1990's in the County, region and state. The vacancy rate decrease was a function of the rental market in which vacancy rates dropped significantly in the three geographic areas. Vacancies within the owner-occupied market dropped slightly in the County and State, while rising slightly in the RDC region.

**Exhibit 43: Local, Regional and State Occupancy Characteristic**

Category	1980		1990		2000		2006	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
<b>Carroll County</b>								
Housing Units Vacant		0.00%	2,366	8.50%	2,499	7.30%	5,059	11.41%
Housing Units Owner Occupied	13,298	70.00%	17,617	63.50%	22,259	65.30%	27,588	62.24%
Housing Units Renter Occupied	5,705	30.00%	7,754	28.00%	9,309	27.30%	11,678	26.35%
Total Households	19,003	100.00%	27,737	100.00%	34,067	100.00%	44,325	100.00%
Owner to Renter Ratio of Vacancy			0.47		0.54		0.79	
Owner Vacancy Rate			2.43		2.03		2.50%	
Renter Vacancy Rate			10.79		8.38		7.10%	
<b>Chattahoochee-Flint Regional Development Center</b>								
Housing Units Vacant		0.00%	7,119	8.60%	7,575	7.20%		
Housing Units Owner Occupied	41,110	69.90%	52,603	63.70%	70,157	66.90%		
Housing Units Renter Occupied	17,736	30.10%	22,798	27.60%	27,064	25.80%		
Total Households	58,846	100.00%	82,520	100.00%	104,796	100.00%		
Owner to Renter Ratio of Vacancy			0.47		0.84			
Owner Vacancy Rate			1.89		2.18			
Renter Vacancy Rate			10.59		7.55			
<b>Georgia</b>								
Housing Units Vacant			271,803	10.30%	275,368	8.40%	496,642	12.82%
Housing Units Owner Occupied	1,215,206	65.00%	1,536,759	58.20%	2,029,293	61.80%	2,285,179	59.00%
Housing Units Renter Occupied	654,548	35.00%	829,856	31.50%	977,076	29.80%	1,091,584	28.18%
Total Housing Units	1,869,754	100.00%	2,638,418	100.00%	3,281,737	100.00%	3,873,405	100.00%
Owner to Renter Ratio of Vacancy			0.32		0.51		0.58	
Owner Vacancy Rate			2.36		2.24		3.1%	
Renter Vacancy Rate			12.36		8.46		10.3%	

Source: U.S. Census

The number of seasonal housing units in the State has increased nearly four times since 1980, rising to almost two percent of all housing units. **Exhibit 44** shows that seasonal units in Carroll County and the region have also increased, although not as dramatically.



**Exhibit 44: Seasonal Units (1980-2006)**

Category	1980		1990		2000		2006*	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
<b>Carroll County</b>								
Total Units	20,321		27,737		34,067		44,325	
Seasonal Use Units	129	0.63%	180	0.65%	295	0.87%	368	0.83%
<b>Chattahoochee-Flint Regional Development Center</b>								
Total Units	62,845		82,520		104,796			
Seasonal Use Units	381	0.61%	586	0.71%	960	0.92%		
<b>Georgia</b>								
Total Units	2,028,350		2,638,418		3,281,737		3,873,405	
Seasonal Use Units	15,315	0.76%	33,697	1.30%	57,847	1.80%	89,824	2.32%

Source: U.S. Census, \* Estimates by PRISM Associates

**E. HOUSING COSTS**

The cost of housing in Carroll County has increased more slowly than in the Chattahoochee-Flint RDC region and State (**Exhibit 45**). In 1980, the median home value in Carroll County was greater than in the State. However, by 1990 the State’s median home value eclipsed Carroll County’s median home value. The median home value in the RDC region was less than that of the County in 1990, but exceeded the County’s by \$6,354 in the year 2000. Between 1990 and 2000, the cost of renting or owning a home increased more rapidly in the region than in Carroll County, which suggests that housing in Carroll County is more affordable within the regional context. This disparity contributes to the in-migration of population who are willing to commute greater distances to work. Higher transportation costs and growing commuting times are moderated by lower housing costs.

From 2000 to 2006, the average home price increased by 55% and rent by 82%. The cost of housing remains less than the State; however, the county has seen a significant increase, especially in regards to rental housing.

**Exhibit 45: Housing Property Values and Rents (1990-2006)**

Category	1990	2000	2006	Percent Change (1990-2000)	Percent Change (2000-2006)
	<b>Carroll County</b>				
Median Property Value	\$60,295	\$87,800	\$135,900	46%	55%
Median Monthly Rent	\$276	\$378	\$687	37%	82%
<b>Chattahoochee-Flint Regional Development Center</b>					
Median Property Value	\$58,057	\$94,154		62%	
Median Monthly Rent	\$270	\$388		44%	
<b>Georgia</b>					
Median Property Value	\$71,278	\$100,600	\$156,800	41%	56%
Median Monthly Rent	\$365	\$505	\$738	38%	46%

Source: U.S. Census





Housing costs for homeowners and renters increased as a percentage of income between 1989 and 1999 (**Exhibits 46 & 47**). Homeowners with housing costs in excess of 30% of income (referred to as housing burdened) increased from 17.5% in 1989 to 19.9% in 1999 indicating that the costs of homeownership increased more rapidly than income. The percentage of renters paying more than 30% of their income for housing increased from 44% in 1989 to 45.7% in 1999. A similar housing cost structure is reflected in the State as a whole. These data indicate that housing affordability is challenging for an increasing proportion of those in the homeowner unit market. However, the data may also support the assertion that homeowners are becoming more willing to allocate a greater portion of their income to mortgage payments rather than other personal budget items.

**Exhibit 46: Housing Costs as a Percent of Gross Household Income – 1989**

Percent of Income	Owner-Occupied Units		Renter-Occupied Units	
	Mortgage		Rent	
	Units	Percent	Units	Percent
Less than 20 percent	6,376	58.43%	2,359	31.81%
20 to 24 percent	1,541	14.12%	907	12.23%
25 to 29 percent	951	8.71%	886	11.95%
30 to 34 percent	561	5.14%	515	6.95%
35 percent or more	1,353	12.40%	2,214	29.86%
Not computed	131	1.20%	534	7.20%
Totals	10,913	100.00%	7,415	100.00%

Source: 1990 U.S. Census ([www.census.gov](http://www.census.gov))

**Exhibit 47: Housing Costs as a Percent of Income - 1999**

Percent of Income	Owner-Occupied Units		Renter-Occupied Units	
	Mortgage		Rent	
	Units	Percent	Units	Percent
Less than 20 percent	8,394	54.99%	2,986	33.30%
20 to 24 percent	2,145	14.05%	1,136	12.67%
25 to 29 percent	1,545	10.12%	744	8.30%
30 to 34 percent	886	5.80%	546	6.09%
35 percent or more	2,158	14.14%	2,707	30.19%
Not computed	137	0.90%	847	9.45%
Totals	15,265	100.00%	8,966	100.00%

Source: 2000 U.S. Census, [www.census.gov](http://www.census.gov).





### ***F. SPECIAL NEEDS HOUSING PROGRAMS***

The County does not have a housing authority or other types of housing programs specifically serving unincorporated areas. The City of Carrollton Housing Authority operates, manages and maintains 280 public housing units in five (5) developments within the City limits. The Carrollton Housing Authority offers a Section 8 housing voucher program to provide for part of the housing cost for low-income households. The Housing Authority allocates 104 housing vouchers, which may be used anywhere in the County.<sup>26</sup> Housing vouchers are a market based rent subsidy, which is intended to fill the gap between market rent and the low-income household's ability to pay. In addition to housing services, the Housing Authority provides life skill and employment services to the housing burdened. While the current capacity is barely sufficient for the County's needs, those needs are expected to increase over time, particularly as the population ages.

For the elderly, the Carrollton Housing Authority's Elder Circle development is designed specifically for seniors and includes a senior center on site. Private assisted living and nursing homes in the area include Cottage Landing, Merrill Gardens, The Stewart House Retirement Living, Lighthouse Point Retirement Community in Carrollton, Carrollton Manor Nursing Home in southern Carroll County, and Bellevue Senior Community in Villa Rica

There are two group homes in the area for abused children: Alice's House (Georgia Baptist Children's Home) and the New Hope Boys Home. According to DFACS, this is not enough special population housing to address the current needs in the county.

The Carroll County Emergency Shelter offers temporary housing to battered women and children. Recently, Kidspace opened a residential treatment facility in the Bowdon area to address the needs of troubled children.

### ***G. HOUSING AND COMMUNITY CHARACTERISTICS***

**Tenure.** Exhibit 48 shows the projected residential dwelling unit need for ownership and rental units based on the historic tenure split of 70% homeownership and 30% renters. Although student enrollment is growing at the institutions of higher learning in the County, this growth is modest in comparison to the total population growth. Therefore, the impact of this population on the overall housing market is modest and isolated to specific neighborhoods in Carrollton. Traditional college students generally seek multi-family housing options or live in communal arrangements such as dormitories.

**Land Requirements.** The geographical distribution of these units will directly affect the amount of land required to accommodate this housing (see Appendix B). Based on the Plan's emphasis on the expansion of sewer service availability through municipal or community systems, the County anticipates that 80% of new housing will be accommodated in developments with some form of centralized wastewater service. While higher densities are possible, it is reasonable to assume that overall densities will average three dwellings per acre where sewer is available and 1 dwelling per acre where on-site systems are used. This would necessitate development of approximately 15,000 acres of land for residential purposes by the year 2025 (see Exhibit 49).

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<sup>26</sup> City of Carrollton Housing Authority, <http://carrolltonhousingath.com/housing/>



**Barriers to Jobs Housing Balance.** Despite the increasing number of residents who commute outside the County, Carroll County has retained a strong employment base that continues to expand. In 1990, the County’s jobs-housing ratio was 1.282 jobs for each housing unit. By 2000, this ratio had decreased slightly to 1.239. Based on population and employment projections by Woods and Poole, the jobs-housing ratio will decrease to 1.196 by the year 2020. However, this Plan anticipates more rapid population growth than was projected by Woods and Poole. Consequently, if the employment projections in the Economic Development Element are accurate, the jobs-housing ratio will decrease to 0.882. The key barrier to maintaining a healthy jobs-housing balance in Carroll County is the creation of sufficient jobs to keep pace with housing growth. This Plan anticipates remedying this challenge through a coordinated economic development program that will provide sufficient, high-quality sites for industrial development and continued coordination with educational facilities to enhance the attractiveness of the local work force.

**Governmental Actions and Housing Affordability.** Carroll County remains one of the most affordable housing markets in the region. Rising land costs are the most significant factor affecting housing costs in Carroll County. To combat the impacts of rising land costs, this Plan anticipates expanded access to centralized wastewater systems, which will facilitate development at higher densities and thus reduce the impacts of increased land costs on housing costs. While an increased emphasis on recovering the capital costs associated with new development may increase the initial cost of housing, the emphasis on fiscal responsibility will enable the County and its cities to afford adequate facilities and services necessary for urban and suburban densities that enhance affordability. Additionally, this strategy will minimize the cost burdens borne by existing tax and rate payers, and increase potential funding for local affordable housing programs.

**Exhibit 48: New Residential Housing Demand Projections**

Year	Housing Units	Owner Occupied	Renter Occupied	Land Requirements
2010	3,617	2,532	1,085	1688
2015	3,561	2,493	1,068	1662
2020	3,439	2,407	1,032	1605
2025	3,659	2,561	1,098	1707
2030	3,462	2,424	1,039	1630

*Source: Woods & Poole, Calculations by PRISM Associates*



## CHAPTER IV. LOCAL ECONOMY

### A. ECONOMIC BASE

Economic activity is commonly categorized for analysis into business type and functions called sectors. Sector delineation varies, but this report data is based on the following sectors: farm; agricultural services; mining; construction; manufacturing; transportation, communications and utilities; wholesale trade; retail trade; finance, insurance and real estate (FIRE); services, federal civilian government; federal military; and state and local government. Through the use of location quotients based on employment figures it can be determined if a region has “specialization” in a sector. Specialization occurs when based on macro employment distribution, in this case national, the local jurisdiction employs more people than needed to meet local demands.

A local economy that employs a higher percent of one sector than the national percent generates activity that is used outside of the jurisdiction and thereby exports goods and imports payment for those goods. Employment that generates exports is often referred to as “base employment” that brings monetary assets into the community. However, employment that does not produce a level of goods and services sufficient to meet local demand creates a net import sector. A net import sector leaks monetary value to providers outside of the jurisdiction. Understanding the dynamics of base employment through location quotients provides guidance for targeted diversification of businesses to minimize leaking dollars to businesses outside the jurisdiction. Employment sectors with a location quotient of 1.00 meet local needs. A location quotient less than 1.00 is a net importer while quotients over 1.00 are net exporters.

#### 1. Farm

Carroll County’s farming sector represents an area of specialization for Carroll County. This is common for rural counties that continue to have viable agricultural operations. **Exhibit 49** shows that the degree of specialization in farming increased from 1990 to 2000, and is expected to continue increasing as the national economic base moves from agriculture to other sectors. In contrast, Georgia is expected to continue a declining trend in agriculture share of employment. As a percent of employment, farm employment will continue to decline into the foreseeable future (**Exhibit 50**).

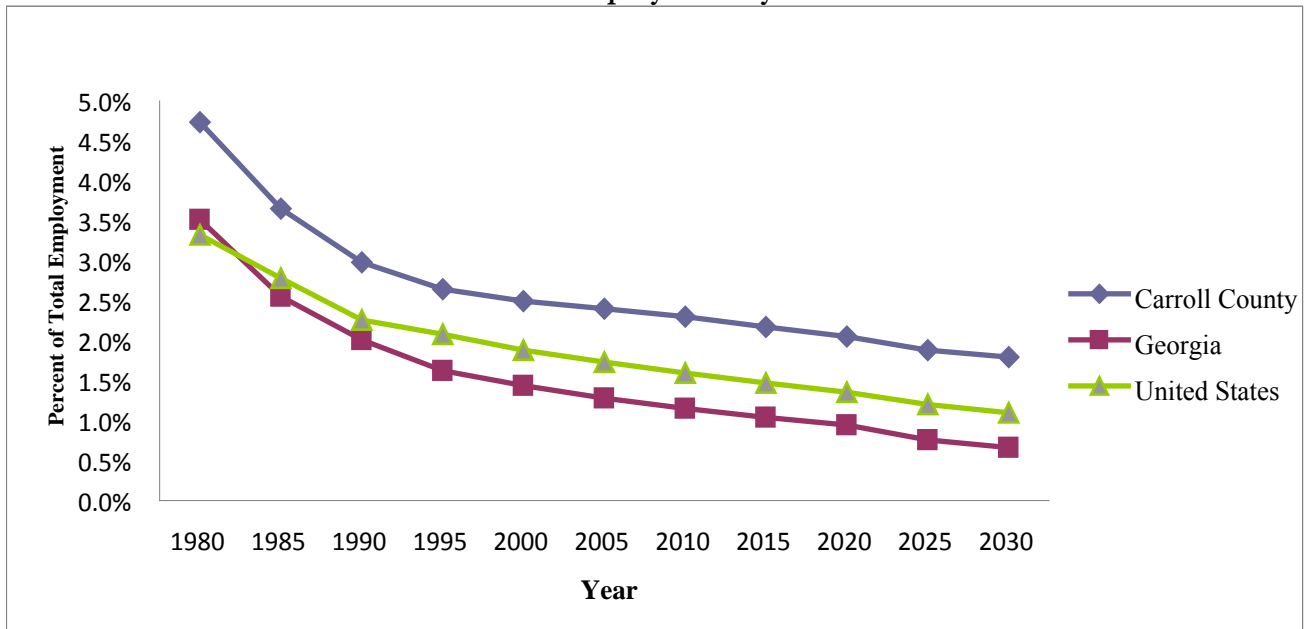
**Exhibit 49: Farm Sector Location Quotients (1980-2020)**

Year	Carroll County			Georgia			United States	
	Sector Employment	Total Employment	Location Quotient	Sector Employment	Total Employment	Location Quotient	Sector Employment	Total Employment
1980	1,240	26,180	1.425	96,559	2,747,311	1.057	3,798,000	114,231,182
1985	1,146	31,361	1.313	82,370	3,224,299	0.918	3,466,000	124,511,691
1990	1,060	35,550	1.319	74,286	3,690,605	0.890	3,153,000	139,426,897
1995	1,010	38,180	1.272	68,780	4,229,292	0.782	3,106,000	149,358,792
2000	1,030	41,240	1.326	69,546	4,840,483	0.763	3,131,696	166,323,450
2005	1,162	48,378	1.385	67,121	5,238,962	0.739	3,075,296	177,306,786
2010	1,264	54,914	1.441	64,740	5,625,704	0.720	3,003,267	187,986,707
2015	1,334	61,411	1.476	62,543	6,012,137	0.707	2,929,665	199,015,385
2020	1,416	68,974	1.513	60,511	6,389,771	0.698	2,854,502	210,360,566
2025	1,337	70,986	1.569	53,126	6,984,276	0.634	2,692,506	224,260,403
2030	1,367	76,157	1.635	49,386	7,447,829	0.604	2,597,286	236,478,674

Source: Planning Works with data from Woods & Poole Economics, Inc. and Carroll Tomorrow. Update by PRISM Associates.



**Exhibit 50: Farm Employment by Percent**



Source: Planning Works with data from Woods & Poole Economics, Inc. and Carroll Tomorrow. Update by PRISM Associates

**Exhibit 51: Farm Sector Earnings (1990-2030)**

*In Thousands of Dollars*

Year	Carroll County		Georgia	
	Sector Earnings	Total Earnings	Sector Earnings	Total Earnings
1990	\$15,026	\$717,937	\$1,256,531	\$91,991,463
1995	\$20,737	\$910,341	\$1,783,509	\$126,914,210
2000	\$24,179	\$1,193,508	\$1,649,623	\$187,034,834
2005	\$28,218	\$1,392,855	\$1,762,302	\$199,810,399
2010	\$31,738	\$1,566,640	\$1,848,444	\$209,577,224
2015	\$35,945	\$1,774,315	\$1,927,177	\$218,504,044
2020	\$40,152	\$1,981,977	\$2,000,898	\$226,862,549
2025	\$44,193	\$2,204,396	\$2,135,392	\$267,290,006
2030	\$48,241	\$2,414,868	\$2,232,508	\$289,087,695

Source: 1990 – 2000 data from the Bureau of Economic Analysis; projections through 2020 by Planning Works, projections from 2020 through 2030 by PRISM Associates.

**2. Agricultural Services**

Agricultural Support Services constitutes a small economic sector in terms of employment, but is vital to continued agricultural viability. Both the County and the State are projected to experience increased specialization in agriculture services, although both jurisdictions lag behind the nation (**Exhibit 52**). **Exhibit 53** indicates that as a percent of total employment the agricultural services sector has increased and is anticipated to increase into the future. However, agriculture service is a small employment sector and may comprise only 1% of Carroll County employment by 2030.

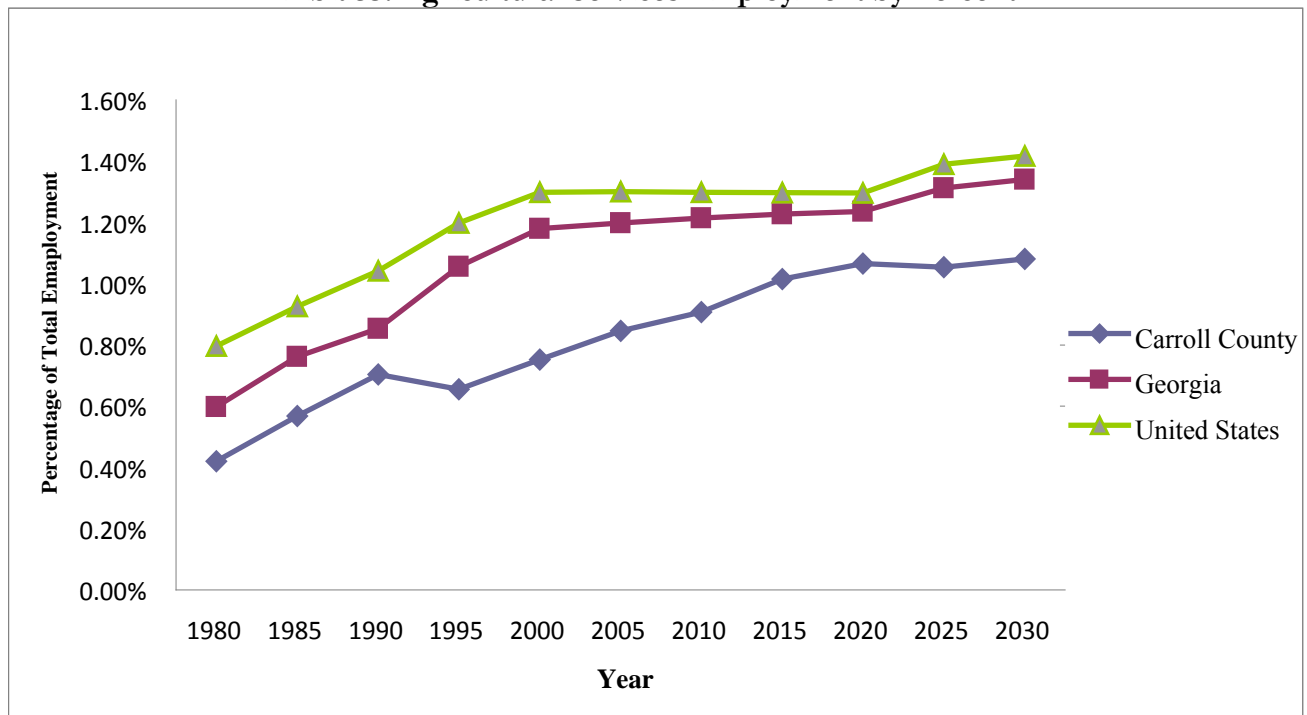


**Exhibit 52: Agricultural Services Sector Location Quotients (1980-2030)**

Year	Carroll County			Georgia			United States	
	Sector Employment	Total Employment	Location Quotient	Sector Employment	Total Employment	Location Quotient	Sector Employment	Total Employment
1980	110	26,180	0.528	16,434	2,747,311	0.752	908,982	114,231,182
1985	178	31,361	0.613	24,573	3,224,299	0.823	1,152,316	124,511,691
1990	250	35,550	0.675	31,486	3,690,605	0.819	1,452,957	139,426,897
1995	250	38,180	0.547	44,651	4,229,292	0.881	1,789,107	149,358,792
2000	310	41,240	0.579	57,115	4,840,483	0.909	2,159,004	166,323,450
2005	409	48,378	0.650	62,770	5,238,962	0.922	2,305,172	177,306,786
2010	498	54,914	0.699	68,304	5,625,704	0.935	2,440,481	187,986,707
2015	623	61,411	0.782	73,749	6,012,137	0.946	2,580,785	199,015,385
2020	735	68,974	0.822	78,946	6,389,771	0.953	2,726,195	210,360,566
2025	748	70,986	0.758	91,670	6,984,276	0.944	3,116,559	224,260,403
2030	823	76,157	0.762	99,825	7,447,829	0.946	3,350,648	236,478,674

Source: Planning Works with data from Woods & Poole Economics, Inc and Carroll Tomorrow. Update by PRISM Associates.

**Exhibit 53: Agricultural Services Employment by Percent**



Source: Planning Works with data from Woods & Poole Economics, Inc and Carroll Tomorrow. Update by PRISM Associates.



**Exhibit 54: Agricultural Services Sector Earnings (1990-2030)**

*In Thousands of Dollars*

Year	Carroll County		Georgia	
	Sector Earnings	Total Earnings	Sector Earnings	Total Earnings
1990	\$2,744	\$717,937	\$436,323	\$91,991,463
1995	*	\$910,341	\$692,436	\$126,914,210
2000	*	\$1,193,508	\$1,103,942	\$187,034,834
2005		\$1,392,855	\$1,179,348	\$199,810,399
2010		\$1,566,640	\$1,236,995	\$209,577,224
2015		\$1,774,315	\$1,289,684	\$218,504,044
2020		\$1,981,977	\$1,339,018	\$226,862,549
2025		\$2,204,396	\$1,616,197	\$267,290,006
2030		\$2,414,868	\$1,760,327	\$289,087,695

Source: 1990 – 2000 data from the Bureau of Economic Analysis; projections through 2020 by Planning Work, projections from 2020 through 2030 by PRISM Associates. \* indicates years for which the BEA does not provide information to avoid disclosure of confidential information. Estimates are included in the total earnings. Due to the absence of this data, projections are not available.

**3. Mining**

Mining activities are highly mechanized and employ small numbers of people. Location quotients in **Exhibit 55** demonstrate that there is no regional specialization in mining activity for either Carroll County or Georgia. Mining is and will continue to be the smallest employment sector with less than 0.2% of the total employment in Carroll County (**Exhibit 56**).

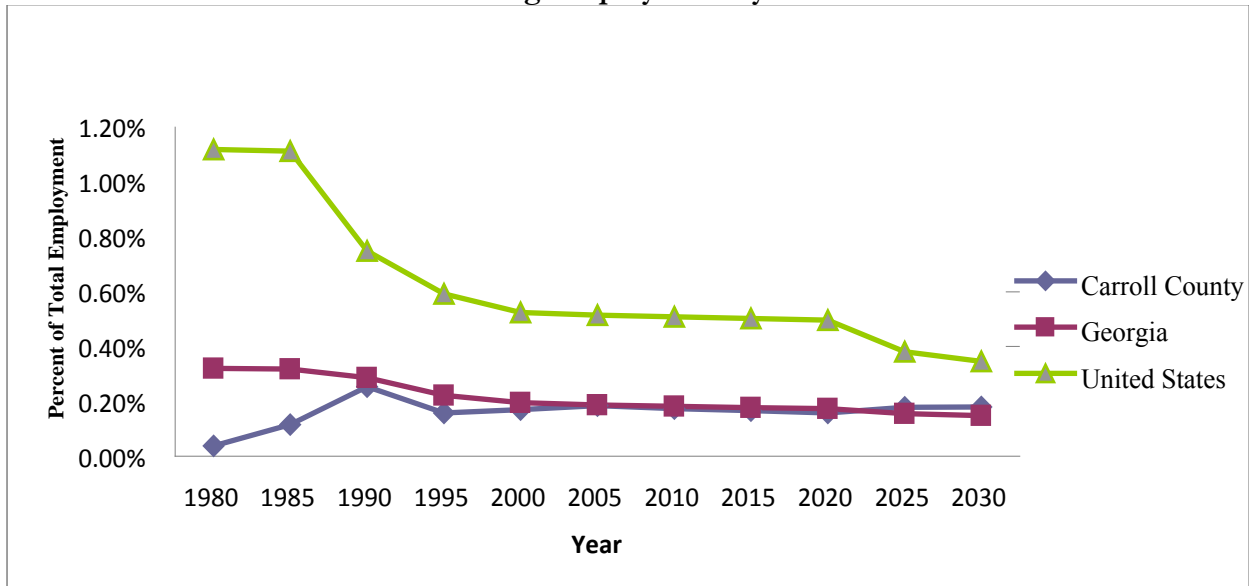
**Exhibit 55: Mining Sector Location Quotients (1990-2030)**

Year	Carroll County			Georgia			United States	
	Sector Employment	Total Employment	Location Quotient	Sector Employment	Total Employment	Location Quotient	Sector Employment	Total Employment
1980	10	26,180	0.034	8,808	2,747,311	0.287	1,277,594	114,231,182
1985	36	31,361	0.103	10,239	3,224,299	0.285	1,385,001	124,511,691
1990	90	35,550	0.338	10,589	3,690,605	0.383	1,044,094	139,426,897
1995	60	38,180	0.266	9,412	4,229,292	0.376	883,863	149,358,792
2000	70	41,240	0.324	9,462	4,840,483	0.373	871,795	166,323,450
2005	89	48,378	0.357	9,794	5,238,962	0.363	913,230	177,306,786
2010	95	54,914	0.340	10,205	5,625,704	0.357	955,650	187,986,707
2015	102	61,411	0.331	10,638	6,012,137	0.353	998,956	199,015,385
2020	109	68,974	0.319	11,094	6,389,771	0.350	1,043,146	210,360,566
2025	126	70,986	0.467	10,856	6,984,276	0.408	854,527	224,260,403
2030	137	76,157	0.520	11,022	7,447,829	0.428	817,136	236,478,674

Source: Planning Works with data from Woods & Poole Economics, Inc. and Carroll Tomorrow. Update by PRISM Associates



**Exhibit 56: Mining Employment by Percent**



Source: Planning Works with data from Woods & Poole Economics, Inc. and Carroll Tomorrow. Update by PRISM Associates

**Exhibit 57: Mining Sector Earnings (1990-2030)**

*In Thousands of Dollars*

Year	Carroll County		Georgia	
	Sector Earnings	Total Earnings	Sector Earnings	Total Earnings
1990	\$1,013	\$717,937	\$342,417	\$91,991,463
1995	*	\$910,341	\$376,105	\$126,914,210
2000	*	\$1,193,508	\$481,249	\$187,034,834
2005		\$1,392,855	\$514,121	\$199,810,399
2010		\$1,566,640	\$539,252	\$209,577,224
2015		\$1,774,315	\$562,221	\$218,504,044
2020		\$1,981,977	\$583,727	\$226,862,549
2025		\$2,204,396	\$650,465	\$267,290,006
2030		\$2,414,868	\$691,685	\$289,087,695

Source: 1990 – 2000 data from the Bureau of Economic Analysis; projections through 2020 by Planning Works, projections from 2020 through 2030 by PRISM Associates. \* indicates years for which the BEA does not provide information to avoid disclosure of confidential information. Estimates are included in the total earnings. Due to the absence of this data, projections are not available.

#### 4. **Construction**

Georgia and Carroll County have slight specialization in the construction industry demonstrated by the location quotients in **Exhibit 58**. Carroll County shows stronger specialization than Georgia. This reflects the burgeoning construction in metropolitan Atlanta. Construction employment as a percent of total employment is projected to decrease while total employment in this sector is projected to increase (**Exhibit 59**).

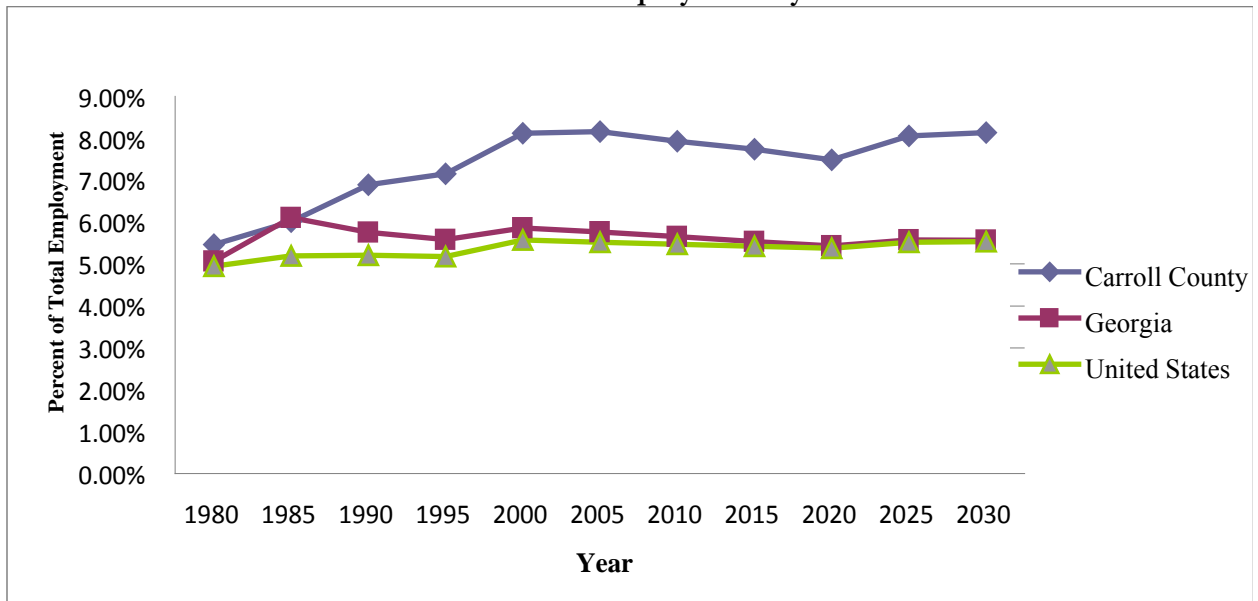


**Exhibit 58: Construction Sector Location Quotients (1990-2030)**

Year	Carroll County			Georgia			United States	
	Sector Employment	Total Employment	Location Quotient	Sector Employment	Total Employment	Location Quotient	Sector Employment	Total Employment
1980	1,430	26,180	1.104	139,233	2,747,311	1.024	5,654,198	114,231,182
1985	1,885	31,361	1.158	196,914	3,224,299	1.176	6,465,524	124,511,691
1990	2,450	35,550	1.323	212,342	3,690,605	1.105	7,260,787	139,426,897
1995	2,730	38,180	1.381	236,158	4,229,292	1.079	7,731,499	149,358,792
2000	3,350	41,240	1.458	283,499	4,840,483	1.051	9,267,868	166,323,450
2005	3,949	48,378	1.478	301,977	5,238,962	1.044	9,791,426	177,306,786
2010	4,353	54,914	1.449	317,994	5,625,704	1.033	10,284,436	187,986,707
2015	4,752	61,411	1.427	332,881	6,012,137	1.021	10,790,084	199,015,385
2020	5,161	68,974	1.392	347,199	6,389,771	1.011	11,307,827	210,360,566
2025	5,719	70,986	1.461	389,540	6,984,276	1.011	12,369,468	224,260,403
2030	6,195	76,157	1.469	414,822	7,447,829	1.006	13,097,725	236,478,674

Source: Planning Works with data from Woods & Poole Economics, Inc. and Carroll Tomorrow. Update by PRISM Associates

**Exhibit 59: Construction Employment by Percent**



Source: Planning Works with data from Woods & Poole Economics, Inc. and Carroll Tomorrow. Update by PRISM Associates





**Exhibit 60: Construction Sector Earnings (1990-2030)**

*In Thousands of Dollars*

Year	Carroll County		Georgia	
	Sector Earnings	Total Earnings	Sector Earnings	Total Earnings
1990	\$57,621	\$717,937	\$5,338,373	\$91,991,463
1995	\$70,991	\$910,341	\$6,690,996	\$126,914,210
2000	\$109,141	\$1,193,508	\$10,917,046	\$187,034,834
2005	\$28,218	\$1,392,855	\$11,662,744	\$199,810,399
2010	\$127,370	\$1,566,640	\$12,232,824	\$209,577,224
2015	\$143,262	\$1,774,315	\$12,753,874	\$218,504,044
2020	\$181,243	\$1,981,977	\$13,241,752	\$226,862,549
2025	\$178,783	\$2,204,396	\$15,712,754	\$267,290,006
2030	\$197,842	\$2,414,868	\$17,039,600	\$289,087,695

Source: 1990 – 2000 data from the Bureau of Economic Analysis; projections through 2020 by Planning Works, projections from 2020 through 2030 by PRISM Associates

**5. Manufacturing**

Carroll County is projected to continue its significant specialization in manufacturing activities, although the degree of specialization is expected to moderate over time (**Exhibit 61**). Within the nation, Georgia is slightly specialized in manufacturing. In the “Carroll County Profile of Target Business Clusters”, *Market Street Services, Inc.* notes that the highest specialization is in the metal industry. **Exhibit 62** shows that in Carroll County, the percent of employment in manufacturing far exceeded that of the State and nation. While manufacturing employment is projected to remain relatively consistent, it will decrease as a percentage of all employment.

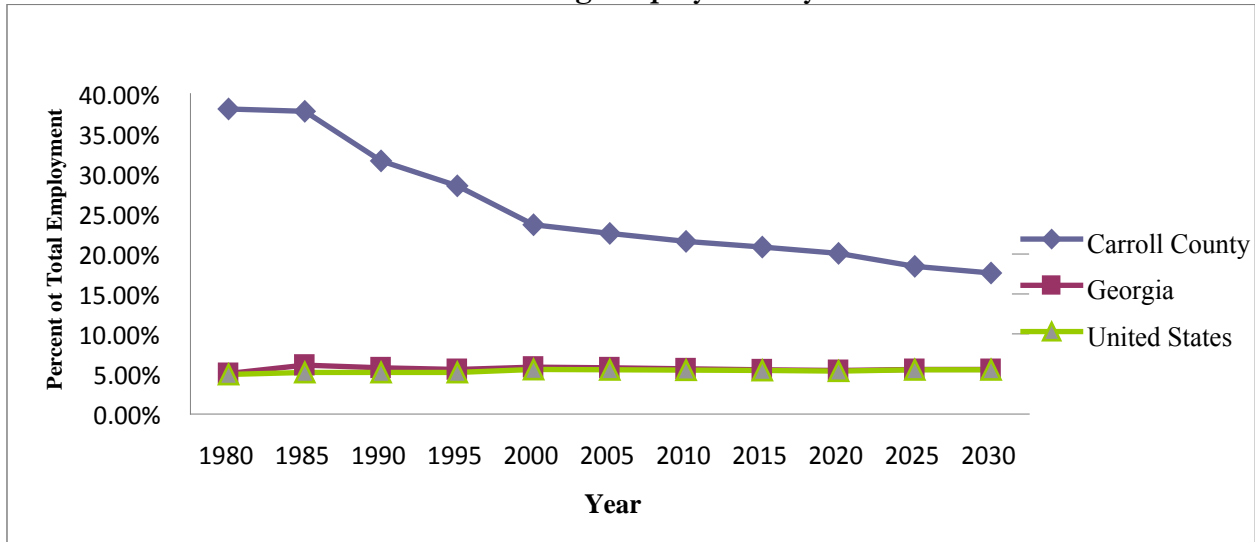
**Exhibit 61: Manufacturing Sector Location Quotients (1990-2030)**

Year	Carroll County			Georgia			United States	
	Sector Employment	Total Employment	Location Quotient	Sector Employment	Total Employment	Location Quotient	Sector Employment	Total Employment
1980	9,970	26,180	7.694	139,233	2,747,311	1.024	5,654,198	114,231,182
1985	11,858	31,361	7.282	196,914	3,224,299	1.176	6,465,524	124,511,691
1990	11,230	35,550	6.066	212,342	3,690,605	1.105	7,260,787	139,426,897
1995	10,880	38,180	5.505	236,158	4,229,292	1.079	7,731,499	149,358,792
2000	9,750	41,240	4.243	283,499	4,840,483	1.051	9,267,868	166,323,450
2005	10,908	48,378	4.083	301,977	5,238,962	1.044	9,791,426	177,306,786
2010	11,838	54,914	3.940	317,994	5,625,704	1.033	10,284,436	187,986,707
2015	12,795	61,411	3.843	332,881	6,012,137	1.021	10,790,084	199,015,385
2020	13,836	68,974	3.732	347,199	6,389,771	1.011	11,307,827	210,360,566
2025	13,078	70,986	3.340	389,540	6,984,276	1.011	12,369,468	224,260,403
2030	13,404	76,157	3.178	414,822	7,447,829	1.006	13,097,725	236,478,674

Source: Planning Works with data from Woods & Poole Economics, Inc. and Carroll Tomorrow. Update by PRISM Associates



**Exhibit 62: Manufacturing Employment by Percent**



Source: Planning Works with data from Woods & Poole Economics, Inc. and Carroll Tomorrow. Update by PRISM Associates

**Exhibit 63: Manufacturing Sector Earnings (1990-2030)**

*In Thousands of Dollars*

Year	Carroll County		Georgia	
	Sector Earnings	Total Earnings	Sector Earnings	Total Earnings
1990	\$274,071	\$717,937	\$16,240,724	\$91,991,463
1995	\$326,558	\$910,341	\$21,665,880	\$126,914,210
2000	\$349,215	\$1,193,508	\$27,638,545	\$187,034,834
2005	\$407,543	\$1,392,855	\$29,526,418	\$199,810,399
2010	\$458,392	\$1,566,640	\$30,969,683	\$209,577,224
2015	\$519,157	\$1,774,315	\$32,288,819	\$218,504,044
2020	\$579,917	\$1,981,977	\$33,523,973	\$226,862,549
2025	\$618,109	\$2,204,396	\$38,325,829	\$267,290,006
2030	\$668,535	\$2,414,868	\$41,055,357	\$289,087,695

Source: 1990 – 2000 data from the Bureau of Economic Analysis; projections through 2020 by Planning Works, projections from 2020 through 2030 by PRISM Associates.

**6. Transportation, Communications & Utilities**

Within the nation, Georgia has a degree of specialization in the transportation, communications and utilities industries (**Exhibit 64**). Carroll County does not exhibit specialization in these industries (**Exhibit 65**).

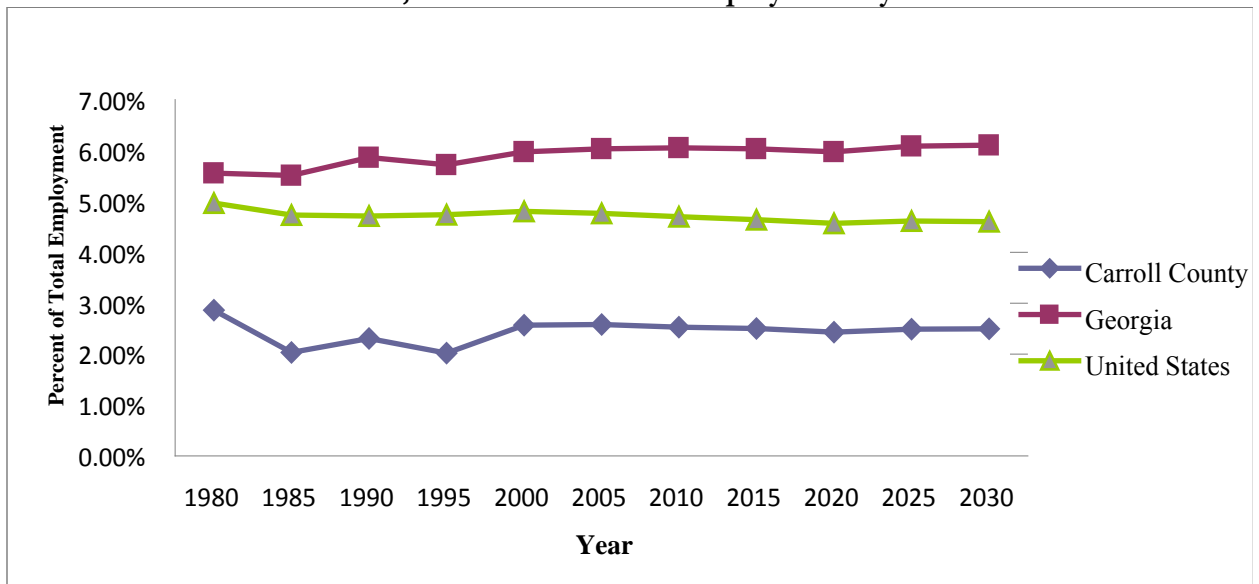


**Exhibit 64: Trans., Comm. & Utilities Sector Location Quotients (1990-2030)**

Year	Carroll County			Georgia			United States	
	Sector Employment	Total Employment	Location Quotient	Sector Employment	Total Employment	Location Quotient	Sector Employment	Total Employment
1980	750	26,180	0.577	152,581	2,747,311	1.118	5,672,108	114,231,182
1985	638	31,361	0.430	177,746	3,224,299	1.164	5,894,887	124,511,691
1990	820	35,550	0.490	216,342	3,690,605	1.244	6,568,611	139,426,897
1995	770	38,180	0.426	241,887	4,229,292	1.207	7,076,213	149,358,792
2000	1060	41,240	0.535	289,253	4,840,483	1.243	7,994,497	166,323,450
2005	1250	48,378	0.542	316,153	5,238,962	1.267	8,445,760	177,306,786
2010	1388	54,914	0.538	340,455	5,625,704	1.287	8,839,047	187,986,707
2015	1537	61,411	0.540	362,618	6,012,137	1.300	9,229,926	199,015,385
2020	1675	68,974	0.531	381,543	6,389,771	1.306	9,616,329	210,360,566
2025	1766	70,986	0.539	424,811	6,984,276	1.319	10,345,188	224,260,403
2030	1900	76,157	0.543	454,693	7,447,829	1.328	10,873,395	236,478,674

Source: Planning Works with data from Woods & Poole Economics, Inc. and Carroll Tomorrow. Update by PRISM Associates

**Exhibit 65: Trans., Comm. & Utilities Employment by Percent**



Source: Planning Works with data from Woods & Poole Economics, Inc. and Carroll Tomorrow. Update by PRISM Associates



**Exhibit 66: Trans., Comm. & Utilities Sector Earnings (1990-2030)**

*In Thousands of Dollars*

Year	Carroll County		Georgia	
	Sector Earnings	Total Earnings	Sector Earnings	Total Earnings
1990	\$23,802	\$717,937	\$8,121,923	\$91,991,463
1995	\$26,308	\$910,341	\$12,198,635	\$126,914,210
2000	\$46,813	\$1,193,508	\$18,682,979	\$187,034,834
2005	\$54,632	\$1,392,855	\$19,959,135	\$199,810,399
2010	\$61,448	\$1,566,640	\$20,934,747	\$209,577,224
2015	\$69,594	\$1,774,315	\$21,826,450	\$218,504,044
2020	\$77,739	\$1,981,977	\$22,661,384	\$226,862,549
2025	\$89,051	\$2,204,396	\$27,073,005	\$267,290,006
2030	\$98,444	\$2,414,868	\$29,398,926	\$289,087,695

*Source: 1990 – 2000 data from the Bureau of Economic Analysis; projections through 2020 by Planning Works, projections from 2020 through 2030 by PRISM Associates.*

**7. Wholesale Trade**

**Exhibit 67** shows that Georgia has a regional specialization in the wholesale trade sector of the economy while Carroll County does not contribute the State’s prominence of this field. Projections indicate that as Georgia continues to specialize, Carroll County will contribute to the trend although wholesale trade in Carroll County will not be a significant employer relative to the manufacturing sector. **Exhibit 68** illustrates that only modest growth in this sector is projected for Carroll County.

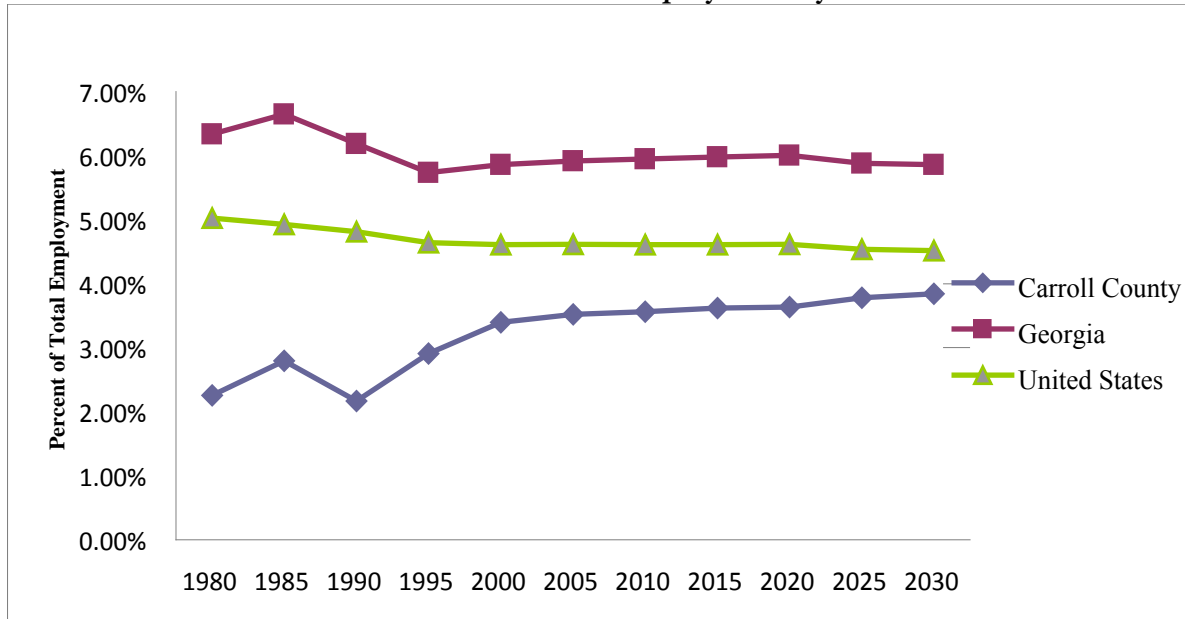
**Exhibit 67: Wholesale Trade Sector Location Quotients (1990-2030)**

Year	Carroll County			Georgia			United States	
	Sector Employment	Total Employment	Location Quotient	Sector Employment	Total Employment	Location Quotient	Sector Employment	Total Employment
1980	590	26,180	0.448	174,084	2,747,311	1.261	5,741,685	114,231,182
1985	877	31,361	0.567	214,310	3,224,299	1.349	6,136,100	124,511,691
1990	770	35,550	0.450	228,213	3,690,605	1.285	6,711,500	139,426,897
1995	1,110	38,180	0.627	242,507	4,229,292	1.236	6,930,511	149,358,792
2000	1,400	41,240	0.737	283,542	4,840,483	1.271	7,664,629	166,323,450
2005	1,704	48,378	0.763	310,031	5,238,962	1.282	8,183,406	177,306,786
2010	1,957	54,914	0.773	334,712	5,625,704	1.290	8,668,602	187,986,707
2015	2,224	61,411	0.785	359,428	6,012,137	1.296	9,177,403	199,015,385
2020	2,506	68,974	0.787	383,515	6,389,771	1.300	9,710,598	210,360,566
2025	2,683	70,986	0.833	410,616	6,984,276	1.296	10,172,159	224,260,403
2030	2,927	76,157	0.851	436,509	7,447,829	1.298	10,674,936	236,478,674

*Source: Planning Works with data from Woods & Poole Economics, Inc and Carroll Tomorrow. Update by PRISM Associates*



**Exhibit 68: Wholesale Trade Employment by Percent**



Source: Planning Works with data from Woods & Poole Economics, Inc. and Carroll Tomorrow. Update by PRISM Associates

**Exhibit 69: Wholesale Trade Sector Earnings (1990-2030)**

*In Thousands of Dollars*

Year	Carroll County		Georgia	
	Sector Earnings	Total Earnings	Sector Earnings	Total Earnings
1990	\$21,249	\$717,937	\$8,240,264	\$91,991,463
1995	\$31,043	\$910,341	\$10,436,625	\$126,914,210
2000	\$47,483	\$1,193,508	\$16,206,907	\$187,034,834
2005	\$55,414	\$1,392,855	\$17,313,933	\$199,810,399
2010	\$62,328	\$1,566,640	\$18,160,246	\$209,577,224
2015	\$70,590	\$1,774,315	\$18,933,771	\$218,504,044
2020	\$78,852	\$1,981,977	\$19,658,051	\$226,862,549
2025	\$90,530	\$2,204,396	\$23,164,398	\$267,290,006
2030	\$100,056	\$2,414,868	\$25,064,434	\$289,087,695

Source: 1990 – 2000 data from the Bureau of Economic Analysis; projections through 2020 by Planning Works, projections from 2020 through 2030 by PRISM Associates.

**8. Retail Trade**

Carroll County’s and Georgia’s retail trade sectors are comparable to that of the nation, therefore no significant specialization currently exists in the two jurisdictions (**Exhibit 70**). This indicates that local needs are being sufficiently met by local economic activity within Carroll County. However, Carroll County is projected to become increasingly specialized in this sector. Retail trade employment as a percent of total employment is projected to increase within the County. (**Exhibit 71**).

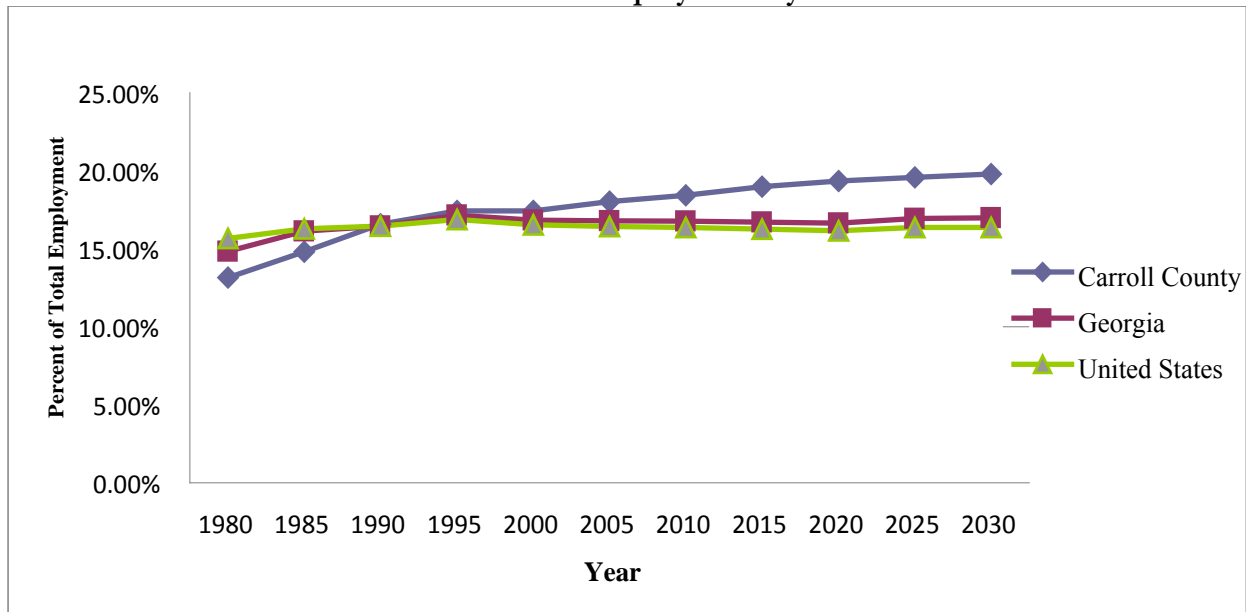


**Exhibit 70: Retail Trade Sector Location Quotients (1980-2030)**

Year	Carroll County			Georgia			United States	
	Sector Employment	Total Employment	Location Quotient	Sector Employment	Total Employment	Location Quotient	Sector Employment	Total Employment
1980	3,440	26,180	0.839	407,627	2,747,311	0.948	17,883,900	114,231,182
1985	4,644	31,361	0.910	520,232	3,224,299	0.992	20,261,800	124,511,691
1990	5,890	35,550	1.008	606,608	3,690,605	1.000	22,920,508	139,426,897
1995	6,650	38,180	1.032	724,947	4,229,292	1.016	25,204,235	149,358,792
2000	7,190	41,250	1.055	814,714	4,840,483	1.018	27,487,436	166,323,450
2005	8,717	48,378	1.096	879,669	5,238,962	1.022	29,138,522	177,306,786
2010	10,118	54,914	1.127	943,043	5,625,704	1.025	30,744,072	187,986,707
2015	11,652	61,411	1.167	1,004,768	6,012,137	1.028	32,353,943	199,015,385
2020	13,345	68,974	1.198	1,063,098	6,389,771	1.031	33,959,691	210,360,566
2025	13,891	70,987	1.197	1,182,447	6,984,276	1.035	36,674,985	224,260,403
2030	15,077	76,158	1.210	1,264,165	7,447,829	1.038	38,677,668	236,478,674

Source: Planning Works with data from Woods & Poole Economics, Inc. and Carroll Tomorrow. Update by PRISM Associates

**Exhibit 71: Retail Trade Employment by Percent**



Source: Planning Works with data from Woods & Poole Economics, Inc. and Carroll Tomorrow. Update by PRISM Associates



**Exhibit 72: Retail Trade Sector Earnings (1990-2030)**

*In Thousands of Dollars*

Year	Carroll County		Georgia	
	Sector Earnings	Total Earnings	Sector Earnings	Total Earnings
1990	\$70,489	\$717,937	\$8,467,542	\$91,991,463
1995	\$90,936	\$910,341	\$11,479,924	\$126,914,210
2000	\$120,478	\$1,193,508	\$16,409,688	\$187,034,834
2005	\$140,601	\$1,392,855	\$17,530,565	\$199,810,399
2010	\$158,144	\$1,566,640	\$18,387,467	\$209,577,224
2015	\$179,107	\$1,774,315	\$19,170,671	\$218,504,044
2020	\$200,070	\$1,981,977	\$19,904,012	\$226,862,549
2025	\$223,225	\$2,204,396	\$23,288,365	\$267,290,006
2030	\$244,752	\$2,414,868	\$25,133,675	\$289,087,695

*Source: 1990 – 2000 data from the Bureau of Economic Analysis; projections through 2020 by Planning Works, projections from 2020 through 2030 by PRISM Associates.*

**9. Finance, Insurance & Real Estate (FIRE)**

The FIRE sector does not represent a specialization for either the County or Georgia (**Exhibit 73**). Historic, current and projected location quotients for Carroll County range between 0.608 and 0.725 while Georgia’s range from 0.821 to 0.949. Projections suggest modest increase in FIRE sector employment in Georgia and a minor decline in Carroll County (**Exhibit 74**).

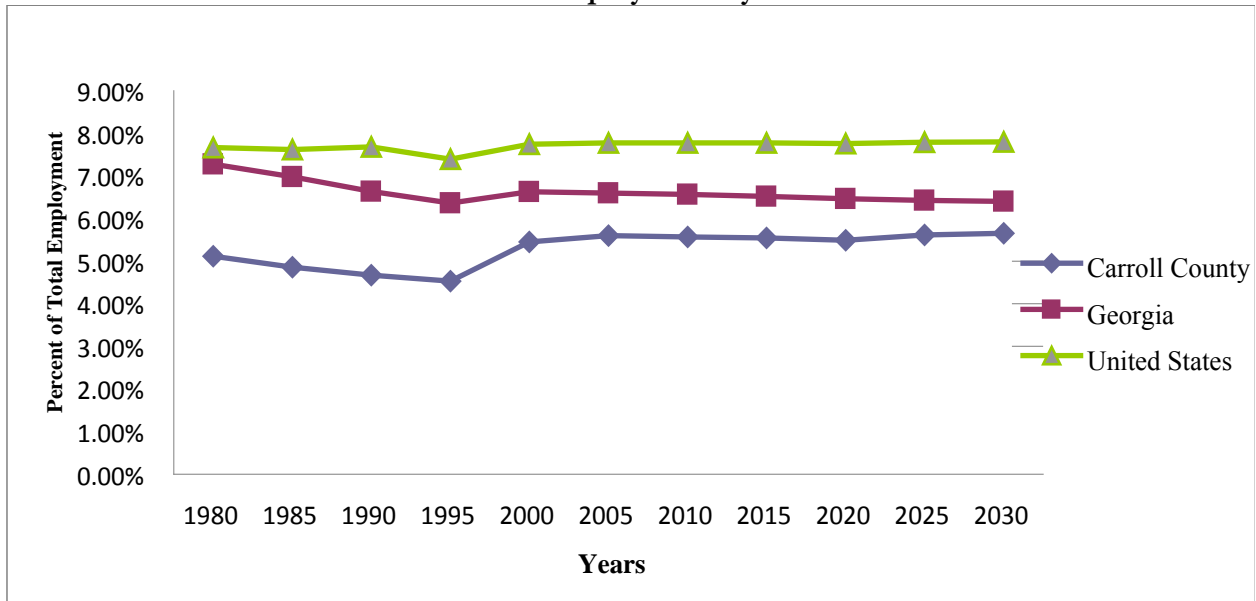
**Exhibit 73: FIRE Sector Location Quotients (1990-2030)**

Year	Carroll County			Georgia			United States	
	Sector Employment	Total Employment	Location Quotient	Sector Employment	Total Employment	Location Quotient	Sector Employment	Total Employment
1980	1,340	26,180	0.668	199,886	2,747,311	0.949	8,756,005	114,231,182
1985	1,523	31,361	0.637	225,090	3,224,299	0.916	9,491,991	124,511,691
1990	1,660	35,550	0.608	244,947	3,690,605	0.864	10,712,601	139,426,897
1995	1,730	38,180	0.613	269,180	4,229,292	0.861	11,037,790	149,358,792
2000	2,250	41,250	0.705	320,807	4,840,483	0.856	12,876,552	166,323,450
2005	2,710	48,378	0.721	345,677	5,238,962	0.849	13,784,144	177,306,786
2010	3,060	54,914	0.716	369,400	5,625,704	0.844	14,622,396	187,986,707
2015	3,405	61,411	0.713	392,111	6,012,137	0.839	15,471,643	199,015,385
2020	3,786	68,974	0.707	413,052	6,389,771	0.833	16,327,918	210,360,566
2025	3,986	70,987	0.721	448,833	6,984,276	0.825	17,463,939	224,260,403
2030	4,306	76,158	0.725	476,819	7,447,829	0.821	18,443,815	236,478,674

*Source: Planning Works with data from Woods & Poole Economics, Inc. and Carroll Tomorrow. Update by PRISM Associates*



**Exhibit 74: FIRE Employment by Percent**



Source: Planning Works with data from Woods & Poole Economics, Inc. and Carroll Tomorrow. Update by PRISM Associates

**Exhibit 75: FIRE Sector Earnings (1990-2030)**

*In Thousands of Dollars*

Year	Carroll County		Georgia	
	Sector Earnings	Total Earnings	Sector Earnings	Total Earnings
1990	\$23,892	\$717,937	\$5,729,450	\$91,991,463
1995	\$35,611	\$910,341	\$8,665,193	\$126,914,210
2000	\$44,342	\$1,193,508	\$14,493,039	\$187,034,834
2005	\$51,748	\$1,392,855	\$15,482,998	\$199,810,399
2010	\$58,205	\$1,566,640	\$16,239,814	\$209,577,224
2015	\$65,921	\$1,774,315	\$16,931,539	\$218,504,044
2020	\$73,636	\$1,981,977	\$17,579,227	\$226,862,549
2025	\$82,439	\$2,204,396	\$21,278,580	\$267,290,006
2030	\$90,428	\$2,414,868	\$23,201,037	\$289,087,695

Source: 1990 – 2000 data from the Bureau of Economic Analysis; projections through 2020 by Planning Works, projections from 2020 through 2030 by PRISM Associates.

**10. Service**

According to location quotient analysis of service sector employment (**Exhibit 76**), Georgia will gravitate towards service self-sufficiency. Carroll County is a net importer of services and it is anticipated that the amount of imports will slightly increase over the next 20 years. The global trend towards a service-based economy is reflected in the historic, current and projected growth in service industry employment (**Exhibit 77**). Service employment in Carroll County is expected to comprise 26% of total employment by 2030.



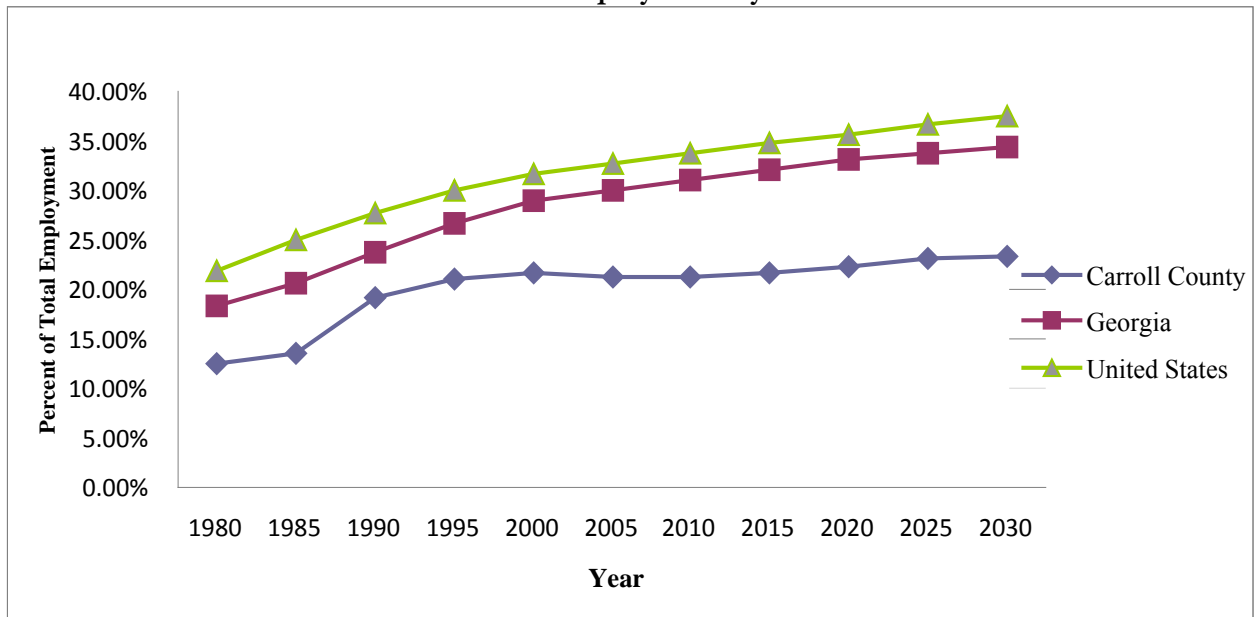


Exhibit 76: Service Sector Location Quotients (1990-2030)

Year	Carroll County			Georgia			United States	
	Sector Employment	Total Employment	Location Quotient	Sector Employment	Total Employment	Location Quotient	Sector Employment	Total Employment
1980	3,260	26,180	0.569	502,840	2,747,311	0.836	24,999,605	114,231,182
1985	4,231	31,361	0.538	664,478	3,224,299	0.821	31,241,473	124,511,691
1990	6,830	35,550	0.692	876,598	3,690,605	0.856	38,709,648	139,426,897
1995	8,070	38,180	0.705	1,125,366	4,229,292	0.888	44,768,272	149,358,792
2000	8,960	41,240	0.686	1,397,841	4,840,483	0.912	52,669,141	166,323,450
2005	10,322	48,378	0.652	1,570,648	5,238,962	0.916	58,051,723	177,306,786
2010	11,684	54,914	0.631	1,744,107	5,625,704	0.919	63,428,235	187,986,707
2015	13,316	61,411	0.625	1,926,018	6,012,137	0.923	69,055,428	199,015,385
2020	15,306	68,974	0.623	2,112,872	6,389,771	0.929	74,913,490	210,360,566
2025	16,392	70,986	0.630	2,358,284	6,984,276	0.921	82,188,949	224,260,403
2030	17,849	76,157	0.627	2,565,035	7,447,829	0.921	88,452,582	236,478,674

Source: Planning Works with data from Woods & Poole Economics, Inc. and Carroll Tomorrow. Update by PRISM Associates

Exhibit 77: Service Employment by Percent



Source: Planning Works with data from Woods & Poole Economics, Inc. and Carroll Tomorrow. Update by PRISM Associates



**Exhibit 78: Service Sector Earnings (1990-2030)**

*In Thousands of Dollars*

Year	Carroll County		Georgia	
	Sector Earnings	Total Earnings	Sector Earnings	Total Earnings
1990	\$119,147	\$717,937	\$20,057,280	\$91,991,463
1995	\$167,001	\$910,341	\$30,485,258	\$126,914,210
2000	\$241,885	\$1,193,508	\$50,924,609	\$187,034,834
2005	\$282,286	\$1,392,855	\$54,403,055	\$199,810,399
2010	\$317,507	\$1,566,640	\$57,062,302	\$209,577,224
2015	\$359,596	\$1,774,315	\$59,492,838	\$218,504,044
2020	\$401,682	\$1,981,977	\$61,768,636	\$226,862,549
2025	\$456,789	\$2,204,396	\$74,782,986	\$267,290,006
2030	\$503,518	\$2,414,868	\$81,543,233	\$289,087,695

*Source: 1990 – 2000 data from the Bureau of Economic Analysis; projections through 2020 by Planning Works, projections from 2020 through 2030 by PRISM Associates.*

**11. Federal Civilian Government**

While Georgia has a slight specialization in federal civilian fields, Carroll County is a net importer of services provided by the federal civilian workforce (**Exhibit 79**). Unless a local jurisdiction hosts federal installations, offices and functions with a regional, national or international mission, federal civilian employment is limited to local domestic administrative functions. **Exhibit 80** illustrates that Carroll County does not host federal civilian functions beyond those used directly by local populations. Total federal civilian employment is projected to fall as a percent of all employment.

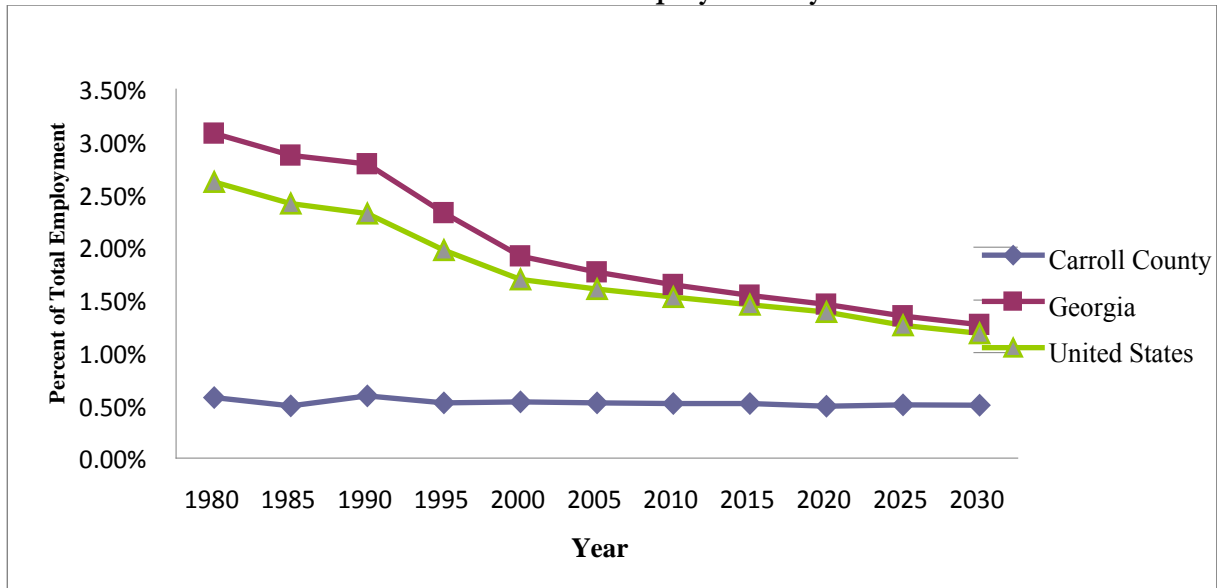
**Exhibit 79: Federal Civilian Sector Location Quotients (1990-2030)**

Year	Carroll County			Georgia			United States	
	Sector Employment	Total Employment	Location Quotient	Sector Employment	Total Employment	Location Quotient	Sector Employment	Total Employment
1980	150	26,180	0.219	84,599	2,747,311	1.175	2,993,986	114,231,182
1985	155	31,361	0.205	92,561	3,224,299	1.188	3,007,999	124,511,691
1990	210	35,550	0.255	102,981	3,690,605	1.203	3,233,004	139,426,897
1995	200	38,180	0.266	98,336	4,229,292	1.179	2,946,001	149,358,792
2000	220	41,240	0.315	92,736	4,840,483	1.131	2,818,642	166,323,450
2005	254	48,378	0.327	92,421	5,238,962	1.100	2,844,642	177,306,786
2010	285	54,914	0.340	92,499	5,625,704	1.077	2,869,756	187,986,707
2015	318	61,411	0.356	92,773	6,012,137	1.061	2,894,092	199,015,385
2020	340	68,974	0.355	93,131	6,389,771	1.051	2,917,420	210,360,566
2025	358	70,986	0.400	94,217	6,984,276	1.071	2,824,296	224,260,403
2030	382	76,157	0.424	94,348	7,447,829	1.070	2,799,698	236,478,674

*Source: Planning Works with data from Woods & Poole Economics, Inc. and Carroll Tomorrow. Update by PRISM Associates*



**Exhibit 80: Federal Civilian Employment by Percent**



Source: Planning Works with data from Woods & Poole Economics, Inc. and Carroll Tomorrow. Update by PRISM Associates

**Exhibit 81: Federal Civilian Government Sector Earnings (1990-2030)**

*In Thousands of Dollars*

Year	Carroll County		Georgia	
	Sector Earnings	Total Earnings	Sector Earnings	Total Earnings
1990	\$7,669	\$717,937	\$4,265,441	\$91,991,463
1995	\$9,194	\$910,341	\$5,258,562	\$126,914,210
2000	\$12,634	\$1,193,508	\$6,379,642	\$187,034,834
2005	\$14,744	\$1,392,855	\$6,815,409	\$199,810,399
2010	\$16,584	\$1,566,640	\$7,148,549	\$209,577,224
2015	\$18,782	\$1,774,315	\$7,453,037	\$218,504,044
2020	\$20,980	\$1,981,977	\$7,738,141	\$226,862,549
2025	\$23,378	\$2,204,396	\$8,662,105	\$267,290,006
2030	\$25,630	\$2,414,868	\$9,218,390	\$289,087,695

Source: 1990 – 2000 data from the Bureau of Economic Analysis; projections through 2020 by Planning Works, projections from 2020 through 2030 by PRISM Associates.

**12. Federal Military Government**

Georgia has a slight specialization in military operations while Carroll County has relatively little (**Exhibit 82**). Similar to federal civilian employment, the regional, national and international mission of the military limits military employment to local reserves and military installations. Carroll County does not have a military operations base. Military employment as a percent of total employment is expected to decline (**Exhibit 83**).

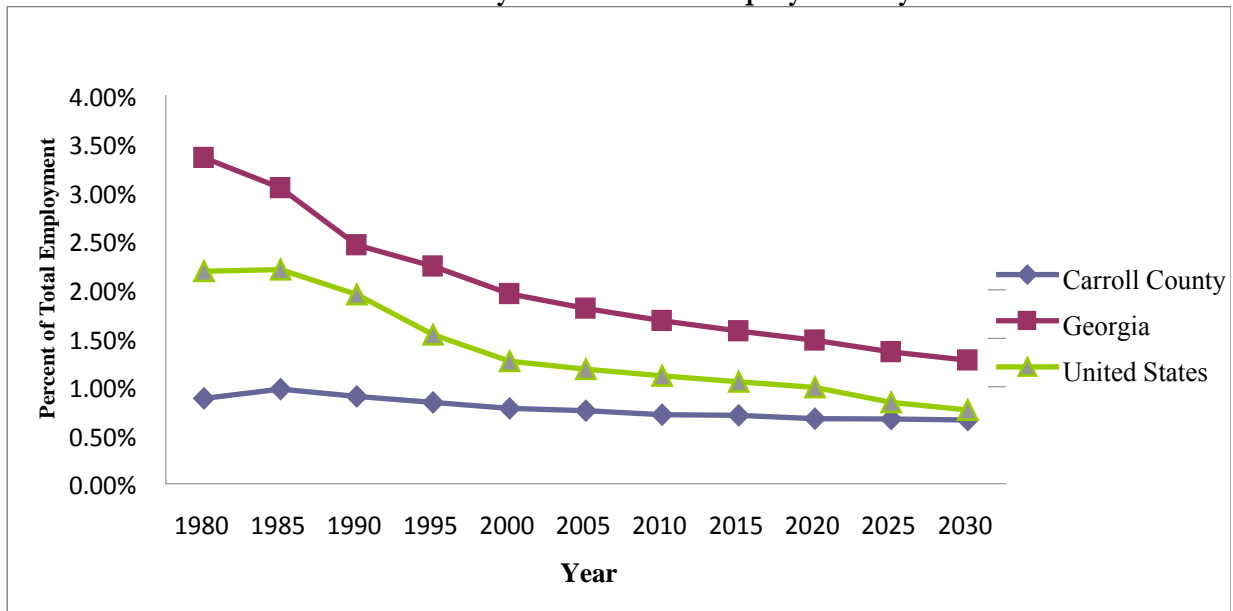


**Exhibit 82: Federal Military Government Sector Location Quotients (1990-2030)**

Year	Carroll County			Georgia			United States	
	Sector Employment	Total Employment	Location Quotient	Sector Employment	Total Employment	Location Quotient	Sector Employment	Total Employment
1980	230	26180	0.401	92,295	2,747,311	1.534	2,501,014	114,231,182
1985	306	31,361	0.442	98,319	3,224,299	1.383	2,746,001	124,511,691
1990	320	35,550	0.462	90,745	3,690,605	1.261	2,717,996	139,426,897
1995	320	38,180	0.546	94,733	4,229,292	1.459	2,292,999	149,358,792
2000	320	41,240	0.615	94,779	4,840,483	1.553	2,097,248	166,323,450
2005	365	48,378	0.638	94,695	5,238,962	1.530	2,095,258	177,306,786
2010	391	54,914	0.639	94,604	5,625,704	1.510	2,093,407	187,986,707
2015	432	61,411	0.669	94,538	6,012,137	1.496	2,091,790	199,015,385
2020	463	68,974	0.676	94,475	6,389,771	1.488	2,090,372	210,360,566
2025	474	70986	0.796	94,775	6,984,276	1.617	1,881,888	224,260,403
2030	499	76157	0.863	94,859	7,447,829	1.675	1,797,686	236,478,674

Source: Planning Works with data from Woods & Poole Economics, Inc. and Carroll Tomorrow. Update by PRISM Associates

**Exhibit 83: Federal Military Government Employment by Percent**



Source: Planning Works with data from Woods & Poole Economics, Inc. and Carroll Tomorrow. Update by PRISM Associates



**Exhibit 84: Federal Military Sector Earnings (1990-2030)**

*In Thousands of Dollars*

Year	Carroll County		Georgia	
	Sector Earnings	Total Earnings	Sector Earnings	Total Earnings
1990	\$3,206	\$717,937	\$2,512,476	\$91,991,463
1995	\$3,794	\$910,341	\$3,188,672	\$126,914,210
2000	\$4,401	\$1,193,508	\$3,874,950	\$187,034,834
2005	\$5,136	\$1,392,855	\$4,139,632	\$199,810,399
2010	\$5,777	\$1,566,640	\$4,341,979	\$209,577,224
2015	\$6,543	\$1,774,315	\$4,526,923	\$218,504,044
2020	\$7,308	\$1,981,977	\$4,700,093	\$226,862,549
2025	\$7,906	\$2,204,396	\$5,284,444	\$267,290,006
2030	\$8,591	\$2,414,868	\$5,631,100	\$289,087,695

*Source: 1990 – 2000 data from the Bureau of Economic Analysis; projections through 2020 by Planning Works, projections from 2020 through 2030 by PRISM Associates*

**13. State and Local Government**

In theory, Carroll County appears to be a net exporter of state and local government services; therefore the County has some degree of specialization as does Georgia (**Exhibit 85**). In practice, local government services are not exported from the County nor are state government services exported beyond the state boundary. Variations in Carroll County’s location quotient are likely due to state government employees that provide regional services. Some of this may be attributed to the University of West Georgia. State and local government employees are projected to constitute an increasing percentage of the total employment in Carroll County (**Exhibit 86**).

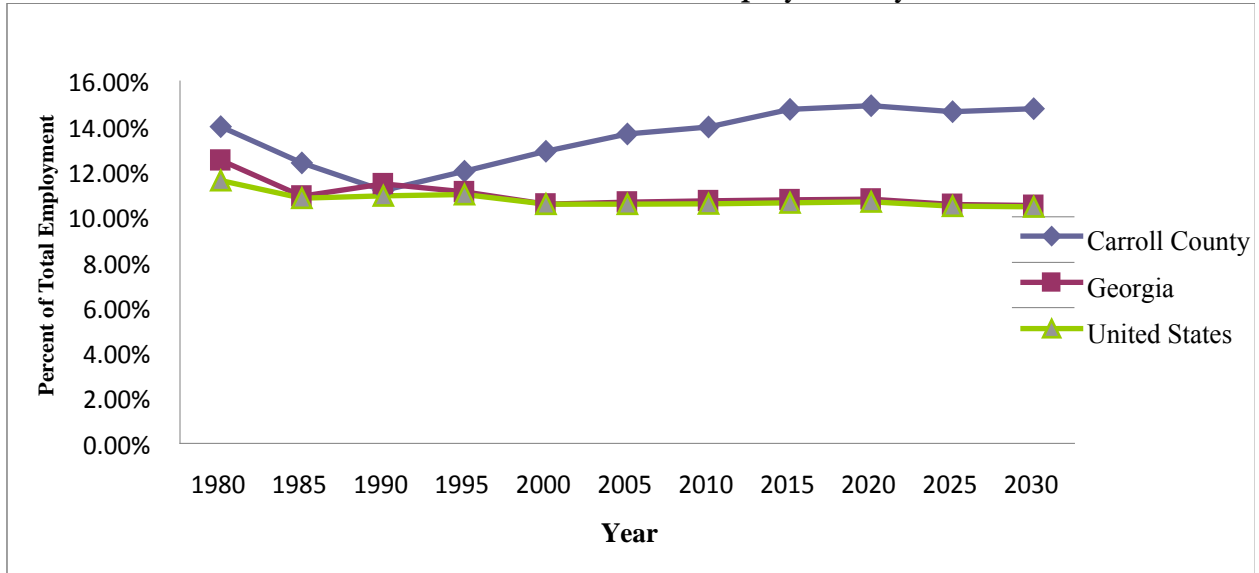
**Exhibit 85: State and Local Government Sector Location Quotients (1990-2030)**

Year	Carroll County			Georgia			United States	
	Sector Employment	Total Employment	Location Quotient	Sector Employment	Total Employment	Location Quotient	Sector Employment	Total Employment
1980	3,660	26,180	1.204	343,553	2,747,311	1.077	13,263,000	114,231,182
1985	3,884	31,361	1.144	352,189	3,224,299	1.009	13,484,000	124,511,691
1990	3,970	35,550	1.021	422,991	3,690,605	1.048	15,245,000	139,426,897
1995	4,590	38,180	1.094	469,941	4,229,292	1.012	16,406,000	149,358,792
2000	5,320	41,240	1.221	511,618	4,840,483	1.001	17,566,102	166,323,450
2005	6,609	48,378	1.293	558,136	5,238,962	1.009	18,729,451	177,306,786
2010	7,675	54,914	1.320	602,719	5,625,704	1.012	19,898,851	187,986,707
2015	9,060	61,411	1.390	646,414	6,012,137	1.013	21,129,366	199,015,385
2020	10,281	68,974	1.398	688,975	6,389,771	1.012	22,423,397	210,360,566
2025	10,403	70,986	1.398	736,727	6,984,276	1.006	23,505,755	224,260,403
2030	11,261	76,157	1.416	781,928	7,447,829	1.005	24,692,569	236,478,674

*Source: Planning Works with data from Woods & Poole Economics, Inc. and Carroll Tomorrow. Update by PRISM Associates.*



**Exhibit 86: State and Local Government Employment by Percent**



Source: Planning Works with data from Woods & Poole Economics, Inc. and Carroll Tomorrow. Update by PRISM Associates.

**Exhibit 87: State and Local Government Sector Earnings (1990-2030)**

*In Thousands of Dollars*

Year	Carroll County		Georgia	
	Sector Earnings	Total Earnings	Sector Earnings	Total Earnings
1990	\$98,008	\$717,937	\$10,982,719	\$91,991,463
1995	\$124,609	\$910,341	\$13,992,415	\$126,914,210
2000	\$183,334	\$1,193,508	\$18,272,615	\$187,034,834
2005	\$213,955	\$1,392,855	\$19,520,741	\$199,810,399
2010	\$240,651	\$1,566,640	\$20,474,924	\$209,577,224
2015	\$272,551	\$1,774,315	\$21,347,041	\$218,504,044
2020	\$304,450	\$1,981,977	\$22,163,636	\$226,862,549
2025	\$344,298	\$2,204,396	\$25,315,486	\$267,290,006
2030	\$379,031	\$2,414,868	\$27,117,426	\$289,087,695

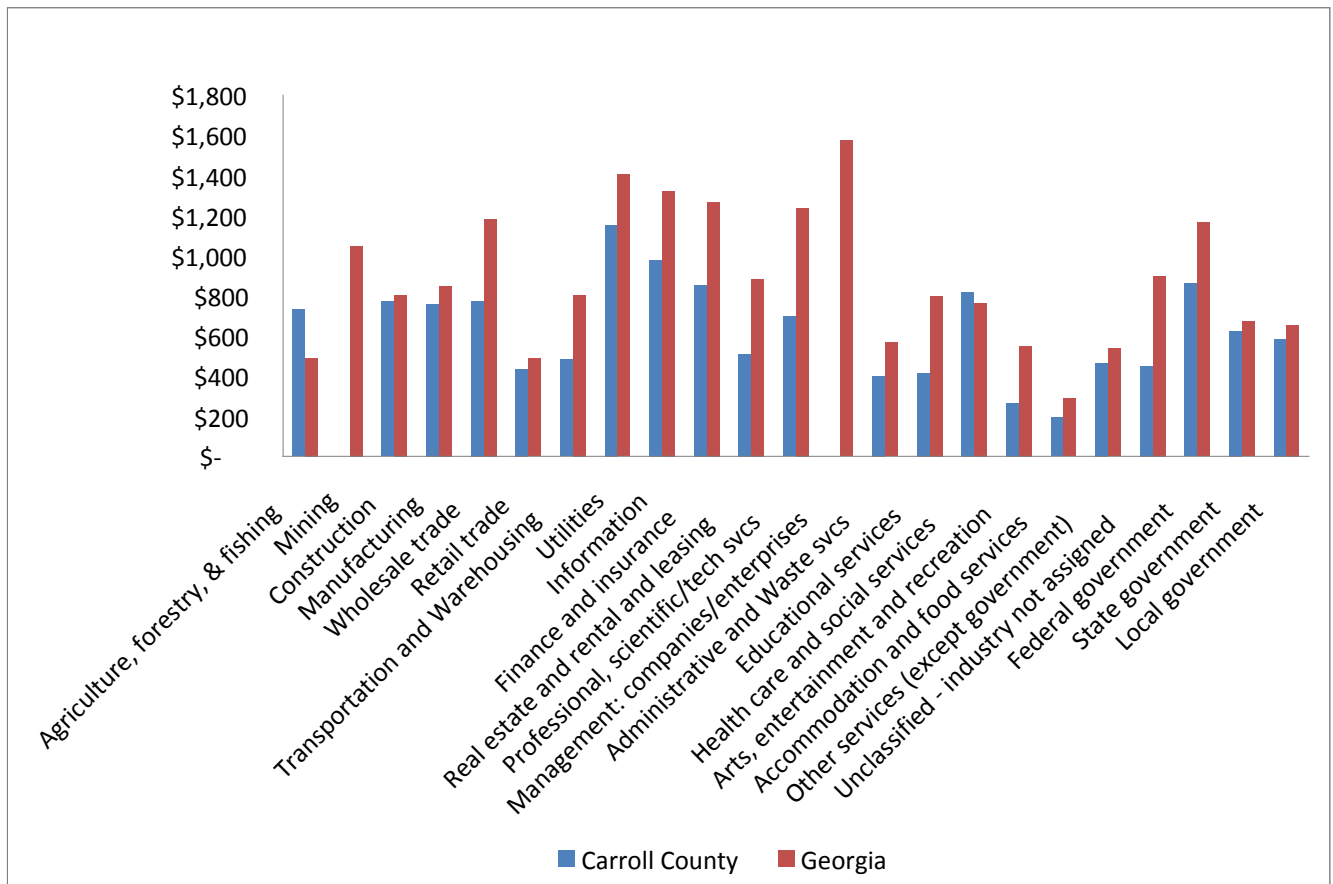
Source: 1990 – 2000 data from the Bureau of Economic Analysis; projections through 2020 by Planning Works, projections from 2020 through 2030 by PRISM Associates.



**B. INCOME AND WAGES**

Between 1989 and 1999, historical average weekly wages were lower in Carroll County than in the State for all employment sectors for which data are available (**Exhibit 88 & 89**). In 1999, the average weekly wages for all industries were 27.8% higher for Georgia than they were for Carroll County, \$629 and \$492 respectively. The most significant disparities occurred in wholesale trade and FIRE industries where Georgia’s wages were 75.8% and 74.4% higher than Carroll County’s. The smallest difference ranges between 12.5% and 12.9% in construction, manufacturing and state government.

**Exhibit 88: 1999 Average Weekly Wage Rates by Sector**



Source: Woods & Poole, Calculations by PRISM Associates



**Exhibit 89: Average Weekly Wage Rates by Sector (1989-1999)**

<b>Georgia: Average Weekly Wages</b>											
<b>Sector</b>	<b>1989</b>	<b>1990</b>	<b>1991</b>	<b>1992</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>
All Industries	\$404	\$424	\$444	\$471	\$480	\$488	\$509	\$531	\$562	\$598	\$629
Agriculture, Forestry, Fishing	\$267	\$276	\$285	\$297	\$304	\$312	\$322	\$336	\$347	\$373	\$390
Mining	\$561	\$589	\$605	NA	NA	\$698	\$734	\$741	\$781	\$832	\$866
Construction	NA	\$434	\$439	\$451	\$461	\$479	\$508	\$534	\$556	\$590	\$623
Manufacturing	NA	\$450	\$473	\$503	\$511	\$531	\$555	\$588	\$620	\$656	\$684
Transportation, Comm, Utilities	NA	\$603	\$635	\$689	\$709	\$720	\$737	\$769	\$805	\$842	\$895
Wholesale Trade	NA	\$603	\$632	\$669	\$695	\$711	\$729	\$762	\$809	\$873	\$932
Retail Trade	NA	\$236	\$244	\$255	\$260	\$267	\$275	\$286	\$299	\$318	\$335
Financial, Insurance & Real Estate	NA	\$544	\$569	\$627	\$648	\$648	\$693	\$741	\$799	\$872	\$900
Services	NA	\$414	\$439	\$464	\$471	\$475	\$501	\$519	\$551	\$580	\$611
Federal Government	NA	\$543	\$584	\$612	\$651	\$667	\$666	\$701	\$774	\$791	\$808
State Government	NA	\$451	\$462	\$460	\$471	NA	\$493	\$517	\$533	\$561	\$579
Local Government	NA	\$387	\$401	\$401	\$410	\$420	\$440	\$461	\$480	\$506	\$523
<b>Carroll County: Average Weekly Wages</b>											
<b>Sector</b>	<b>1989</b>	<b>1990</b>	<b>1991</b>	<b>1992</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>
All Industries	\$333	\$353	\$367	\$375	\$387	\$392	\$406	\$429	\$444	\$471	\$492
Agriculture, Forestry, Fishing	\$246	\$242	\$243	\$269	\$268	\$296	NA	NA	NA	\$341	NA
Mining	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Construction	NA	\$388	\$407	\$412	\$415	\$428	\$483	\$508	\$525	\$548	\$554
Manufacturing	NA	\$389	\$401	\$408	\$429	\$444	\$465	\$504	\$522	\$563	\$608
Transportation, Comm, Utilities	NA	\$519	\$520	\$554	\$542	\$533	\$570	\$573	\$637	\$615	\$625
Wholesale Trade	NA	\$423	\$447	\$465	\$466	\$463	\$455	\$499	\$521	\$541	\$530
Retail Trade	NA	\$203	\$213	\$224	\$226	\$233	\$229	\$236	\$239	\$254	\$268
Financial, Insurance & Real Estate	NA	\$419	\$430	\$437	\$469	\$476	\$495	\$509	\$542	\$543	\$516
Services	NA	\$333	\$355	\$372	\$389	\$381	\$406	\$433	\$446	\$468	\$483
Federal Government	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
State Government	NA	NA	NA	NA	NA	NA	\$466	\$495	\$490	\$504	\$513
Local Government	NA	NA	NA	NA	NA	NA	\$362	\$383	NA	NA	NA

Source: U.S. Bureau of Labor Statistics

Historic data and projections indicate that, at the national, state and local levels, local reliance on transfer payments will increase as finances from wage and salaries will decrease (**Exhibit 91**). In Carroll County, transfer payments (social security, veterans benefits, welfare, food stamps, WIC, etc.) contribute approximately 15.7% of personal income in 2000, which is a higher percent than for Georgia and the nation. Reliance on transfer payments will increase as the “baby boom” generation retires and their personal income shifts from wages and salaries. The percent of income from dividends, interest and rent is anticipated to remain flat through 2020.





**Exhibit 90: Sources of Personal Income (1980-2020)**

<b>United States: Income by Type (%)</b>									
<b>Category</b>	<b>1980</b>	<b>1985</b>	<b>1990</b>	<b>1995</b>	<b>2000</b>	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Wages & Salaries	59.22%	56.73%	56.16%	55.25%	57.21%	57.40%	57.47%	57.49%	57.48%
Other Labor Income	7.89%	7.90%	7.85%	7.96%	6.95%	6.87%	6.78%	6.68%	6.58%
Proprietors Income	7.65%	7.64%	7.80%	8.04%	8.20%	8.12%	8.05%	7.98%	7.90%
Dividends, Interest, & Rent	16.49%	19.51%	20.18%	18.79%	18.64%	18.61%	18.61%	18.59%	18.55%
Transfer Payments to Persons	12.09%	12.04%	12.17%	14.31%	13.32%	13.51%	13.83%	14.25%	14.77%
Less: Social Ins. Contributions	3.33%	3.81%	4.15%	4.33%	4.32%	4.51%	4.73%	5.00%	5.29%
Residence Adjustment	-0.02%	-0.02%	-0.02%	-0.01%	0.00%	0.00%	0.00%	0.00%	0.00%
<b>Georgia: Income by Type (%)</b>									
<b>Category</b>	<b>1980</b>	<b>1985</b>	<b>1990</b>	<b>1995</b>	<b>2000</b>	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Wages & Salaries	64.10%	62.15%	60.36%	59.07%	61.06%	61.09%	61.00%	60.88%	60.72%
Other Labor Income	8.41%	8.72%	8.68%	8.63%	7.74%	7.62%	7.49%	7.35%	7.22%
Proprietors Income	6.51%	6.97%	7.11%	7.96%	8.21%	8.11%	8.02%	7.94%	7.84%
Dividends, Interest, & Rent	13.05%	15.79%	17.34%	16.31%	16.13%	15.98%	15.87%	15.78%	15.73%
Transfer Payments to Persons	11.72%	10.73%	10.94%	12.62%	11.48%	11.55%	11.74%	12.05%	12.48%
Less: Social Ins. Contributions	3.54%	4.10%	4.33%	4.45%	4.47%	4.65%	4.88%	5.14%	5.44%
Residence Adjustment	-0.25%	-0.25%	-0.10%	-0.15%	-0.16%	0.31%	0.75%	1.14%	1.45%
<b>Carroll County: Income by Type (%)</b>									
<b>Category</b>	<b>1980</b>	<b>1985</b>	<b>1990</b>	<b>1995</b>	<b>2000</b>	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Wages & Salaries	55.66%	52.89%	51.76%	49.69%	48.99%	49.18%	49.06%	48.80%	48.40%
Other Labor Income	7.40%	6.96%	7.56%	7.20%	5.98%	5.93%	5.84%	5.73%	5.61%
Proprietors Income	7.68%	7.92%	7.89%	7.12%	8.12%	8.03%	7.93%	7.80%	7.65%
Dividends, Interest, & Rent	12.15%	15.44%	16.34%	14.81%	15.59%	15.54%	15.62%	15.74%	15.87%
Transfer Payments to Persons	14.23%	13.33%	13.51%	16.95%	15.69%	15.99%	16.55%	17.30%	18.22%
Less: Social Ins. Contributions	3.27%	3.70%	3.96%	3.94%	3.67%	3.83%	4.00%	4.19%	4.41%
Residence Adjustment	6.17%	7.16%	6.90%	8.17%	9.30%	9.16%	9.00%	8.83%	8.66%

Source: Woods & Poole



**C. EMPLOYMENT AND LABOR FORCE**

The most prominent feature of Carroll County’s labor force has been the large proportion of blue-collar manufacturing and assembly workers and small professional, clerical and technical work force. **Exhibit 91** and **Exhibit 92** compare the percentage of the labor force by occupation for Carroll County, Georgia, and the U.S.<sup>29</sup>. This data highlights Carroll County’s strong manufacturing sector with greater local percentages of employees involved in “precision production, craft and repair” and “machine operators, assemblers and inspectors”.

**Exhibit 91: Percent of Employment by Occupation (1990)**

Occupation Category	Carroll County	Georgia	U.S.
Executive, Administrative and Managerial (not Farm)	8.1%	12.3%	12.3%
Professional and Technical Specialty	10.3%	12.4%	14.1%
Technicians & Related Support	2.7%	3.6%	3.7%
Sales	11.2%	12.3%	11.8%
Clerical and Administrative Support	12.9%	16.0%	16.3%
Private Household Services	0.3%	0.5%	0.5%
Protective Services	1.5%	1.7%	1.7%
Service Occupations (not Protective & Household)	8.6%	9.8%	11.1%
Farming, Fishing and Forestry	2.1%	2.2%	2.5%
Precision Production, Craft, and Repair	15.6%	11.9%	11.3%
Machine Operators, Assemblers & Inspectors	14.4%	8.5%	6.8%
Transportation & Material Moving	5.9%	4.6%	4.1%
Handlers, Equipment Cleaners, Helpers & Laborers	6.4%	4.3%	3.9%
Total	100.0%	100.0%	100.00%

Source: 1990 U.S. Census, [www.census.gov](http://www.census.gov)

<sup>29</sup> Changes were made to the occupation classifications for the 2000 Census to reflect changes in the Standard Occupational Classification (SOC). Because of these changes, data from the 1990 and 2000 censuses are not directly comparable.



**Exhibit 92: Percent of Employment by Occupation (2000)**

Occupation Category	Carroll County	Georgia	U.S.
Management, Business, & Financial Operations (not Farm)	9.9%	13.6%	12.9%
Professional and Related	16.3%	18.7%	20.2%
Sales	11.1%	11.6%	11.2%
Office and Administrative Support	14.2%	15.1%	15.4%
Personal Care & Services	2.6%	2.5%	2.8%
Protective Services	2.0%	2.0%	2.0%
Service Occupations (not Protective & Personal Care)	9.4%	9.0%	10.1%
Farming, Fishing and Forestry	0.6%	1.0%	1.3%
Construction, Extraction, & Maintenance	14.1%	10.8%	9.4%
Production	11.9%	9.0%	8.5%
Transportation & Material Moving	7.9%	6.6%	6.1%
Total	100.0%	100.0%	100.0%

Source: 2000 U.S. Census, [www.census.gov](http://www.census.gov)

Non-farm employment comprises 98% of all employees in Carroll County while only 2% of the labor force is engaged in farming and agricultural related pursuits. The manufacturing sector, which employed 45.7% of the workforce in 1970, continues to be the largest employment base with 27.2% in 1997. Employment has slowly shifted from the manufacturing sector to the services (21.6%) and retail trade (18.6%) sectors. This has been a nationwide trend, although Carroll County has been making the transition more slowly than in other parts of the country. Private non-farm employment from 1990 to 1999 increased by only 4.8% as opposed to the State of Georgia, which increased 34.6%. Carroll Tomorrow and other economic development interests have focused on diversifying the economy by attracting high wage employers from multiple employment sectors to avoid high unemployment when a specific industry is negatively affected by economic shifts.

**Exhibits 77, 78 and 79** illustrate declining labor force participation for men and women in Carroll County and Georgia between 1990 and 2000 and declining unemployment rates for the County, region, State and nation. Between the years 2000 and 2002 the civilian labor force increased from 45,100 to 46,580, while total employment increased more modestly from 43,230 to 43,930. This resulted in increased unemployment from 1,870 to 2,650 (from an unemployment rate of 4.2% to 5.7%).



**Exhibit 93: Employment Status (1990)**

<b>Category</b>	<b>Carroll County</b>	<b>Georgia</b>	<b>United States</b>
<b>Total Males and Females</b>			
In Labor Force	66.19%	67.89%	65.28%
Civilian Labor Force	66.13%	66.41%	64.39%
Civilian Employed	62.59%	62.60%	60.34%
Civilian Unemployed	3.54%	3.80%	4.05%
In Armed Forces	0.06%	1.48%	0.89%
Not in Labor Force	33.81%	32.11%	34.72%
<b>Total Males</b>			
Male In Labor Force	75.06%	76.65%	74.48%
Male Civilian Labor Force	74.99%	73.87%	72.82%
Male Civilian Employed	71.77%	70.07%	68.18%
Male Civilian Unemployed	3.22%	3.80%	4.63%
Male In Armed Forces	0.07%	2.78%	1.66%
Male Not in Labor Force	24.94%	23.35%	25.52%
<b>Total Females</b>			
Female In Labor Force	58.18%	59.88%	56.79%
Female Civilian Labor Force	58.13%	59.59%	56.60%
Female Civilian Employed	54.29%	55.78%	53.10%
Female Civilian Unemployed	3.84%	3.81%	3.51%
Female In Armed Forces	0.05%	0.29%	0.19%
Female Not in Labor Force	41.82%	40.12%	43.21%

Source: 1990 U.S. Census, [www.census.gov](http://www.census.gov)



**Exhibit 94: Employment Status (2000)**

Category	Carroll County	Georgia	U.S.
<b>Total Males and Females</b>			
In Labor Force	63.60%	66.10%	63.9%
Civilian Labor Force	63.50%	65.00%	63.4%
Civilian Employed	60.50%	61.40%	59.7%
Civilian Unemployed	3.10%	3.60%	3.7%
In Armed Forces	0.10%	1.10%	0.5%
Not in Labor Force	36.40%	33.90%	36.1%
<b>Total Males</b>			
Male In Labor Force	71.45%	73.11%	70.7%
Male Civilian Labor Force	71.33%	71.20%	69.8%
Male Civilian Employed	68.47%	1.91%	65.8%
Male Civilian Unemployed	2.85%	3.55%	4.0%
Male In Armed Forces	0.18%	1.91%	0.9%
Male Not in Labor Force	28.55%	26.89%	29.3%
<b>Total Females</b>			
Female In Labor Force	56.40%	59.40%	57.5%
Female Civilian Labor Force	56.40%	59.20%	57.4%
Female Civilian Employed	53.20%	55.60%	54.0%
Female Civilian Unemployed	3.20%	3.60%	3.3%
Female In Armed Forces	0.00%	0.20%	0.1%
Female Not in Labor Force	43.60%	40.60%	42.5%

Source: 2000 U.S. Census, [www.census.gov](http://www.census.gov)

**Exhibit 95: Annual Unemployment Rates (1900-2000)**

Year	Carroll	Coweta	Douglas	Fulton	Haralson	Heard	Cleburne*	Randolph*	Georgia	United States
1990	6.2%	5.9%	4.7%	5.7%	7.1%	5.3%	6.6%	7.8%	5.5%	5.6%
1991	5.6%	5.5%	4.7%	5.3%	9.6%	7.2%	7.2%	9.7%	5.0%	6.8%
1992	7.3%	7.3%	6.1%	7.4%	12.8%	9.4%	6.4%	7.5%	7.0%	7.5%
1993	5.9%	5.3%	4.6%	6.4%	9.5%	7.4%	6.9%	9.7%	5.8%	6.9%
1994	4.7%	4.2%	4.0%	5.8%	6.1%	6.9%	4.2%	6.7%	5.2%	6.1%
1995	5.2%	4.1%	3.6%	5.4%	7.9%	5.9%	5.9%	8.1%	4.9%	5.6%
1996	5.1%	3.8%	3.2%	5.0%	8.0%	8.2%	4.3%	5.9%	4.6%	5.4%
1997	5.0%	4.0%	3.1%	4.6%	6.9%	6.3%	3.6%	4.7%	4.5%	4.9%
1998	4.5%	3.3%	3.0%	4.1%	6.0%	5.1%	3.6%	5.0%	4.2%	4.5%
1999	4.5%	2.8%	2.9%	3.9%	4.9%	6.6%	4.3%	6.0%	4.0%	4.2%
2000	4.1%	3.4%	2.7%	3.7%	4.4%	5.5%	3.5%	5.5%	3.7%	4.0%

Source: Georgia Department of Community Affairs ([www.georgiaplanning.com](http://www.georgiaplanning.com)) & Real Estate Center – Texas A&M University ([recenter.tamu.edu](http://recenter.tamu.edu)).

\* These counties are located in Alabama

The County's concentration of jobs in the manufacturing sector suggests that the existing labor pool should have technical training rather than college degrees for the type of jobs available. The recent rise in education levels of Carroll County's citizens and commuting patterns suggest that there is a professional labor force residing in Carroll County that is occupying jobs elsewhere in the region. To what extent the enhancement of professional workers will lure companies that offer high paying professional jobs is not clear. Carroll County's transportation access, proximity to the Atlanta



metropolitan area, post-secondary education opportunities and affordable cost of living are powerful assets with which to recruit professional employers and clean industry.

Major employers are listed in **Exhibit 96**. Although three of the four organizations that hire 1,000 employees or more are from non-manufacturing sectors, there are at least 12 industrial operations that employ between 100 and 700 people.

**Exhibit 96: Carroll County Major Employers**

Institution	Number of Employees
Tanner Medical Center	1,700
Carroll County School System	1,700
Southwire Company	1,600
University of West Georgia	1,000
Gold Kist	700
Carrollton City School System	532
Carroll County	527
Carrollton City	411
OFS Brightwave	400
West Central Technical College	378
Trintex	316
Fresh Advantage	300
Flowers Baking Co.	300
Printpack, Inc.	216
Sugar Foods	180
Arch Aluminum	150
King Provision	145
Bremen Bowdon/Lamar Manufacturing	140
Sony Music	135
Wal-mart.com	125
City of Villa Rica	123
IKKA Technology	100
Janus International	100

*Source: Carroll Tomorrow*

Carroll County residents also work outside Carroll County. **Exhibit 97** shows the place of employment for all County residents over the age of sixteen. While a majority work within the Atlanta Metropolitan Statistical Area, some work outside that area and 473 workers, just over one percent, work outside the State of Georgia, probably in Alabama. In order to reach their places of employment, a majority of workers drove, either alone or in a carpool, as shown in **Exhibit 98**.



**Exhibit 97: Place of Employment, 2000**

Place of Employment	Workers	
	Number	Percentage
Carroll County	24,611	61.9%
Atlanta	1,839	4.6%
Remainder of Atlanta MSA	11,018	27.7%
Outside the Atlanta MSA	2,262	5.7%

Source: 2000 U.S. Census, [www.census.gov](http://www.census.gov)

**Exhibit 98: Transportation to Work, 2000**

Means of Transportation	Workers	
	Number	Percentage
Drove Alone	31,384	79.0%
Carpooled	6,168	15.5%
Public Transportation	111	0.3%
Motorcycle	61	0.2%
Bicycle	67	0.2%
Walked	738	1.9%
Other Means	290	0.7%
Worked At Home	911	2.3%

Source: 2000 U.S. Census, [www.census.gov](http://www.census.gov)

## ***D. LOCAL ECONOMIC ACTIVITY***

### ***1. Agriculture and Forestry***

While the topography and lack of prime crop raising soils limit the County's production of crops, substantial dairy, livestock and poultry industries contribute significantly to the local economy. Although farm employment is low, agriculture contributes approximately \$40,000,000 annually to the local economy.<sup>30</sup> As of 1997, there were 702 active farms in Carroll County encompassing 77,944 acres or 24.3% of the county's land area. Total market value of agriculture products sold in 1997 was \$90,272,000 with 96.4% of the value being generated by livestock and poultry operations. Carroll County ranked first in beef production and fifth in broiler production throughout the State.

The Cotton Mill Farmers' Market in Carrollton provides local and regional farmers a venue to sell their wares directly to consumers. Direct marketing techniques such as farmers' markets, mail order, subscription farms, internet sales and on-site retail sales provide opportunities for small agricultural operations to capture a larger portion of the consumer food dollar by circumventing processors, packers, distributors and large retailers.

<sup>30</sup> Carroll County Economic Profile. Carroll County Chamber of Commerce. No Date.



Carroll County has 185,900 acres of forestland covering 58% of the land area. As growth pressures have increased, the pressure for development of timberlands also has increased.

Farming, forestry and animal husbandry activities are vital land uses that should not be viewed as mere holding zones for future urbanization or suburban development. While agricultural land uses do not contribute significantly to tax revenues per acre, they consume low levels of public services and typically generate greater revenues than costs. Studies throughout the state and nation reveal that agricultural land uses are net contributors to County fiscal stability, while low density residential development typically generates greater costs than revenues. The environmental and aesthetic benefits of agriculture and forestry land are difficult to quantify in monetary terms, yet are known economic development assets and contribute to the rural character and overall quality of life.

In response to the continued loss of agriculture, forestry and open space, an ad hoc Agriculture Preservation Committee consisting of American Farmland Trust, Carroll County Agriculture Extension, farmers and other agriculture interest groups was formed. This committee has been working closely with the Coordinated Planning Committee to ensure that the Comprehensive Plan update adequately addresses agricultural issues and provides sufficient policy guidance to establish a viable agriculture protection program. To this end, the committee is building grassroots support for the use of conservation easements and the establishment of a transferable development rights program within the County. Arising from this planning effort, it is anticipated that an Agricultural Advisory Board will serve a vital role in the land preservation decision-making process of the County. In addition, there are a number of efforts in neighboring jurisdictions to preserve land for agriculture, forestry, environmental protection and recreational purposes.

## ***2. Commercial and Office Development Trends***

As the local economy continues its slow shift to a service and retail based economy, additional office and retail space will be needed.<sup>31</sup> Based on the existing population, there should be a significant demand for day-care and preschool facilities that enable single parents to participate in the workforce. If continued, the recent trend in health and business services employment will increase the need for office space. Health care office space tends to congregate near regional health centers and where a significant patient population exists, for instance near elderly care facilities.

## ***3. Industrial Development Patterns***

Although the manufacturing sector's dominance of the local economy is dwindling, it still remains the largest employment sector. The apparel and textiles industry has been hard hit by NAFTA and international markets. The food, rubber and plastics products gained employment. With easy access to rail and highway, the I-20 corridor between Villa Rica and Temple may be attractive as a transportation and distribution center provided urban level services are provided. As noted by Market Street Services, Inc., "There is an adequate supply of industrial land in the municipalities, but none in the unincorporated areas due to a lack of sewer." However, available sites within incorporated and unincorporated Carroll County are generally 20 acres or less, which severely limits the prospects for large industrial operations.

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<sup>31</sup> Carrollton's existing inventory of empty retail space should significantly reduce demands for new retail space.





Through the Carroll Tomorrow economic development program, a number of potential “target business clusters” were identified, which would benefit from Carroll County’s educational resources, existing economic structure, transportation options and proximity to the Atlanta metropolitan area. Among the identified businesses are software and internet services, warehousing and goods distribution, transportation equipment manufacturing and distribution, corporate transaction services, health care, and value-added manufacturing opportunities.

### ***E. ECONOMIC DEVELOPMENT RESOURCES***

Changes within the local economy are largely influenced by events external to the County, which may originate from regional, national and international events. However, recognition of the profound impacts of changes in the economy on the local quality of life has mobilized business and governmental leaders to develop and implement strategies to enhance and stabilize the local economic environment. Consequently, the citizens of Carroll County have created Chambers of Commerce, which seek to promote economic stability and diversification through various fiscal incentives, planning efforts, labor force enhancement, marketing and other activities.

In recent years, business, community and governmental leaders of Carroll County have been collaborating to develop a unified economic development vision and strategy. Through Carroll Tomorrow, these community stakeholders have developed a series of detailed studies of local strengths, weaknesses and opportunities that culminated into the Carroll Tomorrow – Economic Development Strategy. The goals, objectives and actions contained within this document have been incorporated into this plan.

#### ***1. Economic Development Agencies***

The Carroll County Chamber of Commerce provides a wide range of economic development services including: business directories, community information dispersion, business education, tourism and convention planning, and marketing assistance. On July 16, 2002, the Chamber’s new 2,100 sq. ft. Stone Family Center for Economic Development facility was officially dedicated. The Center houses the Carroll County Economic Development Foundation, commonly known as Carroll Tomorrow.

Carroll Tomorrow, which operates with pledged revenues on a 4-year cycle, is a broad-based community effort focused on community planning, developing an entrepreneurial community, business recruiting, retention and expansion assistance. This cooperative effort between business, citizen, education and other community leaders developed the Carroll Tomorrow Economic Development Strategy, which establishes specific goals and actions to enhance the economic condition of the County. A profile of Target Business Clusters asserts that significant opportunities for Carroll County exist in six business sectors: software and internet services, distribution, transportation equipment, corporate transaction services, health care and value-added manufacturing. In addition to economic development, Carroll Tomorrow provides grass roots support and advocacy to enhance and preserve the community’s quality of life, workforce and education, infrastructure, community leadership, community design and other planning functions.

The Development Authority of Carroll County is a duly created body pursuant to the Development Authorities Law (O.C.G.A. § 36-62-1 et seq., as amended). The Authority was created to develop and promote trade, commerce, industry, and employment opportunities for the public good and the general welfare of the citizens of Carroll County. The Authority has the power to acquire, sell, or



dispose of any real and personal property as part of any project, expend for promotion of industry and trade within its area of operations, to construct, acquire, own, repair and equip projects located on land owned or leased by the Authority and to issue revenue bonds and use the proceeds for the purpose of financing a variety of economic development projects.

Carrollton Payroll Development Authority was created to promote the development of jobs and payrolls in industry, agriculture, commerce, and natural resources and to coordinate development, promotion, and expansion of economic development. While the Authority’s name specifically references Carrollton, its activities cover the entire County. The Authority was created in 1962 by an amendment to the State constitution.

**2. Existing Economic Development Programs**

Economic development programs available to Carroll County businesses are offered by the Georgia Department of Community Affairs (DCA), the Carroll County Chamber of Commerce and local institutions. The DCA is responsible for state administration of many incentive programs as well as providing technical assistance in the area of economic development to local governments, development authorities, and private for-profit entities. **Exhibit 99** provides a brief description of available DCA programs.

**Exhibit 99: DCA Economic Development Programs**

Program Title	Program Description
The Redevelopment Fund Program	The Redevelopment Fund provides flexible financial assistance to local governments to assist them in implementing challenging economic and community development projects that cannot be undertaken with existing public sector grant and loan programs.
Employment Incentive Program	The Employment Incentive Program is a Community Development and Block Grant funded grant program designed to support local government projects intended to facilitate and enhance job creation and/or retention, principally for persons of low and moderate income.
Downtown Development Revolving Loan Fund (DD RLF)	The Downtown Development Revolving Loan Fund is designed to assist non-entitlement cities and counties in implementing quality downtown development projects. Loans may be used for a variety of public or private projects that involve infrastructure improvements, real estate development or redevelopment, and, in some cases, purchase or lease of equipment.
Appalachian Region Business Development Revolving Loan Fund	This program is funded by the Appalachian Regional Commission and is designed to make loans to private businesses through local development authorities. The program benefits the 37-county area of Appalachian Georgia by funding projects that lead to job creation or retention.
Appalachian Regional Commission Economic Development Grant Program	This program is funded by the Appalachian Regional Commission and is designed to provide matching grant funds to eligible applicants in support of economic development projects.
Georgia Job Tax Credit Program	The Job Tax Credit Program provides a tax credit on Georgia income taxes for eligible businesses that create new jobs in counties or "less-developed" census tract areas.
Business Retention & Expansion Process	The Business Retention and Expansion Process provides a process for local governments, chambers and/or development authorities to survey existing industries and identify the perceptions and potential problems of private sector firms concerning issues like future plans, international trade, labor and manpower, local government services, energy requirements, and community linkages.



Program Title	Program Description
CDBG Loan Guarantee Program (Section 108 Program)	The CDBG Loan Guarantee Program (Section 108 Program) is an economic and community development-financing tool authorized under Section 108 of Title I of the Housing and Community Development Act of 1974, as amended. The program is a method of assisting non-entitlement local governments with certain unique and large-scale economic development projects that cannot proceed without the loan guarantee.
Regional Assistance Program (RAP)	The Regional Assistance Program (RAP) is a collaborative effort of DCA and GEFA to support multi-county and regional collaboration in economic development. The RAP program provides grants to local governments and local government authorities for multi-county activities important to regional economic development.
Bond Allocation Program	For businesses and individuals seeking long-term, low-interest rate financing for the construction or improvements of manufacturing facilities, single and multi-family housing projects, exempt financing is available both at the state and local level. DCA is responsible for implementing a system for allocating the use of private-activity bonds, as permitted by federal law, in order to further the economic development of the state, to further the provision of safe, sanitary, and affordable housing, and otherwise to further the purposes of the laws of the state which provide for the issuance of such bonds.
Regional Economic Assistance Projects (REAP)	Regional Economic Assistance Projects (REAP) provide a mechanism for local and state governments and the private sector to cooperate on large-scale tourism-related projects with multiple uses that will create jobs and enhance the local tax base. Upon meeting the requirements of the REAP statute and the REAP Rules, a developer of a certified REAP project may apply to the Georgia Department of Revenue for a state license for the sale of malt beverages, wine, or distilled spirits by the drink for consumption on the premises only. House Bill 1482, signed by the Governor on April 20, 2002, broadened the eligibility criteria for the REAP program. Effective July 10, 2002, the Department updated the REAP rules and application manual accordingly.
Georgia Main Street/Better Hometown Program	The Main Street/Better Hometown Program is a self-help community development program designed to improve a downtown's quality of life and is modeled on the Main Street Four Point Approach (TM) to downtown revitalization. The Main Street/Better Hometown Program focuses on economic development through downtown revitalization, historic preservation and restoring a sense of place.
Georgia Academy for Economic Development	The Academy is a consortium of public and private economic development organizations providing economic development training throughout Georgia. These professionals serve as the Academy's program leaders and resource experts.

*Source: Georgia Department of Community Affairs. Taken verbatim from <http://www.dca.state.ga.us/economic/index.html>*

The Carroll County Chamber of Commerce offers a wide variety of advertising, networking, promotional and training programs including, but not limited to: business directories, visitor and relocation information, site location assistance, seminars, a small business resource center, long distance phone discounts and low cost employee insurance plans.

The Chamber's Burson Center, a 24,400 square foot mixed-use incubator, facilitates local entrepreneurship and small business development by providing a variety of counseling, training, mentoring, financing and networking services in an entrepreneur friendly environment. The center offers a high-tech, mixed-use space with customized, furnished offices for each tenant, meeting and



conference rooms, a reference library, a common break area and 5,000 square feet of warehousing/light manufacturing space.

The University of West Georgia has a couple of entrepreneurship and small business incubator projects. The UWG's Small Business Development Center and the Center for New Business Ventures offer management training and technical assistance to small business owners in the region.

### ***3. Non-Residential Sites Available***

The cities of Villa Rica, Bowdon and Carrollton have a total of four (4) industrial parks with over 160 acres available, which can meet short-term industrial land demands. However, there are few available sites encompassing at least 50 acres, which are sought by the County's targeted business sectors. Within the unincorporated areas of Carroll County, the number of sites suitable for non-residential development is severely limited, primarily due to a lack of sewer service.<sup>32</sup> While the County has zoned areas such as the Highway 61 corridor for commercial development, lack of centralized sewer service has allowed only small-scale uses. Recent County policy changes to allow community wastewater systems theoretically open many areas to larger scale non-residential development. However, most major employers will continue to seek sites with centralized municipal services. In addition, there are limited existing vacant structures suitable for business relocation or expansion.

### ***4. Work Force Development***

The local level of educational attainment within Carroll County has been frequently cited as the primary challenge facing the community. Despite the fact that there are academic and technical schools in the County, many companies have expressed difficulty in hiring qualified employees for entry-level positions, which often requires new employees to attend extensive training.<sup>33</sup> Retaining graduates, training the existing labor force and improving public school student performance have been identified as strategies to enhance the skills of the local populace.

The West Georgia Technical College (WGTC) is the primary source of workforce training in the County. Specialized workforce training and related services are provided through the Quick Start program, which is administered by the Georgia Department of Technical and Adult Education. This program offers training in numerous subject areas including, but not limited to: computer training, productivity enhancement, leadership, customer service and environmental safety.

## ***F. ECONOMIC GROWTH PROJECTIONS***

The conservative employment growth projections in this Plan Element are insufficient to maintain the existing jobs-housing balance. To increase employment opportunities, Carroll Tomorrow and this Plan are promoting a coordinated economic development program that includes the following emphases:

- Coordinated development of a large-scale business park by all local jurisdictions in the County using public and private investments;
- Ongoing work-force development efforts with WGTC and UWG; and

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32 Carroll Tomorrow, Carroll County Community Capacity Assessment, October 13, 1999, pg. 16.

33 Carroll Tomorrow, Carroll County Profile of Target Business Clusters, March 6, 2000, pg. 15.



- Active participation in and use of available economic development programs (see **Exhibit 99**).



## CHAPTER V. COMMUNITY FACILITIES AND SERVICES

### *A. INTRODUCTION*

Governments of all levels provide a variety of public goods and services that often are taken for granted. Public water systems, sewer systems, roads, parks, schools, policing, emergency services and cultural facilities are common services that help define the local quality of life, as well as the health of a community and its growth potential. For economic development to occur, a solid base of infrastructure must be present. This section identifies Carroll County's existing facilities and key service issues.

### *B. GENERAL COUNTY GOVERNMENT*

Carroll County government is conducted in the County Courthouse and the Administrative Complex. The Courthouse currently houses 50 employees. The County has begun planning for an expansion of courthouse facilities to address space needs through 2030. The preliminary analysis of space needs suggests that over 117,000 square feet will be needed by 2030 for 236 courthouse employees. Before embarking on courthouse expansion, the County intends to further study its needs and facility management.

In addition to the courthouse, the County's Administrative Complex includes three buildings. The main building is 12,000 square feet and the other two buildings are 7,200 square feet and 4,000 square feet. Seventy-five county employees are housed in the administrative complex, along with state employees in the Department of Environmental Health, NRSC and Veterans Affairs. The amount of space is currently adequate for the present number of employees and can accommodate modest growth. **Map 8 in Appendix B** identifies the location of community facilities within the County, including the Courthouse and administrative buildings.

The other unit of government that operates county-wide is the Carroll County Water Authority. The CCWA has experienced steady growth in both customers and employees over the last several years. The Water Authority recently purchased a new building and has plans to relocate to this larger facility in order to better meet the needs of a rapidly growing consumer base.

### *C. WATER SUPPLY AND TREATMENT*

There are six cities that operate municipal water systems: Carrollton, Bowdon, Roopville, Temple, Villa Rica and Whitesburg. **Exhibit 100** shows the current water supply capacity and future capacity based on planned improvements. The total current capacity including potential sources from Douglas and Heard Counties is 18.2 million gallons per day (MGD). All but Bowdon have water demands that are near the supply capacity. The Cities of Roopville and Whitesburg get their water from wells. Mt. Zion and Villa Rica purchase water from the Carroll County Water Authority (CCWA), which is a separate entity from the County government. The CCWA operates a countywide water distribution system of more than 750 miles of pipe and services over 16,000 retail water customers. The primary water supply is a 650-acre, 4 billion gallon reservoir and 3 primary groundwater wells. The Water Authority is investigating the prospect of developing additional water sources to meet projected growth demands.



**Exhibit 100: Water Supply Capacity**

<b>Municipal System</b>	<b>Capacity In 2002 (MGD)</b>	<b>Future Capacity (MGD)</b>
City of Carrollton	12.20	12.40
Carroll County Water Authority	0.70	14.50
City of Bowdon	1.00	2.90
City of Roopville	0.09	0.09
City of Temple	0.28	0.28
City of Villa Rica	1.70	1.70
City of Whitesburg	0.03	0.03
<b>External Supplies</b>		
Douglas County Water Authority	2.50	2.50
Heard County Water Authority	0.40	0.40
<b>Total Capacity</b>	<b>18.90</b>	<b>34.80</b>

*Source: Carroll County, Georgia*

Different levels of water service are necessary to support different land use patterns. Reliance on private well water is generally adequate to serve very low-density rural residential land uses. However, suburban residential and urban land use patterns typically require centralized water service to provide an adequate quantity of water at sufficient fire flows for fire suppression. According to the 1990 U.S. Census, there were 9,037 homes relying on domestic well water. The CCWA continues to extend water lines to rural areas and areas not served by a centralized water system to give residents the option of connecting to the CCWA water system. The CCWA continues to investigate the feasibility of extending water service to as many Carroll County residents as possible.

***D. WASTEWATER TREATMENT***

The cities of Villa Rica, Carrollton, Bowdon, Temple and Bremen operate centralized wastewater systems. Bremen’s system does not serve areas in Carroll County. **Exhibit 101** shows the existing wastewater treatment capacity and future capacity based on planned improvements. The total current municipal treatment capacity is 8.90 MGD. The treatment and disposal of wastewater in other areas is almost exclusively accomplished with on-site wastewater facilities (septic tanks, waste stabilization ponds, infiltration systems, etc...). The one exception is the centralized system at Fairfield Plantation, which was originally operated by the developer for fewer than 100 homes. This system is operated and maintained by the CCWA and now has over 1,750 services. The CCWA continues to work to reduce inflow and infiltration and is investigating increasing its wastewater capacities through expansion, new facilities or intergovernmental agreements with neighboring wastewater providers.



**Exhibit 101: Wastewater Treatment Capacity**

<b>Municipal Wastewater Treatment System</b>	<b>Capacity In 2002 (MGD)</b>	<b>Planned Capacity (MGD)</b>
City of Bowdon	0.40	
City of Carrollton	7.00	7.00
City of Temple	0.20	1.00
City of Villa Rica	1.30	1.30
<b>Total</b>	<b>8.90</b>	<b>9.30</b>

*Source: Carroll County, Georgia*

Lack of centralized wastewater systems in most unincorporated areas has been a key constraint to development. The Georgia Department of Human Resources requires a minimum lot size of 1 acre for the installation of an on-site sewerage system if no centralized water service is available, although an individual site may require more land due to soils type.<sup>35</sup> A minimum ½ acre lot size is required if centralized water service is available. Development at greater densities requires a collective wastewater treatment system to ensure groundwater quality. The proliferation of septic systems has raised concerns about their extensive use in development areas.<sup>36</sup> In 1990, there were 10,223 homes on public sewer systems while 17,067 either had septic tanks or cesspools. Providing sewer service to rural areas can be costly.

Lack of centralized wastewater services has promoted large lot development in unincorporated Carroll County. In response to this challenge the County and the Carroll County Water Authority (CCWA) have been exploring the potential use of community wastewater systems. These systems would allow greater densities of development at prices that are comparable to septic systems. They also would facilitate development of conservation subdivisions. However, they must be monitored and maintained to ensure their ongoing operations are effective. One obstacle for developers is that, unlike septic systems, community systems require up-front investment in the collection and treatment system. Additionally, they require ongoing funding and management by a competent entity, such as CCWA. This Plan anticipates the development of a coordinated wastewater study to determine the best long-term strategies for providing safe, efficient and environmentally responsible wastewater service that promotes efficient land use patterns.

***E. POLICE PROTECTION***

Carroll County’s crime rates are lower than those of Georgia. **Exhibits 102, 103 and 104** indicate that between 1980 and 1998 the County has consistently had lower rates of violent crime and property crime than the state.

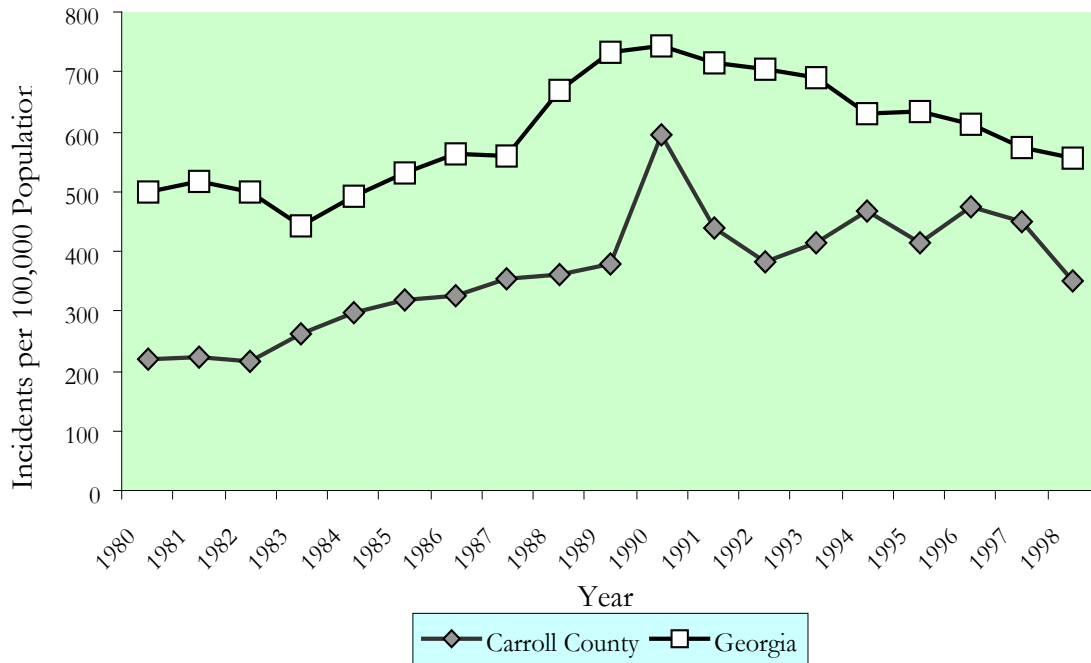
<sup>35</sup> Georgia Department of Human Resources, Manual for On-Site Sewage Management Systems (May 2001), Pg M-1.

<sup>36</sup> Trust for Public Land, University of Massachusetts and USDA Forest Service, Upper Little Tallapoosa River Watershed – Source Water Stewardship Exchange Team Report (April 30, 2003), Pg 6.



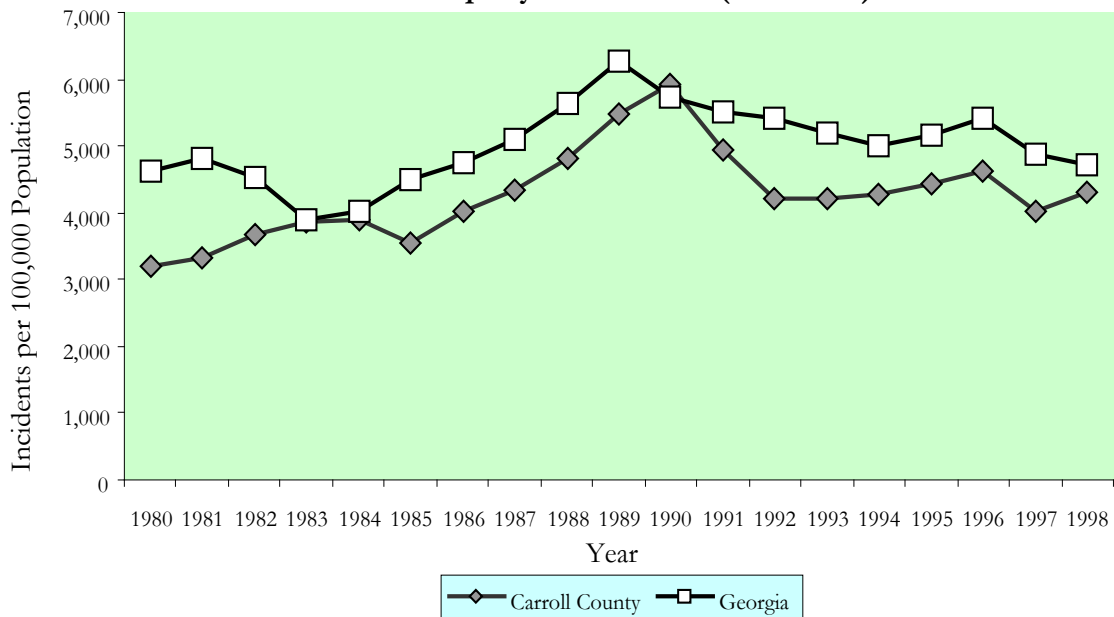


**Exhibit 102: Violent Crime Rates (1980–1998)**



Source: Georgia Bureau of Investigation (<http://www.ganet.org>)  
 \*Rate is measured in the number of incidents per 100,000 population.

**Exhibit 103: Property Crime Rates (1980–1998)**



Source: Georgia Bureau of Investigation (<http://www.ganet.org>)  
 \*Rate is measured in the number of incidents per 100,000 population.



Exhibit 104: Crime Rate\* Statistics (1980-1998)

Year	Carroll County			Georgia		
	Total Violent Crime Rate	Total Property Crime Rate	Total Indexed Crime Rate	Total Violent Crime Rate	Total Property Crime Rate	Total Indexed Crime Rate
1980	220.07	3,201.65	3,421.72	499.21	4,639.16	5,138.38
1981	223.11	3,319.04	3,542.15	516.28	4,812.31	5,328.58
1982	216.32	3,665.69	3,882.01	500.53	4,537.94	5,038.47
1983	260.36	3,857.93	4,118.29	444.22	3,897.25	4,341.47
1984	298.06	3,884.39	4,182.44	493.75	4,032.65	4,526.40
1985	317.57	3,548.24	3,865.81	531.53	4,482.29	5,013.82
1986	323.95	4,007.12	4,331.07	564.60	4,754.02	5,318.62
1987	353.05	4,325.64	4,678.69	557.72	5,093.32	5,651.05
1988	362.25	4,804.51	5,166.77	668.13	5,640.25	6,308.38
1989	377.60	5,491.51	5,869.11	731.12	6,266.46	6,997.58
1990	594.14	5,930.23	6,524.37	742.63	5,737.60	6,480.23
1991	437.34	4,945.09	5,382.43	716.04	5,525.74	6,241.79
1992	382.14	4,211.67	4,593.81	705.07	5,417.24	6,122.31
1993	415.35	4,202.95	4,618.30	690.57	5,192.27	5,882.84
1994	466.94	4,273.05	4,739.98	631.79	5,017.52	5,649.31
1995	415.92	4,437.74	4,853.66	632.55	5,176.12	5,808.67
1996	475.11	4,617.84	5,092.95	614.02	5,430.45	6,044.46
1997	450.73	4,020.84	4,471.56	573.02	4,864.14	5,437.16
1998	350.51	4,319.39	4,669.90	554.79	4,704.87	5,259.66

Source: Georgia Bureau of Investigation (<http://www.ganet.org>)

\* Rate is measured in the number of incidents per 100,000 population.

The Carroll County Sheriff Department (CCSD) provides policing, incarceration and court delivery services. The CCSD is comprised of the jail, administration, criminal investigation and patrol divisions. Policing functions are primarily provided within the unincorporated portions of the County. Housed in 84,727 sq. ft. of the Carroll County Public Safety facility, the department employs 191 officers and administrative staff. In 1991, the County constructed a Correctional Institute, which houses over 300 county and state inmates, who contribute to the maintenance of county roads. The correctional facility is operated by the jail division. In 2002, the Department received 31,309 calls for service, which equates to approximately 550 calls per 1,000 rural residents.

**F. FIRE PROTECTION AND EMS SERVICES**

Carroll County Fire Rescue operates a headquarters and a maintenance facility in Carrollton and 13 stations throughout the County including facilities within the city limits of Bowdon, Mt. Zion, Roopville, Temple, Villa Rica, and Whitesburg (**Map 9, Appendix B**). Each station is equipped with a 1,500 gallon per minute (GPM) Class “A” NFPA compliant pumper. Additional special apparatus include a 2,000-gallon tanker, two aerial apparatus, two air and light units, five brush trucks, a mobile decontamination truck and trailer, a Mobile Operations Center and four rescue boats. Staffing consists of 110 career positions, including administration and 115 volunteer firefighters. During each shift, all engine companies have at least two (2) career firefighters on duty and all ladder companies have at least three (3) firefighters on duty.



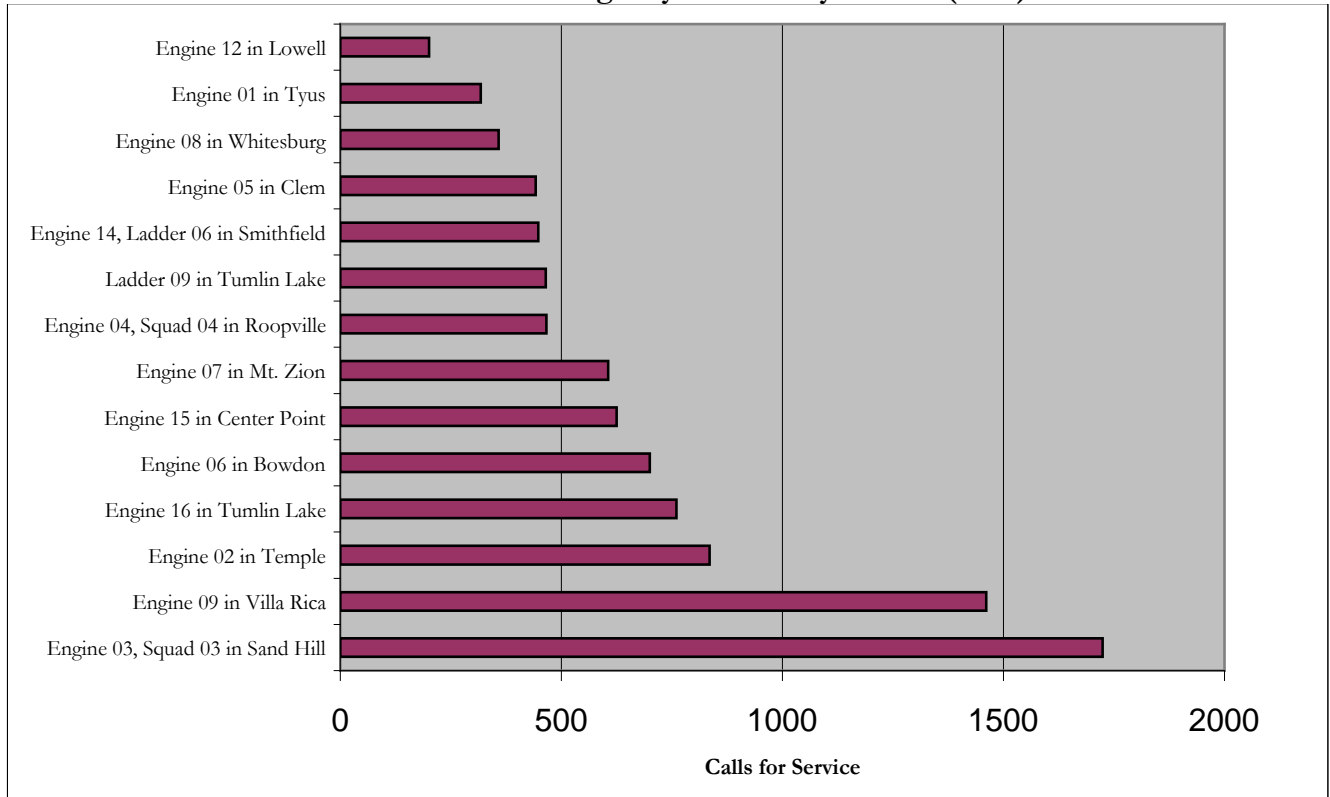
Carroll County Fire Rescue responded to 7,130 calls for assistance during 2007, which was the highest number of responses in a single year since the department was chartered in 1979. The 2007 level of activity represents a 10.47% increase in requests for assistance compared to 2006 (6,454). As the population of the County increases so will the assistance calls. In 2007, emergency medical calls comprised over half of all calls for service. Fire related responses made up almost 11.43% of calls. Engine 09 in Villa Rica responded most often with 1,461 calls in 2007. **Exhibit 105** illustrates the number of calls for service for each unit or company. The disparate demands illustrate the challenge of staffing and equitably funding facilities.

Carroll County Fire Rescue serves the incorporated area of Carroll County and all of the municipalities except for the City of Carrollton. The City of Carrollton Fire Department serves areas within the city limits and the vicinity from three (3) stations within the city. The County pays the City of Carrollton \$582,000 annually for service outside the city limits. Mutual aid agreements exist between Carroll County, Carrollton and adjacent Counties. In addition, Carroll County Fire Rescue accesses the Carroll County Water Authority resources through hydrants located throughout the County and routinely performs flow tests to ensure adequate water supply for fire suppression.

The Carroll County Emergency Management Agency is responsible for assisting in the protection of lives and property of Carroll County citizens in the event of natural or manmade disasters. Emergency Management anticipates emergencies, takes steps to prevent loss of life and property, and provides quick response when disasters strike. Attached to Carroll County Fire Rescue, the Emergency Management Agency was established to develop and implement a countywide program. Emergency Management and other emergency agencies identify hazards that face each community and develop contingency plans for each potential emergency. Emergency Management provides the expertise, training and coordination that local governments need to protect lives and property.



**Exhibit 105: Calls for Emergency Services by Station (2007)**



Source: Carroll County Fire and Rescue

The West Georgia Local Emergency Planning Committee (LEPC) is composed of concerned citizens from Carroll, Haralson and Heard Counties who represent business, industry, public safety, local government, law enforcement, fire, emergency management, emergency medical services, health departments, schools, environmental groups and the news media. An LEPC is required to develop an emergency plan to educate, communicate and protect the local community during an accidental release of toxic chemicals. The LEPC also collects inventories of regulated chemicals each year and responds to inquiries from the public regarding community right-to-know issues. The LEPC acts as a source of information for anyone interested in chemical safety, including maintaining a library of Material Safety Data Sheets (MSDS) for chemicals in use in the three counties.

**G. EDUCATIONAL FACILITIES**

The importance of strong schools to a community’s health cannot be overstated. An educated citizenry of all ages has numerous social and economic benefits including, but not limited to: lower crime rates, higher quality workforce, higher wages, increased property values, enhanced cultural activities, stronger community leadership and greater economic potential. Three school districts provide service in Carroll County. The Bremen School District serves students living in the small portion of that community located in the County. The City of Carrollton School District serves students in that city. The remainder of the County is served by the Carroll County School District.

The “Carroll Tomorrow” economic development strategy recognized education’s importance when it stated the following primary goal:



*“GOAL 3, Quality Workforce and Education – Local schools, higher education and the business community will partner to produce a “world class” workforce through a coordinated workforce development system.”*

The “Carroll Tomorrow” plan went on to include tangible objectives such as:

- Raise the performance of the public schools in Carroll County into the top 5% statewide,
- Increase the high school completion rate above 85% in the public school system,
- Increase the number of high school graduates completing courses in higher mathematics and physical sciences.

The Carroll County Board of Education operates the school system consisting of 11 elementary attendance districts and 6 post-elementary attendance districts (**Map 10, Appendix B**) with 12 elementary, 5 middle and 5 high schools. In addition to traditional schools, the district operates administrative offices, maintenance facilities, transportation facilities, a vocational center and a psycho-education center. **Exhibit 106** shows the projected enrollment for 2011 by school, including proposed schools. Enrollment is projected to reach 18,356 by 2011 with 9,097 elementary, 4,254 middle and 5,005 high school students.

One of the key issues facing the County and the District is site selection for new school facilities. A poorly located school can generate enormous costs for transportation and utility improvements. These costs are exacerbated by increased development pressures that result from new elementary schools and, to a lesser extent, middle schools. Coordination of school siting decisions with the County’s capital improvements programming and land use decisions is essential for efficient service provision.



**Exhibit 106: Projected School Enrollment (2011)**

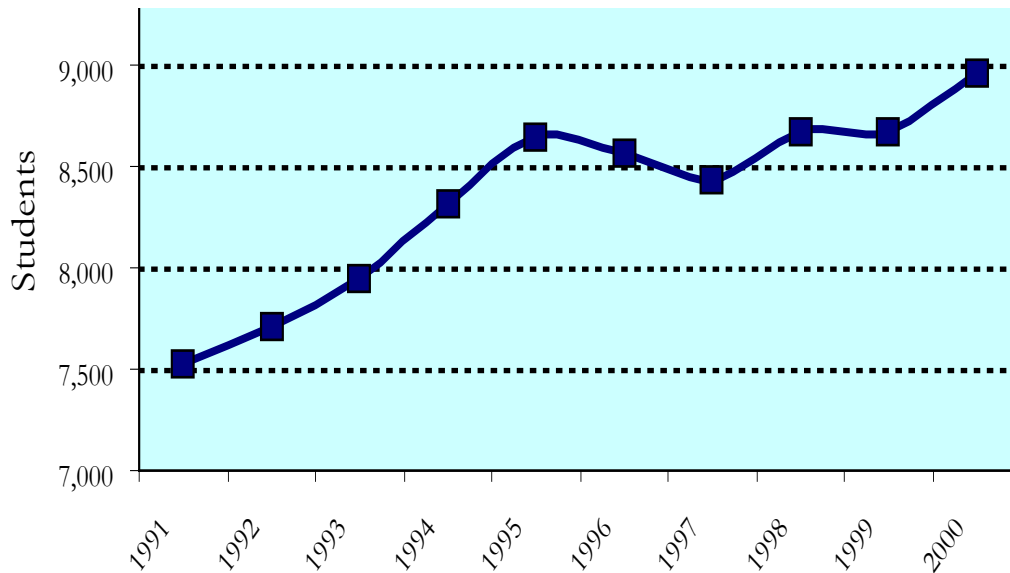
School	Growt h	School Capacity	FY05	FY06	FY07	FY08	FY09	FY10	FY11
Bowdon Elementary	101%	725	738	745	753	760	768	776	783
Jonesville Middle	101%	500	359	361	363	364	366	368	370
Bowdon High	101%	575	429	433	438	442	446	451	455
<b>TOTAL</b>		<b>1800</b>	<b>1526</b>	<b>1539</b>	<b>1553</b>	<b>1567</b>	<b>1581</b>	<b>1595</b>	<b>1609</b>
Mt. Zion Elementary	103%	850	735	757	780	803	827	852	878
Mt. Zion Middle	103%	475	352	363	373	385	396	408	420
Mt. Zion High	103%	425	389	401	413	425	438	451	464
<b>TOTAL</b>		<b>1750</b>	<b>1476</b>	<b>1520</b>	<b>1566</b>	<b>1613</b>	<b>1661</b>	<b>1711</b>	<b>1762</b>
Central Elementary	101%	950	960	970	979	989	999	1009	1019
Roopville Elementary	101%	575	362	366	369	373	377	380	384
Whitesburg Elementary	101%	525	406	410	414	418	422	427	431
Central Middle	101%	800	932	941	951	960	970	980	989
Central High	101%	1050	1067	1078	1088	1099	1110	1121	1133
<b>TOTAL</b>		<b>3900</b>	<b>3727</b>	<b>3764</b>	<b>3802</b>	<b>3840</b>	<b>3878</b>	<b>3917</b>	<b>3956</b>
Sharp Creek Elementary	106%	825	706	748	793	841	891	945	1001
Temple Elementary	108%	725	810	875	945	1020	1102	1190	1285
Temple Middle	108%	500	545	589	636	687	741	801	865
Temple High School	108%	700	571	617	666	719	777	839	906
<b>TOTAL</b>		<b>2750</b>	<b>2632</b>	<b>2828</b>	<b>3040</b>	<b>3267</b>	<b>3512</b>	<b>3775</b>	<b>4058</b>
Ithica Elementary	106%	600	415	440	466	494	524	555	589
Sand Hill Elementary	105%	625	749	786	826	867	910	956	1004
Glanton-Hindsman Elem.	107%	650	582	623	666	713	763	816	873
Villa Rica Elementary	107%	550	566	606	648	693	742	794	849
Bay Springs Middle	105%	775	660	693	728	764	802	842	884
Villa Rica Middle	107%	625	483	517	553	592	633	677	725
Villa Rica High	107%	975	1241	1328	1421	1520	1627	1741	1862
<b>TOTAL</b>		<b>4800</b>	<b>4696</b>	<b>4992</b>	<b>5308</b>	<b>5644</b>	<b>6001</b>	<b>6382</b>	<b>6787</b>
Crossroads Academy	100%	270	132	132	132	132	132	132	132
Open Campus High	100%		52	52	52	52	52	52	52
<b>TOTAL</b>		<b>270</b>	<b>184</b>	<b>184</b>	<b>184</b>	<b>184</b>	<b>184</b>	<b>184</b>	<b>184</b>
<b>SYSTEM TOTAL</b>	<b>104%</b>	<b>15270</b>	<b>14241</b>	<b>14829</b>	<b>15452</b>	<b>16114</b>	<b>16817</b>	<b>17563</b>	<b>18356</b>

Source: Carroll County Schools. -



There are two post-secondary institutions within the community. The University of West Georgia (UWG) offers 58 undergraduate majors, nine Masters Degree Programs and one Doctorate of Education program. **Exhibit 107** depicts the student enrollment trend at the University of West Georgia. After more than a decade of enrollment growth, the total enrollment in the fall of 2002 was 9,675, and has currently surpassed 10,000. Graduate level students comprised 20.6% of enrollment. Minority enrollment percentage exceeds the percent of minorities in the Carroll County population. There are over 300 full time faculty positions. The Ingram Library has over 330,000 volumes housed in an 85,000 sq. ft. facility.

**Exhibit 107: 1991 – 2000 University of West Georgia Fall Enrollment**



Source: Department of Institutional Research and Planning, University of West Georgia

The West Central Georgia Technical College (WCGT) opened in 1968 as the Carroll County Area Vocational Technical School. Initially WCGT was managed by the Carroll County Board of Education. In 1987, the school became part of the statewide technical school network under the Georgia Department of Technical and Adult Education. WGTC maintains four campuses, including one in Carrollton. In fiscal year 2003, 38% of the college’s students were from Carroll County. The fall 2000 enrollment was 2,032 with 33.4% male and 66.6% female. Programs at West Georgia Technical College include technical associates degrees, diplomas and certificate programs, adult literacy, continuing education, and corporate training. WGTC uses an institutional effectiveness model to assess its personnel, finance, facilities, and learning resources.

**H. HOSPITALS AND PUBLIC HEALTH**

There are three hospitals in Carroll County with a total of 318 beds. The Tanner Health System operates a 202-bed hospital in Carrollton, a 52-bed facility in Villa Rica and the 57-bed Higgins General Hospital in Bremen. All facilities provide a wide range of inpatient and outpatient services to a regional area on a 24-hour basis. Recently an additional 40-bed facility was constructed at the Villa Rica facility. The Higgins General Hospital has recently undergone significant renovations.



Overall there are approximately 3.2 physicians per 1,000 Carroll County residents. However, there is a lack of dentists in the community with only 0.03 dentists per 1,000 people.

### ***I. LIBRARIES***

Public libraries within Carroll County are part of the West Georgia Regional Library System, which serves Carroll, Douglas, Haralson, Heard and Paulding Counties. There are five (5) branch libraries in the County and one deposit collection. Neva Lomason Memorial Library serves as the Headquarters library for the five-county West Georgia Regional Library System, and it houses 180,000 volumes in a 27,866 square foot building. Neva Lomason Memorial Library houses two meeting rooms, a Cultural Arts Exhibit Hall, and a Special Collections Room which includes genealogical and local history materials. This building houses the administrative staff of the West Georgia Regional Library System, including nine (9) State-paid professional librarians whose duties are to serve the needs of all libraries within the system. West Georgia Regional Library operates a bookmobile and a courier service from this location which serves all branches in the system as well as school media centers throughout the area.

Warren P. Sewell Memorial Library of Bowdon is a 6,500 square foot facility which houses 27,933 books and library items. The library features a community meeting room, a children's story time area, and a Special Collections Room which emphasizes materials about the decorative arts.

The Villa Rica Public Library consists of a 5,000 square foot building which houses 25,688 books and other items. The building includes a meeting room for use by the public.

The City of Mt. Zion Public Library opened on October 1, 2007 and is located in the Mt. Zion Community Center, a 8,280 square foot building. This library houses 4,000 books.

The library system estimates that the County will need at least 75,000 square feet of public library space by 2020 in order to meet minimum state library standards. The new Whitesburg Public Library opened March 31, 2008. Growth along the I-20 corridor indicate the need for an additional library facility in the Temple area (7,134 sf), and proposed development in the eastern part of the county certainly will require an additional library facility (15,000 sf) beyond the 2500 sf library just opened by the City of Whitesburg. Additionally, growth in the Mt Zion area will require a 5,000 sf facility by 2020.

Ingram Library on the campus of the University of West Georgia in Carrollton serves as a governmental document depository.

### ***J. RECREATIONAL FACILITIES***

The Carroll County Recreation Department operates the McIntosh Reserve Park, a sports complex in Carrollton and 150 acres of green-space adjacent to the sports complex at Oak Mountain. In total the County maintains 753 acres, 523 of which is at the McIntosh Reserve. The Recreation Department provides sports league services to over 150 youth and adult teams by offering a wide range of sporting opportunities. The McIntosh Reserve Park, which serves a regional population, has camping, hiking, horseback riding, pavilions and water park facilities. Additional rural recreational facilities include the John Tanner State Park, which offers boating,





camping and fishing opportunities. Each City within the County is responsible to provide recreation and park facilities to their citizens. Through the development of this Plan, the County established an open space preservation goal of 20% of the land. A portion of this land will be intended for passive recreational uses appropriate for the protection of natural resources.

Recent acquisitions include a 262 +/- acre greenspace property on Highway 113 and a 304 +/- acre property at Blackjack Mountain. A Master Passive Recreation Plan was just completed to include McIntosh Reserve and its 3-greenspace acquisitions. Funded as part of the Special Purpose Local Option Sales Tax (SPLOST), the recreation department recently built an approximately 32,000 square feet gymnasium on site of the County recreation park. This addition enabled the recreation department to meet its needs into the near future. Long-term plans are to construct a similar recreation complex with gymnasium in the northern portion of Carroll County to accommodate future recreation needs.

### ***K. UTILITIES***

The cities and unincorporated areas of Carroll County are served by the Carroll Electric Membership Corporation (Carroll EMC), Georgia Power or Greystone Power. Electric power is provided by an integrated transmission system. In Carroll County, this system consists of transmission voltages of 12 KV, 25KV, 46 KV, 115 KV, 500 KV and 230 KV. Businesses with a connected load greater than 900 KW have the option to choose between Carroll EMC, Georgia Power, or Greystone Power for service. Natural gas is supplied locally by the Atlanta Gas Light Company for residential and industrial customers.

The number and location of new electric utility connections can provide valuable information regarding the pace and density of new development and economic activity. **Exhibit 108** shows map grid data for new Carroll EMC connections. New electricity connections to the Carroll EMC system were concentrated between Carrollton, in the center of the County, and Villa Rica in the northeast part of the County. The most significant connection growth occurred in and near Villa Rica. Other significant growth areas were in the northwest and east portions of Carrollton. Few new connections were made in the rural south and west of the County. Overall there were 1,703 new connections in the grid system covering Carroll County.



Exhibit 108: New Electric Service Connections in 2003

Legend	Grid #		511-4		511-1		611-4		611-1			
		New Connection		0	3	35	28	0.0%	0.2%	2.6%	2.1%	
Dark Blue<0.5%	Percent of New Connections		511-3	511-2	611-3	611-2	711-3					
Light Blue<1.0%			17	47	52	64	5					
Green<2.0%			1.3%	3.6%	3.9%	4.8%	0.4%					
Yellow<3.0%			510-4	510-1	610-4	610-1						
Pink<5.0%			0	38	41	1						
Red>5.0%			0.0%	2.9%	3.1%	0.1%						
			410-3	410-2	510-3	510-2	610-3	610-2				
			0	1	2	8	16	119				
			0.0%	0.1%	0.2%	0.6%	1.2%	9.0%				
		209-1	309-4	309-1	409-4	409-1	509-4	509-1	609-4	609-1		
		0	1	3	3	9	11	31	8	4		
		0.0%	0.1%	0.2%	0.2%	0.7%	0.8%	2.3%	0.6%	0.3%		
209-3	209-2	309-3	309-2	409-3	409-2	509-3	509-2	609-3	609-2			
4	8	4	1	20	15	11	16	39	48			
0.3%	0.6%	0.3%	0.1%	1.5%	1.1%	0.8%	1.2%	2.9%	3.6%			
208-4	208-1	308-4	308-1	408-4	408-1	508-4	508-1	608-4	608-1			
1	4	1	3	18	24	9	36	12	1			
0.1%	0.3%	0.1%	0.2%	1.4%	1.8%	0.7%	2.7%	0.9%	0.1%			
208-3	208-2	308-3	308-2	408-3	408-2	508-3	508-2	608-3	608-2			
0	2	7	4	2	6	14	120	17	2			
0.0%	0.1%	0.5%	0.3%	0.2%	0.4%	1.1%	9.1%	1.3%	0.2%			
207-4	207-1	307-4	307-1	407-4	407-1	507-4	507-1	607-4	607-1	707-4	707-1	
0	1	4	8	23	76	42	11	15	5	0	0	
0.0%	0.1%	0.3%	0.6%	1.7%	5.7%	3.2%	0.8%	1.1%	0.4%	0.0%	0.0%	
207-3	207-2	307-3	307-2	407-3	407-2	507-3	507-2	607-3	607-2	707-3	707-2	
1	2	7	2	7	8	4	7	16	11	1	1	
0.1%	0.2%	0.5%	0.2%	0.5%	0.6%	0.3%	0.5%	1.2%	0.8%	0.1%	0.1%	
206-4	206-1	306-4	306-1	406-4	406-1	506-4	506-1	606-4	606-1	706-4	706-1	
1	4	6	8	6	3	1	5	2	0	1	0	
0.1%	0.3%	0.4%	0.6%	0.4%	0.2%	0.1%	0.4%	0.2%	0.0%	0.1%	0.0%	
206-3	206-2	306-3	306-2	406-3	406-2	506-3	506-2	606-3	606-2	706-3	706-2	
0	1	2	5	8	4	7	4	2	0	0	0	
0.0%	0.1%	0.2%	0.4%	0.6%	0.3%	0.5%	0.3%	0.2%	0.0%	0.0%	0.0%	
205-4	205-1	305-4	305-1	405-4	405-1	505-4	505-1					
0	0	1	1	1	2	0	0					
0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%					

Source: Carroll Electric Membership Corporation



***L. SOLID WASTE MANAGEMENT***

Carroll County and the municipalities of Bowdon, Carrollton, Mount Zion, Temple, Roopville, Villa Rica, and Whitesburg jointly manage their solid waste needs. The Carroll Multi-Jurisdictional Solid Waste Management Plan explains their goals and objectives regarding solid waste management.



## CHAPTER VI. TRANSPORTATION

### A. INTRODUCTION

The transportation network moves people, commodities, goods and services within and through the County via various modes. The road network is the framework upon which the County’s land use pattern has developed. Development impacts the road system’s ability to provide safe convenient mobility and access. Excessive or poorly designed development can overburden the road system and generate the need for costly improvements. Coordinating transportation and land use decisions is essential to ensure compatibility between the two and to make the most efficient use of limited fiscal resources.

### B. ROADS

The most visible element of the transportation system is the road system (**Map 11, Appendix B**). Road systems consist of a hierarchy of roadways classified by relative purpose, traffic volume and construction standards. Interstates and highways convey high-speed high volume traffic on a multi-lane hard surface with limited access points between communities. Arterial roads provide for high traffic volume circulation at moderate to high speeds within or between communities with controlled access. Collectors provide moderate speed access between arterials and local roads. Local roads are intended to provide low volume and low speed access directly to private property. Collector and local roads are typically hard surfaced in cities and suburban development areas, but may be gravel in sparsely developed rural areas. **Exhibit 109** shows the number of centerline miles in each classification and the average of all average annual daily traffic levels for roads in that classification.

**Exhibit 109: Road Classifications**

Classification	Centerline miles	Percentage of total county miles	Average Annual Daily Traffic (vehicles per day)
Interstate	16	1.2	N/A
Arterial roads	129	9.4	16,110
Collector roads	245	17.9	2,770
Local roads	979	71.5	690
Totals	1,369	100	

*Source: Carroll County Long Range Transportation Plan, Day Wilburn Associates, 2004.*

The road network in Carroll County consists of a radial configuration of major roadways connecting Carrollton with other cities in the County. Highways 27, 16, 166, 113, and 61 radiate from Carrollton. The southern part of the county, Highway 5 runs west from Whitesburg to Roopville and then south of Bowdon. Highway 78 runs east and west between Temple and Villa Rica in the northeast corner of the county. Interstate 20, which regionally connects the Atlanta metropolitan area to Birmingham, Alabama, runs through the cities of Temple, Villa Rica, and Bremen, just north of Mt. Zion. I-20 has three interchanges in Carroll County, at Highways 27, 113 and 61.



Of the 1,369 total miles of roads in the County, 1,041 miles are paved roads. Of the paved roads, 181 miles are State routes and 165 are city streets with the remaining balance of 694 miles under County jurisdiction and maintenance. Of the total roadways in the county, approximately 96% are one or two lanes roads, 4% are 4 lane roads, and less than 1% have five or six lanes.

Pavement conditions are evaluated by the Georgia Department of Transportation, which rates each road on a numerical scale. The rating indicates the condition of the road and its need for maintenance. The condition of roads in Carroll County is shown in **Map 12** (see **Appendix B**). Roads rated 81 through 99 are in very good condition with no maintenance needed. Roads rated 65 through 80 have good rideability with some minor repairs needed. Roads rated 45 through 64 have considerable deterioration and need major repair or resurfacing. Roads rated 28 through 44 are badly deteriorated and need leveling and resurfacing. Roads rated 11 through 27 are in critical condition and need immediate attention. Roads with ratings of 10 or less need to be abandoned and are not being maintained.

The most significant traffic congestion is confined to the northeast portion of the County, but commuter traffic is increasingly heavy along Highways 61, 5 and 166. **Exhibit 110** shows roads with the highest average annual daily traffic (AADT) counts. These figures are based on a three-year, two-way count for the years 2000 through 2002. The roads with high traffic counts all experienced strong growth in traffic between 1990-1992 and 2000-2002. However, not all roads in Carroll County experienced an increase in traffic counts. Burns Road/CS 944 north of Buffalo Road showed a 30% drop in traffic, from an AADT of 4,590 in 1990-1992 to 3,200 in 2000-2002.

**Exhibit 110: Average Annual Daily Traffic**

Road/Route (Station No.)	Count Location	2000- 2002 AADT	Percent Increase from 1990-1992
I-20/SR 402 (284)	West of Douglas Cnty Line	63,950	61%
I-20/SR 402 (278)	West of SR 113	43,830	81%
SR 166 (265)	East of Old Airport Road	33,640	66%
US 27/SR1 (12)	South of SR 16/166	31,760	25%
SR 61 (145)	South of Brooks Road	25,180	77%
SR 61 (149)	North of Bay Springs Road	24,940	98%
SR 61 (158)	South of US 78/SR 8	24,600	66%
US 27/SR 1 (25)	North of Myrtle Street	24,160	84%
SR 166 (258)	North of Horsley Mill Rd.	24,100	43%
US 78/SR 8 (101)	East of SR 101	17,710	71%

*Source: Carroll County Long Range Transportation Plan, Day Wilburn Associates, 2004.*

Current levels of service on Carroll County roads remain relatively uncongested. The level of service compares the design capacity of a particular road segment with the daily traffic volume, grading the ratio on a scale from A to F. Most roads in the County are currently at levels of service A through C. The only road segments that are currently at an F level of service, where traffic volume exceeds the road capacity, are the interchange ramps for I-20 in Bremen and at the Industrial Road interchange in Villa Rica, as shown in **Map 13**. However, the Day Wilburn Associates plan anticipates drops in levels of service for several roadways throughout the County



during the next two decades, as shown in **Map 14** (see **Appendix B**). Increased congestion is projected to be particularly acute along on important travel corridors such as SR 113, SR 101, Carroll Street, SR 166, and SR 61.<sup>37</sup> Based on the traffic modeling conducted during the preparation of the Carroll County Long Range Transportation Plan, improvements will be needed for each of these roads.

Road safety is an important issue in assessing the adequacy of a transportation network. Carroll County experienced 1,585 crashes on state routes in 2001. Of these crashes, over 34% involved an injury and less than one percent involved a fatality. **Exhibit 111** lists the five intersections in the state route system with more than twenty crashes. **Exhibit 112** shows the crash rates for Carroll County by functional classification. The overall crash rate for Carroll County arterial streets is lower than the statewide crash rate for arterial streets.

**Exhibit 111: Crashes at Intersections, 2001**

Intersection	Number of Crashes
SR 16 at SR 166	48
US 78/SR 8 at SR 61	38
SR 166 at Old Airport Rd./CR 424	26
SR 61 at Hickory Level Rd./CR 393	23
US 27/SR 1 at Roop St./CS 922	20

*Source: Carroll County Long Range Transportation Plan, Day Wilburn Associates, 2004.*

**Exhibit 112: Crashes by Functional Classification, 2001**

Functional Class	Number of Crashes	Crash Rate per Million Vehicle Miles Traveled	Fatality Rate per Million Vehicle Miles Traveled
Interstate	109	35	0.64
Arterials	1,238	230	1.3
Collectors	237	228	3.85

*Source: Carroll County Long Range Transportation Plan, Day Wilburn Associates, 2004.*

### **C. SIGNALIZATION AND SIGNAGE**

Georgia Department of Transportation information shows that there were 2,301 traffic signals and signs in use in Carroll County in 2002, as shown in **Exhibit 113**. Of these, approximately half were located in the unincorporated areas of the county. Over 93% of the signals and signs were stop signs.

<sup>37</sup> Additional information regarding existing and projected levels of service can be found in Section 4 of the Carroll County Long Range Transportation Plan, prepared by Day Wilburn Associates, 2004.



**Exhibit 113: Signals and Signage**

Area	Stop Sign	Beacon- Amber	Stop All Directions	Flasher	Traffic Control - Left Turn Arrow	Stop Sign Opposite	Traffic Control - Pedestrian Signal	Beacon - Red	Signal	Yield Sign Opposite Inventory	Yield Sign	Grand Total
Unincorp. County.	486	2	59		3	631	1		2			1184
Bowdon	28	3	7			30	5	1	3	1		78
Bremen	5							1	2			8
Carrollton	206	1	34		19	298	12	2	58	2	6	638
Mount Zion	5		2	2		13					2	24
Roopville	5	1				6						12
Temple	35	1	3			47		2	2			90
Villa Rica	75	1	26		5	115		1	7		1	231
Whitesburg	11	1	9			14		1				36
Grand Total	856	10	140	2	27	1154	18	8	74	3	9	2301

Source: Georgia Department of Transportation, RC file, September 11, 2002.

***D. BRIDGES***

Bridges are an important piece of the transportation network in promoting cohesion in roadways. Bridges span rivers, streams, culverts, and other areas where conventional roadways are infeasible. In doing so, they minimize barriers to create a network. While the Chattahoochee and Little Tallapoosa rivers create some obstacles to mobility, no additional crossing are proposed in the Carroll County Long Range Transportation Plan.

The Georgia Department of Transportation inspected all County and Federal Aid Secondary bridges and submitted a Locally Owned Federal Aid Route Bridge Inspections report to Carroll County in January, 2003. The inspection covered 98 bridges. At the time of the inspection, sixty bridges were reported in good condition, twenty were in satisfactory condition, thirteen were in fair condition, four were in poor condition, and one bridge was being replaced.

***E. EVACUATION ROUTES***

I-20 through Carroll County is designated as an evacuation route for hurricanes traveling north through the Gulf of Mexico and Atlantic Ocean. In addition, I-20 may be used as an evacuation route in the event of an incident at the Army Depot in Anniston, Alabama that causes nerve gas to be released.

***F. PARKING***

Parking generally is not a constraint throughout Carroll County, except in some downtown areas. Significant parking areas in Carroll County include three park and ride lots for carpooling and express bus pick-up and drop-off points. The lots are located at:



- I-20 and SR 61 near Villa Rica,
- North Side Drive at SR 166 in Carrollton, and
- I-20 and SR 113 near Villa Rica.

**Exhibit 115** shows the respective sizes and utilization rates for each lot. Responsibilities for park and ride lots are shared between local governments and GDOT district offices. Currently, local governments are asked to provide general maintenance such weed-eating and trash pickup and the State provides for pothole repairs and resurfacing. Carroll County has just recently been made aware of their responsibilities on the Temple lot, and indications are that the lot's past problems with trash and weeds are being adequately addressed. The Villa Rica and Temple lots are on the District's priority list to be repaved. As yet no funding source has been identified statewide to accomplish this task. District personnel are very happy with the Carrollton facility, to the point of recommending it to their State offices as a model example of what a park and ride lot should be throughout the state.

**Exhibit 114: Park and Ride Lot Utilization, 2003-2004**

Lot Location	Lot Name	Number of Parking Spaces	2003		2004	
			Average Count	Percent Utilization	Average Count	Percent Utilization
Villa Rica	I-20 & SR 61	160	76	48%	82	51%
North Side Carrollton	SR 166	65	12	18%	15	23%
Temple	I-20 & SR 113	15	6	40%	9	60%

Source: Georgia Department of Transportation.

### ***G. BICYCLE & PEDESTRIAN WAYS***

Transportation includes more than just roadways for automobiles. Additional forms of transportation include bicycle and pedestrian ways. The Chattahoochee Trace state bicycle route passes through Carroll County. Approximately 23 miles of the route are located within the County. The Chattahoochee Trace is a north-south bicycle route that extends from the Tennessee state line south to Seminole State Park.

In 2005, the Chattahoochee-Flint Regional Development Center completed a Regional Bicycle and Pedestrian Plan that includes Carroll County, as well as Coweta, Heard, Meriwether and Troup Counties. Along with inventorying existing bicycle and pedestrian facilities and activities, the plan formulated goals and strategies for the ongoing development of these modes of transportation. The bicycle routes included in this plan are shown in **Map 15 (Appendix B)**.

While there are extensive sidewalk networks within incorporated cities, Carroll County does not require or maintain sidewalks in the unincorporated areas of the County. The County is coordinating with its cities to develop urban standards in Urban Growth Areas to address the installation and maintenance of sidewalks. In addition, the County is participating in the Safe Routes to Schools programs, in conjunction with the school district, to develop pedestrian-friendly networks around schools located in residential areas.





## ***H. PUBLIC TRANSPORTATION***

Public transportation is limited to selective non-profit services within the larger communities of the County. The Georgia Department of Human Resources provides limited transportation services through its Coordinated Transportation System. This system assists County residents in reaching services of the Division of Aging Services, Mental Health/Developmental Disabilities/Addictive Diseases, and Family and Children Services.

The County should coordinate with regional transit entities to explore potential commuter bus services over the next five years. The long-term prospect of extending commuter rail along the I-20 corridor, discussed in Section J, could be preserved by protecting potential terminal sites.

## ***I. AIRPORTS***

Located on 396 acres to the east of Mt. Zion and 5 miles northwest of Carrollton, the West Georgia Regional Airport – O.V. Gray Field (WGRA) was constructed 30 years ago and is under the authority of the West Georgia Airport Authority. The WGRA runway is 5,500 ft. in length and has an asphalt surface that is in good condition as well as a full parallel taxiway. Operations of the airport have been contracted to a private firm, which has overseen \$2 million in facility improvements in recent years. Currently, the WGRA is considering extending the runway length to 6,800 feet and has been in discussions with the County and Airport Authority to explore funding options.<sup>38</sup> The existing facilities can accommodate corporate jet and mid-size air traffic. The proposed extension would make WGRA the second longest runway in Georgia – Hartsfield International has the longest – and would allow the airport to handle large jet landings.

The WGRA has been recognized by the community as an underutilized economic development asset. The airport has a number of competitive advantages to other air facilities in the Atlanta Metropolitan Areas, including:

- Adjacent undeveloped land suitable for airport expansion and facility development;
- Access to Interstate 20;
- Existing capacity to serve corporate jets; and
- A proactive management exploring facility improvements.

The community based economic development effort “Carroll Tomorrow” has identified three primary economic development opportunities directly associated to the airport, including:

- Attraction of aircraft building, assembly and part manufacturing businesses;
- Development of a light industrial park adjacent to the airport; and
- Operation of a significant air distribution facility.<sup>39</sup>

Land use adjacent to the airport and the height of structures extending from the runway are not locally regulated. It is common for airport operations to be protected from land use incompatibilities through airport overlay zoning regulations. Such regulations protect the usefulness of public investment in the airport while protecting the public safety and welfare by denoting appropriate land use patterns and structure heights. Since the airport is a regional

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<sup>38</sup> Carroll Tomorrow. Carroll County Profile of Target Business Clusters (March 6, 2000). Pg 13.

<sup>39</sup> For additional information on Carroll Tomorrow’s economic strategy see: Carroll Tomorrow. Economic Development Strategy (June 2000). Pg 15 and 49.



facility and the land use decisions of Carroll County, Bremen, Carrollton and Mt. Zion effect airport operations, mutually accepted and enforced airport overlay zoning would preserve the functionality of the airport. **Map 16** shows airport protection zones. Hartsfield Atlanta International Airport (HAIA) is located approximately 50 miles from Carrollton in the southwest portion of Atlanta, which is a relatively easy commute for business and personal use. Over 30 airlines provide commercial passenger service.

The West Georgia Regional Airport provides an indispensable link to regional, state, and national transportation systems. However, aircraft noise, safety, and environmental impacts around the Airport affects the compatibility of land uses surrounding it. Incompatible land uses jeopardize the safety and efficiency of flying activities, and the quality of life of the community's residents. Incompatible airport land uses include residential development, schools, community centers and libraries, hospitals, and buildings used for religious services - all generated by new housing demands. Likewise, the construction of tall structures – including buildings, construction cranes, and cell tower in the vicinity of an Airport can be hazardous to the navigation of airplanes. Aviation electronic navigation aids (such as radar facilities, and instrument landing systems) are not always located on Airport property. Such electronic systems (whether located on-Airport or off) have the potential of being interfered with if non-aviation related electronic sources are placed in proximity or if structures are constructed which could block the navigation aid signals. In addition, the placement of lights (high mast lighting and stadium lights, for example) near an Airport can be a visual distraction to pilots approaching an Airport facility.

Planning objectives will encourage land uses that are generally considered to be incompatible with the Airport and to encourage land uses that are more compatible (such as industrial and commercial uses) to locate around the Airport. Except for height, bulk, and intensity of developments around the Airport, conventional zoning techniques will not always suffice to control the land use around the Airport. A combination of procedures (such as zoning overlay requirements or performance requirements such as conditional uses, TDR, PDR, and other techniques), subdivision regulations, building and housing codes, growth policies have the potential to avoid incompatible development and promote compatible development.

Airport impact zones are useful to define the dimensions and locations of each area needing protection. Airport impact zones usually include (1) a runway protection zone, (2) an inner safety zone, (3) an inner turning zone, (4) an outer safety zone, (5) a sideline safety zone, and (6) a traffic pattern zone. Recommended land uses and densities of land development are different depending on the particular Airport Impact Zone. For example, the recommended land use in Zones (1), (2) and (5) would prohibit residential development and allow low-density industrial development. Recommended land uses in Zones (3) and (4) would range from zero to low-density residential development and industrial development. Recommended land uses in Airport Impact Zone (6) would allow low-density residential development and industrial development.

Often, residents who move into an area may not be aware of an Airport's presence or the implications of Airport noise. One method of informing the public of an Airport's proximity and disclosing the potential for aircraft noise, is to require disclosure through covenants, notice on



subdivision plats, site plans, and through other legal instruments. The location of the Airport and other relevant land use controls in the Airport area should be described in the disclosure and covenants and required as a condition of subdivision approval.

There are many entities involved in implementing or supporting actions directed toward improved land use compatibility around the Airport. These entities include the City of Mount Zion, West Georgia Regional Airport Authority, airlines, commercial operations and customers of the Airport, state government, the County, and the community at-large. Once zoning is adopted for Airport impact zones, proposals for development in the vicinity of the Airport should be evaluated by the Airport Authority and jurisdictional bodies responsible for land use around the Airport.

***J. RAILROADS***

There are two rail lines traversing the county. The Norfolk – Southern Railway system traverses Carroll County with two routes, an east-west line and a north-south line. The East-West line runs parallel to I-20 through Temple and Villa Rica. Approximately 20-25 trains per day pass along this route, which traverses the historic downtowns of the two cities. This route also provides passenger service through Amtrak, which uses the facility twice daily. The Crescent route has daily runs from New York City to New Orleans by way of Greensboro, NC and Atlanta, GA. There are no passenger stops for this route in the City of Villa Rica. The adjacent eastern and western boarding stops are at Atlanta, Georgia and Anniston, Alabama.

The North-South route runs through Bowdon Junction, Carrollton and Whitesburg with a spur to deliver coal to Georgia Power’s Plant Wansley. This route carries an average of five freight trains daily.

The Georgia Department of Transportation is studying a Georgia Rail Passenger Program to provide commuter rail service to Atlanta from outlying areas. One proposed route would terminate at Bremen with stations in Villa Rica and Temple. This route is estimated to cost \$303 million for initial capital costs, with 1.1 million passengers estimated to ride at the mid-range level of fares. The route is proposed to be operational in 2011.

***K. FUTURE IMPROVEMENTS***

The County has completed a study to prioritize improvements to some of its unpaved roads. This Plan promotes a land use pattern that will minimize the need to pave additional roads in rural areas, which will save considerable maintenance costs over the life of the Plan.

The 2004-2006 Georgia State Transportation Improvement Program includes a variety of transportation improvements planned for Carroll County. **Exhibit 115** shows a brief summary of road and bridge projects. The table includes only those projects that affect roadway capacity.

**Exhibit 115: 2007-2009 Carroll County STIP Improvements**

Type	Description	Planned Construction
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Bridges	SR 16/US 27 Alt at Chattahoochee River at Coweta County Line	Authorized 2007
Bridges	Replace bridge Sandy Flat RD at Big Indian Creek 2.5 mi SW of Bowdon	2010
Roadway Project	Intersection improvement SR 166 / Hays Mill RD	After 2011
Roadway Project	Turn Lanes SR 166 / Tyus-Carrollton RD right turn lanes	2008
Roadway Project	Widening SR 1/ US 27 from Central RD north to Dixie ST	After 2011

Source: Georgia Department of Transportation

In addition to these planned improvements, the Carroll County Long Range Transportation Plan prepared by Day Wilburn Associates identified a variety of transportation improvements intended to “provide multimodal, technological, and demand management solutions to meet Carroll’s future transportation needs” through 2030. These recommendations were matched to specific identified deficiencies in the county transportation network and include new roadways, roadway widening, interchange reconstruction, access management and traffic operations, High Occupancy Vehicle (HOV) lanes, commuter rail lines, express bus and local transit service, railroad grade separation, and safety improvements.<sup>40</sup>

<sup>40</sup> See Appendix B of the Carroll County Long Range Transportation Plan for a detailed list of proposed transportation projects.



## CHAPTER VII. LAND USE

### *A. EXISTING LAND USE*

The primary forces that mold land use patterns include: infrastructure, topography, hydrology, population growth, land and construction costs, cultural preference, automobile reliance and educational opportunity.

Low-density residential (i.e., 2-4 acre lot sizes) land use has permeated throughout the County with the heaviest concentration of rural residential use occurring around Carrollton and between Temple and Villa Rica (**Map 17, Appendix B**). Residential lot sizes vary throughout the unincorporated area of the County, ranging from 2-4 acres in rural/agricultural areas to ½ acre in growth areas with centralized water systems but no sewer. Compared with average metropolitan area densities of three units per acre, the County is using nine (9) times more land per capita with associated fiscal and energy costs that are staggering. Higher density mobile home parks and subdivisions are scattered; most being located in the eastern half of the County.

**Exhibit 116** lists the number of acres used for specific land use categories in unincorporated Carroll County and in each municipality. Agriculture, forestry, parks, recreation and conservation lands comprise 69.2% of the acreage in unincorporated Carroll County. Rural residential uses occupy 26.9% of the unincorporated area. Commercial and industrial land uses account for 1.2% of the unincorporated area. The total number of acres evaluated (308,801) is lower than the total number of acres in the County (322,444) in large part because public right-of-way is not evaluated for tax purposes.

This land use pattern is the result of continuous public and private development actions. Public actions that impact growth patterns are regulatory and fiscal. Public investment in infrastructure and services directly influences the use of land. Major transportation routes, such as I-20, Highway 61, and Highway 27, have attracted development by allowing a heightened level of transportation access. Development patterns along these routes are a mix of commercial and residential.

Public water facilities allow subdivision development at greater densities. Within Carroll County, rural residential lots with densities as high as 2 units per acre are common due to the availability of public water. The Carroll County Water Authority (CCWA) has recently increased its raw water sources and has the ability to serve a larger population base. The CCWA's allocation of water resources will have a significant impact on future growth patterns, particularly within the towns of Mt. Zion and Villa Rica, which purchase water from the CCWA.

Centralized wastewater treatment and disposal services generally are unavailable in the unincorporated areas of Carroll County. The predominant method of treatment is private on-site septic facilities. The safe operation of on-site private facilities requires large minimum lot sizes to allow sufficient land for the installation of facilities and to avoid groundwater pollution caused by concentrated sewerage treatment. Reliance on septic systems for much of the recent development in the County has resulted in far greater land consumption per capita and loss of open space than would have occurred with development on centralized systems. The Plan



advocates greater reliance of development on centralized wastewater systems in cities, urban growth areas and in designated suburban areas where municipal or community wastewater services can be provided in an environmentally responsible and cost-effective manner.

**Exhibit 116: Acreage of Existing Land Use by Jurisdiction**

Land Use	Unincorporated Carroll County	Carrollton	Villa Rica	Bowdon	Temple	Whitesburg	Roopville	Mt. Zion	Bremen	Totals
Agriculture/Forestry	109,676.7	611.8	721.5	261.7	1,009.5	220.1	65.0	2,159.0	0.0	114,725.3
Residential	74,521.6	4,059.2	2,241.7	1,143.2	1,850.2	706.0	248.9	1,313.9	89.2	86,173.9
Commercial	2,869.0	2,459.1	748.0	127.2	147.7	45.6	4.5	2.5	928.9	7,332.4
Industrial	546.0	1,091.5	345.5	179.2	44.0	8.4	0.0	0.0	0.0	2,214.6
Public/Institutional	4,991.8	3,539.6	502.2	175.8	186.8	66.2	50.0	83.9	163.3	9,759.7
Transportation/ Communications/ Utilities	2,362.0	73.0	28.9	1.4	1.6	7.7	0.3	9.2	0.0	2,484.1
Parks/Recreation/ Conservation	82,242.3	253.4	216.0	158.1	678.8	435.6	72.7	2,054.9	0.0	86,111.8
<b>Totals</b>	<b>277,209.4</b>	<b>12,087.7</b>	<b>4,803.7</b>	<b>2,046.6</b>	<b>3,918.6</b>	<b>1,489.6</b>	<b>441.3</b>	<b>5,623.4</b>	<b>1,181.5</b>	<b>308,801.8</b>

Source: Carroll County, Georgia

**Map 18 in Appendix B** shows the land cover derived from satellite images. Residential development has concentrated near thoroughfares radiating from and around the cities; more dispersed residential development is evident throughout the remaining rural areas. Commercial centers exist primarily within the city limits where public services are available, although there are a few limited commercial areas along main roads and adjacent to intersections. Highways 27 and 61 have experienced increasing pressure for strip commercial development. Tree cover dominates much of the rural landscape with intermingled clear-cut ground, pastures, non-forested wetland, and low density residential use. The southeast portion of the County, which is largely owned by timber companies, is more densely forested than areas along the Little Tallapoosa River that have historically been used for other agricultural pursuits.

As is evident in **Map 1 in Appendix B** and **Exhibit 116**, most of the population growth within the County has occurred in the region to the north and east of Carrollton to Villa Rica, along the Interstate 20, Highway 61 and Highway 166 corridors. The population growth has primarily occurred on rural residential subdivisions and on the fringes of Carrollton and Villa Rica. Blighted areas within Carroll County are isolated to small areas within the incorporated cities. In rural areas, there are a number of trailer parks that have fallen into disrepair, as well as areas of illegal dumping.

Rural residential development within Carroll County has occurred on scattered rural estates with the heaviest concentrations between Carrollton and Villa Rica, resulting from a lack of guidance offered by prior Comprehensive Plans. The existing agriculture zoning district has a 4 acre minimum lot size requirement that mandates parcels that are too small to farm and too large to mow. Historically, the major motivation behind large lot zoning patterns was to allow parcels to be subdivided from farms to allow farmers to liquidate land assets while creating parcels that could serve as “holding zones” for future urban development. Urban development at that time was denser than the current suburban sprawl. Since adoption of the four-acre rule, the County has found that large lot zoning has expedited land conversion and created unnecessary service



costs. The Plan recommends density-based zoning, conservation subdivisions and other strategies to retain agricultural land, open space and natural resources while promoting more efficient growth patterns.

Carroll County has adopted and enforces land use controls through zoning and subdivision regulations. **Exhibit 117** lists the County’s zoning districts and the amount of land within each district (**Map 19, Appendix B**). The Agricultural (A) zoning district, which applies to 82.7% of the unincorporated County, permits land to be split into tracts of 4 acres or more. Many tracts zoned Agricultural are used for residential use with little agriculture taking place, in part due to the low minimum tract size. Residential zoning districts allow for varied lot sizes with minimums ranging from a ½ acre (R-3) to 3 acres (R-1). No maximum lot sizes are in effect. The Fairfield Plantation development, which is predominantly residential, has Planned Unit Development zoning. Residential zoning districts (R-1, R-2, R-30, R-3, MFR, MHS, HDDR, PUD) encompass approximately 32,990 acres or nearly 12.0% of unincorporated Carroll County. Commercial, Industrial, Office and Institutional zoning applies to 9,853 acres or nearly 3.6%, mostly located adjacent to major transportation nodes. Public right-of-way and other unclassified lands<sup>41</sup> account for 4,759 acres or 1.7% of the County.

**Exhibit 117: Zoning by Acreage for Unincorporated Carroll County**

Zoning District	Symbol	Acres
Agricultural	A	228,339.05
Low Density Residential	R-1	11,386.42
Medium Density Residential	R-2	6,258.19
Medium Density Residential	R-30	1,096.46
High Density Residential	R-3	4,443.47
Multi-Family Residential	MFR	1,299.40
Manufactured Home Subdivision	MHS	4,845.26
Higher Density Detached Residential	HDDR	1,544.56
Commercial	C	3,854.02
Industrial	I	5,582.41
Office and Institutional	OI	416.85
Planned Unit Development	PUD	2,115.73
Right-of-Way and Unclassified		4,759.34
<b>Total Acres</b>		<b>275,941.16</b>

*Source: Carroll County, Georgia*

## ***B. FUTURE LAND USE***

### ***1. Overview***

The County’s future land use, described in this Land Use Element, has been established based upon consideration of natural resources, existing land use, recent demographic trends, projected growth, existing and projected community facilities and services, other background data and evaluation of County’s growth alternatives. The Plan proposes to distribute projected growth by establishing a land use pattern and programming facilities to efficiently serve anticipated needs, while preserving

41 The County does assign zoning on public rights -of-way. There are also fragments of land for which zoning may have been assigned but do not appear on the County’s graphic information system (GIS) records.



the County's most valued resources. To accomplish these ends, the Plan establishes six (6) growth tiers in which different intensities and uses of development are located. The most intensive development is planned within the cities, the areas surrounding the cities where urban services are anticipated to be provided (Urban Growth Areas) and along transportation corridors. Suburban area development will vary based upon the availability of centralized wastewater services. The Plan recommends two tiers of suburban development, the first reflecting suburban and the second rural residential character. The remainder of the County is designated for rural development at densities of the existing agricultural zoning.

## ***2. Growth Scenarios***

The Land Use Element establishes a preferred growth pattern that was defined by the County's Coordinated Planning Committee (CPC) after conducting a thorough analysis of the relative impacts of three alternative growth scenarios. Each of the scenarios represented distinct growth patterns that would accommodate projected population and employment growth in distinct ways. A "Rural Residential" scenario was based on historical zoning practice with an assumption that centralized wastewater service would be confined to existing city limits and some limited annexation areas. A "Corridors" scenario directed most of the County's growth to existing cities and areas along the key transportation corridors of I-20, SH 61 and U.S. 78. A "Centers/Villages" scenario identified growth areas around each of the cities that would be anticipated to capture all urban and suburban growth.

Each of the scenarios was evaluated for:

- the ability to accommodate projected growth;
- impact on community character in incorporated and unincorporated areas;
- effect on timber and agricultural productivity;
- promotion of economic development prospects;
- transportation and utility costs and impacts;
- community facility and service costs; and
- consistency with the goals established by the CPC.

After evaluating each of the alternatives (see summary analysis in **Appendix B**) and input from the public, the Planning Commission and the Board of County Commissioners, the CPC selected a preferred alternative that incorporates elements of all three growth alternatives and is reflected in the maps, objectives and policies of this Land Use Element.

**Exhibits 118, 119 and 120** demonstrate that the preferred alternative has sufficient capacity to accommodate projected growth. Based on the projected population growth that would occur between the years 2000 and 2030:

- 24,425 dwelling units will be developed County-wide;
- Commercial and industrial development will occupy an additional 8,072 acres; and
- Using the County's potential maximum buildout at 123,023 dwelling units at proposed densities, the 30 year projected growth of 24,425 dwelling units will leave room for 98,598 dwelling units for post-2030 growth.





**Exhibit 118: Projected Residential Growth**

2000 Population	87,268
2030 Projected Population	148,421
Population Increase 2000 - 2030	61,153
Persons Per Household	2.63
Occupied Dwellings	23,252
Vacancy Rate (assumed)	5%
Additional Dwelling Units Needed	24,415

*Source: Planning Works, modifications by PRISM Associates and Carroll County Planning*

**Exhibit 119: Commercial and Industrial Development Projections**

2000 Population	87,268
2030 Projected Population	148,421
Population Increase 2000 - 2030	61,153
Commercial and Industrial Acres	9,547
2000 Commercial and Industrial Acres Per Person	0.11
Additional Acres from Population Growth	6,727
Additional Acres for Local Market Capture (20%) <sup>42</sup>	1,345
Total Additional Commercial and Industrial Land (acres)	8,072

*Source: Planning Works, modifications by PRISM Associates and Carroll County Planning*

<sup>42</sup> The local market capture accounts for additional acreage needed to accommodate new commercial and industrial development that provides goods, services and jobs that County residents currently travel outside the County to obtain. As the population grows the variety of viable economic activities increases, which retains and circulates dollars within the local economy.



**Exhibit 120: Development Potential of Preferred Scenarios**

	Growth Tiers					Total
	Cities/UGAs	Commercial Corridor	Suburban (sewered)	Suburban (unsewered)	Rural	
Total Vacant Land (acres)	28,876	1,102	7,746	13,177	106,001	156,902
Land Required for Non-Residential Development (acres)	8,840	1,102	0	0	0	9,942
Remaining Vacant Land (acres)	20,036	0	7,746	13,177	106,001	146,960
Average Density (dwellings per acre)	3 dwellings per acre	NA	3 dwellings per acre	1 dwelling per acre	1 dwelling per 4 acres	
Development Potential (dwelling units)	60,107	0	23,239	13,177	26,500	123,023
Projected Dwelling Units						24,425
Surplus Residential Development Potential (dwelling units)						98,598

*Source: Planning Works, modifications by PRISM Associates and Carroll County Planning Staff*

**3. Growth Tiers**

Map 20 in Appendix A illustrates the Growth Tiers that form the basis for distinguishing land use and infrastructure policies required to achieve the preferred scenario. While better defined by objectives and policies in subsequent sections of this Element, these tiers include:

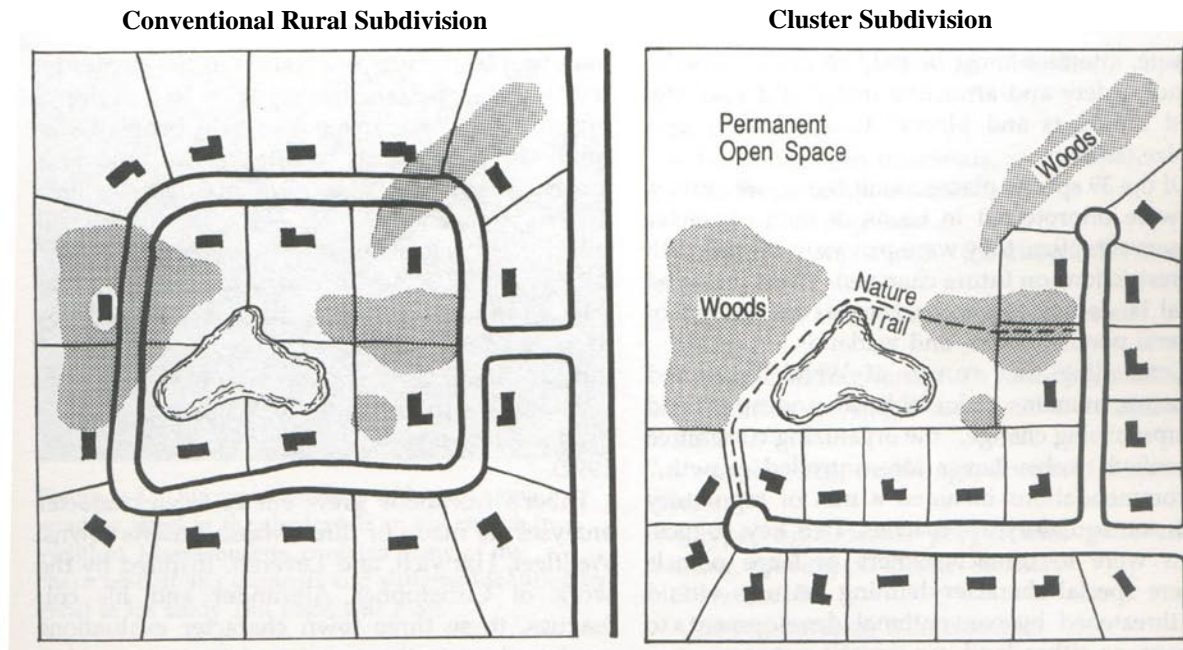
- *Cities* – currently incorporated areas that are not subject to this Comprehensive Plan.
- *Urban Growth Areas (UGAs)* – areas that could readily be served by municipal water and wastewater services in the next 25 years. UGA development is intended to include most future retail employment growth that is not located in existing cities and residential development relying on centralized water and sewer service.
- *Transportation Corridors and Centers* – transportation corridors with mixed use and commercial development following Highways 61 and 27 with nodal centers at critical interchanges with major arterials.-
- *Suburban Sewered (S-1)* – areas that currently include a mix of rural and suburban development are planned for suburban densities of two to four units per acre on centralized water and sewer service. Some areas will be served by community systems and others by municipal or regional systems. All development will be designed to retain the existing rural character of this tier. Because centralized wastewater service will be available, development may occur at densities of two to six dwellings per acre subject to transfer of development rights (see **Objective LU-8** and subsequent policies).
- *Suburban Unsewered (S-2)* – areas that will accommodate rural residential development relying on centralized water systems and a mix of community wastewater systems and on-site service. Average density without community systems will be approximately one dwelling per acre. Up to two units per acre may be developed on community systems.



- *Rural* – These areas consist primarily of farm, ranch and timber lands that are zoned “Agriculture”. Other than buildout of approved and existing subdivisions, future development in this tier will occur at densities of one dwelling per four acres.

Within the two suburban tiers, the use of cluster development patterns will be encouraged provided adequate water and wastewater facilities are available. **Exhibit 122** illustrates a clustered subdivision development pattern (also called conservation subdivision) with modest residential lots and preserved open space. Cluster subdivision patterns will be implemented through the County’s land development regulations.

### Exhibit 122: Cluster Subdivision Design



Source: Randall Arendt, et al., *Rural By Design*, Pg 31.

Within Urban Growth Areas, traditional neighborhood development (TND) will be encouraged. TND’s feature central public open spaces (commons, squares, and parks) adjacent to a mixed-use (commercial, institutional and residential) centers with urban densities. Within TND neighborhoods, mobility is created through a connective grid street pattern, which can be modified with curvilinear streets, if needed, to meet topographical conditions.

At the inception of this process, a majority of community leaders, participants and focus groups urged the County to protect the transportation corridor development from premature development that is inconsistent with the Plan’s proposed uses and that would destroy the Plan’s efficacy before it could be implemented. An Interim Development Ordinance was adopted that permitted only appropriately designed development along highways, thus protecting the efficient movement of traffic through the corridors. At present, the transportation corridors contain a hodgepodge of low intensity and poorly designed residential and non-residential uses that present traffic hazards due to a large number of access points or curb cuts along the corridors. Innovative planning will transform the transportation corridors into commercially attractive developments that provide for employment opportunities. These policies are essential to



encourage mixed-use non-residential and residential development, internally capture automobile trips, and stimulate pedestrian activity.

#### ***4. Future Land Use Plan***

The future land use map (**Map 21, Appendix B**) was developed after evaluating existing zoning, existing land use, lot patterns, future growth needs and existing infrastructure. To provide for coordinated expansion of urban densities of the County's cities, the Urban Growth Areas reflect the extent of land that will reasonably be served by municipal water and wastewater systems within the next 20 years.<sup>43</sup> Locations for residential, commercial, industrial and other future land uses for these areas will be developed in future specific UGA plans to be developed in coordination with each city. The county and cities are expected to adopt intergovernmental agreements for coordination of infrastructure extensions, land use transitions, riparian corridor preservation and annexation within the Urban Growth Areas.

The future land use map assigns land use categories to all parcels in unincorporated Carroll County. The intensity of development will be determined by the appropriate tier policies at the rezoning and development approval stages. Not all neighborhood commercial areas have been designated on the future land use map. Subject to tier policies, limited neighborhood commercial and service uses may be developed in specified residential areas in the future based on appropriate infill policies that assure compatibility with neighborhood character. The future land use categories are as follows:

- *Residential* –Residential development is organized into general categories of net densities based on tier policies. Suburban residential development (S-1 & S-2) may include neighborhood scale commercial uses to serve the predominately residential development.
- *Commercial* –Non-industrial business uses, including retail sales, office, service and entertainment facilities, are organized into general categories of intensities. Neighborhood scale commercial uses may be authorized in residential areas subject to zoning and tier policies.
- *Industrial* –Manufacturing facilities, processing plants, factories, warehousing and wholesale trade facilities, mining or mineral extraction activities, or other similar uses.
- *Public/Institutional* –State, federal or local government uses, and institutional land uses. Government uses include city halls and government building complexes, police and fire stations, libraries, prisons, post offices, schools, military installations, etc. Institutional land uses include colleges, churches, cemeteries and hospitals. Facilities that are publicly owned, but would be classified more accurately in another land use category, should not be included in this category. For example, publicly owned parks and/or recreational facilities should be placed in the Park/Recreation/Conservation category; landfills should fall under the Industrial category; and general office buildings containing government offices should be placed in the Commercial category. Note that these land uses may be established in areas designated for any of the other land uses.
- *Transportation/Communications/Utilities* –Major transportation routes, public transit stations, power generation plants, railroad facilities, television, radio and cellular towers, telephone switching stations, airports, bus facilities, gas, electric, telephone, sewer, water and drainage utilities.

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<sup>43</sup> Some areas may be served by alternative systems that meet municipal requirements or they may be developed at intensities not requiring municipal services.



- *Park/Recreation/Conservation* –Active or passive recreational uses. These areas may be either publicly or privately owned and may include playgrounds, public parks, nature preserves, wildlife management areas, national forests, golf courses, recreation centers, open space, habitat corridors, bicycle and pedestrian trails and paths, and environmentally-sensitive lands or similar uses.
- *Agriculture and Forestry* – This category is for land dedicated to agriculture, farming (fields, lots, pastures, farmsteads, specialty farms, livestock production, etc.), commercial timber or pulpwood harvesting, or other similar rural uses such as pasture or woodlands not in commercial use.
- *Urban Growth Areas* – This category allows for a mix of residential and non-residential development consistent with land use plans mutually adopted by the County and applicable cities through intergovernmental agreements.



## CHAPTER VIII. INTERGOVERNMENTAL COORDINATION

The County has worked extensively with the other governmental entities in Carroll County, especially during the development of this Plan. The County recognizes that the ultimate success of this Plan depends on intergovernmental coordination.

Existing coordination mechanisms between the County and other local governments, special districts, and authorities are described throughout this Plan. Specific discussions of coordination methods may be found in the following elements:

- Coordination of utilities with local governments and service providers – Chapter VI, Community Facilities and Services Element;
- Coordination with local school boards – Chapter VI, Community Facilities and Services Element;
- Coordination of Urban Growth Areas with local governments and development authorities – Chapter VIII, Land Use Element;
- Inter-governmental Agreements – Chapter X, Plan Implementation.

The Appalachian Regional Commission (ARC) is a federal-state partnership that works with the people of Appalachia to create opportunities for self-sustaining economic development and improved quality of life. The ARC was established in 1965 by the Appalachian Regional Development Act (ARDA) to promote economic and community development of the Appalachian Region. The Region includes an area of 200,000 square miles and about 22.9 million people. **Carroll County** is at the southern end of the ARC region in the State of Georgia.

For almost 40 years, the Commission has assisted a wide range of programs in the Region in areas such as highway construction; development of community water and sewer facilities, telecommunications, and other physical infrastructure; health, education, and human resource development; economic development; and local capacity building and leadership development. The ARC has funded thirty-seven projects in Carroll County since its inception, awarding over \$6 million in grants. **Exhibit 122** lists those projects funded since 1980.

**Exhibit 122: ARC Grants in Carroll County (1980 – 2003)**

<b>Year</b>	<b>Project</b>	<b>Grant Amount</b>
1980	Carroll County Vocational High School	\$650,000
1980	Study of Skills and Training Programs, Carroll County	\$18,000
1981	Carroll County Prenatal Services	\$75,000
1981	Bowdon Junction Family Day Care	\$50,235
1981	Airport Extension Project, West Georgia Regional Airport	\$100,000
1982	Bowdon Junction Family Day Care	\$36,934
1982	McIntosh Reserve Tourism Development Project	\$65,000
1982	Mt. Zion Medical Center	\$56,717
1983	Breman/Bowdon Industrial Child Care Program	\$181,160
1988	Villa Rica Water Project	\$120,500
1996	Villa Rica Sewer System Improvements	\$300,000
2003	Burson Center for Business Development	\$250,000

*Source: Chattahoochee-Flint Regional Development Center.*

In addition to these mechanisms, the County has negotiated a Service Delivery Strategy with its local governments.



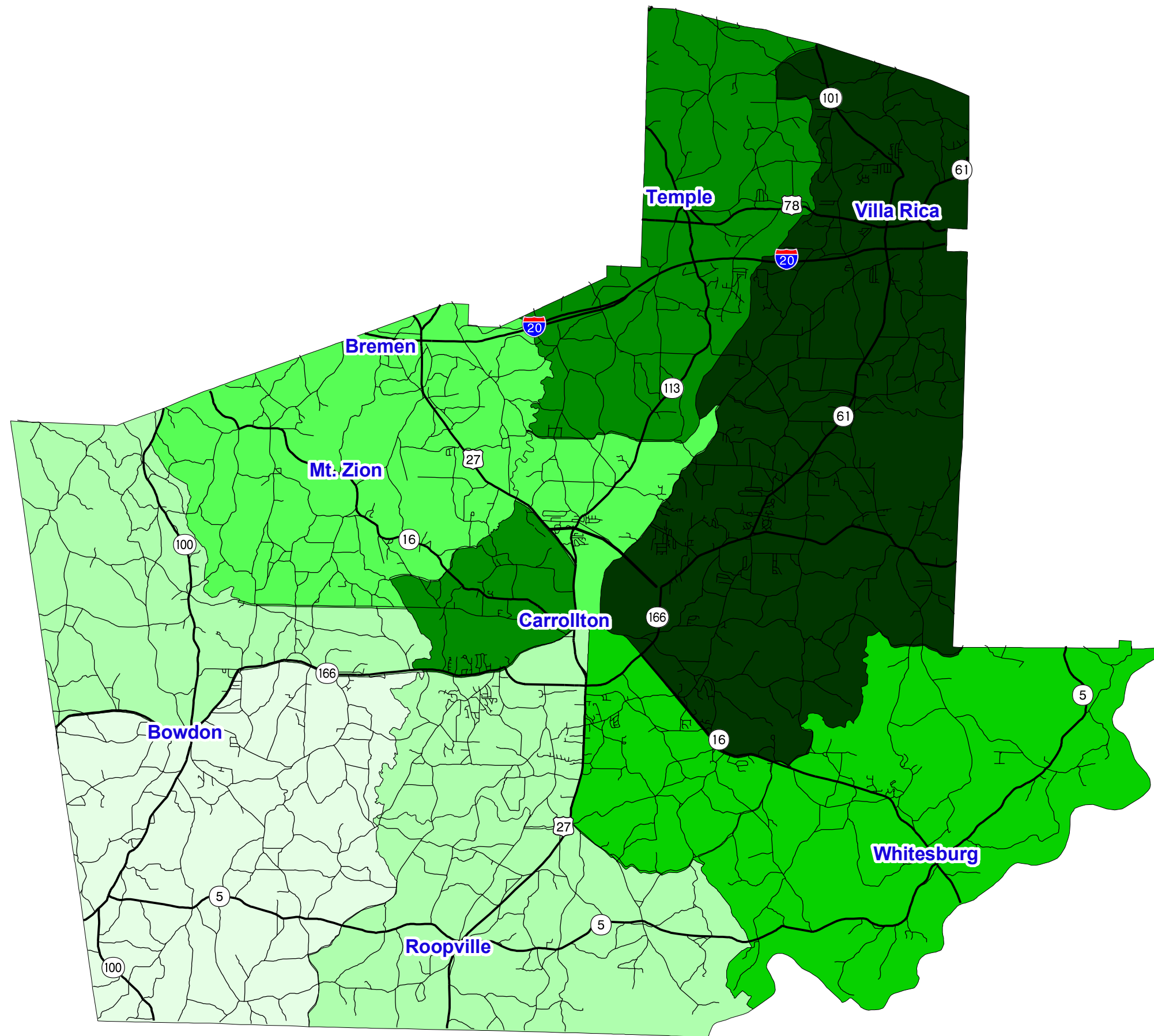
## APPENDIX B. MAPS





## Map 1: Population Change

# Map 1 Population Change Carroll County, Georgia



**Legend**

- Roads
- Highways

**Population Change**

	130
	131 - 400
	401 - 800
	801 - 1500
	1501 - 2100
	2101 - 5600

N

0 1 2 3 4 Miles



11/19/2003

**PLANNING WORKS**

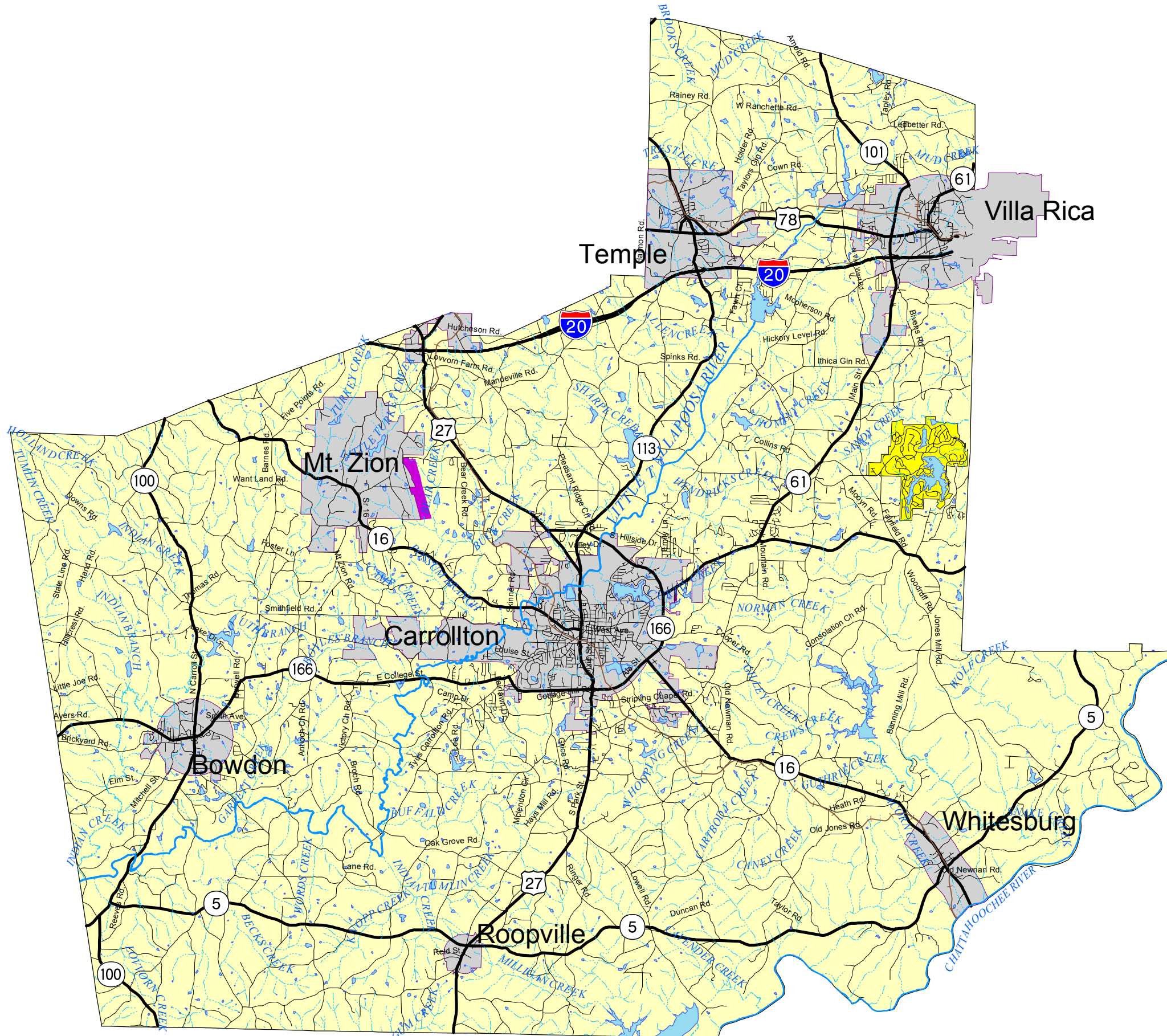
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source: 2000 U.S. Census



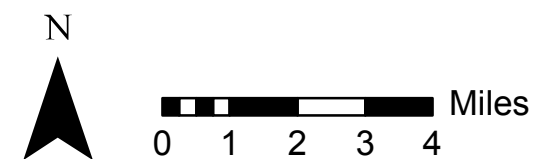
## Map 2: Base Map

# Map 2 Base Map Carroll County, Georgia



### Legend

- Lakes and Ponds
- Rivers
- Streams
- Highways
- Roads
- Railways
- City Boundaries
- P.U.D.
- Airport
- County



09/30/2004

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Source: U.S. Census T.I.G.E.R. Files


























## Map 3: Topography

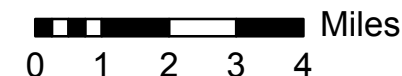


# Map 3 Topography Carroll County, Georgia

## Legend

	Highways		310 - 321
	Lakes		322 - 333
	Streams		334 - 344
	Rivers		345 - 355
	City Boundaries		356 - 365
	196 - 215		366 - 376
	216 - 227		377 - 389
	228 - 240		390 - 402
	241 - 254		403 - 416
	255 - 268		417 - 454
	269 - 282		
	283 - 296		
	297 - 309		

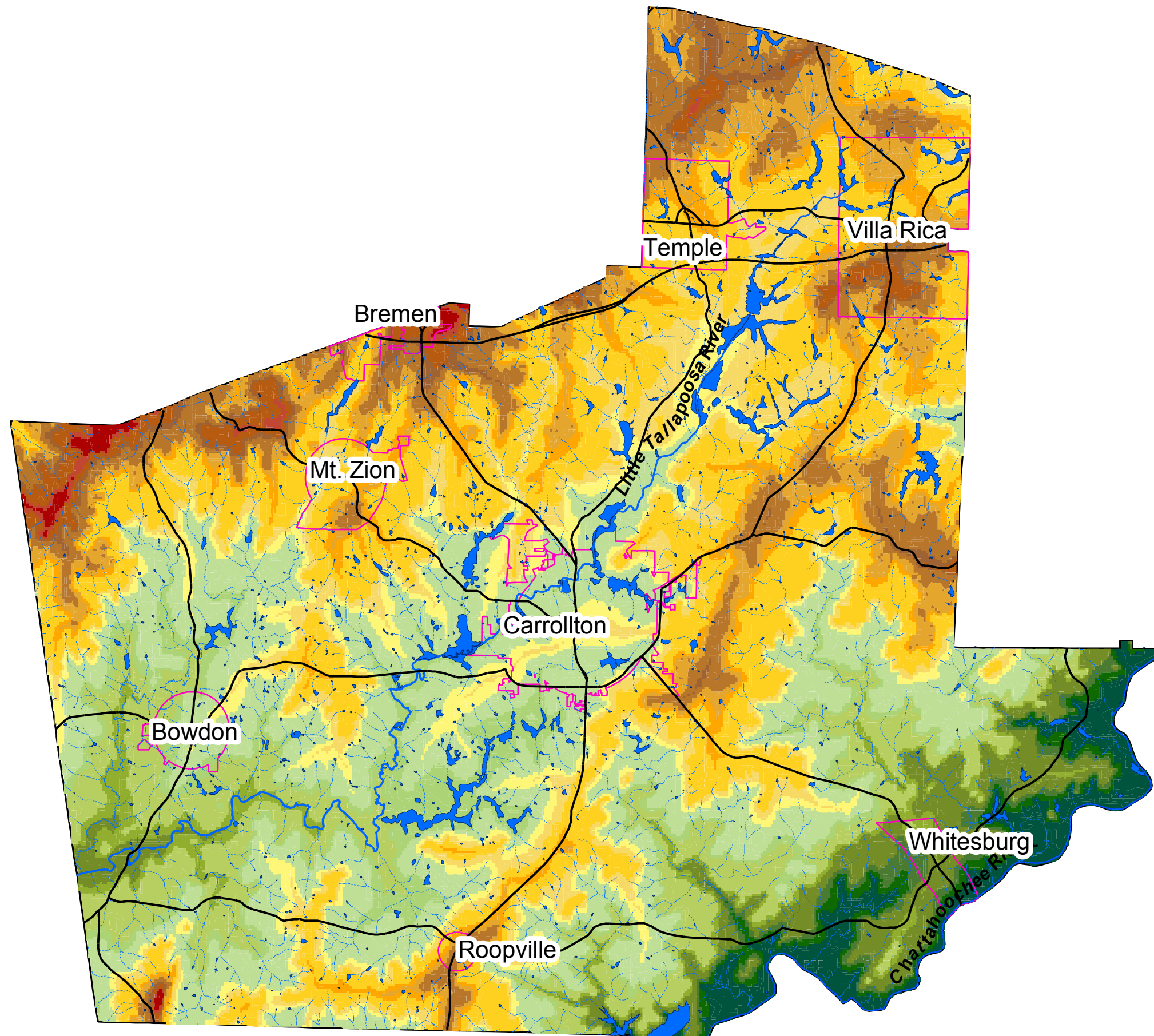
Elevations are in meters



09/30/2004

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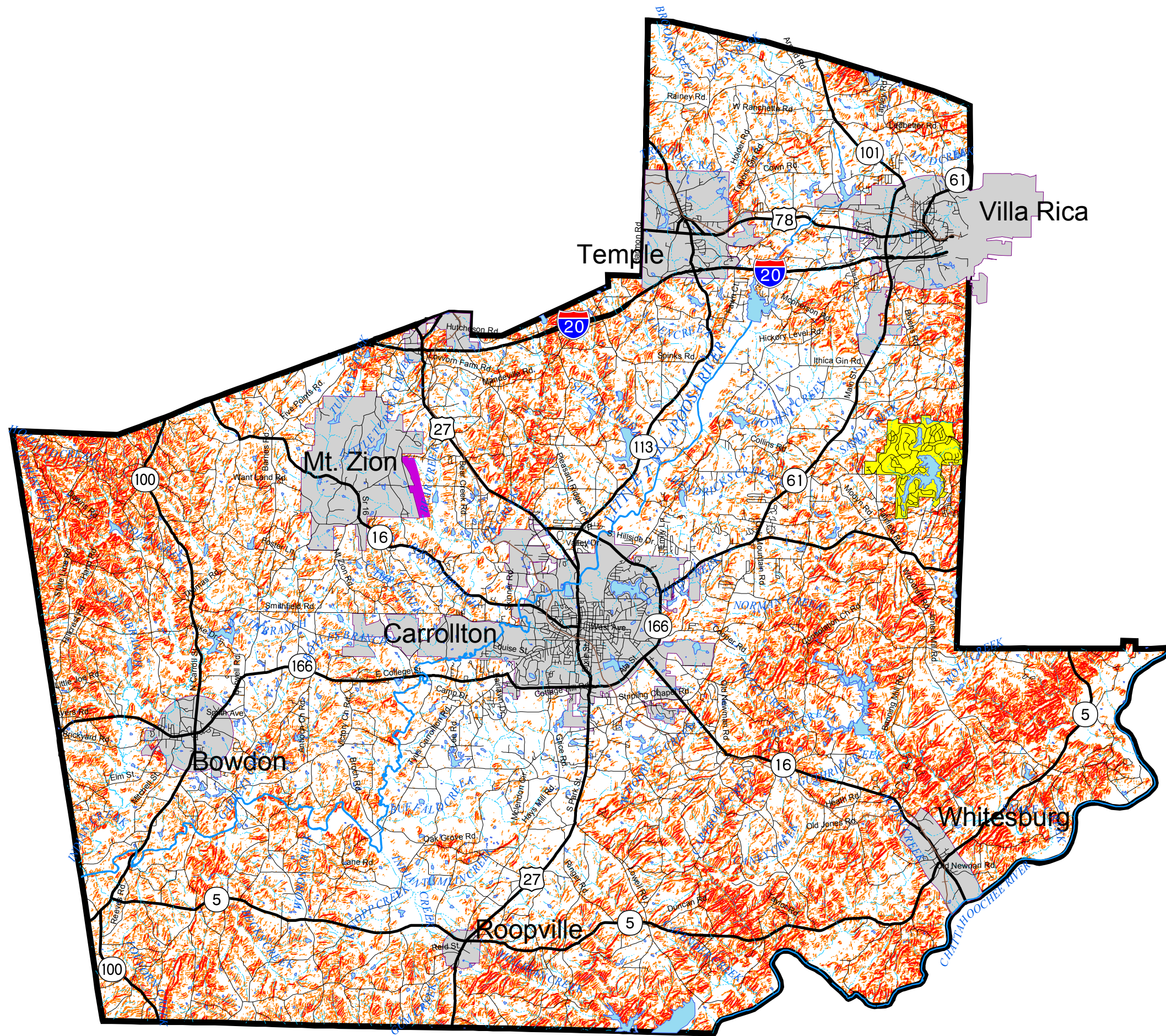
Source: USGS Elevation Data Files



## Map 4: Steep Slopes



# Map 4 Steep Slopes Carroll County, Georgia

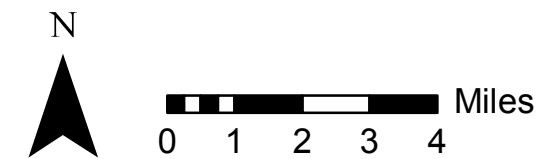


**Legend**

- Railway
- Lakes and Ponds
- Rivers
- Streams
- Interstate
- State Highway
- Road
- Incorporated
- Fairfield
- WG Airport
- County

**Percent Slope**

- 0 - 5
- 6 - 15
- 16 - 20
- 21 - 40
- 41 - 233



03/03/2005

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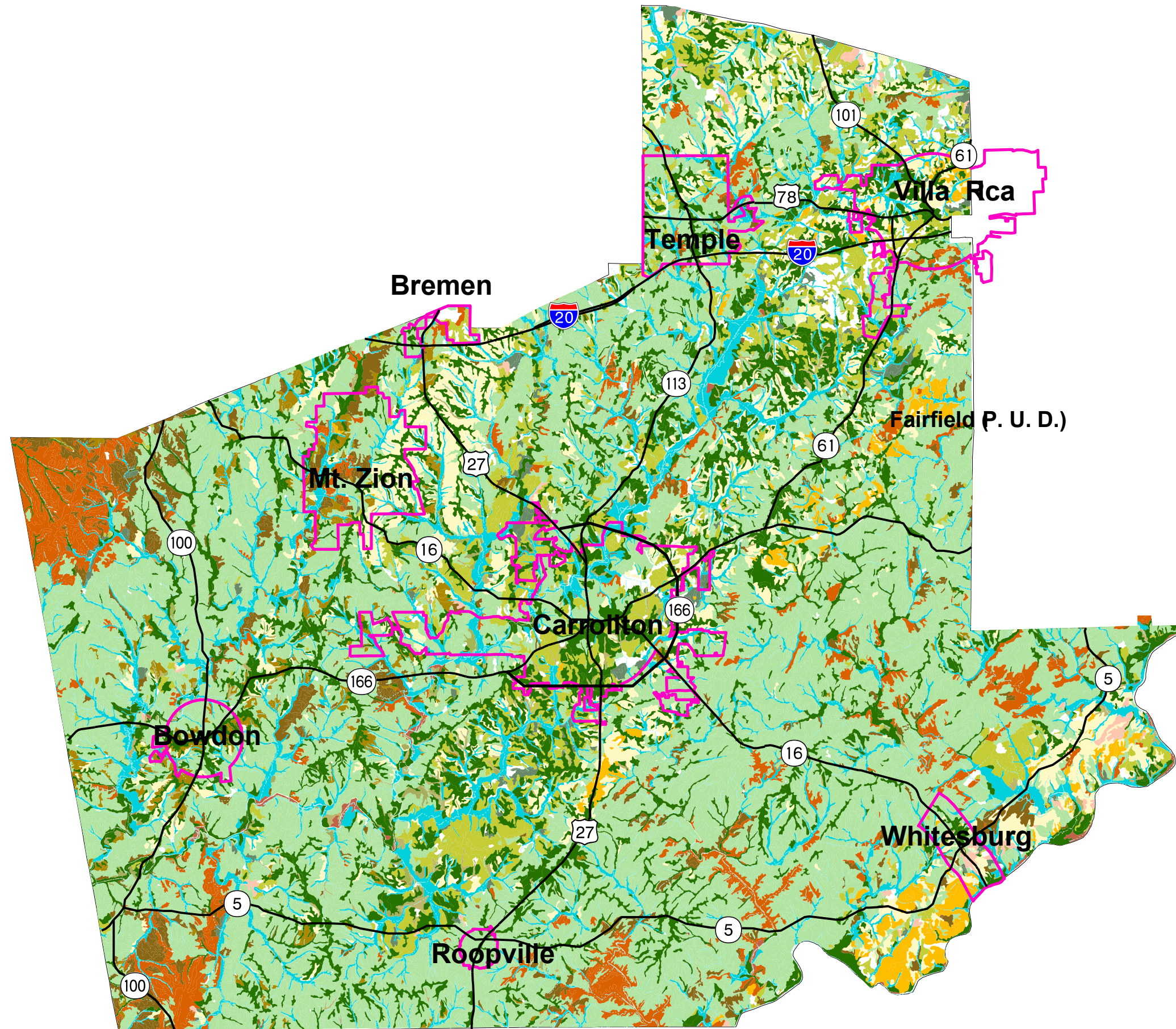
Source: USGS 30 Meter DEM





## Map 5: Soil Classification

# Map 5 Soil Classification Carroll County, Georgia



## Legend

- Highways
- Streams
- City Boundaries
- Buncombe loamy sand
- Augusta loam
- Cheacla soils, frequently flooded
- Congaree soils
- Davidson gravelly clay loam
- Grover Gravelly fine sandy loam
- Gullied land
- Hulett gravelly sandy clay loam
- Iredell gravelly fine sandy loam
- Louisa gravelly fine sandy loam
- Louisburg stony loam sand
- Madison gravelly clay loam
- Masada fine sandy loam
- Musella Stony clay loam
- Tallapoosa gravelly clay loam
- Wilkes stony loam
- Worsham silt loam
- Prime Farmland Soils

N



0 1 2 3 4 Miles



09/30/2004

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







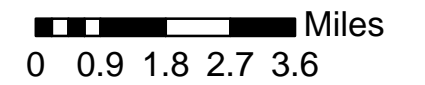
## Map 6: Floodplain and Riparian Zones



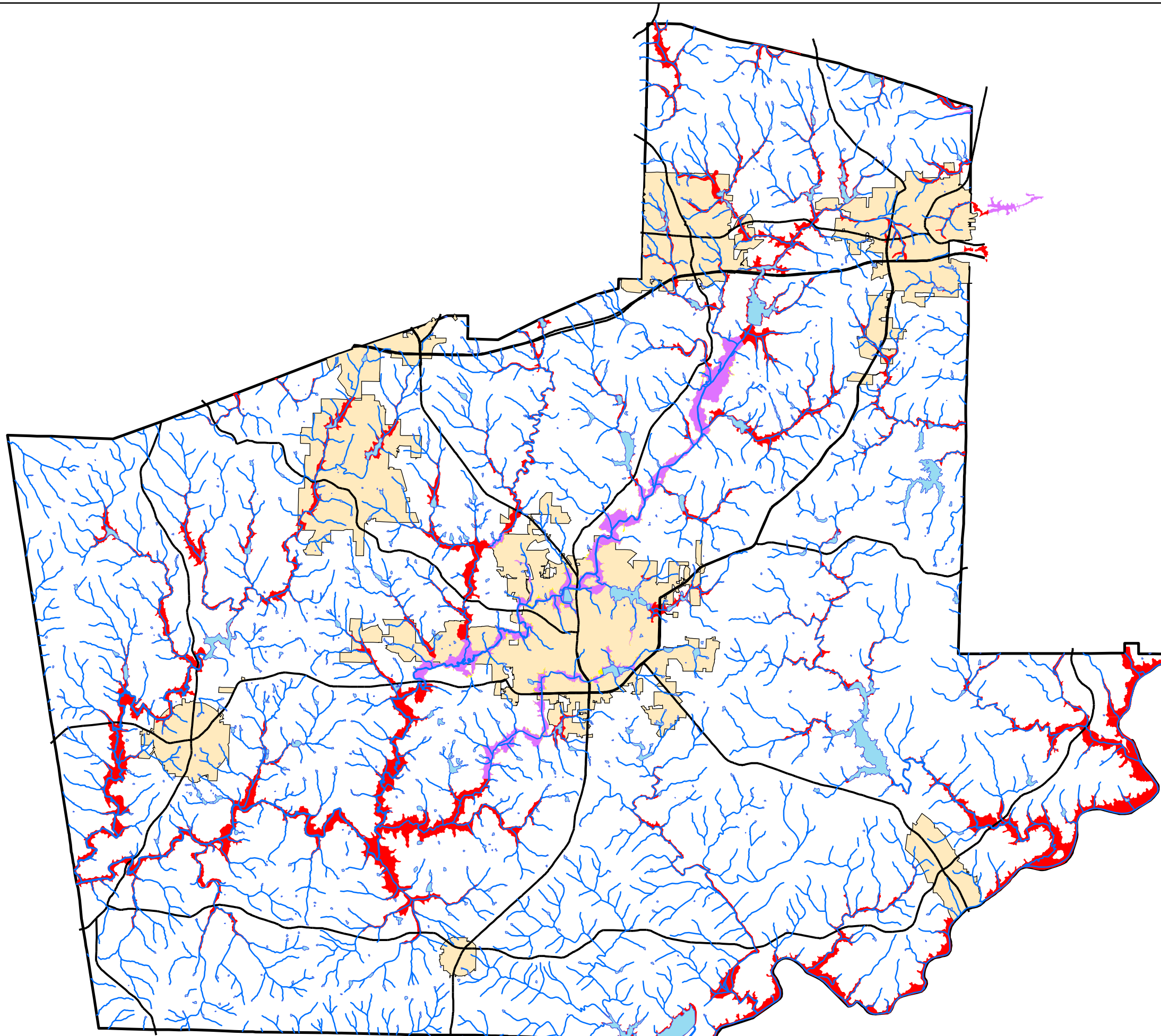
# Map 6 Floodplain Carroll County, Georgia

## Legend

-  Lakes
-  Streams
-  500 Year FloodPlain
-  100 Year Floodplain
-  100 year Flood plain with Base Flood Elevations
-  Incorporated Cities




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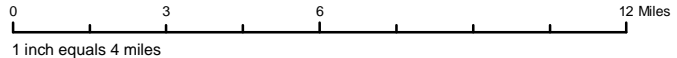
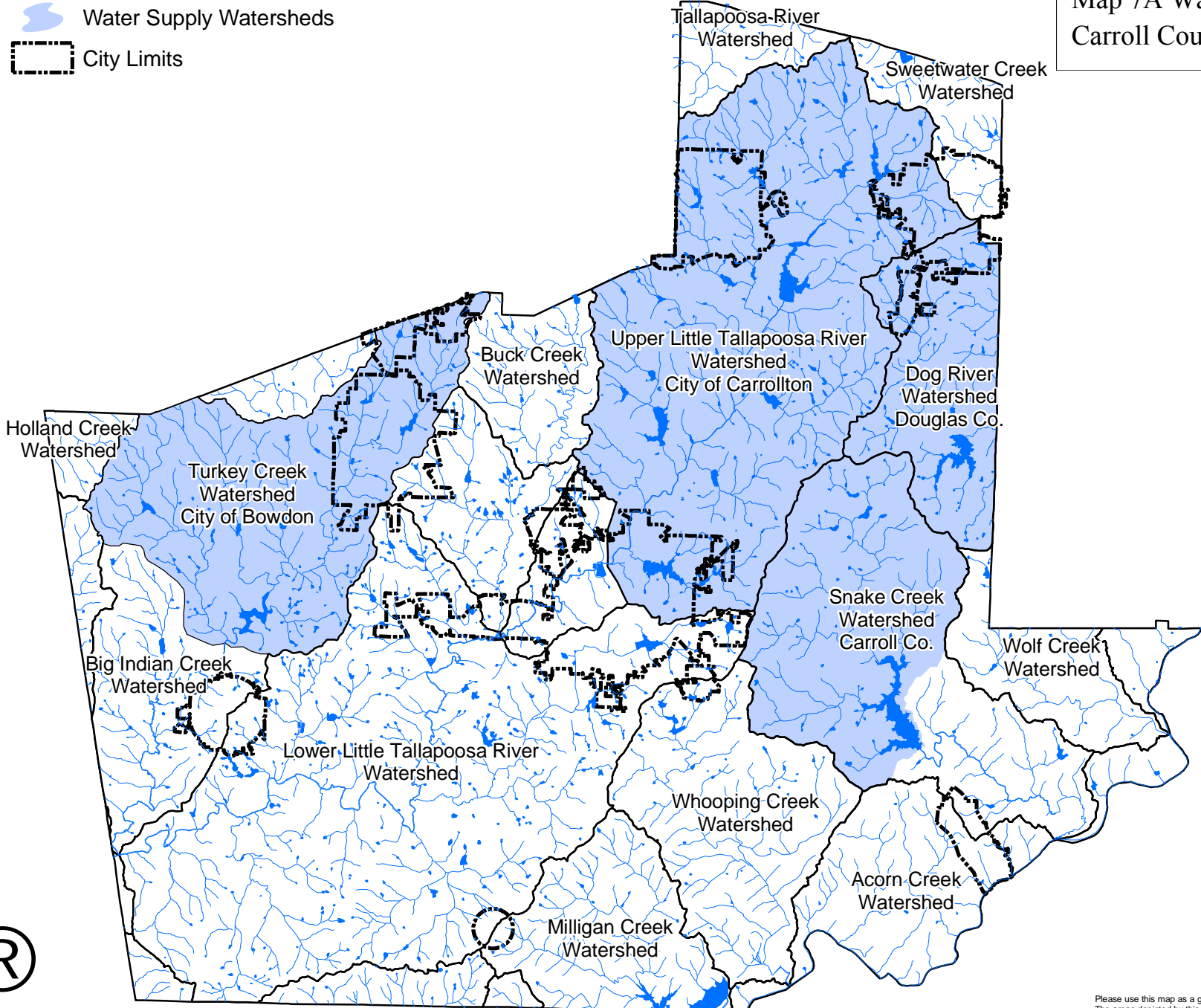
## Map 7a: Carroll County Watersheds

# Carroll County Watersheds

 Water Supply Watersheds

 City Limits

Map 7A Watersheds   
 Carroll County, Georgia



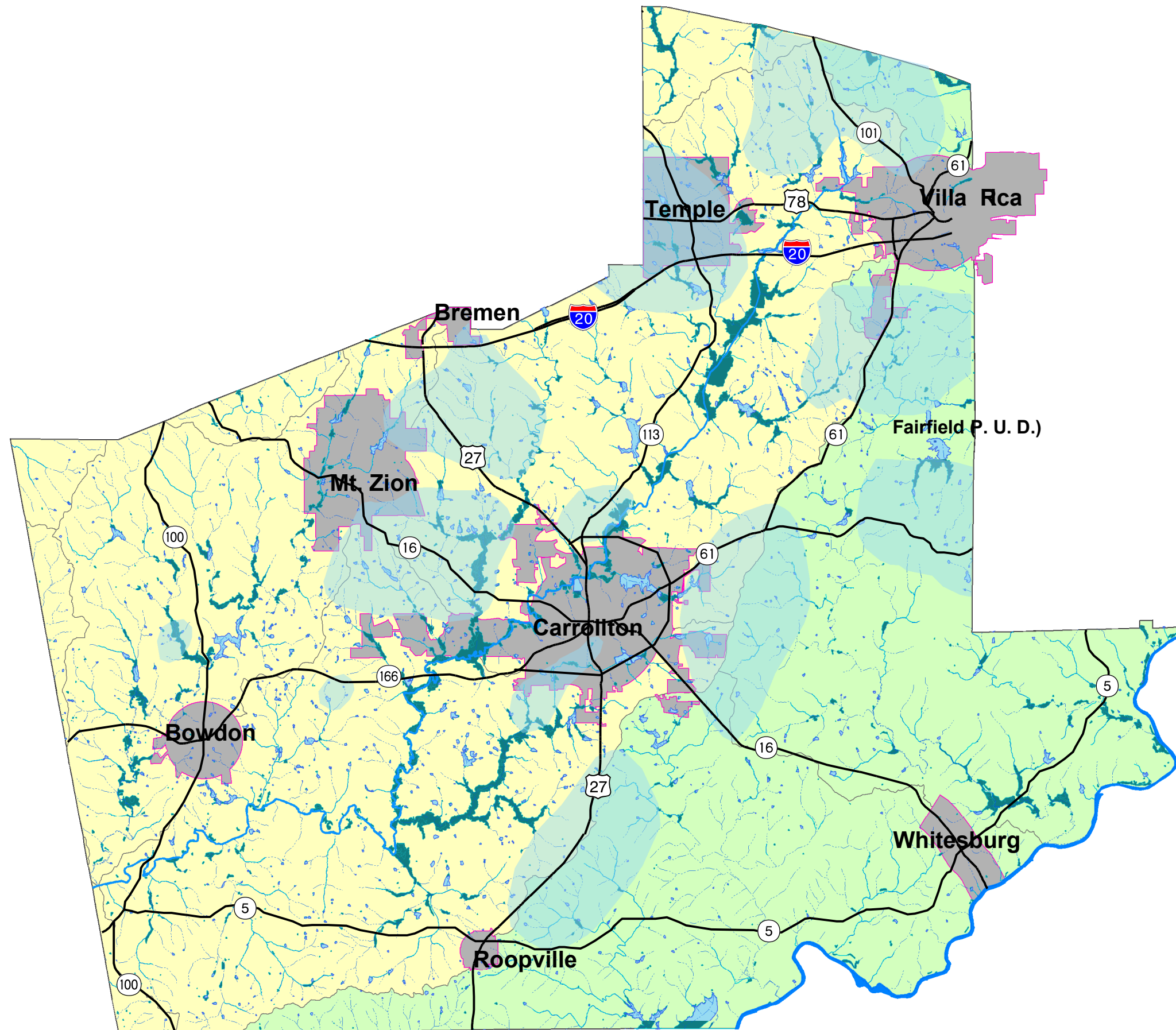
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


## Map 7: Wetlands and Ground Recharge Areas

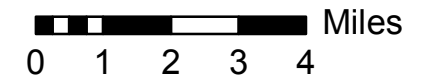


# Map 7 Wetlands and Groundwater Recharge Areas Carroll County, Georgia



## Legend

-  Highways
-  Rivers
-  County Streams
-  Lakes and Ponds
-  Wetlands
-  Groundwater Recharge Areas
-  City Boundaries
-  County
-  Upper Tallapoosa Watershed
-  Middle Chatahoochie Watershed



09/30/2004



Sources: Wetland data from U.S. Fish and Wildlife Service NWI, Groundwater recharge areas from Georgia Department of Natural Resources, Watersheds from U.S.G.S.

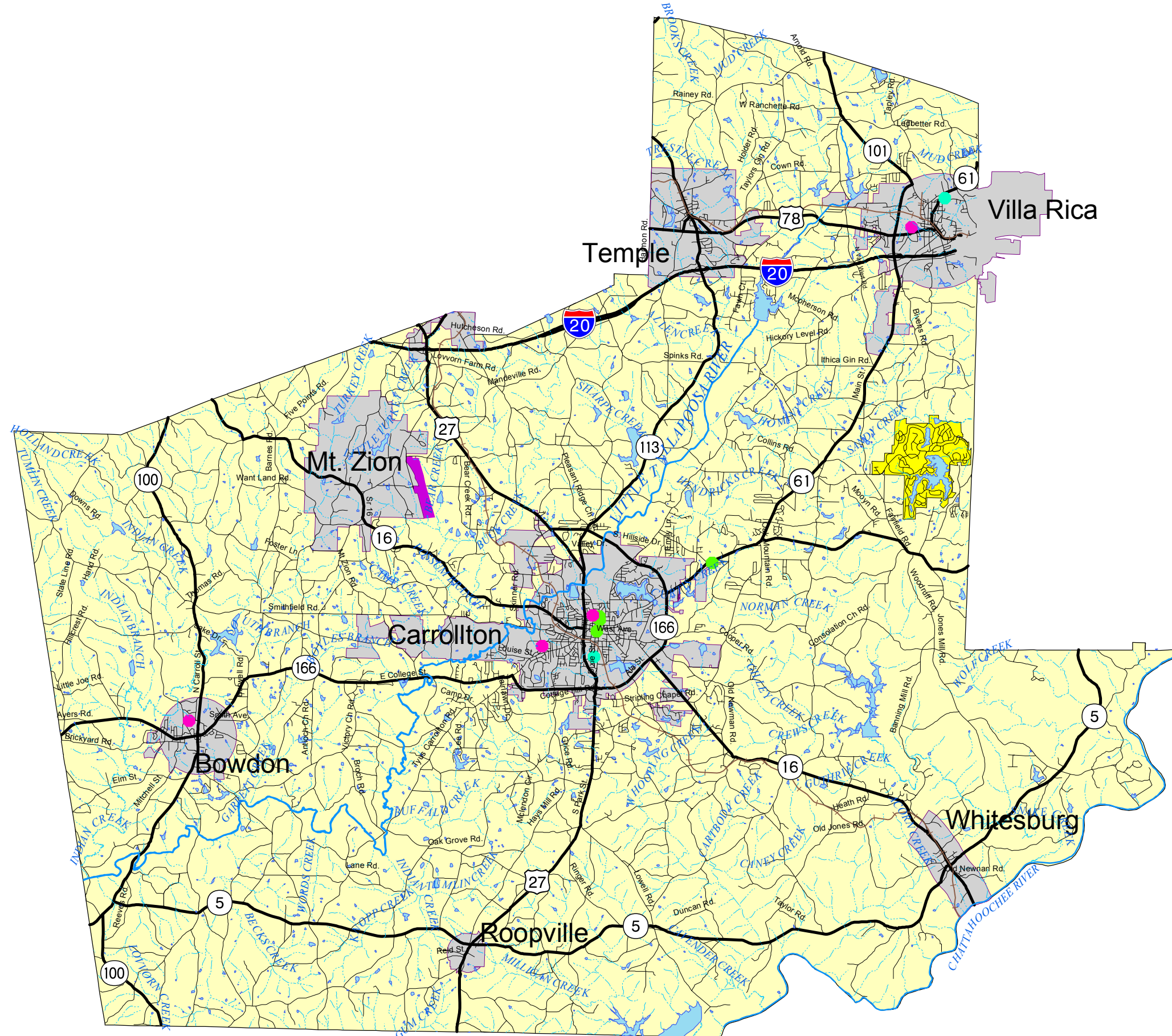
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## Map 8: Community Facilities

# Map 8 Community Facilities Carroll County, Georgia



## Legend

- Railway
- Lakes and Ponds
- River
- Stream
- Interstate
- State Highway
- Road
- Libraries
- Hospital
- County Buildings
- Incorporated
- County



Miles  
0 1 2 3 4



03/03/2005

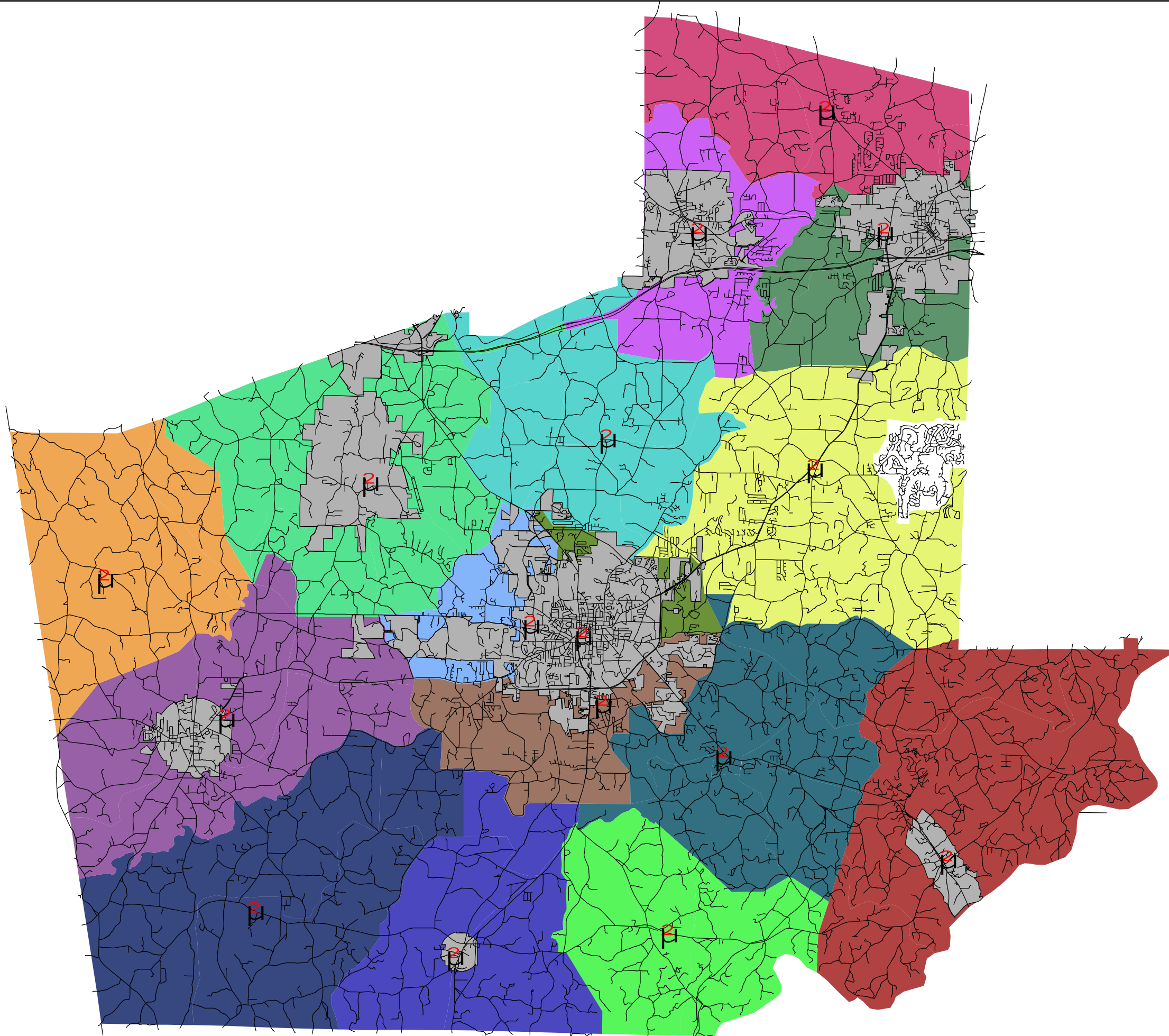
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## Map 9: Fire Station Locations

# Map 9 Fire Station Locations Carroll County, Georgia

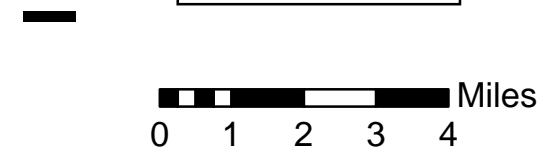


**Legend**

- Fire Stations
- Roads
- Incorporated Cities

**District**

- 1
- 12
- 14
- 15
- 16
- 2
- 21
- 22
- 23
- 3
- 4
- 5
- 6
- 7
- 8
- 9



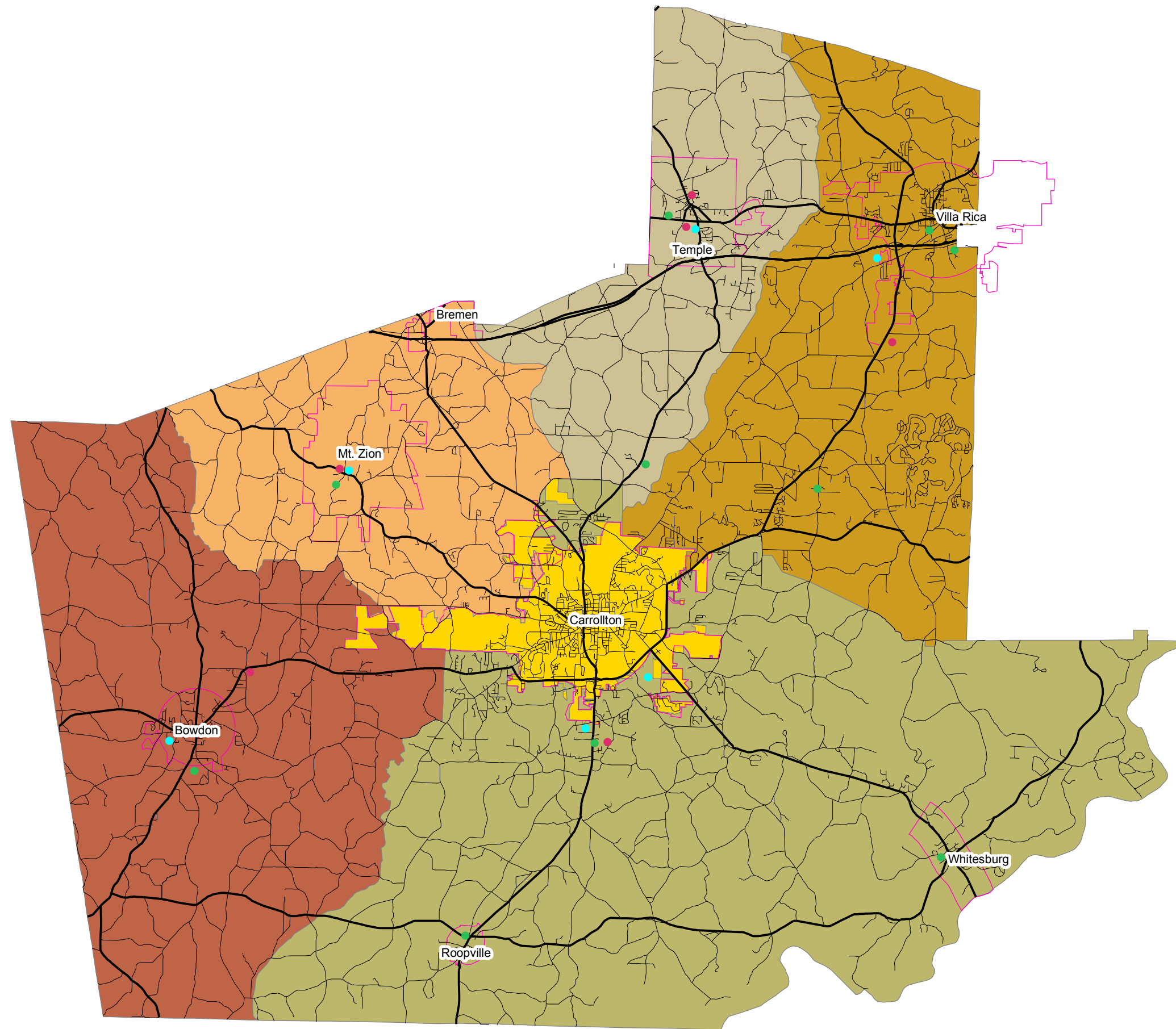
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## Map 10: High School Districts



# Map 10 High School Districts Carroll County, Georgia



## Legend

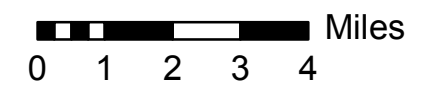
- High Schools
- Middle Schools
- Elementary Schools

- Highways
- Roads

Incorporated

### High School Districts

- BOWDON
- CARROLLTON
- CENTRAL
- MOUNT ZION
- TEMPLE
- VILLA RICA



11/02/2004

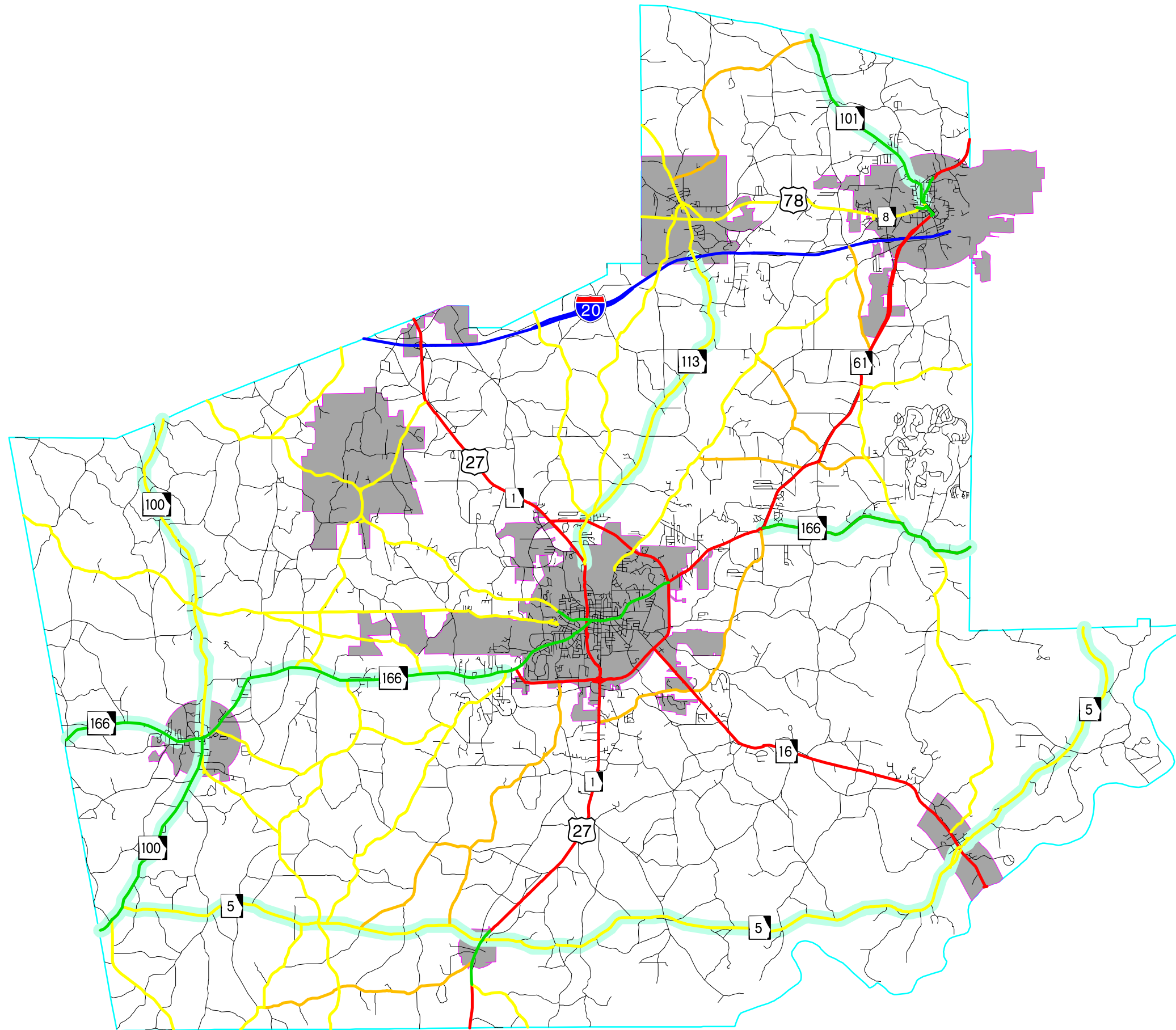


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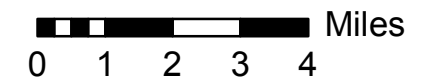
## Map 11: Road Classifications

# Map 11 Functional Road Classification Carroll County, Georgia



## Legend

- Interstate Highway
- Major Arterials
- Minor Arterials
- Major Collectors
- Minor Collectors
- Roads
- Scenic Highways
- City Boundaries
- County



09/30/2004

**PLANNING WORKS**

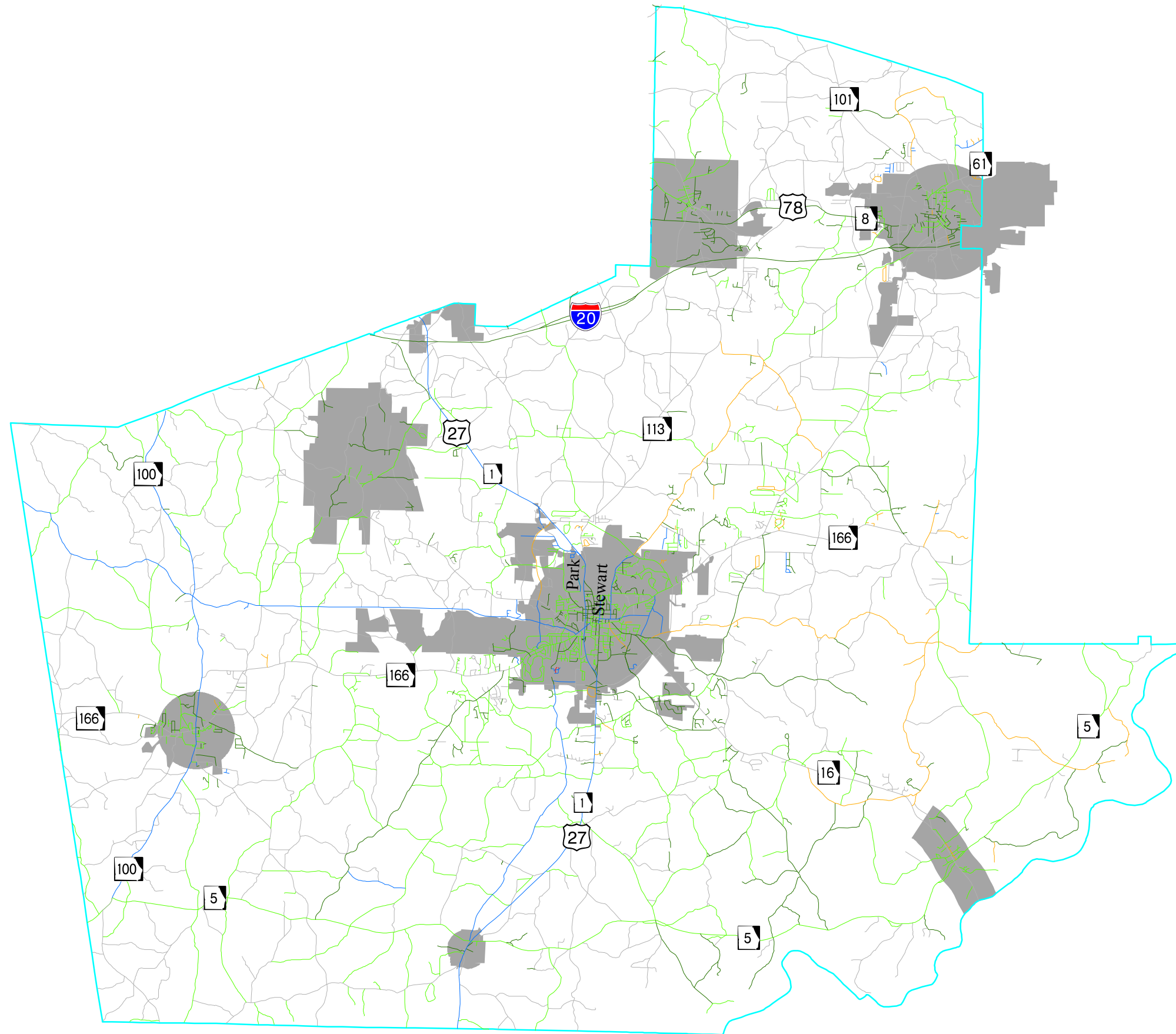
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## Map 12: Road Pavement Classifications

# Map 12 Pavement Condition Classification Carroll County, Georgia

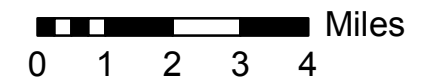


## Legend

### Pavement Condition Rating (PACES)

#### PACES2

- Badly Deteriorated
- Considerable Deterioration
- Sufficient
- Good
- Very Good
- Unknown
- County Boundary



11/11/2004

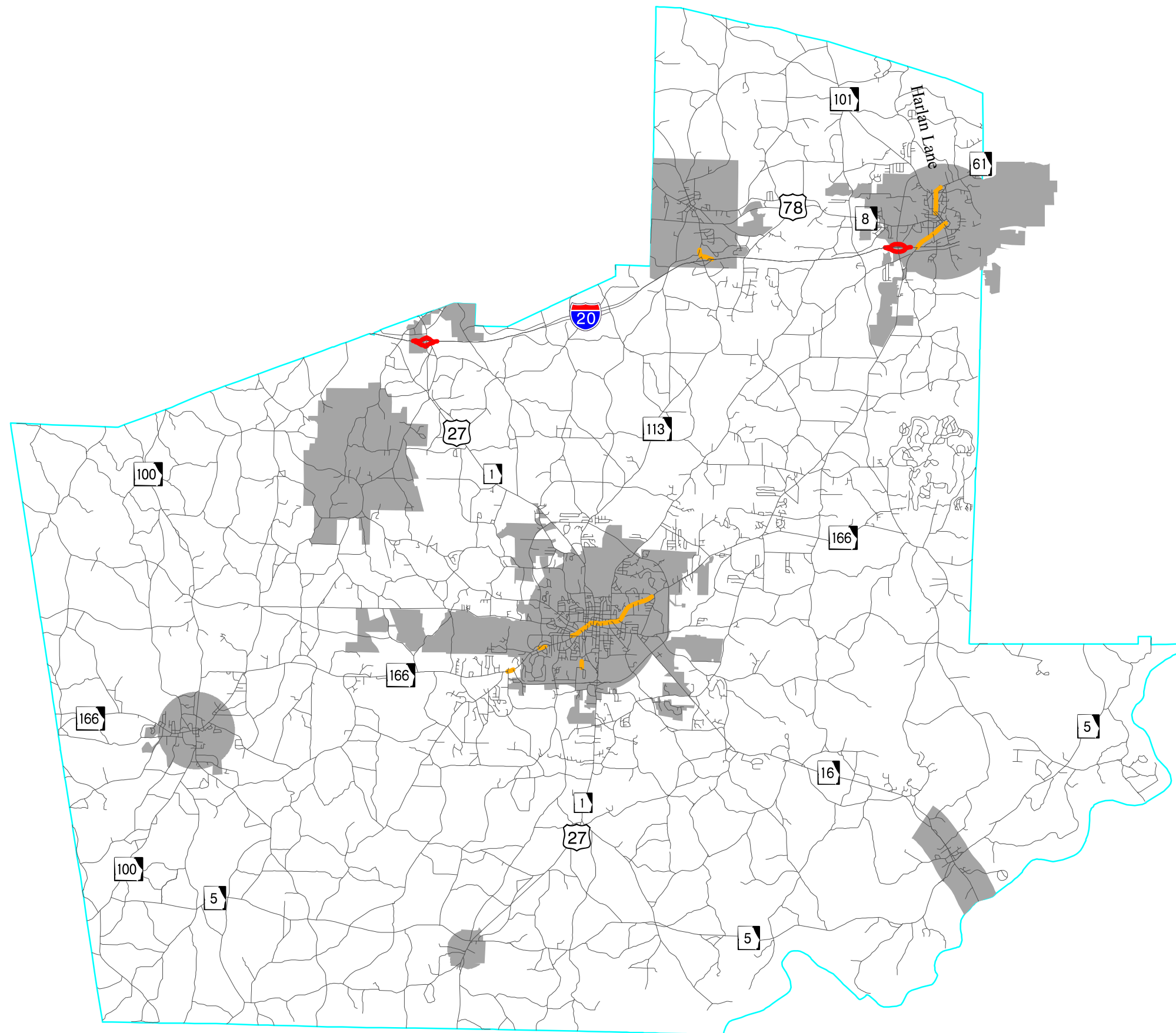
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## Map 13: Levels of Service, 2000

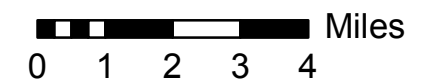
# Map 13 2000 Base Year Roads Level of Service Carroll County, Georgia



## Legend

### LOS2000

- LOS A - C (V/C <= 0.70)
- LOS D - E (V/C: 0.71 - 0.99)
- LOS F (V/C >= 1.0)



9/13/2004

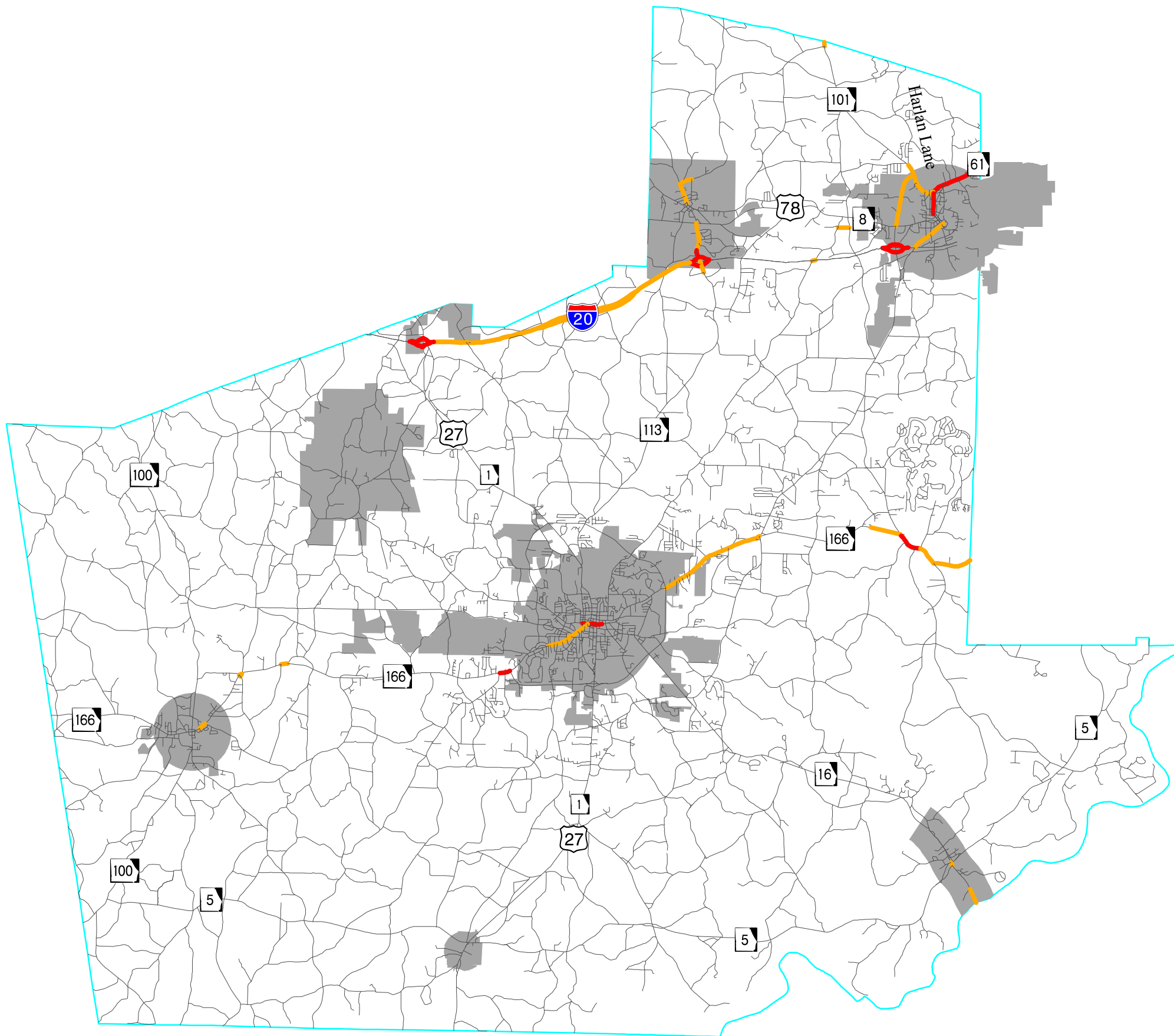
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## Map 14: Levels of Service, 2030

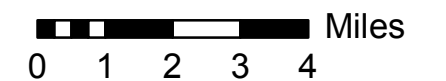
# Map 14 2030 Roads Level of Service Carroll County, Georgia



## Legend

### LOS2030

- LOS A - C (V/C <= 0.70)
- LOS D - E (V/C 0.71 - 0.99)
- LOS F (V/C >= 1.0)



9/13/2004

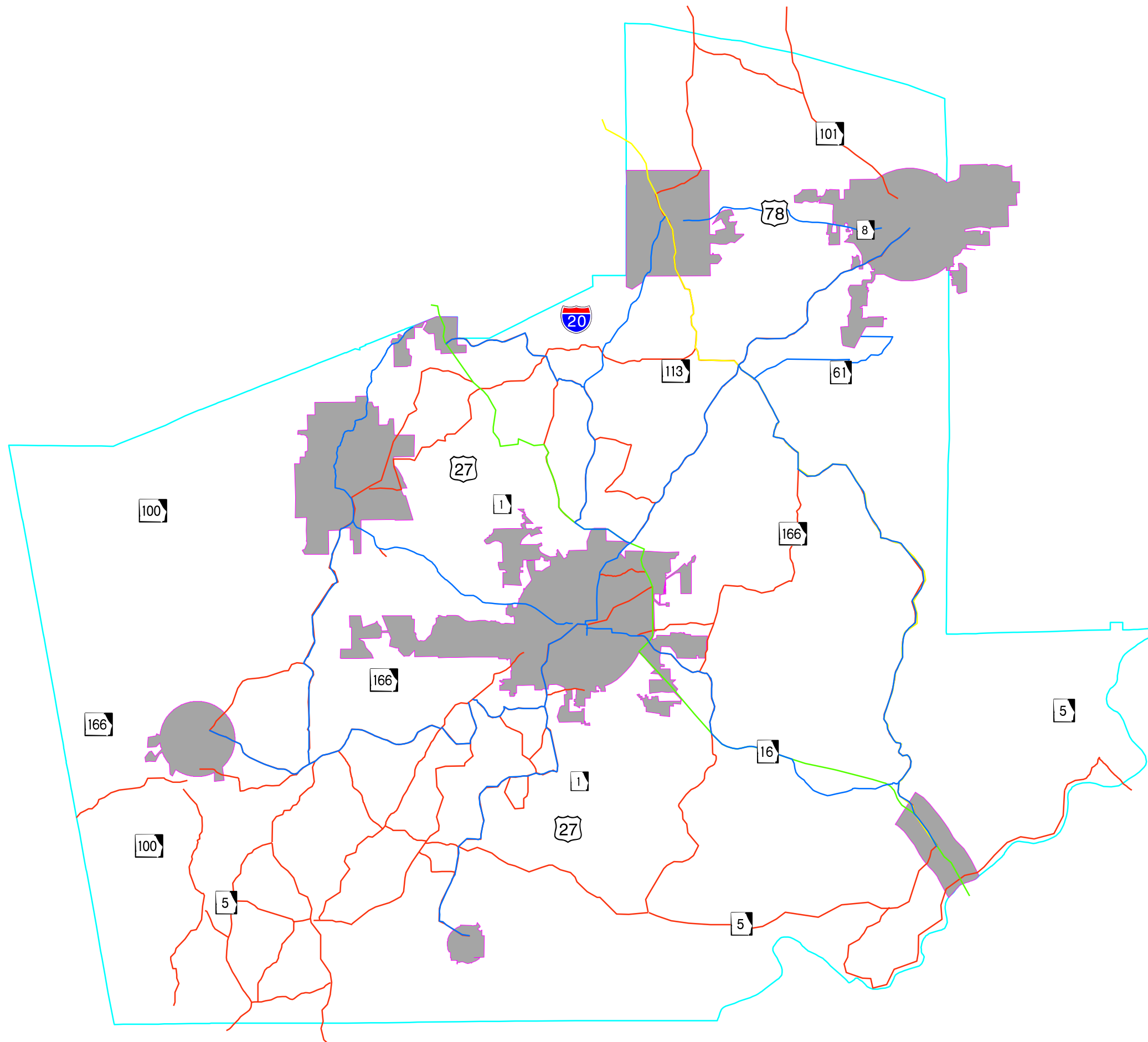
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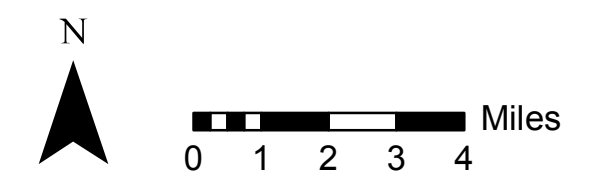
## Map 15: Bicycle Paths

# Map 15 Regional Bike Plan Carroll County, Georgia



## Legend

- Inter-City Connections
- Regional Networks
- State Routes
- Recreational Routes
- City Boundaries
- County



09/30/2004



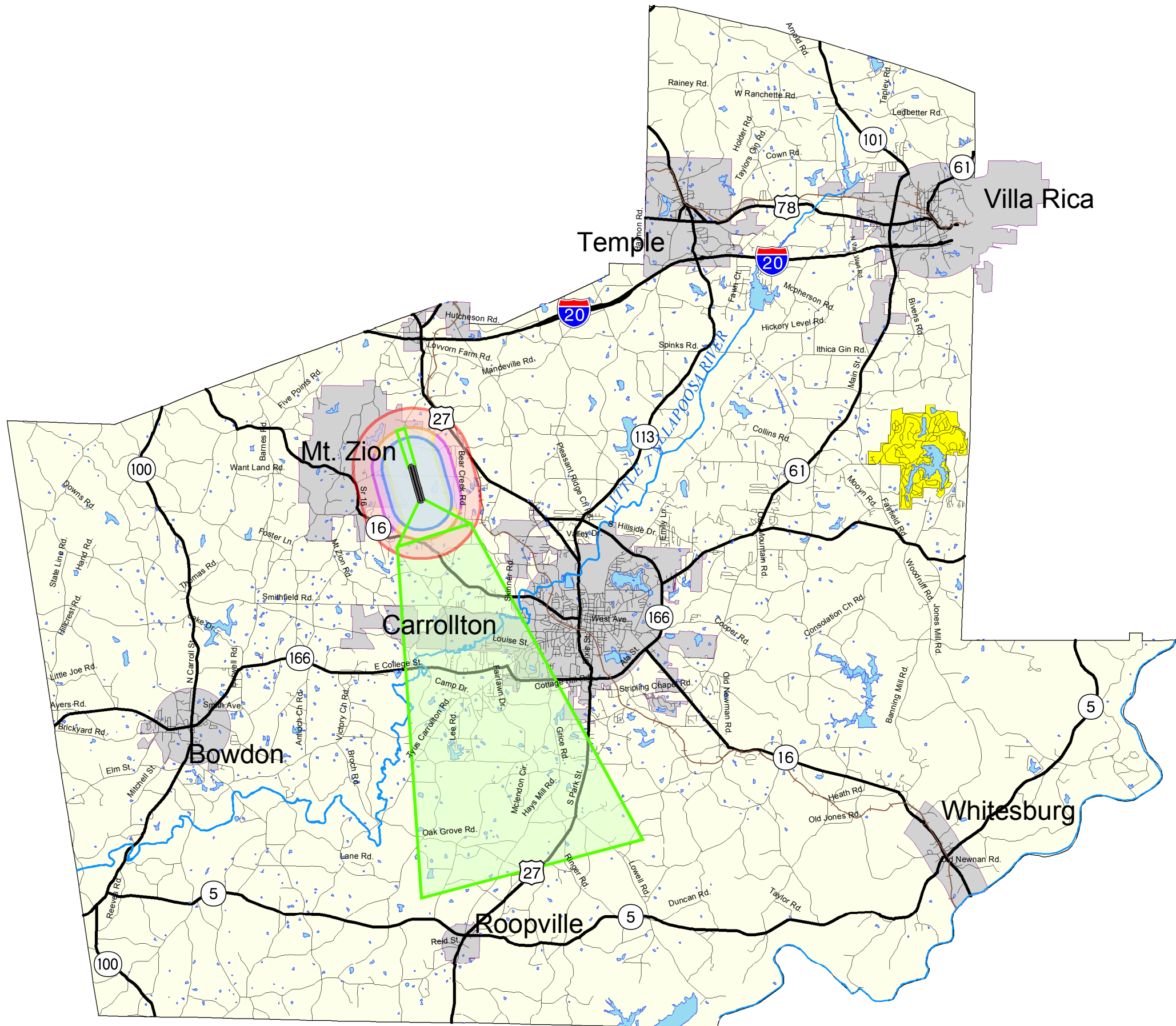
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## Map 16: Airport Protections Zones

# Map 16 Airport Protection Zones Carroll County, Georgia



**Legend**

- Runway
- Airport
- Sideline Safety Zone
- Inner-Turning Zone
- Traffic Pattern Zone
- Outer Safety Zone
- Runway Protection Zone
- Lakes and Ponds
- Rivers
- Railways
- Incorporated
- Fairfield
- County

N

0 1 2 3 4 Miles



11/16/2004

**PLANNING WORKS**

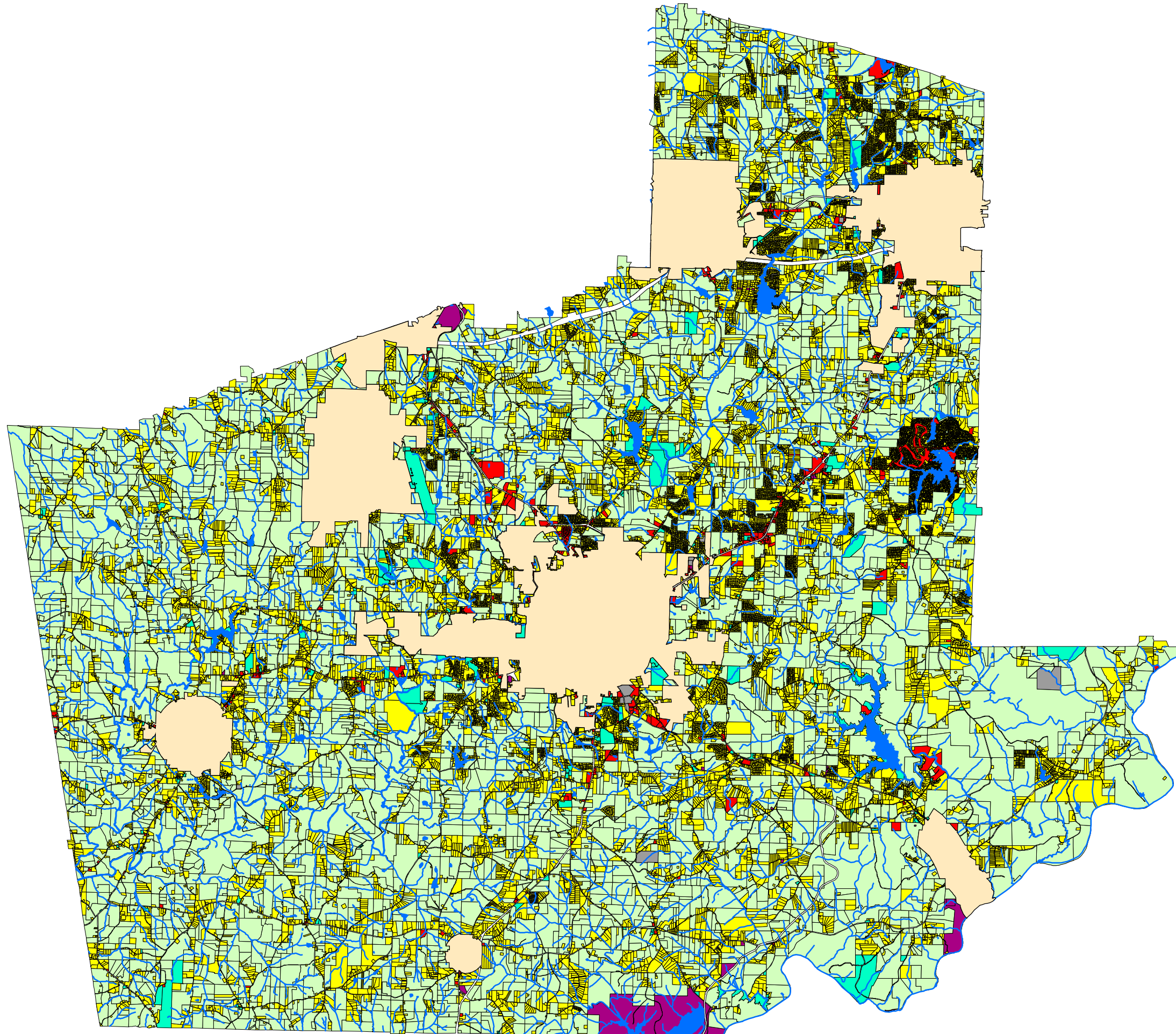
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







## Map 17: Existing Land Use, 2007

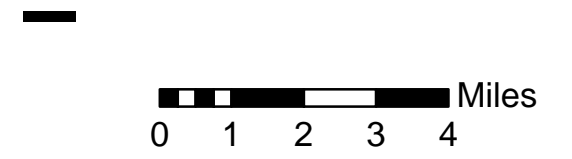


# Map 17 Existing Land Use 2007 Carroll County, Georgia



**Legend**

-  Agriculture
-  Commercial
-  Public
-  Industrial
-  Residential
-  Utilities
-  Incorporated Cities
-  Bodies of Water



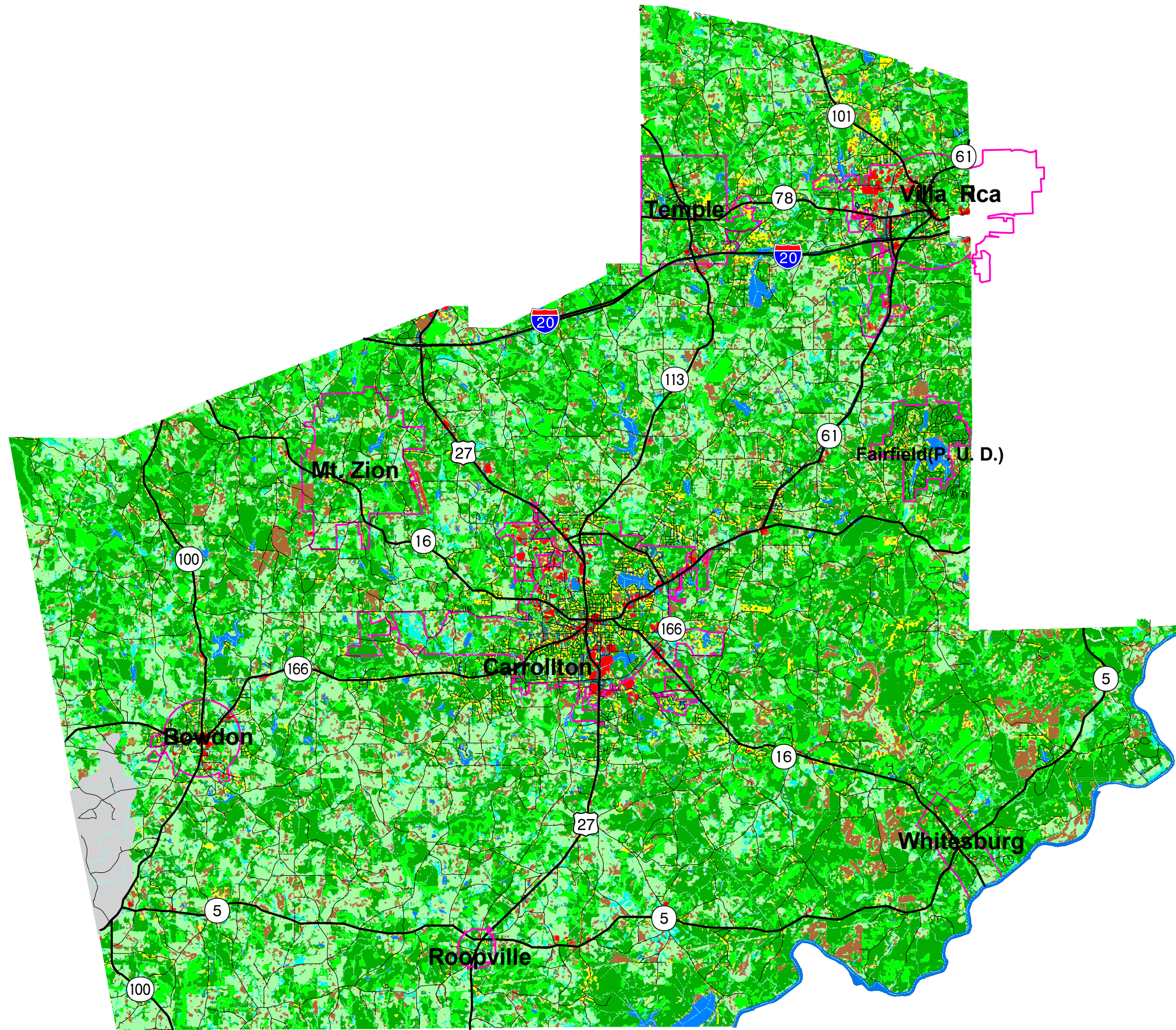
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## Map 18: LANDSAT Land Use, 1990

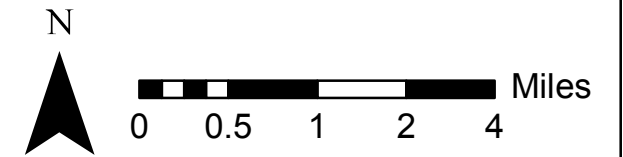


# Map 18 LANDSAT 1990 Land Use Carroll County, Georgia



## Legend

- Main Roads
- Streams
- Streets
- City Boundaries
- Transportation
- Urban Industrial Commercial Institutional
- Commercial/Agriculture
- Clearcut Bare ground
- Overgrown Clearcut pasture
- Deciduous forest
- Evergreen forest
- Medium density residential
- Non-forested wetland
- Streams, ponds, reservoirs
- Smoke obscured



09/13/2004

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













## Map 19: Zoning

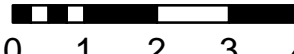


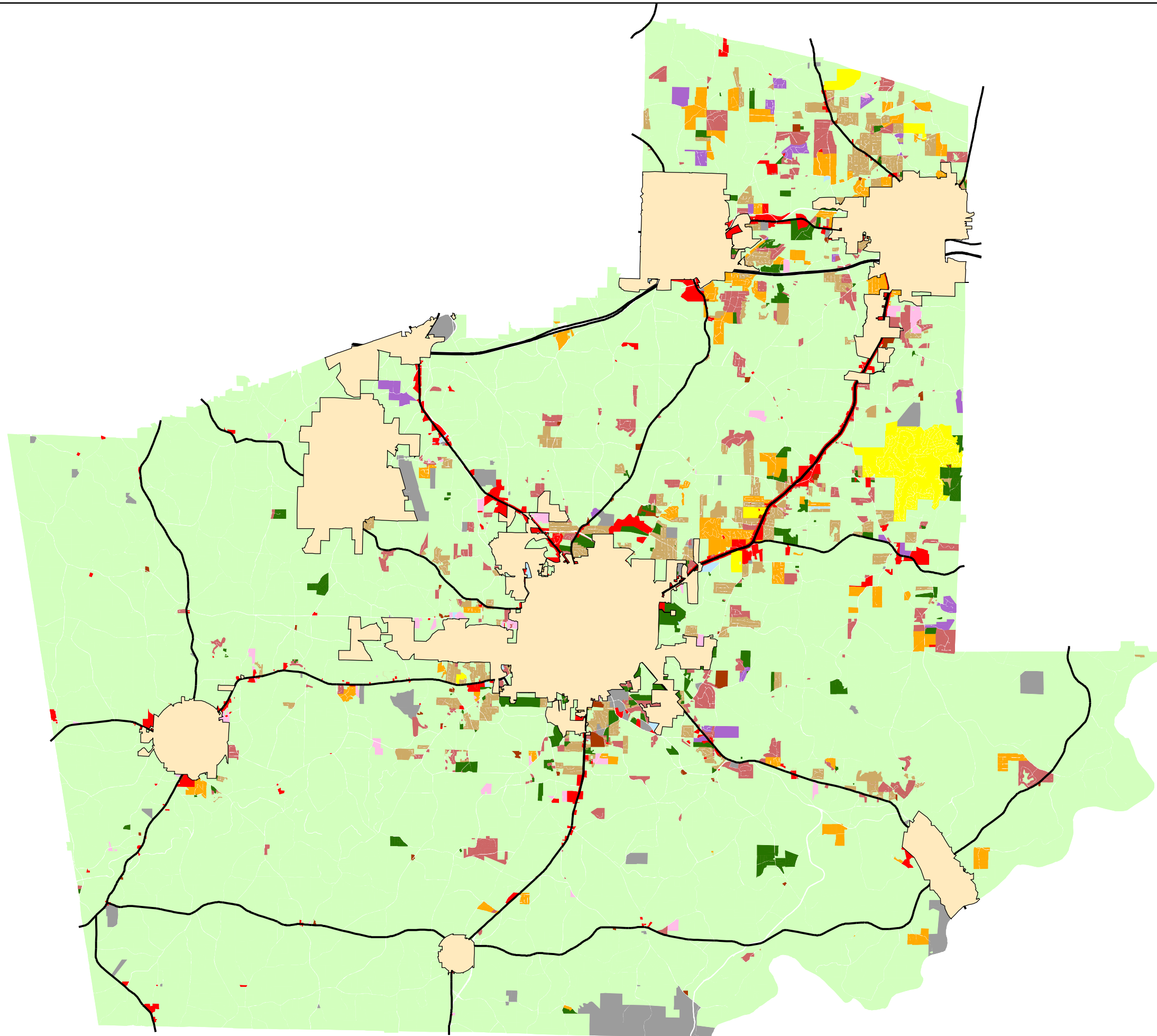
# Map 19 Zoning Carroll County, Georgia

## Legend

-  Incorporated Cities
-  A - Agriculture ( 4 ac min. )
-  C - Commercial
-  HDDR - High Density Detached Residential
-  I - Industrial
-  MFR - Multi-Family Residential
-  MHS - Manufactured Home Subdivision
-  OI - Office and Institutional
-  PUD - Planned Unit Development
-  R1 - Single Family Residential ( 3 ac min. )
-  R2 - Single Family Residential ( 1 ac min. )
-  R3 - Single Family Residential ( 1/2 ac min. )
-  R30 - Single Family Residential ( 3/4 ac min. )



 Miles  
0 1 2 3 4



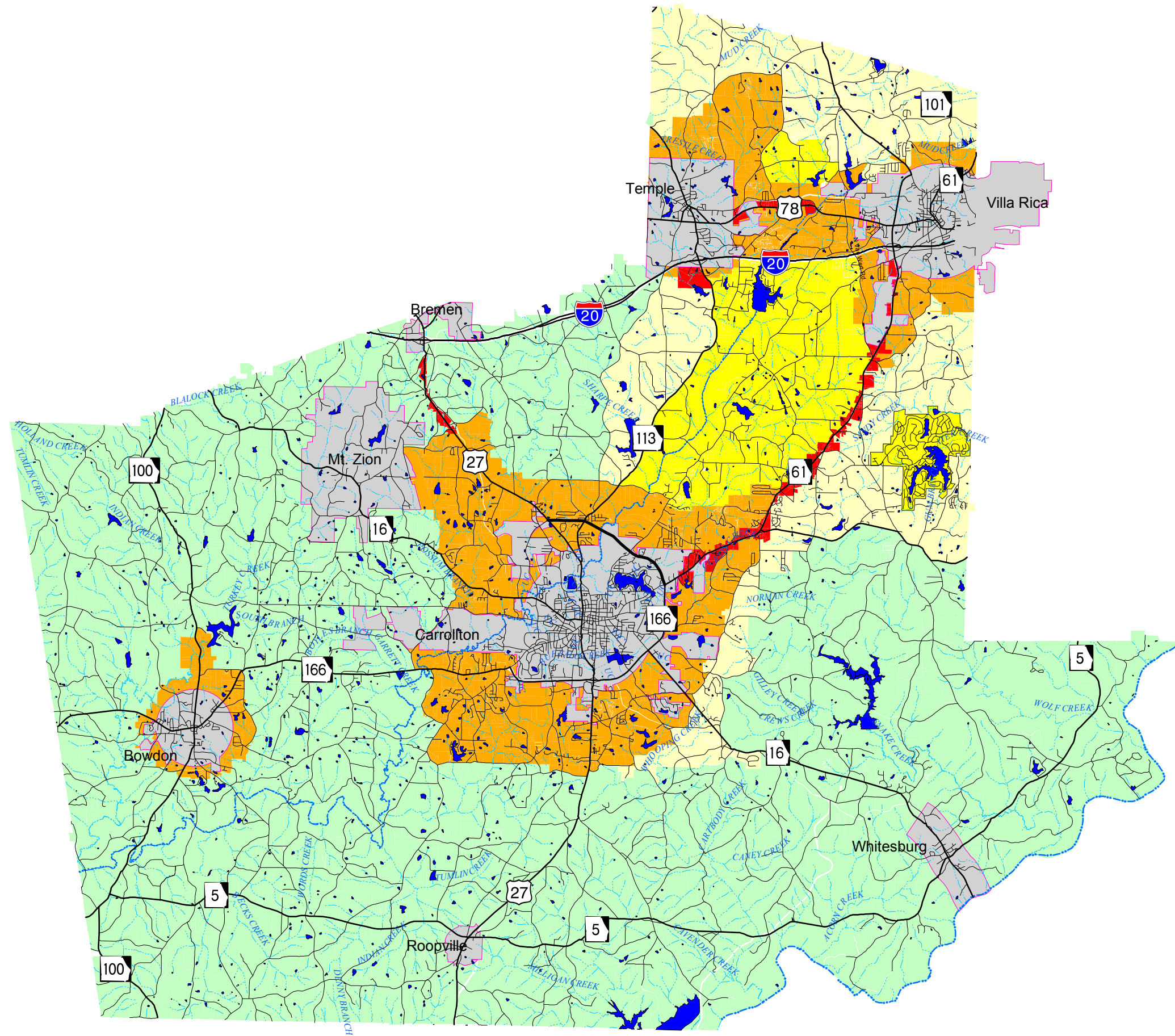
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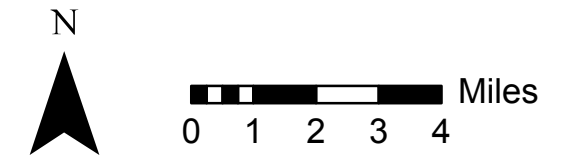
## Map 20: Growth Tiers

# Map 20 Growth Tiers Carroll County, Georgia



## Legend

-  Streams
-  Rivers
-  Lakes and Ponds
-  Highways
-  Roads
-  City Boundaries
-  Commercial Corridor
-  Urban Growth Area
-  S1 Sewer
-  S2 No Sewer
-  Rural



11/11/2004



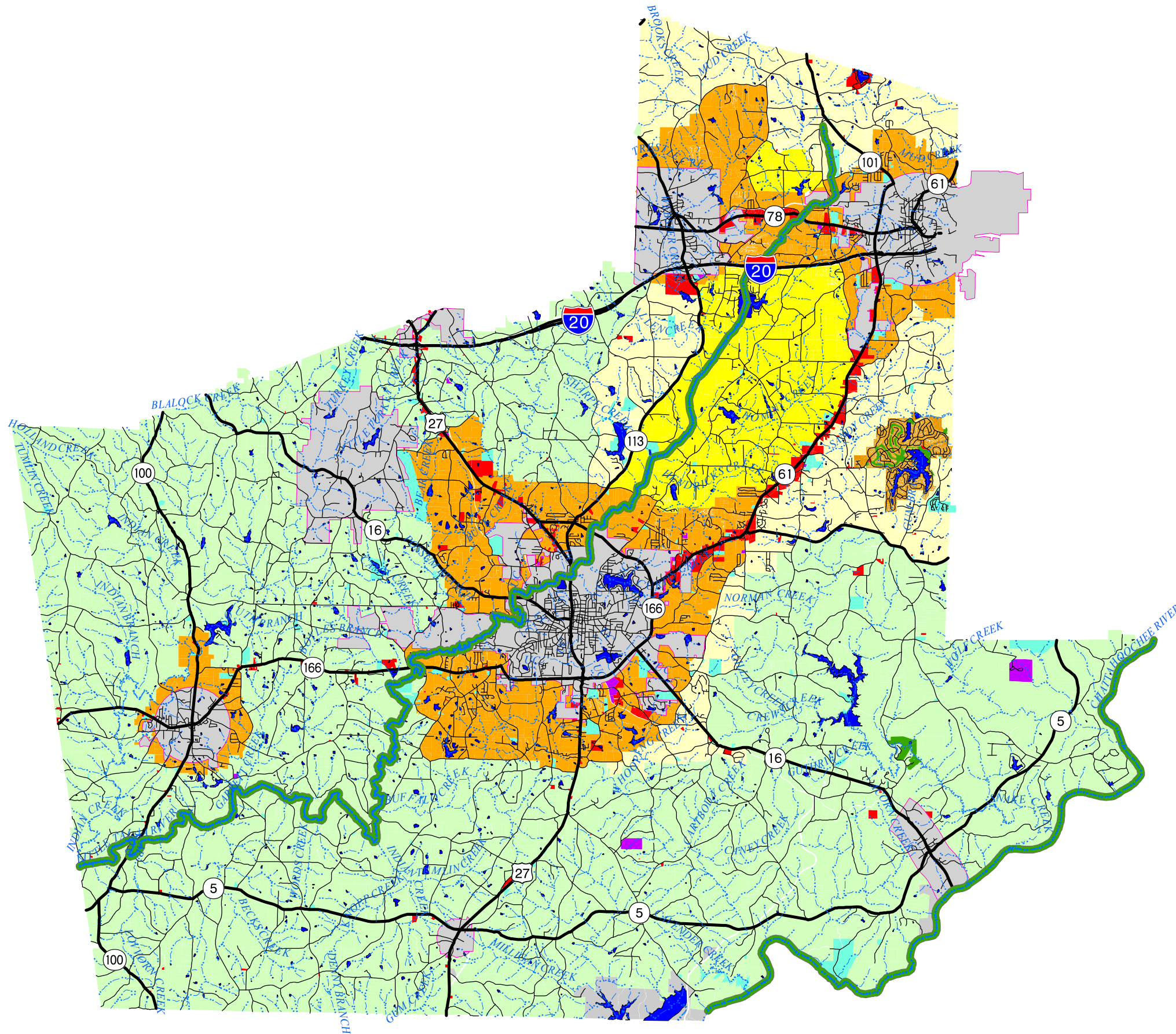
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## Map 21: Future Land Use Map

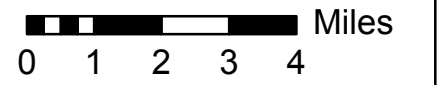


# Map 21 Future Land Use Map Carroll County, Ga.



## Legend

- Streams
  - Rivers
  - Lakes
  - Roads
  - Highways
  - Incorporated Cities
- ### Future Land Use
- Conservation, Recreation, Parks
  - Agricultural
  - s2 Residential
  - s1 Residential
  - Urban Growth Area
  - Fairfield
  - Commercial
  - Industrial
  - Public/Institutional
  - Utilities



11/11/2004



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## APPENDIX C. ALTERNATIVE GROWTH SCENARIOS

**Carroll County, Georgia  
Comprehensive Plan Update**

***Growth Scenarios Analysis  
Report***

DRAFT



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# Carroll County Scenarios Analysis Report

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# I. Overview

## 1. Purpose

This report analyzes the relative impacts of three alternative growth scenarios for Carroll County, Georgia, as part of the County's comprehensive plan update process. The scenarios reflect distinct, realistic approaches to growth management that would result in distinct land use patterns, fiscal impacts, resource management choices and housing alternatives. This analysis is intended to:

- Identify the alternative land use and growth policies available to the County;
- Describe the relative implications of each of these alternatives within the framework of three scenarios;
- Facilitate rational discussion of these implications through structured, objective comparisons of the scenarios; and
- Help decision-makers define a preferred growth scenario on which to base the County's Comprehensive Plan.

## 2. Scope of Analysis

This analysis evaluates qualitative and quantitative impacts of three growth scenarios based on the information assembled during the initial phase of this project and summarized in the *Needs, Issues and Opportunities Report*. Quantitative analyses are based on the County's parcel-based geographic information system (GIS), demographic data and projections, available traffic counts and other available information. Qualitative analyses are based on the impacts of identified growth management strategies in similar settings throughout the country. The scope of the analysis for each of the following factors is described below:

- **Community Character:** This qualitative factor addresses the impact of each scenario on the character of different areas of the County. Character is a broad term that describes the mix, intensity and arrangement of land uses, including the relationship of developed areas to natural and developed green-spaces.

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- **Agricultural Operations:** This factor incorporates both quantitative factors (e.g., land consumption) and qualitative factors (e.g., potential land use incompatibilities and potential operational conflicts). It provides a rough comparison of the relative pressures created for the conversion of productive agricultural lands.
- **Land Use Mix:** This factor is a measure of the acreage planned and projected to be absorbed for different purposes.
- **Population Distribution:** This factor compares the distribution of anticipated population growth throughout the County over the next 20 years.
- **Carrying Capacity:** This factor calculates the theoretical build-out population supported by each scenario.
- **Housing Opportunities:** This factor identifies the mix of housing products that could be made available under each scenario. Because the cost of housing demanded in the market will respond to a wide variety of factors that are internal (e.g., service quality, neighborhood quality, compatibility standards, green-space, etc.) and external (e.g., national and regional economy, growth policies of surrounding Counties, etc.) to the County, this analysis will not attempt to quantify housing costs.
- **Employment Opportunities:** This factor will address the relative availability of commercial and industrial sites that will support future employment opportunities.
- **Transportation System:** While no traffic modeling will be conducted as part of this scenario analysis, the relative loading of key arterials and likely demands for additional transportation infrastructure will be identified, as will each scenario's potential to support transit services.

## Carroll County Scenarios Analysis Report

- **Water and Wastewater Needs:** The scenarios create distinct demands for centralized utility services, relying on different types of services and different providers. This analysis highlights these service implications and the resulting policies required to ensure that services are adequate.
- **School Demands:** While the number of school-aged children will be held constant for each of the scenarios, the distinct distributions of students will be evaluated and the impacts on the school systems highlighted.
- **Emergency Service Impacts:** The distribution of housing will directly affect the ability of fire and emergency medical services to respond to emergency services.

### 3. Scenarios

Three growth scenarios were developed by the County's planning consultant based on public input and subsequently refined by the Comprehensive Plan Steering Committee. The scenarios, which reflect different land use mixes, different distributions of population, different approaches to growth management, and different levels of coordination between the County and other service providers, are summarized as follows:

- **Rural Residential:** This pattern of scattered low-density residential development throughout the County reflects current zoning and recent development trends. While some more intensive development has been occurring adjacent to existing communities and along the Hwy. 61 corridor, significant development has occurred in agricultural areas and along rural arterial corridors on large lots.
- **Corridors:** This growth pattern, which is a slightly modified version of Carroll Tomorrow's conceptual growth plan, focuses development and public infrastructure investment to support that development within the Highway 61

## Carroll County Scenarios Analysis Report

corridor between Villa Rica and Carrollton and along U.S. Highway 27 between Bremen and Carrollton. While more intensive residential development than allowed by existing zoning will be authorized north and east of Carrollton, significantly less development would be authorized within rural areas of the County currently zoned for agriculture.

- **Centers:** This growth pattern assumes a much greater level of coordination between the County and cities in the management of growth within each city's planned utility service area (USA). Most new development would occur within these USA areas at intensities sufficient to support the development of centralized sewer systems. Rural/agricultural areas would be limited to much lower densities than are authorized today.

### 4. *Summary of Findings*

Each of the three scenarios offers distinct advantages and disadvantages. All of the scenarios provide far more development capacity than is needed for the most rapid growth projected for the next 20 years, each can be made consistent with County greenspace initiatives and each can be adapted to serve economic development goals.

The **Rural Residential** scenario has the advantages of requiring little policy change, maintaining existing land use and development expectations and minimizing public infrastructure costs for centralized wastewater systems. However, this scenario is inconsistent with nearly all of the State and County goals because it maximizes consumption of agricultural land; increases public costs for provision most public services, including the two costliest services (roads and schools); inhibits long-term community growth; will lead to greater traffic congestion and air pollution; and will erode the rural character of the County more rapidly than the other growth scenarios.

The **Corridors** scenario reserves the greatest amount of land for economic development; helps retain agricultural areas and the rural character of the County; is consistent with

## Carroll County Scenarios Analysis Report

most of the State and County growth goals; and provides development opportunities that will facilitate the establishment of a greenway along the Little Tallapoosa River. However, the minimum 20 acre lot size in agricultural areas will reduce development expectations and property values. Additionally, this scenario presumes that community sewer systems would be established throughout the northeastern quadrant of the County, which will require the establishment of administrative functions that don't currently exist. Developments relying on community systems will facilitate conservation subdivision, but will require expertise to: view the design of systems, guarantee ongoing funding for maintenance, operation and replacement of systems, and monitor on-going system operations.

The **Centers** scenario is most consistent with State and County goals and objectives, and will result in the least fiscal impact to the County and its residents. Additionally, this scenario will provide the greatest support for the growth of communities within the County. However, this scenario will require extensive coordination between the cities, the County and other service providers to address growth issues in planned urban service areas. Both this and the Corridors scenarios also will require a strong commitment to offset decreased values in agricultural areas through a variety of compensatory techniques.

There are enough positive and negative aspects of each scenario that none of the scenarios should be embraced in its entirety. When selecting a preferred scenario, the Steering Committee will need to balance competing objectives and establish clear priorities for each development area or "tier" in the County. **(see cover memo for more discussion)**

## II. Scenarios Definitions

### 1. *Process*

The three scenarios were based on historic land use and development patterns and citizen identification of more desirable growth patterns. During the Steering Committee and citizen participation workshops conducted in the Spring of 2002, participants were asked to indicate where future residential growth should occur. The resulting maps were reviewed by the consultant and three clear patterns emerged. The Rural Residential Scenario (**Map 1**) reflects the build-out of the County under current trends and regulations. The Corridor Scenario (**Map 2**) reflects a focus on growth in and between two highway corridors (U.S. 27 and U.S. 61). The Centers Scenario (**Map 3**) reflects a focus on growth within and near existing communities.

After the schematics were developed, they were applied to current parcel data to evaluate the impact of each scenario on the future use of land. **Map 4** illustrates the existing land use according to the County Assessor's Office records. The schematic boundaries overlaid the County Assessor's parcel data and each parcel was analyzed for land use conversion to the future land use of the specific scenario. Existing vacant parcels were assigned future land uses based on the conceptual land use maps.<sup>1</sup> (**Maps 5-7**) illustrate the resulting parcel-specific land use maps on which much of the analysis is based.

### 2. *Common Assumptions*

The future land use categories are defined in Exhibit 2. This analysis is based on the future land use maps for each of the scenarios and following common assumptions:

- The population is projected to increase by between 50,503 and 84,382.<sup>2</sup>
- Housing vacancy rates will average 5 percent.

---

<sup>1</sup> Conservation and Preferential, which are taxation-derived categories rather than land uses, were treated as agriculture and forestry land.

<sup>2</sup> Based on the 2000 figure (87,268) from the 2000 U.S. Census and the 2020 projections by Chat/Flint RDC and Brown & Caldwell.

## Carroll County Scenarios Analysis Report

- Average household size will decrease from 2.66 to 2.57 by 2020.<sup>3</sup>
- Countywide, the number of households is projected to increase by 19,650 to 32,833.<sup>4</sup>
- 80% of vacant residentially zoned land in each city will be presumed to develop at an average of three dwellings per acre, providing capacity for an additional 9,307 dwellings or 24,073 residents, thereby leaving demand for between 10,343 and 23,526 new residents in currently unincorporated areas.
- Most existing development will remain in place, though limited commercial and residential redevelopment will occur in unincorporated areas.
- Centralized wastewater systems will be required for development at densities greater than one dwelling per acre.
- Centralized water service will be required for development at densities greater than one unit per two acres.
- Each household consumes 300 gallons of water per day and generate 250 gallons of wastewater per day.
- Each new single-family household will create an average of 9.8 daily automobile trips.
- 10-year conservation covenants for preferential tax assessments will not be assumed to be renewed.

### 3. Variables

The following variables are built into the scenarios.

- Land use distributions and densities vary between the scenarios.
- The density of development in rural areas ranges from 1 dwelling units per 20 acres in agriculture areas to an average 4 dwelling units per acre in the mixed-use and USA land use categories. While some higher density projects will occur in portions these areas, this figure represents an average density after deducting for non-residential land uses and undevelopable land.

---

<sup>3</sup> The 2000 Census reported a 2.66 average household size while Woods & Poole Economics, Inc. project an average household size of 2.57 by 2020.

<sup>4</sup> Calculated by Planning Works, LLC by dividing the projected population growth by the projected average household size.



## 4. Land Use Scenarios

### A. Rural Residential

As previously noted, the Rural Residential Scenario (**Map 5**) depicts development under existing regulatory conditions, with no modifications to existing growth management policies or land use regulations. Under this scenario, population growth would be accommodated through dispersion with large lot rural residential development. In addition to the existing municipalities and the Fairfield PUD, three residential land use categories depict varied land use patterns: Urban Mix, Suburban Residential, Rural Residential. The average development density, measured in dwelling units (du) per acre, of each land use category is shown in **Exhibit 1**.

*Exhibit 1: Rural Residential Land Use Category Development Density*

Future Land Use Category	Residential Density
Urban Mix	4 du per acre
Suburban Residential	1 du per 2 acres
Rural Residential	1 du per 4 acres

The urban mix has an average residential density of 4 dwelling units per acre, but these areas include a mix of dwelling types and densities, as well as non-residential uses. Commercial and industrial development primarily would occur within the existing city limits, urban mix area, and commercial strips along Highways 61 and 27, though the areas outside the City utility areas would be limited to scattered low-intensity uses. Suburban residential (reflecting the existing R-2 zoning) would continue expanding around existing population centers and near highways radiating from Carrollton. Scattered residential development of agricultural and conservation lands would be consistent with existing zoning standards that establish a minimum 4-acre lot size.

### B. Corridors

The Corridors Scenario is built on the premise that future development should occur adjacent to major transportation corridors and existing development. It suggests that future commercial and industrial development should congregate along Highways 61, 27

## Carroll County Scenarios Analysis Report

and 78 (**Map 6**). Development focused within transportation corridors would require coordinated effort between local governmental jurisdictions to construct and operate infrastructure.

Highway 27 would become the primary employment corridor with varied industrial and heavy commercial uses. Land uses adjacent to Highway 61 would be a mix of residences and businesses. Suburban residential development, preferably designed as conservation subdivisions, would occur in the area east of Highway 27, north of Highway 166 and along both sides of the I-20 and Highway 78 corridors. Rural residential development using on-site wastewater systems (septic tanks) is limited to existing sites and small scattered clusters in agricultural areas. Agricultural and rural lands are retained west of the Highway 27 corridor and south of Highway 166 through density reductions in agricultural zones. The land use categories specified for this scenario include Employment/Industrial, Commercial/Mixed-Use, Suburban Residential, Rural Residential and Agriculture. The density of residential development for each land use category is shown in **Exhibit 2**.

*Exhibit 2: Corridors Land Use Category Development Density*

Future Land Use Category	Residential Development Potential
Employment/Industrial	None
Commercial/Mixed-Use	4 du per acre
Suburban Residential	1 du per 2 acres
Rural Residential	1 du per 4 acres
Agriculture	1 du per 20 acres

### C. Centers

The Centers Scenario views cities as the focal point for future development through a combination of in-fill and annexation. Capital improvements would be concentrated within the existing city limits and Urban Service Areas (USAs), which are planned for centralized municipal water and wastewater services within the next 20 years. Most development would occur within or adjacent to existing city limits with the most intense development occurring along highway corridors. Rural residential development would

## Carroll County Scenarios Analysis Report

be limited to existing sites and scattered conservations subdivisions in agricultural areas. Agriculture land is retained throughout the County. Industrial and commercial development would be directed to the Urban Service Areas and at existing locations. The land use categories specified for this scenario include Urban Services Areas (urban mix), Suburban Residential, Rural Residential and Agriculture. The residential development density of these land use categories is shown in **Exhibit 3**.

*Exhibit 3: Centers Land Use Category Development Density*

Future Land Use Category	Residential Development Potential
Urban Service Areas	4 du per acre
Suburban Residential	1 du per 2 acres
Rural Residential	1 du per 4 acres
Agriculture	1 du per 20 acres

## III. Scenarios Analysis

### 1. *Analysis Approach*

This analysis consists of qualitative and quantitative critique of the three scenarios, which will be summarized for comparison on the following factors: Community Character, Agricultural Operations, Land Use Mix, Population Distribution, Carrying Capacity, Housing Opportunities, Employment Opportunities, Transportation System, Water and Wastewater Needs, School Demands and Emergency Service Impacts.

#### A. **Community Character**

This qualitative factor describes the relationships between land uses and the character of different areas of the County. For this analysis, character includes density, unit types, dispersion and mix of land uses. Prior to plan adoption, the County should address other character issues, including green spaces, street system layout and site design factors.

**Scenario 1: Rural Residential** - The built environment under this scenario is characterized by:

- **Widely scattered residences in rural areas.** Rural residences occupying lots of 4 acres or larger will be scattered throughout existing farm, pasture and timber lands. Existing expanses of undeveloped, timber or agricultural land would be dotted with homesteads whose residents typically would work in towns and cities.
- **Lack of visual distinction between the communities and surrounding suburban residential development.** Cities will lack clearly defined edges as rural areas transition to suburban residential at the fringes of cities. Suburban residential development on septic systems will surround existing communities. As the cities grow, it will be increasingly difficult to annex land. Any significant planned annexation would impact a large number of rural residential landowners who rely on CCWA water and on-site septic systems. Suburban residents likely will oppose annexation. Land fragmentation will make it difficult to justify extending public utilities to low

## Carroll County Scenarios Analysis Report

density residential development or even scattered development at higher densities on the city fringe. Land fragmentation also will tend to isolate subdivisions and make road connections between neighborhoods more difficult to achieve. This will tend to reduce residents' access to public facilities and services.

- **Fragmented residential development in urban mix areas.** The lack of cohesion between suburban residential development on septic systems that are reviewed by the County and residential development relying on cities' centralized services will result in poor connectivity between developments and
- **Commercial development within cities and along the existing commercial strips (Highways 61, 27 & 78).** Small scale scattered commercial development will locate along these highway corridors. Larger scale commercial projects generally require centralized sewer systems and will be located within cities.
- **Industrial development focused within cities and at the edges of cities having convenient access to centralized sewer.** While there may be some pressure for lower end industrial uses in outlying areas, any significant employment base will require centralized sewer services available within or at the edges of cities.

**Scenario 2: Corridors** – The built environment under this scenario is characterized by:

- **Open feel of agricultural areas with very low density development** at one dwelling per 20 acres. This increases the entry cost of a non-farm rural residence, which means that most rural homes will tend to be larger, up-scale housing. The lower densities will reduce the number of subdivisions and favor long-term, farming, ranching, timber and other resource-based land uses.
- **Rural Residential development limited to infill of existing subdivisions and out-parcels in rural/agricultural areas.** The limited supply of existing

## Carroll County Scenarios Analysis Report

rural lots will limit the amount of rural residential development in the southeastern, southern and western portions of the County.

- **Scattered Suburban Residential development clusters throughout the northeastern quadrant of the County.** These areas will consist of a mix of conventional low density and conservation subdivisions that are served by community sewer systems and linked by a connected greenways. Both conventional and conservation subdivisions provide a mix of residential unit types. New development along the Highway 13 and 166 corridors will be buffered from the roadway to retain the corridors' rural character, despite the suburban densities (2 dwellings per acre) adjacent residential development.
- **Mixture of industrial and heavy commercial uses providing employment opportunities along Highway 27 between Carrollton and Bremen.** Development in the corridor will be linked to the extension of municipal sewer service, and thus is likely to occur in a relatively sequential pattern. To retain the capacity and safety of the highway, development will be accessed by a combination of widely-spaced side roads, frontage roads and parallel collectors, which will foster a business park character in much of the corridor.
- **Mix of residential and commercial uses in the Highway 61 corridor between Villa Rica and Carrollton,** with commercial development focused near major intersections. As with the Highway 27, the larger scale development will be located closer to the cities where municipal sewer services are available. In areas without centralized services, small scale commercial development would be located near intersections.

**Scenario 3: Centers** - The built environment under this scenario is characterized by:

- **A combination of very low density development and small clusters of houses to retain open feel in agricultural areas.** Existing agriculture and timber lands will remain largely undeveloped, with the exception of a new residential community in the southeast portion of the County. Homes in these areas will be limited to 20 acre parcels unless clustered, with sufficient

## Carroll County Scenarios Analysis Report

agricultural lands are set aside in conservation easements to retain the base density of 1 dwelling per 20 acres.

- **Rural Residential development limited to infill of existing parcels in agricultural and timber areas.** No new rural residential subdivision is anticipated in this scenario
- **Suburban residential development in a new, predominantly residential community in the southeastern quadrant of the County.** This predominantly residential community would be established in near the County's new reservoir on existing timber lands. Some neighborhood commercial and service uses will be developed on the site.
- **Most new development within existing cities and in designated urban service areas (USAs).** Most of this development will be tied to municipal wastewater systems, which will result in phased development radiating out from the cities of Villa Rica, Temple, Bremen, Bowdon and Carrollton. Residential development will include a mix of dwelling types at varied densities. The coordination of development with wastewater systems is likely to result in well-coordinated, well-connected street systems and better access to city services. Non-residential development will tend to be located along highway corridors and will be buffered from low density development by moderate to high density residential development.

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*Exhibit 4: Summary of Community Character*

Scenario 1: Rural Residential	Scenario 2: Corridors	Scenario 3: Centers
<ul style="list-style-type: none"> <li>&lt; Widely scattered residences in rural areas.</li> <li>&lt; Lack of visual distinction between the communities and surrounding suburban residential development.</li> <li>&lt; Fragmented residential development in urban mix areas.</li> <li>&lt; Commercial development within cities and along existing commercial strips (Highways 61, 27 and 78).</li> <li>&lt; Industrial development focused within cities and at edges of cities having convenient access to centralized sewer.</li> </ul>	<ul style="list-style-type: none"> <li>&lt; Open feel of agricultural areas with very low density development.</li> <li>&lt; Limiting Rural Residential development to infill of existing subdivisions and out-parcels in rural/agricultural areas.</li> <li>&lt; Scattered Suburban Residential development clusters dominating northeastern quadrant of County.</li> <li>&lt; Locating a mixture of industrial and heavy commercial uses providing employment opportunities along Highway 27 between Carrollton and Bremen.</li> <li>&lt; Including a mix of residential and non-residential uses in the Highway 61 corridor between Villa Rica and Carrollton.</li> </ul>	<ul style="list-style-type: none"> <li>&lt; A combination of very low density development and small clusters of houses in agricultural areas.</li> <li>&lt; Limiting Rural Residential development to infill of existing parcels in agricultural and timber areas.</li> <li>&lt; Suburban residential densities in a new, predominantly residential community to be established in southeastern quadrant of County.</li> <li>&lt; Most new development occurring within existing cities and in designated urban service areas (USAs).</li> </ul>

### **B. Agricultural and Timber Operations**

The long-term viability of agriculture and timber operations is influenced by many factors internal and external to the County. The internal factors most directly influenced by the scenarios are the fragmentation of the land base, land use compatibility and the availability of local agriculture support services. Excessive land fragmentation makes it difficult to purchase or lease land areas that are large enough for efficient agriculture operations. Land fragmentation often is accompanied with the proliferation of rural residential uses that are incompatible with commercial agriculture. New rural residents frequently complain about the noises, odors, dust, lights, hours of operations and/or large, slow traffic generated by agricultural operations. In many cases, the residents who move to agricultural areas for the pastoral setting create the greatest obstacles to continued farming and ranching.

Conversion of land from agriculture or timber to other uses erodes the local tax base. While farms and ranches typically generate fairly modest revenue on a per acre basis, their service costs generally are lower than their taxes. In cost of service analyses



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conducted throughout the country, agricultural lands generate revenues that exceed public service costs, while the costs of service for residential development generally exceed revenues.

Additionally, the reduction of agricultural land erodes tax revenues and employment from businesses involved in agricultural support, such as processing, packaging, marketing, equipment sales and financing of agricultural products. As agricultural operations diminish, support businesses must either relocate, close or find new markets.

**Scenario 1: Rural Residential** – This scenario is likely to have the following impacts on agriculture:

- **Fragmentation of agricultural and timber holdings reduces land supply.**  
The existing 4 acre minimum lot size for rural areas will reduce land availability for efficient farm, ranch and timber operations in Carroll County. If population growth is accommodated on 4 acre lots, the agriculture and timber land bases will be whittled away, reducing the supply of land for purchase or rent land and increasing the difficulty of meeting the “economies of scale” necessary for efficient agricultural and timber production.
- **Residences interfere with normal agricultural and timber operations.**  
The industrialized nature of modern agriculture generates dust, smoke, odors, noise, light, and large machinery traffic that typically generate complaints by adjacent non-farm residents. Complaints by rural residents often force farmers and ranchers to alter operations to minimize nuisances, which hinders efficient agriculture production. In extreme cases, farmers may be ordered to abate nuisances subsequent to successful legal challenges.
- **Reduced agricultural operations will hurt agricultural support businesses.** As a result of rural residential encroachment on agriculture land, the number of viable farms will decrease along with the amount of land in production. This will reduce incomes for businesses that directly or indirectly support agricultural operations. Feed and seed dealers, implement sales and repair, commodity storage, processing, packaging and lending businesses will

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lose traditional agricultural business. This also will reduce sales tax revenues for local governments.

**Scenario 2: Corridors** – This scenario is likely to have the following impacts on agriculture:

- **Most existing agricultural and timber lands in the south and west parts of the County will be retained.** Approximately 209,435 acres of agricultural and timber lands are planned for agricultural or timber operations in this scenario. With minimum lot sizes increased to 20 acres, relatively few new non-farm dwellings would be constructed in these areas of the County other than on existing parcels.
- **Limited development potential will reduce agricultural land values and increase values of existing rural residential parcels.** The reduction in development potential from 1 dwelling per 4 acres to 1 dwelling per 20 acres will constrain the supply of rural residential property. This will increase land costs for available rural residential homes and tracts, thus increasing the overall value of new and existing rural residences. The value of raw agricultural land likely will decrease, which may impair farmers' and ranchers' ability to borrow money needed for operations because land value is their primary collateral.
- **Virtually all agricultural land in the northeastern part of the County will be converted to suburban resident development.** Most new population growth will be concentrated in the northeastern part of the County where growth pressures are greatest. Isolated parcels will continue to be used for a variety of farming, ranching and timber operations but the combination of increasing land values and residential encroachment will reduce their long-term viability for these purposes.
- **Relatively small proportion of County growth to occur in agricultural areas.** Similar to Corridors scenario, the Centers scenario would allow for minimal residential development in the agriculture areas resulting in the

## Carroll County Scenarios Analysis Report

benefits to agriculture already mentioned. The maximum build out within the agriculture use category is 3,780 dwellings on 75,596 vacant agriculture acres.

**Scenario 3: Centers** – This scenario is likely to have the following impacts on agriculture:

- **Most agricultural lands in the southern and western parts of the County will be retained.** Approximately 209,159 acres of land is planned for agricultural or timber operations, virtually the same areas as established under the corridors scenario. Unlike the corridors scenario, opportunities for conservation subdivisions in these agricultural areas will allow the creation of rural residential development. In addition to being buffered from existing agricultural operations, conservation subdivisions will be required to reserve permanent agricultural space or contribute to a mitigation fund to retain agricultural lands and green space.
- **A new residential community in the southeastern portion of the County will reduce existing timber lands by 5,811 acres.** This alternative assumes that a new residential community will be developed that is more than twice the size of the Fairfield PUD will include a mix of unit types and neighborhood scale retail and service uses. This new development will be located on existing timber lands east of the Carroll County Water Authority's (CCWA) reservoir and south of Highway 166.
- **Agricultural land near cities will be developed as utilities are extended into Urban Service Areas.** Under this scenario, all development near cities will occur on centralized water and sewer systems, resulting in a more contiguous growth pattern. While farm land will be converted, the phasing of development with utility extensions will minimize leap-frog development and pressures for premature conversion of agricultural lands.
- **Relatively small proportion of County growth to occur in agricultural areas.** Similar to Corridors scenario, the Centers scenario would allow for minimal residential development in the agriculture areas resulting in the

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benefits to agriculture already mentioned. The maximum build out within the agriculture use category is 3,578 dwellings on 71,555 vacant agriculture acres.

***Exhibit 5: Summary of Agricultural Operations***

Scenario 1: Rural Residential	Scenario 2: Corridors	Scenario 3: Centers
<ul style="list-style-type: none"> <li>&lt; Land fragmentation reduces the viability of agriculture in the County;</li> <li>&lt; Up to 16,315 new homes in rural/ag areas;</li> <li>&lt; Significant conflicts between agriculture and encroaching residential development;</li> <li>&lt; Reduced private investment in agriculture facilities; and</li> <li>&lt; Loss of jobs in agriculture support businesses.</li> </ul>	<ul style="list-style-type: none"> <li>&lt;209,435 acres of agricultural land retained;</li> <li>&lt;Build out of 3,780 new homes in the agricultural area;</li> <li>&lt;Minimal land fragmentation and land use conflicts;</li> <li>&lt;Retention of jobs in agriculture support businesses;</li> <li>&lt;Agriculture land in a large contiguous region in the west, south and southeast parts of the County.</li> </ul>	<ul style="list-style-type: none"> <li>&lt; 209,159 acres of agricultural land retained;</li> <li>&lt; Build out of 3,578 new homes in the agricultural area;</li> <li>&lt; Minimal land fragmentation and land use conflicts;</li> <li>&lt; Retention of jobs in agriculture support businesses;</li> <li>&lt; Large retained AG land to the south, west and southeast;</li> <li>&lt; Conservation subdivisions allow some additional rural residential development</li> <li>&lt; Loss of timber land to new residential community in southeast Carroll County.</li> </ul>

### C. Land Use Mix and Carrying Capacity

The land use mix directly relates to the future demand for public services, housing opportunities, the supply and location of commercial and industrial sites, and future transportation choices.

**Scenario 1: Rural Residential** – As shown in **Exhibit 6**, this scenario assumes that most of the County’s growth will occur on rural residential lots and in low density suburban areas outside existing cities. Rural residential would be scattered throughout the 56% of the unincorporated area of Carroll County on four-acre lots in accordance with existing zoning. As shown in **Exhibit 7**, more than 16,000 homes could be accommodated under this zoning. An additional 50,410 homes could be accommodated in the 25,205 acres of suburban residential development at an average density of 2 dwellings per acre. The Urban Mix zone would house an additional 12,364 dwellings on 3,091 vacant acres near existing communities.

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*Exhibit 6: Rural Residential Scenario Land Use Mix*

Rural Residential Land Use Categories	Total Acreage	Percent of Total Acreage	Vacant Acreage	Percent of Vacant Acreage
Quasi-Public (exempt)	3,592	1.16%	0	0.00%
Industrial	497	0.16%	0	0.00%
Commercial	2,219	0.72%	0	0.00%
Fairfield	2,091	0.68%	853	0.81%
Incorporated	33,108	10.72%	11,210	10.61%
Rural Residential	173,624	56.22%	65,258	61.79%
Suburban/residential	85,046	27.54%	25,205	23.86%
Urban Mix	8,625	2.79%	3,091	2.93%
<b>Totals</b>	<b>308,802</b>		<b>105,617</b>	

*Source: Planning Works, LLC*

The Rural Residential scenario accommodates 79,088 dwelling units (69,721 in unincorporated areas), 2 to 4 times the projected dwellings needed to accommodate projected population growth over the next 20 years.

*Exhibit 7: Rural Residential Scenario Dwelling and Population*

Rural Residential Land Use Categories	Vacant Acreage	Dwelling Density	Residential Development Potential	Estimated Additional Population
Fairfield	853	2 per acre	1,706	4,384
Incorporated	3,903	3 per acre	9,367	24,074
Rural Residential	65,258	1 per 4 acres	16,315	41,928
Suburban/residential	25,205	1 per 2 acres	50,410	129,553
Urban Mix	3,091	4 per acre	12,364	31,775
<b>Totals</b>	<b>105,617</b>		<b>79,088</b>	<b>231,715</b>

*Source: Planning Works, LLC*

**Scenario 2: Corridors** – The Corridors scenario concentrates residential, commercial and industrial uses in the northeast quadrant of the County, from Villa Rica southwest to Carrollton. As shown in **Exhibit 8** this scenario emphasizes commercial and industrial development, reserving 856 vacant acres for industrial uses in the Highway 27 Corridor and 1,506 vacant acres of land for commercial mixed use, primarily in the Highway 61 and Highway \_\_ corridors. Additional commercial and industrial development would occur on available city sites. New housing construction would occur in Suburban Residential, Agriculture and Commercial/Mixed Use areas. As

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shown in **Exhibit 9**, the Suburban Residential category could accommodate 31,194 new dwellings on 15,597 acres in the northeast quadrant of the County . Up to 3,780 dwellings could be constructed in Agricultural and Timber areas. The commercial/mixed use corridors could accommodate up to 6,023 dwellings.

**Exhibit 8: Corridors Scenario Land Use Mix**

Corridors Land Use Categories	Total Acreage	Percent of Total Acreage	Vacant Acreage	Percent of Vacant Acreage
Agricultural	209,435	67.82%	75,596	71.58%
Quasi-Public (exempt)	3,592	1.16%	0	0.00%
Fairfield	2,091	0.68%	853	0.81%
Incorporated	33,108	10.72%	11,210	10.61%
Employment/Industrial	3,441	1.11%	856	0.81%
Mixed Use	6,453	2.09%	1,506	1.43%
Suburban/Residential	50,683	16.41%	15,597	14.77%
<b>Totals</b>	<b>308,803</b>		<b>105,618</b>	

*Source: Planning Works, LLC*

**Exhibit 9: Corridors Scenario Dwelling and Population**

Corridors Land Use Categories	Vacant Acreage	Dwelling Density	Residential Development Potential	Estimated Additional Population
Fairfield	853	2 per acre	1,706	4,384
Incorporated	3,903	3 per acre	9,367	24,074
Agriculture	75,596	1 per 20 acres	3,780	9,714
Mixed Use	1,506	4 per acre	6,023	15,478
Suburban Residential	15,597	2 per acre	31,194	80,170
<b>Totals</b>	<b>84,362</b>		<b>52,070</b>	<b>133,820</b>

*Source: Planning Works, LLC*

The Corridors scenario accommodates 52,070 dwelling units (42,703 in unincorporated areas), 1.6 to 2.6 times the projected dwellings needed to accommodate projected population growth over the next 20 years.

**Scenario 3: Centers** – This scenario focuses most residential, commercial and industrial development in urban service areas (USAs) surrounding communities. As shown in **Exhibit 10**, the USAs encompass 52,326 acres, of which 17,059 acres currently are vacant. These areas will be developed for a mix of uses at intensities that require connection to municipal water and sewer systems, including up to 68,236 dwellings. An additional feature of this scenario is the development of a new

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residential community in the southeastern quadrant of the County on existing timber lands. As shown in **Exhibit 11** his development is expected to include up to 9,880 dwellings of various types, along with neighborhood services and retail opportunities required. The remaining agricultural and timber areas in the County would accommodate up to 3,578 dwellings.

***Exhibit 10: Centers Scenario Land Use Mix***

Centers Land Use Categories	Total Acreage	Percent of Total Acreage	Vacant Acreage	Percent of Vacant Acreage
Agricultural	209,159	67.73%	71,555	67.75%
Commercial	2,220	0.72%		0.00%
Quasi-Public (exempt)	3,592	1.16%		0.00%
Industrial	497	0.16%		0.00%
Fairfield	2,091	0.68%	853	0.81%
Incorporated	33,108	10.72%	11,210	10.61%
Urban Service Areas	52,326	16.94%	17,059	16.15%
New Residential Community	5,811	1.88%	4,940	4.68%
<b>Totals</b>	<b>308,804</b>		<b>34,062</b>	

*Source: Planning Works, LLC*

The Centers scenario accommodates 92,768 dwelling units (83,401 in unincorporated areas), 2.8 to 4.7 times the projected dwellings needed to accommodate projected population growth over the next 20 years.

***Exhibit 11: Centers Scenario Dwelling and Population***

Centers Land Use Categories	Vacant Acreage	Dwelling Density	Residential Development Potential	Estimated Additional Population
Fairfield	853	2 per acre	1,706	4,384
Incorporated	3,903	3 per acre	9,367	24,074
Agriculture	71,555	1 per 20 acres	3,578	9,195
Urban Service Area	17,059	4 per acre	68,236	175,368
New Residential Community	4,940	2 per acre	9,880	25,392
<b>Totals</b>	<b>98,310</b>		<b>92,767</b>	<b>238,413</b>

*Source: Planning Works, LLC*

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*Exhibit 12: Summary of Land Use Mix*

Scenario 1: Rural Residential	Scenario 2: Corridors	Scenario 3: Centers
<ul style="list-style-type: none"> <li>&lt; Most vacant land reserved for rural residential</li> <li>&lt; Commercial/Industrial development limited to cities and urban mix areas</li> <li>&lt; Accommodates far more residential development than needed</li> <li>&lt; Limited infill potential after build-out</li> <li>&lt; No land reserved for agricultural or timber uses</li> </ul>	<ul style="list-style-type: none"> <li>&lt; Most vacant land reserved for agricultural and timber uses</li> <li>&lt; Industrial growth in Highway 27 corridor</li> <li>&lt; Commercial development in Highway 61 corridor</li> <li>&lt; Accommodates less residential development than other scenarios, but more than needed</li> <li>&lt; Retains more agricultural land than other scenarios</li> </ul>	<ul style="list-style-type: none"> <li>&lt; Most vacant land reserved for agricultural and timber uses</li> <li>&lt; Industrial and commercial growth focused in urban service areas</li> <li>&lt; Residential growth focused in USAs and in new residential community in southeast Carroll County</li> <li>&lt; Accommodates more residential growth than other scenarios</li> </ul>

## D. Housing Opportunities

Shelter is a basic human necessity and the need for housing is as diverse as the population. While housing diversity, quality and affordability can be influenced by local governments through a wide range of regulatory and fiscal methods, the three scenarios are limited to descriptions of distinct land use patterns. This confines the analysis of the growth scenarios to the impact that the three hypothetical land use patterns would have on housing quantity and affordability.

Even without considering the potential for infill at densities greater than historical development patterns, each scenario provides far more residential development potential than needed. This lack of land supply constraints means that market demand will be the key determinant in housing costs in each scenario. Differences between the scenarios will be due to infrastructure costs, densities and minimum lot sizes.

In addition to market demand, infrastructure costs, density and minimum lot sizes affect housing costs and development opportunities. Centralized sewer system construction increases development costs, which may be reflected in higher unit costs for low-density single family units. This cost can be more than offset by gains from the number of units that can be supported per acre on sewer systems. In general, higher density housing is more affordable because land costs are lower per home. Conversely, large minimum lot sizes tend to increase unit costs.



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Scenario 1: Rural Residential – Under this land use scenario, home construction would occur in densities ranging from 1 dwelling per 4 acres (Rural Residential) to 4 dwelling units per acre (Urban Mix). Although the Rural Residential land use would accommodate 7,945 more homes than the Urban Mix category, land consumption under the Rural Residential (83,301 acres) would be 16 times greater per home than the Urban Mix. Rural residential areas are likely to include a mix of site-built and manufactured homes. Though the large minimum lot sizes will favor higher end development, fragmented large lot development patterns will result in a wide range of quality, cost and construction types. Because improvement costs will be minimal, lower cost units will be developed where land prices are lowest. .

Suburban residential development at 1 du per 2 acres contributes an addition 4,967 dwellings on 9,934 acres. These homes will consist of moderate to upper end single-family detached dwellings. Higher per acre land costs and infrastructure costs will tend to increase the costs of these units over time. For developments that provide on-site community wastewater systems, a greater variety of unit types may be developed, but at 2 dwellings per acre, the high cost of sewers will limit development to the upper end of the market.

The Urban Mix district will provide numerous housing choices. The affordability of housing will be limited by land costs and allowable densities. Development within the urban mix would require centralized water and wastewater services and so it is assumed that these areas would be annexed into a city prior to receiving services. While average densities are presumed to be 4 dwellings per acre, much higher densities for individual sites could provide affordable units. .

### Scenario 2: Corridors -

Residential development within the Corridors scenario is provided in three areas: the Commercial Mix, Suburban Residential area and the Agricultural area. The number of residential building sites in the agricultural area would be limited due to the

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minimum 20 acre per lot size. Two types of homes will constitute the bulk of new rural residences in the Agricultural area. Expensive homes will be built on large acreage by those who can afford 20 acres, much of which may be leased back to a farmer or rancher for production. Manufactured homes will be placed on some large rural parcels where individuals desire a rural lifestyle, but lack sufficient capital for a site-built home. By constraining the supply of rural land for residential units, this scenario will reduce the affordability of rural residences.

The Suburban Residential category would accommodate most of the new residential development. These homes will consist of moderate to upper end single-family detached homes. Land prices will likely be higher per acre than in the Rural Residential area, although the total cost per ½ acre building lot will be lower in the total price of a 20 acre rural lot. The requirement for community sewer systems will increase the cost per unit. While allowing for a greater range of unit types, suburban residential development is unlikely to provide significant affordable housing. The commercial mix area will provide opportunities for multi-family development in a variety of price ranges. Given the proximity to the Highway 61 corridor, most of the higher-density development in the corridor is likely to be relatively affordable.

Scenario 3: Centers – New residential development in this scenario will be focused within and adjacent to the existing cities. Homes within the Urban Service Area will exhibit diversity in type, size, density, and price. This presumption is dependent on the cities' willingness to extend sewer and water services into USAs.

Agricultural areas will be treated similarly to the corridors scenario, except that conservation subdivision will allow the creation of smaller residential lots. This gives greater value to agricultural land without requiring the sale of productive acreage.

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*Exhibit 13: Summary of Housing Opportunities*

Scenario 1: Rural Residential	Scenario 2: Corridors	Scenario 3: Centers
<ul style="list-style-type: none"> <li>&lt; Scenario accommodates more than projected demand.</li> <li>&lt; Mix of single family housing on 4-acre rural lots;</li> <li>&lt; Suburban residential units provide moderate to high-end housing.</li> <li>&lt; Homes in the Urban Mix provide mix of unit types and prices.</li> </ul>	<ul style="list-style-type: none"> <li>&lt; Scenario accommodates more than projected demand.</li> <li>&lt; Suburban residential homes would likely serve upper end of the market due to sewer requirements.</li> <li>&lt; Homes built in the agriculture area will mix expensive and manufactured homes.</li> <li>&lt; Commercial mix provides opportunity for affordable housing.</li> </ul>	<ul style="list-style-type: none"> <li>&lt; Scenario accommodates more than projected demand.</li> <li>&lt; Most new dwelling to be developed in the cities or USAs.</li> <li>&lt; Provides opportunity for greatest diversity of housing types.</li> <li>&lt; Conservation subdivision provides greater opportunity for clusters of high end housing in a rural setting.</li> </ul>

## E. Employment Opportunities

One of the key objectives of the planning process is to improve employment opportunities within the County. To accomplish this, the County will need to attract more higher paying, stable jobs. A wide range of factors will determine the attractiveness of the County for economic growth, including land supply, quality of life, labor force, taxes, utilities, transportation infrastructure, and others. The scenarios address the land supply and, to a lesser extent, the quality of life.

Scenario 1: Rural Residential – This scenario assumes that economic growth primarily will happen within the cities or in the developing areas around the cities. By failing to identify and protect additional land for economic growth, this scenario fails to protect potential economic development sites from encroachment by residential development. This effectively limits the County’s economic growth to areas within existing city limits.

Scenario 2: Corridors – This scenario identifies employment corridors along portions of Highways 27 and 166. By clearly identifying potential economic development areas this scenario will help protect potential economic development sites from residential encroachment. Additionally, by limiting residential development in agricultural areas, the scenario retains more options for economic development sites than the Rural Residential scenario.

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Scenario 3: Centers – This scenario limits retains opportunities for future development of agricultural areas that are similar to the corridors scenario. However, unless more specific land use categories are assigned within USAs, these areas would be subject to the scattered residential development that would limit future industrial development opportunities.

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*Exhibit 14: Summary of Employment Opportunities*

Scenario 1: Rural Residential	Scenario 2: Corridors	Scenario 3: Centers
<ul style="list-style-type: none"> <li>&lt; Assumes most economic growth will occur within cities</li> <li>&lt; Fails to protect extra-territorial industrial development sites</li> </ul>	<ul style="list-style-type: none"> <li>&lt;Protects two economic development corridors from residential encroachment</li> <li>&lt;Retains agricultural areas for future economic expansion areas</li> </ul>	<ul style="list-style-type: none"> <li>&lt; Assumes that economic growth will occur within cities or USAs, but does not specifically protect sites in those areas</li> <li>&lt; Retains agricultural areas for future economic expansion areas</li> </ul>

## F. Transportation Needs

Carroll County’s residents currently are almost exclusively reliant on automobiles for mobility within the County and region. As an increasing percentage of County residents live in lower density unincorporated areas (60.8% in the year 1990 compared with 65.2% in the year 2000), auto dependency increases and the feasibility of transit or other modes of transportation decrease. This section analyzes the different transportation system demands, focusing on the amount of driving residents will face and related transportation system costs. The analysis is based on the residential mixes discussed earlier in this report, as well as travel and cost assumptions derived from national studies. Analysis of energy consumption, air pollution and modal choices are qualitative.

**Population Distribution.** For purposes of the Transportation analysis, projected population distribution is assumed to be proportional to the relative availability of vacant property in each residential category. For example, since 18% of development capacity is located in the rural residential area in the Rural Residential Scenario, then that area will be assumed to absorb 18% of residential growth through the year 2020. **Exhibit 15** shows growth trends for the last five years in Carroll County and the assumed proportion of growth in each Scenario.

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### *Exhibit 15: Projected Population Distribution*

#### Residential Dwellings Built 1997 through 2002

	# greater than 4 acres	% greater than 4 acres	# between 0.5 and 4 acres	% between 0.5 and 4 acres	% less than 0.5 acres	# less than 0.5 acres	Total	% of Total
<b>Unincorporated</b>	<b>1,272</b>	<b>20.58%</b>	<b>3,666</b>	<b>59.32%</b>	<b>1,242</b>	<b>20.10%</b>	<b>6,180</b>	<b>50.76%</b>
Bowdon	16	8.08%	140	70.71%	42	21.21%	198	1.63%
Bremen	0	0.00%	1	100.00%	0	0.00%	1	0.01%
Carrollton	6	0.47%	477	37.18%	800	62.35%	1,283	10.54%
Mt Zion	11	10.09%	97	88.99%	1	0.92%	109	0.90%
Roopville	10	27.03%	21	56.76%	6	16.22%	37	0.30%
Temple	13	3.17%	138	33.66%	259	63.17%	410	3.37%
Villa Rica	15	3.21%	168	35.97%	284	60.81%	467	3.84%
Whitesburg	5	10.00%	32	64.00%	13	26.00%	50	0.41%
<b>Totals</b>	<b>1,348</b>		<b>4,740</b>		<b>6,088</b>		<b>12,176</b>	

#### Proportion of Dwellings Under Each Scenario

	Agricultural	Rural	Suburban	Urban
Last 5 Years	8.08%		70.71%	21.21%
Rural Residential	0.00%	18.10%	57.80%	24.10%
Corridors	7.26%	0.00%	63.18%	29.56%
Centers	3.86%	0.00%	12.49%	83.65%

**Vehicle Miles Traveled (VMT).** Exhibit 16 shows the average density of each residential category, the proportion of growth projected in each residential category, the projected number of new households in each category, and the projected vehicle miles to be traveled under each scenario. The Rural Residential scenario will generate 36 percent more VMT than the Centers scenario and 20 percent more than the Corridors scenario. More VMT translates into greater energy consumption, greater road maintenance costs, more air pollution and longer commute times. Based on the American Automobile Association's 1995 average private cost of vehicle ownership study (\$0.41 per VMT), Carroll County's new residents under the Rural Residential scenario will pay between 37.7 and 63.1 million dollars<sup>5</sup> per year more than under the Centers scenario between 9.4 and 16.0 million dollars more than under the Corridors scenario for automobile operation.

<sup>5</sup> These costs are expressed in 1995 dollars and do not presume changes in automobile operations costs.

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*Exhibit 16: Vehicle Miles Traveled*

	Residential Land Use								Total	
	Ag		RR		SR		UR			
<b>Average Density</b>	0.05		0.25		2		4			
<b>Rural Residential Scenario</b>										
% of Growth	0.00%		18.10%		57.80%		24.10%		100%	
Projection	Low	High	Low	High	Low	High	Low	High	Low	High
# of HH	0	0	3,556	5,941	11,358	18,978	4,736	7,913	19,650	32,833
Avg VMT/HH	0	0	30,000	30,000	22,000	22,000	16,000	16,000		
Total VMT - millions	0	0	107	178	250	418	76	127	432	722
<b>Corridors Scenario</b>										
% of Growth	7.26%		0.00%		63.18%		29.56%		100%	
Projection	Low	High	Low	High	Low	High	Low	High	Low	High
# of HH	1,426	2,383	0	0	12,416	20,745	5,808	9,704	19,650	32,833
Avg VMT/HH	30,000	30,000	30,000	30,000	22,000	22,000	16,000	16,000		
Total VMT - millions	43	72	0	0	273	456	93	155	409	683
<b>Centers Scenario</b>										
% of Growth	3.86%		0.00%		12.49%		83.65%		100%	
Projection	Low	High	Low	High	Low	High	Low	High	Low	High
# of HH	758	1,266	0	0	2,454	4,101	16,438	27,466	19,650	32,833
Avg VMT/HH	30,000	30,000	30,000	30,000	22,000	22,000	16,000	16,000		
Total VMT - millions	23	38	0	0	54	90	263	439	340	568

**Road Construction Costs.** Exhibit 17 projects the relative costs for construction of local and collector streets under each scenario. The Rural Residential scenario would require 199 to 332 million dollars more for local and collector road construction than the Centers scenario and 161 to 269 million dollars more than the corridors scenario. These costs are based on average frontage at for each residential category except agriculture. At one dwelling per 20 acres, these units are presumed to be located on existing roads or to access those roads from private drives. The costs shown in the table include both public and private construction costs, the latter of which are likely to constitute the majority because developers typically are required to construct all internal subdivision streets. However, the proportion of the public costs is likely to be somewhat higher for the Rural Residential scenario because a greater proportion of the development in rural areas will trigger the need to pave existing roads, both on and off-site.

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### *Exhibit 17: New Local and Collector Road Construction Costs*

#### Lane-Feet of Frontage per Household

Agriculture	0
Rural Residential	300
Suburban Residential	100
Urban Residential	60

#### New Lane Miles of Road Required by New Development

	Rural Residential		Suburban Residential		Urban Residential		Total Lane Miles	
	Low	High	Low	High	Low	High	Low	High
	Rural Res.	202	338	215	359	90	150	507
Corridors	0	0	235	393	66	110	301	503
Centers	0	0	46	78	187	312	233	390

#### Construction Costs per Lane-Mile (in \$ Millions)

Rural Cross Section	\$0.75
Suburban Cross Section	\$1.00
Urban Cross Section	\$1.25

#### Construction Costs for Each Scenario (in \$ Millions)

	Rural Residential		Suburban Residential		Urban Residential		Total Costs	
	Low	High	Low	High	Low	High	Low	High
	Rural Res.	\$152	\$253	\$215	\$359	\$112	\$187	\$479
Corridors	\$0	\$0	\$235	\$393	\$82	\$138	\$318	\$531
Centers	\$0	\$0	\$46	\$78	\$233	\$390	\$280	\$468

**Road Maintenance Costs.** Exhibit 18 projects additional road maintenance costs attributed to new growth in each scenario based on the assumptions that paved roads cost an annual average of \$1,500 per lane mile. By the year 2020, the Rural Residential scenario is projected to generate additional road costs of between 0.76 and 1.27 million dollars per year to maintain roadways attributable to new development, in comparison to between 0.45 and 0.75 million dollars for the corridors scenario and between 0.35 and 0.58 million dollars for the centers scenario.

**Modal Choices.** While the vast majority of trips over the next 20 years are likely to be automobile-based under each of the scenarios, the modal choices available under the scenarios are distinct. Under the Rural Residential or Corridors scenario, the vast majority of new residents will have little choice to bicycle or walk to stores, work or community facilities. The densities, compactness and mix of uses in the Centers scenario provide opportunities to serve bicyclists and pedestrians. Additionally, both the



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Corridors and Centers scenarios provide the greatest opportunities to develop viable transit in the County. None of the scenarios currently proposes high enough densities to support light rail service, but, with proper protection of station sites, either the Corridors or Centers scenarios could be adapted to support either light rail or commuter rail.

### *Exhibit 18: New Local and Collector Road Maintenance Costs*

#### **New Lane Miles of Road Required by New Development**

	Rural Residential		Suburban Residential		Urban Residential		Total Lane Miles	
	Low	High	Low	High	Low	High	Low	High
Rural Res.	202	338	215	359	90	150	507	847
Corridors	0	0	235	393	66	110	301	503
Centers	0	0	46	78	187	312	233	390

**Average Annual Maintenance Cost per Lane Mile** \$1,500

#### **Annual Increase in Maintenance Costs by Year 2020 (in \$Millions)**

	Rural Residential		Suburban Residential		Urban Residential		Total Cost	
	Low	High	Low	High	Low	High	Low	High
Rural Res.	\$0.30	\$0.51	\$0.32	\$0.54	\$0.13	\$0.22	\$0.76	\$1.27
Corridors	\$0.00	\$0.00	\$0.35	\$0.59	\$0.10	\$0.17	\$0.45	\$0.75
Centers	\$0.00	\$0.00	\$0.07	\$0.12	\$0.28	\$0.47	\$0.35	\$0.58

### *Exhibit 19: Summary of Transportation Impacts*

Scenario 1: Rural Residential	Scenario 2: Corridors	Scenario 3: Centers
< Costliest in terms of commuting times, road improvements, road maintenance, private travel costs and environmental impacts	< Falls between the Rural Residential and Centers scenario in all measures except viability for transit < Support for transit similar to Centers scenario	< Lowest public and private transportation costs < Least negative environmental impact < Provides best options for pedestrians and bicyclists

## **G. Water and Wastewater Impacts**

The following comparison of water and wastewater costs addresses construction costs for both public (centralized) and private (well and septic system) improvements. Projected improvement costs are based on national averages, actual costs will vary from site to site within the County. No effort has been made to distinguish between system providers (e.g., Carroll County Water Authority and individual municipal systems).

The water and wastewater impacts of the scenarios can be divided into public and private costs, though costs typically are borne by the end user. However, the impacts of those

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costs are passed along to the consumers in different ways. For users of centralized systems, the developer includes the costs of construction those systems in the basis for the lot. Generally, the product cost (lot and home) ranges from four to five times the lot cost. For users of wells and/or septic systems, these costs are not included in the lot costs, so a developer/builder may produce a lower cost unit. In each case the end user spreads capital costs over the life of mortgage.

**Capital Costs.** Exhibit 20 compares the relative capital costs of systems for new users in the currently unincorporated portions of the County for each land use category under each scenario. The analysis shows relatively minor differences in total costs. However, if costs associated with on-site systems are deducted, there is a significant difference between the Rural Residential and the other two scenarios.

### *Exhibit 20: Water and Sewer Costs*

#### **Residential Water and Sewer Costs for Single Family Homes**

			Tap	Lateral	Total
Agriculture	Water		3600	0	3600
	Sewer		6000	0	6000
Rural Residential	Water		2000	1080	3080
	Sewer		6000	0	6000
Suburban	Water		1600	1200	2800
	Sewer		3200	100	3300
Urban City	Water		1310	1320	2630
	Sewer		2810	1100	3910

Source: *American Water Works Association Research Foundation*  
*adapted by Planning Works for Carroll County*

#### **Projected Costs by Scenario (in millions of dollars)**

Scenario	Projections	Agricultural		Rural		Suburban		Urban	
		Low	High	Low	High	Low	High	Low	High
<b>Rural Residential</b>									
	Water	0	0	11	18	32	53	12	21
	Sewer	0	0	21	36	37	63	19	31
	Total	0	0	32	54	69	116	31	52
<b>Corridors</b>									
	Water	5	9	0	0	35	58	15	26
	Sewer	9	14	0	0	41	68	23	38
	Total	14	23	0	0	76	127	38	63
<b>Centers</b>									
	Water	3	5	0	0	7	11	43	72
	Sewer	5	8	0	0	8	14	64	107

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Total                      7                      12                      0                      0                      15                      25                      108                      180

**Total Costs for Water and Sewer (in millions of dollars)**

Projections	Low	High	Low	High	Low	High
<b>Rural Residential</b>	Total		Public Systems		Private Systems	
Water	55.21	92.25	55	92	0.00	0.00
Sewer	77.33	129.22	56	94	21.33	35.65
Total	132.54	221.47	111	186	21.33	35.65
<b>Corridors</b>						
Water	55.17	92.19	50	84	5.14	8.58
Sewer	72.24	120.70	64	106	8.56	14.30
Total	127.41	212.89	114	190	13.69	22.88
<b>Centers</b>						
Water	52.83	88.28	50	84	2.73	4.56
Sewer	76.92	128.52	72	121	4.55	7.60
Total	129.75	216.80	122	205	7.28	12.16

*Exhibit 21: Summary of Water and Wastewater Needs*

Scenario 1: Rural Residential	Scenario 2: Corridors	Scenario 3: Centers
<ul style="list-style-type: none"> <li>&lt; Private costs are greater than other scenarios due to septic systems in rural residential areas.</li> <li>&lt; Public system costs are lower</li> <li>&lt; CCWA responsibilities for sewer system management are minimal</li> </ul>	<ul style="list-style-type: none"> <li>&lt; Presumes significant sewer service to suburban residential areas</li> <li>&lt; Coordination and management of numerous community systems in suburban areas will create challenges for the CCWA.</li> <li>&lt; Coordination of sewer service with water service in corridors will require new City/CCWA agreements</li> </ul>	<ul style="list-style-type: none"> <li>&lt; Lowest costs for CCWA and private systems</li> <li>&lt; Requires coordination between CCWA and cities as they expand wastewater service into existing CCWA service areas</li> </ul>

### H. School Demand

The primary distinction between the impacts of the different scenarios on the school system as a whole will be the transportation costs. While costs have not been modeled as part of this analysis, it is clear from other studies and common sense that the more widely distributed the student population, the greater the transportation costs. This suggests that the transportation costs for students under the Rural Residential scenario will be greater than for the other scenarios.

The complexities of coordinating capital facility planning for three separate school districts (Carroll County, Carrollton and Bremen) will be particularly troublesome under

## **Carroll County Scenarios Analysis Report**

the Centers scenario. As Carrollton and Bremen expand their boundaries, the service area and tax base for Carroll County schools decrease, though not necessarily proportionally to decreases in student base. If the cities annex developed residential property, they will divert students from existing County schools. Probably most confusing, is the potential for the cities to annex existing County school sites, which will transfer area students to city schools. Conceivably, students will be bussed to new city schools despite living adjacent to an existing County school that then falls within the City. The annexed County school would need to bus children into the city from remote locations to maintain sufficient enrollment to keep the school open.

### **I. Emergency Services Impacts**

As shown in **Appendix 4**, the County's fire stations are well located to provide response time to most of the County with an average of under 8 minutes. Currently, the greatest challenge is to staff and equip stations adequately to meet demands that vary significantly between fire stations.

The Rural Residential and Corridors scenarios will have little impact on the need for additional station locations unless significant annexation occurs along the corridors. The Centers Scenario will have more significant impact on service demands, as Villa Rica and Carrollton grow into urban areas, which require a 4 minute response time. The relatively poor connectivity between different parts of these communities will increase the challenges of efficiently locating sufficient stations to provide adequate response times.

## **2. Relationship to Goals, Objectives and Policies**

The scenarios' potential to help achieve the Community's vision is the most important evaluation factor. The following vision statement is a version of Carroll Tomorrow's vision that has been broadened by the County Comprehensive Plan Steering Committee to achieve the Steering Committee's draft goals (see **Appendix 1**):

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“Carroll County is a dynamic community working toward a stronger economic future and better quality of life for all residents. Through effective public-private leadership, Carroll County provides 21<sup>st</sup> century infrastructure and an educated workforce to capture the jobs of the future. Our communities offer a welcoming small-town atmosphere, vibrant economies, desirable neighborhoods and excellent recreational opportunities. Throughout the County, residents and visitors will find a healthy environment with abundant green spaces, a thriving agricultural community and lifelong learning opportunities.”

This local vision statement locally is consistent with the State of Georgia’s goals (see **Appendix 2**) for comprehensive land use, economic development, environmental and infrastructure planning, which follow:

- **Economic Development:** To achieve a growing and balanced economy, consistent with the prudent management of the state's resources, that equitably benefits all segments of the population.
- **Natural and Historic Resources:** To conserve and protect the environmental, natural and historic resources of Georgia's communities, regions and the state.
- **Community Facilities and Services:** To ensure that public facilities throughout the state have the capacity, and are in place when needed, to support and attract growth and development and/or maintain and enhance the quality of life of Georgia's residents.
- **Housing:** To ensure that residents of the state have access to adequate and affordable housing.
- **Land Use:** To ensure that land resources are allocated for uses that will accommodate and enhance the state's economic development, natural and historic










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resources, community facilities, and housing and to protect and improve the quality of life of Georgia's residents.




**Exhibit 17** compares the relative support for the County's vision, the State's goals and the draft objectives reviewed by Carroll County's Comprehensive Plan Steering Committee. These goals were prepared to address the growth issues summarized in **Appendix 3**.

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**Exhibit 17: Consistency of Scenarios with Goals and Objectives**

	Rural Residential Scenario	Corridors Scenario	Centers Scenario	Comments
<b>Carroll County Vision</b>				Rural residential scenario will scatter development in a manner that results in the loss of agri-business and increased fiscal impacts that will detract from economic development efforts.
<b>State Goals</b>				
<b>Economic Development:</b> To achieve a growing and balanced economy, consistent with the prudent management of the state's resources, that equitably benefits all segments of the population				Rural residential will result in loss of agribusiness and fiscal impacts that will reduce the County's ability to fund economic development efforts.
<b>Natural and Historic Resources:</b> To conserve and protect the environmental, natural and historic resources of Georgia's communities, regions and the state.	--	--	--	Environmental and historic preservation policies could be applied to nearly equal effect in each scenario, though the Rural Residential scenario will result in greater land consumption and air quality degradation
<b>Community Facilities and Services:</b> To ensure that public facilities throughout the state have the capacity, and are in place when needed, to support and attract growth and development and/or maintain and enhance the quality of life of Georgia's residents.				Corridors and Centers scenarios provide greater focus for capital investments and facilitate timing and phasing of development with targeted phasing of infrastructure investments
<b>Housing:</b> To ensure that residents of the state have access to adequate and affordable housing	--	--	--	Other public housing policies and market factors have a greater impact on housing affordability than land use plans. Despite this, the Corridors and Centers scenario will provide greater opportunity for a mix of housing types and prices



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	Rural Residential Scenario	Corridors Scenario	Centers Scenario	Comments
<b>Land Use:</b> To ensure that land resources are allocated for uses that will accommodate and enhance the state's economic development, natural and historic resources, community facilities, and housing and to protect and improve the quality of life of Georgia's residents.				As stated above, the Corridors and Centers scenarios provide greater flexibility for housing development and better targeted public investment to promote economic development. Historic and natural resource protection can be pursued under each of the scenarios.
<b>County Goals &amp; Objectives</b>				

**Natural Resources Goal** - To preserve and protect resources essential to sustain a healthy environment, including the County's river and stream corridors, woodland habitats and air quality.



















<b>Secure green-space system</b>	--	--	--	A common assumption for the scenarios is the development of a greenways system, including the retention of greenspace.
<b>Protect water quality</b>		--	--	Water quality protection efforts will be more effective with centralized wastewater systems developed under the Centers Scenario, though the lower densities throughout rural areas in the Corridors Scenario could yield some water quality benefits.

**Land Use Goal** - To maintain a balanced, sustainable land use pattern that accommodates projected growth while fostering community vitality, improving the quality of the built environment and protecting the integrity of the natural environment.







<b>Protect economic development lands</b>			--	The Corridors Scenario specifically reserves lands for employment development. The Rural Residential scenario makes no reservations. The Centers Scenario provides greater opportunity for cities to expand infrastructure to serve economic growth.
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## Carroll County Scenarios Analysis Report

	Rural Residential Scenario	Corridors Scenario	Centers Scenario	Comments
<b>Promote land use compatibility</b>				The Rural Residential scenario will result in the greatest conflicts between agriculture and residential development. The Corridors and Centers Scenarios address this issue, though the Centers addresses it more effectively.
<b>Direct growth to USAs</b>				Urban Service Areas are only included in the Centers Scenario.
<b>Target corridors for economic vitality</b>				The Corridors Scenario is the only one to designate corridors specifically reserved for economic development, though they are not inherently incompatible with the Centers Scenario
<b>Plan suburban areas for X% of residential growth</b>				Each scenario provides ample opportunity for projected suburban demand, though it could be argued that the Centers Scenario constrains lower density suburban development in favor of higher density development on municipal sewer systems.
<b>Allow X% of growth in rural residential areas</b>				The Rural Residential Scenario is ill-suited for limiting the amount of development in rural areas. The Corridors Scenario provides the greatest opportunity for suburban development.
<b>Agricultural land retention</b>				Widespread large lot development under the Rural Residential Scenario will expedite conversion of agricultural lands. The Centers Scenario provides the greatest flexibility in crafting agricultural preservation programs, due to the conservation subdivision option.










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	Rural Residential Scenario	Corridors Scenario	Centers Scenario	Comments
<p><b>Housing Goal</b> - Create a more diverse housing stock that provides adequate and attainable housing for the diverse shelter needs of Carroll County's residents in a manner that creates stable, viable neighborhoods and enables the County to adequately fund public facilities and services.</p>				
<b>Improve manufactured home parks</b>	--	--	--	Manufactured home park policy is independent of the scenarios.
<b>Require adequate facilities and amenities in new developments</b>	--	--	--	Adequate public facility requirements can be applied to any of the scenarios, though the Rural Residential Scenario will reduce the availability of public funding for capital facilities.
<b>Maintain/enhance housing conditions</b>	--	--	--	Housing maintenance policy is independent of the land use scenarios
<b>Increase median home value</b>	--	--	--	Other public policies and the market will have greater impact on home values County-wide, though the Corridors and Centers Scenarios are likely to result in higher prices for rural residential development.
<p><b>Economic Development Goal</b> - Develop a more diversified local economy that provides a more stable economic base, more employment opportunities for all segments of the local population and the fiscal resources to provide high quality services to all residents while retaining relatively low tax rates.</p>				
<b>Increase county-wide economic development coordination</b>				Both the Corridors and Centers Scenarios provide distinct, yet positive opportunities for economic development coordination.
<b>Support on-going agricultural and timber operations</b>				The Rural Residential Scenario will result in the most rapid consumption of agricultural and timber lands. The Corridors Scenario retains most agricultural and timber lands outside the northeast quadrant of the County. The Centers Scenario protects agricultural land, but allows for considerable conversion of timber lands.

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	Rural Residential Scenario	Corridors Scenario	Centers Scenario	Comments
<b>Increase the jobs/housing ratio</b>	--		--	The retention of an employment corridor under the Corridors Scenario gives it an edge on the other scenarios, though sufficient land could be reserved under the Rural Residential or Centers Scenarios to increase the jobs housing ratio.
<b>Increase educational attainment</b>	--	--	--	Nothing in the Scenarios inherently supports increased educational attainment, though arguably, the higher school transportation costs under the Rural Residential scenario could impair progress in this important issue.
<b>Increase median income</b>	--	--	--	Nothing in the Scenarios inherently supports increases in median income.
<b>Maintain industrial land inventory</b>			--	The Corridors Scenario specifically reserves land for industrial development. Rural Residential does not reserve any land. The USAs of the Centers Scenario facilitates retention of industrial land by cities.
<b>Transportation Goal</b> - Provide a convenient and cost effective transportation system that emphasizes connectivity, safety, choices of modes and harmony between transportation modes and land uses.				
<b>Limit traffic congestion</b>		--		The Rural Residential Scenario promotes dispersed, auto-oriented development that increases traffic congestion. The Corridors Scenario provides some opportunities for mixed use development, but likely will segregate employment from residential areas. The Centers Scenario provides the greatest opportunities for land use patterns that are not auto-dependent.

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	Rural Residential Scenario	Corridors Scenario	Centers Scenario	Comments
<b>Minimize road maintenance costs</b>		--		The Rural Residential Scenario will result in the most vehicle miles traveled and the most dispersed traffic patterns, which will maximize road maintenance costs. The Centers Scenario will keep the majority of traffic on City or State Roads and thus reduce County road maintenance costs.
<b>Maintain County-wide Thoroughfare Plan</b>	--	--	--	A County-wide Thoroughfare Plan could be maintained under any of the scenarios. Given the scattered development pattern of the Rural Residential Scenario, a Thoroughfare Plan with prioritized Capital Investments would be needed.
<b>Maintain scenic roadway corridors</b>	--	--	--	While this could be accomplished under any scenario, it would be more difficult under the Rural Residential Scenario and easiest under the Centers Scenario
<b>Protect the airport from encroachment</b>				
<b>Community Facilities and Services</b> - Provide for adequate public facilities and services for existing and future residents and businesses in an equitable and cost-effective manner.				
<b>Target development to areas with adequate public facilities</b>		--		The Centers Scenario provides the best opportunity to coordinate development with the extension of municipal facilities. The dispersed pattern of the Rural Residential Scenario locates the greatest amount of development in areas currently lacking adequate facilities.
<b>Coordinate capital planning</b>		--		The Centers Scenario focuses development in USAs that, by definition, require coordination of capital planning initiatives

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	<b>Rural Residential Scenario</b>	<b>Corridors Scenario</b>	<b>Centers Scenario</b>	<b>Comments</b>
<b>Historic Resources Goal</b> - Retain Carroll County's historic, archaeological and cultural assets for future generations of residents and visitors.				
<b>Establish a GIS-based inventory of historic resources</b>	--	--	--	This objective can be accomplished equally well under each scenario.
<b>Protect historic/archaeological resources</b>	--	--	--	This objective can be accomplished equally well under each scenario.

## **Appendix 1: Draft Goals and Objectives**

The following draft goals and objectives were developed from input received from the Steering Committee, staff, Planning Commission, stakeholder groups and the community at large. The goals describe desired ends that will achieve the County's vision. Objectives are measurable steps towards achieving the goals. These steps may be quantified benchmarks (e.g., jobs, acres, households, etc.), specific events (e.g., plans or agreements) or more general objectives (e.g., to minimize, reduce, increase, etc.). Each of the goals and objectives should be directly related to the following vision.

### **Carroll County Vision**

Carroll County is a dynamic community working toward a stronger economic future and enhanced quality of life. Through effective public-private leadership, we will provide a 21st century infrastructure and an educated workforce to capture the jobs of the future. Our community will offer welcoming small town and rural atmospheres, excellent recreation, a healthy environment with abundant green spaces, a thriving agricultural community and lifelong learning opportunities to contribute to the quality of life.

The goals and objectives will be used to define the County's preferred growth scenario and to guide the interpretation and refinement of policies and plan implementation measures. They must be consistent with the State-wide goals attached as Appendix A. Additionally, the goals and objectives should address the County's key growth issues (see Appendix B).

### **Goals and Objectives**

**Natural Resources Goal: To preserve and protect resources essential to sustain a healthy environment, including the County's river and stream corridors, woodland habitats and air quality.**

#### **Objectives:**

- **Green-space.** Secure an inter-connected system of green-spaces through a combination of easements, fee simple ownership and covenants, secure meaningful open spaces, equivalent to 20% of the land area to be developed during the life of the plan.
- **Water Quality.** Minimize the effects of human activity on the quality of surface and groundwater through effective stormwater management and subdivision design.

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**Land Use Goal:** To maintain a balanced, sustainable<sup>6</sup> land use pattern that accommodates projected growth while fostering community vitality, improving the quality of the built environment and protecting the integrity of the natural environment.

Objectives:

- **Agriculture** –
  - Protect **X** acres of prime agriculture and forest land through voluntary conservation measures.
  - Minimize conflicts between rural residential development and agricultural operations.
  - Increase the viability of continued agriculture operations through more flexible land use opportunities and other techniques.
- **Rural Residential** – Allow **X** percent of the County’s anticipated growth to occur as low density rural residential development provided that it occurs in locations that can be efficiently served and compatibly designed with agricultural operations and environmental resources.
- **Suburban Residential** – Allow **X** percent of the County’s anticipated growth to occur in suburban residential areas where adequate sewer services are available through municipal or community systems.
- **Corridor Commercial and Employment** – Target highway corridors for commercial and employment opportunities that support community vitality and enhance the attractiveness of the corridors;
- **Urban Service Areas** – **Achieve **X** percent of anticipated population growth within defined Urban Service Areas (USA). Such development will be consistent with applicable City standards for land use and infrastructure.**
- **Land Use Compatibility** – **Mitigate land use transitions to ensure that agricultural, residential, industrial, commercial and environmental lands can serve their intended functions with minimal interference from adjacent land uses.**
- **Economic Base Protection** – **Designate planned agricultural, timber, industrial commercial lands and protect them from encroachment from residential development that could interfere with the long-term viability of these important economic bases.**

**Housing Goal:** Create a more diverse housing stock that provides adequate and attainable housing for the diverse shelter needs of Carroll County’s residents in a manner that creates stable, viable neighborhoods and enables the County to adequately fund public facilities and services.

Objectives:

- **Manufactured Home Parks.** Improve services and facilities within existing

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<sup>6</sup> Sustainable development patterns maintain environmental quality, social equity, economic and fiscal health, and efficient land use practices.

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manufactured home parks to provide for the safety and recreational needs of residents.

- **Provision and Maintenance of Facilities and Amenities.** Ensure that new housing developments provide and support maintenance of adequate facilities and amenities to foster long-term neighborhood stability.
- **Housing Conditions.** Maintain or enhance the condition of the existing housing stock.
- **Housing Value.** Increase the median value of new housing while continuing to address the needs of existing moderate, low and very low income households.

**Economic Development Goal: Develop a more diversified local economy that provides a more stable economic base, more employment opportunities for all segments of the local population and the fiscal resources to provide high quality services to all residents while retaining relatively low tax rates.**

### **Objectives:**

- **County-wide Coordination.** Develop a county-wide economic development program involving cities, the County, service providers and other economic development interests.
- **Agricultural and Timber Operations.** Increase economic opportunities for agricultural and forestry operators that complimentary to on-going operations.
- **Jobs/Housing Ratio.** Increase the jobs/housing ratio by **X** by the year 2005, **X** percent by the year 2010 and **X** percent by 2020.
- **Education.** Increase the proportion of high school graduates by **X** by the year 2005, **X** percent by the year 2010 and **X** percent by 2020.
- **Income.** Increase the median household income by **X** by the year 2005, **X** percent by the year 2010 and **X** percent by 2020.
- **Industrial Land Supply.** Coordinate capital improvement programs between the County, its cities and other service providers to create and maintain an inventory of industrial land.

**Transportation Goal: Provide a convenient and cost effective transportation system that emphasizes connectivity, safety, choices of modes and harmony between transportation modes and land uses.**

### **Objectives:**

- **Traffic Congestion.** Maintain a level of service (LOS) “C” or better along major arterial transportation corridors, with all movements at intersections operating at a LOS “D” or better.
- **Road Maintenance Costs.** Minimize road maintenance costs in agricultural areas by limiting new traffic generation.
- **Coordinated Transportation Planning.** Maintain a county-wide thoroughfare plan that is coordinated with the plans of individual communities, the State and adjacent counties.



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- Scenic Roadways. **Designate and maintain scenic road corridors and adopt appropriate rural design guidelines.**
- Airport. **Protect the function of the airport and opportunities for its expansion by limiting residential encroachment into runway approach zones.**
- **Pedestrian Facilities - ??**
- **Rail - ??**
- **Public Transportation – ??**

**Community Facilities Goal: Provide for adequate public facilities and services for existing and future residents and businesses in an equitable and cost-effective manner.**

### **Objectives:**

- **Adequate Public Facilities.** Target development in those areas where public facilities (including water, wastewater, roads, and schools) can be provided efficiently without compromising service or increasing costs to existing citizens and businesses.
- **Coordinated Capital Planning.** Develop a coordinated, county-wide capital improvements program involving all service providers that is linked to anticipated growth.
- **Other** – parks, solid waste, public safety, fire, EMS ...

**Historic Resources Goal: Retain Carroll County’s historic, archaeological and cultural assets for future generations of residents and visitors.**

### **Objectives:**

- Maintain a GIS-based inventory of historic, archaeological and cultural resources.
- Ensure that identified historic, archaeological and cultural resources are not inadvertently taken.

## **Appendix 2: State-Wide Planning Goals**

**(a) Economic Development:** To achieve a growing and balanced economy, consistent with the prudent management of the state's resources, that equitably benefits all segments of the population.

**(b) Natural and Historic Resources:** To conserve and protect the environmental, natural and historic resources of Georgia's communities, regions and the state.

**(c) Community Facilities and Services:** To ensure that public facilities throughout the state have the capacity, and are in place when needed, to support and attract growth and development and/or maintain and enhance the quality of life of Georgia's residents.

**(d) Housing:** To ensure that residents of the state have access to adequate and affordable housing.

**(e) Land Use:** To ensure that land resources are allocated for uses that will accommodate and enhance the state's economic development, natural and historic resources, community facilities, and housing and to protect and improve the quality of life of Georgia's residents.

### **Appendix 3: Key County Growth Issues**

**Coordinating growth decisions with other jurisdictions** – Carroll County is one of many service providers involved in making decisions affecting the timing and location of growth. Coordination is essential to ensure that decisions of each service provider support county-wide growth goals, resulting in more efficient use of taxes and fees.

- **Implementing a coordinated county-wide economic development program.** Carroll Tomorrow has been working towards a coordinated economic development program that will improve employment opportunities for all County residents and improve the fiscal capabilities of the cities and the County to provide public facilities and services. To achieve this end, Carroll Tomorrow is working to support existing employers and attract more high quality employers. To attract better jobs, there are needs to ensure that there are competitive locations for employers and there is a high quality workforce available to fill the jobs. Improving the quality of Carroll County's work force is a high priority.
- **Reinforcing community growth goals/policies.** The County's comprehensive plan must be coordinated with the plans of its communities to ensure that it supports long-term community growth needs and fosters community vitality. The comprehensive plan should address land use patterns and infrastructure at the edges of communities and provide a template for coordinated decision-making in these areas.
- **Coordinating school development with county-wide growth.** Over the next 20 years, the Carroll County School District is likely to be the most significant developer in the County. School location decisions will affect demands for infrastructure (particularly road, water and wastewater system improvements) and development pressures. The locations of new schools should be coordinated with the locations of projected growth to ensure that adequate infrastructure can be provided and to minimize school busing costs.
- **Coordinating with other service providers.** To provide cost-effective services, the Carroll County Water Authority and other public service providers need to know the location, intensity, timing and amount of new development. The plan should provide guidance on all of these aspects of development.

**Ensuring a balanced land-use mix** – Carroll County encompasses urban, suburban and rural areas that are under pressure for residential development to serve the housing demands from the Atlanta Metropolitan Area. Much of this demand is for starter homes that generate greater fiscal burdens than benefits for the County. The County's fiscal and economic health depend on balancing the mix of residential and non-residential land uses as well increasing the proportion of up-scale housing.

- **Enhancing the jobs/housing balance.** Efforts of the County, its communities, Carroll Tomorrow and other groups have focused on the need to increase the number and quality of jobs available in the County. One measurable objective for the Comprehensive Plan to establish is to increase the ratio of jobs to housing units. The combination of this jobs housing balance and average wage rates would provide a useful benchmark to measure economic development progress.

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- **Developing more diversified housing mix.** Carroll County has experienced strong demand for manufactured homes and starter homes. While the Mirror Lake development represents a more upscale market, the majority of new residential development is geared to more modest market segments. The County needs to foster a more diverse housing market and seek to increase average home prices to levels that better reflect those of the Atlanta Metropolitan area as a whole.
- **Supporting agricultural industry.** Agriculture is an important sector of the County's economy, contributing over \$40 million annually. While the County desires to increase local employment and housing opportunities, the timing, location and design of development will affect the long-term viability of agricultural operations. In addition to the loss of agricultural land when new development occurs, residential encroachment into agricultural areas can interfere with agricultural operations if residences are located downwind of poultry or cattle operations or are adjacent to farms. The Comprehensive Plan should identify prime agricultural lands and identify equitable strategies to support the long-term retention of viable agricultural operations.

**Coordinating growth with provision of adequate public facilities.** One of the greatest growth management challenges is coordinating the efficient development of infrastructure with the development of land uses that create demands for that infrastructure. The Comprehensive Plan should provide a framework for coordinating the public investments by indicating the location, use, intensity and timing of development.

- **Water.** The key water issues are securing adequate supplies of water and distributing enough water to provide for everyday needs and fire suppression.
- **Wastewater.** Wastewater service availability is one of the key limitations to urban and suburban intensity growth. Without centralized service, residential densities and non-residential development potential are limited. Centralized sanitary sewer systems currently are provided in Villa Rica, Temple, Carrollton, Bremen, Bowden and the Fairfield PUD. The County has recently approved the use of community systems to serve suburban development in unincorporated areas. The key wastewater issues that the Plan needs to address are ensuring that new development is adequately served; providing for safe and efficient service; and coordinating municipal and community systems so they can be integrated in the future.
- **Schools.** With a 10-year \$165 million improvement plan providing for construction of new schools and improvements to existing schools, the Carroll County School District is likely to be one of the most significant development forces in the County during the planning period. Schools will create demand for infrastructure and can stimulate residential growth. The primary challenges that should be addressed by the Plan include:
  - Ensuring that development decisions are coordinated with classroom capacity; and
  - Coordinating school siting with growth and capital improvement decisions.
- **Transportation.** The transportation system affects most citizens' quality of life on a daily basis. To ensure that the transportation system continues to effectively serve the needs of residents and businesses, the Plan should guide public investments and development decisions in ways that:

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- Maintain adequate road capacity and minimize delays due to traffic congestion;
  - Maintain road safety, so that roads are safe for drivers, pedestrians, and bicyclists, as well as the residents and businesses located along the roads;
  - Protect primary road corridors from inappropriate development patterns. While Highways 27 and 61 have been identified and zoned as future commercial corridors, emerging development patterns illustrate the inadequacy of existing development regulations to protect the function and appearance of these key entry corridors. Better access control is needed to ensure to minimize future losses in roadway safety and capacity. Better appearance codes (e.g., landscaping and building design standards) are needed to protect the long-term viability of the corridor and to prevent future blight; and
  - Protect scenic road corridors from clearing and encroachment of development. Carroll County has numerous State Highways (e.g., State Highways 5, 113 ...) that exemplify the rural character that makes the County such a desirable place to live and visit. Scattered development along these roadways illustrates the vulnerability of this rural character. Protecting the scenic beauty of these corridors through buffers, setbacks and strict driveway spacing standards will help retain an asset that will pay dividends to future residents by protecting roadway capacity, providing an attractive environment for residents and economic development prospects.
- **Stormwater.** The hilly terrain and erosion-prone soils of Carroll County increase the importance of local stormwater management. In addition to providing valuable recreational and amenities, effective management of increased runoff from development is essential to:
- Protect lives and property from flooding;
  - Protect the quality of surface and ground waters; and
  - Retain wildlife habitat and corridors.

**Land use compatibility** – land use compatibility is essential to protect the integrity of neighborhoods, the viability of agricultural operations and the desirability/function of industrial areas. To these ends, the Comprehensive Plan should identify effective strategies to:

- **Protect neighborhoods from encroachment of incompatible uses.** This does not mean that all neighborhoods will be homogenous; it means that a combination of buffers, design features and limited segregation through zoning will ensure that transitions between different land uses will mitigate potential off-site impacts (noise, traffic, glare) that would infringe on neighbors.
- **Protect gateways and entry corridors.** As mentioned above, the State highways that provide access to and through the County shape visitors' and residents' opinions of the County. Ensuring that land uses are compatible with the desired character of the corridor, as well as with other uses in the corridor will make the County a more attractive place to live, work and conduct business.
- **Protecting industrial and agricultural areas from encroachment.** Carroll County's emphases on economic development and retention of agri-business mandate the

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protection of industrial and agricultural areas from encroachment by uses that would interfere with industrial and agricultural operations. These uses frequently generate noise, glare, truck traffic and odors that are undesirable to adjacent residents. By designating areas intended for these operations and protecting those areas from residential encroachment, the County can increase the long term viability of these vital economic engines.

**Planning for growth and development** -- Carroll County has experienced extraordinary growth over the last 30 years. This has emphasized the importance of planning for and effectively managing growth through a growth management process that:

- Results in predictable and equitable development decisions;
- Involves stakeholders in decisions early in the planning and development process – at times when they can have the most significant impact on development patterns; and
- Facilitates effective enforcement of zoning, development and building codes.

**Protecting valuable resources** -- While Carroll County is largely rural today, growth pressures within the Atlanta metropolitan area promise additional development of large areas of the County. To retain the quality of life that attracts residents and business owners to Carroll County, the Comprehensive Plan should describe the resources to be protected and potential strategies to protect those resources, including:

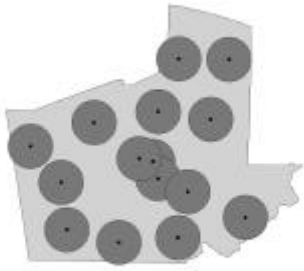
- Protection of woodland areas and heritage trees;
- Protection of wetlands, rivers, streams and lakes;
- Conservation of prime agricultural land;
- Preservation of historical resources; and
- Retention of meaningful green spaces.

**Maintaining fiscal integrity** – the quality of life in Carroll County is contingent on the County's continued ability to provide high quality services at a reasonable cost to taxpayers. To achieve these ends, the Comprehensive Plan should describe the County's strategies to:

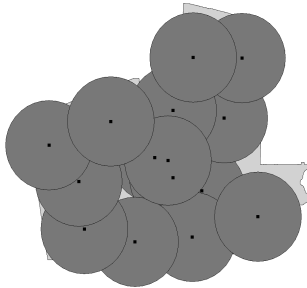
- Enhance the local property and sales tax bases more rapidly than the fiscal obligations for capital facilities, operations and maintenance;
- Ensure that new development funds the costs of capital facilities required to serve that new development;
- Ensure that facilities and services are planned in a way that allows ongoing operations without significant increases in the costs to residents and businesses; and
- Target capital investments to areas that will best achieve the types of growth desired by the County.

### Appendix 4: Fire Station Location Analysis

Existing Land Use Class	Acres Vacant Outside Service Radius (2.2m)	Acres Total Outside Service Radius (2.2m)	Acres Vacant Outside Service Radius (4.4m)	Acres Total Outside Service Radius (4.4m)
Unknown\Other	143	1,439		6
Agriculture	34,427	68,254	3,852	5,603
Commercial	1,322	3,290	14	51
Exempt	1,086	3,549	217	241
Industrial	0	468		229
Preferential	233	1,642		54
Residential	13,510	44,053	857	2,721
Utilities	966	1,166	10	196
Conservation	10,603	50,397	664	3,278
<b>Totals</b>	<b>62,290</b>	<b>174,259</b>	<b>5,614</b>	<b>12,377</b>



4 min (2.2 miles)

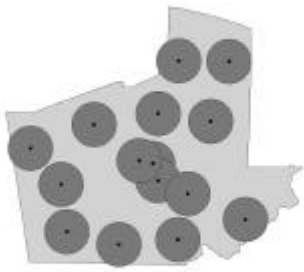


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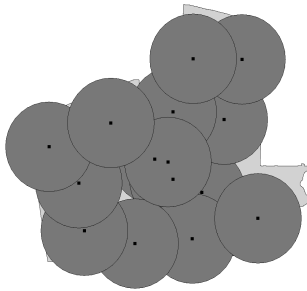
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Rural Residential Scenario

Rural Residential Scenario	Acres Vacant Outside Service Radius (2.2m)	Acres Total Outside Service Radius (2.2m)	Dwelling Units Potential	Acres Vacant Outside Service Radius (4.4m)	Acres Total Outside Service Radius (4.4m)
Commercial		1,300			15
Fairfield	724	1,772			
Industrial		374			229
Incorporated	1,742	5,379		7	36
Quasi Public		1,476			209
Rural Residential	43,313	109,789	10,828	4,739	9,110
Suburban Residential	15,132	49,936	30,264	793	2,641
Urban Mix	1,379	4,234	5,516	75	139
<b>Totals</b>	<b>62,290</b>	<b>174,259</b>	<b>46,608</b>	<b>5,614</b>	<b>12,377</b>



4 min (2.2 miles)



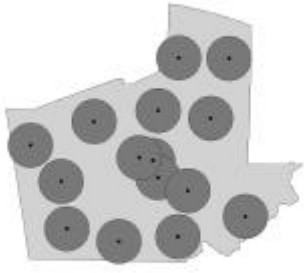
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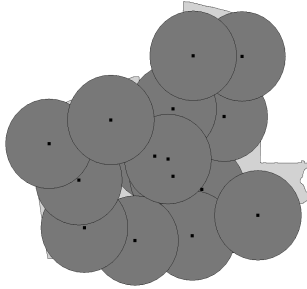
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Corridors Scenario

<b>Corridors Scenario</b>	<b>Acres Vacant Outside Service Radius (2.2m)</b>	<b>Acres Total Outside Service Radius (2.2m)</b>		<b>Acres Vacant Outside Service Radius (4.4m)</b>	<b>Acres Total Outside Service Radius (4.4m)</b>
Agricultural	49,717	132,893	2,486	5,532	11,750
Commercial		1,300			15
Employment	530	2,338		0	0
Fairfield	724	1,772			
Industrial		374			229
Incorporated	1,742	5,379		7	36
Mixed Use	596	1,414	2,382		
Quasi Public		1,476			209
Suburban	8,980	27,313	17,960	74	138
<b>Totals</b>	<b>62,290</b>	<b>174,259</b>	<b>22,828</b>	<b>5,614</b>	<b>12,377</b>



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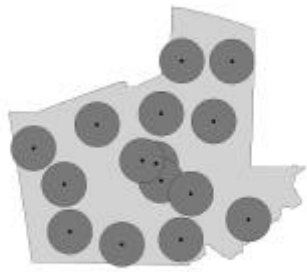


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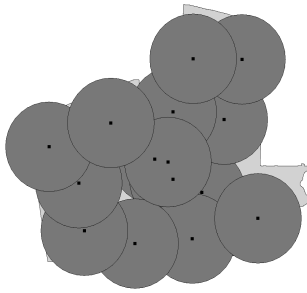
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Centers Scenario

<b>Centers Scenario</b>	<b>Acres Vacant Outside Service Radius (2.2m)</b>	<b>Acres Total Outside Service Radius (2.2m)</b>		<b>Acres Vacant Outside Service Radius (4.4m)</b>	<b>Acres Total Outside Service Radius (4.4m)</b>
Agricultural	45,506	128,946	2,275	4,880	10,714
Commercial		1,300			15
Fairfield	724	1,772			
Industrial		374			229
Incorporated	1,742	5,379		7	36
PUD	4,940	5,811	9,880		977
Quasi Public		1,476		650	209
Urban Service Areas	9,378	29,203	37,510	77	198
<b>Totals</b>	<b>62,290</b>	<b>174,259</b>	<b>49,666</b>	<b>5,614</b>	<b>12,377</b>

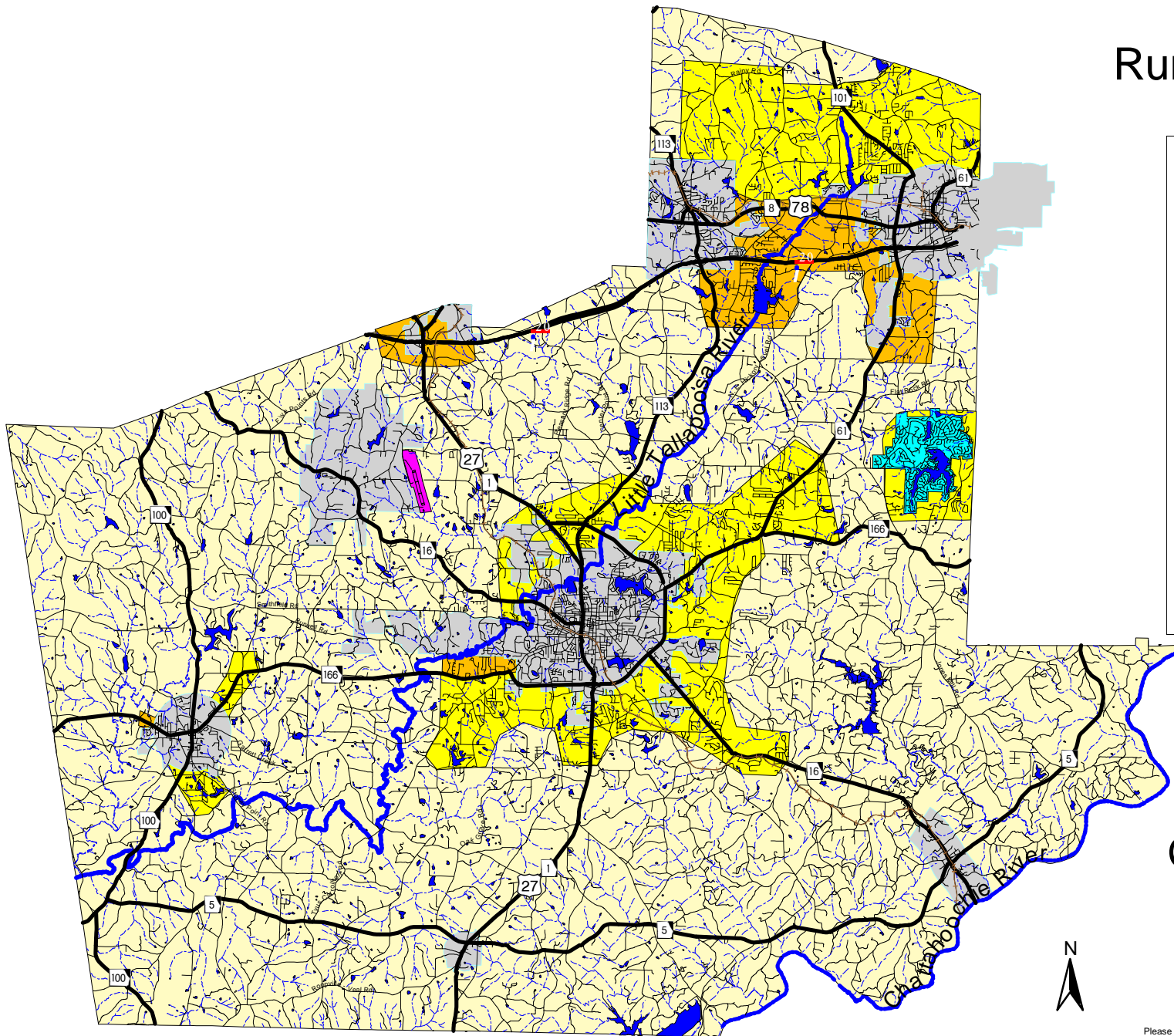


4 min (2.2 miles)



8 min (4.4 miles)

# Map 1 - Rural Residential Scenario



### Legend

- Railway
- Streams
- Rivers
- Roads
- Highways
- Lakes and Ponds
- Rural Residential
- Suburban Residential
- Urban Mix
- Fairfield
- Airport
- Incorporated

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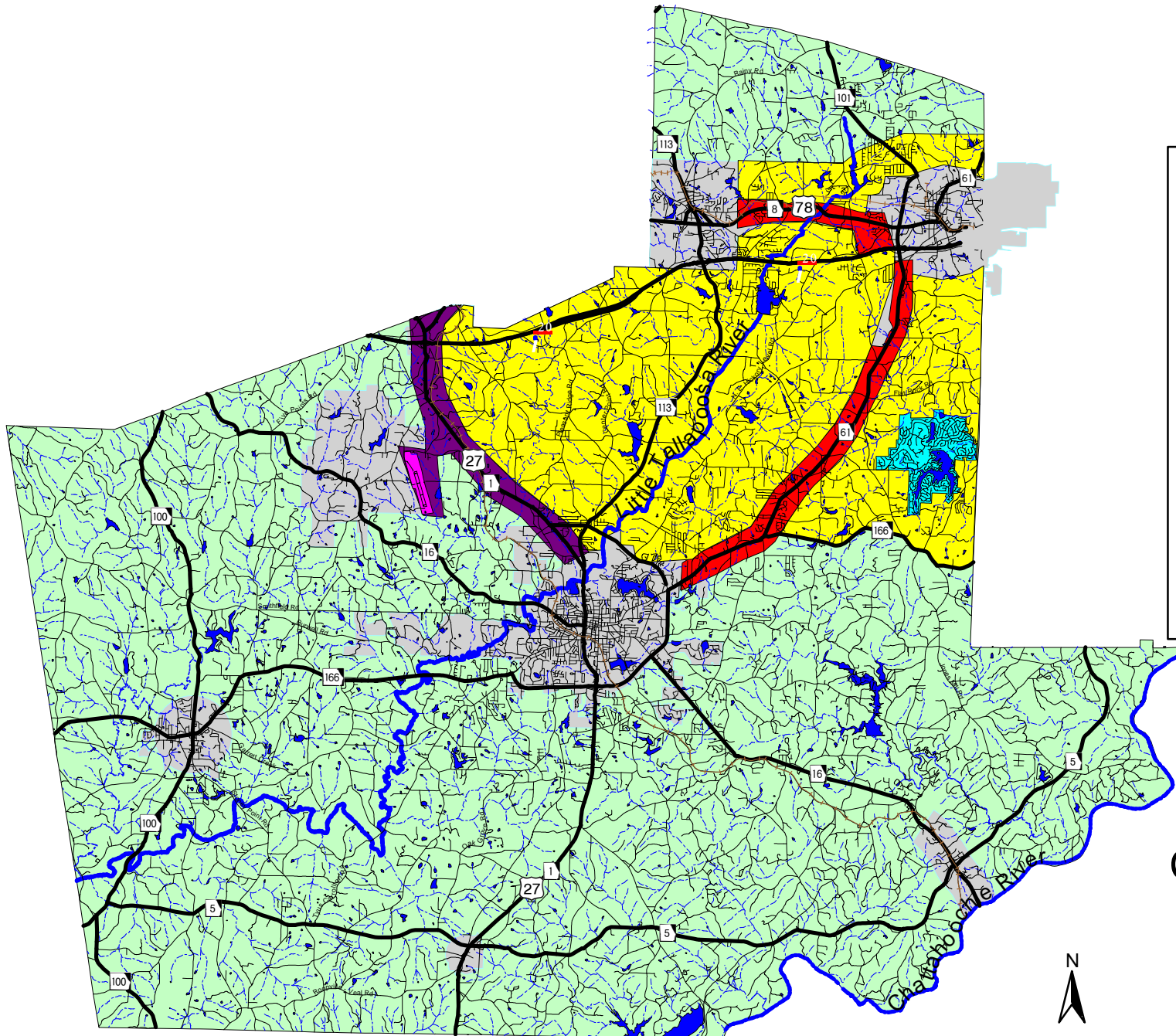
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


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# Map 2 - Corridors Scenario



**Legend**

-  Railway
-  Streams
-  Rivers
-  Roads
-  Highways
-  Lakes and Ponds
-  Agricultural
-  Mixed Use
-  Employment
-  Suburban Residential
-  Airport
-  Incorporated
-  Fairfield

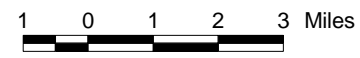
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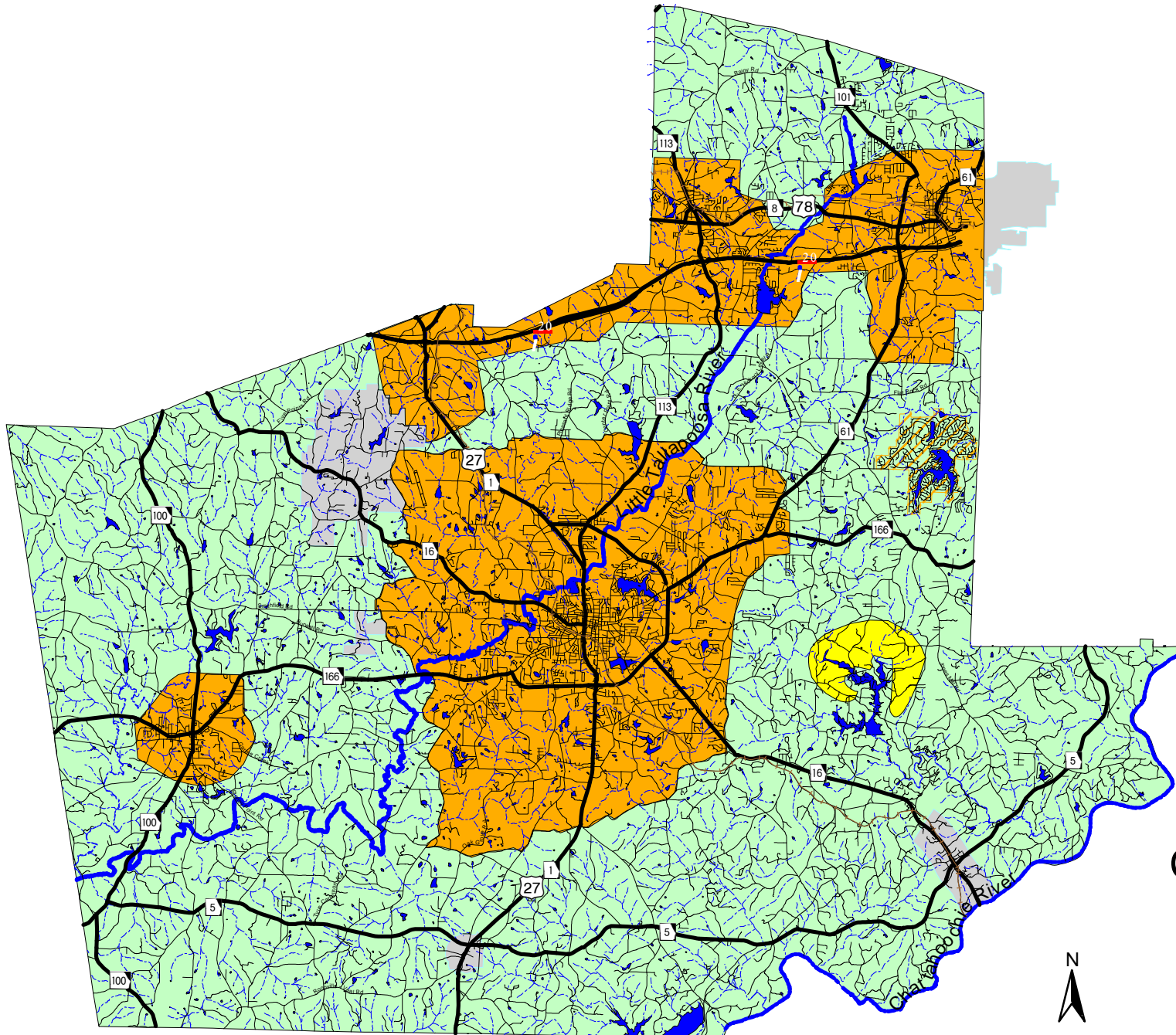


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










# Map 3 - Centers Scenario



### Legend

-  Railway
-  Streams
-  Rivers
-  Roads
-  Highways
-  Lakes and Ponds
-  Agricultural
-  Urban Service Area
-  Airport
-  Incorporated
-  Fairfield
-  Temple/Inland PUD

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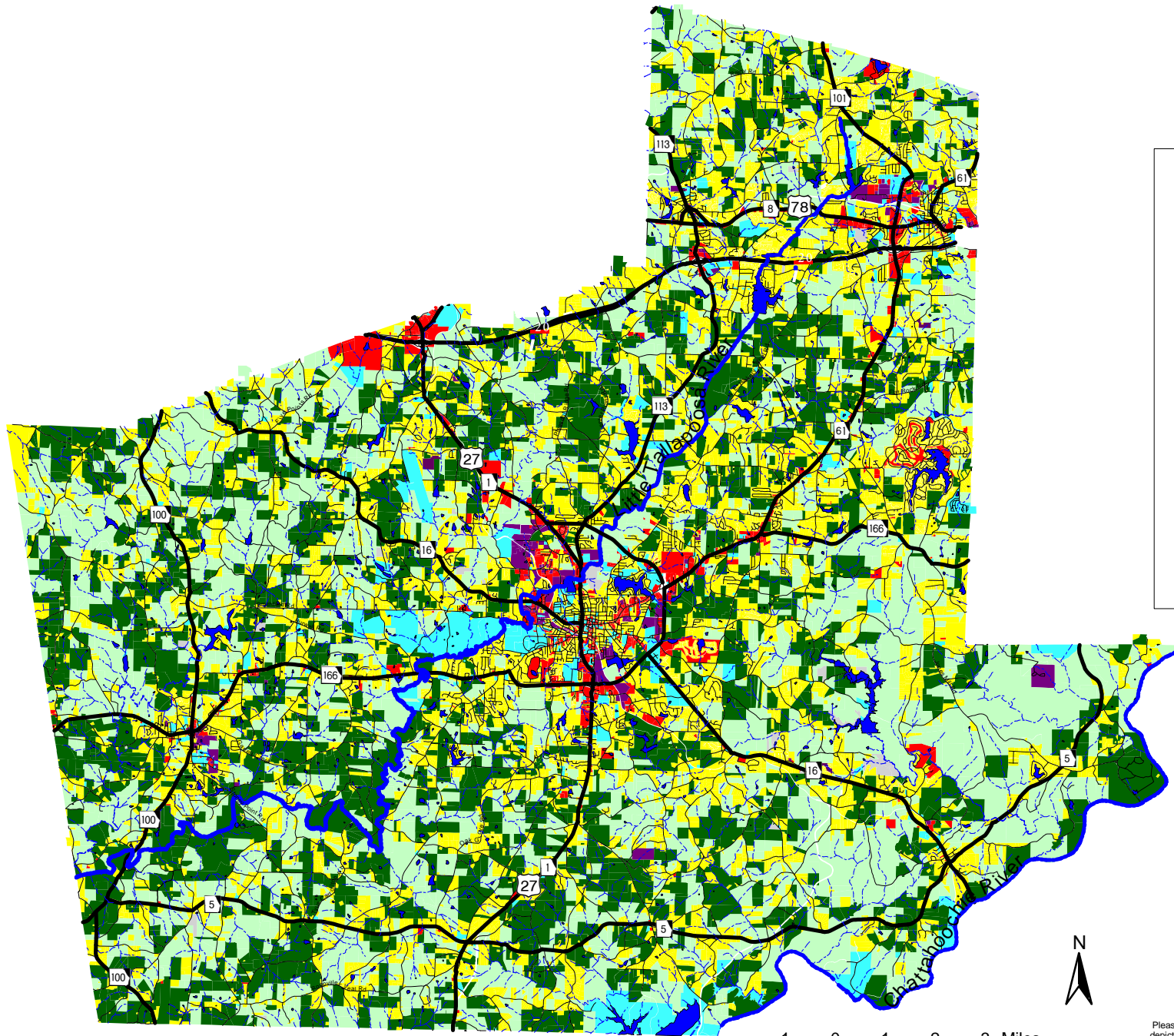
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# Map 4 - Existing Land Use



### Legend

- Major Rivers
- Streams
- Highways
- Other Roads
- Agriculture
- Preferential/Conservation
- Historical
- Residential
- Commercial
- Industrial
- Quasi Public/Exempt
- No Data
- Lakes and Ponds

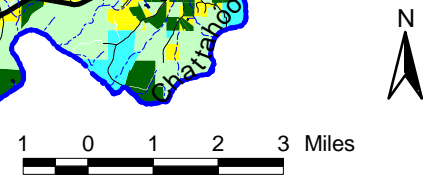
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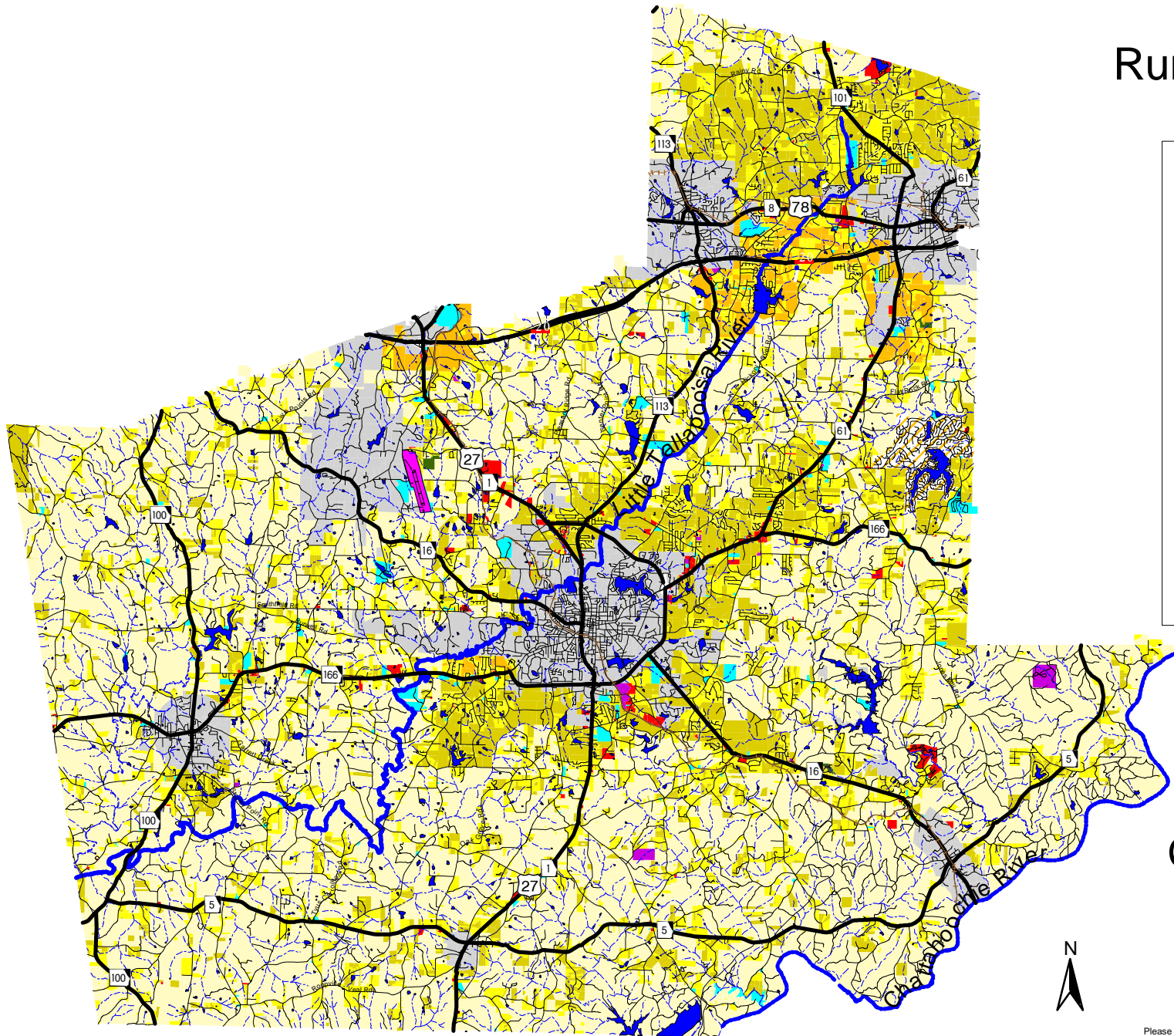


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# Map 5 - Rural Residential Scenario



**Legend**

- Railway
- Streams
- Rivers
- Roads
- Highways
- Lakes and Ponds
- Commercial
- Industrial
- Quasi Public
- Incorporated
- Fairfield
- Rural Residential
- Residential
- Suburban Residential
- Urban Mix

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## Carroll County, Georgia

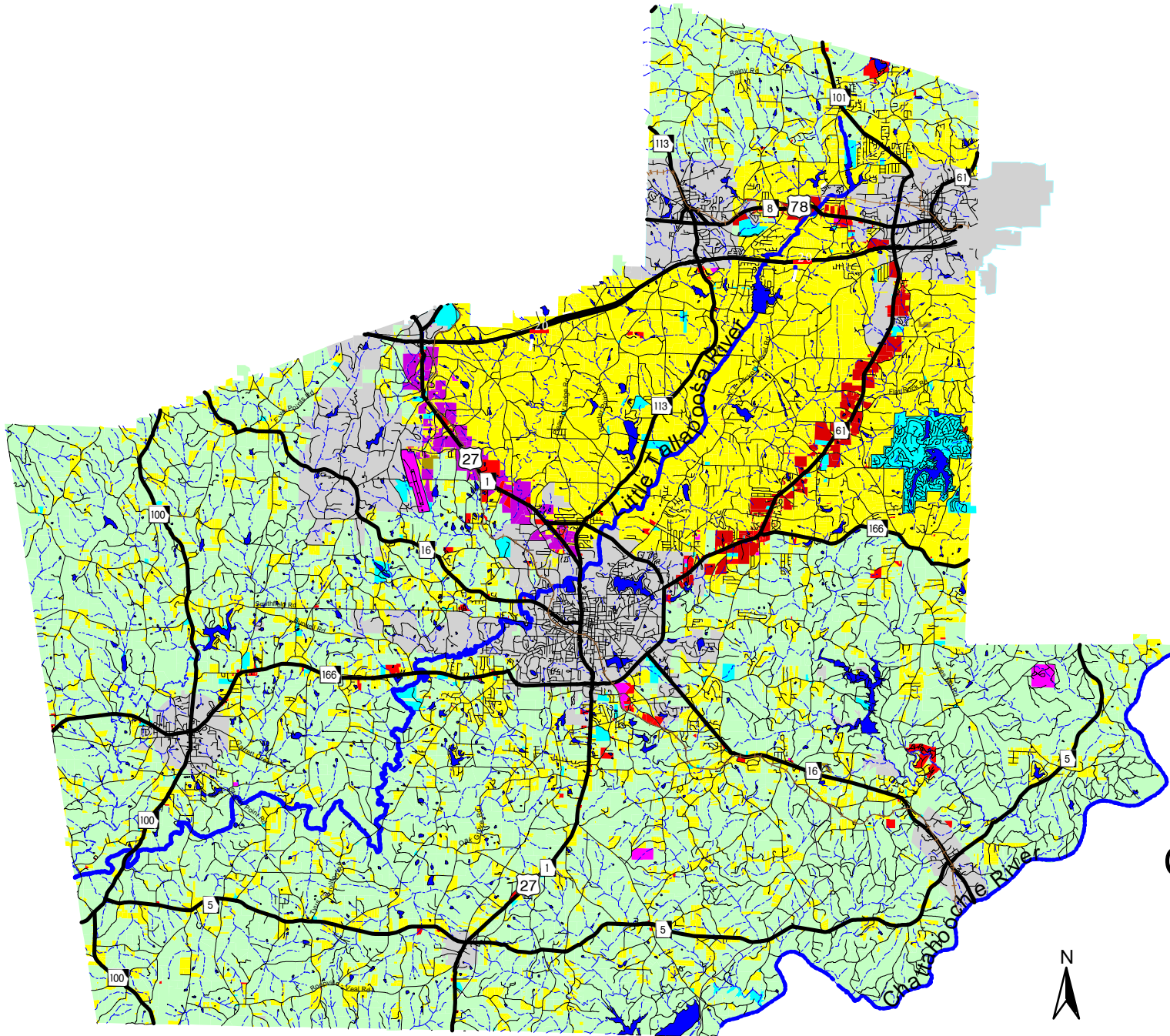
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# Map 6 - Corridors Scenario



**Legend**

-  Railway
-  Streams
-  Rivers
-  Roads
-  Highways
-  Lakes and Ponds
-  Agriculture
-  Commercial
-  Mixed Use
-  Industrial
-  Employment
-  Incorporated
-  Fairfield
-  Quasi Public
-  Suburban Residential

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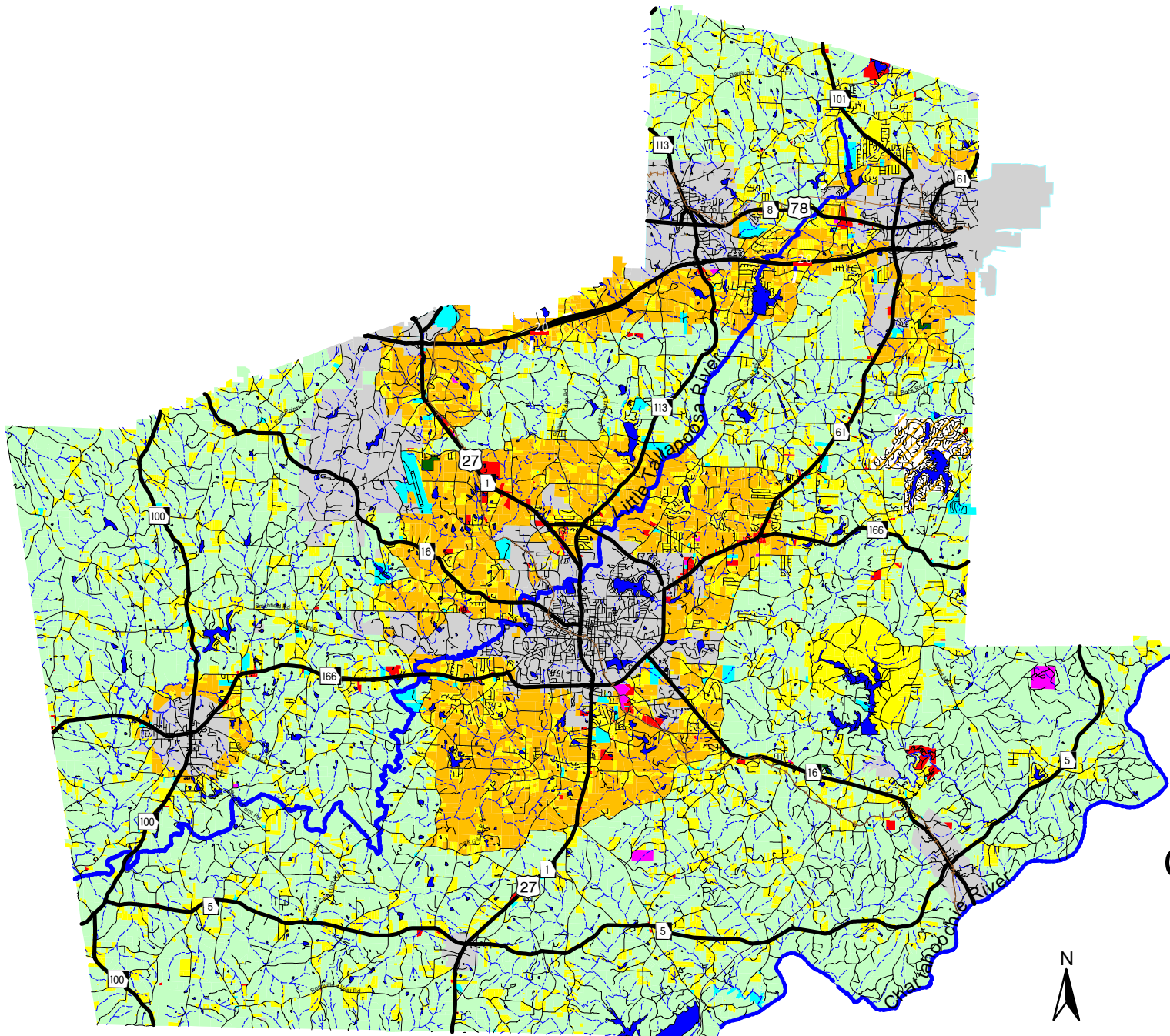


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# Map 7 - Centers Scenario



### Legend

- Railway
- Streams
- Rivers
- Roads
- Highways
- Lakes and Ponds
- Agricultural
- Urban Service Area
- Airport
- Incorporated
- Fairfield
- Temple/Inland PUD

Comprehensive  
Plan Update

## Carroll County, Georgia

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