

# Trends & Analysis Technical Report

Prepared by the Chattanooga-Hamilton County Regional Planning Agency (RPA), December 2015.

This report presents socio-economic and development trends research that is the foundation for *Renewing Our Vision: Comprehensive Plan Update*. *Renewing Our Vision: Comprehensive Plan Update* is the Comprehensive Plan for Chattanooga and Hamilton County. Its purpose is to provide guidance for responsible and proactive development decisions. The plan focuses on physical development at a broad, countywide level. The plan's recommendations and development policy are based on the unique context of the area, previous planning efforts, professional planning principles, current and projected socioeconomic data, public input, and an analysis of transportation infrastructure and natural resources.

The plan may be found online at [www.chcrpa.org](http://www.chcrpa.org).

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## INTRODUCTION

Prior to setting Hamilton County's future course, it is important to learn from the key influences and trends that have shaped Hamilton County's growth in the past and will continue to influence it in the future. Since *Renewing Our Vision* focuses on physical development at a county-wide level, this technical report highlights the key county-wide influences and trends that provide important insights for the future vision, goals and recommendations for Hamilton County's physical development.

The following topics were identified for analysis because of their influence on physical development:

- ❖ Population: how Hamilton County's population is growing and changing, and the implications for meeting changing lifestyle needs (housing, community type, transportation)
- ❖ Economic Development: how the employment base is changing, the important physical planning drivers of economic growth (available sites, access to transportation, community amenities) and the implications for future planning
- ❖ Natural Resources: what their value is to citizens and businesses, how are they being impacted by growth and to what degree they are currently protected
- ❖ Infrastructure: how sewers, schools and transportation influence development patterns, the cost of building and maintaining these facilities, how they are financed, and critical issues to consider moving forward
- ❖ Connecting Transportation and Land Development: how development intensity and people's choices about where to live and work impact the transportation system; and
- ❖ Development Patterns: how the placement of buildings, streets, and green spaces impacts lifestyle choices, how zoning and other local codes impact development patterns, and how existing zoning throughout the county compares with current trends in lifestyle preferences.

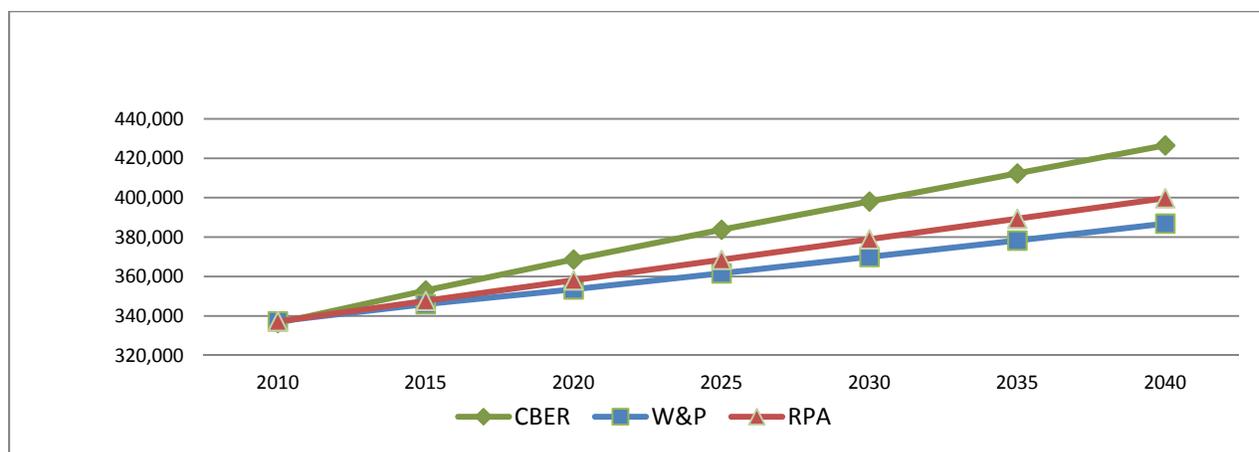
## A. POPULATION TRENDS/KEY FINDINGS

Planning for future growth starts with an understanding of how Hamilton County's population is growing and changing. Population growth drives the need for additional housing, which in turn drives demand for services, transportation and commercial development. Population changes (changes to household size and type, generation types, and ethnicity) drive specific community service, transportation and housing needs. For example, a growing senior population increases demand for more access to community support facilities such as healthcare, retirement homes and transit such as van shuttles. Taken together,

these forces taken together have implications for planning so that Hamilton County not only accommodates forecasted growth, but more importantly, can support the lifestyle needs based on the changing composition of the population. Below is a summary of the key findings:

- ❖ **Hamilton County is projected to continue experiencing moderate growth and could add between 60,000 to 90,000 residents by 2040<sup>1</sup>.** That equates to doubling the populations of Collegedale, East Ridge, Lakesite, Lookout Mountain, Red Bank, Ridgeside, Signal Mountain and Soddy-Daisy. Where will these new residents live, work and play? How will they impact our infrastructure services such as sewer, water, roads and schools? How will they impact our natural environment and resources such as open space, streams and forested lands? The good news is that this growth is projected to occur at a moderate rate, thereby giving more time to plan and prepare for growth in a manner that matches the community's values and priorities.

Figure 1. Population Projections for Hamilton County

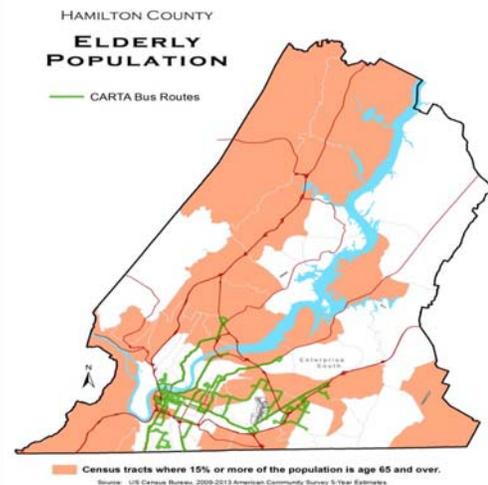


- ❖ **The two largest population groups in the county are the Baby Boomers (born 1946-1964) and the Millennials (born 1981-2000); their unique lifestyle preferences will have planning implications for housing, community amenities, and transportation.** Most Baby Boomers currently live in the suburbs and are expected to stay in their homes as they age. They will need more supportive services and transit options. More than prior generations, Millennials tend to favor living in urban places that are walkable, transit friendly and provide a variety of nearby social gathering places. It is not conclusively known whether Millennials will continue to prefer urban living or change their preferences a more suburban lifestyle as they marry and form families. Additional statistics for these two generations are noted on the following page.

<sup>1</sup> Population projection range based on Woods and Poole ([www.woodsandpoole.com](http://www.woodsandpoole.com)), Center for Economic and Business Research ([cber.utk.edu](http://cber.utk.edu)), and RPA's own estimates from Census Data and Land Use trends.

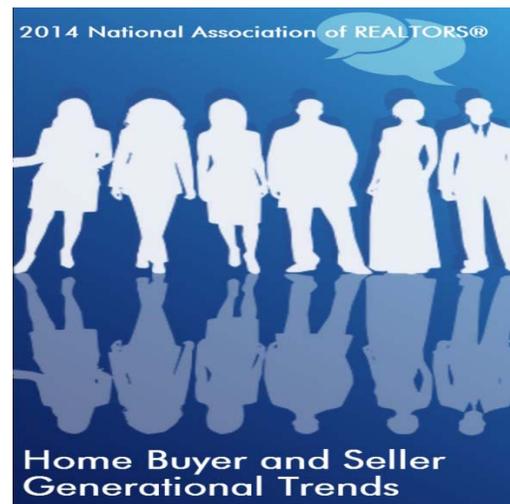
## Baby Boomers

- ❖ 90% of people over age 65 like to stay in their home as long as they can and 80 percent believe their current residence is where they will always live.<sup>2</sup>
- ❖ Older Boomers and the Silent Generation place higher priority on convenience to friends and family, a smaller home, convenience to shopping, and convenience to health facilities when choosing a place to live.<sup>3</sup>
- ❖ The majority of Boomers staying in single-family houses implies that they are mostly in low-density areas with limited access to transit, shops, services or visiting family and friends.<sup>4</sup>



## Millennials

- ❖ As young adults, most Millennials currently rent but they prefer to be home owners soon especially when they enter into their 30s.
- ❖ Millennials, compared to other age groups, place a higher priority on affordability, convenience to job, and commuting costs when considering a home<sup>5</sup>.
- ❖ They prefer to live where they can shop and socialize in places within walking distance of home. Twenty-two percent expect to walk, bike or use transit to get to work.<sup>6</sup>
- ❖ While half of the Millennials work in the city, one third of them prefer to live in the city (which is a higher percentage compared to previous generations) and the rest split equally in suburban and small-town/country<sup>7</sup>.



<sup>2</sup> National Conference of State Legislatures and the AARP Public Policy Institute (2011) *Aging in Place: A State Survey of Livability Policies and Practices*

<sup>3</sup> National Association of Realtors 2014 Home-buyer and seller generational trends report

<sup>4</sup> Viveiros, Janet, and Maya Brennan. (2014) *Aging in Every Place: Supportive Service Programs for High and Low Density Communities*; Barbara Lipman, Jeffrey Lubell, and Emily Salomon. (2012) *Housing an Aging Population: Are*

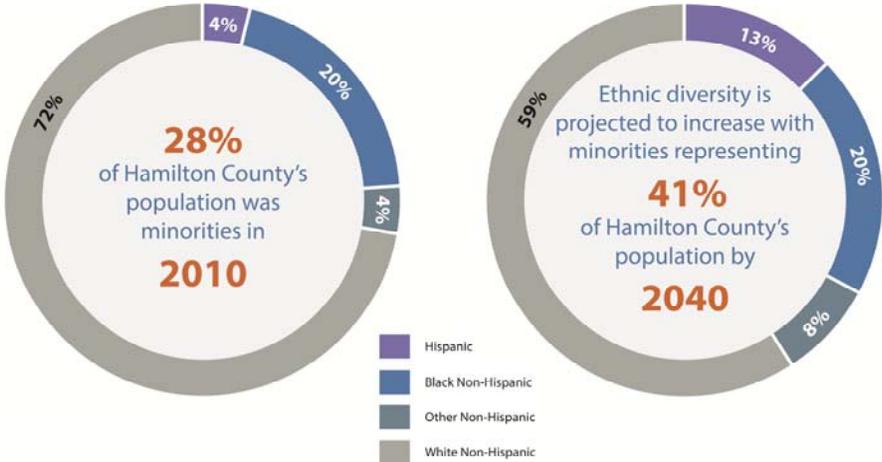
<sup>5</sup> National Association of Realtors 2014 Home-buyer and seller generational trends report

<sup>6</sup> *Generation Y: America's New Housing Wave*, ULI Foundation, 2011

<sup>7</sup> Melina Duggal (2013) *The Impact of Generation Y on Housing – The Market and Demographic Perspective*. Robert Charles Lesser & Co. Real Estate Advisors

❖ **Hamilton County is becoming more ethnically diverse, with Hispanics, African Americans and “Other” increasing their share of the population from 28% in 2010 to 41% by 2040.**<sup>8</sup> While Hamilton County is not expected to become a “minority-majority” county by 2040, this growth in diversity, particularly in new immigrants, will have implications for housing and transportation needs. Nationally, minority households have a lower median income (\$32,584-\$38,039 versus the national average of \$49,777) and are less likely to own a home (46-47% versus 64.9%) compared to the general population.

Figure 2. Hamilton County, TN Racial Distribution



❖ **Hamilton County households are decreasing in size and growing in number, increasing demand for housing and shifting housing/community needs.** In 2010, household size dropped to 2.3 people per household from 2.9 people per household in 1970.<sup>9</sup> Households are changing from a predominance of two-parent family to one-parent family and one-person households. These changes increase demand for housing as there are more households relative to the total population. There will be need for a greater variety of housing with a premium on convenient access to jobs and community services as households diversify.

Figure 3. Hamilton County Demographic Changes 1970-2010<sup>10</sup>

	1970	1980	1990	2000	2010	% change from 1970-2010
Total Population	254,236	287,740	285,536	307,896	336,463	32.34% ↑
Households	82,277	103,319	111,799	124,444	136,682	66.12% ↑
Families	67,681	77,951	78,964	83,692	88,149	30.24% ↑
Families with Children	36,246	38,293	38,915	35,945	34,840	-3.88% ↓
Household Size	3.04	2.71	2.68	2.41	2.39	-21.38% ↓

<sup>8</sup> The University Center for Business and Economic Research (CEBR), “Tennessee Population Projections” (2013).

<sup>9</sup> Census of Population, US Census Bureau (1970, 1980, 1990, 2000, 2010).

<sup>10</sup> Census of Population, US Census Bureau (1970, 1980, 1990, 2000, 2010).

## B. ECONOMIC TRENDS/KEY FINDINGS

The Chattanooga-Hamilton County area has long been the economic hub for the region. The economy must remain healthy in order for the area to continue to be a leader in the region and to provide jobs, products, and services needed by the public. A vibrant economy also generates tax revenue that contributes to public facilities and services the community enjoys. Sustaining and building a vibrant economy involves collaboration between public, private, and nonprofit sections.

This collaboration is essential to develop and maintain the following community qualities that support business growth: 1) labor costs and skills, 2) availability of land that is ready to be developed, 3) transportation and technology accessibility, 4) cost and availability of utilities and infrastructure, 5) business-friendly environment including incentives, tax structure, public policy, and regulations; and 6) community features that impact the quality of place and life such as crime rate, housing cost and availability, public schools, and recreational and cultural opportunities.<sup>11</sup> These qualities not only help attract new businesses but are also important for retaining and supporting existing companies.<sup>12</sup>

While land use planning does not address all of these factors, it does impact key factors such as land availability, accessibility to transportation, availability of utilities and infrastructure and community amenities. The following overview provides perspective on some of the key drivers that are shaping Hamilton County's economy. Below is a summary of the key findings:

- ❖ **Manufacturing has historically been the core of Hamilton County's economy, and will continue to play an important role with the arrival of Volkswagen and several other major industries to the broader region; however, today's**

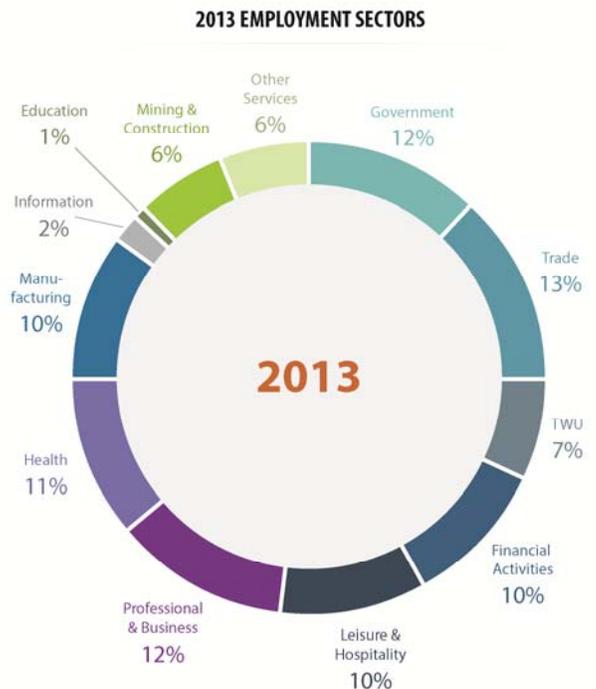
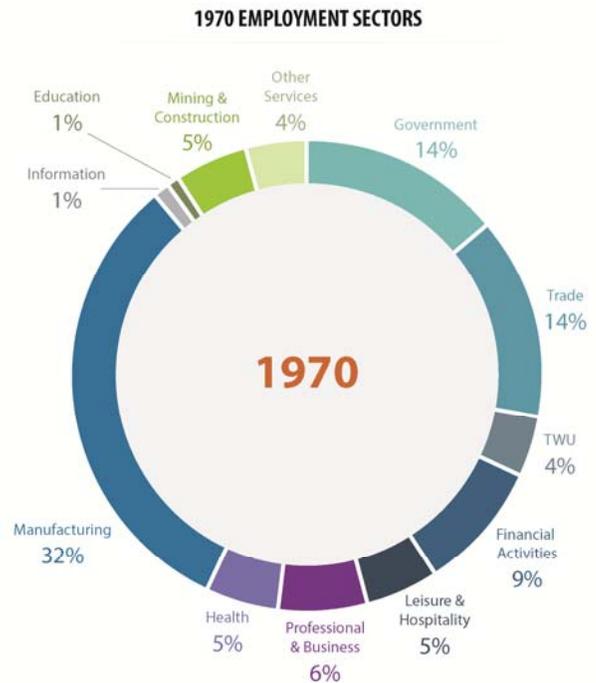


Figure 4. Employment Sectors

<sup>11</sup> Corporate Survey Results: Site Selection Factors <http://www.areadevelopment.com/corpSurveyResults/>

<sup>12</sup> Leading Locations for 2014: U.S. Metros Ranked for Economic and Job Growth <http://www.areadevelopment.com/Leading-Locations/Q2-2014/Leading-Metro-Locations-Full-Results-442216.shtml#>

economy is more diverse with manufacturing jobs taking up just 10% of all employment compared to 32% in 1970 (Figure 4). The professional and business and service sectors have grown significantly over the last 30 years and such diversification is projected to continue.

❖ **The recent resurgence in manufacturing has strained the availability of “move in” or “shovel ready” industrial sites with all utilities and infrastructure.** All seven industrial parks developed by local governments are full except for 147 acres in Enterprise South Industrial Park and Centre South Riverport/Industrial Park. Hamilton County is experiencing significant demand for both greenfield sites as well as existing facilities. The challenge is determining how Hamilton County can develop industrial parks and/or adapt an inventory of aging facilities in time to meet the burgeoning interest of locating and expanding businesses.

❖ **Maintaining and enhancing community amenities has become an important factor to attracting and retaining skilled workers.** The local economy is increasing the demand for higher-skilled jobs, which places an increased importance on attracting and retaining skilled, talented, and innovative workers. Quality of life plays an increasingly critical role in the competition of attracting businesses and talented workers, especially in the new economy<sup>13</sup>. The area has made great strides in utilizing the region’s natural amenities to build a brand and economy around outdoor sports. Furthermore, numerous projects and events have been implemented in the past decades to maintain and improve the area’s community amenities such as the Tennessee RiverWalk, Riverbend Festival, Main Street revitalization, and Enterprise South Nature Park. The value of these amenities to economic development was underscored by Volkswagen’s remarks that a major factor in the decision to locate in the area “was the ‘intangibles’ about Chattanooga, including its livability, sustainability focus, mountain and river setting, and environmental record.”<sup>14</sup>

❖ **Chattanooga’s transportation facilities are an important driver of the area’s functioning economy.** Because of the intersection of I-24, I-59 and I-75, the Chattanooga metropolitan area ranked the highest for long-haul freight activity on a per-mile basis in the country in 2010<sup>15</sup>. Two-thirds of the trucks on area interstates are identified as trucks not making local deliveries<sup>16</sup>. The total freight

Status of Chattanooga / Hamilton County Industrial Parks	
Bonny Oaks Industrial & Office Park:	313 acres, full
Centre South Riverport / Industrial Park:	208 acres, 86 acres available
Enterprise South Industrial Park:	3093 acres, 61 acres available
Mountain View Industrial Park:	31 acres, full
Silverdale Industrial Park:	70 acres, full
Ooltewah Industrial Park:	37 acres, full
Soddy-Daisy Industrial Park:	65 acres, full
Source: Hamilton County Real Property Office	

<sup>13</sup> Blair, J. P. and R. Premus “ Major Factors in Industrial Location: A Review.” Economic Development Quarterly, 1: 72-85

<sup>14</sup> The Chattanooga.com. (July 15, 2008). <http://www.chattanooga.com/2008/7/15/131482/Volkswagen-Chose-Chattanooga-Due-To.aspx>,

<sup>15</sup> INRIX 2010 National Traffic Scorecard: <https://www.dailyherald.com/assets/pdf/DA8286439.pdf>,

<sup>16</sup> Chattanooga-Hamilton County/North Georgia Transportation Planning Organization (2011) Chattanooga Regional Freight Profile

volume by weight in Chattanooga is projected to grow 36% to 34 million tons by 2040<sup>17</sup>. Currently, more than 76% of the freight is moved by truck, and truck share is expected to increase in the future<sup>18</sup>. Lack of alternate routes, coupled with high-frequency crash locations on local interstates, contributes to shipping and movement delays which increase operating costs<sup>19</sup>. New strategies to address this issue are needed, or the region risks losing its transportation advantage for current and prospective employers.

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<sup>17</sup> Chattanooga-Hamilton County/North Georgia 2040 Regional Transportation Plan

<sup>18</sup> TRANSEARCH

<sup>19</sup> Chattanooga-Hamilton County/North Georgia 2040 Regional Transportation Plan

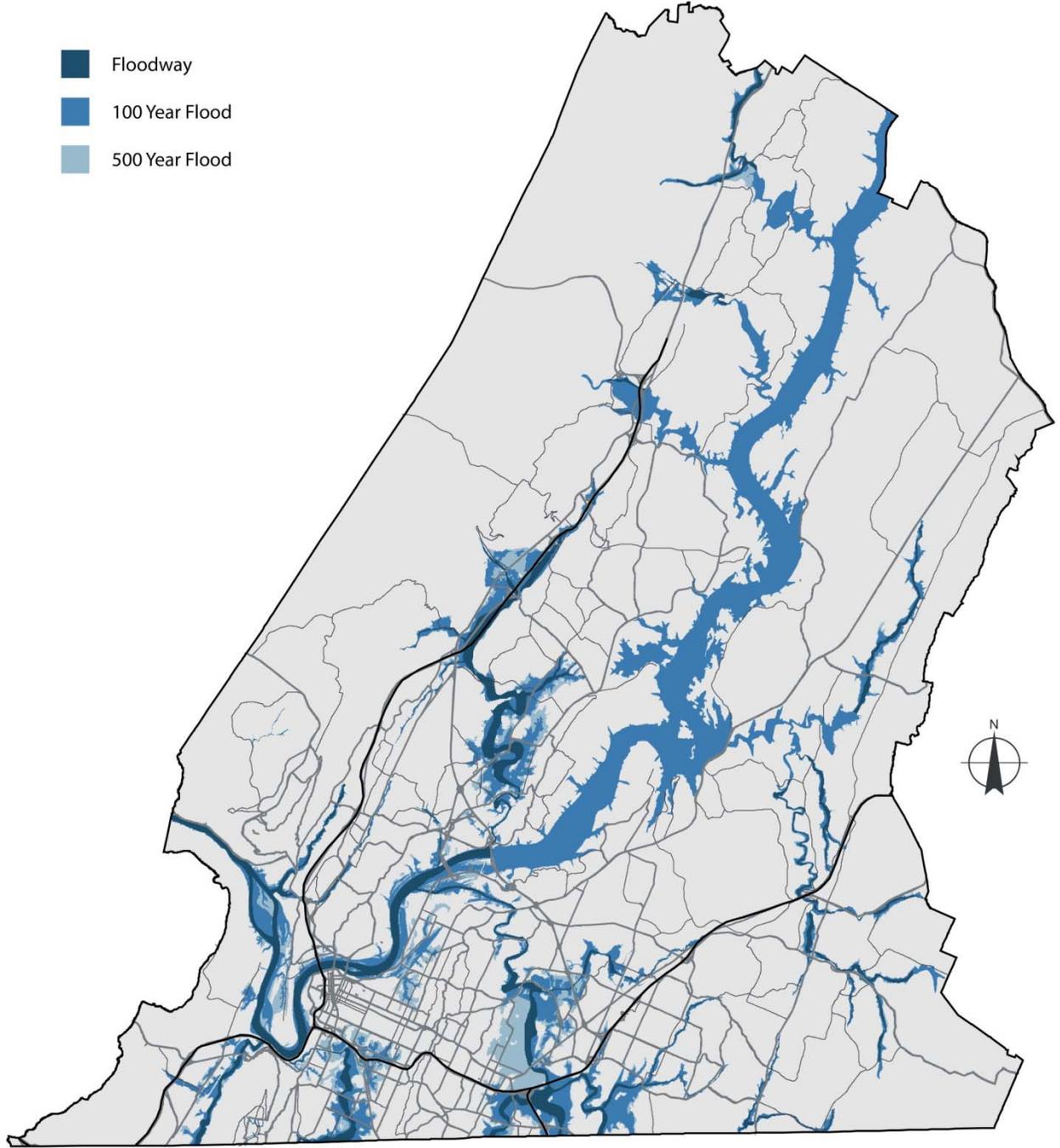
## C. NATURAL RESOURCES TRENDS/KEY FINDINGS

Hamilton County contains a rich variety of natural resources in close proximity to one another. These resources include, but are not limited to, the mountains, ridges, rivers, creeks, floodplains, wetlands, forested areas, and agricultural lands. These resources also define Hamilton County as a unique place. Very few places offer a major river, many small bodies of water, multiple creeks and streams, mountains and ridges, a river gorge, and a wide variety of outdoor activities including hiking, fishing, rock climbing, mountain biking, hunting, boating, rowing, caving, kayaking, and hang gliding within 30 minutes of home. A 2014 RPA land use review found that 12.6% of the county's land area is dedicated to recreation or conservation uses (see Land Use Map, page 21). Residents and businesses also value these amenities as noted in the summary findings below. The challenge will be protecting these resources as Hamilton County grows.

- ❖ **Natural resources are highly valued by Hamilton County's citizens and play an important role in the local economy, ranking among the top five cited priorities by residents** participating in both the Thrive2055 and the *Renewing Our Vision* processes. In a Thrive 2055 December 2014 press release, the group reported that they "surveyed 1,137 participants from the entire region about preferred themes of growth for our future and was overwhelmingly told economic growth is paramount, but not at the expense of losing our natural treasures." Hamilton County's natural resources provide a key venue for national sporting events such as the Little Debbie Ironman, USA Cycling Professional Road and Time Trial National Championships, Head of the Hooch, Three State Three Mountain Challenge, and River Rocks Festival. Chattanooga's leadership position in outdoor recreation was also affirmed by a national publication, *Outside Magazine*, which dubbed Chattanooga as "The Best Outdoor City" in 2011 and again in 2015. These resources also help the Chattanooga Chamber of Commerce to market the area's livability as part of their economic recruitment efforts and the Chattanooga Area Convention and Visitor's Bureau to recruit tourists and conventions.
- ❖ **Ridges/hillsides are a critical component of the area's scenic beauty and economic vitality, comprising one-third of Hamilton County's total land area** (Slopes Map, Page 10). Only 16% of that ridge and hillside land however is protected. While the current regulations address slope stabilization and revegetation, they do not address major alterations to tree cover or major slope cuts.
- ❖ **Waterways, floodplains and wetlands make up over 20% of Hamilton County's total land area** (Flood Area Map, Page 9). Based on the 2012 Tennessee Department of Environment and Conservation (TDEC) stream survey, three-quarters of the 30 surveyed streams in Hamilton County are not meeting their intended uses (water supply, aquatic life, etc.). Chattanooga's new stormwater standards should improve this situation, but a broader set of strategies, including site sensitive design and development, is needed to encourage conservation of floodplain areas.
- ❖ **While current regulations provide incentives for conservation of trees and woodlands, actual development practices have resulted in very limited retention of them.** Woodlands and trees provide many benefits including shade, stormwater management, reduction of urban heat island effects, and improved air quality. They also provide the backdrop for outdoor recreation activities including cycling, trail running, hiking, camping, mountain climbing, bird watching, caving, and hunting.

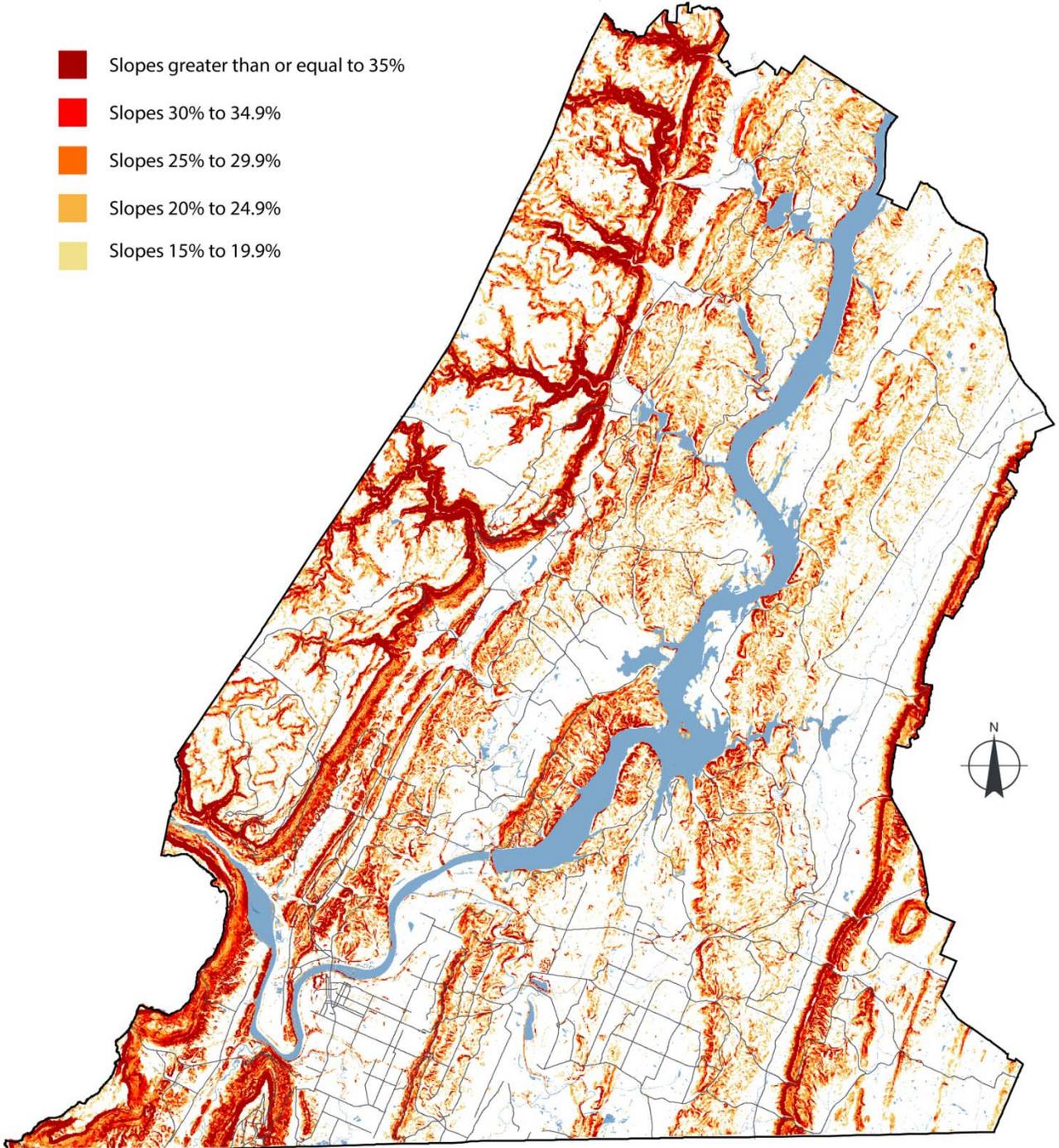
**FLOOD AREA**

-  Floodway
-  100 Year Flood
-  500 Year Flood



# SLOPES

-  Slopes greater than or equal to 35%
-  Slopes 30% to 34.9%
-  Slopes 25% to 29.9%
-  Slopes 20% to 24.9%
-  Slopes 15% to 19.9%



- ❖ **Between 2002 and 2012, Hamilton County lost 11,979 acres of prime farmland. If outward growth continues, more farmland will be converted to other uses.** <sup>20</sup> In 2014, a land use survey conducted by the RPA showed 11,000 acres of land used for agricultural purposes (Land Use Map, Page 12). For many property owners, selling their farmland to be developed is a way to save for retirement and provide a financial legacy for their families.
  
- ❖ **Over the past several years, Hamilton County’s air quality has been improving. It is expected, however, that the air quality compliance standards will be increased.** Hamilton County is currently classified as “non-attainment” for meeting federal air quality standards for fine particulate matter (PM2.5) and in 2007 underwent an Early Action Compact for proactively addressing ozone prior to an anticipated designation. That designation will likely happen in 2016. This classification means all federally-funded transportation projects and proposed industrial developments that contribute to those pollutant emissions must be reviewed and approved to maintain compliance. Therefore, future planning and decision-making about economic development and transportation investments should consider approaches that minimize air pollution emissions.

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<sup>20</sup> County Summary Highlights, Census of Agriculture, U.S. Department of Agriculture, (2002 and 2012)

## D. INFRASTRUCTURE KEY TRENDS/FINDINGS

Businesses, developers, and the general public value well-maintained infrastructure. In a 2014 national survey of business people and government officials by the Urban Land Institute, 88% of respondents rated infrastructure quality as a top or a very important consideration when determining where to make real estate investments. Hamilton County residents responding to a “What do you want to grow?” exercise used in the development of the Comprehensive Plan Update chose the repair and maintenance of existing schools and roads as their highest priority of fourteen options (see entire plan for greater detail). As Hamilton County experiences population and job growth over the next 30 years, there will be increased demand to both extend new infrastructure and to upgrade existing facilities in order to provide adequate level of service. More importantly, how the county develops will have an impact on infrastructure costs and the quality of the infrastructure provided will have an impact on the quality of life for county residents. A 2013 report which surveyed 17 studies of compact and sprawling development scenarios across the county came to this conclusion: upfront infrastructure costs for features like roads, sewers and water lines are 38% lower on average for compact development than conventional suburban development.

Infrastructure – “the basic physical and organizational structures and facilities (e.g., buildings, roads, and power supplies) needed for the operation of a society or enterprise.”

*American English Oxford Dictionary*

The following summary focuses on sewers, schools and transportation given their strong connection to development<sup>21</sup>.

- ❖ **A well maintained infrastructure is valued by businesses, developers and the general public.** In a 2014 national survey of business people and government officials by the Urban Land Institute, 88% of respondents rated infrastructure quality as a top or a very important consideration when determining where real estate investments are made.<sup>22</sup> Residents responding to the “What do you want to grow?” exercise used by the RPA in the development of the Comprehensive Plan Update chose the repair and maintenance of existing schools and roads as their highest priority of fourteen options.

- ❖ **Transportation Infrastructure is expensive to build and to maintain. The Chattanooga-Hamilton County/North Georgia Transportation Planning Organization’s (TPO) adopted 2040 Regional Transportation Plan (RTP) notes that the total annual operations and maintenance costs for the existing transportation system is approximately \$69 million per year.** The cost to construct a new two-lane undivided road is about \$4-6 million per mile, while the cost for resurfacing can run \$105,000 per mile<sup>23</sup>. Because of these costs, responsible infrastructure management should account for not only expansion costs, but also the maintenance of the existing system.

The Chattanooga-Hamilton County/North Georgia Transportation Planning Organization (TPO) is the federally-mandated Metropolitan Planning Organization for Hamilton County, Catoosa County and the northern portions of Dade and Walker counties. The TPO develops plans and policies to prioritize transportation projects for federal funding.

<sup>21</sup> Land Use Problems and Conflicts: Causes, Consequences and Solutions, By John C. Bergstrom, Stephen J Goetz, James S. Shortle

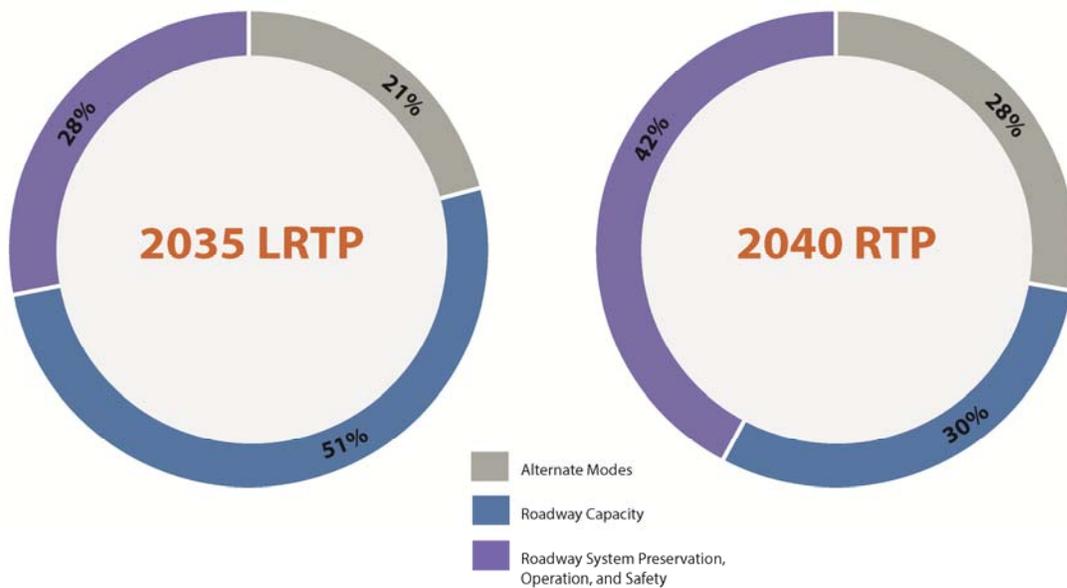
<sup>22</sup> Urban Land Institute, Infrastructure 2014, Shaping the Competitive City

<sup>23</sup> Chattanooga-Hamilton County/North Georgia 2040 Regional Transportation Plan, pp. 137-138

❖ In the face of higher transportation system maintenance costs and projected federal transportation funding shortfalls, priorities are shifting away from road capacity expansion towards maintaining the existing system along with greater emphasis on sidewalks, bike lanes, and transit to provide more transportation options. The National Highway Trust Fund provides a dedicated source of federal funding for highways. It is the primary way that federal highway and transit programs are funded for state, local, and national projects across the county. Federal funds have historically been the primary capital funding source for the TPO. In an assessment of funding sources that have been utilized by the TPO between 2007 and 2011, the 2040 RTP states that Federal funds accounted for almost 80% of both highway and transit capital funds. Furthermore, short-term legislation continues to make the financial security and implementation of proposed projects uncertain. Due to this uncertainty, transportation planning has shifted away from adding more capacity towards more cost-effective approaches that maximize the operating efficiency of the existing transportation system. The 2040 RTP, which prioritizes funding for all federally-funded transportation projects in the region, increased the system preservation funding levels from 28% to 42% of total funds. Funding for added roadway capacity was reduced from 51% to 30%, while funding for bicycle, pedestrian, and transit projects increased from 21% to 28%.

Cost Per Lane Mile	
New Road	\$11,400,000
Interstate Widening	\$7,110,000
Road Widening	\$4,860,000
Preventative Work	\$985,000
Multi-Use Paths	\$490,000
Sidewalks	\$225,000
Bike Lanes (striping)	\$65,000
Transit Route	\$1,780,000
Shuttle Route	\$1,780,000
Bus Rapid Transit	\$3,300,000
Light Rail	\$24,500,000

Figure 5. Regional Transportation Plan- Transportation Planning Funding Levels





These are just two examples of the added maintenance costs for repairing the existing infrastructure as it ages.

- ❖ **High quality schools are a major attractor for new development and positively impact property values<sup>26</sup>. Schools are also expensive to build and maintain.** Currently a new elementary school can cost up to \$20 million, a middle/high school can cost up to \$30 million<sup>27</sup>.
  
- ❖ **While growth will bring additional funding resources through property and sales tax revenues, residential development alone does not pay for itself.<sup>28</sup>** For this reason, some communities have considered impact fees as a funding tool to help pay for the added infrastructure costs to accommodate new growth. A 2004 report by the Tennessee Advisory Commission on Intergovernmental Relations (TACIR) states there were 14 counties and 84 cities which have been authorized to enact adequate facilities/development taxes and/or fees. Another strategy is to promote a variety of development types (commercial, industrial), which are taxed at higher rates, to enhance property revenues.

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<sup>26</sup> Public Schools and Economic Development; [http://www.mea.org/tef/pdf/public\\_schools\\_development.pdf](http://www.mea.org/tef/pdf/public_schools_development.pdf)

<sup>27</sup> CMD Construction Data; <http://www.cmdgroup.com/building-types/senior-high-schools/tennessee/projects/>

<sup>28</sup> The Fiscal Impacts of Land Uses on Local Government, Jeffrey H. Dorfman, Land Use Studies Initiative and Department of Agricultural & Applied Economics, The University of Georgia, April 2006

## E. CONNECTING TRANSPORTATION AND LAND DEVELOPMENT KEY TRENDS/FINDINGS

Transportation and land development are closely connected. Once transportation provides access to land, it increases the potential for land development. In turn, increased land development generates more travel which increases demand for improved transportation access. The layout and design of land uses affects travel choices. For example, the interstate highway system allows residential development far away from employment centers which requires more driving by car to reach work destinations. In recent years, planners have recognized that coordinating transportation investment decisions with land use decisions is a better way to reduce congestion, decrease vehicle emissions, and save energy use.

- ❖ **Hamilton County's current overall development pattern is not compact and separates areas where residents live from where they work.** This pattern (Employment- Workforce Population Balance Map, Page 18) places demand on the transportation system for more road widening and reduces opportunities for other transportation options. The 2010-2012 American Community Survey showed that Hamilton County is heavily dependent on driving for transportation: 84% of workers drove alone to work with an average travel time of 22 minutes, only 8.5% carpooling (24 minutes), less than 1% used transit (41 minutes), and 0.3% biked (15 minutes). The sparse transit coverage in the county discourages transit use. Just one in five homes is within walking distance of a transit stop, one in three is within a one-mile bike ride of a transit stop, and only half of jobs are transit-accessible.<sup>29</sup>
- ❖ **More compact and connected development tends to increase the feasibility of providing easy and convenient access through more transportation choices (driving, carpooling, walking, biking, and public transit) to reach housing, jobs, goods, services, and recreation.** For example, urban centers with mixed land uses in close proximity encourage walking and biking while large lots and low-density development encourage driving.<sup>30</sup> A study showed that a reduction from twenty to five dwelling units per acre increases average vehicle travel and automobile expenditures by about 40%.<sup>31</sup> Researchers found that people in a compact and connected community walk and use transit more, drive less, spend less on the combined cost of housing and transportation, are less likely to be involved in fatal car crashes, have better access to healthy food, are likely to weigh less, have lower blood pressure and less chance of being diabetics, live longer, and have more job opportunities.<sup>32</sup>
- ❖ **Nationally, however, a significant part of the population does desire to live in less compact suburban subdivisions with limited street connectivity as a means of maintaining privacy and limiting through traffic.** This preference was noted in the executive summary of a 2013 homebuyer survey conducted by the National Association of Realtors:

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<sup>29</sup> Chattanooga-Hamilton County/North Georgia Transportation Planning Organization, 2014 Regional Transportation Plan

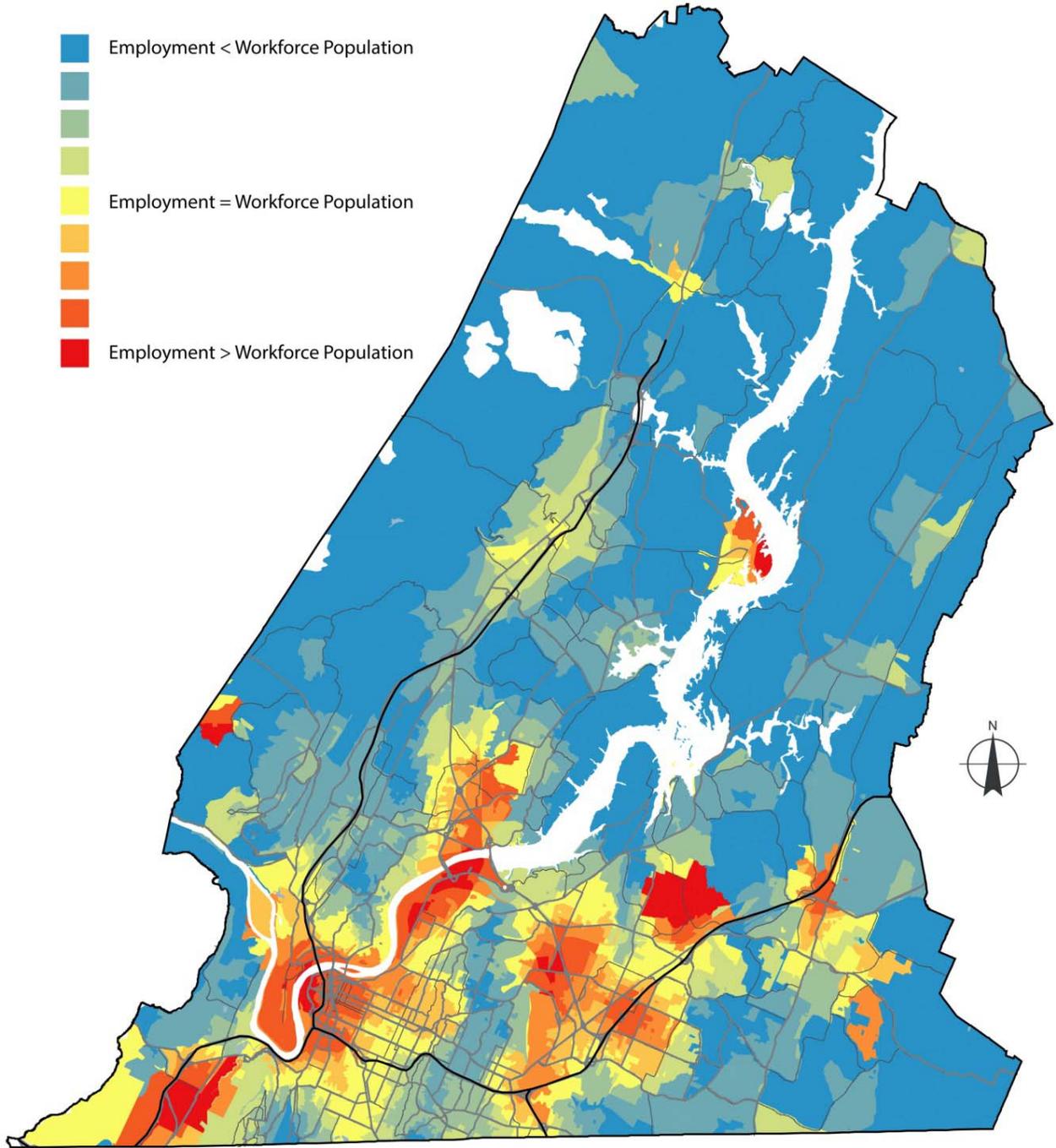
<sup>30</sup> School of Urban Studies and Planning, College of Urban and Public Affairs, Portland State University, (2003). *The Transportation-Land Use Connection*. <http://web.pdx.edu/~jdill/Connection.pdf>

<sup>31</sup> Neighborhood Explorations. This View of Density. <http://www.sflcv.org/density/about.html>

John Holtzclaw, (1994) Using Residential Patterns and Transit to Decrease Auto Dependence and Costs [http://docs.nrdc.org/smartGrowth/files/sma\\_09121401a.pdf](http://docs.nrdc.org/smartGrowth/files/sma_09121401a.pdf)

<sup>32</sup> Smart Growth America, April 2014, *Measuring Sprawl 2014*, <http://www.smartgrowthamerica.org/documents/measuring-sprawl-2014.pdf>

# EMPLOYMENT-WORKFORCE POPULATION BALANCE



## F. DEVELOPMENT PATTERNS KEY TRENDS/FINDINGS

What one sees when driving to work or walking along a street is largely the built environment. The built environment is defined by the buildings, how those buildings are located on their lots, the uses in those buildings (retail, office, residential, industrial, or public services), the roads, sidewalks, paths, and parking areas that access the buildings, and the green spaces in between (street trees, landscape buffers, and natural areas). How these elements are arranged can make a big difference in the type of built environment and how we live within it. For example, an urban built environment typically has multi-story buildings that are close together, contain a variety of uses, front directly on the street, and are immediately accessible by sidewalks and on-street parking with parking lots to the rear. Whereas a suburban built environment has mostly single-story buildings that generally contain one use, are set back far from the street, and are immediately accessible by cars using drive lanes and surface parking lots in front. These different types of development are known as development patterns.

Each type of development pattern supports a different lifestyle and set of transportation options.

- ❖ **Urban development patterns** are more walkable, can be more easily serviced by transit, offer proximity to a variety of uses and activities such as shopping, dining, and recreation, and provide a greater variety of buildings and housing choices within an immediate neighborhood.
- ❖ **Suburban development patterns** focus on driving convenience and residential privacy and seclusion with limited road connectivity, thus requiring more driving to meet daily needs.

Zoning and subdivision regulations play a significant role in shaping development patterns. Subdivision regulations govern how lots are subdivided, while the zoning ordinance impacts how buildings are placed on the lot, building height, location and amount of parking, the allowed land uses, and required landscaping and green spaces. Given the significant impact development patterns can have on lifestyles and transportation options, it is important to consider how policies and codes influence these patterns to ensure Hamilton County continues to meet the lifestyle needs of current and future residents.

- ❖ **Over 70% of Hamilton County's land area is zoned for low intensity development patterns (agricultural and low-density residential) that promote suburban single-family subdivision development.** Looking to the future, without any changes this will continue to be the predominant development pattern.

**Urban development form**



**Suburban development form**



- ❖ **Only 6.8% of the total land area is zoned (Zoning Map, Page 21) for manufacturing and many of the existing zoned manufacturing sites have reached capacity.**<sup>33</sup> While there may be opportunities to redevelop existing urban industrial sites, there will continue to be demand for industrial sites in the county which may require additional industrial zoning.
- ❖ **Only 1.2% of the total land area is zoned (Zoning Map, Page 21) for mixed-use, urban development.**<sup>34</sup>
- ❖ **A majority of homebuyers favor a mix of houses, stores, and businesses that are easy to walk to rather than a neighborhood with only houses that require driving to stores and businesses (60 percent to 35 percent).**<sup>35</sup> Those preferences were confirmed by a 2012 local realtor/builder survey that noted increased market demand for smaller homes and lots located in communities with sidewalk amenities and convenient access to shopping, schools, and work.<sup>36</sup> **Currently, the zoning pattern for Hamilton County promotes mostly one form of development pattern and lifestyle: suburban. There are very few mixed use, urban options.**

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<sup>33</sup> RPA Interview with Charles Wood, Chattanooga Area Chamber of Commerce, November 2014.

<sup>34</sup> RPA

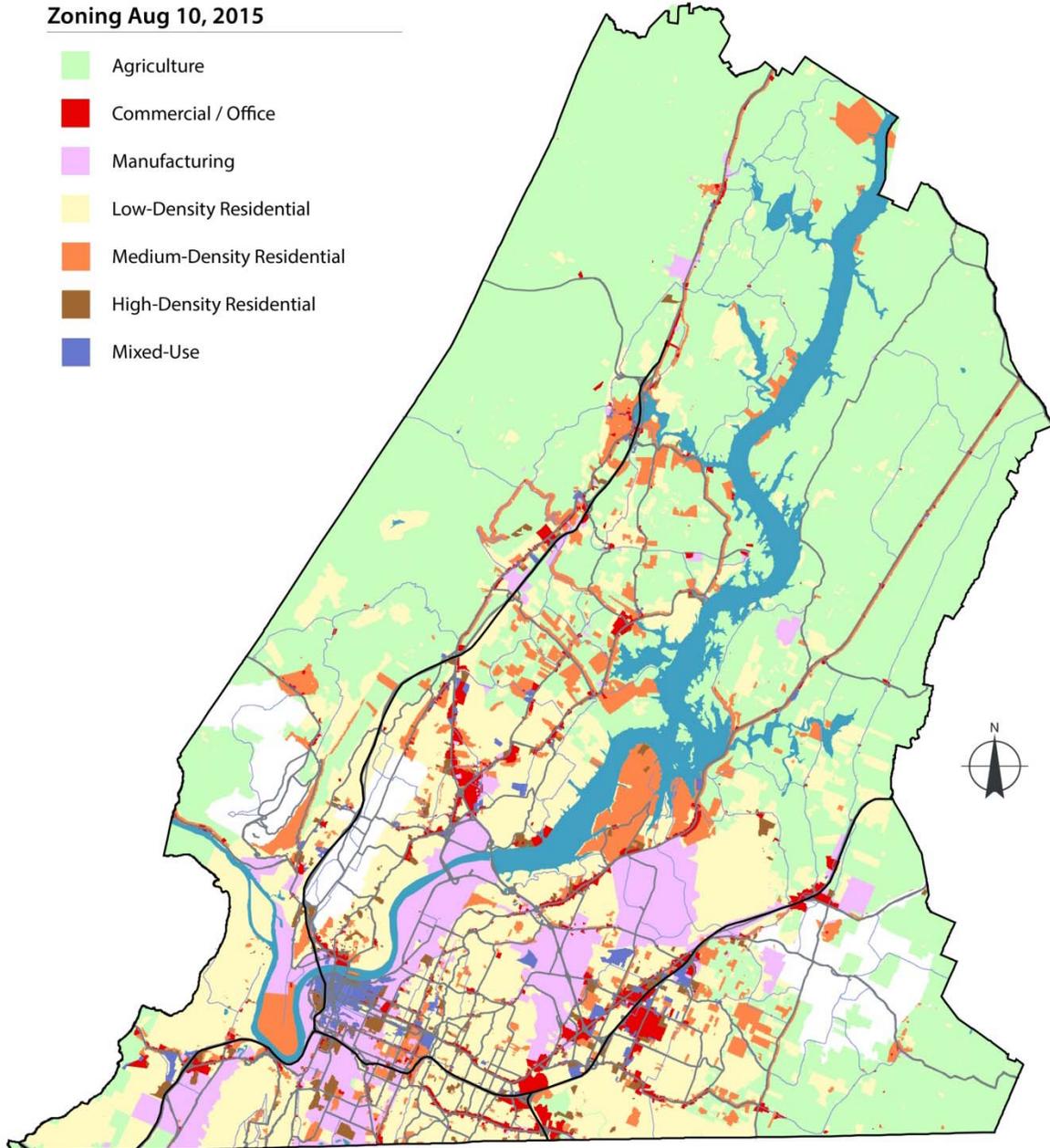
<sup>35</sup> 2013 National Community Consumer Preference Survey conducted by the National Association of Realtors

<sup>36</sup> RPA

# ZONING

## Zoning Aug 10, 2015

-  Agriculture
-  Commercial / Office
-  Manufacturing
-  Low-Density Residential
-  Medium-Density Residential
-  High-Density Residential
-  Mixed-Use



# LAND USE

## Land Use 2015

-  Agricultural
-  Residential
-  Institutional
-  Commercial
-  Industrial
-  Transportation
-  Utilities
-  Recreation
-  Mixed-Use
-  Vacant

