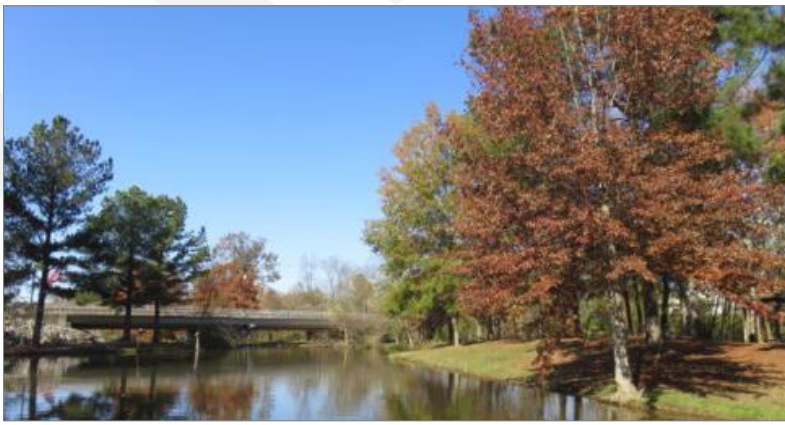
PLAN HAMILTON

OUR COMMUNITIES. OUR GROWTH.



Planning Commission
1/13/2025

12 WHITE OAK MOUNTAIN AREA PLAN

Apison
Collegedale
East Brainerd
Ooltewah
Summit

Plan draft version: 12/16/24

RPA
Chattanooga-Hamilton County
Regional Planning Agency

HAMILTON COUNTY OFFICIAL SEAL TENNESSEE

THIS PAGE IS INTENTIONALLY LEFT BLANK

Table of Contents

CHAPTER 1
AREA SUMMARY

PLAN HAMILTON

RPA
Chattanooga-Hamilton County
Regional Planning Agency

1.1 AREA PLANNING SUMMARY

The Hamilton County Area Plans represent a comprehensive approach to managing growth and change in our diverse communities, recognizing both the distinct identities of each Area and the interconnectedness of our County. With a focus on the specific challenges and opportunities within Hamilton County's unincorporated Areas, each plan addresses critical factors that shape community life—land use, infrastructure, environmental preservation, housing, and economic resilience. Throughout the planning process, we engaged with community members to create a vision that reflects local priorities and builds on the character and strengths of each Area.

From the rural expanse and scenic beauty of Sale Creek and Birchwood, to the residential communities of Georgetown and Apison, to the vibrant mountain villages and outdoor offerings of the Walden Plateau, or the waterfront community of Lakesite, all places where many families have multi-generation histories attached to the landscape, the plans recognize the local topographic, geologic, and infrastructure constraints found in these unique areas. This approach allows for tailored strategies that honor local heritage, rural qualities, and natural landscapes while accommodating sustainable growth.

The planning process began with in-depth research and analysis to understand the existing conditions, demographic trends, and economic drivers across Hamilton County. By examining land use, transportation networks, environmental features, and community facilities, we identified both opportunities and constraints in each area. This research also shed light on trends such as housing demands, population shifts, and economic patterns, allowing us to anticipate future needs and create a foundation for adaptable, forward-looking plans.

The visions articulated in these Plans emerged from collaborative dialogue with residents, local stakeholders, and County officials. Community workshops, surveys, and public meetings provided residents the opportunity to voice their aspirations, concerns, and ideas for the future of their neighborhoods. The resulting visions emphasize maintaining rural character, supporting local businesses, enhancing outdoor recreation, and fostering a sense of place in each community. Across the County, residents expressed a desire to balance growth with preservation—ensuring that new developments are thoughtfully integrated and contribute positively to the character of their communities.

To bring these visions to life, the Area Plans detail policies and actions centered on Community Character and Land Use, Natural Resources, Economic Health and Community, and Funding Mechanisms. These categories, rooted in the community themes established in Chapter 2, have been refined to address the County's evolving needs and offer the most impactful steps forward.

The implementation strategies focus on practical, collaborative actions that turn these plans into reality. Partnerships with local and regional organizations, support for small businesses, and investments in community facilities are vital to advancing these initiatives. Monitoring and evaluation will be critical to ensure the plans stay flexible, allowing policies to adapt as new challenges and opportunities emerge. Each Area Plan is intended as a living document, responsive to ongoing community input and changing needs over time.

As we move from planning to action, the success of this Plan relies on commitment, collaboration, and community engagement. Hamilton County is dedicated to working closely with residents, businesses, and local leaders to implement these policies in a way that fosters a resilient and inclusive future. By advancing these Plans with a shared sense of purpose, we can create communities that are not only livable and economically vibrant but also reflective of the unique character and heritage that residents value. Through strategic growth, environmental stewardship, and respect for community identity, the Comprehensive Plan will encourage each Area to thrive for generations to come.

1.2 INTRODUCTION

As Hamilton County's population grows, thoughtful planning is crucial to managing the upcoming changes while efficiently using limited resources. The goal is to create resilient communities where neighborhoods, commercial centers, parks, and natural spaces flourish, striking a balance between development and conservation.

To guide this growth, we develop specific Plans that are later presented to local legislative bodies for adoption. These Plans become essential in shaping zoning, guiding private development, and influencing public infrastructure investments. They serve as a blueprint for determining where growth, redevelopment, and conservation should occur.

The Plans will equip Hamilton County leadership with the tools necessary to make strategic community investments in infrastructure, staff, and services, ensuring a livable community with sustained economic opportunities.

The Introduction Chapter serves as the background for the planning process and sets the tone for:

- Planning Framework
- Existing Planning Goals
- What is An Area Plan?
- Hamilton County Planning Areas
- Policy Focus
- Area Plan Process
- Outline of the Area Plans

Community input is essential to shaping Hamilton County's long-term planning efforts, ensuring that residents and business owners help define the County's future. The 2016 Comprehensive Plan established a responsible land-use framework that prioritizes environmental preservation and community character. Complementing this, the Regional Transportation Plan (RTP) forecasts transportation needs and guides infrastructure investment.

Area Plans provide localized guidance on development, zoning, infrastructure, and conservation. These plans use tools like a Conceptual Land Use map that is illustrative and Place Types maps that define development patterns and set policies for future growth. They are shaped by prior planning, community feedback, and professional analysis. Key goals include creating vibrant, well-defined spaces and balancing growth while preserving each area's character and meeting future demands.

Although Area Plans do not regulate development or change zoning directly, they guide policy and decisions related to infrastructure, housing diversity, and commercial centers. They emphasize efficient investment in public services, transportation, and natural resource preservation, especially in rural areas. Constraints like limited sewer capacity, emergency services, and infrastructure demands shape policies to ensure sustainable growth while maintaining residents' quality of life.

The White Oak Mtn. / Area 12 Plan is organized in five chapters as follows:

1.3 WHITE OAK MOUNTAIN: AREA 12

White Oak Mountain, located near the communities of Collegedale, Apison, Summit, and Ooltewah, is a region known for its distinct natural features and rich history. Stretching across the eastern landscape of Hamilton County, White Oak Mountain Area is marked by its rolling hills, Area 12 consists of approximately 47 square miles. The mountain itself is a prominent feature in the region, with its elevation changes creating a striking backdrop that can be seen from various points throughout Hamilton County.

Several communities have developed in the vicinity of White Oak Mountain, each benefiting from the area's natural beauty and resources. Collegedale, known for its educational institutions, and Apison, with its rural charm, are among the key communities that have grown in harmony with the mountain's landscape. Summit and Ooltewah, with their blend of residential and commercial areas, also contribute to the region's character, providing essential services and infrastructure while maintaining close ties to the natural environment.

The White Oak Mountain area is characterized by its rural and natural qualities. The mountain's steep slopes and limited points of access pose challenges for development, but they also help to protect the area's scenic beauty and rural character. The emphasis in this region is on maintaining low-density residential patterns, with large-lot single-family homes with generous setbacks. The area's green spaces, parks, and trails are treasured by residents and play a crucial role in the community's identity.

This Area Plan is designed to guide the sustainable growth of the White Oak Mountain Area and inform decisions on future development and supporting infrastructure. Development that is sensitive to the environment and community vision will help preserve the area's unique sense of place. The community values the preservation of its rural character, the enhancement of its trail systems, and the maintenance of its natural features, ensuring that the area's distinctive identity is upheld for future generations.

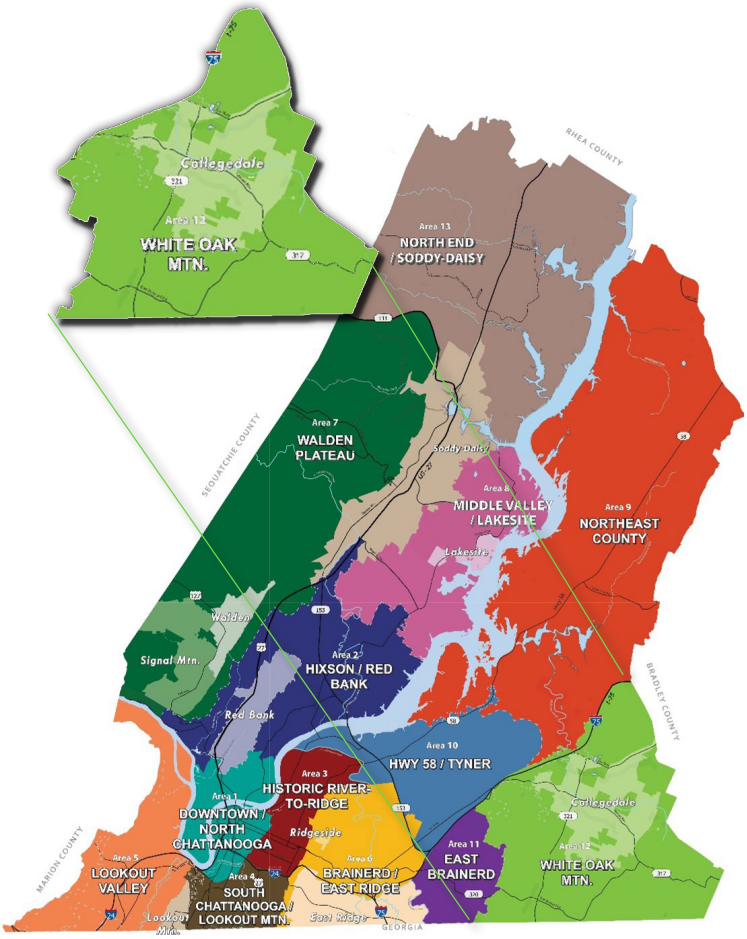


Figure 1.1: White Oak Mountain Area 12 as a part of Hamilton County Study Area

White Oak Mountain Map

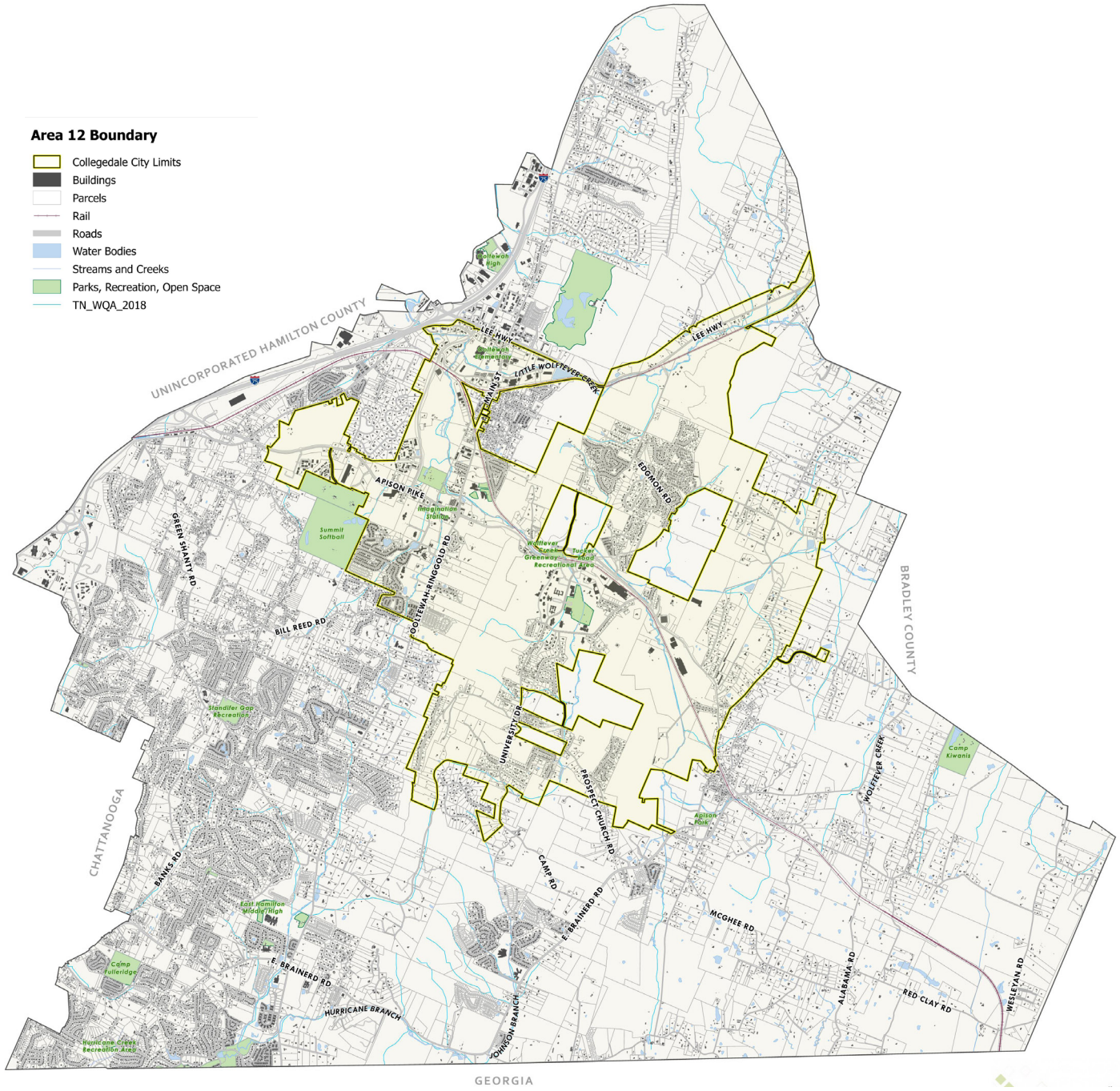


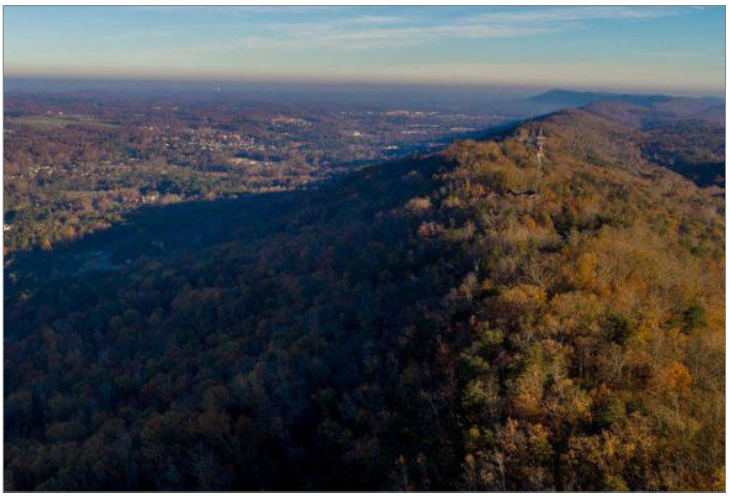
Figure 1.2: White Oak Mountain Area 12 Map

1.4 HISTORY OF WHITE OAK MOUNTAIN

The White Oak Mountain Area boasts a rich history intertwined with the cultural and natural heritage of the region. This area was part of James County (generally lands east of the Tennessee River) with Apison and Ooltewah serving as the primary towns. Established in 1871, James County was centered with Ooltewah serving as the County seat and existed until 1919 when reabsorbed into Hamilton County. A train depot was located in downtown Ooltewah near Main Street along with the James County Courthouse. Well served by rail, the area took part in the growing mining industry found throughout the region. This area featured bauxite mines, produced ore and limestone, and included farming, saw mills and small businesses. The brief history discussed in this plan is focused on how the unique topography, early beginnings, City of Collegedale and surrounding industry shaped the development pattern we see today.

WHITE OAK MOUNTAIN

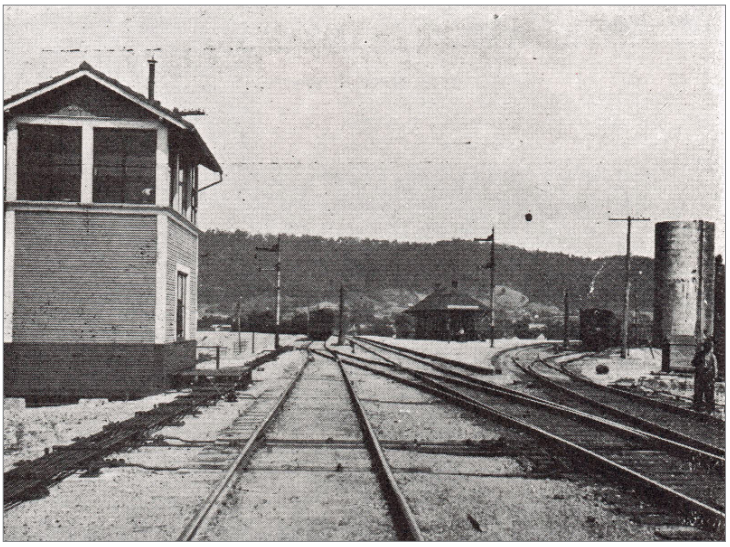
White Oak Mountain runs in a north/south direction through the middle of Area 12 through the unincorporated areas as well as the City of Collegedale. Collegedale itself has developed an extensive network of trails on White Oak Mountain and Bauxite Ridge, encouraging both residents and visitors to explore its beauty. The area is also home to a variety of wildlife, from deer and foxes to an array of bird species, making it a popular spot for wildlife observation. The elevation is similar to Missionary Ridge averaging approximately 1,368 feet above sea level.



White Oak Mountain
Source: Land Watch

RURAL & AGRICULTURAL BEGINNINGS

In the early twentieth century, the town of Apison worked to recruit people to this area known for its rich farm lands where forage crops, sweet potatoes and dairies thrived along with businesses and residences. As a connector to Bradley County, Lee Highway and Apison Pike served as thoroughfares to Cleveland, McDonald and the Red Clay area. White Oak Valley exists today as a reminder of the rural landscape once predominant during the twentieth century. With the advent of the Volunteer Army Ammunition Plant (VAAP) during World War II, the area experienced growth resulting in more housing for workers and many local churches being added to the Summit area. Once a place of farming and share cropping, Summit was established as an African-American community named for the high ridge tops.



The Ooltewah Cutoff
Source: Chattanoogan.com

The Commons - Collegedale
Source: Collegedale Parks and Recreation

Trail of Tears in Area 12
Source: National Park Service (NPS)

Little Debbie Park
Source: Visit Chattanooga

THE CITY OF COLLEGEDALE

The City of Collegedale was established as a municipality in 1968, its roots are deeply intertwined with the establishment of Southern Adventist University, a cornerstone that not only lent the town its name but also its purpose. What began as a modest settlement around a religious educational institution has grown into a city, where the values of its founders continue to resonate in its development. From its early days as a rural outpost to its evolution as part of James County, Colledgedale is now a vibrant suburban community.

TRAIL OF TEARS

The Indian Removal Act passed by U.S. Congress in 1830 forced the relocation of Native American tribes. Thousands of Cherokee people passed through this region on their westward journey to the designated Indian Territory. This event significantly influenced the area's demographics and social fabric, with remnants of the historic route still evident in the region's trails and markers. According to the National Park Service, the Trail of Tears passes through Ooltewah, crossing Little Debbie Parkway and Apison Pike.

INDUSTRY & GROWTH

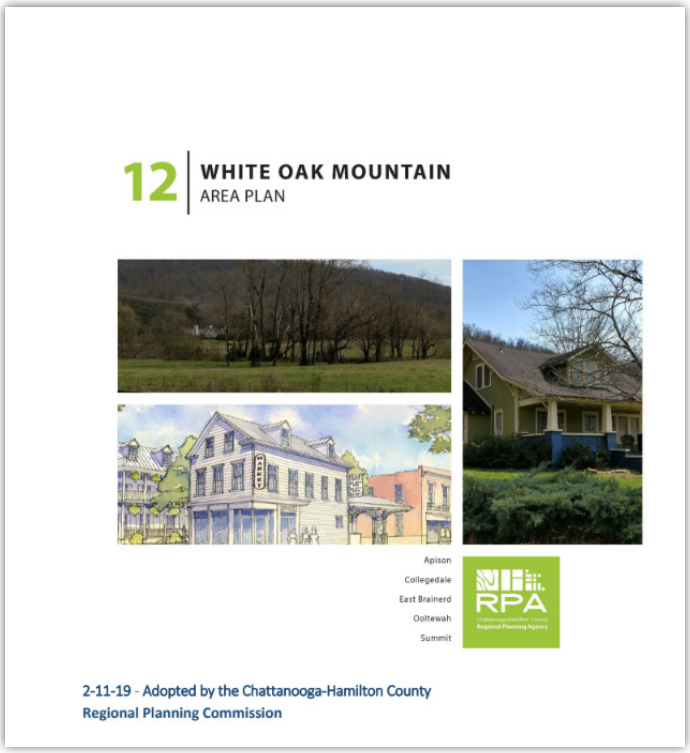
During the 1980's and 1990's, the area saw growth along the I-75 interstate with new development clustering along the exits and Lee Highway area. The Summit landfill was added to the Apison Pike area and was in operation for nearly twenty years. Now closed, the landfill site exists as a private softball complex and recreation area managed by the City of Chattanooga. Additionally, the East Brainerd area expanded towards Ooltewah-Ringgold Road with multiple subdivisions and the Westview Elementary school was added, changing the makeup of this once rural part of Hamilton County. The proximity to major employers such as Southern Adventist University, McKee Foods (Little Debbie), and Enterprise South continues to increase the residential growth of the White Oak Mountain area.

1.5 PAST PLAN

WHITE OAK MOUNTAIN AREA PLAN (2019)

Led by the RPA, the White Oak Mountain Area Plan was approved in February 2019 by the Chattanooga-Hamilton County Regional Planning Commission. This plan represented a collaborative effort among local elected officials of Hamilton County, Chattanooga City Council, the City of Collegedale, business owners, and residents. The plan was created to guide growth by providing predictability, promoting coordination between new development and public services, and provides decision makers with the policy tools to promote development that enhances the area's unique features. The plan provides guidance by offering policy options for the built environment, transportation and natural resource systems. The plan is separated into four (4) chapter to guide the planning effort and has informed the outline of the new unincorporated Area Plans:

1. **Introduction/Background:**
   Overview of the planning framework, Area Plans in general, the White Oak Mountain study area, and the overall public process.
2. **Research & Analysis:**
   Background on the study area, study area profile, community priorities, overall plan analysis including the built environment, transportation, and natural resources.
3. **Community Principles & Vision:**
   Identification of the area's specific principles and Vision Statement.
4. **Goals & Policy Recommendations:**
   Overview of the goals and policy recommendations for the built environment, transportation, natural resources, Place Types, and centers.



Previous 2019 Area 12 Plan
Source: RPA

The plan also identified 3 main community issues and aspirations that framed the analysis and recommendations of the plan document:

» Balance growth with adequate infrastructure. Traffic congestion is a growing concern among residents. As new schools are built, more people are moving to this area. Participants were concerned about how to direct housing growth to areas that have adequate services.

» Retain the "Rural Character" of the White Oak Mountain area. This was one of the top comments voiced during the public meetings and survey results. Maintaining existing character in areas where growth or change is occurring is a concern.

» Improve the quality of commercial development. There is a desire for additional retail, restaurants, medical and other commercial uses as part of the community's growth, but with better quality and design that reflects the area's scenic character.

CHAPTER 2
RESEARCH & ANALYSIS

PLAN HAMILTON

RPA
Chattanooga-Hamilton County
Regional Planning Agency

2.1 COMMUNITY SUMMARY

White Oak Mountain is linked to East Brainerd / Chattanooga via East Brainerd Road, Standifer Gap Road, and Apison Pike. These connections influence transportation, economic drivers, and development patterns. The western half of Area 12 has experienced explosive residential and commercial growth based on several inputs. Primary drivers include proximity to Interstate 75 employment anchors in Chattanooga, at Enterprise South, and in the City of Collegedale. Relatively newer schools and district facilities, such as the Wolftever Greenway have also spurred growth in this portion of the district. A primary objective is to focus new growth and add predictability to commercial and higher density residential growth along the I-75/Lee Highway/Apison Pike corridors. White Oak Mountain, Bauxite Ridge, and the Wolftever Creek drainage areas are natural features that influence development patterns.

COMMUNITY CHARACTER

- The growing communities of Collegedale and Cleveland play a vital role in supporting the Area.
- The community has expressed a desire to maintain a more rural development pattern.
- Portions of this historically rural area transitioning to a moderate density suburban area.
- Opportunities for recreation and trail/greenway connectivity between several community centers and assets.
- Existing robust recreational trail network along the ridgeline.
- The Area has close proximity to job centers, I-75, and the continued expansion at VW.

REGIONAL FACILITIES AND ASSETS

- The Summit softball complex
- White Oak Mountain
- Bauxite Ridge Mountain Bike Trail
- Cambridge Square
- Hamilton Place Shopping Area
- McKee Foods
- Little Debbie Park
- Southern Adventist University, and
- Collegedale Airport*

Wolftever Creek Greenway
Source: Chattanoogan.com

McKee Foods Headquarters, Collegedale
Source: TN Department of Economic Development

PRIMARY CONSTRAINTS

Settlement Patterns:

» There is a long history of settlement in this area that allows for interpretation and story telling such as the James County Courthouse in Old Ooltewah, in Summit or for the Apison community that was once a thriving village centered around farming.

» For areas east of White Oak Mountain / Bauxite Ridge/ Collegedale, the community has expressed an interest in a more rural development pattern.

Aerial of Area 12
Source: Google Earth

Topography:

» Natural features like the Wolftever Creek, Hurricane Creek, and White Oak Mountain / Bauxite Ridge dictate development patterns and where additional growth should occur.

Roadways & Railways:

The pace of growth in Area 12 has created significant congestion on highly utilized segments of the road network and driven significant investment in sewer expansion. More investments in critical infrastructure will be required to mitigate existing growth before additional growth can be accommodated.

» I-75 and rail corridors form additional physical constraints to road network connectivity and resulting development pattern.

» Peak period congestion is an issue at several intersections in the Area 12 system. Access management strategies, intersections improvements, signal timing, and bike-pedestrian infrastructure improvements should be investigated at Ooltewah-Ringgold (SR 321)/ Apison Pike (SR 317), at the railroad crossings/ tunnels near historic Ooltewah, and at Lee Highway and Apison Pike.

Figure 2.1: White Oak Mountain Area Context

2.2 COMMUNITY PROFILE

64%

of residents are influenced by personal safety and security when choosing the White Oak Mountain Area to live.

42%
Bachelor's Degree

32%
Master's Degree +

19%
Some College

Source: ACS

58%

Believe that large-lot single family homes should be encouraged in Area 12.

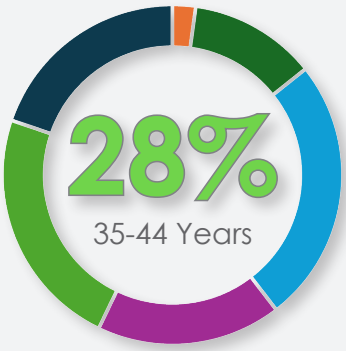
79%

Believe that preservation of farmland, rural character, wooded & riparian areas should be priorities

57%
Lived in Hamilton County for 20+ Years

30%
Lived in Hamilton County for 5-19 Years

13%
Lived in Hamilton County for 0-4 Years



23%
45-54 Years

21%
65 or Over

Source: ACS

2.3 DEMOGRAPHICS & ECONOMIC TRENDS

DEMOGRAPHICS OVERVIEW

Recent census data reveals a balanced distribution across age groups, with a mix of young families (30-34 Years), working professionals (25-29 Years), and retirees (60-69 Years) . Emphasizing the preservation of its close-knit community, the region upholds a high level of educational attainment and a skilled workforce, reflecting the area's commitment to quality education and lifelong learning. In comparison to the state as a whole, Hamilton County has a higher median income, advanced education background, higher employment rate, lower poverty rates, and lower commute times. These factors continue to contribute to growth in Hamilton County in both the incorporated and unincorporated areas.

GROWTH TRENDS AND FUTURE PROSPECTS

White Oak Mountain has experienced steady population growth and economic development over the past decade, driven by strategic investments in commercial and industrial facilities, education, and residential development. Future prospects remain positive, with planned developments that enhance connectivity, sustainability, and making quality of life for residents a priority moving forward. By prioritizing the preservation of the region's distinctive character and promoting responsible development, ongoing efforts aim to attract new businesses and support entrepreneurial ventures that align with the community's vision, further diversifying the economic base and creating new growth opportunities. To anticipate these needs, the CHCRPA engaged RCLCO to complete a detailed market analysis to asses market opportunities for housing needs over the next 20 years.

HAMILTON COUNTY CENSUS DATA

39
Median Age

63%
Employment Rate

$76,219
Median Household Income

38.4%
Bachelor's Degree +

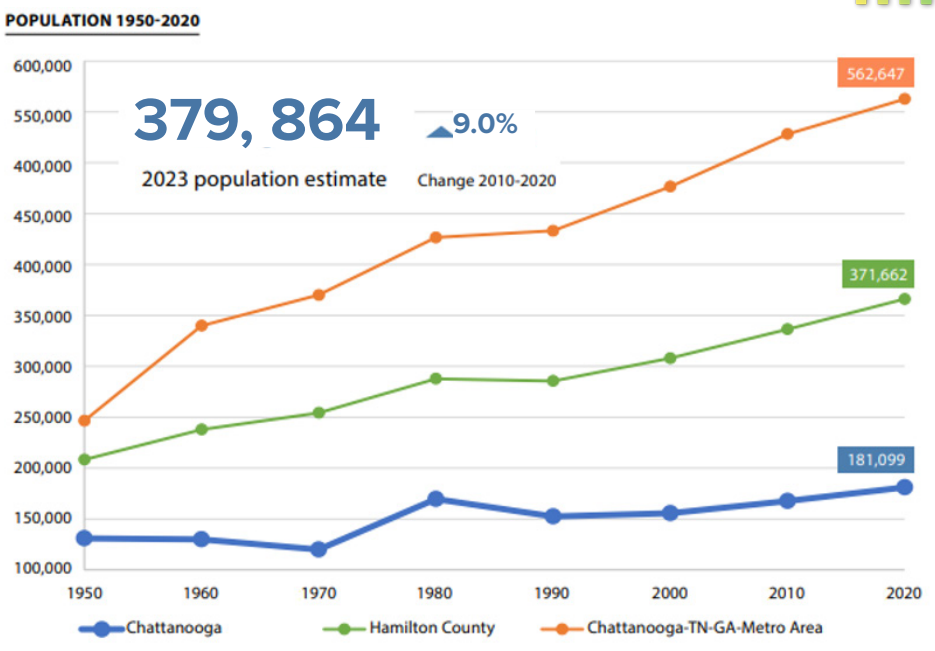


Figure 2.2: Hamilton County Census Data

ECONOMIC LANDSCAPE

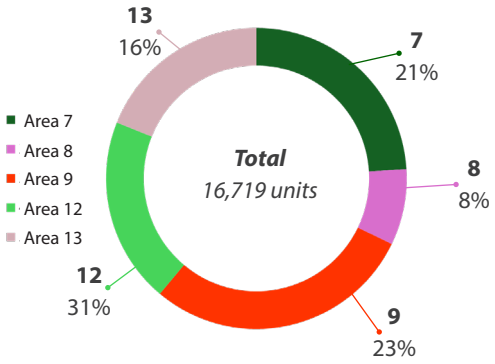
Area 12 is one of the more developed regions in Hamilton County outside Chattanooga. This development is concentrated largely in the western half, with the eastern side remaining relatively untouched due to the natural barrier of White Oak Mountain. The topography influences the distribution of infrastructure, which is predominantly found on the west side. The thriving suburban nodes of East Brainerd, Collegedale, and Ooltewah owe much of their success to their strategic proximity to downtown Chattanooga via I-75, Brainerd Road, and other key commuter routes. This area is further distinguished by notable institutions like Southern Adventist University and prominent businesses such as the McKee Foods plant. With access to I-75 and major commuter routes, downtown and industrial jobs, good schools, and amenities. Utilizing the findings in the RCLCO market analysis, a forward-looking demand was project across residential and non-residential product types to understand how these patterns will impact growth in unincorporated Hamilton County.

The following growth is anticipated in White Oak Mountain over the next 20 years which is projected to have the largest amount of residential growth (31%) than any other unincorporated planning area.

Additional market findings include:

- Proximity to the I-75 corridor, high quality schools with additional capacity, and existing infrastructure dictate Area 12 will remain an attractive location for future real estate development.
- At an average of 5 units per acre an additional 2000 units could be accommodated on 400 acres of available land. The extension of a sewer trunk line out London Lane towards Bill Jones Road adds to the potential for single family residential growth.
- Industrial growth areas have not been mapped and are potentially warranted on flat developable land near the highway.

Chart 1: Total Residential Projections



2.4 COMMUNITY THEMES

The Plan Analysis section provides a detailed examination of the current conditions, opportunities, and challenges within each Area, offering insights that will guide strategic decision-making and inform the implementation of targeted initiatives. Grounded in the four Community Themes - Land Use and Development Character, Resiliency, Transportation and Mobility, and Community Facilities, this analysis establishes a comprehensive framework that evaluates each Area's unique characteristics. This section includes the following categories:

2.4.1 Land Use and Development Character

Zoning:
Examination of land use patterns, existing zoning district designations to ensure that development harmonizes with the area's unique geological features.

Land Use:
Examination of existing land use patterns and street patterns in combination with existing zoning.

Building Permits:
Evaluates the current state and number of permits being issued within the Area and its impact on the surrounding community.

Development in White Oak Mountain:
Overall analysis of how development in general is impacting or influencing the community and how it has changed its character.

2.4.2 Resiliency

Natural Resources:
Evaluation of natural assets including parks, recreation, open spaces, slopes, waterways, aiming to balance preservation with development.

Infrastructure:
Evaluation of the existing adequacy of public utilities, including sanitary sewer, and water.

2.4.3 Transportation & Mobility

Transportation:
This section evaluates the existing transportation infrastructure, including roadways, pedestrian and cycling paths. It also considers future development needs and the potential impacts of anticipated growth.

2.4.4 Community Facilities

Schools and Major Institutions:
Examination of the role of these institutions in fostering learning and innovation while assessing their current state and future needs in the context of regional growth and development.

City, County, State/Land or Property:
Examination of ownership patterns and its impact on land management and development potential.

Emergency Services:
Examination of emergency response capabilities, encompassing fire, police, medical, and disaster response services.

2.5 PLAN ANALYSIS

In general, the community feedback phase was focused on identifying metrics for success based on critical outcomes. The desired outcomes have been organized into a framework of Community Themes or Drivers to provide structure to the plan analysis, recommendations, and implementation solutions. Identifying these themes and utilizing them as a framework for organizing the plan will provide community leaders with a set of filters for future strategic, policy, and project based decisions. The following graphic identifies the four Community Themes and the public consensus that framed the analysis, goals, and policies.

1 LAND USE & DEVELOPMENT CHARACTER

- Focus higher density housing only in centers.
- In A1 and R1 Districts hold new development to base density on larger lots with large buffers from primary roads.
- If developments are requesting rezoning for additional density and decentralize sewer; require protected public open space.

2 RESILIENCY

- Study Geo-technical, Environmental, Traffic, and Stormwater reports for new development.
- Create a mechanism to acquire prime agricultural, natural resource, and recreation lands or otherwise protect them.

4 COMMUNITY FACILITIES

- Preserve school capacity and factor this into assessment of growth potential.
- Anticipate growth along London Lane/Bill Jones Road and invest in infrastructure.
- Evaluate ways to provide better connectivity than previous growth areas in East Brainerd and along Standifer Gap.

3 TRANSPORTATION & MOBILITY

- Make transportation infrastructure investments as growth occurs.
- Continue to improve and expand the Wolftever Creek Greenway system.
- Address congestion and safety issues on Ooltewah Georgetown/ Ooltewah Ringgold Road corridor and Lee Highway/Apison Pike.

2.5.1 CURRENT LAND USE AND DEVELOPMENT CHARACTER

The Land Use and Development Character analysis examines zoning regulations, land use, permitting history, and development patterns and how these factors influence both conservation efforts and the scope for future growth. The plateau's steep terrain, forested Areas, and ecological sensitivity create distinct land management challenges that shape land use decisions. The analysis provides a detailed assessment of how the plateau's physical characteristics impact development, offering insights into the strategies needed to balance environmental preservation with strategic growth.

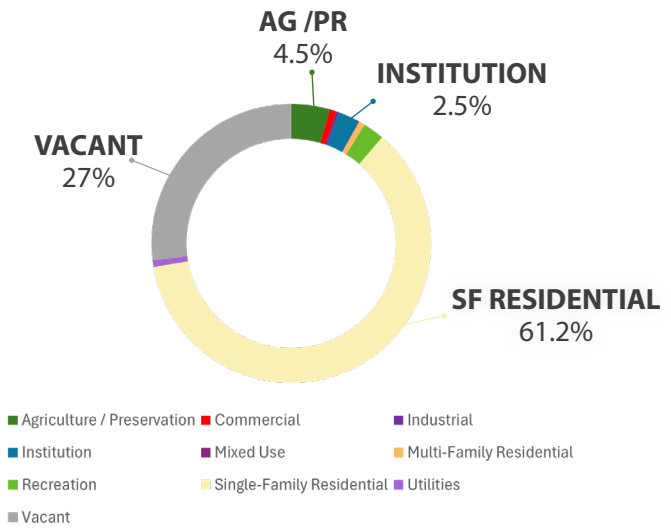
LAND USE

Area 12 is primarily categorized as residential with 61.2% of the land being used for single-family residential. Vacant land makes up approximately 27%. Agricultural Land is approximately 4.5% of the land area and institutional uses (such as schools or religious facilities) are 2.5%. The commercial and industrial land uses combined make up less than 3% of the land area with industrial at 1.8% and commercial at 1.1%, indicating very little non-residential activity in comparison. Although more commercial activity exists within the Collegedale city limits.

The primary land use in the unincorporated areas of White Oak Mountain is single-family residential, like much of the unincorporated areas of Hamilton County. This specific land use exists in a variety of contexts, from large farms to conventional subdivisions, the latter of which has become the predominant pattern of development in recent years. Commercial uses are primarily concentrated along Lee Highway and I-75. These commercial nodes provide essential services and amenities to the residents while maintaining the overall rural and residential character of the region. There are also some sporadic non-residential uses interspersed between these clusters, ensuring that commercial activity supports rather than dominates the landscape.

This land use pattern highlights the region's commitment to preserving its rural pattern while accommodating gradual growth and development. By maintaining a clear distinction between residential, commercial, and agricultural areas, White Oak Mountain seeks to balance the needs of its residents with the desire to protect its unique environmental and cultural assets.

Chart 3: Percentages of Existing Land Use



Typical businesses found in old Ooltewah along Main Street
Source: RPA

Existing Land Use Map

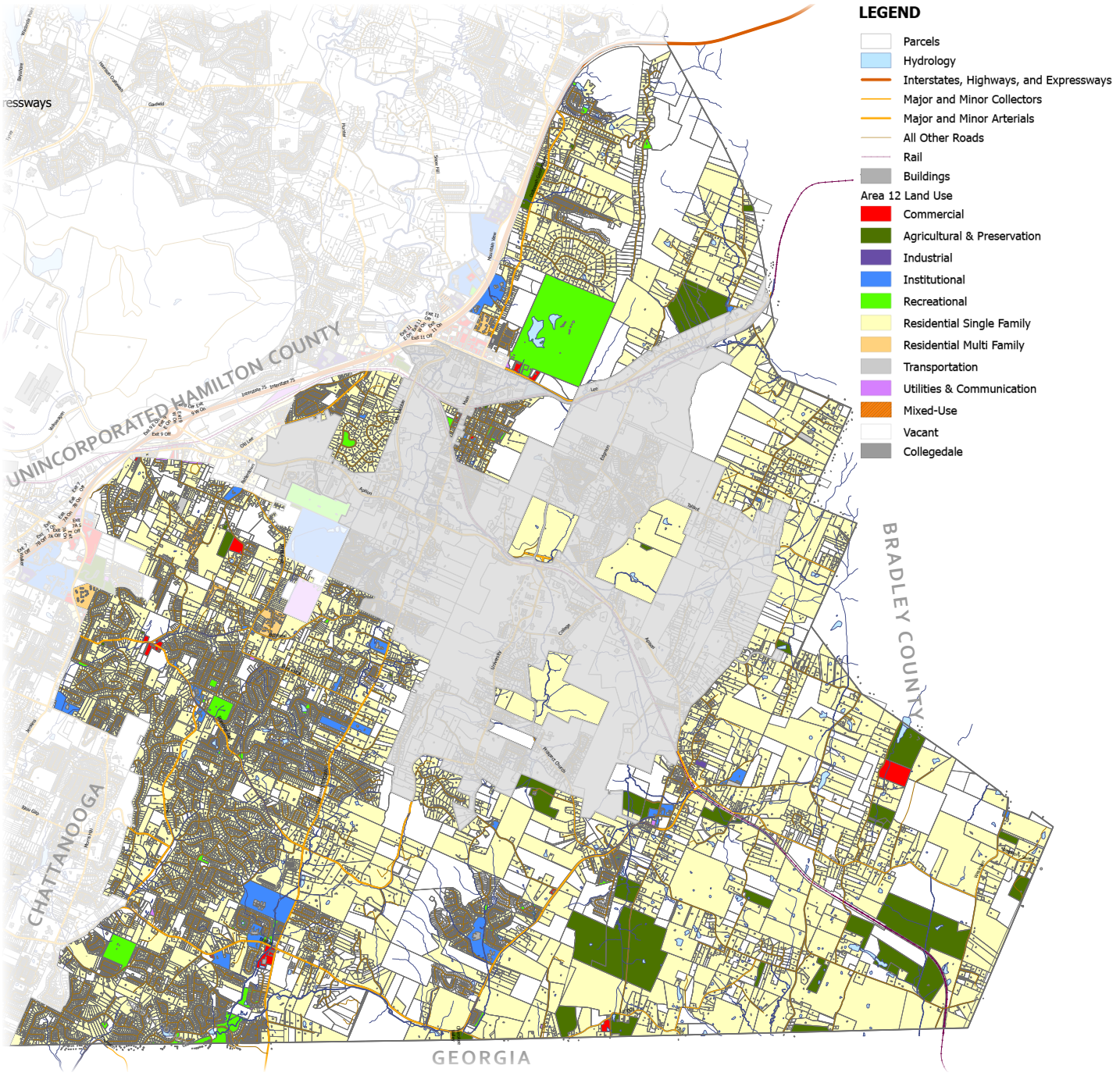


Figure 2.3: Existing Land Use Map (2023)

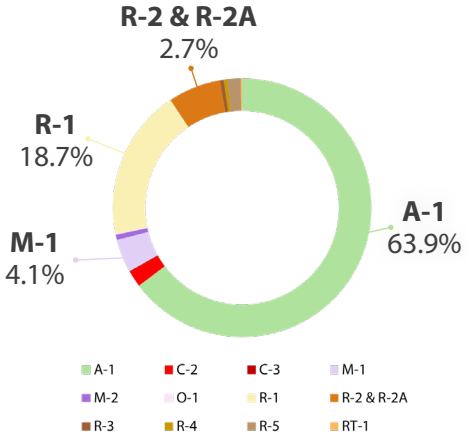
ZONING

Most properties in the unincorporated portion of Area 12 are zoned A-1 (63.9%) , which permits agricultural uses and single-family residential development with a maximum density of two dwelling units per acre. This zoning classification preserves the rural character and open spaces that define much of the region, ensuring that agricultural activities and low-density housing remain predominant, an important aspect of maintaining the community character. The second most common zoning is R-1 (18.7%), which permits single-family residential development at a base density of up to seven dwelling units per acre on public sewer systems to two dwelling units per acre for traditional septic systems. This flexibility allows for more efficient land use and supports the region's growth while maintaining environmental standards.

Following the A-1 and R-1 categories the most predominant categories are zoned R-2A (2.7%) which permits single-family and two-family dwellings, including manufactured homes. The other category is M-1 (4.1%) which allows a wide range of intensive manufacturing uses.

Commercial and industrial activity is primarily concentrated along the northwestern portion of Area 12 in areas east of I-75 near Lee Hwy and Apison Pike There is also a variety of C-5, neighborhood Commercial parcels throughout Area 12 to serve the community.

Chart 2: Percentages of Existing Zoning



Cambridge Square
Source: RPA

Existing Zoning Map

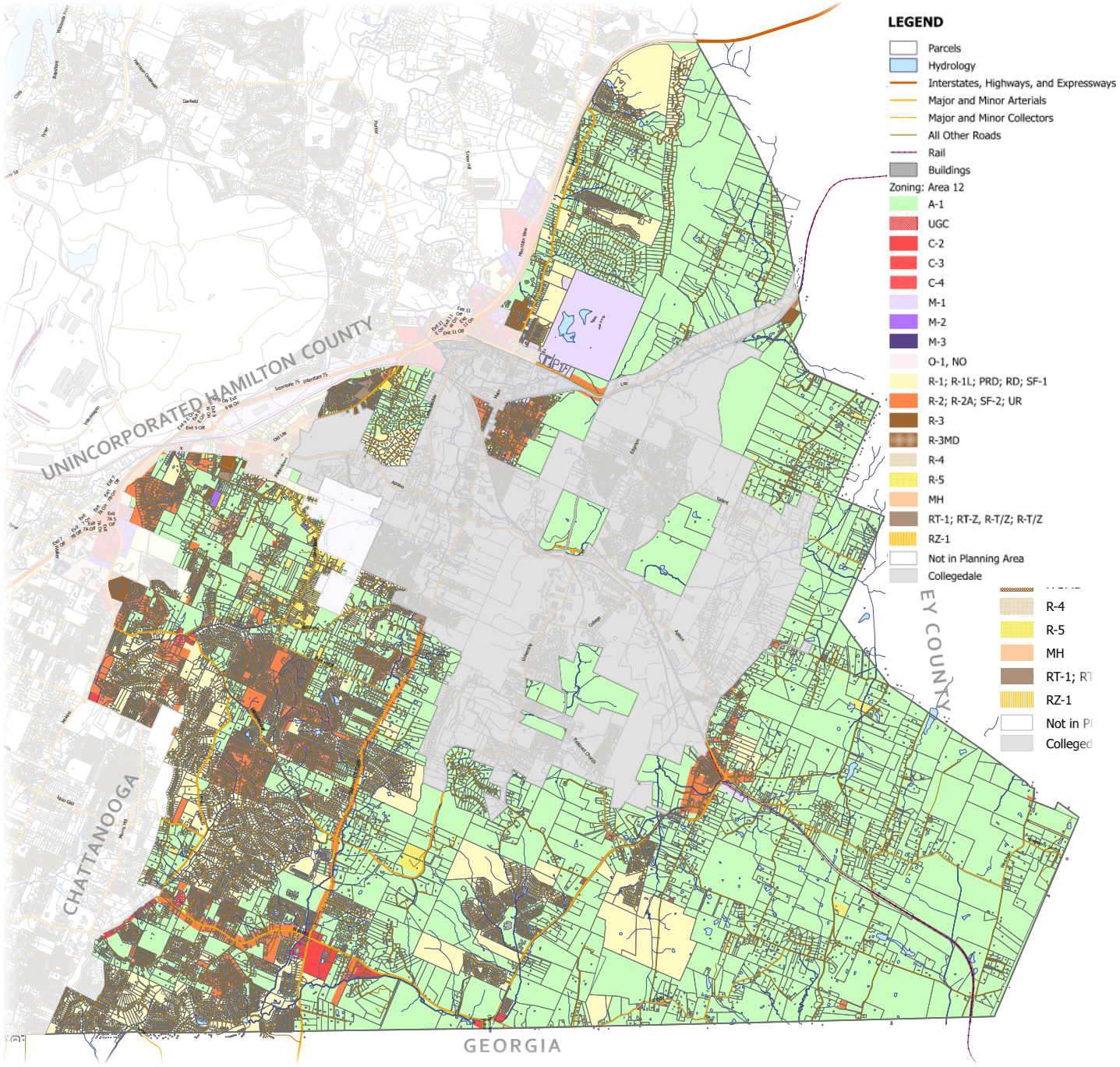


Figure 2.4: Existing Zoning Map (2023)

BUILDING PERMITS & DEVELOPMENT PATTERNS

Over the past decade, the White Oak Mountain Area has witnessed fluctuations influenced by economic conditions, population growth, and shifting residential and commercial demands. As residential needs expand, the area has experienced increased activity in both new construction and renovation projects. Analyzing these trends offers valuable insights into the region's growth patterns, regulatory impacts, and future development prospects, highlighting the dynamic nature of White Oak Mountain's built environment.

Figure 2.5 reveals that the majority of permits issued have been for single-family homes (or related), which aligns with the existing and desired character of the community. The preference for single-family homes is anticipated to continue, as detailed in Chapter 2.3. This consistency ensures that the area's charm and appeal are preserved even as it evolves.

Following single-family residential permits, the "Other" classification represents the second-highest category for permit issuance as defined in table 2. The total of commercial permits issued in the 10 year period consist of approximately 1.1% of the total permits issued in Area 12.

The analysis of building permit trends also highlights how economic and demographic shifts have shaped development. Population growth, driven by the area's desirability and quality of life, has further fueled demand for housing and services, prompting a balanced approach to development that meets diverse needs.

Looking ahead, the insights gained from building permit trends provide a roadmap for future development. Development in Area 12 is significantly shaped by its topography, rural character and the community's preference for maintaining residential character.

The map on the following page (figure 2.3) identifies buildings permits that were approved over the last 10 years for a variety of uses from low-density residential to utilities and businesses.

Chart 4: Permits by Area in Unincorporated vs. the City of Chattanooga and other municipalities

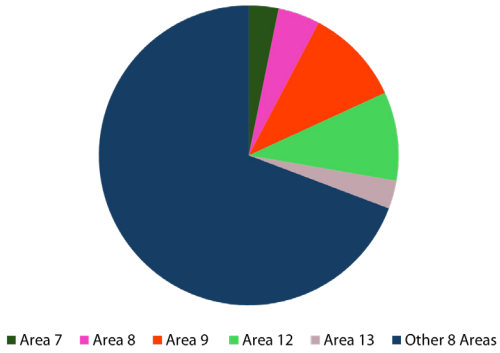
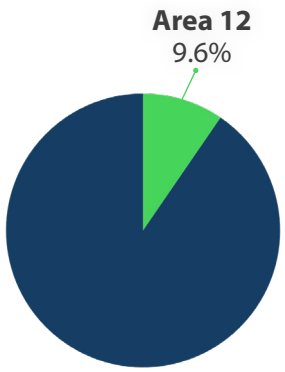


Table 3: Permit Classification Comparison

Permit Classification	Area 7	Area 8	Area 9	Area 12	Area 13
Commercial / Office	-	6	19	49	1
Commercial Solar	-	1	2	1	-
Hotel, Motel, Tourist Cabin	-	-	1	1	-
Industrial	-	1	-	3	1
Multi-Family/ Mixed Residential	-	10	-	29	3
Other Permits*	592	1,005	1,898	1,983	516
Public Works / Utilities	-	-	-	1	2
Single Family Residential	879	1,063	2,883	2,339	876
Total (Per Area)	1,471	2,086	4,803	4,406	1,399
Total (Unincorporated County)	14,165				

- *The "Other" Permit Classification Category Includes: Demolition permits, Residential Additions & Alterations, Religious Institutions, Parking Garages, Hospitals, and Non-Residential Additions & Alterations.*
- *Permit Classifications shown are reflective of the anticipated growth pattern in Hamilton County and the categories selected in the Economic Analysis projections in the RCLCO study.*

Chart 5:Area 12 Permits vs Hamilton County (All)



Building Permits Map

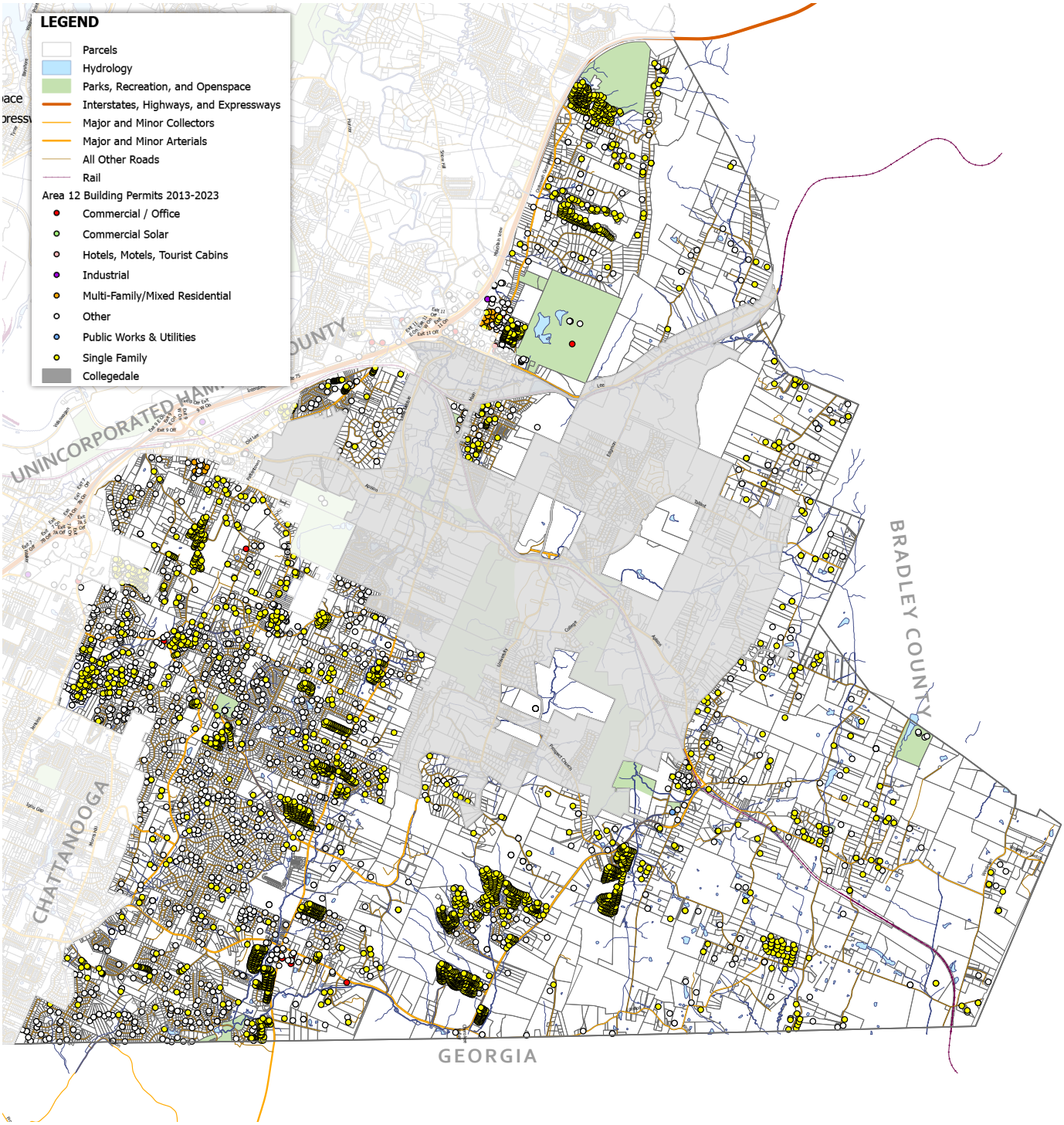


Figure 2.5: Building Permits Map (2013-2023)

2.5.2 RESILIENCY

The Resiliency Community Theme for White Oak Mountain reveals a strategic intersection underscoring the importance of harmonizing built environments with the natural landscape. A key focus is on developing resilient infrastructure while preserving and enhancing the area's rich natural resources. The analysis highlights water management systems, renewable energy solutions, conservation efforts, and sustainable land use practices. These elements are crucial in maintaining a balance between development and environmental stewardship, ensuring that the community not only thrives but also respects and protects the area's natural heritage.

NATURAL RESOURCES

The White Oak Mountain Area is rich in natural resources, featuring the Wolftever Creek, parks, and White Oak Mountain, Bauxite Ridge, and others. These resources support local ecosystems and offer opportunities for recreation and sustainable development. Proper management of these natural assets is crucial for maintaining the region's beauty and ecological health. The map (Figure 2.6) indicates points within the study area that feature natural resources deemed sensitive in terms of water function, steep slopes or habitat as identified in the adopted 2016 Comprehensive Plan for Hamilton County. In the White Oak Mountain Area, 14.8% of the land area falls under the natural resources category as shown in Figure 2.4. Waterways are shown to indicate the loodway and 100 year and 500-year floodplains along with Impaired Waterways (303D) which indicate water quality status based on monitoring of sediment, pollution (metals, pesticides/ fertilizer run-off, etc.) and erosion or changes in flow/ volumes. Development in the floodway is prohibited.

Typical Land in Area 12
Source: RPA

Wolftever Creek
Source: Chattanoogan.com

Natural Resources Map

Figure 2.6: Natural Resources Map

PARKS, RECREATION & GREENWAYS

White Oak Mountain, like much of Hamilton County, offers a wide array of recreational opportunities for outdoor enthusiasts. The parks, greenways, and recreation areas here provide residents and visitors alike with activities ranging from hiking and biking to picnicking and observing local wildlife. These spaces not only highlight the stunning natural beauty of the region's mountains and valleys but also serve as accessible, well-maintained venues for the public's use. The City of Collegedale boasts an extensive network of hiking and mountain biking trails that weave through White Oak Mountain and Bauxite Ridge, creating a seamless connection between nature and community.

These green spaces serve a purpose beyond recreation. They are critical for environmental preservation, offering habitats for diverse wildlife and contributing to the overall health of the region's ecosystems. This preservation nurtures a sense of environmental stewardship, as the community becomes more connected to the land they enjoy. With a total of 386 acres of public recreation space and 233 acres of private recreation areas in the unincorporated portion of Area 12 alone, as noted in Tables 3 and 4 on page 27, these green spaces play a crucial role in safeguarding the environmental integrity of the region. A separate analysis was conducted to measure the total approximate acreage for all aspects of parks, recreation, and open space which is approximately 1,623 acres or 5.4% of the total land area.

Whether through careful planning or the community's balance between progress and preservation, these delicate ecosystems define Hamilton County's identity and secure a legacy of natural beauty for future generations.

Chart 6: Percentage of Parks, Recreation & Open Space in Area 12

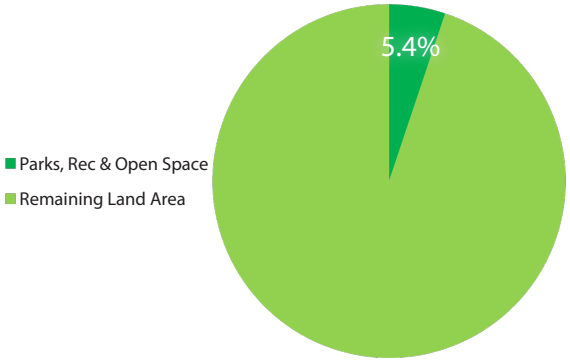
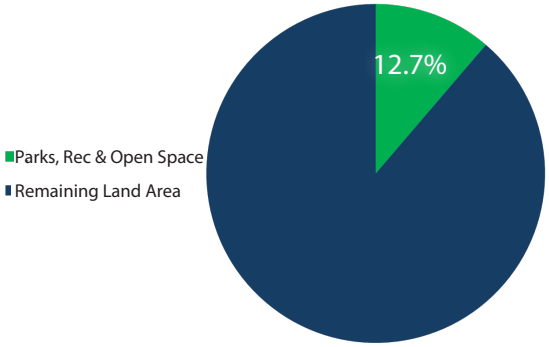


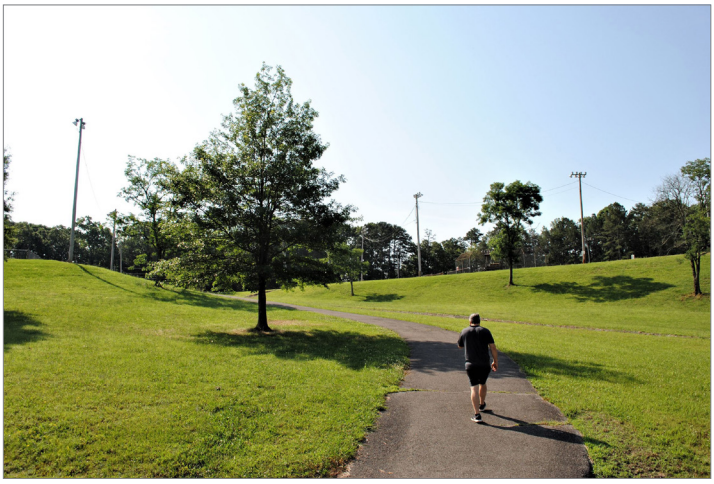
Chart 7: Percentage of Parks, Recreation & Open Space in all 5 Plan Hamilton Areas



Wolftever Creek Greenway Bridge
Source: Chattanoogan.com

PARKS & GOVERNMENT OWNED PROPERTY

Given the predominantly residential nature of Area 12 and number of schools, there is a significant presence of public recreational facilities. There are also a significant number within the incorporated limits of Collegedale. In addition to preserving sensitive environmental assets, these areas are a recreational asset that draws hikers, bikers, horse riders, and others. Unlike other areas of unincorporated Hamilton County, there are not significant lands under conservation, therefore, the focus of this section is on parks and the asset they provide to the residential aspects of the White Oak Mountain community. Publicly used parks in Area 12 when combined total approximately 386 acres.

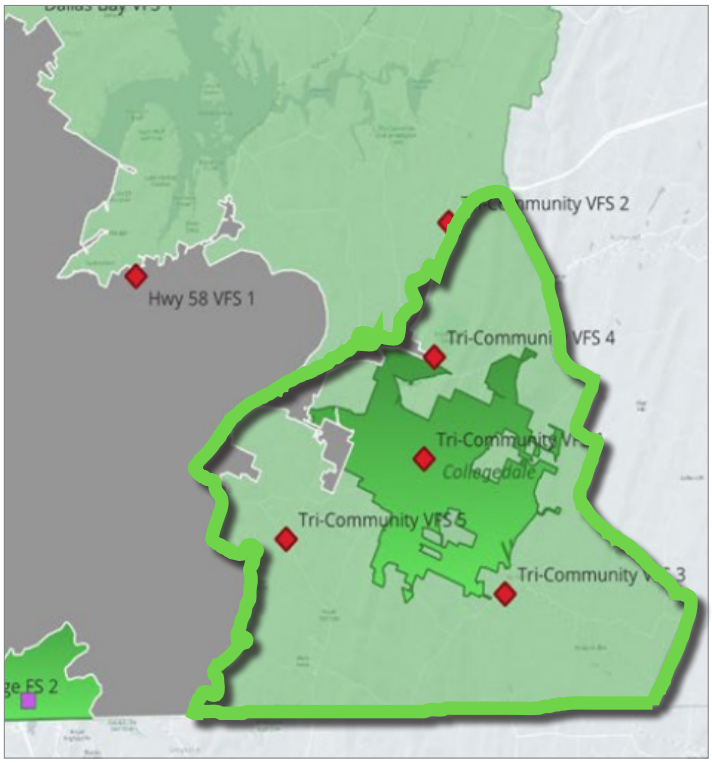


Standifer Gap Park
Source: Hamilton County Parks & Recreation

EMERGENCY SERVICES

In 2024, Tri Star conducted a Fire and Emergency Response Evaluation of the unincorporated areas to identify current levels of fire protection service, geographic coverage, response time, areas of need, etc. Within Area 12, there are five (5) volunteer fire departments (VFD) including Tri-Community VFD 1,3,5,5-3, and CH. Additionally Tri-Community VFD-4 is directly on the border between Areas 9 and 12 and serves both and is included in the population estimate below. The stations are evenly distributed throughout the area and the report did not identify any gaps in coverage. The report did however, identify that the Tri-Community VFD's serves the most populous area in Hamilton County with an estimated population of 47,732 and therefore, has the highest demand for emergency services within all of the unincorporated areas. As growth continues, it will be necessary to continue to evaluate emergency service and response and improve accordingly.

Hamilton County Emergency Management owns and constantly updates evacuation routes and plans for natural disasters.



Fire Stations in White Oak Mountain
Source: Tri-Star Public Solutions, Fire & Rescue Services Evaluation

Table 4: Public Parks, Recreation, and Greenways

Name	Type of Recreation Area	Size (Acres)
Apison Park	Field; Tennis Courts; Horseshoe Pits; Dog Park; Walking Track	6
Collegedale Dog Park	Playground; Walking Trail; Swimming Pool; Open Green Space	0.5
East Hamilton County Park	Walking and Hiking Trails; Outdoor Swimming Pool	23
East Hamilton Middle High School Athletic Complex	Off Leash Dog Park	18
Holly Hills Pool and Basketball Court	6 Baseball Fields; Pavilion; Pond	2
Hurricane Creek Recreation Area	Football Fields; Baseball Field; Softball Field; Basketball Gym	4
Imagination Station	Outdoor Swimming Pool; Outdoor Basketball Court; Clubhouse	3
Mountain Shadows Pool, Courts, and Playground	Swimming Pool, Tennis Courts; Basketball Court; Clubhouse	1
Nature Nook	Playground; Pavilion; Walking Trail	1
Ooltewah Elementary School Playground and Ball Fields	Swimming Pool; Tennis Courts; Basketball Court; Playground	4
Ooltewah High School Athletic Complex	Amphitheater; Walking Trail	23
Ooltewah Middle School Athletic Complex	Playground; 3 Ball Fields	4
Standifer Gap Recreation	Football Field; Track; Baseball Fields; Basketball Gym; Tennis Courts	26
Student Park	Ball Fields; Tennis Courts; Soccer Fields; Community Center	32
Summit Field	Model Airplane Field; Walking Track; Open Green Space	159
Summit of Softball Complex	8 Softball Fields; Walking Track; Picnic Areas	71
Tucker Road Recreational Area	Soccer Field; Playground; Pavilion; Walking Trail	3
Veteran's Memorial Park	8 Softball Fields; Walking Track; Picnic Areas	2
Westview Elementary School Playground	Playground; Outdoor Basketball Court; Pavilions	3
Wolftever Creek Greenway	Walking Trail	>1
Total		**386**

Table 5: Private Parks, Recreation, and Greenways

Name	Type of Recreation Area	Size (Acres)
The Honors Course	18-Hole Golf Course	196
Windstone Golf Club	18-Hole Golf Course; Tennis Courts; Outdoor Swimming Pool	37
Total		**233**

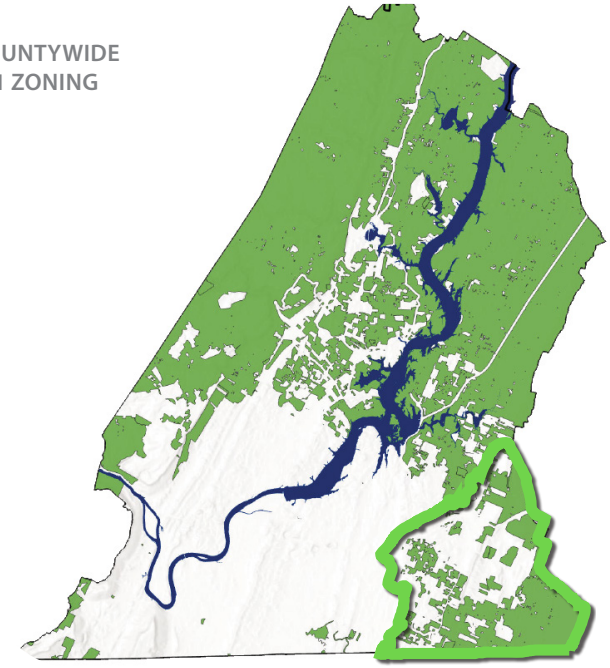
Natural resource areas are often designated as public parks or open space that may become tourist destinations.
Source: RPA

AGRICULTURE

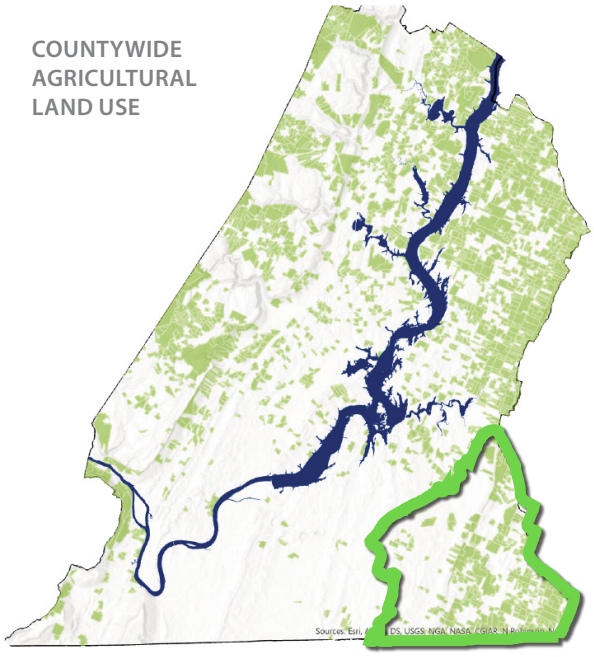
Hamilton County has a long history of agricultural activity in areas like Apison, Sale Creek, Flat Top Mountain, Georgetown and the Hwy 58/Birchwood area. A portion Area 12 consists of agricultural uses related to the production of crops, livestock, forestry uses and agricultural service businesses and may also include open fields, woodlands, and streams or lakes. Usually zoned as a A-1 district, they often include single-family homes on large lots as well as accessory buildings such as barns and greenhouses. Properties given the "Greenbelt" status (15 acres or more) usually feature a farm or single-family home with surrounding open space, pastures or forests retained and with tax benefits available. Development centered around farming is typically on septic systems. Agricultural uses in Hamilton County range from commercial businesses or large production facilities, such as a dairy or orchards, to horse stables, to roadside vegetable stands or feed & seed stores.

Not only do these agricultural uses add to the rural character of the area, but they also provides many benefits to the local community such as healthy food sources, educational programs, agritourism opportunities and improved environmental function for clean air and water quality - when significant vegetated areas are preserved and low impact farming practices (limited pesticide use or organic farming) are put in place. Programs that promote local agriculture and conserve open space and natural resources are readily available. Conservation practices may also include the use of clustered residential homes with farm amenities or scenic views and open space set aside. Another tool used to help preserve agricultural places and provide income includes special event facilities such as barns or pavilions, guesthouses or wedding chapels for instance.

COUNTYWIDE
A-1 ZONING



COUNTYWIDE
AGRICULTURAL
LAND USE



AREA 13

63.9% A-1 Zoning
61.2% Single-Family Parcels
9.6% of Permits issued in the County
14.8% of Area in Steep Slopes & Floodway
5.4% Of Area in Parks, Recreation & Open Space
30% of the County has Agricultural Land Use

HAMILTON COUNTY

56% of the County in A-1 Zoning
30% of the County has Agricultural Land Use

INFRASTRUCTURE

As the County grows, managing stormwater, sewer, decentralized sewer systems becomes crucial in preserving these resources. These infrastructure elements play a direct role in protecting water quality, minimizing erosion, and ensuring safe wastewater disposal, particularly in environmentally sensitive and rural areas where traditional sewer systems may not be feasible.

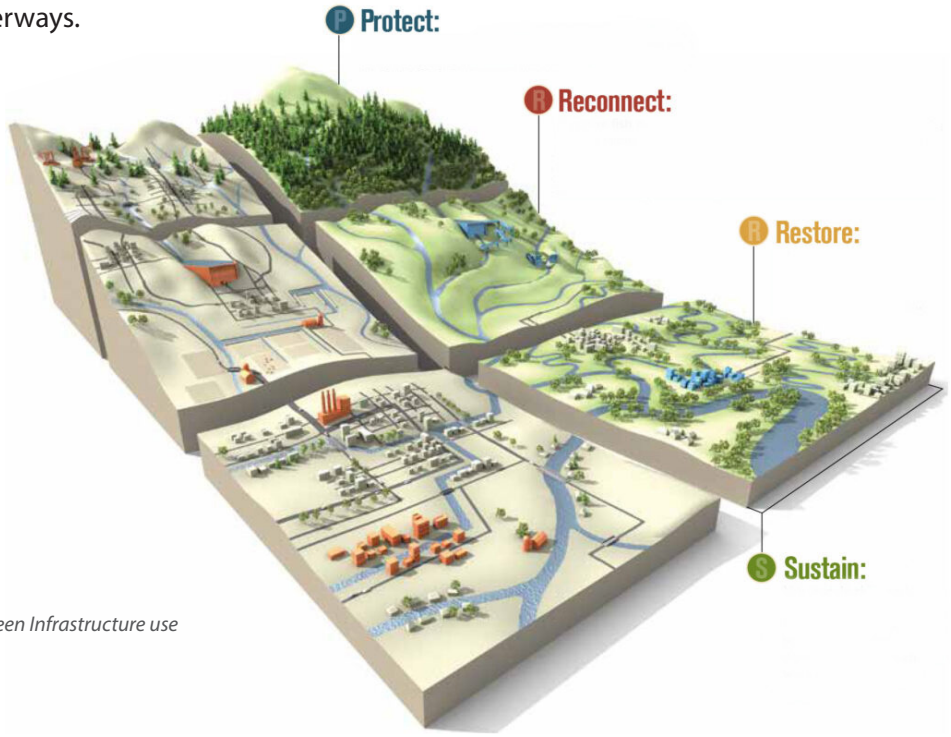
Stormwater

Stormwater runoff refers to rainwater or melted snow that flows over land surfaces instead of absorbing into the ground. As it travels across roads, rooftops, and other impervious surfaces, runoff can pick up pollutants, debris, and sediment, which may be carried into nearby rivers, lakes, or storm drains.

Stormwater runoff associated with new development poses a particular challenge, when new developments clear land, they often remove mature vegetation that naturally absorbs and slows down rainfall, a process critical for preventing excessive runoff. Without the trees, plants, and root systems to retain water, runoff from rain or snowmelt flows more quickly across the landscape, increasing the risk of erosion and the transport of sediment into local waterways.

This change not only affects the immediate development site but can also impact adjacent properties. Stormwater that would have otherwise been absorbed or filtered on-site may instead flow off steep slopes, intensifying flooding risks in lower-lying neighborhoods. The increased sediment and pollutants carried by unmanaged runoff can degrade water quality in rivers and creeks, impacting aquatic habitats and nearby communities. Detention ponds, plantings and other state approved methods for managing run-off and potential flooding are designed to mitigate potential impacts.

Techniques such as maintaining natural vegetation buffers, utilizing permeable paving materials, and constructing rain gardens or detention ponds can help manage runoff and preserve the landscape's natural water absorption functions. These strategies not only protect neighboring properties, prevent sedementation and protect downstream areas but also support a sustainable approach to growth in Hamilton County.



Stormwater Runoff - Example of Green Infrastructure use
Source: TU.org

Wastewater

Current capacity of the sewers is managed by the Hamilton County Water and Wastewater Treatment Authority (WWTA) with flows routed to the County's only treatment facility on Moccasin Bend many miles away. Currently all sewage in Hamilton County (including the incorporated areas) eventually flows to Moccasin Bend for treatment. A major overhaul of the Moccasin Bend facility is anticipated to be complete by the end of 2028. The main goal of this expansion is to add a Green Energy Program that increases processing from the existing 140 million gallons per day to 210 million gallons per day (Chattanoogan.com; March 23, 2024).

Sewer availability and capacity is an issue throughout Hamilton County and the WWTA must consider both connection as well as capacity issues for any new development being considered. Area 12 has the most sewer access of any of the other Unincorporated Areas as shown in figure 2.7 on the following page. Steep slopes, rock or soil types may rule out sewers or make them prohibitively expensive. Sewer facilities and expanded lines are best justified in locations where high density housing is planned and in close proximity to existing lines. Other system technologies may be used in the more rural areas. Independent systems are available that include smaller scaled treatment facilities and, in some cases, pump stations.

Septic Systems

Due to sewer capacity and availability, septic is the most common wastewater treatment option in Unincorporated Hamilton County. Generally, the minimum lot size required for septic systems is 25,000 square feet. Residential development in rural areas without sewer service must therefore be built with these larger lots.

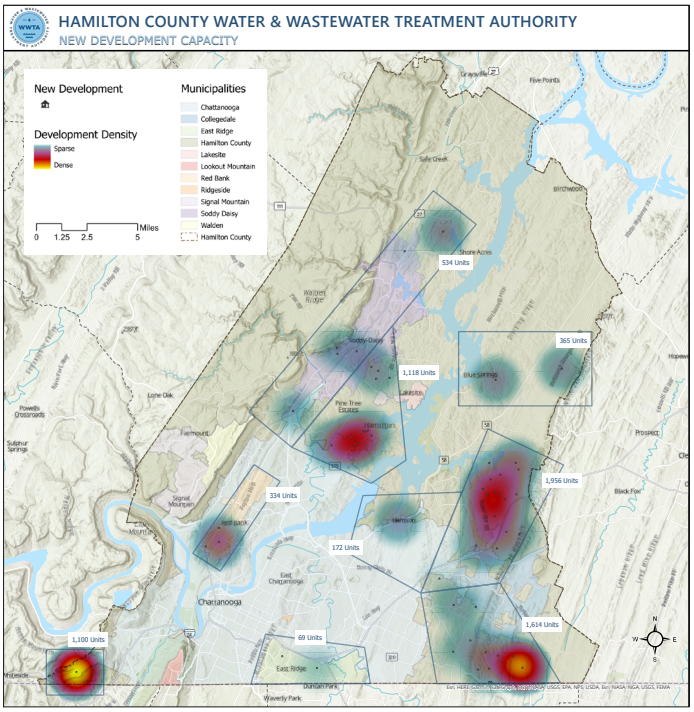
Information Highlight

Decentralized Wastewater Treatment Systems

A decentralized wastewater treatment system is like a combination of traditional septic and sewer. In a decentralized system, buildings or groups of buildings have a septic tank on-site as an initial treatment. Wastewater is then piped to a central location for additional treatment and disposal. Currently, Hamilton County only has a few examples of existing systems but anticipates them to become more common.

One key advantage in these systems is off-site disposal, which provides flexibility in housing types and helps preserve valuable open spaces. Additionally, centralizing the final stages of treatment and disposal reduces the risk of individual system failures, positively impacting the environment. WWTA provides oversight on these systems.

Note: If approved, these systems allow development to be approved at a density/intensity as if it were on sewer.



New Development Capacity (June 2023)
Source: WWTA

Sewer Infrastructure Map

Types of Lines

Force Low: CAN tap (connect) into
Force Main: Can NOT tap (connect) into
Gravity Main: CAN tap (connect) into

Pump Stations: for moving sewage over ridges or higher elevations

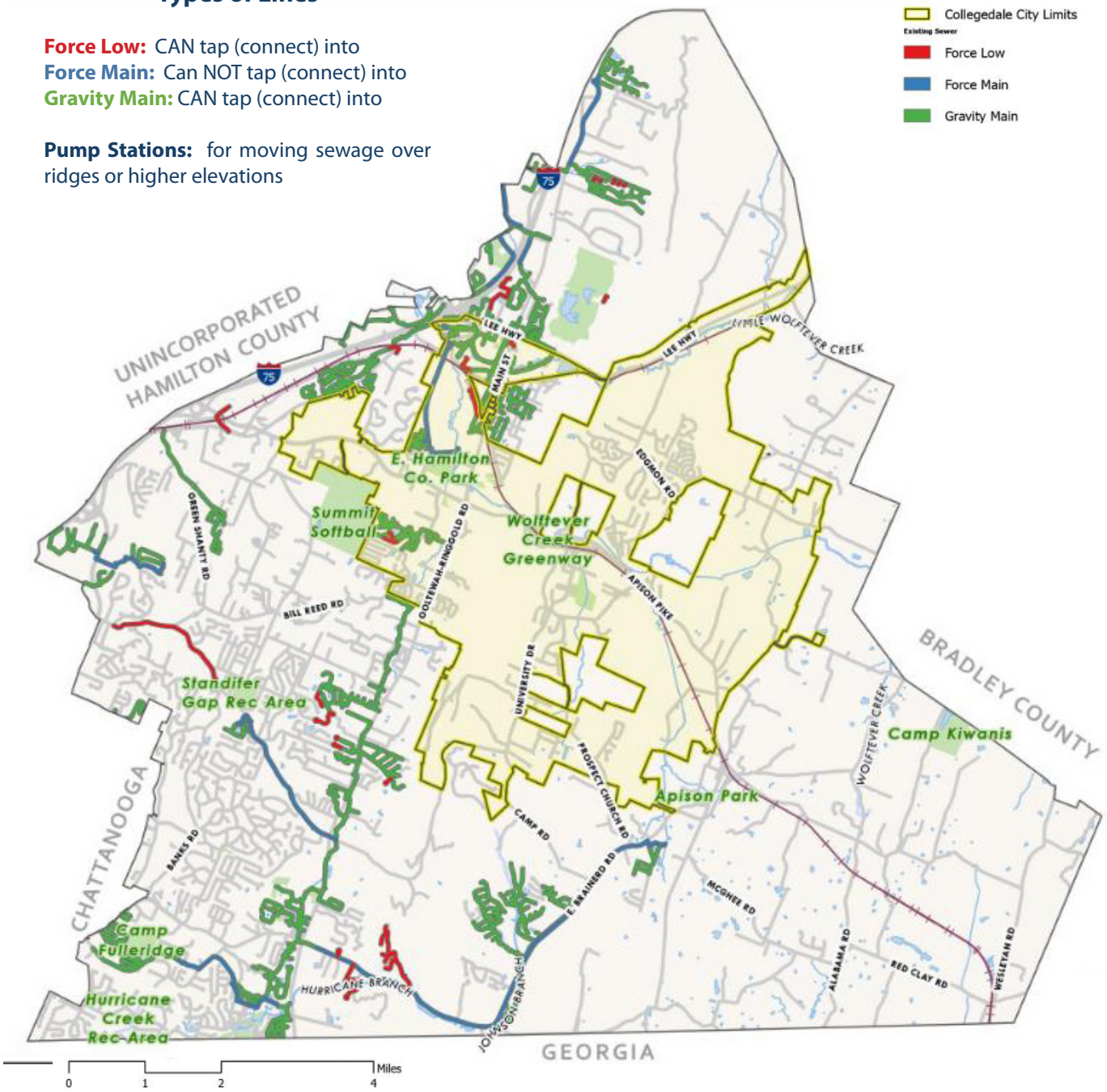
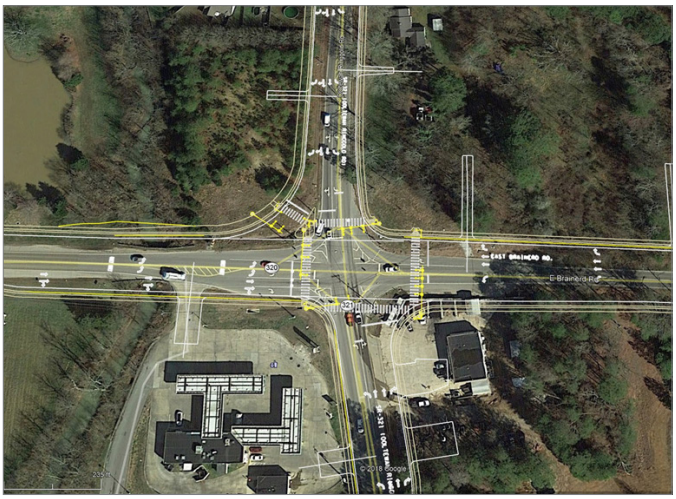


Figure 2.7: Sewer Infrastructure Map (2023)

2.5.3 MOBILITY & TRANSPORTATION

While the single-occupancy vehicle remains the predominant mode of transportation and will continue to be so in the foreseeable future, it is crucial not to overlook multi-modal transportation options. This analysis will focus on the network of pathways that underpin the areas mobility and accessibility. The area's road network forms the backbone of its transportation system, connecting neighborhoods, commercial centers, and outlying regions. The existing network of sidewalks, crosswalks, bike lanes, and trails is assessed for connectivity, safety, and accessibility. These modes are equally important in these areas as they are in urban settings, serving purposes such as recreation, exercise, and social interaction.



East Brainerd Road
Source: TDOT

The street functional system categorizes roadways based on their purpose and role within the overall transportation network. This system distinguishes between different types of roads, such as local, collector, arterial, and expressways, each serving specific functions related to traffic movement and access.

The street network in Area 12 includes a few arterials that provide through connections, but there are limited minor connections between these arterials. Many subdivisions also include multiple culs de sac, but only provide one point of access to the greater street network. Since the automobile is currently the only practical mode of transportation for most trips in Area 12, this lack of connectivity on the local streets results in most traffic being funneled onto the arterials, which adds to congestion, especially during peak hours.

Although most of the area is not served by public transit, the Chattanooga-Hamilton County Regional Transportation Authority's (CARTA) Dial-a-Ride Route 6 serves the Rainbow Creek Apartments, the

Health Center at Standifer Place, and U.S. Express. The Dial-A-Ride bus service provides rides within the East Brainerd neighborhood and provides connections to Route 4 at Hamilton Place Mall. The Southeast Tennessee Human Resources Agency (SETHRA) offers on-demand shuttle service within some subdivisions. For pedestrian facilities, few sidewalks can be found along main roads, except along the newly completed portion of Apison Pike and Little Debbie Parkway. Similarly, few bike facilities exist in the area, but bike lanes were also added to Apison Pike as part of the widening project from Old Lee Highway to Ooltewah-Ringgold Road. Greenways can also be used for more than recreation, by providing alternative connections between residential areas, schools and commercial centers.

The transportation analysis provides a detailed and dynamic overview of the current and future state of the area's transportation network. By addressing the diverse needs of all users—drivers, transit riders, pedestrians, cyclists, and freight operators—the Area Plans aim to create a balanced, efficient, safer, and forward-thinking transportation system that supports the region's growth and enhances the quality of life for its residents and visitors alike.

FUNCTIONAL CLASSIFICATIONS

The Federal Highway Administration (FHWA) uses functional classification to "define the role each element in the roadway network plays in serving travel needs." Roads are categorized by location (urban or rural), capacity, and alignment with future development plans. This classification system also differentiates between locally-owned, state-owned, and federally-owned roads, which can influence the funding sources and oversight agencies involved in roadway improvements. For example, improvements to state routes are generally proposed by the Tennessee Department of Transportation (TDOT) and the FHWA, with additional input from the Chattanooga-Hamilton County/North Georgia Metropolitan Planning Organization (MPO). This coordinated approach ensures that infrastructure upgrades align with both state and local priorities.

The functional classification categories at the local level in Area 12 are as follows:

- Arterial
  - Principal Arterial
  - Minor Arterial
- Collector
  - Major Collector
  - Minor Collector
- Local Roads

Arterials

Arterials are classified based on their high level of mobility. Arterial routes are typically the longest and have higher capacity compared to the other roads in the transportation network. They have few access points and only connect to other Arterials within the network. Most travel that occurs on an Arterial is over long distances, such as inter-state travel. Arterial routes typically account for the highest traffic volumes within the transportation network, but less than 15% of the physical transportation network. For example, Interstates consist of 3% of the vehicle miles traveled and between 17% and 38% of the vehicle miles traveled in a transportation network. Arterials are further classified as principal or minor arterials. Examples of Principal Arterials include interstates, freeways, and expressways. Minor arterials serve trips of shorter lengths than principal arterials connect smaller geographic areas to the transportation network.

Collectors

Collectors connect local roads to the arterial routes within a transportation network. They are shorter routes than arterials and have lower speed limits with more access points. Collector routes are typically used for intra-County travel rather than statewide travel like the Arterial routes. Collector routes make up approximately a third of the transportation network. Collector routes are further classified into major and minor collectors. Major collectors usually allow for higher levels of mobility within an area and minor collectors often have more access points. The distinction between major and minor collectors is often determined by speed limits, driveway spacing, and annual average traffic volumes.

Local Roads

Typically, local roads account for less than 25% of the vehicle miles traveled but make up between 62% and 74% of the transportation network. They are usually characterized as having a low number of lanes, low speed limits, and low traffic volumes. Local roads are classified after the arterials and collectors have been identified within the network.

Crash Data

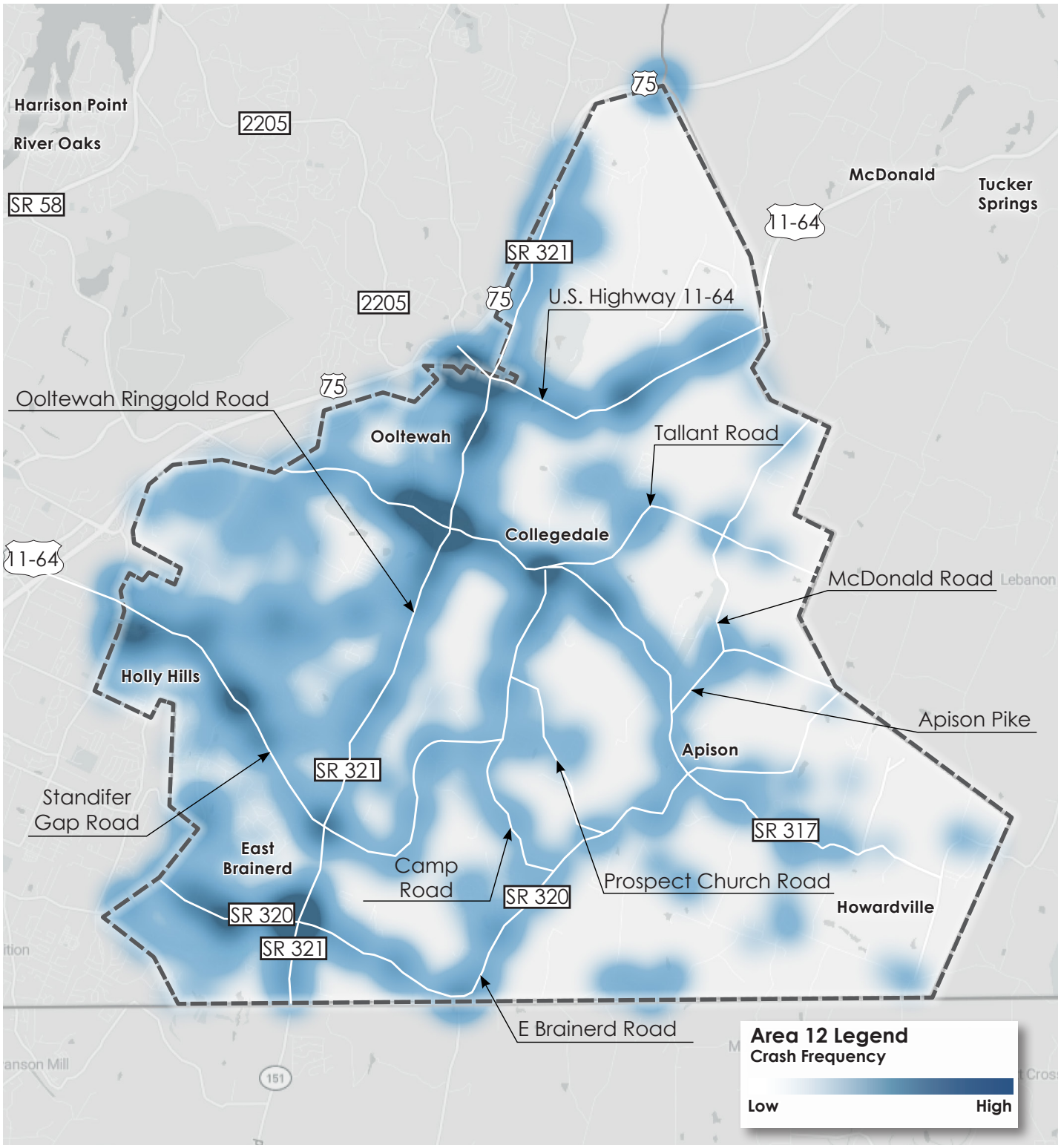


Figure 2.8: Area 12 Crash Data Map (08/24/2020-08/24/2023)

PROPOSED IMPROVEMENT CONSIDERATIONS

Roadway improvement considerations began with a thorough inventory and analysis of Hamilton County's existing roadway network. This initial assessment included a detailed review of traffic operations and crash patterns to identify potential safety enhancements. From this analysis, a list of roadway improvements was developed and organized by priority, focusing on areas that would benefit most from strategic upgrades.

To assess traffic operations, we used a combination of historical traffic count data collected annually, future traffic forecasts from the RPA's 2050 Regional Transportation Plan, and general Level of Service (LOS) criteria. This approach allowed us to pinpoint current capacity constraints and anticipate areas likely to face similar issues as the County grows. Within Area 12, no roadways were identified as capacity-constrained under existing traffic conditions, and projected conditions did not suggest the need for capacity improvements.

The safety review analyzed three years of crash data across Hamilton County roadways to calculate crash rates on key segments. We then compared these rates to statewide averages to identify roads that might benefit from targeted safety studies or projects.

Table 6: Proposed Roadway Improvements (All Areas)

Priority Group	Roadway	Project Location	Area	Type of Improvement
Short-term	Hunter Road	at Lebron Sterchi Drive	9	Intersection
Short-term	Hunter Road	at curve near Crooked Creek Drive	9	Safety
Short-term	Hilltop Drive	between Hunter Road and Volkswagen Drive	9	Extension
Short-term	Hunter Road	from Hwy 58 to Lee Highway	9	Safety
Short-term	Standifer Gap Road	from Banks road to Camp Road	12	Safety
Short-term	Daisy Dallas Road	from Harrison Lane to Hixson Pike	8	Safety
Short-term	Middle Valley Road	from Hixson Pike to Daisy Dallas Road	8	Safety
Medium-term	Middle Valley Road	at Daisy Dallas Road	8	Intersection
Medium-term	Middle Valley Road	at Walnut Road	8	Intersection
Medium-term	Middle Valley Road	at Gann Road	8	Intersection
Medium-term	Hunter Road	at Garfield Road	9	Intersection
Medium-term	Roberts Mill Road	from Dayton Pike to Mountain Laurel Trail	7	Safety
Medium-term	Snow Hill Road	from Mountain View Drive to Mahan Gap Road	9	Safety
Medium-term	Snow Hill Road	from Mountain View Drive to Amos Road	9	Capacity
Medium-term	E Brainerd Road	at London Lane	12	Intersection
Long-term	Hunter Road	from Hwy 58 to Lee Highway	9	Capacity
Long-term	Standifer Gap Road	at Bill Reed Road	12	Intersection
Long-term	Armstrong Road	from Hixson Pike to Lee Pike	13	Safety
Long-term	Harrison Bay Road	from Hwy 58 to Birchwood Pike	9	Safety
Long-term	McCallie Ferry Road	from US 27 to Spradling Road	13	Safety
Long-term	Gann Road	from Middle Valley Road to Daisy Dallas Road	8	Safety
Long-term	Montlake Road	from Dayton Pike to Mowbray Pike	7	Safety
Long-term	W Road	from Mountain Creek Road to Anderson Pike	7	Safety

Proposed Transportation Projects

The State of Tennessee passed the "Improving, Manufacturing, Public Roads and Opportunities for a Vibrant Economy" (IMPROVE) Act in 2017. The IMPROVE Act designated additional funding for transportation projects within Area 12. The projects funded by TDOT or the TPO are shown in Figure 2.9.

Figure 2.9: Area 12 TPO Planned Transportation Projects Map

2.5.4 COMMUNITY FACILITIES

Area 12 offers a comprehensive array of community facilities designed to enhance the quality of life for its residents and business owners. These facilities include educational institutions, healthcare centers, libraries, and recreational amenities, and emergency services. Each facility is integrated into the community to ensure accessibility and to meet the diverse needs of the population and support sustainable growth. While some of these facilities are within the incorporated limits of Collegedale they are included due to the use of the residents of the unincorporated residents of Hamilton County.

SCHOOLS AND MAJOR INSTITUTIONS

It is imperative that Hamilton County Schools be part of the conversation when it comes to growth. New schools tend to attract new growth in the form of residential development. As the area continues to grow, schools may approach, or exceed, capacity due to increasing student enrollment. Factors such as transportation, access, and space needed for buildings, parking, and recreation must be considered as new schools are planned.

Hamilton County Opportunity 2030 Strategic Plan

Hamilton County Schools introduced a seven Year Strategic Plan "Opportunity 2030" to engage stakeholders and align strategies to directly respond to the needs of the students, staff, and the community.

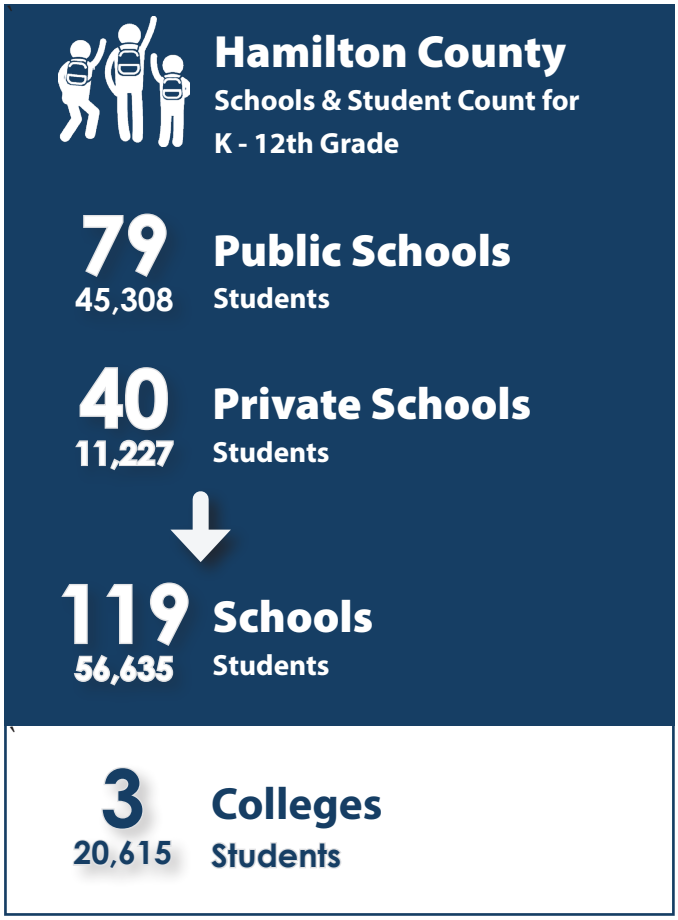
HCDE's mission is:
To equip students with the knowledge, skills, and supports to thrive in life.

HCDE's vision is:
By 2030, Hamilton County Schools will be a leader in developing our diverse graduates to be connected, competitive, and life ready.

The HCDE's 2030 plan has made 5 commitments:

1. Every Student Learns
2. Every Student Belongs
3. Every School Equipped
4. Every Employee Valued
5. Every Community Served

Hamilton County is home to many private and public K-12th Grade institutions and colleges, the following is a Countywide total of all schools and students:



In 2024, the County established 250 million in bonds in anticipation of upcoming school needs.

Schools Map

1. Apison Elementary School
2. Westview Middle School
3. East Hamilton High School
4. Lester Coon Apison School of SDA
5. Standifer Gap SDA School
6. Collegedale Academy High School
7. Collegedale Academy Elementary School
8. Collegedale Academy Middle School
9. Wolftever Creek Elementary School
10. Ooltewah Middle School
11. Ooltewah Adventist School
12. Ooltewah High School

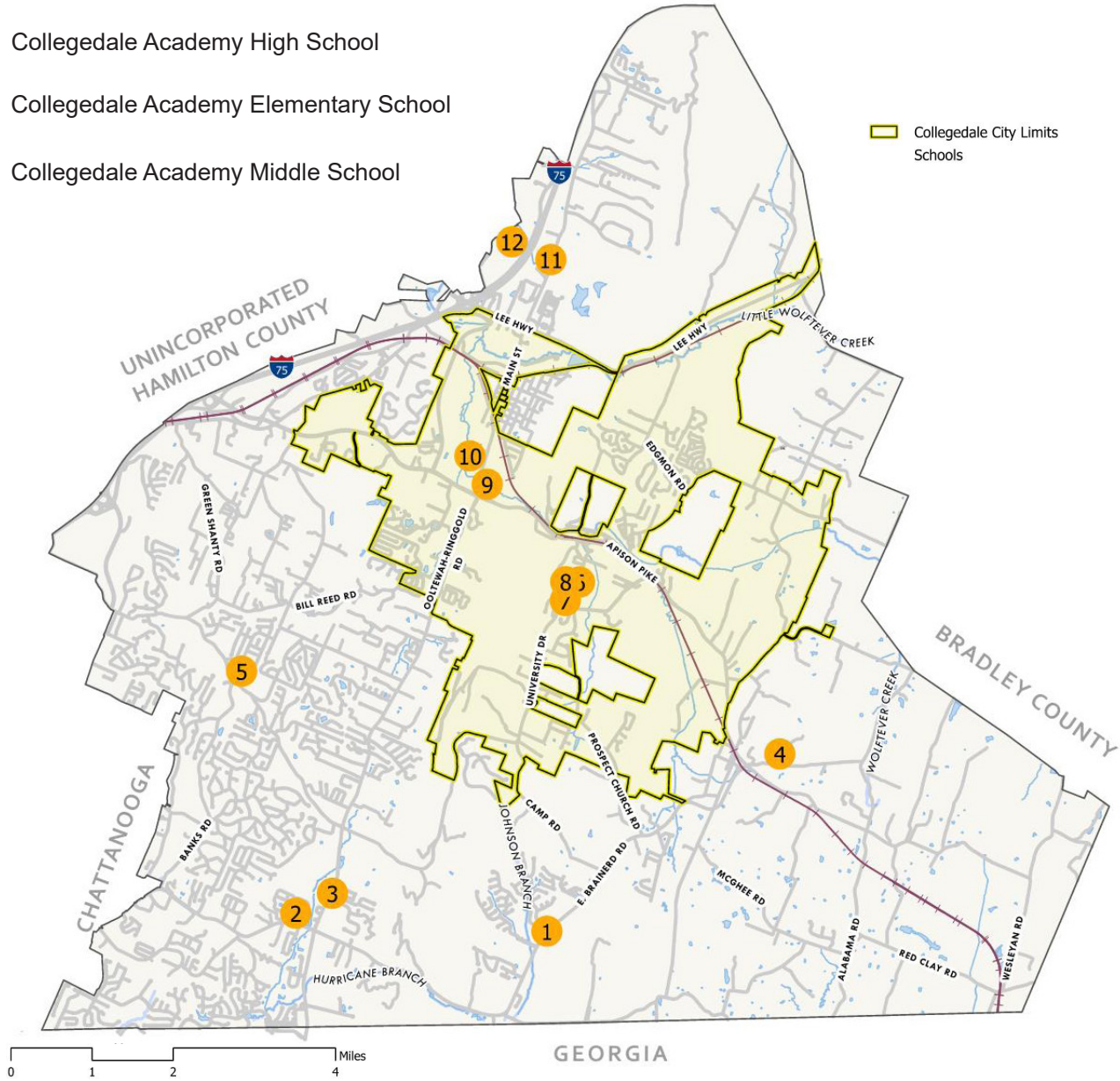


Figure 2.10: Schools Map (2023)

CHAPTER 3
COMMUNITY VISION & GOALS

PLAN HAMILTON

RPA
Chattanooga-Hamilton County
Regional Planning Agency

3.1 INTRODUCTION

Shaping a vision for the future of the White Oak Mountain Area involves exploring its potential and engaging with residents and business owners to understand their aspirations for the next decade. What qualities do people value? What elements make this area unique or special? To identify these community values, two surveys were distributed during the planning process,. During public meetings, participants were invited to identify issues and prioritize potential solutions. While some concerns were specific to particular sub-areas, many were relevant to the entire area.

The initial feedback produced four key Community Themes which ultimately, outlined in Chapter 2 of this plan. Those key themes informed the Community Vision, Goals, and Policy Recommendations of this Plan.

Survey responses, input from community meetings, feedback from the Advisory Committee, and professional guidance from staff and technical advisors, were used to draft goals, a vision statement, and recommendations to reflect the shared values of the Northeast County community to establish a direction for the future.

A community's **GOALS** form the foundation of its identity and guide is actions and decisions. They identify the driving forces of the community, by adhering to these core goals, the community fosters a sense of unity and purpose, enabling all members to work together towards a common vision of a prosperous and harmonious future.

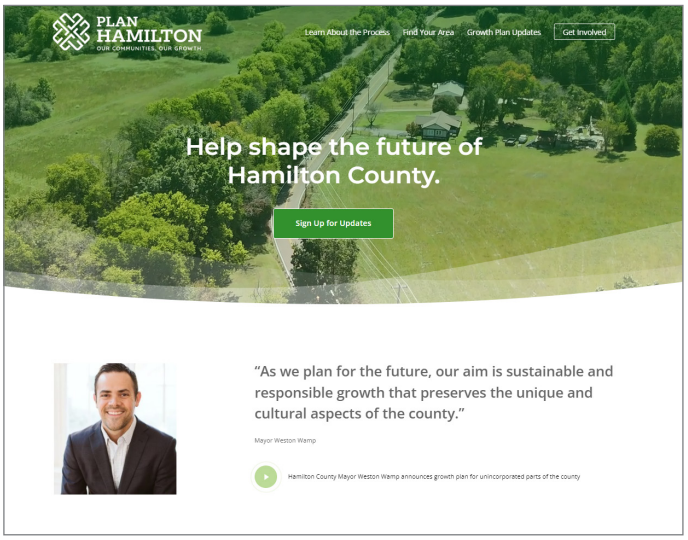
A **VISION STATEMENT** outlines the collective aspirations and core values of the community. It serves as a guide, highlighting the community's desired future and setting a clear direction for growth and development. Crafted through collaborative input, the vision statement emphasizes key principles such as preservation, recreation, infrastructure, housing, and overall quality of life.

Public Meeting
Source: RPA

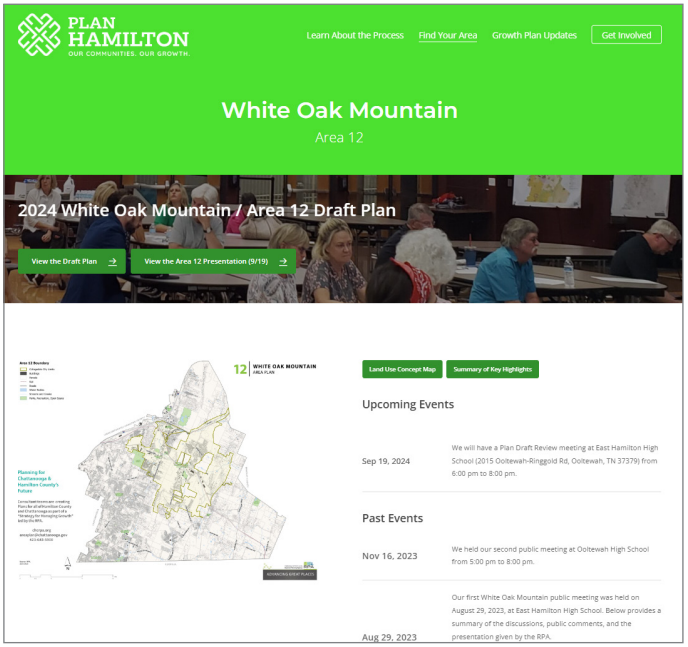
3.2 COMMUNITY OUTREACH

Community feedback is crucial in creating an Area Plan because it ensures that the voices of those who live, work, and play there are heard and valued. The residents have an intimate understanding of the unique challenges and opportunities within their community, providing insights that outside experts might overlook. Engaging the community fosters a sense of ownership and collaboration, making the planning process more inclusive and transparent. By incorporating diverse perspectives, we can create a more comprehensive and effective plan that reflects the true needs and aspirations of the people it serves.

Public input is vital to the success of any planning process and in the Area Planning process for Hamilton County. Understanding the perspectives of those who live and work in a community every day provides invaluable insights to experts developing concepts and recommendations.



Plan Hamilton Landing Page
Source: RPA Website, https://planhamilton.org/



Area 12 Website
Source: RPA Website, https://planhamilton.org/white-oak-mountain/

1600
Approximate # of people participating in person at various meetings.

505
people participated in the online survey.

34
Community, online, commission meetings, etc.

COMMUNITY MEETINGS

The following outlines the public meetings held to provide a platform for the community to express concerns, share priorities, and offer feedback on the proposed strategies within the Area Plan. Through an analysis of the themes and perspectives that emerged, this section highlights the key issues raised by participants. Input from these meetings plays a crucial role in shaping the recommendations, ensuring the Area Plan aligns with the community's needs and values.

KICK-OFF

In August 2023, a kick-off meeting took place at East Hamilton High School. The goal of the first meeting was to introduce the purpose of Area Planning as well as the process as a whole and gather initial feedback from the community. A summary of the input received at the kick-off meeting is included in Appendix D.

PUBLIC MEETING #2

In November 2023, the second public meeting was held at Ooltewah High School. The goal of this meeting was to not only update the community on the process but to understand the community vision so that was the forefront of the Area Planning process before the documents were created. The insights and ideas gathered from all these meetings are summarized in the appendix of this plan and have directly influenced the goals and policies.

PUBLIC OPINION SURVEY

In addition to in-person engagement, we conducted a comprehensive public opinion survey from August 2023 through October 2023. This survey covered a wide range of topics, including recent and current development, future development, environmental issues, and mobility. The valuable insights gained from the survey are included in Appendix C.

ONLINE INFORMATIONAL MEETINGS

Two Countywide informational meetings were held online by the RPA in January of 2024 to discuss 4 topics with the public including: Traffic & Transportation, Commercial Centers & Corridors, Housing, and Parks & Greenways.

DRAFT PLAN MEETING

In September 2024, a draft Area Plan meeting was held at East Hamilton High School. The goal of this meeting was to present the 75% draft version of the Area 12 plan to the community and for the RPA to provide an update of the overall process, how the plan addresses community concerns, and how this plan will guide growth moving forward.

Area 12 Public Meeting
Source: RPA

Table 7: Community Outreach Timeline for Plan Hamilton

OUTREACH TECHNIQUE	DATE	LOCATION	AREA REACHED
Survey (Online)	08/25 - 10-07/2023	Online	7, 8, 9, 12, & 13
1st Round Public Meetings	10/03/2023	Bachman Community Center	7
	09/07/2023	Chester Frost Park Pavilion	8
	08/24/2023	Ooltewah High School	9
	08/29/2023	East Hamilton High School	12
	08/21/2023	Sale Creek Fire and Rescue	13
2nd Round Public Meetings	11/28/2023	Walden's Ridge Emergency Services	7
	11/30/2023	Soddy Daisy High School	8
	11/16/2023	Ooltewah High School	9 & 12
	09/14/2023	Soddy Daisy High School	13
	12/05/2023	Soddy Daisy High School	13
Online Informational Meeting 1	01/18/2024	Virtual	7, 8, 9, 12, & 13
Online Informational Meeting 2	01/25/2024	Virtual	7, 8, 9, 12, & 13
Community Meetings	04/19/2023	Collegedale City Hall	12
	06/14/2023	East Hamilton High School	12
	06/15/2023	Veteran's Building, Sequoyah Road	8
	08/16/2023	Lakesite City Hall	8
	09/21/2023	Tri-Star Beverage	13
	9/30/2023	Soddy Lake Park (Booth)	13
	11/09-11/11/2023	Hamilton County Fair	7, 8, 9, 12, & 13
	1/23/2024	Sale Creek Fire and Rescue	13
	05/16/2024	Tri-Star Beverage	13
	06/20/2024	East Hamilton High School	12
	06/25/2024	The Commons	12
	08/01/2024	Century Club Banquet Hall	7, 8, 9, 12, & 13
	10/24/2024	Century Club	7, 8, 9, 12, & 13
Draft Plan Review Meeting	09/19/2024	East Hamilton High School	12
	09/25/2024	Walden's Ridge Emergency Services	7
	09/26/2024	Hwy 58 Volunteer Fire Department	9
	10/01/2024	Sale Creek Middle/High School	13
	10/16/2024	Clear Creek Church of Christ	8
Public Hearings	3/28/2023	County Courthouse	7, 8, 9, 12, & 13
	03/06/2023	County Commission	7, 8, 9, 12, & 13
	12/09/2024	Planning Commission	7, 8, 9, 12, & 13
	TBD	County Commission	7, 8, 9, 12, & 13
Mass Emails & Social Media	*Additional outreach was conducted through regular email announcements and Facebook updates as well as media releases to local news outlets. The mailing list on average numbered over 2,000 contacts who had registered via the website or at meetings*		

COMMUNITY SURVEY RESULTS

Commercial uses and services most needed:

1. Food & Beverage
2. Leisure / Entertainment
3. Retail

56%
experience some congestion with long delays during peak rush hours

The top 3 infrastructure investments needed:

1. Roads
2. Schools
3. Parks, Greenways & Open Space

Civic uses and services most needed:

1. Trails, Greenways & Sidewalks
2. Parks & Open Space
3. Schools

Type of Commercial Development the community would support:

61%
Mixed-Use Commercial

57%
Neighborhood Commercial

WHAT DID WE HEAR?

"Green buffers with trees and sidewalks rather than just a fence by subdivisions and shopping areas"

"Prefer Area 12 to remain as a rural residential subdivision as much as possible."

"Better connectivity between projects"

"Concerned with pace and density of recent development along Ooltewah-Georgetown Road"

"Need to bolster stormwater assessment and improvement required at re-zoning and subdivision A levels. "

"More trails like White Oak Mountain"

3.3 AREA PLAN GOALS

These seven general Area Plan goals apply to all five unincorporated Areas and create a blueprint for balanced and sustainable growth in Hamilton County, enhancing its unique character and natural beauty. These goals are based on the four Community Themes established in Chapter 2 including Land Use and Development Character, Resiliency, Transportation and Mobility, and Community Facilities.

By focusing on strategic growth management, we aim to harmonize new development with existing community values and landscapes, fostering economic vitality while preserving the charm of our neighborhoods. Our commitment to conserving natural resources ensures they are protected and enhanced for future generations, promoting sustainable practices. Providing diverse and affordable housing options is essential for an inclusive and thriving community. Ensuring housing meets the needs of all residents supports a diverse population and fosters socioeconomic stability.

By addressing these interconnected goals, Hamilton County is committed to creating a resilient, vibrant, and sustainable future that enhances the quality of life for all residents. Each goal is paired with specific policy recommendations and strategies to ensure successful implementation and long-term benefits for our community.

3.4 VISION STATEMENT

As we look toward the future of the unincorporated areas of Hamilton County, we aim to craft a vision statement that captures our shared aspirations and values. This statement isn't just a list of goals; it's a reflection of our dedication to honoring our rich heritage while embracing sustainable growth. We are committed to enhancing the quality of life for all residents through thoughtful development, preserving our natural resources, and fostering economic opportunities. By engaging in collaborative and transparent planning, we will build resilient, connected, and thriving neighborhoods where everyone can live, work, and prosper together for generations. This vision statement will serve as our guide, illuminating the path toward a vibrant and inclusive future for Hamilton County's unincorporated areas.

To create vibrant and SUSTAINABLE communities that honor our heritage while embracing growth. We aim to ENHANCE QUALITY OF LIFE by promoting THOUGHTFUL DEVELOPMENT, preserving NATURAL RESOURCES, and fostering ECONOMIC OPPORTUNITIES. Through collaborative and transparent planning, we will build RESILIENT, CONNECTED, and THRIVING NEIGHBORHOODS where everyone can live, work, and prosper together for generations.

CHAPTER 4

PLANS, POLICIES & RECOMMENDATIONS

PLAN HAMILTON

RPA
Chattanooga-Hamilton County
Regional Planning Agency

4.1 PLANNING OVERVIEW

The CHCRPA draws on a wide range of resources to determine the most suitable land uses within Hamilton County. While standard practices such as zoning often guide these decisions, it's crucial to recognize that the rich history of our neighborhoods and the specific desires and needs of the community extend beyond these conventional frameworks.

This chapter outlines the three key steps in the planning process used as part of the Comprehensive Planning effort. The primary aim of these steps is to prioritize community character, ensuring that each area's unique identity and needs are at the forefront of decision-making. While these steps prioritize the preservation of each area's identity, it's important to note that they operate alongside public input and community programming integrated throughout the process. By leveraging distinct planning models, the RPA has developed Place Types that cater to the specific conditions of each of the unincorporated areas within Hamilton County. The process begins with a thorough understanding of each area's unique characteristics and needs. These Place Types serve as a foundation for developing customized conditions and recommendations. The final step involves formulating specific Policies, which provide best practices for implementing the earlier planning stages.

The RPA's approach is uniquely multi-layered, incorporating best management practices tailored to the needs of each individual Area. This method ensures that land use decisions are not only guided by standard practices but also by a deep understanding of local contexts, resulting in a planning process that is responsive to the diverse needs of Hamilton County's communities.

#1

PLANNING MODELS

The RPA and their consultants have developed Countywide Growth Capacity Modeling to show current trends. This influenced the Centers and Corridors approach to planning which is graphically displayed in the Conceptual Land Use Map. These maps identify Centers, Corridors, and general land use determinations in advance of Place Type mapping that were informed by community feedback, existing policy, existing code, proposed policy and Place Types, as well as general community character.

#2

PLACE TYPES

The RPA has created a palette of 23 Place Types to describe the various uses, forms, and character that development can take throughout the County. and its jurisdictions. The section identifies how they are used and which ones exist in Area 7. The RPA's Place Types Matrix addresses a range of contexts from most urban to most rural based on the transect model. Each Place Type policy includes a general description, real-world examples, recommended land uses, guidance on intensity and form, mobility, and infrastructure.

#3

POLICIES

The policy recommendations are inspired from the 4 Community Themes which created the 7 Goals for Unincorporated Area Plans. Each Area Plan will have customized Policy Recommendations based on the community's character, needs, land use, zoning, Place Types, planning models,etc. The policy recommendations are intended to be a guide for implementation at the regulatory level and create a standard by which this document is regulated.

CENTERS AND CORRIDOR APPROACH

The Centers and Corridors Approach is a land development strategy that the RPA has developed to address growth and redevelopment throughout Chattanooga and Hamilton County and which will influence this plan's recommendations. It has three essential concepts:

- Walkable, clustered Centers where retail uses are concentrated.
- Corridors comprised of a mix of uses when in suburban areas or with deep setbacks to preserve rural character.
- Medium and higher density housing near Centers and Corridors to support their economic vitality and local transit viability.

*This approach addresses the plan's 7 Goals and the **community's preferences**:*

1. Complete Communities

A mix of housing types in close proximity to centers and corridors gives residents convenient access to daily needs, employment, recreation, and transportation options.

2. Connected Communities

Connected communities enable walking, biking, and transit options, all of which depend on a mix of uses in close proximity. Concentrating businesses in Centers and at key locations along transit Corridors makes these alternate transportation modes more feasible, helping to reduce congestion.

3. Healthy Communities

Communities, where active transportation options and public greenways and parks are available, tend to be healthier: Proximity to these amenities allows people to recreate and get around by providing the built environment to do so.

4. Safe Communities

The Centers and Corridors Approach promotes more eyes on the street, by locating buildings up to the sidewalk, animating the street edge with doors and windows, and more frequent pedestrian activity. Corridors with sidewalks, street trees, and bike lanes promote safe and efficient movement for all users of the street, including motorists, transit users, bicyclists, and pedestrians.

5. Unique and Attractive Communities

Place Types emphasize form and character which helps preserve and foster distinctive and memorable places. Due to changes in commercial corridors throughout the County having vacancies, new opportunities are presented for multi-family housing providing redevelopment opportunities for more compact site planning, smaller tenant spaces suited to local businesses, and integrated attached single-family and multi-family. This can ; increase profits for businesses, reduce traffic and congestion related impacts, and help to preserve the character of existing single-family neighborhoods consistent with input from local residents.

6. Economically Vibrant Communities

Given finite government resources, the Centers and Corridors approach helps prioritize where City resources are invested. Walkable, compact Centers have significant economic impacts for the County Centers require a certain number of households within a given proximity (depending on their size) in order to sustain businesses. Businesses also tend to be more successful in Centers where retail, services, and housing are all clustered in a compact, walkable environment. Also, compact development yields more tax revenue per acre than dispersed development, thus contributing to the overall wealth and economic vitality of the area.

4.1.2 CONCEPTUAL LAND USE MAP

The conceptual land use map is intended to identify the high-level areas for initial recommendations to inform the Place Type mapping. These maps identify more of the major Centers and Corridors, Resort/Recreation, Special Districts and Residential. The purpose of these maps is to provide guidance to residents, development interests, utility providers, planners, and County leadership on what areas should be primarily preserved in their current form with incremental growth and where new growth should be planned for to support economic opportunity and a balance of services across the County. The conceptual land use maps also identify areas with challenging topographic or hydrologic constraints, existing agricultural use, locations of regional facilities, and recreational assets. While parcel size and density was considered this map is generalized to highlight projected trends and opportunities and to provide guidance on where public and private sector investments are most warranted.

Centers & Corridors

Centers and Corridors are planned considering a variety of factors including utility infrastructure capacity, transportation factors, proximity to schools and emergency services, environmental conditions, recreational access, housing opportunities, and access to commercial services. Centers provide the opportunity to integrate commercial services into our neighborhoods in a predictable manner with accompanying infrastructure investments and site considerations.

Center Example
Source: Continuum

Corridor designations have been applied in rural areas to indicate opportunities to preserve rural landscape, views, and development patterns, consolidate points of access to primary roadways, limit congestion, and to protect rural lifestyles. In suburban settings, corridors are utilized to demonstrate primary transportation corridors that will experience continued development pressure and warrant access management improvements.

Rural Corridor Example
Source: RPA

Residential

Residential Place Types are the places (outside of centers and corridors) that make up the neighborhoods we call home. They can be urban or rural, vertical and dense, or secluded retreats and are the building blocks of most traditional neighborhoods and modern suburbs.

Residential Example
Source: DR Horton, Ooltewah

Residential Cont.

When a community wants to incorporate space for a school, a corner restaurant or coffee shop, a convenience store, an accountant's office or even a care facility for elderly family members; the residential Place Types may not accommodate these uses. This is the reason for the variety of scale and intensity of Centers which may be used to compliment residential areas to provide for daily needs services and a place for mixed residential units. This approach protects single-family residential areas and provides for a more complete community.

Mixed-residential Example
Source: RPA

Resort/Recreation

Resort Recreation Centers are introduced in this plan as a specialty district Place Type. Hamilton County has a wealth of recreational assets from highly programmed parks, to blended park-preserves such as Enterprise Nature Park, to traditional passive use natural areas and preserves. These special use areas have all found a place in the hearts of recreation enthusiasts as varied as league sports athletes, paddlers, fitness walkers, bird watchers, runners, cyclists, nature photographers, and neighborhood residents looking for a safe quite walk. Not as readily recognized has been the economic potential of these assets and the user groups who love them. Working from community and stakeholder input locations have been identified where commerce can be sustainably integrated with recreation to provide jobs, tax base, and income while enhancing and preserving our community recreational resources.

Resort Recreation Example
Source: City of Rockwood, TN

Specialty Districts

Specialty Districts are used to designate the places that form the fabric of our community. They may not be where we live or shop but they house many of the other essential resources we require to thrive in modern society. These include the campuses where our children attend school, the land and facilities that produce our food, power our utility grids, clean our water, house our medical and emergency response facilities, build our communities, and manufacture the products we utilize every day. In many cases, this means they are also our places of employment.

Specialty District Example
Source: Volkswagen

Conceptual Land Use

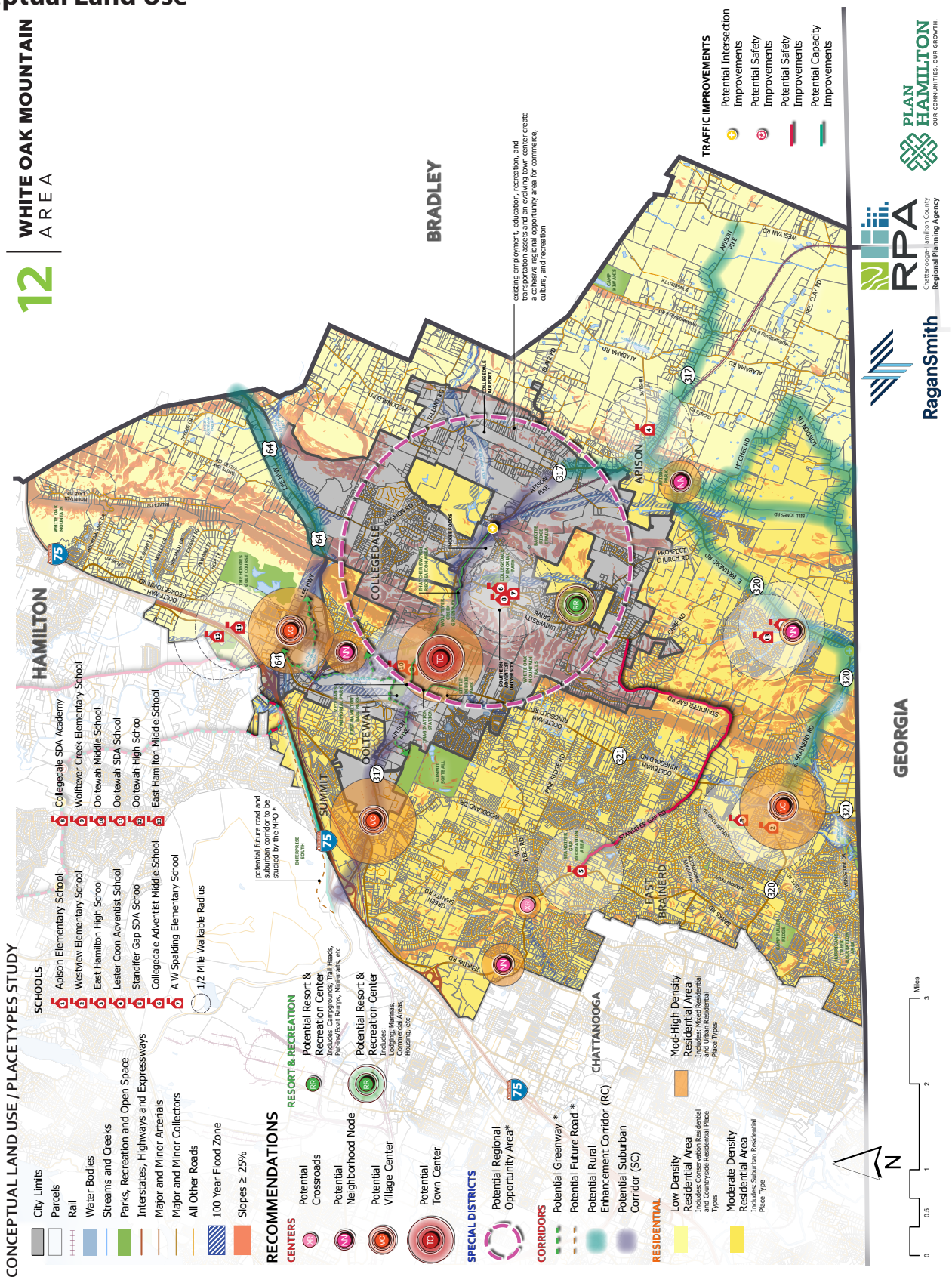


Figure 4.1: Conceptual Land Use Map

4.1.3 FUTURE DEVELOPMENT OPPORTUNITIES

The growth opportunities for Area 12 are tempered by constraints related to natural features, terrain, and infrastructure, and community vision. In general, the growth should be primarily rural residential for areas east of White Oak Mountain. The residential developments should be supported by thoughtful commercial or mixed-use developments that align with the character of the community including a combination of Rural and Suburban Corridors, Village Centers, Resort Recreation Centers, Neighborhood Nodes, and Crossroad Centers.

Corridors:

Hamilton County and the municipalities of Collegedale and Chattanooga should explore expansion of the Wolftever Creek Greenway to connect neighborhoods and recreational assets across Area 12.

Centers:

Should serve local residents and visitors, and may locate with existing commercial or community services. Often these centers have served important functions for locals for many years.

Potential Village Center (VC) developments have been identified to include:

- Near the intersection of Apison Pike and Old Lee Highway.
- At East Brainerd Road and Ooltewah Ringgold Road.
- In the area around the existing Cambridge Square development.

Source: Rural Design Guide FHWA

Village Center **Example**
Source: RPA

Smaller Neighborhood Nodes (NN) have been identified as hubs for neighborhood commercial services, potential government services, and in recognition of existing development patterns that features more suburban development patterns:

- Old Apison near park, post office and churches
- London Lane, south of Apison Pike on East Brainerd Road at Apison Park,
- Old Ooltewah along Ooltewah-Ringgold Road / Main Street.

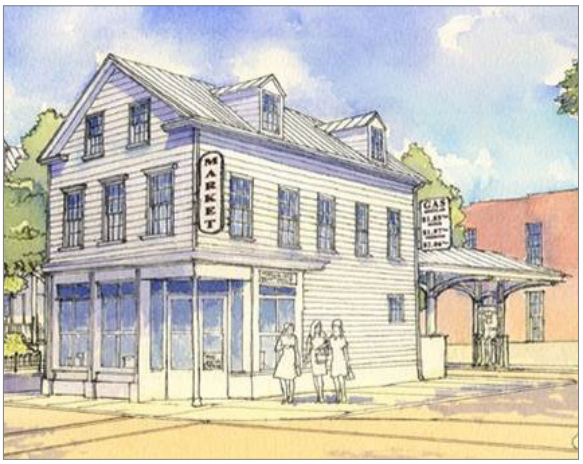
Cross Roads (XR) are proposed at the following intersection:

- Standifer Gap & Bill Reed Road (existing)

Additional Opportunities:

A robust recreational trail network already exists along the ridgeline. These landforms also provide an opportunity for lower elevation bike/pedestrian connections that are more universally accessible to a wide range of users and connect key community assets.

East of White Oak Mountain / Bauxite Ridge/ Collegedale, the community has expressed a desire to maintain a more rural development pattern with lower residential densities, larger setbacks from primary roadways with vegetated buffers and continued agricultural activities.



Source: Dover-Kohl

Source: RPA

Source: RPA

4.2 PLACE TYPES

Place Types are carefully designated to guide future development and align with the community's vision and adopted plans. These designations indicate whether an area is slated for significant change, gradual transformation, or preservation with minimal alterations. Key considerations include existing zoning, proximity to centers, schools, and parks, as well as the presence of natural resources, necessary infrastructure, and public services. Once Area Plans are adopted, these Place Type designations become essential tools for the Regional Planning Agency (RPA) in making informed zoning decisions. Recommendations for zoning changes are made based on how well the proposed zone aligns with the intended characteristics of the Place Type.

Place Types illustrate a desired character to guide development across a range of community types, from the most urban to suburban, to the most rural places. This distinction is prominently noted in the names of most Place Types, such as Suburban Residential, Urban Residential, and Countryside Residential. Some key elements that contribute to Hamilton County's sense of place include important vistas, the river and its setting within the forested ridges, our diversity of trees, and our historic buildings. This sense of place can occur at multiple levels - across an entire city, within individual neighborhoods, or in a specific block. The transect graphic below identifies seven general levels of the natural environment to the built environment. The Place Types were partially based on this transect model to ensure that all aspects of Hamilton County's character were considered.

To promote good placemaking, the RPA uses Place Types to influence the form and character of development. This is done alongside the Centers and Corridors approach, as described in Chapter 4.1, to guide different types of development to the most suitable locations. This is based on factors such as Land Use and Development Character, Resiliency, Mobility and Transportation, and Community Facilities.

By designating Place Types, we are not just planning for the present but also safeguarding the unique essence of Hamilton County for future generations. Whether it's the urban vibrancy, suburban charm, or rural tranquility, each Place Type plays a crucial role in maintaining the region's distinct identity and ensuring thoughtful, cohesive development.

Figure 4.2: Transect Zones from Natural (left) to Special District (right) Source: Duany Plater-Zyberk & Company, DPZ

4.2.1 HOW ARE THEY USED?

Place Types reflect whether the community vision and adopted plan identifies an area for significant change, gradual transformation, or preservation with little change. Other factors, such as the surrounding or existing zoning, proximity to Centers, schools or parks, the location of natural resources, necessary infrastructure, and public services are considered. Once Area Plans are adopted, the Place Type designations within those Plans are used by the RPA to inform zoning decisions. A recommendation for a zoning change is based on whether the requested zone will result in the Place Type characteristics described in this chapter. The following Place Types represent the full palette of Place Types available throughout the County but not all Place Types are used in all areas.

Place Types layout out a vision for future land uses and they are intended to guide development choices. Once a plan and its associated Place Type map is adopted, then a request to study new zoning designations and assess what tools are needed to achieve the adopted vision may occur. A zoning study typically follows within 6 months to a year of plan adoption depending on the level of change desired or other influences.

- Place Types are not zoning.
- Place Types are recommended future development patterns.
- Place Types are policy.
- Place Types are used to inform zoning decisions.
- Zoning is a regulation.
- One or more zoning districts may be used to develop a Place Type.

PREDOMINANT USES, LIMITED USES, AND DENSITY

Place Types intentionally promote a mix of uses as a means of providing residents with more housing choices and more access to daily needs and jobs. Each Place Type listed in this subchapter provides examples of potential uses, along with other elements that generally define its character and are divided into:

1. **Predominant Uses** – The most prevalent, most frequently
2. **Limited Uses** – Less common, but can still be compatible with the predominant use if limited to certain locations, limited in size, buffered from adjacent uses, etc.

> *"Place Types do not necessarily describe what exists today, but rather the desired vision of what a place may become."*
>
> *Chattanooga - Hamilton County Regional Planning Agency (RPA)*

While limited uses are less prevalent in a Place Type, they can provide additional services and housing options, while maintaining compatibility with the predominant use. However, a proliferation of limited uses will change the character of an area, and the original intent of the Place Type can be lost. Often, rezoning requests are for these limited uses, and where Limited Uses are listed additional guidance has been provided regarding the appropriateness of integrating the use into the Place Type.

Each of the following Place Types includes:

- A two or three letter abbreviation, and the color, used to identify each on the Place Types map.
- A general description of the typical, or ideal, situation.
- A list of characteristics that are generally needed to support the intended development form of the Place Type.
- Examples of the predominant uses.
- Examples of the limited uses.
- Illustrative photos, presented as examples only.

4.2.2 CATEGORIES & PLACE TYPES IN AREA 12

There are 23 Place Types in total as provided and amended from time to time by the RPA on their website here. The four categories with listing of Place Types are below. On the pages following in this section are the individual Place Types that appear in Hamilton County and as shown on the Place Type Map (Figure 4.6).

RESIDENTIAL

- *Countryside Residential (CR)*
- *Suburban Residential (SR)*
- *Urban Residential (UR)*
- *Mixed Residential (MR)*

SPECIALTY DISTRICTS

- *Preserve (PR)*
- *Agricultural (AG)*
- *Resort & Recreation (RR)*
- *Industrial (IN)*
- *Maker District (MD)*
- *Campus (CA)*
- *Regional Facility (RF)*

CENTERS & CORRIDORS

- *Crossroads (XR)*
- *Neighborhood Node (NN)*
- *Neighborhood Center (NC)*
- *Village Center (VC)*
- *Town Center (TC)*
- *Downtown Core (DC)*
- *Rural Corridor (RC)*
- *Suburban Corridor (SC)*
- *Mixed-use Corridor (MC)*
- *Transit Corridor (TRC)*

OVERLAYS

- *Natural Resources (NR)*

Table 8: Density

PLACE TYPE	MAXIMUM DENSITY	GENERAL INTENSITY
CR Countryside Residential	Up to 2 du/acre	Low Density
SR Suburban Residential (Principal)	Maximum of 5 dwelling units/acre	Low to Medium Density
SR Suburban Residential (Limited)	Maximum of 7 dwelling units/acre	Medium Density
MD Maker District	Maximum of 12 dwelling units/acre	Medium to High Density
NN Neighborhood Node	Maximum of 12 dwelling units/acre	Medium to High Density
MR Mixed Residential (Principal)	Maximum of 12 dwelling units/acre	Medium to High Density
MR Mixed Residential (Limited)	Maximum of 18 dwelling units/acre	High Density
NC Neighborhood Center	Maximum of 8 dwelling units/acre	Medium to High Density
UR Urban Residential	Maximum of 15 dwelling units/acre	High Density
SC Suburban Corridor	Maximum of 18 dwelling units/acre	High Density
VC Village Center	Maximum of 12 dwelling units/acre	High Density
RR Resort & Recreation	N/A	Varies if Type A or B *See Place Type Description*

CENTERS

XR Crossroads




Generally four acres or less, Crossroads are smaller than Village Centers or Town Centers and are most often located in rural Areas. They may serve as gateways to adjacent neighborhoods. Smaller footprint buildings frame a single intersection of two arterial or collector streets, or extend a short distance from the intersection. This small cluster of businesses meets some of the daily needs of the immediate residents with stores, restaurants and other neighborhood-serving commercial uses. Over time when the infrastructure needed to support more intense development is in place, Crossroads may grow into the larger Village Center.

Uses

Retail, restaurants, garden centers, personal services, offices, gas stations, small markets, auto repair, landscape businesses, and small industries/workshops (such as breweries, bakeries and woodworking shops).

NN Neighborhood Node




Located in urban or suburban Areas, and generally a total of only two acres or less, Neighborhood Nodes are much smaller than Village or Town Centers. Smaller footprint buildings frame a single intersection or extend a short distance from the intersection. This small cluster of businesses provides goods and services, such as laundromats, restaurants, small grocers, and other neighborhood-serving commercial uses, to the immediate surrounding community. Residential uses over retail or office are common.

Uses

Small retail and restaurants, convenience stores, personal services, offices, farmers' markets, small industries/workshops (such as breweries, bakeries and woodworking shops), live/work, short-term vacation rental, and two, three and four-unit dwellings

When a Neighborhood Node is located along a Mixed-use Corridor or Transit Corridor, the building size in the Neighborhood Node should be consistent with its surrounding corridor type (typically larger than described above), but the uses at that location should include ground-floor commercial or services.

NC Neighborhood Center

Usually found in suburban locations, Neighborhood Centers are shopping centers of 5–15 acres that provide goods and services primarily to the surrounding neighborhoods. They are not part of a continuous "strip" of commercial uses along a corridor, but rather are limited to a single quadrant of an intersection and surrounded by residential development. They usually have large, shared parking lots with a few outparcel buildings that face the street. Some include smaller commercial properties on the other corners of the intersection. Neighborhood Centers often have one large building that houses multiple stores, deeper building setbacks, an emphasis on vehicle access, and limited civic services. Neighborhood Centers may be redeveloped as Village or Town Centers with a more walkable and urban form, over time.





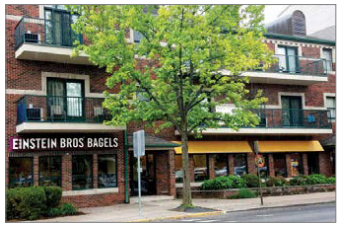
Uses

Grocery stores, retail and restaurants, offices, personal services, small workshop/industries (such as studios, work spaces, bakeries, breweries, woodworking shops or other low impact production) townhomes, and minor auto service/repair

VC Village Center

Larger than Neighborhood Nodes, but smaller than Town Centers, the Village Center (generally 2–10 acres) is a pedestrian-oriented cluster of medium footprint buildings, with a mixture of commercial and residential uses. Multi-story buildings with residential uses over retail or offices are common. Due to their intensity, Village Centers are typically located along transit routes, but primarily serve local residents. Walking, biking and transit are prioritized over auto use in Village Centers, with shared parking lots providing a park-once environment. Pedestrian entrances front directly onto the sidewalks, with window displays at the ground floor to provide interest for pedestrians. Village Centers are often organized around a central public square or park. Village Centers may, over time, grow into Town Centers.





Uses

Civic institutions, public square or park, retail, restaurants, offices, personal services, lodging, live/work, small industries/workshops (such as studios, bakeries, breweries, or woodworking, or other low impact production), townhomes, short-term vacation rentals and two, three and four-unit dwellings.

CORRIDORS

SC Suburban Corridor

Suburban Corridors have a linear configuration because they are located along major commercial streets, however they differ from Mixed-use and Transit Corridors in that the development along them tends to be more spread out. They are not typically served by frequent transit. Businesses along Suburban Corridors serve a large geographic Area and are primarily accessed by car. Buildings tend to be single-story and house a single use with deep setbacks from the street. Some developments have a horizontal mix of uses within a larger site. The types of businesses found along Suburban Corridors range from stand-alone restaurants and stores, to "strip" shopping centers, to regional malls, medical centers, multi-story office buildings, and hotels. Multi-unit residential is also a growing use along suburban corridors, either as new construction or as retrofits of older retail centers or hotels.




Predominant Uses

Retail, multi-unit housing, offices, restaurants, personal services, medical facilities, lodging, small workshops and artist studios, recreation and entertainment (such as bowling, mini golf, conference centers, theaters) and assisted living facilities.

Limited Uses

Auto-oriented services when located along a major corridor or at the corner of a major intersection.

RC Rural Corridor

Primarily located in rural parts of the County, and are characterized by lots of open fields and woodlands. Development along Rural Corridors is sparse with farms or single unit homes on large estate lots. A few scattered subdivisions with smaller lots may have entries along these corridors, but the homes are separated from the corridor by distance (50 - 100 feet), and by dense vegetated buffers, in order to preserve the rural character of the corridor. Rural Corridors do not have the more dense, connecting street networks. They are typically two-lane roads. Rural Corridors may however, also take the form of a major thoroughfare, such as a state designated scenic parkway, with mountainside or lakefront views. A few commercial uses, often located at a Crossroads intersection, or as a stand-alone business, may be found along Rural Corridors, but no long stretches of commercial businesses.




The purpose of the rural corridor overlay is primarily to address new subdivision development. A rural corridor setback for a subdivision for the purposes of the plan refers to a required distance that new development must maintain from a designated corridor, as detailed on the Place Type map. The intent of the setback is to protect the character and environmental integrity of the rural landscape. The setback does not apply to individual homes outside a major subdivision.

RESIDENTIAL

CR

Countryside Residential

Countryside Residential Place Types have a very rural character and consist primarily of single-family homes on large lots. Countryside Residential may include open fields, woodlands, and streams or lakes, as well as accessory buildings, such as barns and greenhouses. This Place Type also includes the County's agricultural uses related to the production of crops, livestock, forestry uses and agricultural service businesses ranging from roadside vegetable stands or feed & seed stores to larger production facilities.

Residences and development centered around farming are typically on septic systems. Residences are generally further from key destinations than in other residential Place Types therefore, a personal vehicle is needed to reach daily needs. Fixed-route transit is not feasible, and sidewalks are not likely, due to the low density of these Areas.

Predominant Uses

Single-unit detached, farming activities, accessory buildings (barns, greenhouses, etc.), manufactured homes

Limited Uses

Event facilities, golf courses, and campgrounds where appropriate infrastructure exists and development impacts such as noise, traffic, and activity are directed away from existing residential uses.

SR Suburban Residential

The Suburban Residential Place Type has a predominantly low intensity, single-family detached, residential development pattern, especially within the same block. Some moderate density residential development, such as small lot houses or attached townhomes, may exist, but are located on a major street or near a transit route or school. When next to lower density residential development, this moderate intensity infill development maintains the existing rhythm and feel of the street. Factors that play into this rhythm and feel include lot width, setbacks, building massing, and height. Open spaces are typically private (back yards), but greenways may provide connectivity. Residences in this Place Type are generally further from key destinations than those in other Place Types therefore, a personal vehicle is needed to reach daily needs.

Predominant Uses

Single-unit detached residences up to 5 dwelling units/acre, accessory dwelling units (ADUs)

Limited Uses

The following uses when located within a 1/4 mile of a public school or park or center where appropriate infrastructure exists: single-unit detached residences up to 7 dwelling units an acre; townhomes (up to 4 massed units per building); and two, three, and four unit housing

MR Mixed Residential

The Mixed Residential Place Type is intended to provide a wide range of housing options for residents at various stages of life, and walkable destinations in close proximity. Due to their intensity, Mixed Residential developments are located along major streets, or within walking distance (1/4-mile) of a transit route. The Mixed Residential Place Type includes moderate to higher intensity housing. Taller multi-family buildings are located along streets, with shorter buildings on local streets to provide a transition to any less intense residential uses.

Predominant Uses

Two, three and four unit residences, multi-family residential with 5–12 units per building, cottage courts, townhomes, manufactured home parks, and accessory dwelling units (ADUs).

Limited Uses

Multi-family of over 12 units per buildings should directed towards major streets/corridor or adjacent to a center.

SPECIALTY DISTRICTS

PR Preserve

Preserves are large expanses of forest, floodplains and other natural resources, as well as public parks and recreation Areas that have been set aside as places where general development is not allowed. They may also include privately-owned land that is permanently protected by conservation easements and remains in a largely undeveloped state. Some may be used for passive recreation, while others are largely off limits to human use due to sensitive natural resources or their remote location. Development within the Preserve is minimized, and is limited to cultural, educational or recreational uses.




Uses

Undisturbed open space, visitors' centers, nature centers, public parks, active and passive recreation, trails, cemeteries, and accessory structures such as concessions, storage and parking.

RR Resort and Recreation

The Resort and Recreation Place Type supports outdoor activities such as camping, boating, golfing, bouldering, mountain biking, as well as corporate nature retreats, and eco-tourism activities. These places are focused on enjoying nature, exceptional views, or historic landmarks. However, unlike Preserves, which are primarily government-owned properties with very limited development, such as a state or County park, the Resort and Recreation Place Type can include multiple private businesses with more development, such as marinas, hotels, restaurants and even housing. Properties may range in size from a 20-acre campground to 100+ acre resorts with a marina, lodge, restaurant, and individual house lots.

Resort Type A accommodates a more intense outdoor recreation and park experience and could include hotels, conferences centers, large campgrounds/RV parks and related uses or even a full resort. Oftentimes these are located in or adjacent to state or county parks or may develop from a golf course or event facility such as a fairground or agritourism site. The development size and location should be designed so that the impact of this larger-scale format lessens potential negative aspects.

Resort Type B accommodates smaller-scale or less intense recreational activities such as golf courses, ballfields, cultural facilities, marinas, and related accessory use such as parking areas, small campgrounds or cabins, and related retail goods such as camp stores, farm stands, and equipment rental (kayaks/canoes, bicycles, etc.)


Predominant Uses

Campgrounds/RV parks, hotels, cabins, restaurants, marinas, camp stores, golf courses, agriculture-related businesses (e.g. boarding stables, riding academies), farming activities

Limited Uses

Single-unit housing (detached and attached) and reception facilities as a secondary use integrated into a resort.

CA Campus

Campus Place Types are characterized by one major activity such as educational, office, industrial, medical, or religious. Campuses are typically based on a master plan that incorporates buildings, open spaces, streets, pedestrian networks, and parking in a unified manner. Campuses have clearly defined edges—often delineated with gateway structures and landscape—that distinguish them from adjacent Place Types. Residential buildings and small convenience services often support the predominant use. Campuses function as major employment and activity centers and are often served by public or private transit.




Uses

Institutions (such as academic, medical, religious or research facilities), offices, clubhouses/ meeting halls, athletic facilities, non-noxious/non-nuisance manufacturing and industrial, open space, multi-family residences (residence halls and dormitories), onsite retail and food services, and staff housing.

Existing schools, large medical and church campuses, government facilities, and corporate headquarters are identified as the Campus Place Type. However, as land use and property owners change over time, the Campus designation may no longer be applicable. In that case, the plan goals, surrounding Place Types, and context should all be considered in identifying future use/ reuse of the former Campus site.

IN Industrial

The Industrial Place Type supports a variety of manufacturing uses. Unlike the Maker District Place Type, the Industrial Place Type includes both non-noxious operations (no hazardous materials or pollution) and noxious industries (heavy industrial production). The latter are not located adjacent to residential Areas, but are not so far away as to be a commute burden. The size of lots (2+ acres) and buildings are often larger than those in the Maker District Place Type.


Uses

Light manufacturing and industrial facilities, including assembly facilities, offices, distribution, warehousing, wholesaling, retail specifically related to the primary use and self storage facilities.

Limited Uses

Heavy manufacturing should be located along major transportation infrastructure and directed away from existing development.

There are limited areas of industrial uses in the County today. Some smaller scale industrial areas may appropriately transition to Maker Districts supporting a combinations of contractors, skilled trades, repair specialists, artists and artisans, food production, and service centers.

MD Maker District

Maker District Place Types are live-work districts where housing and workplaces are located in close proximity to each other, providing residents with convenient access to employment. They include a mix of light manufacturing, assembly, and contractor businesses, along with multi-family residential and commercial uses. Older smaller industrial structures that have been adapted for new purposes are frequently found here. Industrial facilities are non-noxious (no hazardous materials or pollution), and non-nuisance (no odors, excessive light, or heavy truck traffic). Due to these smaller buildings, short block lengths, and the mix of other uses, these Areas are generally walkable. Parks, plazas, and neighborhood-serving retail enhance the character and livability of the Area.





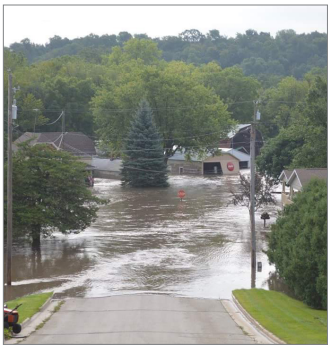
Uses

Non-noxious/non-nuisance light manufacturing, assembly, distribution, small workshop/industries (such as woodworking shops, bakeries, or other low impact production), studios, breweries, contractor's offices, live/work, multi-unit residential, retail, offices, restaurants, vehicle repair, gas stations, outdoor storage yard, and self storage facilities

OVERLAYS

NR Natural Resources Overlay

The Natural Resources Overlay is not a Place Type in and of itself. It is an Overlay on top of the underlying Place Type that identifies Areas considered sensitive due to the presence of steep slopes, floodplains or wetlands. Sites within this overlay are not protected by law from development. The purpose, therefore, is to identify these sensitive Areas so that they are given consideration for protection, or incorporated as amenities within new developments. Some sites are already developed and the overlay designation does not mean development cannot expand in these Areas; it merely identifies the location of floodplains, wetlands, and steep slopes.

Predominant Uses

Uses are defined by the underlying Place Type.

4.2.3 PLACE TYPES MAP

See separate Place Type Map. Not included due to size.

4.2.4 CENTERS & CORRIDORS VIGNETTES

The Centers and Corridors Vignettes bring to life a vision for thoughtfully guided growth in key locations across our communities. By focusing on high-potential centers and strategically important corridors, these vignettes illustrate how balanced land use—combining residential, commercial, and recreational spaces—can shape places that are both dynamic and resilient. Each vignette reveals how carefully aligned planning can elevate connectivity, support walkable neighborhoods, and foster economic growth while preserving Hamilton County's distinctive character, natural beauty, and cultural heritage. Through these targeted narratives, we explore how well-designed centers and corridors not only strengthen community identity but also enhance access to essential services, encourage diverse transportation options, and bolster the area's long-term sustainability. This vision aligns with the unique needs and values of Hamilton County residents, building a legacy of vibrant, and adaptable communities.

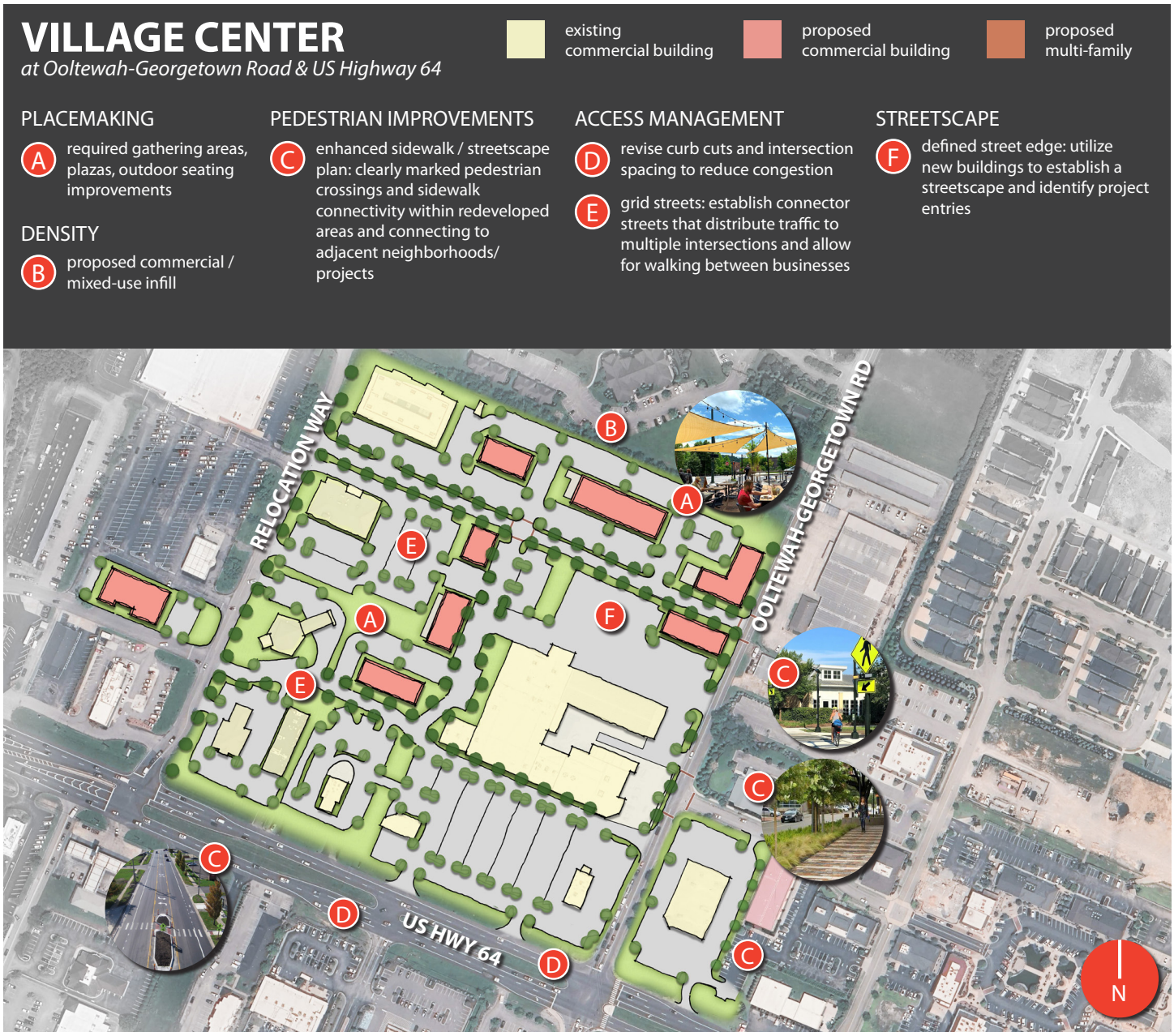


Figure 4.3 Recommendation, Village Center at Ooltewah-Georgetown Road

Figure 4.4: Recommendation, Village Center at Apison Pike & Old Lee Highway

The depictions shown above are intended to represent one idea of potential future development at these locations. Any future development or redevelopment at these locations would need to be initiated by the private property owner. Where there is a mismatch between a vignette and the Place Type map, the Place Type map reflects the official policy.

4.3 POLICY RECOMMENDATIONS

The goals and policy recommendations outlined in Area Plans represent a comprehensive framework designed to guide sustainable development and enhance community well-being. These initiatives are crafted to ensure that future growth respects and enhances the County's and White Oak Mountain's distinct community character while preserving its abundant natural resources.

Emphasizing the importance of balanced growth, the plans prioritize the development of accessible parks and recreation areas that promote active lifestyles and environmental stewardship. Infrastructure improvements are a cornerstone, aimed at improving the connectivity of transportation networks, enhancing water and wastewater management systems, and integrating sustainable solutions. Additionally, the plans emphasize the need for diverse and affordable housing options to support a growing and inclusive population.

By aligning these goals with thoughtful policy recommendations, Hamilton County seeks to foster a resilient and cohesive community. This approach not only prepares the County for future challenges but also enhances its livability and ensures that development is carried out in a manner that respects and preserves its unique character and natural beauty.

The following section identifies the 7 goals which are consistent amongst all five unincorporated areas. Following each goal are policy recommendations to implement that goal.

> *Comprehensive Plans offer a strategic approach to where and how we grow. They address areas for change and areas to preserve.*
>
> *Chattanooga - Hamilton County Regional Planning Agency (RPA)*

4.3.1 GOAL 1 & POLICIES

GOAL 1
BALANCE GROWTH, ECONOMY & COMMUNITY CHARACTER

Policy 1.12.1 Make Village and Town Centers the locations for multifamily apartments/condos, large format retail, and other commercial uses with high trip generation factors. Structure zoning to support this model and target investments in transportation, sewage treatment, and pedestrian infrastructure in these centers.

Policy 1.12.2 Adopt a comprehensive set of corridor management provisions to strategically locate curb cuts and points of access to commercial properties, plan for safe pedestrian crossings and pathways, incentivize buildings to front the ROW, implement wayfinding signage, consider commercial sign standards, add roadway connectivity, and provide mixed-use opportunities. Take a first step by adopting TDOT's Access Management Manual for all state routes.

Policy 1.12.3 Consider creating a corridor management plan for Old Lee Highway to specify locations for more intense industrial and center development, establish setbacks, set aside ROW for multi-modal transportation options, transition zones, and rural/natural resource preservation areas.

4.3.2 GOAL 2 & POLICIES

GOAL 2
PROTECT & ENHANCE NATURAL RESOURCES

Policy 2.12.1 Work with National, State, and local conservation organizations to develop a program whereby environmentally sensitive lands and prime agricultural parcels can be purchased or otherwise incentivized to remain in their natural state and where appropriate provide for public use.

Policy 2.12.2 Develop Conservation Subdivision Development criteria that incentivize this option for large parcels zoned for agricultural or low density residential.

Policy 2.12.3 Update stormwater management regulations and provide a manual of best management practices at community-wide, development, and lot scale.

Policy 2.12.4 Develop a coordinated conservation, recreation, and non-motorized transportation plan for the Wolftever Creek corridor. This corridor can provide buffer from higher density developments, public access to nature, recreation and wellness opportunities, enhanced water quality, and resiliency from storm impacts. Consider a similar strategy for the Chestnut Creek corridor.

4.3.3 GOAL 3 & POLICIES

GOAL 3
PRESERVE & ENHANCE OUTDOOR RECREATION

Policy 3.12.1 Build on the success of existing County and municipal assets (Summit Softball Complex, Summit Field, Collegedale Commons, Little Debbie and Imagination Station parks, and the Collegedale-Wolftever Creek Greenway System, White Oak Mountain and Bauxite Ridge trail system). Continue closing gaps in connectivity between these assets, area schools, and commerce centers.

Policy 3.12.2 Explore partnership opportunities to expand and further connect all of these existing trail networks. Consider funding planning and development of a Chestnut Creek Greenway as a complementary north-south recreation-transportation-conservation corridor to the Wolftever Creek Greenway system.

Policy 3.12.3 Work with developers of proposed Village Centers at Pattentown Road/Apison Pike and along Ooltewah-Ringgold Road to enhance adjacent recreational properties and extend greenway connections to benefit both the developments and the community at large.

4.3.4 GOAL 4 & POLICIES

GOAL 4
PROMOTE CONNECTIVITY & MULTI-MODAL TRANSPORTATION

Policy 4.12.1 Explore partnership opportunities to expand and further connect existing trail networks and greenways to offer a comprehensive system of alternative transportation options between community recreation, institutional, and commercial hubs.

Policy 4.12.2 Consider funding planning and development of a Chestnut Creek Greenway as a complementary north-south recreation-transportation-conservation corridor to the Wolftever Creek Greenway system. This system could link employment centers such as McKee Foods and Southern Adventist University to future residential clusters in the Apison area while also providing recreation, conservation, and environmental benefits.

Policy 4.12.3 Work with TDOT to test the feasibility of a multimodal corridor paralleling Ooltewah-Ringgold Road as this corridor is being evaluated for standard individual auto based transportation enhancements.

Policy 4.12.4 Utilize suburban corridor provisions for consolidated points of access, green space buffers, and connectivity requirements to connect current and future developments along primary transportation corridors such as Ooltewah-Ringgold Road, East Brainerd Road, Banks Road, and Standifer Gap.

4.3.5 GOAL 5 & POLICIES

GOAL 5
PROVIDE ADEQUATE INFRASTRUCTURE

Policy 5.12.1 Consult with school district officials to establish a system for regular reporting on school capacity for use in evaluating capacity for major subdivisions.

Policy 5.12.2 Strengthen County water quality management ordinances and include best management practices. Provide professional staffing for review and ongoing inspection of engineered designs for Erosion Control Plans, Site Stabilization, and permanent stormwater infrastructure. Add incentives for Low Impact Development solutions. Consider the possibility of publicly funded centralized stormwater collection in highly sensitive areas.

Policy 5.12.3 Work with WWTA to anticipate planned expansion of sewer trunk lines and plan for associated growth. Also establish standards for when decentralized systems will be considered and when density will be limited to be appropriate for individual septic system designs.

Policy 5.12.4 Require traffic impact studies as a standard evaluation tool for more types of subdivision applications. Have a list of relevant site specific improvements for developers to build or fund to mitigate impacts. Derive these lists from current and future corridor studies and collaboration with TDOT, Hamilton County Roads Committee, the School District and others.

Policy 5.12.5 Continue to prioritize and fund projects identified in the current list of safety and congestion related transportation improvements. Establish development specific contribution requirements, partnerships and Countywide funding mechanisms to address recommended future transportation infrastructure needs in growth areas.

Policy 5.12.6 Prioritize infrastructure spending in and around designated centers and funding of conservation tools in areas recommended for lower densities and preservation of agricultural operations and landscapes.

Policy 5.12.7 Limit new housing in areas that are identified as having inadequate infrastructure.

4.3.6 GOAL 6 & POLICIES

GOAL 6
PROVIDE SUITABLE COMMERCIAL & MIXED-USE CENTERS

Policy 6.12.1 Incentivize growth to occur in recommended Village and Town Centers. Consider infrastructure investments, and financial vehicles to encourage desired forms of development in appropriate locations.

Policy 6.12.2 Consider similar public-private investment tools to promote redevelopment of existing highway oriented commercial developments into forms that lessen transportation impacts and improve housing choices.

Policy 6.12.3 Encourage the Village Center at Pattentown Road and the Resort Recreation Center in Collegedale to catalyze the recreational tourism economy by allowing for complementary lodging, restaurant, entertainment, and event facilities along with a mix of housing types to support these unique businesses.

4.3.7 GOAL 7 & POLICIES

GOAL 7
PROVIDE A RANGE OF HOUSING OPTIONS

Policy 7.12.1 Allow centers, nodes, and crossroads of all types to accommodate a variety of housing types at a density and scale appropriate for the proposed location. Flexibility in housing types allows for educators, emergency personnel, and public employees to live closer to the communities they serve. Young professionals and older generations can live closer to family if they choose.

Policy 7.12.2 Additional density and housing variety at smaller centers maintains viability for a wider range of neighborhood commercial tenants to be successful in these nodes. It can also have the effect of reducing congestion at larger centers by minimizing the number and frequency of trips to these highly utilized areas.

Policy 7.12.3 Consider greater flexibility for ADU's in all residential zones. Consider allowing short term nightly rental of ADU's in the vicinity of Resort Recreation Centers as a means of increasing affordability of primary residences on the same property.

AREA 12 SPECIFIC RECOMMENDATIONS

Area 12 is linked to East Brainerd, Chattanooga, and the I-75 corridor through key routes such as East Brainerd Road, Standifer Gap Road, and Apison Pike. Ooltewah-Ringgold Road serves as a vital north-south connection, extending access to the growing communities of Ringgold and Dalton in north Georgia. These corridors are pivotal in shaping transportation patterns, economic activity, and development trends across the region.

The western portion of Area 12 has witnessed rapid residential and commercial growth, driven by its proximity to employment hubs along I-75, including Chattanooga, Enterprise South, and Collegedale. The presence of newer schools and district facilities has further fueled this growth in areas like East Brainerd and Ooltewah. A key objective of this plan is to guide and bring predictability to commercial and higher-density residential development.

Natural features such as White Oak Mountain, Bauxite Ridge, and the Wolftever Creek drainage present important constraints to expansion and should be treated with respect in future planning efforts. While sewer infrastructure supports additional growth in the western half of Area 12, development should be concentrated in designated centers. Careful monitoring of school capacity, critical intersections, and sewer systems—including pump stations and collection lines—will be essential to addressing potential limitations on growth.

TOOLS & STRATEGIES

Conservation Subdivisions:

» Planned roadway and sewer improvements along East Brainerd Road and London Lane will increase development interest in this area. This area also encompasses some of the last remaining contiguous farmland in this part of the County. Landowners wishing to continue farming should be supported with development setbacks on adjacent properties and other policies outlined in the implementation toolbox. This is also an area that is well suited to cluster housing as conservation subdivisions supported by sewer and with potential lease back of preserved open space to the original landowner or an adjacent farmer. These conservation tools could also be utilized to provide public recreational trail access along Baker Ridge.

Farmland & Riparian Corridor Protection:

» Agricultural use should be prioritized in the area from Apison east to the County line. While development at A1 zoned density is allowed in this area, property owners who wish to continue agricultural use should be supported with development setbacks on adjacent properties and other policies outlined in the implementation toolbox.

Centers:

» Larger scale development requiring rezoning for commercial or higher density residential uses should only be considered as part of a master plan in designated Village Centers at Lee Highway/Ooltewah Georgetown Road, Apison Pike/Old Lee Highway, and East Brainerd/Ooltewah Ringgold Road. Infrastructure capacity must be demonstrated before rezoning is considered. Access management plans must be adopted as these centers are developed.

» Small footprint infill commercial uses and opportunities for small clusters of mixed-residential townhomes or small format multifamily should only be considered in designated Neighborhood Nodes or Crossroads and only on a small portion (less than 20%) of the overall property. However, infrastructure capacity must be demonstrated before rezoning is considered. The transportation projects found in the Hamilton County Transportation Project Priorities List at Bill Reed Road / Standifer Gap are priorities before or as part of Neighborhood Node or Crossroads development designated near that intersection.

» A Resort Recreation center is designated on unincorporated land in Hamilton County surrounded by Collegedale. Each of the areas that matches this description are suited to this use. They could provide lodging, restaurant, and recreational services to the community while preserving critical public recreational access, future trail connections to existing high value assets (Bauxite Ride-White Oak Mountain Trails, Wolftever Creek Greenway), and preservation of critical riparian corridors. Resort Recreation development could increase tax base, create jobs, training opportunities for students, support amenities for Mckee Foods and Southern Adventist University, while creating lower demand for infrastructure and educational resources than other likely forms of development.

Corridors:

» The Rural Corridor designation is broadly recommended along the rural portions of East Brainerd Road and Apison Pike, Bill Jones Road, McGhee Road, and London Lane. This designation will require development setbacks allowing for placement of access improvements, pedestrian and school bus facilities, storm water facilities, and maintenance of the rural character of the area where new residential subdivisions are approved.

» Where Suburban Corridor is designated, this is in recognition of the number of existing businesses or residential subdivision entrances populating this segment of road. It also recognizes the potential need to slow or manage traffic at the designated nodes or centers. The Suburban Corridor designation indicates that smaller setbacks of buildings may be appropriate and that access management strategies need to be employed to prevent future safety and congestion issues. The Suburban Corridor Definition is not meant to reflect any encouragement of infill commercial outside of designated Neighborhood Nodes.

Transportation Infrastructure:

» Suburban Residential in-fill is expected to continue in the portions of Area 12 west of Ooltewah Ringgold Road. However, the County must employ recommendations to improve connectivity between projects and manage intersection design and access to arterials and collectors to avoid exacerbating congestion issues. The transportation projects found in the Hamilton County Transportation Project Priorities List on Standifer Gap must be prioritized prior to rezoning of A1 land along Standifer Gap.

» Transportation Infrastructure must be improved in the areas identified for priority investments in the Transportation Project Priorities List. The County should immediately create requirements limiting the size/density of developments with a single point of access, providing for safe pedestrian infrastructure within developments, and governing intersection spacing and access design for new subdivisions.

General:

» Properties encompassing the southern extents of White Oak Mountain and along Baker Ridge must be required to focus new proposed development off steep slopes and with significant buffers from creek drainages. Fire safety, erosion control/ slope stability, and connectivity to existing trail systems and public access recreation are necessary components of development containing these natural features.

CHAPTER 5

NEXT STEPS & IMPLEMENTATION

PLAN HAMILTON

RPA
Chattanooga-Hamilton County
Regional Planning Agency

5.1 INTRODUCTION

This chapter serves as the essential bridge between each community's vision and the actions needed to make it a reality, translating broad goals and strategies into specific, actionable steps. By outlining processes for tracking progress, identifying funding opportunities, and fostering ongoing community involvement, this chapter offers a clear roadmap to bring these plans to life—guiding Hamilton County's growth in ways that honor its unique character, address residents' needs, and protect the qualities that define each community.

Hamilton County's growth has varied significantly across the five Areas examined in this plan, reflecting a wide range of factors. Rapid development has shaped East Brainerd, Ooltewah, and incorporated Collegedale in Area 12, along with parts of Harrison in Area 9 and Middle Valley in Area 8. Similarly, steady interest surrounds Signal Mountain and Walden in Area 7. In contrast, most of Area 13 and the northern sections of Area 9 have largely preserved their rural landscapes and agricultural heritage.

Key infrastructure corridors, particularly I-75, have been instrumental in fostering growth over the past two decades, fueling employment hubs, retail centers, and other commercial services. Interstate access and centralized sewer services has created favorable conditions for development and infrastructure investments in these corridors. Major employers like McKee Foods and Volkswagen, along with their networks of suppliers, have driven demand for nearby housing and led to increased commercial activity. High-performing schools in the Ooltewah and Harrison areas have contributed to further residential demand.

Infrastructure

The presence of sewer trunk lines and available capacity remains one of the single biggest predictors for residential growth. However, the overall availability of sewer capacity is a significant constraint, presenting Hamilton County planners and leadership with critical decisions on where to allocate resources for sewage treatment and collection expansion. Currently, most funding is dedicated to increasing storage for combined sewer flows, aimed at preserving treatment capacity and avoiding regulatory actions tied to water quality. An integrated approach is essential to addressing challenges facing the sewer facilities that serve Chattanooga and Hamilton County. This includes an intensified focus on reducing stormwater impacts through both engineered and low-impact development practices. Investing in more comprehensive stormwater infrastructure reviews across both commercial and residential projects could provide significant returns, mitigating maintenance costs tied to sewer capacity. Incentives for low-impact development, as implemented in other communities, could help retain stormwater on-site, reduce flow rates into combined systems, and enhance water quality within critical watersheds. Better mapping of sewer and water infrastructure is also needed to provide planners with the tools they need to identify infrastructure gaps, investment targets, and areas of the county that can be planned as future growth centers.

Transportation

The County's economic and population growth has created new challenges such as driving demand for efficient and safe transportation alternatives. This need is especially evident in areas experiencing the most rapid expansion. Keeping pace with these demands through infrastructure maintenance, improvement, and expansion is a significant challenge faced at every level of government, and Hamilton County is no exception. As growth continues in the County and the greater Chattanooga and northwest Georgia region, strategic investments in the transportation system will be essential to support future mobility and enhance residents' quality of life.

Hamilton County's role as a regional transportation hub underscores its significance. Interstates 24, 59, and 75 provide critical connectivity for freight, recreation, and commuter traffic across the Southeast and key corridors to the Northeast, Midwest, Southwest, and Florida. Additionally, the county is served by Class I railroads, CSX Transportation and Norfolk Southern Railway, offering freight movement alternatives nationwide. The Tennessee River further enhances freight transport options as a navigable waterway.

As Hamilton County grows, a more focused approach to transportation planning will be essential. Key strategies include corridor management plans, access management strategies, and road safety audits. Corridor management plans for routes such as Ooltewah Ringgold Road, Highway 58, Hixson Pike, and Middle Valley Road can reduce traffic friction and improve access efficiency for businesses and residential areas. Access management strategies, including regulating driveway placement, optimizing intersection design, and promoting shared access points, offer a more detailed approach to improving traffic flow and safety. Regular road safety audits for high-crash routes will proactively identify and address safety concerns.

Many of Hamilton County's critical routes are under TDOT jurisdiction. Leveraging funding for improvements to those routes would begin with adding the desired route or improvement to the long range transportation plan (RTP) so that state and/or federal funding can be allocated based on the prioritization of needs by the MPO. Ongoing monthly or quarterly coordination meetings are recommended between the Hamilton County Roads Committee, RPA-MPO planners and the staff at TDOT Region 2 to advocate for future projects. This will also allow County leadership to stay informed of changes or opportunities for funding new projects or spot improvements.

To effectively address the unique needs of each Area, strategies must be tailored to specific locations and projects. These approaches should be further refined through detailed, site-specific safety and design studies. Potential tools include:

- Tax Increment Financing (TIF)– This would be particularly useful in areas where growth is expected to increase traffic demand. The McDonald Farm is a good example of somewhere in Hamilton County that TIF could be applied.
- Business Improvement Districts (BID)– This would be a similar approach as the TIF but would be more applicable to developed commercial areas to complete smaller road, multimodal, or streetscape projects.
- Alternative Transportation Funding – Projects involving electric vehicle infrastructure (charging stations) or other solutions such as bike-share or ride-share services often qualify for different funding programs. Given the rural character in part of the County, these types of projects would need to be located in places with the highest probability of success.
- Public-Private Partnerships – This can be an important tool for funding large infrastructure projects with private companies when the opportunity for an industrial, commercial, or residential projects arise with benefits to the County. The costs, financing, and effort of project delivery can be shared when working with private companies.

The transportation analysis for these Area Plans aimed to identify impactful projects that might otherwise be overlooked in the TIP process but are critical to Hamilton County residents. Potential projects addressing roadway safety and traffic congestion were identified across all five Areas and prioritized based on their impact and cost. This list serves as a valuable tool for County transportation planners and engineers, helping to advocate for major projects within the MPO–TIP planning process while also providing a strategic roadmap for efficient local investments that can deliver meaningful results in the near term.

The recommended projects include both design and construction initiatives, as well as engineering studies to refine potential solutions and anticipate future transportation needs. These recommendations are designed to address existing traffic and roadway safety challenges and can be seen as deferred investments needed to support growth that has already occurred. If fully funded and implemented, the Transportation Project Priorities List would create synergistic improvements, significantly enhancing the county's transportation network. However, as new growth unfolds, additional evaluations and investments will be essential to meet evolving demands.

Emergency Services

To support the analysis of current conditions, the County and RPA also commissioned a Fire and Rescue Services Evaluation. Unincorporated Hamilton County is primarily served by a patchwork of dedicated and resourceful volunteer fire departments. With findings that reveal life safety implications tied to new growth, the report underscores the need for careful planning on where and how future developments occur, taking into account building types, heights, and roadway connectivity in order to adequately protect residents, business owners, and their structures.

Addressing Future Challenges

The benefit of planning for growth within the centers and corridors framework is that it greatly increases the odds of predicting where future sewer, transportation, emergency services, stormwater, water, communications, education, and recreational infrastructure investments will be required. However, realizing these goals will require significant financial and human resources. Outside projections estimate the combined need for infrastructure investments across Hamilton County at around $3.8 billion—a figure that poses challenges for per capita affordability.

Individual views of elected leaders on where and how much infrastructure investment is needed will undoubtedly vary, but it is clear that higher levels of funding and planning are essential to address existing backlogs across various infrastructure categories. Without an approved Comprehensive Plan, County leadership and staff have had difficulty focusing growth and predicting where infrastructure improvements will be needed next.

While certain areas have already developed strong market dynamics due to key employers, shopping centers, and transportation infrastructure, balanced investments in both traditional and social infrastructure could promote more equitable growth across Hamilton County. However, without adequate sewer capacity, education facilities, and emergency services, further growth-oriented policies may have limited impact.

Hamilton County stands at a critical crossroads where leaders are grappling with past deficiencies in infrastructure investments driven by sustained growth associated with national and regional migration and natural or endemic growth. The county continues to attract residents drawn by job opportunities, climate, quality of life, and comparatively affordable living. Meanwhile, existing residents often express a strong desire to preserve the rural character, safety, and quality education opportunities for their families.

The implementation strategies within this plan aim to directly address these priorities and lay the groundwork for a sustainable future:

1. A multifaceted approach to increasing the quality and capacity of existing infrastructure.
2. Seeking synergies between land use and infrastructure planning and improved standards for new development that maximize the efficiency, capacity, and return on investment for both private and public infrastructure construction and spending.
3. Planning and design strategies that reduce development impacts and maximize existing education, transportation, recreation, and natural resource assets.
4. Initiate new strategies to preserve rural lifestyles, agricultural production, and associated land.
5. To identify new potential revenue streams, financial vehicles, and public-private partnerships for addressing the needs identified by Hamilton County residents.

5.2 IMPLEMENTATION MATRIX

The implementation process for the Area plans is built on strong partnerships, strategic tools, and targeted funding, all aimed at bringing each community's vision to life (see Community Themes). Collaboration between local governments, stakeholders, and residents is at the heart of this process, ensuring that efforts are aligned and resources are effectively utilized. Key projects are prioritized, with clear timelines and responsibilities, while a range of tools and funding mechanisms are deployed to support these initiatives. This comprehensive approach ensures that the plans are not only actionable but also adaptable, allowing for continued progress as community needs and opportunities evolve.

POLICY SUBCATEGORY (TOOLS & STRATEGIES)

The Implementation Matrix organizes recommendations into specific focus areas, providing a clear structure, by breaking down broader policy goals into targeted subcategories. This section enables a more detailed approach to land use, infrastructure, environmental conservation, and community services allowing Hamilton County to meet the unique needs of each planning area while advancing cohesive, Countywide objectives. These categories are were tailored based on the overall policy objectives in the introduction chapter and the input received throughout the community feedback process. Within the matrix, here are 5 topics with each covering various community aspects of Plan Implementation:

1. **Community Character & Land Use Patterns**
2. **Natural Resources**
3. **Infrastructure & Transportation Network**
4. **Economic Health & Community Opportunity**
5. **Funding Mechanisms**

RECOMMENDATIONS

Outlines targeted actions to support Hamilton County's vision for balanced, sustainable growth. Each recommendation offers guidance for decision-makers, addressing key areas such as land use, infrastructure, resiliency, and community development. These recommendations are crafted to reflect the unique needs of each planning area, ensuring that policies not only guide growth but also strengthen community character, enhance infrastructure, protect natural resources, and improve residents' quality of life.

APPLICABILITY

Identifies where each recommended action is most relevant across Hamilton County's planning Areas. By specifying how and where the policies can be applied, this category ensures that recommendations are tailored to the unique conditions, needs, and priorities of each community. This targeted approach allows for flexible, area-specific strategies that respect local character while addressing shared Countywide goals.

This helps guide effective implementation, making sure that resources and efforts are directed where they will have the greatest impact.

Case Study/ Exampe Ordinance

Provides practical insights and proven strategies from other communities that have successfully addressed similar challenges. By examining these real-world examples and ordinances, Hamilton County can draw valuable lessons to inform its own policies and practices. This section highlights adaptable approaches for land use, infrastructure planning, environmental conservation, incentives, economic development, and impact fees offering a foundation for local initiatives that align with the unique needs and goals of each Area.

Timing

Establishes a strategic timeline for each recommended action, guiding when and how these initiatives should be undertaken. By setting immediate (0-1 Years), medium (1-5 Years), and long-term priorities (5+ Years), this category helps coordinate efforts, align resources, and build momentum toward the community's goals and policy implementation.

Area Specific Recommendations

As outlined in Chapter 4, the Area Specific Recommendations highlight tailored actions designed to address the overarching recommendations within each Area. By focusing on area-specific solutions, this category provides a roadmap for targeted investments and initiatives that support sustainable growth, protect local assets, and enhance quality of life in each community.

AMENDMENT PROCESS & PLAN UPDATES

In order to ensure that Plan Hamilton best reflects the existing and future conditions and vision of Hamilton County, the Plan Hamilton update cycle shall be as follows:

- Full plan review - every five years
- Annual Review of policy and map changes - annual review by staff
- Quarterly Plan Amendment - as necessary and when requested by rezoning applicant

  - Zoning decisions are based primarily on area plans, which are components of the adopted general plan, in this case Plan Hamilton. The County's five different Area Plans were developed to include Place Type (land use) and capital improvement recommendations to inform rezoning requests.
  - Although the Planning Commission meets monthly, it will consider requests to amend the Area Plan quarterly.
  - Planning staff will consult with applicants to determine whether this type of amendment is necessary for a particular rezoning request.
  - An Area Plan amendment and its companion rezoning case may be heard on the same agenda.

Table 7: Implementation Matrix

Policy Subcategory	Recommendations	Applicability	Case Study / Example Ordinance	Timing
5.1 Community Character & Land Use Patterns				
5.1.1 Access Management	Utilize TDOT's Highway System Access Manual for driveway spacing, median openings, and separation distances from signalized intersections.	Start with all State Routes where the existing TDOT Highway System Access Manual has standing. Expand to other principal arterials, minor arterials, and major collectors. Create manual, access management requirements, and corridor management plans before new development impacts are felt. Work with land owners to voluntarily contribute in-kind contributions (ROW, Design, Etc) or require development fees for a proportionate fair share of improvement costs as development applications are approved.		0-1 Years
	Target segments of suburban corridor with high rates of traffic congestion, safety incident history, or new development permit approvals. Improve traffic safety, congestion, pedestrian infrastructure and aesthetics by creating corridor management plans and agreements with state and local partners for high priority suburban corridors		TDOT Highway Access Manual	1-5 Years
5.1.2 Rural Corridors	Develop policy to maintain rural corridor character including setbacks and vegetative buffers for new subdivisions.	All mapped Rural Corridor segments in the Conceptual Land Use and Place Type Maps and those designated in future map updates.	Lumpkin Co, GA Agricultural Preservation Area - Setbacks	0-1 Years
5.1.3 Centers	Work with land owners at Center locations to facilitate development, including district/center specific plan, according to center principles and preferred uses.	All designated center Place Types designated on current and future place type maps.		0-1 Years
	Once approved, partner with developers to install and construct streets and streetscape elements in the form of direct participation or financing vehicles like business improvement districts.	Focus joint development efforts on Village and Town Center areas with regional impacts. Expand to smaller centers where local governance and residents request implementation help and have previously participated in a small area plan.		5 + Years

Policy Subcategory	Recommendations	Applicability	Case Study / Example Ordinance	Timing
5.1.4 Conservation Subdivisions Bonus Conservation Subdivisions	Create an Overlay Commercial Zone or District to provide site and building design standards or other guidelines so new commercial development adds value to the community and is compatible with the rural character sought.			0-2 Years
	Create a conservation subdivision option to cluster housing that features at least half of its potentially buildable land area devoted to undivided, permanently protected open space.	Conservation Subdivisions should be an opt in tool available to land owners who want to balance financial returns with conservation legacy. Creation of conservation subdivision provisions in the county subdivision regulations will provide a tool to augment land purchase, and voluntary conservation efforts.	Williamson Co. TN - Updated Conservation Subdivision Standards NC Conservation Sub-Division Handbook	1-5 Years
	The use of an Overlay District, P.U.D., or Zone is recommended for implementation of more specific development criteria associated with residential and mixed use Place Types.		Nashville - Explanation of Overlays and Development Standards	1-5 Years
	Establish Conservation Subdivision provisions and evaluation criteria in the subdivision ordinance.	All of these tools are necessary to preserve the continuity of productive agricultural land, riparian corridors, and recreational assets at a regional or landscape scale. This tool should be selectively applied in A-1 zoned areas adjacent to existing public land or with high conservation value.	University of GA - Conservation Subdivisions research	1-5 Years
5.1.5 Medium Density Residential	Co-locate future Medium Density Residential adjacent to Suburban Corridor and Center Place Types. Where future Medium Density Residential abuts a Suburban Corridor or Center allow zero lot line single-family and townhomes on a percentage of the overall property. Consider allowing small-scale multifamily in these same areas (6-12 units 3 story maximum).			5 + Years

Policy Subcategory	Recommendations	Applicability	Case Study / Example Ordinance	Timing
5.2 Natural Resources				
5.2.1 Farmland and Riparian Corridor Protection	Build a stakeholder coalition including: NRCS, Trust for Public Land, Land Trust for Tennessee, North Chickamauga Creek Conservancy, Chattanooga Audubon Society, Land Conservation Assistance Network, Soil & Water Conservation District, Thrive Regional Partnership, Tennessee State and others to coordinate farmland and open space preservation efforts in Hamilton County.	Resident input from Areas 7, 9, 12, an 13 all emphasized a strong preference to preserve agricultural land uses, property, and rural character. All five planning areas include riparian corridors that if preserved would help to mitigate flood risks, provide opportunities for contiguous recreational and alternative transportation corridors, storm water quality, and habitat benefits. Development pressures are increasing across the county and in some areas the window for conservation efforts is limited. The time to begin building a coalition of landowners, conservation entities, and funding sources is now.	Thrive - Resilient Communities Program	0-1 Years
	Identify riparian corridors for preservation that have the potential to contribute multiple community benefits including farmland preservation, stormwater filtration, flood resilience, recreation, and habitat. Pursue strategies at landscape scale and on a property by property basis as development is proposed.	Prioritize: North Chickamauga Creek - (Area 8), Wolftever Creek, Johnson Branch - (Area 12), Long Savannah Creek - (Area 9) Falling Water Creek - (Area 7), Possum Creek, and Sale Creek - (Area 13).	America the Beautiful Grants	0-1 Years

REMAINDER OF PAGE IS INTENTIONALLY LEFT BLANK

Policy Subcategory	Recommendations	Applicability	Case Study / Example Ordinance	Timing
5.2.1 Farmland and Riparian Corridor Protection *Continued*	Undertake a comprehensive assessment of active farms and prime agricultural land.	Farmland preservation is often a unifying place to begin conservation efforts. The first step is identifying the soils and parcels that characterize productive agricultural land. Local Soil and Water Conservation Office personnel and academic partners should be engaged in this process. Making tangible progress on the ground requires partnership between federal programs such as NRCS and local conservation groups who can bridge funding gaps and provide stewardship and monitoring support. Developing relationships with Agricultural land owners and the farming community in Area 13, the northern half of Area 9, and the eastern portions of Area 12 is a critical first step.	Farm and Ranch Lands Protection Program (FRPP) Info	0-1 Years
5.2.2 Recreation, Economy and Conservation Synergies	Engage UTC - School of Outdoor Recreation & Tourism Management in a study of potential economic impacts from resort recreation centers, greenway/recreational infrastructure investments, and corresponding riparian corridor preservation.			1-5 Years
	Build on existing successes like South Chickamauga Creek and Wolftever Creek. Invest or seek funding for agricultural demonstration projects, educational, and recreation assets.		St Louis Science Museum Grow Exhibit	1-5 Years
	Pursue partnerships to preserve forested land with an emphasis on areas that further regional trail connections, enhance access to unique recreational, historical, or cultural assets.	Cumberland Plateau in Area 7 and Area 13, Big Ridge Area 9, and White Oak Mountain Area 12.	USDA Forest Legacy Program	0-1 Years

Policy Subcategory	Recommendations	Applicability	Case Study / Example Ordinance	Timing
5.2.2 Recreation, Economy and Conservation Synergies *Continued*	Pursue multiple creative mechanisms and funding for preserving critical recreation and natural resource assets. Look for opportunities to create value in these areas through recreational tourism, wetland or stream bank creation, and consider the value of reduced flood risks and other socio-environmental factors in assessing return on investments.		Revenues from Green Infrastructure - Parks & Recreation Magazine Forest, Farm, and Wildlife Incentive Programs in Tennessee State of Tennessee Landscape Management Plan Resources	
5.2.3 Resiliency, Natural Resource Protections, and Development Impact Mitigation	Establish natural resources protection standards for wooded areas, drainages, steep slopes, as well as currently regulated wetlands and streams.	Countywide		1-5 Years
5.3 Infrastructure & Transportation Network				
5.3.1 Connectivity & Congestion Management	Review fire code regarding the number of lots allowed in new subdivision triggering a secondary point of access.	County Wide	Williamson Co Tn Subdivision Connectivity Criteria	0-1 Years
	Require walking path or sidewalk for new residential subdivisions with connections to a safe harbor school bus waiting area.			0-1 Years
	In support of improved traffic safety and congestion management implement spacing requirements for both full and partial (restricted turn movement) intersections on arterial and major collector roadways. (1/4 mile for full access)	Countywide on Arterials and Major Collectors	Street and Subdivision Connectivity Model Ordinance	0-1 Years

Policy Subcategory	Recommendations	Applicability	Case Study / Example Ordinance	Timing
5.3.1 Connectivity & Congestion Management *Continued*	In support of improved traffic safety and congestion management consider modifications to the subdivision ordinance implementing internal connectivity index standards for developments of more than 500 lots.		Franklin TN Zoning - Circulation Connectivity	1-5 Years
5.3.2 Improvements to Local Roads, Intersections, and Safety Design Features	Follow the Hamilton County Transportation Project Priorities List in this document. Continue to invest County funds and leverage with State and Federal funds to make continuous progress on deferred transportation improvements.	Countywide	Appendix E	0-1 Years On - going
	Explore the use of alternative financing vehicles such as Tennessee's State Infrastructure Bank to amplify County investments.			0-1 Years
5.3.3 Sewage Treatment Capacity and Collection System	Continue to build system storage capacity, resilience for storm events, and greater predictability / flexibility to plan collection system expansion or new treatment capacity. Continue to pursue WIFIA and other capital funding specific to water and wastewater.			On - Going
	Target financing solutions and infrastructure investment to areas that have been identified as suitable for future growth. Proactively plan to shore up capacity or extend collection systems to these areas as necessary to better balance growth impacts.	See Funding Mechanisms		On - Going
	Add further specificity and criteria for utilization of decentralized sewage treatment systems.			0-1 Years
	Evaluate whether tap fees are keeping pace with infrastructure			0-1 Years
	Develop policy with WWTA on decentralized sewer systems with robust criteria and design standards.			0-1 Years

Policy Subcategory	Recommendations	Applicability	Case Study / Example Ordinance	Timing
5.3.3 Sewage Treatment Capacity and Collection System *Continued*	Evaluate decentralized systems and track projects using the systems to determine rules for use.			1-5 Years
	Evaluate the use of trilateral agreements to add flexibility, predictability, and fairness for developers who choose to collaborate with WWTA in design and construction modifications for future capacity to recoup costs of infrastructure developed beyond project needs.		San Antonio Water System - Trilateral Agreements Framework for in-kind contributions	1-5 Years
5.3.4 Stormwater Infrastructure, LID Features, and Resiliency	Provide resources for complete and expeditious review of stormwater plans including pre-constuction site review and post construction inspections.		Hamilton Co. TN Stormwater Rules & Regulations	0-1 Years
	Begin codifying more of Hamilton Co Stormwater quality BMP's.		Hamilton Co. TN Stormwater BMP Guidelines	1-5 Years
	Phase in additional resources for review and enforcement.		Wilson Co. TN Stormwater Ordinance	1-5 Years
	Develop a more comprehensive approach to stormwater site assessment, design, incentives, and regulations.		City of Ft. Wayne, IN Stormwater Regulations Incentives	1-5 Years
	Implement stormwater fee structures that incentivize BMP's.		Ft. Wayne, IN Stormwater Rate Structure ERU reduction incentives	1-5 Years
	Evaluate establishing a program for neighborhood or watershed based storm water infrastructure to capture storm water closer to where it falls and reduce combined sewer flows.		Philadelphia Stormwater Management Manual	0-1 Years

Policy Subcategory	Recommendations	Applicability	Case Study / Example Ordinance	Timing
5.3.5 Fire & EMS	Consider the findings of the Fire and Rescue Services Evaluation March 2024 to identify future service improvements.			0-1 Years
	Evaluate sources of funding to increase full-time personnel and standardize equipment purchases and training to simplify inter-local agreements.			
5.4 Economic Health & Community Opportunity				
5.4.1 Resort Recreation Centers	Engage land owners where resort recreation centers have been identified to participate in small area plans or joint planning sessions. Work to provide examples that would establish the scale and scope of future projects. Help landowners or potential developers understand infrastructure requirements, neighborhood concerns, and connect them with resources to create plans compatible with goals for this place type.	Prioritize land near designated Resort Recreation Centers and with close proximity to existing state and regional recreational facilities and natural areas.	Dancing Bear Lodge - Example of Resort Recreation Doe Mountain Governance & Operations Conservancy at Doe Mountain	0-1 Years
	Require that resort recreational development on lands adjacent to public land or waterways be a catalyst for securing and enhancing public access to recreational assets in addition to creating private recreational development.	Countywide in designated centers	APA_PAS Report on Waterfront Resort Development	0-1 Years
	Look for partners to start a recreation and tourism based business incubator/accelerator program.		UPLIFT_NC_ Tourism Incubator & Accelerator Hospitality & Tourism Incubation Resources Clearwater Tourism Incubator	1-5 Years

Policy Subcategory	Recommendation	Applicability	Case Study / Example Ordinance	Timing
5.4.1 Resort Recreation Centers *Continued*	Engage UTC School of Sport, Outdoor Recreation and Tourism Management in a study of potential economic impacts from resort recreation centers, greenway/recreational infrastructure investments, and corresponding riparian corridor preservation.			1-5 Years
	Engage Tennessee Department of Tourism, Chattanooga Tourism Co, SETDD, and SETTA in creating a small recreational resort promotional plan and programming assistance.		Southeast Tennessee Tourism Association State of Tennessee Rural Tourism & Destination Development	0-1 Years
	Explore potential for agriculture based resort or event centers to contribute to agricultural revenue streams. Consider McDonald Farm as a potential case study for synergies between rural resort economic development, traditional agriculture, and recreation.	Sale Creek - McDonald Farm; Birchwood		0-1 Years
	Evaluate outcomes from existing case studies - including preservation goals, impacts on existing farms, housing costs, property taxes, etc.		Serenbe Farms Olivette, NC Willowsford, VA	
	Study Industrial opportunities - both as larger industrial/corporate scaler and smaller Maker District			
5.4.2 Growing the job Base	Pursue development study of future employment centers including emerging industries and manufacturing districts			

Policy Subcategory	Recommendations	Applicability	Case Study / Example Ordinance	Timing
5.5 Funding Mechanisms				
5.5.1	Consider use of RIDA as an incentive for developers who voluntarily meet specific infrastructure standards such as: improved street and pedestrian connectivity, LID stormwater improvements, provide easements for regional greenways, trails, or watershed protection.		Residential Infrastructure Development Act of 2024 (RIDA)	0-1 Years
	Explore use of alternate funding mechanisms such as TDOT's State Industrial Access (SIA) Program	Hilltop Drive Extension; matching funds for other prioritized projects	TCED Report - The Power of Road Infrastructure	0-1 Years
	Consider strategic utilization of Business Improvement Districts, Tax Increment Financing, Trilateral Agreements, or Infrastructure Trust Funds to set the table for desired development patterns (sidewalks/ connectivity, roads and utility infrastructure, landscape buffers, LID enhancements) in identified current and future centers. (Village Centers, Neighborhood Centers, Neighborhood Nodes, Maker Districts, etc.) i.e. Joint Development		San Antonio Water System - Trilateral Agreements Framework for in-kind contributions	1-5 Years
	Use the Capital Funding for Mid-Sized Cities & Counties study as a guide to identifying innovative funding and financing approaches for capital improvements.			

REMAINDER OF PAGE IS INTENTIONALLY LEFT BLANK

APPENDIX

PLEASE NOTE: FOR REFERENCE ONLY.
INFORMATION CONTINUALLY UPDATED.

PLAN HAMILTON

RPA
Chattanooga-Hamilton County
Regional Planning Agency

UPDATED LISTS TO BE ADDED

BIBLIOGRAPHY

"Belmar Shopping District, Lakewood, CO." *continuumpartners.com,* 2019. https://continuumpartners.com/project/belmar-shopping-district/. Accessed 11 Sept. 2024.

"Chattanooga Railroad Series: The Ooltewah Cutoff". Chattanoogan.com, 2015, January 23. https://www.chattanoogan.com/2015/1/22/292122/Chattanooga-Railroad-Series-The.aspx. Accessed 27 Aug. 2024.

Google (n.d.-a). [Aerial of Area 12]. Google Earth Pro, (17 Feb. 2024). Accessed 3 Sept. 2024.

Johnson, R. "Stormwater Runoff." *Chattanoogan.com,* 17 Nov. 2020. https://www.usgs.gov/media/images/stormwater-runoff-urban-watersheds. Accessed 29 Aug. 2024.

"Little Debbie Park." Visitchattanooga.com, 2020, www.visitchattanooga.com/listing/little-debbie-park/8744/. Accessed 29 Aug. 2024.

"McKee Foods Headquarters, Collegedale". *Tnecd.com,* 10 March. 2020. https://tnecd.com/news/governor-lee-commissioner-rolfe-announce-mckee-foods-to-expand-hamilton-county-operations/. Accessed 29 Aug. 2024

"Memorial Park Collegedale, TN." *collegedale.foundation,* (2024), https://collegedale.foundation/our-town/ Accessed 23 Aug. 2024.

"Parks & rec marina & RV resort". *City Of Rockwood – Welcome to the City of Rockwood,* Tennessee. 2023. https://www.volkswagen-newsroom.com/en/volkswagen-group-of-america-chattanooga-4071. Accessed 14 Sept. 2024.

"Places to Go: Tennessee - Trail of Tears National Historic Trail (U.S. National Park Service)." *Nps.gov*, 2024, www.nps.gov/trte/planyourvisit/places-to-go-in-tennessee.htm. Accessed 22 Oct. 2024.

Shearer, J. "Wolftever Creek Greenway Cover, "Wolftever Creek Greenway.", "Wolftever Creek Greenway.", "Wolftever Creek.", "Wolftever Creek Greenway Bridge." *Chattanoogan.com,* 17 Nov. 2020. https://www.chattanoogan.com/2020/11/17/418543/John-Shearer-Exploring-And-Searching.aspx. Accessed 29 Aug. 2024.

"Standifer Gap Park" *parks.hamiltontn.gov,* 2024. https://parks.hamiltontn.gov/268/Standifer-Gap-Park . Accessed 04 Sept. 2024.

Steuteville, R. "Great Idea: The Rural-To-Urban Transect." *CNU,* 13 Apr. 2017. www.cnu.org/publicsquare/2017/04/13/great-idea-rural-urban-transect. Accessed 5 Aug. 2024.

"The Commons – Collegedale Parks and Rec." *Collegedaleparksandrec.com,* 2024, https://collegedaleparksandrec.com/the-commons/. Accessed 29 Aug. 2024.

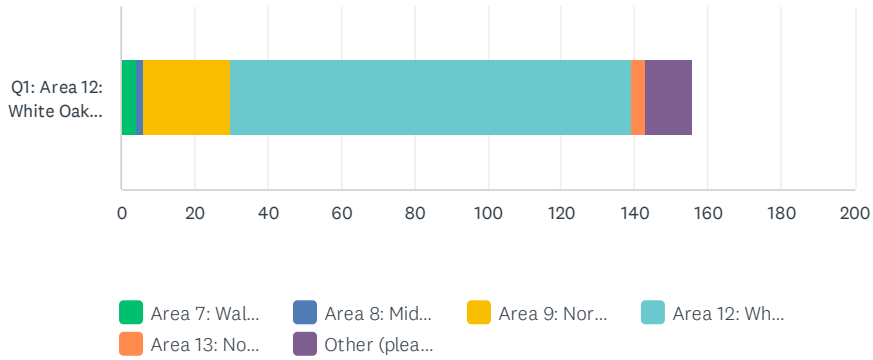
"Volkswagen group of America Chattanooga". *Volkswagen Newsroom*. 2023, November. https://www.volkswagen-newsroom.com/en/volkswagen-group-of-america-chattanooga-4071. Accessed 10 Sept. 2024.

"Watercolour". *DR Horton: America's Largest Homebuilder.* 2024 https://www.drhorton.com/tennessee/chattanooga/ooltewah/watercolour. Accessed 19 Sept. 2024.

"White Oak Mountain, Chattanooga, TN, 37421".*Landwatch.com,* 2024, www.landwatch.com/tennessee-land-for-sale/hamilton-county. Accessed 20 Aug. 2024.

Q1 We have divided the county into thirteen areas for more focused planning, and five of these areas are in the unincorporated portions of Hamilton County. See the map below. Which of these five areas are you most interested in? It is probably the area you live in, but it could be another area where you work, spend time, or own a business or other property. Think about that same area when answering the questions that follow.

Answered: 109 Skipped: 0



	AREA 7: WALDEN PLATEAU	AREA 8: MIDDLE VALLEY / LAKESITE	AREA 9: NORTHEAST COUNTY	AREA 12: WHITE OAK MOUNTAIN	AREA 13: NORTH END / SODDY-DAISY	OTHER (PLEASE SPECIFY)	TOTAL
Q1: Area 12: White Oak Mountain	3.67% 4	1.83% 2	22.02% 24	100.00% 109	3.67% 4	11.93% 13	143.12% 156
Total Respondents	4	2	24	109	4	13	109

Q2 What are the community assets you use most frequently? These could include schools, parks, a grocery, gym, church, clinic, etc. List up to three. Please provide specific names and locations. (for ex. - Food City Plaza on Dayton Pike in Soddy Daisy or White Oak Mountain Trails)

Answered: 104 Skipped: 5

	A.	B.	C.	TOTAL
Q1: Area 12: White Oak Mountain	100.00% 104	95.19% 99	82.69% 86	277.88% 289
Total Respondents	104	99	86	104

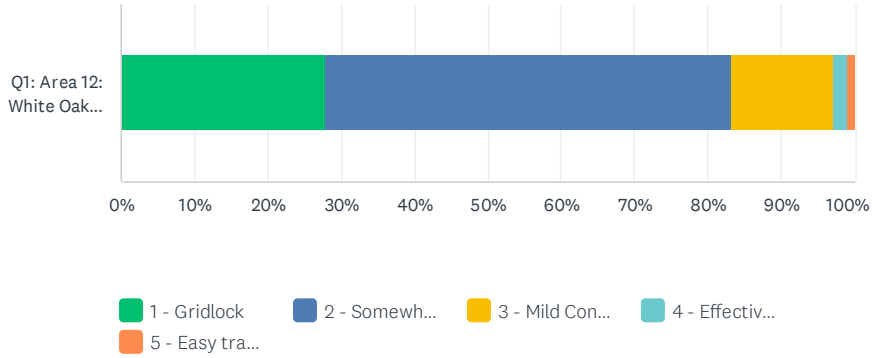
Q3 Thinking about your typical day, which roads do you most often use? Please name the street(s) or highway(s)?

Answered: 106 Skipped: 3

	FAVORITE ROUTE	TOTAL
Q1: Area 12: White Oak Mountain	100.00% 106	100.00% 106
Total Respondents	106	106

Q4 While traveling between the places you frequent most, rate your commuting experience during peak rush hours (7-9am and 4-6pm).

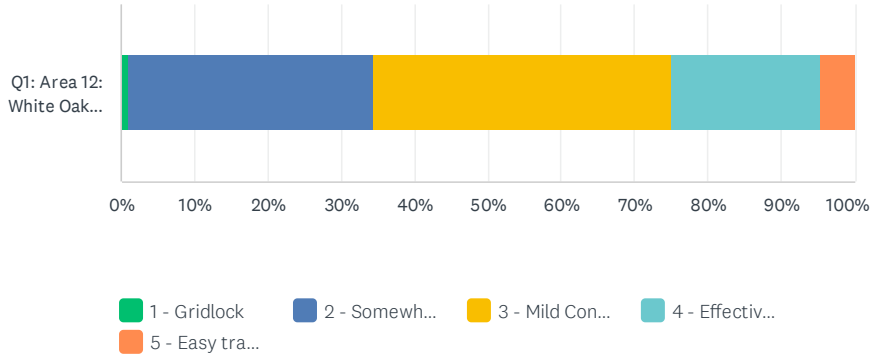
Answered: 108 Skipped: 1



	1 - GRIDLOCK	2 - SOMEWHAT CONGESTED WITH LONG DELAYS AT INTERSECTIONS	3 - MILD CONGESTION WITH SHORT DELAYS AT INTERSECTIONS	4 - EFFECTIVE TRAVEL - MINIMAL DELAYS	5 - EASY TRAVEL - FREE OF CONGESTION OR DELAYS	TOTAL
Q1: Area 12: White Oak Mountain	27.78% 30	55.56% 60	13.89% 15	1.85% 2	0.93% 1	100.00% 108
Total Respondents	30	60	15	2	1	108

Q5 Please rate your travel experiences outside peak rush hours. At all other times, my trips are:

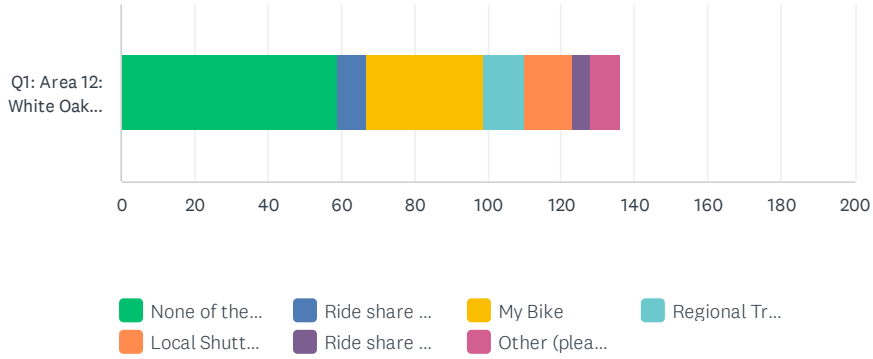
Answered: 108 Skipped: 1



	1 - GRIDLOCK	2 - SOMEWHAT CONGESTED WITH LONG DELAYS AT INTERSECTIONS	3 - MILD CONGESTION WITH SHORT DELAYS AT INTERSECTIONS	4 - EFFECTIVE TRAVEL - MINIMAL DELAYS	5 - EASY TRAVEL - FREE OF CONGESTION OR DELAYS	TOTAL
Q1: Area 12: White Oak Mountain	0.93% 1	33.33% 36	40.74% 44	20.37% 22	4.63% 5	100.00% 108
Total Respondents	1	36	44	22	5	108

Q6 If there were safe alternatives in my area, the methods of transportation (other than my car) I would be most likely to use for some trips include:

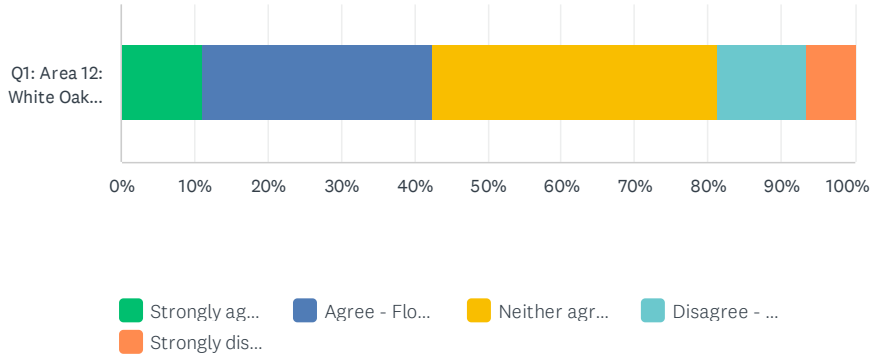
Answered: 108 Skipped: 1



	NONE OF THE ABOVE	RIDE SHARE SERVICE APP	MY BIKE	REGIONAL TRANSIT - TO COMMUTE TO A JOB OR SCHOOL OUTSIDE MY AREA	LOCAL SHUTTLE - FOR ERRANDS OR SHOPPING IN MY LOCAL AREA	RIDE SHARE / CAR POOL	OTHER (PLEASE SPECIFY)	TOTAL
Q1: Area 12: White Oak Mountain	54.63% 59	7.41% 8	29.63% 32	10.19% 11	12.04% 13	4.63% 5	7.41% 8	125.93% 136
Total Respondents	59	8	32	11	13	5	8	108

Q7 Flooding and storm damage have frequently impacted my area in the last ten years.

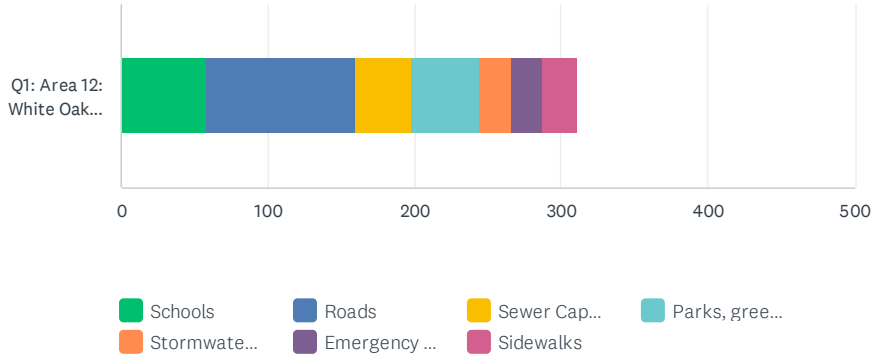
Answered: 108 Skipped: 1



	STRONGLY AGREE - FLOODING HAS FREQUENTLY BEEN UNAVOIDABLE, DAMAGED PROPERTY OR THREATENED SAFETY.	AGREE - FLOODING HAS BEEN FREQUENT AND HAS OCCASSIONALLY DAMAGED PROPERTY OR THREATENED SAFETY.	NEITHER AGREE NOR DISAGREE - FLOODING HAS OCCURRED BUT IMPACTS HAVE GENERALLY BEEN MINOR.	DISAGREE - OUR AREA OCCASSIONALLY FLOODS BUT ONLY IN AREAS THAT DO NOT THREATEN PROPERTY OR SAFETY.	STRONGLY DISAGREE - OUR AREA DOES NOT FLOOD.	TOTAL
Q1: Area 12: White Oak Mountain	11.11% 12	31.48% 34	38.89% 42	12.04% 13	6.48% 7	100.00% 108
Total Respondents	12	34	42	13	7	108

Q8 Please choose the three infrastructure investments most needed to prepare for future growth in your Area.

Answered: 108 Skipped: 1

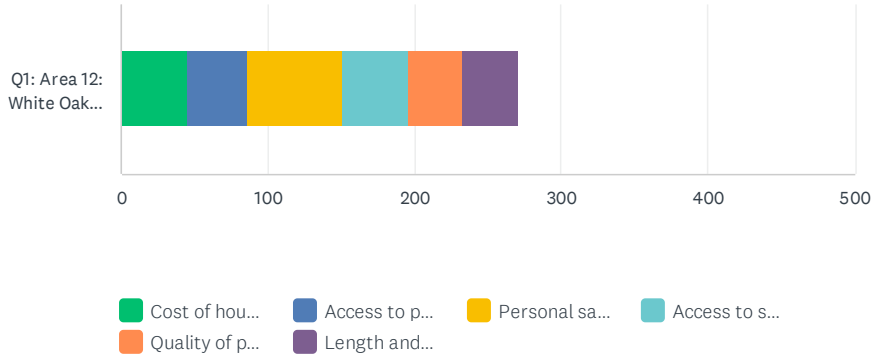


	SCHOOLS	ROADS	SEWER CAPACITY	PARKS, GREENWAYS, AND OPEN SPACE	STORMWATER/FLOODING CONTROLS	EMERGENCY SERVICES	SIDEWALKS	TOTAL
Q1: Area 12: White Oak Mountain	53.70% 58	93.52% 101	36.11% 39	42.59% 46	20.37% 22	19.44% 21	22.22% 24	287.96% 311
Total Respondents	58	101	39	46	22	21	24	108

	OTHER (PLEASE SPECIFY)	TOTAL
Q1: Area 12: White Oak Mountain	9	9

Q9 Please select the three criteria that most influenced your decision about where to live in Hamilton County.

Answered: 102 Skipped: 7

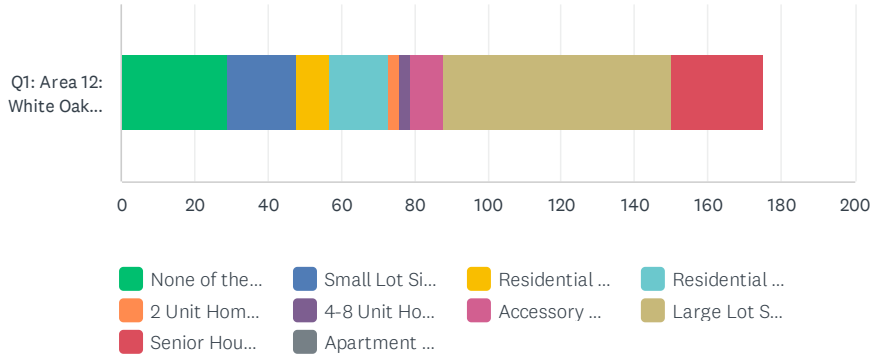


	COST OF HOUSING / RENTS	ACCESS TO PARKS, GREENWAYS, AND OPEN SPACE	PERSONAL SAFETY AND SECURITY	ACCESS TO SERVICES (GROCERY, DOCTOR'S OFFICE, GYM, RESTAURANTS, ETC.)	QUALITY OF PUBLIC SCHOOLS IN MY DISTRICT	LENGTH AND EASE OF COMMUTE TO MY JOB OR SCHOOL	TOTAL
Q1: Area 12: White Oak Mountain	44.12% 45	40.20% 41	63.73% 65	44.12% 45	36.27% 37	37.25% 38	265.69% 271
Total Respondents	45	41	65	45	37	38	102

	OTHER (PLEASE SPECIFY)	TOTAL
Q1: Area 12: White Oak Mountain	25	25

Q10 The type of new homes that should be encouraged in my Area include: (please check all that you would support)

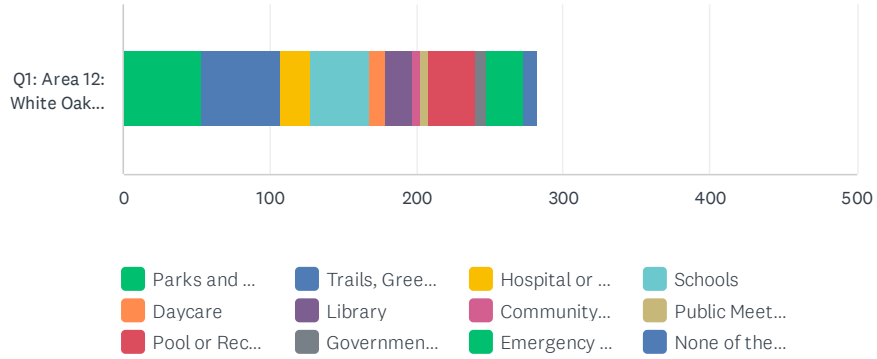
Answered: 107 Skipped: 2



	NONE OF THE ABOVE	SMALL LOT SINGLE UNIT HOMES	RESIDENTIAL TOWN HOMES	RESIDENTIAL MIXED USE	2 UNIT HOMES	4-8 UNIT HOMES	ACCESSORY DWELLING UNITS	LARGE LOT SINGLE UNIT HOMES	SENIOR HOUSING	APARTMENT BUILDINGS	TOTAL
Q1: Area 12: White Oak Mountain	27.10% 29	17.76% 19	8.41% 9	14.95% 16	2.80% 3	2.80% 3	8.41% 9	57.94% 62	23.36% 25	0.00% 0	163.55 1
Total Respondents	29	19	9	16	3	3	9	62	25	0	1

Q11 The three types of civic uses and services most needed in my area include:

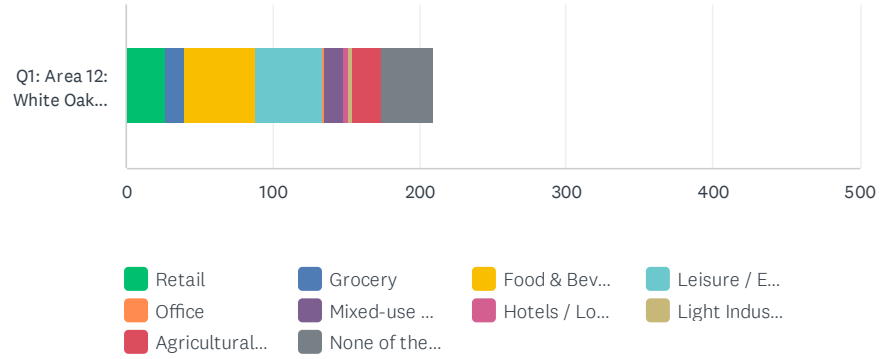
Answered: 107 Skipped: 2



	PARKS AND OPEN SPACE	TRAILS, GREENWAYS, SIDEWALKS	HOSPITAL OR MEDICAL CLINIC	SCHOOLS	DAYCARE	LIBRARY	COMMUNITY COLLEGE BRANCH OR TRADE SCHOOL	PUBLIC MEETING OR EVENT SPACE	POOL OR RECREATION CENTER	GOVERNMENT SERVICES
Q1: Area 12: White Oak Mountain	49.53% 53	50.47% 54	19.63% 21	37.38% 40	10.28% 11	16.82% 18	4.67% 5	6.54% 7	28.97% 31	6.54% 7
Total Respondents	53	54	21	40	11	18	5	7	31	7

Q12 The three types of commercial uses and services most needed in my area include:

Answered: 106 Skipped: 3

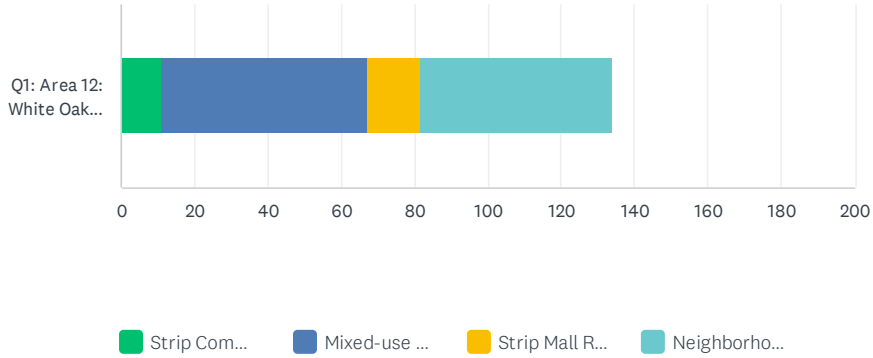


	RETAIL	GROCERY	FOOD & BEVERAGE (RESTAURANTS, COFFEE SHOPS, ETC.)	LEISURE / ENTERTAINMENT (THEATERS, GYM/CLIMBING, CRAFT ACTIVITIES, MUSIC VENUES)	OFFICE	MIXED-USE COMMERCIAL (OFTEN COMMERCIAL OR OFFICE ON THE GROUND FLOOR WITH HOUSING ABOVE OR ATTACHED)	HOTELS / LODGING	LIGHT INDUSTRIAL / LIGHT MANUFACTURING	AGRICULTUR BUSINESSES
Q1: Area 12: White Oak Mountain	25.47% 27	12.26% 13	45.28% 48	43.40% 46	0.94% 1	12.26% 13	2.83% 3	2.83% 3	18.8
Total Respondents	27	13	48	46	1	13	3	3	20

	OTHER (PLEASE SPECIFY)	TOTAL
Q1: Area 12: White Oak Mountain	5	5

Q13 Please select the images that reflect the type of commercial development you would be most likely to support in your area.

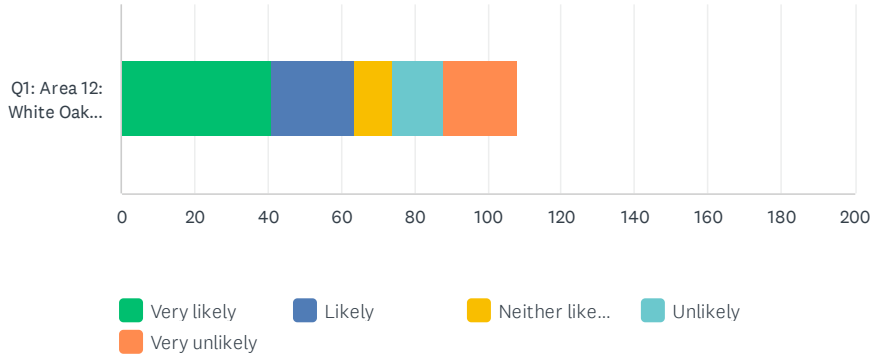
Answered: 92 Skipped: 17



	STRIP COMMERCIAL	MIXED-USE COMMERCIAL CENTER	STRIP MALL RETROFIT	NEIGHBORHOOD COMMERCIAL	TOTAL
Q1: Area 12: White Oak Mountain	11.96% 11	60.87% 56	16.30% 15	56.52% 52	145.65% 134
Total Respondents	11	56	15	52	92

Q14 Think about smaller neighborhood shopping centers, perhaps with a deli, a small locally-owned restaurant, a barber shop, or an accountant's office. How likely would you be to support a small cluster of such commercial businesses at an intersection near your neighborhood (within walking distance)?

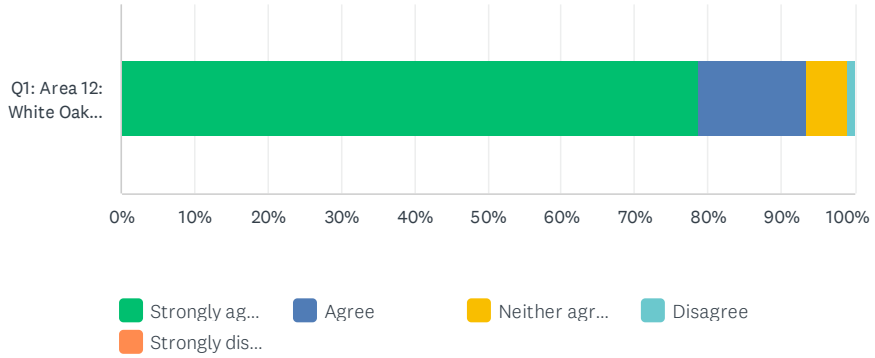
Answered: 108 Skipped: 1



	VERY LIKELY	LIKELY	NEITHER LIKELY NOR UNLIKELY	UNLIKELY	VERY UNLIKELY	TOTAL
Q1: Area 12: White Oak Mountain	37.96% 41	21.30% 23	9.26% 10	12.96% 14	18.52% 20	100.00% 108
Total Respondents	41	23	10	14	20	108

Q15 Preservation of farmland and rural character, steep slopes, wooded and riparian areas should be priorities in my area.

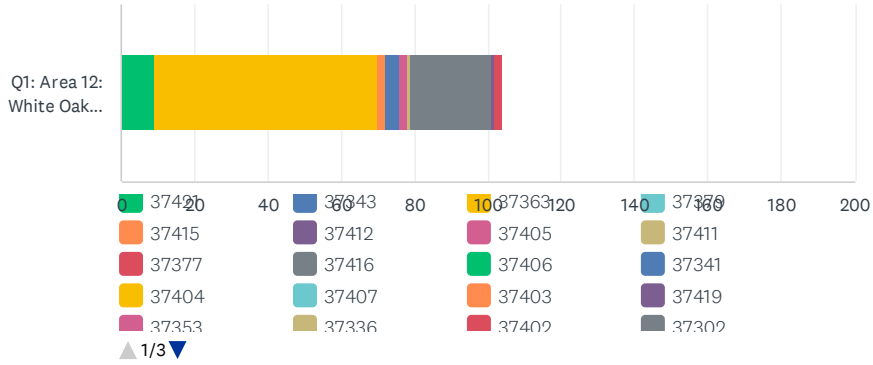
Answered: 108 Skipped: 1



	STRONGLY AGREE	AGREE	NEITHER AGREE NOR DISAGREE	DISAGREE	STRONGLY DISAGREE	TOTAL
Q1: Area 12: White Oak Mountain	78.70% 85	14.81% 16	5.56% 6	0.93% 1	0.00% 0	100.00% 108
Total Respondents	85	16	6	1	0	108

Q16 In which zip code do you reside?

Answered: 104 Skipped: 5

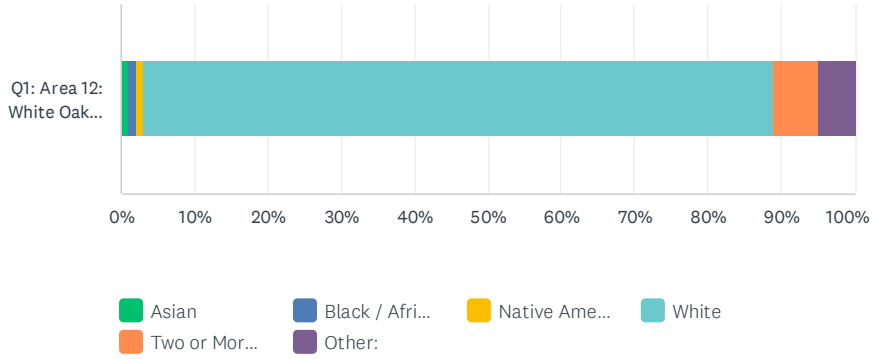


	37421	37343	37363	37379	37415	37412	37405	37411	37377	37416	37406	37341	37404	37407	37403	3
Q1: Area 12: White Oak Mountain	8.65% 9	0.00% 0	58.65% 61	0.00% 0	1.92% 2	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	0.00% 0	3.85% 4	0.00% 0	0.00% 0	0.00% 0	0
Total Respondents	9	0	61	0	2	0	0	0	0	0	0	4	0	0	0	0

	OTHER (PLEASE SPECIFY)	TOTAL
Q1: Area 12: White Oak Mountain	0	0

Q17 Which racial group do you most closely identify with?

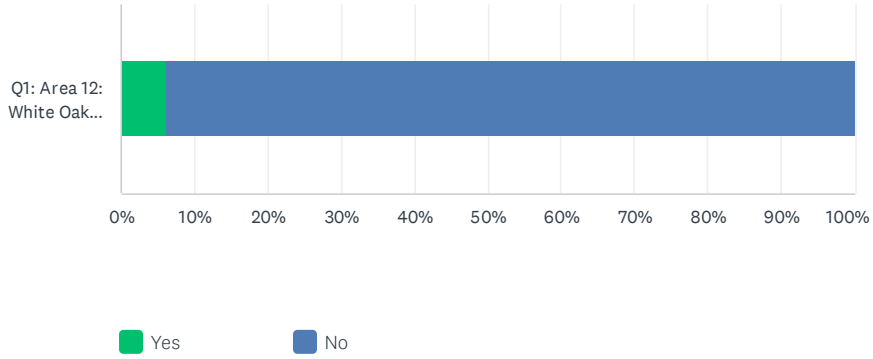
Answered: 100 Skipped: 9



	ASIAN	BLACK / AFRICAN AMERICAN	NATIVE AMERICAN	WHITE	TWO OR MORE RACES	OTHER:	TOTAL
Q1: Area 12: White Oak Mountain	1.00% 1	1.00% 1	1.00% 1	86.00% 86	6.00% 6	5.00% 5	100.00% 100
Total Respondents	1	1	1	86	6	5	100

Q18 Area you Hispanic / Latinex?

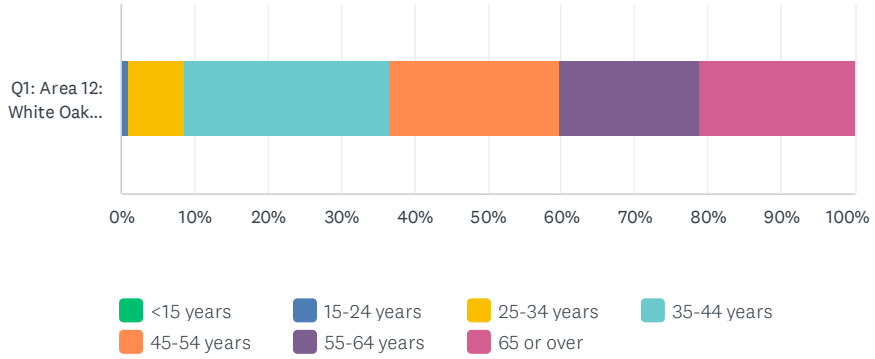
Answered: 98 Skipped: 11



	YES	NO	TOTAL
Q1: Area 12: White Oak Mountain	6.12% 6	93.88% 92	100.00% 98
Total Respondents	6	92	98

Q19 What is your age?

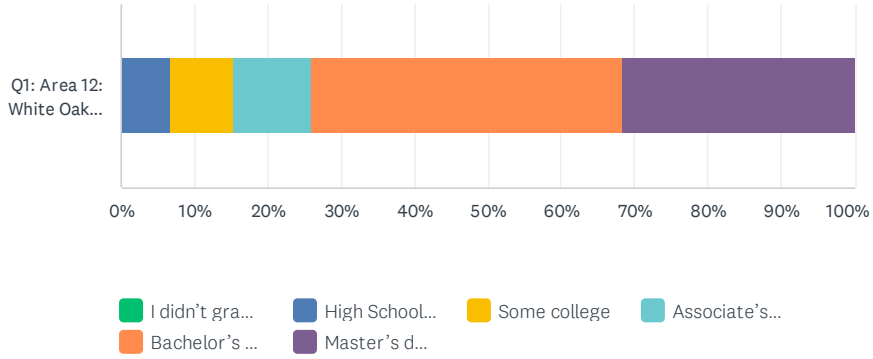
Answered: 104 Skipped: 5



	<15 YEARS	15-24 YEARS	25-34 YEARS	35-44 YEARS	45-54 YEARS	55-64 YEARS	65 OR OVER	TOTAL
Q1: Area 12: White Oak Mountain	0.00% 0	0.96% 1	7.69% 8	27.88% 29	23.08% 24	19.23% 20	21.15% 22	100.00% 104
Total Respondents	0	1	8	29	24	20	22	104

Q20 What is your highest level of education?

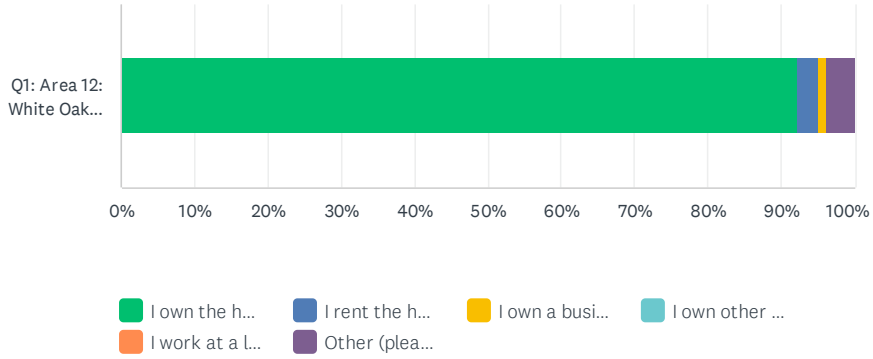
Answered: 104 Skipped: 5



	I DIDN'T GRADUATE FROM HIGH SCHOOL	HIGH SCHOOL DIPLOMA	SOME COLLEGE	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S DEGREE / PH.D.	TOTAL
Q1: Area 12: White Oak Mountain	0.00% 0	6.73% 7	8.65% 9	10.58% 11	42.31% 44	31.73% 33	100.00% 104
Total Respondents	0	7	9	11	44	33	104

Q21 What are your connections to the area of the county you identified in Question 1? Please select all that apply.

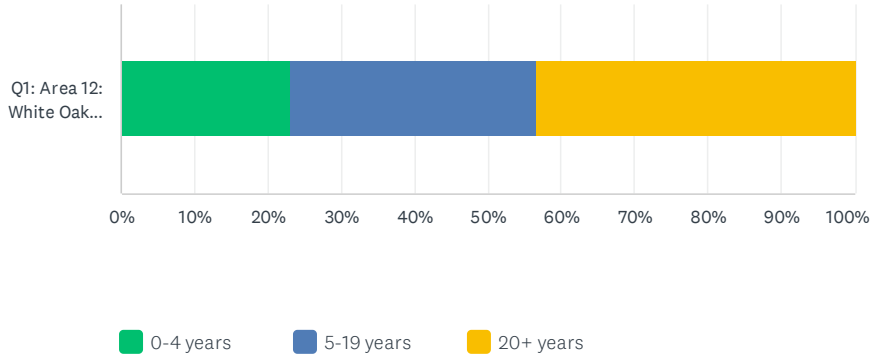
Answered: 104 Skipped: 5



	I OWN THE HOME I LIVE IN	I RENT THE HOME I LIVE IN	I OWN A BUSINESS	I OWN OTHER PROPERTY	I WORK AT A LOCAL BUSINESS	OTHER (PLEASE SPECIFY)	TOTAL
Q1: Area 12: White Oak Mountain	92.31% 96	2.88% 3	0.96% 1	0.00% 0	0.00% 0	3.85% 4	100.00% 104
Total Respondents	96	3	1	0	0	4	104

Q22 How long have you lived Hamilton County?

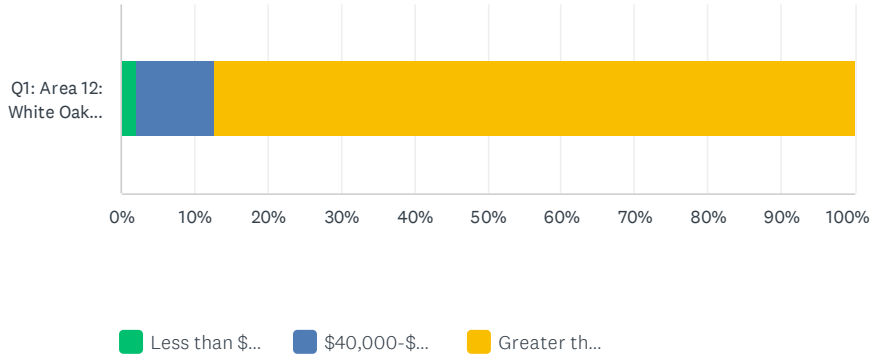
Answered: 104 Skipped: 5



	0-4 YEARS	5-19 YEARS	20+ YEARS	TOTAL
Q1: Area 12: White Oak Mountain	23.08% 24	33.65% 35	43.27% 45	100.00% 104
Total Respondents	24	35	45	104

Q23 What is your household income level?

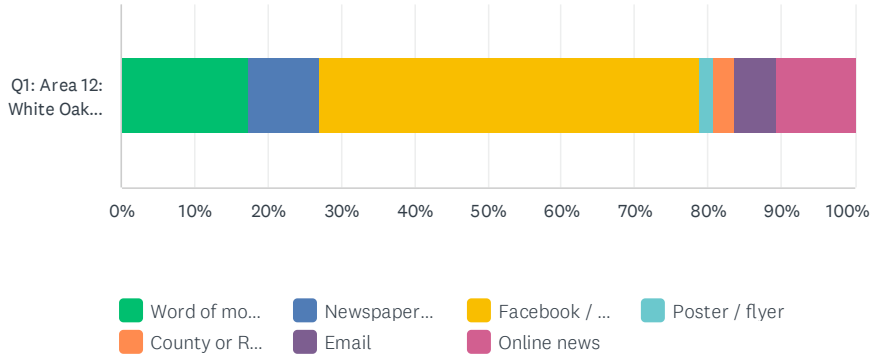
Answered: 102 Skipped: 7



	LESS THAN $40,000	$40,000-$60,000	GREATER THAN $60,000	TOTAL
Q1: Area 12: White Oak Mountain	1.96% 2	10.78% 11	87.25% 89	100.00% 102
Total Respondents	2	11	89	102

Q24 How did you hear about this planning process?

Answered: 104 Skipped: 5



	WORD OF MOUTH	NEWSPAPER / AD	FACEBOOK / TWITTER / ETC.	POSTER / FLYER	COUNTY OR RPA WEBSITE	EMAIL	ONLINE NEWS	TOTAL
Q1: Area 12: White Oak Mountain	17.31% 18	9.62% 10	51.92% 54	1.92% 2	2.88% 3	5.77% 6	10.58% 11	100.00% 104
Total Respondents	18	10	54	2	3	6	11	104

Q25 Thank you for completing this survey! Please enter your contact Information for a chance to win one of three $25 Amazon gift cards!*

Answered: 68 Skipped: 41

	NAME	COMPANY	ADDRESS	ADDRESS 2	CITY/TOWN	STATE/PROVINCE	ZIP/POSTAL CODE	COUNTRY	EMAIL ADDRESS	PHONE NUMBER
Q1: Area 12: White Oak Mountain	100.00% 68	0.00% 0	0.00% 0	0.00% 0	98.53% 67	0.00% 0	0.00% 0	0.00% 0	97.06% 66	85.29% 58
Total Respondents	68	0	0	0	67	0	0	0	66	58

Southeast County - Area 12

Ooltewah, Collegedale, Summit, White Oak Mountain

August 29, 2023

Meeting Discussion Notes

London Lane is terrible.
The previous plan didn't help with traffic mitigation or the pace of new development.
Where will the money come from to pay for all this?
When will the public be able to weigh in on taxes?
What are the plans for sewers? Development is outpacing it.
Where is the money from our sewer bills going?
Are new sewers being built to accommodate high density housing?
New lots are too small!
The 2019 Area 12 plan has not been followed. Can we give this new plan some "teeth"?
Can residential zoning be done by Area? Not just one single zone.

County funding for roads is lacking. Can we use something like Georgia's SPLOST program, or a half-cent tax, to help fund road projects?
Are toll roads an option? *STAFF: The State of Tennessee only allows a couple options for toll roads.*
Can we enact impact fees? *STAFF: A court case is underway now concerning their legality in the State of Tennessee.*
What can be done to prevent development in the floodplains? *STAFF: Currently the County has no regulations preventing development from occuring in the floodplain.*
The County needs stricter regulations to prevent development in the floodplains .
Developers should pay impact fees to offset the impacts on infrastructure from new development.
Where do the tax revenues from new subdivisions go?

Any new tax should go to roads. *STAFF: The County, State and City each have jurisdiction over different roads with separate pots of funding.*
Utility construction also impacts the condition of roads.
High density apartments are a concern. Schools are already crowded and roads are already congested without adding more people.
Why do we encourage new growth?
Why not require larger lots through the zoning ordinance?
It's going to require a lot of money to address all of these needs.
A tax increase is needed to pay for services. How do we keep it focused on roads
Does the percent of money for schools go down if the school population goes down?

Community Comment Cards

Quit trying to develop our quiet part of Area 12. Many of us moved out to be away from the hustle/bustle of the city. 2. Fix the roads and areas around London Lane. 3. County tax payers do not want to pay for your choices/growth. 4. Why do we get outrageous sewer bills because our sewage goes to the city. RIDICULOUS!!!! 5. Stop selling homes on small lots which adds to the density of people in this area. We do not want this area so crowded!!! Make builders responsible for impact fees. 6. You have not followed previous plans yet; put your own wishes in place. Quit overriding our wishes; we pay the taxes. 7. Need road improvements, not just the interstate.

Preserve rural area; watching the county ignore what the people wanted and make changes to allow more houses per acre makes it seem like this is a waste of time; "guide" has no teeth. 2. Roads are too crowded! Stop allowing building where the infrastructure is not in place already. 3. Any new subdivisions need to pre-process their own sewage.

Standifer Gap Road improvements; ditches/flooding/traffic.

What do I want to preserve? Freedoms, liberty (individuals); Sounds like priorities from the people were very clear and I hope funding goes towards these priorities and not new ideas being put ahead of them.

1. My freedom; 2. Roads east of Ooltewah-Ringgold & E. Brainerd; 3. Preserve farm land; 4. I don't want multiple level buildings in future developments.

Impact fees is not the answer; Commission and this administration needs to pay for the needed road improvements; Taxes coming [from] area plans (residential only).

Libraries.

More restaurants please.

Southeast County - Area 12

Ooltewah, Collegedale, Summit, White Oak Mountain

August 29, 2023

Preserve: Green areas - protect trees in housing areas; **Improve:** Commitment to input from residents, at this time residents provide input which is not followed; offer ride share lots to improve traffic; **More of:** Buffer area to protect homes from road noise; protect tree buffers; sidewalks, bike paths, developer provide dedicated turn lanes.

Lower density for new subdivisions; Stop allowing building in flood plains; Different zoning requirements for different areas to better represent communities

Preserve - A-1 area with farms and large lot subdivisions; Improve - older areas of county to encourage developers to rebuild those areas that suffer from age, especially areas with better infrastructure; maybe tax ??? to build in city areas rather than building in county where taxes are ?????

Preserve - Scenic beauty around White Oak Mtn., Protect mountain tops, big trees when areas are developed or re-developed, support owners of large land tracts, such as farmers, to help them keep their land and not sell out to dense residential development; Improve - infrastructure especially roads, problem spots: Lee Hwy @ Ooltewah-Ringgold Road; dead man's curve from Ooltewah to Bradley County line on Lee Hwy, major back ups & nearly 600 more homes coming on Edgmon Road, reduce density allowed per acre in this area for new homes; our roads can't handle the existing density and much that has already been approved yet isn't even built yet...the problem is compounding; See More Of - walkable area, make it easy to move about on foot, bike, etc., parks, walkways, greenways, bike trails.

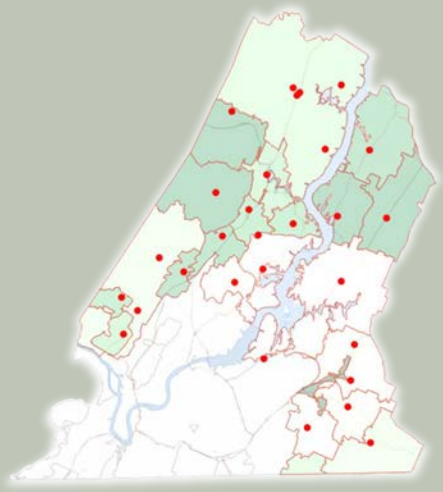
1. We should make sure to preserve both local waterways and scenic ridges, prioritizing clean safe water. 2. The biggest improvement (a remediation really) we currently need is in infrastructure and traffic management. New high-density residential developments are rubber-stamped seemingly with no impact analysis or traffic mitigation plan. If an emergency evacuation were needed along Ooltewah-Georgetown Rd, it would likely be a disaster. Development needs to stop until supporting infrastructure is in place. 3. We most need more roads, specifically connecting roads. It would also be nice to have more public green spaces and hiking trails. A public swimming pool or two would also be a wonderful community resource.

Hamilton County
Transportation Project Recommendations

Priority Group	Roadway	Project Location	Area	Type of Improvement	Warranting Condition	Preliminary Project Cost
Medium-Term	Roberts Mill Road	from Dayton Pike to Mountain Laurel Trail	7	Safety	Crash Rate	$2M-$3M
Long-term	Montlake Road	from Dayton Pike to Mowbray Pike	7	Safety	Crash Rate	$1M-$6M
Long-term	W Road	from Mountain Creek Road to Anderson Pike	7	Safety	Capacity & Crash Rate	$1M-$2M
Short-term	Daisy Dallas Road	from Harrison Lane to Hixson Pike	8	Safety	Crash Rate	$1M-$2M
Short-term	Middle Valley Road	from Hixson Pike to Daisy Dallas Road	8	Safety	Crash Rate	$1M-$2M
Medium-Term	Middle Valley Road	at Daisy Dallas Road	8	Intersection	Capacity & Crash Rate	$2M-$4M
Medium-Term	Middle Valley Road	at Walnut Road	8	Intersection	Crash Rate	$2M-$4M
Medium-Term	Middle Valley Road	at Gann Road	8	Intersection	Capacity & Crash Rate	$2M-$4M
Long-term	Gann Road	from Middle Valley Road to Daisy Dallas Road	8	Safety	Crash Rate	$1M-$5M
Short-term	Hunter Road	at Lebron Sterchi Drive	9	Intersection	Crash Rate	$2M-$3M
Short-term	Hunter Road	at curve near Crooked Creek Drive	9	Safety	Crash Rate	$1M-$2M
Short-term	Hilltop Drive	between Hunter Road and Volkswagen Drive	9	Extension	Capacity/Congestion	$12M-$19M
Short-term	Hunter Road	from Hwy 58 to Lee Highway	9	Safety	Crash Rate	$2M-$5M
Medium-Term	Hunter Road	at Garfield Road	9	Intersection	Capacity & Crash Rate	$2M-$3M
Medium-Term	Snow Hill Road	from Mountain View Drive to Mahan Gap Road	9	Safety	Crash Rate	$1M-$4M
Medium-Term	Snow Hill Road	from Mountain View Drive to Amos Road	9	Capacity	Capacity & Crash Rate	$2M-$5M
Long-term	Hunter Road	from Hwy 58 to Lee Highway	9	Capacity	Capacity & Crash Rate	$22M-$39M
Long-term	Harrison Bay Road	from Hwy 58 to Birchwood Pike	9	Safety	Crash Rate	$1M-$3M
Short-term	Standifer Gap Road	from Banks Road to Camp Road	12	Safety	Crash Rate	$1M-$3M
Medium-Term	E Brainerd Road	at London Lane	12	Intersection	Capacity/Congestion	$2M-$4M
Long-term	Standifer Gap Road	at Bill Reed Road	12	Intersection	Capacity & Crash Rate	$2M-$4M
Long-term	Armstrong Road	from Hixson Pike to Lee Pike	13	Safety	Crash Rate	$1M-$4M
Long-term	McCallie Ferry Road	from US 27 to Spradling Road	13	Safety	Crash Rate	$1M-$2M

March 2024

Fire and Rescue Services Evaluation
Rural Hamilton County Tennessee



TRI-STAR
PUBLIC SOLUTIONS, LLC

Contents

Objectives

A primary principle of the Chattanooga-Hamilton County Regional Planning Agency (RPA) and the Hamilton County Public Works department is to provide for the health, safety, and welfare of the community. To this end, these agencies contracted Tri-Star Public Solutions, LLC to conduct an evaluation of fire and emergency response in geographic areas of the county outside the municipal boundaries of the city of Chattanooga. The scope of the study is an evaluation of the demographic and response characteristics of fire departments operating in the unincorporated areas of Hamilton County, Tennessee, including:

- Current levels of fire protection service and identification of future needs based on planning projections.
- Geographic coverage and performance of individual fire station locations in terms of response time (turnout and travel time to scene).
- Statistically significant areas of response time differences.
- Areas of greatest density of demand and coverage gaps.
- Current staffing levels and alternative staffing models to address projected demographic changes and growth projections.
- Multi-year incident data and classification by incident type and characteristics of response time by time of day and day of week.
- Geographic areas of growth trends by station based on building permit location and other development activity.

This study is not intended to be a management review of the individual department's operational management and leadership, or activities of the board of directors for the independent volunteer fire departments.

Fire Service Background

The fire service in Hamilton County has evolved over time as have most counties have across the state. Growth in communities outside the city limits precipitated the need for an organized fire suppression response. Each department has a unique story of when that occurred and what key events happened to bring about change. Fast forward to present times, the county is served by eight independent not-for-profit organizations each managed by its board of directors.

County Engagement

The Hamilton County Office of Emergency Management /Homeland Security (OEM) coordinates response and training activities for eight volunteer fire departments. More specifically, OEM works closely with each of the independent fire departments and other Hamilton County departments (Finance, Engineering, Planning, GIS, and Emergency Medical Service) to support VFDs with such functions as training, capital projects, biennial audits, geographic information systems products, and securing grants.

The Hamilton County Hazardous Materials Response team provides hazardous materials response across the county and within the State of Tennessee Homeland Security District 3 when requested. The team is funded by the county and with Homeland Security grant funds. The Office of Emergency Management operates the team and staff is provided by personnel from OEM staff, firefighters, emergency services personnel and chemical facility employees.

Countywide fire training is planned and provided by full-time staff of OEM. The fire training program delivers Firefighter I and II classes each year to support the needs of the volunteer fire departments.

The county also operates the Fire Marshal's office to ensure that new construction and development meets the minimum criteria of fire prevention codes and safety regulations. This is a proactive effort to improve the quality of life and safety for the business community, citizens of the county, and fire suppression personnel.

Dispatch services are provided by Hamilton County 9-1-1. The fees for dispatching are provided by the county. Additionally, the fire and emergency services personnel operate on an advanced emergency communications network (radio system). The radio system provides reliable countywide and statewide system connectivity for the volunteer fire departments to utilize for emergency response and administrative communications. The system is made up of servers, towers, communications circuits, mobile radios, and portable radios that are supplied by the county.

In addition to the in-kind services outlined above, the county provides a significant amount of funding for capital outlay and operational expenditures to the volunteer departments. This will be explored further in the Facilities and Funding sections of this report.

Municipalities

The municipal fire departments in Hamilton County do not provide primary fire and rescue response outside of their corporate limits. The municipal departments, along with the volunteer departments in the county, do participate in the Tri-State Mutual Aid System and the Tennessee Mutual Aid System. The mutual aid systems allow local authorities to request aid and assistance for fires, technical rescue, and natural/human-caused disasters. The access to these systems augments service gaps and capabilities that the volunteer departments experience to varying frequencies dependent on the department and nature or complexity of the incident. While the scope of the project is not on the municipal departments, some data from those departments are included in the report for overall awareness and comparison.

Facilities

Hamilton County has maintained an aggressive building campaign of fire station facilities. Table 1 shows that of the 24 facilities providing first due response coverage to the unincorporated portions of the county, 18 are owned by Hamilton County government. (Table 1 does not include Tri-Community Station 7 as it is located on the same property as Station 1). This program has been considered a model that other counties across the state have looked to as they try to address public safety issues locally.

Table 1. Fire Station Facility Ownership and Staffing

Department	Station #	Ownership	Ownership Details	Facility Capable of 24-hour staffing?
Dallas Bay	1	Own	Dallas Bay VFD	Yes
Dallas Bay	2	County	Hamilton County	Yes
Dallas Bay	3	County	Hamilton County	Yes
Flat Top	1	County	Hamilton County	No
Highway 58	1	County	Hamilton County	Yes
Highway 58	2	County	Hamilton County	Yes
Highway 58	3	County	Hamilton County	Yes
Highway 58	4	County	Hamilton County	Yes
Highway 58	5	County	Hamilton County	Yes
Mowbray	1	County	Hamilton County	Yes
Sale Creek	1	County	Hamilton County	Yes
Sale Creek	2	Own	Sale Creek VFD	No
Sale Creek	3	County	Hamilton County	Yes
Sale Creek	4	County	Hamilton County	Yes
Sale Creek	5	Own	Sale Creek VFD	No
Sequoyah	1	County	Hamilton County	No
Sequoyah	2	County	Hamilton County	No
Tri Community	1	Lease	City of Collegedale	Yes
Tri Community	2	Own	Tri Community Volunteer FD	Yes
Tri Community	3	County	Hamilton County	Yes
Tri Community	4	Lease	Black Oak Ventures LLC	No
Tri Community	5	County	Hamilton County	Yes
Waldens Ridge	1	County	Hamilton County	Yes
Waldens Ridge	2	County	Hamilton County	Yes

Population and Structure Characteristics of Study Area

County Population and Fire Station Location

The primary geographic scope of the study area is the unincorporated portion of Hamilton County. Fire protection needs of this area are served by volunteer fire departments, which also serve some incorporated cities within the county that do not operate independent municipal fire departments. The

primary population and other demographic data used in this study are RPA county data and reports and data referenced by these studies, including U.S. Census data. Census data sources used in this report include population from Annual and Cumulative Estimates of Resident Population Change for Counties and County Rankings: April 1, 2020, to July 1, 2022 (CO-EST2022-CHG). The area of incorporated cities is calculated using State of Tennessee Strategic Technology Solutions (STS) GIS TN City Boundaries.

Table 2. Population and Area of Hamilton County Incorporated and Unincorporated Area

City/Area	Census 4/1/2020	Census Est. 7/1/2022	Percent of Total County	Square Miles	Percent of Total County
Chattanooga	181,057	184,086	49.10%	142.4	26.30%
Collegedale	11,103	11,255	3.00%	11.2	2.10%
East Ridge	22,162	21,936	5.90%	8.4	1.50%
Lakesite	1,857	1,915	0.50%	1.7	0.30%
Lookout Mountain	2,059	2,050	0.50%	1.3	0.20%
Red Bank	11,902	11,959	3.20%	6.6	1.20%
Ridgeside	447	447	0.10%	0.2	<0.01%
Signal Mountain	8,846	8,883	2.40%	8.4	1.50%
Soddy-Daisy	13,066	13,159	3.50%	24	4.40%
Walden	1,982	1,973	0.50%	3.5	0.70%
Unincorporated*	111,734	117,019	31.20%	334.6	61.70%
Total Excluding Chattanooga	185,158	190,596	50.90%	399.9	73.80%
Total County	366,215	374,682	100%	542.2	100%

*Computed as remainder

Excluding Chattanooga, about 51 percent of the population of the county is served by municipal and volunteer fire departments. These are:

- Dallas Bay Volunteer Fire Department and Rescue (Dallas Bay VFD)
- East Ridge Fire Rescue (East Ridge FD)
- Flat Top Volunteer Fire Department (Flat Top VFD)
- Highway 58 Volunteer Fire Department (Highway 58 VFD)
- Lookout Mountain Fire Department (Lookout Mountain FD)
- Mowbray Volunteer Fire Department (Mowbray VFD)
- Red Bank Fire Department (Red Bank FD)
- Sale Creek Volunteer Fire and Rescue Fire Department (Sales Creek VFRD)
- Sequoyah Volunteer Fire Department (Sequoyah VFD)
- Signal Mountain Fire Department (Signal Mountain FD)
- Soddy-Daisy Fire Department (Soddy-Daisy FD)
- Tri-Community Volunteer Fire Department (Tri-Community VFD)
- Waldens Ridge Emergency Services (Waldens Ridge ES)

At the time of this report, these agencies collectively operated fire stations at 34 locations, excluding administrative offices. Twenty-four of these are volunteer fire stations, while municipal fire departments serve East Ridge, Lookout Mountain, Red Bank, Signal Mountain, and Soddy-Daisy. Figure 1 shows the location of these stations along with municipal boundaries.

Emergency call incidents are assigned to individual battalions within fire departments by the Hamilton County 9-1-1 Unified Emergency Communications District (Hamilton County 9-1-1). Emergencies requiring specialized technical response such as hazardous materials, aircraft crashes, and marine rescue are assigned to units with countywide jurisdiction. Other incidents are assigned based on incident location. Emergency Service Number (ESN) boundaries, a standard used for geographic assignment by emergency dispatch agencies, generally conform to municipal boundaries. Unincorporated areas with Hamilton County are all assigned to ESN 006. Hamilton County uses emergency response areas ("Response Areas"), a subset of ESNs, to make dispatch assignments for calls based on proximity. Individual fire departments in Hamilton County may have one or more emergency response areas, as shown in Figure 2.

The primary geographic unit of observation for this study are response areas outside the City of Chattanooga, also excluding those in the Red Bank, Lookout Mountain, and East Ridge Fire Departments, which are landlocked by the city. To simplify this analysis, some emergency response areas have been omitted where little or no response incidents have been recorded. Also, the multiple response areas in the Tri-Community Volunteer Fire Department have been consolidated into six response areas: 1) **Tri-Community VFD 1,** which includes incidents dispatched to Battalions TCFD 1, TCFD 1-3, TFCD 1-4, and TCFD 1_5, 2); **Tri-Community VFD CH,** which includes incidents for Battalions TCFD 2_1 CH and TCFD 23_4 CH and which encompasses a section of Chattanooga along 1-75 extending into the Tri-Community VFD; 3) **Tri-Community VFD 3**, including TCFD 3 and TCFD 3-5 dispatches; 4); **Tri-Community VFD 4**, including TCFD 4 dispatches; 5) **Tri-Community VFD 5,** including TCFD 5 dispatched incidents and 6) **Tri-Community VFD 5-3,** which could have been grouped into VFD 5, but which separately reviewed allows more detailed analysis of the most populated response area. Figure 3 shows the boundaries of the response areas selected for detailed study in this report (the Study Area).

The study includes all the unincorporated area of Hamilton County, which is served by volunteer fire departments. Volunteer fire departments also serve the incorporated areas of Collegedale, Lakesite, and Walden. The total population of the service area of Hamilton County volunteer fire departments is 124,522, 94 percent of which is the population of the unincorporated area of the county, as derived from 2020 census data. The study area also includes for some comparative analyses the response areas in two municipal fire departments, Soddy-Daisy Fire Department and Signal Mountain Fire Department, bringing the total population of the study area to 146,503, or about 40 percent of the total county (2020 Census). Population for each response area is estimated using centroids of 2020 census blocks (Table 3).

The population per square mile is highest in the highest in response areas bordering Chattanooga, decreasing in relation to distance from the city to the north and west, as shown in Figure 4, which also displays building footprints. The highest concentrations of population can be inferred from the kernel density plot (Figure 5) of Next Generation 9-1-1 address points, also referenced as Enhanced 911 (E-911) addresses, assigned by the Hamilton County GIS Department in association with the Hamilton County 9-1-1 District. These addresses may include properties at which no current structure exists, such as subdivision plats.

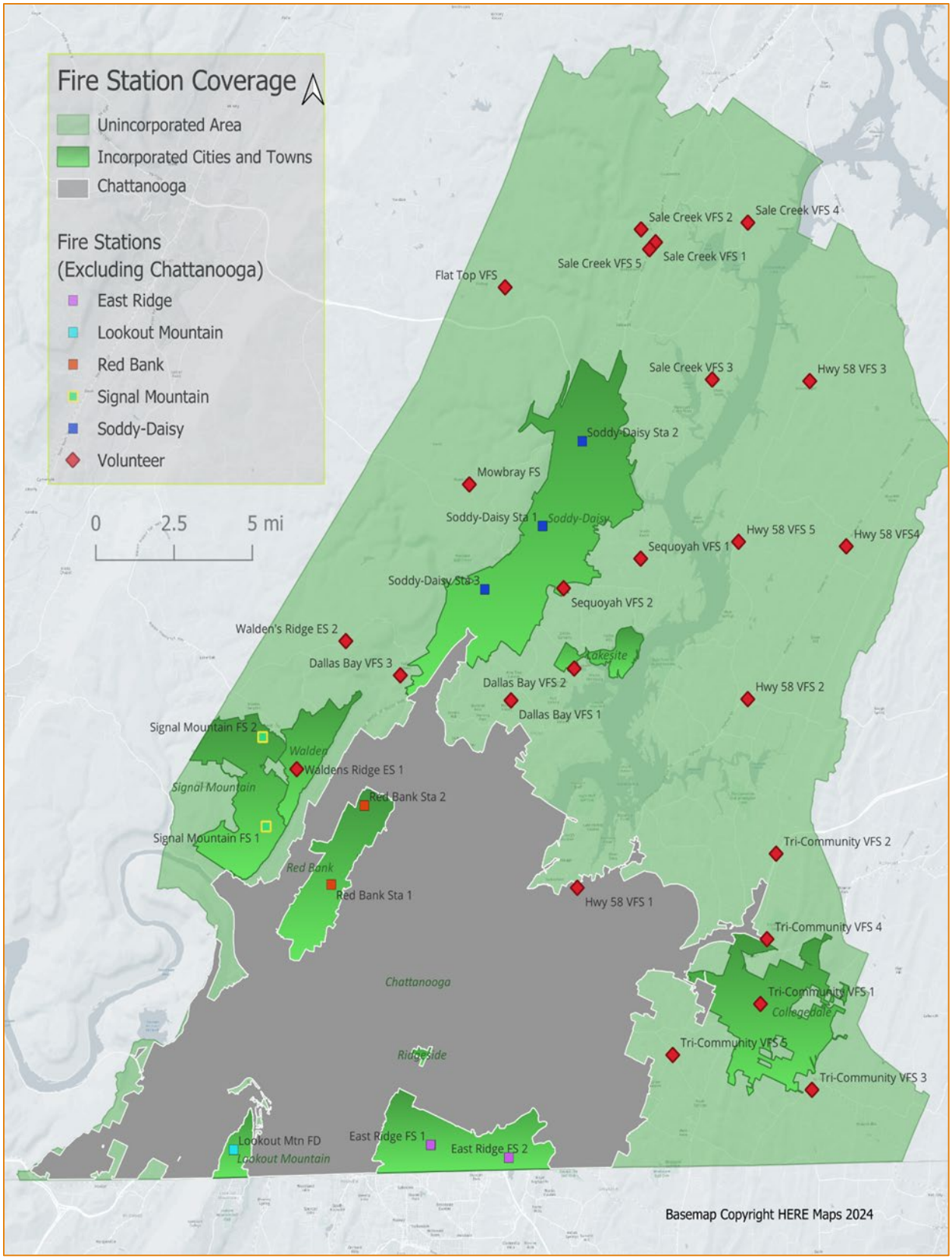


Figure 1. Hamilton County Fire Stations Outside City of Chattanooga

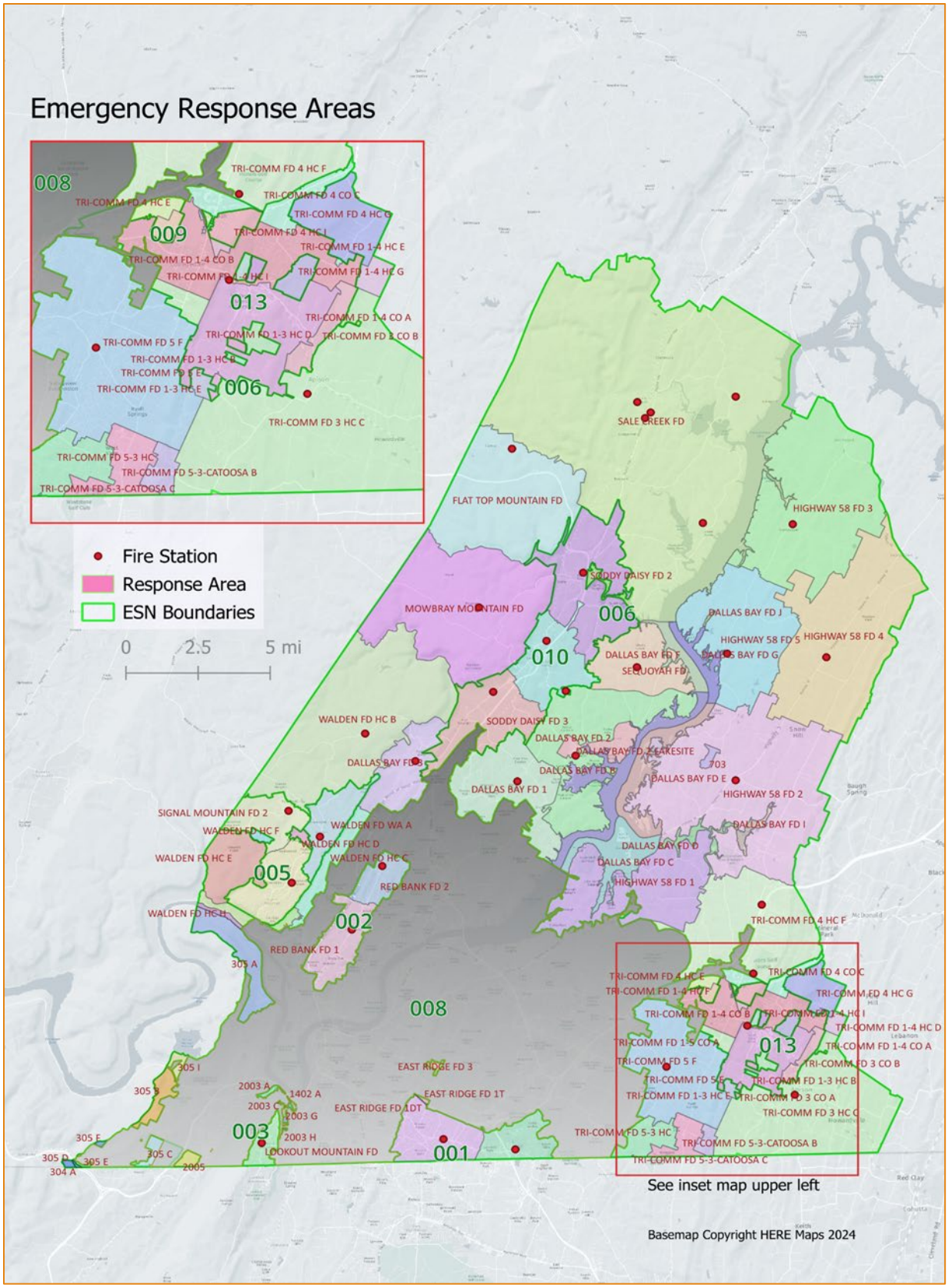


Figure 2. Emergency Response Areas Outside City of Chattanooga

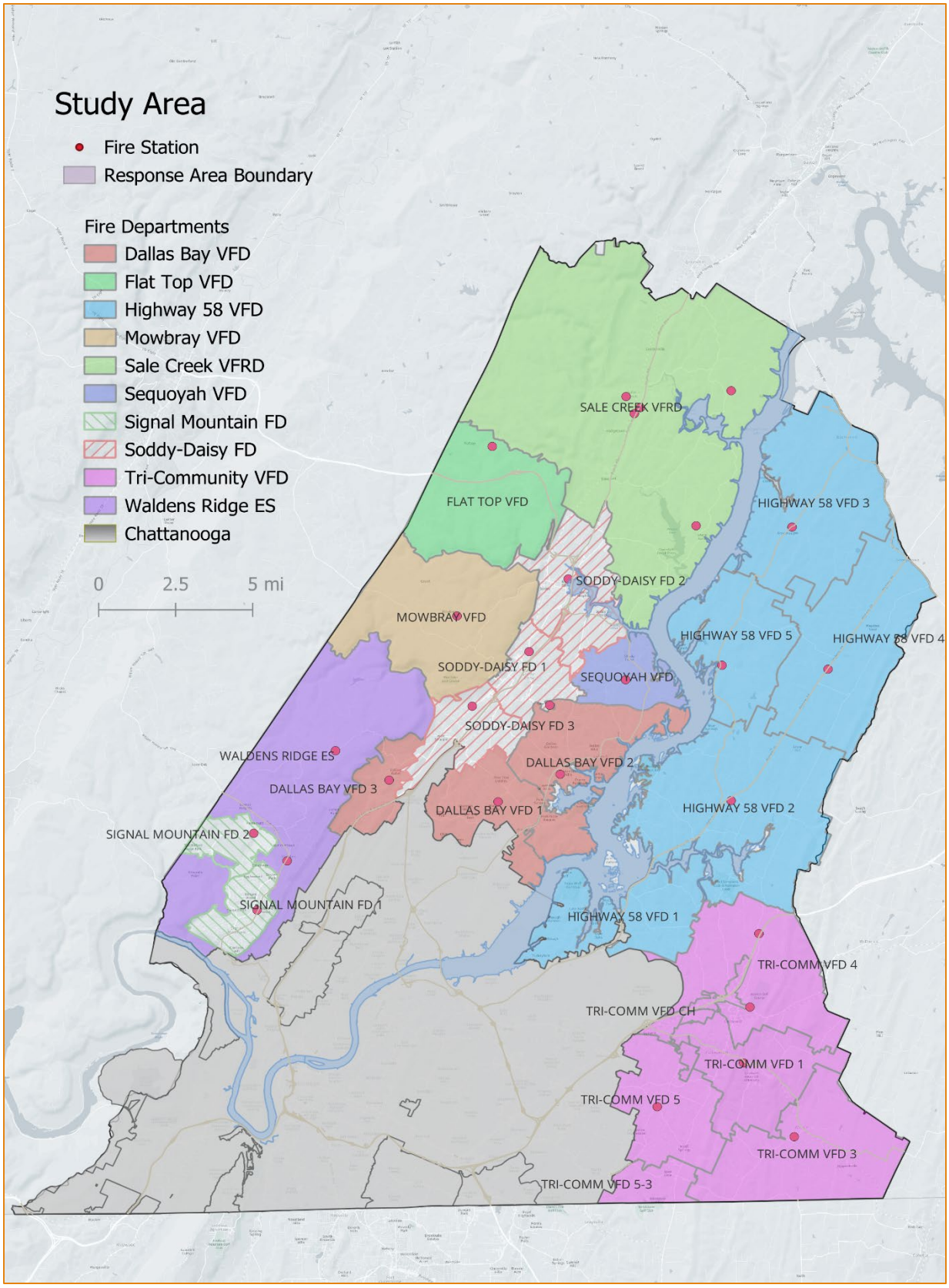


Figure 3. Study Area Fire Departments and Response Areas

Table 3. Population of Response Areas

Response Area	Total for RA	Total for FD
Dallas Bay VFD 1	10,933	
Dallas Bay VFD 2	12,014	
Dallas Bay VFD 3	1,845	
Total for Dallas Bay VFD		24,792
Flat Top VFD	561	
Total for Flat Top VFD		561
Highway 58 VFD 1	12,173	
Highway 58 VFD 2	14,331	
Highway 58 VFD 3	1,676	
Highway 58 VFD 4	2,086	
Highway 58 VFD 5	1,566	
Total for Highway 58 VFD		31,832
Mowbray VFD	1,705	
Total for Mowbray VFD		1,705
Sale Creek VFRD	7,997	
Total for Sale Creek VFRD		7,997
Sequoyah VFD	2,375	
Total for Sequoyah VFD		2,375
Signal Mountain FD 1	7,209	
Signal Mountain FD 2	1,642	
Total for Signal Mountain FD		8,851
Soddy-Daisy FD 1	4,710	
Soddy-Daisy FD 2	4,241	
Soddy-Daisy FD 3	4,179	
Total for Soddy-Daisy VFD		13,130
Tri-Community CH	10,889	
Tri-Community VFD 1	5,291	
Tri-Community VFD 3	11,333	
Tri-Community VFD 4	14,564	
Tri-Community VFD 5	5,795	
Tri-Community VFD 5-3	860	
Total for Tri-Community VFD		48,732
Waldens Ridge ES	6,528	
Total for Waldens Ridge ES		6,528
Total Study Area Volunteer Fire Departments		124,522
Total Study Area Municipal Fire Departments		21,981
Total Study Area		**146,503**
Outside Study Area	183,651	219,715
Total County	366,218	366,218

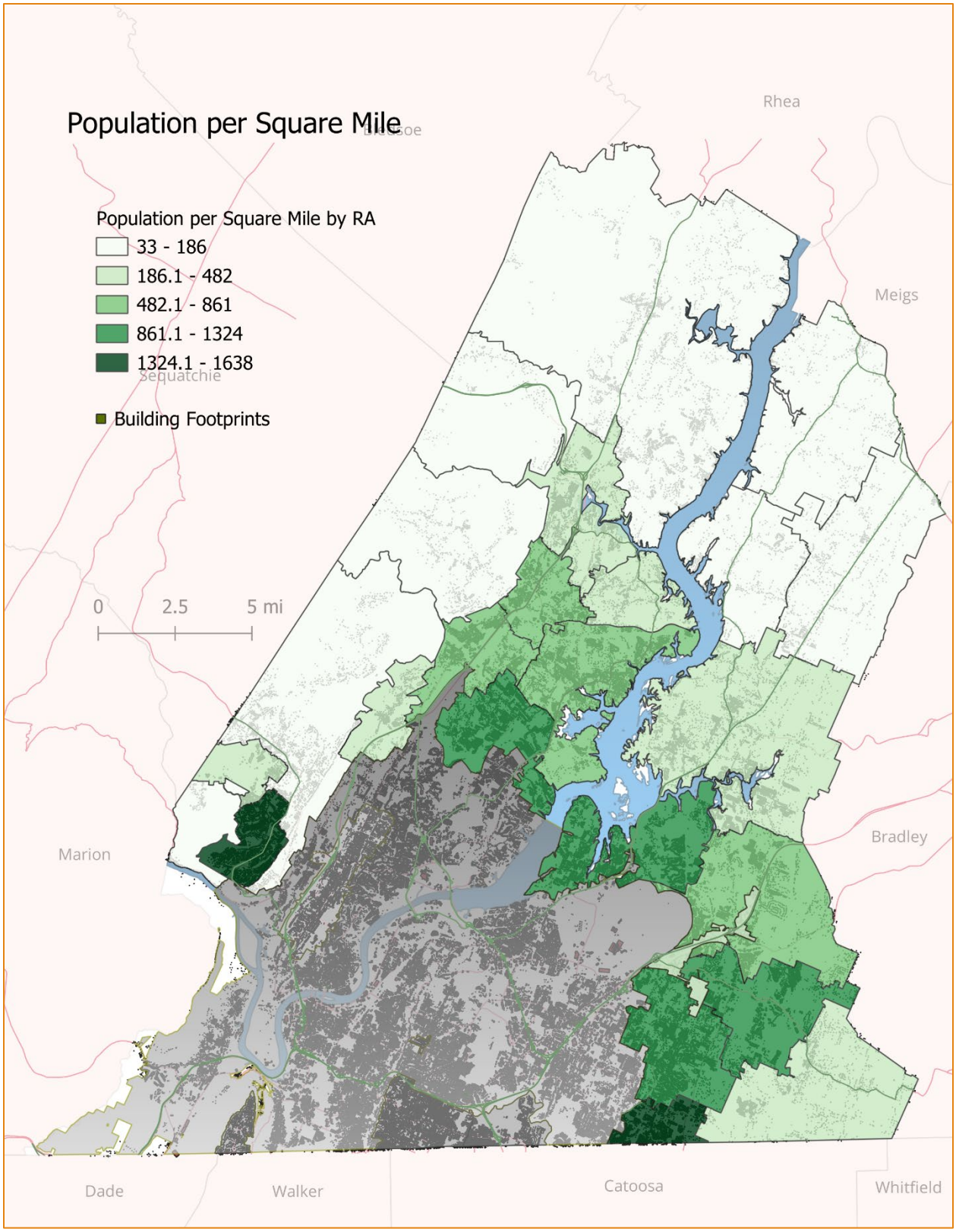


Figure 4. Population per Square Mile by Response Area

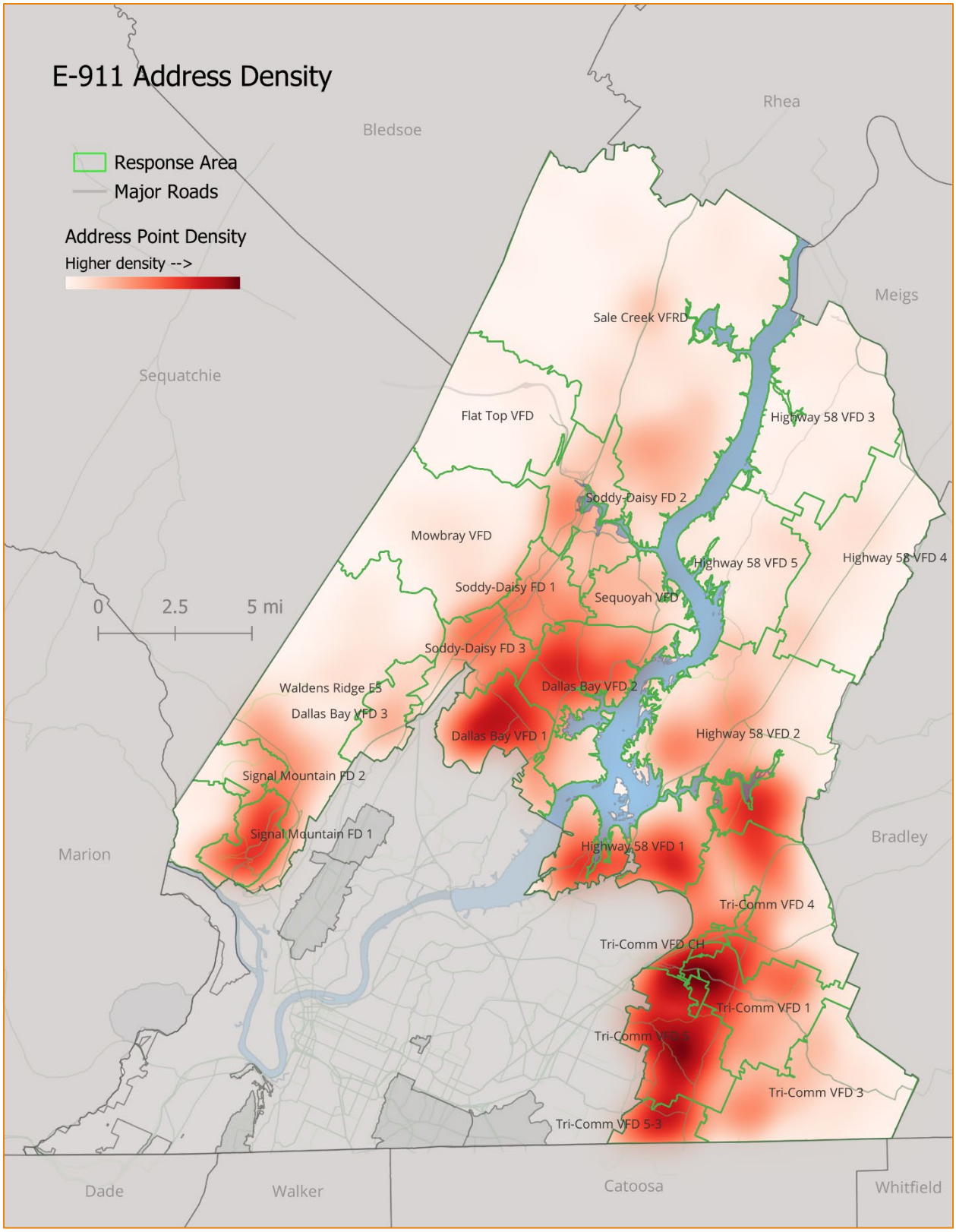


Figure 5. Density of E-911 Addresses in Study Area

Future growth patterns in the county have been examined in several RPA plans and studies. For example, real estate market trends were examined by the Bleak Advisory Group for the RPA[1], which concluded that real estate demand will be driven by a continued trend towards suburban growth, access to jobs and transportation infrastructure. The North County area centered on Soddy-Daisy should continue to attract residential and commercial development for an increasing number of future residents seeking a more rural life style (Figure 6). The highest area for both commercial and residential demand is the East Brainard/Ooltewah area, which encompasses much of the response areas of the Tri-Community VFD.

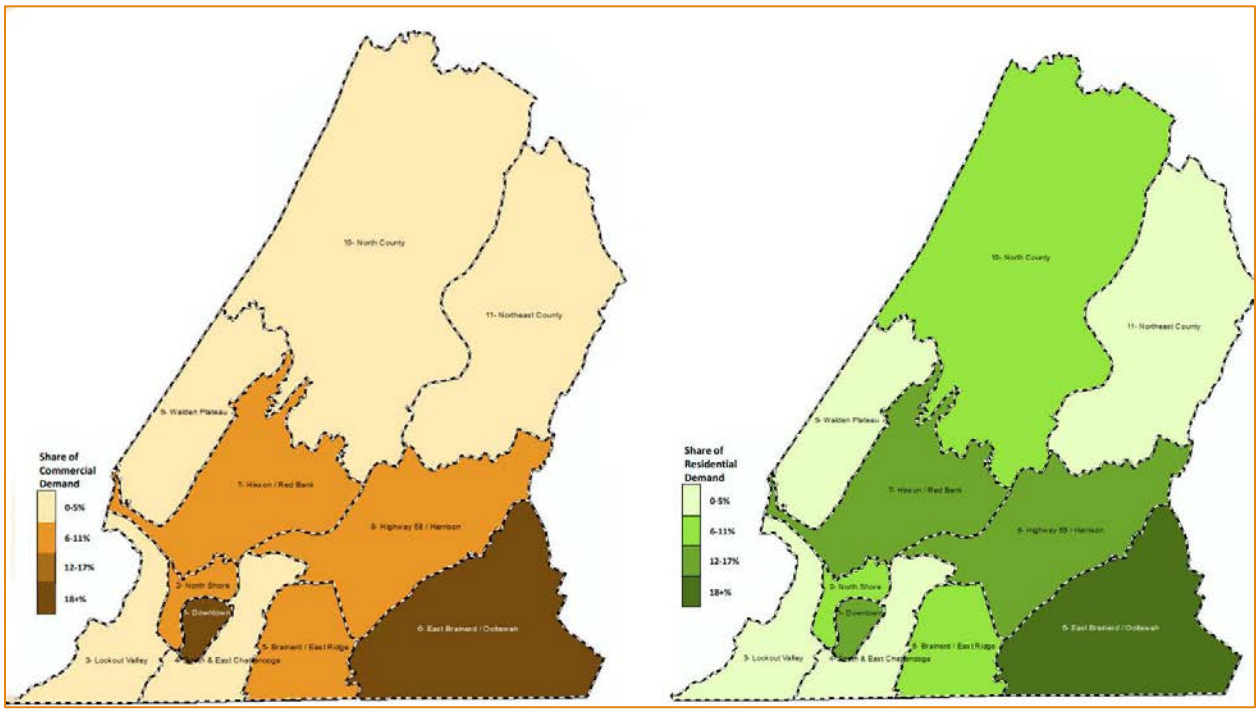


Figure 6. Real Estate Market Trends (Adapted from Bleakly Advisory Group 2016)

The RPA examined connectivity characteristics in the county road network that might impair the most efficient delivery of emergency response services[2]. The study modeled three connectivity attributes: 1) the ratio of segments between intersections or from intersections to the number of intersections or endpoints of a dead-end street; 2) the ratio of actual street intersection nodes to dangle nodes (dead end streets); and 3) block length, where shorter blocks provide more route options between destinations. From these attributes, a composite connectivity level by census tract was derived. Figure 7 shows that the study area does not contain any Level 5 composite connectivity level classes – the level with the greatest connectivity. The Signal Mountain Fire Department Response Area has a Level 4 class, but most of the Study Area is classified as Level 2 or Level 3. All Flat Top VFD and Highway 58 VFD 3, and most of Mowbray VFD and Highway 58 VFD 5 are classified as Level 1.

[1] Hamilton County –Chattanooga Area Real Estate Market Trends. Bleakly Advisory Group September 2016
[2] People Places Paths Connectivity Study – Chattanooga-Hamilton County Regional Planning Agency, Strategic Long Range Planning Department, Final Technical Report, December 2018

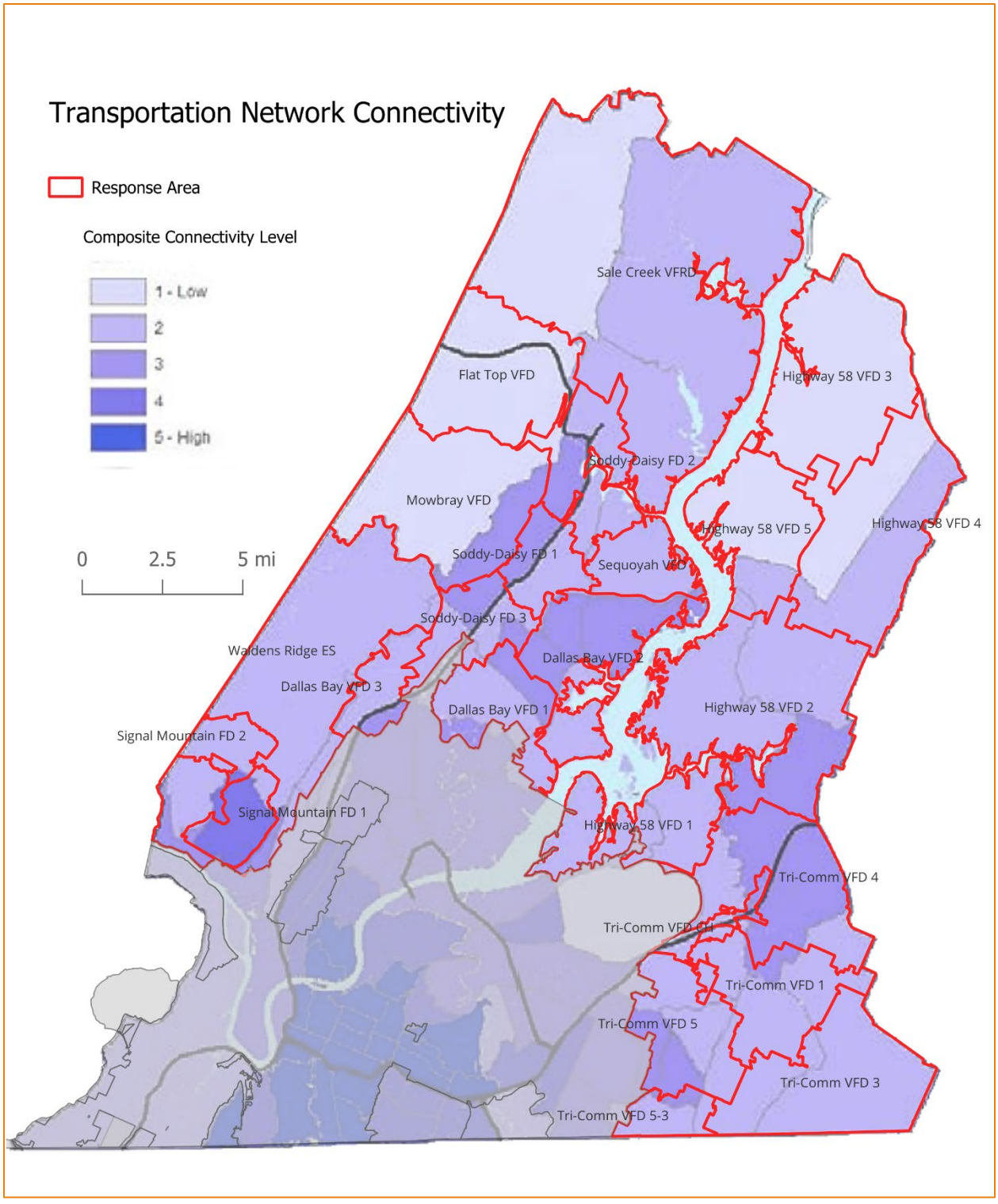


Figure 7. Road Network Composite Connectivity Levels

Investments in transportation connectivity and other transportation structure improvements will be made according to projected population density and regional development intensity levels. According to the RPA Comprehensive Plan[3], the population of Hamilton County is expected to increase by about 60,000 to 90,000 people over the next 25 years, or about 17 percent to 25 percent. Several areas in the county are already in parks or other areas protected from development. To support the health, safety, and welfare of the community, the RPA plan identifies five levels of development intensity to guide this future growth. Lands classified as Level 1 lands are sparsely populated with little development or road networks that could support intensive development. The most intensive class is lands in Level 5, which are highly populated and in which high road density, proximity to major intersections and intersections to major-minor networks make future development highly suitable. The east and west portions of the Study Area are particularly constrained from intensive development, with high proportions of Protected and Level 1 lands (Figure 8).

The most recent large-scale analysis of future population growth available for this study is provided by the Chattanooga-Hamilton County/North Georgia Transportation Planning Organization (TPO), which projects population and other demographics by census delineated Traffic Analysis Zones (TAZs). Using TAZ GIS polygons with 2050 projected population values, the current study estimates 2050 population values for each study area fire department. Population values of TAZ polygons that overlapped fire department district boundaries were split and allocated between departments using a population-weighted distribution, with the number of E-911 addresses in each split polygon as the weight value. These projections were used to calculate a percentage increase from the current population estimated for each department using 2020 census blocks (Figure 9). This method projects the greatest population increases in the Tri-Community VFD (33.1%) and the Sale Creek VFRD (26.4%), followed by the Dallas Bay VFD (20.3%) and the Highway 58 VFD (20.1%). The lowest increases would occur in the Flat Top VFD, the Mowbray VFD, and the Waldens Ridge ES (all <3%).

The differing potential negative effects on communities in the study area caused by external stresses on human health can be depicted by the Social Vulnerability Index. This index was created by the Centers for Disease Control/Agency for Toxic Substances and Disease Registry (CDC/ATSDR SVI)[4]. The index aggregrates 16 census data variables related to household characteristics, socioeconomic status, racial and ethnic minority status,and housing type and characteristics to assess which communities might be most vulnerable to natural or human caused diasters. Figure 10 highlights the overall SVI for census tracts in the study area overlaid with response area boundaries, with the index value signifying the percentile value of vulnerability compared to all other Tennessee census tracts. A value of 1 is the highest social vulnerabilty.

Figure 11 represents the social vulnerability index for the study area by the four themes that group variables that make up the index:

1) **Socioeconomic Status** (Poverty Level, Unemployed, Housing Cost Burden, Lower Education,No Health Insurance);

[3] Renewing Our Vision. Comprehensive Plan Update 2030 – Phase I of Growing Forward Adopted May 14, 2016. Amended 2021)

[4] Centers for Disease Control and Prevention/ Agency for Toxic Substances and Disease Registry/ Geospatial Research, Analysis, and Services Program. CDC/ATSDR Social Vulnerability Index 2020 Database Tennessee https://www.atsdr.cdc.gov/placeandhealth/svi/data_documentation_download.html. Accessed on 12/22/2023.

2) **Household Characteristics** (Age 65+, Age 17-, Disability, Single-Parent Households, English Language Proficiency;

3)**Racial and Ethnic Minority Status;**

4) **Housing Type & Transportation** (Multi-Unit Structures, Mobile Homes, Crowding, No Vehicle, Group Quarters).

The tracts in the eastern portion of Sale Creek VFRD and the northern portion of Tri-Community VFD rank slightly above the 50th percentile for vulnerability related to socioeconomic status. The index for the Housing Characteristic theme is particularly high in the northern portion of the Highway 58 VFD, and higher than 50th percentile for census tracts in Sale Creek VFRD, Flat Top VFD and Mowbray VFD, and portions of the Tri-Community VFD. Housing and transportation have high percentile index values for northern Highway 58 VFD and the northern and northeast portion of Tri-Community VFD.

The Social Vulnerability Index is only one of the assessments used by FEMA to assist in mitigation planning, hazard mitigation assistance and risk communication. Another is the National Risk Index, which assesses natural hazard risk by county and by census tract and evaluates risk as a combination of the hazards, social vulnerability, expected annual loss, and community resilience. Compared to national risk levels by county, the national risk index for Hamilton County is rated as relatively moderate, driven by the denser population, infrastructure, and social vulnerability of Chattanooga and by the natural hazards the county is subject to. The remainder of the county has a lower risk index (Figure 12). However, the study area is subject to several natural hazards and the county has a robust and well-documented multijurisdictional natural hazards mitigation plan overseen by the Office of Emergency Management and Homeland Security[5]. These hazards are not analyzed in detail here, but rankings of Riverine Flooding, Lightning, Tornado, and Winter Weather as shown by census tract are included in Figure 13.

[5] Hamilton County, Tennessee Multijurisdictional Natural Hazards Mitigation Plan 2019. Hamilton County Office of Emergency Management and Homeland Security.

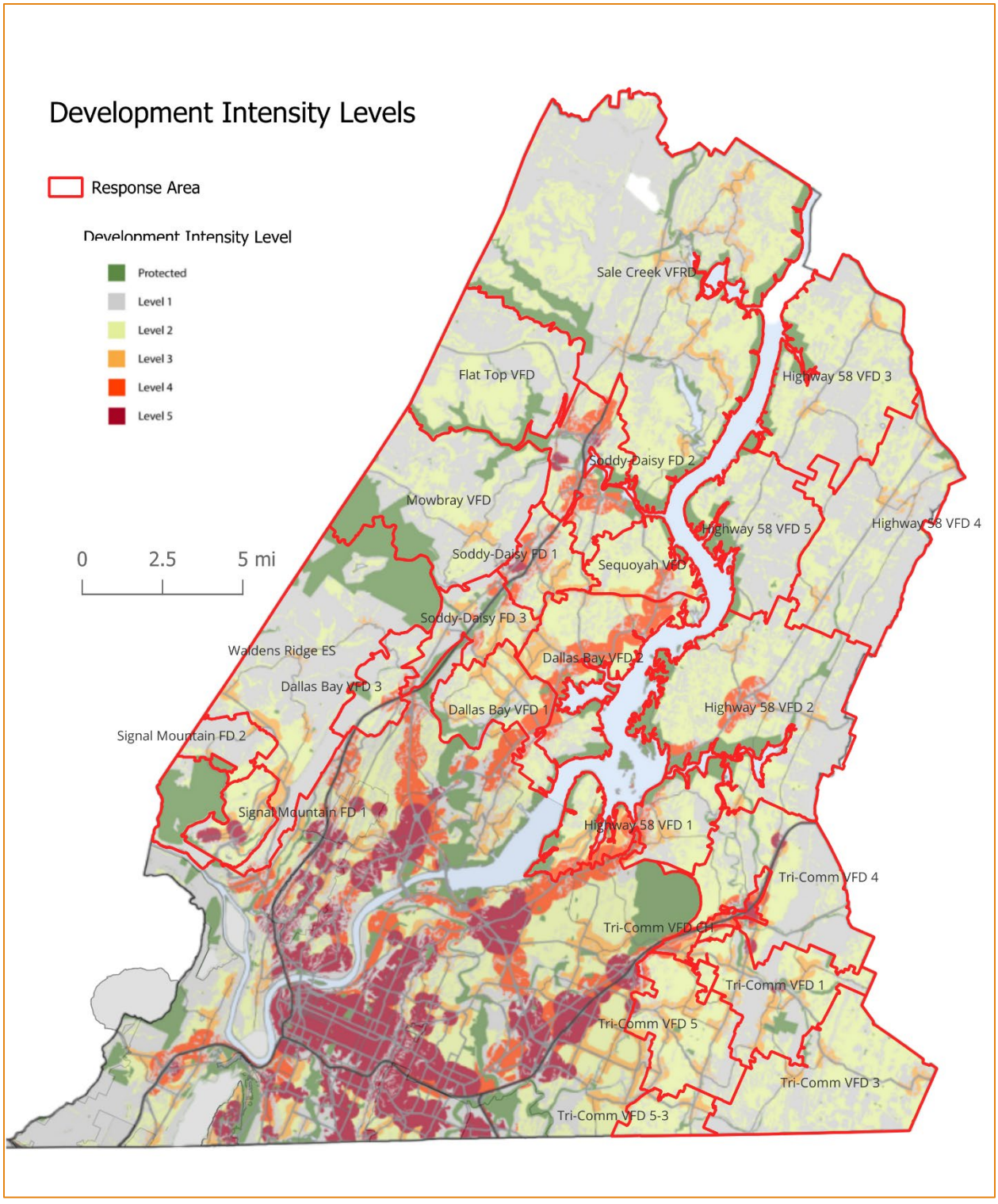


Figure 8. RPA Development Intensity Levels

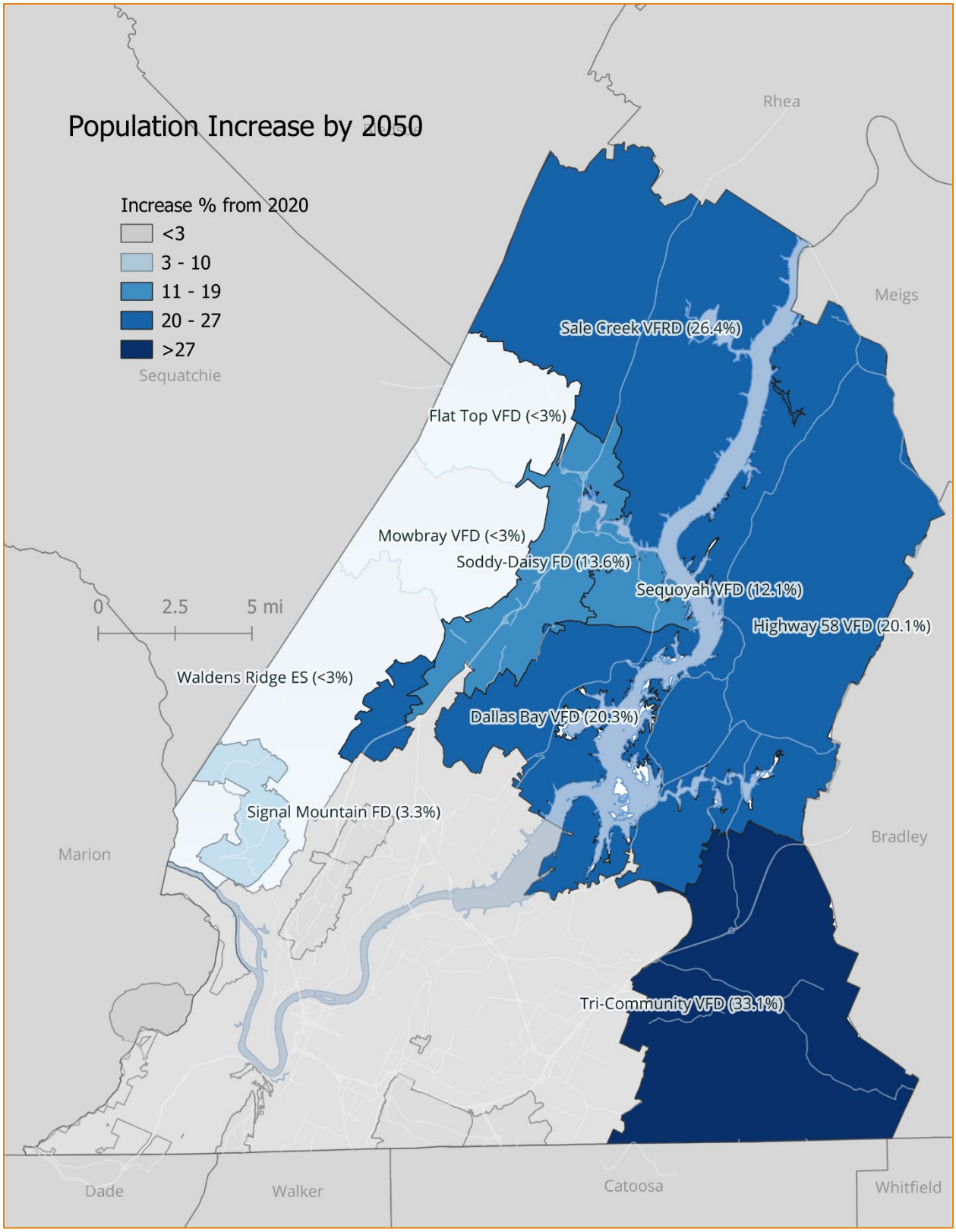


Figure 9. Estimated Population Percentage Increase by 2050

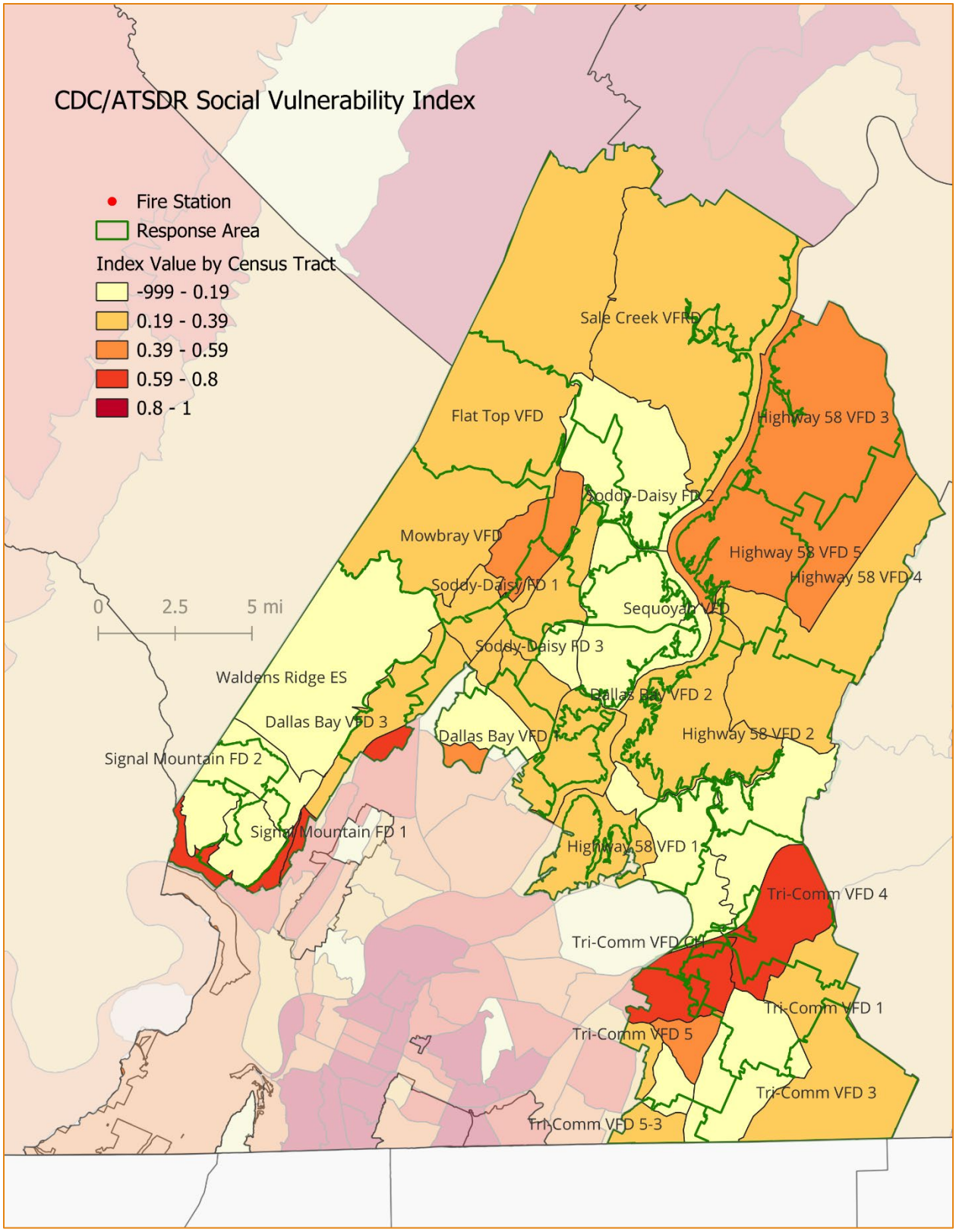


Figure 10. CDC/ATSDR Social Vulnerability Index for Study Area

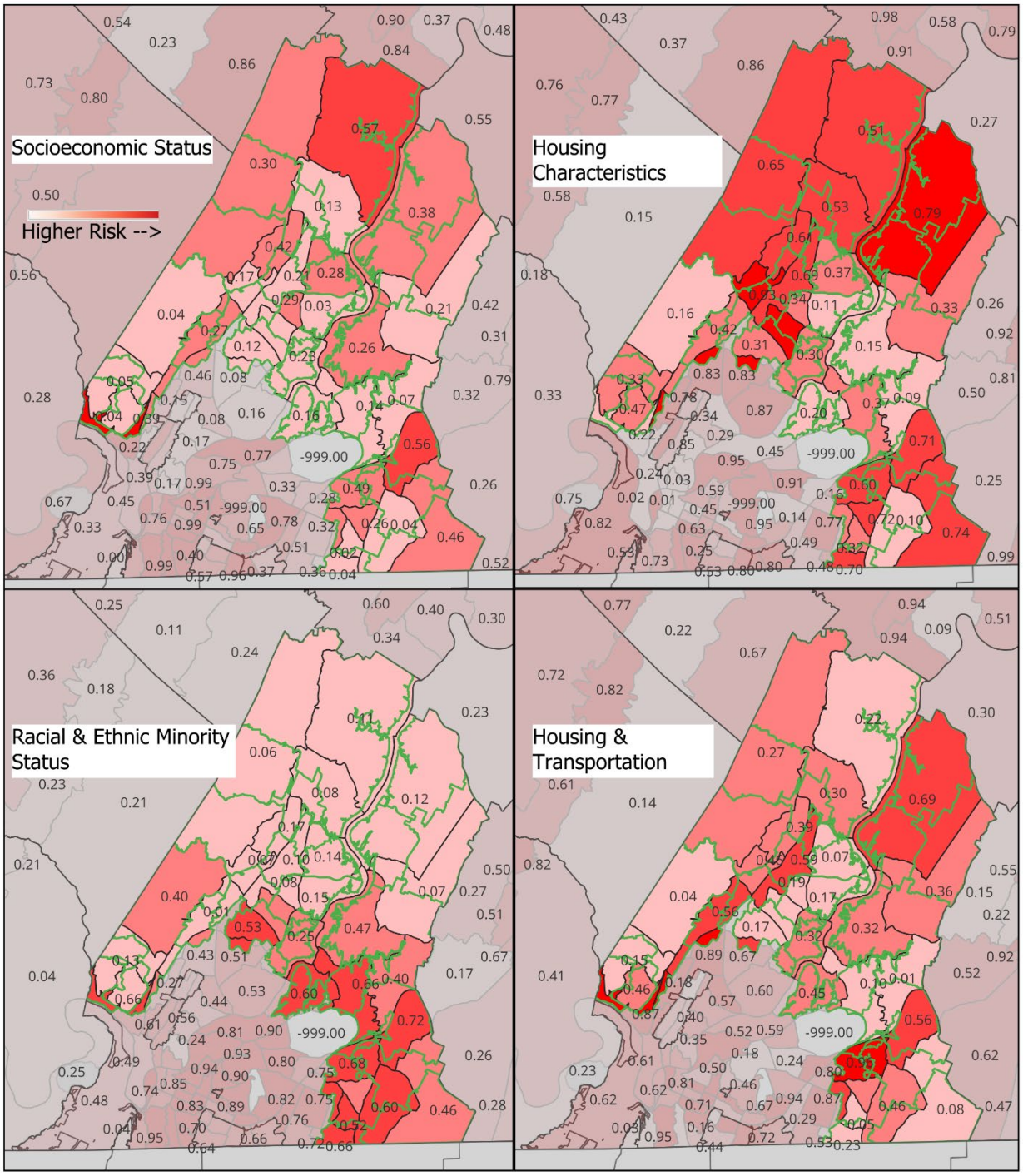


Figure 11. Social Vulnerability Index by Theme

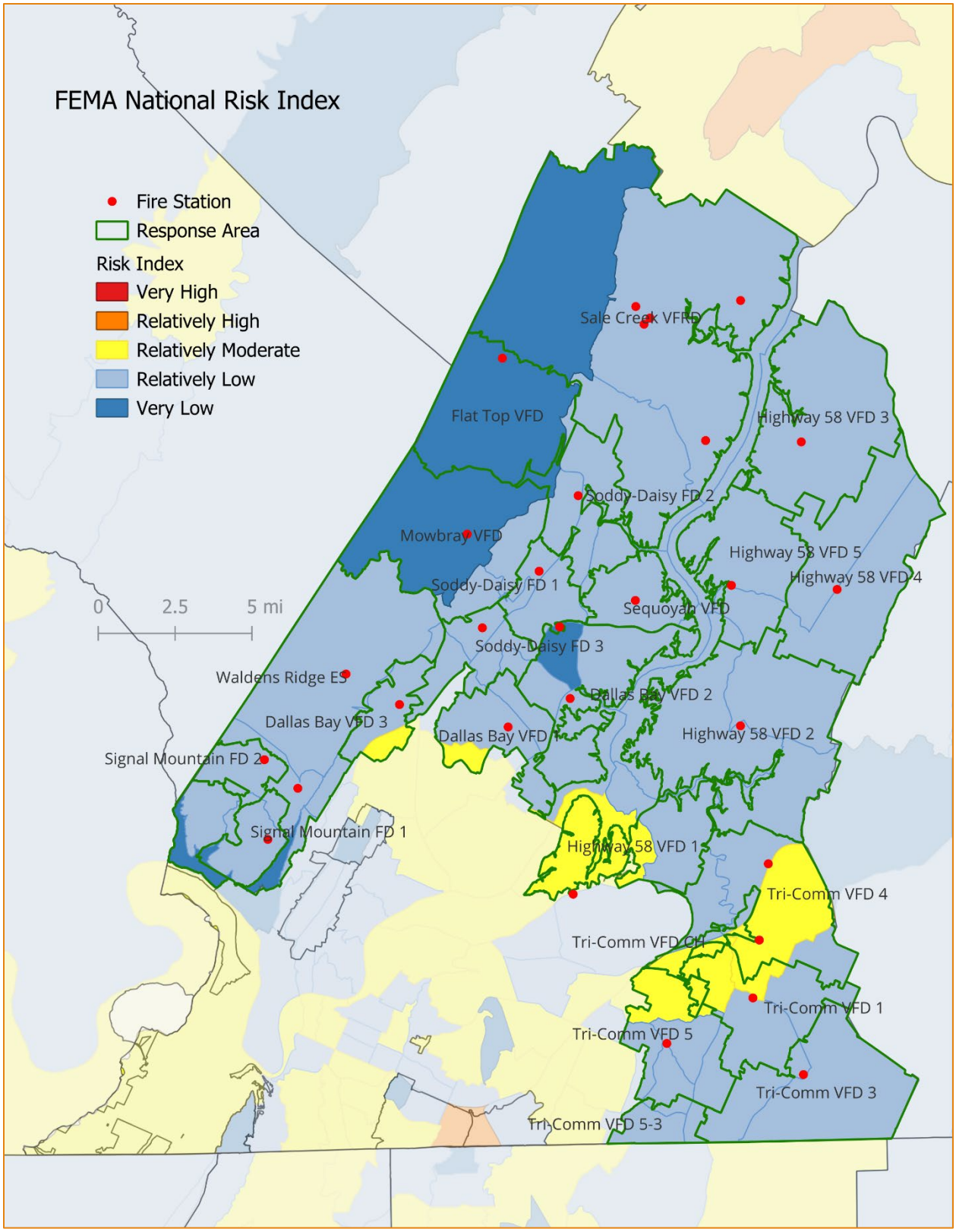


Figure 12. FEMA National Risk Index Values for Study Area

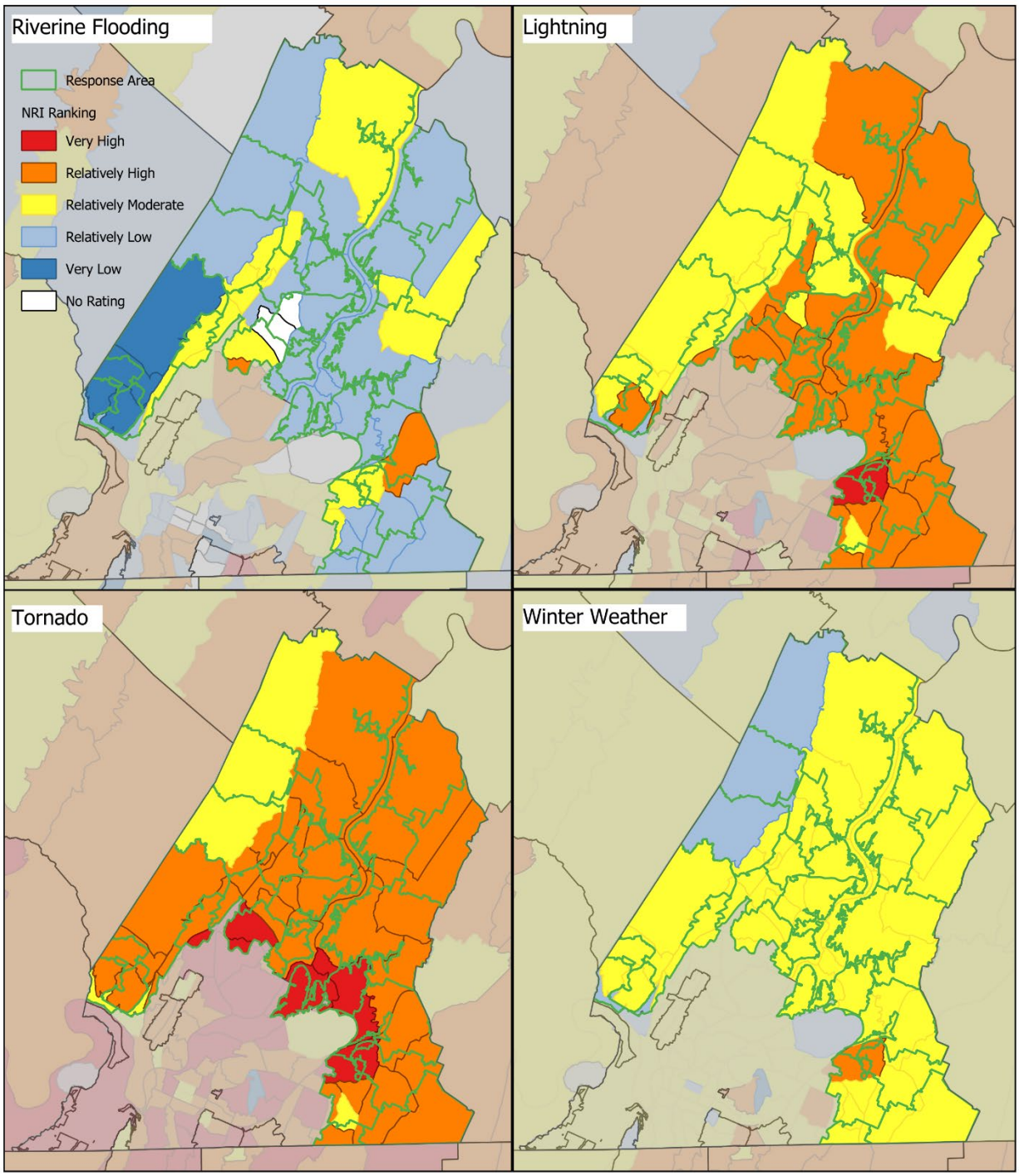


Figure 13. FEMA National Risk Index Values for Selected Hazards in Study Area

Building Permit Activity and Structure Characteristics

Building permit data for five years beginning July 1, 2018, through June 30, 2023, were evaluated for activity patterns in response areas. Most permits are issued for new construction and AAC (additions/ alterations/ conversions) but are less commonly issued for demolitions, moves, and other categories.

Table 4. Building Permits by Type

	AAC	Demo	Move	New	Other	Total
Dallas Bay VFD 1	184	22		332	26	564
Dallas Bay VFD 2	431	11		256	29	727
Dallas Bay VFD 3	52	5		73	14	144
Flat Top VFD	26			65	1	92
Highway 58 VFD 1	197	8		200	21	426
Highway 58 VFD 2	322	13	1	408	45	789
Highway 58 VFD 3	42	3		48	5	98
Highway 58 VFD 4	68	2		135	10	215
Highway 58 VFD 5	64	6		255	3	328
Mowbray VFD	58	8		69	8	143
Sale Creek VFRD	242	17	1	521	17	798
Sequoyah VFD	57	4		126	1	188
Signal Mountain FD 1	956	15		47	134	1,152
Signal Mountain FD 2	391	1		73	80	545
Soddy-Daisy FD 1	118	23		82	8	231
Soddy-Daisy FD 2	141	32		195	2	370
Soddy-Daisy FD 3	104	13		71	21	209
Tri-Community VFD 1	279			294	15	588
Tri-Community VFD 3	148	6		515	18	687
Tri-Community VFD 4	319	23	1	772	46	1,161
Tri-Community VFD 5	580	102		506	27	1,215
Tri-Community VFD 5-3	130	5		171	22	328
Tri-Community VFD CH	64	4		35	1	104
Waldens Ridge ES	269	13		313	28	623
Total	5,242	336	3	5,562	582	11,725

Permit activity for all permits is shown by year by response area in Figure 14. The Tri-Community VFD accounted for over one-third of permits issued during this period, with the Tri-Community VFD 5 response area receiving the most permits. Sale Creek VFRD and Highway 58 VFRD 2 had the next highest number of permits among VFD response areas, followed closely by Dallas Bay VFD 2. The permits do not reflect the number of approved subdivision plats that are planned or approved. The new construction will continue to strain the emergency services systems as growth continues throughout the county.

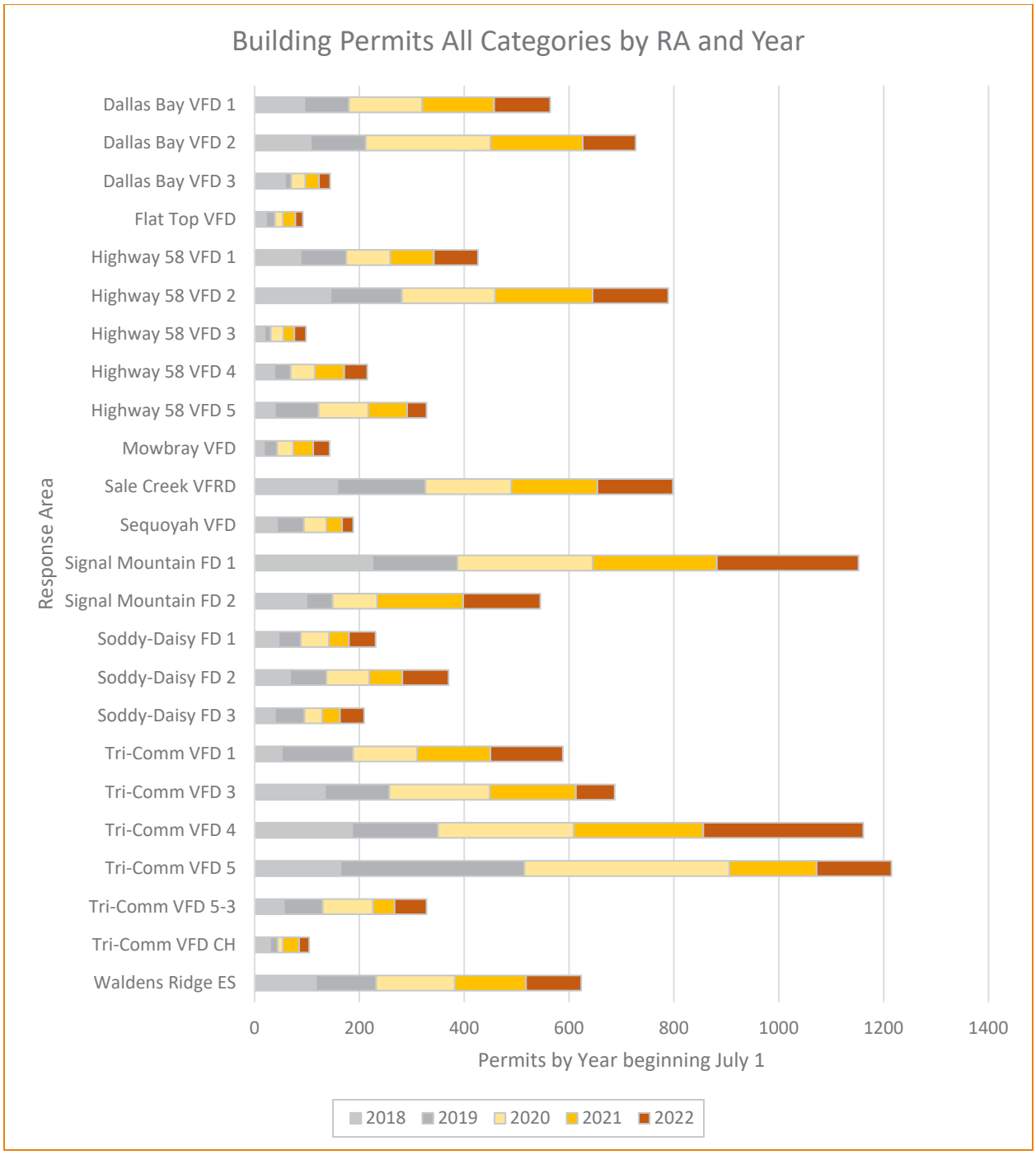


Figure 14. Building Permits All Categories by Response Area and Year

Average annual permits by response area and new permit construction totals are symbolized on Figure 15 and Figure 16 respectively. The Tri-Community VFD 4 response area has the highest number of permits for both new construction and all permit types. New construction permit activity is high throughout the Tri-Community VFD outside Collegedale and in the Sale Creek VFRD zone.

Although new construction permit activity is correlated to population within a response area, the rate of construction in relation to current building stock is an indicator of locations of highest growth within the county. Figure 17 shows the percentage of total buildings within each response area represented by total new construction during the five-year period. Five-year permit activity in Flat Top VFD and Highway 58 VFD 5 response areas is highest among response areas in the study area by this metric. Tri-Community VFD 3 in the eastern portion of the Tri-Community VFD also has a high permit rate.

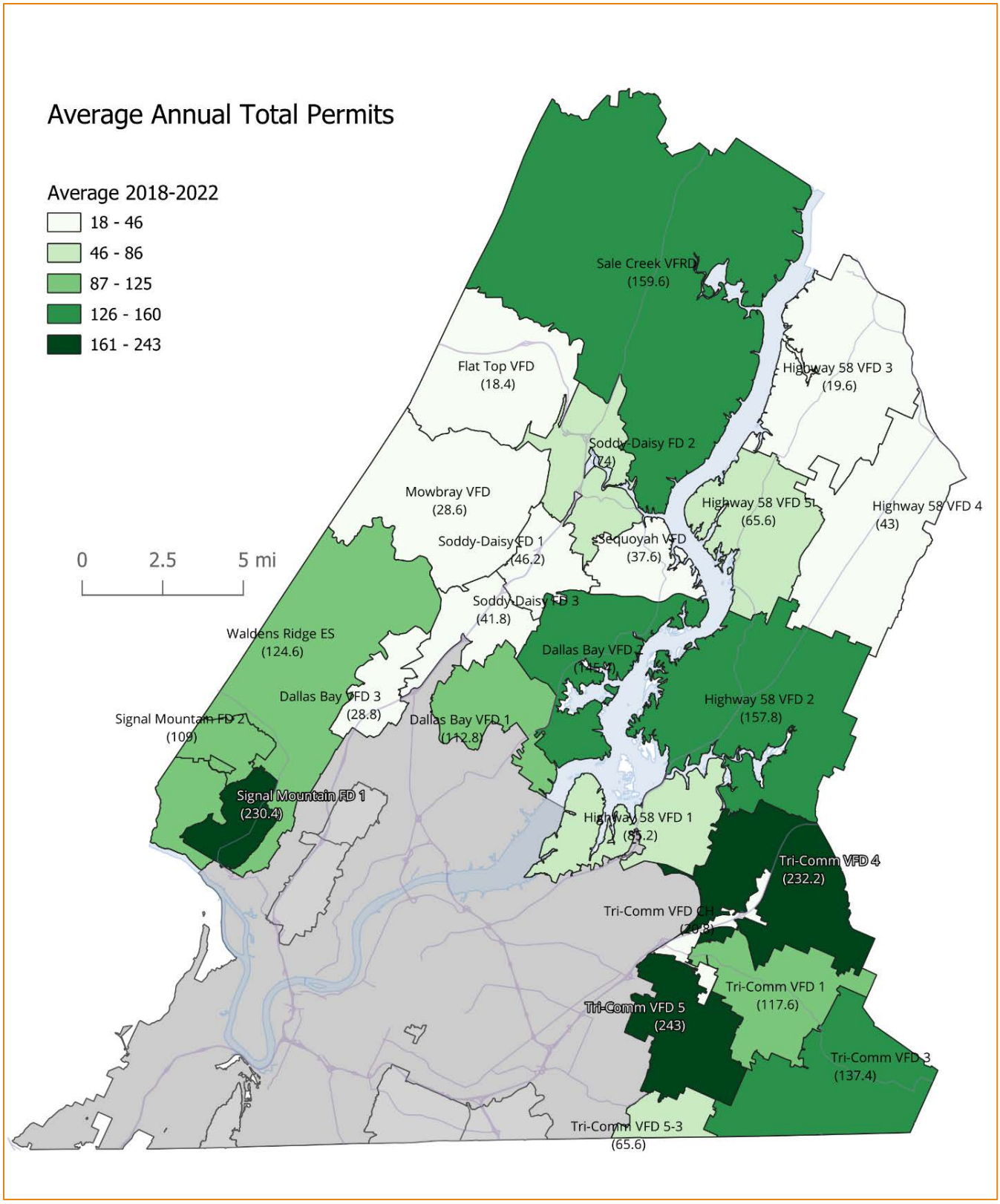


Figure 15. Average Annual Permit Totals by Response Area

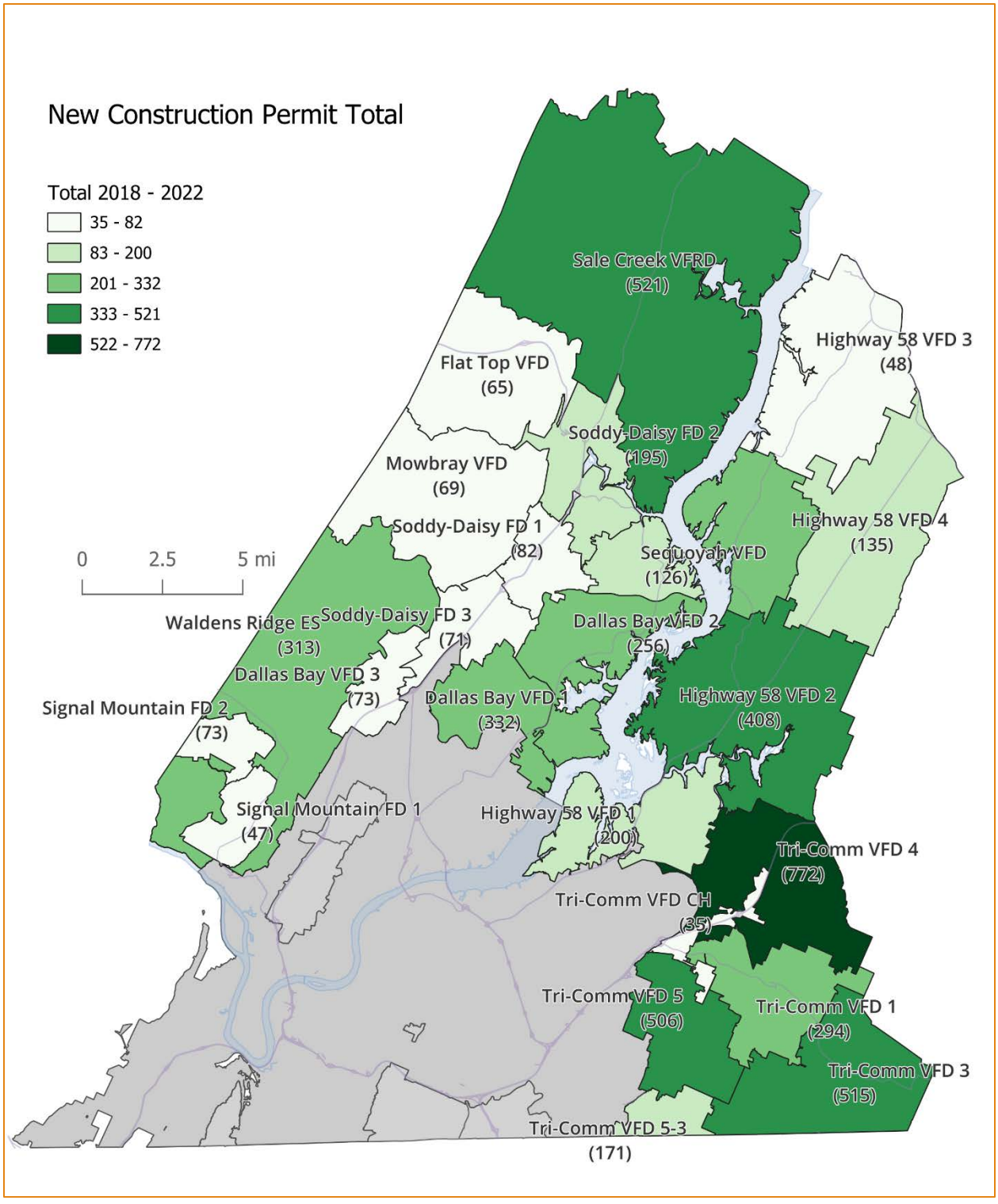


Figure 16. New Construction Permit Totals by Response Area

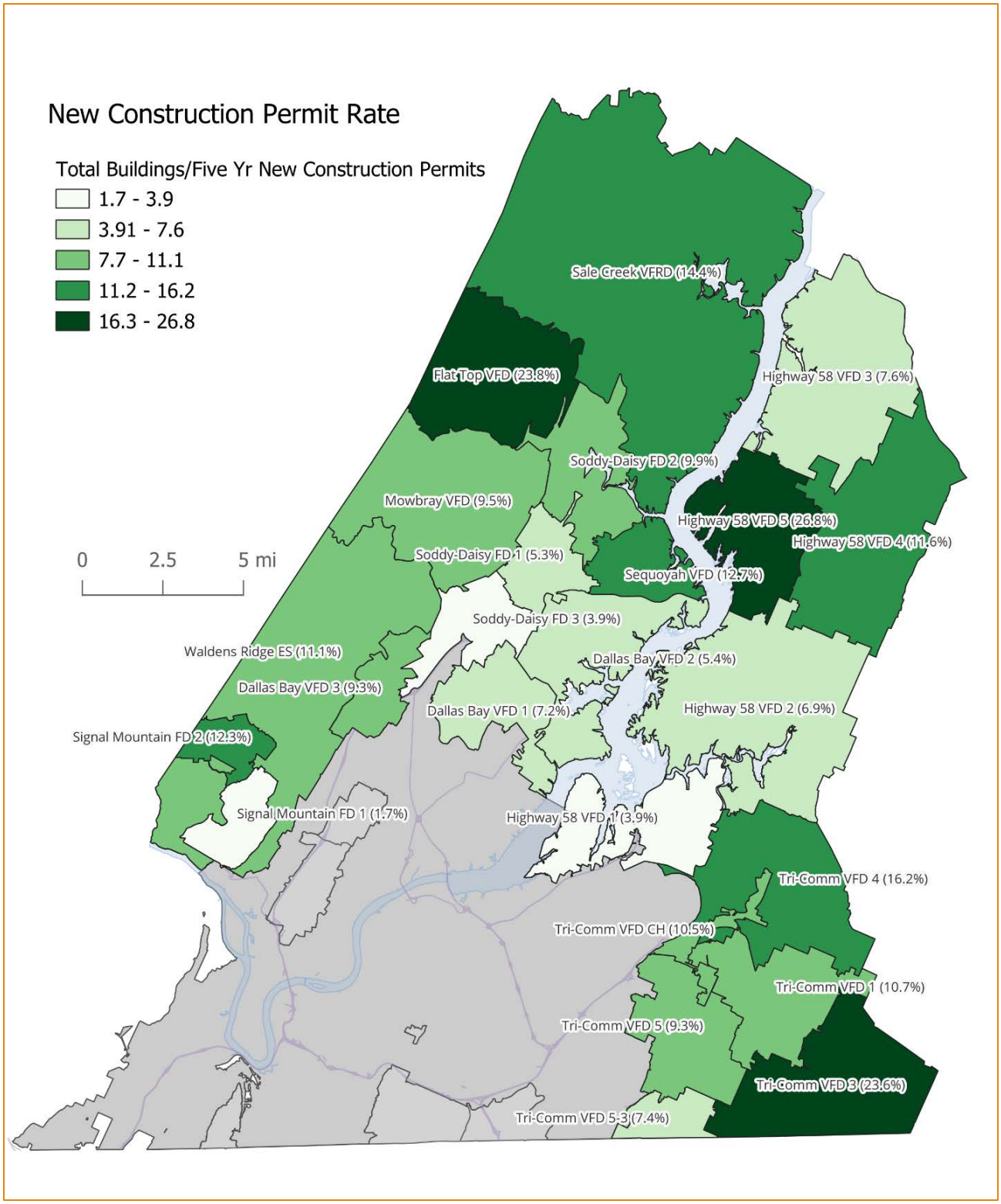


Figure 17. Five-Year Building Permit as a Percentage of Total Buildings

Building Materials and Heating Types

Fire safety within structures is improved by community education about best practices, as part of the mission of the Hamilton County Fire Marshal's Office. As well, Building Official and Fire Marshal enforced compliance with building codes and regulations pertaining to fire safety is essential during the design, construction, and operation of buildings. Especially for commercial and industrial facilities, these include fire suppression systems, smoke detection and alarm system, emergency lighting, evacuation routes, fire doors and compartmentation, firefighter access, and maintenance and inspections. Residential housing is subject to the requirements of the 2018 International Residential Code. The fire safety of individual structures is not inventoried as a property assessment attribute. However, description of some general characteristics of building structures within a response area can assist in fire department planning.

While older buildings may be "built to last," they present more hazards and challenges to firefighters and are less likely to have fire suppression systems. The median age of buildings by response area is shown in Figure 18. Also significant in fire response planning are building size and height. Figure 19 shows the median square footage of study area buildings. The average building height by response areas in shown in Figure 20.

While property assessment data does not contain sufficient information for a complete assessment of a structure's fire resistance, some general components of fire risk can be derived. The primary wall type, structure size, story height, heating type, and use class of buildings were derived from property assessor parcel data and evaluated within response areas using the location of the parcel centroid.

Primary wall material is a factor in fire resistance, although only a small percentage of residential fires involve ignition from exterior cladding or materials. Building construction materials can vary in flammability and structural stability. Wood frame structures with plywood or other structural sheathing is an acceptable fire resistive structure depending on the retardant quality of the sheathing but ranks lower in fire resistance than other building primary wall types. These structures comprise approximately one-third of the total buildings in the study area. Vinyl is the second most prevalent primary wall material for buildings in the study area (31%). It may melt quickly if exposed to high heat and is not recommended for installation on homes by the Federal Emergency Management Agency in areas at high risk for fire, such as forested areas vulnerable to wildfire. More resistant materials in study area structures include metal sheeting, aluminum, brick, stone, stucco, fiber cement, and concrete block. See Figure 21 for a percentage of general primary wall types of structures by response area.

Heating systems can be a significant factor in fire risk. Central heating systems can vary in their fire safety characteristics, with modern systems often equipped with smoke detectors, automatic shutoff features and integration with fire suppression systems. In general, these provide a much safer fire safety environment than other systems. Approximately 93 percent of the study area has central heat/air or forced air systems. Approximately 3.5 percent have gravity heating systems, which are not inherently less safe than blower fan equipped systems, but their lower efficiency may contribute to higher use of supplemental heating systems such as fireplaces and portable electric heaters. Approximately 3.3 percent of structures are classed as No HVAC, which may also be an indicator of more reliance of heating sources more likely to contact interior building materials. Building heating types by response area are presented in Figure 22.

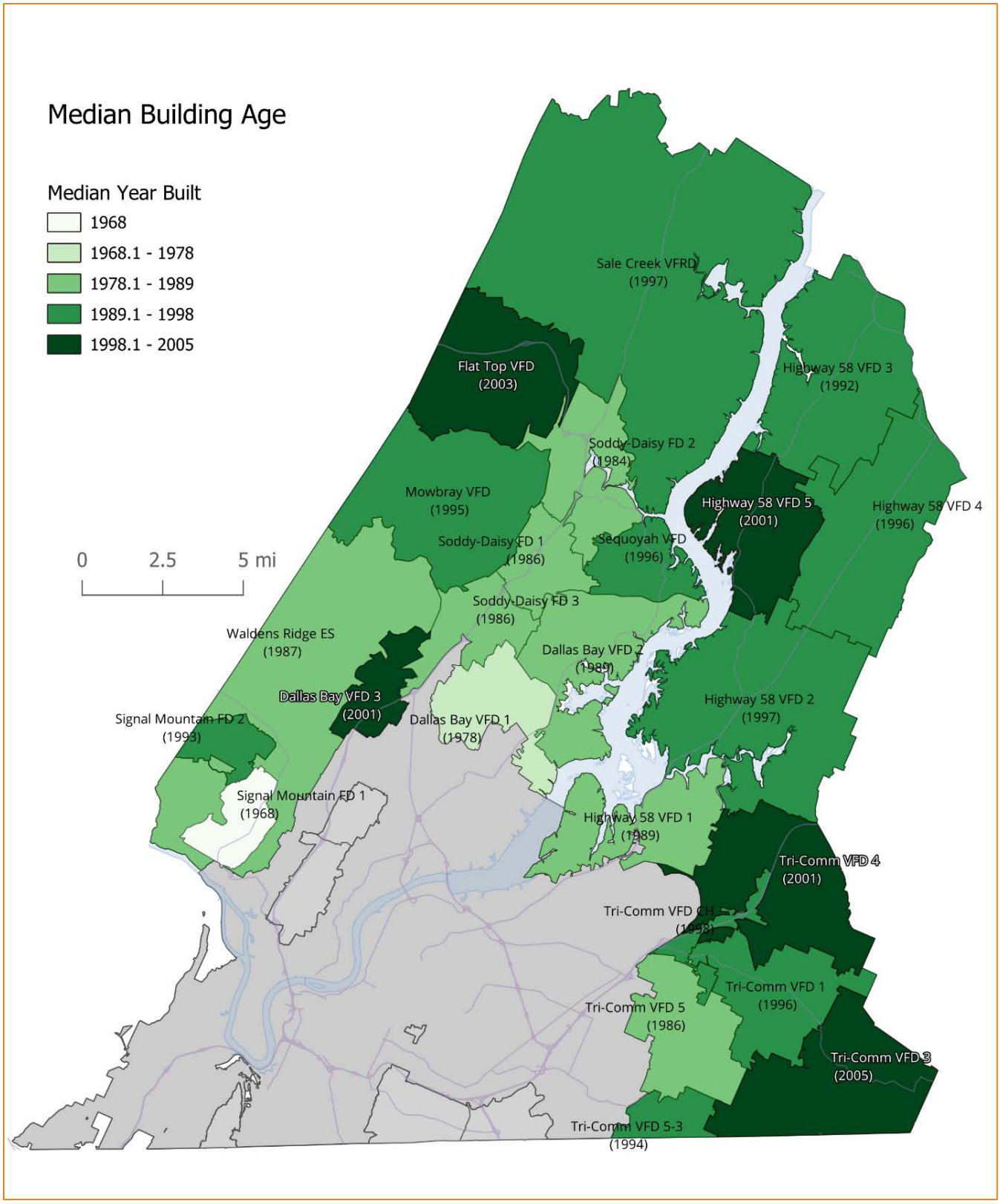


Figure 18. Median Building Age by Response Area

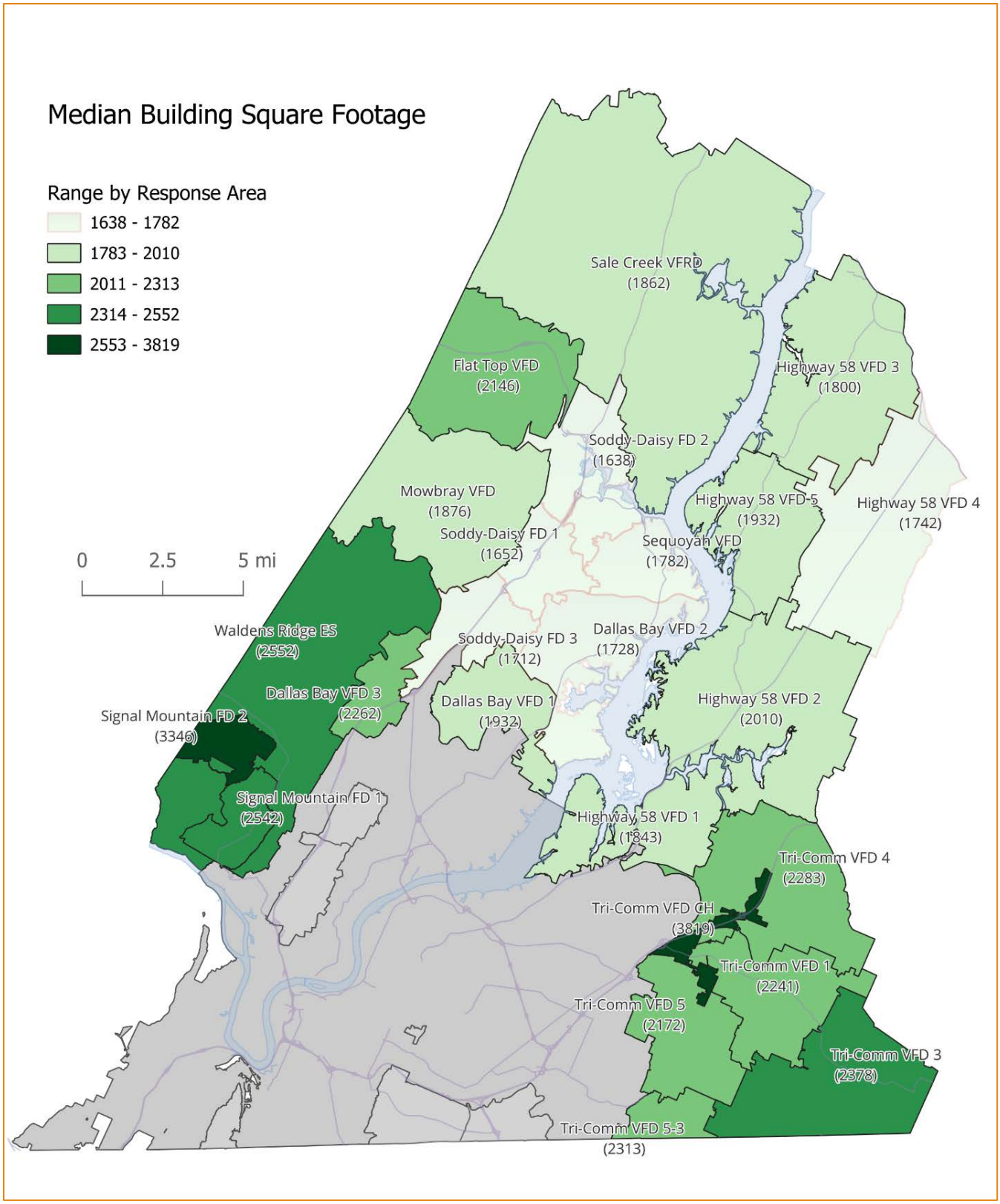


Figure 19. Median Building Square Footage by Response Area

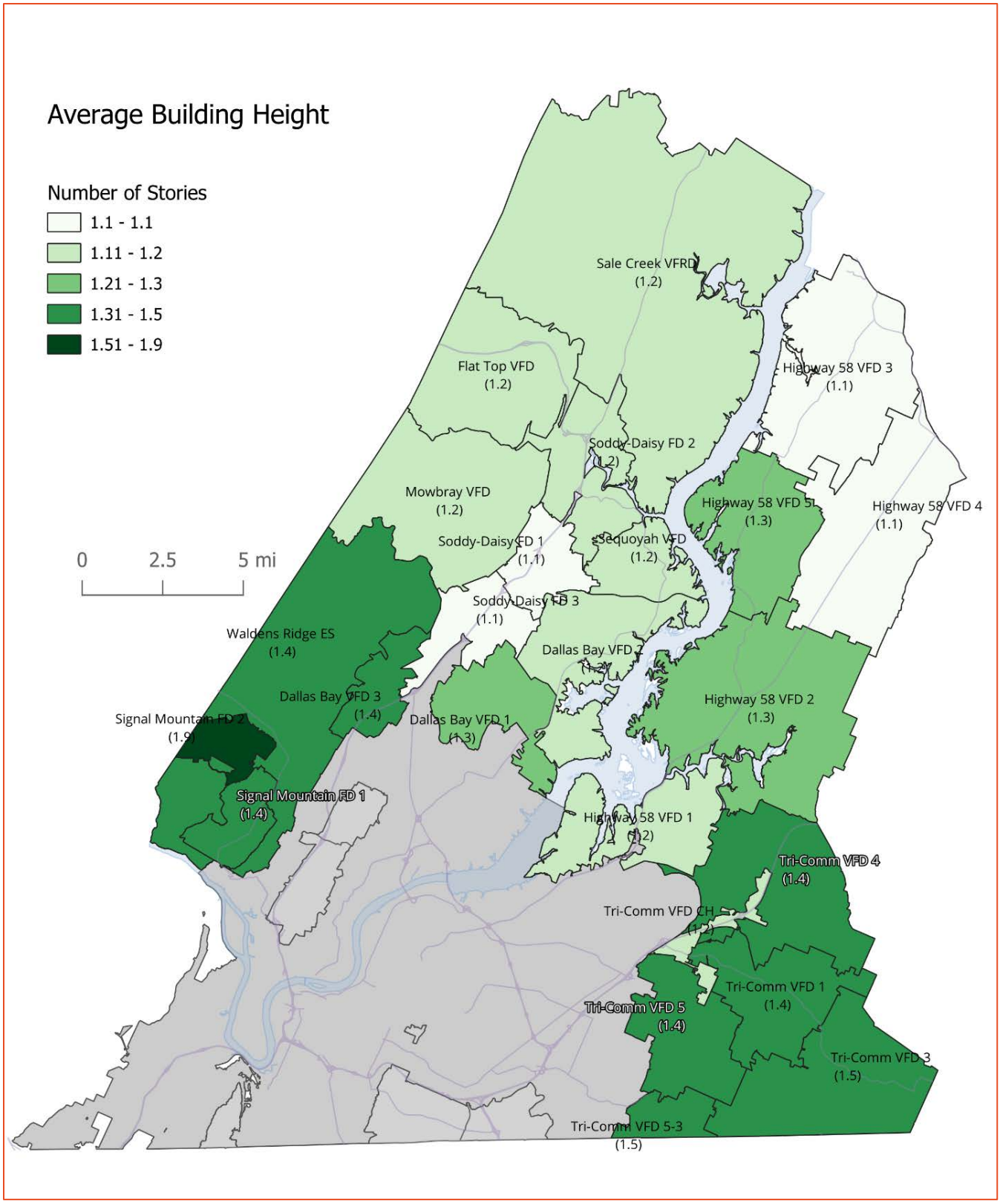


Figure 20. Average Building Height by Response Area

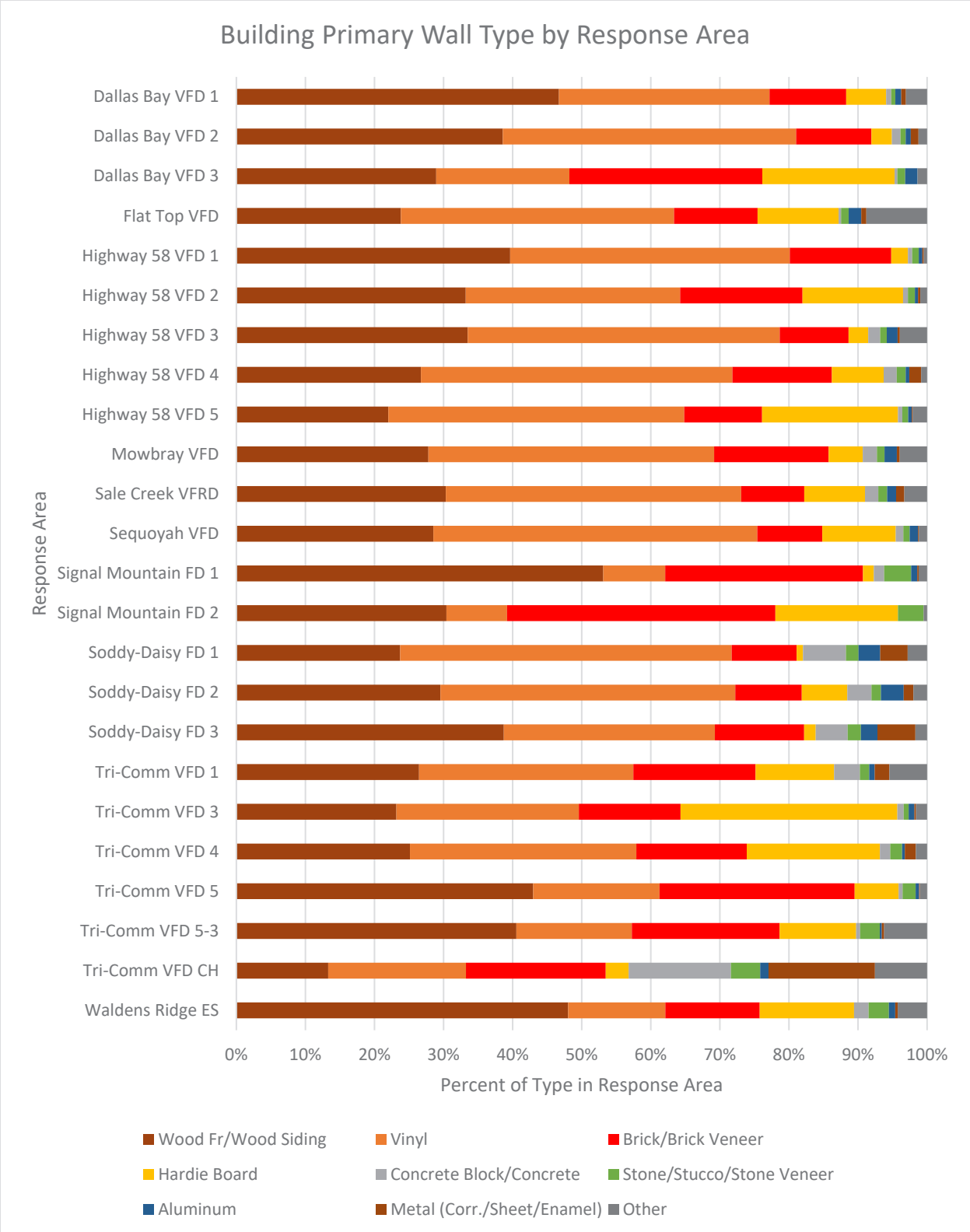


Figure 21. Primary Wall Description of Buildings in Study Area

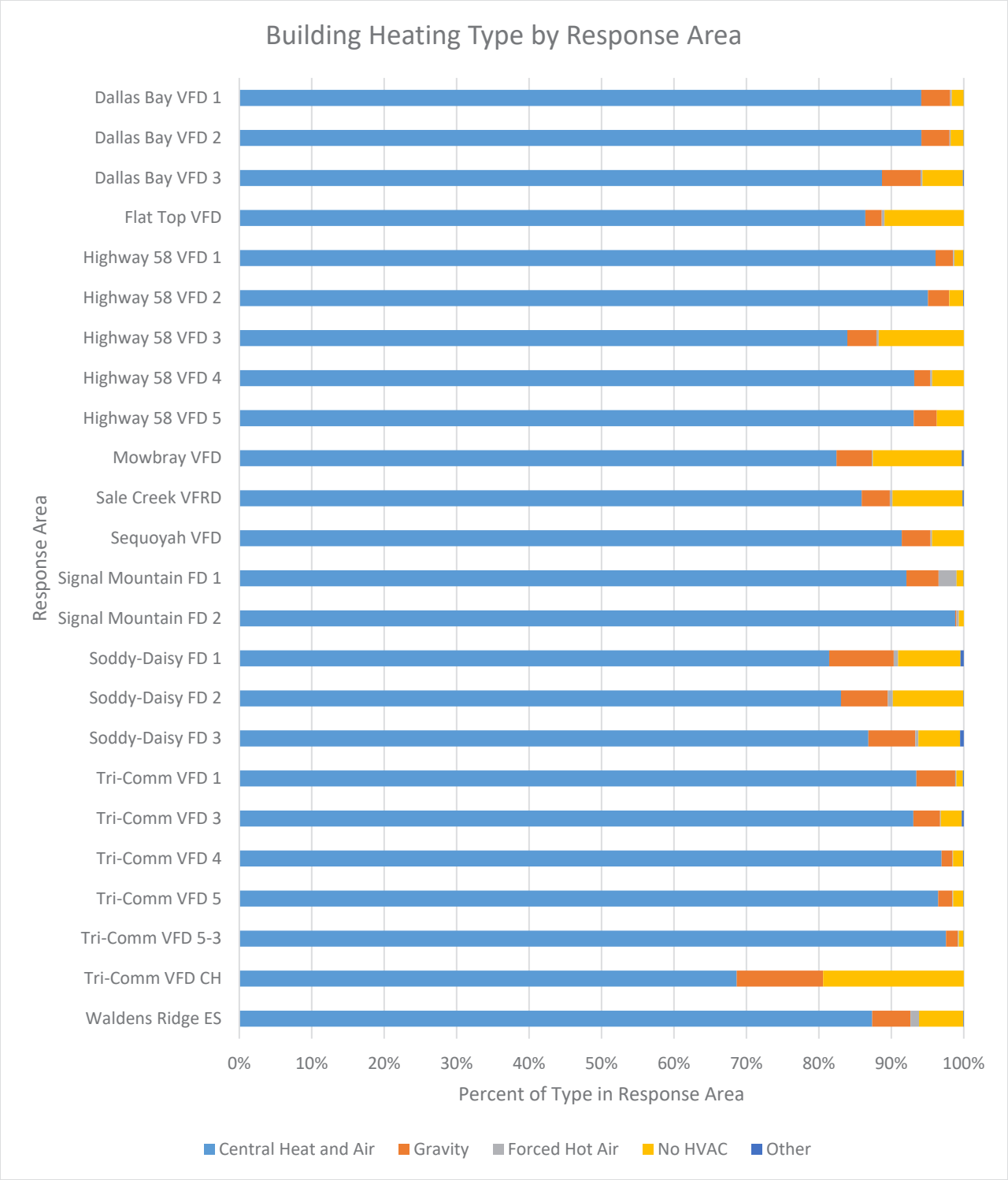


Figure 22. Building Heating Type by Response Area

Current Deployment Model

Coverage Areas by Distance and Time

The study area has 24 fire station locations that have routine emergency response duty (Table 5)

Table 5. Study Area Fire Stations

Station Name	Station Type	Street Address	City	Zip Code
Dallas Bay Vol. Fire Station 1	Volunteer	7525 Middle Valley Rd	Soddy-Daisy	37379
Dallas Bay Vol. Fire Station 2	Volunteer	1950 McConnell School Ln	Hixson	37343
Dallas Bay Vol. Fire Station 3	Volunteer	6918 Levi Rd	Hixson	37343
Flat Top Volunteer Fire Station	Volunteer	13341 Jones Gap Rd	Soddy-Daisy	37379
Hwy 58 Vol. Fire Station 1	Volunteer	5402 Hwy 58	Chattanooga	37416
Hwy 58 Vol. Fire Station 2	Volunteer	9018 Career Lane	Harrison	37341
Hwy 58 Vol. Fire Station 3	Volunteer	13430 Birchwood Pike	Birchwood	37308
Hwy 58 Vol. Fire Station 4	Volunteer	10916 Highway 58	Georgetown	37336
Hwy 58 Vol. Fire Station 5	Volunteer	6209 Cooley Rd	Harrison	37341
Mowbray Fire Station	Volunteer	1705 Mowbray Pike	Soddy-Daisy	37379
Sale Creek VFRD Station 1	Volunteer	14828 Dayton Pike	Sale Creek	37373
Sale Creek VFRD Station 2	Volunteer	15021 Back Valley Rd	Sale Creek	37373
Sale Creek VFRD Station 3	Volunteer	13535 Mount Tabor Rd	Soddy-Daisy	37379
Sale Creek VFRD Station 4	Volunteer	15936 May Rd	Sale Creek	37373
Sale Creek VFRD Station 5	Volunteer	14705 Dayton Pike	Sale Creek	37373
Sequoyah Vol. Fire Station 1	Volunteer	1989 Green Pond Rd	Soddy-Daisy	37379
Sequoyah Vol. Fire Station 2	Volunteer	9514 Ridge Trail Rd	Soddy-Daisy	37379
Tri-Community Vol. Fire Station 1	Volunteer	9755 Sanborn Dr	Ooltewah	37363
Tri-Community Vol. Fire Station 2	Volunteer	7230 Mountain View Rd	Ooltewah	37363
Tri-Community Vol. Fire Station 3	Volunteer	11115 Park Pl	Apison	37402
Tri-Community Vol. Fire Station 4	Volunteer	9515 Lee Hwy	Ooltewah	37363
Tri-Community Vol. Fire Station 5	Volunteer	8327 Standifer Gap Rd	Chattanooga	37421
Waldens Ridge Emer. Services 1	Volunteer	2100 Taft Hwy	Signal Mountain	37377
Waldens Ridge Emer. Services 2	Volunteer	7339 Sawyer Rd	Signal Mountain	37377

The coverage efficiency of current VFD fire stations in the study area is estimated by both driving distance and driving time to potential incident locations. The municipal stations in Soddy-Daisy and Signal Mountain and populations within those cities are excluded from this analysis. The Hamilton County GIS road centerline network provided by HCGIS network and its estimation of five-mile driving distance zones was used in distance zone calculations. In addition, the HERE Technologies network API[6] was used to confirm distance estimations using the HCGIS road network and for driving time estimates. HERE mapping

[6] https://www.here.com/docs/bundle/isoline-routing-api-developer-guide-v8/page/README.html

data is the primary provider for network analysis in ESRI products and a leading provider of applications for transportation and logistics operations and planning.

Distances were estimated at 1.5, 2.5. and 5 miles along the road network within and adjoining the study area. These distances are used by the Insurance Services Office (ISO) as part of their fire suppression ratings for communities and serve as a standard measure for planning fire department location. Polygons with 1,000-foot buffers for these distance zones were used to estimate the number of building footprints and E-911 address locations within these polygons to account for unmapped roads and driveways within the distance zones. These two datasets were used in preference to parcel centroids with building data because of their less accurate location in relation to the road network. Driving distance zones are shown in Figure 23.

Estimated coverage of buildings and addresses by zone is shown in Table 6. Approximately 56 percent of buildings and E-911 addresses are located within 2.5 miles of the study area fire station. Over 96 percent of buildings and E-911 addresses are within five miles of a study area fire station. The location and concentration of incidents beyond five miles are shown in Figure 24. Driving distance zone coverage of E-911 addresses by driving zone is shown in Figure 25.

Table 6. Buildings and E-911 Addresses within Distance Zones of Study Area Fire Stations

	Buildings		E-911 Addresses	
Distance	Number	Cumulative % of Total	Number	Cumulative % of Total
0-1.5	12,483	26.15%	16,527	25.97%
0-2.5	27,127	56.83%	35,924	56.44%
0-5.0	45,863	96.08%	61,317	96.34%
>5	1,870	3.92%	2,330	3.66%
Total	47,733	100%	63,647	100%

In addition to the addresses and buildings referenced above in the existing fire department response areas, there are a few areas in the southwest portion of the county that do not have a fire department assigned for coverage (Appendix 4. Map of Areas without Fire Protection). This area includes a portion of I-24 and encompass 336 addresses and 251 buildings. About half of the buildings and addresses are in the Cummings Highway Area north of Lookout Mountain. The area of Cash Canyon Road and Kelly's Ferry Place has about 50 buildings; there is also a concentration of about 40 buildings in the Wildwood area near I-24 and the Georgia border.

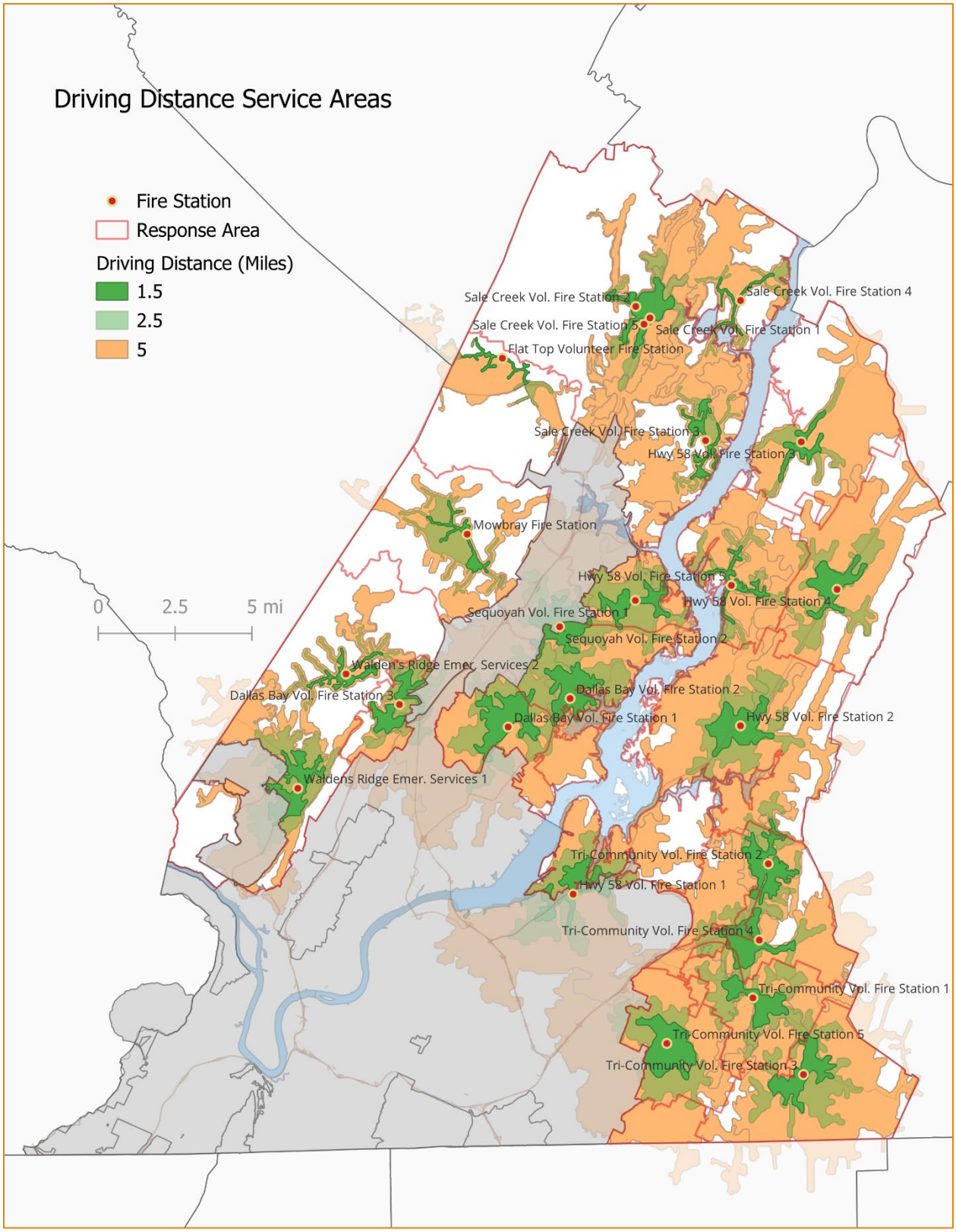


Figure 23. Driving distance zones for 1.5, 2.5, and 5 miles

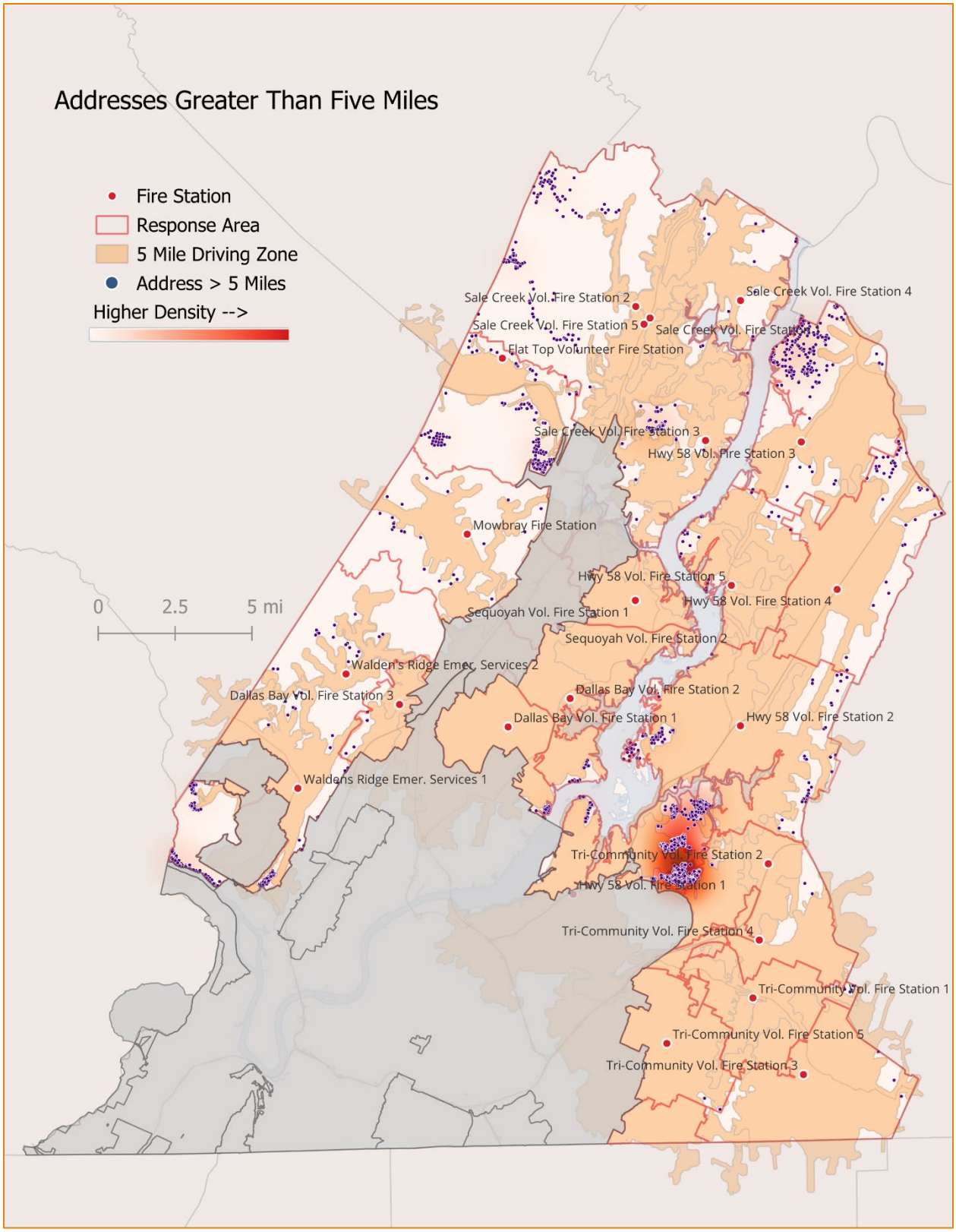


Figure 24. E-911 Incident Location and Density Beyond Five Miles Driving Distance Zone

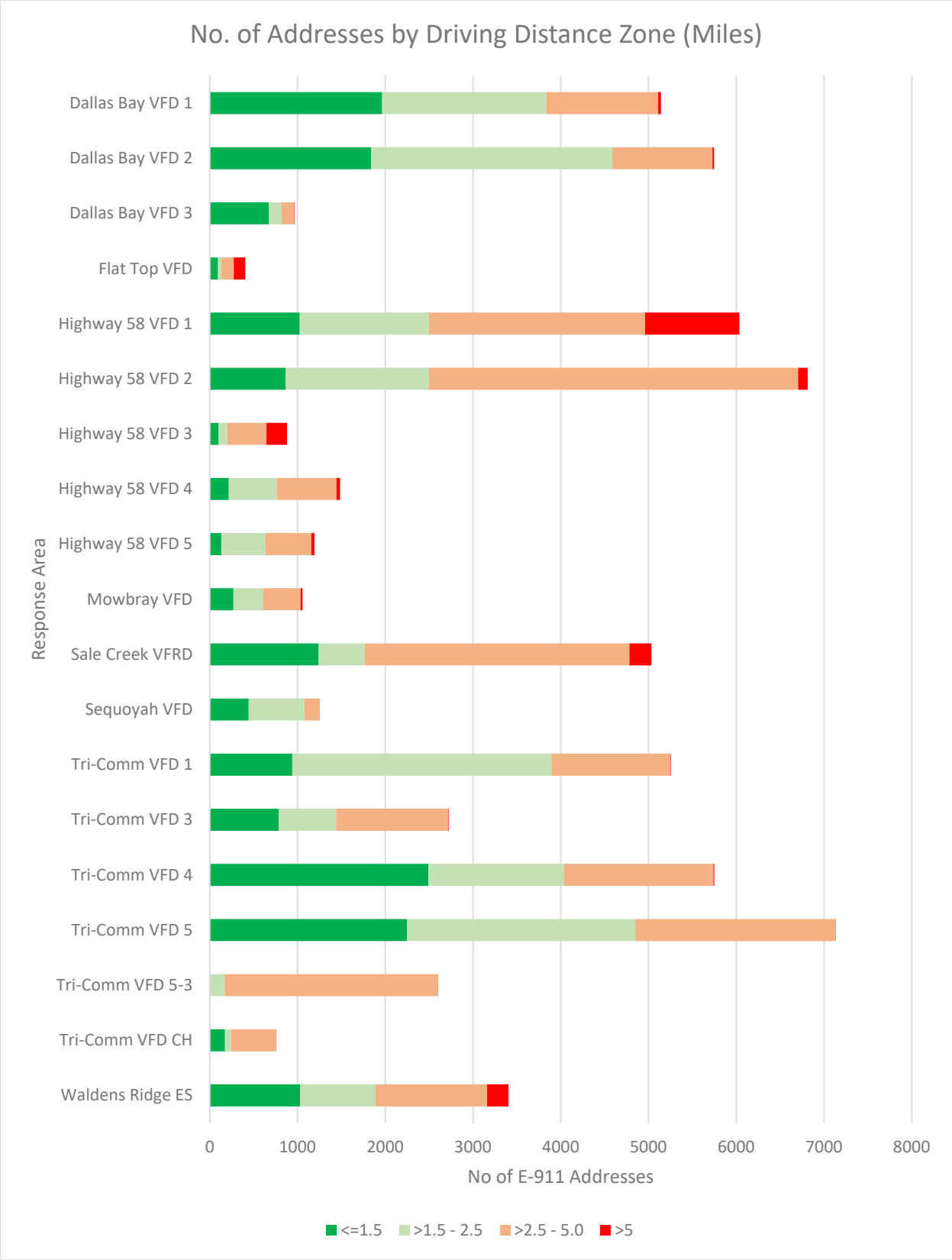


Figure 25. No. of E-911 Addresses by Driving Distance Zone and Response Area

In addition to distance estimates, drive time zones were developed for non-municipal fire departments in the study area. Driving time zones were estimated for 5-, 7- and 10-minute service areas along the road network within and adjoining the study area. These driving times intervals are used by ISO as part of their response time criteria. Polygons with 1,000-foot buffers for these service areas were used to estimate the number of building footprints and E-911 address locations within these polygons, as with the driving distance zones. Driving time zones are shown in Figure 26. It is important to note that driving time projections do not include turnout time (the time from dispatch to unit enroute). Turnout time varies as it is dependent on station staffing and departmental policies (Figure 36).

Estimated coverage of buildings and addresses by driving time zone is shown in Table 7. Buildings and E-911 Addresses with Time Zones of Study Area. Approximately 58 percent of buildings and E-911 addresses are located within five minutes of non-municipal study area fire stations. About 97 percent of buildings and E-911 addresses are within 10 minutes of a study area fire station. The location and concentration of incidents beyond 10 minutes are shown in Figure 27. Drive time zone coverage of E-911 addresses by response area is shown in Figure 28.

Table 7. Buildings and E-911 Addresses with Time Zones of Study Area

	Buildings		E911 Addresses	
	Number	Cumulative % of Total	Number	Cumulative % of Total
0 - 5	27,810	58.26%	36,457	57.42%
0 - 7	37,691	78.96%	50,418	79.21%
0 - 10	46,116	96.61%	61,869	97.20%
>10 Only	1,302	3.39%	1,778	2.79%
Total	47,733	100%	63,647	100%

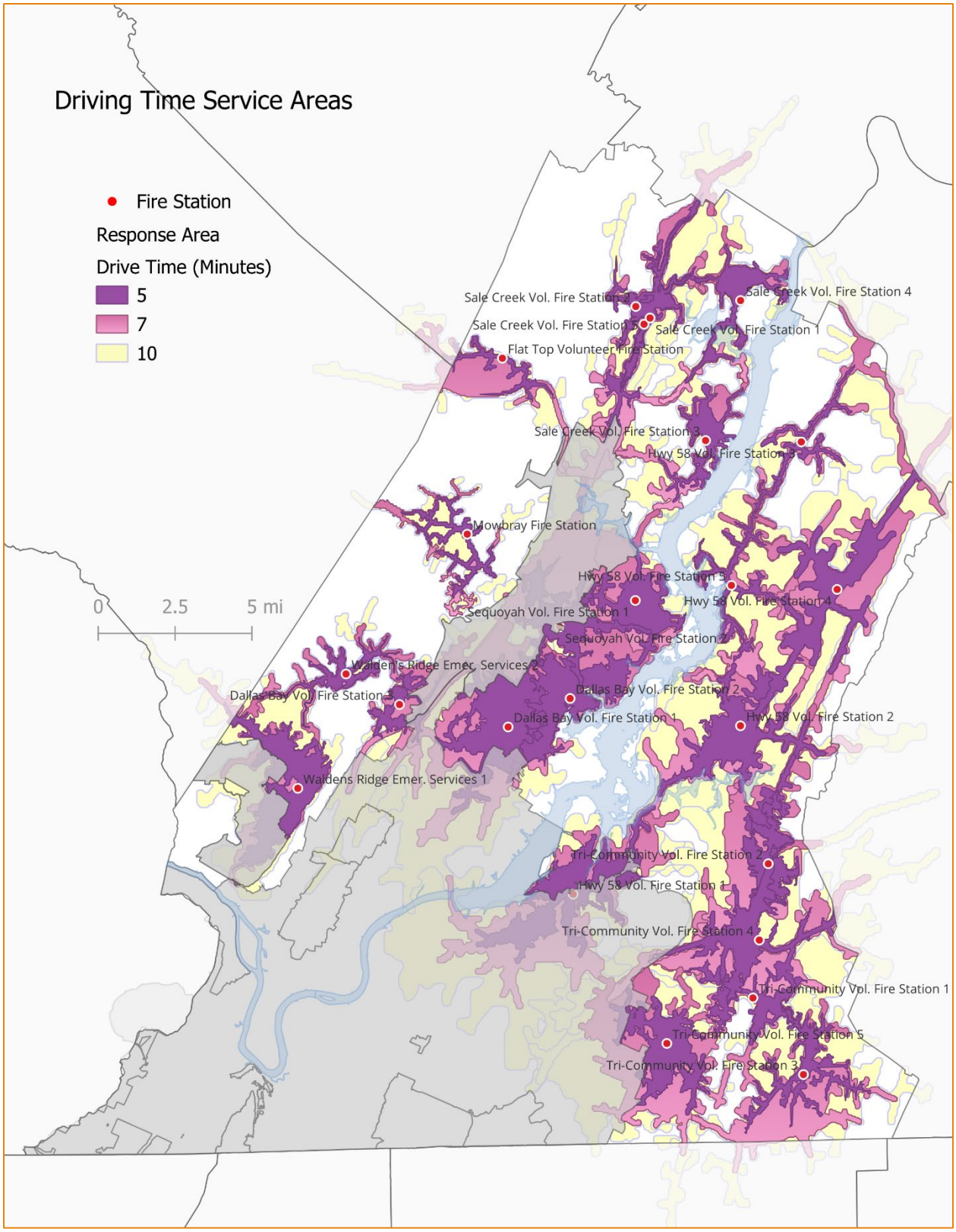


Figure 26. Driving Time Zones for 5, 7, and 10 Minutes

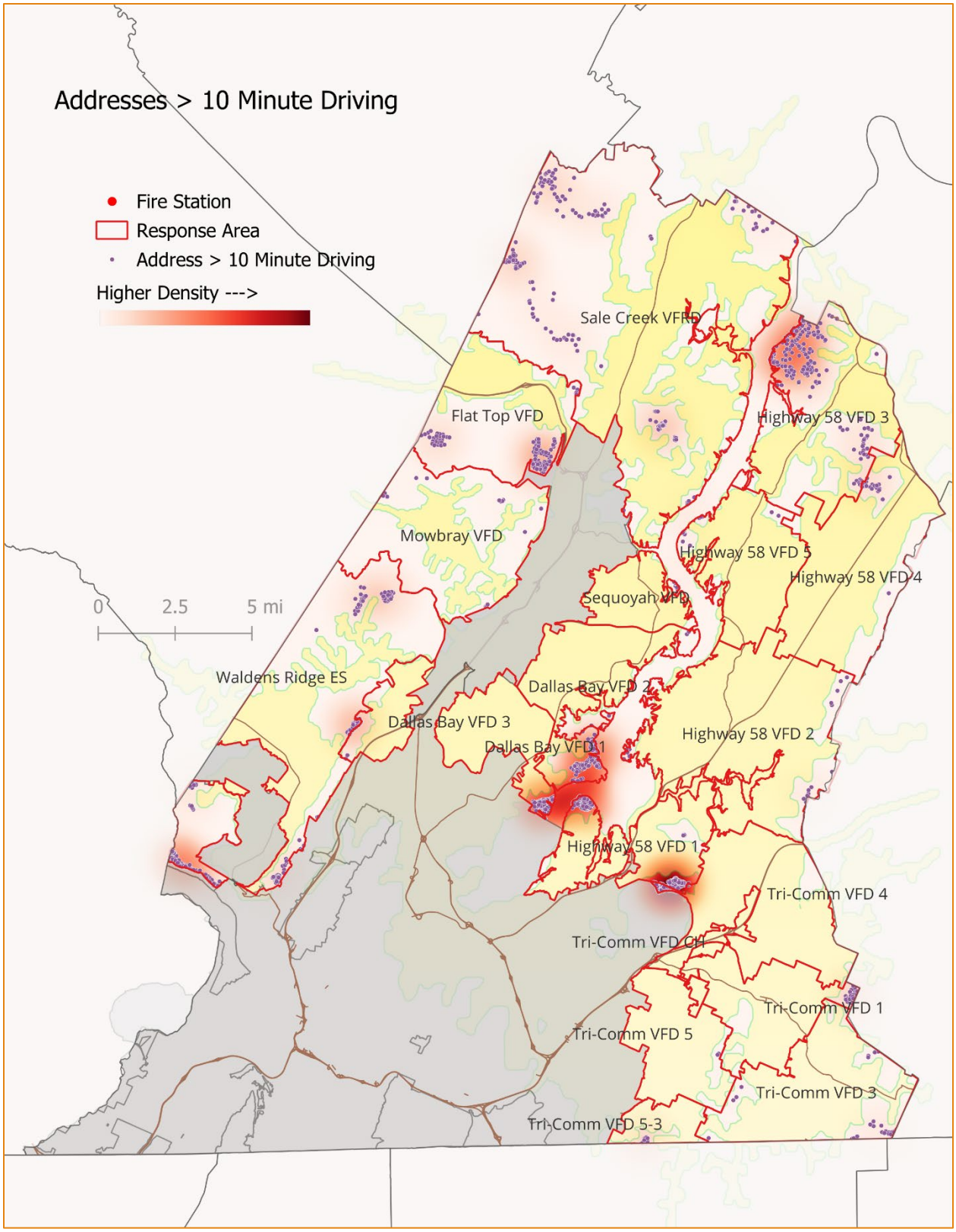


Figure 27. E-911 Address Location and Density Beyond 10 Minutes Driving Zone

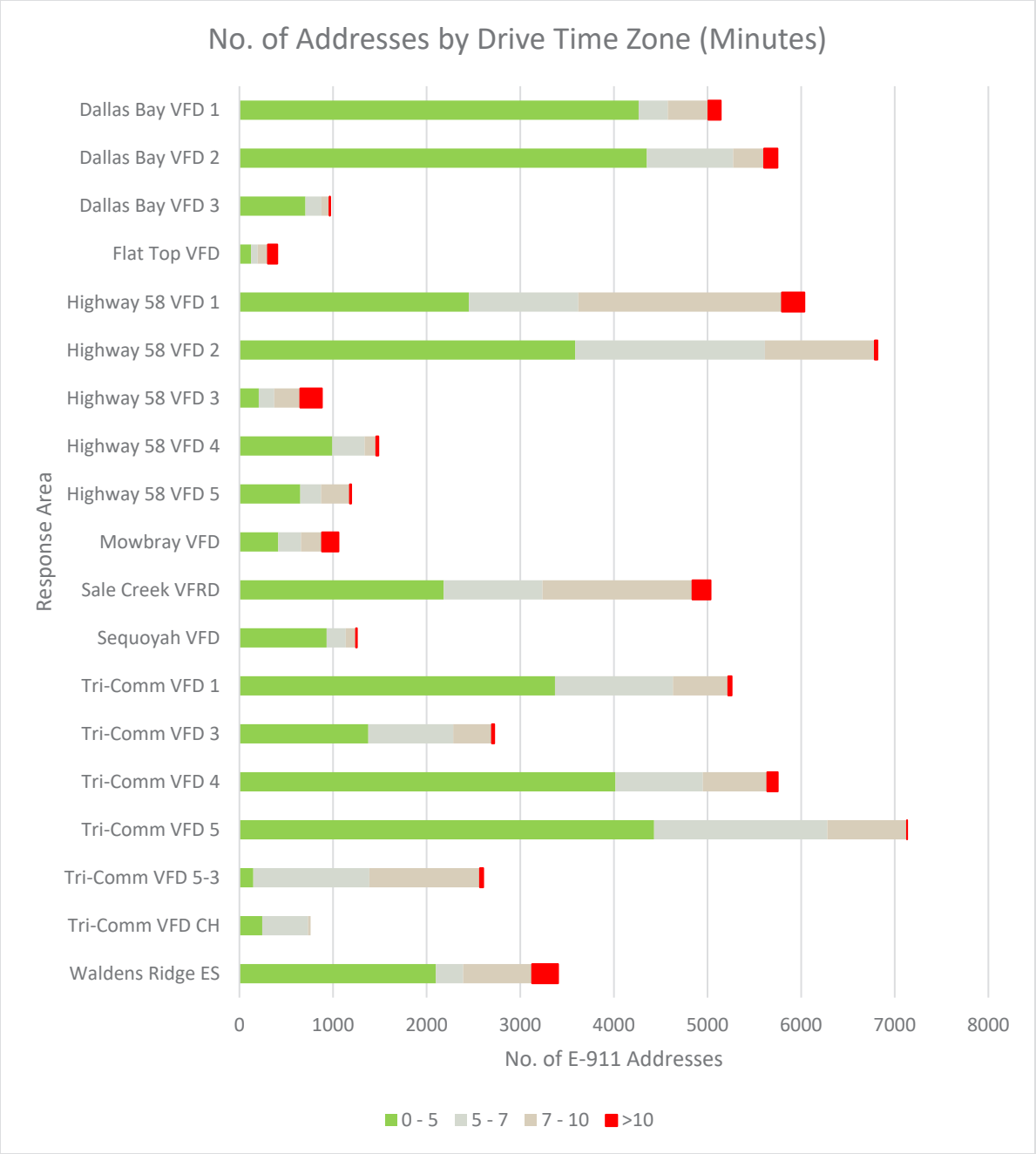


Figure 28. Number of E-911 Addresses by Driving Time Zone and Response Area

Incident Categories and Location

The Hamilton County 9-1-1 district provides centralized dispatch to all study area fire stations for assigned emergency response. The operations of the district are not in the scope of this report, but it represents a significant emergency response asset for the study area, providing fast and consistent call processing and reporting. Data provided by the district for this study was geocoded and well-formatted and had a high rate of record completion for data relevant to the analysis of this report.

Three years of dispatch data for the period beginning July 1, 2020, to June 30, 2023, were provided by the district for analysis in this study. Excluded from analysis were incidents dispatched to countywide search and rescue, hazardous materials, and other specialized response handling teams. Also excluded were emergency responses for on-water incidents or mutual aid outside the county. Incidents that could be attributed to study area locations totaled 49,808, almost all of which (49,752) could be geocoded to street level locations. Figure 29 shows the location and density of incidents mapped for the study. The rate of incidents per 1,000 population by response area was calculated as the average annual number of incidents for the three-year period divided by the response area 2020 census population estimate described earlier (Figure 30). The highest rate of incidents occurs in the MVA incident dominated corridor of Tri-Community VFD CH. High rates are also seen in the Highway 58 VFD 4 and Highway 58 VFD 58 5 and in the Flat Top VFD and the Mowbray VFD.

Incidents are assigned to one of 123 problem codes, of which 15 codes account for approximately three-fourths of incidents (Table 8). To simplify and focus analysis, each problem code was assigned a general incident category code as shown in “Appendix 2. Incident Categories.”

Table 8. Most Frequently Assigned Incident Codes

Problem	Number of Incidents
SICK-Sick Person	6,860
FALL-Fall Victim	4,222
FASCIT-Fire Assist Citizen	4,206
DIFFBR-Difficulty Breathing	3,766
CHESTPN-Chest Pain	2,322
UNCONC-Unconscious Person	2,191
AFARES-AFA Residential	1,926
ACC1-MVC Injuries	1,902
ALAMED-Alarm Medical	1,490
STROKE-Stroke	1,399
UNKMED-Unknown Medical	1,112
HEART-Heart Problems	1,055
SEIZE-Seizure	1,010
WIRES-Wires Down	1,004
AFACOM-AFA Commercial	933

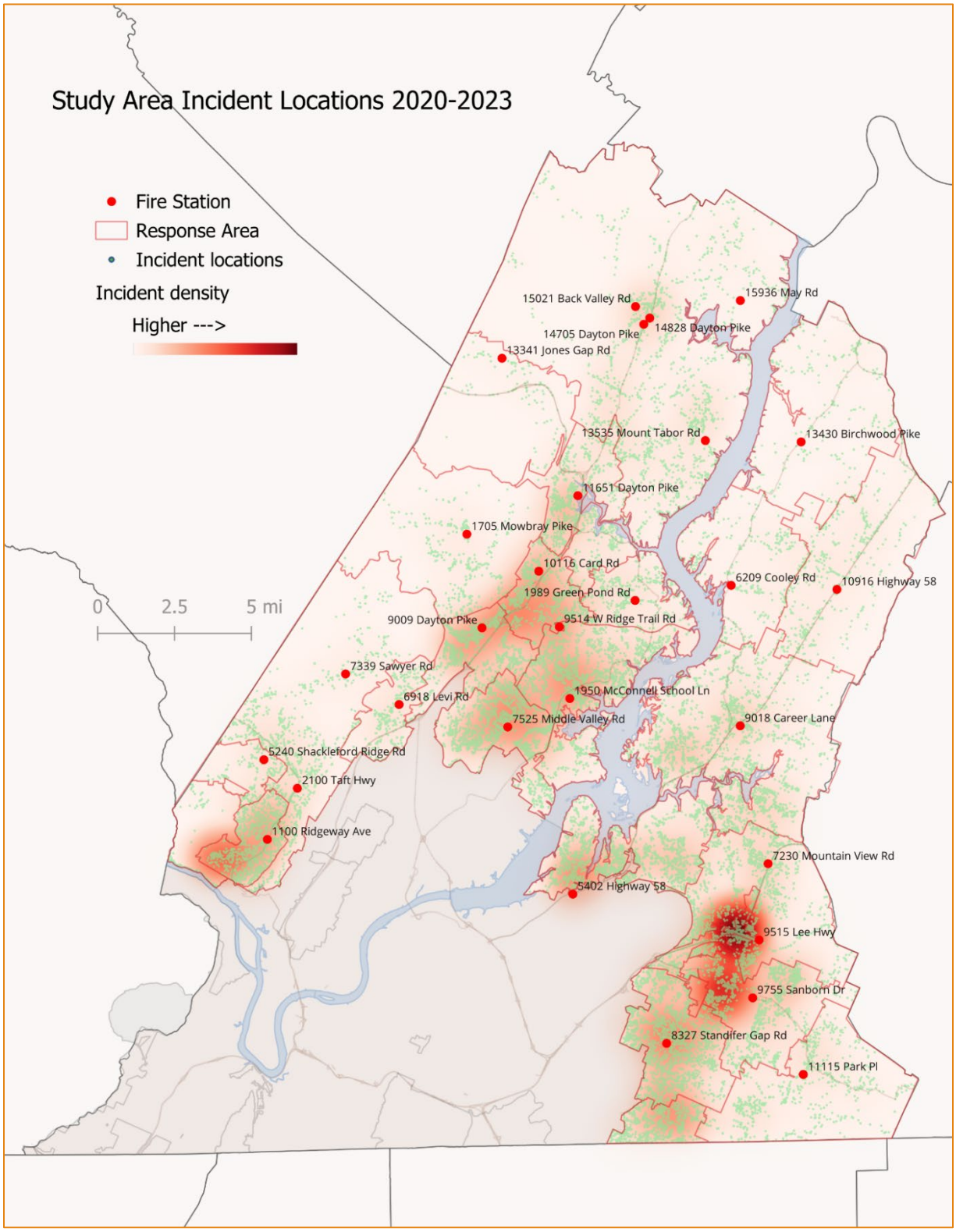


Figure 29. Study Area Incident Locations

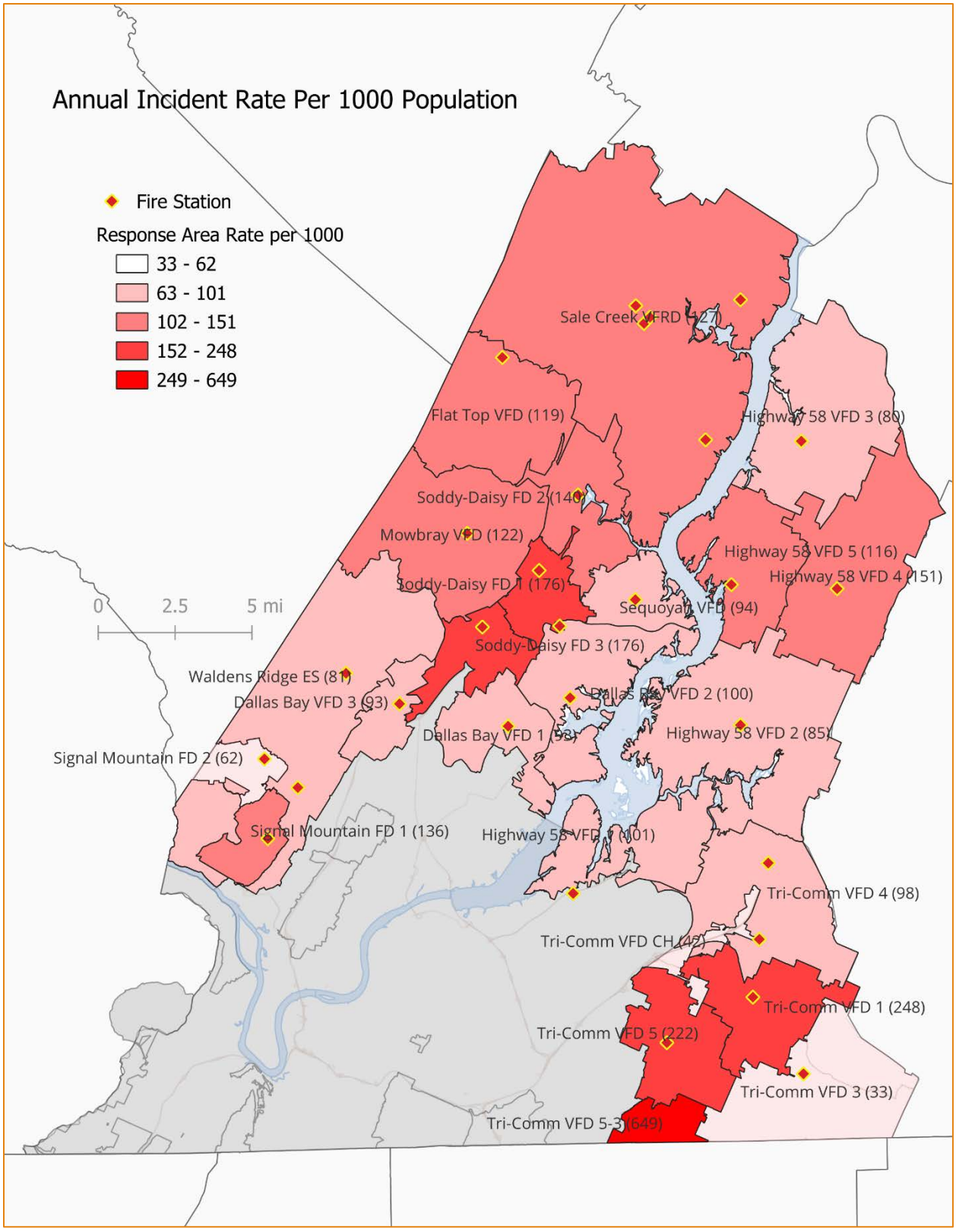


Figure 30. Annual Incident Rate per 1,000 Population

By a large margin, medical-related responses are the largest number of dispatched incidents (Figure 31) both in total and across response areas (Figure 32). However, the distribution of these category types within a response area may differ significantly (Figure 33). As noted, MVA incidents are a high proportion in the Tri-Community VFD CH response area, accounting for about one-quarter of all dispatched incidents. Signal Mountain FD 2 has the highest proportion of service incidents in relation to other response areas, and a much lower proportion of medical related incidents. Twelve percent of incidents in the Flat Top VFD are related to fire; this proportion ranges from 3 percent (Tri-Community VFD 1) to 10 percent (Highway-58 VFD 3) in other response areas.

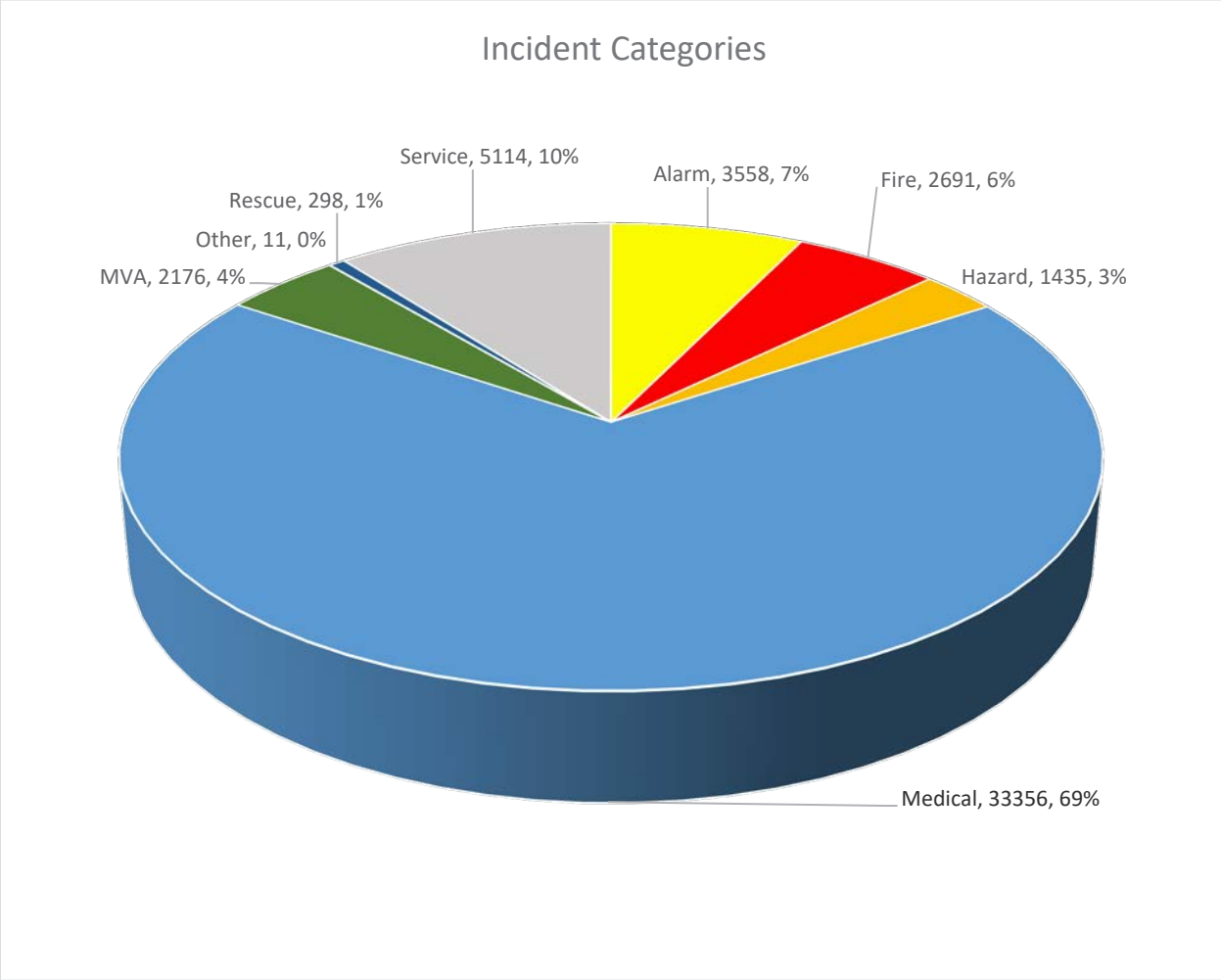


Figure 31. Number and Percentage of Total Incidents by Category

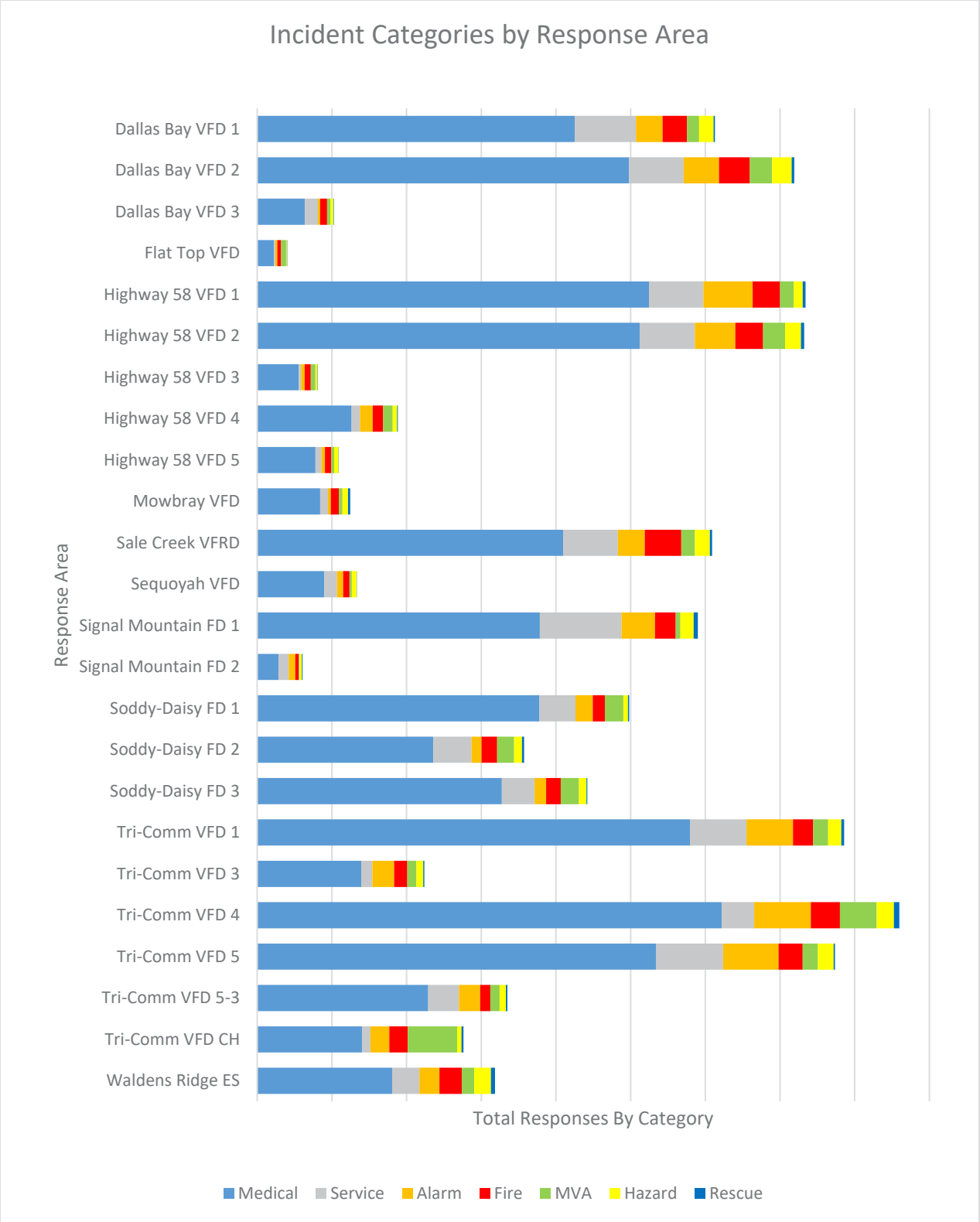


Figure 32. Incident Categories by Response Area

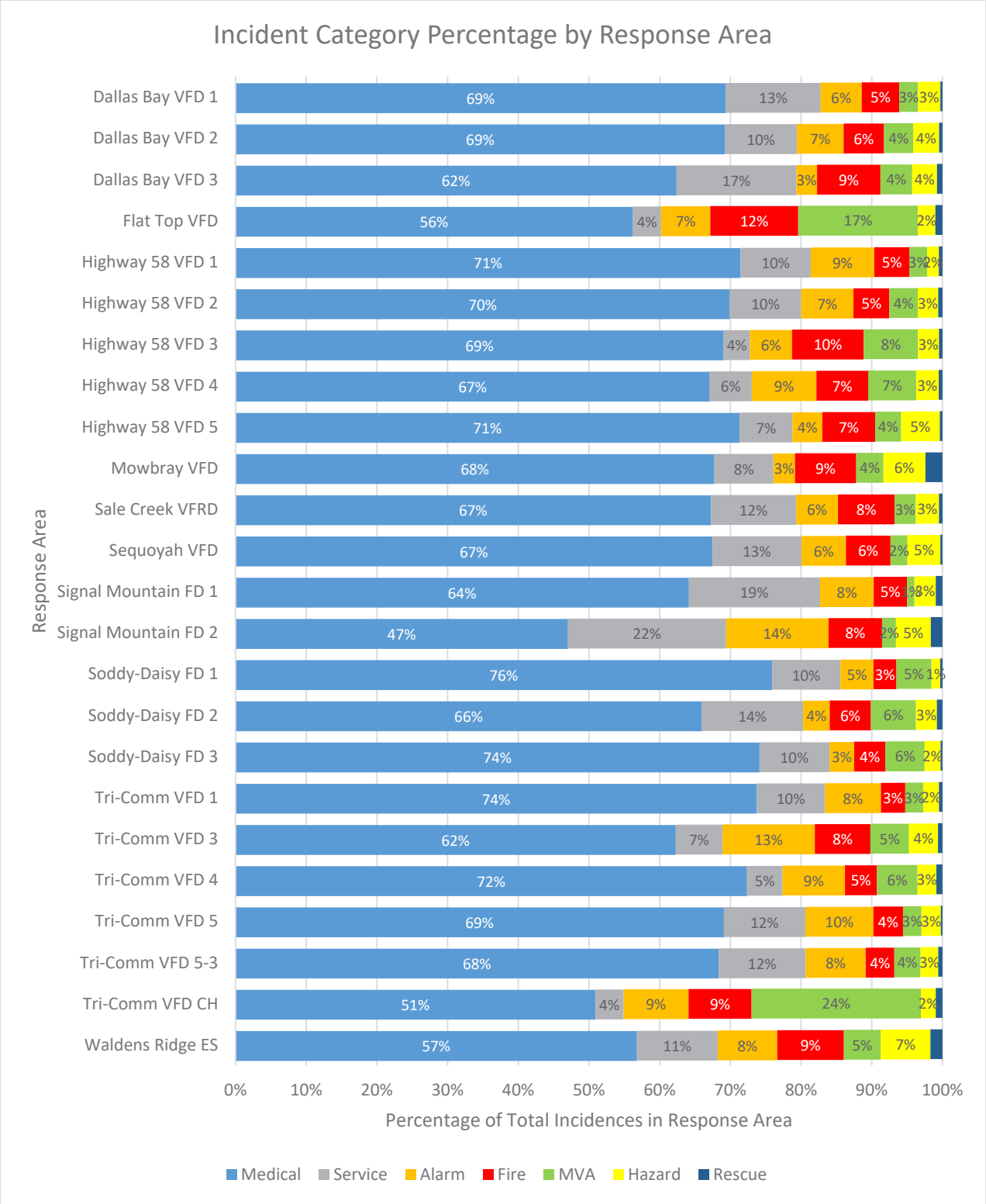


Figure 33. Incident Category Percentage by Response Area

Incident Response Times

Fire station response time is a critical metric for planning fire station location, apparatus deployment, and crew staffing. Incident response time analysis is vulnerable to error and misinterpretation due the impact of recording errors, differing urgency perceptions by responders, missing data on traffic and other external factors, and sensitivity of small datasets to slight number variation. To mitigate the impact of outliers and reduce "signal-to-noise" ratio for response time analysis, this study adopts several common measures to achieve a better understanding of response capabilities[7]. These are:

- Data with negative values or values greater than 24 hours are removed.
- Fixed time stamps for intervals are recorded by E-911 dispatch for certain incidents. These replace the original time stamp if consistent with other intervals for the incident.
- The top and bottom one percent of time intervals by response are eliminated from each query to eliminate outliers. This has a small effect on 90th percentile response times. Samples in queries with less than 10 observations were not included.
- Incidents categorized as Service, Other, or Test are eliminated with the presumption that those incidents categorized as Alarm, Fire, Medical, MVA, Rescue, and Hazard are Urgent Emergency Calls. Only calls with recorded times for time first unit assigned, time first unit enroute, and time arrived are used in the analysis. This eliminates "not completed," duplicate, or cancelled calls, which may meet other criteria for urgent emergency but for which a complete response time profile cannot be calculated. Total urgent emergency calls for the following analysis are approximately 38 percent of all calls recorded.

As mentioned above, "not completed" and "cancelled" calls are not calculated as part of the response time analysis. It is important for the county to take a deeper analysis into these call types. Many of the incidents are because a department was unable to respond due to lack of available personnel. A total of 376 calls were not answered by the primary response district during the study period. These numbers reflect the lack of availability of personnel at the time that the incident dispatch is received. An additional factor that cannot be calculated from response data, but is a relevant issue is the total amount of time that no one is available to respond within a particular primary response zone.

The response analysis does not capture when an inadequate response occurred (i.e., inappropriate response vehicle, not enough staffing for the type of incident, inferior level of training by personnel for the incident, etc.). These types of events should be tracked locally to assist with planning and overall service delivery improvement measures.

The main factors in call response are call processing time, turnout time, and travel time. Call processing time at the HC 911 district was not analyzed in detail as part of this study. The median time between when call-taking is completed, and the first unit is dispatched is 62 seconds for all incidents analyzed for emergency response time for study area incidents. The median for this interval by response area is shown in Figure 34.

To highlight variations among study area response areas, total response time in this study is evaluated as the interval between the time the call is assigned to the first unit and the time the first unit arrives at the scene of the incident. The total response time combines the *turnout time* – the interval between the time

[7] See, for example, the practices of the Los Angeles Fire Department. https://www.lafd.org/how-we-calculate-results

the call is assigned and the time the first unit is enroute – and the *travel time* – the time that the first unit arrives at the scene.

The distance between a facility and the location of the incident are significant factors in the length of response time, but this is variable by the time of day, traffic conditions, and the topography and condition of the roadway. Turnout time is inherently a challenge for volunteer fire departments whose crew members do not live in the facility and may be limited by other commitments by time of day. Turnout time is a good metric to identify geographic and organizational factors affecting crew assembly time among stations.

Response times are reported as median values – the interval at which 50 percent of dispatched units have arrived on scene – and 90th percentile values. Although there is no universally accepted standard for evaluating response time due to differing definitions of emergency categories, response time endpoints, and community profiles and demographics, many fire departments use the 90th percentile time as a benchmark for comparing performance over time periods and locations. See, for example, response time benchmarking guidance in the National Fire Protection Association (NFPA) 1720, *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations and Special Operations to the Public by Volunteer Fire Departments*.

Staffed municipal fire departments operating in compact geographic areas with highly connected road networks will have significantly faster response times than volunteer fire stations in sparsely populated rural areas. The location of response time variability across the study area is illustrated in Figure 35. In this analysis, hot spots are those incidents with recorded response times that exceed the average across all incident response times during the study period at statistically significant levels at 90%, 95%, and 99% confidence levels (*Getis-Ord Gi* statistic, Fixed band 500m threshold*). Cold spots indicate significantly faster response times at these confidence levels. As the figure indicates, clusters of cold spots most frequently occur for incidents near station locations, while incidents more distant from station locations are more likely to constitute hot spots (longer response times).

Hot spots response times were calculated individual for Alarm, Fire, Medical, and MVA incident categories and are displayed by location in Figure 39.

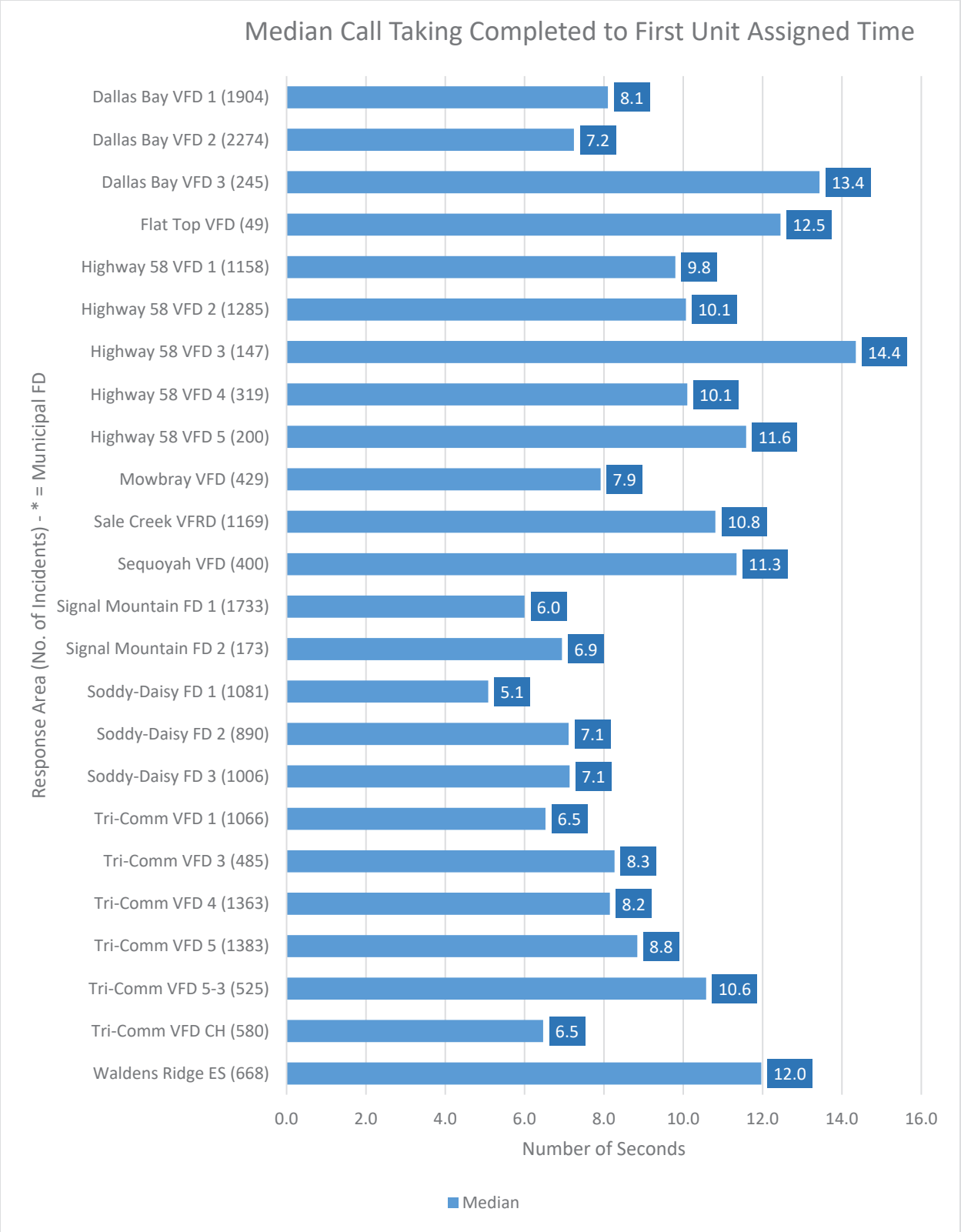


Figure 34. Median Time Between Call Taking Completed and First Unit Assigned

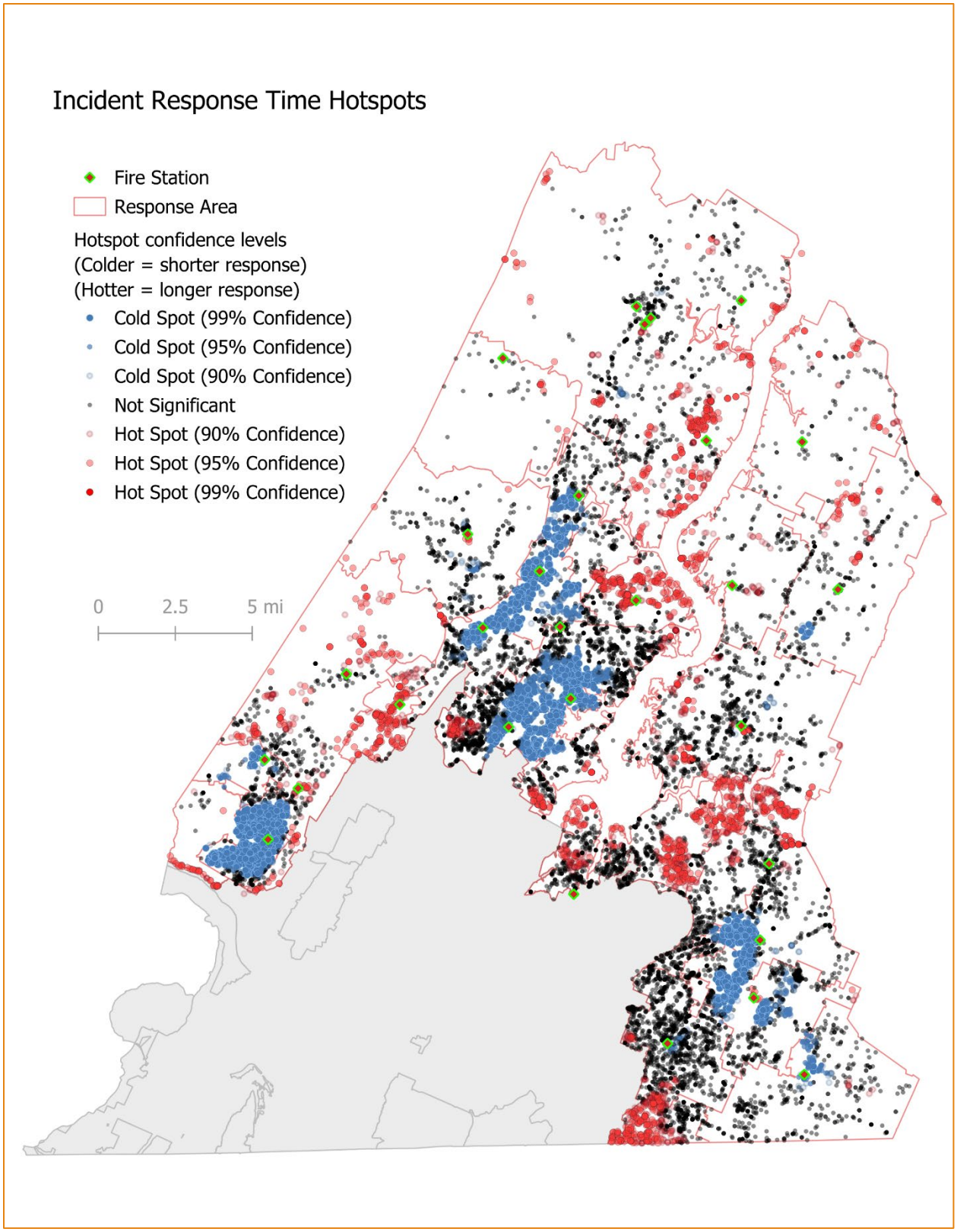


Figure 35. Response Time Hotspots All Incidents

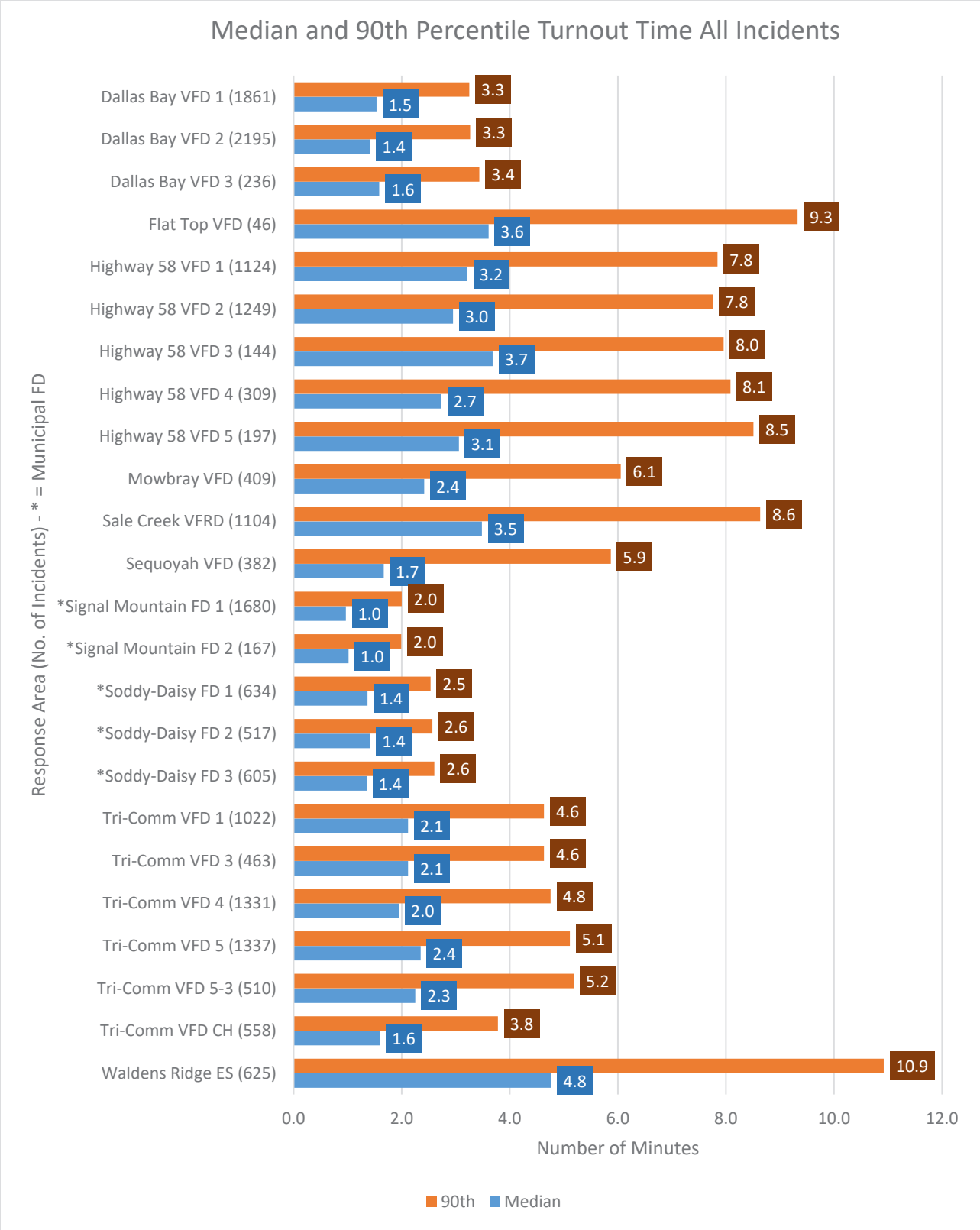


Figure 36. Median and 90th Percentile Turnout Time All Incidents

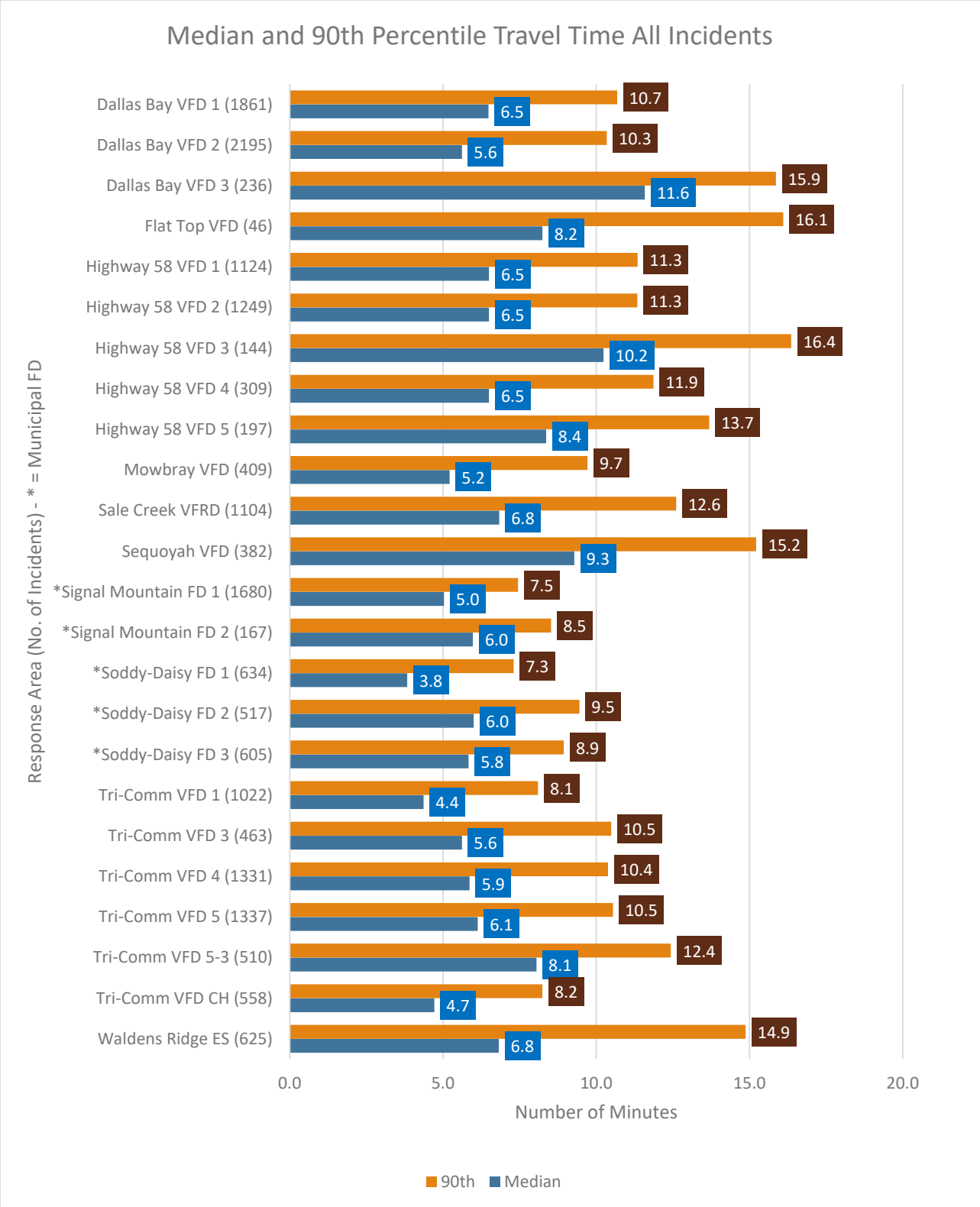


Figure 37. Median and 90th Percentile Travel Time All Incidents

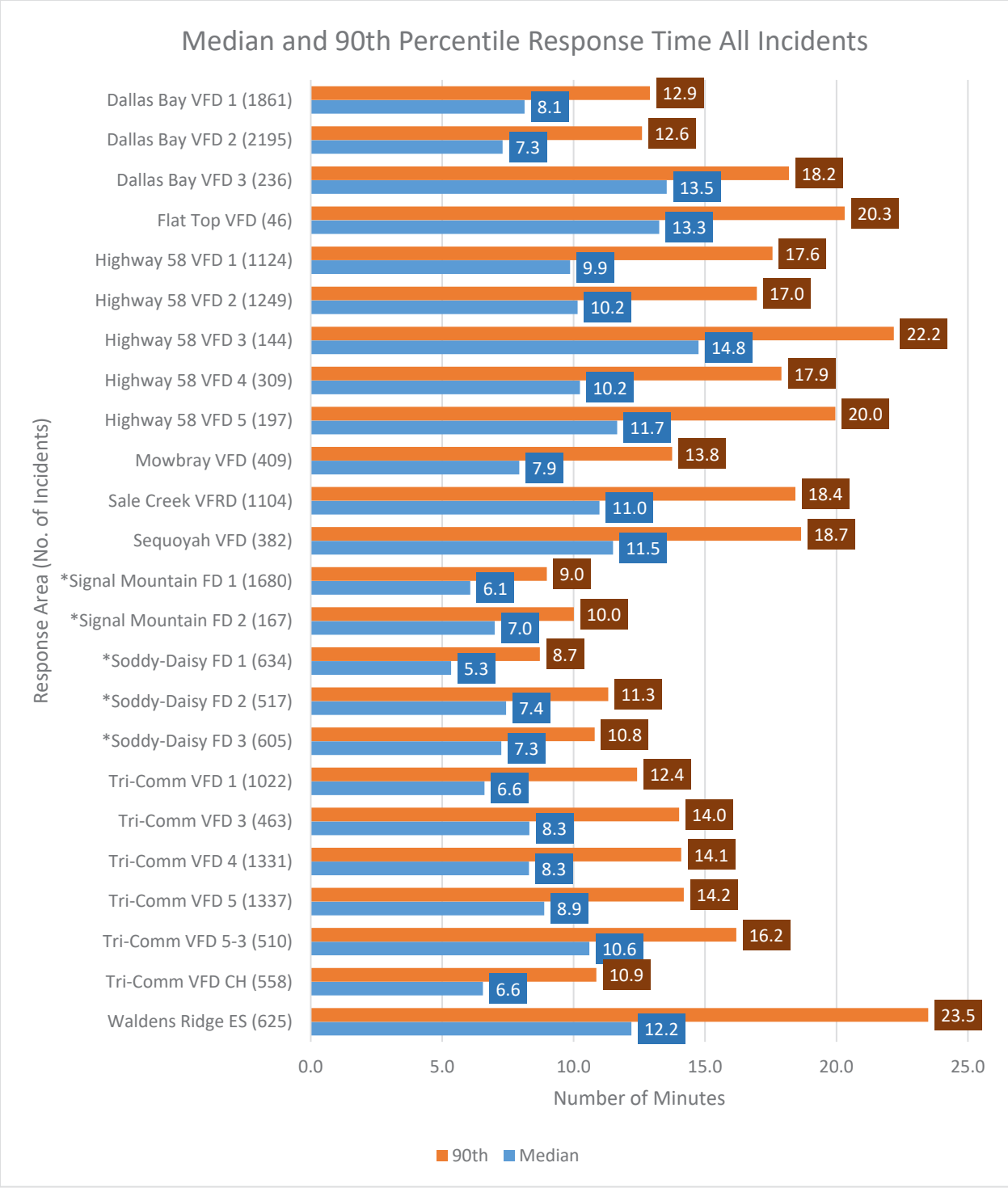


Figure 38. Median and 90th Percentile Response Time All Incidents (Turnout + Travel)

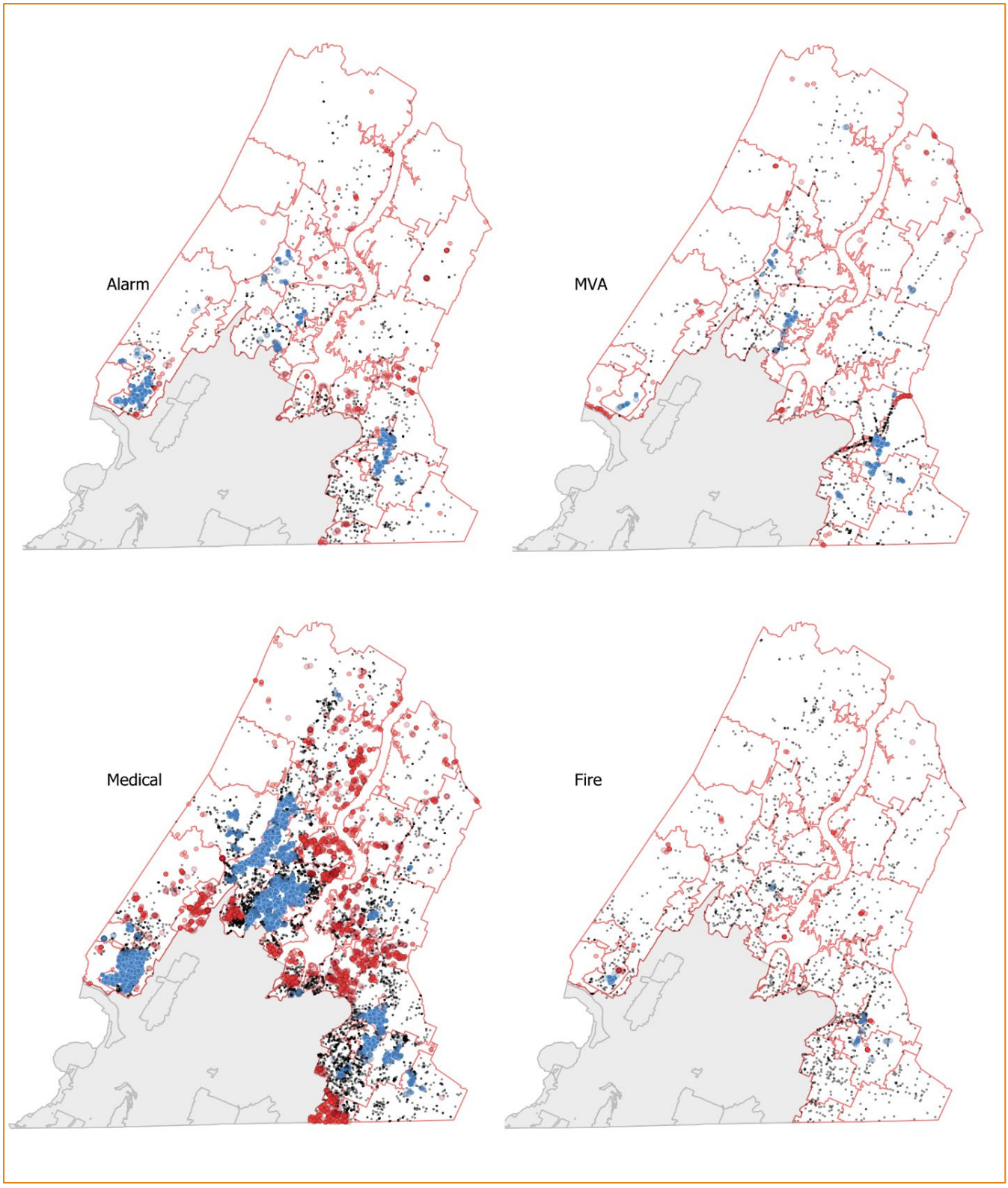


Figure 39. Response Time Hot Spots by Incident Category

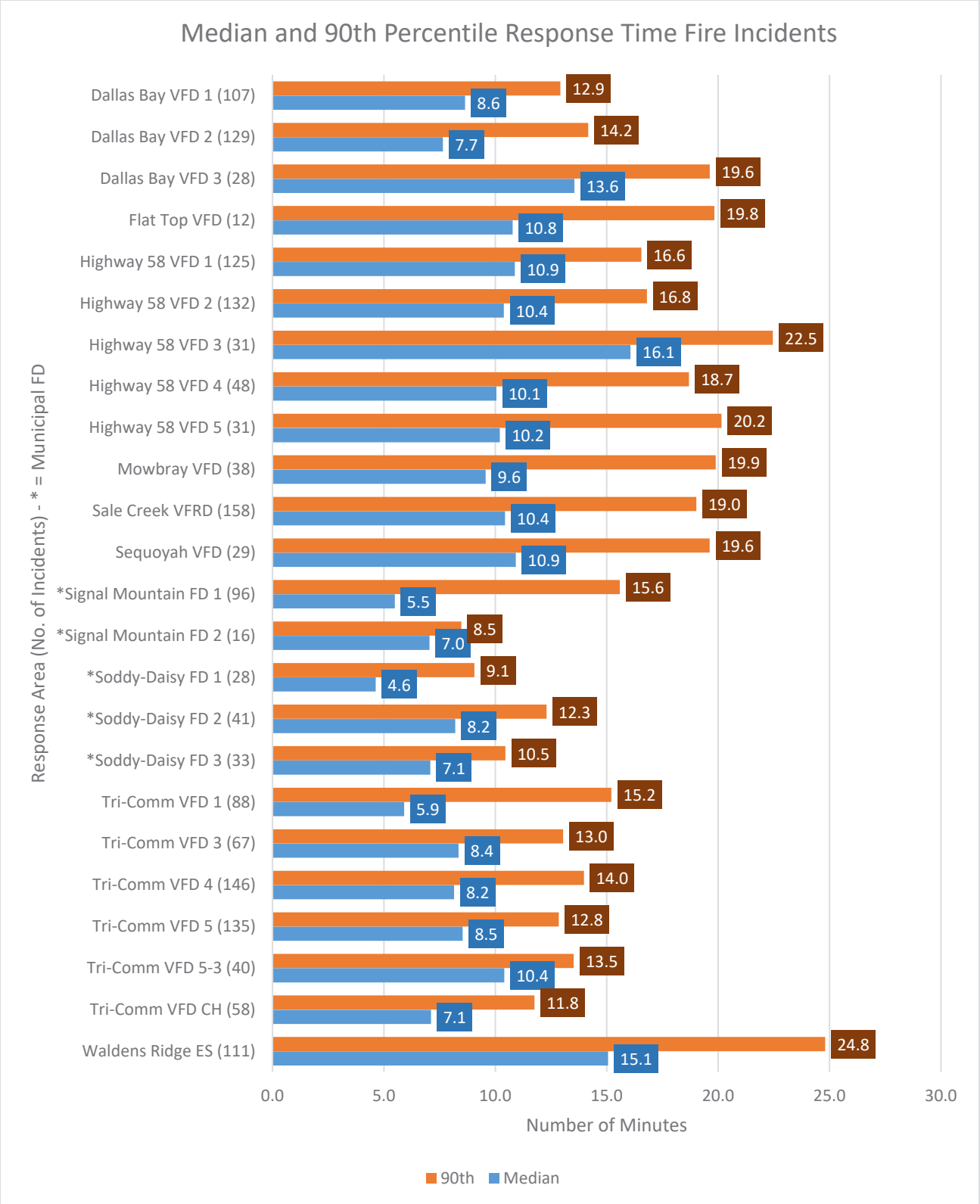


Figure 40. Median and 90th Percentile Response Time Fire Incidents

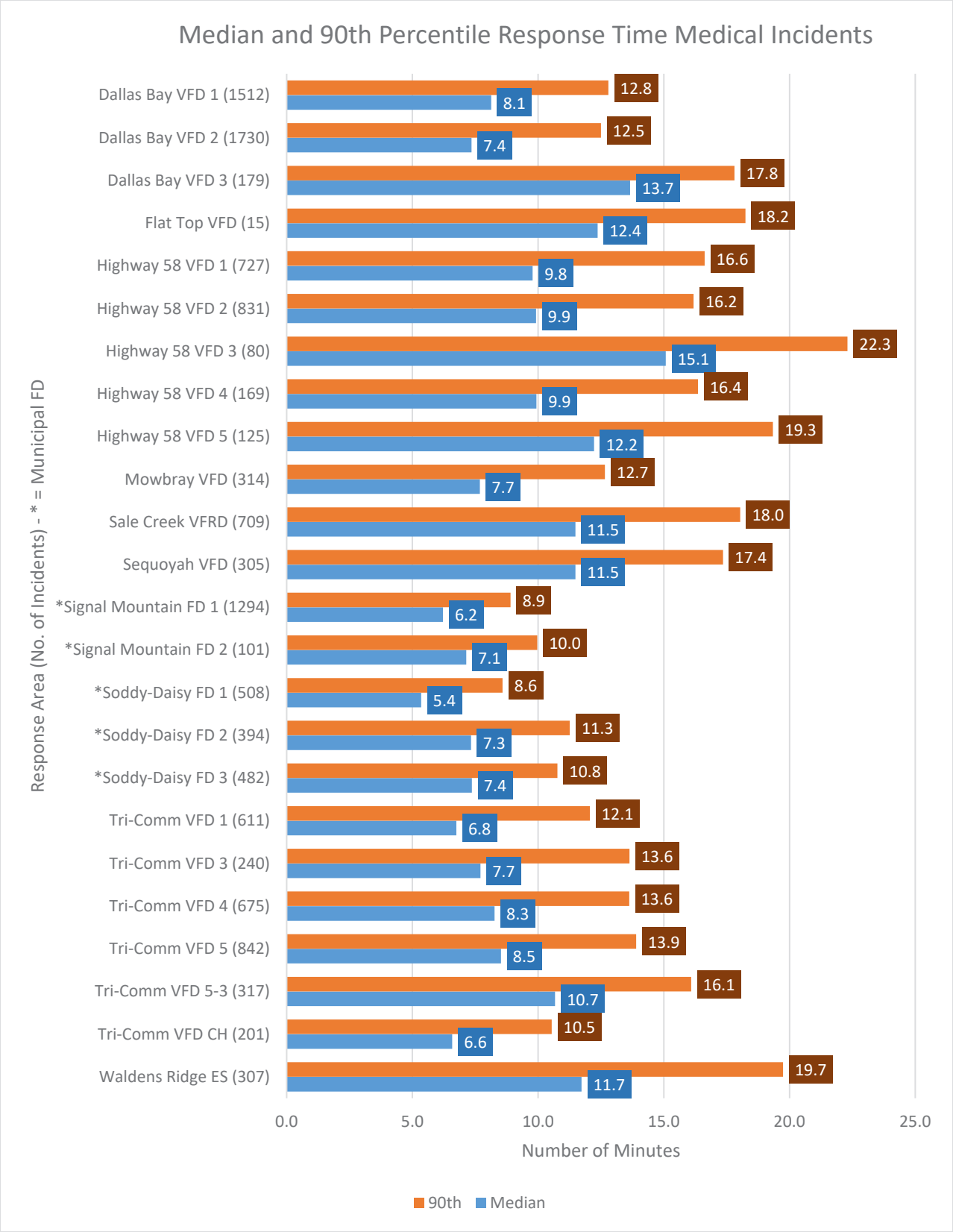


Figure 41. Median and 90th Percentile Response Time Medical Incidents

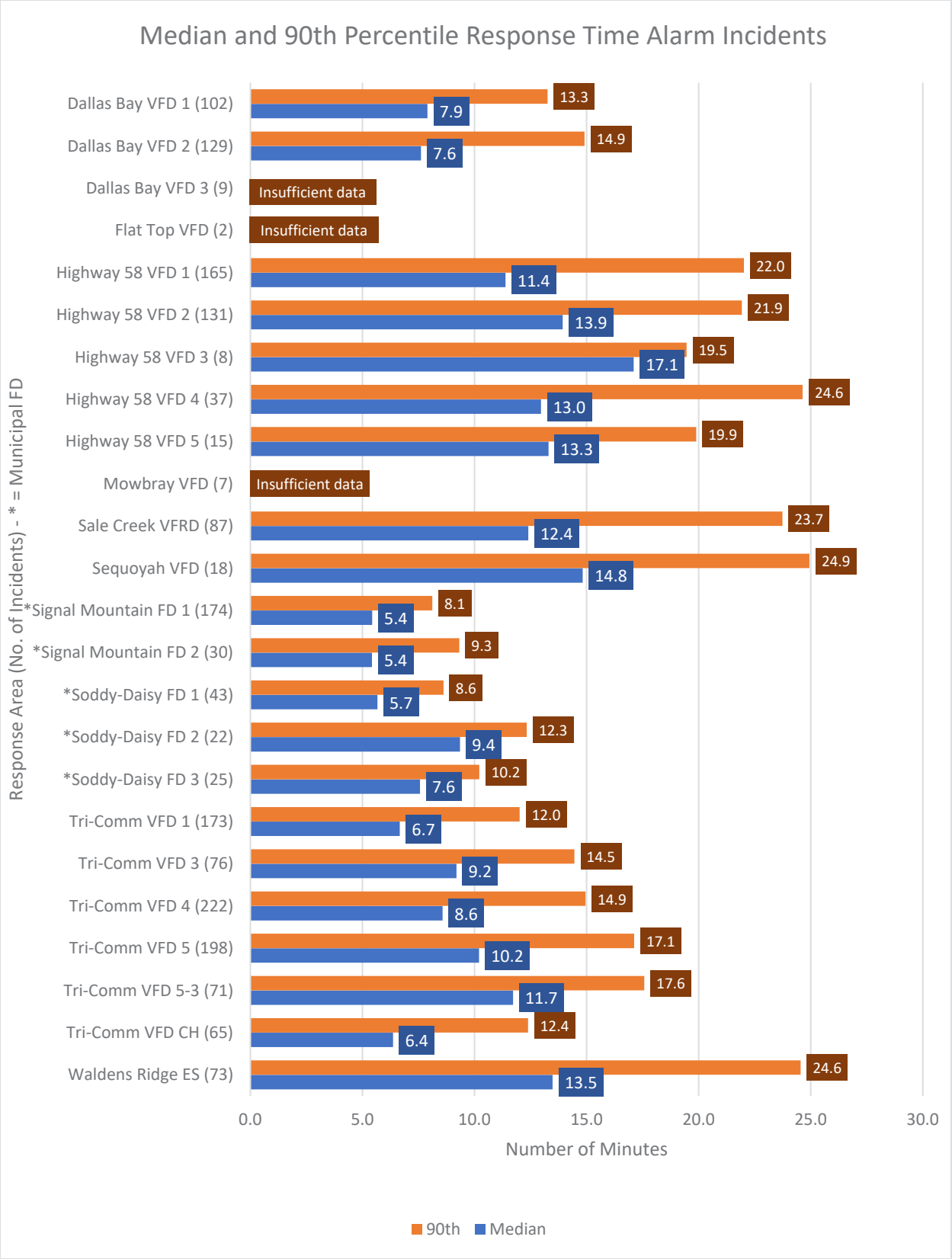


Figure 42. Median and 90th Percentile Response Time Alarm Incidents

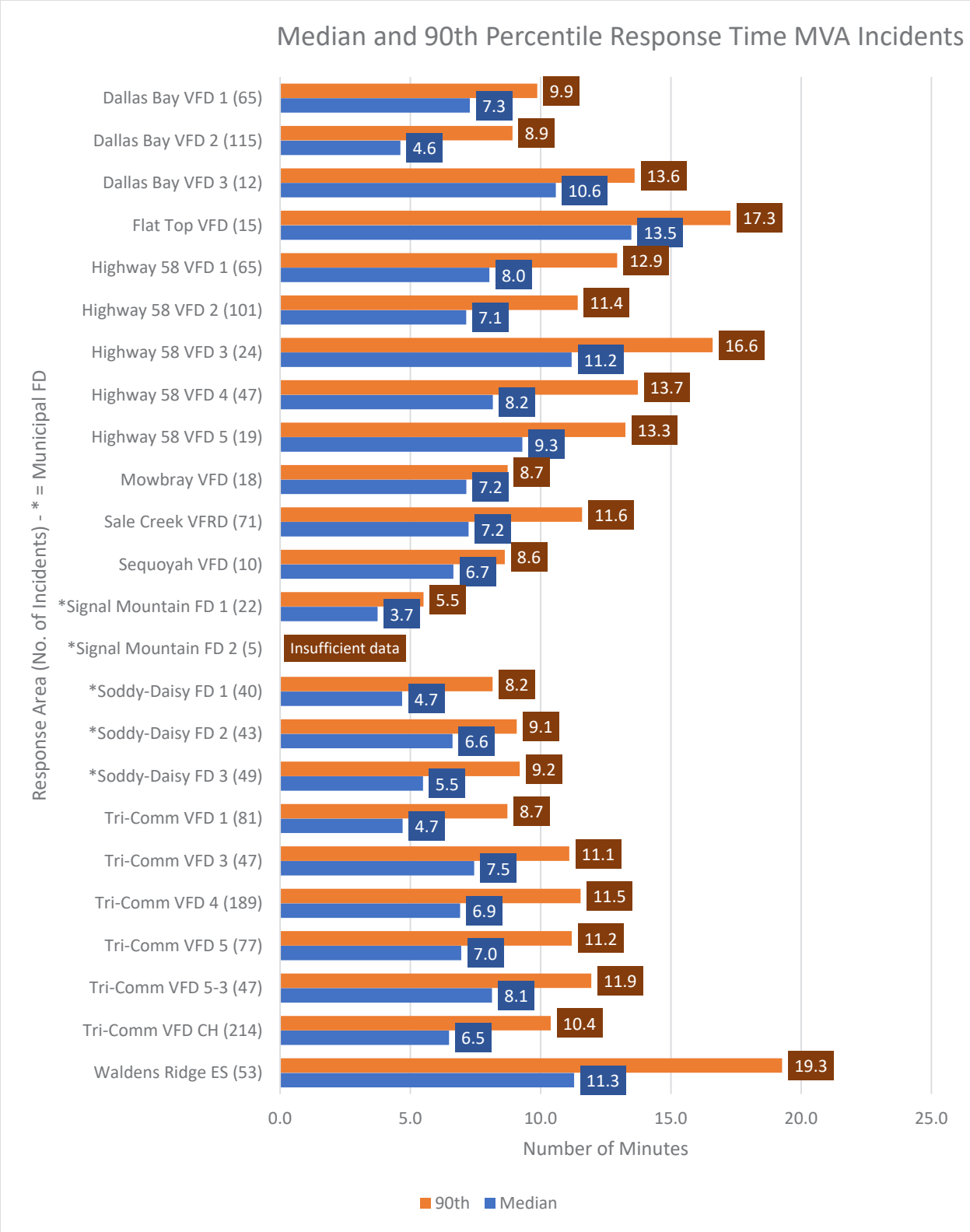


Figure 43. Median and 90th Percentile Response Time MVA Incidents

Incident Hour of Day and Day of Week

Time of day can affect all components of response time, including the availability of staff for turnout and traffic conditions at the time of the incident. According to a US Fire Administration study, time of day has the greatest effect on response times, with the slowest responses occurring during the overnight shift (12am - 6am)[8]

For all emergency response time incidents in the study area, the hour beginning at 5:00 pm has the most frequent occurrences, with the fewest occurring beginning at 3:00 am through 5:00 am. (Figure 44). Over half of all incidents occur between 10 am and 6 pm. The distribution of incidents among general shift times for all incidents is similar for that for urgent incidents (Figure 45), with over one-third of calls occurring between noon and 6 pm. Midnight shift calls are approximately 12 percent of the total.

The distribution of incidents by time of day for total incidents across the study area varies significantly (using chi-square goodness of fit, p<0.05: (x^2=71.9; p<0.0001)). Mondays and Fridays are the highest call days, with Sunday as the lowest and Saturday the second lowest. Call volume does not vary significantly by day in sparsely populated response areas. Daily volume differs significantly in eight response areas:

- Signal Mountain FD 1: Lowest volume days are Sunday, followed by Saturday. The highest volume is Thursday (x^2=15.5; p=.0.016).
- Signal Mountain FD 2: Lowest volume days are Sunday, followed by Saturday. The highest volume is Friday. (x^2=17.9; p=0.006).
- Soddy-Daisy FD 3: Lowest volume days are Sunday, followed by Saturday. The highest volume is Wednesday, followed by Monday. (x^2=14.3; p=0.0008).
- Tri-Community VFD :1 Lowest volume days are Sunday, followed by Saturday. The highest volume is Thursday (x^2=13.1; p=0.0008).
- Tri-Community VFD 3: Lowest volume days are Saturday, followed by Sunday. The highest volume is Monday (x^2=16.34; p=0.042).
- Tri-Community VFD 4: Lowest volume days are Sunday, followed by Saturday. The highest volume is Monday (x^2=16. P<0.0001).
- Tri-Community VFD CH: Lowest volume days are Sunday, followed by Saturday. The highest volume is Friday (x^2=28.4; p<0.0001).

[8] This could be attributed to the lower availability and readiness of firefighters during those hours, as well as the layout of some fire stations that have dormitories above the garage. Therefore, time of day is a significant variable that fire departments should consider when planning their staffing, deployment, and station design strategies. (Reglen, D., & Scheller, D. S. (2016). Fire Department Turnout Times: A Contextual Analysis. Journal of Homeland Security and Emergency Management, 13(1). doi:10.1515/jhsem-2015-0015

.

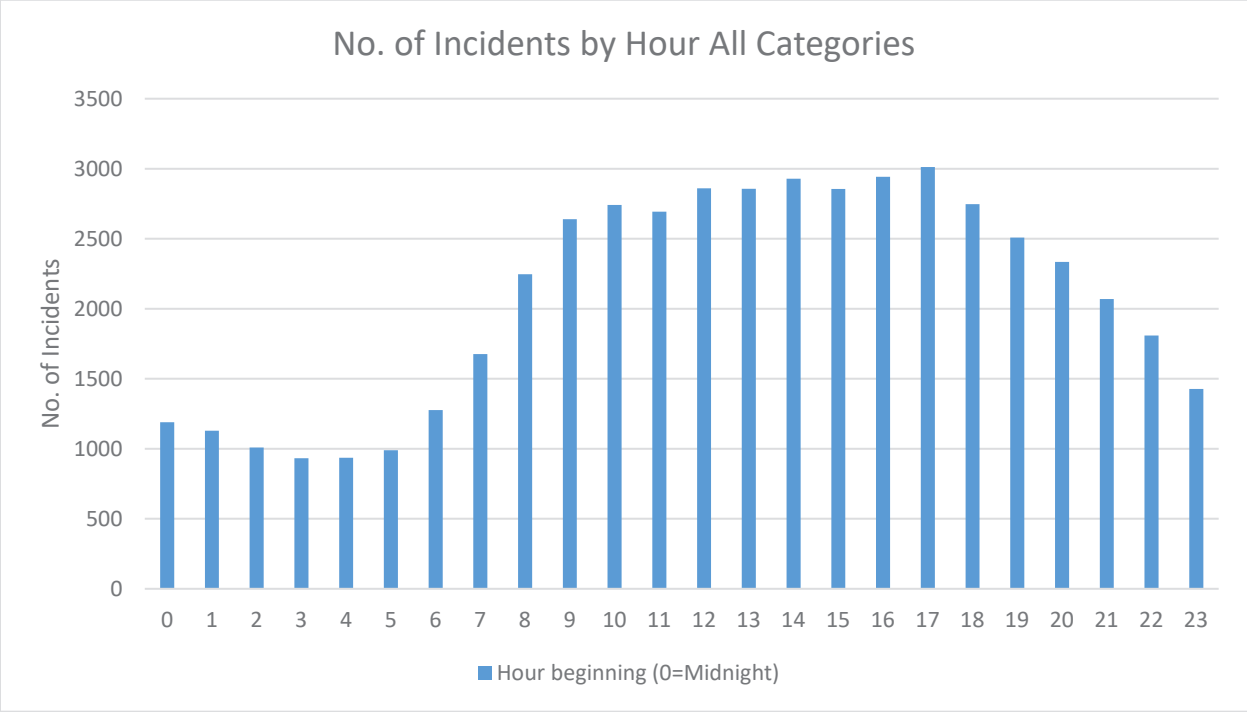


Figure 44. Number of All Incidents by Hour

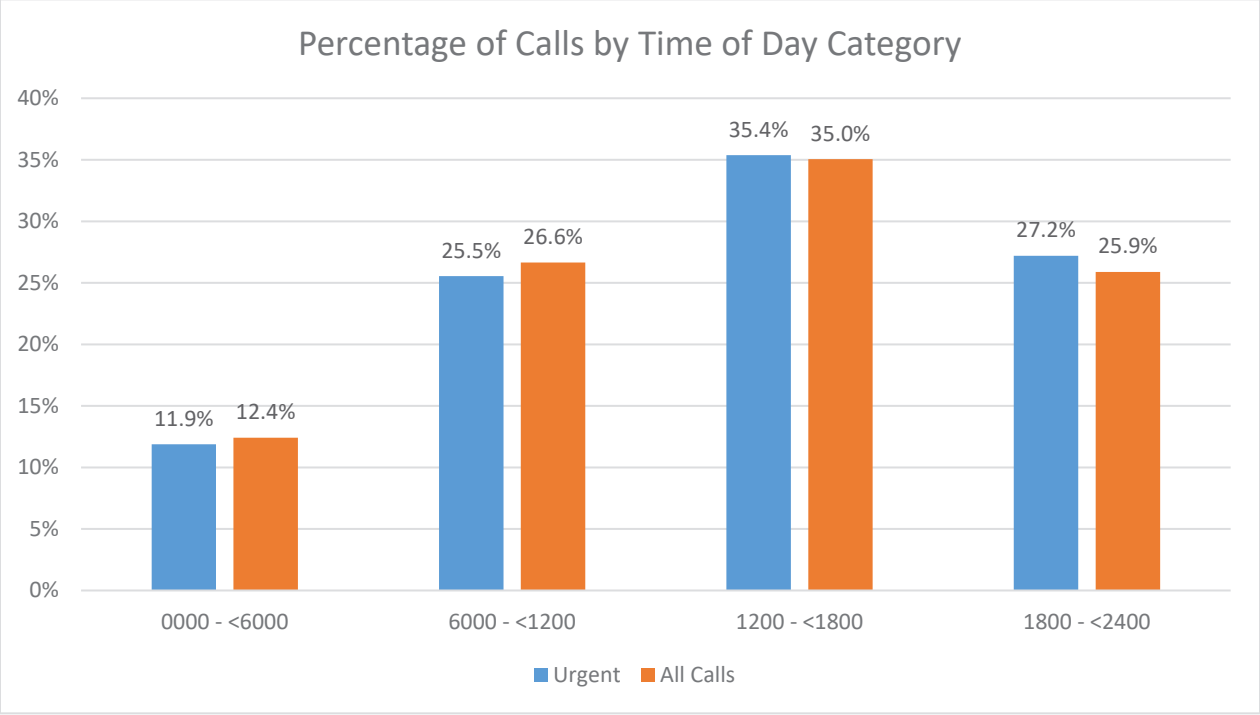


Figure 45. Percentage of Calls by Time-of-Day Category by Urgency

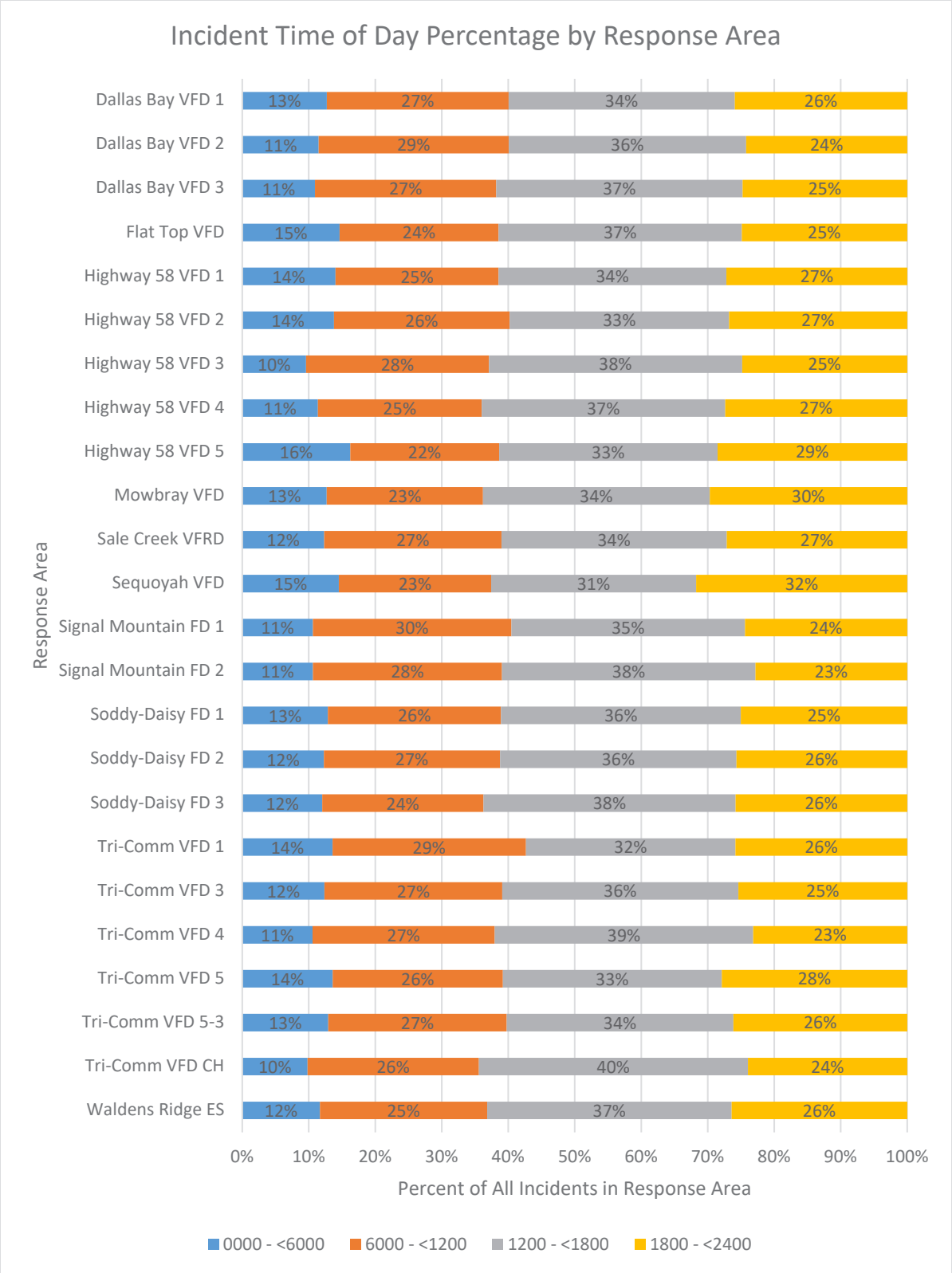


Figure 46. Incident Percentage by Time of Day and Response Area

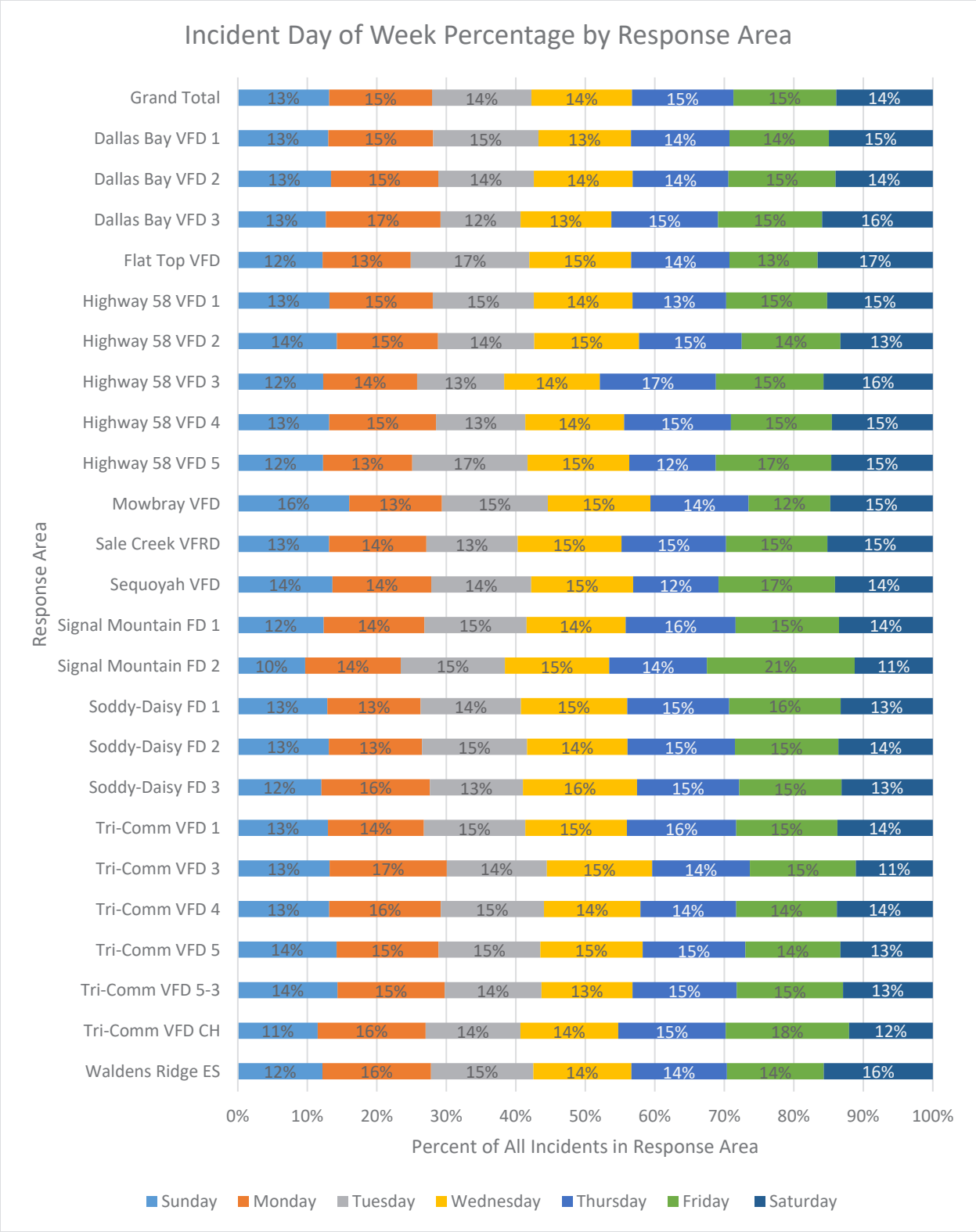


Figure 47. Percent of Response Area Incidents by Day of Week

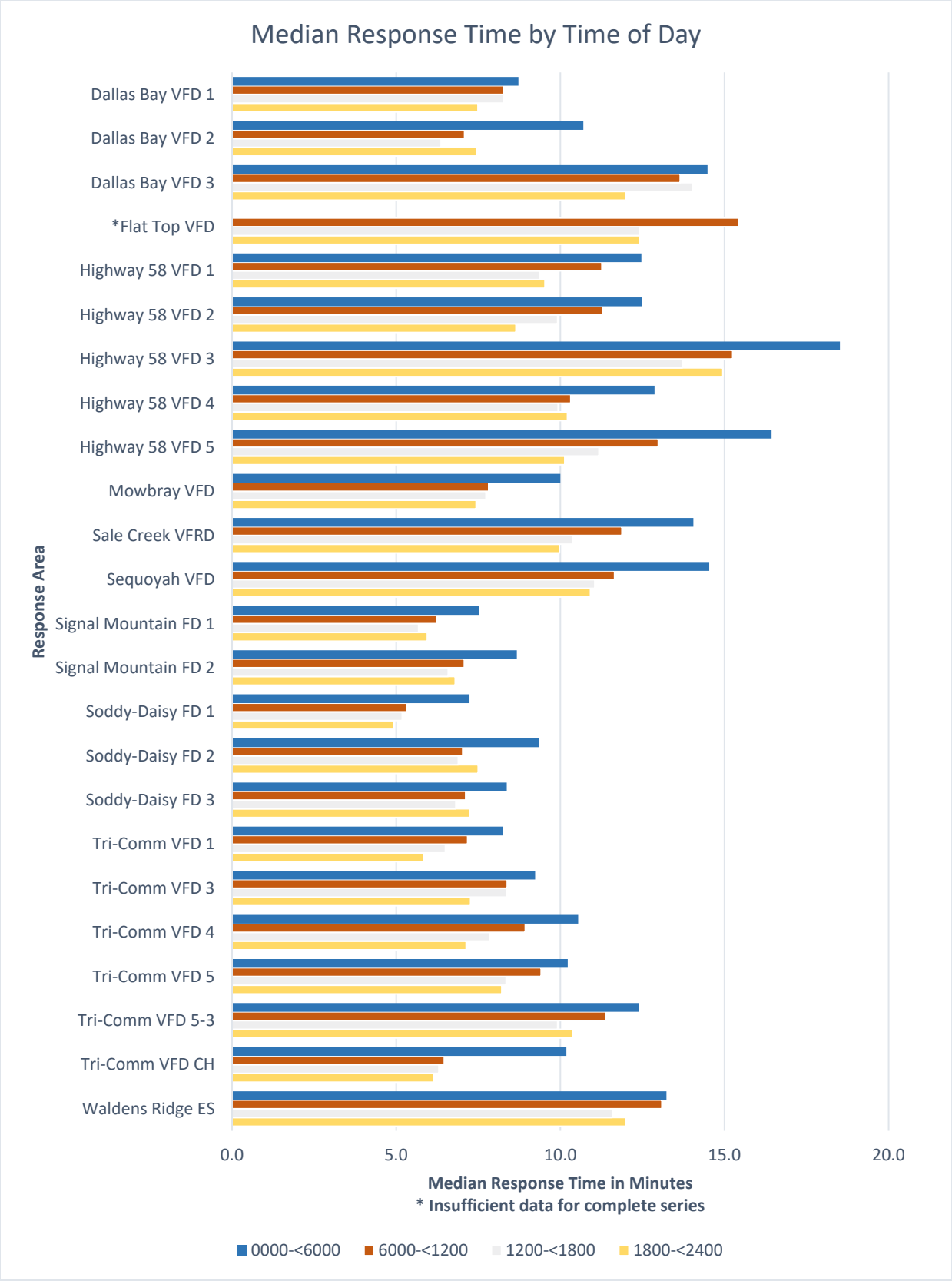


Figure 48. Median Response Time by Time of Day by Response Area

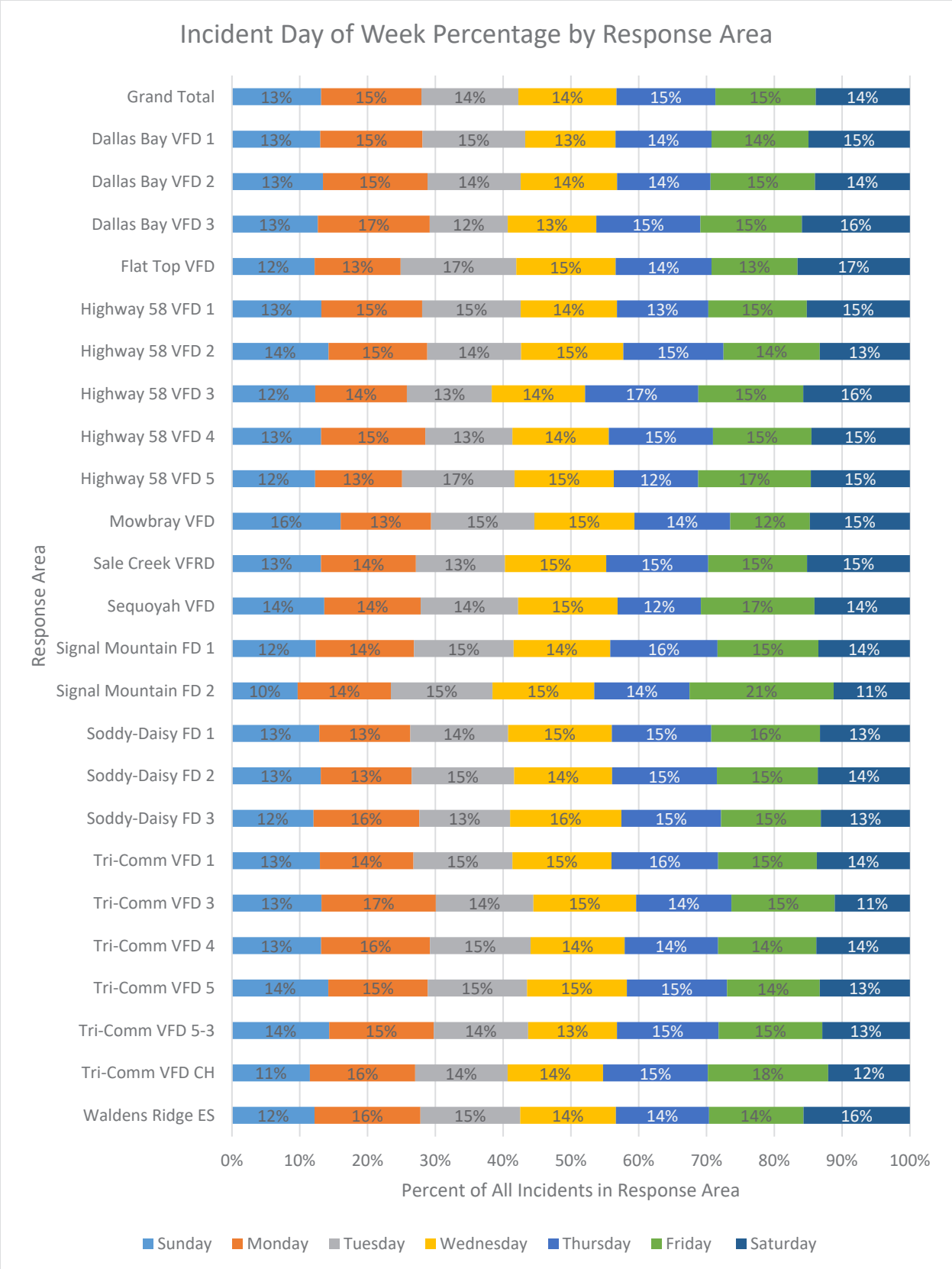


Figure 49. Percent of Response Area Incidents by Weekday

ISO Ratings

The Insurance Services Office, Inc. (ISO) conducts evaluations throughout the country to determine the Public Protection Classification (PPC) ratings for communities.

According to ISO, a community's PPC depends on:

Emergency communications systems, including facilities for the public to report fires, staffing, training, certification of telecommunicators, and facilities for dispatching fire departments.

The fire department, including equipment, staffing, training, and geographic deployment of fire companies.

The water supply system, including the inspection and flow testing of hydrants and an evaluation of the amount of available water compared with the amount needed to suppress fires.

Community efforts to reduce the risk of fire, including fire prevention codes and enforcement, public fire safety education, and fire investigation programs.

In each of those protection areas, ISO analyzes the relevant data and assigns a Public Protection Classification — a grading from 1 to 10. Class 1 represents superior property fire protection, and Class 10 indicates that the area's fire suppression program does not meet ISO's minimum criteria. Figure 50 indicates the current PPC ratings in Tennessee.

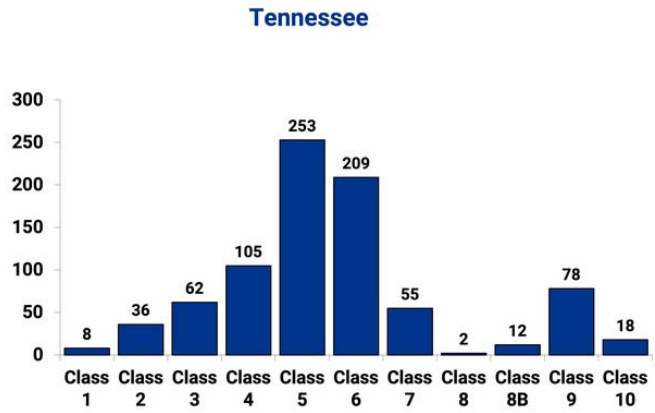


Figure 50. Current Public Protection Classification Ratings in Tennessee

Most U.S. insurers of home and business properties use ISO's PPC data in calculating premiums. In general, the price of insurance in a community with a good PPC is lower than in a community with a poor PPC.

The PPC ratings can be classified as:

Straight rating- All structures within five driving miles of a fire station will receive the PPC rating (example: Class 5)

Split rating- All structures within five driving miles of a fire station and 1,000 feet of a fire hydrant will receive the class rating on the left of the "/" (example: Class **5**/5X). All structures within five driving miles of a fire station but are beyond 1,000 feet of a fire hydrant will receive the class rating to the right of the "/" (example: 5/**5X**) Previously the "_X" denoted was classified a "9".

Any structure located beyond 5 driving miles from a fire station, regardless of the PPC rating, will receive a Class 10 rating. A class 10 rating decreases the availability and increases the cost of insurance.

Table 9 indicates the ISO rating for each fire service district within Hamilton County that responded to the requests from Tri-Star to verify the PPC ratings in their districts.

Table 9. Fire Department ISO Ratings

Agency	Ratings	Year Evaluated
Dallas Bay VFD	2	2013
Highway 58 VFD	4/ 4X	2022
Mowbray VFD	4	2023
Sale Creek Fire and Rescue	4/ 4X	2019
Sequoyah VFD	4/ 4X	2021
Tri Community VFD	3	2016
Waldens Ridge Emergency Service	5	2022

The Fire Suppression Rating Schedule (FSRS) measures the major elements of a community's fire protection system and develops a numerical grading called a Public Protection Classification (PPC®). The actual rating schedule is incredibly detailed with mathematical formulas and specific criteria. Appendix 3 contains an outline from ISO's website of the items considered in the FSRS and the weight of each item used in calculating a PPC rating.

Fire Hydrants and Water Supply

Hamilton County is serviced by a mixture of private and municipal based water utility districts. In addition to Tennessee American Water, which covers Chattanooga and adjacent cities, utilities serving the study area include Eastside Utility District, Hixson Utility District, North West Utility District, Savannah Valley Utility District, and Walden's Ridge Utility District. Soddy-Daisy is served primarily by the North West Utility District, with some portions by the Hixson Utility District. A small section in the southwest portion of the Tri-Community VFD is served by the Catoosa Water District Authority. The Signal Mountain Water Utility covers all the municipal area of the city and approximately 140 addresses south of the city. While the focus of the utility districts is to provide safe potable water for drinking water and residential/ commercial usage, an important aspect of the water systems is the ability to support fire suppression activities.

In most cases, structures located beyond 1,000 feet of a usable fire hydrant must rely on water to be shuttled by fire apparatus. This operation is personnel and equipment intensive to maintain adequate water supply for continuous fire department operations.

The Hamilton County Subdivision Regulations cited below address the minimum requirements for water supply and fire hydrants in new development areas.

Hamilton County, Tennessee Subdivision Regulations

Procedures, Design Standards, and Requirements for Subdivision Plats

408 WATER FACILITIES

408.1 Public Water Supply

a) Where a public water main is accessible, the developer shall install, or cause to be installed, adequate water facilities (including fire hydrants) subject to the specifications and approval of the Division of Water Quality Control, Tennessee Department of Public Health, the local water company or utility district, and local fire authority having jurisdiction.

b) Water supply lines are to be located at least ten (10) feet from septic disposal systems and sewer lines.

408.3 Fire Hydrants

The developer shall install fire hydrants on all new streets/roads or private easements of all major subdivisions except:

1) those served by individual wells

2) subdivisions that meet the requirements given below based on existing fire hydrants

3) subdivisions that meet the requirements given below based on proposed fire hydrant locations on existing streets.

b) The location of all fire hydrants shall be approved by the fire authority having jurisdiction, based on the adopted IFC of the district. (Sept 2021)

Hamilton County, through progressive planning regulations and cooperation of most of the private utility districts, does have an extensive network of fire hydrants. All utility districts contacted were cooperative in developing and providing GIS data for the report. Hydrants located within the study area, excluding Soddy-Daisy and Signal Mountain, are shown in Figure 51. This excludes a small area in the southwest portion of the Tri-Community VFD served by the Catoosa Utility District Authority and a section south of Signal Mountain served by the Signal Mountain Water Utility; a small number of homes adjacent to these areas are served by Tennessee American Water. GIS data is not available for these locations but the respective utilities report that hydrants are present.

As mentioned earlier, ISO classifies structures located within 1,000 feet of a fire hydrant with a better Public Protection Classification for communities that have a split rating. This is because fire apparatus can place a supply line of up to 1,000 feet quickly into service to establish a secure water supply from a fire hydrant. The closer that the fire hydrants are installed will improve the time that it takes to establish a water supply operation. In areas beyond 1,000 feet of a hydrant, pumping relay operations are necessary or a water shuttle supply is utilized with water tender apparatus. This creates the need for additional apparatus and staff to establish a water supply for suppression activities.

Approximately 87 percent of E911 addresses within the study area, excluding Soddy-Daisy and Signal Mountain, are within 1,000 feet of a hydrant; approximately 68 percent are within 500 feet. The current coverage of E911 addresses at three distance zones by response area is shown in Figure 52. Figure 53 shows the distribution of addresses beyond 1,000 feet of a hydrant in the study area.

There are areas that have water lines, but do not have fire hydrants placed. This may be because the water line size does not meet the minimum state regulations of 6” water mains and/ or the ability to supply a minimum of 500 gallons per minute (GPM) of water at 20 pounds of residual pressure (PSI) for fire suppression activities. Figure 54 shows the network of 6’ or larger water mains by utility district within the study area, excluding Soddy-Daisy and the area managed by the Signal Mountain Water Utility. Also excluded are the areas served by Union-Fork-Bakewell Utility District and the Catoosa Utility District Authority, for which data was not available. It is important to maintain the water supply requirements as the county continues to grow. As water lines are added or replaced, the size of the mains should meet or exceed the minimum standards and hydrants should be placed as appropriate for new construction and existing buildings. The need for water tenders will remain for all the agencies throughout the county.

An additional source of water for properly outfitted equipment are water bodies throughout the study area.[9] An estimated 62 percent of the addresses beyond 1,000 feet of a hydrant are within 1,000 feet of a water body. Accessibility to the water sources is critical at strategic locations for drafting and water shuttle operations. Figure 55, for example, shows the additional number of addresses that are currently greater than 1,000 feet of a hydrant that would be within 1,000 feet of a water body within the Mowbray VFD district. Drafting from static and flowing water sources not only requires additional fire apparatus and staff, but also requires specialized training of the equipment operators that must be exercised on a regular basis to maintain proficiency and improve skills for water shuttle operations.

[9] Water body data accessed 2/2/2024 from Hamilton County Government
http://gismaps.hamiltontn.gov:6080/arcgis/rest/services/Base_Map/MapServer/19

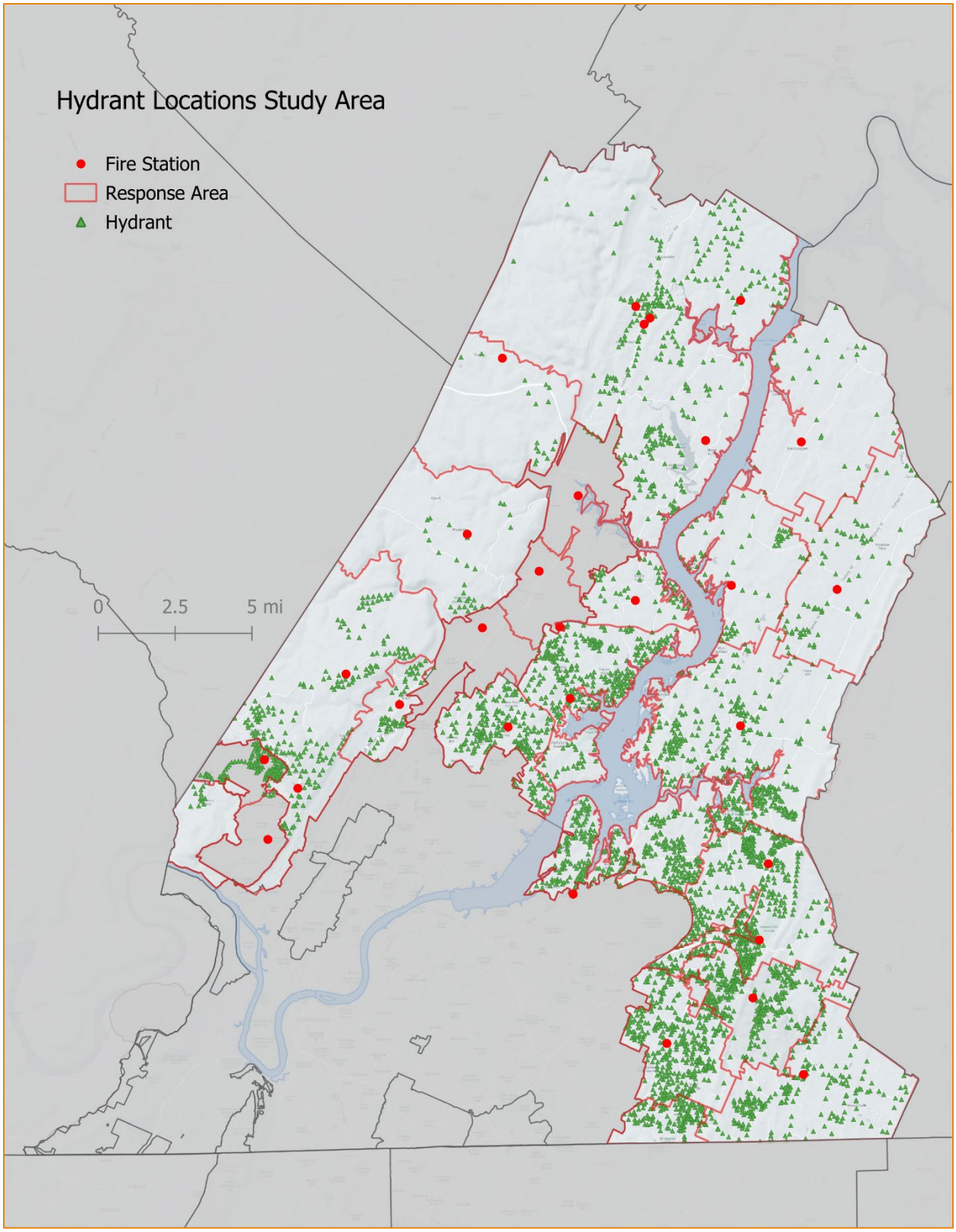


Figure 51. Hydrant Locations in Study Area

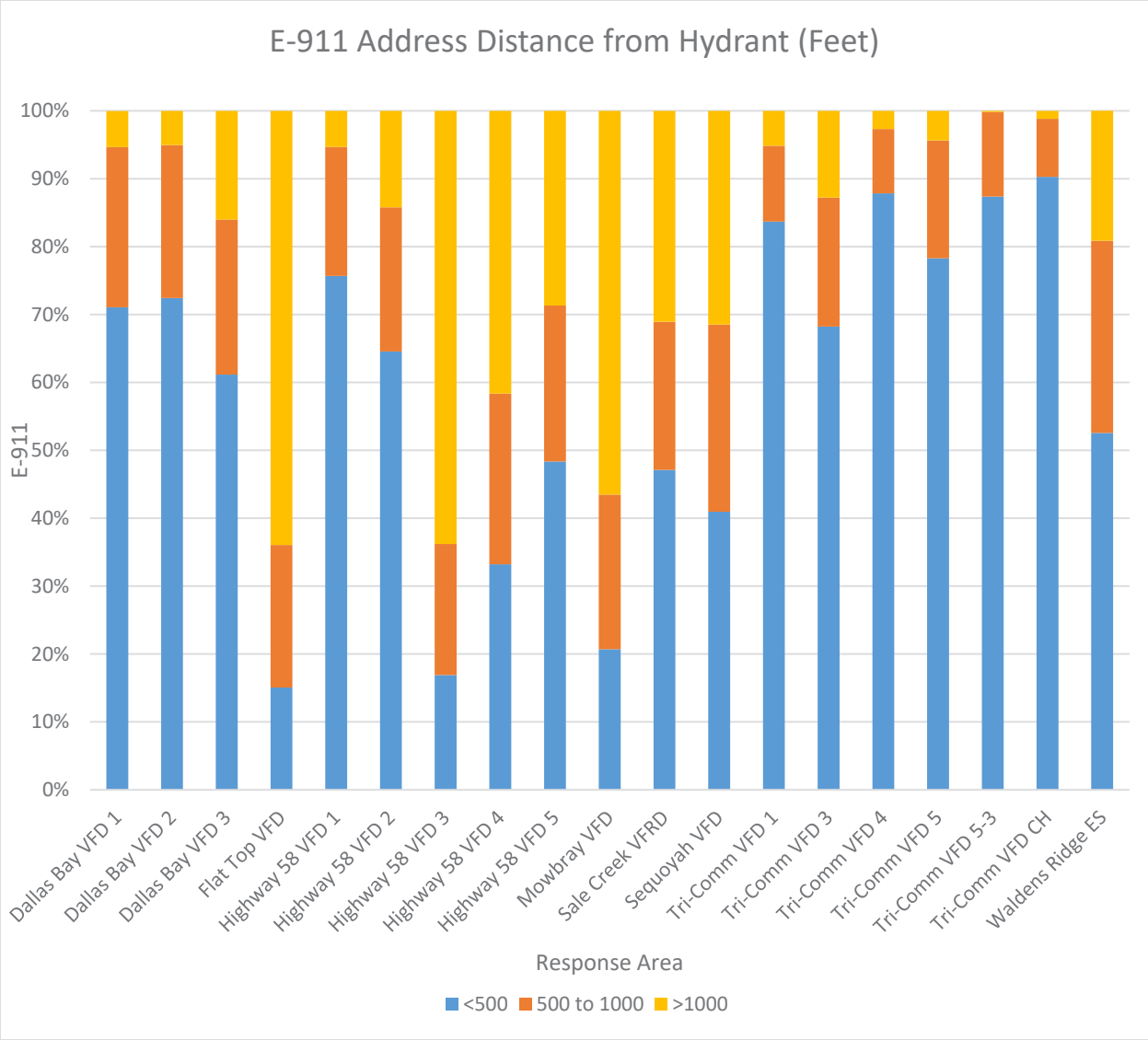


Figure 52. Percentage of E-911 Addresses by Hydrant Distance Zone

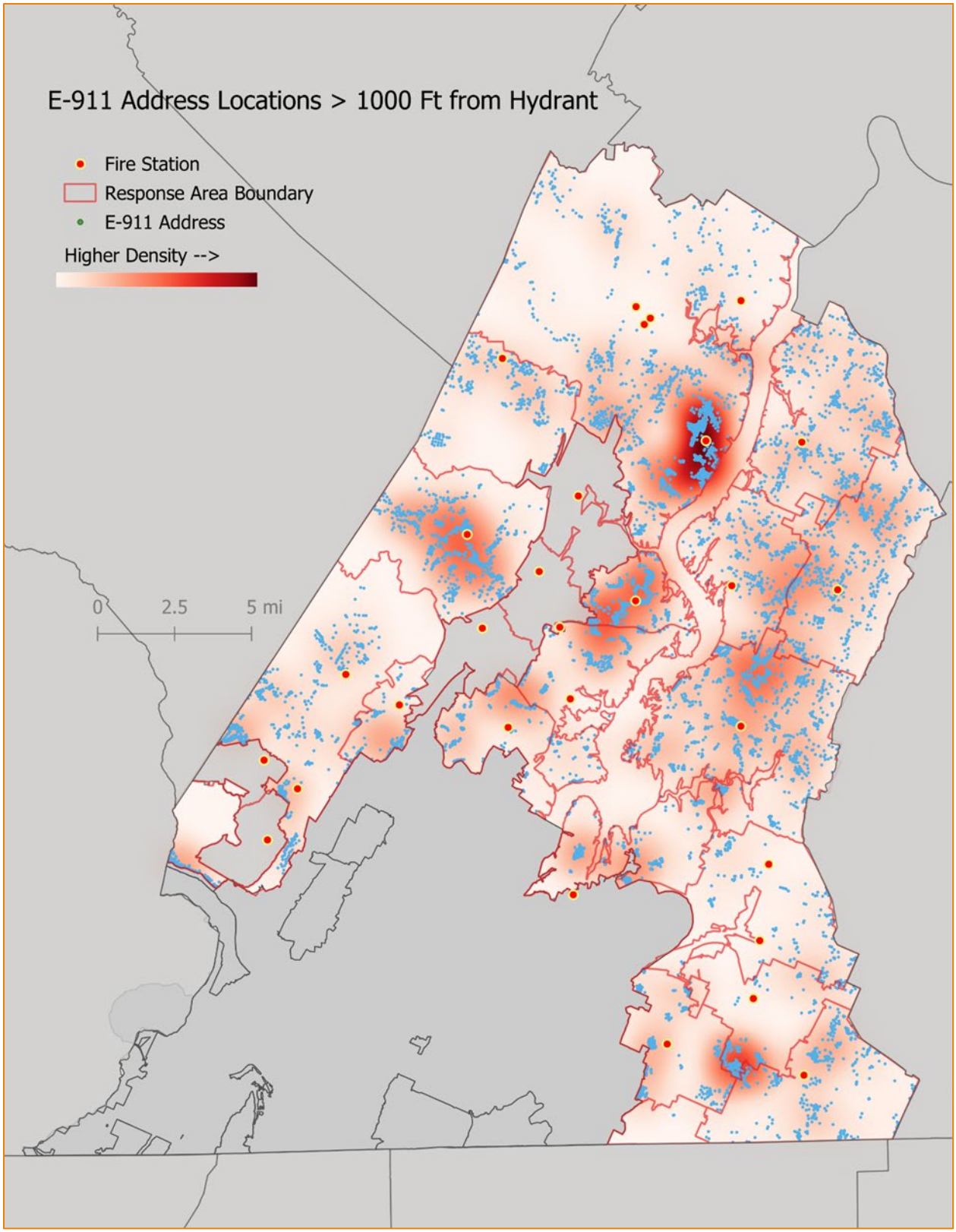


Figure 53. E-911 Addresses Greater Than 1,000 Feet from Hydrant

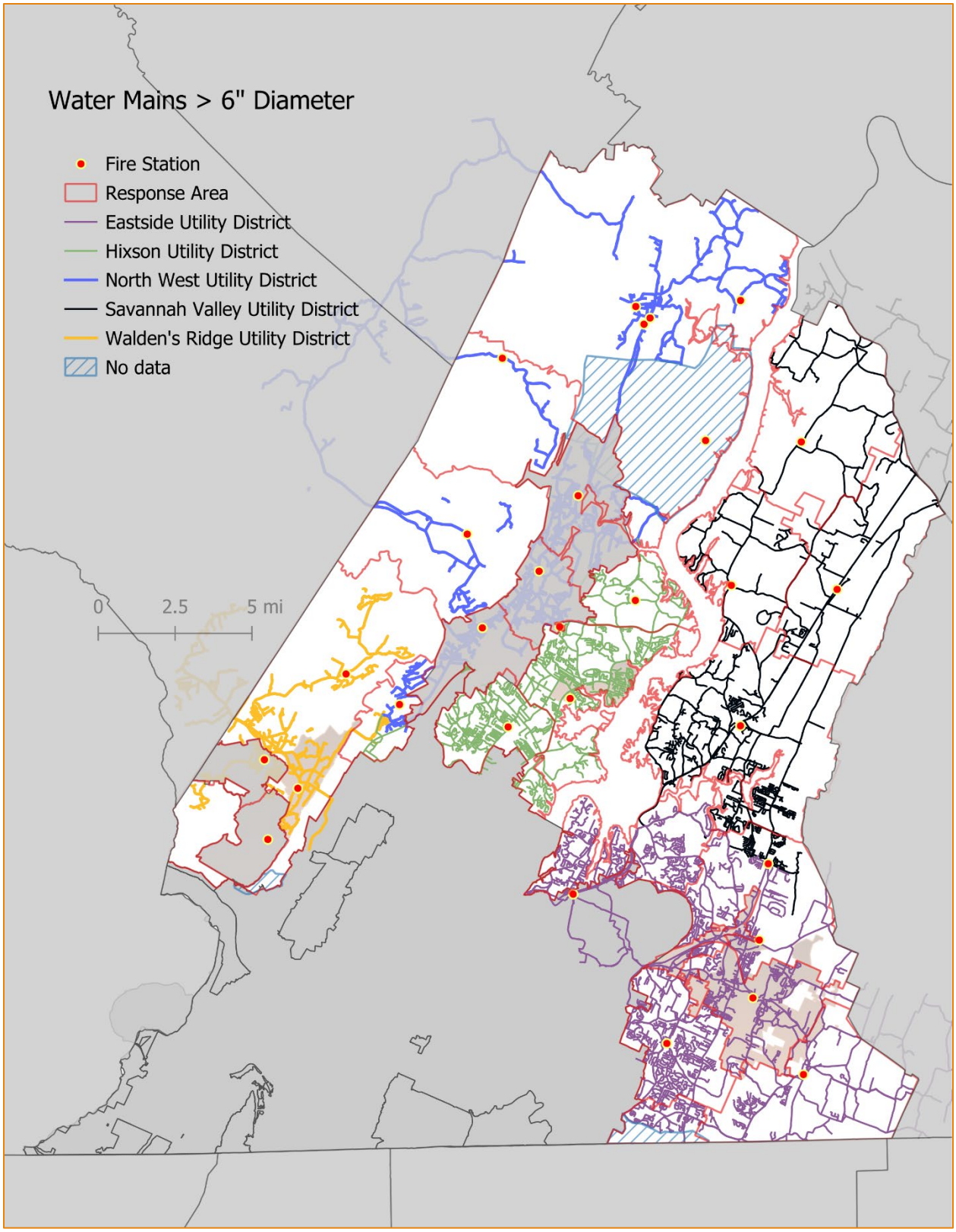


Figure 54. Water Mains Greater Than 6" Diameter

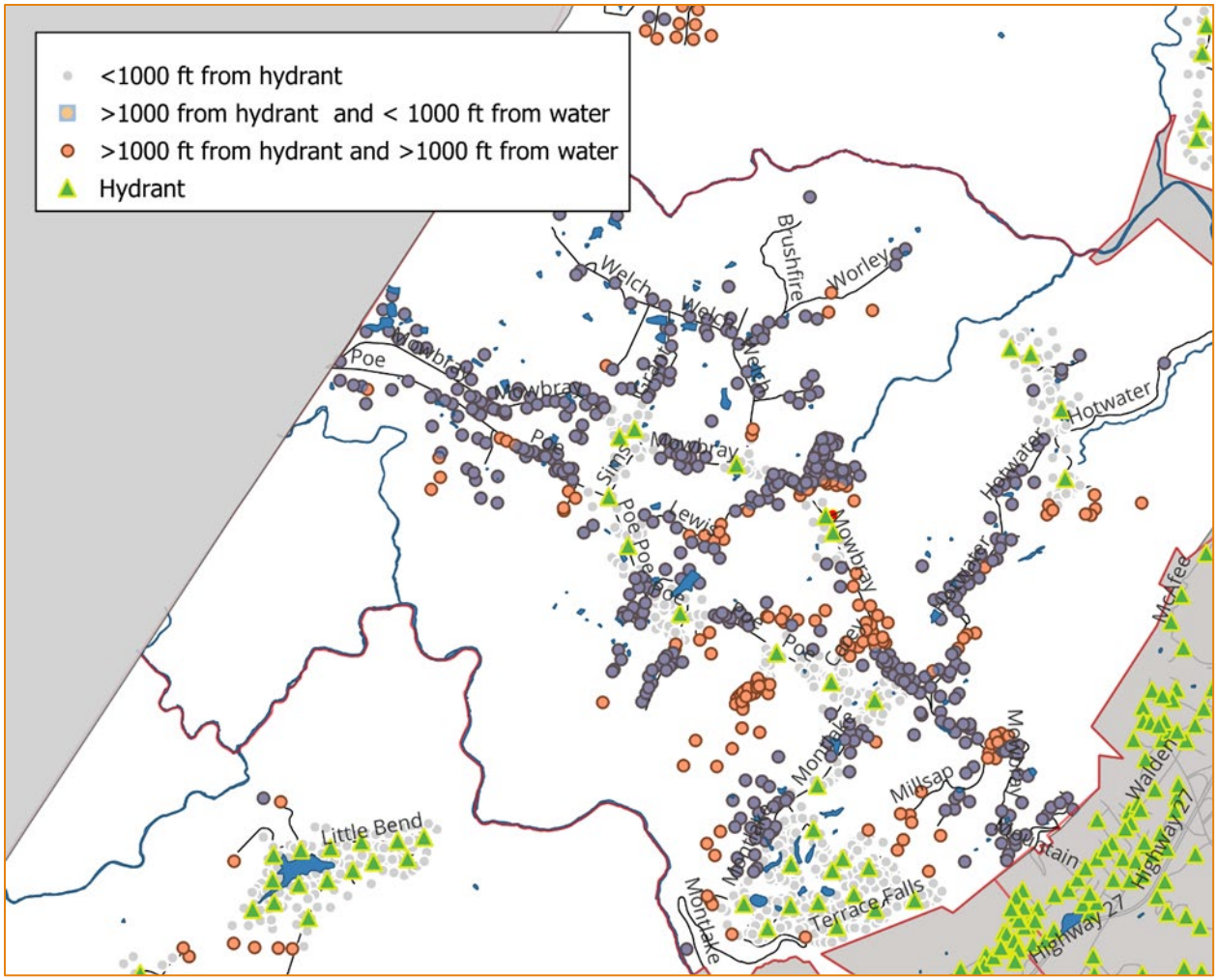


Figure 55. Additional E-911 Addresses with Access to Water Body (Mowbray VFD)

Training Facilities

As mentioned previously, the Hamilton County OEM provides a significant amount of training support and instruction to the volunteer departments in the county. The departments have access to the fire training center operated by the City of Chattanooga. This facility is currently undergoing upgrades and the county has provided $1.5 million toward the construction of a new fire drill tower. The new facilities will be available for all departments in the county to utilize.

While the scope of the study did not include an analysis of each department's training records, it is recommended that a comprehensive review of the training records of each department's personnel be conducted to identify training gaps and assist with developing a plan to improve emergency services delivery across the county.

Operations

Services Provided

Each volunteer fire department provides traditional fire suppression response. Except for Sequoyah VFD and Flat Top VFD, the volunteer fire departments provide medical first responder coverage within their district. Most first responder incidents are staffed at the basic life support level. The fire departments provide rescue services for vehicle extrication. Some of the departments provide additional technical rescue services, such as swiftwater and search and rescue activities.

Apparatus

The scope of this report did not focus on an analysis of the individual apparatus operated by the volunteer departments. However, it is important to plan and prepare for apparatus replacement. This should include a countywide approach to the hazards identified across the county, standardization of equipment, and sharing resources to reduce overall costs. The diverse topographical challenges of the study area create needs that most other counties in the state do not face. Construction in the wildland/ urban interface zones, coupled with delayed response from mutual aid agencies require different resources than more densely populated suburban areas.

Ladder companies can be placed where they are most needed and provide mutual aid to areas that do not routinely need ladder response. The same is true for other types of equipment such as water tenders, wildland/ brush, rescue, and other types of specialized apparatus. The costs of new fire and rescue apparatus is becoming prohibitive to many volunteer fire departments. Ladder/ aerial apparatus is routinely over $1 million, and the price of a new pumper typically exceeds $500,000.

The Insurance Service Office and National Fire Protection Association (NFPA) recommendations and standards must be considered regarding the types of apparatus to purchase and when to replace apparatus.

The Insurance Service Office (ISO) issues standards for types and numbers of apparatus based on a community's needs related to fire flow, building construction, and method of operation. Purchasing specific types of apparatus can result in significant enhancements in the fire department section of the ISO survey.

NFPA 1901 *Standard for Automotive Fire Apparatus* is a national consensus standard issuing recommendations for fire apparatus relating to equipment, pump capacity, safety measures, age, etc. NFPA 1901 states that "to maximize firefighter capabilities and minimize risk of injuries, it is important that fire apparatus be equipped with the latest safety features and operating capabilities". This standard offers *that if apparatus greater than 15 years old have been properly maintained and are in good condition that they should be placed into reserve status and upgraded*. The NFPA 1901 standard references the many safety upgrades, innovations, and changes that have been added to recent editions which are significant regarding firefighter safety. NFPA 1901 recommends that fire departments should consider the value or risk to firefighters of keeping fire apparatus older than 15 years in front-line service. NFPA 1901 also recommends that apparatus older than 25 years be permanently removed from service.

It is recommended that the county and volunteer fire departments develop a fire department vehicle replacement schedule and appropriate funding to ensure reliable fire equipment that meets modern safety requirements and community risks/ service demands.

Staffing Model

Staffing is a key component of an effective response to incidents and requests for service. While the county has approximately 930 fire service personnel, 506 (54.4%) are full- or part-time career personnel. Most paid personnel are employed by the municipal departments. The remaining 437 personnel volunteer their time to the communities that they live and work in. Table 10 provides a breakdown, as reported by each department, of the type and staffing at the time of data collection for this report. While the overall number of volunteer personnel is impressive, it does not provide context to the actual number of available or active personnel on a regular basis. It is recommended that further analysis be conducted to evaluate a realistic picture of active staffing available during various times of the day, week, and seasons.

Table 10. Fire Department Staffing

Department	Type	Full-Time Career	Part-Time Career	Volunteer	Total # of Personnel
Chattanooga FD	Municipal	369	0	0	369
Dallas Bay VFD	Non-Profit Combination	1	0	64	65
East Ridge Fire Rescue	Municipal- Combination	30	0	9	39
Flat Top VFD	Non-Profit Volunteer	0	0	20	20
Highway 58 VFD	Non-Profit Combination	1	0	69	70
Lookout Mtn FD	Municipal-Public Safety	16	0	0	16
Mowbray VFD	Non-Profit Volunteer	1	0	25	12
Red Bank FD	Municipal- Combination	10	26	6	42
Sale Creek VFD	Non-Profit Volunteer	0	0	50	50
Sequoyah VFD	Non-Profit Volunteer	0	0	29	29
Signal Mountain FD	Municipal	26	0	0	26
Soddy Daisy FD	Municipal- Combination	6	15	35	56
Tri Community VFD	Non-Profit Combination	4	2	90	96
Waldens Ridge Emergency Services	Non-Profit Volunteer	0	0	40	40

Table 11 identifies the apparatus type and on duty staffing for each station that provides response coverage in the unincorporated areas of the county. To address the challenges of having personnel available to respond, some of the departments are compensating personnel for response and staffing coverage. Some of the stations have “live-in personnel” to augment staffing. While it is not a guarantee that the live-in personnel will be available when a call is received, it generally provides a higher level of availability of personnel during overnight hours to reduce response times.

Table 11. Apparatus and Staffing by Station

Department	Station	Apparatus #1	On-duty Staffing	Apparatus #2	On-duty Staffing	Apparatus #3	On-duty Staffing	Apparatus #4	On-duty Staffing	Live-in Personnel	If yes, #
Dallas Bay	1	ENG	0	TRK	0	RSQ	1			No	0
Dallas Bay	2	ENG	0	TRK	0	RSQ	0	TND	0	Yes	2
Dallas Bay	3	ENG	0	TND	0	RSQ	0	BSH	0	No	0
Flat Top	1	ENG	0	TND	0	BSH	0		0	No	0
Highway 58	1	ENG	0	TRS	0	TRK	0	RSQ	0	Yes	1
Highway 58	2	ENG	0	RSQ	0	TND	0	BSH	0	Yes	1
Highway 58	3	ENG	0	RSQ	0					Yes	1
Highway 58	4	ENG	0	RSQ	0	AIR	0			Yes	1
Highway 58	5	ENG	0	ENG	0	RSQ	0	BSH	0	Yes	1
Mowbray	1	ENG	0	ENG	0	TND	0	TRK	0	Yes	0
Sale Creek	1	ENG	0	ENG	0	TND	0	TRK	0	No	0
Sale Creek	2	ENG	0	RSQ	0	FWB	0			No	0
Sale Creek	3	ENG	0	RSQ	0	TND	0	FRBT	0	Yes	1
Sale Creek	4	ENG	0	RSQ	0	ATV	0	FRBT	0	Yes	1
Sale Creek	5	ENG	0	RSQ	0	FRBT	0			No	0
Sequoyah	1	ENG	0	ENG	0	TND	0			No	0
Tri Community	1	ENG	1/2400-1200	TND	0	TRK	0	RSQ	0	Yes	1
Tri Community	2	ENG	0	TND	0	RSQ	0			Yes	4
Tri Community	3	ENG	0	TRK	0	RSQ	0			Yes	3
Tri Community	4	ENG	0	TND	0	TRK	0	RSQ	0	No	0
Tri Community	5	ENG	1/2400-1200	TND	0	RSQ	0			Yes	4
Waldens Ridge	1	ENG	0	ENG	0	TND	0	RSQ	0	Yes	1
Waldens Ridge	2	ENG	0	TND	0	RSQ	0	ENM	0	No	0

Table 12. Apparatus Identifier Key

Apparatus Identifier	Explanation
ENG	Engine/ Pumper
TRK	Truck/ Aerial
TND	Water Tender
RSQ	Rescue
BSH	Brush
AIR	Air Supply
FWB	Flood Water Boat
ATV	All-Terrain Vehicle
FRBT	Fire Rescue Boat

Fire Prevention

The Hamilton County Fire Marshal's Office is a division of the Office of Emergency Management and Homeland Security. The mission of the office is to "protect life and property through the development and application of fire protection, engineering, education and enforcement." This mission is achieved through the performance of fire code inspections, review of subdivision and new commercial construction plans, public education events, and responding to complaints or issues. Staffing levels will need to be evaluated as growth continues and additional personnel added to ensure the comprehensive fire prevention activities are conducted in a timely manner.

Rescue

Routine rescue services such as vehicle extrications are provided by the volunteer and municipal fire departments in the county. Due to the flooding threat in Hamilton County, some of the volunteer and municipal fire departments have varying degrees of swiftwater/ floodwater rescue capabilities (proper equipment and available trained personnel). Some of the fire departments provide high angle rescue services. Most of the technical rescue services are provided by the Chattanooga - Hamilton County Rescue Service (CHCRS) and The Hamilton County Special Tactics and Rescue Services, Inc. (STARS).

STARS provide special tactical and technical support to area fire, rescue, and police services throughout Chattanooga, Hamilton County Tennessee, and the surrounding area. The focus of the STARS capabilities is swiftwater rescue and flood response, dive rescue, and ground search operations. The STARS Team is a support group of the Hamilton County Emergency Services.

CHCRS provides technical rescue and disaster relief services. The focus of the CHCRS capabilities is cave and high angle rescue, ground search, and incident rehabilitation services to fire, police, and rescue personnel.

Both agencies are staffed by volunteer personnel and serve citizens across Chattanooga and the Tri-State area. The rescue agencies deploy at the request of law enforcement, fire departments, and emergency management agencies.

NFPA Standards

The National Fire Protection Association (NFPA) is a not-for-profit corporation that develops "voluntary consensus standards" to promote the science and improve the methods of fire protection and safety related goals. These stages of the development process for the standards and codes include:

1. Public input
2. Public comment
3. NFPA Technical Committee meetings
4. Council appeals and issuance of Standard

Each technical committee is comprised of a diverse group of stakeholders from the public and private sector. Within the four distinct stages there are multiple steps for the final standard to be a truly consensus-based document.

NFPA 1710: Standard for the Organization and Deployment of Fire Suppression Operation, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments and NFPA 1720: Standard for the Organization and Deployment of Fire Suppression Operation, Emergency Medical Operations, and Special Operations to the Public by Volunteer Fire Departments contain the minimum requirements relating to the organization and deployment of career and volunteer fire departments. It is important to note that NFPA 1710 and 1720 are not required by law but are considered the standard used to organize and deploy resources by fire departments. It is also important to be realistic about the information below. It takes time to build up resources. Rural departments must be creative while developing short- and long-term plans to address shortfalls from national standards. Positive progress should be embraced with vision and plans always looking toward improvement of departmental capabilities.

The NFPA 1710 response standard addresses staffing by structure type and size:

Table 13. NFPA 1710 Response Criteria

Structure Type	Size	**Minimum** Staffing/Min. with Aerial Device Deployed
Single Family Dwelling	2,000 ft^2	14/ 15
Open Air Strip Mall	13,000 ft^2 to 196,000 ft^2	27/ 28
Garden Style Apartment	1,200 ft^2 apartment, 3 stories	27/ 28
High- Rise	> 75 ft from fire dept. access	42/ 43

NFPA 1720 1.1 states that the standard is applicable to volunteer and combination fire departments. NFPA 1720 response standard is categorized by community demographics:

Table 14. NFPA 1720 Response Criteria

Demand Zone	Demographics	Minimum Staff to Respond	Response Time (minutes)	Meets Objective (%)
Urban area	> 1,000 people/mi^2	15	9	90
Suburban area	500-1,000 people/ mi^2	10	10	80
Rural area	< 500 people/mi^2	6	14	80
Remote area	Travel distance ≥ 8 miles	4	Dependent on travel distance	90

National Institute of Science and Technology Study

Crew size and staffing are crucial factors in providing a reliable and efficient delivery of emergency services. Fire departments today provide a larger variety of services compared to 30 years ago. In addition to fire suppression, fire prevention, public education, vehicle extrication, technical rescue, EMS response, hazardous materials, natural and human-caused disasters require a wide variety of training and equipment, as well as the personnel needed to respond.

The National Institute of Standards and Technology (NIST) conducted more than 60 fireground field experiments and released a report titled *NIST Report on Residential Field Experiments* in 2010 to determine the effect of crew size on basic residential fireground activities. Some of the highlights from that report include:

The four-person crews completed all tasks on the fireground on average seven minutes faster (30%) than the two-person crews.

The four-person crews put "water on the fire" 16% faster than two-person crews. Three-person crews were 10% faster than the two-person crews.

The four-person crews completed laddering and ventilation activities 30% faster than the two- person crews and 25% faster than the three-person crews.

The four-person crews started and completed primary search and rescue functions 30% faster than the two-person crews.

There is a direct correlation between crew size and the time required to complete critical fireground tasks that impact firefighter and occupant safety.

Funding

Fire protection is funded through a combination of revenue sources dependent on the department's structure and area served. The revenue sources include donations from residents, subscription fees, private service contributions, state and federal grants, municipal contributions, and appropriations from the county. Table 15 displays the funding provided by the county to assist with operating expenses to each volunteer department for fiscal years (FY) 2019 through the FY2024 budget. The annual funding has increased by over 200 percent in the FY2020 budget and has continued to rise with each respective fiscal year. Figure 56 graphically displays the funding for each of the volunteer fire departments.

In addition to the support activities referenced in the County Engagement section of this report and the operating funding mentioned above, the county continues to provide additional funding by way of capital expenditures for facilities. Most recently the Waldens Ridge Emergency Services and Mowbray Volunteer Fire Department have received new facilities funded by the county. A list of each station and ownership is referenced in the Facilities section of this report. The radio system upgrades, and subsequent equipment purchases directly improve the ability for each department to operate at incidents. The current radio technology is often prohibitive to most volunteer fire departments as mobile and portable radios exceed $8,000 each. The county also provides the expenses for dispatch services for the departments.

Table 15 also shows the funding for the countywide hazardous materials response team and fire training (classes, equipment, and supplies) that directly impacts the volunteer departments. The county and city of Chattanooga have planned a joint project to upgrade the current fire training facility that will improve training for the entire county, including all the municipalities. In addition to the 10 percent increase to the funding allocated, the FY2024 budget contains an additional $500,000 for capital and operational expenses for the volunteer fire departments.

Table 15. County Fire and Rescue Funding

Expenditures by type	Actual 2019	Actual 2020	Actual 2021	Actual 2022	Budget 2023	Budget 2024
Hamilton County-Fire Training					$100,000	$100,000
Hazardous Material Team	$36,828	$63,646	$44,164	$115,694	$74,893	$78,252
Tri-Community Vol. Fire Dept	$53,862	$528,986	$528,986	$555,435	$555,435	$610,979
Dallas Bay Volunteer Fire Dept	$74,665	$369,835	$369,835	$388,327	$388,327	$427,160
Mowbray Volunteer Fire Dept	$39,476	$75,811	$75,843	$100,839	$100,804	$110,884
Chatt-Hamilton County Rescue	$30,579	$34,850	$68,000	$71,418	$71,400	$78,540
Highway 58 Volunteer Fire Dept	$113,664	$434,814	$434,814	$456,555	$456,555	$502,211
Sequoyah Volunteer Fire Dept	$41,953	$53,498	$53,533	$78,498	$78,498	$86,348
Walden's Ridge Emergency Serv	$56,616	$125,732	$125,404	$131,674	$131,674	$144,841
Sale Creek Volunteer Fire Dept	$70,145	$188,301	$188,277	$197,690	$197,679	$217,447
Hamilton County Marine Rescue	$25,912	$68,335	$68,000	$71,411	$71,400	-
Hamilton County Stars	$19,883	$56,172	$68,035	$71,400	$71,400	$98,540
Flattop Volunteer Fire Dept	$24,787	$49,280	$49,280	$74,280	$74,280	$81,708
Total Expenditures	$588,370	$2,049,260	$2,074,171	$2,313,221	$2,372,345	$2,536,910

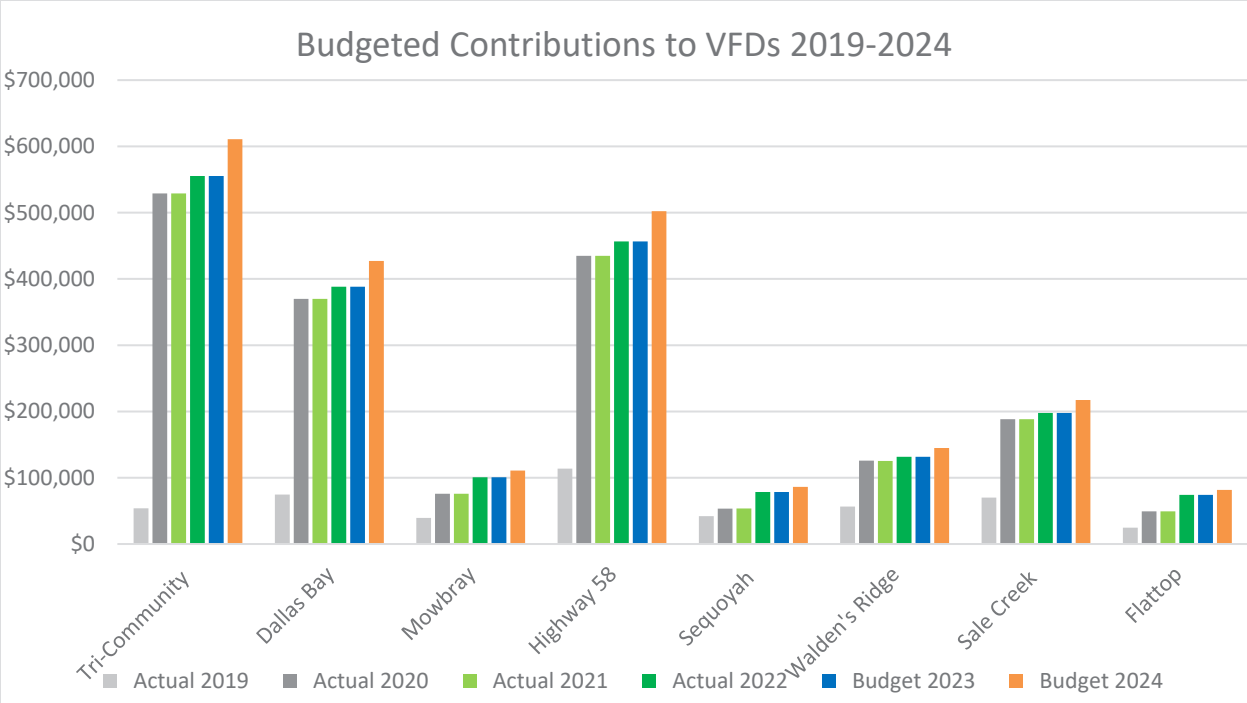


Figure 56. County Budget Contributions to VFD's

The sources of funding of county fire services are limited. Fire protection in counties can be funded based upon the type of fire services structure that the county has allowed to exist or has created. In counties that do not have a countywide fire department created in accordance with Tennessee Code Annotated (T.C.A.) § 5-17-101, the source of county funding is limited to a donation to the independent non-profit fire department as allowed by T.C.A. § 5-9-101(23). Concerns and issues regarding how the funds are spent, management/organizational issues, strategic planning, and interagency cooperation have been raised due the lack of oversight that the county has with the volunteer fire departments since there is basically no oversight exercised from the county with the donation.

According to T.C.A. § 5-17-101(d), counties may fund a countywide fire department by either of the following two methods:

1) Fire tax levied on property within one or more fire tax districts according to T.C.A. § 5-17-105, -106, and -107; or

2) Appropriations from the general fund consisting of situs-based revenues from the unincorporated areas of the county and/or revenues that have already been shared with municipalities (examples include TVA PILOT funds, alcohol/ beer tax in the unincorporated areas, the county's share of the second half of local option sales tax revenues, etc.).

The countywide fire department may contract with independent and municipal fire departments to provide coverage within the unincorporated portion of the county. Additionally, T.C.A. § 5-17-101(d)(4) allows the local government to receive donations or charitable contributions for fire protection regardless of the mechanism of funding selected.

Fire Tax Districts

A county that chooses to fund fire protection using fire tax districts must create one or more districts which encompass the entire county outside of the municipal limits, pursuant to T.C.A. § 5-17-105. However, cities may elect to be included in the fire tax districts. The fire tax is to be assessed the same as the property tax and collected as an addition to it. Under T.C.A. § 5-17-106(b), the rate set must be sufficient to pay for each district's share of the total county fire department budget. This is a dedicated revenue stream that can only be used for fire protection. A referendum is not allowed by statute to determine the implementation of a fire tax.

Fire Fees

Many counties have been looking for alternative revenue sources for funding fire protection. T.C.A. § 5-16-101(b)(2) to allow counties to set up "Urban Type Public Facilities" to provide fire protection and to be able to charge a fire fee. To do this, T.C.A. § 5-16-102 states that a majority of the county legislative body would need to pass a resolution placing the authority to exercise the power in this chapter with:

1. Some agency of the county already in existence (an example of this would be a countywide fire department created in accordance with T.C.A. § 5-17-101 *et seq*.
2. A public works department to be created; or
3. A board of public utilities established under T.C.A. § 5-16-103.

Having the countywide fire department in existence prior to pursuing this revenue source would be the most practical alternative. The fire fee can be based upon structures rather than the fire tax which is assessed the same as the property tax. As an example, the fee collected could be structured so that all one- and two-family dwellings are charged $10 per month while commercial property is assessed a $15 fee. Discounts could be given for structures that have automatic fire protection sprinkler systems installed and maintained according to code. (*The actual amounts would need to be set based on the budget requirements of the department and parcel/ structure data.*)

The challenge with this type of revenue stream is a collection mechanism that would need to be identified. It cannot be added to the property tax and would need to be directly billed or through other billing mechanisms. Shelby County currently attaches it to the monthly utility bill. This is one way that it could be collected. If a county were looking to collect the fee in this manner, a few issues would need to be reviewed:

1. The utility district would have to agree to the collection mechanism. There is no provision that would require the utility district to participate in this program.

2. If a utility customer refused to pay the additional fee, the county would have to initiate collection measures. The utility could not be disconnected for nonpayment of the fire fee.

3. For parcels without utilities, a direct bill would have to be initiated by the county. This cannot be placed on or with the tax bill from the County Trustee's office.

4. In counties where there are multiple utility districts, the likelihood that all districts would cooperate to collect the fee in the same manner is unlikely and would create a challenge for the accounting of the revenue.

Sports Gaming Privilege Tax Revenue

T.C.A. § 4-49-104 (e)(2) provides that local governments must allocate revenue received from the Sports Gaming Privilege Tax to fund emergency services or local infrastructure projects. This is a relatively new revenue stream that is available to offset some of the expenditure for emergency services.

Non-Profit Volunteer Fire Departments

As stated previously, T.C.A. § 5-9-101(23) allows the county to make a monetary donation to any not-for-profit volunteer fire department that has been registered with the Secretary of State as a not-for-profit organization and duly recognized by the State Fire Marshal's Office in accordance with Fire Department Recognition Act in T.C.A. § 68-102-301 *et seq*.

Under T.C.A. § 12-3-1010 a county may purchase fire equipment with general county funds and then transfer that equipment to a privately chartered not-for-profit fire department. However, the county cannot purchase the property with general obligation debt and then transfer it to the fire department. If the property is financed, the county would have to own and operate the equipment in its own fire department. (Attorney General's Opinion 07-87).

Recommendations

As with all planning processes for emergency services, actions need to be taken on a pro-active basis to avoid system failures during times of critical need. The support given to the independent volunteer fire and rescue departments from Hamilton County has been innovative in many ways. It is imperative that the county and emergency services officials prepare for and take appropriate action to ensure that there are adequate services, personnel, training, and equipment in place for the future needs of the citizens and visitors of Hamilton County.

Growth will create stresses on systems that at times are already in a delicate balance of funding, availability of staff, and dynamically changing communities. It is important that a "systems thinking" approach be adopted to look at the fire and rescue needs as a whole and not just through the lenses of the individual departments. This will likely create changes to the organizational structure of emergency services in the county. Below are recommendations that should be considered when evaluating the vision for fire and rescue capabilities in the county.

Facilities/ Response Coverage

The existing location of the fire stations serving the unincorporated portion of Hamilton County provides adequate coverage except in some critical areas such as the Hunter Road area of Highway 58 district and the southwest portion of the county as indicated in Appendix 4. Less than 4 percent of the structures in the study area of the existing fire response zones are located more than five driving miles from a station. While this is well above the average coverage areas of most counties in Tennessee, there are a few recommendations to consider for future planning.

An option to consider for improving current coverage is to evaluate the feasibility of direct automatic aid from existing departments, such as municipal departments in the county. One example is the area to the south and west of the Signal Mountain Fire Department zone could be covered from their existing stations to a maximum of five driving miles and not affect their current ISO ratings. This would improve the response time and reliability of coverage to the structures located in that area.

With the projected population growth in the Tri-Community VFD (33.1%), Sale Creek VFRD (26.4%), and Highway 58 VFD (20.1%) over the next 25 years, the number of structures that are located beyond the five driving mile zones will increase. This will need to be addressed with additional stations in those areas.

Any new or replacement fire station designed should be constructed in a manner that is consistent with a "hardened critical infrastructure" facility given the county's vulnerability to natural hazards. This would include, but not limited to, electrical back-up generators, increased wind and earthquake resistance, redundant systems of communications and internet connectivity. Additional features such as access control and physical hardening should be incorporated into the design.

Facilities should be designed with a lifespan of at least 50 years and can be utilized as public safety facilities that would accommodate emergency medical response vehicles and staff, along with law enforcement, emergency management, and/ or rescue equipment and personnel over the life of the facility.

The design specifications for the most recently constructed fire stations for Sale Creek VFD and Waldens Ridge Emergency Services are not needed in all satellite areas. In most facilities, apparatus bay space should be planned for a rescue engine/ pumper, water tender, and ambulance (for the ability to co-locate with emergency medical services). Depending upon risk and response areas, an additional bay should be

constructed for specialized apparatus, such as ladder trucks, heavy rescue, wildland/ brush truck, and/ or a service vehicle.

As noted in Table 1, fire stations that are not capable of providing 24-hour staffing, should be considered for renovation or replacement. Many of the facilities labeled “Facility Capable of 24-hour Coverage” will need renovation for consistent 24-hour usage. It is not recommended to replace Sale Creek VFRD Station 2 due to its proximity to Sale Creek VFRD Station 1 and the overlapping coverage areas with other facilities.

Apparatus and Equipment

As noted previously, this study was not focused on the individual apparatus operated by each existing volunteer fire department. A search of open media sources did identify overlaps of apparatus due to each department’s focus on its response area. It is important to plan and prepare for apparatus replacement. This should include a countywide approach to the hazards identified across the county with standardization of apparatus and equipment (self-contained breathing apparatus, turn-out gear, etc.) to reduce overall costs.

It is recommended that the county and volunteer fire departments develop a fire department vehicle replacement schedule and appropriate funding to ensure reliable fire equipment that meets modern safety requirements and community risks/ service demands.

Organizational

The organization model of the fire service in Hamilton will dictate the options available for improved service delivery and funding. Many areas that could be evaluated further, such as response staffing (number of personnel arriving per apparatus), training levels, and other administrative reporting criteria will require a common records management system that all departments/ stations utilize. It is recommended that all departments and the county OEM migrate to a single platform system for current and future advanced analytics capability.

While the county does provide support services (training, fire prevention, and other services) to the volunteer fire departments as noted in this report, the fire and rescue departments are governed independently by individual boards of directors. The independent fire and rescue department model is common in most areas across the state. The increase of population and construction, changes of community demographics, availability of personnel, challenges with recruitment and retention of volunteers from a defined geographic area, and limited voluntary fund-raising activities are causing many counties to re-evaluate the current provisions of emergency services.

The main options are:

1. Independent Fire and Rescue Departments- This would be maintaining the status quo in operation today or a consolidation of two or more volunteer organizations that remain independent from the county.
2. Countywide Fire Department (hybrid)- A countywide fire department created by resolution of the Hamilton County legislative body with contractual agreements in place with the existing volunteer departments and/ or municipal fire service agencies to provide coverage of the entire unincorporated portion of the county. The hybrid countywide fire department can be a transition model from the existing independent agencies to a single agency or system with multiple stations. A hybrid countywide department typically consists of a combination of county owned and operated

facilities and contracted response areas to provide services in the unincorporated portion of the county.

3. Countywide Fire Department-Single County operated fire department, outside the municipalities, with multiple stations.
4. Urban Type Public Facilities- Like countywide fire department with different funding options. (See funding section).

Options two and three follow T.C.A. § 5-17-101 *et seq* and option four follows T.C.A. § 5-16-101(b)(2) *et seq.*

Personnel

Fire department staffing is the most critical function within the fire protection delivery system. Traditionally, in Hamilton County and across the nation in rural communities, volunteers have provided most of the firefighting and rescue staffing capabilities. In recent years, the ability to recruit and retain volunteers, along with a consistently available pool of volunteers is becoming much more difficult to maintain. To counter the decreasing number of available volunteer personnel, communities are looking to augment staffing with paid personnel.

Paid staffing can consist of part-time and/ or full-time personnel. Most communities looking to add paid personnel will develop a transition plan, generally starting with career personnel operating during the most critical times of reduced availability of volunteer staff. Shifts are often scheduled for 8, 10, or 12 hours, with the goal of eventually providing 24-hour coverage.

It is recommended that Hamilton County develop short- and long-term plans for paid staffing to augment the volunteer personnel available in the county. The most immediate need would be to ensure adequate daytime coverage during the times of highest incident volume and lowest availability of volunteer personnel (daytime hours during the week). This will provide for a more consistent response to incidents, reduce response times, and ensure a minimum number of personnel are available during critical times when volunteers may not be available.

We recommend that the career firefighting personnel obtain the following minimum certifications through the Tennessee Firefighting Commission for the level to which they are hired:

- Firefighter- Firefighter I and II
- Driver/ Engineer- Driver/ Apparatus Operator
- Shift Commander- Fire Officer I and II, Fire Instructor I and II

In addition, all personnel should obtain the appropriate National Incident Management System- Incident Command (ICS) training, basic/ advanced vehicle rescue training, hazardous materials operations, and at a minimum Emergency Medical Technician- Basic or Advanced (preferred) licensure. As these positions would be newly created, some of the personnel may not have all the required training and certifications. A reasonable period should be set for obtaining the appropriate training and certifications.

The hiring of the career personnel would necessitate the county enacting a resolution creating the Hamilton County Fire Department. The structure of which could be a single countywide agency, outside the municipalities or may be a hybrid model of a contractual agreement in place with the existing volunteer departments with or without county operated first due station(s). The contractual agreement or a separate Memorandum of Understanding (MOU) would need to be created to provide liability

protection for the county's employees operating apparatus/ equipment owned by the volunteer departments.

It is important to note that the Fair Labors Standards Act (FLSA) does not allow paid personnel (full or part-time) to volunteer for the same agency that they are employed. A contractual relationship between the county and an existing non-profit volunteer department would constitute the same agency relationship.

Water Supply

Water supply is a critical factor in the community's fire protection system. As mentioned in the ISO section, it is 40 percent of the total Fire Protection Rating Schedule. The county must take a comprehensive approach to providing adequate water supplies for fire protection. The water supply strategy needs to include:

- Continued enforcement of subdivision regulations and fire prevention code requirements for needed fire flow availability in new construction projects.
- Properly sized water mains and fire hydrant distribution. This includes planning regulations, codes enforcement, and support from the independent water purveyors operating in the county.
- Retroactive fire hydrant installation in key areas to reduce distances for water tender shuttle operations (minimum size of 6" water main is required).
- Cooperation between the private utility districts and fire departments to ensure that all the fire hydrants are flow tested on a regular basis and that any hydrants needing repaired or replaced are serviced in a timely manner.
- Maintaining or increasing the number of firefighting water tenders distributed throughout the county.
- Identification of natural and manufactured water drafting locations to reduce water shuttle distances.
- Placement of dry hydrants where appropriate to increase access to water supplies.
- Require pump test of apparatus to be completed on an annual basis and submit documentation of testing and applicable personnel's apparatus driving/ operations training to OEM.

Funding

The county currently contributes around $3 million per year to the volunteer fire and rescue departments. This is a significant investment, with little operational control of the services provided. As the county continues to grow, equipment and infrastructure needs to be replaced or added, and personnel will need to be hired. The funding model will need to be re-evaluated to remain viable and accountability measures (reporting requirements, minimum training standards, standardization, etc.) put in place as a contingency of receiving funding. The funding section of this report identifies the options that are currently in place as provided by state statute.

Summary

Tri-Star was requested to conduct an evaluation of the fire and rescue infrastructure of Hamilton County. The scope of the study was an evaluation of the demographic and response characteristics of fire departments operating in the unincorporated areas of Hamilton County, Tennessee, including:

- Current levels of fire protection service and identification of future needs based on planning projections.
- Geographic coverage and performance of individual fire station locations in terms of response time (turnout and travel time to scene).
- Statistically significant areas of response time differences.
- Areas of greatest density of demand and coverage gaps.
- Current staffing levels and alternative staffing models to address projected demographic changes and growth projections.
- Multi-year incident data and classification by incident type and characteristics of response time by time of day and day of week.
- Geographic areas of growth trends by station based on building permit location and other development activity.

The volunteer fire service in Hamilton County has provided a solid history of quality service and dedication to the community over the years. The county provides a significant amount of financial support and other services to the independent fire and rescue departments. Hamilton County, like most communities across the state and nation, is experiencing a decline in available volunteers to provide the needed fire and rescue services 24 hours a day, seven days a week.

Eight volunteer fire departments in the county serve the entire unincorporated population of Hamilton County (111,734 in the 2020 Census) as well as the cities and towns of Collegedale, Lakesite, and Walden. In total, the area served is slightly over one-third of the Hamilton County population tabulated in the 2020 census. The highest concentration of population is near Chattanooga on the western border of Tri-Community VFD 5, in the Highway 58 VFD 1 zone, and Dallas Bay VFD 1.

The Tri-Community VFD has the largest portion of population (39%) and E-911 addresses (34%) in the VFD coverage area, followed by the Highway 58 VFD, and the Dallas Bay VFD (Table 16). The Tri-Community VFD is estimated to have the highest population growth by 2050 (33%) followed by the Sale Creek VFRD (26%). The Dallas Bay VFD and the Highway 58 VFD are both estimated to grow about 20 percent, while the lower population districts Flat Top VFD, Mowbray VFD, and Waldens Ridge ES are not projected to have high population growth relevant to their current levels.

Table 16. Summary of Population and Area by VFD

				Percent of Total VFD Area			
	Pop. (2020)	Sq Mi	Pop. per Sq Mile	Pop (2020)	Square Miles	County VFD Budget (2024)	E-911 Addresses
Dallas Bay VFD	24,792	28.1	883	19.9%	7.5%	19.6%	20.9%
Flat Top VFD	561	17.3	32	0.5%	4.6%	3.7%	0.6%
Highway 58 VFD	31,832	100.7	316	25.6%	26.9%	23.0%	27.5%
Mowbray VFD	1,705	22.0	77	1.4%	5.9%	5.1%	1.7%
Sale Creek VFRD	7,997	82.7	97	6.4%	22.1%	10.0%	7.6%
Sequoyah VFD	2,375	23.5	101	1.9%	6.3%	4.0%	2.2%
Tri-Community VFD	48,732	65.3	746	39.1%	17.4%	28.0%	33.9%
Waldens Ridge ES	6,528	35.0	186	5.2%	9.3%	6.6%	5.6%
Total VFD	124,522	374.6	332	100%	100%	100%	100%

An analysis of building permit activity (Table 17) shows that the Tri-Community VFD accounts for the highest percentage of all building permits issued in the last five years (44%), followed by the Highway 58 VFD (20%) and the Dallas Bay VFD (16%). The highest percentage of residential building permits within each VFD is the Sequoyah VFD (96%) and the lowest in the Dallas Bay VFD and the Mowbray VFD districts (87%). When the number of new construction permits is rated against the number of existing buildings, the Flat Top VFD has the highest rate of new construction (24%), followed by Sale Creek VFRD (14%) and the Tri-Community VFD (13%).

Table 17. Building Permit Activity by VFD

				Number by Category				
	Total No.	% of VFD Area	% Residential within VFD	AAR	Demo	New	Other	New Construction Rate
Dallas Bay VFD	1,435	15.6%	87.2%	667	38	661	69	6.5%
Flat Top VFD	92	1.0%	92.4%	26		65	1	23.8%
Highway 58 VFD	1,856	20.1%	90.6%	693	32	1,047	84	7.6%
Mowbray VFD	143	1.6%	87.4%	58	8	69	8	9.5%
Sale Creek VFRD	798	8.7%	92.6%	242	17	522	17	14.4%
Sequoyah VFD	188	2.0%	95.7%	57	4	126	1	2.4%
Tri-Community VFD	4,083	44.3%	87.6%	1520	140	2,294	129	12.9%
Waldens Ridge ES	623	6.8%	90.4%	269	13	313	28	11.1%

Individual building characteristics are a factor in fire risk planning. Table 18 identifies the number of buildings, median year built, median square feet, wall material percentage and land use class by fire department area.

Table 18. Summary of Building Characteristics by VFD

				Wall Material % Total in Dept			Land Use Class % Total in Dept		
	No. Bldgs	Median Year Built	Median Sq ft	Vinyl	Wood Frame	Brick	Comm	Residential	Multi Family
Dallas Bay VFD	10,198	1984	1,866	35.2%	41.3%	12.1%	2.5%	94.9%	1.5%
Flat Top VFD	273	2003	2,146	39.6%	22.7%	12.1%	2.6%	79.5%	0.0%
Highway 58 VFD	13,777	1995	1,892	37.2%	34.1%	15.4%	1.0%	92.6%	1.4%
Mowbray VFD	731	1995	1,876	41.4%	27.1%	16.3%	0.7%	88.4%	0.0%
Sale Creek VFRD	3,616	1997	1,862	42.8%	29.7%	9.1%	2.9%	88.9%	0.1%
Sequoyah VFD	989	1996	1,782	46.9%	28.3%	9.4%	0.6%	97.1%	0.2%
Tri-Community VFD	17,760	1994	2,261	24.9%	31.9%	19.8%	2.9%	91.8%	1.8%
Waldens Ridge ES	2,819	1987	2,552	14.1%	47.0%	13.4%	3.1%	91.1%	1.6%

While the median square feet of the buildings are important planning factors, there is a trend to build larger and closer homes in certain areas. This requires continuous evaluation by the fire department administration to ensure proper response and apparatus assignment plans are developed prior to an incident occurring.

The VFDs in Hamilton County benefit significantly from the dispatch services and reporting system of a single unified 9-1-1. Table 19 summarizes the number and type of incidents within each fire departments zone. Medically related incidents were more prevalent than any other category, accounting for nearly 70 percent of all recorded, followed by service calls (10%), alarms (8%) and fires (6%). Based on an annual average number of incidents using the last three years of incident data, the incident rate per 1,000 residents is highest in the Sale Creek VFRD (127) and the Mowbray VFD (122) compared to a rate of 104 for residents across all VFDs. The incident rate per 1,000 is the lowest in the Walden Ridge ES (81).

Table 19. E-911 Incident Categories by VFD

	Alarm	Fire	Hazard	Medic	MVA	Rescue	Service	Total for VFD	% of All VFD	Rate/1,000 Pop
Dallas Bay VFD	430	415	246	4,936	253	30	862	7,172	18.5%	96
Flat Top VFD	14	25	5	113	34	2	8	201	0.5%	119
Highway 58 VFD	734	520	238	6,485	354	50	845	9,226	23.8%	97
Mowbray VFD	19	54	37	422	24	15	52	623	1.6%	122
Sale Creek VFRD	180	244	100	2,048	91	15	367	3,045	7.8%	127
Sequoyah VFD	42	42	31	450	16	2	84	667	1.7%	94
Tri-Community VFD	1,476	771	426	11,224	901	95	1,378	16,271	41.9%	111
Waldens Ridge ES	134	150	112	904	83	27	182	1,592	4.1%	81
Total	3,029	2,221	1,195	26,582	1,756	236	3,778	38,797	100%	104

With only a few exceptions, the placement of stations for VFD service area coverage is particularly good for a suburban and rural region. Approximately 96 percent of E-911 addresses are within five miles of a fire station and 97 percent of these addresses within 10 minutes driving time from a fire station. (This does not include the areas highlighted in Appendix 4 without fire response coverage assigned.) Driving time and distance is most favorable for the denser population and higher road connectivity of response areas adjoining Chattanooga. Almost 79 percent of addresses are within 5 minutes of fire stations in the Dallas Bay VFD, while only 31 percent are within five minutes of the Flat Top VFD fire station. The Flat Top VFD, Mowbray VFD and the Waldens Ridge VFD have larger percentages of addresses beyond a 10- minute driving time. The densest cluster of addresses and buildings beyond five miles driving distance and 10 minutes driving time are in the eastern section of the Highway 58 VFD 1 response area. More dispersed but similar total numbers of addresses beyond 10 minutes are in the Highway 58 VFD 3 area, the Sale Creek VFRD, and the Waldens Ridge ES.

As indicated in the "Facilities/ Response Coverage" section of the Recommendations, a fire station is needed in the Hunter Road area of Highway 58's district. Automatic aid agreements should be considered with the municipalities to improve overall coverage of structures that are outside the five mile driving distances of the volunteer departments.

Table 20. Driving Distance and Driving Time from Fire Stations by VFD

	Driving Distance (Miles)				Modeled Driving Time (Minutes)			
	<=1.5	>1.5 - 2.5	>2.5 - 5.0	>5	0 - 5	5 - 7	7 - 10	>10
Dallas Bay VFD	37.8%	40.2%	21.6%	0.5%	78.6%	11.8%	7.2%	2.4%
Flat Top VFD	23.2%	9.6%	34.8%	32.3%	30.6%	17.5%	26.9%	24.9%
Highway 58 VFD	14.3%	26.0%	50.7%	9.1%	48.1%	23.9%	24.8%	3.3%
Mowbray VFD	25.4%	31.9%	40.5%	2.2%	39.2%	23.0%	21.2%	16.6%
Sale Creek VFRD	24.7%	10.4%	59.9%	5.0%	43.4%	21.0%	31.8%	3.9%
Sequoyah VFD	35.3%	50.7%	14.0%	0.0%	74.3%	16.2%	8.8%	0.7%
Tri-Community VFD	27.4%	33.0%	39.5%	0.1%	56.1%	27.6%	15.5%	0.9%
Waldens Ridge ES	30.3%	25.2%	37.4%	7.1%	61.7%	8.5%	21.6%	8.2%

While travel time is a key component in response time, call processing and turnout times are also significant factors. The median call processing time for incidents dispatched to VFDs is 62 seconds. Turnout times to assemble crews and apparatus are lowest for incidents in the Dallas Bay VFD, with 90 percent of incidents recorded as enroute within 3.4 minutes. Tri-Community VFD 90th percentile times range from 4.6 to 5.2 minutes for all stations in that VFD. The Sequoyah VFD and the Mowbray VFD report 90 percent of calls are enroute within about 6 minutes of dispatch. Waldens Ridge ES, Flat Top VFD, and Highway 58 VFD record longer times. In comparison to some of the municipalities, Signal Mountain FD's median turn-out time is 1 minute, and Soddy-Daisy FD's is 1.4 minutes.

The incident time of day is one of the most significant factors in response time. Slightly over one-third of calls in the VFD service area are received between noon and 6 pm, with about a quarter occurring in both the 6 am to noon and the 6pm to midnight time periods. Approximately 12 percent of calls occur between midnight and 6 am, the period in which the median response time is longest in all VFDs.

The combined turnout and travel times by VFD are summarized in Table 21. The 90th percentile response time in minutes from the time an incident is first assigned to the time of first unit arrival for urgent emergency calls ranges from 23.5 minutes in the Waldens Ridge ES and 20.3 minutes in the Flat Top VFD to 13.4 minutes in the Dallas Bay VFD and 13.8 minutes in the Mowbray VFD. For medically related incidents, 90th percentile response times range from 19.7 minutes in the Walden Ridge ES and 18.2 minutes in the Flat Top VFD to 13.3 minutes in the Dallas Bay VFD and 13.6 minutes in the Tri-Community VFD. The 90th percentile response time for fire related incidents is fastest in the Tri-Community VFD (13.4) and the Dallas Bay VFD (14.8). The 90th percentile response time to fires in other VFDs is about 19 minutes, with Waldens Ridge ES slower at 24.8 minutes. It should be noted that smaller VFDs have lower numbers of incidents and their calculated times are more subject to outlier values.

The median response time for fire incidents by Chattanooga FD is 5.2 minutes and the 90th percentile response time to is 8.6 minutes. The median response time to fire incidents in the county ranges from 8.1 minutes in Tri-Community VFD to 15.1 minutes in Walden Ridge ES response zone (Table 21). Figure 38 provides a deeper analysis by station to Signal Mountain, Soddy-Daisy, and each of the volunteer departments' response zones.

Table 21. Median and 90th Percentile Response Times in Minutes by VFD

	All Incidents		Alarm		Fire		Medical		MVA	
	Median	90th	Median	90th	Median	90th	Median	90th	Median	90th
Dallas Bay VFD	7.9	13.4	7.8	14.6	8.7	14.8	8.0	13.3	5.5	9.9
Flat Top VFD	13.3	20.3	*	*	10.8	19.8	12.4	18.2	13.5	17.3
Highway 58 VFD	10.3	17.9	13.0	22.4	10.8	19.4	10.2	17.1	8.1	13.2
Mowbray VFD	7.9	13.8	*	*	9.6	19.9	7.7	12.7	7.2	8.7
Sale Creek VFRD	11.0	18.4	12.4	23.7	10.4	19.0	11.5	18.0	7.2	11.6
Sequoyah VFD	11.5	18.7	14.8	24.9	10.9	19.6	11.5	17.4	6.7	8.6
Tri-Community VFD	8.1	13.8	8.7	15.3	8.1	13.4	8.0	13.6	6.6	11.0
Waldens Ridge ES	12.2	23.5	13.5	24.6	15.1	24.8	11.7	19.7	11.3	19.3

*Insufficient data

The Recommendations section of this report outlines several actions that should be considered as short- and long-term planning and action items. Reliability of service and availability of personnel should be of highest priority when developing the plans. The volunteer departments often have minimal staff available to respond and most fire responses rely on mutual aid from other volunteer and municipal departments, to have an adequate response.

Regardless of the course(s) of action chosen, it is imperative that the fire and rescue departments, along with the county officials actively participate in developing strategic plans to address current gaps and the inevitable challenges that come with population growth and demographic changes that are currently impacting the county and will continue to increase in the coming years.

Appendix 1. Facilities

Dallas Bay VFD Station #1

7525 Middle Valley Road

Dallas Bay VFD Station #2

6918 Levi Road

Dallas Bay VFD Station #3

6918 Levi Road

Highway 58 VFD
Station # 1

5402 Hwy 58

Highway 58 VFD
Station # 2

9018 Career Lane

Highway 58 VFD Station # 3

13340 Birchwood Pike

Highway 58 VFD Station # 4

10916 Hwy 58

Highway 58
VFD
Station # 5

6209 Cooley Rd.

Flat Top VFD
Station #1
13341 Jones Gap Road

Mowbray VFD
Station # 1

1705 Mowbray Pike

Sale Creek
Fire and Rescue
Station # 1

14828 Dayton Pike

Sale Creek Fire and Rescue Station # 2

15021 Back Valley Rd

Sale Creek Fire and Rescue Station # 3

13535 Mount Tabor Rd

Sale Creek Fire and Rescue Station # 4

15396 May Road

Sale Creek Fire and Rescue Station # 5

14705 Dayton Pike (Maintenance Facility)

Sequoyah VFD Station # 1

2001 Green Pond Road

Tri Community VFD Station # 1

9755 Sanborn Drive

Tri Community VFD Station # 2

7230 Mountain View Rd

Tri Community VFD Station # 3

11115 Park Place

Tri Community VFD Station # 4

9515 Lee Highway

Tri Community VFD Station # 5

8327 Standifer Gap

Waldens Ridge Emergency Services Station # 1

2100 Taft Hwy

Waldens Ridge Emergency Services Station # 2

7339 Sawyer Rd

Appendix 2. Incident Categories

Problem	Analysis Category
ABDPN-Abdominal Pain	Medical
ACC1-MVC Injuries	MVA
ACC3-MVC Unknown Injuries	Medical
ACC4-MVC Entrapment	MVA
ACC5-MVC Mass Casualty	MVA
ACTIVE-Active Assailant	Other
AFAAPT-AFA Apartment	Alarm
AFACOM-AFA Commercial	Alarm
AFADORM-AFA Dormitory	Alarm
AFAGAS - AFA Gas Detected	Alarm
AFAHIRIS-AFA High-Rise	Alarm
AFAHOSP-AFA Hospital	Alarm
AFAHOTEL-AFA Hotel/Motel	Alarm
AFAMAN-AFA Manufacturing	Alarm
AFANURS-AFA Nursing Home	Alarm
AFARES-AFA Residential	Alarm
AFASCHOOL-AFA School	Alarm
AIRCRA-Aircraft Crash	Rescue
AL2HW Alert 2 Heavy	Rescue
ALAMED-Alarm Medical	Medical
ALLERGIC-Allergic Reaction	Medical
AMPU-Amputation	Medical
ANSBT-Animal Bite	Medical
ASSLT-Assault EMS Needed	Medical
AWOBST-Airway Obstruction	Medical
BABY-Baby Delivery	Medical
BACKPN-Back Pain	Medical
BLEEDING-Bleeding	Medical
BOLO	Other
BOMBREC-Bomb Recovery	Hazard

Problem	Analysis Category
BOMTHR-Bomb Threat	Hazard
BURN-Burn Victim	Medical
CARARR-Cardiac Arrest	Medical
CARBON-Carbon Monoxide Alarm	Alarm
CAVMRS-Cave Rescue	Rescue
CHESTPN-Chest Pain	Medical
CHILOC-Child Locked in Vehicle	Rescue
CHIMNEY-Chimney Fire	Fire
COLLINJ-Collapse Injury/ Entrap	Rescue
COLLUNK-Collapse Unknown Injury	Rescue
COLLUNOC-Collapse Unoccupied	Rescue
CPR-CPR In Progress	Medical
CSPENT - Confined Space Entry	Rescue
DIABET-Diabetic Emergency	Medical
DIFFBR-Difficulty Breathing	Medical
DOA	Medical
DROWN-Drowning	Medical
DRUGOD-Drug Overdose	Medical
ELEEMR-Elevator Emergency	Rescue
ELESH-Electric Shock Victim	Medical
EMERG-Responder in Trouble	Other
EXPLO-Explosion	Hazard
EXPOSURE-Exposure Heat/ Cold	Medical
EYEINJ-Eye Injury	Medical
FALARM-Fire Alarm Remote PSAPS	Alarm
FALL-Fall Victim	Medical
FALLHI-High Fall Victim	Medical
FAPT-Apartment Fire	Fire
FASCIT-Fire Assist Citizen	Service
FASEMS-Fire Assist EMS	Medical
FASPOL-Fire Assist PD	Service
FCOM-Commercial Fire	Fire
FDRILL-Drill for Fire	Alarm
FDUMPS-Dumpster Fire	Fire
FFARM-Farm Structure Fire	Fire

Problem	Analysis Category
FGRASS-Brush Fire	Fire
FHIRIS-High Rise Fire	Fire
FLOOD-Flooding	Rescue
FMUAID-Fire Mutual Aid	Fire
FNURSE-Nursing Home Fire	Fire
FOW-Fire Out With (SIA)	Medical
FRAIL-Railroad Equipment Fire	Fire
FRES-Residential Fire	Fire
FROAD-Vehicle Fire	Fire
FSCHOOL-School Fire	Fire
FSPAS-Fire Special Assign	Fire
FSTILL-Fire Still Alarm	Fire
FTEST-Fire Test Call	NA
FTRASH-Trash Fire	Fire
FUNK-Unknown Fire	Fire
FWATER-Watercraft /Boat Fire	Fire
FWOODS-Woods Fire	Fire
GAS-Gas Leak	Hazard
HAZMAT-Haz-Mat Incident	Hazard
HAZPAK-Hazardous Package	Hazard
HEADPN-Head Pain	Medical
HEART-Heart Problems	Medical
HELPF-Help Fire in Trouble	Other
HIGHANGLE-High Angle Rescue	Rescue
HYDRAN-Hydrant Status	NA
INGEST-Ingestion or Poisoning	Medical
INHAL-Inhalation Injury	Medical
LZMAN-LZ Management	Other
MACHINERY-Industry/Machine Acc	Rescue
NULL	NA
ODORINVES-Odor Investigation	Service
PEDSTK-Pedestrian Struck	Medical
PREG-Pregnancy Emergency	Medical
PSYCH-Psychiatric Emergency	Medical
REHAB-Rehab Truck Response	Medical

Problem	Analysis Category
SEARCH-Search	Rescue
SEIZE-Seizure	Medical
SEXMED-Sexual Assault	Medical
SHOOT-Shooting/Person Shot	Medical
SICK-Sick Person	Medical
SIREN-Sequoyah Siren	NA
SMOKEINVES-Smoke Investigation	Service
SPILL-Spill	Hazard
SPRINK-Sprinkler Status	NA
STAB-Stabbing	Medical
STAGING-Staging	NA
STREET-Street Status	NA
STROKE-Stroke	Medical
SUIATT-Suicide Attempt	Medical
SUICID-Suicide	Medical
TAZED-Person Tazed	Medical
TRAUMA-Traumatic Injury	Medical
TRENCH-Trench Collapse	Rescue
UNCONC-Unconscious Person	Medical
UNKMED-Unknown Medical	Medical
WIRES-Wires Down	Hazard
WWARN-Weather Warning	NA
WWATCH-Weather Watch	NA

Appendix 3. ISO Grading Criteria

ISO Survey Criteria	Points
Emergency Communications	
Emergency reporting: ISO will credit basic 9-1-1 or Enhanced 9-1-1. Other items evaluated include E9-1-1 wireless, voice over Internet>Protocol (VoIP), and computer-aided dispatch (CAD).	3
Telecommunicators: ISO credits the performance of the telecommunicators in accordance with the general criteria of NFPA 1221, *Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems*. We also credit emergency dispatch protocols and the telecommunicators' training and certification programs.	4
Dispatch circuits: ISO credits the number and type of dispatch circuits in accordance with the general criteria in NFPA 1221.	3
Emergency Communications Total	**10**
Fire Department	
Engine companies: ISO compares the number of in-service pumpers and the equipment carried with the number of needed pumpers and the equipment identified in the FSRS. The number of needed engines depends on the basic fire flow, the size of the area served, and the method of operation.	6
Reserve pumpers: ISO evaluates the number of reserve pumpers and their pump capacity; other factors include hose and equipment carried.	0.5
Pump capacity: ISO compares the pump capacity of the in-service and reserve pumpers (and pumps on other apparatus) with the basic fire flow. ISO considers a maximum basic fire flow of 3,500 gpm.	3
Ladder/service companies: Communities use ladders, tools, and equipment normally carried on ladder trucks for ladder operations, as well as for forcible entry, utility shut-off, ventilation, salvage, overhaul, and lighting. The number and type of apparatus depend on the height of the buildings, needed fire flow, and size of the area served.	4
Reserve ladder/service trucks: ISO evaluates the number of reserve ladder/service trucks and the equipment they carry.	0.5

Deployment analysis: ISO credits the percentage of the community within specified response distances of pumpers (1.5 miles) and ladder/service apparatus (2.5 miles). As an alternative, a fire protection area may use the results of a systemic performance evaluation. That type of evaluation analyzes CAD history to demonstrate that, with its current deployment of companies, the fire department meets the time constraints for initial arriving engine and initial full-alarm assignment. The timing is in accordance with the general criteria in NFPA 1710, *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments*.	10
Personnel: ISO credits the personnel available to respond to first alarms for structure fires. For personnel not normally in the fire station (on-call and off-duty members), ISO reduces credit for the responding members to reflect the time needed for notification, travel, and assembly on the fireground. ISO then applies an upper limit for the credit for personnel because it is impractical for a large number of personnel to operate a piece of apparatus.	15
Training: Trained personnel are vital to a competent fire suppression force. ISO evaluates training facilities and their use; company training at fire stations; training and certification of fire officers; driver/operator, hazardous materials, and recruit training; and building familiarization and pre-incident planning inspections.	9
Operational considerations: ISO credits the standard operating procedures for structure firefighting and the establishment of an incident management system.	2
Fire Department Total	**50**
Water Supply	
Supply system: ISO compares the available water supply at representative community locations with the needed fire flows for those locations. The supply works, water main capacity, or fire hydrant distribution may limit the available supply.	30
Hydrant size, type, and installation: ISO evaluates the design and installation of fire hydrants.	3
Inspection and fire flow testing of hydrants: ISO evaluates the frequency and completeness of fire hydrant inspections and the flow-testing program, which can include the use of calibrated hydraulic molding. ISO also includes credit for hydrant marking.	7
Water Supply Total	**40**

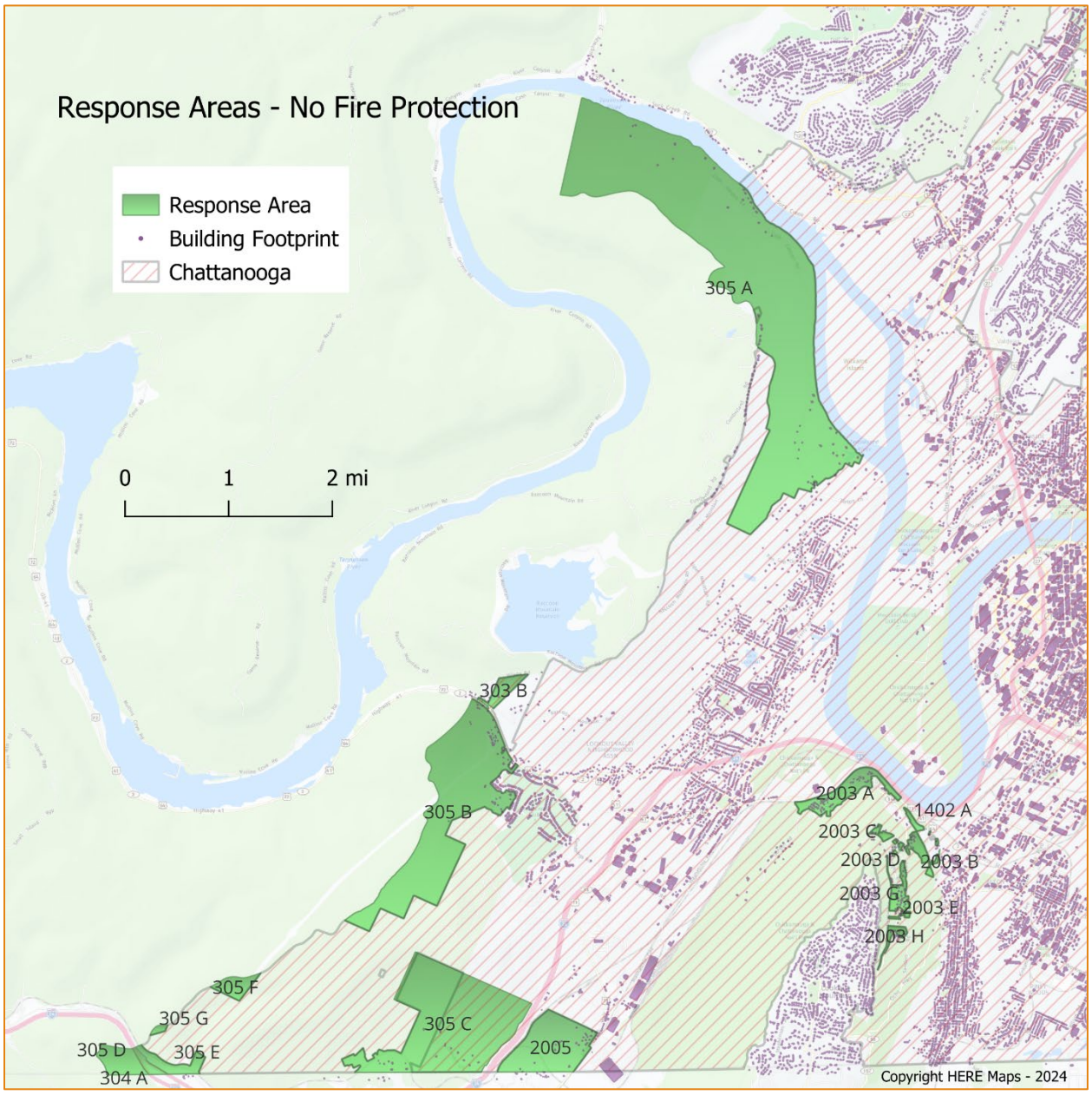
Community Risk Reduction

Fire prevention code adoption and enforcement: This section assesses the Fire Prevention Code adoption and enforcement capabilities of a community. Items evaluated include adoption and maintenance of one of the model codes; number and qualifications of fire prevention personnel, including certification and continuing education; and fire prevention programs, such as plan review, certificate of occupancy inspections, quality control, code compliance, inspection of private fire protection equipment, fire prevention ordinances, and coordination with fire department training and pre-incident planning activities.	2.2
Public fire safety education: ISO evaluates the existence of a fire safety education program; the qualifications, training, and certifications of public fire safety educators; and the activities of the various public fire safety education programs, such as residential fire safety programs, fire safety education in schools, juvenile fire-setter education programs, and fire safety education in occupancies with large loss potential or hazardous conditions.	2.2
Fire investigation: This section examines the fire investigation activities of a community and is based on establishing authority to conduct and enforce fire investigations, the number and qualifications of fire investigators, the activities of the fire investigation staff, and the use of the National Fire Incident Reporting System.	1.1
Community Risk Reduction Total	**5.5**
Survey Total	**105.5**

Divergence

Divergence: Even the best fire department will be less than fully effective if it has an inadequate water supply. Similarly, even a superior water supply will be less than fully effective if the fire department lacks the equipment, personnel, or operational considerations to use the water. If the relative scores for fire department and water supply are different, ISO adjusts the total score downward to reflect the limiting effect of the less adequate item on the better one.

Appendix 4. Map of Areas without Fire Protection



VILLAGE CENTER

at Apison Pike & Old Lee Highway

existing commercial building

proposed commercial building

proposed multi-family

PLACEMAKING

- (A) pocket parks, plazas, outdoor seating
- (B) playgrounds, gathering areas, community gardens
- (C) locations for project identification or community wayfinding signage

DENSITY

- (D) encourage missing middle multifamily residential (8-16 units per building)
- (E) new buildings with parking mainly located to the rear and sides
- (F) proposed commercial infill
- (G) proposed residential infill

PEDESTRIAN IMPROVEMENTS

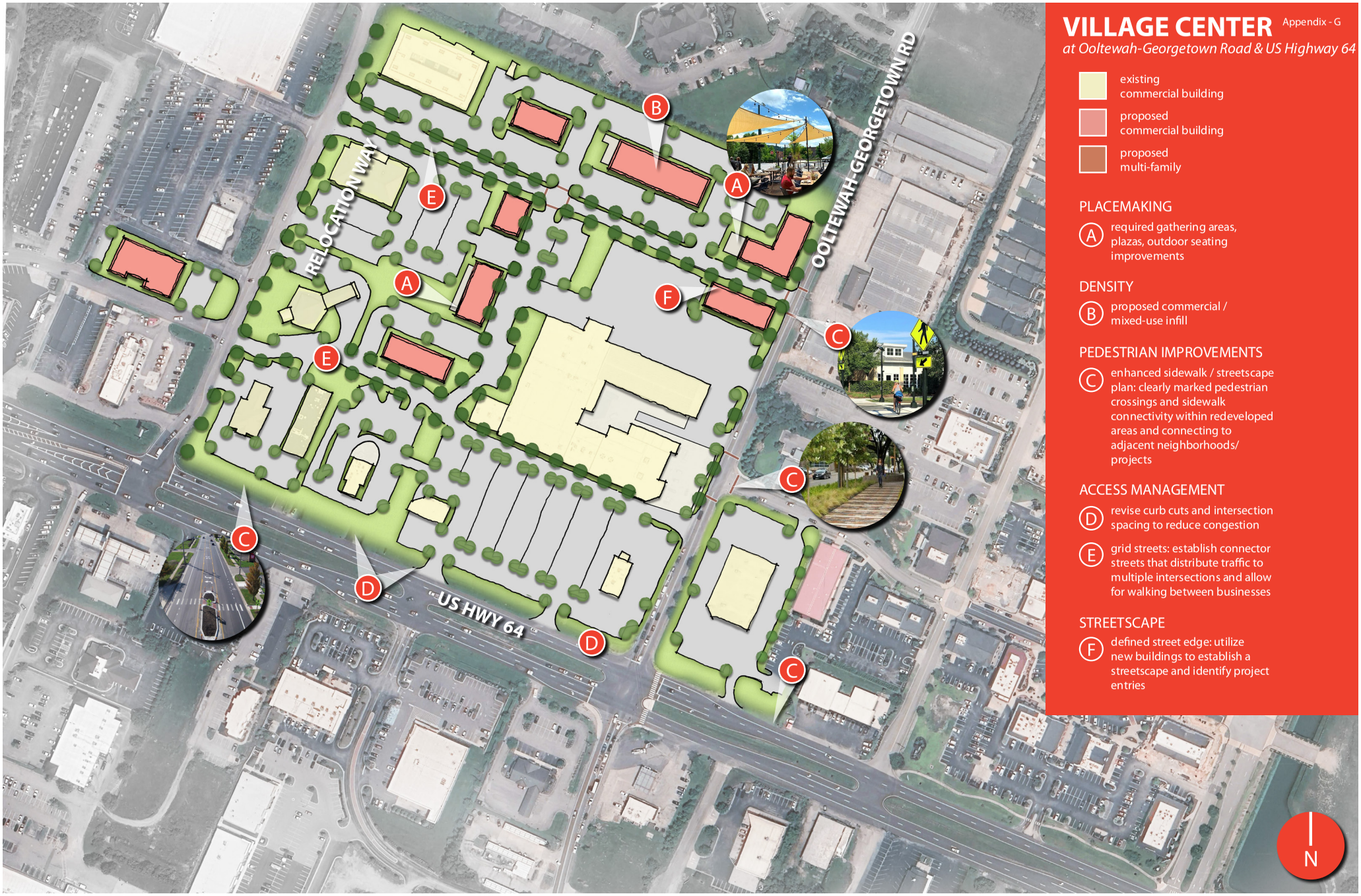
- (H) enhanced pedestrian crossings/ safety
- (I) comprehensive sidewalk plan

ACCESS MANAGEMENT

- (J) carefully planned curb cuts and turning movements

STREETSCAPE

- (K) enhanced or existing vegetation buffers along roads or adjacent single family residential property



VILLAGE CENTER

Appendix - G

at Ooltewah-Georgetown Road & US Highway 64

existing commercial building

proposed commercial building

proposed multi-family

PLACEMAKING

(A) required gathering areas, plazas, outdoor seating improvements

DENSITY

(B) proposed commercial / mixed-use infill

PEDESTRIAN IMPROVEMENTS

(C) enhanced sidewalk / streetscape plan: clearly marked pedestrian crossings and sidewalk connectivity within redeveloped areas and connecting to adjacent neighborhoods/ projects

ACCESS MANAGEMENT

(D) revise curb cuts and intersection spacing to reduce congestion

(E) grid streets: establish connector streets that distribute traffic to multiple intersections and allow for walking between businesses

STREETSCAPE

(F) defined street edge: utilize new buildings to establish a streetscape and identify project entries

CONCEPTUAL LAND USE / PLACE TYPES STUDY

12 WHITE OAK MOUNTAIN AREA

- City Limits
- Parcels
- Rail
- Water Bodies
- Streams and Creeks
- Parks, Recreation and Open Space
- Interstates, Highways and Expressways
- Major and Minor Arterials
- Major and Minor Collectors
- All Other Roads
- 100 Year Flood Zone
- Slopes ≥ 25%

SCHOOLS

1. Apison Elementary School
2. Westview Elementary School
3. East Hamilton High School
4. Lester Coon Adventist School
5. Standifer Gap SDA School
6. Collegedale Adventist Middle School
7. A W Spalding Elementary School
8. Collegedale SDA Academy
9. Wolftever Creek Elementary School
10. Ooltewah Middle School
11. Ooltewah SDA School
12. Ooltewah High School
13. East Hamilton Middle School

1/2 Mile Walkable Radius

RECOMMENDATIONS

CENTERS

- Potential Crossroads
- Potential Neighborhood Node
- Potential Village Center
- Potential Town Center

SPECIAL DISTRICTS

- Potential Regional Opportunity Area*

CORRIDORS

- Potential Greenway *
- Potential Future Road *
- Potential Rural Enhancement Corridor (RC)
- Potential Suburban Corridor (SC)

RESIDENTIAL

- Low Density Residential Area
  Includes: Conservation Residential and Countryside Residential Place Types
- Moderate Density Residential Area
  Includes: Suburban Residential Place Type
- Mod-High Density Residential Area
  Includes: Mixed Residential and Urban Residential Place Types

RESORT & RECREATION

- Potential Resort & Recreation Center
  Includes: Campgrounds, Trail Heads, Put-ins/Boat Ramps, Mini-marts, etc
- Potential Resort & Recreation Center
  Includes: Lodging, Marinas, Commercial Areas, Housing, etc

potential future road and suburban corridor to be studied by the MPO *

existing employment, education, recreation, and transportation assets and an evolving town center create a cohesive regional opportunity area for commerce, culture, and recreation

TRAFFIC IMPROVEMENTS

- Potential Intersection Improvements
- Potential Safety Improvements
- Potential Safety Improvements
- Potential Capacity Improvements

HAMILTON
SUMMIT
OOLTEWAH
COLLEGEDALE
BRADLEY
APISON
EAST BRAINERD
CHATTANOOGA
GEORGIA

N

0 0.5 1 2 3 Miles

RaganSmith
RPA Chattanooga-Hamilton County Regional Planning Agency
PLAN HAMILTON OUR COMMUNITIES. OUR GROWTH.

4.3.8 GOALS, POLICIES & COMMUNITY THEMES MATRIX

Community Themes

● **Directly influenced by the Community Themes**
● **Supports or reinforces the Community Themes**

1. BALANCE GROWTH, ECONOMY & COMMUNITY CHARACTER					
1.12.1	Make Village and Town Centers the locations for all vertically stacked multi-family apartments / condos, large format retail, and other commercial uses with high trip generation factors. Structure zoning to support this model and target investments in transportation, sewage treatment, and pedestrian infrastructure in these centers. Set existing suburban and rural residential densities as the ceiling for development outside center Place Types.	●			●
1.12.2	Adopt a comprehensive set of corridor management provisions for Suburban Corridors to strategically locate curb cuts and points of access to commercial properties, plan for safe pedestrian crossings and pathways, incentivize buildings to front the ROW, implement wayfinding signage, consider commercial sign standards, add roadway connectivity, and provide mixed-use opportunities. Take a first step by adopting TDOT's Access Management Manual for all state routes.			●	
1.12.3	Update zoning to reflect that apartments, stacked condos, and other vertically oriented multi-family housing should occur in town / village centers and the mixed-residential areas immediately surrounding them.	●			
1.12.4	Consider creating a corridor management plan for Old Lee Highway to specify locations for more intense industrial and center development, establish setbacks, set aside R.O.W. for multi-modal transportation options, transition zones, and rural / natural resource preservation areas.	●	●	●	
2. PROTECT & ENHANCE NATURAL RESOURCES					
2.12.1	Work with National, State, and local conservation organizations to develop a program whereby environmentally sensitive lands and prime agricultural parcels can be purchased or otherwise incentivized to remain in their natural state and where appropriate provide public use.		●		●
2.12.2	Develop conservation subdivision development criteria that incentivize this option for large parcels zoned for agricultural or low density residential.	●	●		
2.12.3	Update stormwater management regulations and provide a manual of best management practices at community-wide, development, and lot scale.		●		
2.12.4	Develop a coordinated conservation, recreation, and non-motorized transportation plan for the Wolftever Creek Corridor. This corridor can provide buffer from higher density developments, public access to nature, recreation and wellness opportunities, enhanced water quality, and resiliency from storm impacts. Consider a similar strategy for the Chestnut Creek Corridor.			●	●
3. PRESERVE & ENHANCE OUTDOOR RECREATION					
3.12.1	Build on the success of existing County and municipal assets (Summit Softball Complex, Summit Field, Collegedale Commons, Little Debbie, and Imagination Station parks, and the Collegedale-Wolftever Creek Greenway System, White Oak Mountain and Bauxite Ridge Trail System) continue closing gaps in connectivity between these assets, area schools, and commerce centers.			●	●
3.12.2	Explore partnership opportunities to expand and further connect all of these existing trail networks. Consider funding planning and development of a Chestnut Creek Greenway as a complimentary north-south recreation-transportation-conservation corridor to the Wolftever Creek Greenway System.				●
3.12.3	Identify small and large Resort Recreation nodes along existing and future trail networks appropriate for recreational development (trailhead parking / bathrooms / interpretive stations, etc.), support commercial services (gear outfitters, cafes, farmer's markets) and residential developers willing to utilize preservation incentives for cluster bonus subdivisions as a means of expanding recreation.	●	●		●

● **Directly influenced by the Community Themes**
● **Supports or reinforces the Community Themes**

					
3.12.4	Work with developers of proposed Village and Town Centers at Pattentown Road / Apison Pike and along Ooltewah-Riggold Road to enhance adjacent recreational properties and extend greenway connections to benefit both the developments and the community at large.	●	●		●
4. PROMOTE CONNECTIVITY AND MULTI-MODAL TRANSPORTATION					
4.12.1	Explore partnership opportunities to expand and further connect existing trail networks and greenways to offer a comprehensive system of alternative transportation options between community recreation, institutional, and commercial hubs.		●	●	●
4.12.2	Consider funding planning and development of a Chestnut Creek Greenway as a complimentary north-south recreation-transportation-conservation corridor to the Wolftever Creek Greenway system. This system could link employment centers such as McKee Foods and SAU to future residential clusters in the Apison area while also providing recreation, conservation, and environmental benefits.		●		●
4.12.3	Work with TDOT to test the feasibility of a multi-modal corridor paralleling Ooltewah-Ringgold Road as this corridor is begin evaluated for standard individual auto based transportation enhancements.			●	
4.12.4	Utilize suburban corridor provisions for consolidated points of access, green space buffers, and connectivity requirements to connect current and future developments along primary transportation corridors such as Ooltewah-Ringgold Road, East Brainerd Road, Banks Road, and Standifer Gap.	●	●	●	
5. PROVIDE ADEQUATE INFRASTRUCTURE					
5.12.1	Consult with school district officials to establish a system for regular reporting on school capacity for use in evaluating capacity for major subdivisions.				●
5.12.2	Strengthen County water quality management ordinances and include best management practices. Provide professional staffing for review and ongoing inspection of engineered designs for ECP, site stabilization, and permanent stormwater infrastructure. Add incentives for LID solutions. Consider the possibility of publicly funded centralized stormwater collection in highly sensitive areas.	●	●		
5.12.3	Work with WWTA to anticipate planned expansion of sewer trunk lines and plan for associated growth. Also establish standards for when decentralized systems will be considered and when density will be limited to be appropriate for individual septic system designs.	●	●		
5.12.4	Require traffic impact studies as a standard evaluation tool for more types of subdivision applications. Have a list of relevant site specific improvements for developers to build or fund to mitigate impacts. Derive these lists from current and future corridor studies and collaboration with TDOT, Hamilton County Roads Committee, the School District and others.			●	
5.12.5	Continue to prioritize and fund projects identified in the current list of safety and congestion related transportation improvements. Establish development specific contribution requirements, partnerships, and Countywide funding mechanisms to address recommended future transportation infrastructure needs in growth areas.			●	
5.12.5	Prioritize infrastructure spending in and around designated centers and funding of conservation tools in areas recommended for lower densities and preservation of agricultural operations and landscapes.		●		
6. PROVIDE SUITABLE COMMERCIAL & MIXED-USE CENTERS					
6.12.1	Incentivize growth to occur in recommended Village and Town Centers. Consider infrastructure investments, and financial vehicles to set the table for desired forms of development in appropriate locations.	●	●		

	Directly influenced by the Community Themes **Supports or reinforces the Community Themes**				
6.12.2	Consider similar public-private investment tools to promote redevelopment of existing highway oriented commercial developments into forms that lessen transportation impacts and improve housing choices.	●		●	
6.12.3	Encourage the Village Center at Pattentown Road and the Resort Recreation Center in Collegedale to create synergy with and catalyze our recreational tourism economy by allowing for complimentary lodging, restaurant, entertainment, and event facilities along with a mix of housing types to support these unique businesses.	●	●		●
7. PROVIDE A RANGE OF HOUSING OPTIONS					
7.12.1	Allow centers, nodes, and crossroads of all types to accommodate a variety of housing types at a density and scale appropriate for the proposed location. Flexibility in housing types allows for educators, emergency personnel, and public employees to live closer to the communities they serve. Young professionals and older generations can live closer to family if they choose.	●			
7.12.2	Additional density and housing variety at smaller centers maintains viability for a wider range of neighborhood commercial tenants to be successful in these nodes. It can also have the effect of reducing congestion at larger center by minimizing the number and frequency of trips to these highly utilized areas.	●		●	
7.12.3	Consider greater flexibility for ADU's in all residential zones. Consider allowing short term nightly rental of ADU's in the vicinity of Resort Recreation Centers as a means of increasing affordability of primary residences on the same property.	●			

THIS PAGE IS INTENTIONALLY LEFT BLANK