Final Report
June 2009

County of Louisa
Transportation and Housing Alliance

Transportation Plan

Phase I of Work Program

Data Collection
Mapping
Community Assessments
Partnerships
Consideration of All Citizens

Prepared By:

Thomas Jefferson Planning District Commission

Acknowledgements

The Thomas Jefferson Planning District Commission and County of Louisa wishes to thank the Virginia Board for People with Disabilities (VBPD) for the funding that made this study possible. Further appreciation goes to the Transportation Housing Alliance Selection Committee and its partners for making these funds and resources available. Those partners include the Virginia Housing and Community Development Authority, Department of Rehabilitative Services and Virginia Association of Planning District Commissions.

This report serves as a summary of the work conducted on Louisa County's Transportation Plan, with assistance from the THA Toolkit and funding from VBPD. These efforts represent our initial steps in developing the County's plan, which is currently underway but yet to be reviewed by the elected officials or citizens of Louisa County. This report completes the initial data collection phase of the process and lays the foundation for the next steps in developing the plan. This report reviews that process and can serve as a resource for the County's officials and residents in developing priorities for meeting the transportation needs of all citizens.

Team Members

Jeremy Camp
Louisa County, Director of Community Development

Will Cockrell
TJPDC, Planner II

Kevin Collins
TJPDC, GIS Specialist

Sarah Eissler
TJPDC, Planner I

Daniel Nairn
TJPDC, Assistant Planner

Matthias Smith
Louisa County, GIS Specialist

Donna Shaunesey
JAUNT, Executive Director

Will Sowers
RideShare, Outreach Specialist

William Wanner
TJPDC, Senior Regional Planner

Table of Contents

Executive Summary

The Thomas Jefferson Planning District Commission (TJPDC) recently partnered with Louisa County to develop its Transportation Plan, which will cover the entire County and briefly address the two towns of Louisa and Mineral. The process for developing this plan will span several months, with the final draft tentatively scheduled for completion in early 2010. This plan will help satisfy the County's need for guidance on transportation related issues, which it currently lacks. Aside from these local benefits, the County must also comply with State Code requirements related to transportation planning and meeting the needs of all citizens.

Louisa County, as with most rural communities, has inherent challenges with planning an inclusive and efficient transportation network. With lower residential and commercial densities, there are limited opportunities for alternative modes of transportation, such as transit, walking or biking. There are also fewer resources in these communities for implementing transportation plans, compared to many urban areas that have access to additional federal, state and local revenues or priorities. At the same time, all localities are faced with limited budgets, meaning they must make the most of their existing transportation system wherever possible. This report and subsequent plan helps address these difficult challenges, to maintain and improve the existing transportation system with constrained funds, while also meeting the needs of all citizens, regardless of their age, creed, income or ability.

Louisa County has a significant number of individuals who have limited mobility. To recognize the importance of these individuals and the growing call for transportation options, the County and Planning District pursued funding from the Virginia Board of People with Disabilities (VBPD), through the Transportation and Housing Alliance (THA). The THA Selection Committee awarded $8,000 to this project, to assist with planning work and integrating the needs of all Louisa's residents into the County's Transportation Plan. This final report, as required by the grant, is a summary of the work conducted with the VBPD funds and THA Toolkit. It describes the application of the THA Toolkit, findings, next steps, and recommendations for changes in local policies as related to transportation. This document also includes performance measures for tracking outcomes of these planning efforts.

The Thomas Jefferson Planning District Commission (TJPDC) was established in July 1972, serving the Charlottesville region for nearly forty years. Its member localities include the City of Charlottesville and the five surrounding Counties that includes Albemarle, Greene, Nelson, Fluvanna and Louisa. The Planning District provides services to its members and is central to the region's planning activities, playing an active role in regional housing, transportation and environmental planning, along with economic and community development.

I. Introduction

When confronted with development proposals and policy recommendations, local officials seek credible data, analysis and recommendations that guide their decisions and ensure that their local transportation system is safe and efficient. Louisa County currently lacks much of this guidance, due to the absence of necessary plans or policies on transportation related issues. Louisa's Comprehensive Plan only briefly mentions transportation, describing the County's roadways and referencing other transportation projects that were underway when the plan was being developed. The County also lacks a plan that addresses the mobility needs of all citizens, including the elderly and those with disabilities or financial constraints. A significant portion of Louisa's residents have special needs or limitations in regards to transportation. While meeting these needs can be challenging in a rural County, this plan will attempt to create a transportation system that will provide greater safety, choice and mobility to all those living and working in the County.

The County's Transportation Plan will create a vision for a multi-modal transportation system that helps achieve the County's goals for manageable growth. The Plan will also give both technical and policy direction on decisions related to transportation projects and land use policies. The primary goal is to develop a balanced transportation system that offers choices in how people travel, supported by a realistic plan for funding improvements to infrastructure and services.

In early 2007, the Louisa County Planning Commission discussed the possibility of developing a transportation plan, referencing recent amendments to the State Code that set new planning requirements. These amendments, which were effective July 1, 2007, required localities to develop detailed transportation plans that include items such as project lists and estimated costs for roadway improvements. In March 2007, the Board of Supervisors passed a resolution for work to begin on the Plan. However, due to limited staffing and resources, the project was delayed. In May 2009, the County signed a contract to partner with TJPDC on developing this transportation plan, providing Louisa with the necessary tools for completing this work.

The grant from VBPD represents only a portion of the total budget for this project. With the THA Toolkit, these recent efforts serve as the initial steps of the process, assisting with collecting data, mapping, building partnerships and conducting community assessments.

The Transportation and Housing Alliance was established by the Thomas Jefferson Planning District, with funding from the Virginia Board for People with Disabilities (VBPD), as a way to help meet the housing and transportation needs of people with disabilities. THA is established as a standing committee of the Virginia Association of Planning District Commissions, with the goal of providing information, resources, technical assistance and education on accessibility and the interconnection between housing and transportation.

State Requirements

There are two relevant amendments in the State Code that are related to transportation planning for localities. As of July 1, 2007 each locality in Virginia must have transportation plans that meet the following requirements:

> § *15.2-2223*
> *Each Locality shall develop a transportation plan that designates a system of transportation infrastructure needs and recommendations that may include the designation of new and expanded transportation facilities and that support the planned development of the territory covered by the plan and shall include, as appropriate, but not be limited to, roadways, bicycle accommodations, pedestrian accommodations, railways, bridges, waterways, airports, ports, and public transportation facilities. The plan should recognize and differentiate among a hierarchy of roads such as expressways, arterials, and collectors. The Virginia Department of Transportation shall, upon request, provide localities with technical assistance in preparing such transportation plan.*
>
> *The plan shall include a map that shall show road improvements and transportation improvements, including the cost estimates of such roads and transportation improvements as available from the Virginia Department of Transportation, taking into account the current and future needs of residents in the locality while considering the current and future needs of the planning district within which the locality is situated.*
>
> § *15.2-2224*
> *In the preparation of a comprehensive plan, the local planning commission shall survey and study such matters as the following: … road improvements and any estimated cost thereof, transportation facilities, transportation improvements and any cost thereof.*

Concerning long range plans, the State also requires that localities consider the needs of all citizens. As of July 1, 2008 each locality must address the needs of the elderly and persons with disabilities in their long range plans.

> § 15.2-2223
> *In the preparation of a comprehensive plan, the commission shall make careful and comprehensive surveys and studies of the existing conditions and trends of growth, and of the probable future requirements of its territory and inhabitants. The comprehensive plan shall be made with the purpose of guiding and accomplishing a coordinated, adjusted and harmonious development of the territory which will, in accordance with present and probable future needs and resources, best promote the health, safety, morals, order, convenience, prosperity and general welfare of the inhabitants, including the* ***elderly and persons with disabilities****.*

Developing detailed transportation plans and considering the needs of all citizens are wise practices, regardless of State mandates. Without this thoughtful planning, a locality's transportation network can be severely diminished. Several communities, particularly in the Northern Virginia region, provide clear examples of the consequences that come from rapid growth and a lack of coordinated planning. These places are synonymous with poor roadway conditions and frequent travel delays. Since transportation planning is so closely linked with the use of land, there are consequences beyond congested roads. A locality's transportation decisions directly influence how a community grows and develops. These choices greatly impact people's daily life, by influencing how they commute to work, access local amenities and move about the area. Transportation related decisions also control how the community looks aesthetically and how it functions. This relationship between transportation and land use highlights the importance of making thoughtful and educated assessments of the locality's roadways and overall transportation system.

Picture 1: U.S. Route 29, City of Charlottesville and Albemarle County - The link between transportation and the use of land is apparent. Without careful planning, "strip" development patterns will follow major roadway corridors where there is access for automobiles. These development patterns are typically supported by traditional zoning practices, which identify strips of land for commercial uses along thoroughfares and other roadways. This pattern creates further reliance on and use of automobiles, which leads to greater traffic congestion and travel delays. With each commercial development having its own access onto the thoroughfare, there is a dramatic decline in the road's capacity, slowing through traffic and diminishing the regional function of primary roads. The final result is the premature failure of the transportation system and the need for further infrastructure improvements, with significant cost to localities, businesses and taxpayers. Those with limited mobility are usually forgotten in these development patterns, cut off from amenities, shopping, employment opportunities, and other areas of the community that can only be accessed with automobiles. Without consideration to alternative modes of travel, those with limited resources are left with fewer transportation options.

II. Existing Conditions

One of the first steps of any planning process is gathering information on the community's existing conditions. This data helps establish a clear understanding of the area's services, infrastructure, demographics, development patterns, housing trends and employment figures, along with other essential conditions. Gathering this information helps answers questions about the community's past and present, allowing the planning process to focus on where the community wants to go for the future. Further phases of the process will define goals and objectives that are crafted by planning staff, local officials, stakeholders and the general public.

To date, much of the work conducted on this project focuses on determining the existing conditions of Louisa County and its transportation network. This included an overview of transportation services that are available in the County, along with detailed inventories of roadways and other infrastructure. There was analysis of commuting patterns and their influence on the transportation system, which also considered those with special needs and how they might travel in the community and beyond. The work on these existing conditions focuses on a general review the transportation field as well, which consists of best management practices, common obstacles and strategies for maximizing the existing system. These initial findings and considerations will help direct the rest of this process and meet the challenges of transportation planning in the rural community of Louisa County.

Transportation Challenges for Rural Communities

While automobiles will likely remain the dominate form of travel, both regionally and nationally, a successful transportation network should provide choices that serve the needs of all users, regardless of age, income or abilities. While all communities may strive for this goal, rural areas have inherent challenges, as compared to their urban counterparts. Cities, large towns and urban counties typically have three characteristics that make alternative modes of travel easier to implement. These are density, design and infrastructure. While each of these characteristics is independent, there are also relationships between them that allow and encourage transit, walking, biking and other modes of travel. In order to recognize the challenges of transportation planning in rural areas, there must be a clear understanding of three characteristics and the relationships between them.

Density refers to the number or amount of uses, buildings or people in a given space. There are several ways of measuring this. With residential developments, density is typically defined by Dwelling Units per Acre (DUA). With commercial areas, one might consider Floor Area Ratios (FAR) or general square footage. When assessing populations, the US Census measures people per square mile. Regardless of the unit of measurement, transportation is heavily influenced by densities. It is easier to offer alternative modes of travel when buildings, uses, people, destinations, and homes are closer together. In rural areas, houses are typically placed farther apart and are several miles from employment centers, shopping, schools, amenities and other destinations. With these homes (trip origins) and destinations several miles apart, the only options for travel is the often the automobile.

Pictures 2&3: Density, Downtown Charlottesville – Higher densities allow for more opportunities with alternative modes of transportation. By having trip origins and destinations closer together, such as residential and commercial centers, people are more likely to walk, bike or take transit. Some basic trends communicate the link between density and transportation choices.

General Information

Pedestrian trips: On average, people are willing to walk up to a quarter mile to their destination, depending on the individual and condition of the route.

Fixed Route Transit: On average, residential densities must be at least 10 to 15 dwelling units per acre for fixed transit systems to be feasible. This is a general figure that depends on the community and concentrations of desirable destinations.

Design refers to the appearance and function of a street, roadway or other path, along with its surrounding environment. The appearance or aesthetic of an area greatly influences people and their decisions. Along heavily traveled thoroughfares with strip development, people typically avoid walking or biking. The design of this environment is unpleasant for pedestrians or bicyclists, causing them to feel unsafe and uncomfortable. As a result, people exclusively use automobiles to travel in these areas, even for short distances. There are many who use their cars for accessing adjacent stores within the same shopping center, because the parking lot is too hot or generally unpleasant for walking. In rural areas, many roadways are narrow with poor sight distances, making automobiles one of the only methods of traveling beyond his or her property. Conversely, there are streets in the Towns of Louisa and Mineral that provide calm and enjoyable environments for pedestrians and even drivers.

Picture 4: Design, Downtown Scottsville – Many smaller towns are revitalizing their main street corridors. The Town of Scottsville recently completed a project to beautify its streetscape, improving sidewalks and installing street lights and trees. While these investments will improve business investments and tourism, they will also encourage the town's residents to walk and bike along this stretch. Generally, people are more willing to walk or bike when in pleasant environments, and are more willing to go further distances.

Picture 5: Design, Mineral Avenue – The Town of Mineral is conducting studies on revitalizing their downtown corridor. They are pursuing Community Development Block Grants and other funds to beautify this area with accommodations for bikes, pedestrians and those with disabilities.

Infrastructure relates to the facilities and services that allow people to drive, walk, bike or take other modes of transportation. Without sidewalks, crosswalks or trails, people are less likely to walk. Without bike lanes or racks, people are less likely to use bicycles. Without transit most must rely on automobiles for trips. These services and infrastructures are more common in urban areas, mostly because there are higher densities that can support the need for these investments.

Picture 6: Infrastructure, Town of Louisa – Infrastructure, such as sidewalks or bike lanes, allow residents to use alternative modes of transportation. The Town of Louisa obtained grant money to construct a new sidewalk along Route 33, which provides access to a small housing development with lower-income residents. Some of these residents may have disabilities that would have to navigate this busy roadway to access the town. This project connects these citizens to the town with a safe and pleasant route.

While Louisa County has neighborhoods with these three characteristics, most of its landmass is rural, lacking the density and infrastructure to allow for certain modes of transportation. Housing, employment, shopping, amenities and services are all separated by larger distances. This typically translates into long commutes and reliance on cars, trucks or SUVs. For these reasons, rural communities typically focus on roadway improvements and projects that are related to automobiles. Much of the Louisa County Transportation Plan will also focus on these types of investments, but there should also be considerations of other side of the network. Driving an automobile is a convenient and reasonable way of traveling throughout the community, but long commutes and other trips can create burdens for all citizens, particularly those with limited mobility or finances.

What are Mobility Limitations?

Everyone must face limitations with their mobility during their lifetime. Small children are typically pushed in strollers. As children become older they may not have access to an automobile or license, relying on others for transportation. Some people have physical, sensory or mental disabilities that limit their mobility. Some have financial constraints, preventing them from driving or spending money on transportation. Elderly residents may also develop difficulties with operating their automobiles and getting around the community.

Regardless of age, income or ability, there are advantages to every citizen when the transportation network allows for options and more efficient movement of each mode of travel. While automobiles will remain the dominate form of travel, additional options can allow everyone to choose the most appropriate method of making a given trip, potentially decreasing congestion on roadways and the cost travel for individuals.

There is evidence to support the County's reliance on automobiles, which is typical for a rural community like Louisa. In 2000, the US Census Bureau indicated that 76 percent of Louisa County residents commuted by driving alone. Another 17 percent carpooled, meaning that 93 percent of all commutes involved personal automobiles. The remaining 7 percent was distributed between other modes of travel. These other modes included walking, bicycling, public transit and working from home. Aside from having an unusually high rate of carpooling, this distribution is common for a rural county, representing the limited choice with transportation.

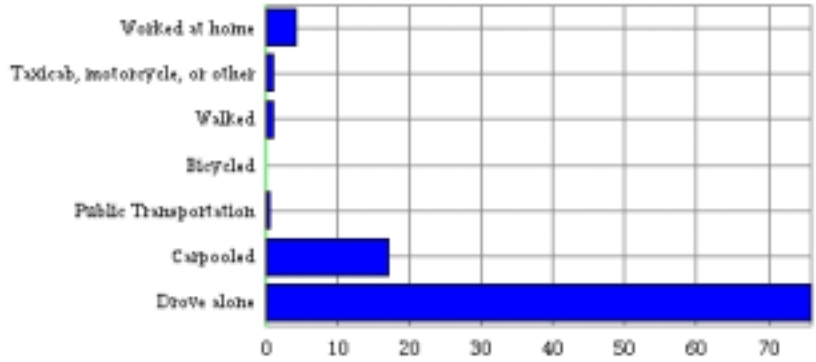


Figure 1: Distribution of Commute Modes for Louisa County Residents

While this distribution is typical, the distance and duration of Louisa commutes is unique. According to the 2000 Census, the average commute time in Louisa County was 36 minutes, which is the highest in the Charlottesville region. The 2006 American Community Survey indicated that Louisa County's average commute time was 29% above the national average. A sizable portion of commuters (19 percent) have journeys to work in excess of an hour. **The Census Bureau places Louisa County in the top 2% of all counties, ranking it as having the 40th longest average commute in the nation**. These commute times represent a large annual cost on every citizen, particularly those with financial limitations. When gasoline prices are high, these travel times can be increasingly taxing on household budgets.

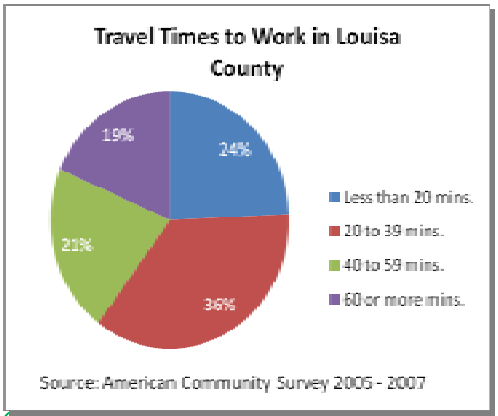


Figure 2: Distribution of Commute Times

Figure 3: Average Commute Time (Minutes), Compared to Neighboring Localities

	Louisa	Nelson	Fluvanna	Greene	Albemarle	Charlottesville
Average Commute Time	**36**	33.1	32.5	28.6	20.7	16.6
Source: U.S. Census						

Commuting Patterns

A commute is defined as a home-to-work or work-to-home trip, and is one of the main functions of a transportation network. While there are other types of trips, commuting patterns are consistent, predictable and make up a major portion of roadway traffic. Assessing these travel patterns is a vital exercise in understanding a community and its transportation network.

Transportation Terminology

Labor and commute sheds are two ways of determining commute patterns between home and work. A **labor shed** focuses on employment centers in a specific area and records where those workers live. In this report, it is an analysis of where workers live who are employed in Louisa County. A **commute shed** focuses on residential centers in a specific area and records where those residents travel for work. In this report, this is an analysis of where workers are employed who live in Louisa County.

Louisa County is predominately a bedroom community for the three surrounding metropolitan centers of Charlottesville, Richmond and Fredericksburg. The County's central location between these cities may account for its long commute times. Its general proximity to Northern Virginia also contributes to these figures. While people commute into the County for work, the major traffic pattern involves trips that head out to employment centers in the surrounding areas. The labor and commute sheds from the U.S. Census Bureau provides data that tends to support these trends.

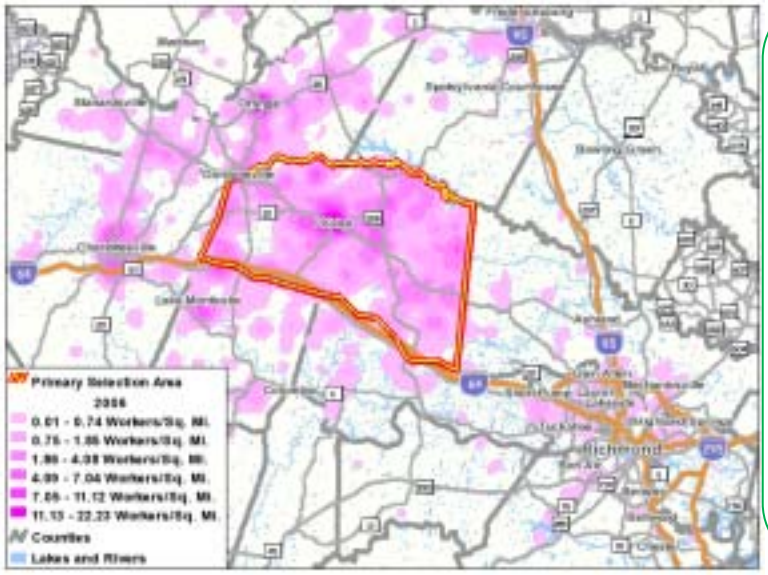


Figure 4: Louisa County Labor Shed, 2006

This map graphically depicts the labor shed for Louisa County. The gradients of purple, also known as thermals, indicate general concentrations of where people employed in Louisa County live.

This map indicates that the largest group of people working in Louisa County also live there.

Source: US Census Bureau

While the dominate group of people working in Louisa also live there, a labor shed analysis indicates there are many workers that travel from the surrounding areas for employment in the County. There are concentrations around urbanized areas, such as Charlottesville, Fredericksburg and Richmond. Other areas appear to have smaller concentrations of commuters, such as Crozet, Lake Monticello, Standardsville, Short Pump, the Town of Orange and other centers.

There are multiple employment opportunities in the County that attract workers from these areas across the region. The largest single employer in the County is Virginia Dominion Power, with over 1,000 employees at the North Anna Power Station, centrally located along Lake Anna. The Second largest employer is Wal-Mart, Inc, which has over 600 employees at its distribution center in Zion Crossroads, along the I-64 corridor. Klöckner-Pentaplast of America, Inc. is a manufacturing company for plastic films. This is the third-largest employer with over 300 employees at its facility just outside of Gordonsville. Otherwise, many of the 20 largest employers are centrally located in or around the Town of Louisa. Other employment opportunities and businesses are generally dispersed throughout the County.

The Commute Shed analysis is another way of understanding these traffic patterns, by assessing where workers who live in Louisa County are employed. People who live in the County commute to a variety of employment centers throughout the region. Two-thirds of all Louisa residents travel outside the county for work. This rate is well above the national average but is common in metropolitan regions where housing costs are out of proportion with wages. High rates of "out-commuting" can be a function of either lower-income households seeking affordable housing or higher-income households attracted to a specialized residential area. For Louisa, both of these scenarios are likely. Housing prices are generally high for the surrounding areas, particularly in the Charlottesville/Albemarle area. With these expensive housing markets, people must move further away from those employment centers to find affordable housing. At the same time, Louisa County is a desirable community, with a strong rural character and proximity to these surrounding employment opportunities.

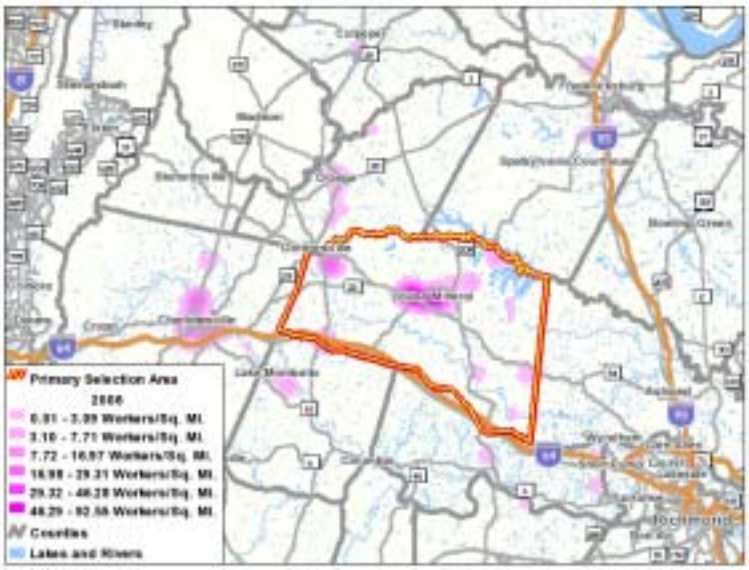


Figure 5: Louisa County Commute Shed, 2006
This map graphically depicts the Commute shed for Louisa County. The gradients of purple, also known as thermals, indicate general concentrations of where Louisa Residents work.

There are concentrations in the surrounding urbanized areas, along with the towns within and adjoining Louisa County.

Source: US Census Bureau

General commuting figures further highlight these traffic patterns between Louisa County and its surrounding areas. There are three kinds of commutes identified in this section, which include working and living in the County, out-commuters and in-commuters. Over 4,385 people fall under the category of living and working in Louisa. This makes up approximately 30 percent of all commutes. There are over 7,650 County residents who commute out to other communities for their work. This represents the largest portion of commutes, with over 52 percent. Most of these trips are made to destinations in Henrico, Albemarle and Hanover Counties. A significant number of out-commutes also go to the surrounding cities of Charlottesville and Richmond. There are significantly fewer people who travel into Louisa County for their employment. Only about 2,650 workers make these trips, which makes up about 18 percent of all commutes. Most of these people come from the adjoining counties of Orange, Albemarle, Spotsylvania and Fluvanna.

While the commuting patterns are clear, their influence on the County's transportation system is more complicated. These numbers describe how many people travel to and from Louisa for their drive to work, but this information fails to describe where exactly these people live and their destinations. There must be further research and analysis to determine the precise impact on roadways and the effects of recent development. As work on the County's transportation plan continues, this information will become available. In the meantime, there are several general conclusions that arise from this information.

Louisa		
In-Commuters From:		
Orange Co. VA	584	35.3%
Albemarle Co. VA	287	17.4%
Spotsylvania Co. VA	276	16.7%
Fluvanna Co. VA	265	16.0%
Henrico Co. VA	241	14.6%
Total	**1,653**	**100.0%**
Out-Commuters To:		
Henrico Co. VA	1,554	31.0%
Albemarle Co. VA	1,248	24.9%
Charlottesville City VA	892	17.8%
Richmond City VA	702	14.0%
Hanover Co. VA	624	12.4%
Total	**5,020**	**100.0%**

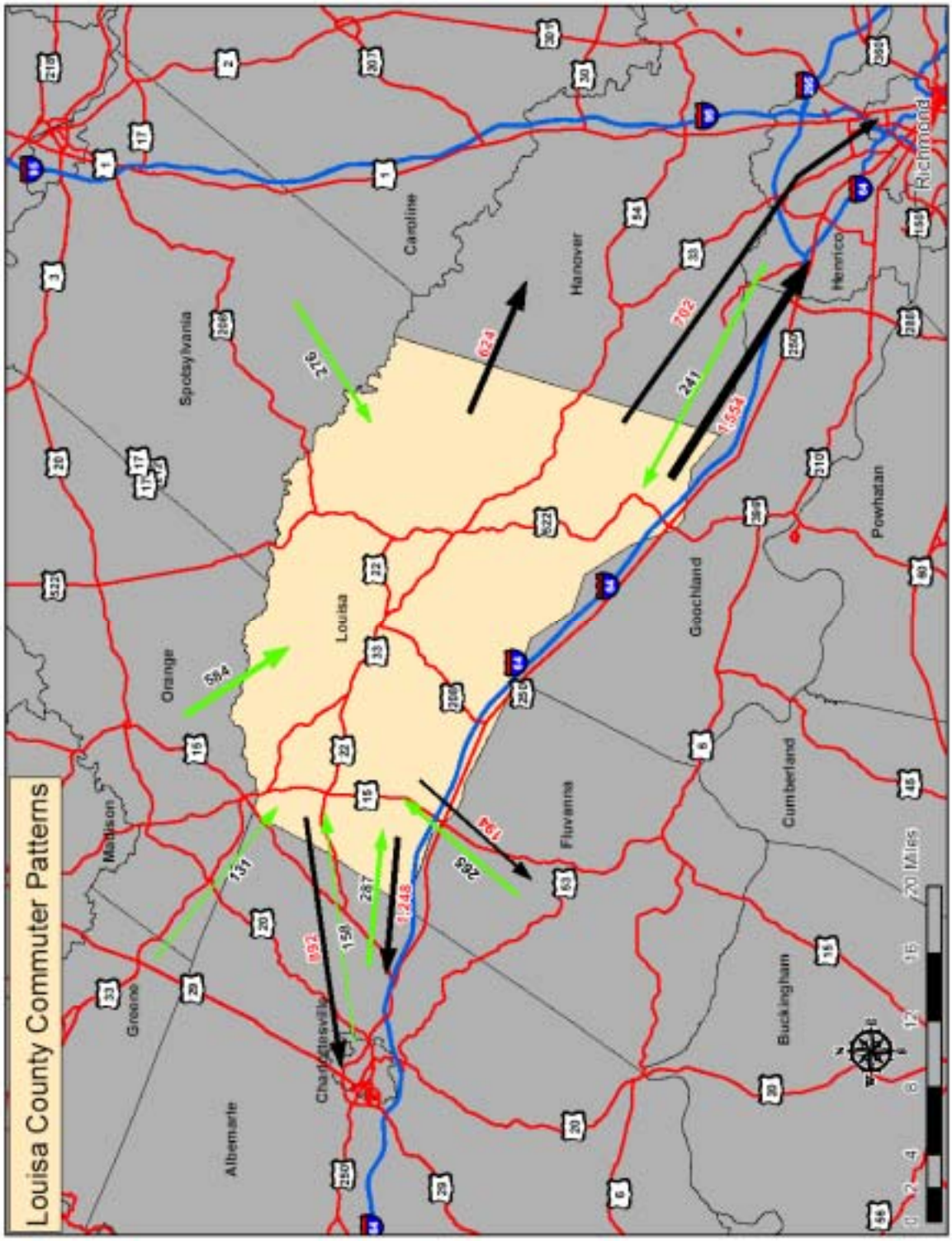
Figure 6: General Commuting Patterns for Louisa County
This table indicates the commute heading in and out of the County. In-Commuters are those living in other communities, traveling to Louisa County for their employment. Out-Commuters are those living in Louisa County and traveling to surrounding areas for employment

Source: 2000 US Census Bureau

Commuting Overview		
Live and work in Louisa:	4,385	29.80%
In-Commuters:	2,657	18.10%
Out-Commuters:	7,654	52.10%
Net Out-Commuters:	4,997	

Figure 7: Commuting Overview
This table indicates the general commuting for those traveling to and from Louisa County, along with those that both live and work in the County.
Source: 2000 US Census Bureau

Figure 8: In and Out-Commutes for Louisa County with the surrounding areas.



Note: Green lines represent In-Commutes and black lines are Out-Commutes, with the lines thickness representative of the number of trips. This map shows the communities with the highest number of commutes. Other Communities may not be included.

Conclusions on General Commuting Patterns

The Following are basic conclusions and analysis of Louisa County's commuting patterns and how they may influence the community:

- Unusually Long Commutes: County residents have some of the longest commutes in the United States, on average. Most people in Louisa travel relatively great distances for their drive to work. There is a high likelihood that people move to the Louisa County, despite the distance from their job, because of its affordable housing, rural character and proximity to multiple employment centers. The negative effects of these commutes include the individual financial costs and time spent on travel, additional traffic on local roadways, potential decline in air quality and overall stress of the transportation system.

- Additional Stress on Primary Roadways and Interstate 64: With the vast majority of people traveling out to jobs, additional traffic goes on the County's primary roadways, which generally function as routes between and through communities. A large portion of County residents commute to locations along the I-64 corridor, including Albemarle, Charlottesville, Henrico, and Richmond. This places higher volumes of traffic on this stretch and the roads that access I-64.

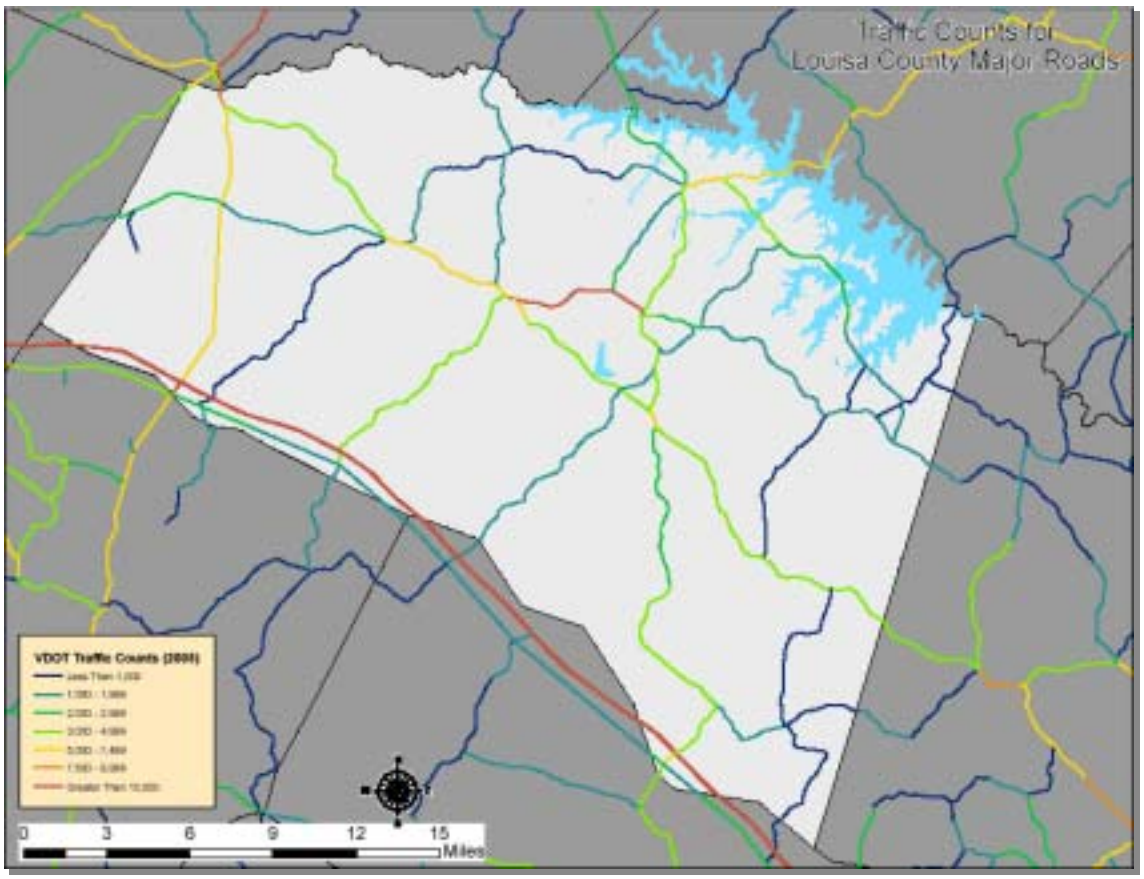


Figure 9: Traffic Counts
This map illustrates the average daily trips on the area's roadways.

- Financial Costs: Affordable housing is one reason why commute times are unusually long in Louisa County. Aside from its high quality of life, there is a high likelihood that many residents moved to Louisa because they were unable to afford the surrounding areas, creating a longer drive to the employment opportunities and urban amenities in those communities. Others are native to the County, but could only find jobs in those adjacent areas. With fluctuating gasoline prices, these long commutes can represent a significant financial impact on household budgets.

- Accessibility and Choice: Considering these commuting patterns and the layout of the County, there are few transportation options for getting to work or making other essential trips. This constrains the choices for all residents, but it particularly hinders those with limited mobility or who lack access to an automobile.

Assessing Community Needs – Based on Income

When living in a rural area, most residents naturally depend on their private vehicles for travel. While this is common in these communities, this reliance can cause financial difficulties for everyone, particularly with fluctuating gas prices and uncertainty with the job market. Those in poverty or with lower incomes face the most significant challenges with transportation. Since most commutes in Louisa County are unusually long, the cost of driving a personal automobile can represent a significant cost for each household. Considering these commutes, the annual cost for driving would be several thousands of dollars. Assuming commute distances of 30 miles and gasoline prices of $2.50, driving an average car may have an annual cost of $12,000 for an individual, when including all gas and maintenance costs. This represents a considerable portion of most household incomes and can be particularly difficult for those under the poverty line. Also, individuals with lower incomes are less likely to own a car, restricting them to few transportation options in a rural area.

The U.S. Census Bureau uses a set of money income thresholds that vary by family size and composition to detect who is poor. If the total income for a family or unrelated individual falls below the relevant poverty threshold, then the family or unrelated individual is classified as being "below the poverty level."

Compared to the Charlottesville region, Louisa County has the third highest percentage of those in the poverty category, as determined by the U.S. Census Bureau. When considering only counties, Louisa has the second highest percentage, with about 10 percent of individuals identified as being under the poverty line.

Figure 10: Poverty Rate by Jurisdiction, Charlottesville Region, 1990 and 2000

	Charlottesville	Nelson	**Louisa**	Albemarle	Greene	Fluvanna
1990	23.7%	15.2%	**12.2%**	7.6%	12.3%	10.5%
2000	25.9%	12.1%	**10.2%**	6.7%	6.6%	5.9%

Assessing Community Needs – Based on Age

Those defined as elderly, aged 65 or greater, make up a notable portion, about 13 percent, of Louisa County's total population. This group is increasingly important as the County's population continues to age and the demand to meet their needs grows. Many people in this age group remain active and play vital roles in our communities. With modern medicine and greater education on fitness, today's elderly are sustaining their health and quality of life as they age. At the same time, those that are elderly typically have an increased chance of developing certain health problems and/or disabilities. The elderly usually require greater public services and have more limitations with mobility.

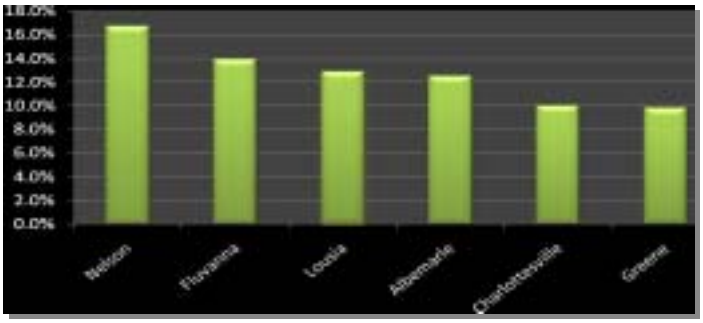


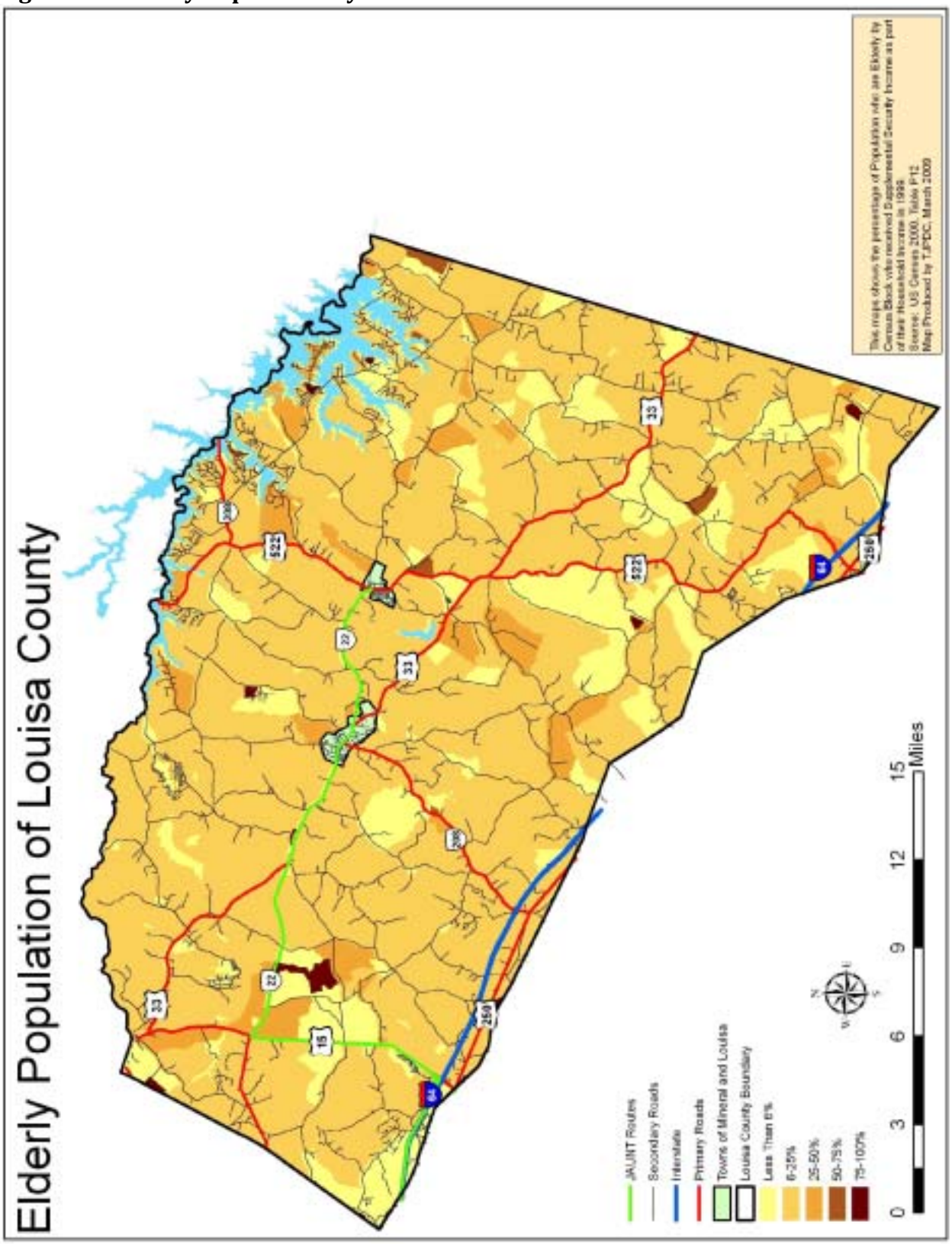
Figure 11: Percentage of Elderly
This chart illustrates the percentage of elderly as compared to the total population, per locality. In 2000, 13 percent of all Louisa County residents were classified as elderly.

Source: U.S. Census

In Louisa County, approximately 13 percent of all residents are defined as elderly. Compared with the Charlottesville metro area, Louisa County has the third highest percentage, behind Nelson and Fluvanna Counties. Looking at Census Block Data, it appears that the elderly population is evenly distributed throughout the County, aside from some minor concentrations that are scattered about the area.

This distribution causes difficulties with meeting the transportation needs of the County's aging population. If these individuals begin having difficulties with their health or mobility, then they may have to make decisions about where to live. These elderly citizens may need to move into areas with more transportation options and accessibility, while still maintaining affordable living. Many communities set a goal of "aging in place", where people can remain in their homes, neighborhoods or communities as they grow older. Since the County's aging population is scattered across the area, resources and services would also be spread out to meet these current or future needs. This presents financial and logistical obstacles that make these efforts difficult or infeasible in some cases. The County and service providers have limited resources, which can be more efficiently managed if they focused on defined areas.

Figure 12: Elderly Population by Census Block



Assessing Community Needs – People with Disabilities

There are several challenges to meeting the transportation needs of those with disabilities, which can include mental, physical and sensory disabilities. Operating personal vehicles can be difficult for many with these limitations, depending on the severity. In rural areas, such as Louisa County, personal automobiles are the dominate mode of transportation, as demonstrated with the previous data, leaving many with limited options for traveling around the community.

The U.S. Census Bureau categorizes a person as disabled if any of the following conditions hold:

1. They were five years old and over and reported a long-lasting sensory, physical, mental or self-care disability;
2. They were 16 years old and over and reported difficulty going outside the home because of a physical, mental, or emotional condition lasting six months or more; or
3. They were 16 to 64 years old and reported difficulty working at a job or business because of a physical, mental, or emotional condition lasting six months or more.

Within the Charlottesville region, Louisa County has a relatively high percentage of people with disabilities. Compared with the other five jurisdictions in the Planning District, Louisa ranks second, with about 37 percent, in this category. This figure includes all disabilities, ages five and older, accounting for over one-third of the County's total population. A portion of this percentage is attributed to Louisa County's elderly population, which makes up a significant part of the County's population. With an aging population, the percentage of people with disabilities may increase over time.

Figure 13: Persons with Disabilities by Jurisdiction, Charlottesville Region, 2000

	Nelson	**Louisa**	Greene	Fluvanna	Charlottesville	Albemarle
Persons with Disabilities	6,033	**9,465**	4,099	4,960	10,117	16,680
% of Total Persons	42%	**37%**	27%	25%	25%	21%

Source: 2000 Census

When focusing on adults, ages 16 to 64, Louisa County still shows a large portion of its population with disabilities. Once again, Louisa has the second highest percent in the region, when compared with the other five jurisdictions in the Planning District. Nearly one quarter of all County residents fall under this category.

Figure 14: Persons Ages 16 to 64 with Disabilities by Jurisdiction, 2000

	Nelson	**Louisa**	Greene	Fluvanna	Charlottesville	Albemarle
Ages 16 to 64	3,573	**6,229**	2,897	3,170	6,489	10,111
% of Total Persons	25%	**24%**	19%	16%	16%	13%

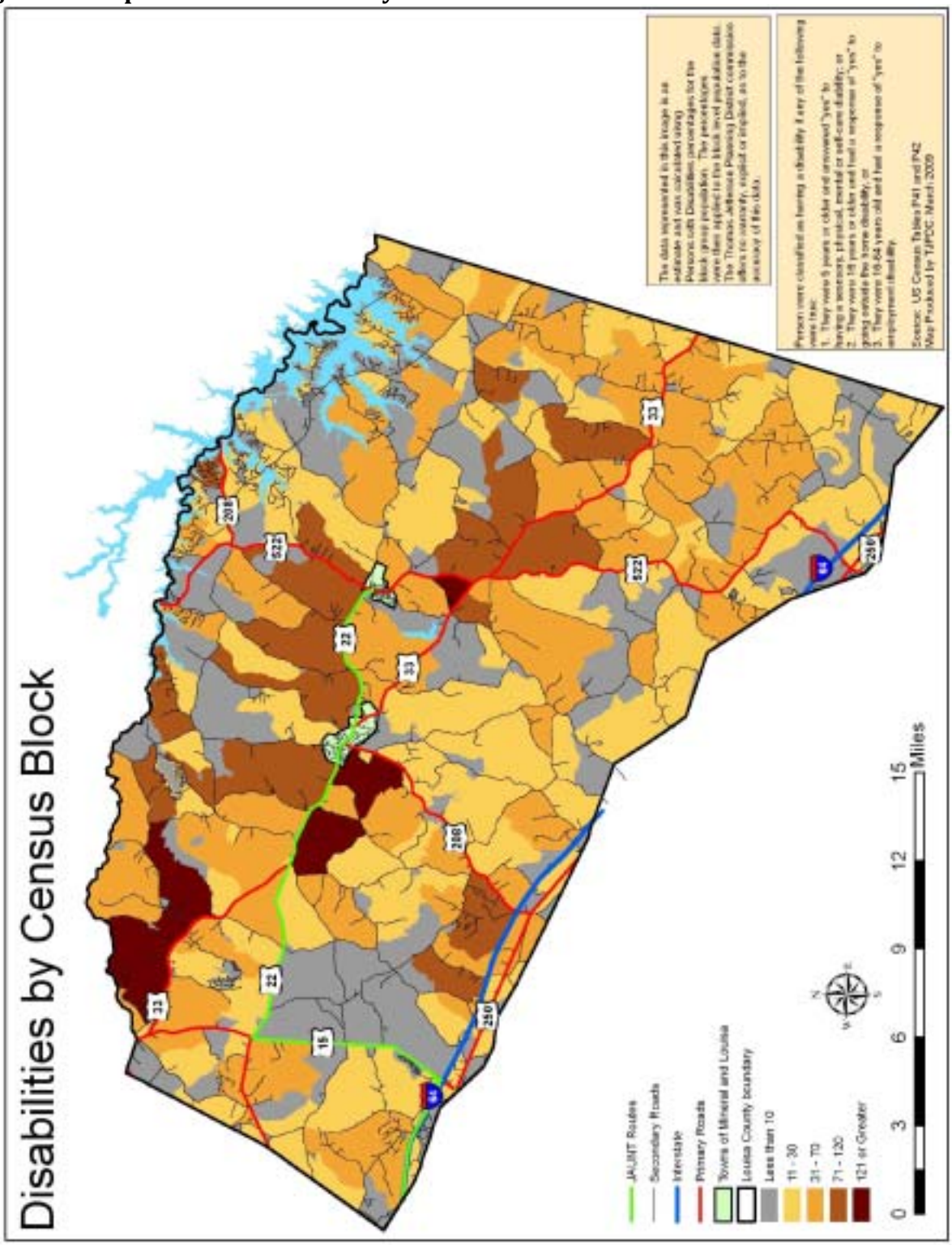
Source: 2000 Census

Considering Census Block data, there appears to be concentrations of people with disabilities in the County. The largest groups are along Routes 33 and 22, in the central part of the County. There is also a higher concentration in the Gordonsville area. This general pattern indicates that many of those with disabilities are located around the Towns of Mineral, Louisa and Gordonsville. There are advantages to this distribution, since the towns typically have pedestrian facilities, amenities and services that benefit these individuals and help meet their needs. The towns have densities that allow for shorter trips that are walkable or accessible for people in wheelchairs or those with other limitations. With these concentrations, special transportation services are more feasible, taking these residents into Charlottesville or other central areas for commutes and other trips.

Picture 7: People with Disabilities
When the average person thinks of those with disabilities, they typically imagine someone in a wheelchair. While there are many individuals that go into that category, there are many other forms of disabilities. These include additional types of physical limitations, sensory, mental and self-care disabilities.

In reality, everyone is faced with their own limitations. Common conditions, such as arthritis, can cause someone difficulties with moving around their community. At any point in one's life, there are limitations, particularly for the very young, the elderly and those with special circumstances. The goal with accessible transportation is to meet all of these needs and provide benefits to everyone, whether they are defined as having a disability or not.

Figure 8: People with Disabilities by Census Block



III. Meeting Transportation Needs in Rural Communities

While there are many challenges and special needs in rural areas, with regards to transportation, there are also several strategies for creating more choices, accessibility, safety and efficiency. The Louisa County Transportation Plan will focus greatly on road projects and improving the general roadway system, but there will also be attention on other options for travel and ways of addressing transportation. With limited resources and funds, Louisa County can make relatively inexpensive investments in services and programs that will enhance its transportation system. Many of these strategies can fall under the category of Transportation Demand Management (TDM).

Transportation Demand Management combines a set of strategies that result in the efficient utilization of limited transportation resources. These strategies reduce single-occupancy vehicle trips, encourage trip-chaining, carpooling and transit-use, and introduce technological services to improve traffic flow and inform travelers. In Louisa County, transportation demand management planning is coordinated with county staff, local businesses, the Thomas Jefferson Planning District Commission, RideShare, JAUNT, the Virginia Department of Transportation and the Virginia Department of Rail & Public Transportation. Louisa County residents have several services available, including ridesharing, a guaranteed ride home program, park & ride lots and telework.

Ridesharing

Ridesharing provides Louisa County residents a simple solution to commute to work, save money on gasoline and reduce traffic congestion and air pollution. According to the 2000 U.S. Census, 17.2% of Louisa County residents carpool to work. Three agencies assist residents with forming carpools: RideShare, RideFinders and GWRideConnect. RideShare, found at www.RideShareInfo.org, is based in Charlottesville and acts as a component of the Thomas Jefferson Planning District Commission. It can perform ridematching for intra- and inter-county commute trips and specializes in commutes to Charlottesville. RideFinders (www.RideFinders.com), based in Richmond, focuses on inbound trips to the Richmond area, and GWRideConnect (http://www.gwregion.org/gwrideconnect.html), based in Fredericksburg, focuses on inbound trips to the Fredericksburg and Washington, DC regions.

Picture 8: RideShare Participants

All three agencies maintain commuter databases with free matching services. Commuters can request a match by providing information on origin, destination, work schedule and commute preferences. After receiving a match list, commuters have the option to contact members and find a carpool that best meets their needs.

Guaranteed Ride Home

Commuters in Louisa County that choose to carpool, ride transit, walk or bike to work at least twice per week are eligible for the Guaranteed Ride Home program. Operated by RideShare, Guaranteed Ride Home provides commuters with a safety net in case of a family emergency, personal illness or other unplanned events occur while at work. Through the program, RideShare pays for the cost of a rental car or taxi ride home from work up to five times per year. Commuters register for free and receive a membership card and voucher for their first ride.

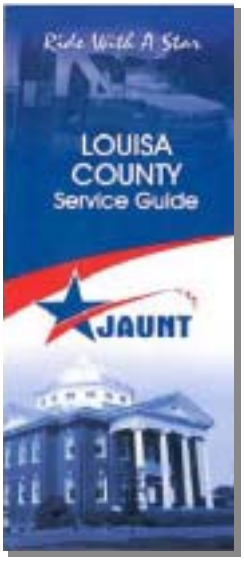
Park & Ride Lots

Park and ride lots provide commuters with safe, convenient locations to meet carpools or utilize transit service. Louisa County currently has two park and ride lots, both located on the I-64 corridor: Zion Crossroads and Gum Spring.

The Zion Crossroads park and ride lot is located on the northwest corner of the I-64 and US 15 interchange, next to the Best Western Crossroads Inn & Suites. The lot contains 64 spaces, including 2 handicapped-accessible spaces. The paved lot is maintained by the Virginia Department of Transportation and has lighting, trash cans and pay phones.

The Gum Spring park and ride lot is located on the northwest corner of the US 250 and US 15 intersection, just south of I-64. The lot contains 25 spaces, including 2 handicapped-accessible spaces. The gravel lot is maintained by the Virginia Department of Transportation and has limited lighting and trash cans.

Para-Transit Services



Given Louisa County's relatively low population densities, there are inherent difficulties with establishing a robust transit system. The County lacks sufficient densities to maintain an extensive fixed route system, unless there were significant resources and political will to subsidize such a service. In many rural communities, the most financially and logistically sustainable system is para-transit. This is defined as a form of public transportation that is characterized by flexible routes and schedules, typically using small buses to provide shared occupancy, doorstep, or curbside personalized transportation service. The only available transit in the County comes from JAUNT, a regional organization that offers demand-response and fixed-route service, not only in Louisa County but also throughout the region.

Currently JAUNT receives federal and state mass transit funding as well as funds from the local governments, human service agency payments and passenger fares. Federal, state and local funding supplement the agency payments and passenger fares helping to keep the cost of service low for those who use it.

JAUNT's eighty-vehicle fleet makes over 270,000 trips annually, including commuter trips, health service trips, and general errand trips. Most trips are demand-response or scheduled by the passenger, but some fixed-routes are available that allow access to urbanized areas. JAUNT buses are all equipped with computers that plan the most effective pick-up and drop-off routes.

In Louisa County, JAUNT offers three separate services. *Intra-county Service* is accessible by-appointment, to all County residents. This service is available beginning at 7:30am, Monday through Saturday. *Mid-day Service* connects Louisa County residents to the City of Charlottesville; residents leave Louisa between 10:30 and 11 and return from Charlottesville at 3pm. *Commuter Service* is a fixed route service that stops at three locations in Louisa County before bringing passengers to downtown Charlottesville. This service is offered Monday through Friday. These established routes have helped to increase JAUNT's ridership in Louisa County; from FY08 to FY09 Louisa's ridership increased 14%, the greatest increase in all served localities.

On a regional scale, JAUNT offers transit service in the City of Charlottesville, along with Albemarle, Fluvanna, Louisa, Nelson and Buckingham counties. While JAUNT is available to all those living in these designated counties, the service strongly caters to persons with disabilities and the elderly, offering reduced fares, lift-equipped access, and door-to-door prearranged service.

JAUNT works to coordinate its service with numerous human service agencies throughout the region, ensuring these agencies have a viable transit option if needed. As a coordinated system, JAUNT offers the previously mentioned public transit routes; however, JAUNT also offers its vehicles and drivers for human service agency use. This coordination makes certain that target populations, including persons with disabilities, the elderly and youth, have access to JAUNT services. Part of this coordination effort is mobility management, an effort to meet with human service agencies in the region to discuss transportation needs and resources. Currently in Louisa County agencies like the Arc of the Piedmont and Jefferson Area Board for Aging have been or are in the process of being assessed through mobility management. All of these agencies focus on populations that have special transportation needs but not necessarily consistent access to viable transportation options.

Recommendations

With a general overview of the existing conditions and services in Louisa County, the following are recommendations for moving forward with the County's Transportation Plan. These recommendations will assist in guiding these efforts, as opposed to acting as established goals and objectives, which will be determined later in the process. There must be further analysis and collaboration with stakeholders to formulate recommendations for actual projects and services that can be implemented.

Commuting Patterns

The County has one of the longest average commutes in the Country, just over 36 minutes. The majority of Louisa residents must travel out to the surrounding areas for employment opportunities, creating increased demand on the area's roadways.

- Recommendation 1: Have the plan assess the County's Land Use policies, in relation to its transportation system, to determine what changes can help mitigate the demand on roadways.
- Recommendation 2: Explore alternative modes of travel and TDM strategies for alleviating the dependency on personal automobiles.
- Recommendation 3: Have the plan assess area roadways and determine the safety of traveling along major commuter routes.
- Recommendation 4: Explore opportunities to bring additional employment opportunities into Louisa County, creating jobs for local residents that would create shorter commutes.

Meeting Special Needs

A significant percentage of Louisa County's population has special needs of some kind that diminishes their mobility. These limitations are related to age, income and presence of disabilities.

- Recommendation: Have the transportation plan consider alternative modes of travel, services and programs that can serve the needs of people with mobility issues.

Carpooling and Vanpooling

With one of the longest average commutes in the Country, the County's commuting patterns are likely the reason why Louisa also has an unusually high rate for carpooling, representing over 17 percent of all commute trips. The length of these commutes represents a significant cost to County residents, who must pay for gasoline and maintenance of their personal automobiles. Carpooling is a cheap and easy way of relieving the cost of driving and the demand on roadways.

- Recommendation 1: Explore opportunities to work with carpooling programs that serve Louisa County and the surrounding areas. There may be ways of forming new partnerships that will encourage more people to carpool.
- Recommendation 2: Look at the possibility of public outreach for educating the public on the benefits of carpooling.

- Recommendation 3: Expand park and ride facilities and have them placed in the most effective locations.

Park and Rides

Improvements and Expansion

The County's two existing lots, in Zion Crossroads and Gum Spring, are nearly at capacity. Both lots are used heavily and provide opportunities for carpooling, vanpooling and transferring onto para-transit services.

- Recommendation 1: Have the plan establish a project to pave and expand the Gum Spring lot.
- Recommendation 2: Have the plan identify a project for expanding the Zion Crossroads lot, along with additional facilities, such as a bus shelter and other site improvements.

Additional Park and Ride Lots

With only two park and ride facilities in the County, there is potential for additional lots. This may help encourage more people to carpool, assisting to relieve the cost of driving alone.

- Recommendation 3: Have the plan explore locations for additional park and ride facilities, specifically in the Ferncliff area, Towns of Louisa and Mineral, and near the Route 208 Bridge on Lake Anna.

Para-Transit

Ensuring Proper Site Conditions

There are certain site conditions that allow for JAUNT service, such as the proper clearance heights for building overhangs and a level surface for loading and unloading passengers. It would be advantageous for County Staff to coordinate their site plan review with JAUNT, regarding projects that have medical services or that may particularly serve JAUNT riders. JAUNT would lack any authority to approve or deny plans, but they could provide comments. This cooperation would help ensure that JAUNT is able to access these new developments.

- Recommendation: Have the plan suggest administrative procedures for JAUNT to comment on selected site plans.

Expand JAUNT Services

Due to the success and popularity of service in Louisa County, JAUNT is attempting to expand its service in the County. Service expansion options include intra-county night service, new and expanded fixed routes, commuter routes to Richmond, and Sunday service. While all of these services are being considered, any service expansion is tied to available funding. JAUNT's funding consists of federal, state and local sources as well as service agency payments and passenger fares.

- Recommendation: Explore ways of working with JAUNT to assist them on expanding services in Louisa County.

Other Para-Transit Services

Since Louisa County borders two other metropolitan areas, there may be opportunities for the County to partner with para-transit services in the Richmond and Fredericksburg areas. Commuting patterns suggest that a significant percentage of County residents travel to these adjoining areas for employment and other trips.

- Recommendation: Explore the possibility of having additional para-transit services that would provide access to adjoining metropolitan areas.

IV. Work Completed and Next Steps

Work Conducted To Date

The THA portion of this project began in March 2009, expiring in the end of May. During this three month process, the Planning District coordinated efforts with County Staff for collecting data, mapping and drafting chapters of the plan. A considerable amount of the preliminary research and data collection was completed during this period. Below is a summary of those completed tasks, as of the end of June 2009.

General Transportation Principles

Staff researched and drafted sections of the plan that deal with general transportation principles. A goal of the plan is to provide the County with a resource that offers information on transportation practices and techniques. Work is currently underway on expanding these sections, to provide further insight on the transportation planning discipline. This plan will discuss access management, transportation demand management and transportation system management. While the plan will have heavy focus on roadway improvements, these strategies and techniques will be described in detail, providing guidance on alternative modes of transportation and ways of meeting the needs of all County residents.

Existing Conditions

Staff allocated most of its resources towards collecting data on existing conditions. This work involved the review of existing plans, infrastructure, services, demographic data and legal requirements that would influence the County's transportation system. With several topics, Staff drafted sections of the plan that make use of this research. With other topics, the work just involved data collection. Overall, this information and subsequent analysis includes state, regional and local conditions, giving a comprehensive discussion of these items.

Staff reviewed all transportation related plans for the surrounding jurisdictions, which includes the counties of Goochland, Hanover, Spotsylvania, Orange, Albemarle and Fluvanna. There were also assessments of the three adjoining towns of Louisa, Mineral and Gordonsville. Finally, Staff read through regional plans that may influence Louisa County's transportation system. This review consisted of regional plans for the Thomas Jefferson Planning District Commission, George Washington Regional Commission and Richmond Regional Planning District Commission. After evaluating these documents, Staff wrote a synopsis of the all existing plans that may influence the roadways and transportation services in Louisa County. A regional inventory of plans is important, since these systems rarely follow jurisdictional boundaries and have regional impacts.

There was significant time devoted to assessing the County's existing transportation infrastructure. Staff drafted an inventory of all roadways, bike routes and pedestrian facilities.

The goal of this work was to gain a detailed understanding of the County's current transportation network, including all modes of transportation and types of infrastructure.

The work program for this project also included an inventory of transportation services. Staff met with JAUNT, discussing routes and other services that they provide to the County. There was also discussion on how JAUNT can be expanded, reaching more residents and operating at additional times. Staff also partnered with the RideShare program, reviewing how County residents benefit from that service. There were inventories of the two park and ride lots in Louisa, with further discussion on their usage and opportunities for new facilities. Additional analysis on these topics is awaiting the findings with the Regional Mobility Plan, which will cover transportation services throughout the region that cater to those with disabilities and limited mobility.

The THA Toolkit was useful for collecting demographic data in the County. Staff determined where there are population centers and assessed their effects on surrounding roadways. Much of this work also focused on identifying concentrations of elderly and those with disabilities. This information helped highlight areas for additional transportation services and investments that would meet the needs of those groups.

Finally, Staff reviewed the State Code and highlighted requirements that the County must meet. This legal review is important for gaining compliance with the State Code, protecting Louisa County from litigation and allowing it to pursue certain funding. Having compliance with state requirements is essential for implementing certain transportation projects.

Commuting Patterns

The THA Toolkit was the exclusive resource for gathering information on commuting patterns throughout the County. The OnTheMap program and other websites offered detailed maps and information on commuter and labor sheds. In conjunction with the roadway inventory, this commuter information provides a critical understanding of how people use the County's transportation network.

Consideration of People with Special Needs

Staff Made use of the THA Toolkit to integrate the needs of everyone into the Transportation Plan. These considerations are present throughout the plan and are included in the work referenced above. The plan will also have a chapter that focuses on this topic, which is nearly completed.

Maps

Staff already completed several maps for the plan. Many of these were composed from the THA Toolkit and focus on the elderly and those with disabilities. Other maps cover topics such as employment centers and transportation infrastructure, which supplement the plan's text.

Final Report

Finally, Planning District Staff completed this final report, which is a requirement of the THA grant. Aside from meeting contractual obligations, this report is a resource for Louisa County officials and staff, which informs them on recent progress and helps to coordinate future efforts.

Next Steps

With the THA portion of this project acting as the initial stage, there are several additional steps and tasks that remain. The work that is already completed will lay the groundwork for these next steps. This proposed work program and schedule will be coordinated between the Planning District and County, guiding efforts in developing the Transportation Plan.

Coordination of Work Schedule

The Planning District will meet with County Staff on confirming details of this work schedule. This discussion will establish responsibilities of Staff members, timelines and further content for the plan. Staff will also present this final report to the Louisa County Planning Commission, to review tasks and findings that were completed with the THA Toolkit.

Further Research and Analysis

This will involve data collection and technical analysis of both transportation and land use patterns in the County. Work will include current and planned conditions in the County, referring to Louisa's Comprehensive Plan for guidance. Staff will rely on VDOT for additional technical assistance and recommendations on roadways. Since the budget for this project is limited, some of this research and analysis will come from other planning projects that are already underway, saving Staff time and resources.

The Planning District is currently updating the rural portion of its regional transportation plan, called the United Jefferson Area Mobility Plan, also known as UnJAM 2035. Staff will make use of information and public outreach from this project for the Louisa Plan. VDOT's consultants, Parsons Transportation, are also working on the area's Rural Long Range Plan (RLRP), which will be included in the State Highway Plan and the State's main transportation plan, VTRANS. Parsons is conducting data collection and analysis for each of the rural counties in the region, assessing the overall transportation system and providing roadway recommendations. Staff will also make use of this information, to create recommendations for roadway projects.

Presentations and Public Outreach

Throughout the planning process, TJPDC and County Staff will present updates and draft materials to the public and Planning Commission. Staff will also work with established partners that have expertise with transportation and the community, such as JAUNT and other service providers. The Planning District can make use of other regional transportation projects, such as UnJAM2035 and the RLRP, to collect input on Louisa's plan. Staff will work with the County's

Planning Commission on preparing the plan, providing them with updates and gaining their input. Near the end of the process, the Planning Commission and Board of Supervisors will hold public hearings for their consideration of the plan. This will provide further public input on the plan and meet public hearing requirements.

Prepare Goals and Objectives

Staff will draft and refine the plan's goals and objectives, based on the research and analysis conducted throughout this planning process. Input from the public, stakeholders and County Officials will be instrumental with these efforts.

Draft Chapters of the Plan

The THA funding allowed Staff to begin drafting several chapters of the Transportation Plan. While some of these chapters are completed, work on most of these sections is still underway. The following is a summary of chapters and topics that are proposed for the Transportation Plan, along with a description and update on each. This outline was reviewed with County Staff and done in conjunction with their input. This outline is still preliminary and is subject to change, according to County and public guidance. Items may function as general topics for the plan or may not be listed in order.

Introductory Sections

- Introduction: This will provide a general summary of the plan that will include an executive summary and table of contents. The plan should be easy to use for County Officials, Staff and the public. This introductory section will function as a clear guide for using and navigating through content of the plan.

- Purpose: The purpose section will describe the reason and function of the plan in greater detail. This section will reinforce the relevance of the plan and how it functions as a tool for the community. The plan will assist with identifying essential transportation projects and provide guidance for their implementation. It will also help County Staff and Officials assess new developments and policy proposal from a transportation perspective.

- Background: This will explain the planning process for developing the plan, building on the purpose section.

- State Planning Requirements: It is vital that plans are consistent with state and federal standards. This section will provide an overview of relevant sections of the state code and verify how the plan complies with all legal requirements. The plan will also provide a brief overview of VDOT policies, with language ensuring consistency between Louisa County's Transportation Plan and those procedures.

- Other Plans: Since transportation systems typically transcend jurisdictional boundaries, the plan includes discussion of neighboring communities and how their plans may influence the County's roadways and other transportation infrastructure. With these considerations, this section will give an inventory of these documents. There will also be summaries of State plans, such as the Statewide Highway Plan and VTRANS. Finally, this section will categorize any other existing plans or studies that focus on Louisa County, including private and public sector documents. This information acts as an inventory of all plans and studies that influence the County's transportation system. This will help ensure that Louisa's transportation system is consistent with Federal, State and regional plans. It will also identify projects, services, goals and objectives that align with those surrounding plans.

Inventories and Modes of Transportation

- Roadway Classifications: The roadway classification system is a way of defining roads into classes, each defined according to its purpose with respect to transportation. The basic purpose of a given road can be defined as a function of mobility and accessibility. The classification for roads in the county is important because in order to be eligible for certain funds a roadway may need to be classified in a specific category. This section of the plan will provide an overview of roadway classifications, their functions and general standards.

Picture 9: Roadway Classifications – Interstate
The Plan will provide graphics and descriptions of roadway standards which will provide general information and education on terminology and requirements.

- Roadway Inventory: This section will provide an inventory of the County's roads, by roadway classification. It will include detailed descriptions of each roadway, with language on design, function, deficiencies, traffic counts and other information. There will also be sections that address recommendations for roadway improvements and construction. Work on this chapter is underway, with much of the language already completed. Development of roadway recommendations has yet to begin. Staff is waiting for further information from VDOT and other studies that are underway, which will assist with drafting recommendations.

- Para-Transit: This is defined as a form of public transportation that is characterized by flexible routes and schedules, typically using small buses to provide shared occupancy, doorstep, or curbside personalized transportation service. For Louisa County, JAUNT is the para-transit service provider. This section provides a detailed description of JAUNT and their services. It also offers recommendations for improving and expanding these services. Staff already completed this section and had JAUNT review the language.

- Bike and Pedestrian: Rural areas may rely on automobiles, but there should also be accommodations for bicyclists and pedestrians. These accommodations can assist in addressing the transportation needs of all County residents, including those without access to vehicles or those with other obstacles to mobility. With limited resources, the plan will identify places where these facilities will provide the greatest benefit to the community. The most likely areas for investment are those surrounding the Towns of Mineral, Louisa and Gordonsville. This section will include implementation strategies and an action plan for constructing these facilities.

Picture 10: Bike Route 76
This is an important national Bike Route that passes through Louisa County.

- RideShare: This is a carpool program that operates through the Planning District offices. Staff already began work on this section of the plan, using resources from the THA grant. The completed language will provide background on the program, services and ways carpooling meets the transportation needs of Louisa County's citizens. There will be recommendations for expanding these services and reaching more citizens.

- Park and Ride Lots: These are parking facilities where commuters store their vehicles to transfer onto transit or carpools. The County currently has two of these lots; one located in Zion Crossroads and the other in Gum Spring. Both of these facilities are near capacity. Louisa County also has an unusually high rate of carpooling, making up 17 percent of all commuter trips. These figures indicate there is opportunity for expansion or additional lots throughout the community. New park and ride lots would support both JAUNT and the RideShare program, helping to alleviate traffic on the County's roadways.

- Freight: Another major function of the transportation system is the movement of goods, merchandise, and commodities. The plan will discuss existing conditions for roadway and rail freight, with recommendations for improving the movement of these

goods. There will also be discussion of how freight influences the overall transportation system.

- Rail: Building on the freight discussion, the plan will review railways throughout the County. There will be an inventory of these facilities that indicates the location, ownership, function and frequency of use for these lines. There will be documentation of any plans for railway expansion or facilities that may be closed. The plan will also address rail crossings throughout the County, determining where there may be safety improvements. This section will determine opportunities for economic development, along with rails-to-trail or rails-with-trails projects.

Picture 11: Rail Freight through Louisa

- Aviation Facilities: The plan will identify any private airfields in the area and provide language to help strengthen the Louisa County Airpark.

- Lake Anna: Waterways represent another form of transportation. While the County lacks harbors or access to other navigable bodies of water, Lake Anna experiences a great deal of boat traffic. The vast majority of this traffic is for recreational purposes and is all confined to the lake itself. The transportation plan may address this boat traffic and provide an inventory of access points to the lake. There may be recommendations for creating additional access to Lake Anna, along with services for boaters. Any language in the plan should support the use of Lake Anna, with a focus on safety.

General Transportation Practices

- Access Management: This is defined as a set of policies and standards that manage the number and location of access points, such as driveways, onto the public road system, preserving the regional flow of traffic in terms of safety, capacity, and speed. As residential and commercial uses develop along roadways, traffic usually increases and road capacity diminishes. Without proper access management, roadway conditions and safety can degrade rapidly. This section of the plan will provide a clear and comprehensive overview of access management and how this can be successfully applied to Louisa County. Aside from a chapter dedicated to this topic, these themes of managed access may be scattered throughout the plan.

- Transportation Demand Management (TDM): This is a set of strategies for reducing demand on the road system by reducing the number of vehicles using roadways and/or increasing the number of persons per vehicle. These programmatic strategies are designed to make efficient use of the existing transportation system. TDM can include an emphasis on carpools, vanpools, and transit. This planning approach can also focus on reducing the length of some trips or moving some trips to off-peak hours. A section of the plan will provide a detailed overview of this topic, while TDM will also be integrated throughout the document.

- Transportation Systems Management (TSM): This is a comprehensive approach for addressing the problems caused by additional development, traffic congestion and a shortfall in transportation capacity. These techniques increase the efficiency, safety, capacity, or level of service of the existing transportation system, without the need of significant infrastructure improvements, such as roadway construction. Examples of TSM strategies may include traffic signal improvements, traffic control devices, access management, coordinated accident response, transit, and carpooling. A section of the plan will focus on this topic in detail, determining if and where these strategies are feasible in the County.

Community Assessments

- Land Use: This topic will be a critical component of the plan. Both land use and transportation are inherently linked, in a relationship that can be complicated and technical. In basic terms, the use of land determines the amount of traffic on local roads. Conversely, the transportation infrastructure provides access to that land, allowing for development and use of that land. The plan will assess the existing land use patterns in the County and how they influence the transportation network. There will also be references to the County's Comprehensive Plan and Future Land Use Map. The Transportation Plan will include a chapter on land use, but this topic will also be addressed throughout the entire plan.

- Policies and Regulations: Local policies and regulations can significantly influence a transportation network, by controlling how and where development occurs. County policies and initiatives may include topics such as the comprehensive plan, decisions on development proposals, capital budgets and proffer policies. County regulations involve documents such as the zoning and subdivision ordinances. The plan will assess the County's current plans, ordinances and initiatives, to determine how they interact with transportation related issues. The plan will also include recommendations for changes that will improve the County's transportation infrastructure and services.

- Commuting Patterns: A commute is defined as a home-to-work or work-to-home trip, and is one of the main functions of a transportation network. While there are other types of trips, commuting patterns are consistent, predictable and make up a major

portion of roadway traffic. Assessing these commuting patterns is a vital exercise in understanding a community and its transportation network. Work on this section is underway, with much of the research and analysis completed. This information will be linked with the County's roadway inventory, determining existing and future demands on each road.

- Agricultural Traffic and Goods: As a traditionally rural community, Louisa County has a long history of agriculture. While farming continues to decline in the area, it still represents a major part of the community. The transportation plan will assess agricultural traffic, including the movement of workers and equipment on the County's roadways. The plan will also assess how farmers move their goods within and beyond the County's borders.

- Gateways: These are important access points into the County. Gateways are the places where the transportation networks takes people across the community's borders. This presents the first and last impression of the County, particularly for visitors such as tourists, shoppers, potential employers, workers and others who enter or are passing through the community. The plan will provide an inventory of these gateways, determining their functional and aesthetic qualities.

Other Considerations

- Parking Standards: Parking is an essential part of a transportation system that many plans fail to address. The plan will consider the County's existing parking standards and make recommendations for improving function, aesthetics, accessibility, and safety for parking facilities.

- School Transportation: School buses and other associated traffic are major contributors to roadway congestion. The buses have frequent stops and generally travel at lower speeds, diminishing roadway capacities at peak hours. Additional traffic is generated from taking kids to school and commuting for school staff. The plan will assess the influence these trips have on the County's transportation system and determine ways of addressing the subsequent travel delays.

  The plan may also help to assess locations for additional schools, determining the most efficient locations in regards to transportation.

Picture 12: School Buses and their effect on Roadways

- Mobility and Accessibility: Much of this work is already completed, made possible through the THA grant and Toolkit. This section of the plan will focus on meeting the transportation needs of those with limitations in mobility. The plan will identify where there are concentrations of elderly and people with disabilities, assessing their proximity to employment centers and other community amenities. It will offer options and solutions for linking where these individuals live and how they will get to their destinations. The plan also identifies current services in the County that would benefit people with disabilities. It will determine where there are areas in the County that require para-transit and other transportation services. While one section of the plan focuses on this topic, the overall plan will attempt to address the needs of all County residents.

- Telecommuting: Working from home can assist with decreasing traffic, which can help maintain the existing capacity of roadways. In most instances, telecommuting depends greatly on one's access to high speed internet. The plan will reference Louisa County's Telecommunications plan and provide an analysis of those who work from home.

State Transportation Programs

- Rural Additions: The State provides funds, administered through VDOT, to this program for upgrading existing rural roadways. This program allows localities to make improvements to these privately owned roads, bringing them into compliance with state roadway standards and allowing them to be eligible for state maintenance. The State has limited funds for this program. However, each year eligible counties are allowed to set aside five percent of their secondary road construction funds that they are allocated in order to improve the county's secondary system of state highways and to improve qualifying roads that are not state maintained. Louisa County is active with this program, though its current application process has many deficiencies. This section of the Transportation Plan will review the existing status of the Rural Additions program and provide recommendations for improving the County's process.

- Rural Rustic: This is another VDOT program, which focuses on improving substandard rural roadways. The Rural Rustic Program is a practical approach to paving low-volume roads. It aims to preserve the rural character of these roads, while improving the roadway surface within the current right-of-way. This section of the Transportation Plan will provide an overview of the existing program and include an inventory of projects.

Implementation

- Goals and Objectives: This represents the actual "plan." Goals and objectives outline the recommendations for addressing and maintaining the County's transportation network. These recommendations will likely be broken down by category, referring to roadways, bicycle and pedestrian facilities, para-transit, freight, rail, and other forms of transportation. These recommendations are based on data of existing conditions and

expert analysis. It also includes considerations from public input and guidance from public officials. Work on this section will begin later in the process, after Staff collects data and input.

- Funding and Implementation: The Transportation Plan will identify several capital investments that would benefit the County. Without funding and implementation strategies, these projects will only exist on paper. A successful plan incorporates both a vision and the means of bringing that vision into reality. With these considerations, this section will be a vital part of the plan. Staff completed the initial draft of this chapter and continues to include additional language on funding opportunities and implementation strategies.

Resources

- Glossary: All transportation related terms in the plan will be included in this section. These terms and definitions should be consistent with those found in the County's Comprehensive Plan and ordinances, where possible.

- Appendixes: Other relevant information will be included in this section. Items may include transportation related plans for the Towns of Mineral and Louisa, along with details on other specific transportation projects in the County.

Budget

The Total budget for developing this plan is $18,000. This budget includes the following sources. Staff will continue searching for further funding opportunities that would assist with this project and provide options for a more detailed plan. Louisa County signed a contract with the Thomas Jefferson Planning District that is consistent with this budget. If other funding becomes available, that contract will be amended to include those adjustments.

1. *Transportation Housing Alliance (THA)* – Louisa County and TJPDC obtained this funding to address the transportation needs of all County residents, including those with disabilities and special needs. Since Louisa has a high percentage of elderly and people with disabilities, the Transportation Plan should address the needs of those citizens.
   Funding Amount: $8,000
2. *Rural Transportation Planning Assistance* – The Federal Highway Administration provides State Planning and Research (SPR) funds to the Virginia Department of Transportation (VDOT) to support transportation planning activities. VDOT, through its Rural Transportation Planning Assistance Program, provides a portion of its SPR funds to Planning District Commissions to carry out transportation planning activities in rural areas. Through TJPDC's Rural Transportation Program, a minimal amount of Staff time may be dedicated to support this initiative.
   Funding Amount: $2,000

3. *Local Funds* – Louisa County signed a contract with the Planning District, dedicating $8,000 of local funds on the project. Part of these funds can function as a match for grant opportunities.
   Funding Amount: $8,000
4. *Other State Funds* – There are other possible funding opportunities, such as the "Transportation and Mobility Planning Program" or the "Rural Transportation Planning Grant", which are both run through VDOT. The availability of these funds is currently being determined.

V. Post Project Reporting

Performance Measures

One requirement for the THA grant, which consisted of money through the Virginia Board of People with Disabilities, is to establish performance measures that track the progress of these projects. These performance measures are requirements that help ensure results of projects that make use of grants, establishing accountability and effectiveness with these public funds. The contract for this grant requires the final report to outline how data will be collected and reported for these post-project performance measures. Some of the reports include the following information:

- Planning products including data tables, maps and checklist results, and efforts to meet the identified needs, and
- The number of people with disabilities who have transportation services for work, school, medical and personal needs, and
- The use of the THA Toolkit and improvements made to remove barriers to employment for people with disabilities.

While tracking this planning process is a requirement, there are benefits to setting benchmarks and goals for any planning project. The following are performance measures for the Louisa County Transportation Plan. These benchmarks are generally listed in sequential order, including descriptions on each. Documentation on these standards will be reported as they occur, rather than at regularly scheduled deadlines.

Continued Public Outreach

The THA work on this plan represents the initial phase of the overall project. Since the Toolkit emphasizes the importance of public outreach and building partnerships, one performance measure will be keeping track of these efforts throughout the remainder of the planning process. There will be reports on any public meetings or participation with groups that provide special services to the community. Public meetings may include Open House forums, outreach at local fairs and events, surveys, online comments, formal public hearings or other opportunities for public participation. Reports will also keep track of new partnerships with service providers, government agencies, local stakeholders and other organizations focused on meeting the transportation needs of all citizens.

Completion and Adoption of Transportation Plan

The main goal of this process is to successfully complete a transportation plan that meets the needs of Louisa County and its citizens. This performance measure will be accomplished once the County Board of Supervisors approves the plan. Completion of the plan is tentatively scheduled for the first part of 2010.

Implementation of Transportation Projects

Louisa County's Transportation Plan will include a project list of recommendations for roadways, bike and pedestrian facilities, programs and transportation services. While the plan identifies the need for these projects and services, it will also include strategies for implementation. A major focus for the Transportation Housing Alliance is creating tangible solutions. As a result, this topic will be an important performance measure that will be reported as projects are pursued and completed.

Adopted Changes in Local Policies

The Transportation Plan, as with any other local plan, lacks regulatory authority. At the same time, plans provide the legal support for policy and ordinance changes. The Louisa Transportation Plan may have recommendations on changes to the County zoning and subdivision ordinances. The plan will also assist with proffer proposals and capital improvement programs. There will be reports on these performance measures, tracking how the plan influenced County policies, initiatives and ordinances.

Guidance with Local Development Proposals

The Transportation Plan will be useful for County Officials with assessing development proposals. The plan will offer guidance on where the transportation system is near capacity and where there is sufficient infrastructure for additional commercial or residential developments. There will be guidance on accessibility and providing mobility to those with special needs. The plan will also assist with the County's position in collecting proffers dealing with transportation. As the County references the plan, there will be records of how it was used to alter individual developments and growth patterns.

Recommendations for THA Toolkit

The THA Toolkit was a useful resource for completing the initial phases of this plan. Much of this work focused on collecting data, mapping and writing draft chapters of the plan. It provided funding and guidance to integrate the transportation needs of all County residents, including those with disabilities, financial constraints or other mobility challenges. While this resource was a helpful tool for addressing the needs of these groups, there were portions of the Toolkit that could be improved. The contract for the THA grant requires that the final report give formal feedback on lessons learned from the project. This includes recommendations regarding further development of the THA Toolkit. Much of this feedback was already included in the Toolkit second edition, which was under development at the time of this report.

Strengths of THA – Funding Opportunity

The $8,000 THA grant was a vital part of getting this project started. Because of the limited resources, this project stalled over two years ago. Funding from the Virginia Board of People

with Disabilities allowed Staff to begin work on the plan and built support for allocating additional funds. This grant made the project possible or at a minimum allowed for its current progress.

Strengths of THA – References to Data Collection

Staff used the THA Toolkit primarily for data collection purposes, along with mapping. It referenced several resources that were instrumental to the final work product. The "Collecting the Data" tab was most useful, particularly the "Economic Market Conditions" section. This provided information on commuting patterns and employment centers, including breakdowns on how people travel to work and the length of those trips. Staff also made use of the "Collection US Census Data" section, to determine residential centers and concentrations of the elderly and those with disabilities. These are all critical topics that will be addressed throughout the final Transportation Plan.

Strengths of THA – Opportunity for Partnerships

Compared to data collection, this project had less focus on establishing partnerships but Staff was able to work with localities and transportation service providers. The THA side of this project created an opportunity for Planning District and County Staff to work together. There were also discussions with the Towns of Louisa and Mineral, where there was overlap on transportation related issues. Both towns have projects that will provide greater accessibility and mobility to County residents, including sidewalk improvements and revitalization of their Main Street corridors. The Planning District also worked with JAUNT, the para-transit provider for this region, and the RideShare program, who coordinates carpools in the area. The final plan will also reference the region's Mobility Plan, which is being developed by JAUNT Staff and is focused on meeting the needs of those with special transportation needs.

Opportunities for Improvement – More Focus on Rural Areas

A challenge with using the Toolkit on this project is its focus on urban areas. Since the Toolkit was designed more to assess a city, town or urban neighborhood, there were difficulties trying to apply some tools to a large rural county, such as Louisa, which is over 500 square miles. Staff attempted to use the checklists under the "Assessing the Needs" tab, but most of the questions were not applicable or failed to capture the realities of rural communities. Louisa County scored very low on these checklists, because it was using urban standards to assess a rural community. As a result, these results provide little insight and were excluded from this report. Other portions of the Toolkit also fail to address the logistics of planning in rural areas. The second edition of the Toolkit should provide further guidance with these topics, which represent a vast majority of Virginia's landscape.

Opportunities for Improvement – Consistencies with Census Data

The Toolkit references several resources that make use of US Census data, though some of these data are inconsistent. Under the 'Economic Market Conditions' section, there are instruction for the OnTheMap website, which provide maps and spreadsheets on commuting

patterns. Under the 'Introduction' section of this tab, there is a link to the Virginia Economic Development Partnership website, which also provides information on commuting patterns. The data from these sources appear to have substantial discrepancies, with trip numbers differing by the thousands. Both OnTheMap and the Virginia Economic Development Partnership take this information from the US Census Bureau. Since these figures are significantly inconsistent, there are difficulties in determining which numbers to use in the plan.

Opportunities for Improvement – Uniting the Toolkit Resources

The Toolkit contains several resources and tools, but there is little guidance on how to tie these together. This results in a document that feels disjointed and difficult to follow at times. The Fact Sheets, which TJPDC Staff is currently developing, should assist with addressing this problem. Posting final reports from other projects will also provide additional guidance on how to use the Toolkit for certain types of projects.

Opportunities for Improvement – Guidance on Transportation

The main product of the Transportation Housing Alliance is the Toolkit, which is meant to link transportation and housing in a way that meets the needs of everyone, including those with disabilities. Using the Toolkit, there appears to be a major emphasis on housing, with less guidance on transportation related issues, particularly in rural areas. While developing this transportation plan, there were difficulties finding relevant resources for this report. To address these issues, the following additions could strengthen the transportation portions of the Toolkit.

- Partnerships: The Toolkit could offer suggestions for possible partnerships with transportation organizations, such as those that provide carpooling, transit, para-transit or other related services.
- Policy Changes: The Toolkit could offer suggestions for regulatory or other policy changes that would improve a community's transportation system. This could include changes to the zoning or subdivision ordinances. There could be guidance on how to establish proffer policies that address transit and other transportation services or infrastructure. The Toolkit could review comprehensive plans and strategies for successfully using these documents to improve a transportation network. There could be guidance on how capital improvement programs can successfully implement transportation projects and where those resources can be focused. The Toolkit could also offer suggestions for how state regulations can be altered to better advance transportation.
- Implementation: The Toolkit could include implementation strategies for transportation projects. This can include guidance with capital budgets, bonds, tax increment financing, proffers and grant opportunities. Without these implementation strategies, the Toolkit falls short of its goal to encourage tangible projects that improve accessibility and mobility.

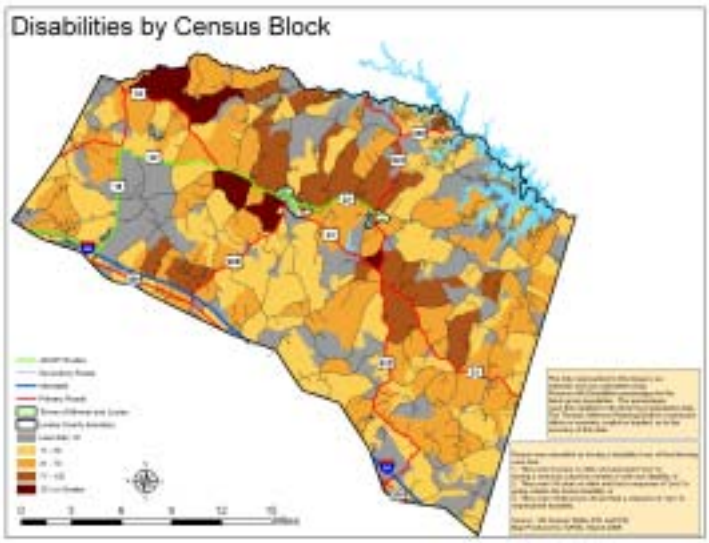
VI. Appendix

Mapping with THA Toolkit

The THA Toolkit is a valuable resource for mapping the community. It provides guidance on how to develop clear and effective illustrations, along with ideas for different kinds of thematic maps and the type of information that would be useful to planners. The following is an inventory of maps that Staff developed with the Toolkit. This also includes language on how Staff created these maps with the Toolkit.

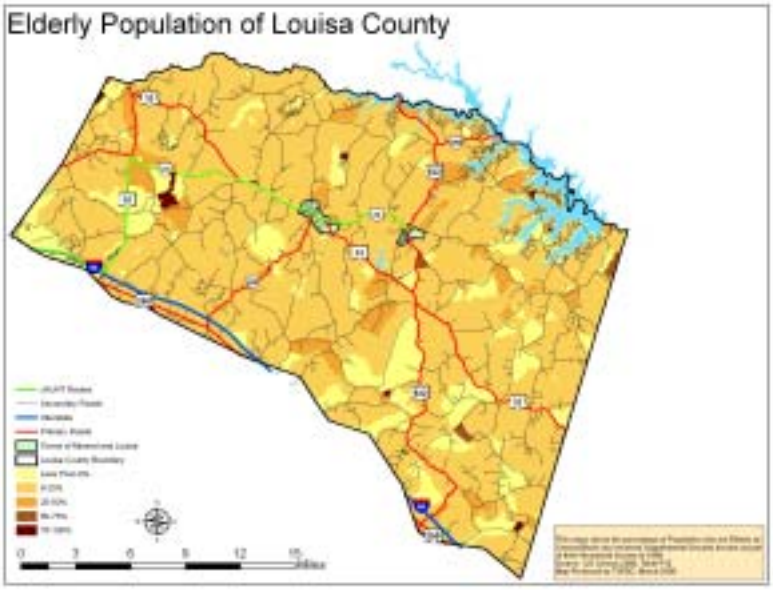
Map 1: People with Disabilities by Block Group

The *People with Disabilities* map shows an estimate of the number of persons per block group who reported a disability to the Census Bureau in the year 2000. This map focuses on those blocks within Louisa County, Virginia. A disability was categorized as having one of the following: 5 years or older and answering "yes" to having a sensory, physical, mental, or self care disability; or they were 16 years old or older and had a response of "yes" to going outside the home disability; or they were 16-64 years old and had a response of "yes" to employment disability. The purpose of this map is to provide a better understanding of where persons with disabilities are located, so as to provide services they would require in the areas in which they are located. The map was produced using several shapefiles including, but not limited to: Virginia Geographic Information Network (VGIN) Road Centerline (RCL) files, JAUNT routes and Census blocks for Louisa County. Additional data in the form of the Census Bureau's American Factfinder tables were required. Tables P41 and P42 were used from the Summary File 3 dataset. These tables were used to calculate the percentage of the population with a disability within the block group level. This percentage was then applied to the population estimates of the block level. This method is outlined under the Mapping the Data tab, in the Disaggregating Block Group Data to Block Level portion of the THA toolkit.



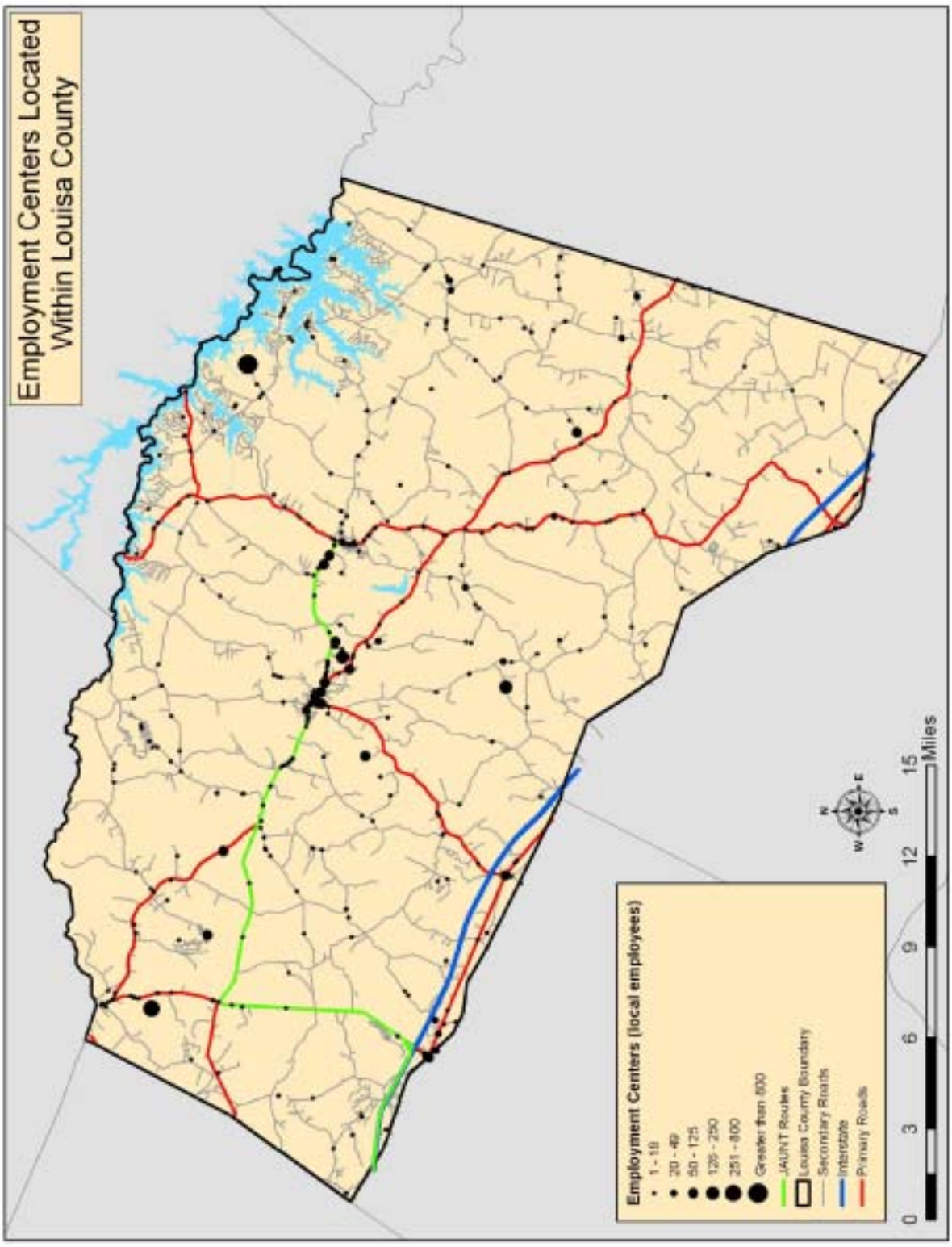
Map 2: Elderly Population by Block Group

The purpose of the Elderly Population map is to illustrate the concentrations of the elderly in Louisa County. Elderly population was classified as those persons who were above the age of 64 years and receiving supplemental security income as part, or all, of their household income. Identifying these blocks will assist in planning proper service coverage for those areas that will likely experience increases in the number of individuals living with a disability on a fixed income. This map was produced using several shapefiles including, but not limited to: VGIN RCL files, JAUNT routes and Census blocks for Louisa County. In addition, the P12 table from the summary file 3 dataset of the Census Bureau's American Factfinder was joined to the Census block shapefile. The toolkit was used as a guideline for this data acquisition process.



Map 3: Louisa Employment Centers

The Louisa Employment Centers map was created to illustrate the major employers of Louisa County. In showing the major employers of Louisa County, we can determine what roads are likely to be more traveled now and possibly in the future. Furthermore, we can determine where services for those in need of transportation assistance should be extended to areas of employment, retail or government offices. The shapefiles used to create this map were the VGIN RCL, JAUNT routes and a point shapefile of all employers within Louisa County. Locations were symbolized based upon the number of local employees and not the number of employees that company/office employs nationwide. The point shapefile was created using the Geocoding Employment Centers chapter of the THA Toolkit.

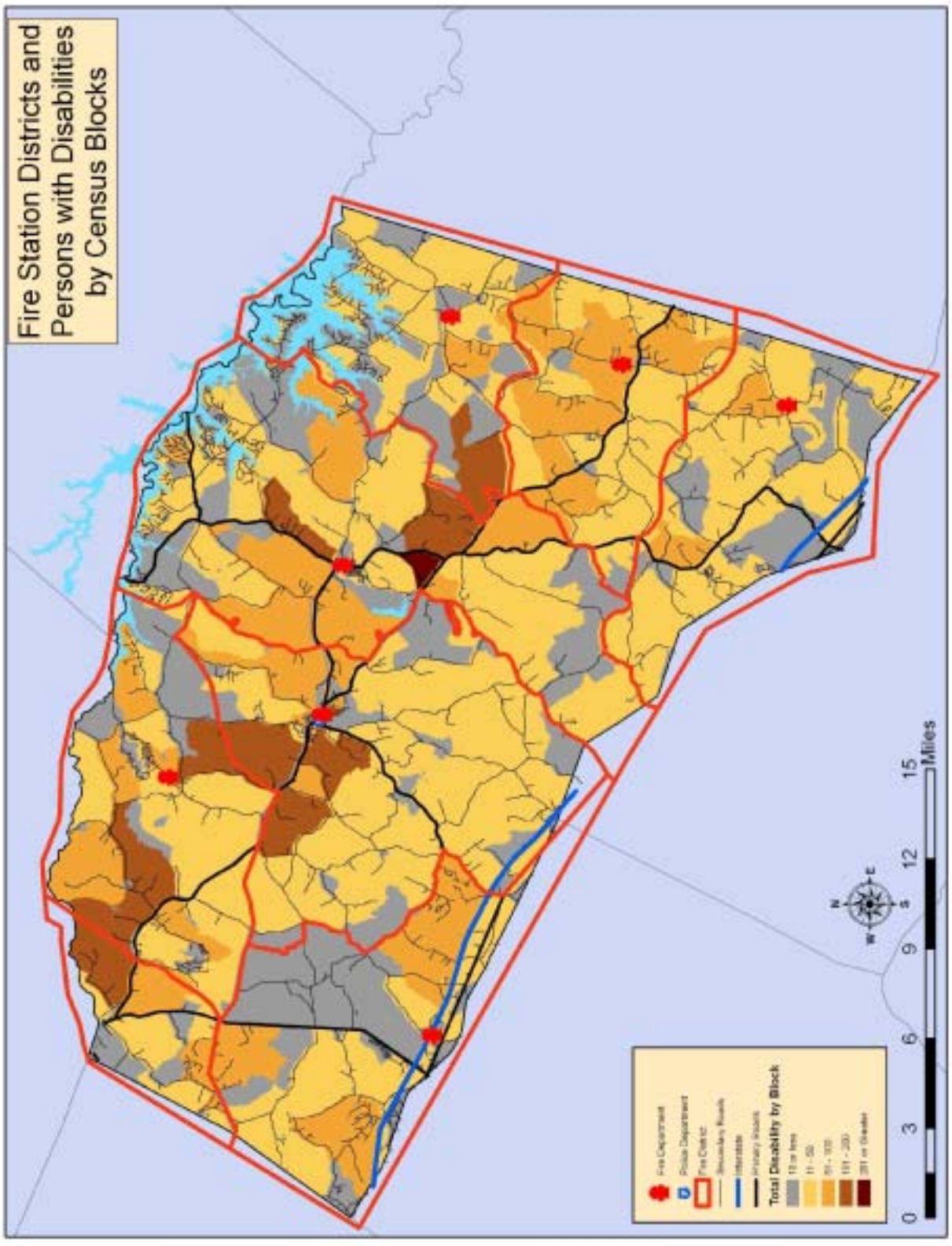

Employment Centers Located Within Louisa County
Employment Centers (local employees)
1 - 19
20 - 49
50 - 125
126 - 250
251 - 800
Greater than 800
JAUNT Routes
Louisa County Boundary
Secondary Roads
Interstate
Primary Roads
N
E
S
W
0
3
6
9
12
15
Miles

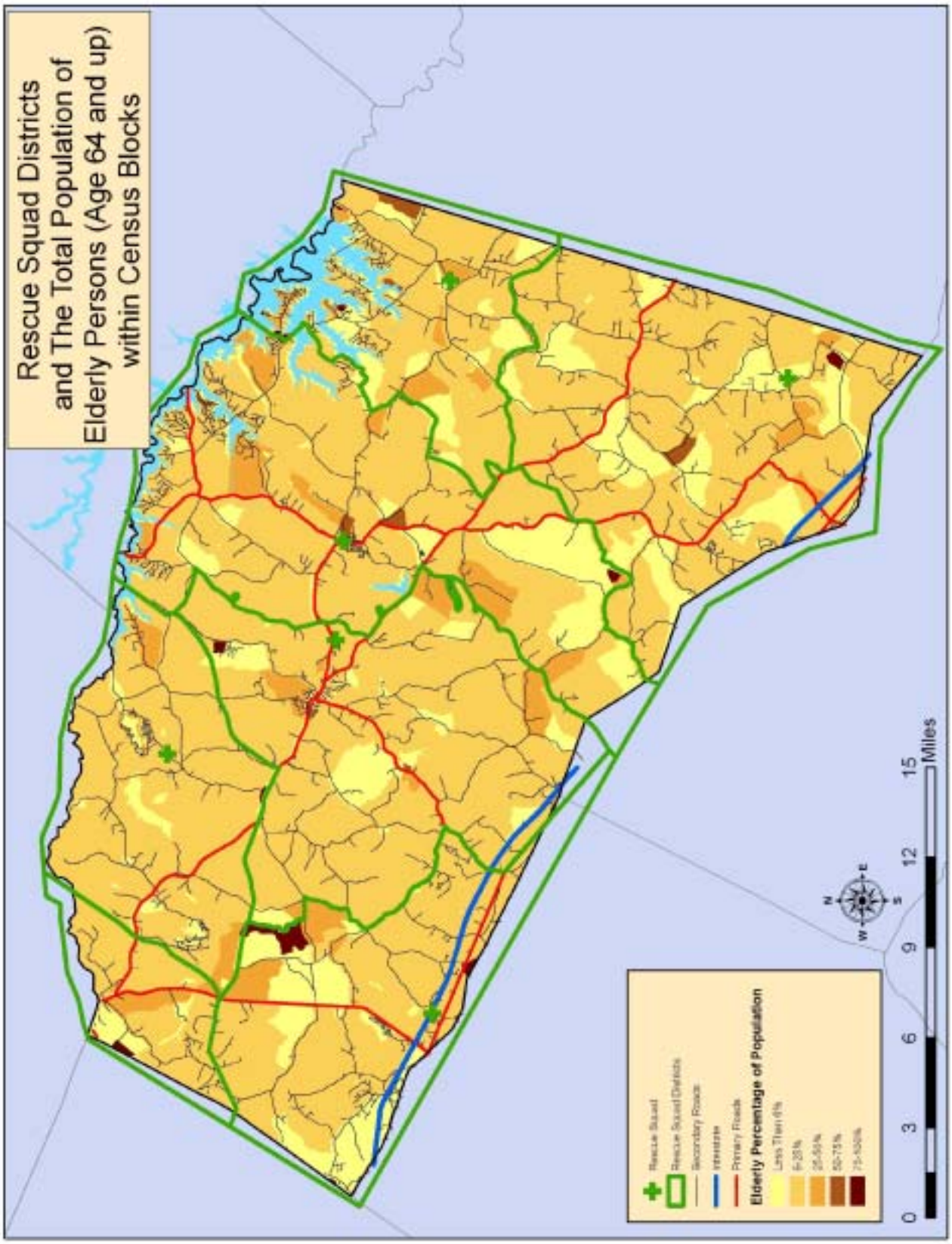
Maps 4 – 7: Fire Service to People with Disabilities, Rescue Services to Elderly, Rescue Services to People with Disabilities, Fire Services to Elderly

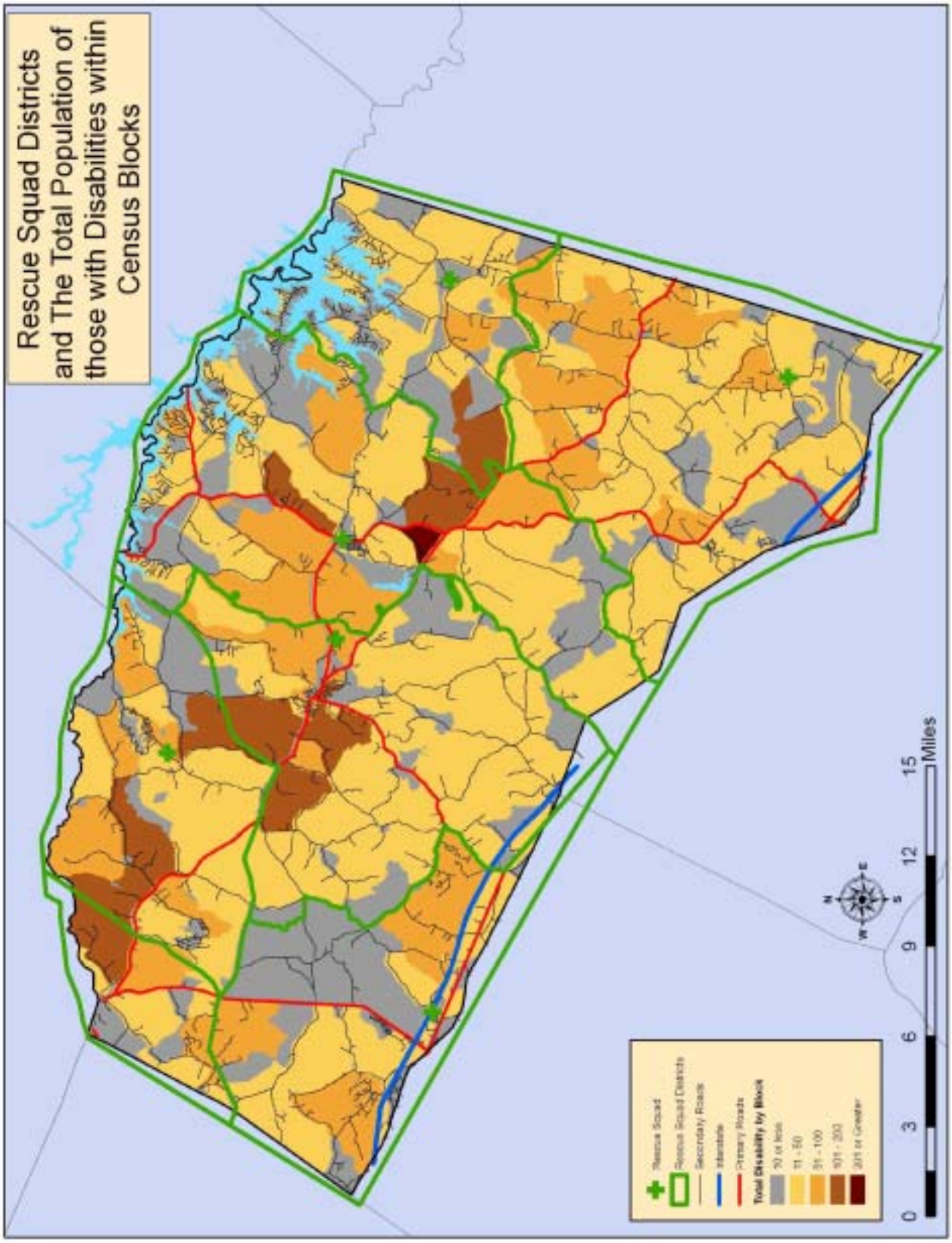
These four maps (Fire Service to People with Disabilities, Rescue Services to Elderly, Rescue Services to People with Disabilities and Fire Services to Elderly) were very similar, varying only in the symbolization theme of the Census block shapefile and Emergency service districts shapefiles. The Fire Service to People with Disabilities and Rescue Service to People with Disability maps were created to show the service areas of the different fire stations and rescue squads and their proximity to those areas with larger numbers of people with disabilities. This will aid the fire department and rescue squad by showing which areas have increased populations of disabilities and whether there was an adequate road network to allow for quick response to those areas.

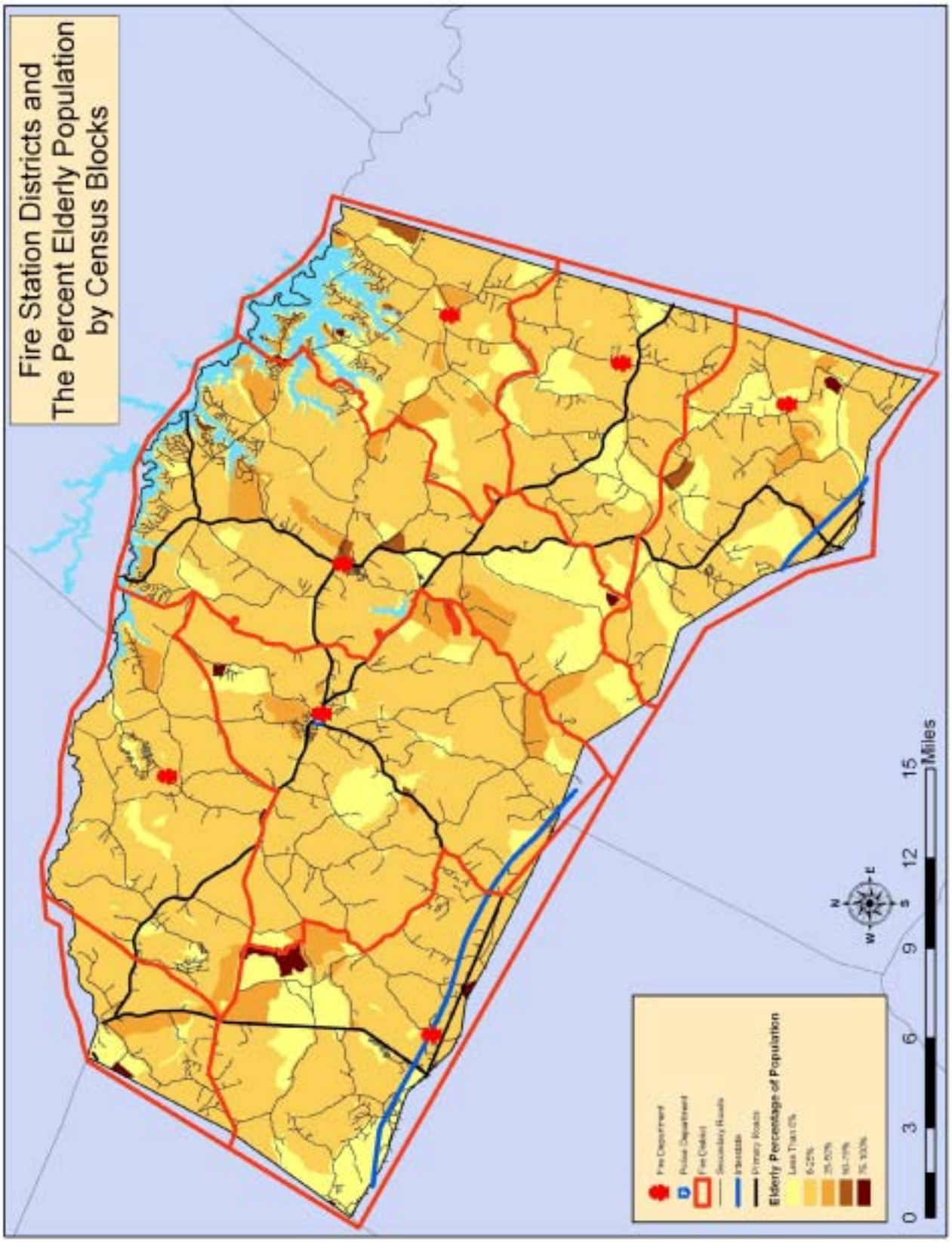
The Fire Service to Elderly and Rescue Service to Elderly maps were created with the same concerns as mentioned for disable persons, but to show where there may be increased populations that are elderly. Although not disabled, the elderly population would be at a higher risk of death due to age related factors, and would hence require minimal response times for rescue.

The shapefiles used to create these maps were the VGIN RCL, point shapefiles of the Louisa County firehouses, point shapefiles of the Town of Louisa police department and Louisa County sheriff's office, and the Louisa County fire districts. The People with Disabilities maps contain a Census block shapefile that is symbolized using data tables P41 and P42, from the Census Bureau American Factfinder website. The Elderly maps contain the Census block shapefile that was symbolized using data table P12 from the Census Bureau American Factfinder website. Several sections of the THA Toolkit are credited with the creations of the fire and rescue maps. The Mapping the Data section was used for Census data mapping as well as geocoding places. The Assessing Needs section prompted the creation of the fire and rescue maps due to the necessity of emergency services and their need to be centrally located.


Fire Station Districts and Persons with Disabilities by Census Blocks
Total Disability by Block
0
3
6
9
12
15
Miles


Rescue Squad Districts and The Total Population of Elderly Persons (Age 64 and up) within Census Blocks
Rescue Squad
Rescue Squad Districts
Secondary Roads
Interstate
Primary Roads
Elderly Percentage of Population
Less Than 6%
6-25%
25-50%
50-75%
75-100%
N
E
S
W
0
3
6
9
12
15
Miles


Rescue Squad Districts and The Total Population of those with Disabilities within Census Blocks
Rescue Squad
Rescue Squad Districts
Secondary Roads
Interstate
Primary Roads
Total Disability by Block
30 or less
31 - 50
51 - 100
101 - 200
201 or Greater
0
3
6
9
12
15
Miles


Fire Station Districts and
The Percent Elderly Population
by Census Blocks
Fire Department
Police Department
Fire District
Secondary Roads
Interstate
Primary Roads
Elderly Percentage of Population
Less Than 6%
6-25%
26-50%
51-75%
76-100%
0
3
6
9
12
15
Miles
N
E
S
W

Discrepancies with US Census Data

The Toolkit references several resources that make use of US Census data, though some of these data are inconsistent. Under the 'Economic Market Conditions' section, there are instructions for the OnTheMap website, which provide maps and spreadsheets on commuting patterns. Under the 'Introduction' section of this tab, there is a link to the Virginia Economic Development Partnership website, which also provides information on commuting patterns. The data from these sources appear to have substantial discrepancies, with trip numbers differing by the thousands. Both OnTheMap and the Virginia Economic Development Partnership take this information from the US Census Bureau. Since these figures are significantly inconsistent, there are difficulties in determining which numbers to use in the plan.

The U.S. Census Bureau estimates that 35.8% of all workers who are employed in Louisa County live in undefined areas, labeled "other locations." This statistic is very high, especially when considering that all counties adjacent to Louisa County are accounted for in the labor shed analysis. This high percentage can likely be attributed to two factors. First, the Census Bureau's "onthemap" program analyzes cities and towns separately from counties. This separation could place data counts from cities or towns under the "All Other Locations" heading in the counties analysis. The second factor could be that some of the data in the analysis was incomplete and, as a result, this data was put under the "All Other Locations" heading. Some Louisa businesses may not have released employee labor shed statistics to the Census Bureau. Given this assumption it is likely that all of the actual locality labor shed statistics are higher than the "onthemap" estimates.

OnTheMap Findings

Focusing exclusively on counties, the U.S. Census Bureau estimates that at least 25 percent of people who are employed in Louisa County also live in Louisa. The remaining workers travel from other counties that include Orange (9.4%), Albemarle (6.1%), Henrico (4.9%) and Fluvanna (4.4%). These figures only consider workers that live in counties, extracting those living in towns, cities and urbanized areas.

	Count	Share
Louisa Co., VA	2,060	25.4%
Orange Co., VA	761	9.4%
Albemarle Co., VA	489	6.0%
Henrico Co., VA	401	4.9%
Fluvanna Co., VA	356	4.4%
Chesterfield Co., VA	279	3.4%
Hanover Co., VA	277	3.4%
Spotsylvania Co., VA	230	2.8%
Goochland Co., VA	182	2.2%
Charlottesville Co., VA	170	2.1%
All Other Locations	2,904	35.8%

Figure: Labor Shed – Counties Where Worker Live, 2006

This table shows the distribution of where people live who work in Louisa County. These counts and percentages are only for workers that live in counties.

**Note:* The Census Bureau has an error in this data set, by listing the City of Charlottesville as a County.

Among commuters traveling from cities or towns, the highest percentages are from the City of Charlottesville (2.1%), Town of Louisa (2.1%), Town of Orange (2%) and City of Richmond (1.9%). The Census Bureau labels a vast majority of commutes as "All Other Locations", which is undefined. If this category is removed, then the other percentages would change. With these adjusted figures, the distribution would change to Charlottesville with 15.9 percent, Town of Louisa (15.7%), Town of Orange (15.2%), Richmond (14.4%) and Lake Monticello (10.1%). With the "All Other Locations" category, there is difficulty in determining the actual distribution, but these figures provide a general sample of where employees that work in Louisa County live.

Live	Count	Share
Charlottesville, VA	170	2.1%
Louisa, VA	168	2.1%
Orange, VA	163	2.0%
Richmond, VA	154	1.9%
Lake Monticello, VA	108	1.3%
Norfolk, VA	62	0.8%
Mechanicsville, VA	62	0.8%
Chesapeake, VA	62	0.8%
Gordonsville, VA	61	0.8%
Virginia Beach, VA	59	0.7%
All Other Locations	7,040	86.8%

Figure: Labor Shed – Cities and Towns Where Worker Live, 2006
This table shows the distribution of where people live who work in Louisa County. These counts and percentages are only for workers that live in cities, towns and other places designated by the Census.

Employed	Count	Share
Louisa, VA	562	9.8%
Charlottesville, VA	302	5.3%
Richmond, VA	119	2.1%
Lake Monticello, VA	75	1.3%
Orange, VA	72	1.3%
Culpeper, VA	61	1.1%
Fredericksburg, VA	58	1.0%
Tysons Corner, VA	45	0.8%
Madison Heights, VA	45	0.8%
Lynchburg, VA	45	0.8%
All Other Locations	4,360	75.9%

Figure: Commuter Shed – Counties Where Residents Work, 2006
This table shows the distribution of where Louisa residents work. These counts and percentages are only for residents that work in counties.

Employed	Count	Share
Louisa Co., VA	1,902	33.1%
Albemarle Co., VA	528	9.2%
Fairfax Co., VA	314	5.5%
Charlottesville Co., VA	302	5.3%
Orange Co., VA	220	3.8%
Spotsylvania Co., VA	186	3.2%
Henrico Co., VA	163	2.8%
Goochland Co., VA	158	2.8%
Hanover Co., VA	123	2.1%
Richmond (city) Co., VA	119	2.1%
All Other Locations	1,729	30.1%

Figure: Commute Shed – Cities and Towns Where Residents Work, 2006
This table shows the distribution of where Louisa residents work. These counts and percentages are only for residents that work in cities, towns and other places designated by the Census.