

Planning for Elderly and Disabled Mobility



June 2005



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Inquiries should be submitted to the:

Roanoke Valley Area Metropolitan Planning Organization
P.O. Box 2569
Roanoke, Virginia
Phone: 540.343.4417
Fax: 540.3434.416
Email: rvarc@rvarc.org
Web site: www.rvarc.org

Roanoke Valley Area
MPO METROPOLITAN
PLANNING
ORGANIZATION

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Section 1: Introduction and Study Overview

Regional demographic trends indicate that the recently retired and elderly will represent an increasing proportion of the overall population in future years. Also, the proportion of physically disabled individuals in the region, already high compared to the state average, may well increase as the general population ages. The elderly and disabled often need special consideration when it comes to transportation access and mobility. Moreover, as these populations increase, the elderly and disabled may influence overall travel demand patterns through employment, leisure and lifestyle choices (or necessities), and medical appointment travel. Meeting future transportation demands will require significant understanding of population trends and associated impacts on the transportation system.

Study Purpose

This study seeks to identify and address transportation issues affecting the elderly and disabled segments of the population in the Roanoke Valley and determine ways to improve mobility in the future. This effort also seeks to facilitate transportation planning for the elderly and disabled through collaboration, coordination, and partnership with stakeholders working on behalf of these segments of the population. Additionally, this study provides a demographic and spatial analysis of the RVAMPO service area designed to facilitate a better understanding of the population dynamics and distribution of elderly and disabled populations.

Study Area

The primary geographic area of interest for this report is the RVAMPO study area. The RVAMPO study area includes the cities of Roanoke and Salem, the urbanized portions of Botetourt and Roanoke counties, and the Town of Vinton (Figure1). However, for reference, or as relevant to the discussion of the transportation needs of the greater region, the RVARC service area is presented in Figure 2.

Study Methodology and Work Products

The methodology for this study includes a range of tasks, and associated work products, related to elderly and disabled mobility. These tasks are briefly outlined in this section and further discussed throughout this document. Information and work products from these tasks will be used in developing recommendations and strategies to improve mobility among the elderly and disabled populations of the RVAMPO.

- Identify and partner with organizations already working to address the needs of the elderly and disabled populations of the region.

There are numerous organizations and groups already working to address the needs of the elderly and disabled populations of the region. As such, every effort was made to identify and partner with these organizations and groups to specifically address the transportation needs of the elderly and disabled segments of the population.

Roanoke Valley Area Metropolitan Planning Organization (MPO)

2025 MPO Study Area Boundary

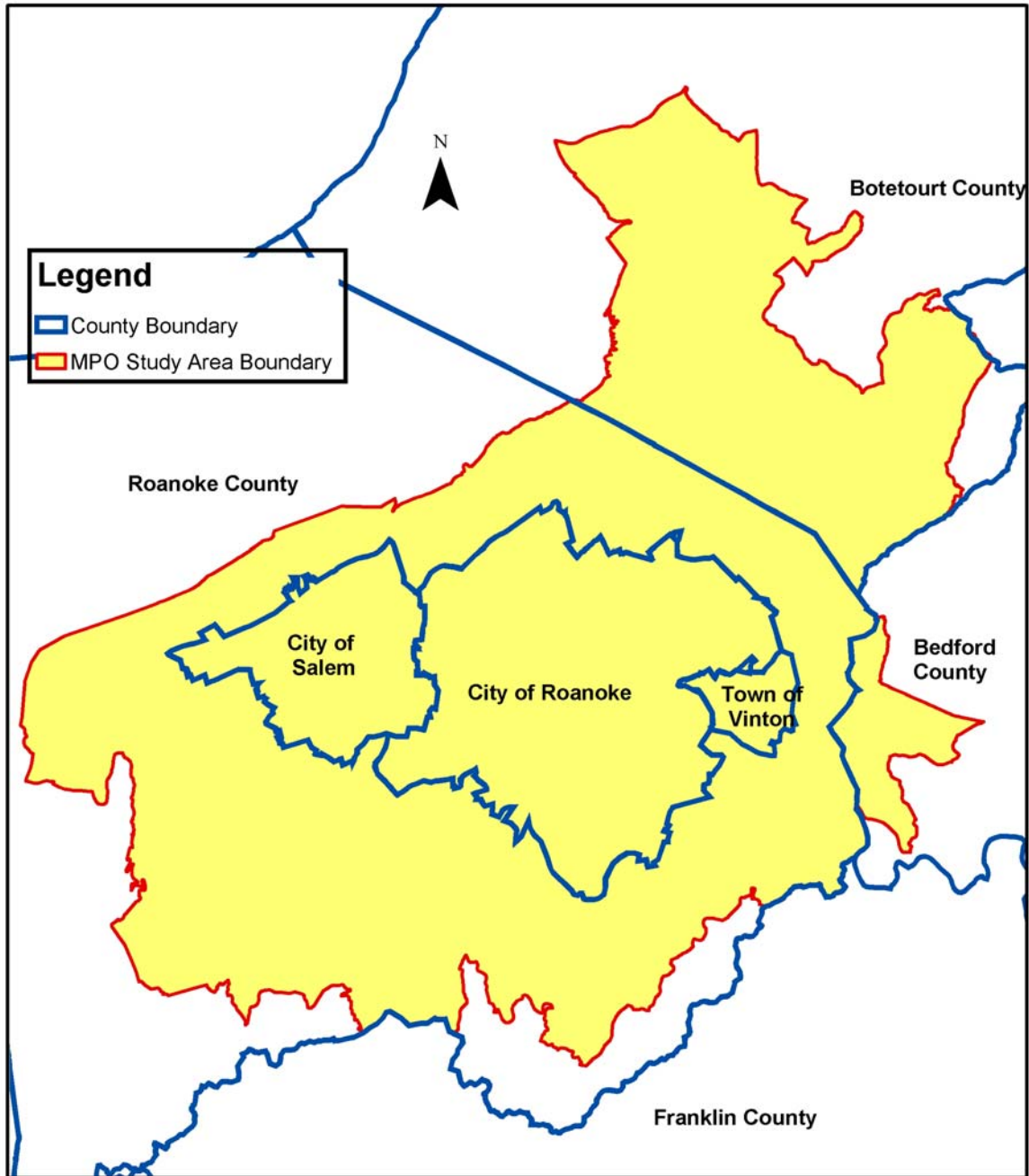


Figure 1. Roanoke Valley Area Metropolitan Planning Organization Study Area

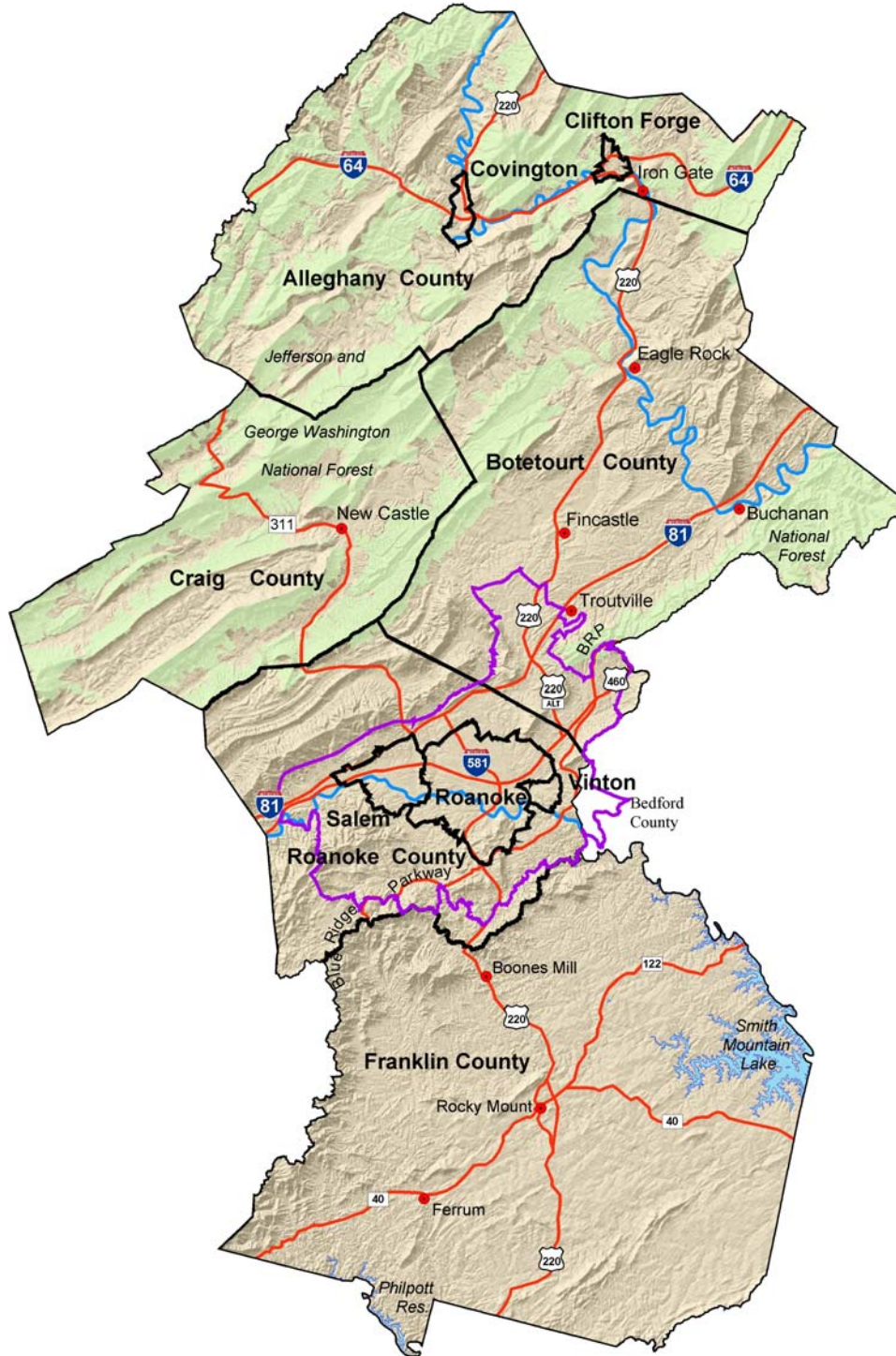


Figure 2. Roanoke Valley-Alleghany Regional Commission Service Area

This was determined to be the most efficient and effective way to begin identifying transportation needs and receiving input on how to address these needs. Organizations and stakeholders involved in identifying these needs are discussed in the Partner Organization and Stakeholders section of this document beginning on page 5.

- Conduct a demographic and spatial overview of the region's elderly and disabled populations.

A summary of US Census and other demographic data is presented in the *Regional Elderly and Disabled Demographic Overview* section of this document beginning on page 7 of this document. These data, and associated maps, assist in providing a better understanding of the characteristics and spatial distribution of the region's elderly and disabled populations.

- Identify transportation-related issues, and indicators of access, safety, mobility, and demand issues among the elderly and disabled.

Issues affecting mobility among the elderly and disabled populations are identified based on discussions with stakeholders at various meetings; demographic and spatial data analyses; and review of existing literature related to the elderly and disabled mobility at the federal, state, and local level. These issues are discussed in more detail in the Overview of Elderly and Disabled Mobility Needs section of this report beginning on page 13. A list of documents and resources consulted and referenced in this study is included in the bibliography.

- Develop a directory of transportation options and resources available to the elderly and disabled.

The Regional Commission is updating its transportation services guide for distribution to agencies and individuals throughout the region. The elderly and disabled section of this guide, which lists various public and private transportation alternatives and services available in the area, with an emphasis on public transit, is included in Appendix D, beginning on page 36.

- Based on information gathered in compiling this report, develop general recommendations on how to address elderly and disabled mobility in the RVAMPO study area.

General recommendations are provided beginning on page 18 of this document. Next steps and upcoming projects and activities related to elderly and disabled mobility are also discussed in this section.

Section 2: Partner Organizations and Stakeholders

As outlined in the study methodology an initial task was to identify and partner with groups and organizations already involved with elderly and disabled populations. In an effort to do so, three primary groups and efforts were identified, through which numerous stakeholders and organizations were represented and contributed to the development of this study.

- **Roanoke Valley Senior Citizens Task Force**

The Roanoke Valley Senior Citizens Task Force, coordinated by the Council of Community Services, is comprised of representatives from organizations and individuals involved in efforts to serve the needs of the senior population in the region. The stated purpose of the Roanoke Valley Senior Citizens Task Force is to address the top five needs of the Roanoke Valley senior population as identified in the 2003-04 Community Needs Assessments (2003 Senior Citizens Needs Assessment and the 2004 Community Needs Assessment). A list of organizations participating on the Senior Citizens Task Force is provided in Appendix A. Additionally, a summary of the transportation components of these needs assessments and other relevant transportation literature are provided in latter sections.

As outlined in the previous section of this document, the final report from the Roanoke Valley Senior Citizens Task Force, entitled, *2005 Report to the Community on Senior Citizens Issues* is a major component of the effort to address elderly transportation issues in the region. The transportation section of the *2005 Report to the Community on Senior Citizens Issues* is discussed in a latter section of this document.

- **Partnership for Employed Caregivers**

The mission of the Partnership for Employed Caregivers is to assist employers of the Roanoke Valley through education, awareness and support, to enhance the well-being and effectiveness of their employees who are engaged in eldercare. The Partnership is composed of stakeholders from the public and private sectors. Although the focus of the Partnership is on employees who are caregivers, this issue directly impacts on the transportation needs of many elderly and disabled. Often employed caregivers are the primary or only means of transportation for many within these elderly or disabled populations.

Regional Commission staff chaired the resource development committee and served on the executive committee. Relevant work products and resources developed by the Partnership will be reviewed and considered and relevant work products incorporated into elderly and disabled mobility planning efforts.

- **Grassroots Meetings - Blue Ridge Independent Living Center**

The Blue Ridge Independent Living Center assists people with disabilities to live independently. The Center also serves the community at large by helping to create an

environment that is accessible to all. Regional Commission staff attended monthly Grassroots meetings to discuss various issues affecting the disabled citizens of the Roanoke Valley.

Section 3: Regional Elderly and Disabled Demographic Overview

The Regional Commission has developed demographic profiles for various segments of the population of the MPO study area, which covers the cities of Roanoke and Salem, and portions of Roanoke and Botetourt Counties (Figure 1). For comparison and informational purposes, demographic information for the entire RVARC service area (Figure 2) is also provided. Information included in this demographic profile should be considered in planning the region's transportation network to serve the elderly and disabled. Knowing how large the region's elderly and disabled population is and how large it will be in the next 20 years is vitally important information used in planning for the region. For example, a projected increase in the elderly population may indicate that special transportation services tailored to the elderly need to be implemented or that regional transit services needs to be expanded to better suit the needs of the elderly. Information such as this is invaluable in the long range planning process.

Moreover, this demographic profile will fulfill an important federal requirement and will satisfy Goal 2 of the official MPO *Public Involvement Policy*, adopted in 2004. This profile seeks to identify concentrations or otherwise describe certain special populations within the MPO study area. These special populations are identified in and protected by various provisions of federal law from either intentional or unintentional discrimination in any program that receives federal funds. The complete Public Policy manual is available at <http://www.rvarc.org/work/pubinvolv.pdf>.

The demographic profiles of interest for elderly and disabled planning efforts include the Ages and Gender, and the Disabled profiles. The complete MPO Demographic Profile is available at <http://www.rvarc.org/work/demprof.pdf>.

Elderly Population

Tables 1 - 3 provide the size of certain key age cohorts in the Roanoke Valley Area Metropolitan Planning Organization study area, the Roanoke Valley-Alleghany Regional Commission service area, and the Commonwealth of Virginia. Note that in both service areas the population over 60 years of age is higher than the state average. It is clear that the elderly cohort is already quite large in the region when compared with the state. Moreover, it appears that this percent will increase in the future as those between the ages of 30-59 make up 44.1% of the MPO area and 43.5% of the RVARC service area presently.

Population pyramids prepared for both service areas further illustrate this large age cohort (Figures 3 and 4). In 20-30 years, this age cohort will be approaching retirement. With continuing improvements in health care, it is likely that such a large middle age cohort will eventually translate into an extraordinarily large elderly cohort, a group whose transportation needs must be planned for and services eventually provided.

Table 1
 Size of Age Cohorts
 Roanoke Valley Area Metropolitan Planning Organization
 2000

Age Cohort	Number	Percent
0-18	71,384	24.1
19-24	17,864	6.0
25-29	17,726	6.0
30-49	92,324	31.2
50-59	38,155	12.9
60-79	47,578	16.1
80+	11,272	3.8
TOTAL	296,303	100.0

Table 2
 Size of Age Cohorts
 Roanoke Valley-Alleghany Regional Commission
 2000

Age Cohort	Number	Percent
0-18	73,885	23.7
19-24	19,939	6.4
25-29	18,736	6.0
30-49	94,969	30.5
50-59	40,506	13.0
60-79	51,574	16.5
80+	12,218	3.9
TOTAL	311,827	100

Table 3
 Size of Age Cohorts
 Commonwealth of Virginia
 2000

Age Cohort	Number	Percent
0-18	1,832,911	25.9
19-24	579,030	8.2
25-29	493,450	7.0
30-49	2,283,748	32.3
50-59	825,253	11.7
60-79	873,065	12.3
80+	191,058	2.7
TOTAL	7,078,515	100

Figure 3: RVAMPO Population Pyramid

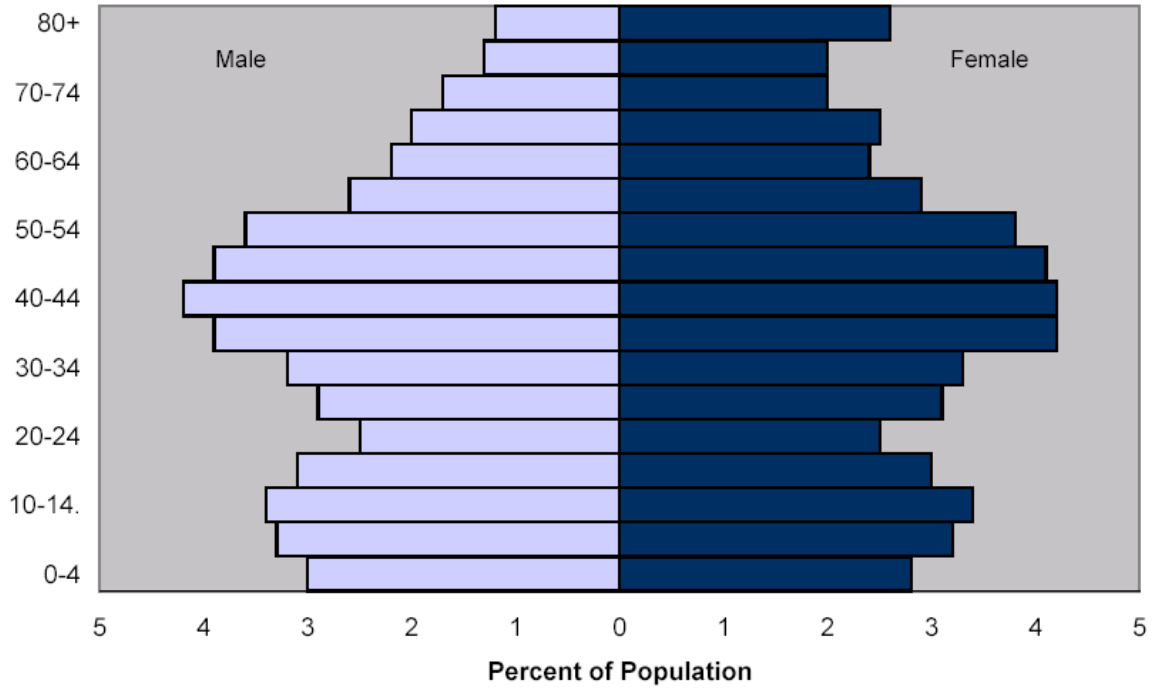
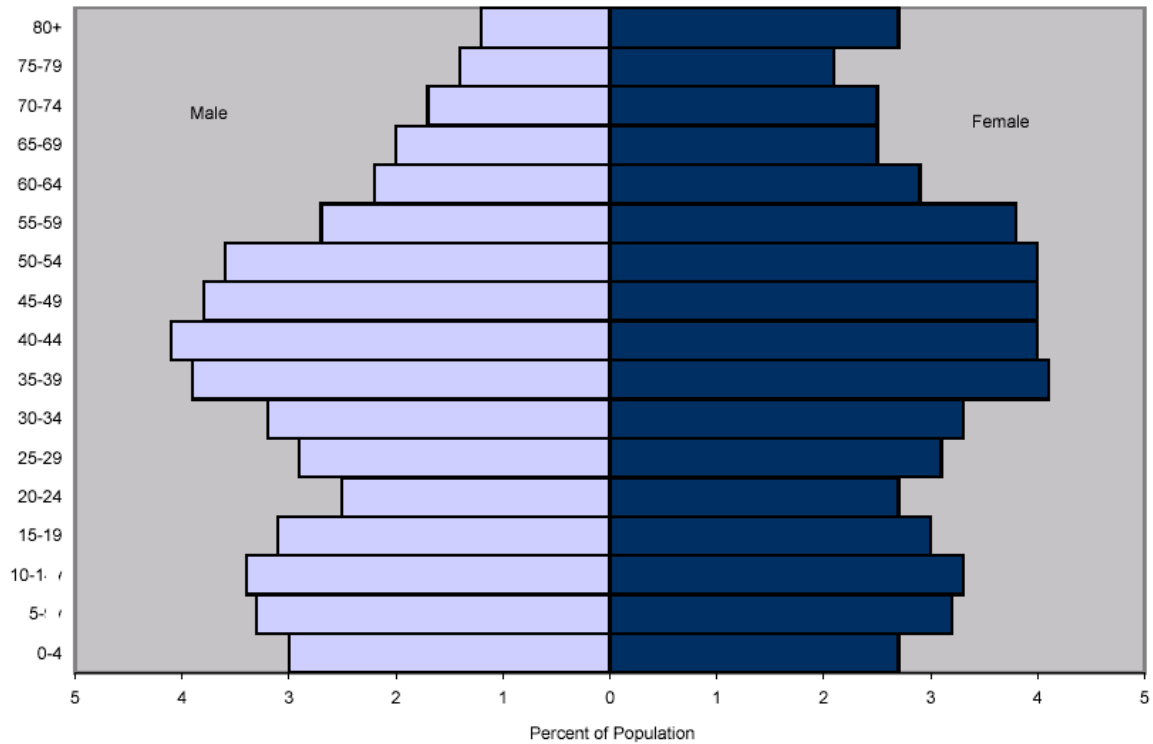


Figure 4: RVARC Population Pyramid



PLANNING FOR ELDERLY AND DISABLED MOBILITY

Table 4
Regional Age Data, 1990

Locality	Total	under 5	5 to 17	18 to 24	25 to 44	45 to 64	65 to 84	85 and over	65 and over
Alleghany	13176	768	2387	1155	3910	3160	1681	115	1796
Botetourt	24992	1423	4385	2071	8332	5708	2843	230	3073
Craig	4372	282	732	374	1370	1000	584	30	614
Franklin	39549	2451	6584	4470	12014	8919	4778	333	5111
Roanoke Co.	79332	4321	13601	7003	25326	18381	9609	1091	10700
Clifton Forge	4679	230	803	303	1215	984	941	203	1144
Covington	6991	406	1001	728	1869	1440	1405	142	1547
Roanoke City	96397	6798	14655	9089	31422	17962	14308	2163	16471
Salem City	23756	1217	3451	2914	7215	5064	3491	404	3895
Total	293244	17896	47599	28107	92673	62618	39640	4711	44351

Source: 1990 US Census

Table 5
Regional Age Data, 2000

Locality	Total	under 5	5 to 17	18 to 24	25 to 44	45 to 64	65 to 84	85 and over	65 and over
Alleghany	12926	721	2230	804	3462	3684	1818	207	2025
Botetourt	30496	1749	5389	1755	8800	8791	3679	333	4012
Craig	5091	292	910	328	1510	1360	617	74	691
Franklin	47286	2569	7931	3836	13331	12854	6122	643	6765
Roanoke Co.	85778	4553	14947	5691	23625	23317	11941	1704	13645
Clifton Forge	4289	227	678	286	1089	994	840	175	1015
Covington	6303	395	957	514	1655	1508	1085	189	1274
Roanoke City	94911	6200	15257	7744	28948	21202	13362	2198	15560
Salem City	24747	1212	3950	2890	6617	5930	3660	488	4148
Total	311827	17918	52249	23848	89037	79640	43124	6011	49135

Source: 2000 Census

Table 6
Percent Change by Age Cohort by Locality
1990-2000

Locality	Total	under 5	5 to 17	18 to 24	25 to 44	45 to 64	65 to 84	85 and over	65 and over
Alleghany	-1.9%	-6.1%	-6.6%	-30.4%	-11.5%	16.6%	8.1%	80.0%	12.8%
Botetourt	22.0%	22.9%	22.9%	-15.3%	5.6%	54.0%	29.4%	44.8%	30.6%
Craig	16.4%	3.5%	24.3%	-12.3%	10.2%	36.0%	5.7%	146.7%	12.5%
Franklin	19.6%	4.8%	20.5%	-14.2%	11.0%	44.1%	28.1%	93.1%	32.4%
Roanoke Co.	8.1%	5.4%	9.9%	-18.7%	-6.7%	26.9%	24.3%	56.2%	27.5%
Clifton Forge	-8.3%	-1.3%	-15.6%	-5.6%	-10.4%	1.0%	-10.7%	-13.8%	-11.3%
Covington	-9.8%	-2.7%	-4.4%	-29.4%	-11.4%	4.7%	-22.8%	33.1%	-17.6%
Roanoke City	-1.5%	-8.8%	4.1%	-14.8%	-7.9%	18.0%	-6.6%	1.6%	-5.5%
Salem City	4.2%	-0.4%	14.5%	-0.8%	-8.3%	17.1%	4.8%	20.8%	6.5%
Total	6.3%	0.1%	9.8%	-15.2%	-3.9%	27.2%	8.8%	27.6%	10.8%

Disabled Population

Table 7 shows that there are significant proportions of individuals with disabilities in all age groups. Indeed, it shows that a significant proportion of the citizens in the RVAMPO area have at least one disability. It should be noted that these numbers considered a wide range of disabilities defined by the US Census Bureau, including employment, physical, mental, sensory, and self-care disabilities. More information on how the US Census Bureau defines these disabilities provided in Appendix B.

Table 7
Individuals With a Disability in the
Roanoke Valley Area Metropolitan Planning Organization

Locality	Population 5 to 20 Years			Population 21 to 64 Years			Population 65 and Over		
	Total	With Disability	% With Disability	Total	With Disability	% With Disability	Total	With Disability	% With Disability
Bedford County	12,686	1,080	8.5	36,335	6,188	17.0	7,683	3,282	42.7
Botetourt County	6,279	632	10.1	18,072	3,052	16.9	3,991	1,483	37.2
City of Roanoke	18,841	2,302	12.5	53,660	13,229	24.7	14,785	6,630	44.8
City of Salem	5,578	554	9.9	13,570	2,389	17.6	3,844	1,432	37.3
Roanoke County	17,715	1,294	7.3	49,824	7,554	15.2	12,342	4,577	37.1
MPO Service Area	61,099	5,862	9.6	171,461	32,412	18.9	42,645	17,404	40.8

Source: US Census Bureau, 2000

Table 8 shows that among those who are 21 to 64 and who have a disability, relatively few are employed, suggesting perhaps that their disabilities are so serious as to present an impediment to employment and full participation in society. However, other impediments, such as mobility, employment opportunities, education, and training may also contribute to the low employment numbers for this segment of the population.

Table 8
Employment for Those Aged 21 to 64 Years With Disabilities

Locality	Persons With A Disability*	% Employed
Bedford County	6,188	58.8
Botetourt County	3,052	57.7
City of Roanoke	13,229	54.8
City of Salem	2,389	57.0
Roanoke County	7,554	61.0

*Aged 21 to 64 Years

Source: US Census Bureau, 2000

Maps showing the spatial distribution populations with various disabilities within the MPO study area, as tallied by the US Census Bureau, are provided in Appendix B.

Section 4: Overview of Elderly and Disabled Transportation and Mobility Needs

A major component of the study methodology was to identify transportation-related issues, affecting the elderly and disabled. This section discusses transportation topics at the national and regional/local level. National level data can be generally applied to the region to give a broad overview of elderly transportation needs. Moreover, when used along with local data (i.e., regional demographics, mapping, and stakeholder input) and experience, these findings can be useful and should be considered in the planning process.

National Level Summary

Aging Americans: Stranded Without Options (Bailey 2004), produced by the Surface Transportation Policy Project, presents new findings related to elderly transportation issues based on the 2001 National Household Transportation Survey. The complete report is available at http://www.transact.org/library/reports_html/seniors/aging.pdf. Additionally, the 2001 National Household Transportation Survey is available at http://www.bts.gov/programs/national_household_travel_survey/.

The major findings as outlined in the Executive Summary of *Aging Americans: Stranded Without Options*, are provided below.

More than one in five (21%) Americans age 65 and older do not drive.

Some reasons include:

- Declining health, eyesight, physical or mental abilities;
- Concern over safety (self-regulation);
- No car or no access to a car;
- Personal preference.

More than 50% of non-drivers age 65 and older - or 3.6 million Americans – stay home on any given day partially because they lack transportation options. The following populations are more heavily affected:

- Rural communities and sprawling suburbs;
- Households with no car;
- Older African-Americans, Latinos and Asian-Americans.

Older non-drivers have a decreased ability to participate in the community and the economy. Compared with older drivers, older non-drivers in the United States make:

- 15% fewer trips to the doctor;
- 59% fewer shopping trips and visits to restaurants;
- 65% fewer trips for social, family and religious activities.

For trips outside their immediate neighborhood, public transportation is the only alternative to asking for a ride for many

non-drivers. Where public transportation is available, older Americans make regular use of it.

- Public transportation trips by older non-drivers totaled an estimated 310 million in 2001;
- Older minority populations account for a significant share of these trips, with older African-Americans and Latinos more than twice as likely to use public transportation as their white counterparts.

A safe and inviting walking and bicycling environment provides mobility and health benefits to many older Americans.

- More than half of older Americans make walking a regular activity, and nearly two-thirds walk a half-mile at least once a month.
- Four percent of older Americans ride a bicycle at least once a week.
- Research shows that moderate exercise, such as walking or bicycling, can contribute significantly to a healthy lifestyle.
- Improving the walking and bicycling environment is a priority for the general public.

More livable communities have lower rates of staying home, and higher rates of public transportation use and walking among non-drivers aged 65 and over.

- 61% of older non-drivers stay home on a given day in more spread-out areas, as compared to 43% in denser areas;
- More than half of older non-drivers use public transportation occasionally in denser areas, as compared to 1 in 20 in more spread-out areas;
- One in three older non-drivers walks on a given day in denser areas, as compared to 1 in 14 in more spread-out areas.

This report also discusses these findings in the transportation context as outlined below.

In too many places, public transportation is still not a practical option for older people.

- Half of all adults cannot choose to take public transportation because service is not available in their area, particularly in rural and small towns.

Public transportation depends on federal, state and local government funding to operate. Making public transportation options available to more people will require additional government funding.

- Maintaining the current public transportation system requires a minimum of \$14.8 billion in capital investments annually.
- To improve the public transportation system would require \$43.9 billion annually.

For frail older persons, paratransit and specialized transportation are the only feasible modes of transportation, other than getting a ride from others.

- Under the Americans with Disabilities Act (ADA), public transportation agencies provide complementary paratransit service along fixed routes for people whose disabilities prevent them from using fixed route service.
- The Federal Transit Administration's Specialized Transportation Program for the Elderly and Persons with Disabilities (Section 5310) was funded at \$90.6 million in 2004, or 0.23 percent of all federal transportation funding.

Additionally, the Study provides Conclusions and Recommendations in three categories – public transportation; planning and coordination; and road and street improvements. These recommendations are discussed in more detail in the Section 5 of this document.

Local and Regional Level Summary

As previously referenced, the Roanoke Valley Senior Citizens Taskforce was the primary avenue by which elderly transportation needs were identified. The previously referenced *2005 Report to the Community on Senior Citizens Issues* identified the following as major issues confronting senior citizens in the area:

- Finances
- Home care services
- Knowledge of resources
- Medications
- Transportation

In addition to transportation being specifically cited as a major issue, transportation-related considerations impact other issues cited by the Roanoke Valley Senior Citizens Taskforce, such as home care, isolation and social interaction, and finances. Regional Commission staff served on the Transportation Committee. The complete *2005 Report to the Community on Senior Citizens Issues* is available Online on the Council of Community Services' web site at <http://www.councilofcommunityservices.org/images/2005%20Senior%20Report.pdf>. The transportation portion of the report (pp.9-10) is provided below.

At present several transportation alternatives from which seniors may choose. These are:

- Personal vehicle
- Family or friends provide transportation
- Taxi or private car services
- Valley Metro bus system

- RADAR

The Valley Metro bus routes are shown on the map [Appendix C] along with the distribution of seniors, location of medical clinics and shopping centers. Significant numbers of Valley senior citizens do not live within easy walking distance of a bus stop. When the weather is inclement, the snow bus routes may also be prohibitively far from walking distance.

The Unified Human Services Transportation System, Inc. (RADAR) STAR program provides specialized transportation services to individuals who are unable to ride Valley Metro's regular bus routes. Riders are physically or mentally disabled, elderly, and indigent or transportation disadvantaged. This service is provided to qualified persons living in the City of Roanoke, Salem, and the Town of Vinton and as required by the Americans with Disabilities Act of 1991. It is projected that the STAR program, during 2004-2005 will serve 2,500 unduplicated clients with 38,575 units of service (one-way rides) at a cost of \$540,050 (\$14 per unit). This is an 11% increase in the number of clients and a 3% increase in the number of units of service. Since 1991, the rider ship has increased over five times. This program is barred from maintaining a waiting list by the Americans with Disabilities Act of 1991. Service is provided to eligible individuals. Those ineligible are referred to League of Older Americans, Medicaid, or Council of Community Services.

Barriers to adequate access to transportation resources include:

- Public reluctance to use public transportation;
- Walking distance to bus stops, weather, sidewalk conditions, and other safety and mobility issues may prevent many from using public transit;
- Time commitment to use public transit may be an impediment to some. To travel from parts of Salem [Richfield area, for example], to the outer reaches of Valley Metro routes can take

almost two hours and require two bus changes. Most other areas of Roanoke City and Vinton can be accessed within one hour with only one bus change at Campbell Court;

- Narrow jurisdictional focus;
- RADAR services are limited on weekends; and
- Lack of knowledge of transportation resources.

Strategies and actions to address these barriers are presented in the next section of this document. A number of the barriers and strategies identified in the previously cited *2005 Report to the Community on Senior Citizens Issues* are applicable to the disabled population. Moreover, as discussed Section 3, many seniors are also disabled. Also, as previously noted, the study area has a relatively high percentage of disabled persons in all age cohorts. Many of the properly designed sidewalks, curb cuts, crosswalks, and other pedestrian accommodations can also improve access and mobility for disabled persons. As such, encouraging localities to adopt transportation and land use policies that are pedestrian and bicycle-friendly and promote intensive land use can directly benefit disabled persons. As previously discussed more livable communities have lower rates of staying home, and higher rates of public transportation use and walking among non-drivers aged 65 and over. Many of the benefits of creating more livable communities are also directly applicable to the disabled.

Although there are similarities in the transportation of the elderly and disabled, many disabled persons have special transportation needs. In addition to mobility, *access* is a major issue confronting many disabled persons. As previously discussed, the Grassroots Meetings, organized by the Blue Ridge Independent Living, provide a forum for discussion and action related to access and mobility in the area.

Section 5: Recommendations and Next Steps

This report outlines many issues and information related to elderly and disabled mobility. As outlined in the study methodology, Section 5 seeks to apply this information in developing some general recommendations to increase mobility among the elderly and disabled populations of the MPO. This section also outlines the next steps in improving elderly and disabled mobility with an emphasis on future MPO projects and their applicability to regional mobility.

• Increase Knowledge and Use of Existing Transportation Options

Currently, Valley Metro and RADAR are the primary public transit providers in the MPO service area. RADAR, under contract with area localities, provides most of the public elderly and disabled transportation services in the Roanoke Valley and surrounding areas. The Smart Way Commuter Bus provides transit services between the Roanoke Valley and the New river Valley (Roanoke, Salem, Christiansburg, and Blacksburg) and is also operated by Valley Metro. The *2005 Report to the Community on Senior Citizens Issues* noted several barriers to using existing transportation resources. Although many of the barriers cited may require significant resources to address, several barriers can be effectively addressed with minimal resources, and on a much shorter time horizon. These barriers include 1) public reluctance to use public transit options, and 2) lack of knowledge of available transportation resources or how to access these resources. To address these barriers, the *2005 Report to the Community on Senior Citizens Issues* recommends the following strategies:

- Provision of transportation guides with a section on seniors and people with disabilities;
- Conduct an educational campaign that encourages the use of public transportation;



To assist in increasing knowledge and use of public transit, a list of public transportation options available in the Roanoke Valley is provided in Appendix D. This list provides information on transportation options that serve only these populations, as well information on public transportation options available to all citizens (i.e., Valley Metro). A route schedule and map for the Smart Way Commuter Bus is provided in Appendix E. A map of Valley Metro bus routes, along with the distribution of seniors, location of medical clinics and shopping centers, is provided in Appendix C. Moreover, the MPO, through its ongoing public outreach efforts, can assist in encouraging the use of existing public transit options to increase the mobility of the elderly and disabled.



Smart Way Commuter Bus

It should also be noted that there are numerous private companies that provide general transportation services (i.e., taxis), as well as services specific to elder or disabled populations (i.e., ambulance services). Although these services may be cost prohibitive for many with limited incomes, they may also be viable transportation options for others. Maps showing the distribution of persons over 65 years of age below the poverty level are presented in Appendix F. Area churches also provide various types of transportation assistance to the elderly. Although these services are not addressed in this study, their potential importance in meeting the mobility demands of these are populations should be noted and considered in future planning efforts.



Church bus providing transport for seniors.

• **Improve Public Transportation Services and Facilities**

Demographic trends indicate that there will be increased need for both public transportation, as well as transportation specific to seniors. The previously referenced report *Aging Americans: Stranded Without Options* recommends the following actions to improve public transportation:

- Substantially increase investment in public transportation systems to expand and improve services to meet the needs of older Americans in metropolitan and rural areas.

- Increase funding for existing specialized transportation programs that provide mobility for older persons.

Increased funding to expand and improve transportation services can effectively address barriers to using public transit cited by the Senior Citizens Taskforce, such as distance to bus stops, weather, and time commitment. Increased funding could assist in increasing the number or frequency of transit routes and services and improve bus stop facilities. Currently, only a very limited number of Valley Metro transit stops have any type of amenity such as a bench or shelter.



Valley Metro bus stop shelter.

Other actions can also improve the ability of public transit to serve the elderly and disabled. These include:

- Drivers providing assistance to passengers as needed
 - Greater frequency during periods when these populations are likely to travel (i.e., middle of day)
 - Routes designed to better serve origins and destinations of elderly or disabled clientele (doctors offices, retail centers, nursing homes, etc.)
 - Transit vehicles designed for the elderly or disabled
 - Ride-sharing
- **Encourage Greater Coordination between Transportation and Land Use Planning**

As previously stated, the current transportation infrastructure in the MPO study area has deficiencies that limit elderly and disabled mobility. Many of these deficiencies are directly related to land use decisions and practices that promote decentralization, thereby reducing mobility. Effectively addressing many of these deficiencies requires greater coordination between both transportation and land use planning. Such coordination can facilitate the development of more livable communities that provide greater mobility options.

Population density, which is often a function of land use and transportation patterns, appears to have a significant impact on senior mobility, and mobility in general. Findings from the report *Aging Americans: Stranded Without Options* indicate that seniors living in more densely developed areas are more likely to walk or bike, use public transportation, and generally enjoy greater mobility (Figure 5). Moreover, according to the Association of Pedestrian & Bicycle Professionals, in Germany and the Netherlands, half the trips made by people aged 75 and over are made by foot and bike. In the United States it is about 6 percent above aged 65. Cities in these countries tend to be more

densely developed than American cities, less dependent on automobiles, and provide an environment that is more conducive to walking, biking, or using public transportation. A population density map for the MPO study area is presented in Appendix G. Note that there are several block groups in the MPO study area that have a population density greater than 4000 people per square mile. These are located primarily in the City of Roanoke and to a lesser extent in Roanoke County. As previously referenced, maps showing the spatial distribution, and concentrations, of the elderly and disabled populations in the MPO are also available in Appendix B and Appendix C.

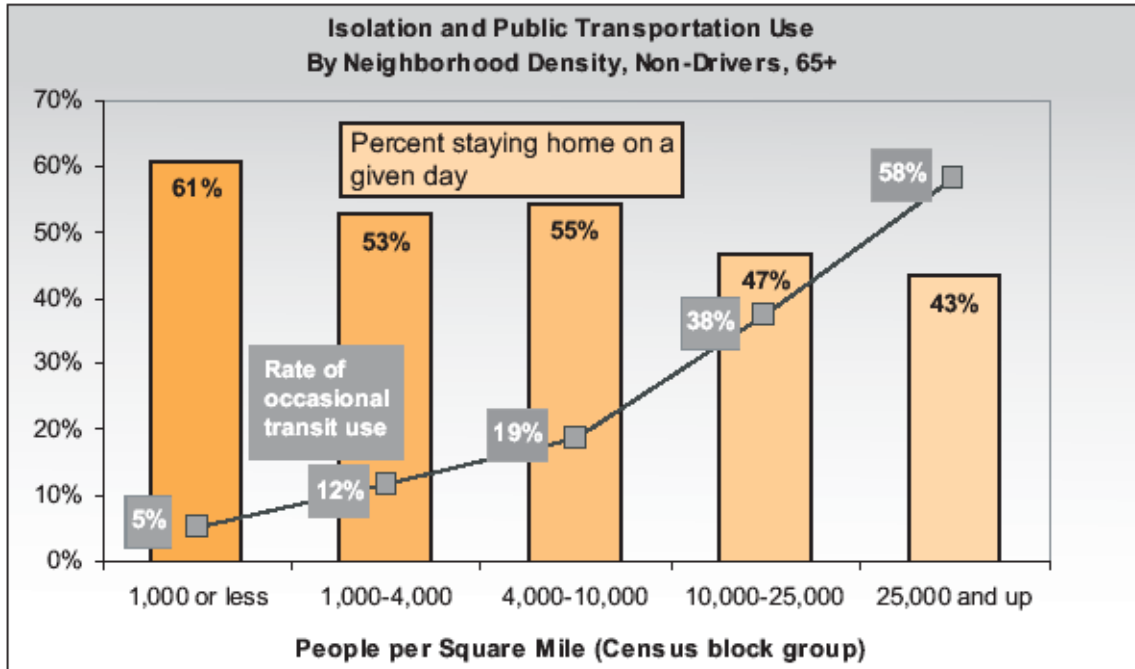


Figure 5: Population Density and Public Transit Use
 Source: *Ageing Americans: Stranded Without Options, 2004*

To encourage livable communities, the report *Ageing Americans: Stranded Without Options*, provides the following recommendations regarding road and street improvements:

- Complete the streets by providing a place for safe walking and bicycling for people of all ages.
- Urge states to adopt federal guidelines for designing safer roads for older drivers and pedestrians.
- Preserve the flexibility of state and local governments to spend federal transportation funds on improving public transportation, pedestrian and bicycle paths, and other alternatives that will meet the mobility needs of older Americans.

- Support the “Transportation Enhancements” program, which is the only federal source of support for pedestrian and bicycle safety projects and facilities.

Moreover, the *2005 Report to the Community on Senior Citizens Issues* recommends encouraging local governments to adopt transportation policies that are pedestrian and bicycle-friendly as a strategy to improve elderly and disabled mobility.

As shown in Appendix H, the Roanoke Valley Area MPO *2025 Long Range Transportation Plan* has funding for public transit improvements as well as mobility and accessibility improvements. Moreover, there are current or upcoming transportation related projects, in which the MPO and local governments will be participating, that are relevant to elderly and disabled mobility in the region. Several of these projects are discussed in the *Next Steps* portion of this section.

In addition to transportation planning efforts in the region, area localities are utilizing land use and neighborhood planning to make neighborhoods and communities more livable and facilitate greater mobility. For example, the City of Roanoke’s comprehensive plan, *Vision 2001-2020*, employs “village centers” and other design concepts to encourage the development of higher-density, mixed-used neighborhoods. The *Vision 2001-2020 Implementation Update* provides a summary and the status of comprehensive plan activities. Moreover, several neighborhoods plans in the City of Roanoke have walking and bicycling elements. Roanoke City Neighborhood Plans are available at <http://www.roanokeva.gov/WebMgmt/ywbase61b.nsf/CurrentBaseLink/N255BRDR436FGUREN>. Other practices that promote density, such as urban redevelopment and infill, are also underway in portions of the MPO study area.

- **Increase Stakeholder Involvement in the Transportation Planning Process**

Each of these previously listed recommendations will require increased involvement in the transportation planning and land use processes by citizens and agencies that provide services to elderly and disabled populations. To facilitate public participation and input in transportation planning, the Regional Commission and the RVAMPO have developed a Public Involvement Policy. The purpose of this policy is to identify a proactive public involvement process for planning efforts in the respective service areas. The Public Involvement Policy is outlined in the 2004 update of the *Public Involvement Manual* available at (<http://www.rvarc.org/work/pubinvolv.pdf>). Additionally, the previously discussed *RVAMPO Demographic Profile* lists recommendations on how to effectively use demographic data and increase public involvement in the transportation planning process. General recommendations, and recommendations specific to the elderly and disabled populations, are presented in Appendix I.

In addition to the findings and work products developed as part of this study, useful partnerships and networks were developed between the RVAMPO and various stakeholders, citizens, and agencies that work with elderly and disabled populations in the region. These relationships can continue to be developed and enhanced to ensure continued stakeholder involvement in mobility and other transportation planning efforts.

Next Steps in Improving Elderly and Disabled Mobility

This study provides a wide range of information related mobility among the elderly and disabled populations of the MPO. Implementation of the preceding general recommendations can assist in addressing many issues that affect elderly and senior mobility. Moreover, planning level data and work products can also be considered and applied to current and upcoming planning efforts and projects that may affect, directly or indirectly, elderly and disabled mobility. Current and future MPO projects with applicability to elderly and disabled mobility are outlined below.

- Public Mobility Program – New River Valley and Roanoke Valley

The New River Valley Planning District Commission, in coordination with the Blacksburg/Christiansburg Metropolitan Planning Organization, the Roanoke Valley Alleghany Regional Commission, and the Roanoke Valley Area Metropolitan Planning Organization, with the assistance of the Virginia Tech University Transportation Fellow Department, will inventory and document their regions' existing public and private transportation resources and needs. This program will also facilitate a collaboration summit and produce a community transportation plan, in order to help human services, transportation and other agencies consider how to support the transportation needs of clients, former clients and potential clients more efficiently and effectively. A VDOT Statewide Transportation Planning Grant awarded to the New River Valley Planning District Commission will fund the Public Mobility Program.

- Bikeway Plan for the RVAMPO Update

The RVAMPO is currently updating the *Bikeway Plan for the RVAMPO*. Upon completion of the Bikeway Plan, the MPO will continue to coordinate and facilitate bikeway planning and activities to advance bicycle travel as a viable means of transportation in the MPO study area. Emphasis will be placed on creating the foundation of a bicycling network that provides interconnections between activity centers, greenways, existing bicycle facilities, and public transit, as part of a multimodal transportation network.

- Roanoke Valley Greenway Plan Update

The Roanoke Valley-Alleghany Regional Commission and the Roanoke Valley Greenway Commission will be updating the *Roanoke Valley Conceptual Greenway*. This plan was developed in 1995 and was adopted by Roanoke City, Roanoke County, Salem, and the Town of Vinton. Since its completion, each of the four jurisdictions has updated its comprehensive plan, incorporating and expanding upon the greenway elements. The update to the *Conceptual Greenway Plan* will address many issues such as scheduling, funding, and operations. A VDOT Statewide Transportation Planning Grant awarded to the Roanoke Valley- Alleghany Regional Commission will, in part, fund the Roanoke Valley Greenway Plan update.

- Regional Pedestrian Walkway Inventory

Pedestrian connections to and from employment and retail centers are often overlooked in traditional transportation planning. In urbanized areas there is increasingly a geographical mix of housing, employment and retail land uses that facilitate pedestrian trips. However, the supply of pedestrian walkways and sidewalks does not always reflect the increased desirability of pedestrian trips. Regional Commission staff will inventory pedestrian walkways at major regional retail and employment concentrations. Special emphasis will be placed on identifying locations for new pedestrian accommodations that connect retail, employment and/or housing land uses.

- Mobility Maps

As discussed in previous sections, citizens are not always aware of the variety of transportation and mobility options that are available to them for their work and non-work travel. The MPO will produce a “Mobility Map” designed to create greater awareness of various transportation and mobility options. These maps will feature greenway and trail links, public transportation routes, bicycle and pedestrian routes, and other relevant information. A limited number of maps will be distributed to area citizens and human service organizations.

- General Technical Assistance and Technical Support Activities

MPO staff will provide assistance to local governments, planners, and citizens, as requested, covering a wide a variety of planning support activities to support work program projects and/or the general planning process. Moreover, staff will provide assistance to local government on the preparation of Transportation Enhancement (TE) grants as needed.

Additional information on these and other transportation planning projects is available in the Roanoke Valley Area MPO FY 2006 [Unified Planning Work Program](http://www.rvarc.org/work/urban06.pdf) available at <http://www.rvarc.org/work/urban06.pdf>. The Regional Commission’s FY 2006 [Comprehensive Work Program](http://www.rvarc.org/work/work06.pdf) is also available at <http://www.rvarc.org/work/work06.pdf>.

In addition to specific work program items, MPO staff will continue to work with organizations and stakeholders identified in this report to address mobility issues among the elderly and disabled.

APPENDIX A

**Roanoke Valley Senior Citizens Taskforce
Participating Agencies and Organizations**

Blue Ridge Independent Living Center
Brain Injury Services of SW Virginia
Carilion Geriatric Assessment Clinic
City of Roanoke Department of Social Services
City of Roanoke Parks and Recreation Department
Coleman & Massey, PC
Commonwealth Catholic Services
Council of Community Services
Family Services of Roanoke Valley
Foundation for Roanoke Valley
Good Samaritan Hospice
Heartland Home Healthcare
LOA Area Agency on Aging
Mental Health Association of Roanoke Valley
Presbyterian Community Center
Retired and Senior Volunteer Program
Roanoke County Department of Social Services
Roanoke Valley - Alleghany Regional Commission
United Way of Roanoke Valley

APPENDIX B

Disability Maps by Block Group

Maps presented in Appendix B reveal concentrations of the disabled throughout the RVAMPO region and demonstrate the number of disabilities as tallied by the US Census Bureau by block group. The US Census Bureau asks respondents in Question 16 of its “long form” questionnaire if they suffer from any of the following long-lasting conditions: (a) blindness, deafness, or a severe vision or hearing impairment, (sensory disability) and (b) a condition that substantially limits one or more basic physical activities such as walking, climbing stairs, reaching, lifting, or carrying (physical disability). In Question 17 on the long form, respondents are asked if they have any physical, mental, or emotional condition lasting 6 months or more that make it difficult to perform certain activities. The four activity categories were: (a) learning, remembering, or concentrating (mental disability); (b) dressing, bathing, or getting around inside the home (self-care disability); (c) going outside the home alone to shop or visit a doctor’s office (going outside the home disability); and (d) working at a job or business (employment disability).

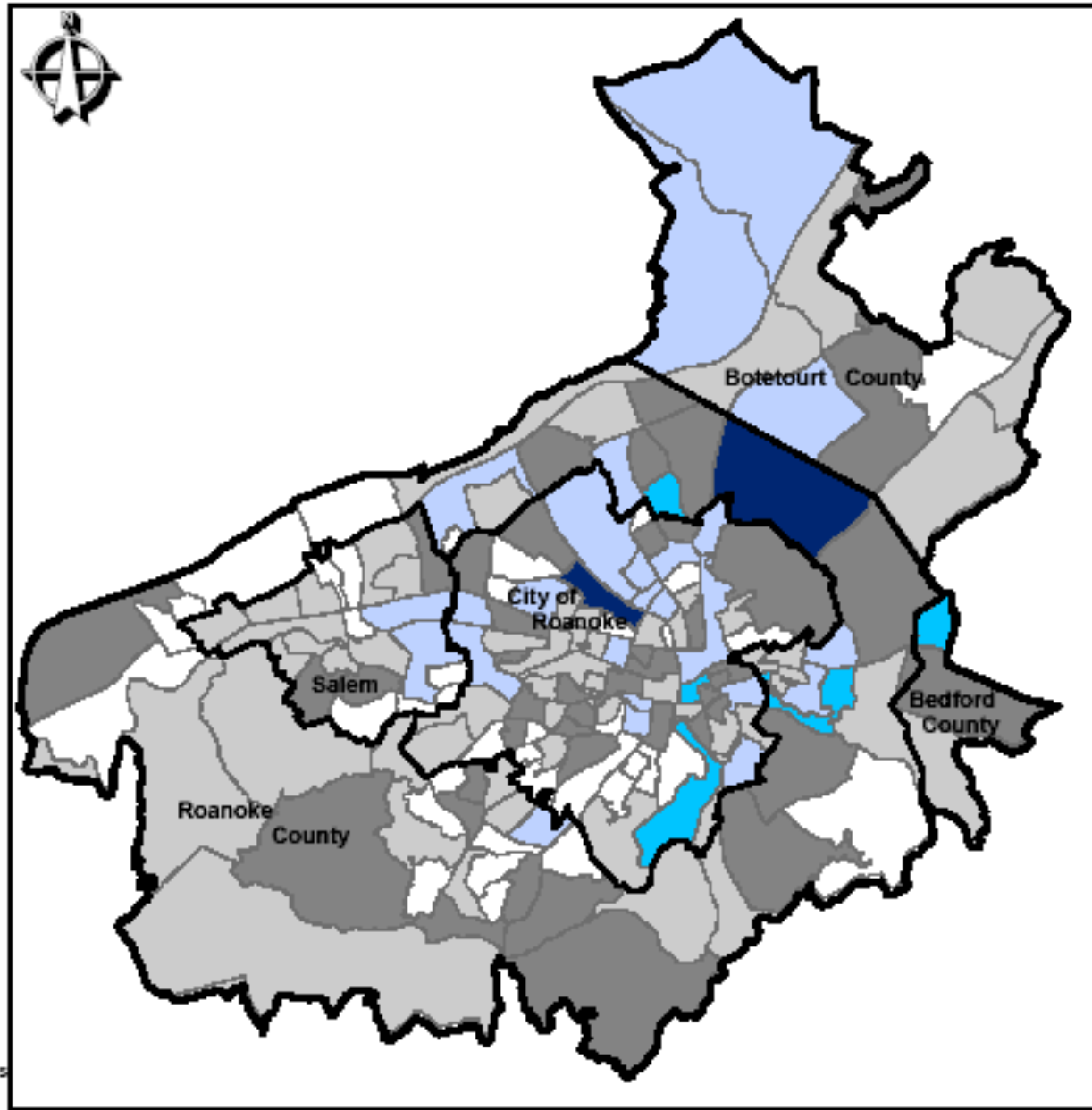
Demographic Profile

Map 12
Employment Disability
By Block Group
Within MPO
2025 Study Area

Employment Disabilities Tallied

- 0 - 50
- 51 - 100
- 101 - 150
- 151 - 200
- 201 - 250
- 251 - 265

0 1 2 4 6 Miles

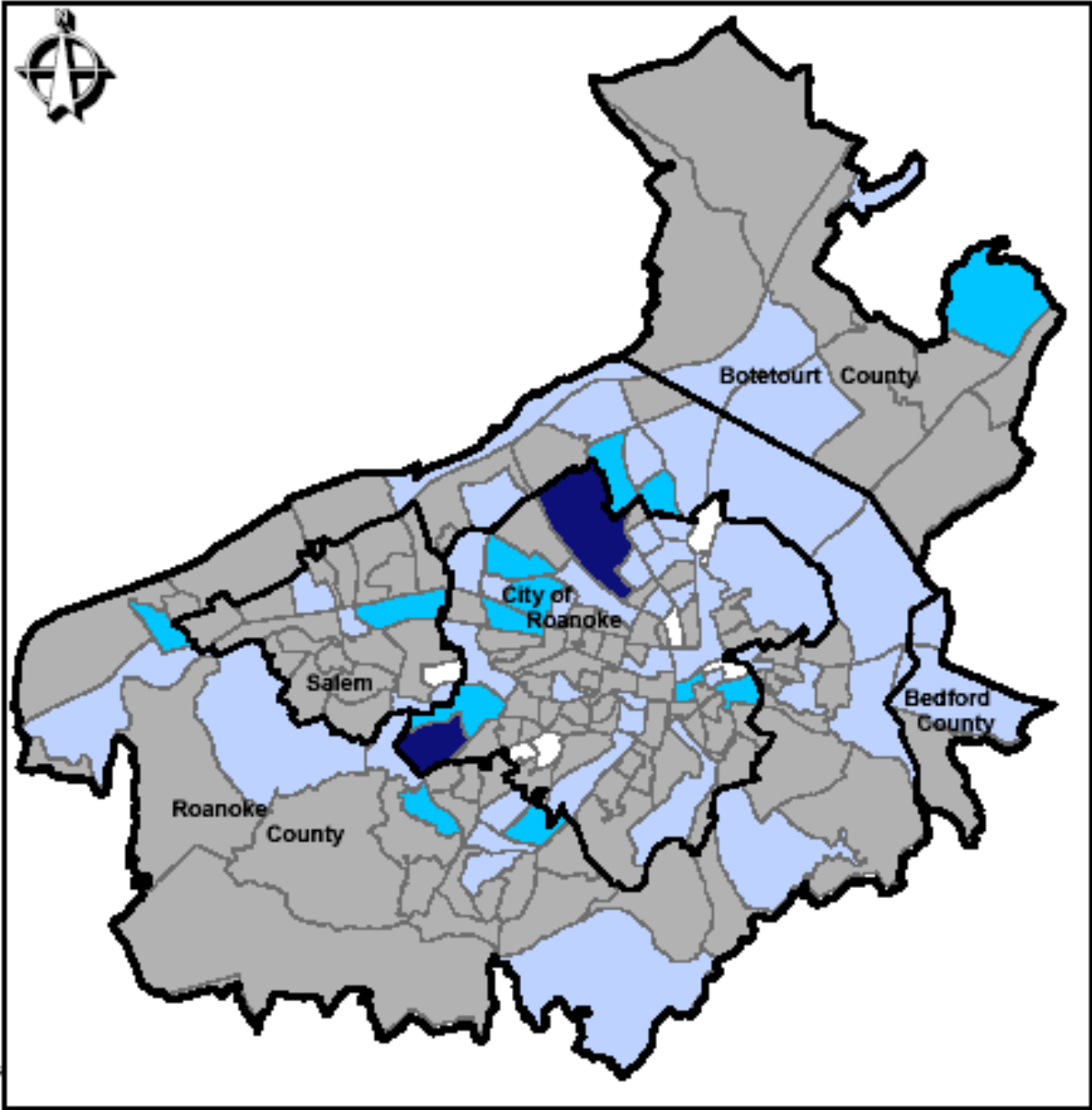


Source: Demographic Profile for the RVAMPO

Demographic Profile

Map 13
Sensory Disability
By Block Group
Within MPO
2025 Study Area

Sensory Disabilities Tallied

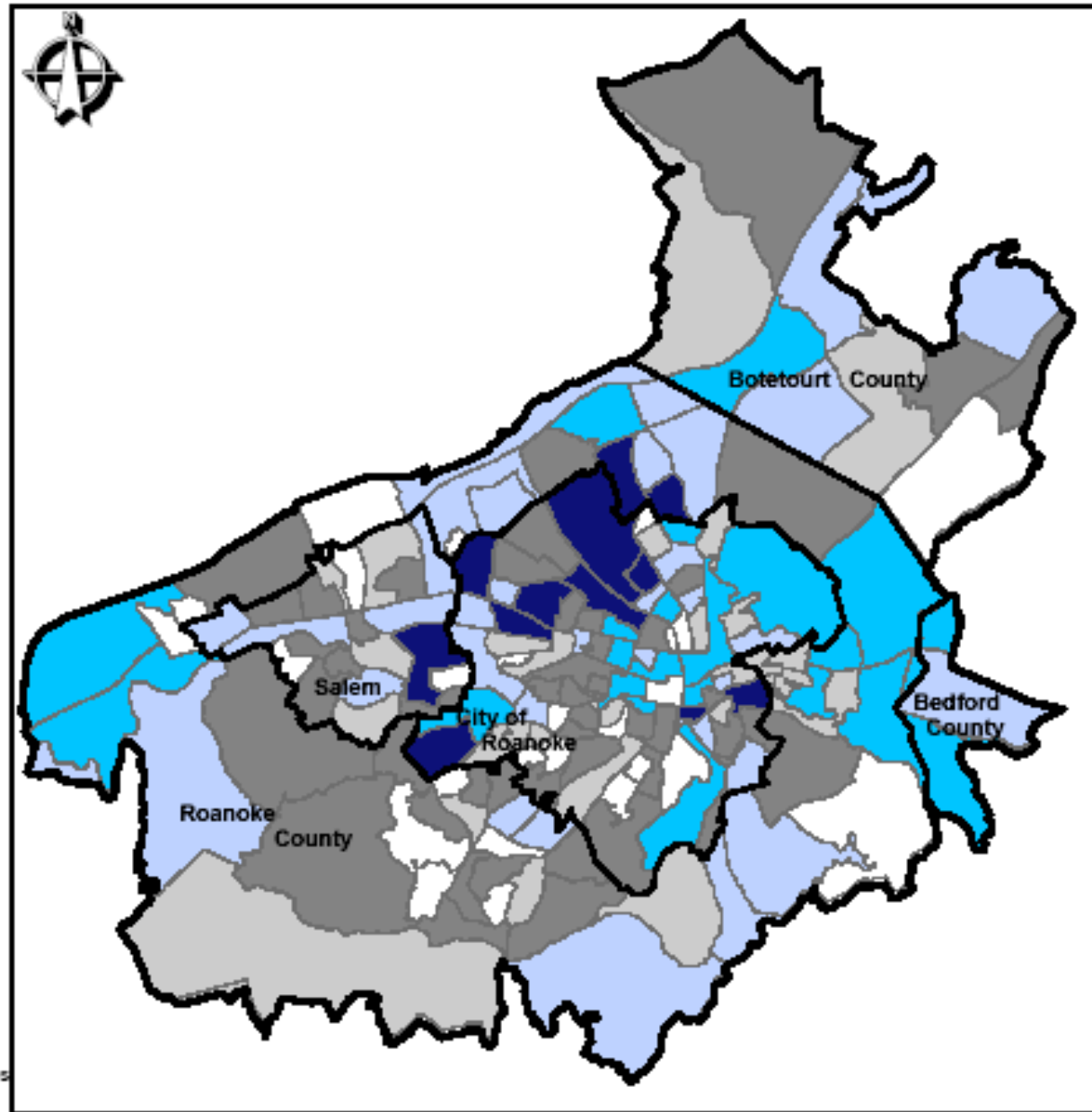
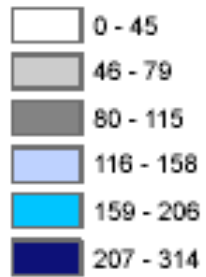


Source: Demographic Profile for the RVAMPO

Demographic Profile

Map 14
Physical Disability
By Block Group
Within MPO
2025 Study Area

Physical Disabilities Tallied



Source: Demographic Profile for the RVAMPO

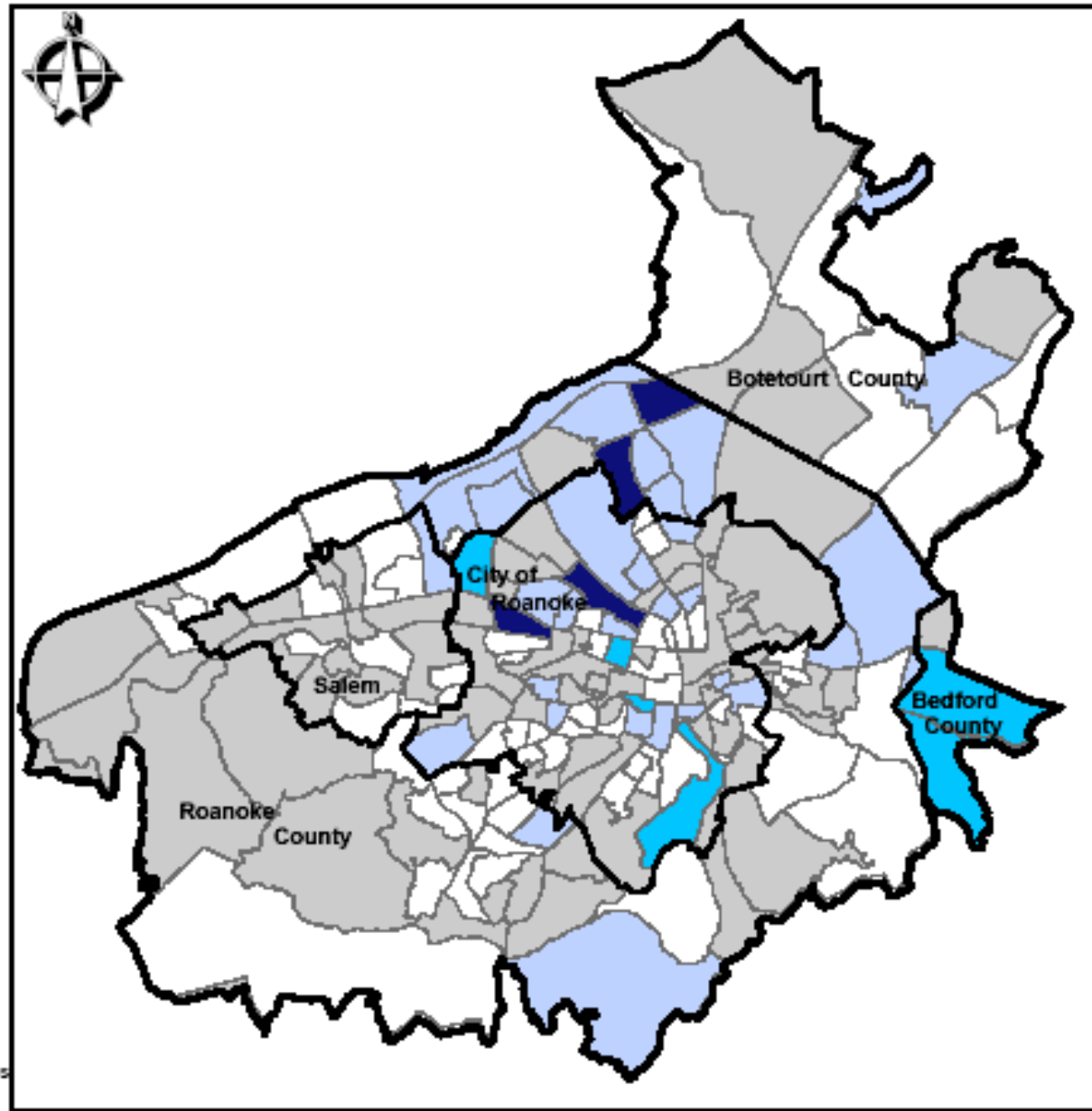
Demographic Profile

Map 15
Mental Disability
By Block Group
Within MPO
2025 Study Area

Mental Disabilities Tallied

- 0 - 50
- 51 - 100
- 101 - 150
- 151 - 200
- 201 - 225

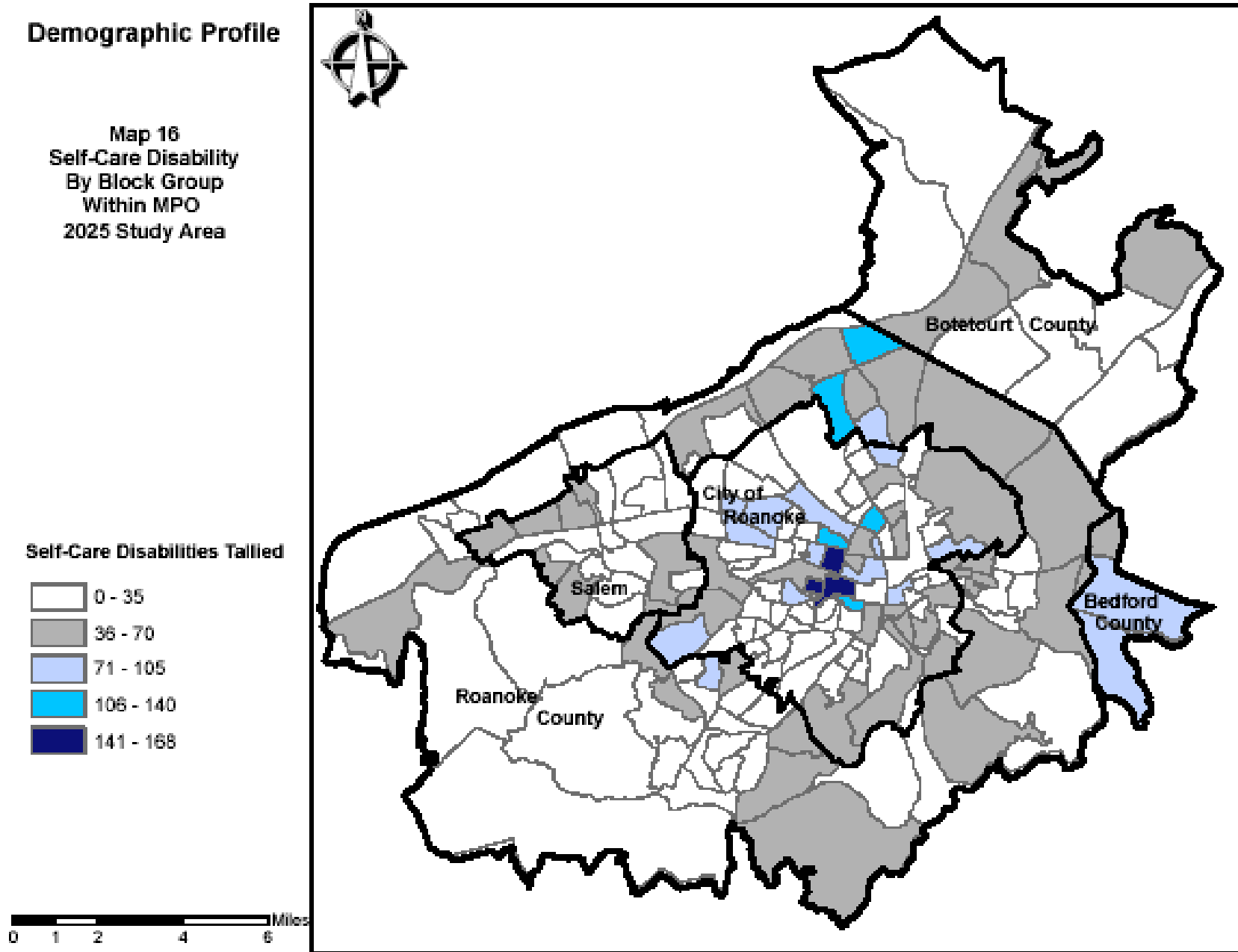
0 1 2 4 6 Miles



Source: Demographic Profile for the RVAMPO

Demographic Profile

Map 16
Self-Care Disability
By Block Group
Within MPO
2025 Study Area

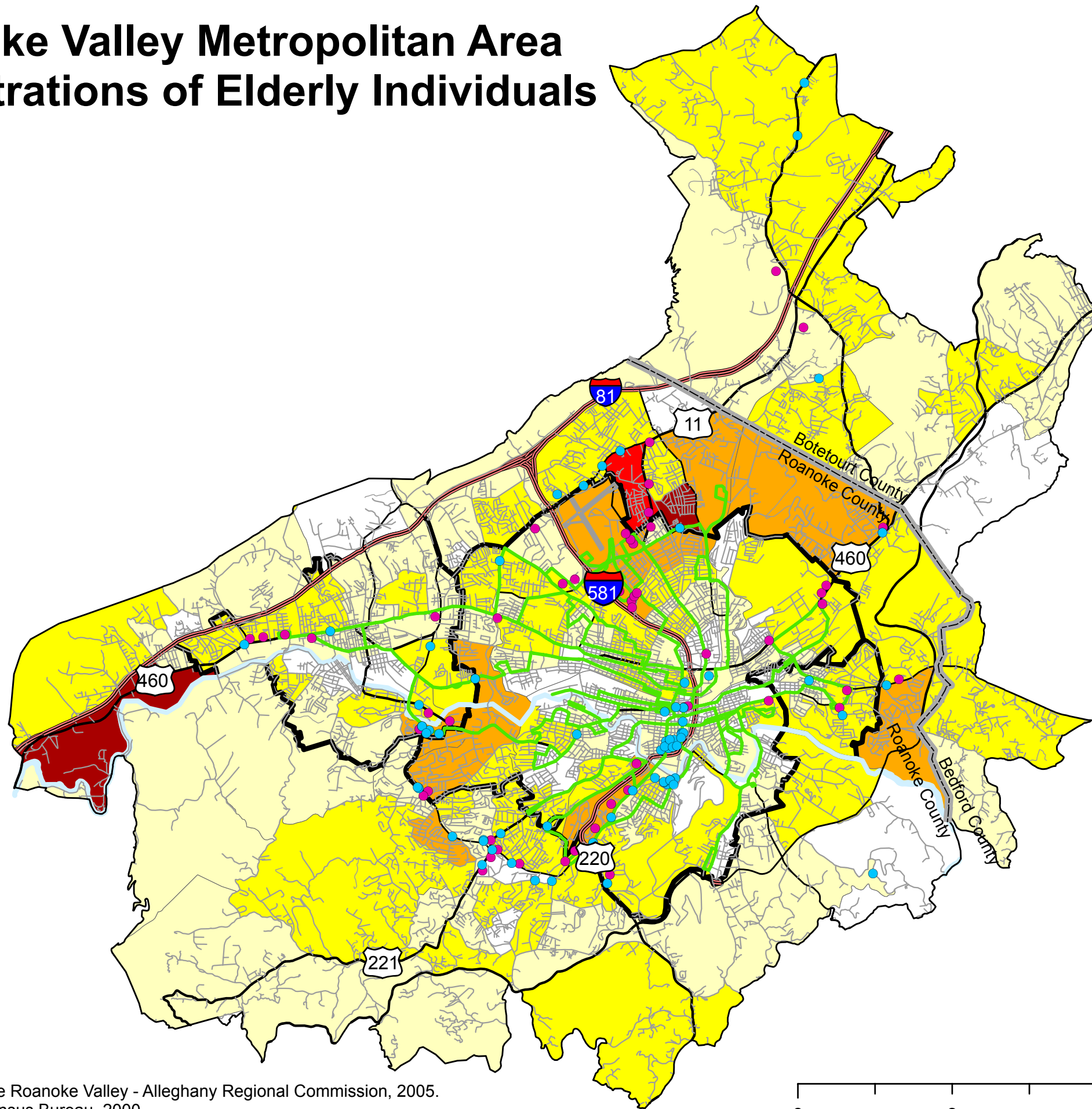


Source: Demographic Profile for the RVAMPO

APPENDIX C

Concentrations of Elderly Individuals in the RVAMPO Study Area

Roanoke Valley Metropolitan Area Concentrations of Elderly Individuals



Legend

Number of Elderly

- 0 - 100
- 101 - 200
- 201 - 400
- 401 - 600
- 601 - 800
- 801 - 1000
- Bus Route
- Medical Offices
- Retail/Shopping Est.

APPENDIX D

Elderly and Disabled Transportation Services

Elderly and Disabled Transportation Services

This is a summary list of public transportation services available to the elderly and disabled in the Roanoke valley. Included in this list are services available only to these populations, as well as service available to all populations (e.g., Valley Metro). This list does not include services offered by private or religious organizations. However, it is recognized that these organizations often play an integral part in the mobility of the elderly and disabled.

RADAR (Unified Human Transportation Services, Inc.)

(540) 343-1721

RADAR is a non-profit corporation providing rural public transit services and specialized transit primarily in the "Greater Roanoke Valley". RADAR provides transportation services to members of our community who are served by or through local social service agencies, local and state government and other private organizations. Among those served are members of the public who may be physically or mentally disabled, elderly, indigent or transportation disadvantaged. RADAR contracts to provide transit services for CORTRAN, Valley Metro Star, and the Mountain Express. For more information call (540) 343-1721 or visit <http://www.radartransit.org/>.

Note: All services provided by RADAR are curb to curb. The driver will provide limited assistance in boarding and disembarking. At no time may a driver enter a building to provide assistance.

CORTRAN (County of Roanoke Transportation)

(540) 343-1721 Ext. 3

CORTRAN is a contract service with RADAR, which provides transportation for Roanoke County residents who are sixty-five years of age and over or mentally or physically disabled as defined by the Americans with Disabilities Act (ADA). Service is available to the general public within the non-urbanized area of Roanoke County only.

Service is available from 7:00 a.m. to 6:00 p.m. The last pickup time scheduled is 5:30 p.m. Monday through Friday. Service is not available on New Year's Day, Good Friday, Memorial Day, July Fourth, Labor Day, Thanksgiving Friday, and Christmas. When Roanoke County Schools are closed due to inclement weather, service is not provided. If the service is closed for any other reason, announcements are made on local radio and TV stations.

To make reservations, call 343-1721. Reservations are taken between the hours of 8:00 a.m. and 5:00 p. m., Monday through Friday and must be made at least one (1) day in advance of desired transport time. Reservations can be made up to fourteen (14) days in advance of needed time. Return trips are required to be scheduled when making reservations. The cost per trip is \$3.50 and all clients must pay cash or have a ticket. If paying by cash, exact change is required, as drivers are not allowed to make change. Cancellation of a trip must be made at least one hour in advance of the trip or you will be charged \$3.50. Tickets can be purchased in advance by calling 772-2006. Companion

aides travel free with a client requiring assistance. Individuals who are qualified to be CORTRAN riders cannot be classified as a companion as mandated by ADA. For more information call 343-1721 or visit <http://www.radartransit.org/cortran.htm>.

Valley Metro STAR

(540) 343-1721 Ext. 3

Service hours are 5:45 a.m. to 8:45 p.m. Monday through Saturday. Last pickup time scheduled is 8:15 p.m. Service is not available New Year's Day, Memorial Day, July Fourth, Labor Day, Thanksgiving, and Christmas. When Valley Metro operates on snow routes this service is not provided. If the service is closed for any other reasons, announcements are made on local radio and TV stations.

Reservations must be made at least one day in advance of desired transport time. Reservations can be made up to fourteen days in advance of needed time. Tickets or passes can be purchased in advance by calling 982-2222. The cost per trip is \$2.50 and all clients must pay cash or have a ticket. If paying by cash, exact change is required, as drivers are not allowed to make change. Companion aides travel free with a client requiring assistance. Individuals who are qualified to be STAR riders cannot be classified as a companion as mandated by ADA. For more information call 343-1721 or visit <http://www.radartransit.org/star.htm>.

The Mountain Express (RADAR)

1-800-964-5707

The Mountain Express is a public bus service in and between Covington and Clifton Forge. The Service operates four days a week. Monday, Tuesday, Thursday, and Friday between the hours of 9:00 a.m. and 3:30 p.m. The Mountain Express offers a deviated fixed route service to the citizens of Clifton Forge and Covington. A fare of fifty cents per trip is charged and must be paid when boarding the van. Exact change is required. Children under the age of six years old ride at no charge. Individuals who are ADA certified may request the van to deviate off its route to make pick-ups and drop offs. This distance may not exceed 3/4 of a mile off the route. For more information regarding this service call (800) 964-5707 Ext. 3 or 4 or visit <http://www.radartransit.org/mountain.htm>.

Vital Services Transportation

(540) 345-0451

Vital Services Transportation, sponsored by the League of Older Americans Area Agency on Aging is a program available to individuals 60 or older, with low incomes, who have an emergency need for transportation to a doctor, to the pharmacy, grocery store or other critical appointment. Service is available to those who need door-to-door assistance and who have no other source for transportation or means to pay for transportation. Individuals are transported by volunteers, taxicab or van service. For more information contact the League of Older Americans Area Agency on Aging at 540-345-0451 or visit <http://www.loaa.org/transportation.html>.

Goodwill Industries of the Roanoke Valley

(540) 581-0620

Goodwill Industries offer transportation services to their clients. For more information contact Goodwill Industries at 581-0620 or <http://www.goodwill-the-valleys.com/>.

Valley Metro (Greater Roanoke Transit Company)

(540) 982-2222

Valley Metro, the Roanoke Valley's public transit provider, has numerous routes throughout the Roanoke Valley. For more information call (540) 982-2222 or visit <http://www.valleymetro.com/home.htm>. Additionally, a map of Valley Metro Bus System routes is included in Appendix C.

Smart Way Bus Service

982-6622 (Roanoke) or 800-388-7005(Toll Free)

The [Smart Way Commuter Bus](#) provides commuter service between the New River and Roanoke Valleys. This service, operated Roanoke's Valley Metro, links the City of Roanoke, Salem, Christiansburg, and Blacksburg. Service is available everyday, with the exception of Sunday. Fare is \$3.00 each way. More information on the Smart Way bus is available at 982-6622 or <http://www.smartwaybus.com/index.htm>.

APPENDIX E

Smart Way Commuter Bus Service Route Schedule and Map

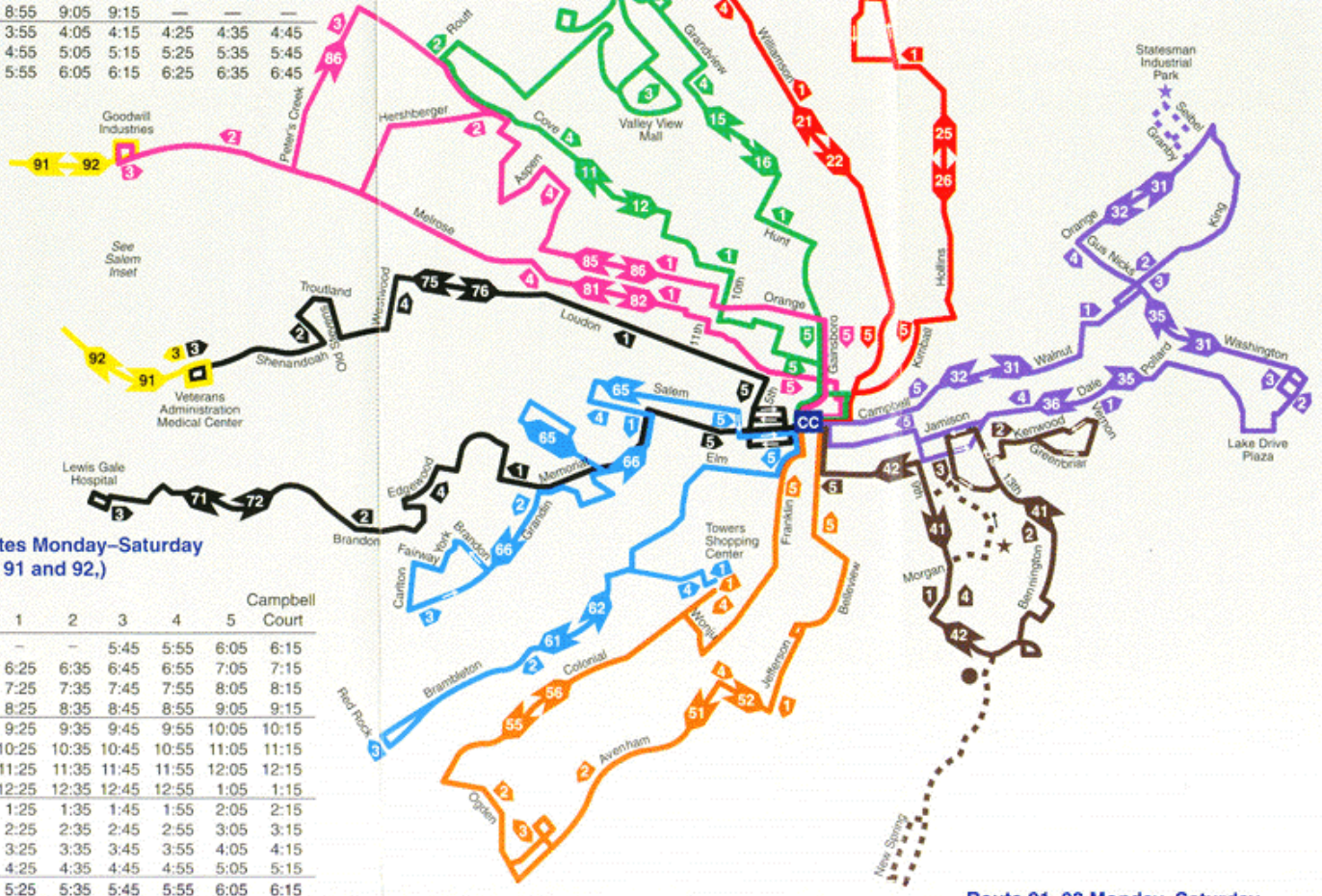
Peak Service
All Routes Monday–Friday
 (except 31, 32, 35, 36, 91, 92)

Campbell Court	1	2	3	4	5	Campbell Court
—	—	—	6:15	6:25	6:35	6:45
6:45	6:55	7:05	7:15	7:25	7:35	7:45
7:15	7:55	8:05	8:15	8:25	8:35	8:45
8:45	8:55	9:05	9:15	—	—	—
3:45	3:55	4:05	4:15	4:25	4:35	4:45
4:45	4:55	5:05	5:15	5:25	5:35	5:45
5:45	5:55	6:05	6:15	6:25	6:35	6:45

Route Schedules

LEGEND

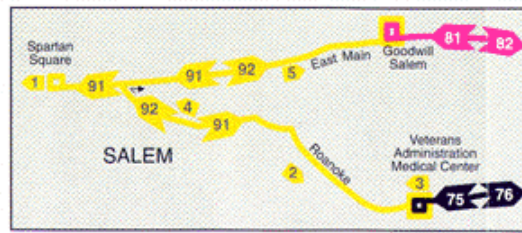
- CC Campbell Court
- 15 Route Label
- 1 Time Point



All Routes Monday–Saturday
 (except 91 and 92.)

Campbell Court	1	2	3	4	5	Campbell Court
—	—	—	5:45	5:55	6:05	6:15
6:15	6:25	6:35	6:45	6:55	7:05	7:15
7:15	7:25	7:35	7:45	7:55	8:05	8:15
8:15	8:25	8:35	8:45	8:55	9:05	9:15
9:15	9:25	9:35	9:45	9:55	10:05	10:15
10:15	10:25	10:35	10:45	10:55	11:05	11:15
11:15	11:25	11:35	11:45	11:55	12:05	12:15
12:15	12:25	12:35	12:45	12:55	1:05	1:15
1:15	1:25	1:35	1:45	1:55	2:05	2:15
2:15	2:25	2:35	2:45	2:55	3:05	3:15
3:15	3:25	3:35	3:45	3:55	4:05	4:15
4:15	4:25	4:35	4:45	4:55	5:05	5:15
5:15	5:25	5:35	5:45	5:55	6:05	6:15
6:15	6:25	6:35	6:45	6:55	7:05	7:15
7:15	7:25	7:35	7:45	7:55	8:05	8:15
8:15	8:25	8:35	8:45	—	—	—

- 41, 42 Service to Garden City (leaving 11th Street) (leaving Campbell Court)
 AM 5:45 PM 2:15, 6:15
- ★ 42 Service to Morningside St. (leaving 11th Street) (leaving Town Square)
 AM 8:55, 11:55 PM 4:15
- 25, 26 Service to Hanover Direct (leaving Campbell Court) (leaving Town Square)
 AM 6:15 PM 4:15
- ★ 31 service to Statesman Industrial Park (M-F) (leaving Campbell Court) (Express Service to Campbell Court)
 AM 6:15 PM 3:30



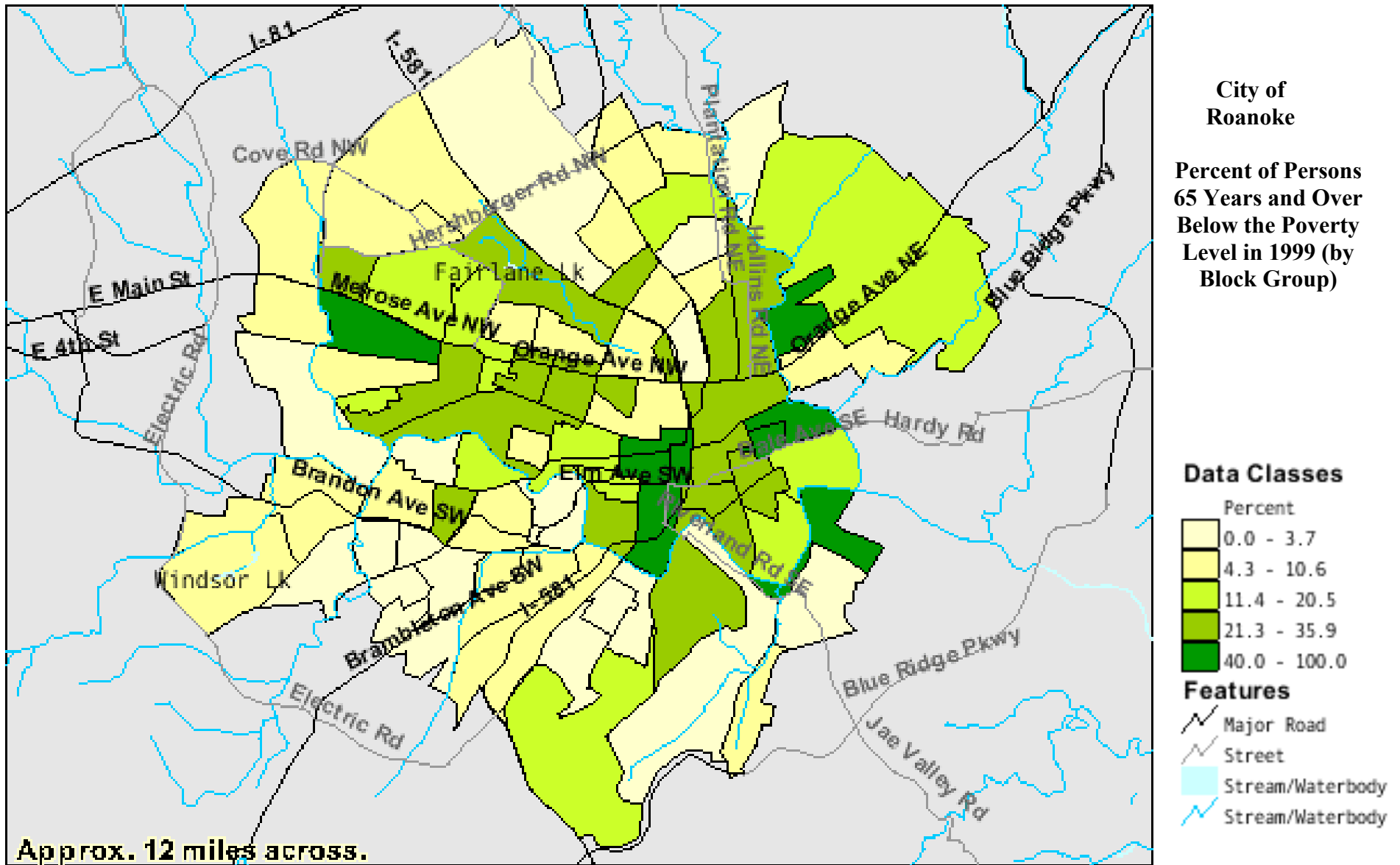
Route 91, 92 Monday–Saturday

Goodwill Salem	1	2	3	4	5	Goodwill Salem
5:45	5:55	6:05	6:15	6:25	6:35	6:45
6:45	6:55	7:05	7:15	7:25	7:35	7:45
7:45	7:55	8:05	8:15	8:25	8:35	8:45
8:45	8:55	9:05	9:15	9:25	9:35	9:45
9:45	9:55	10:05	10:15	10:25	10:35	10:45
10:45	10:55	11:05	11:15	11:25	11:35	11:45
11:45	11:55	12:05	12:15	12:25	12:35	12:45
12:45	12:55	1:05	1:15	1:25	1:35	1:45
1:45	1:55	2:05	2:15	2:25	2:35	2:45
2:45	2:55	3:05	3:15	3:25	3:35	3:45
3:45	3:55	4:05	4:15	4:25	4:35	4:45
4:45	4:55	5:05	5:15	5:25	5:35	5:45
5:45	5:55	6:05	6:15	6:25	6:35	6:45
6:45	6:55	7:05	7:15	7:25	7:35	7:45
7:45	7:55	8:05	8:15	—	—	—

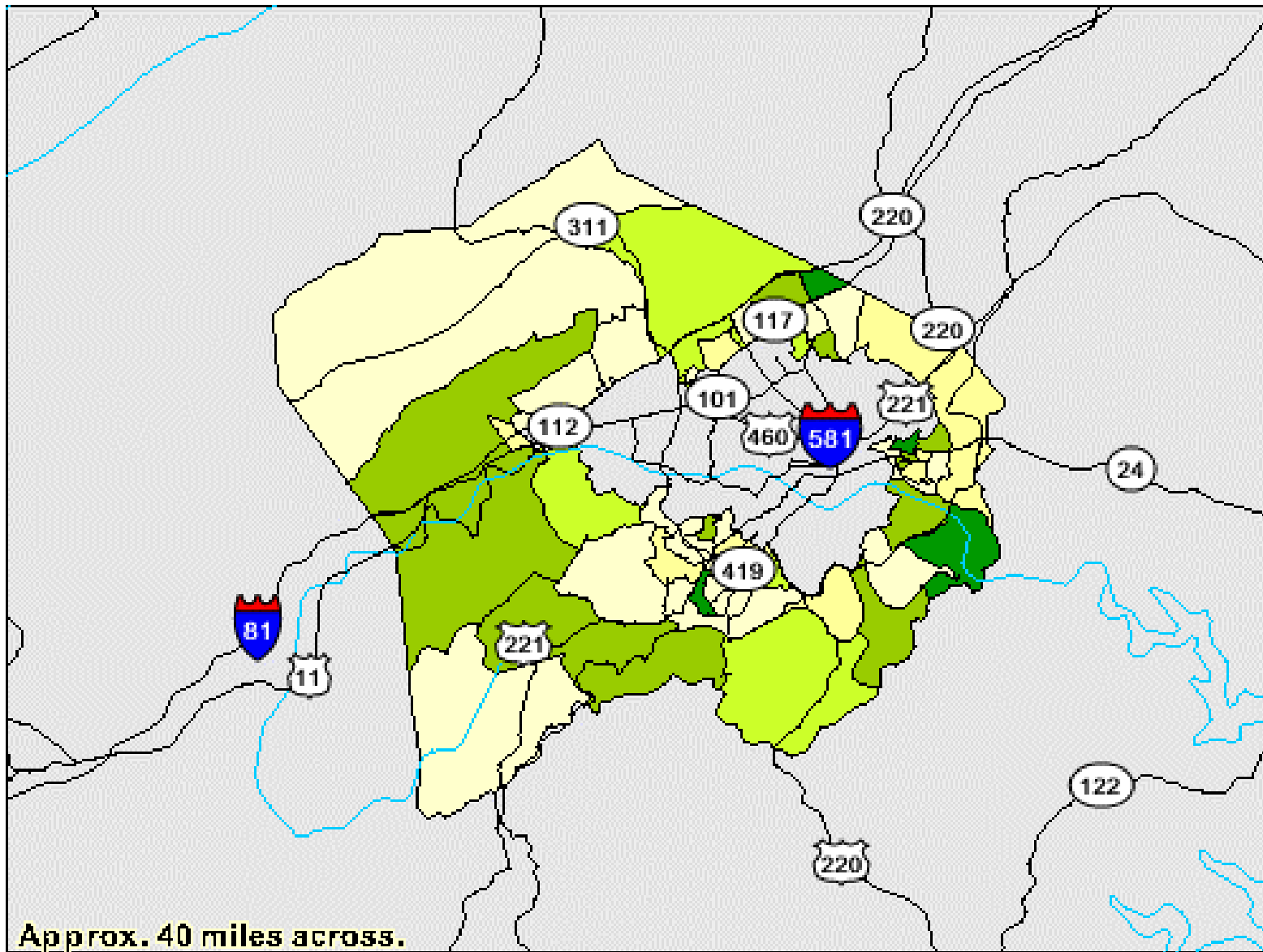
Source: http://www.smartwaybus.com/images/map_big.gif

APPENDIX F

**Distribution of Persons Over 65 Year of Age Below the Poverty
Level by Locality, 2000**



Source: US Census, 2000 Summary File 3 (SF 3) - Sample Data



Roanoke County

Percent of Person 65 Years and Over Below the Poverty Level (by Block Group)

Data Classes

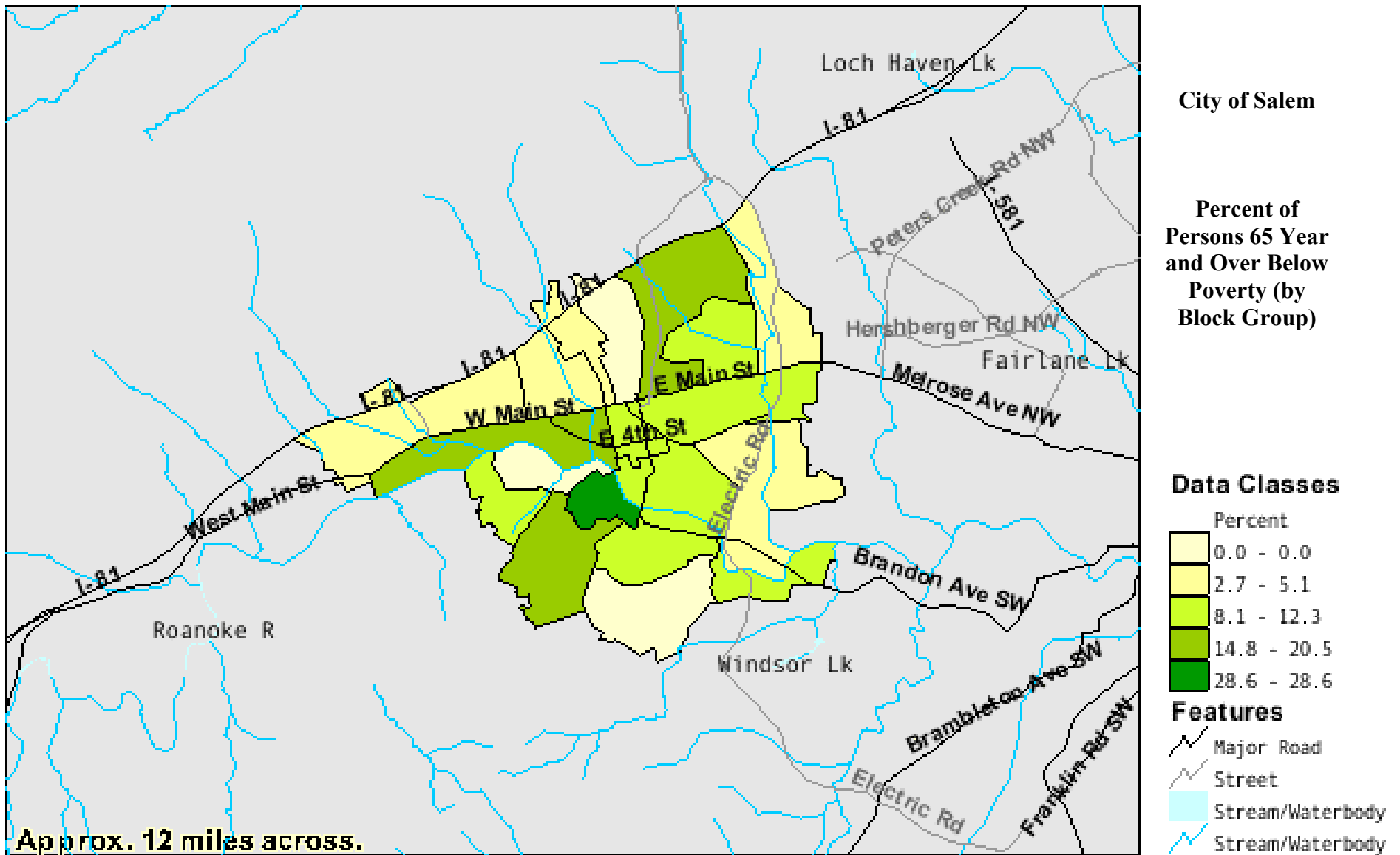
Percent	
0.0 - 1.5	Lightest Yellow
1.9 - 4.2	Yellow
4.9 - 7.3	Light Green
9.5 - 15.6	Medium Green
18.6 - 28.0	Dark Green

Features

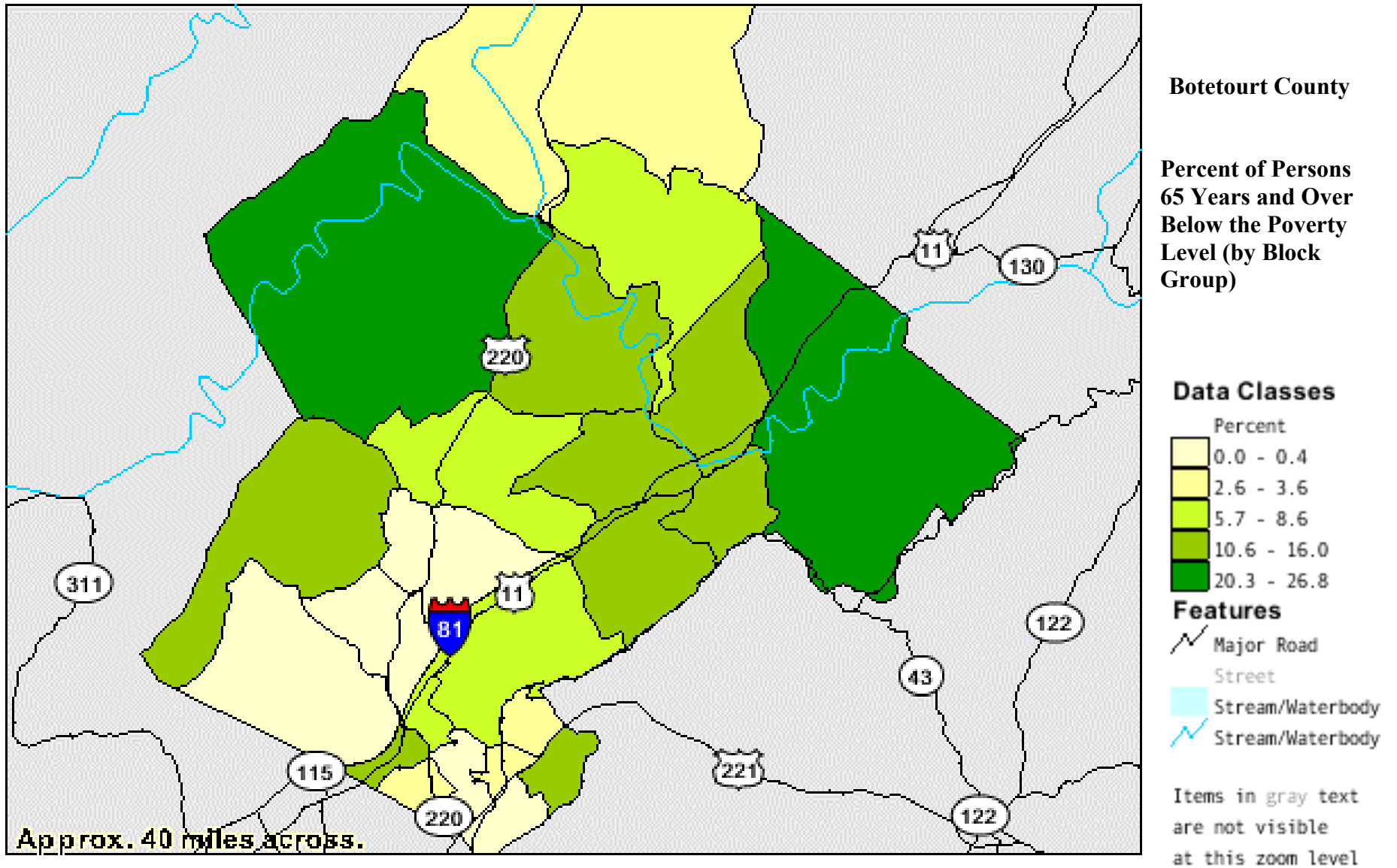
- Major Road
- Street
- Stream/Waterbody
- Stream/Waterbody

Items in gray text are not visible at this zoom level

Source: US Census, 2000 Summary File 3 (SF 3) - Sample Data



Source: US Census, 2000 Summary File 3 (SF 3) - Sample Data



Source: US Census, 2000 Summary File 3 (SF 3) - Sample Data

APPENDIX G

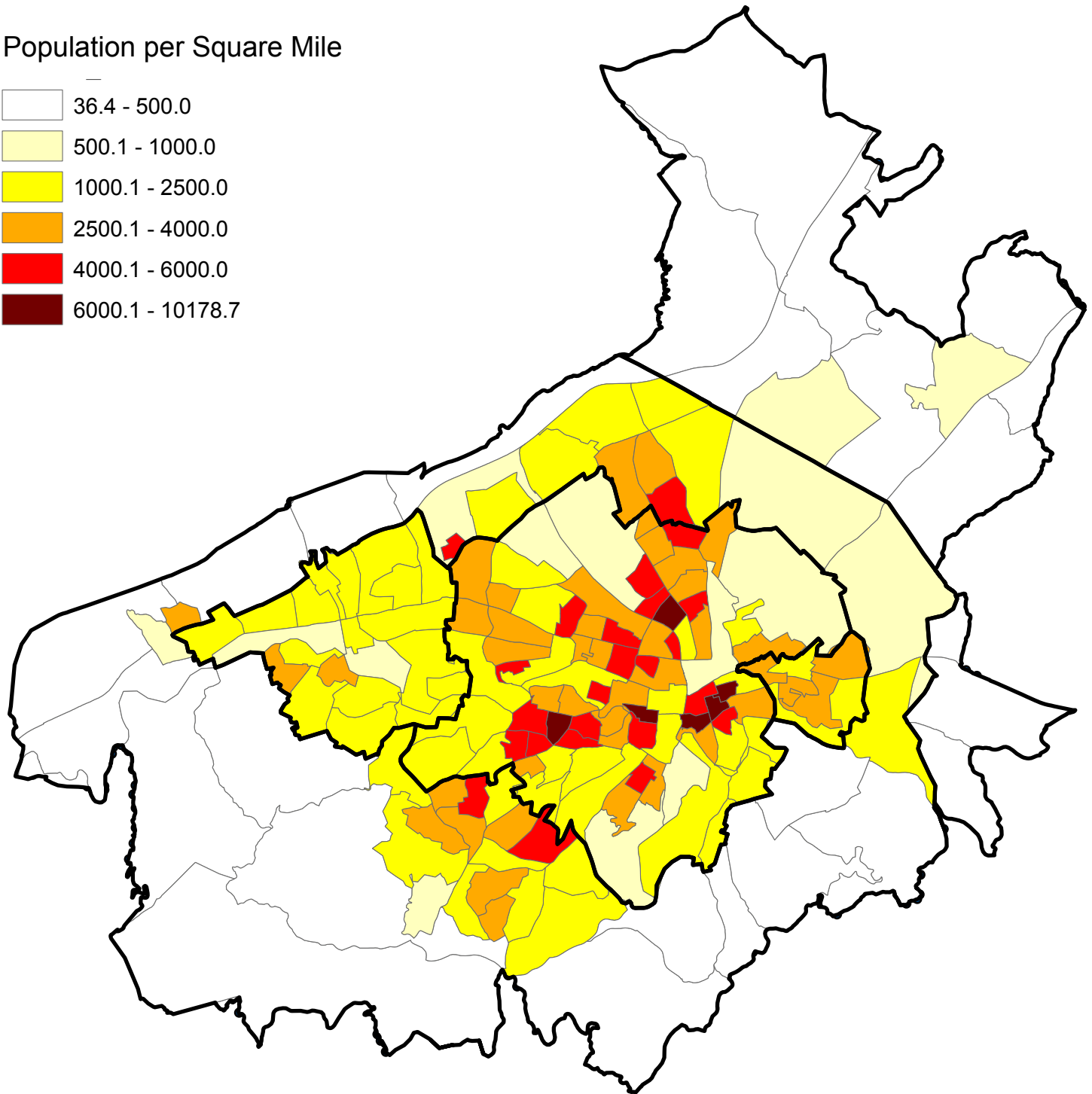
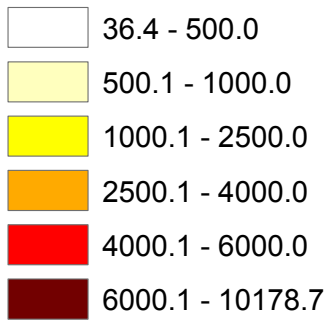
RVAMPO Study Area Population Density, 2000

Roanoke Valley Area Metropolitan Planning Organization Population Density in 2000



Legend

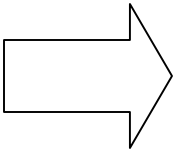
Population per Square Mile



APPENDIX H

2025 Long Range Transportation Plan Financial Constrained Project List

Map #	Facility Route # and Name	From:	To:	Recommended Improvement	Projected Cost	Previous Funding	Additional Funding Required	Comments
#10	Orange Ave. Network Improvements Planning Analysis	I-581	ECL Roanoke	Corridor Study	\$300,000	\$0	\$300,000	Corridor study to evaluate alternate network connections to relieve congestion on Orange Avenue.
#11	Orange Avenue	11th St	Gus Nicks Blvd	U6L	\$11,414,000	\$0	\$11,414,000	<i>Bicycle Accomodations Recommended in 1997 Regional Bikeway Plan</i>
#12	Salem Turnpike/ Shenandoah Avenue Corridor	36th St.	24th St	U2L w/ bike lanes	\$5,641,000	\$0	\$5,641,000	Turn lanes at selected locations - Bicycle Accomodations Recommended in 1997 Regional Bikeway Plan - Pedestrian and Bicycle Accomodations Recommended in Regional Greenways Master Plan
#13	Williamson Road	Orange Ave.	Angell Ave.	Corridor Improvement	\$15,493,000	\$0	\$15,493,000	Corridor improvements to include curb, gutter, sidewalk, and other streetscape enhancements - <i>Bicycle Accomodations Recommended in 1997 Regional Bikeway Plan</i>
#14	Transit Improvements				\$2,913,173	\$0	\$2,913,173	Surface Transportation funds will be flexed over to support bus shelters, bus pullouts, Downtown circulator, and other transit enhancements.
#15	Mobility and Accessibility Improvements				\$4,855,289	\$0	\$4,855,289	Bike lanes, shared-use paths (greenways), sidewalks, curb and gutter, other Pedestrian and Bicycle enhancements
#16	Signal and ITS Improvements				\$4,855,289	\$0	\$4,855,289	Interconnection and coordinated signal systems & miscellaneous ITS improvements
#17	Intersection & Miscellaneous Spot Improvements				\$4,855,289	\$0	\$4,855,289	Isolated improvements, additional turn lanes, geometric improvements, and other minor physical improvements



Source: RVAMPO 2025 Long Range Transportation Plan

APPENDIX I

RVAMPO Regional Demographic Profile – Summary of Recommendations

RVAMPO Regional Demographic Profile – Summary of Recommendations

General

- The RVAMPO Demographic Profile must be provided to RVAMPO planning staff, advisory groups, and to the policy board.
- The RVAMPO Demographic Profile, and information contained therein, should be consulted and considered throughout the planning process.
- The RVAMPO Demographic Profile should be used with the goal of avoiding high and disproportionately adverse effects upon populations protected by federal nondiscrimination law.
- The RVAMPO Demographic Profile should be used to aid in public outreach efforts, to plan for transportation requirements of certain special needs populations within the region, and to provide informational inputs to the CLRTP and TIP.
- The RVAMPO Demographic Profile should be posted on the Roanoke Valley – Alleghany Regional Commission web site and should be provided to any citizens and businesses upon request.
- The RVARC and RVAMPO must follow the Public Involvement Policy, as contained in the Public Involvement Manual.
- The RVARC staff must ensure that a wide variety and a large number of civic organizations and community groups are included in regular RVARC and RVAMPO mass mailings to enhance participation of all protected groups.

Age and Gender

- Contact the Local Area Agency on Aging and the Council of Community Services. Include these groups in future mailings and other communications to regional civic organizations.
- Consider the provision of free childcare at the most significant opportunities for public comment (if resources are available).

Disability

- Ensure meetings are held in locations that are accessible to the physically disabled.
- Ensure that the statewide TTY/TTD number and the toll free voice line are advertised in all public notices so that those with sensory disabilities are able to communicate with staff and to comment on plans, projects, and/or activities of the RVAMPO.
- Be proactive in identifying any potential needs of the disabled in arranging public meetings.
- Provide reasonable accommodations as new needs are identified.

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