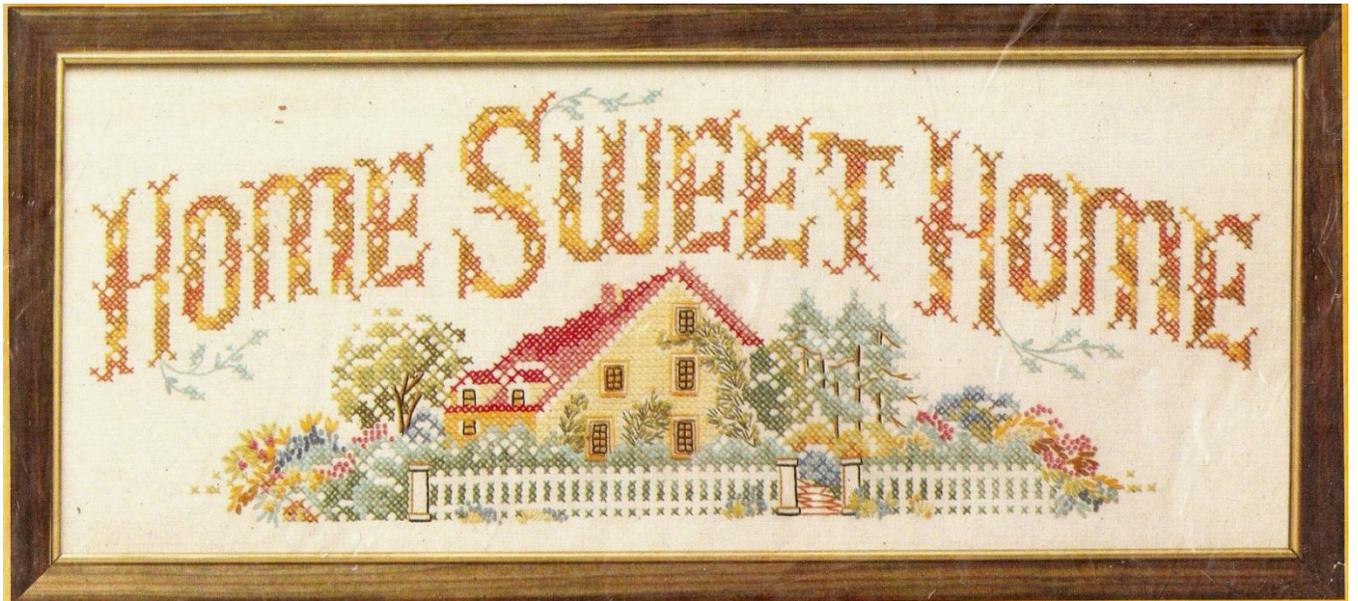


Naturally Occurring Retirement Communities in the Baltimore Region

2010 Census Update



July 2012



Baltimore Metropolitan Council

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NATURALLY OCCURRING RETIREMENT COMMUNITIES IN THE BALTIMORE REGION – 2010 CENSUS UPDATE

Transportation Planning Division

**Todd Lang, Director
Regina Aris, Assistant Director
Dunbar Brooks, Manager, Data Development**

Project Manager

**Robert Berger
Senior Transportation Planner – Policy**

July 2012

**Baltimore Metropolitan Council
Offices @ McHenry Row
1500 Whetstone Way, Suite 300
Baltimore, Maryland 21230**

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NATURALLY OCCURRING RETIREMENT COMMUNITIES IN THE BALTIMORE REGION – 2010 CENSUS UPDATE

The purpose of this update of Naturally Occurring Retirement Communities (NORC) in the Baltimore region is to document the need for improving mobility options for the existing and rapidly growing elderly population in the region - especially in lower density suburban areas.

The original NORC study, published in 2004, was based on the 2000 Census. But since its publication the larger part of a generation has passed away, and another generation has started to retire. It is likely that generational change has transformed neighborhoods but it's difficult to say which ones and to what extent. Therefore, the value of the study results has been diminished. The release of 2010 Census data has provided an opportunity to make the study results current once more.

In-Place Retirement Trend

The need for this study is based on a growing awareness of the near-term and long-term consequences of the widespread phenomenon of in-place retirement in the Baltimore region, and the potential negative effects this trend can have on mobility options for elderly residents.

The 1999 Baltimore Region Elderly Travel Study (BRET) conducted by the Baltimore Metropolitan Council documented the growing phenomenon of "in-place retirement" (aka "aging in place") in the region. The study verified that national-level movers-by-age data from Geographic Mobility/Migration (GM/M) surveys prepared by the U. S. Census Bureau are applicable to the Baltimore region. Later GM/M surveys in 2001 and 2011 have shown that less than 5 percent of the elderly (age 65+) move after retirement.

The BRET study found that more than 90 percent of the elderly in the Baltimore region plan to continue living at their present residence, 6.6 percent plan to move elsewhere sometime in the future, and 2 percent plan to remain as long as they can be independent. Further analysis of the survey data documented that there is a minimal propensity of the Baltimore region elderly to move regardless of their age, jurisdiction of residence, or level of travel needs.

The trend of in-place retirement is expected to become more widespread as Baby Boom residents, especially in suburban areas, reach retirement age and continue to live in neighborhoods where they resided before they retired.

Today and in the future, an increasing number of in-place retirees will develop age-related travel disabilities which will restrict their mobility and increase their need for alternative mobility options. In lower density suburban areas (as well as in some parts of Baltimore City) where in-place retirement is increasing, there are limited public transportation and paratransit resources to meet the dispersed mobility needs of the

growing elderly population. The growth of the elderly population will put a strain on services where they are currently provided.

Naturally Occurring Retirement Community (NORC)

In this study, the term Naturally Occurring Retirement Community (NORC) is defined as a geographic area (neighborhood or community) that contains elderly residents that have aged in place, and have chosen to remain in areas that are familiar to them. The term NORC was first developed in the 1980s by Dr. Michael Hunt, a professor at the University of Wisconsin-Madison.

NORC is now a widely used term in the fields of gerontology, sociology and social services, and is officially recognized by the U.S. Administration on Aging, AARP, National Association of Area Agencies on Aging, and other elderly, social services, and health care organizations.

In response to the NORC demographic phenomenon, many communities have developed NORC programs, also known as NORC supportive service programs, to serve their senior residents by providing social and health care services tailored to their specific needs. These community-based programs are often partnerships of housing/neighborhood organizations, residents, health and social service providers, and other community stakeholders. While each NORC program may provide a unique scope of services, all NORC programs share one goal – maximizing the health and well-being of resident seniors so they can maintain their independence and comfortably remain in their homes as they age in place.¹

In-Place Retirement Patterns

Given the widespread phenomenon of in-place retirement in the Baltimore region, the most consistent way to quantify elderly residential patterns is to analyze elderly population data in small geographical units known as census block groups which are designated by the U.S. Census Bureau.

In this study, census block groups which contain elderly residents are referred to as NORC areas. The elderly population in individual NORC areas can be grouped together into larger geographic units known as NORC clusters. These NORC clusters can be considered as potential service areas for improved transportation options for elderly residents.

In addition to the elderly that have retired in-place throughout the region, this study also includes elderly residents living in retirement communities and health care facilities. Many of these residents retired in-place in the Baltimore region, and subsequently moved into these specialized living facilities by choice or because of health reasons. Although it was not possible to disaggregate the Census data to account for these

¹ Accessed on-line at http://en.wikipedia.org/wiki/Naturally_occurring_retirement_community

residents, the larger retirement communities and health care facilities in the region have been tabulated and their locations mapped, in Appendix B.

Study Methodology

This study is based on Year 2010 Census data (Summary File 3) which enumerates the elderly and general populations of the 1,921 census block groups in the Baltimore region. All the elderly residents in this study were born prior to the beginning of the Baby Boom era (1946-1964).

The following analysis is divided into four parts. These sections of analysis range from a general summary of the distribution of elderly population throughout the region to an estimate of the number of elderly residents with different levels of travel needs that live in NORC clusters in each jurisdiction.

In addition, the update extends the original NORC study with an analysis of the future elderly. Appendix A tabulates and maps the spatial distribution of the 46-64 age group, who will comprise the future elderly in 2030.

NORC Analysis - Part One

The first phase of this study summarizes the general spatial distribution of elderly residents throughout the region in the year 2010. This study does not document the socioeconomic characteristics of the regional elderly population. The study aggregates the region's elderly population into three age-related groups - Young Elderly (65-74 age group), Middle Elderly (75-84 age group), and Old Elderly (85+ age group).

Table 1 - 2010 Regional Elderly Population Distribution

Jurisdiction	Elderly Age Groups			Total Jurisdiction Elderly Population	Total Jurisdiction Population (All Ages)	Percent of Local Jurisdiction Population
	Young Elderly (Age 65-74)	Middle Elderly (Age 75-84)	Old Elderly (Age 85+)			
Anne Arundel Co.	36,853	19,321	7,490	63,664	537,656	12
Baltimore Co.	56,470	40,325	20,681	117,476	805,029	15
Carroll Co.	11,895	6,894	3,020	21,809	167,134	13
Harford Co.	17,396	9,596	3,572	30,564	244,826	12
Howard Co.	17,616	8,277	3,152	29,045	287,085	10
Baltimore City	38,552	23,910	10,350	72,812	620,961	12
Region	178,782	108,323	48,265	335,370	2,662,691	
Regional Average						13

Table 2 - 2010 Regional Elderly Population Percentage Distribution

Jurisdiction	Percent Elderly by Age Group			Total Jurisdiction Elderly Population	Percent of Regional Elderly Population
	Young Elderly (Age 65-74)	Middle Elderly (Age 75-84)	Old Elderly (Age 85+)		
Anne Arundel Co.	58	30	12	63,664	19
Baltimore Co.	48	34	18	117,476	35
Carroll Co.	54	32	14	21,809	6
Harford Co.	57	31	12	30,564	9
Howard Co.	61	28	11	29,045	9
Baltimore City	53	33	14	72,812	22
Region	54	32	14	335,370	
Percent Elderly in Baltimore City					22
Percent Elderly in Suburbs					78

Table 1 summarizes the number of elderly residents in each elderly age group by jurisdiction. Baltimore County has the greatest number of elderly residents (117,476). This table also shows that the elderly population in the region is currently 13 percent of the total population. Based on population projections by the Maryland Department of Planning, this percentage is expected to increase to 21 percent by 2030, slightly above the US average of 19.7 percent.

Table 2 summarizes the percentage distribution of elderly in each 65+ age group by jurisdiction, and the percent of regional elderly population in each jurisdiction. Baltimore County has the highest percentage of elderly residents (35 percent of the total regional elderly population). This table also shows the current proportion of the elderly population living in the suburbs (78 percent) and in Baltimore City (22 percent). The new numbers represent a significant shift from 2000, when the suburban and Baltimore City proportions were 72 percent and 28 percent, respectively. Based on Maryland Department of Planning projections, Baby Boom retirees are expected to increase the percentage of elderly residents in the suburbs to over 80 percent of the region's elderly population. The numbers reflect the decades-long suburbanization of the region.

NORC Analysis - Part Two

The second phase of this study documents the distribution of the elderly population in NORC areas (census block groups that contain elderly residents) throughout the region, and organizes these elderly population distributions into NORC areas of different intensities. The following elderly population stratification ranges were used in this study to define NORC areas of different intensities:

- Low Intensity NORC areas - 0-299 elderly population
- Moderate Intensity NORC areas - 300-599 elderly population
- High Intensity NORC areas - 600+ elderly population

After trying several alternative elderly population ranges, it was determined that the above stratification was the only one that would enable regional elderly population characteristics to be clearly shown. Other data stratification arrangements with more than three elderly population groupings became overly complex, and showed no clear elderly residential distribution patterns. Data stratification arrangements with less than three elderly population groupings aggregated the population data too highly, and yielded no meaningful findings.

Please note that the intensity ranges used in the 2010 update are higher than the intensity ranges used in the original NORC study, reflecting an overall increase in the Baltimore region elderly population.

Table 3 - NORC Area Elderly Populations in Baltimore Region

Jurisdiction NORC Area Population Groups	Elderly by Age Group			Total Elderly Population	Percent Elderly Population
	Young Elderly (Age 65-74)	Middle Elderly (Age 75-84)	Old Elderly (Age 85+)		
Anne Arundel Co. NORC Areas					
Low Intensity NORC Area Pop.	26,370	12,900	4,449	43,719	68
Moderate Intensity NORC Area Pop.	9,097	4,986	2,238	16,321	26
High Intensity NORC Area Pop.	1,386	1,435	803	3,624	6
Total Elderly Pop.	36,853	19,321	7,490	63,664	
Baltimore Co. NORC Areas					
Low Intensity NORC Area Pop.	39,486	24,160	9,963	73,609	62
Moderate Intensity NORC Area Pop.	14,288	10,675	5,254	30,217	26
High Intensity NORC Area Pop.	2,696	5,490	5,464	13,650	12
Total Elderly Pop.	56,470	40,325	20,681	117,476	
Carroll Co. NORC Areas					
Low Intensity NORC Area Pop.	9,591	4,897	1,786	16,274	75
Moderate Intensity NORC Area Pop.	1,901	1,822	1,161	4,884	22
High Intensity NORC Area Pop.	403	175	73	651	3
Total Elderly Pop.	11,895	6,894	3,020	21,809	
Harford Co. NORC Areas					
Low Intensity NORC Area Pop.	13,079	6,612	2,176	21,867	72
Moderate Intensity NORC Area Pop.	3,690	2,388	1,025	7,103	23
High Intensity NORC Area Pop.	627	596	371	1,594	5
Total Elderly Pop.	17,396	9,596	3,572	30,564	

Howard Co. NORC Areas					
Low Intensity NORC Area Pop.	12,591	5,413	1,753	19,757	68
Moderate Intensity NORC Area Pop.	4,383	2,391	1,153	7,927	27
High Intensity NORC Area Pop.	642	473	246	1,361	5
Total Elderly Pop.	17,616	8,277	3,152	29,045	
Baltimore City NORC Areas					
Low Intensity NORC Area Pop.	35,428	20,956	8,263	64,647	89
Moderate Intensity NORC Area Pop.	2,593	2,139	1,141	5,873	8
High Intensity NORC Area Pop.	531	815	946	2,292	3
Total Elderly Pop.	38,552	23,910	10,350	72,812	
Baltimore Region NORC Areas					
Low Intensity NORC Area Pop.	136,545	74,938	28,390	239,873	71
Moderate Intensity NORC Area Pop.	35,952	24,401	11,972	72,325	22
High Intensity NORC Area Pop.	6,285	8,984	7,903	23,172	7
Total Elderly Pop.	178,782	108,323	48,265	335,370	

Table 3 shows that the highest percentage (71 percent) of the region’s elderly population live in NORC areas with the lowest number of elderly residents. These low intensity NORC areas blanket much of the region. The moderate intensity NORC areas contain 22 percent of the region’s elderly population. Only 7 percent of the region’s elderly live in high intensity NORC areas.

Map 1 shows the distribution of elderly residents at different elderly population intensity levels throughout the region. The map shows what can only be regarded as a scattered (almost random) pattern of NORC areas with different elderly population intensities. Each jurisdiction in the region contains varying concentrations of high, moderate, and low elderly population intensity areas (NORC areas).

NORC Analysis - Part Three

The third phase of this study organizes the scattered distribution of NORC areas shown in Table 3 and Map 1 into compact NORC clusters that could serve as potential service areas for improved mobility options to serve elderly residents with higher levels of travel needs.

Each NORC cluster defined in Part 3 of this analysis is made up of a core of one or more nearby, higher intensity NORC areas, and a perimeter of low intensity NORC areas that form a compact service area. Using this concept, NORC clusters are defined, mapped, quantitatively described, and analyzed based on elderly population size, age distribution, and other relevant comparative measures.

Procedure for Defining NORC Clusters

In order to provide a consistent basis for defining NORC clusters throughout the region, it is necessary to specify the assumptions which are used to structure these clusters.

The core of a NORC cluster is made up of adjacent or nearby higher intensity NORC areas that are not separated by geographic barriers. While every effort is made to group several adjacent or nearby higher intensity NORC areas together to form the core of a NORC cluster, there were a few cases where an isolated higher intensity NORC area was used as the core of a NORC cluster.

The perimeter portion of a NORC cluster is made up of low intensity NORC areas that are adjacent to (or near) the core of a NORC cluster. For low intensity NORC areas to be considered adjacent, they must share a common boundary, or in some cases a common boundary with a higher intensity NORC area. The perimeter portion of a NORC cluster can also include other small low intensity NORC areas that form a logical extension of a NORC cluster. This approach seeks to maintain the overall compactness of a NORC cluster.

This method of defining NORC clusters also identifies suburban districts where low intensity NORC areas are located outside NORC clusters. Because of distance and other factors, it may be difficult to provide improved mobility options to elderly residents living in these low intensity suburban NORC areas.

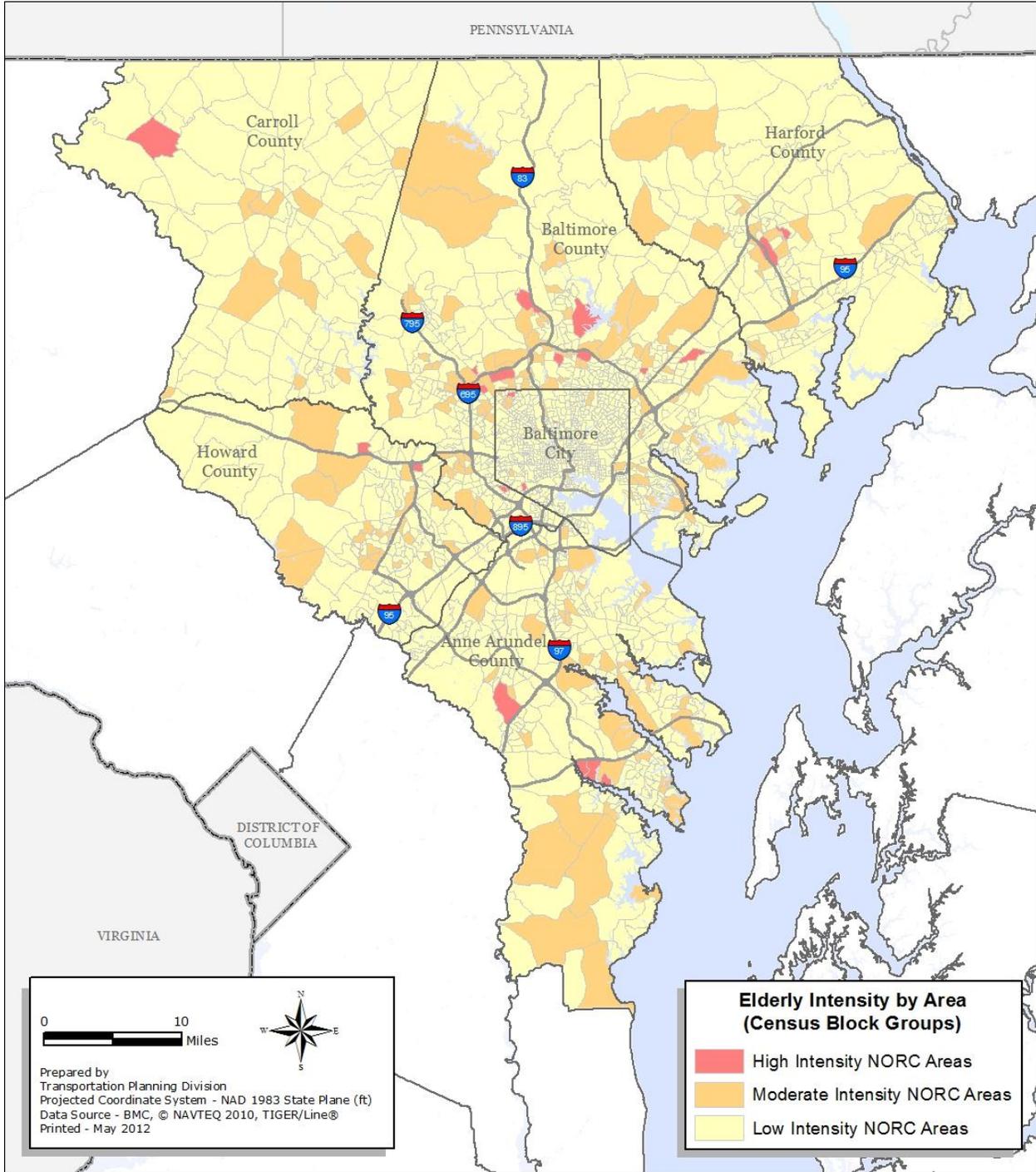
NORC Cluster Configuration and Size

The configuration of a NORC cluster in this study is a product of the number and relative location of the higher intensity NORC areas that make up the core of a NORC cluster. The territorial extent, configuration, and elderly population of NORC clusters vary widely throughout the region.

The boundaries of compact NORC clusters defined in this study are strongly influenced by census geography (boundaries of census block groups) as well as by physical barriers such as major highways, rail lines, and water courses. Every effort has been made to avoid splitting census block groups which are the basic statistical units used in this study to quantify the distribution of elderly population in the region.

In this study, jurisdictional boundaries are also recognized in the definition of NORC clusters since implementation of specific mobility options may be dependent on public policy and other factors unique to a particular jurisdiction. However, visual inspection of the NORC cluster map (Map 2) clearly indicates where a NORC cluster in one jurisdiction could possibly be combined with an adjacent NORC cluster in an adjoining jurisdiction. In such cases, information from this study could be used to assist in establishing coordinated mobility options across jurisdiction lines.

Map 1 – Naturally Occurring Retirement Communities



Map 2 – Clusters of Naturally Occurring Retirement Communities

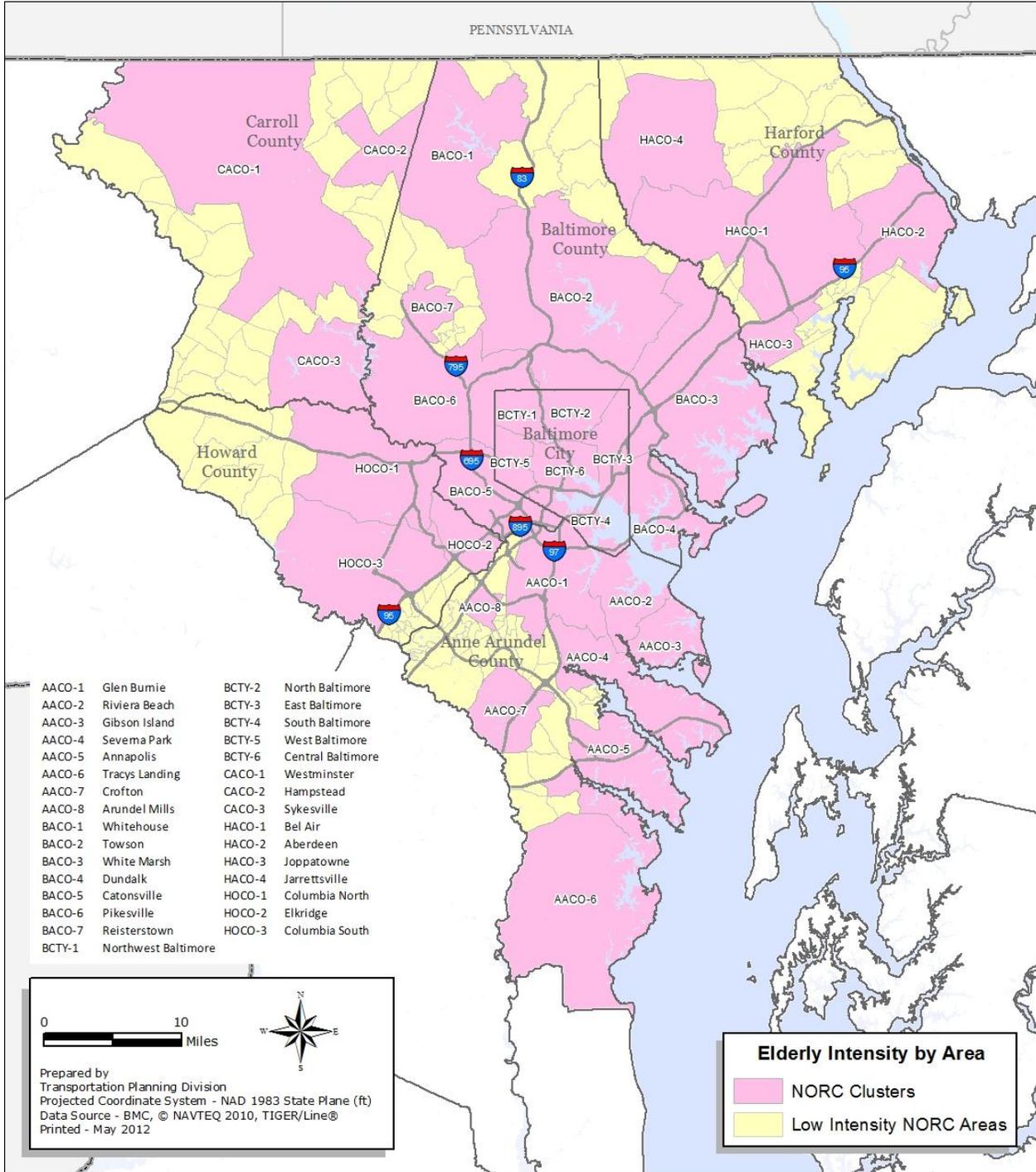


Table 4 - NORC Cluster Elderly Populations in Baltimore Region

Jurisdiction NORC Clusters Custer Number / Name	Elderly by Age Group			Total Elderly Population	Percent Elderly Population
	Young Elderly (Age 64-74)	Middle Elderly (Age 75-84)	Old Elderly (Age 85+)		
Anne Arundel Co. NORC Clusters					
AACO-1	7,468	4,836	1,805	14,109	24
AACO-2	2,622	1,264	439	4,325	7
AACO-3	1,794	764	247	2,805	5
AACO-4	6,749	3,342	1,320	11,411	20
AACO-5	8,045	4,791	2,225	15,061	26
AACO-6	2,523	1,174	402	4,099	7
AACO-7	3,328	1,503	537	5,368	9
AACO-8	870	269	82	1,221	2
Elderly Inside NORC Clusters	33,399	17,943	7,057	58,399	92
Elderly Outside NORC Clusters	3,454	1,378	433	5,265	8
Baltimore Co. NORC Clusters					
BACO-1	800	389	120	1,309	1
BACO-2	13,460	11,017	6,001	30,478	27
BACO-3	13,909	10,389	5,519	29,817	26
BACO-4	5,411	3,937	1,580	10,928	10
BACO-5	6,721	5,288	3,091	15,100	13
BACO-6	11,660	7,100	3,583	22,343	20
BACO-7	2,351	1,143	452	3,946	3
Elderly Inside NORC Clusters	54,312	39,263	20,346	113,921	97
Elderly Outside NORC Clusters	2,158	1,062	335	3,555	3
Carroll Co. NORC Clusters					
CACO-1	5,536	3,315	1,452	10,303	64
CACO-2	975	672	300	1,947	12
CACO-3	1,997	1,214	564	3,775	24
Elderly Inside NORC Clusters	8,508	5,201	2,316	16,025	73
Elderly Outside NORC Clusters	3,387	1,693	704	5,784	27
Harford Co. NORC Clusters					
HACO-1	8,500	4,935	2,015	15,450	62
HACO-2	2,558	1,580	590	4,728	19
HACO-3	1,836	873	233	2,942	12
HACO-4	1,132	512	166	1,810	7
Elderly Inside NORC Clusters	14,026	7,900	3,004	24,930	82
Elderly Outside NORC Clusters	3,370	1,696	568	5,634	18

Howard Co. NORC Clusters					
HOCO-1	5,184	2,833	1,026	9,043	36
HOCO-2	1,489	742	196	2,427	9
HOCO-3	8,627	3,687	1,587	13,901	55
Elderly Inside NORC Clusters	15,300	7,262	2,809	25,371	87
Elderly Outside NORC Clusters	2,316	1,015	343	3,674	13
Baltimore City NORC Clusters					
BCTY-1	6,576	4,640	2,199	13,415	18
BCTY-2	8,996	5,273	2,291	16,560	23
BCTY-3	5,251	2,984	1,369	9,604	13
BCTY-4	1,609	842	349	2,800	4
BCTY-5	4,899	3,495	1,557	9,951	14
BCTY-6	11,221	6,676	2,585	20,482	28
Elderly Inside NORC Clusters	38,552	23,910	10,350	72,812	100
Elderly Outside NORC Clusters	0	0	0	0	0
Regional NORC Cluster Summary					
<u>Elderly Inside NORC Clusters</u>					
Anne Arundel Co.	33,399	17,943	7,057	58,399	19
Baltimore Co.	54,312	39,263	20,346	113,921	37
Carroll Co.	8,508	5,201	2,316	16,025	5
Harford Co.	14,026	7,900	3,004	24,930	8
Howard Co.	15,300	7,262	2,809	25,371	8
Baltimore City	38,552	23,910	10,350	72,812	23
Total Elderly Inside NORC Clusters	164,097	101,479	45,882	311,458	
<u>Elderly Outside NORC Clusters</u>					
Anne Arundel Co.	3,454	1,378	433	5,265	22
Baltimore Co.	2,158	1,062	335	3,555	15
Carroll Co.	3,387	1,693	704	5,784	24
Harford Co.	3,370	1,696	568	5,634	24
Howard Co.	2,316	1,015	343	3,674	15
Baltimore City	0	0	0	0	0
Total Elderly Outside NORC Clusters	14,685	6,844	2,383	23,912	
Total Elderly Inside NORC Clusters	164,097	101,479	45,882	311,458	93
Total Elderly Outside NORC Clusters	14,685	6,844	2,383	23,912	7

Note: More populous NORC clusters, defined as containing 20 percent or more of a jurisdiction's elderly residents, are shown in bold in the right-most column of the table.

NORC Cluster Elderly Residents

A NORC cluster is a geographic area within which elderly residents could be provided with mobility options by one or more community organizations or faith-based groups located in the NORC cluster. A NORC cluster is primarily the residential origin and residential destination of trips made by elderly residents. Depending on land uses in a NORC cluster, it may also be the non-residential destination of some elderly trips. However, based on the findings of the 2007-2008 BMC Household Travel Survey, it is expected that the non-residential destinations of many trips made by the elderly will be outside the NORC cluster where they live. Meeting their dispersed mobility needs will require travel outside their NORC cluster.

Number of NORC Clusters in Region

Table 4 describes the characteristics of the thirty-one (31) NORC clusters that have been identified in the Baltimore region. Map 2 shows the locations of NORC clusters throughout the region. These clusters vary in physical size, configuration, and number of elderly residents. The location, number, and elderly population of NORC clusters in the region are as follows:

Anne Arundel County - Seven NORC clusters (AACO-1 - AACO-8). The elderly population of NORC clusters in Anne Arundel County range in size from 1,221 to 15,061. These NORC clusters include 92 percent of the county's elderly population.

Baltimore County - Seven NORC clusters (BACO-1 - BACO-7). The elderly population of NORC clusters in Baltimore County ranges in size from 1,309 to 30,478. These NORC clusters include 97 percent of the county's elderly population.

Carroll County - Three NORC clusters (CACO-1 - CACO-3). The elderly population of NORC clusters in Carroll County ranges from 1,947 to 10,303. These NORC clusters include 73 percent of the county's elderly population.

Harford County - Three NORC clusters (HACO-1 - HACO-4). The elderly population of NORC clusters in Harford County ranges from 1,810 to 15,450. These NORC clusters include 82 percent of the county's elderly population.

Howard County - Three NORC clusters (HOCO-1 - HOCO-3). The elderly population of NORC clusters in Howard County ranges from 2,427 to 13,901. These NORC clusters include 87 percent of the county's elderly population.

Baltimore City - Six NORC clusters (BCTY-1 - BCTY-6). The elderly population of NORC clusters in Baltimore City ranges from 2,800 to 20,482. These NORC clusters include 100 percent of the city's elderly population.

Elderly Population in Region Living Inside NORC Clusters

On the positive side, this study found that 311,458 elderly residents (93 percent of the total regional elderly population) could possibly be provided with improved mobility options since they live in compact NORC clusters (or service areas).

Approximately 212,733 elderly residents (63 percent) live in more populous NORC clusters, defined as containing 20 percent or more of a jurisdiction's elderly residents. Locating services first within the boundaries of more populous NORC clusters may be the best use of finite resources. They are shown in bold in the right-most column of Table 4.

Elderly Population in Region Living Outside NORC Clusters

On the negative side, this study found that over 23,912 elderly residents (7 percent of the total regional elderly population) live outside identified NORC clusters. For in-place retirees living in these outlying areas (beyond NORC clusters), it may be difficult to provide them with viable mobility options when they are no longer able to drive.

NORC Analysis - Part Four

The fourth part of this analysis provides estimates of the number of elderly with different levels of travel needs that live in identified NORC clusters (service areas) throughout the region. These estimates provide a basis for determining the magnitude of demand for improved mobility options to serve elderly residents to assist them to live independently and to maintain their quality of life.

Elderly Travel Need in Baltimore Region

The concept of elderly travel need was developed and documented through surveys with elderly respondents in the 1999 BRET study. The study documented three levels of elderly travel need - High Travel Need, Moderate Travel Need, and Low Travel Need.

High Travel Need - The elderly in this category travel infrequently, have multiple (reinforcing) travel disabilities, and are reliant on others for both long-distance and short-distance travel. Elderly in the High Travel Need category have varying degrees of ambulatory limitations as well as other physical and cognitive problems that prevent them from driving, or using conventional curb-to-curb type transit or paratransit service.

The 1999 BRET study found indications that the proportion of elderly in the High Travel Need category was greater in the 80+ age group. However, study funding limitations did not permit the over-sampling needed to statistically document the extent of High Travel Need in the 80+ age group. As a result, the estimates of elderly travel need in Table 6 probably understates the magnitude of High Travel Need in the 80+ elderly population.

Moderate Travel Need - The elderly in this category travel with moderate frequency, have less severe (non-reinforcing) travel disabilities, and are reliant on others for longer-

distance, but not short-distance travel. Some elderly in the Moderate Travel Need category do not have a driver's license, or engage in self-limitation of their driving activities. Elderly in this category are generally ambulatory, but may require some assistance with walking.

Low Travel Need - The elderly in this category travel whenever and wherever they wish, have no or insignificant travel disabilities, and are not reliant on others for travel assistance. However, it is important to recognize that physical and cognitive changes can occur in the elderly at any time that can significantly alter their travel independence and level of travel need.

Table 5 below summarizes the findings of the 1999 BRET study regarding the percentage of elderly residents in each jurisdiction that have High, Moderate, and Low levels of travel need.

Table 5 - Percent of Elderly Travel Need by Jurisdiction
Source: 1999 Baltimore Region Elderly Travel Study

Jurisdiction	Level of Elderly Travel Need (Percent of Elderly)		
	High Need	Moderate Need	Low Need
Anne Arundel Co.	8	12	80
Baltimore Co.	8	14	78
Carroll Co.	8	12	80
Harford Co.	8	12	80
Howard Co.	8	12	80
Baltimore City	8	26	66

Table 6 below shows estimates of the number of elderly residents living in NORC clusters that have varying levels of travel need. It also summarizes the number of elderly in each NORC cluster with High Travel Need and Moderate Travel Need. It is the elderly in these higher categories of travel need that could benefit from improved mobility options that would enable them to continue to live independently and to maintain their quality of life. All estimates are based on the BRET study.

Table 6 shows that 24 percent (74,764) of the elderly that live in NORC clusters are estimated to have higher levels of travel need, and could benefit from improved mobility options. Of this group, 8 percent (24,917) and 16 percent (49,847) of the elderly in NORC clusters are estimated to be in the High Travel Need and Moderate Travel Need categories, respectively. While it was possible to develop overall estimates of elderly travel needs in this study, data does not exist to determine how many elderly with higher

Table 6 - Estimated Elderly Travel Need in Baltimore Region

Jurisdiction NORC Clusters Custer Number / Name	Elderly with Travel Needs			Total Elderly Population	Elderly with High & Moderate Travel Need
	High Travel Need	Moderate Travel Need	Low Travel Need		
Anne Arundel Co. NORC Clusters					
AACO-1	1,129	1,693	11,287	14,109	2,822
AACO-2	346	519	3,460	4,325	865
AACO-3	224	337	2,244	2,805	561
AACO-4	913	1,369	9,129	11,411	2,282
AACO-5	1,205	1,807	12,049	15,061	3,012
AACO-6	328	492	3,279	4,099	820
AACO-7	429	644	4,294	5,368	1,074
AACO-8	98	147	977	1,221	244
Elderly Inside NORC Clusters	4,672	7,008	46,719	58,399	11,680
Elderly Outside NORC Clusters	421	632	4,212	5,265	1,053
Baltimore Co. NORC Clusters					
BACO-1	105	183	1,021	1,309	288
BACO-2	2,438	4,267	23,773	30,478	6,705
BACO-3	2,385	4,174	23,257	29,817	6,560
BACO-4	874	1,530	8,524	10,928	2,404
BACO-5	1,208	2,114	11,778	15,100	3,322
BACO-6	1,787	3,128	17,428	22,343	4,915
BACO-7	316	552	3,078	3,946	868
Elderly Inside NORC Clusters	9,114	15,949	88,858	113,921	25,063
Elderly Outside NORC Clusters	284	498	2,773	3,555	782
Carroll Co. NORC Clusters					
CACO-1	824	1,236	8,242	10,303	2,061
CACO-2	156	234	1,558	1,947	389
CACO-3	302	453	3,020	3,775	755
Elderly Inside NORC Clusters	1,282	1,923	12,820	16,025	3,205
Elderly Outside NORC Clusters	463	694	4,627	5,784	1,157
Harford Co. NORC Clusters					
HACO-1	1,236	1,854	12,360	15,450	3,090
HACO-2	378	567	3,782	4,728	946
HACO-3	235	353	2,354	2,942	588
HACO-4	145	217	1,448	1,810	362
Elderly Inside NORC Clusters	1,994	2,992	19,944	24,930	4,986
Elderly Outside NORC Clusters	451	676	4,507	5,634	1,127

Howard Co. NORC Clusters					
HOCO-1	723	1,085	7,234	9,043	1,809
HOCO-2	194	291	1,942	2,427	485
HOCO-3	1,112	1,668	11,121	13,901	2,780
Elderly Inside NORC Clusters	2,030	3,045	20,297	25,371	5,074
Elderly Outside NORC Clusters	294	441	2,939	3,674	735
Baltimore City NORC Clusters					
BCTY-1	1,073	3,488	8,854	13,415	4,561
BCTY-2	1,325	4,306	10,930	16,560	5,630
BCTY-3	768	2,497	6,339	9,604	3,265
BCTY-4	224	728	1,848	2,800	952
BCTY-5	796	2,587	6,568	9,951	3,383
BCTY-6	1,639	5,325	13,518	20,482	6,964
Elderly Inside NORC Clusters	5,825	18,931	48,056	72,812	24,756
Elderly Outside NORC Clusters	0	0	0	0	0
Regional NORC Cluster Summary					
<u>Elderly Inside NORC Clusters</u>					
Anne Arundel Co.	4,672	7,008	46,719	58,399	11,680
Baltimore Co.	9,114	15,949	88,858	113,921	25,063
Carroll Co.	1,282	1,923	12,820	16,025	3,205
Harford Co.	1,994	2,992	19,944	24,930	4,986
Howard Co.	2,030	3,045	20,297	25,371	5,074
Baltimore City	5,825	18,931	48,056	72,812	24,756
Total Elderly Inside NORC Clusters	24,917	49,847	236,694	311,458	74,764
<u>Elderly Outside NORC Clusters</u>					
Anne Arundel Co.	421	632	4,212	5,265	1,053
Baltimore Co.	284	498	2,773	3,555	782
Carroll Co.	463	694	4,627	5,784	1,157
Harford Co.	451	676	4,507	5,634	1,127
Howard Co.	294	441	2,939	3,674	735
Baltimore City	0	0	0	0	0
Total Elderly Outside NORC Clusters	1,913	2,941	19,059	23,912	4,854
Total Elderly Inside NORC Clusters	24,917	49,847	236,694	311,458	74,764
Total Elderly Outside NORC Clusters	1,913	2,941	19,059	23,912	4,854

travel needs are already having part or all of their travel needs met by relatives, neighbors, or others.

On the positive side, Table 6 shows that 76 percent (236,694) of the elderly that live in NORC clusters are estimated to be in the Low Travel Need category and have the ability

to travel at their discretion without assistance. It should also be noted that 80% (19,059) of the elderly that live outside NORC clusters are in the Low Travel Need category, and are capable of meeting their own travel needs.

On the negative side, Table 6 also shows that 7 percent (23,912) of the total elderly population in the region live outside NORC clusters. Of these residents, those with higher levels of travel need (4,854 elderly) may not have access to improved mobility options, and may have to rely exclusively on relatives and neighbors for transportation. All of the elderly residents that live outside NORC clusters are located in suburban jurisdictions.

The identification of NORC cluster elderly populations and their levels of travel need in this study provide an organizational framework for developing specific elderly mobility solutions.

Elderly Travel Characteristics

To develop viable mobility options for the elderly that live in NORC clusters, it is necessary to understand the travel characteristics of the elderly in the Baltimore region.

The following information is from the 2007-2008 BMC Household Travel Survey, and is based on one-day travel diaries (weekdays only) completed during that study.

Elderly Trip Purposes

From the responses to the travel diaries, 13 different elderly trip purposes were identified. These trip purposes were aggregated into 5 functionally-related trip purpose groups as follows:

- **Socialization-Related Trips** - Approximately 28% of total elderly trips fall into this category, which includes trips in the following subgroups: Visiting Friends/Family (7%), Dining Out (9%), Civic or Religious Activity (5%), Recreation/Exercise (5%), and Entertainment (2%). Socialization-related trips are widely regarded as a significant component of the quality of life of the elderly, and would probably be the largest category of trips if weekend trips had also been counted.
- **Shopping-Related Trips** - Approximately 32% of total elderly trips fall into this category, which includes trips in the following subgroups: General Shopping (29%), and Convenience Store (3%).
- **Miscellaneous Trips** - Approximately 9% of elderly trips fall into this category, which includes trips in the following subgroups: Other Trips (7%), Picking Up and Dropping Off Passengers (2%).
- **Life Maintenance-Related Trips** - Approximately 23% of elderly trips fall into this category, which includes trips in the following subgroups: Personal Business (16%) and Medical Services (7%).

- Employment-Related Trips - Approximately 8% of elderly trips fall into this category, which includes Work (6%) and Work-related (2%). These trips are not distributed uniformly throughout the week which indicates that elderly employment may tend to be part-time in nature.

Elderly Travel Modes

From the travel diary responses in the 2007-2008 BMC Household Travel Survey, the following are the major findings regarding travel modes used by the elderly in the region:

- Drive Alone Auto - Approximately 73% of elderly trips, and 67% of trips by those age 75 or older, are made by drive alone auto.
- Shared Ride Auto - Approximately 18% of elderly trips are made using rideshare arrangements provided by relatives (11%), and others (7%). The share is approximately 25% for trips by those age 75 or older, with 16% provided by relatives and 9% by others.
- Non-Motorized Modes - Approximately 5% of elderly trips are made by walking, wheelchair, and biking.
- Transit / Paratransit Modes - Approximately 2% of elderly trips are made using transit and paratransit.

It is evident that the elderly in the region are committed to travel by automobile. Over 90% of all elderly trips are made by automobile - as drivers (73%) or as shared ride passengers (18%). The dispersed travel patterns of the elderly found in the 2007-2008 BMC Household Travel Survey do not appear to be conveniently served by fixed public transit routes. The responses of the elderly in the 1999 BRET study also indicate that the current cohort of elderly in the region do not regard themselves as being transit or paratransit dependent.

Elderly Mobility Options

It is clear from the information presented in this study that a range of viable mobility options are needed to meet the travel needs of a widely dispersed elderly population in the region - both now and in the future.

Automobile Driving

The large number of existing elderly drivers is expected to increase significantly in the future. In-place retirement of the elderly, especially in lower density suburban areas, has made the automobile the primary means of travel to widely dispersed trip destinations. The trip destinations of the elderly that have retired in-place are largely a product of activity patterns that were developed over a long period of time. These trip patterns are not likely

to change significantly, and are not conducive to being served by transit or paratransit service.

To minimize the number of elderly drivers that could prematurely lose their ability to drive safely, every effort should be made to increase the awareness of older drivers to changes in their driving-related physical and cognitive abilities, and to provide elderly-friendly testing, training, and remediation programs that will extend their safe driving and independent living abilities for as long as possible. Such programs are the active focus of the Maryland Motor Vehicle Administration, the State Medical Advisory Board, and the Maryland Research Consortium. Such program efforts should be continued and strengthened.

Transit and Paratransit Service

Elderly use of transit and paratransit service is limited to portions of the region where such services are available. Public transportation services are limited or non-existent in other areas, primarily in the suburbs, where an increasing majority of the elderly live. The dispersed travel patterns of the elderly are not well served by public transportation. Expense and regulatory requirements limit the expansion potential of these modes.

However, this study shows that there are concentrations of elderly population in portions of Baltimore City and in certain suburban transit corridors that could be encouraged to make greater use of public transportation. Existing elderly residents that grew up using public transportation could be re-educated on how to safely use transit for certain trips. To do this, elderly travel training programs (such as that available from Easter Seals Project Action) could be provided as well as more elderly-friendly transit route and schedule information services. It is unknown whether the coming Baby Boom elderly population could be trained to use public transportation since they have little prior transit use experience.

Paratransit service would seem to be a flexible way to meet the dispersed travel needs of the elderly. Legally, both the elderly and younger individuals with disabilities are eligible to use paratransit. However, to depend on paratransit services to meet the travel needs of the rapidly growing and largely ambulatory elderly population could jeopardize the ability of paratransit service to meet the travel needs of both non-ambulatory elderly and younger populations with disabilities. Expansion of paratransit services to meet the growing travel needs of the elderly is technically possible, but may not be economically feasible.

Smart Growth-Related Improvements

Other studies suggest physical improvements in NORC areas and NORC clusters to facilitate elderly travel and daily living. These studies propose more compact housing arrangements, improved mixes of land uses, and enhanced pedestrian and bicycle facilities to encourage non-motorized travel by the elderly. Many of these development concepts are already being incorporated in retirement communities and assisted-living facilities. These Smart Growth-related development concepts have considerable merit,

and should continue to be pursued as part of longer-term strategies for dealing with elderly mobility needs.

However, some Smart Growth-related concepts may have limited applicability in existing low density suburban communities where the majority of the region's elderly population already live. As has been pointed out in this study, many elderly residents that have retired in-place (especially in outlying areas) have very immediate mobility needs. They do not have time to wait for physical solutions that are part of a longer-term development process, or multi-year capital improvement programs. In addition, the 2007-2008 BMC Household Travel Survey has shown that only a limited portion of the dispersed trips made by the elderly could be served by Smart Growth-related solutions.

Supplemental Community-Based Transportation Service

As pointed out in the 2007/2008 Household Travel Survey, the elderly in the region have a strong propensity to accept rides from others. The study documented that 18 percent of elderly trips are made as passengers in non-transit vehicles driven by elderly and non-elderly drivers. According to this finding, the elderly have the highest ridesharing rate of any group in the region.

This unique elderly travel characteristic is the basis for a new type of elderly travel option that has emerged throughout the United States and in the Baltimore region. This now well-established travel option is referred to by different names - supplemental transportation, and community-based transportation. Regardless of name, these innovative programs share a common feature - elderly ridesharing. The service provided by supplemental community-based transportation programs does not replace any existing elderly travel programs, including taxi vouchers, but rather supplements such efforts. This type of service is highly adaptable to serving the dispersed travel needs of the elderly, and is focused on serving the ambulatory elderly that make up a large percentage of the elderly population.

The Baltimore region has several examples of supplemental community-based transportation programs. The Ride Partners program in Anne Arundel County and Annapolis provides rides for the ambulatory elderly, and ambulatory adults with disabilities. This program was developed through a partnership of three organizations (Partners in Care, Volunteer Maryland, and the Annapolis Department of Transportation). Ride Partners uses volunteer drivers to provide trips for the elderly and other qualified users.

The Neighbor Ride program in Howard County was created in 2004. This program, developed under the auspices of the Transportation Advocates of Howard County, uses volunteer drivers to provide trips for ambulatory elderly county residents. This program is operated by a private non-profit community organization. Public funding is not used in the planning and operation of this program. Like the Ride Partners program, Neighbor Ride is a fee-based service. The modest fees are used to reimburse volunteer drivers for their travel expenses.

Finally, the CountyRide Volunteer Driver Program in Baltimore County is an alternative to using CountyRide buses. The cost is the same as a bus but a trained, screened volunteer working under the supervision of CountyRide staff, uses their own vehicle to transport elderly residents.

The Maryland General Assembly has also formally recognized the concept of supplemental community-based transportation service. Originally enacted in the 2004 session, the Maryland Senior Rides Program funds programs for volunteer community-based transportation service to serve elderly residents. In 2010, six organizations providing transportation to 1,061 individual seniors, received grants. Among the grantees, 706 volunteer drivers participated in the Senior Rides Program's sixth year. The ability to attract and retain volunteers is essential for the program's success.

Supplemental community-based transportation programs can be implemented in a variety of ways, and can be flexibly expanded as travel demand increases. Programs can be established by individual local groups or by consortiums of local groups. The following are some of the common characteristics of this type of service:

- Provides trips for ambulatory elderly that have higher levels of travel needs
- Serves a wide array of trip purposes, especially trips that are quality-of-life related
- Provides individual trips or shared rides
- Provides door-to-door service (when needed)
- Provides flexible 24 / 7 transportation (when needed)
- Provides waiting service for elderly at travel destinations (when needed)
- Provides travel companions for the elderly (when needed)
- Provides rides for elderly residents regardless of their ability to pay
- Provides for local as well as longer distance trips
- Uses volunteer drivers and administrative staff trained to assist the elderly
- Charges modest trip fees for travel expenses of volunteer drivers and administration
- Operated by private non-profit community organizations or faith-based groups
- Does not use public funds

Study Findings

Based on the analysis in this study, the Baltimore region faces existing and long-term challenges in meeting growing elderly mobility needs. The following are some of the major findings of this study:

1. The widespread phenomenon of in-place retirement strongly influences the travel characteristics and mobility options of over 90 percent of the elderly population in the region. In-place retirement is expected to become more pervasive as Baby Boom residents, especially in suburban areas, reach retirement age and continue to live in neighborhoods where they resided before they retired.
2. The existing elderly population (age 65+) is widely spread throughout the Baltimore region. Baltimore County has the greatest number of elderly residents (117,476). The current elderly population in the region is 13 percent of the total population, but is expected to increase to 21 percent in 2030.
3. The region's elderly population is concentrated in suburban areas with 78 percent living in suburban jurisdictions and 22 percent in Baltimore City. The expected increase in suburban in-place retirement will expand the percentage of elderly in the suburbs to 81 percent of the region's elderly population by 2030.
4. Seventy-one (71) percent of the elderly live in low intensity NORC areas (0-299 elderly residents). These areas blanket most of the region, with many areas in the suburbs beyond the practical reach of fixed route public transportation and conventional paratransit service.
5. Twenty-two (22) percent of the elderly live in moderate intensity NORC areas (300-599 elderly residents). These areas are widely dispersed throughout the region.
6. Seven (7) percent of the elderly live in high intensity NORC areas (600+ elderly residents). These concentrated areas of elderly population are few in number and are scattered in all jurisdictions in the region.
7. Fifty-nine (59) percent of the oldest elderly population (age 85+) live in low intensity NORC areas. This is a particularly disturbing finding because it is these elderly residents who have or could soon have travel disabilities that require affordable mobility options that are currently in short supply or do not exist.
8. Seventy-six (76) percent of the young elderly population (age 65-74), and 69 percent of the middle elderly population (age 75-84) live in low intensity NORC areas. The high percentages of these two younger elderly population groups that have already retired in-place in low intensity NORC areas strongly suggests that the need for elderly mobility options will continue well into the future.

9. It is possible to organize what would appear to be a scattered distribution of NORC areas into compact NORC clusters of varying sizes and configurations. There are 31 NORC clusters in the region which can be regarded as service areas for providing elderly mobility options. The distribution of NORC clusters in the region is as follows: Anne Arundel County (8 NORC clusters), Baltimore County (7 NORC clusters), Baltimore City (6 NORC clusters), Harford County (4 NORC clusters), Carroll County and Howard County (3 NORC clusters each).
10. As potential service areas for providing improved elderly mobility options, the 31 identified NORC clusters contain 93 percent of the region's existing elderly population. Approximately 212,733 elderly residents (63 percent) live in more populous NORC clusters, defined as containing 20 percent or more of a jurisdiction's elderly residents. Locating services first within the boundaries of more populous NORC clusters may be the best use of finite resources. The study found that it may be difficult to provide viable mobility options to 7 percent of the current elderly population that live in suburban areas outside the identified NORC clusters.
11. Twenty-four (24) percent of the elderly residents that live in identified NORC clusters have higher levels of travel needs. Of this group, 8 percent and 16 percent are estimated to be in the High Travel Need and Moderate Travel Need categories, respectively. It is this combined group that could benefit significantly from improved mobility options in order to continue to live independently and maintain their quality of life. Many members of this higher travel need group are ambulatory, and do not require lift-equipped transportation service.
12. On the positive side, 76 percent of the region's elderly population do not need any form of travel assistance since they are able to travel at their own discretion.
13. This study concludes that all mobility options will be needed to accommodate the travel needs of the increasing and dispersed elderly population in the region. Of the available range of mobility options, the supplemental community-based transportation service alternative appears to be the most adaptable, cost effective, and most acceptable to elderly residents with higher levels of travel needs throughout the region.

Suggested Next Steps

The following are suggested next steps for improving elderly mobility options throughout the Baltimore region:

- Brief local jurisdiction partners, and local and state elderly service organizations on the findings of this study, and seek their guidance on developing strategies to implement elderly mobility options throughout the region.

- Identify community organizations and faith-based groups in NORC clusters that could be possible candidate providers / sponsors of mobility options for nearby elderly residents that have higher levels of travel needs.
- Convene a meeting of candidate providers / sponsors to present them with mobility options for serving elderly residents in the communities they serve.
- Help develop planning procedures to assist in implementing elderly mobility options in NORC clusters.

Appendix A: The Future Elderly

The 2010 Census data, which was used in this study to document the spatial distribution of the current elderly population of the Baltimore region, represents only a single moment in time. In reality, the aging of the Baby Boom generation, which began in 2011, will continue for at least two decades. In response, the spatial distribution of the elderly population will be altered over time, demonstrating both continuity in some areas and change in others with the results of this study.

Despite its apparent limitations, the 2010 Census data can also provide a clue about the spatial distribution of the future elderly population: It reveals the current residential locations of the age 45-64 population. If, as an exercise, we make the assumption that the aging-in-place phenomenon will continue, then we know the location of the future elderly.²

In the following tables, the 45-64 population is broken down into four age groups: ages 45-49, ages 50-54, ages 55-59, and ages 60-64. All of them will be age 65 or older in the year 2030. Users of this study can modify the analysis by including a subset of the age groups, reflecting a different target year. And it's possible to forecast actual numbers by applying survival rates to one or more age groups from the current population.

The data are presented in the same formats used in Tables 1, 2, 3 and 4, as well as Maps 1 and 2, in the main text. The tabulations and maps allow us to ask two questions about the future elderly:

1. Will the proportion of the elderly population residing in low intensity, difficult to serve NORC areas show continuity or change?
2. Will the location of higher intensity NORC areas, which form the core of NORC clusters that could serve as potential service areas for improved mobility options, show continuity or change?

The purpose of the exercise is not so much to answer the questions definitively as to pose them and thereby stimulate inquiry and discussion.

The first phase of this exercise summarizes the general spatial distribution of future elderly residents throughout the region in the year 2010. Table A1 summarizes the number of future elderly residents in each age group by jurisdiction. This table also

² In the exercise, to simplify the analysis, we assume that all the future elderly age in place, rather than the 90 percent rate from recent experience. In addition, we don't know whether the 90 percent rate will hold up for the Baby Boomers – after all, they are more affluent, and perhaps more mobile, than their predecessors – but it is the best estimate available.

shows that the future elderly population in the region is currently 28 percent of the total population.

Table A1 - 2010 Regional Future Elderly Population Distribution

Jurisdiction	Future Elderly Age Groups				Total Jurisdiction Future Elderly Population	Total Jurisdiction Population (All Ages)	Percent of Local Jurisdiction Population
	Age 45-49	Age 50-54	Age 55-59	Age 60-64			
Anne Arundel Co.	44,640	41,579	35,653	30,777	152,649	537,656	28
Baltimore Co.	59,590	61,626	54,414	46,699	222,329	805,029	28
Carroll Co.	15,722	14,083	11,541	9,752	51,098	167,134	31
Harford Co.	21,015	19,824	16,415	14,170	71,424	244,826	29
Howard Co.	26,164	23,421	19,178	15,593	84,356	287,085	29
Baltimore City	43,572	43,873	37,978	30,928	156,351	620,961	25
Region	210,703	204,406	175,179	147,919	738,207	2,662,691	
Regional Average							28

Table A2 summarizes the percentage distribution of future elderly in each age group by jurisdiction, and the percent of regional future elderly population in each jurisdiction.

Table A2 - 2010 Regional Future Elderly Population Percentage Distribution

Jurisdiction	Percent Future Elderly by Age Group				Total Jurisdiction Future Elderly Population	Percent of Regional Future Elderly Population
	Age 45-49	Age 50-54	Age 55-59	Age 60-64		
Anne Arundel Co.	29	27	23	20	152,649	21
Baltimore Co.	27	28	24	21	222,329	30
Carroll Co.	31	28	23	19	51,098	7
Harford Co.	29	28	23	20	71,424	10
Howard Co.	31	28	23	18	84,356	11
Baltimore City	28	28	24	20	156,351	21
Region	29	28	24	20	738,207	
Percent Elderly in Baltimore City						21
Percent Elderly in Suburbs						79

The second phase of this exercise documents the distribution of the future elderly population in NORC areas (census block groups that contain future elderly residents) throughout the region, and organizes these future elderly population distributions into NORC areas of different intensities.

The following future elderly population stratification ranges were used in this study to define NORC areas of different intensities:

Low Intensity NORC areas - 0-599 elderly population

Moderate Intensity NORC areas - 600-899 elderly population

High Intensity NORC areas - 900+ elderly population

Map A1 – Naturally Occurring Retirement Communities (Future Elderly)

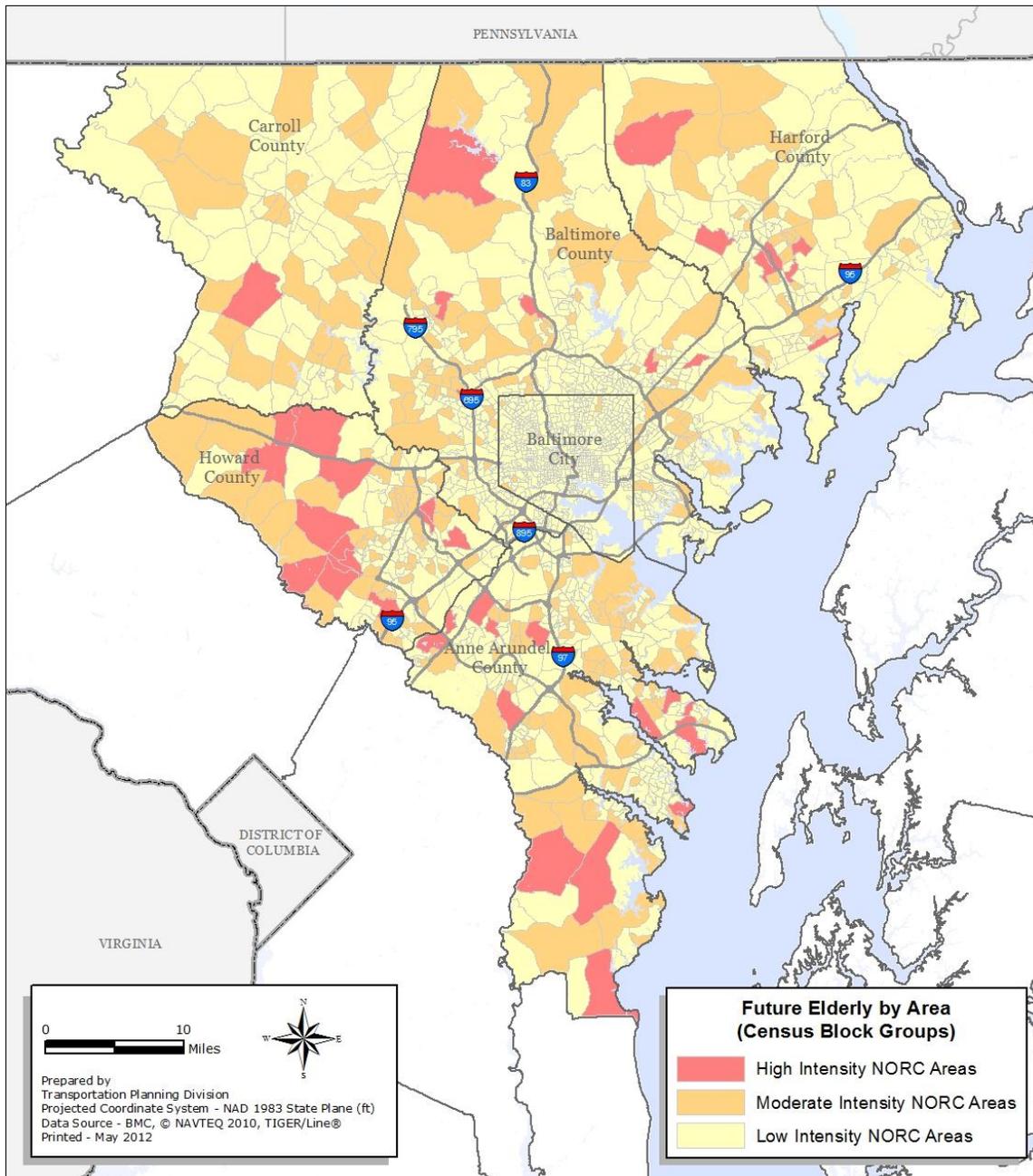


Table A3 summarizes the number of future elderly residents in each age group by future elderly population intensity. Map A1 shows the distribution of future elderly residents at different elderly population intensity levels throughout the region. Each jurisdiction in the region contains varying concentrations of high, moderate, and low future elderly population intensity areas (NORC areas).

Table A3 - NORC Area Future Elderly Populations in Baltimore Region

Jurisdiction NORC Area Population Groups	Percent Future Elderly by Age Group				Total Future Elderly Population	Percent Future Elderly Population
	Age 45-49	Age 50-54	Age 55-59	Age 60-64		
Anne Arundel Co. NORC Areas						
Low Intensity NORC Area Pop.	23,828	22,413	19,535	17,184	82,960	54
Moderate Intensity NORC Area Pop.	16,362	15,188	12,702	10,726	54,978	36
High Intensity NORC Area Pop.	4,450	3,978	3,416	2,867	14,711	10
Total Elderly Pop.	44,640	41,579	35,653	30,777	152,649	
Baltimore Co. NORC Areas						
Low Intensity NORC Area Pop.	43,617	44,662	39,403	33,523	161,205	73
Moderate Intensity NORC Area Pop.	14,639	15,310	13,422	11,721	55,092	25
High Intensity NORC Area Pop.	1,334	1,654	1,589	1,455	6,032	3
Total Elderly Pop.	59,590	61,626	54,414	46,699	222,329	
Carroll Co. NORC Areas						
Low Intensity NORC Area Pop.	9,547	8,421	6,793	5,833	30,594	60
Moderate Intensity NORC Area Pop.	5,918	5,391	4,501	3,725	19,535	38
High Intensity NORC Area Pop.	257	271	247	194	969	2
Total Elderly Pop.	15,722	14,083	11,541	9,752	51,098	
Harford Co. NORC Areas						
Low Intensity NORC Area Pop.	12,558	11,935	9,859	8,483	42,835	60
Moderate Intensity NORC Area Pop.	6,508	6,125	5,045	4,313	21,991	31
High Intensity NORC Area Pop.	1,949	1,764	1,511	1,374	6,598	9
Total Elderly Pop.	21,015	19,824	16,415	14,170	71,424	
Howard Co. NORC Areas						
Low Intensity NORC Area Pop.	12,240	10,842	8,843	7,294	39,219	46
Moderate Intensity NORC Area Pop.	9,578	8,845	7,737	6,437	32,597	39
High Intensity NORC Area Pop.	4,346	3,734	2,598	1,862	12,540	15
Total Elderly Pop.	26,164	23,421	19,178	15,593	84,356	
Baltimore City NORC Areas						
Low Intensity NORC Area Pop.	42,233	42,608	36,909	30,165	151,915	97
Moderate Intensity NORC Area Pop.	837	908	882	683	3,310	2
High Intensity NORC Area Pop.	502	357	187	80	1,126	1
Total Elderly Pop.	43,572	43,873	37,978	30,928	156,351	
Baltimore Region NORC Areas						
Low Intensity NORC Area Pop.	144,023	140,881	121,342	102,482	508,728	69
Moderate Intensity NORC Area Pop.	53,842	51,767	44,289	37,605	187,503	25
High Intensity NORC Area Pop.	12,838	11,758	9,548	7,832	41,976	6
Total Elderly Pop.	210,703	204,406	175,179	147,919	738,207	

The third phase of this update organized the scattered distribution of NORC areas shown in Table 3 and Map 1 into compact NORC clusters that could serve as potential service areas for improved mobility options to serve elderly residents with higher levels of travel needs.

Map A2 – Clusters of Naturally Occurring Retirement Communities (Future Elderly)

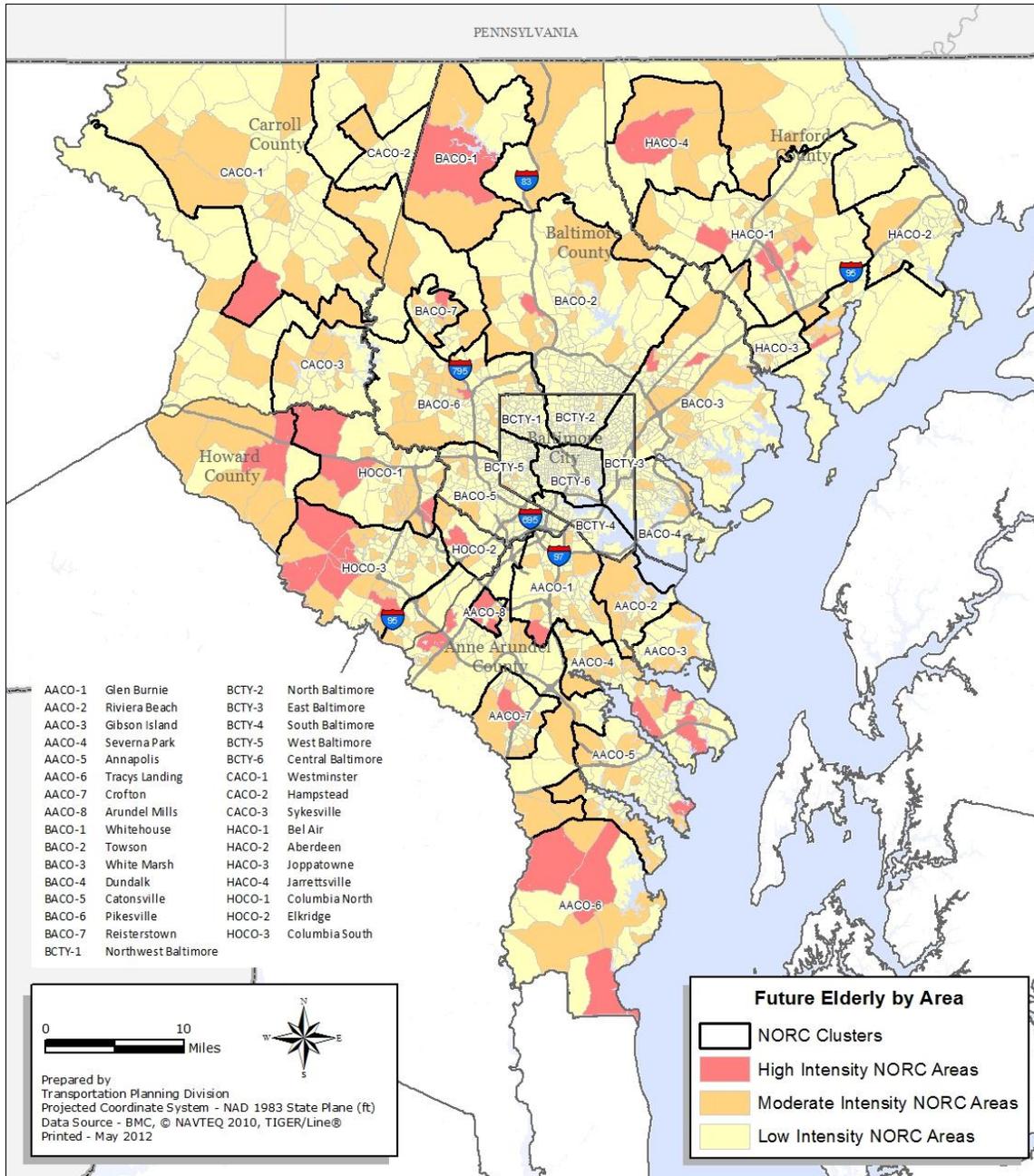


Table A4 summarizes by age group the future elderly population residing in each of the thirty-one (31) NORC clusters that have been identified in the Baltimore region. Map A2 shows the locations of NORC clusters and the future elderly population by NORC area intensity throughout the region.

Table A4 - NORC Cluster Future Elderly Populations in Baltimore Region

Jurisdiction NORC Clusters Cluster Number / Name	Future Elderly by Age Group				Total Future Elderly Population	Percent Future Elderly Population
	Age 45-49	Age 50-54	Age 55-59	Age 60-64		
Anne Arundel Co. NORC Clusters						
AACO-1	8,649	8,523	6,833	5,845	29,850	22
AACO-2	4,040	3,631	2,910	2,295	12,876	10
AACO-3	2,028	1,828	1,611	1,482	6,949	5
AACO-4	8,242	7,792	6,726	5,824	28,584	21
AACO-5	7,025	6,845	6,737	6,437	27,044	20
AACO-6	2,895	2,899	2,623	2,093	10,510	8
AACO-7	4,339	3,566	3,104	2,741	13,750	10
AACO-8	1,095	1,089	978	805	3,967	3
Elderly Inside NORC Clusters	38,313	36,173	31,522	27,522	133,530	87
Elderly Outside NORC Clusters	6,327	5,406	4,131	3,255	19,119	13
Baltimore Co. NORC Clusters						
BACO-1	860	943	857	680	3,340	2
BACO-2	12,892	13,553	12,405	10,894	49,744	23
BACO-3	15,418	15,977	13,518	11,398	56,311	26
BACO-4	5,560	5,853	4,828	4,008	20,249	10
BACO-5	8,120	8,317	6,960	5,695	29,092	14
BACO-6	11,163	11,138	10,778	9,911	42,990	20
BACO-7	2,987	3,096	2,597	2,162	10,842	5
Elderly Inside NORC Clusters	57,000	58,877	51,943	44,748	212,568	96
Elderly Outside NORC Clusters	2,590	2,749	2,471	1,951	9,761	4
Carroll Co. NORC Clusters						
CACO-1	6,304	5,974	4,998	4,359	21,635	59
CACO-2	1,476	1,241	1,057	843	4,617	13
CACO-3	3,472	2,885	2,157	1,728	10,242	28
Elderly Inside NORC Clusters	11,252	10,100	8,212	6,930	36,494	71
Elderly Outside NORC Clusters	4,470	3,983	3,329	2,822	14,604	29
Harford Co. NORC Clusters						
HACO-1	10,519	9,794	8,077	6,881	35,271	62
HACO-2	2,868	2,679	2,346	2,114	10,007	18
HACO-3	2,116	1,962	1,644	1,470	7,192	13
HACO-4	1,186	1,204	1,103	916	4,409	8
Elderly Inside NORC Clusters	16,689	15,639	13,170	11,381	56,879	80
Elderly Outside NORC Clusters	4,326	4,185	3,245	2,789	14,545	20

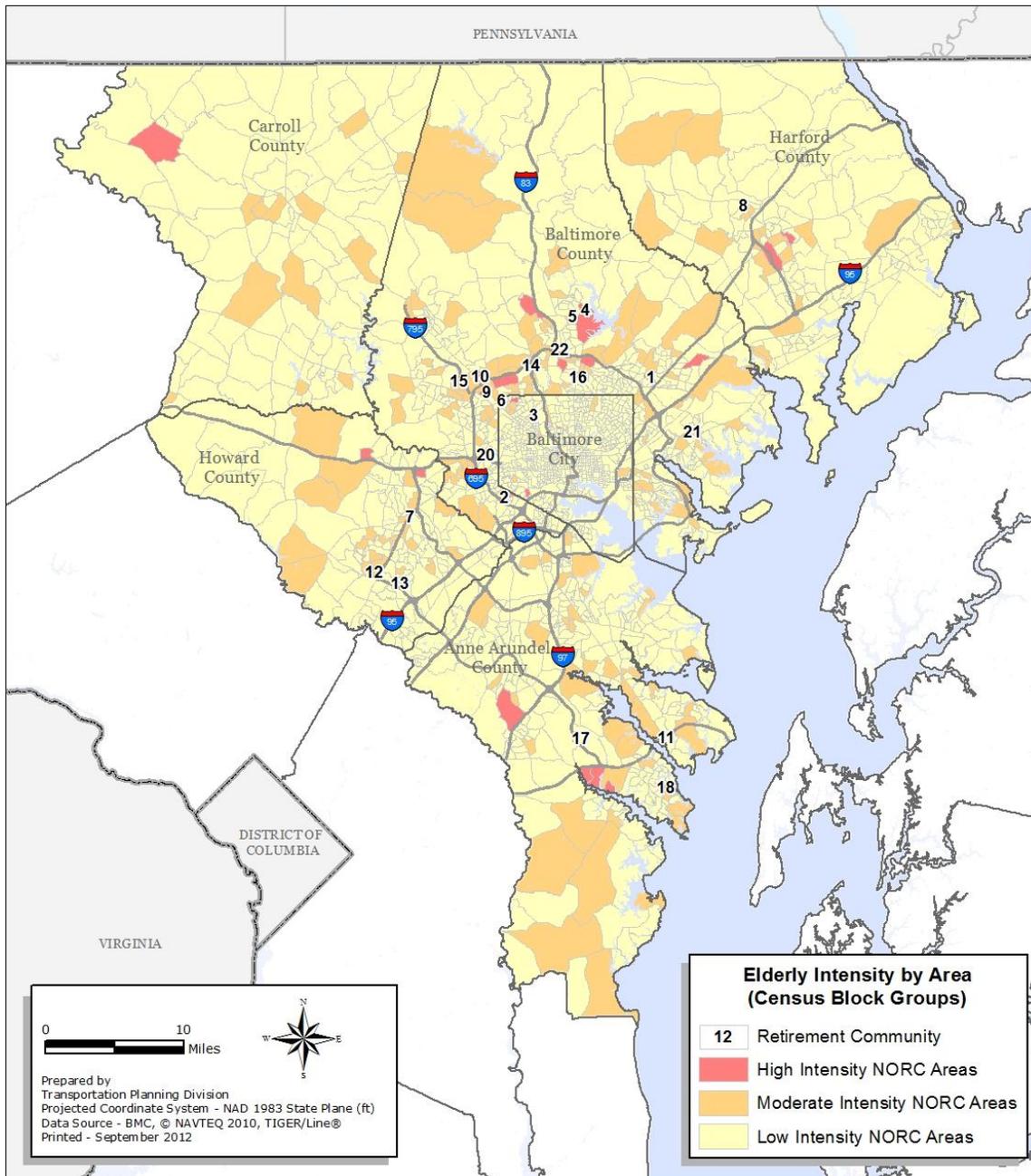
Howard Co. NORC Clusters						
HOCO-1	6,956	6,466	5,598	4,535	23,555	33
HOCO-2	2,837	2,110	1,550	1,177	7,674	11
HOCO-3	11,662	10,762	9,151	7,702	39,277	56
Elderly Inside NORC Clusters	21,455	19,338	16,299	13,414	70,506	84
Elderly Outside NORC Clusters	4,709	4,083	2,879	2,179	13,850	16
Baltimore City NORC Clusters						
BCTY-1	5,348	5,643	5,343	4,663	20,997	13
BCTY-2	8,792	9,145	8,419	7,085	33,441	21
BCTY-3	7,365	7,513	6,410	4,887	26,175	17
BCTY-4	2,364	2,271	1,700	1,402	7,737	5
BCTY-5	5,488	5,553	4,785	3,980	19,806	13
BCTY-6	14,215	13,748	11,321	8,911	48,195	31
Elderly Inside NORC Clusters	43,572	43,873	37,978	30,928	156,351	100
Elderly Outside NORC Clusters	0	0	0	0	0	0
Regional NORC Cluster Summary						
<u>Elderly Inside NORC Clusters</u>						
Anne Arundel Co.	38,313	36,173	31,522	27,522	133,530	20
Baltimore Co.	57,000	58,877	51,943	44,748	212,568	32
Carroll Co.	11,252	10,100	8,212	6,930	36,494	5
Harford Co.	16,689	15,639	13,170	11,381	56,879	9
Howard Co.	21,455	19,338	16,299	13,414	70,506	11
Baltimore City	43,572	43,873	37,978	30,928	156,351	23
Total Elderly Inside NORC Clusters	188,281	184,000	159,124	134,923	666,328	
<u>Elderly Outside NORC Clusters</u>						
Anne Arundel Co.	6,327	5,406	4,131	3,255	19,119	27
Baltimore Co.	2,590	2,749	2,471	1,951	9,761	14
Carroll Co.	4,470	3,983	3,329	2,822	14,604	20
Harford Co.	4,326	4,185	3,245	2,789	14,545	20
Howard Co.	4,709	4,083	2,879	2,179	13,850	19
Baltimore City	0	0	0	0	0	
Total Elderly Outside NORC Clusters	22,422	20,406	16,055	12,996	71,879	
Total Elderly Inside NORC Clusters	188,281	184,000	159,124	134,923	666,328	90
Total Elderly Outside NORC Clusters	22,422	20,406	16,055	12,996	71,879	10

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Appendix B: Retirement Communities and Health Care Facilities

In addition to the elderly that have retired in-place throughout the region, this study also includes elderly residents living in retirement communities and health care facilities. Although it was not possible to disaggregate the Census data to account for these residents, the larger retirement communities and health care facilities in the region have been tabulated and their locations mapped, as a reference point for readers.

Map B1 – Selected Retirement Communities and Health Care Facilities



ID	Community Name	Location	ID	Community Name	Location
1	Oak Crest Village	Parkville	12	Sunrise Assisted Living	Columbia
2	Charlestown	Catonsville	13	Brighton Gardens of Columbia	Columbia
3	Levindale Hebrew Hospital	Baltimore	14	Brightwood	Lutherville
4	Francis X Gallagher Services	Lutherville	15	Emeritus at Pikesville	Pikesville
5	Mercy Ridge	Lutherville	16	Maples of Towson	Baltimore
6	Catered Living of Pikesville	Pikesville	17	PRBHAA	Crownsville
7	Morningside House of Ellicott City	Ellicott City	18	Baywoods of Annapolis	Annapolis
8	Rock Spring Village	Forest Hill	19	Arbor Health Care Center	Annapolis
9	Sunrise Assisted Living	Pikesville	20	Living Sans Frontieres	Gwynn Oak
10	Springhouse Assisted Living	Pikesville	21	Woodlands Assisted Living	Baltimore
11	Atria Manresa	Annapolis	22	College Manor	Lutherville

Source: InfoGroup

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