



2015

Accessibility and Mobility Report

Transportation Justice

Prepared by the staff of the

Wilmington Area Planning Council

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2015 Accessibility and Mobility Report:

A Transportation Justice Study

for the WILMAPCO Region

Prepared by the staff of the Wilmington Area Planning Council

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RESOLUTION

BY THE WILMINGTON AREA PLANNING COUNCIL (WILMAPCO) TO ENDORSE THE 2015 ACCESSIBILITY AND MOBILITY REPORT: A TRANSPORTATION JUSTICE STUDY OF THE WILMAPCO REGION

WHEREAS, the Wilmington Area Planning Council (WILMAPCO) has been designated the Metropolitan Planning Organization (MPO) for Cecil County, Maryland and New Castle County, Delaware by the Governors of Maryland and Delaware, respectively; and

WHEREAS, seniors, people with disabilities, and households without an automobile (collectively our Transportation Justice communities) have been identified as transportation constrained populations; and

WHEREAS, the *2015 Accessibility and Mobility Report: A Transportation Justice Study of the WILMAPCO Region* continues a process to analyze the transportation needs of these constrained populations; and

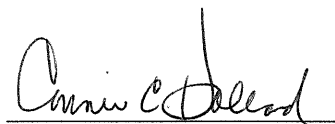
WHEREAS, "Transportation Justice" areas identified by the *2015 Accessibility and Mobility Report: A Transportation Justice Study of the WILMAPCO Region* are part of the adopted prioritization process for projects in WILMAPCO's Regional Transportation Plan (RTP) and Transportation Improvement Program (TIP) and Transportation Alternatives Program (TAP) project prioritization process; and

WHEREAS, the *2015 Accessibility and Mobility Report: A Transportation Justice Study of the WILMAPCO Region* provides recommendations to enhance the mobility of these constrained populations; and

WHEREAS, the *2015 Accessibility and Mobility Report: A Transportation Justice Study of the WILMAPCO Region* helps to implement the WILMAPCO RTP;

NOW, THEREFORE, BE IT RESOLVED that the Wilmington Area Planning Council does hereby endorse the *2015 Accessibility and Mobility Report: A Transportation Justice Study of the WILMAPCO Region*.

May 14, 2015
Date


Connie C. Holland
Acting Chairperson



Partners with you in transportation planning

Table of Contents

Introduction: Who is WILMAPCO? ii

Executive Summary..... iii

Chapter 1: Background 1

Chapter 2: TJ Mobility Challenges and Policy Recommendations 3

Chapter 3: TJ Public Opinion Telephone Survey and Recommendations16

Chapter 4: Identification of TJ Neighborhoods 23

Chapter 5: Transportation Accessibility and Connectivity Analyses and
Recommendations..... 40

Chapter 6: Public Participation and Recommendations55

Chapter 7: Summary of Recommendations..... 59

Appendix..... A-1

Who is WILMAPCO?

The Wilmington Area Planning Council (WILMAPCO) is the Metropolitan Planning Organization (MPO) for Cecil County, Maryland and New Castle County, Delaware. We are charged with planning and coordinating transportation investments for the Wilmington region.



The Wilmington region is home to nearly 640,000 residents, most of whom (84%) live in New Castle County. Wilmington, a financial hub supporting a population of more than 70,000, serves as the principal city. Urbanized development stretches outside of Wilmington along the I-95 corridor, from the Town of Elkton to the Pennsylvania border. Natural and rural landscapes, sprawling suburbs, and small towns blanket the rest of the region.

WILMAPCO's mission is to create the best transportation Plan for the region, one that meets all the requirements mandated by the Federal Clean Air Act and its Amendments (CAAA) and Moving Ahead for Progress in the 21st Century (MAP-21).

Executive Summary

The present study examines the opportunities and challenges seniors (those age 65+), people with disabilities, and households without vehicles encounter with our transportation system. Collectively, we call these three communities our "Transportation Justice" (TJ) populations. TJ is an outgrowth of our Environmental Justice (EJ) initiative, which considers the transportation burdens carried by our low-income and minority communities. While EJ is required by federal mandate, TJ is not.

WILMAPCO's first TJ report was produced in 2007. Crucially, it identified areas where TJ populations were clustered ("TJ areas"), and highlighted some of the transportation concerns in and around these places. Planned projects within TJ areas have, subsequently, been awarded points in our project prioritization processes. The release of fresh demographic data following the 2010 Census has enabled an update of this initial report.

Each of our three TJ groups would be well served by better transportation connections and more transportation choices¹ to improve safety and mobility. Our burgeoning senior population is burdened by the financial costs of car ownership and decreasing physical ability to safely operate vehicles and survive crashes. Persons with disabilities, who are often seniors themselves, are more likely to encounter problems with travel due to their limitations. Households with no vehicle present are mobility constrained by having to negotiate a transportation system where car travel is too often the only option. We explore these TJ mobility challenges in depth in Chapter 2, and make some recommendations for improved policy.

Chapter 3 features a special public opinion survey. More than 200 TJ residents living in the WILMAPCO region related their experiences and thoughts about our region's transportation system. While most (65% or more) said their transportation needs were

¹ Car travel is the dominant form of transportation in the WILMAPCO region. Land use and transportation decisions during the past century effectively spread out the region's population and jobs. While softening, prevailing policy and funding decisions continue to encourage suburban sprawl and private vehicle travel. Over half of our region's residents (54%) report that they have very few transportation choices.

well met, we found each group was either less satisfied overall with the system than average, or were likely to experience some difficulties reaching key destinations, such as food markets.

Chapter 4 provides a regional demographic overview of our TJ communities. We found: more than 76,000 (12.1%) of our region's population were over the age of 65; almost 72,000 (11.4%) are living with a disability; and, more than 17,000 (7.3%) households have no vehicle present. Taking a closer look at the demographics, we flagged concentrations of these populations – our TJ areas. TJ areas were identified across the region, from within the City of Wilmington to neighborhoods in its inner and outer suburban rings. These TJ areas, along with suburban age-restricted housing developments (also identified in chapter 4) provide the basis for our transportation connectivity analyses, found in chapter 5.

Isolating the dozen significant TJ areas, we examine how well connected these places are to libraries, grocery stores, hospitals, and senior centers on four different modes of transportation – walking, bicycling, public bus, and car. We found the TJ areas inside Wilmington and Elkton were very well connected to these key destinations, TJ areas on the outskirts of those municipalities had some connections, while TJ areas on the edges of our region were poorly connected. The exercise illustrates well the opportunities and challenges of comfortably “aging in place” in our region. A separate analysis considered public transit and walking connections in around our suburban age restricted communities. Here, we found that over half of the communities were some distance from existing pedestrian and bus routes, making future connections unlikely, or a long-term prospect. We close out chapter 5 with a review of the difficulties faced by Delaware's Paratransit system, echoing the recommendations made in 2013 study by the University of Delaware.

In chapter 6, we review and recommend improvements to better incorporate TJ groups in our public participation process. We found most of the recommendations related to TJ participation made in the 2007 TJ Study and the 2008 Public Participation Plan have been implemented. Subscription rates to our quarterly newsletter within TJ neighborhoods outpace the regional average, and seniors are more likely to be familiar with WILMAPCO than the average resident. A stronger effort is needed, however, to involve people with

disabilities and those living in households without vehicles in our planning process. Both of these groups are less likely to be familiar with our agency.

Chapter 7 rounds out the study with a listing of all of the recommendations.

A steering committee guided the development and execution of the present study. It was comprised of six agencies, listed below:

TJ Steering Committee



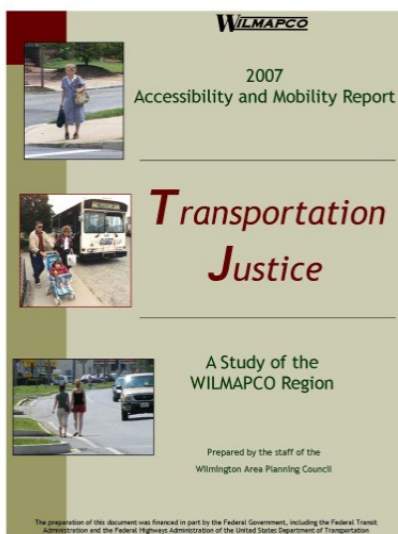
Chapter 1

Background

Transportation Justice (TJ), for WILMAPCO, entails ensuring the good mobility of those who live in households without access to a vehicle, seniors (those over 65 years of age), and persons with disabilities. TJ is an outgrowth of our *Environmental Justice* (EJ) initiative, which seeks transportation equity for our minority and low-income populations.

Unlike EJ, incorporating TJ is not a federal requirement for MPOs like WILMAPCO. However, we believe that seniors, disabled persons, and households without vehicles are constrained in our present transportation network, and ought to receive special attention.

The present study is an update to our previous TJ report, produced in 2007. That study identified neighborhoods where TJ groups were concentrated, assessed their transportation challenges (both nationally and regionally), and made recommendations to improve mobility. These included potential improvements to mass transit connections, making Paratransit service in Delaware more sustainable, better walkability in TJ neighborhoods, and recommendations to strengthen public outreach with TJ communities.



The cover of the 2007 Transportation Justice Report is shown above.

After the publication of the 2007 Report, TJ was woven into the fabric of planning at WILMAPCO. TJ features into our overall and Transportation Alternatives Program project prioritization processes. Projects within identified TJ neighborhoods receive higher scores, with the aim to speed their implementation. Additionally, TJ is incorporated into the Transportation Improvement Program, the Congestion Management Process and is found within our Public Participation Plan.

This study was enabled by the release of updated demographic data at the neighborhood level from the U.S. Census. Our TJ neighborhoods are redefined using these new statistics. A series of analyses, old and new, are run using the new TJ neighborhoods. The 2015 Transportation Justice Study also features background information on the transportation constraints countered by TJ groups, policy-level recommendations, a public opinion survey, and a review and update of our TJ public outreach procedures.

A steering committee guided the development and execution of the present study. It was comprised of six agencies, listed below.

TJ Steering Committee



Chapter 2

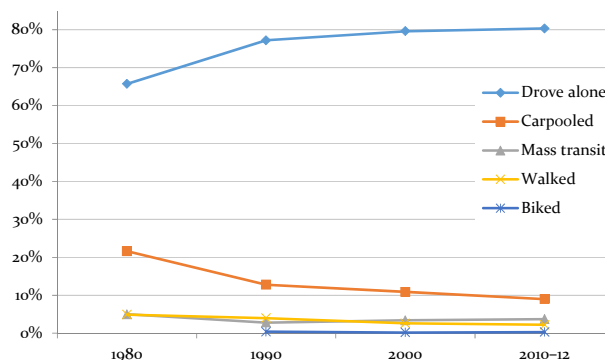
TJ Mobility Challenges and Policy Recommendations

This chapter provides background on the region's transportation landscape, before turning to an overview of the mobility challenges encountered by our three TJ groups: households without a vehicle, people with disabilities, and seniors.

Transportation Landscape

During the past century, the construction and continual upgrading of suburban highways has enabled a housing boom outside the City of Wilmington. The population of Wilmington plummeted as former city residents and new migrants packed freshly-built suburban housing tracts. Regulations forced the spatial separation of residential and commercial developments in these suburbs. Federal and state transportation investments poured into suburban highway construction, supporting the mobility of suburban residents with automobiles, and facilitating more sprawl. Private vehicles became the best and preferred *and often only* means of effective travel in this milieu. Journey to work data from the past three decades show the impact of these continuing policies below¹.

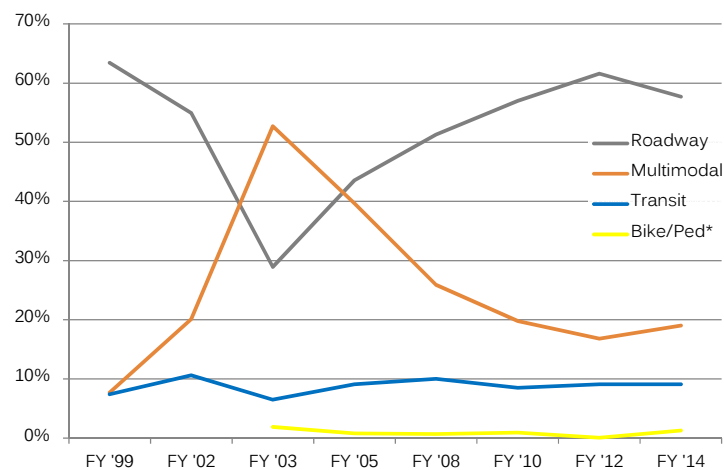
Means of Transportation to Work, WILMAPCO Region



¹ All population and means of transportation data cited throughout the chapter are from the 2008 – 2012 American Community Survey.

Today, highway travel is the dominant means of transportation in our region, and projects that support roadways continually capture the majority of spending. As shown in Figure 4, capital funding for mass transit has hovered around 10%, and about 1% for dedicated non-motorized projects, during the past decade in the WILMAPCO region². Poorly funded, our bus frequencies, destinations and times served are often limited. This isolates the transit-dependent from employment opportunities and activities, and places the burden of car ownership upon households which can ill afford it.

WILMAPCO TIP Allocations by Mode, Selected Years, FY 1999 – FY 2014



*Data prior to FY 2003 are unavailable

All of this is particularly relevant to the three populations under consideration in this study. As we will see, households without vehicles, people with disabilities, and seniors are less reliant on vehicles than the general population.

Households without a Vehicle

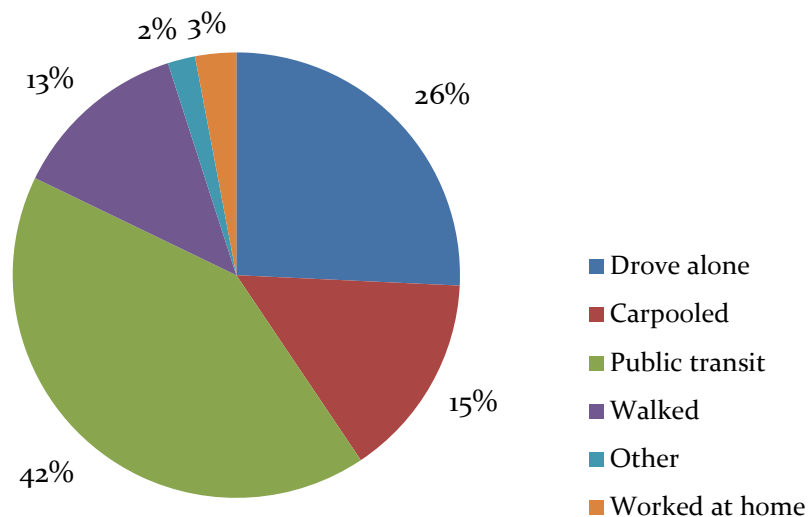
Our first TJ group is those who live in households without vehicles. This cohort is mobility constrained not by physical limitations or age, but simply by its relationship with the transportation landscape described above.

² These figures can be found in the Transportation Improvement Program (TIP), an annual listing of projects to be funded over a four-year period.

Just over 17,000 households (7.3%) in the WILMAPCO region are without a car. This population boasts a small household size (55% one-person households), are less likely to be employed (62% have no worker), and the group is overwhelmingly comprised of renters (72%).

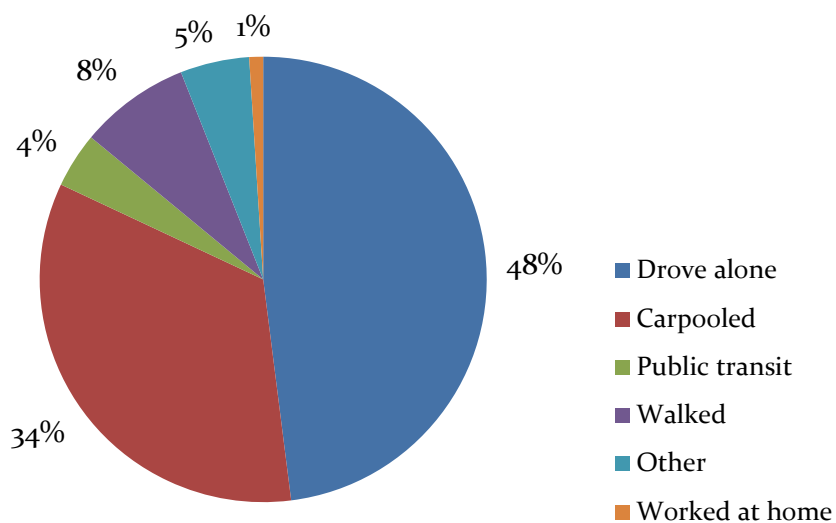
Commuting data on households without a vehicle reveal some interesting figures. Only 8,500 (3%) of regional workers live in households without a vehicle. And, of this small body, half (45%) rely on someone else's car to reach their workplace. In Cecil County, this figure is much higher (82%). Figures 1 and 2 graph the means of transportation to work among households without vehicles. This reliance on private vehicles among households without a car underlines the importance of the car for daily travel. Nationally, limited public transportation was cited as problematic by half of nondisabled individuals who experience difficulty with the transportation system³.

Means of Transportation to Work among Workers Aged 16 and Older in Households without a Vehicle in New Castle County



³ USDOT, Bureau of Transportation Statistics. *Freedom to Travel*. 2003.

Means of Transportation to Work among Workers Aged 16 and Older in Households without a Vehicle in Cecil County



82% of Cecil County workers who live in a household without a car use someone else's car to reach their jobs.

(Air photo source: Bing Maps)

People with Disabilities

Our next TJ group is those with disabilities⁴, which too often impede their daily travel. Nearly 72,000 people have a disability in our region. The table below details the various disability types, and the percentage of our population which suffers it.

Disability by Type, WILMAPCO Region⁵

<i>Disability</i>	<i>Total</i>	<i>%</i>
Ambulatory	36,793	5.8%
Cognitive	27,294	4.3%
Independent living	24,535	3.9%
Hearing	18,609	2.9%
Vision	12,430	2.0%
Self-care	12,316	2.0%

Overall, people with disabilities are less well educated, earn less money, and are more likely to live in poverty than the average resident. A 2010 survey⁶ found that the disabled, nationally, have poorer access to education, healthcare, employment, socializing, restaurants, religious services, and satisfaction with life. Poor transportation access contributes to this unfortunate reality, along with other issues like prevailing social stigmas.

⁴ There are different definitions of disability. Where we cite regional census data (as in the table on this page) and, importantly, in our TJ area identification process, the definition from the American Community Survey is in play. Respondents who report an ambulatory, cognitive, independent living, hearing, vision, or self-care disability – whether individually or in combination – are considered to be living with a disability. More information can be found here: <http://www.census.gov/people/disability/methodology/acs.html>

⁵ **Ambulatory** – serious difficulty walking or climbing stairs; **Cognitive** – physical, mental, or emotional problem, which causes difficulty remembering, concentrating, or making decisions; **Independent living** – physical, mental, or emotional problem, which causes difficulty doing errands; **Hearing** – deaf or serious difficulty hearing; **Vision** – blind or having serious difficulty seeing, even with eyeglasses; **Self-care** – difficulty bathing or dressing.

⁶ Kessler Foundation/NOD. *The ADA, 20 Years Later*. 2010.

Nationally, disabled people are three times more likely to experience difficulty with transportation than the nondisabled – 34% with difficulty versus 16% in the 2010 survey. The reasons cited for transportation difficulty in a separate 2003 survey⁷ include:

- Limited public transportation (33%)
- Don't have a car (26%)
- Disability makes transportation hard to use (17%)
- No one to depend on (12%)

The more severely disabled and the less well-off encounter more problems with access to transportation across the U.S.⁸ Less than a quarter (21%) of those with "slight" disabilities cite inadequate transportation as a problem, compared to half (49%) of those with disabilities described as "very severe." Low-income households experience more problems with transportation access across the board, but difficulties are more acutely felt in low income, disabled households. Among households with incomes of \$15,000 or less; a quarter (26%) of nondisabled households note transportation as a problem. Compare this to the half (46%) of poor, disabled households that list transportation as a problem. More than half of these (55%) describe lack of transportation access as a major problem.

Like those who live in households without a vehicle, personal vehicles are still the primary means of travel for the disabled. Nationally, in the 2003 survey, at least 62% of people with disabilities are able to operate a vehicle (86% for nondisabled) and do so for local travel. Of the 38% who do not drive, a higher proportion rely on carpooling, taxis, and mass transit than the nondisabled – a smaller proportion walk or bike⁹.

In the WILMAPCO region, about a quarter of our disabled population is employed. Table 2 breaks down the means of transportation to work for this group. The percentage of disabled workers driving alone to their jobs is more than 10 percentage points below figures for nondisabled, with increased rates of travel in all other categories.

⁷ USDOT, Bureau of Transportation Statistics. *Freedom to Travel*. 2003.

⁸ Kessler Foundation/NOD. *The ADA, 20 Years Later*. 2010.

⁹ USDOT, Bureau of Transportation Statistics. *Freedom to Travel*. 2003.

Means of Transportation to Work among the Disabled

	<i>New Castle County</i>		<i>Cecil County</i>	
	<i>Disabled</i>	<i>Non-disabled</i>	<i>Disabled</i>	<i>Non-disabled</i>
Drove alone	68.6%	79.8%	69.9%	81.5%
Carpooled	12.5%	8.9%	15.3%	10.6%
Mass transit	9.8%	4.4%	2.6%	1.0%
Walked	3.2%	2.4%	4.1%	1.6%
Other	1.4%	0.9%	2.0%	0.7%
Work at home	4.4%	3.8%	6.1%	4.5%

In spite of the 1990 Americans with Disabilities Act, and greater awareness in transportation planning for disabled travelers, the percentage of disabled people encountering transportation problems rose during the past decade¹⁰. With our disabled population poised for substantial growth in the decades to come it is cause for concern.

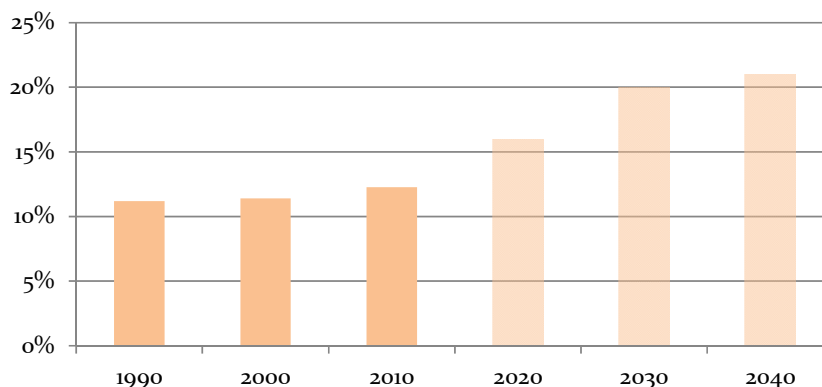
The Seniors

The more than 76,000 seniors who live in the WILMAPCO region comprise our third and final TJ group. Seniors are defined as those aged 65+. Like people with disabilities (most of whom are, in fact, seniors), seniors must negotiate a transportation system not usually designed for them. The burdens of private car ownership, the loss of driving ability with age, and an increase in physical fragility all raise the risk of senior isolation, injury, and death with travel.

A surge of births following the Second World War, longer life expectancies, and the expected absence of significant immigration should continue to age our population. Shown in the figure below, seniors are expected to comprise one out of five WILMAPCO region residents by 2030, and nearly double their percentage in 2000. This growth is expected to stabilize during the 2030s.

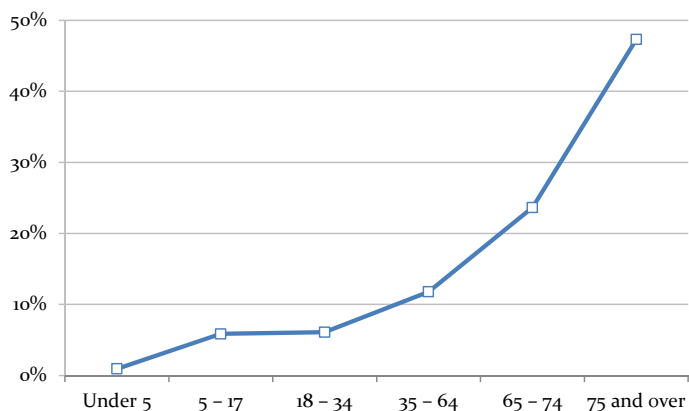
¹⁰ Kessler Foundation/NOD. *The ADA, 20 Years Later*. 2010.

Projected Growth in the Percentage of Senior Residents, WILMAPCO Region



It should also be noted that the general growth of our senior population also logically entails a higher proportion of our population living with disabilities. As shown in the graph below, older age cohorts are more likely to suffer a disability. Nearly half (47%) of those aged 75 or greater are currently disabled.

Percentage of Population with a Disability, by Age, WILMAPCO Region



Seniors are, by and large, a suburban population¹¹. Most of those entering the senior ranks today ("baby boomers" born in the two decades following the Second World War) have lived their entire lives in suburbia. Research suggests they will continue to do so. According to a 2010 AARP survey, most (more than 85% nationally) wish to "age in place" – that is,

¹¹ Rosenbloom, Sandra. *The Mobility Needs of Older Americans: Implications for Transportation Reauthorization*. Brookings Institution. 2003

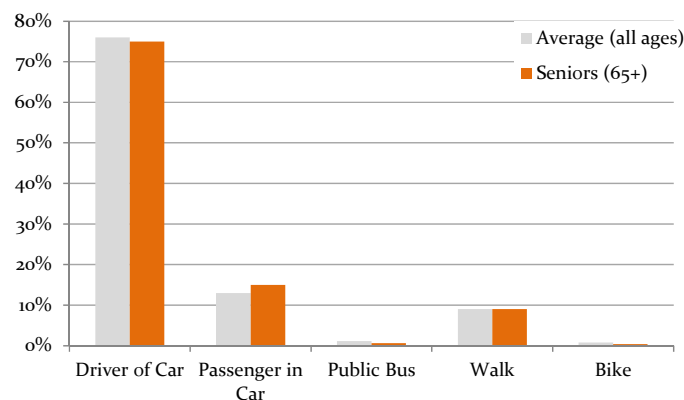
remain at their current residence as long as possible¹². Most already do. Nationally, only 5% of those over 55 change residences each year¹³.

Car travel is often a necessary staple of contemporary suburban living. Seniors are today more dependent on private vehicles for their travels, with increasing rates of daily vehicle miles traveled, overall trips, and declining percentage of trips on public transit¹⁴. Means of transportation to work data from the WILMAPCO region, along with means of transportation for all trips statistics from across Delaware, found below, show that our seniors are very dependent on private vehicles.

Means of Transportation to Work among Seniors

	New Castle County		Cecil County	
	Seniors	Non-seniors	Seniors	Non-seniors
Drove alone	79%	79%	80%	81%
Carpooled	7%	9%	5%	11%
Mass transit	4%	5%	0%	1%
Walked	2%	2%	4%	2%
Other	1%	1%	1%	1%
Work at home	7%	4%	10%	4%

Mode Split, All Delaware Trips¹⁵



¹² Keenan, Teresa A. *Home and Community Preferences of the 45+ Population*. AARP. 2010.

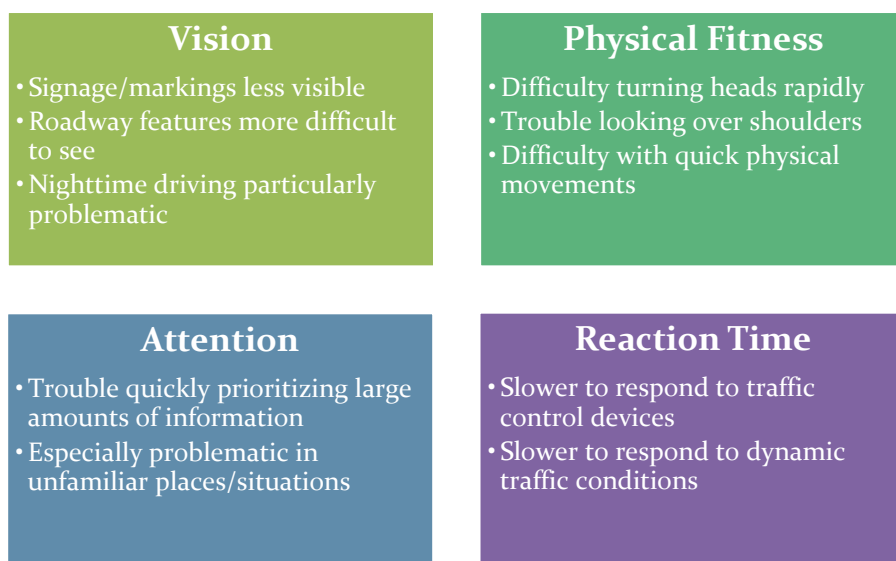
¹³ Frey, William H. *Mapping the Growth of Older America: Seniors and Boomers in the Early 21st Century*. Brookings Institution. 2007.

¹⁴ *Planning Complete Streets for an Aging America*. AARP Public Policy Institute. 2009.

¹⁵ University of Delaware, CASDR. "Delaware Trip Monitoring System Survey." 2013.

Car operation and ownership involve both health and economic burdens for seniors. Visual, physical and cognitive performance declines among older drivers have been long observed, along with a jump in per capita vehicle crashes after age 75¹⁶. The graphic below details the effects of aging on driver performance.

Declining Driver Performance Factors among Seniors¹⁷



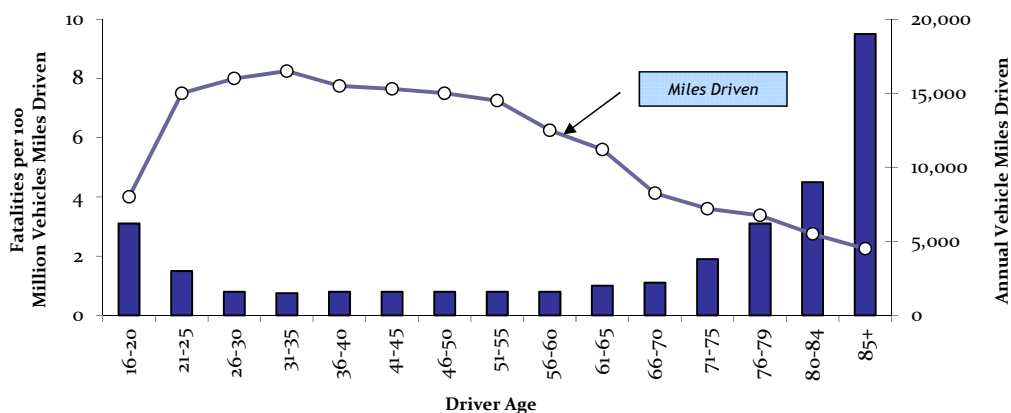
While in steady decline, roadway fatalities have long been the leading cause of accidental death in the United States. After age 21, the risk of injury or death in a crash increases each year due to increasing fragility and frailty¹⁸. This is borne out by national level data. As shown below, driving rates decline with age beginning in a person's 40s, with substantial increases in fatality rates after age 70 and beyond.

¹⁶ TRB. *Transportation in an Aging Society: Improving Mobility and Safety for Older Americans*. 1988.

¹⁷ *Planning Complete Streets for an Aging America*. AARP Public Policy Institute. 2009.

¹⁸ Kahane, Charles. *Injury Vulnerability and Effectiveness of Occupant Protection Technologies for Older Occupants and Women*. National Highway Traffic Safety Administration. 2013.

Driver Fatality Rates and Vehicle Miles Driven, by Age, 2001¹⁹



The financial sustainability of car ownership for seniors is also a key concern. Financial planners project that at least one third of baby boomers will not have sufficient retirement income²⁰. Owning and operating a car, therefore, may take too big of a bite out of the budgets of many seniors.

It is not surprising then driving rates fall with age. Nationally, 88% of seniors drive at age 65 – by age 75 that figure drops to 69%²¹. Those who quit driving in their early 70s usually require alternative transportation options for an additional 6 to 10 years.

Walking and bicycling is one alternative, where practicable. These modes, however, also become more challenging with age²². Among Delawareans, 7% of those age 16 – 24 report that problems impair their walking and bicycling. This figure rises to 18% in the 45 – 54 cohort, and 37% for those over 65. Still, most seniors are healthy enough to walk and bike, which improves overall health outcomes.

¹⁹ Surface Transportation Policy Project. 2004.

²⁰ DeGood, Kevin. *Aging in Place, Stuck without Options: Fixing the Mobility Crisis Threatening the Baby Boom Generation*. Transportation for America. 2011.

²¹ DeGood, Kevin. *Aging in Place, Stuck without Options: Fixing the Mobility Crisis Threatening the Baby Boom Generation*. Transportation for America. 2011.

²² University of Delaware, CASDR. "Delaware Trip Monitoring System Survey." 2013.

Carpooling is a primary alternative to private vehicle operation, but not necessarily a popular one. Nationally, ridesharing is the primary means of travel for 20% of those age 75 to 79, and 40% of seniors over age 85²³. But, one-sided ridesharing arrangements do not jibe well with prevailing cultural attitudes. Half of US seniors feel ridesharing is an imposition on others, or do not like feeling dependent on others²⁴. This individualistic outlook is more generally reflected by the living arrangements of seniors. More than a quarter of North Americans over age 60 live alone – compared to 5 to 10% in the Global South²⁵. These attitudes and figures raise the risk of isolation, or at least a deteriorated quality of life.

Overall TJ Policy Recommendations

A meaningful effort to support denser, mixed land uses, mass transit and other alternative modes will, perhaps more than anything else, benefit households without vehicles, those with disabilities and seniors.

As we have already shown, workers in our households without vehicles are still heavily reliant on private vehicles to reach their jobs. A stronger alternative transportation network (driven by land uses that produce shorter trips to work, to the grocery store and to other destinations) would directly benefit these unique workers and our TJ population, through financial and travel time savings.

For people with disabilities, better access to mass transit (their greatest transportation challenge, nationally), and other alternative modes, would yield greater independence and cost savings. Staving off isolation and poverty is a chronic challenge for this demographic.

²³ DeGood, Kevin. *Aging in Place, Stuck without Options: Fixing the Mobility Crisis Threatening the Baby Boom Generation*. Transportation for America. 2011.

²⁴ DeGood, Kevin. *Aging in Place, Stuck without Options: Fixing the Mobility Crisis Threatening the Baby Boom Generation*. Transportation for America. 2011.

²⁵ United Nations. *Current Status of the Social Situation, Well-Being, Participation in Development and Rights of Older Persons Worldwide*. Department of Economic and Social Affairs. 2011.

While there is no indication that seniors will seek to give up the independence of the private car, they may be forced to do so during an extended period of their lifetimes. Therefore, they too would directly benefit from better alternative transportation, and its inherent financial benefits. Indeed, studies have shown that seniors who live in denser, walkable neighborhoods in the US are more likely to use alternative transportation, and, more importantly, are less likely to experience isolation²⁶.

Beyond breaking the cycle of suburban sprawl and supporting greater densities with mixed uses with reliable alternative transportation, some broad policy recommendations we ought to work towards are listed below:

1. Understand and respond to the evolving needs of households without vehicles, people with disabilities and seniors.
2. Continue to prioritize transportation investments in places with concentrations of households without vehicles, people with disabilities and seniors (TJ areas).
3. Promote transportation connectivity between key destinations and places with concentrations of households without vehicles, people with disabilities and seniors (TJ areas) in order to promote economic prosperity, health, and combat isolation.
4. Encourage the use of alternative transportation among TJ groups through public outreach.
5. Engage TJ populations in the public participation process through special outreach.

²⁶ *Planning Complete Streets for an Aging America*. AARP Public Policy Institute. 2009.

Chapter 3

TJ Public Opinion Telephone Survey and Recommendations

To better understand the needs of TJ groups locally, we conducted a telephone survey in the summer of 2014. A total of 206 TJ residents participated²⁷. The survey script more or less followed our 2014 Public Opinion Survey of the general population, although some questions were eliminated to reduce cost and others were added to enhance relevance. We use the results of the general survey to compare TJ survey findings in this section²⁸.

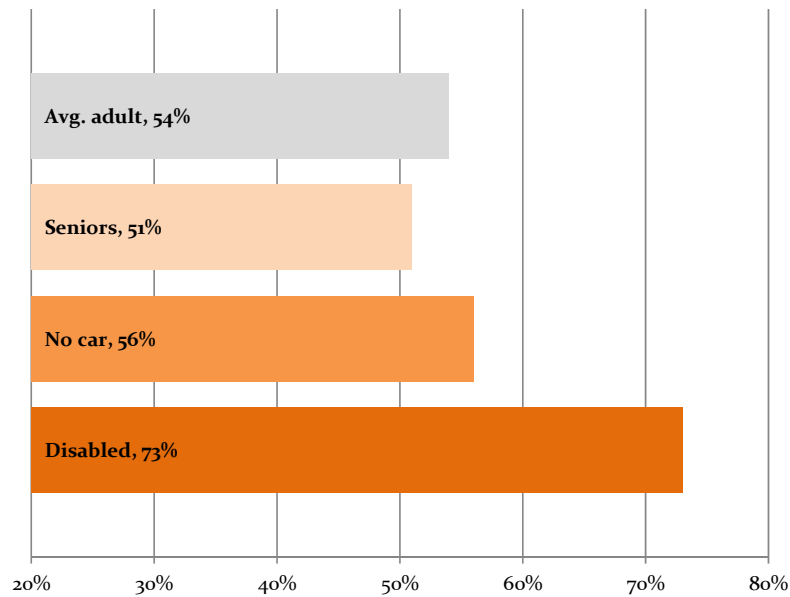
Interaction with the Transportation System

Our TJ survey revealed differences in the use and accessibility of the transportation system both among the three groups – no vehicle households, disabled, and seniors – and the general population. Overall, TJ groups are more likely to have unmet transportation needs. As shown in the graphs below, about three quarters (73%) of disabled adults report that they have few transportation options – compared to about half (54%) of the general adult population. More than one third (35%) of those with disabilities and nondisabled seniors, say their transportation needs are not met well, compared to about a quarter (26%) of the average population. Among TJ groups, only about 10% of seniors experience difficulty reaching grocery stores, social activities, medical care and other services. Compare this to half or well over half of those who have no vehicles or are disabled.

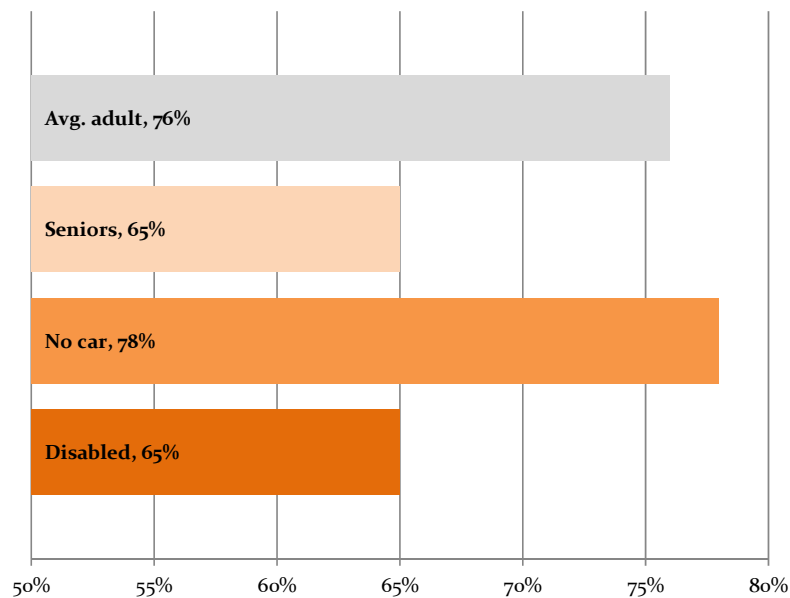
²⁷ Of the 206 interviews, 74 were adults with disabilities aged 18 – 64; 42 with no vehicle households aged 18 – 64 with no disabilities; and 90 were seniors (age 65+) without disabilities. The survey was conducted by the National Research Center, Inc.

²⁸ The 95 percent confidence level for the regional survey is generally no greater than plus or minus four percentage points around any given percent reported for the entire sample (614 completed interviews). The 95 percent confidence level for the TJ survey is generally no greater than plus or minus seven percentage points around any given percent reported for all respondents.

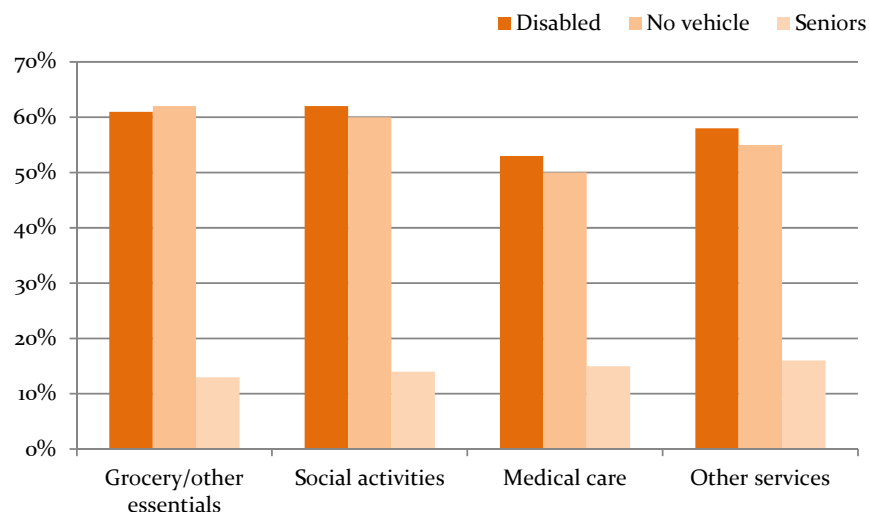
Residents with Very Few Transportation Options



Residents with Well Met Transportation Needs



At Least Some Transportation Difficulty Reaching Services

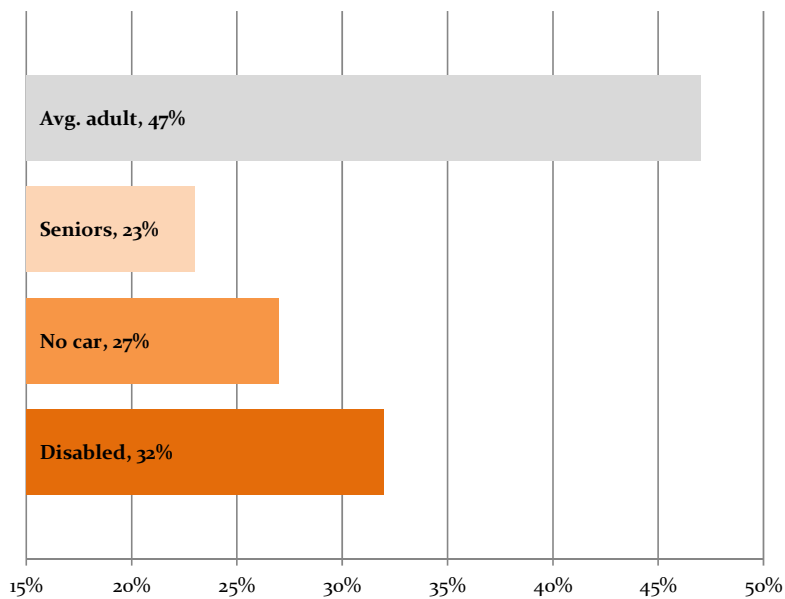


Effectiveness of Transportation Projects

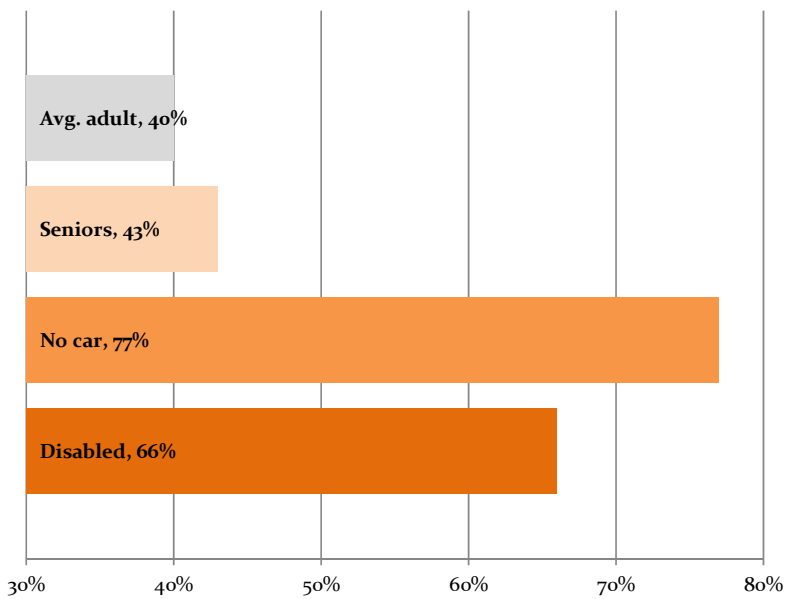
TJ groups and the general population were in agreement that maintaining and repairing the existing system, along with using technology to improve it ought to be the two highest priorities for funding.

As illustrated in the graphs below, differences between the TJ groups and the general population emerge when the effectiveness of different transportation improvements are considered. Widening existing highways is viewed as a "very effective" by more people in the general population (47%), than any of the TJ groups (23% – 32%). Expanding bus services, by contrast, is viewed less favorably by the average adult (40%) and more favorably by TJ groups – especially people with disabilities (66%) and no vehicle households (77%). Improving the sidewalks and bicycle networks are viewed most favorably by people with disabilities (51% & 35%) and no vehicle households (50% & 48%), and least favorably by seniors (23% & 22%). The general population fell in between these ranges.

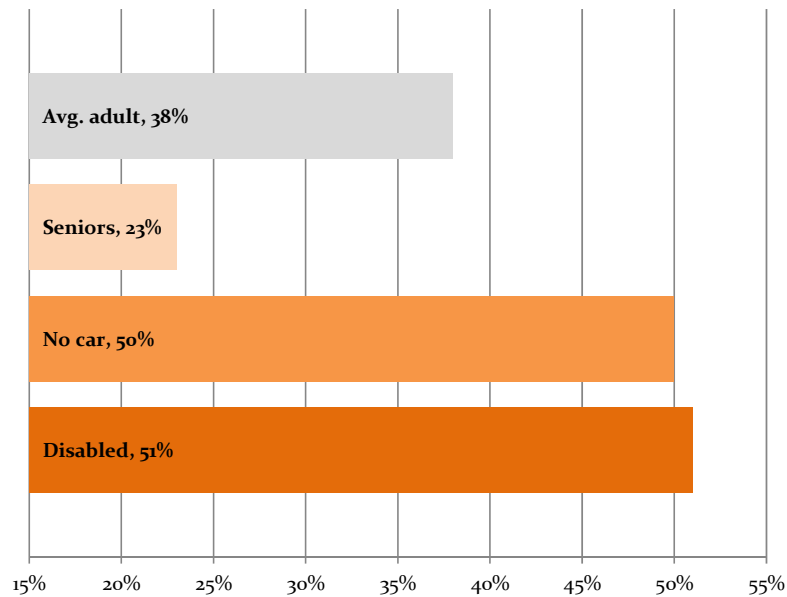
Widening Existing Highways is "Very Effective"



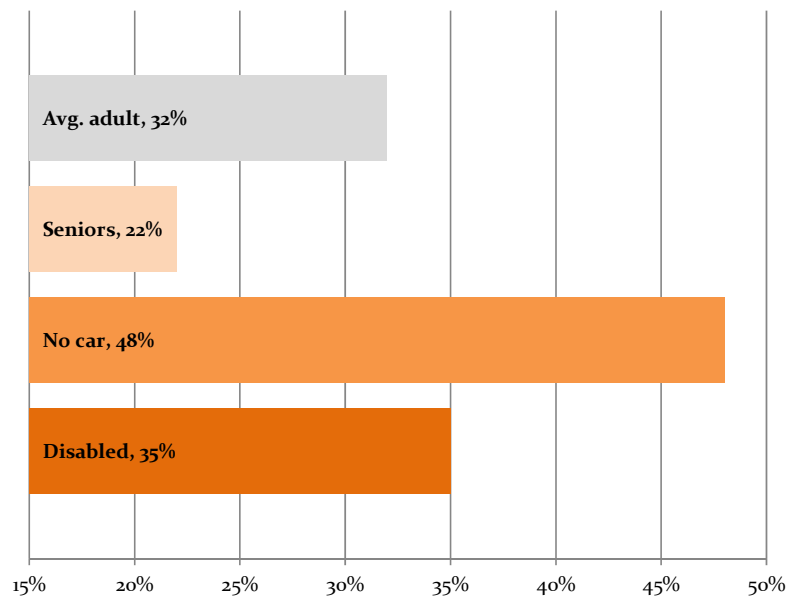
Improving the Public Bus Network is "Very Effective"



Making Sidewalk Network Connections is "Very Effective"



Making Bicycle Network Connections is "Very Effective"



TJ groups and the general population agree on the importance of more mixed-use development and revising zoning codes to support alternative transportation.

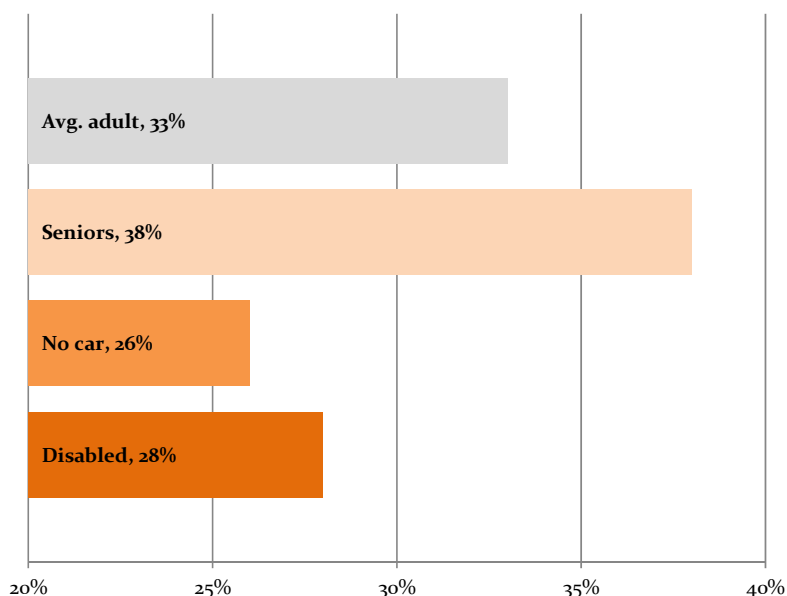
Approximately 80% of all groups agree that mixing appropriate businesses with residential

development should be encouraged. Strong support was also noted for revising zoning codes to support transit, walking, and bicycling. As might be expected from the results above, seniors are the least supportive of these measures (71%); and the general population (89%) are the most supportive.

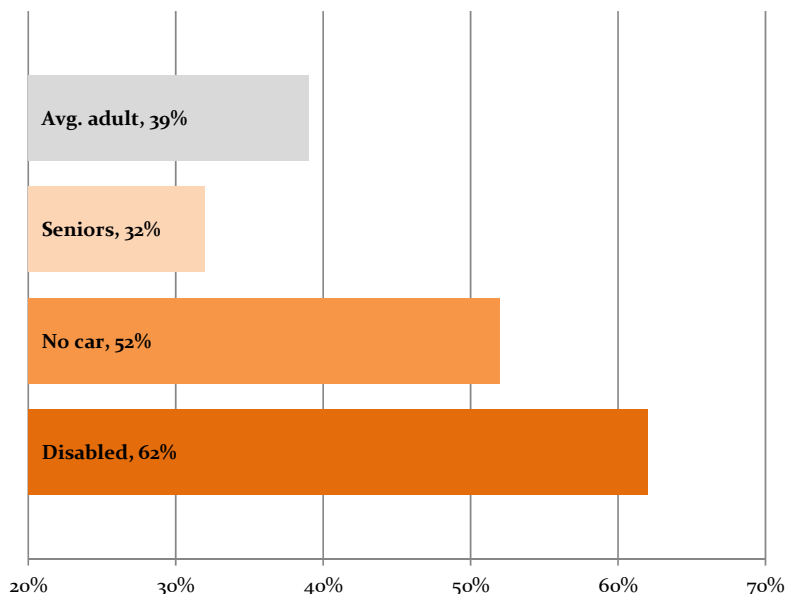
Familiarity with WILMAPCO

With the exception of seniors, TJ groups are less familiar with WILMAPCO and are more interested in receiving free information. As shown in the graphs below, less than a third of no vehicle households (26%) and people with disabilities (28%) said they are familiar with WILMAPCO – compared to an even third (33%) of the general population and 38% of seniors. Meanwhile, no vehicle households and people with disabilities are notably more interested in receiving free information from WILMAPCO about transportation planning, compared to seniors and the general population. Over half of no vehicle household and disabled interviewees said they were interested in more information, versus less than half of seniors and the general population.

Residents that are Familiar with WILMAPCO



Residents that would like Free Information from WILMAPCO



Recommendations

We can draw a few overall conclusions from our survey. It showed that a healthy percentage of no vehicle households, disabled, and, especially, seniors, have no transportation problems reaching essential services. We found that TJ groups were more likely to experience transportation difficulties than the average resident, however. The survey also revealed that TJ groups feel differently about the effectiveness of various transportation improvements, and that no vehicle households and people with disabilities were less familiar with WILMAPCO.

Considering the findings of the survey two recommendations are listed below:

1. Continue to refine the TJ Public Opinion Survey, along with the General Public Opinion Survey, to better understand the transportation needs of residents.
2. Conduct specific outreach to no vehicle households and disabled communities.

Chapter 4

Identification of TJ Neighborhoods

To begin a transportation connectivity analysis our region's households without vehicles, disabled and senior communities, it is first necessary to identify where concentrations of these groups exist. This is accomplished through an examination of 2008-2012 American Community Survey (ACS) data via our Geographic Information Systems (GIS) software. Identified concentrations (TJ "areas" or "neighborhoods") were classified as "moderate" or "significant" to reflect the degree to which households without vehicles, disabled, and seniors were present. These TJ areas, together with housing restricted primarily to older adults, form the basis of our regional analyses.

Transportation Justice Groups and a Scoring Methodology

As an initial step, a population profile of WILMAPCO's TJ groups was completed. See the table below.

WILMAPCO TJ Profile, 2008 – 12 American Community Survey

	<i>New Castle County</i>		<i>Cecil County</i>		<i>Region</i>		<i>United States</i>	
No vehicle	15,253	7.6%	1,958	5.4%	17,211	7.3%	10,405,375	9.0%
Disabled	58,967	11.1%	12,669	12.7%	71,636	11.4%	36,390,471	12.0%
Seniors	64,613	12.2%	11,596	11.6%	76,209	12.1%	39,358,825	12.9%

Generally, TJ groups are slightly more predominant across the US than within the WILMAPCO region. For example, 9% of households, nationally, have no vehicle – compared to 7.3% regionally. National statistics for disabled and senior populations also edge out WILMAPCO regional percentages.

Most of the WILMAPCO region's TJ community lives in New Castle County, given its larger population base. Percentage wise too, no vehicle households and seniors are more common in New Castle County than Cecil County – 7.6% versus 5.4% for no vehicle

households and 12.2% versus 11.6% for seniors. People with disabilities are more predominant, however, within Cecil County's population than within New Castle County's – 12.7% versus 11.1%.

Using the 2008 – 2012 regional percentages for no vehicle households (7.3%), people with disabilities (11.4%), and seniors (12.1%) as a base, maps 1-3 illustrate the distribution of the three TJ groups in the WILMAPCO region. Unpopulated census blocks were masked. Some observations from the map series can be found below:

- **Households with no vehicles available** are generally dispersed through the region. Pockets of concentration occur with more regularity in and around Wilmington.
- **Disabled** individuals are a bit more concentrated. Clusters can be identified along the eastern side of Wilmington, and along the SR 9 corridor south of the city, stretching beyond Delaware City. Additional concentrations exist in and west of Elsmere along SR 2, around North East, along SR 272, and in Perryville.
- **Seniors** are the most concentrated of the three TJ groups. Concentrations exist almost exclusively north of US 40 – especially in the northwest section of Wilmington and ballooning out of that city between the SR 41 and US 202 corridors.

	50% Average	> Average	150% Average	Double Average
No vehicles	1	2	-	-
Disabled	-	1	2	-
Seniors	-	1	-	2
Total	6			

<=3 No TJ
 4 Moderate TJ
 >=5 Significant TJ

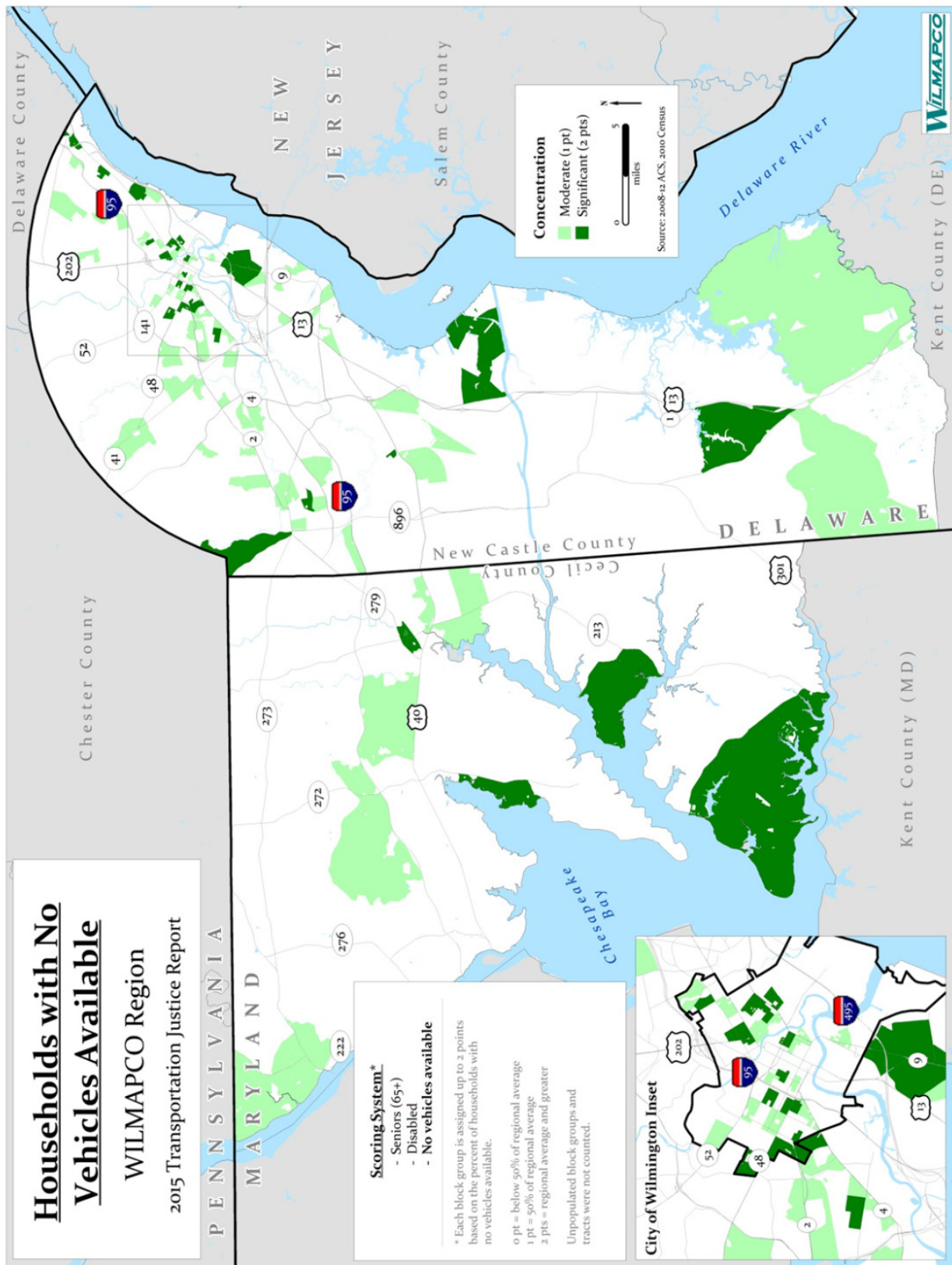
The scoring system is more involved than what has been used in the past. This is due to more limited data availability and the un-concentrated spatial distribution of many TJ residents. Block groups (the smallest geographic unit for TJ data, except disability²⁹) are awarded points where the percentage of no vehicle households, disabled, and seniors³⁰ exceed the thresholds in the table above. No vehicle households, the least concentrated, had the lowest thresholds while seniors, the most concentrated, had the highest.

Scores were tallied across the block groups. Those which accumulated four points were determined to be a "moderate" concentration. Those with five or more points were identified as a "significant" concentration. These TJ areas were located across the region, mostly along the I-95 corridor between Elkton and Wilmington where most of the region's population can be found. A map of the TJ neighborhoods follows.

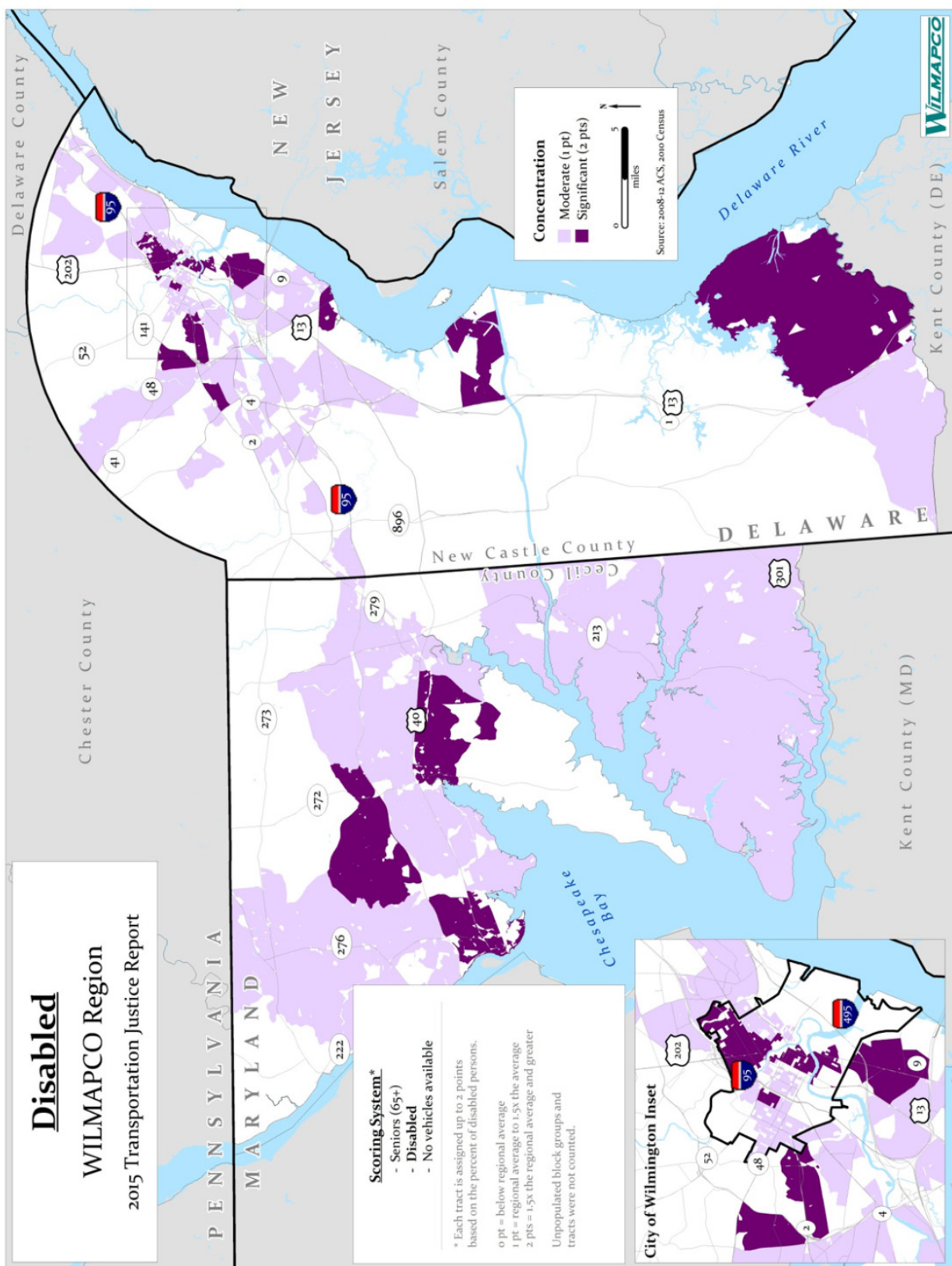
²⁹ Tracts are lowest level of census geography where disability data are available. We awarded points to all block groups within a given tract in this analysis.

³⁰ In Cecil County, we used the 2010 Census to calculate those over 65 years old in Cecil County. The 2008 – 12 American Community Survey, used in all other cases, was unavailable at the block group level in that county.

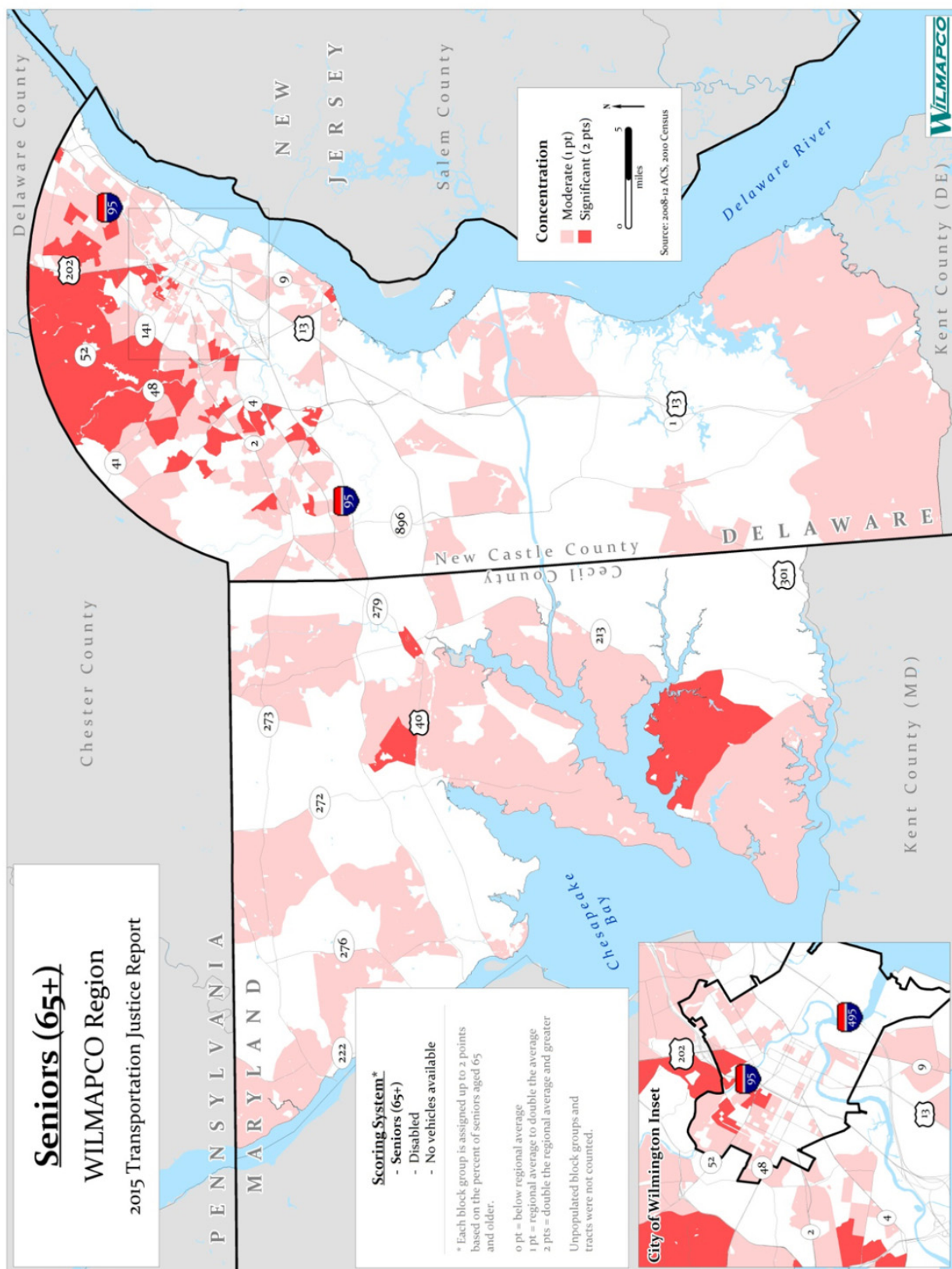
No Vehicle Household Concentrations in the WILMAPCO Region



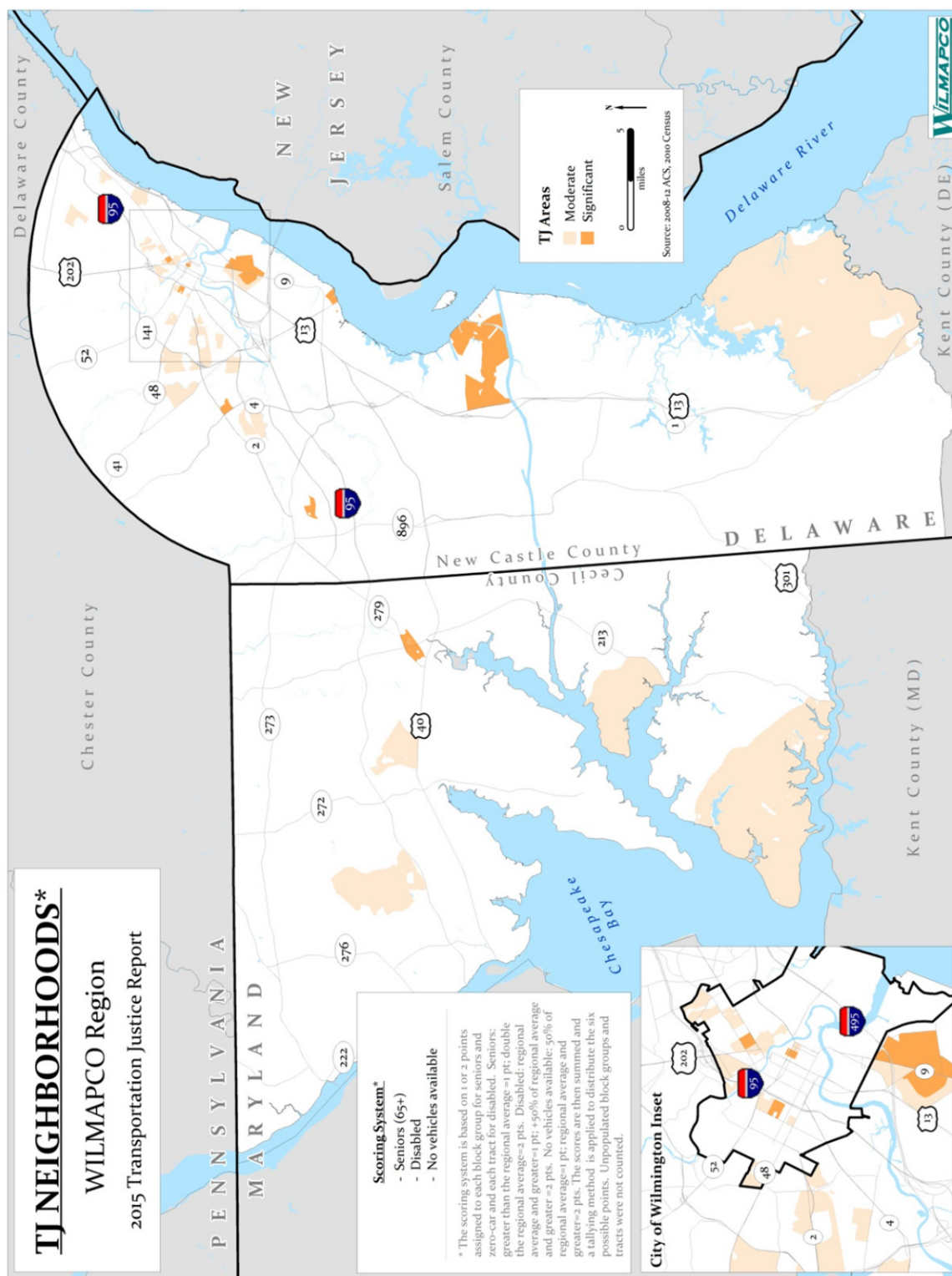
Disabled Concentrations in the WILMAPCO Region



Senior Concentrations in the WILMAPCO Region



Transportation Justice Neighborhoods in the WILMAPCO Region



Regional Demographic and Socio-Economic Survey

About 44,500 people live within a TJ area, some 7% of the region's population. General demographic and socio-economic comparisons can be made between moderate and significant TJ neighborhoods, and the places outside them. The table below provides some of these comparisons.

Statistical Profile of TJ Areas³¹

	Significant TJ	Moderate TJ	Non-TJ
Total Block Groups	12	27	385
Population	12,678	31,879	586,407
Households	5,632	15,654	218,179
Demographics			
No Vehicle Households	499 (9.7%)	848 (6.4%)	15,864 (7.0%)
Disabled	5,632 (18.3%)	15,654 (15.6%)	50,350 (8.6%)
Seniors	2,613 (20.6%)	6,454 (20.2%)	67,142 (11.8%)
Economics			
Median Household Income (in dollars)	51,024	47,685	66,042
Average Autos Per Household	1.3	1.4	1.5

It is important to clarify that while TJ areas represent *concentrations* of seniors and disabled residents, most seniors and disabled residents live outside them. This underlines the need to introduce measures to ease mobility concerns of TJ residents across the region. Additionally, because of the nature of their spatial distribution and our TJ identification process, zero car households are not notably concentrated within TJ areas. Interestingly, these households are more concentrated within our EJ areas, which were

³¹ These figures are from the 2008 – 12 American Community Survey, and 2010 Census. Disability statistics were taken from the census tract to which the TJ area belonged, resulting in higher population figures. Median household income and average autos per household statistics represent the median of all corresponding census block groups.

identified based on poverty and minority presence³² and across the City of Wilmington. Indeed, 40% of our region's zero car households are found within that city's boundaries.

TJ areas are less well-off, and are home to slightly fewer private vehicles than other places. Median household income within TJ areas is about \$50,000/year – compared to \$66,000/year in other areas. The median average autos per household is 1.3 in significant TJ areas and 1.4 in moderate TJ areas – versus 1.5 in all other places.

Significant TJ Area Demographic and Socio-Economic Survey

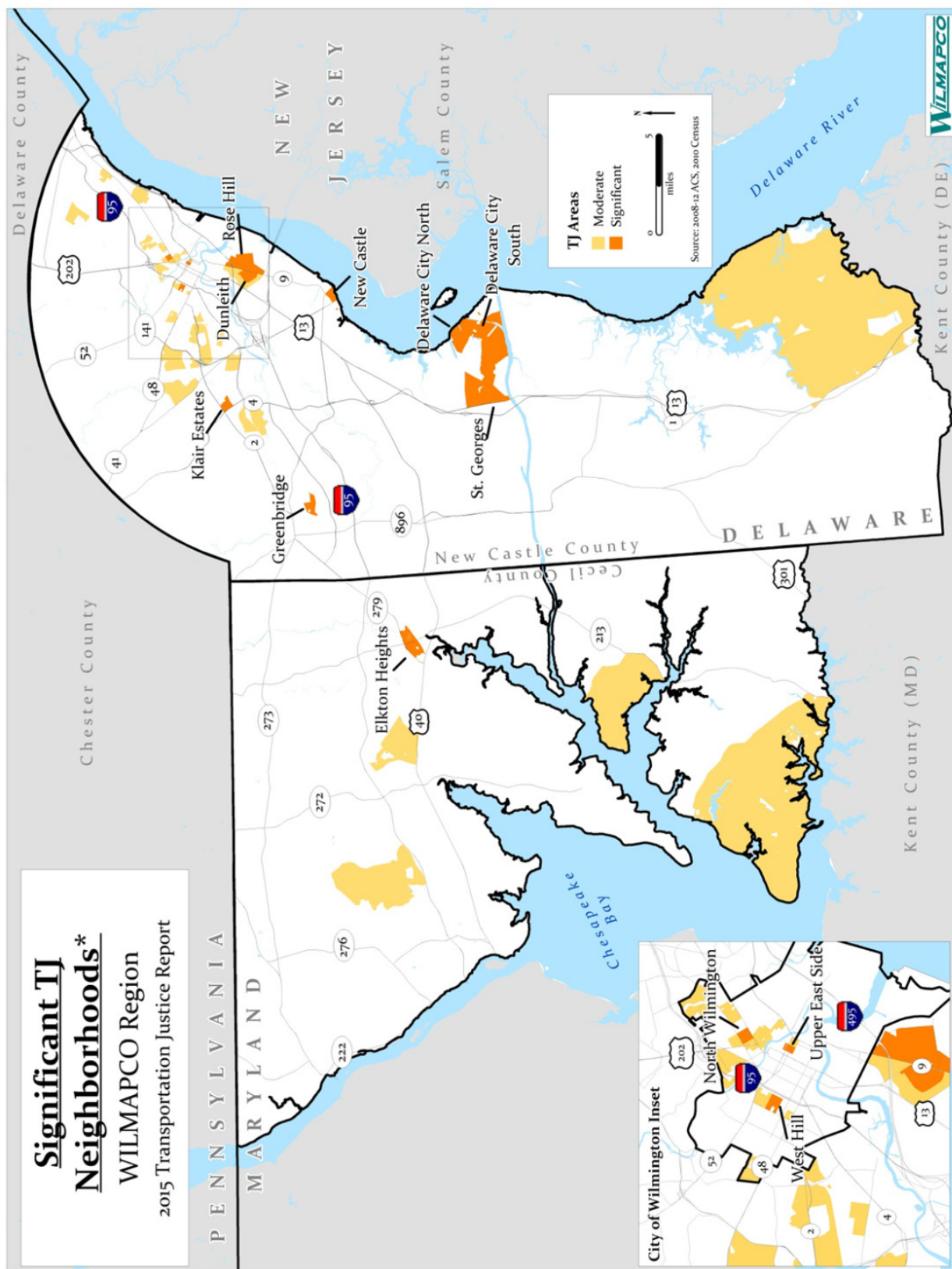
This section isolates the dozen most significant TJ neighborhoods, home to the highest concentrations of no vehicle households, disabled, and seniors, regionally, and provides a more detailed demographic and socioeconomic survey.

The map on the next page identifies the significant neighborhoods. Three were found in Wilmington, six along the SR 9 corridor south of Wilmington, and three between Wilmington and Elkton.

Demographic and socio-economic variety is substantial across these 12 communities. Household incomes in Delaware City North, New Castle and St. George's exceed \$70,000/year, while households in Wilmington's Upper East Side and Newark's Greenbridge earn less than \$30,000/year. Vehicle dependence increases in TJ neighborhoods outside of Wilmington. Wilmington's Upper East Side (\$26,000/year) and West Hill (\$63,000/year) boast less than 1.1 vehicles per household. Suburban Klair Estates (\$60,000/year) and St. George's (\$75,000/year) top 1.8 vehicles per household.

³² No vehicle households comprise about 25% of households within EJ areas. This points to the generally greater access to/dependence on private vehicles among people with disabilities and senior residents of our region, versus low income and minority residents.

Significant Transportation Justice Neighborhoods in the WILMAPCO Region



Significant TJ Area	GeoID	Block Group Population	Tract Population	Block Group Households	Median Household Income	Vehicles per Household
Delaware City North	100030164042	788	2,876	315	\$73,750	1.89
Delaware City South	100030164043	1,017	2,876	337	\$53,194	1.82
Dunleith	100030154002	1,878	3,021	696	\$33,480	1.24
Elkton Heights	240150304001	806	5,371	323	\$48,854	n/a
Greenbridge	100030147031	1,145	4,891	618	\$29,030	1.26
Klair Estates	100030131003	623	1,856	267	\$60,625	1.86
New Castle	100030162001	446	2,630	256	\$72,763	1.53
North Wilmington	100030005002	1,073	3,550	393	\$43,984	1.03
Rose Hill	100030155021	1,630	2,635	624	\$32,292	1.16
St. Georges	100030164041	1,142	2,876	389	\$75,063	2.08
Upper East Side	100030009002	637	1,730	261	\$25,855	1.07
West Hill	100030015002	1,493	2,228	669	\$63,025	1.06

Significant TJ Area	No Vehicle Households	%	Disabled	%	Seniors	%
Delaware City North	23	7.3	590	20.5	102	12.9
Delaware City South	25	7.4	590	20.5	127	12.5
Dunleith	73	10.5	614	20.3	295	15.7
Elkton Heights	35	10.8	804	15.0	322	40.0
Greenbridge	52	8.4	815	16.7	567	49.5
Klair Estates	13	4.9	362	19.5	185	29.7
New Castle	13	5.1	472	18.0	124	27.8
North Wilmington	71	18.1	686	19.3	184	17.2
Rose Hill	82	13.1	461	17.5	252	15.5
St. Georges	31	8.0	590	20.5	158	13.8
Upper East Side	25	9.6	339	19.6	91	14.3
West Hill	56	8.4	489	22.0	206	13.8

Variety too exists across our significant TJ areas regarding the level of concentration of the three groups. No vehicle households are most concentrated in North Wilmington (18.1%) and Rose Hill (13.1%). People with disabilities are most likely to be found in West Hill (22.0%) and the Delaware City/St. George's areas (20.5%). Seniors, meanwhile, are most concentrated in Greenbridge (49.5%) and Elkton Heights (40.0%).

A similar statistical profile of Moderate TJ Areas is available in the appendix.

No Vehicle Households, People with Disabilities and Senior Population by Place

Adjacent to our TJ area analysis, this section provides an overview of no vehicle household, disabled and senior presence within our region's towns, cities and census designated places. Sometimes, these places are of a finer geography than the census block groups, which were used to define our TJ areas.

As shown in the following table, demographic characteristics range across the WILMAPCO region's places. Wilmington, the region's principal city, is home to the most no vehicle households. Nearly a quarter (24.1%) of households there do not possess a private vehicle. Households in three suburban towns – Arden, Ardencroft and Townsend – meanwhile, all possess private vehicles. More than one out of five (20.7%) of Delaware City residents are disabled, the highest percentage of any place in the region. Pike Creek, with a population disability rate of only 4.7%, is home to the highest proportion of nondisabled individuals. And, while nearly a third of tiny Odessa's population (32.2%) are 65 years or older, two other Southern New Castle County towns – Clayton and Townsend – possess a younger population (only 6.0% over 65 years).



Each of Townsend's 500+ households has a private vehicle(s).

(Air photo source: Bing Maps)

Demographic Statistics by Place³⁴

Place	County	Population	Households	No vehicle available	Disability	Seniors
Arden	NCC	559	275	0.0%	6.8%	19.9%
Ardencroft	NCC	231	90	0.0%	11.3%	16.5%
Ardentown	NCC	276	130	1.5%	8.7%	22.1%
Bear	NCC	19,751	6,688	5.8%	10.1%	6.9%
Bellefonte	NCC	1,360	610	1.0%	10.4%	11.7%
Brookside	NCC	14,321	5,385	4.6%	10.8%	10.6%
Cecilton	Cecil	602	209	10.5%	13.8%	8.1%
Charlestown	Cecil	1,122	398	2.3%	15.2%	12.8%
Chesapeake City	Cecil	683	326	4.6%	16.8%	23.6%
Claymont	NCC	8,043	3,332	4.3%	15.0%	12.6%
Clayton	NCC	2,884	874	3.1%	8.5%	6.0%
Delaware City	NCC	1,784	643	10.7%	20.7%	12.3%
Edgemoor	NCC	5,889	2,542	5.2%	13.6%	10.6%
Elkton	Cecil	15,393	5,270	10.2%	11.1%	9.4%
Elsmere	NCC	6,131	2,287	9.4%	17.2%	12.2%
Glasgow	NCC	14,780	5,162	2.5%	10.1%	6.8%
Greenville	NCC	2,505	1,157	2.4%	7.7%	23.4%
Hockessin	NCC	13,287	4,700	4.9%	8.1%	18.2%
Middletown	NCC	18,495	6,196	4.3%	8.1%	9.3%
New Castle	NCC	5,309	2,290	4.3%	17.7%	17.4%
Newark	NCC	31,655	10,222	10.0%	7.5%	11.2%
Newport	NCC	1,076	410	14.6%	17.8%	9.4%
North East	Cecil	3,611	1,436	13.3%	16.3%	9.3%
North Star	NCC	7,845	2,741	0.2%	6.1%	13.5%
Odessa	NCC	363	134	3.7%	16.3%	32.2%
Perryville	Cecil	4,357	1,712	10.6%	16.5%	11.4%
Pike Creek	NCC	7,642	2,981	0.8%	4.7%	13.3%
Pike Creek Valley	NCC	11,268	5,196	2.6%	8.5%	13.2%
Port Deposit	Cecil	671	263	3.0%	15.5%	11.6%
Rising Sun	Cecil	2,797	1,070	10.0%	16.5%	13.5%
Smyrna	NCC	10,065	3,746	8.9%	14.0%	12.1%
Townsend	NCC	1,871	538	0.0%	13.0%	6.0%
Wilmington	NCC	71,119	28,871	24.1%	14.8%	12.0%
Wilmington Manor	NCC	8,562	2,892	7.4%	14.5%	11.8%

³⁴ Source: 2008 – 12 American Community Survey

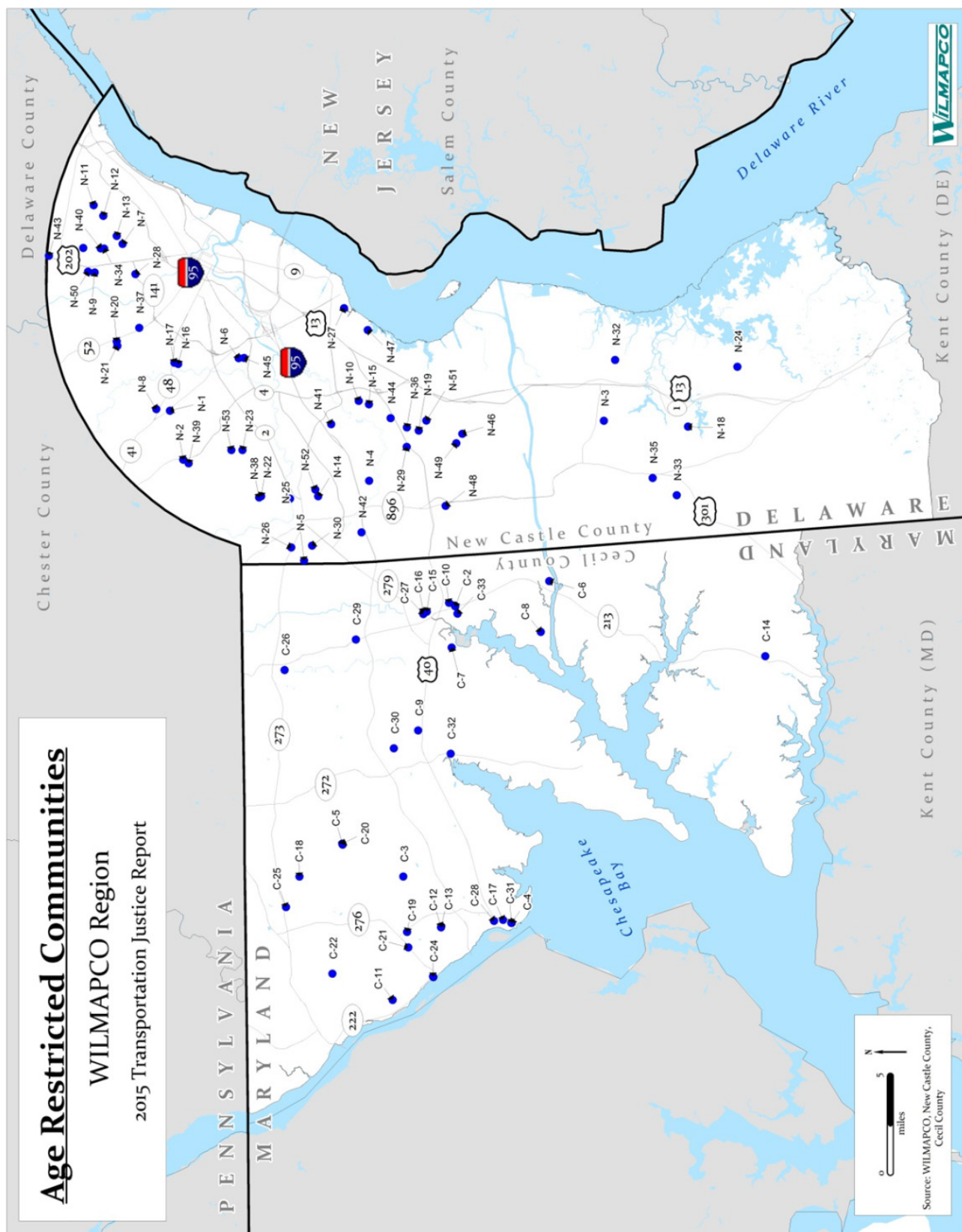
Age Restricted Housing

Adjacent to our TJ area identification, we also keep track of suburban (outside of the City of Wilmington) age restricted communities in the region. These are increasingly popular housing developments where all or the majority of residents must be over age 55. No formal clearinghouse exists which tracks the establishment of these places. Our data, illustrated below, were gathered through consultations with local governments. In the next chapter, we will examine their connectivity to alternative transportation.



Over 560 seniors live in communities around the Newark Senior Center, pictured here, in places like Whitehall Village and the Fountainview Apartments.

Age Restricted Housing



Age Restricted Housing in New Castle County

Map ID	New Castle County Community	City	Map ID	New Castle County Community	City
N-1	3712 Newport Gap Pike	Wilmington	N-33	Spring Arbor	Middletown
N-2	Adare Village	Hockessin	N-34	Springer Woods	Wilmington
N-3	Bayberry South	Middletown	N-35	Springmill	Middletown
N-4	Bradford Pond	Newark	N-36	Steeple Glen	Newark
N-5	Briarcreek	Newark	N-37	Stonegates	Greenville
N-6	Buford Manlove Gardens	Wilmington	N-38	Stonevale	Newark
N-7	Cloutier Court	Wilmington	N-39	Summit of Hockessin	Hockessin
N-8	Cokesbury Village	Hockessin	N-40	Sunrise Assisted Living of Wilmington	Wilmington
N-9	Columbia Place	Wilmington	N-41	Traditions at Christiana	Newark
N-10	Crossings at Christiana	Bear	N-42	Traditions at Southridge	Newark
N-11	Forwood Manor	Wilmington	N-43	Village of Brandywine	Wilmington
N-12	Forwood School Retirement and Off. Campus	Wilmington	N-44	Village of Fox Meadow	Newark
N-13	Foulk Manor North	Wilmington	N-45	Village of Hershey Run	Newport
N-14	Fountainview Apartments	Newark	N-46	Village of Jester Crossing	Bear
N-15	Liberty Terrace	Newark	N-47	Village of Llangollen	New Castle
N-16	Little Falls Village	Wilmington	N-48	Village of Long Creek	Newark
N-17	Little Falls Village II	Wilmington	N-49	Village of Red Lion Creek	Bear
N-18	Longmeadow	Middletown	N-50	Village of Rocky Run	Wilmington
N-19	Meridian Crossing	Bear	N-51	Vista at Red Lion	Bear
N-20	Methodist Country House	Wilmington	N-52	Whitechapel Village	Newark
N-21	Methodist Country House-Phase 4	Wilmington	N-53	Woodlea	Wilmington
N-22	Millcroft Senior Living	Newark			
N-23	Miltown Village	Newark			
N-24	Odessa National	Townsend			
N-25	Paper Mill Falls	Newark			
N-26	Phillips Mill	Newark			
N-27	Riverbend at Old New Castle	New Castle			
N-28	Rockland Place	Wilmington			
N-29	Salem Church Road Senior Housing	Newark			
N-30	Saw Mill Place	Newark			
N-31	Shipley Manor	Wilmington			
N-32	Silver Maple Farm	Middletown			

Age Restricted Housing in Cecil County

Map ID	Cecil County Community	City
C-1	Abbey Manor I	Elkton
C-2	Abbey Manor II	Elkton
C-3	AllCare Assisted Living	Port Deposit
C-4	AllCare Assisted Living at Perryville	Perryville
C-5	Booth II	Rising Sun
C-6	Canal Town Village	Chesapeake City
C-7	Caraway Manor	Elkton
C-8	Caraway Manor at Brownfield	Elkton
C-9	Cecil Woods	Elkton
C-10	Chesapeake Elderly Apartments	Elkton
C-11	Covenant Care	Port Deposit
C-12	D & G Home Care I	Port Deposit
C-13	D & G Home Care II	Port Deposit
C-14	Earleton Village	Cecilton
C-15	Elkton Housing	Elkton
C-16	Elkton Senior Apartments	Elkton
C-17	Fairgreen Senior Community	Perryville
C-18	Fairview	Rising Sun
C-19	Golden Legends	Port Deposit
C-20	Hill Top Manor	Rising Sun
C-21	Jeanette Weber Home	Port Deposit
C-22	Liberty Gardens	Conowingo
C-23	Lowes Assisted Living Homes I	Port Deposit
C-24	Lowes Assisted Living Homes II	Port Deposit
C-25	McKinley Apartments	Rising Sun
C-26	Montrose Senior Living	Elkton
C-27	North Street Senior Residences	Elkton
C-28	Richmond Hill Manor	Perryville
C-29	Singerly Manor	Elkton
C-30	Sunny Acres Bay	North East
C-31	Upper Shore Aging Housing Corporation	Perryville
C-32	Victoria Park at North East	North East
C-33	Villas at Whitehall	Elkton

Chapter 5

Transportation Accessibility and Connectivity Analyses and Recommendations

This chapter provides accessibility and connectivity analyses between our TJ areas and age restricted communities. We consider how accessible bus stops and pathways are in TJ concentrations, before examining the connectivity by car, bus, foot and bicycle between TJ concentrations and key destinations. We then examine the ease of access to public transit and nonmotorized networks for our age restricted communities, before turning to a broad discussion of the ailing Paratransit system in Delaware.

TJ Access to Good Frequency Bus Stops

The presence of at least one bus stop within easy walking distance of housing is a building block to a healthy and sustainable community. In this analysis we examine the percentage of households within TJ areas that are nearby "good frequency" bus stops³⁵.

Overall, TJ areas are more likely to be nearby good frequency bus stops than average. Regionally, 55% of households are beyond walking distance to a bus stop – which we define as 1/4 mile. The same is true for only 47% of moderate TJ areas and 33% of significant TJ areas.

As shown on the map on page 42, good frequency bus routes are prevalent within the City of Wilmington and along major suburban highways north of US 40. TJ housing around Wilmington is, unsurprisingly then, more likely to be nearby good frequency bus stops. By contrast, TJ communities on the region's northern and southern edges are home to high percentages of housing outside of walking distance to good frequency bus stops. These include 100% of households in six TJ areas.

³⁵ Good frequency is defined as a bus stop on an active fixed bus route, where service operates throughout the day and not just during peak periods.

This analysis underlines the transportation difficulties TJ communities on the region's fringe encounter. While we encourage Cecil County Transit and DART planners to consider possible fixed route bus connections to these TJ concentrations, discouraging and reversing the sprawling land use pattern would address the source of this issue.

TJ Access to Pathways

Similar to bus stops, the presence of nearby nonmotorized pathways is a key building block to a more livable community. In this analysis, we examine the percentage of households within TJ areas that are nearby (within 1/4 mile) existing and planned pathways³⁶.

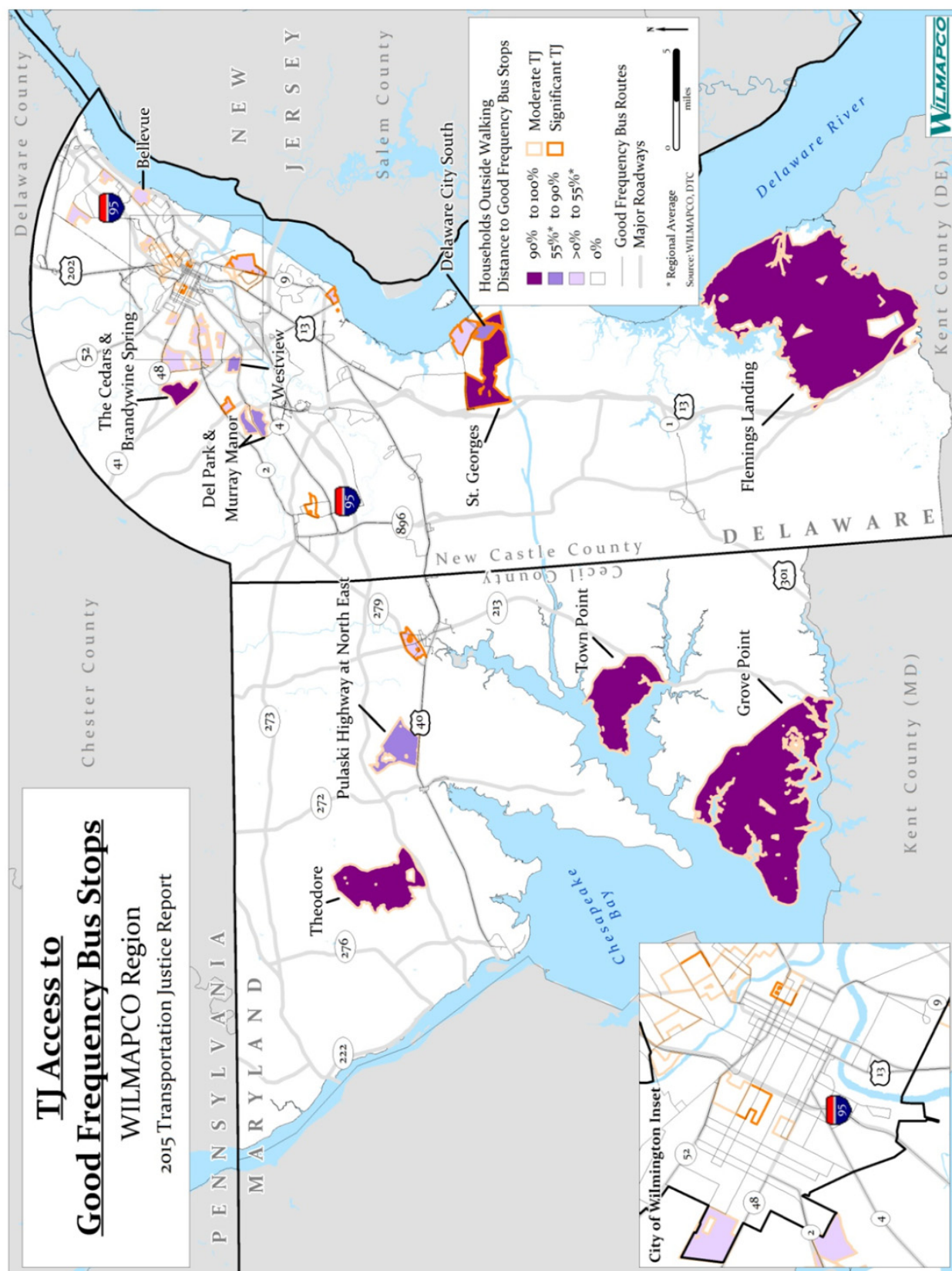
Overall, housing within significant TJ areas has better access to pathways than average, while housing within moderate TJ areas has worse access. Regionally, only 19% of households within significant TJ neighborhoods are not nearby a pathway – compared to the regional average of 33%. Meanwhile, 44% of households in moderate TJ areas are beyond walking distance to a pathway.

The map below provides additional detail. Existing and planned pathways meander along and between roadways across the region. The heaviest clusters of poor TJ access to pathways were found in TJ areas in western and southern Cecil County, and in and around the Town of Elsmere in New Castle County. One hundred percent of the housing in Town Point, south of Chesapeake City, and 99.5% of the housing in Elsmere North fall outside easy walking distance to an existing or planned pathway.

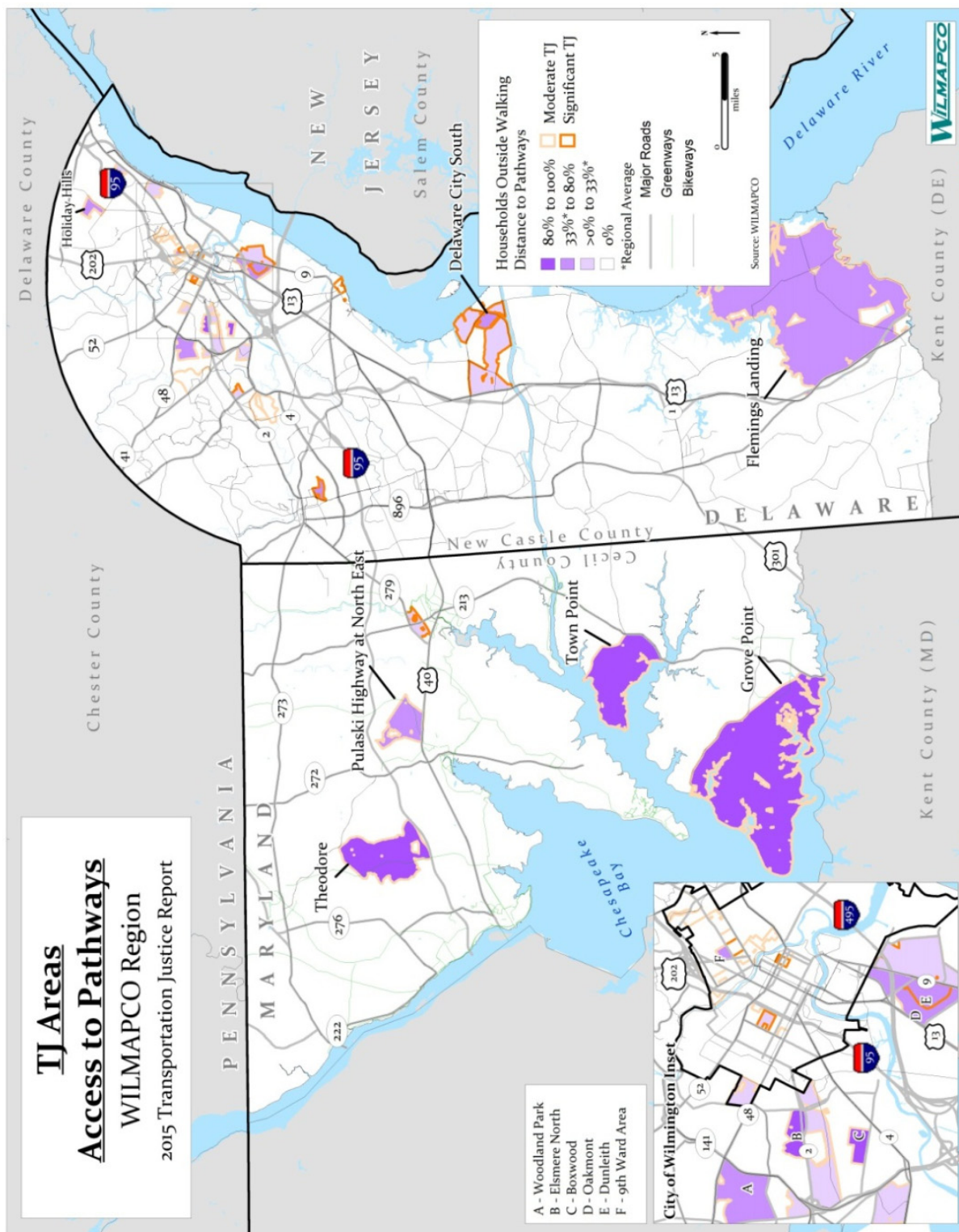
Consideration for neighborhood demographics, including TJ designations, is warranted in planning for pathways. Transportation planners should continue to always look to make neighborhood connections when planning pathways, and places with TJ residents ought to receive additional priority.

³⁶ Pathways here are defined as identified on road bicycle routes, along with existing and planned greenways in the region.

TJ Area Access to Good Frequency Bus Stops



TJ Area Access to Pathways




TJ Area Connectivity to Key Destinations

Taking the analyses further, this section explores transportation system connections from each significant TJ neighborhood to important TJ destinations. These destinations – libraries, grocery stores, hospitals, and senior centers – were identified by our TJ workgroup. We assessed their connectivity to significant TJ areas via several modes of transportation – automobile, fixed route bus, walking and bicycling. If a single destination (such as a library) can be reached from a given TJ area by a given transportation mode (such as bicycling), we say the TJ area is connected to that destination category by that mode.

Connectivity Analysis: More Details³⁷

Destination Categories


 **Libraries:** regional public libraries

 **Grocery Stores:** major grocery stores

 **Hospitals:** hospitals, excluding the Al DuPont Children's Hospital

 **Senior Centers:** regional senior centers

Transportation Connectivity

 **Walking:** destination is within 1/4 mile along an established pedestrian network

 **Bicycling:** destination is within 1/2 mile along an established bicycle network

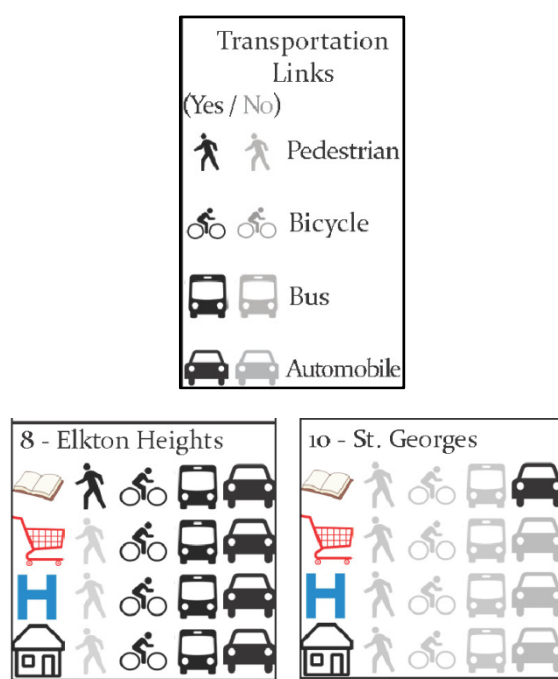
 **Public bus:** destination is along a connecting, good frequency bus route

 **Automobile:** destination is within a 10 minute (non-peak) car ride

³⁷ This analysis was completed with help from the University of Delaware's Center for Applied Demography and Survey Research (CADSR) and DART in the summer of 2014. CADSR identified the locations of our destinations across the region, and developed the 10 min. automobile travel sheds used in the analysis. DART identified the good frequency bus routes in New Castle County. WILMAPCO identified those bus routes in Cecil County, along with regional walking and bicycling routes. Al DuPont Children's Hospital was excluded from the analysis because it serves only young people. The analysis was completed by WILMAPCO and CADSR.

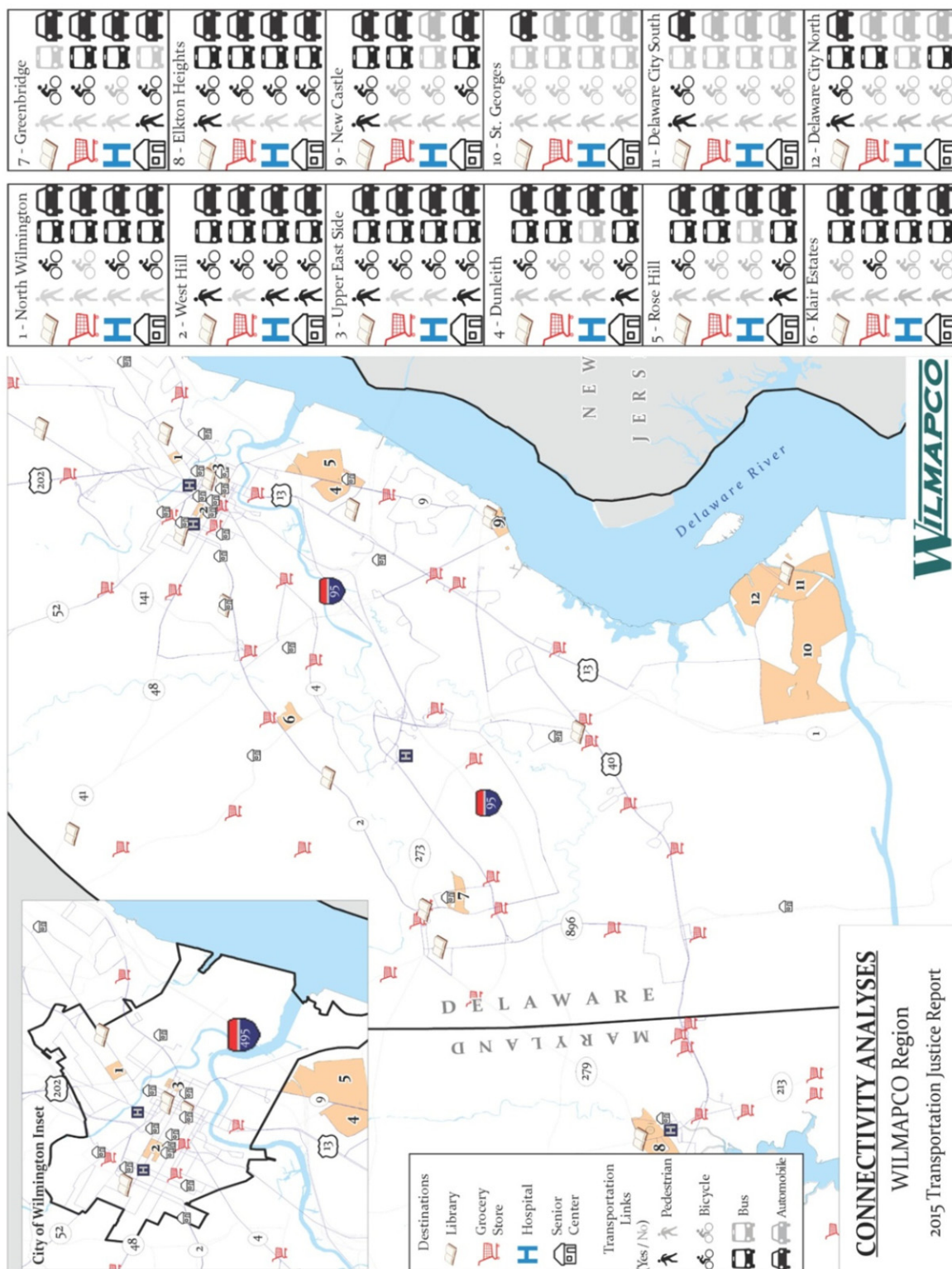
Let's use connections to libraries from a pair of TJ areas as an example. As detailed in the boxes below, the Elkton Heights TJ area is connected to at least one library by each of the transportation modes considered – car, bus, walking, and bicycling. Residents in the St. George's TJ area, however, can only reasonably access a library by car. As also shown in the example boxes, St. George's is unconnected by all modes to all the other destinations – while residents across Elkton Heights are connected to each by all modes except pedestrian.

Connectivity Analysis Example



The following map details transportation connectivity from each significant TJ Area. Generally, TJ areas within Wilmington and Elkton are better connected to key destinations than TJ areas farther from those municipalities. Automobile connections were present in all but the most isolated TJ areas – those around Delaware City. Walking connections were the most difficult to achieve, with gaps throughout the region.

Transportation Connectivity Analyses



This analysis illustrates the opportunities and difficulties TJ area residents have connecting to important destinations within our transportation system. Land use and transportation planners should use the analysis as a building block to address connectivity concerns in individual TJ areas.

Age Restricted Housing Transportation Connectivity

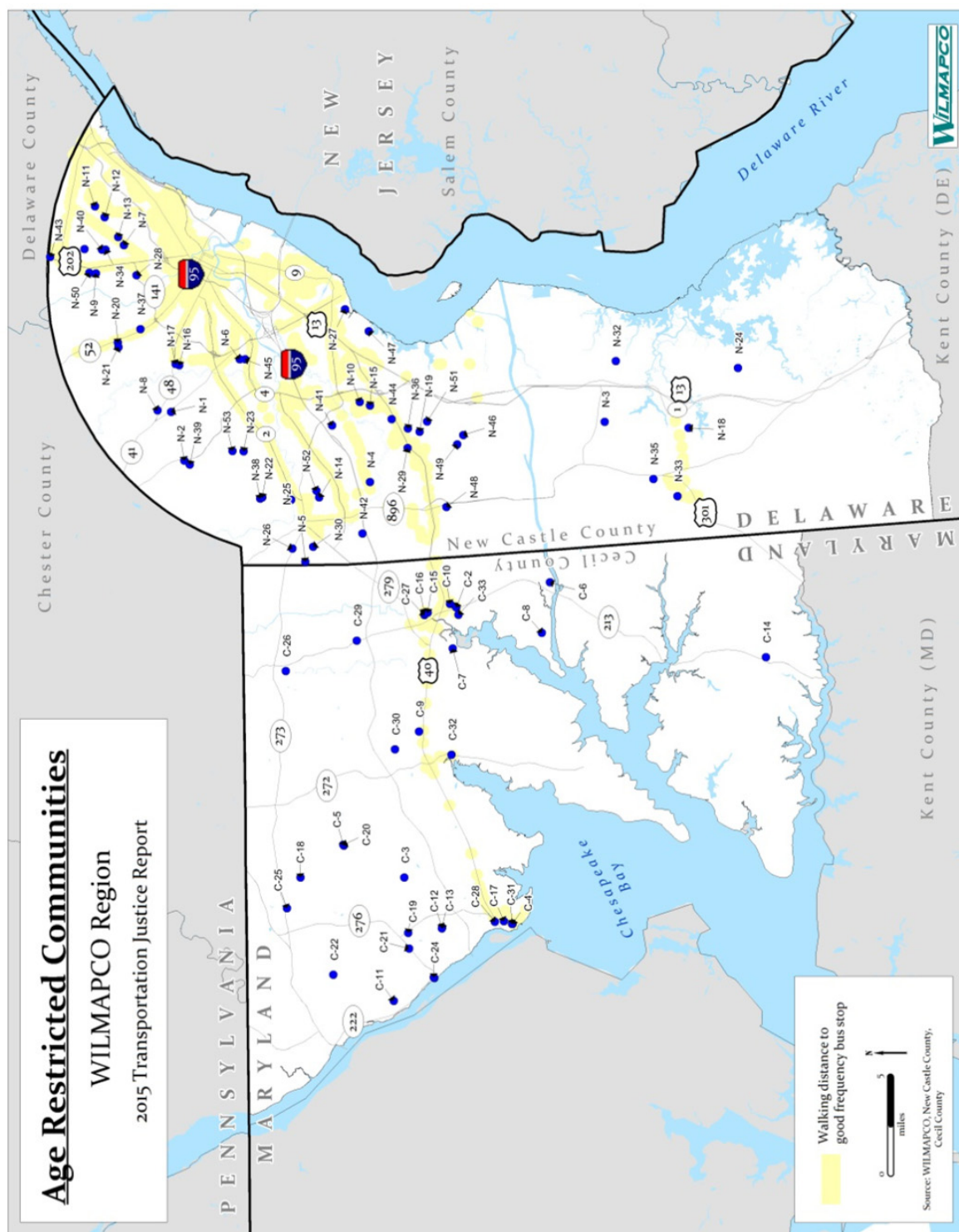
Many middle-class seniors choose to live in age restricted communities. As noted in the last chapter we track existing and planned suburban age restricted housing developments. Many of these communities are located in areas with limited development and have poor access to public transit and pedestrian networks. This is partially illustrated by a map on the following page, which compares the location of suburban age restricted communities with walking distance to good frequency bus lines³⁸. Maintaining independent transportation ability becomes a concern for many of these communities, since aging seniors are often less able to safely operate the automobiles needed to maintain mobility independence. It should be emphasized that many otherwise isolated communities tackle this concern themselves, providing independent transit services. This section concerns itself only with public transportation services.



Adare Village (N-2), located off SR 7 in sprawling Hockessin, has poor alternative transportation connectivity.
(Air photo source: Bing Maps)

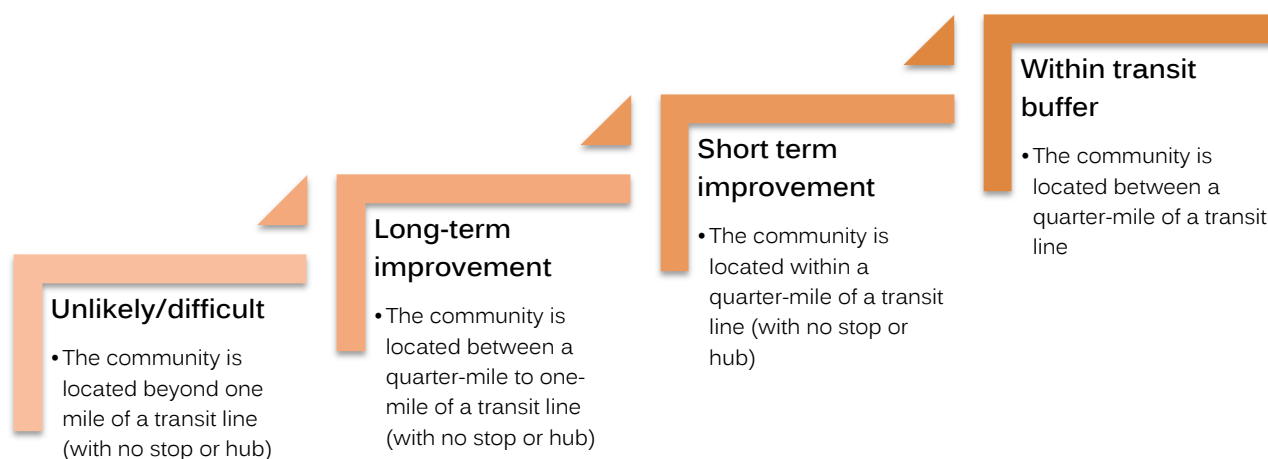
³⁸ See Chapter 4 for a listing of the labeled communities.

Age Restricted Communities
WILMAPCO Region
2015 Transportation Justice Report



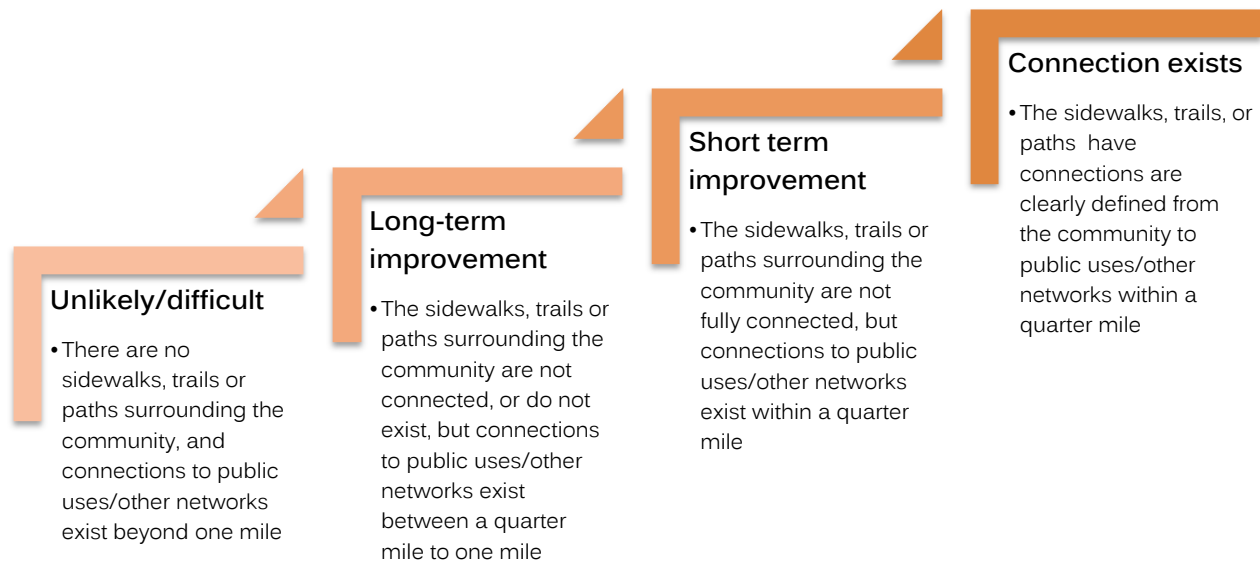
In the summer of 2011, WILMAPCO produced a detailed data report³⁹ exploring public transit and pedestrian connections from existing and emerging age restricted communities. A methodology was developed to assess the level of connections to those networks. In the years since, we have worked with researchers at Bucknell University to refine the methodology, known as Age Restricted Community Connectivity Assessment (ARCCR). This methodology is detailed below.

ARCCA Public Transit Analysis: Methodology



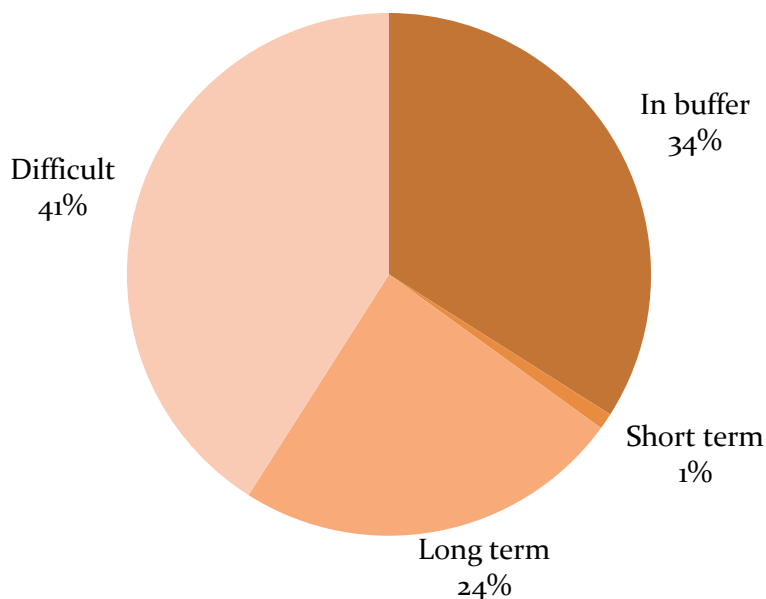
³⁹ Data Report 11: Age Restricted Communities (http://www.wilmapco.org/data/Report11_Age-Restricted_Communities.pdf). July 2011.

ARCCA Pedestrian Analysis: Methodology



Applying the ARCCA public transit analysis, we found that about one-third (34%) of our existing and planned suburban age restricted communities were either within the transit buffer or nearby an existing line. The remaining communities, generally located in the suburban fringe of the I-95 corridor, were some distance from existing public transit routes. Reaching these communities with fixed route public transit is then either unlikely, difficult, or a long-term prospect.

ARCCA Public Transit Analysis: WILMAPCO Region

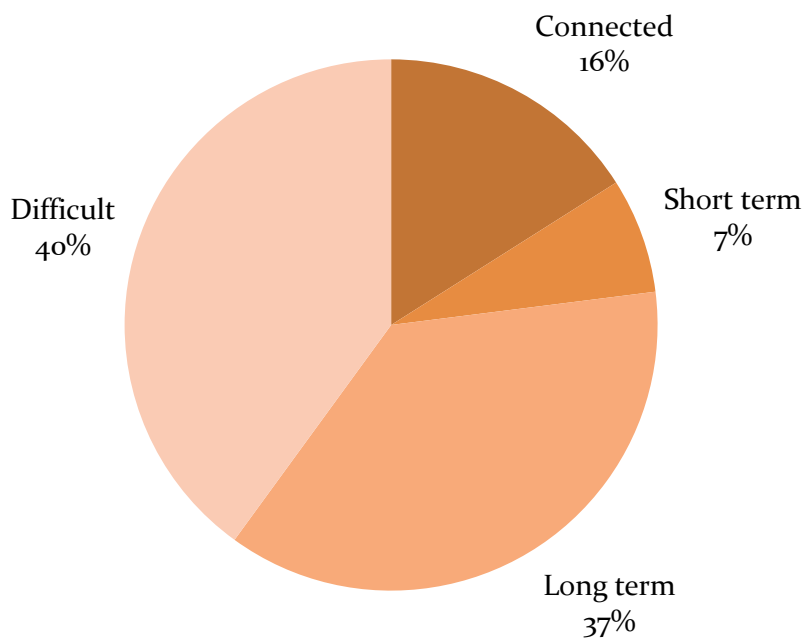


	New Castle County	%	Cecil County	%	Regional	%
In buffer	17	32%	12	36%	29	34%
Short term	0	0%	1	3%	1	1%
Long term	20	38%	1	3%	21	24%
Unlikely/difficult	16	30%	19	58%	35	41%

More troublesome results were produced by ARCCA's pedestrian analysis. Here, only 23% of our suburban age restricted communities either already had good pedestrian connections to destinations, or such connections could be made in the short term. The remaining communities were about evenly split between either potential long term meaningful pedestrian improvements, or were so far from surrounding uses to make these improvements unlikely/difficult. Poor pedestrian connections were more pronounced on the New Castle County side of our region. There, only 12% of suburban age restricted communities were already well-connected to surrounding destinations, or short-term solutions were possible – compared to 42% in Cecil County.

Individual community-by-community assessments can be found in the appendix, while more detailed illustrations are found in Data Report 11: Age Restricted Communities.

ARCCA Pedestrian Analysis: WILMAPCO Region



	New Castle County	%	Cecil County	%	Regional	%
Connected	4	8%	10	30%	14	16%
Short term	2	4%	4	12%	6	7%
Long term	29	55%	3	9%	32	37%
Unlikely/difficult	18	34%	16	48%	34	40%

This analysis illustrates transportation connectivity issues with the emergence of age restricted communities. A few recommendations are listed below:

1. Using an appropriate mix of restrictions and incentives, age restricted communities should be strongly encouraged to develop nearby other destinations, with solid alternative transportation connections.
2. We should also strive to raise awareness of the existence or lack of alternative transportation connectivity to potential homebuyers. For example, partnerships could be built with real estate advertisers to include ease of alternative transportation access with housing listings.

3. WILMAPCO should continue to refine the ARCCA methodology, and introduce a more nuanced version for tracking urban age restricted communities in Wilmington.

Challenges with the Paratransit System in Delaware

For some in the TJ community, the preceding analyses mean little. These include those who are severely disabled, or, are otherwise regular patrons of Delaware's generous "door-to-door" Paratransit system.

Beginning with the 2007 Transportation Justice Report, WILMAPCO has continuously advocated for reforms to Delaware's unsustainable Paratransit model. While DART has begun tightening service, the model still goes well beyond Americans with Disabilities Act (ADA) guidelines. The result is a service which continuously drains funding from what could be more impactful fixed-route transit improvements. At the same time, anecdotal complaints have been lodged by patrons regarding the often poor efficiency of the Paratransit service⁴⁰.

In 2013, the University of Delaware's Institute for Public Administration assessed transportation services available in Delaware for seniors and persons with disabilities⁴¹. Ten recommendations were listed, including:

- Improve coordination between state agencies providing transportation services.
- Complete a Strategic Plan to address necessary changes to Paratransit operation.
- Study the impact the Paratransit system has on the fixed route system.
- Subsidize a pilot project to enhance taxi and limousine services to relieve the burden on Paratransit.

⁴⁰ Conversation with Eileen Sparling, Project Director, Healthy Delawareans with Disabilities. January 12, 2015.

⁴¹ *Transportation Services in Delaware for Persons with Disabilities and Senior Citizens*. University of Delaware Institute for Public Administration. May 13, 2013.

All told, these recommendations would work to improve the sustainability and efficiency of transportation for seniors and persons with disabilities. Within the next few decades, the rise of autonomous vehicles should help eliminate the need for special transportation services for all but the most severely disabled. In the meantime, our rapidly aging population demands that additional resources must be diverted into supporting the transportation of disabled persons, within the ADA framework. Efficiency improvements of service can be tackled by pursuing the recommendations in UD's analysis above, along with halting and reversing suburban sprawl.



Policy reforms are necessary to make Delaware's Paratransit service economically sustainable.

(Photo source: DART First State)

Chapter 6

Public Participation and Recommendations

Many recommendations to better involve TJ groups in the transportation planning process were made in 2007 TJ Report, along with the 2008 Public Participation Plan. This section takes stock of our work over the past several years in meeting these recommendations, before proposing new initiatives.

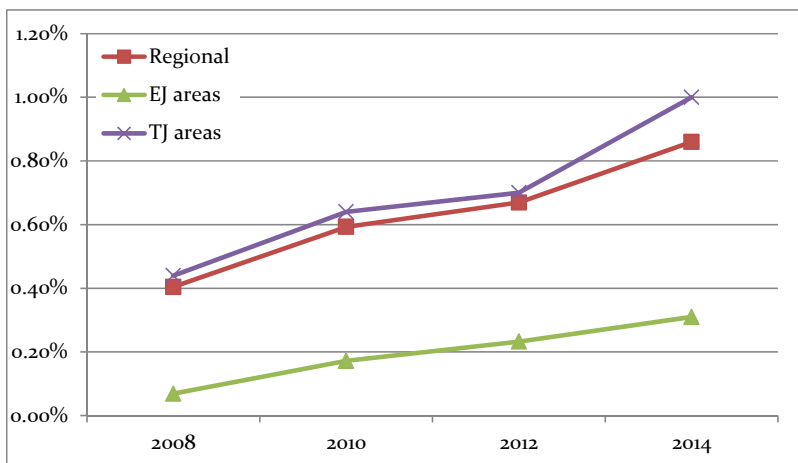
Past TJ Public Participation Initiatives

ID	Recommendation	Source	Positive Action(s)
1	Participate with TJ-related organizations	2007 TJ Report	TJ groups are represented on the PAC; coordination with health agencies has occurred.
2	More nuanced public opinion surveys	2007 TJ Report	Public opinion surveys continue to be refined. Special TJ public opinion survey featured in this Report.
3	Disseminate TJ-related information	2007 TJ Report	Information is disseminated through website, committee members, festivals, and direct mailings to senior centers.
4	Incorporated TJ into other documents	2007 TJ Report	TJ is folded within the Regional Transportation Plan (RTP), the Transportation Improvement Program (TIP), and the Congestion Management Process (CMP).
5	Incorporate TJ into the project prioritization process	2007 TJ Report	TJ is featured in the Transportation Improvement Program (TIP) and Transportation Alternatives Program (TAP) project prioritization processes. Beneficial projects receive points, boosting the scores.
6	Track newsletter subscriptions in TJ areas	2008 PPP	Subscriptions to our newsletter within TJ areas versus the regional average are consistently tracked. An update to this analysis is provided in this section.
7	Utilize TJ-media	2008 PPP	Press releases and meeting announcements are sent to PAC membership and mainstream media, which includes TJ interests.

Newsletter Subscribers

Every quarter, WILMAPCO's newsletter is sent to thousands of homes and offices. This newsletter, the *Transporter*, provides readers with updates on the agency's work. In the analysis below we consider subscription rates to the *Transporter* within EJ and TJ areas⁴², against the regional average. Around 1% of all households within TJ areas were newsletter subscribers in 2014 – outpacing the subscription rate for EJ areas and the regional average.

Percentage of Households Subscribing to WILMAPCO's Newsletter



Staff participation in festivals geared to older populations is one factor behind these relatively high subscription rates, and the awareness seniors have for the agency as shown earlier. Each year, WILMAPCO interacts with hundreds of seniors at expositions in New Castle County and Cecil County.

⁴² EJ areas are home to concentrations of low income and minority populations, as defined in the 2013 EJ Report (www.WILMAPCO.org/ej). This analysis includes only subscribers with a residential street address. PO boxes are excluded.



A senior signs up to receive the *Transporter* at an event in Elkton.

Recommendations

While our overall efforts to better involve TJ groups in the transportation planning process have been successful, we could do more.

As shown with our public opinion survey, people with disabilities and zero car households are less familiar with WILMAPCO than the regional average. We should explore ways to better reach these groups. Working through existing advisory councils and advocacy groups may be the best solution here. Specific attention ought to be given to encouraging the use of alternative transportation.

Further, a better effort must be made to engage TJ related groups and media. We attempted more than once to coordinate with AARP in the development of the present study, for example, but were unsuccessful. Additionally, media outlets specific to TJ populations should be identified and engaged.

Finally, more and more of our outreach is being conducted online, in step with the internet revolution and popular demand. We must be aware, however, that many in the senior, low-literacy and low-income populations do not have internet access. According to the Pew Research Center, 81% of adult Americans access the internet. As shown in the table below, however, internet use is substantially lower among persons with less than a high school diploma (51% with access), or those making less than \$30,000/year (67% with

access). Moreover, internet use diminishes with age. Among those over 65, for example, only 54% use the internet. This is an important factor to consider as, often times, community leaders are more advanced in age.

Demographics of Adult American Internet Users (percentages of adults)

All adults ages 18+		81%
a	Men (n=1,054)	80
b	Women (n=1,207)	82
Race/ethnicity		
a	White, Non-Hispanic (n=1,632)	84 ^b
b	Black, Non-Hispanic (n=249)	73
c	Hispanic (n=211)	74
Age		
a	18-29 (n=335)	94 ^{bcd}
b	30-49 (n=585)	89 ^{cd}
c	50-64 (n=689)	77 ^d
d	65+ (n=610)	54
Education attainment		
a	No high school diploma (n=209)	51
b	High school grad (n=662)	74 ^a
c	Some College (n=598)	89 ^{ab}
d	College + (n=770)	95 ^{abc}
Household income		
a	Less than \$30,000/yr (n=645)	67
b	\$30,000-\$49,999 (n=396)	86 ^a
c	\$50,000-\$74,999 (n=316)	90 ^a
d	\$75,000+ (n=515)	98 ^{abc}

Source: Pew Internet Post-Election Survey, November 14 – December 09, 2012. N=2,261 adults ages 18+. Interviews were conducted in English and Spanish and on landline and cell phones. Margin of error is +/- 2.3 percentage points for results based on all adults.

Note: Columns marked with a superscript letter (^a) or another letter indicate a statistically significant difference between that row and the row designated by that superscript letter. Statistical significance is determined inside the specific section covering each demographic trait.

Fully reaching our region's residents, at least for the near future, demands both paper based, internet-based, and face-to-face interactions.

Chapter 7

Summary of Recommendations

The table below summarizes the many recommendations made throughout the study. Where possible, we include the responsible lending agency and potential funding pools.

ID	Recommendation	Description	Agency	Funding	Page
1	Understand and respond to the evolving needs of households without vehicles, people with disabilities and seniors.	Continue to research and document these transportation needs.	WILMAPCO	n/a	15
2	Continue to prioritize transportation investments in concentrations of households without vehicles, people with disabilities and seniors.	Continue to provide points to projects within Transportation Justice areas in our project prioritization processes.	WILMAPCO	n/a	15
3	Promote transportation connectivity between key destinations and concentrations of households without vehicles, people with disabilities.	Advocate for improved transportation connectivity between Transportation Justice areas and key destinations.	WILMAPCO	n/a	15
4	Encourage the use of alternative transportation among TJ groups through public outreach.	When targeting TJ groups for public outreach, be sure to include measures to promote the use of alternative transportation.	WILMAPCO	n/a	15
5	Engage TJ populations in the public participation process through special outreach.	Seek to reach TJ groups through public outreach.	WILMAPCO	n/a	15

ID	Recommendation	Description	Agency	Funding	Page
6	Continue to refine the TJ Public Opinion Survey, along with the General Public Opinion Survey.	Refinements to the surveys will help us better understand the transportation needs of all residents.	WILMAPCO	n/a	22
7	Conduct specific outreach to no vehicle households and people with disabilities.	Specifically target no vehicle households and people with disabilities for public outreach.	WILMAPCO	n/a	22; 57
8	Consider improving public bus connections to identified TJ areas.	An analysis showed that many households in TJ areas are not within walking distance to a good frequency bus stop.	DTC/Cecil County Transit	TIP; CMAQ	41
9	Discourage and reverse the region's predominant sprawling land use patterns.	The growth in residential communities on the region's edge works against fostering a healthy and multimodal transportation system.	New Castle County/ Cecil County	n/a	41
10	Consider neighborhood demographics when planning pathways.	Continue to seek neighborhood connections in pathway planning, with an emphasis on TJ connections.	WILMAPCO / DeIDOT / MDOT	n/a	41
11	Use the TJ connectivity analysis as a building block for improving connections between TJ areas and key destinations.	New medical facilities, senior centers, libraries, and food markets may be justified in these areas; or, simply, improved transportation connections.	New Castle County / Cecil County / municipalities / Delaware / Maryland	n/a	47
12	Strongly encourage age restricted communities to develop nearby other destinations.	Use an appropriate mix of restrictions and incentives.	New Castle County / Cecil County	n/a	52
13	Raise awareness of alternative transportation options for potential age restricted housing homebuyers.	Work with housing interests to ensure potential homebuyers are aware of alternative transportation options at given age restricted communities.	WILMAPCO	n/a	52
14	Continue to refine the ARCCA methodology.	Introduce a more refined version of the analysis, specific to urban places.	WILMAPCO	n/a	53

ID	Recommendation	Description	Agency	Funding	Page
15	Implement the senior/disabled transportation policy recommendations in the University of Delaware's 2013 report.	Recommendations were made to improve the efficiency and sustainability of paratransit and transportation for persons with disabilities and seniors.	State of Delaware	TIP	54
16	Divert additional resources to support the transportation of persons with disabilities within the ADA framework.	Additional transportation funding may be required, even after efficiency improvements, to meet the growing needs of persons with disabilities.	State of Delaware	TIP	54
17	Better engage TJ related groups and media.	Seek meaningful partnerships with TJ related interest groups and media outlets.	WILMAPCO	n/a	54
18	Do not rely on internet outreach only.	Supplement internet outreach with traditional methods, particularly seniors.	WILMAPCO	n/a	54

Beyond the recommendations made within the study, thoughtful recommendations have been made by member agencies to improve and expand upon our analyses in future years. These recommendations include:

- Take another look at how we designate TJ areas. Perhaps include metrics to account for differing population and land area sizes between census block groups.
- Within the transportation connectivity analyses, expand upon our definition of acceptable walking and bicycling distance.
- Within the public bus ARCCA, introduce another layer which considers the availability of community van and transportation services at age restricted communities.

Appendix

Moderate TJ Area Statistical Profile A-2

ARCCA Detailed Results: New Castle County A-3

ARCCA Detailed Results: Cecil County A-4

Moderate TJ Area Statistical Profile

Moderate TJ Area	GeoID	Block Group Population	Tract Population	Block Group Households	Median Household Income	Vehicles per Household
11th St. Bridge	100030009001	565	1,730	217	\$18,393	0.76
9th Ward Area	100030003004	1,556	3,224	496	\$40,227	1.10
Bellevue	100030105021	791	5,408	345	\$94,196	1.94
Boxwood	100030125006	1,004	5,603	393	\$60,559	1.62
Brandywine Hills	100030002001	927	5,100	498	\$45,781	1.48
Brandywine Mills	100030006023	1,105	3,121	392	\$48,529	0.99
Brandywine Village	100030005003	716	3,550	179	\$67,361	1.39
Branywine Park	100030004003	703	2,906	437	\$61,806	1.32
Brookland Terrace	100030121003	441	2,573	216	\$47,685	1.48
Claymont Heights	100030104001	693	4,558	288	\$45,568	1.68
Cool Spring	100030015001	735	2,228	388	\$21,563	0.80
Del Park & Murray Manor	100030136153	1,270	3,392	710	\$25,929	1.07
Eastlake	100030006022	843	3,121	299	\$21,106	0.66
Eastlawn	100030002005	580	5,100	234	\$35,938	1.44
Elsmere North	100030123001	1,494	2,790	532	\$52,727	1.52
Elsmere South	100030124001	1,411	4,245	555	\$41,359	1.61
Flemings Landing	100030169042	1,261	1,261	517	\$60,208	2.16
Grove Point	240150301003	2,596	5,316	1,014	\$47,700	0.00
Hilltop	100030022003	619	3,339	189	\$24,583	1.04
Holiday Hills	100030113001	1,540	2,276	657	\$92,989	1.71
Lea Blvd	100030002003	629	5,100	342	\$26,591	1.01
Oakmont	100030154001	1,143	3,021	399	\$41,250	1.20
Pulaski Hwy @ Northeast	240150309062	894	8,970	409	\$39,271	0.00
Roselle	100030124004	914	4,245	383	\$52,578	1.85
The Cedars & Brandywine Spring	100030135012	810	6,048	262	\$60,962	2.06
Theodore	24015030951	484	2,852	225	\$121,705	0.00
Town Point	240150302005	705	5,130	288	\$136,087	0.00
Triangle	100030004001	1,145	2,906	621	\$30,054	1.09
Westmoreland	100030024002	1,401	4,683	569	\$47,860	1.17
Westview	100030127001	1,698	4,306	782	\$41,591	1.56
Woodland Park	100030121001	1,206	2,573	397	\$100,670	1.83

Moderate TJ Area	No Vehicle Households	%	Disabled	%	Seniors	%
11th St. Bridge	16	7.4	339	19.6	29	5.1
9th Ward Area	60	12.1	623	19.3	140	9.0
Bellevue	27	7.8	650	12.0	156	19.7
Boxwood	43	10.9	785	14.0	191	19.0
Brandywine Hills	29	5.8	878	17.2	186	20.1
Brandywine Mills	25	6.4	701	22.5	192	17.4
Brandywine Village	27	15.1	686	19.3	31	4.3
Branywine Park	0	0.0	563	19.4	197	28.0
Brookland Terrace	0	0.0	483	18.8	122	27.7
Claymont Heights	22	7.6	559	12.3	149	21.5
Cool Spring	7	1.8	489	22.0	272	37.0
Del Park & Murray Manor	29	4.1	488	14.4	427	33.6
Eastlake	16	5.4	701	22.5	104	12.3
Eastlawn	11	4.7	878	17.2	95	16.4
Elsmere North	38	7.1	496	17.8	284	19.0
Elsmere South	28	5.1	777	18.3	210	14.9
Flemings Landing	19	3.7	265	21.0	262	20.8
Grove Point	83	8.2	759	14.3	453	17.5
Hilltop	29	15.3	495	14.8	96	15.5
Holiday Hills	31	4.7	268	11.8	422	27.4
Lea Blvd	27	7.9	878	17.2	74	11.8
Oakmont	33	8.3	614	20.3	138	12.1
Pulaski Hwy @ Northeast	24	5.9	1,126	12.6	243	27.2
Roselle	14	3.7	777	18.3	125	13.7
The Cedars & Brandywine Spring	14	5.3	857	14.2	330	40.7
Theodore	10	4.4	540	18.9	60	12.4
Town Point	38	13.2	642	12.5	139	19.7
Triangle	19	3.1	563	19.4	310	27.1
Westmoreland	74	13.0	580	12.4	308	22.0
Westview	33	4.2	508	11.8	541	31.9
Woodland Park	22	5.5	483	18.8	168	13.9

ARCCA Detailed Results: New Castle County

ID	Community	ARCCA Transit	ARCCA Sidewalk
N-1	3712 Newport Gap Pike	unlikely/difficult	long-term
N-2	Adare Village	unlikely/difficult	long-term
N-3	Bayberry South	unlikely/difficult	unlikely/difficult
N-4	Bradford Pond	in buffer	long-term
N-5	Briarcreek	unlikely/difficult	unlikely/difficult
N-6	Buford Manlove Gardens	long-term	long-term
N-7	Cloutier Court	in buffer	connected
N-8	Cokesbury Village	unlikely/difficult	long-term
N-9	Columbia Place	in buffer	long-term
N-10	Crossings at Christiana	in buffer	long-term
N-11	Forwood Manor	in buffer	long-term
N-12	Forwood School Retirement and Off. Campus	long-term	long-term
N-13	Foulk Manor North	in buffer	connected
N-14	Fountainview Apartments	long-term	long-term
N-15	Liberty Terrace	in buffer	long-term
N-16	Little Falls Village	in buffer	long-term
N-17	Little Falls Village II	in buffer	long-term
N-18	Longmeadow	long-term	long-term
N-19	Meridian Crossing	long-term	unlikely/difficult
N-20	Methodist Country House	in buffer	long-term
N-21	Methodist Country House-Phase 4 and Independent L	long-term	long-term
N-22	Millcroft Senior Living	unlikely/difficult	long-term
N-23	Milltown Village	unlikely/difficult	unlikely/difficult
N-24	Odessa National	unlikely/difficult	unlikely/difficult
N-25	Paper Mill Falls	long-term	long-term
N-26	Phillips Mill	unlikely/difficult	unlikely/difficult
N-27	Riverbend at Old New Castle	long-term	unlikely/difficult
N-28	Rockland Place	in buffer	long-term
N-29	Salem Church Road Senior Housing	in buffer	short-term
N-30	Saw Mill Place	long-term	connected
N-31	Shipley Manor	long-term	long-term
N-32	Silver Maple Farm	unlikely/difficult	unlikely/difficult
N-33	Spring Arbor	in buffer	unlikely/difficult
N-34	Springer Woods	long-term	unlikely/difficult
N-35	Springmill	long-term	long-term
N-36	Steeple Glen	long-term	long-term
N-37	Stonegates	in buffer	short-term
N-38	Stonevale	unlikely/difficult	long-term
N-39	Summit of Hockessin	unlikely/difficult	unlikely/difficult
N-40	Sunrise Assisted Living of Wilmington	long-term	unlikely/difficult
N-41	Traditions at Christiana	long-term	long-term
N-42	Traditions at Southridge	long-term	unlikely/difficult
N-43	Village of Brandywine	long-term	long-term
N-44	Village of Fox Meadow	in buffer	long-term
N-45	Village of Hershey Run	in buffer	long-term
N-46	Village of Jester Crossing	unlikely/difficult	unlikely/difficult
N-47	Village of Llangollen	long-term	unlikely/difficult
N-48	Village of Long Creek	long-term	long-term
N-49	Village of Red Lion Creek	unlikely/difficult	unlikely/difficult
N-50	Village of Rocky Run	in buffer	long-term
N-51	Vista at Red Lion	unlikely/difficult	unlikely/difficult
N-52	Whitechapel Village	long-term	connected
N-53	Woodlea	unlikely/difficult	unlikely/difficult

ARCCA Detailed Results: Cecil County

ID	Community	ARCCA Transit	ARCCA Sidewalk
C-1	Abbey Manor I	in buffer	short-term
C-2	Abbey Manor II	in buffer	short-term
C-3	AllCare Assisted Living	unlikely/difficult	unlikely/difficult
C-4	AllCare Assisted Living at Perryville	in buffer	connected
C-5	Booth II	unlikely/difficult	unlikely/difficult
C-6	Canal Town Village	unlikely/difficult	unlikely/difficult
C-7	Caraway Manor	long-term	unlikely/difficult
C-8	Caraway Manor at Brownfield	unlikely/difficult	unlikely/difficult
C-9	Cecil Woods	in buffer	long-term
C-10	Chesapeake Elderly Apartments	in buffer	short-term
C-11	Covenant Care	unlikely/difficult	unlikely/difficult
C-12	D & G Home Care I	unlikely/difficult	unlikely/difficult
C-13	D & G Home Care II	unlikely/difficult	unlikely/difficult
C-14	Earleton Village	unlikely/difficult	long-term
C-15	Elkton Housing	in buffer	connected
C-16	Elkton Senior Apartments	in buffer	connected
C-17	Fairgreen Senior Community	in buffer	connected
C-18	Fairview	unlikely/difficult	unlikely/difficult
C-19	Golden Legends	unlikely/difficult	unlikely/difficult
C-20	Hill Top Manor	unlikely/difficult	unlikely/difficult
C-21	Jeanette Weber Home	unlikely/difficult	unlikely/difficult
C-22	Liberty Gardens	unlikely/difficult	unlikely/difficult
C-23	Lowes Assisted Living Homes I	unlikely/difficult	connected
C-24	Lowes Assisted Living Homes II	unlikely/difficult	connected
C-25	McKinley Apartments	unlikely/difficult	connected
C-26	Montrose Senior Living	unlikely/difficult	unlikely/difficult
C-27	North Street Senior Residences	in buffer	connected
C-28	Richmond Hill Manor	short-term	long-term
C-29	Singerly Manor	unlikely/difficult	unlikely/difficult
C-30	Sunny Acres Bay	unlikely/difficult	unlikely/difficult
C-31	Upper Shore Aging Housing Corporation	in buffer	connected
C-32	Victoria Park at North East	in buffer	connected
C-33	Villas at Whitehall	in buffer	short-term