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A Demographic Analysis of the Distributions of
Farmers Markets and Grocery Stores in Northern Virginia

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Abstract

Increasingly, consumers are seeking opportunities to buy locally grown fresh foods at farmers markets in lieu of conventionally sourced foods at grocery stores due to perceptions of environmental, economic and social harms associated with the latter. Critics contend that the buy local movement reflects a culture of elitism, exclusivity, and inequity. To test this criticism, this study examined whether availability of conventionally sourced food from grocery stores differs from that of fresh food from farmers markets in Northern Virginia relative to certain demographic attributes (i.e. population density, educational attainment, median income, ethnicity, elderly population, and households without vehicles). The study was performed by creating GIS maps with the locations of grocery stores and farmers markets, demographic information of underlying census tracts, and available transportation options. Using ArcGIS' quantitative analysis tools, count tables were generated for each data class of each demographic attribute, and were percentage normalized. X-Y plots of percentage normalized data were created to graphically illustrate whether grocery store and farmers market distributions across each data class of each demographic attribute vary relative to the predominant character of census tracts.

The results of this study indicate that in parts of Northern Virginia, farmers markets (more-so than grocery stores) are located in areas with lower population density (e.g., in Prince William, grocery stores span census tracts with 0-16,000 population density, whereas farmers markets are limited to tracts in the 0-4,000 increment), higher

levels of educational attainment (e.g. in Alexandria, grocery stores are mostly in areas where “41 to 60%” of the population have a bachelor’s degree or more, whereas farmers markets mostly occur in the “61 to 80%” increment), higher median income (e.g., in Northern Virginia as a whole grocery stores are mostly in areas where median income is “\$60,001 to \$100,000”, whereas farmers markets mostly occur in the “\$100,001 to \$140,000” increment), higher concentrations of people who identify as White (e.g., in Alexandria, grocery stores are mostly in areas where “61 to 80%” of the population identify as White, whereas farmers markets mostly occur in the “81 to 100%” increment), and higher numbers of households without vehicles (e.g., in Alexandria, grocery stores are mostly in areas where “21 to 40%” of households are without vehicles, whereas farmers markets mostly occur in the “41 to 60%” increment). In addition, this study indicates that there is, in general, a high degree of walkability to both farmers markets and grocery stores in Northern Virginia.

This study recommends establishing new farmers markets in the following underserved areas: (1) Fairfax City and Manassas Park City, where there are currently no farmers markets); (2) Alexandria census tracts where (i) population density is between 8,001-32,000, (ii) 21-60% have less than a bachelor’s degree, (iii) less than 61% have a bachelor’s degree or higher, (iv) median income is less than \$100,001, (v) 41-60% identify as White, or (vi) less than 41% of households do not own or lease at least one car; (3) Prince William census tracts where (i) population density is between 4,000 to 8,000, (ii) median income is less than \$100,001, or (iii) 21-60% identify as White; and (4) Loudoun census tracts where (i) less than 41% have a bachelor’s degree or higher, (ii) median income is less than \$140,001, or (iii) 41-60% identify as White.

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Chapter I

Introduction

Much has been written about the social, environmental and economic benefits of locally and sustainably grown food relative to food sourced from conventional industrial supply chains (Alkon & Agyeman, 2011). Writers such as Michael Pollan, Eric Schlosser, Alice Waters and Mark Bittman helped galvanize a growing movement among consumers to seek out fresh locally grown food (Alkon & Agyeman, 2011; Bovy, 2015). However, this movement and its advocates have been criticized as catering predominantly to wealthy, educated, white consumers.

Critics argue that the “sustainable food movement is an elitist one - and many Americans are just too poor to join the club” (Parsons, 2012); that it caters “to those who have enough money to buy kale and enough time to find some way of making it palatable”; and that it is generally out of touch with the working and middle classes (Bovy, 2015). Proponents are accused of being “oblivious not just to those who struggle to put food on the table, but to those whose jobs don’t send them on tours of Paris’s finest restaurants” (Bovy, 2015).

These criticisms appear to have some basis in reality. Previous qualitative research suggests that those with lower levels of educational attainment, those who identify as the working class, and/or those who identify as minority disproportionately under-participate in alternative food institutions, such as farmers markets (Alkon & Agyeman, 2011). “[F]ew farmers markets are located in communities of color, especially

those that are primarily African American, and those that exist in African American neighborhoods tend to be very small” (Alkon & Agyeman, 2011). In a prior survey, a farmers market manager explained that although “[f]armers’ markets are good for everyone” many are “located in ‘high-end’ areas” where “farmers may make more money” and “higher income communities are ‘entertained’ by outdoor markets” (Alkon & Agyeman, 2011).

Research Significance and Objectives

The perception that the location of farmers markets disproportionately benefit the privileged at the expense of the underprivileged is mainly supported by qualitative survey studies that do not utilize Geographic Information System (GIS) techniques. Such techniques would allow one to systematically compare the distributions of conventional food sources against that of farmers markets relative to demographic attributes of interest. Such a comparison would allow one to quantitatively evaluate the above criticisms, and advance specific solutions. For example, a GIS-based demographic analysis of food sources could help municipalities and entrepreneurs identify and direct resources to the specific underserved areas where new farmers markets should be established.

This study was designed to examine whether availability of conventionally sourced food from grocery stores differs from that of fresh food from farmers markets in Northern Virginia relative to certain demographic attributes (i.e., population density, educational attainment, median income, ethnicity, elderly population, and households without vehicles). The first objective of this research was limited to creating GIS maps that illustrate the locations of grocery stores and farmers markets in the context of these

demographic attributes. The second objective was to determine whether the distributions of grocery stores and farmers markets vary relative to the demographic attributes of interest.

Background

Walter Hedden was among the first to critically examine the food supply chain in the United States. In 1929, Hedden wrote a book about the factors that impact where food is produced and how it is transported to urban consumers (Hedden, 1929). Hedden first described a ‘foodshed’ as “the ‘dikes and dams’ guiding the flow of food from producer to consumer” (Peters, Bills, Wilkins, & Fick, 2009b). In Hedden’s day, almost 40 percent of Americans lived on farms from which “fruits and vegetables, fish, and dairy products typically traveled less than a day” to reach consumers (Martinez et al., 2010; Pirog & Pelt, 2001; Giovannucci, Barham, & Pirog, 2010). At that time, ‘foodsheds’ were primarily local in reach. That changed considerably after the Second World War. By then, improvements in infrastructure, transportation and refrigeration allowed for the mass transport of perishable items over much longer distances in much shorter times (Martinez et al., 2010). These developments helped certain regions of the country, and indeed the world, to capitalize on certain geography-specific advantages to more efficiently produce select agricultural commodities in mass quantities (Martinez et al., 2010). Specialization helped supply chain participants realize economies of scale that ultimately decreased the costs of getting food to the marketplace (Martinez et al., 2010; Hughes, Brown, Miller, & McConnell, 2008). The conventional U.S. food procurement system thus became a network connecting vastly distant places.

A Resurgence of Interest in Local Food Systems

Increasingly, consumers are seeking local alternatives to the conventional food system (McEntee, 2010). Martinez et al. (2010) noted that nearly 80% of respondents to a nation-wide survey conducted in 2006 indicated they bought produce directly from growers “either occasionally or always” (Martinez et al., 2010; Keeling-Bond, Thilmany, & Bond, 2009; Zepeda & Li, 2006; Zepeda & Leviten-Reid, 2004). In addition, the Congressional Research Service reports that the \$4.8 billion U.S. market for locally grown foods is growing rapidly (Johnson, Cowan, & Aussenberg, 2012). Previous studies show that consumers are willing to pay a premium for locally grown produce (Giraud, Bond, & Bond, 2005; Loureiro & Hine, 2002; Govindasamy, Italia, & Thatch, 1998; Wolfe & Holland, 2001; Jekanowski, Williams, & Schiek, 2000; Schupp & Delienbarger, 1993; Brooker & Eastwood, 1989; Brooker, Stout, Eastwood, & Orr, 1987). Researchers attribute these trends to consumer perceptions of environmental, economic and social harms associated with distantly sourced foods.

For instance, certain consumer groups believe the lower prices associated with the conventional food system mask the true costs involved in long distance procurement (Brain, 2012). The true costs could include, for example, rising GHG emissions associated with long distance procurement of mass-produced foods (Hughes et al., 2008), inability of small-scale farmers to enter or compete effectively in a mass-production oriented marketplace, and the inability of conventional food systems to address the phenomenon of “food deserts” (American Nutrition Association, 2010; Bitler & Haider, 2011; Reisig & Hobbiss, 2000; Ver Ploeg, 2010; Walker, Keane, & Burke, 2010).

Consumers interested in local food systems also identified with the notion that conventional food systems serve large corporate interests at the expense of local farmers and local economies (Martinez et al., 2010; Guptill & Wilkins, 2002; Ilbery & Maye, 2005).

To Be or Not To Be (Local)

Advocates of buying locally grown foods suggest that local food systems require lower energy use and, as such, have a lower impact on climate change (Anderson, 2007; University of Florida IFAS Extension, 2006; ConsumerReports.org, 2012; LocalHarvest.org, n.d.; American Independent Business Alliance, n.d.; Peters et al., 2009b). They argue that local food systems lead to higher and more stable farm incomes, helping local communities create more jobs and retain more wealth in the process. Advocates also contend that local food systems offer greater access to fresh, healthy food, and lower the risk of food contamination and safety issues. Local food systems are also valued for offering greater consumer choice and marketplace transparency. Prior studies that sought to quantify local food consumption levels and local production capacity (McEntee, 2010; Peters et al., 2009a; Timmons, Wang, & Lass, 2008), compare local vs. conventional food system energy use (McEntee, 2010; Cowell & Parkinson, 2003; Coley, Howard, & Winter, 2008), and examine whether local food systems are related to positive health outcomes (McEntee, 2010; Gustafson, Cavallo, & Paxton, 2007; Nanney, Johnson, Elliott, & Haire-Joshu, 2007), generally support these views.

These purported benefits, however, are not without dispute (Born & Purcell, 2006). Critics argue that any general assumption suggesting that “local” is inherently

better than “distant” is unsubstantiated. A series of studies criticize local food systems and their advocates for being ill-equipped and oblivious to the needs of low-income consumers (Hinrichs, 2000; Hinrichs, 2003; Hinrichs & Kremer, 2002; DeLind, 1993; DuPuis & Goodman, 2005). Critics suggest that buying local can result in plummeting economic productivity and promote the inefficient use of resources that result in substantially greater costs for farmers. These costs, critics argue, are passed on to consumers and make locally grown foods unaffordable for most of society. Accordingly, local food systems and their advocates have been labeled as “elitist, exclusive, and inequitable” (McEntee, 2010).

Concerns about elitism, exclusivity and inequity animate both advocates and critics of locally grown foods. Both advocates and critics alike want communities to have access to fresh food, regardless of demographic attributes that otherwise distinguish communities (e.g., whether in a densely populated city or less populated suburb, level of educational attainment, median income, ethnic composition, elderly population, household access to vehicles, and availability of public transportation). Communities lacking access to fresh food are located in zones that have come to be known as “food deserts”.

Analysis of Food Deserts

According to the Centers for Disease Control and Prevention, “food deserts” are areas where residents lack “access to affordable fruits, vegetables, whole grains, low-fat milk, and other foods that make up the full range of a healthy diet” (Johnson, Alison Aussenberg, & Cowan, 2013). The USDA has conducted several comprehensive reviews

of the prevalence of food deserts and patterns of access to healthy foods in the U.S. In 2009, the USDA reported that 2.3 million of U.S. households were located more than one mile from a supermarket and lacked access to a vehicle, and an additional 3.4 million households lived between one-half and one mile away and lacked access to a vehicle (Johnson et al., 2013). Furthermore, 13.6 million people had “low access” to supermarkets or large grocery stores (i.e. they lived more than one or 10 miles from a supermarket or large grocery store), and 82% of these individuals lived in urban areas.

The USDA (2013) published the methods by which it determined the prevalence of food deserts and access to healthy foods. The USDA’s approach involves overlaying population density and income data from census tracts upon maps of existing food retail outlets using GIS software and analytical tools. These analyses measured the degree to which households had access to healthy foods by estimating proximity to supermarkets and large grocery stores and overlaying demographic data such as household income and household access to vehicles.

These methods can easily be adapted to examine whether a community’s access to farmers markets (where locally grown foods are most often available) is different from its access to grocery stores (where conventionally sourced foods are most often available) on the basis of demographic attributes (e.g., population density, level of educational attainment, median income, ethnic composition, elderly population, household access to vehicles, availability of public transportation). If a difference is detected, such adaptations would allow an evaluation of whether local food systems, as noted by Johnson et al. (2013), could be used to help increase consumer access to “healthy,

nutritious foods within certain low-income or underserved communities” where access to such foods may be limited or non-existent.

Previous Approaches to Understanding Access

GIS mapping techniques have been used to address access-related questions in various facility location contexts (Indriasari, Mahmud, Ahmad, & Shariff, 2010; Vahidnia, Alesheikh, & Alimohammadi, 2009; Vlachopoulou, Silleos, & Manthou, 2001; Akella et al., 2005; Gardner & Cooper, 2003; Hwang, 2004; Miliotis, Dimopoulou, & Giannikos, 2002; Miller, Wu, & Hung, 1999; Salim, Strauss, & Ench, 2002; Tarantilis & Kiranoudis, 2002). Facility location problems can be treated as mathematical visualization problems, where certain algorithms are developed to characterize and depict single or multiple objective functions (e.g. to visually depict certain patterns of access) (Solomon, 1987). This approach has been used to determine whether locations of, for instance, “hospitals, schools, power plants, ambulances, fire stations, pipelines, conservation areas and warehouses” are accessible based on certain pre-defined criteria (Indriasari et al., 2010). GIS mapping tools have been used to determine the demographic attributes of communities, and whether those attributes vary from what is expected based on the character of typical census tracts of those locations. GIS mapping allows an examination into whether patterns of access differ relative to demographic attributes of interest for a given area.

Local Food Systems in Northern Virginia

A qualitative assessment developed by FamilyFarmed.org (2010) identified Northern Virginia as a high-opportunity area for the expansion of a local food system because demand for locally grown foods far outpaces supply in this area. Through “phone interviews, meetings, field visits and secondary research”, FamilyFarmed.org (2010) found that “\$16.8 billion is spent annually on fruits and vegetables in the tristate area surrounding and including Washington DC (Delaware, Maryland and Virginia)” yet “less than 7% of that expenditure is currently produced in the region”.

In order to meet demand, FamilyFarmed.org (2010) advised stakeholders to integrate local food production systems with wholesale channels. FamilyFarmed.org (2010) also determined that investments in key supply chain components, such as the “development of a packing house: an aggregation and distribution facility that provides marketing and technical support for farmers and stable, quality supply” for customers was vital to such integration.

Although FamilyFarmed.org (2010) addressed supply and demand, the assessment was not specifically designed to and did not describe (a) the Northern Virginia communities (i.e. the customer base) that would benefit from such investments, (b) their existing options to access locally grown foods vs. conventionally sources foods, and (c) whether such access differs on the basis of demographic attributes in Northern Virginia. Without such an analysis, it is difficult to meaningfully assess whether such investments would help assuage or further fuel concerns about elitism, exclusivity and inequity in the local food industry of Northern Virginia.

Research Question, Hypotheses and Specific Aims

To address this gap in knowledge, this study explores whether the availability of conventionally sourced food from grocery stores differs from that of fresh food from farmers markets in Northern Virginia relative to the following demographic attributes: population density, educational attainment, median income, ethnicity, concentration of elderly population, and concentration of households without vehicles.

If patterns of grocery store and farmers market distributions for a given demographic attribute are not consistent with the typical character of census tracts, the result is deemed to support the hypotheses identified below. Because prior qualitative studies suggest that farmers markets tend to occur in more privileged areas (Alkon & Agyeman, 2011), it is hypothesized that the distributions of grocery stores and farmers markets will differ relative to:

1. population density: farmers markets (more-so than grocery stores) are located in areas of lower population density;
2. educational attainment: farmers markets (more-so than grocery stores) are located in areas of higher educational attainment (i.e. where fewer people have less than a bachelor's degree, and more people have a bachelor's degree or higher);
3. median income: farmers markets (more-so than grocery stores) are located in areas of higher median income;
4. ethnicity: farmers markets (more-so than grocery stores) are located in areas where higher concentrations of the population identify as White;

5. concentration of elderly population: farmers markets (more-so than grocery stores) are located in areas with lower concentrations of the elderly population; and
6. concentration of households without vehicles: farmers markets (more-so than grocery stores) are located in areas with higher concentrations of households without vehicles.

Specific Aims

This study had two specific aims. First, to produce maps that juxtapose the locations of grocery stores and farmers markets in Northern Virginia against demographic data about residents. To do so, it was necessary to define boundaries for the geographic area of interest (i.e. Northern Virginia) and overlay GIS map layers containing data relevant to the study. Second, to assess whether the distributions of grocery stores and farmers markets vary relative to the demographic attributes of interest. To do so, it was necessary to prepare and examine count and percent results for grocery store presence and farmers market presence relative to each demographic attribute throughout Northern Virginia.

Chapter II

Methods

This study involved creating maps with the assistance of the Harvard Center of Geographic Analysis (“CGA”) that show the locations of grocery stores and farmers markets in Northern Virginia, demographic information about the communities that comprise Northern Virginia, and transportation options available therein. GIS data were analyzed to create population density profiles, educational attainment profiles, median income profiles, ethnicity profiles, elderly population profiles, and households without vehicles profiles for each Northern Virginia county and for Northern Virginia as a whole. These profiles allow review of the distributions of grocery stores and farmers markets relative to the demographic attributes of relevance to this study.

Setting Boundaries and Defining Northern Virginia

To create a GIS map, one must first define the boundaries relevant to the geographic area of focus. The maps for this study were designed at the county level, because, as noted by the U.S. Census Bureau, “[t]he primary legal divisions of most states are [] counties” (U.S. Census Bureau, n.d.). However, Virginia is one of a handful of states where primary divisions are not limited to counties but also include “incorporated places that are independent of any county organization... These incorporated places are known as independent cities and are treated as equivalent entities for purposes of data presentation” (U.S. Census Bureau, n.d.). For this study, the terms

“county” and “counties” includes county equivalent entities. The U.S. Census Bureau assigns each county a three-character numeric Federal Information Processing Standards (“FIPS”) code “based on alphabetical sequence that is unique” to each state (U.S. Census Bureau, n.d.). The FIPS county codes relevant to this study are listed in Table 1.

Table 1. FIPS codes for Northern Virginia counties and county equivalents (Virginia Office of Emergency Medical Services, 2011).

FIPS Code	County (or County Equivalent)
510	City of Alexandria
013	Arlington County
600	Fairfax City
059	Fairfax County
610	Falls Church
107	Loudoun
683	Manassas
685	Manassas Park
153	Prince William

To determine which counties comprise Northern Virginia, I reviewed online resources from state and municipal websites, the University of Virginia Center of Politics, and the official tourism website for the Commonwealth of Virginia. In doing so, I learned that there is no single agreed upon definition of which counties comprise “Northern Virginia”. For example, the Virginia Division for the Aging’s website counts Alexandria City, Arlington County, Fairfax County, Fairfax City, Falls Church City, Loudoun County, Manassas City, Manassas Park City and Prince William County as within Northern Virginia (Virginia Division for the Aging, n.d.), whereas the Virginia Department of Transportation’s website omits Falls Church City and Manassas Park City from this list (Virginia Department of Transportation, n.d.).

For this study, the term “Northern Virginia” delineates the counties within the Northern Virginia farmers market chapter of INOVA’s “Guide to Local Food and

Wellness”, namely: City of Alexandria, Arlington County, Fairfax County, Falls Church, Loudoun, Manassas City, Manassas Park City and Prince William (INOVA, 2014)

(Figure 1).

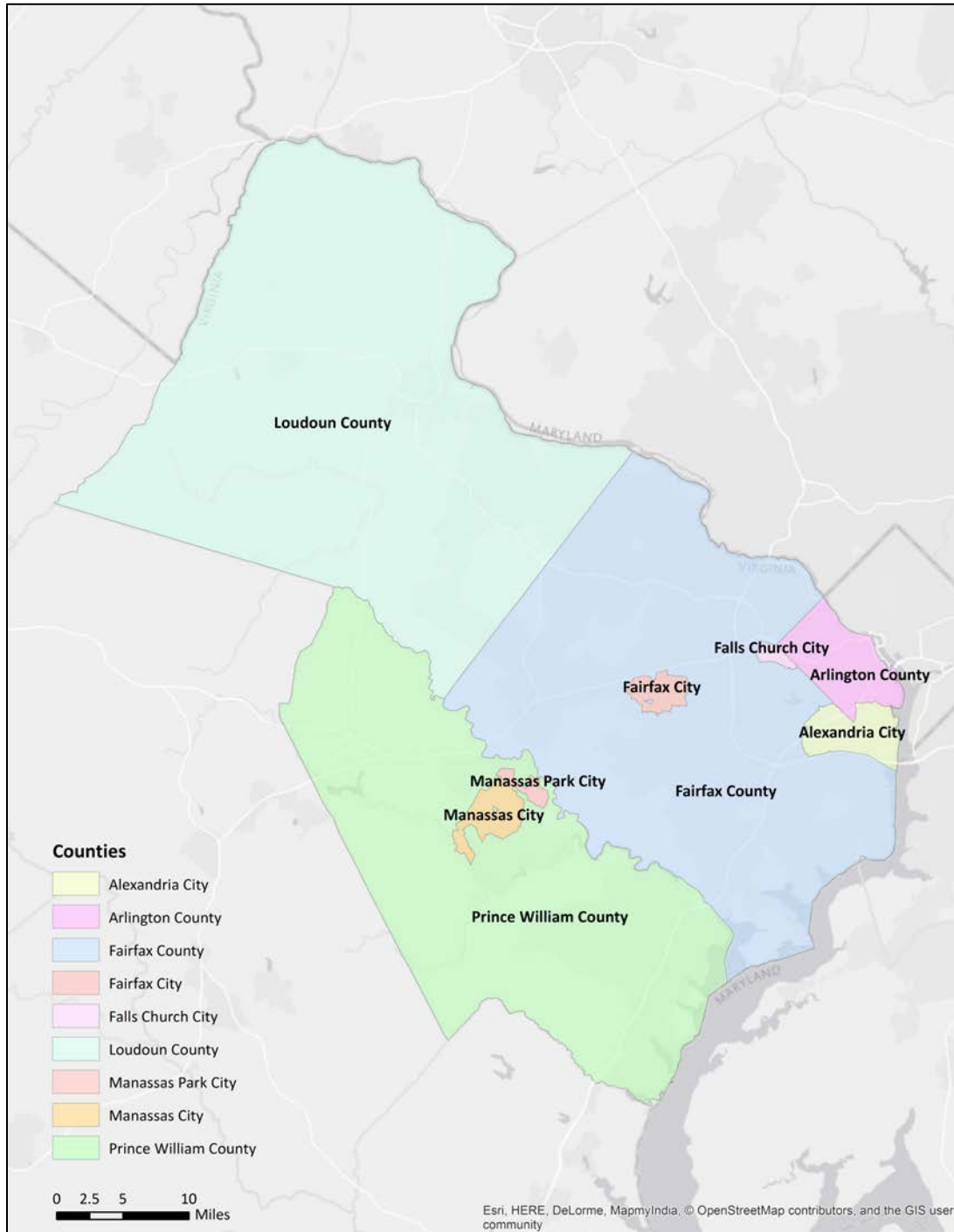


Figure 1. Map of Northern Virginia counties.

INOVA (2014) does not separately list Falls Church (which INOVA includes under Fairfax County), nor Manassas and Manassas Park (both of which INOVA includes within its Prince William County subdivision) as independent cities. I chose INOVA's definition of Northern Virginia to define the boundaries relevant to this study because (a) a key focus of this study is the distribution of farmers markets, and (b) the locations of farmers markets used to create GIS maps for this study were drawn from the INOVA guide. Using the INOVA definition, therefore, provided a useful and consistent baseline for the creation of a base map.

Creating the Base Map and Map Layers

To create a base map, boundaries and street maps for all Virginia counties were first downloaded from the Virginia GIS Clearinghouse and projected onto the NAD 83 State Plane Virginia North coordinate system in ESRI ArcMap 10.3. Geodata specific to Northern Virginia were segmented and retained in the base map; data for all other areas were omitted.

The base map was overlain with a map shapefile containing the locations and certain entity-specific data (e.g. sales volume, square footage, years in business, whether food stamps are accepted; Table 2 contains the complete list of entity-specific data) of all businesses categorized under the Grocery Sales sector code of the North American Industry Classification System ("NAICS"). NAICS is the "standard used by Federal statistical agencies in classifying business establishments for the purpose of collecting,

analyzing, and publishing statistical data related to the U.S. business economy” (U.S. Census Bureau, 2014).

Table 2. Entity specific data fields in Grocery Store Layer (Esri, 2013; Esri, 2014).

Field	Description
FID	Feature Identification
SHAPE	Describes Shape Feature (e.g. point, polygon, etc.)
DUNSNUM	9-digit unique identifier
CONAME	Primary Company Name
ADDR	“Physical address of location” (Esri, 2013)
CITY	“City of location” (Esri, 2013)
STATE	State abbreviation
STATE_NAME	“State name of location” (Esri, 2013)
ZIP	“Five-digit” ZIP code of location” (Esri, 2013)
ZIP4	“Four-digit extension to the primary ZIP code, if available” (Esri, 2013)
PHONE	“Telephone number with area code” (Esri, 2013)
NAICS	North American Industry Classification System
SIC	Standard Industrial Code
SALESVOL	“Estimated sales or assets in U.S. dollars” (Esri, 2013)
HDBRCH	“Status indicating whether the businesses is a headquarters or branch locations (0=Not a Headquarters or a Branch (Single Location), 1= Headquarters, 2=Branch)” (Esri, 2013)
EMPNUM	“Number of Employees at a Physical Location” (Esri, 2013)
FRNCOD	“8-digit franchise code. Blank if not available” (Esri, 2013)
ISCODE	Industry Code
SQFTNUM	“The building space this entity operates from within a building as measured in square feet” (Esri, 2013)
YRSTARTED	Year business was established
LOC_NAME	“The name of the locator from which the geocode information derived” (Esri, 2013)
STATUS	“M – the record was matched to a locator file; U – the record was unmatched; T – the record was matched to a locator file and multiple match candidates had the same score” (Esri, 2013)
SCORE	“The match score of the candidate to which the address was matched. The score can be in the range of 0 to 100, where 100 indicates the candidate is a perfect match” (Esri, 2013)
CONAMEALT	“If CONAME is replaced by Tradestyle Name” (Esri, 2013)
SOURCE	Names the source the data came from, in this case Dunn & Bradstreet
POINT_X	Latitude coordinate
POINT_Y	Longitude coordinate

Geodata specific to Northern Virginia were segmented and retained in this shapefile to yield the “Grocery Store Layer”; data for all other areas were omitted. Count tables were prepared and reviewed for duplicate store entries, which were removed as needed. For this study, the Grocery Store Layer, consisting of 747 grocery stores (Ancillary Appendix 1), is assumed to represent all available retail stores that sell conventionally sourced food in Northern Virginia. Annual sales volume of each grocery store represents the extent to which the community frequents these stores. Because this study focuses on distribution of retail food sources as opposed to wholesale food sources, 18 wholesale businesses located in Northern Virginia (i.e. those listed under NAICS Code 424480 - “Fresh Fruit & Vegetable Merchant Wholesale”) were excluded from the base map.

The base map and Grocery Store Layer were overlain by a map shapefile containing the locations of all farmers markets in Northern Virginia as published by INOVA and the Buy Fresh Buy Local consortium (collectively, the “Consortium List”) (INOVA, 2014). Websites for each farmers market were reviewed against the Consortium List for outdated or duplicate entries, which were updated or removed from the shapefile as needed to yield the “Farmers Market Layer”. Six farmers markets (i.e. Hillsboro, Manassas Park Smart Market, Purcellville Town Market, Occoquan, Centreville and Lorton) that ceased operations were removed from the Farmers Market Layer. Four farmers markets (i.e. Upper King Street, Fresh Wellness Connection, Chantilly Smart Market and Huntington Smart Market) that started operations after publication of the Consortium List were added to the Farmers Market Layer. For this study, the Farmers Market Layer, consisting of 46 farmers markets (Ancillary Appendix 2), is assumed to

represent all available sources of locally grown food in Northern Virginia. Annual sales data for Farmers Markets were unavailable and thus not included in this study.

The base map, Grocery Store, and Farmers Market Layer were overlain by map shapefiles containing 520 U.S. Census tracts (Ancillary Appendix 3) with 2015 demographic data for Northern Virginia (“Demographic Data Layer”). Data for this layer were obtained from the ESRI Business Analyst Demographics database and the U.S. Census Bureau’s website. The demographic attributes included in the Demographic Data Layer are listed in Table 3.

This study focused on the following subset of demographic attributes: Population Density, Educational Attainment (less than bachelor’s degree; bachelor’s degree or higher), Median Income, Ethnicity (Black; Hispanic; Asian; White), Elderly Population (percentage of population over 65 years of age), and Households Without Vehicles (i.e. percentage of households that do not either own or lease at least one vehicle).

A map shapefile containing the locations of all metro train stations and bus stops in Northern Virginia was created (“Public Transportation Layer”). GIS-ready data for metro train stations were obtained from WMATA (WMATA, 2015). GIS-ready data for bus stations were obtained from the Google Transit Public Feed Data, WMATA, Fairfax County Government, and Potomac & Rappahannock Transportation Commission (Transportation Data Sources, 2015a-d). These sources provided bus station data for all Northern Virginia counties except Loudon County. PDF Maps of Loudon County bus routes were obtained from the official website of Loudoun County (Transportation Data Sources, 2015e).

Table 3. Demographic variable list (Esri, 2015).

Variable Name	Description
TOTPOP_CY	2015 Total Population (Esri)
POPDENS_CY	2015 Population Density (Pop per Square Mile) (Esri)
TOTHH_CY	2015 Total Households (Esri)
POP65_UP	Aggregate of POP65_CY, POP70_CY, POP75_CY, POP80_CY and POP85_CY
POP65_CY	2015 Total Population Age 65-69 (Esri)
POP70_CY	2015 Total Population Age 70-74 (Esri)
POP75_CY	2015 Total Population Age 75-79 (Esri)
POP80_CY	2015 Total Population Age 80-84 (Esri)
POP85_CY	2015 Total Population Age 85+ (Esri)
WHITE_CY	2015 White Population (Esri)
BLACK_CY	2015 Black/African American Population (Esri)
ASIAN_CY	2015 Asian Population (Esri)
HISPPOP_CY	2015 Hispanic Population (Esri)
LESSBACH	Aggregate of NOHS_CY, SOMEHS_CY, HSGRAD_CY, GED_CY, SMCOLL_CY and ASSCDEG_CY
NOHS_CY	2015 Population Age 25+: Less than 9th Grade (Esri)
SOMEHS_CY	2015 Population Age 25+: 9-12th Grade/No Diploma (Esri)
HSGRAD_CY	2015 Population Age 25+: High School Diploma (Esri)
GED_CY	2015 Population Age 25+: GED/Alternative Credential (Esri)
SMCOLL_CY	2015 Population Age 25+: Some College/No Degree (Esri)
ASSCDEG_CY	2015 Population Age 25+: Associate's Degree (Esri)
BACHHIGHER	Aggregate of BACHDEG_CY and GRADDEG_CY
BACHDEG_CY	2015 Population Age 25+: Bachelor's Degree (Esri)
GRADDEG_CY	2015 Population Age 25+: Graduate/Professional Degree (Esri)
MEDHINC_CY	2015 Median Household Income (Esri)
HHNOAUTO	Difference of TOTHH_CY and MP01001h_B
MP01001H_B	2015 HH owns/leases any vehicle
PERCENTW	WHITE_CY divided by TOTPOP_CY
PERCENTB	BLACK_CY divided by TOTPOP_CY
PERCENTA	ASIAN_CY divided by TOTPOP_CY
PERCENTH	HISPOP_CY divided by TOTPOP_CY
PERCENTLB	LESSBACH divided by TOTPOP_CY
PERCENTBH	BACHHIGHER divided by TOTPOP_CY
PRCENT65UP	Pop65_Up divided by TOTPOP_CY
PERCENTNC	HHNoAuto divided by TOTHH_CY

The bus stops along these routes were manually transposed onto Google Maps using Google's "drop pin" feature, which in turn provided estimated latitudes and longitudes in the GCS North American 1983 coordinate system. These latitudes and longitudes were converted to the NAD 83 State Plane Virginia North coordinate system during projection and added to the Public Transportation Layer.

As the above layers were added to the base map, spatial join and intersection were performed to preserve geodata comity. Spatial join is a "type of table join operation in which fields from one layer's attribute table are appended to another layer's attribute table based on the relative locations of the features in the two layers" (Esri, n.d.-e).

Intersection is a "geometric integration of spatial datasets that preserves features or portions of features that fall within areas common to all input datasets" (Esri, n.d.-d).

Legends were created using the natural breaks method, which yielded five classes of data per demographic attribute. "Natural breaks is the method of manual data classification that seeks to partition data into classes based on natural groups in the data distribution. Natural breaks occur in the histogram at the low points of valleys. Breaks are assigned in the order of the size of the valleys, with the largest valley being assigned the first natural break" (Esri, n.d. -b).

Using ArcGIS' quantitative analysis tools, count tables were generated for each data class of each demographic attribute of interest for each Northern Virginia county (Ancillary Appendix 4). These tables list the (a) number of census tracts described by each data class, (b) number of grocery stores within those census tracts, (c) combined annual sales volumes of those grocery stores, and (d) number of farmers markets within those census tracts. Count table data were percentage normalized to standardize results

for ease of comparison and to eliminate potential effects of implicit bias due to non-uniform census tract sizes. Normalization was effected by dividing (a), (b), (c), and (d) respectively for each data class against the total number thereof in the county and multiplying by 100.

X-Y plots of percentage normalized data were created to graphically illustrate whether grocery store and farmers market distributions across each data class of each demographic attribute of interest vary relative to the predominant character of census tracts for each Northern Virginia county.

Chapter III

Results

The purpose of this study was to examine whether availability of conventionally sourced food from grocery stores differs from that of fresh food from farmers markets in Northern Virginia relative to certain demographic attributes (i.e. population density, educational attainment, median income, ethnicity, elderly population, and households without vehicles). This was achieved through the creation of GIS maps, which were then analyzed for potential trends through a review of X-Y plots of percentage normalized data. If variation in grocery store or farmers market distributions match that of census tracts across data classes in X-Y plots, it was assumed that the observed distributions reflect the predominant character of census tracts and is not material to evaluating hypotheses. If variation in grocery store or farmers market distributions differ from that of census tracts, the result was deemed salient to evaluating hypotheses. This study refers to such results as “salient trends”, which are shown below and highlighted in summary Table 4. The full compendium of GIS maps, data tables and X-Y plots generated in this study are omitted from this section but are available in Appendices 1 through 7, Ancillary Appendix 4, and Ancillary Appendices 5 through 10, respectively. Due to the high volume of grocery stores relative to farmers markets, grocery stores are omitted from GIS maps of Northern Virginia, but are included in each county-level map (Appendices 1 through 7).

The results of this study indicate that distributions of grocery stores and farmers markets differ relative to demographic attributes of interest throughout Northern Virginia. In most cases, these distributions match the predominant character of census tracts and are not deemed relevant to the hypotheses (e.g., Figure 35). However, when all Northern Virginia census tract data are aggregated, salient trends in distributions emerge relative to each demographic attribute of interest except concentration of elderly population (Table 4).

Table 4. Summary of results.

Does distribution of farmers markets vary from that of grocery stores on the basis of...	Northern Virginia (aggregate data)						Figures and Tables of Salient Trends	
	Alexandria	Arlington	Fairfax County	Loudoun	Prince William			
Population Density	YES	YES	YES	YES	NO	YES	Figures 3, 4, 5, 6	Tables 5, 6
Educational Attainment								
A. Less than Bachelor's Degree	YES	YES	NO	YES	YES	YES	Figures 10, 11	Table 8
B. Bachelor's Degree or More	YES	YES	YES	YES	YES	YES	Figures 8, 9, 10, 12, 13, 14	Tables 7, 9, 10
Median Income	YES	YES	NO	YES	YES	YES	Figures 16, 17, 18, 19, 20 21, 22, 23	Tables 11, 12, 13, 14
Ethnicity								
A. Black	NO	YES	NO	NO	NO	YES		
B. Hispanic	YES	YES	YES	NO	YES	YES		
C. Asian	NO	NO	NO	YES	YES	NO		
D. White	YES	YES	YES	YES	YES	YES	Figures 25, 26, 27, 28, 29, 30, 31, 32	Tables 15, 16, 17, 18,
Elderly Population	NO	YES	NO	YES	YES	NO		
Households without Vehicles	NO	YES	NO	NO	NO	YES	Figures 37, 38	Table 20

Yellow highlighting denotes salient trends where variation is atypical of census tracts. Results for the following counties are omitted due to insufficient comparative data: Fairfax City and Manassas Park City (neither contain farmers markets); and Falls Church and Manassas (each contain one farmers market).

Aggregated data show that farmers markets (more-so than grocery stores) in Northern Virginia tend to occur in areas where more people are educated, affluent, and

identify as White. This is particularly so for Alexandria, Loudoun, and Prince William. Salient trends in distributions also emerge with respect to population density in Alexandria and Prince William, and households without vehicles in Alexandria. In these counties, farmers markets (more-so than grocery stores) tend to occur in less densely populated areas and in areas where a greater percentage of households are without vehicles. Public transportation stops generally allow for a high degree of walkability to both grocery stores and farmers markets throughout Northern Virginia.

Population Density

The region defined by this study as Northern Virginia consists of 2,378,908 people, a majority of whom live in Fairfax County, Arlington, Alexandria, Prince William and Loudoun, and which together represent about 92% of Northern Virginia’s population density (Figure 2).

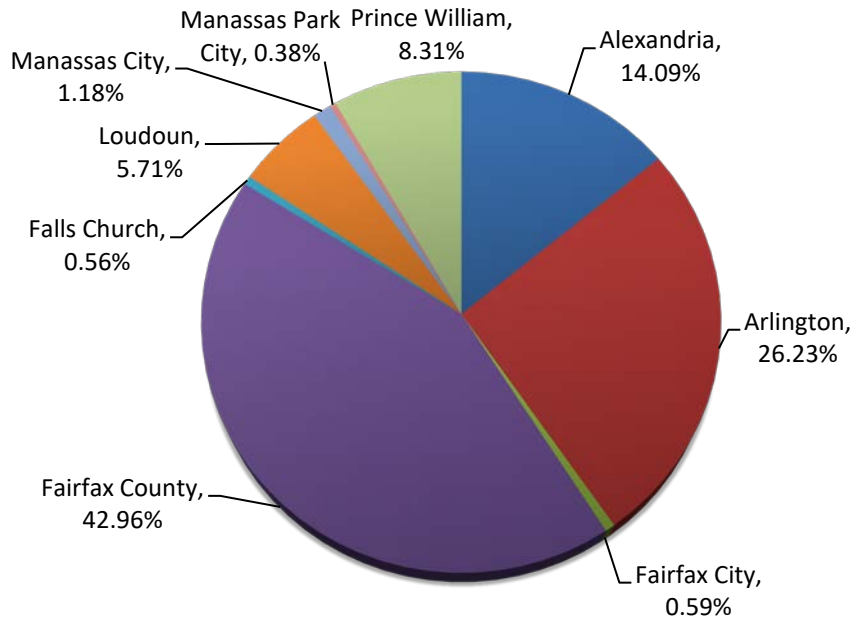


Figure 2. Northern Virginia share of population density by county.

In most places throughout Northern Virginia, farmers market distribution does not differ from that of grocery stores on the basis of population density in a manner that is atypical of census tracts. Numerically, there are far fewer farmers markets than grocery stores in every county. However, salient trends relative to population density do appear in Alexandria and Prince William counties.

Figure 3 is a GIS Map showing the locations of grocery stores and farmers markets in Alexandria relative to population density. Count and normalized data generated from this map indicate that grocery stores and farmers markets are both most dominant in the “4,001 to 8,000” people (second) increment, and decrease in either direction (Table 5; Figure 4). This distribution skews right as compared to the census tract distribution, which peaks in the middle population density tier and decreases to either direction (Figure 4). Distributions of grocery stores and farmers markets relative to population density in Alexandria is thus not a reflection of the typical character of census tracts.

Figure 5 is a GIS Map showing the locations of grocery stores and farmers markets in Prince William relative to population density. Count and normalized data generated from this map indicate that grocery stores are found in greatest concentration in areas of low population density, and in lowest concentration in areas of high population density (Table 6; Figure 6). All farmers markets occur in the lowest population density increment (Figure 6). Distribution of grocery stores match the typical character of census tracts but distribution of farmers markets do not (Figure 6).

These results support the hypothesis that farmers markets (more so than grocery stores) occur in less densely populated areas in Alexandria and Prince William.

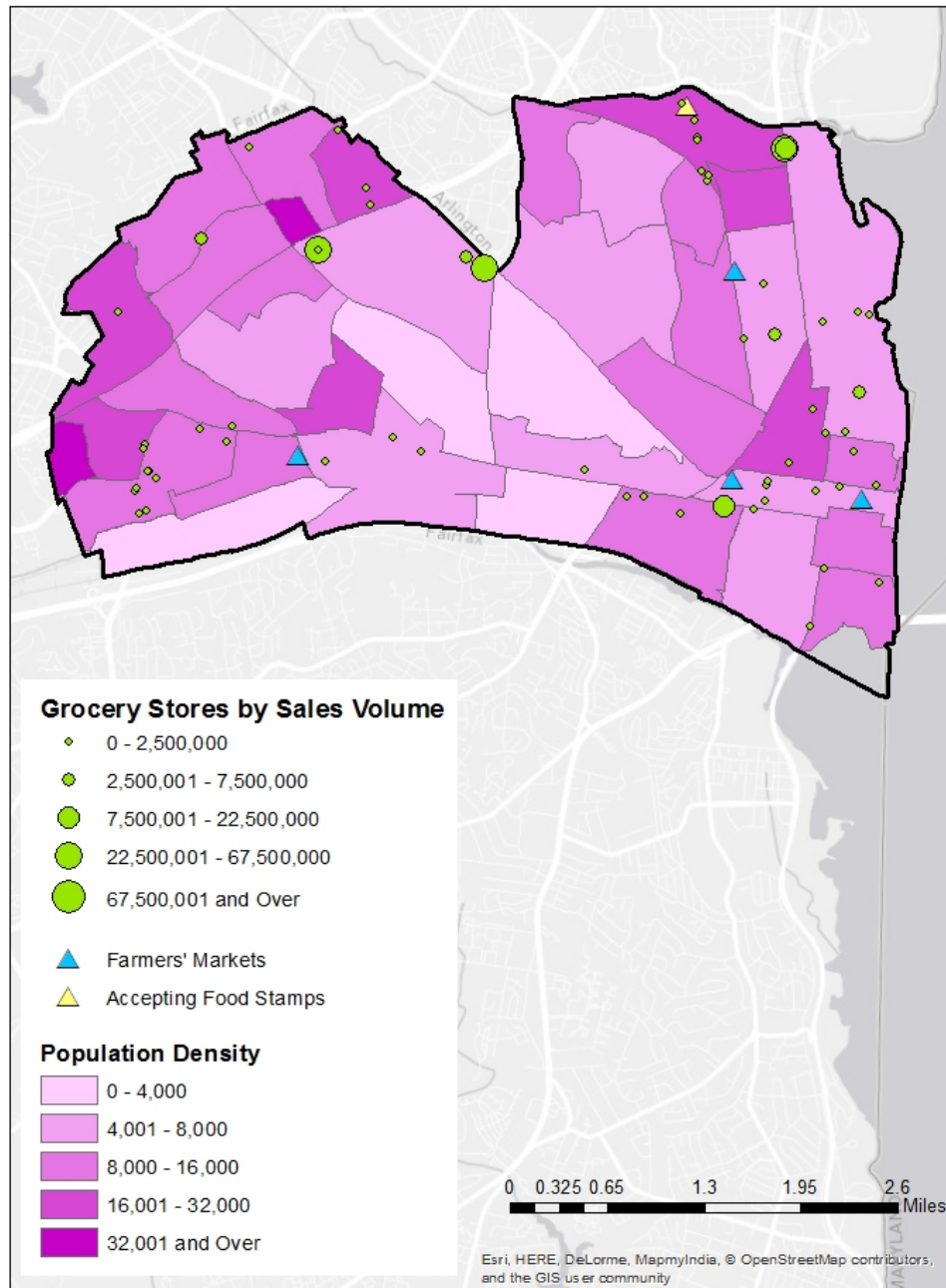


Figure 3. Population density by census tract, and locations of farmers markets and grocery stores for Alexandria. Grey denotes no data in tract.

Table 5. Population density count and normalized results for Alexandria.

Population Density	Census Tract Count Percent	Grocery Store Count Percent	Grocery Store Sales Volume Percent	Farmers Markets Count Percent
Up to 4,000	220 42.3%	283 37.9%	\$578,798,280 52.8%	17 37.0%
4,001 to 8,000	183 35.2%	282 37.8%	\$369,831,680 33.7%	16 34.8%
8,001 to 16,000	82 15.8%	132 17.7%	\$104,996,384 9.6%	11 23.9%
16,001 to 32,000	24 4.6%	37 5.0%	\$41,254,469 3.8%	2 4.3%
32,001 +	16 3.1%	34 4.6%	\$990,000 0.1%	0

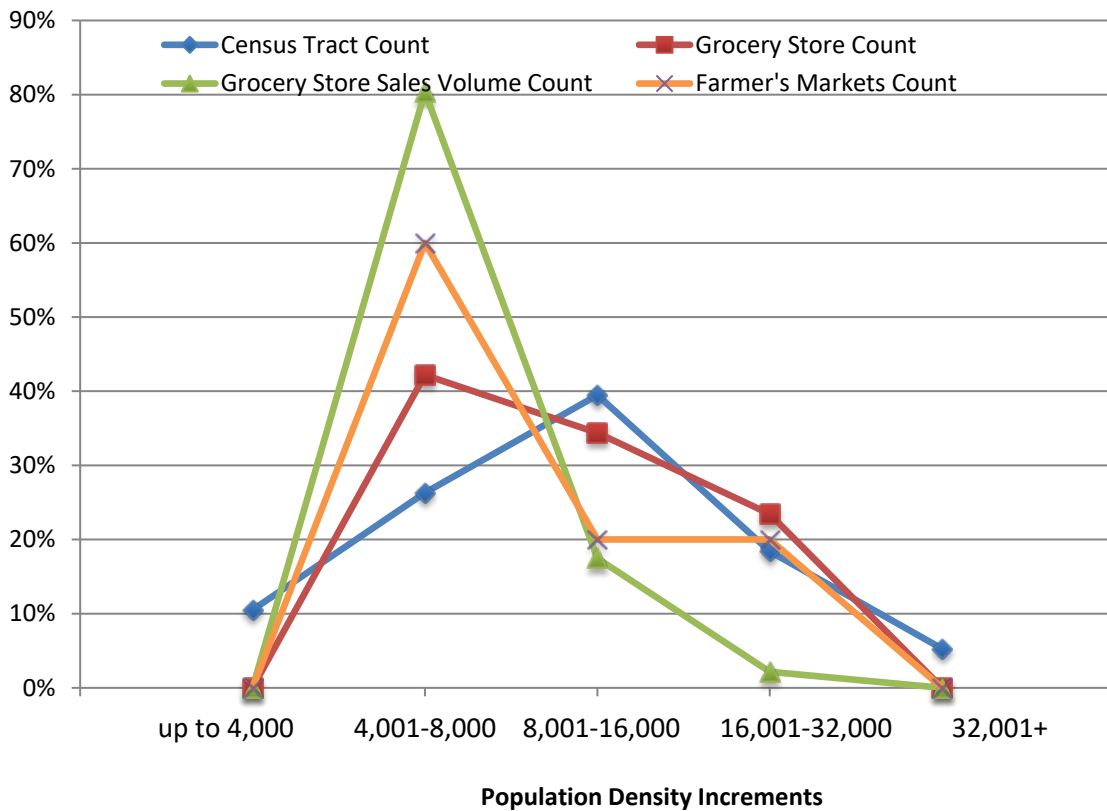


Figure 4. Distribution of grocery stores and farmers markets in Alexandria relative to population density (per sq. mile).

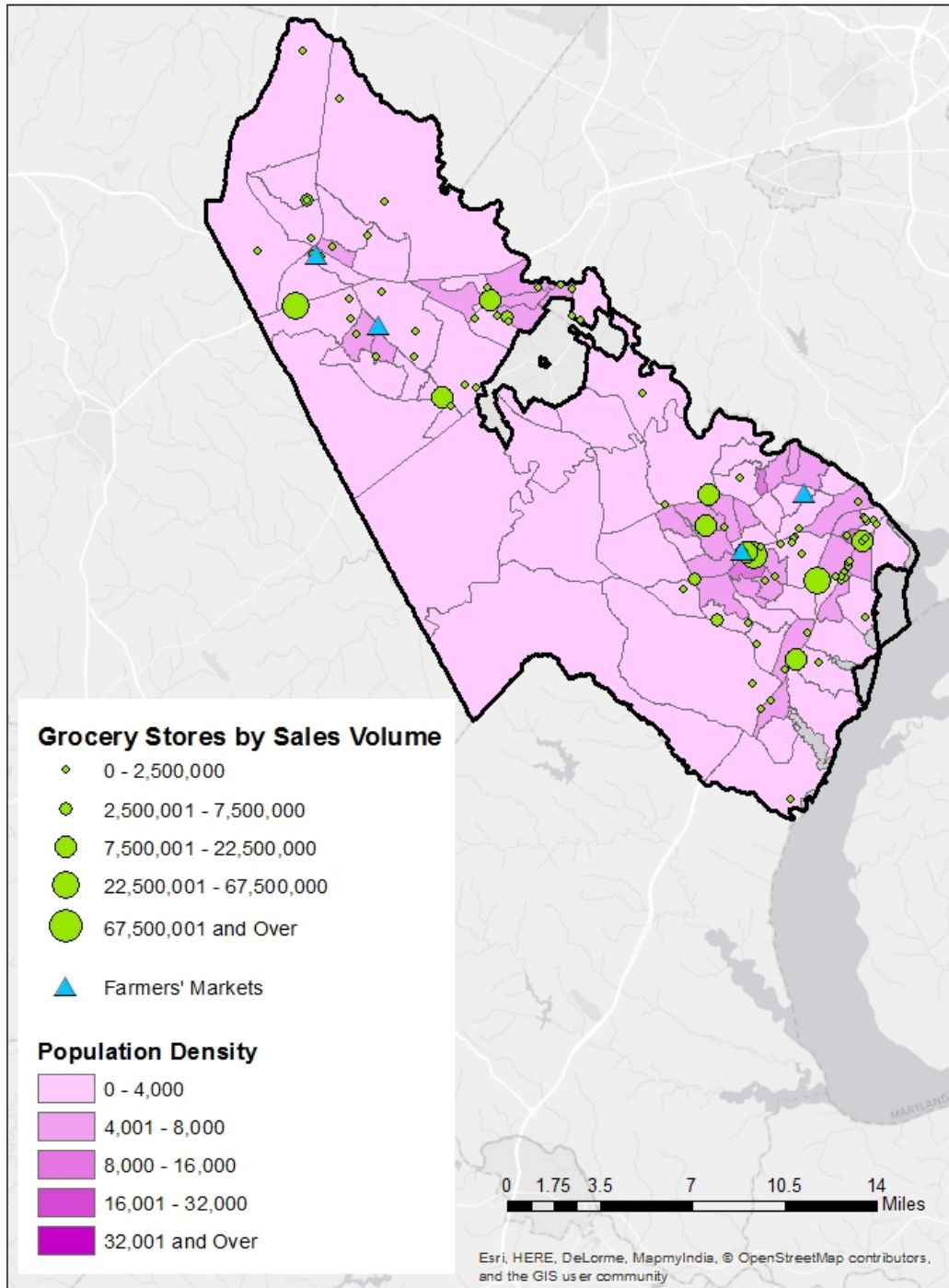


Figure 5. Population density by census tract, and locations of farmers markets and grocery stores for Prince William. Grey denotes no data in tract.

Table 6. Population density count and normalized results for Prince William.

Population Density	Census Tract Count Percent	Grocery Store Count Percent	Grocery Store Sales Volume Percent	Farmers Markets Count Percent
Up to 4,000	52 63%	59 62%	\$85,578,690 89%	4 100%
4,001 to 8,000	28 34%	34 36%	\$10,058,080 11%	0
8,001 to 16,000	3 4%	2 2%	\$109,404 0%	0
16,001 to 32,000	0	0	\$0	0
32,001 +	0	0	\$0	0

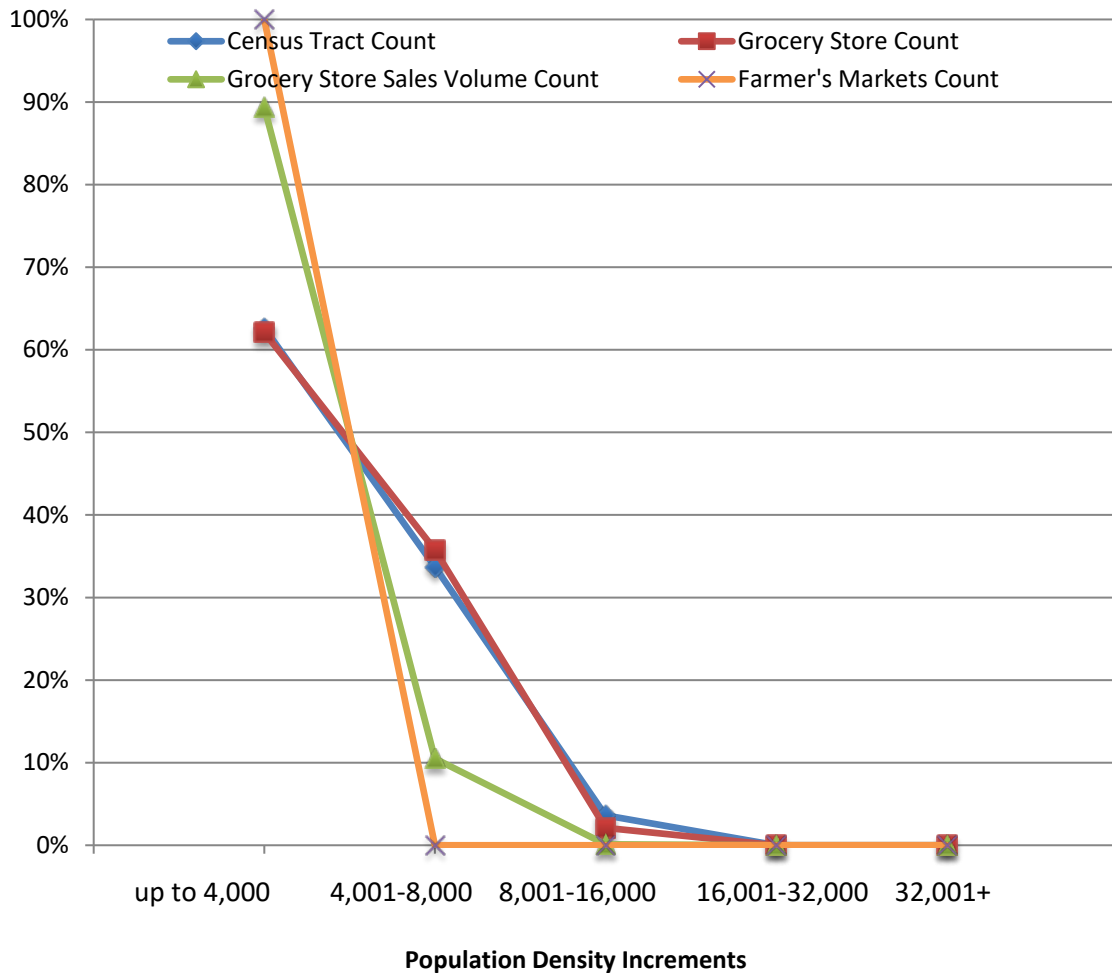


Figure 6. Distribution of grocery stores and farmers markets in Prince William relative to population density (per sq. mile).

Educational Attainment

Fairfax County contains approximately 44% of all Northern Virginia residents with less than a bachelor’s degree, followed by Prince William, Loudoun, Arlington, and Alexandria (Figure 7). The remaining counties each represent less than four percent of such residents. In addition, Fairfax County contains approximately 50% of all Northern Virginia residents who have attained a bachelor’s degree or higher, followed by Loudoun, Arlington, Prince William, and Alexandria. The remaining counties together represent three percent of such residents.

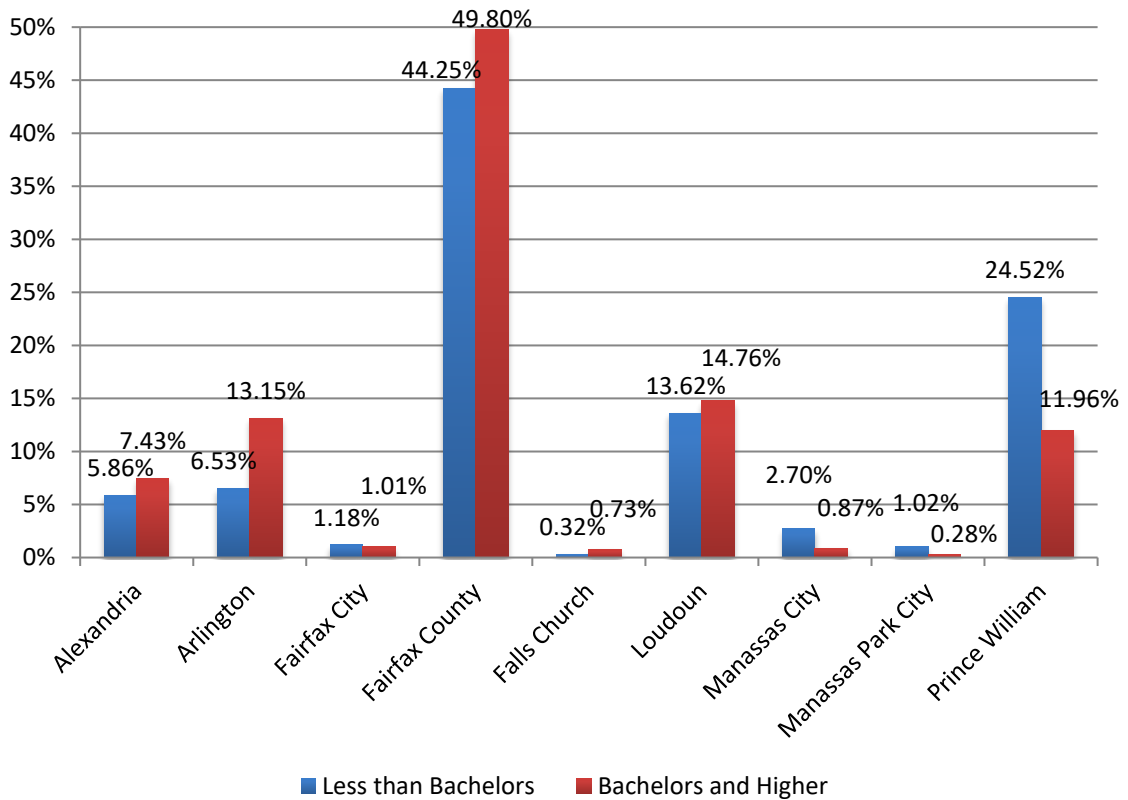


Figure 7. Northern Virginia share of educational attainment by county.

When all census tract data for Northern Virginia are aggregated, farmers market distribution differs from that of grocery stores on the basis of educational attainment in a salient manner. Generally, farmers markets occur in areas where more people have attained higher levels of education. This trend also occurs in Alexandria and Loudoun.

Figure 8 is a GIS educational attainment map of Northern Virginia that shows the locations of farmers markets and the subset thereof that accepts food stamps relative to the percent of the population with a bachelor's degree or higher. Count and normalized data generated from this map indicate that there is a divergence between the distribution of grocery stores and farmers markets relative to high educational attainment (Table 7, Figure 9). Grocery stores are found in highest concentrations in areas where "21 to 40%" of the population have a bachelor's degree or more. The highest concentration of farmers markets, however, is in areas where "41 to 60%" of the population have a bachelor's degree or more. Farmers market distribution matches the typical character of census tracts, but grocery store distribution skews right from both (Figure 9). Grocery stores (more-so than farmers markets) tend to occur in areas with lower educational attainment in Northern Virginia.

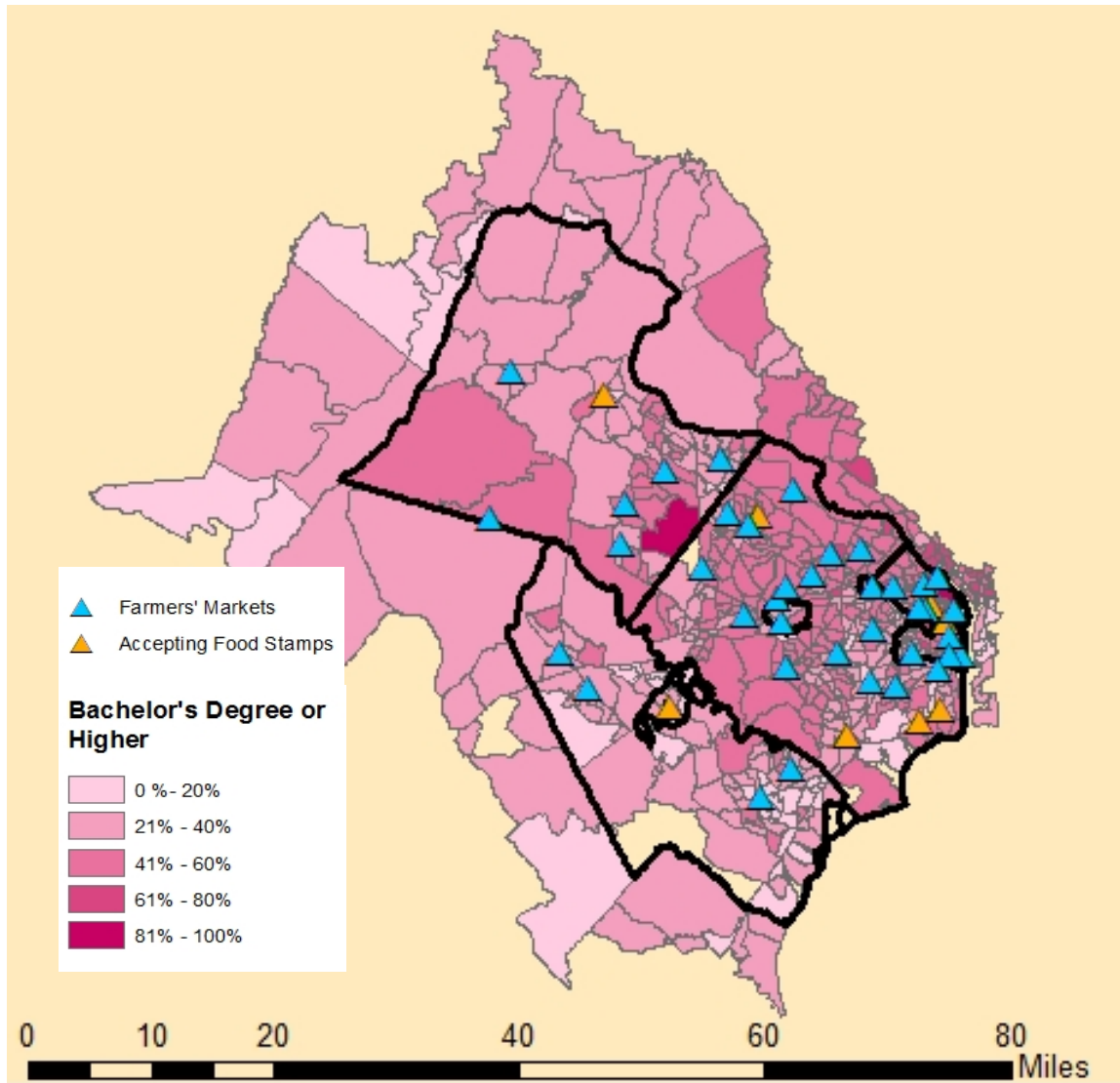


Figure 8. Educational attainment map for Northern Virginia showing percent of population with a bachelor’s degree or higher, and locations of farmers markets and subset accepting food stamps. Beige denotes no data in tract.

Table 7. Educational attainment (percent of population with a bachelor’s degree or more) count and normalized results for Northern Virginia.

Bachelor's Degree or Higher	Census Tract Count Percent	Grocery Store Count Percent	Grocery Store Sales Volume Percent	Farmers Markets Count Percent
0 to 20%	49 9.4%	89 11.9%	\$27,214,445 2.5%	4 8.7%
21 to 40%	197 37.9%	301 40.3%	\$354,672,804 32.4%	13 28.3%
41 to 60%	229 44.0%	282 37.8%	\$674,629,586 61.6%	22 47.8%
61 to 80%	42 8.1%	74 9.9%	\$39,173,978 3.6%	7 15.2%
81 to 100%	3 0.6%	1 0.1%	\$180,000 0.0%	0

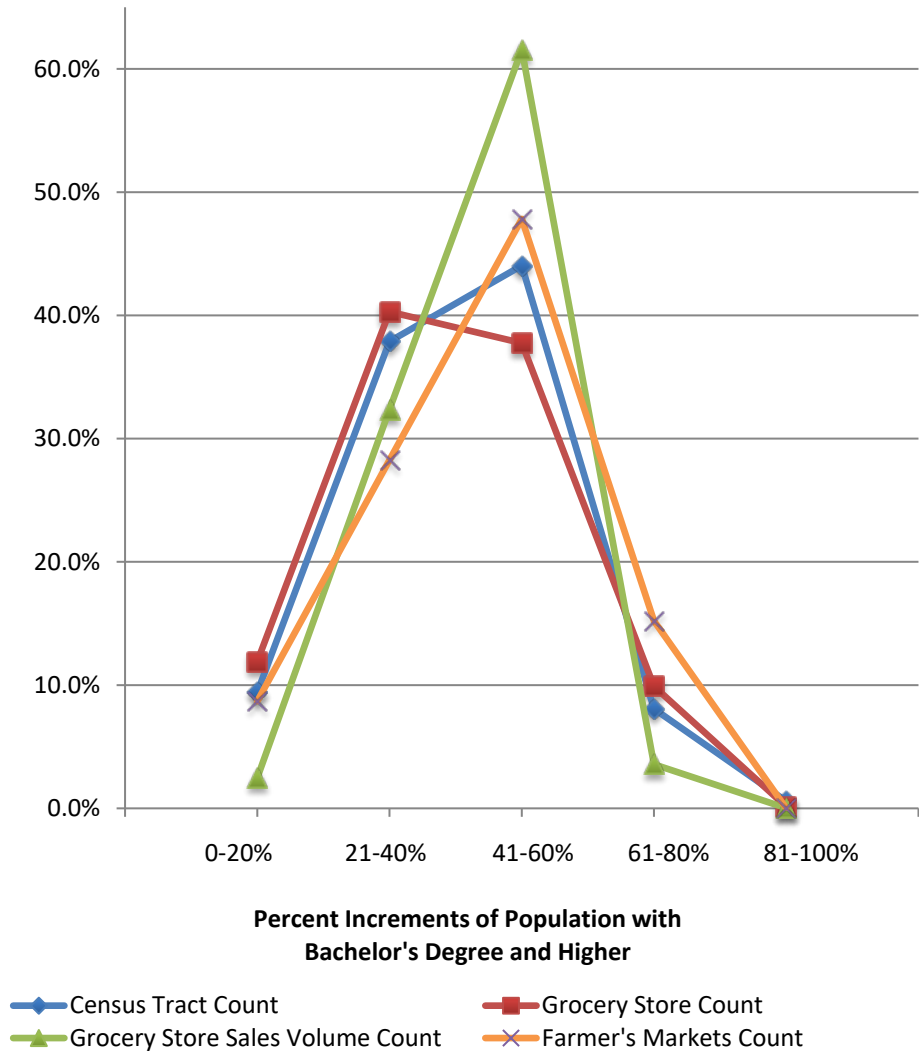


Figure 9. Distribution of grocery stores and farmers markets in Northern Virginia relative to high educational attainment.

In Alexandria, there is a salient divergence between distributions of grocery stores and farmers markets relative to low and high educational attainment. Figure 10 shows GIS educational attainment maps of Alexandria with the locations of grocery stores, farmers markets, and the subset of farmers markets that accepts food stamps. With respect to low attainment: grocery stores are found in highest concentrations in areas

where “21 to 40%” of the population have less than a bachelor’s degree (Table 8, Figure 11). However, farmers markets are found in highest concentrations in areas where “0 to 20%” of the population have less than a bachelor’s degree. Grocery store distribution matches the typical character of census tracts for low attainment, but farmers market distribution skews right from both (Figure 11). Farmers market distribution relative to low attainment in Alexandria is thus not a reflection of the typical character of census tracts.

With respect to high attainment: grocery stores are found in highest concentrations in areas where “41 to 60%” of the population have a bachelor’s degree or more, whereas farmers markets are found in highest concentrations in areas where “61 to 80%” of the population have a bachelor’s degree or more (Table 9, Figure 12). Grocery store distribution matches the typical character of census tracts, but farmers market distribution skews left from both (Figure 12). In Alexandria, farmers market distributions relative to both low and high attainment does not reflect the typical character of census tracts.

In Loudoun County, there is a salient divergence between distributions of grocery stores and farmers markets relative to high educational attainment. Figure 13 is a GIS educational attainment map of Loudoun showing the locations of grocery stores, farmers markets, and the subset of farmers markets that accepts food stamps relative to percent of the population with a bachelor’s degree or higher. Grocery stores are found in highest concentrations in areas where “21 to 40%” of the population have a bachelor’s degree or more (Table 10, Figure 14). The highest concentration of farmers markets, however, is in areas where “41 to 60%” of the population have a bachelor’s degree or more. Grocery

store distribution matches the typical character of census tracts, but farmers market distribution skews left from both (Figure 14). Grocery store distribution relative to high educational attainment in Loudoun is thus not a reflection of the typical character of census tracts.

These results support the hypothesis that farmers markets (more-so than grocery stores) occur in areas where a greater percentage of the population achieve higher levels of educational attainment in Northern Virginia as a whole, and particularly in Alexandria and Loudoun counties.

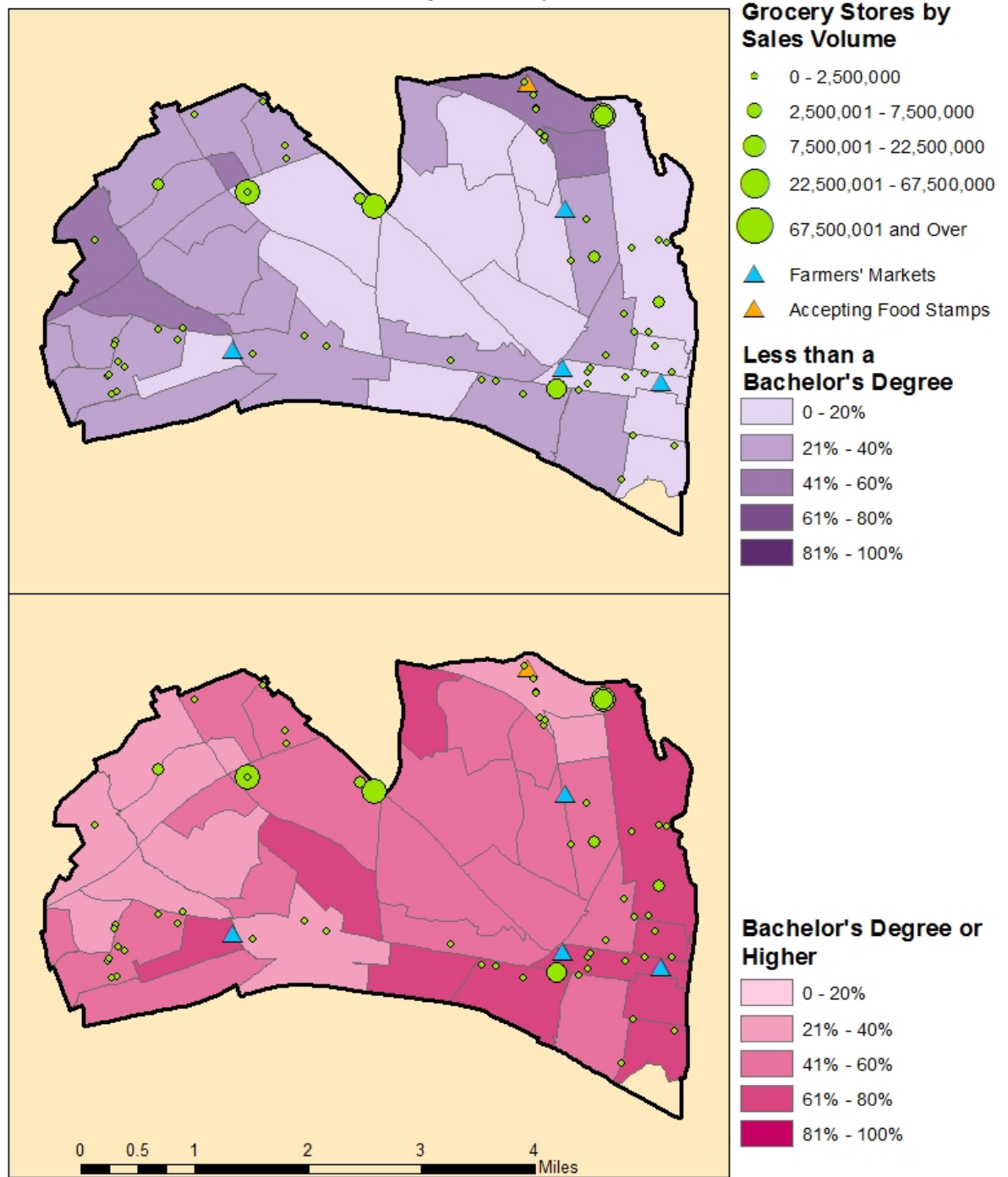


Figure 10. Educational attainment maps for Alexandria with locations of grocery stores, farmers markets, and subset of farmers markets accepting food stamps. Beige denotes no data in tract.

Table 8. Educational attainment (percent of population with less than a bachelor's degree) count and normalized results for Alexandria.

Bachelor's Degree or Higher	Census Tract Count Percent	Grocery Store Count Percent	Grocery Store Sales Volume Percent	Farmers Markets Count Percent
0 to 20%	15 39%	23 36%	\$34,457,989 80%	3 60%
21 to 40%	18 47%	32 50%	\$8,259,926 19%	1 20%
41 to 60%	5 13%	9 14%	\$550,000 1%	1 20%
61 to 80%	0	0	\$0	0
81 to 100%	0	0	\$0	0

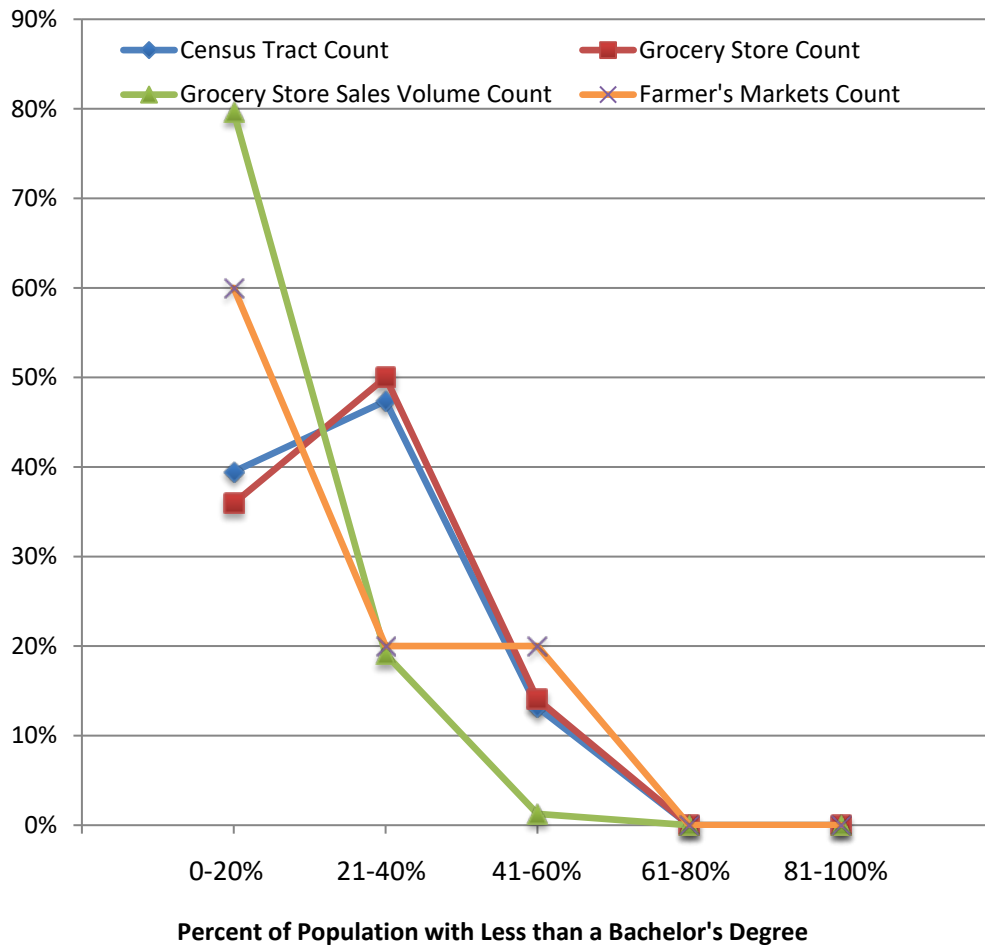


Figure 11. Distribution of grocery stores and farmers markets in Alexandria relative to low educational attainment.

Table 9. Educational attainment (percent of population with a bachelor's degree or more) count and normalized results for Alexandria.

Bachelor's Degree or Higher	Census Tract Count Percent	Grocery Store Count Percent	Grocery Store Sales Volume Percent	Farmers Markets Count Percent
0 to 20%	0	0	\$0	0
21 to 40%	10 26%	17 27%	\$7,259,926 17%	1 20%
41 to 60%	18 47%	25 39%	\$35,077,989 81%	1 20%
61 to 80%	10 26%	22 34%	\$930,000 2%	3 60%
81 to 100%	0	0	\$0	0

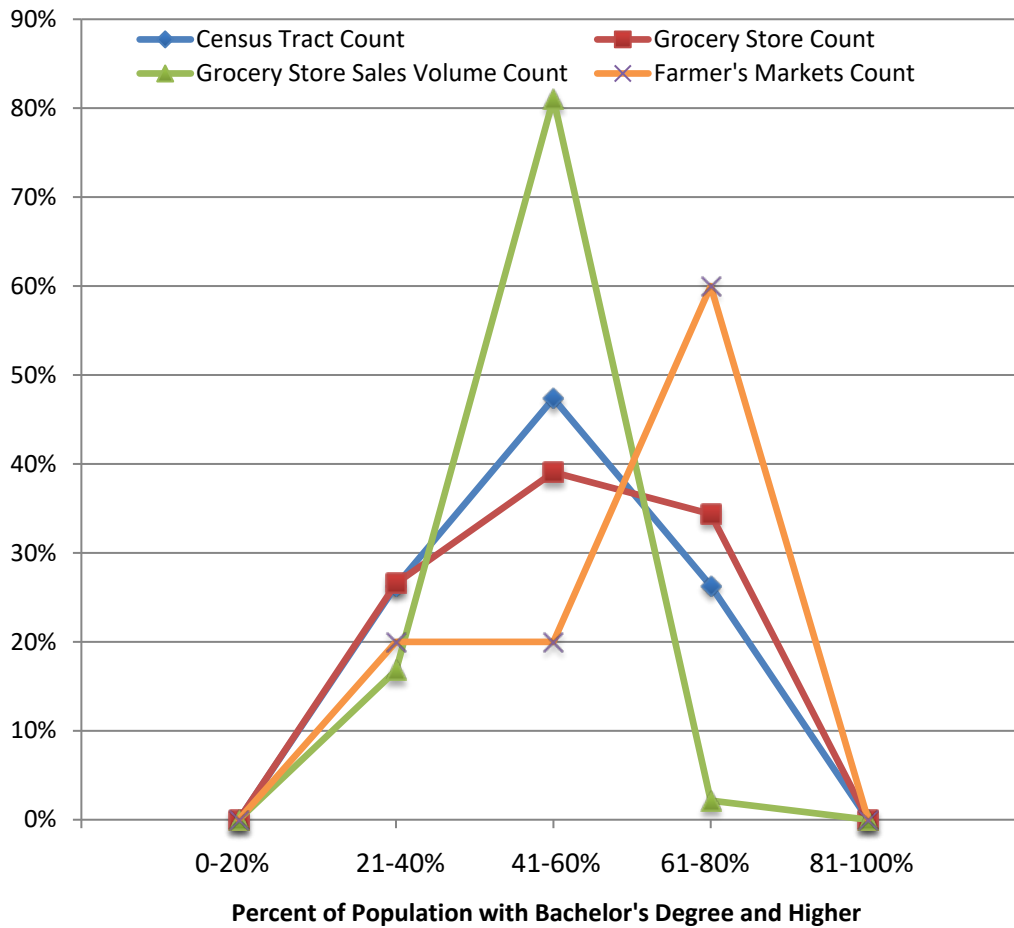


Figure 12. Distribution of grocery stores and farmers markets in Alexandria relative to high educational attainment.

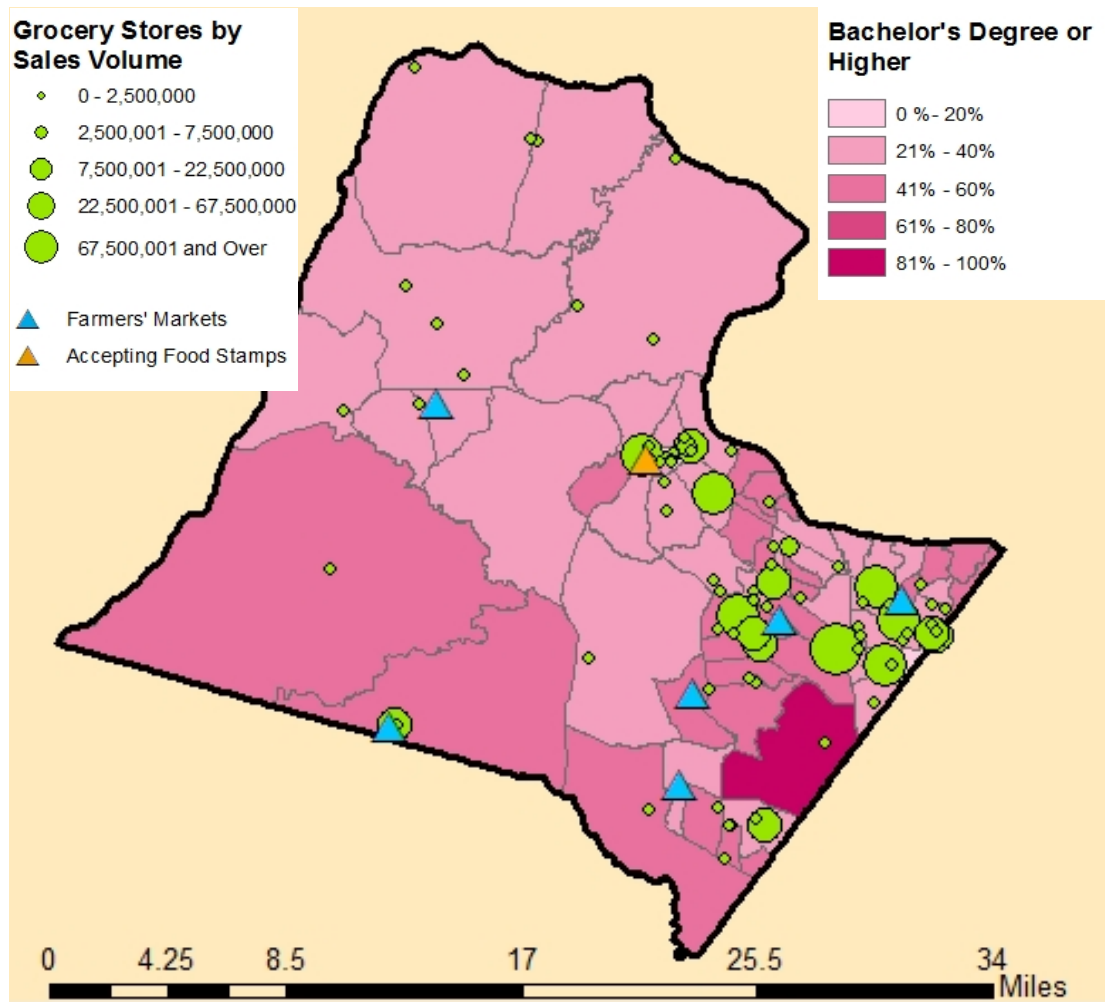


Figure 13. Educational attainment map for Loudoun showing percent of population with a bachelor’s degree or higher, and locations of grocery stores, farmers markets and subset of farmers markets accepting food stamps. Beige denotes no data in tract.

Table 10. Educational attainment (percent of population with a bachelor’s degree or more) count and normalized results for Loudoun.

Bachelor's Degree or Higher	Census Tract Count Percent	Grocery Store Count Percent	Grocery Store Sales Volume Percent	Farmers Markets Count Percent
0 to 20%	3 5%	6 8%	\$210,000 0%	0
21 to 40%	34 52%	51 64%	\$134,839,975 38%	3 43%
41 to 60%	27 42%	22 28%	\$217,840,752 62%	4 57%
61 to 80%	0	0	\$0	0
81 to 100%	1 2%	1 1%	\$180,000 0%	0

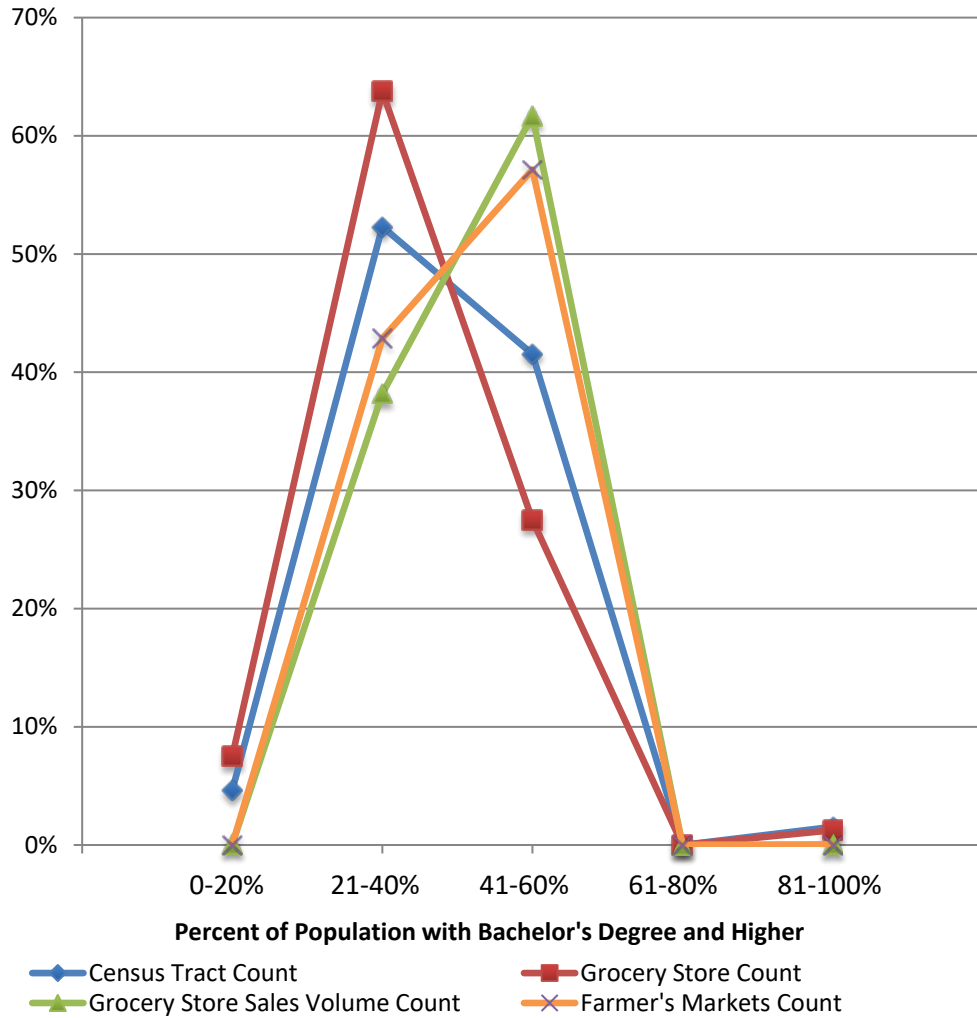


Figure 14. Distribution of grocery stores and farmers markets in Loudoun relative to high educational attainment.

Median Income

The majority of Northern Virginia's median income data pertain to people who live in Fairfax County (approximately 52%), followed by those who live in Prince William, Loudoun, Arlington and Alexandria, which together represent 97% of Northern Virginia's median income (Figure 15).

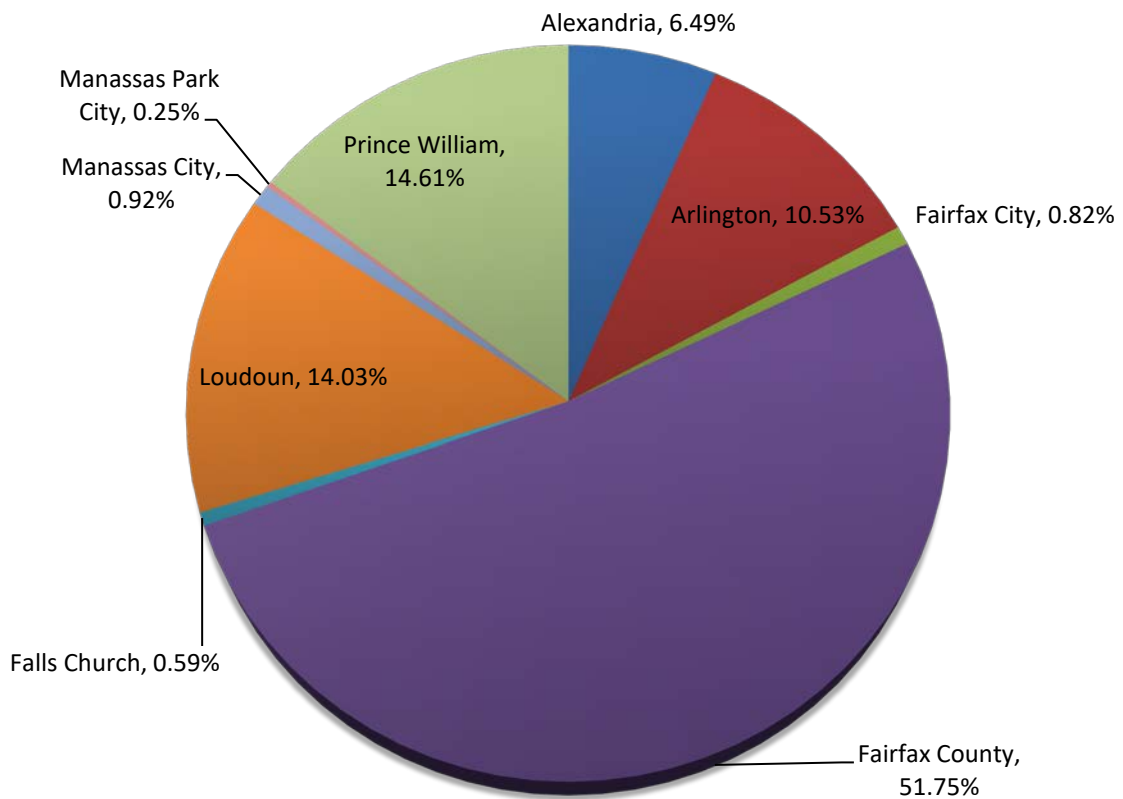


Figure 15. Northern Virginia share of median income by county.

This study indicates that availability of fresh food from farmers markets differs in a salient manner from that of conventionally sourced food from grocery stores relative to median income in Northern Virginia as a whole, and particularly in Alexandria, Loudoun and Prince William counties. In these areas, farmers markets tend to be located where people have higher median incomes as compared to grocery stores.

In Northern Virginia in aggregate (Figure 16, Table 11, Figure 17) and Prince William (Figure 18, Table 12, Figure 19), grocery stores are found in highest concentrations where median income is “\$60,001 to \$100,000”, whereas farmers markets

occur in highest concentration in areas where median income is “\$100,001 to \$140,000”. The majority of census tracts in aggregate and in Prince William are in the “\$100,001 to \$140,000” median income increment. Accordingly, farmers market distribution generally matches the typical character of census tracts in these areas, but grocery store distribution skews right and thus does not reflect the typical character of census tracts.

In Loudoun (Figure 20, Table 13, Figure 21), grocery stores are found in highest concentrations in areas where median income is “\$100,001 to \$140,000”, whereas farmers markets are predominantly found in areas where median income is “\$140,001 to \$180,000”. Grocery store distribution generally matches the typical character of census tracts in Loudoun, but farmers market distribution skews left. Farmers market distribution in Loudoun does not reflect the typical character of census tracts relative to median income.

In Alexandria (Figure 22, Table 14, Figure 23), grocery stores are found in highest concentrations in areas where median income is “\$60,001 to \$100,000”, whereas farmers markets are mostly concentrated in areas where median income is “\$100,001 to \$140,000”. The majority of census tracts in both counties is in the “\$60,001 to \$100,000” increment. Grocery store distribution generally matches the typical character of census tracts in Alexandria, but farmers market distribution skews left. Farmers market distribution in Alexandria does not reflect the typical character of census tracts relative to median income.

These results support the hypothesis that farmers markets (more-so than grocery stores) are located in areas where people have higher median incomes in Northern Virginia as a whole, and particularly in Prince William, Loudoun and Alexandria.

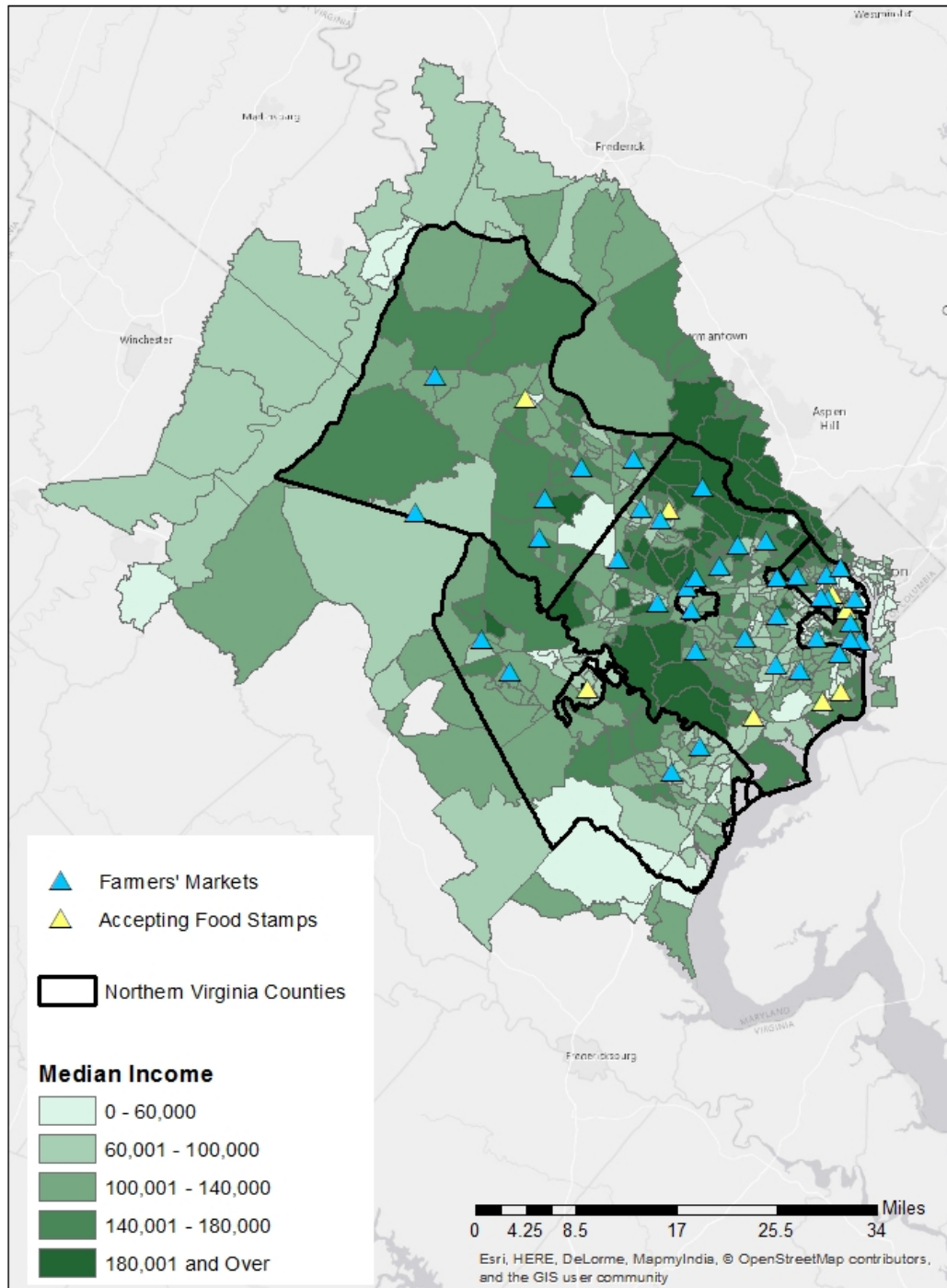


Figure 16. Median income map for Northern Virginia showing locations of farmers markets and subset accepting food stamps. Grey denotes no data in tract.

Table 11. Median income count and normalized results for Northern Virginia.

Median Income	Census Tract Count Percent	Grocery Store Count Percent	Grocery Store Sales Volume Percent	Farmers Markets Count Percent
Up to \$60,000	42 8.1%	74 9.9%	\$26,568,489 2.4%	3 6.5%
60,001 to \$100,000	152 29.2%	272 36.4%	\$440,454,440 40.2%	14 30.4%
100,001 to \$140,000	192 36.9%	248 33.2%	\$314,558,092 28.7%	20 43.5%
140,001 to \$180,000	95 18.3%	104 13.9%	\$261,700,066 23.9%	6 13.0%
\$180,001+	39 7.5%	49 6.6%	\$52,589,726 4.8%	3 6.5%

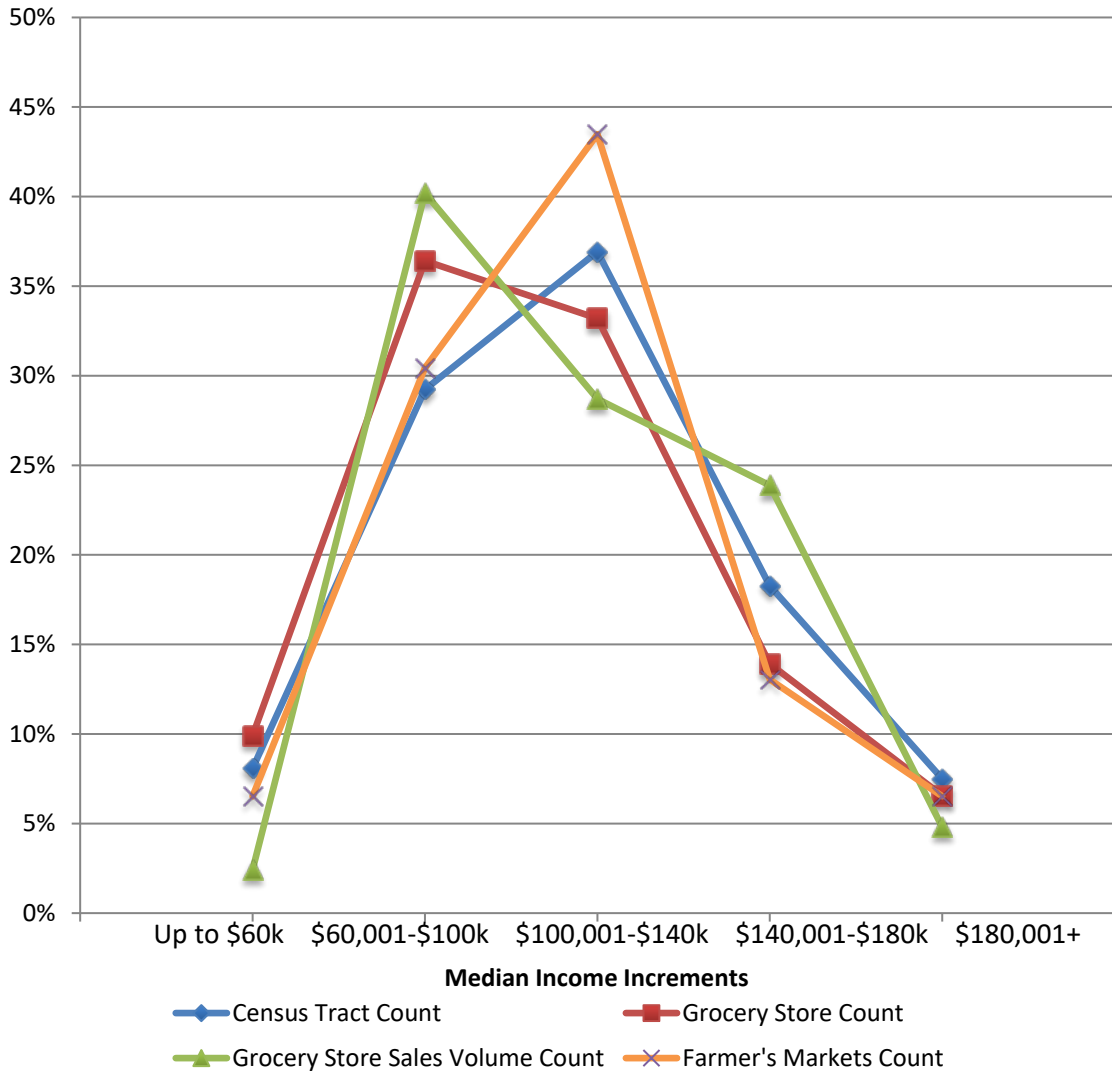


Figure 17. Distribution of grocery stores and farmers markets in Northern Virginia relative to median income.

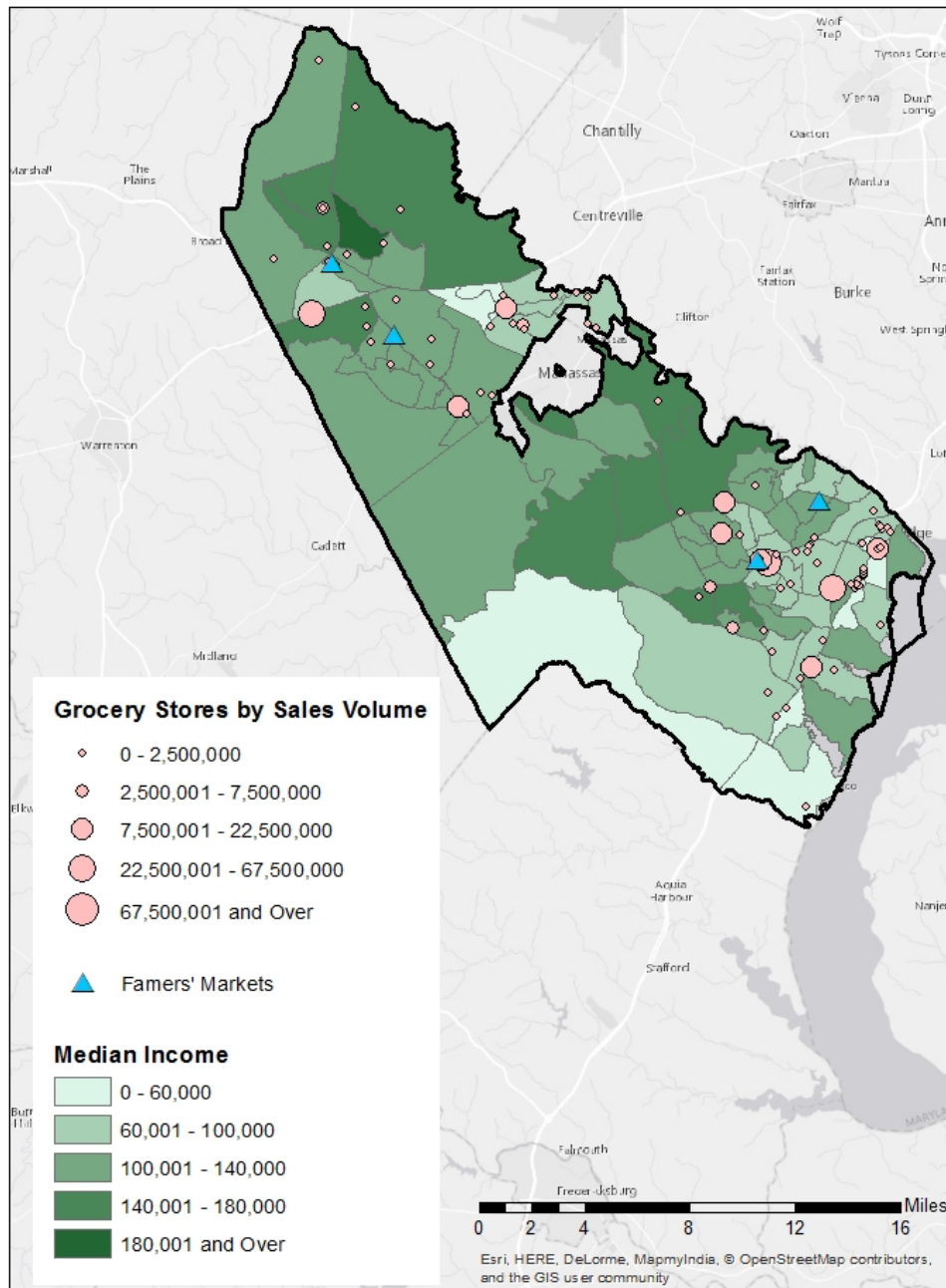


Figure 18. Median income map for Prince William showing locations of grocery stores, farmers markets, and subset of farmers markets accepting food stamps. Grey denotes no data in tract.

Table 12. Median income count and normalized results for Prince William.

Median Income	Census Tract Count Percent	Grocery Store Count Percent	Grocery Store Sales Volume Percent	Farmers Markets Count Percent
Up to \$60,000	8 10%	18 19%	\$2,629,404 3%	0
60,001 to \$100,000	28 34%	40 42%	\$21,735,860 23%	1 25%
100,001 to \$140,000	35 42%	25 26%	\$67,255,078 70%	3 75%
140,001 to \$180,000	11 13%	12 13%	\$4,125,832 4%	0
\$180,001+	1 1%	0	\$0	0

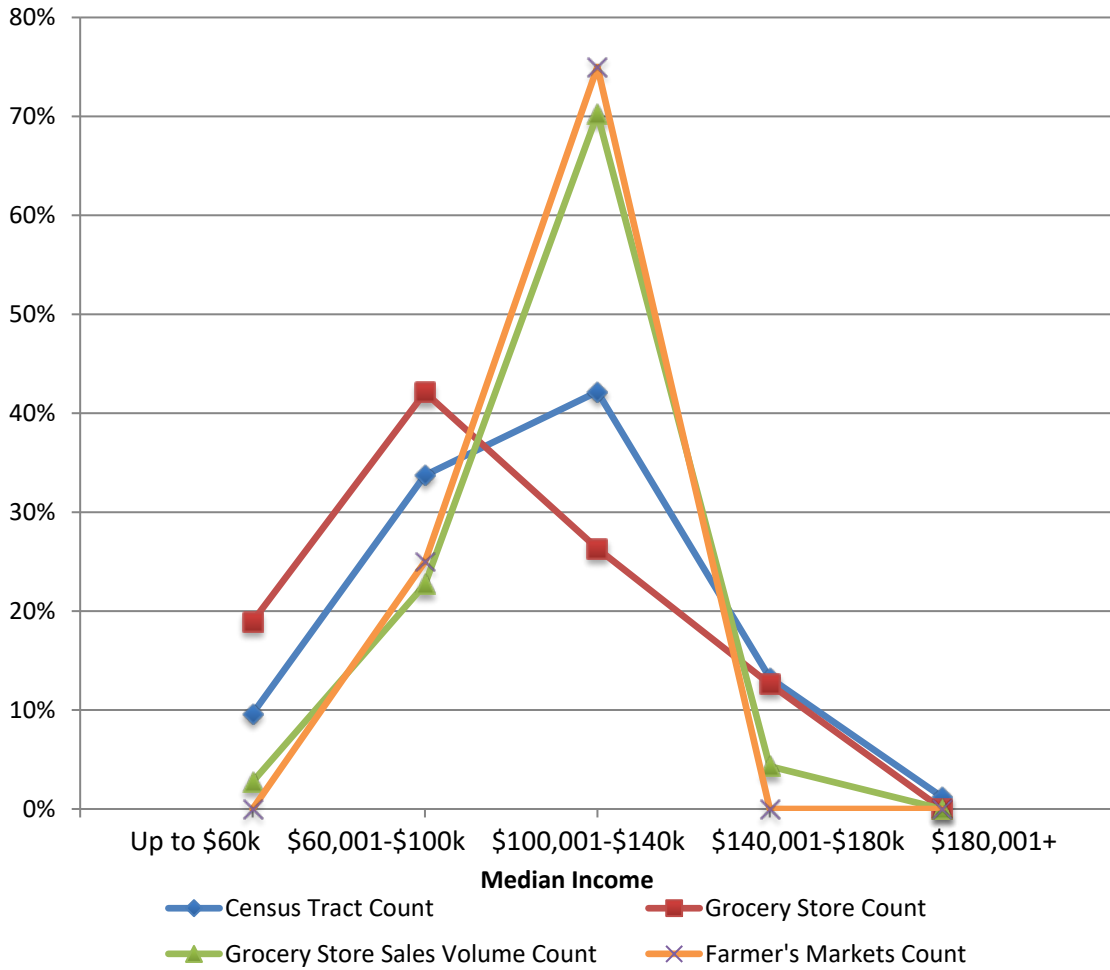


Figure 19. Distribution of grocery stores and farmers markets in Prince William relative to median income.

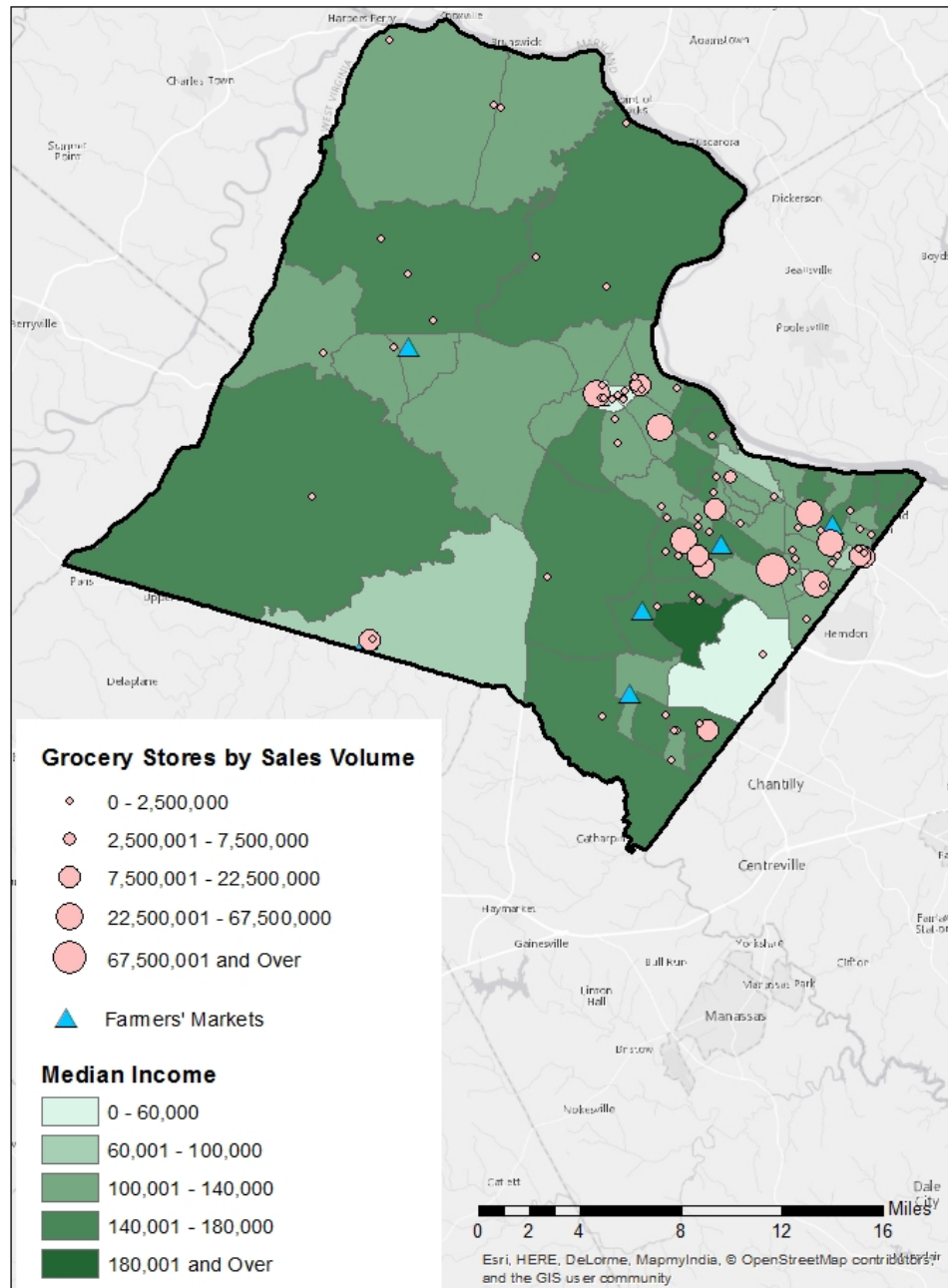


Figure 20. Median income map for Loudoun showing locations of grocery stores, farmers markets, and subset of farmers markets accepting food stamps. Grey denotes no data in tract.

Table 13. Median income count and normalized results for Loudoun.

Median Income	Census Tract Count Percent	Grocery Store Count Percent	Grocery Store Sales Volume Percent	Farmers Markets Count Percent
Up to \$60,000	3 5%	10 13%	\$590,000 0%	1 14%
60,001 to \$100,000	4 6%	4 5%	\$29,914,693 8%	1 14%
100,001 to \$140,000	33 51%	43 54%	\$120,101,826 34%	2 29%
140,001 to \$180,000	24 37%	20 25%	\$202,274,208 57%	3 43%
\$180,001+	1 2%	3 4%	\$190,000 0%	0

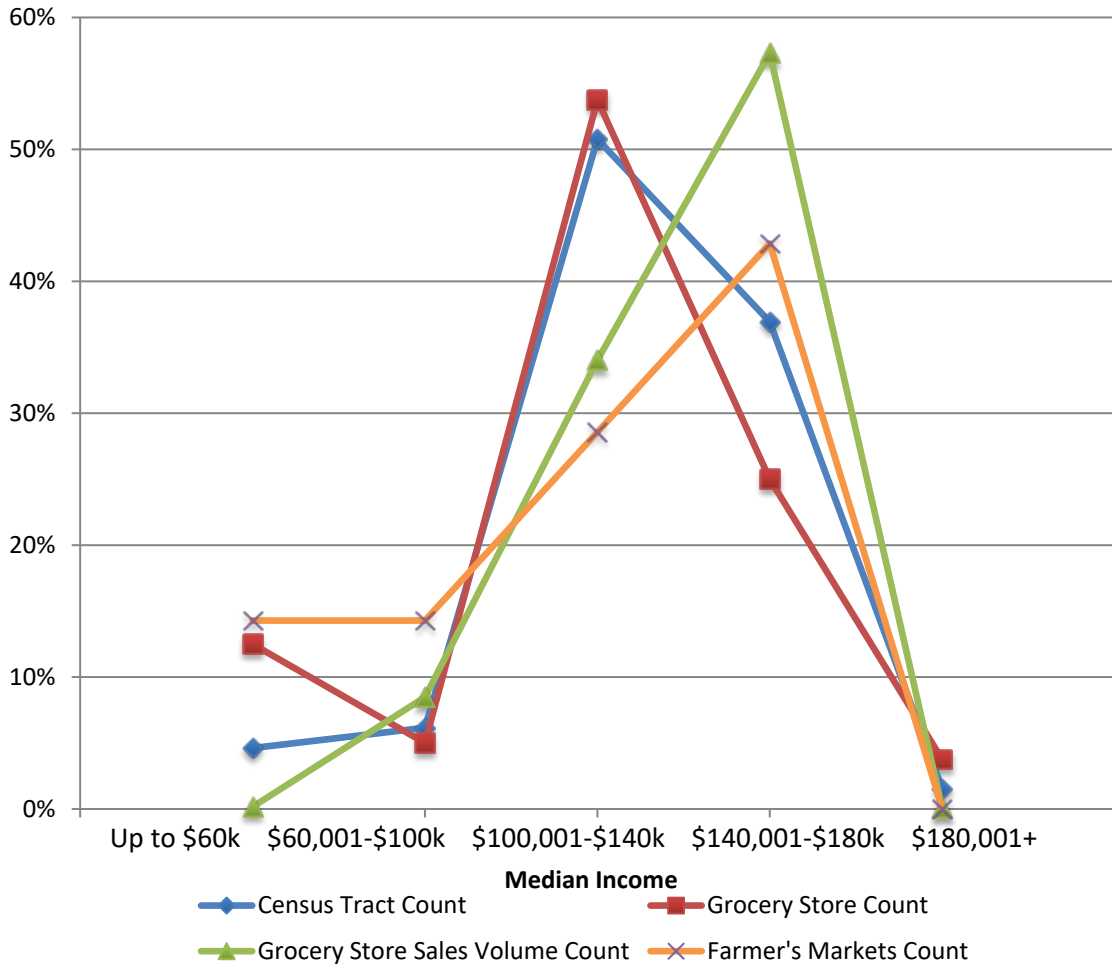


Figure 21. Distribution of grocery stores and farmers markets in Loudoun relative to median income.

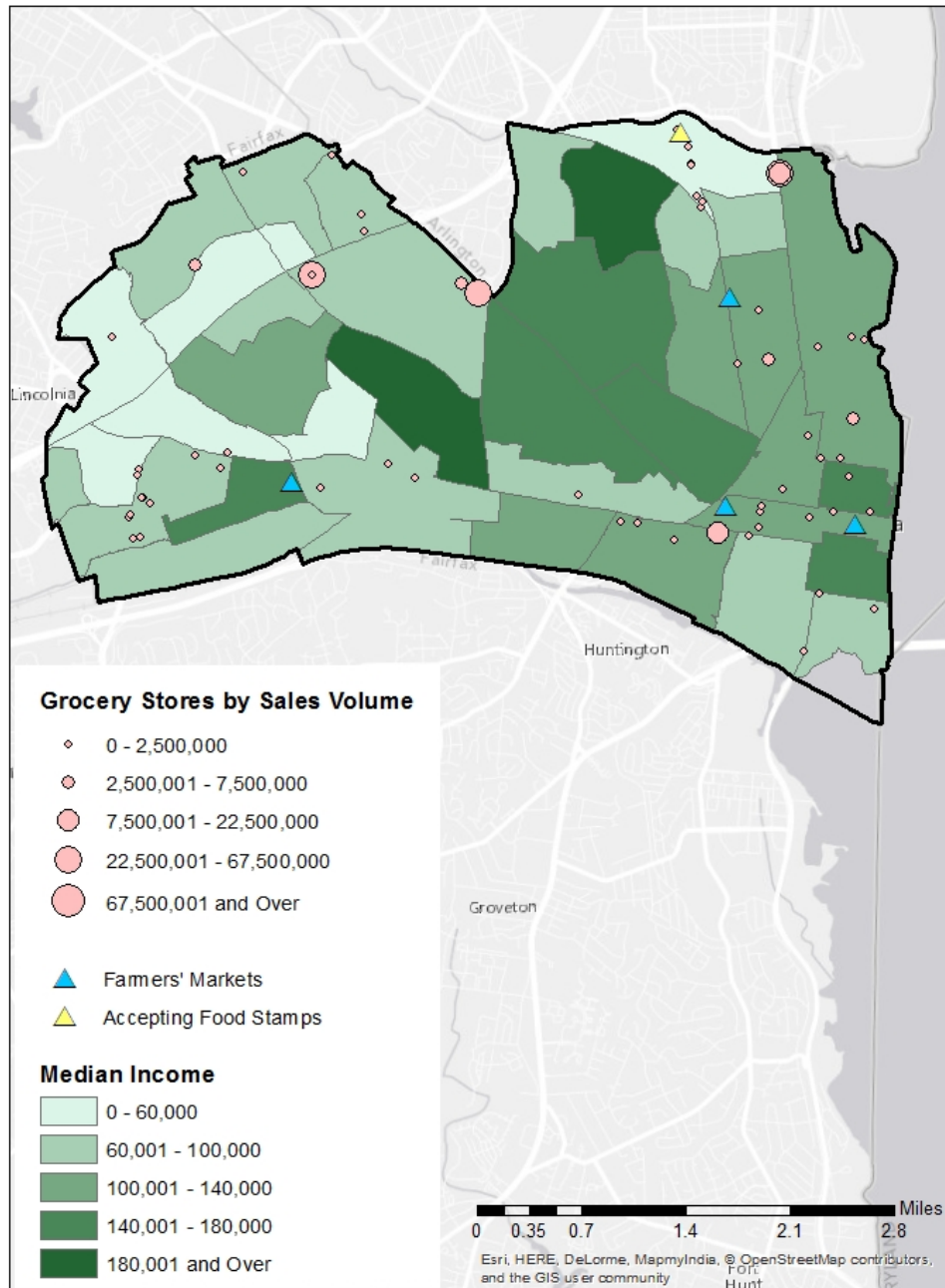


Figure 22. Median income map for Alexandria showing locations of grocery stores, farmers markets, and subset of farmers markets accepting food stamps. Grey denotes no data in tract.

Table 14. Median income count and normalized results for Alexandria.

Median Income	Census Tract Count Percent	Grocery Store Count Percent	Grocery Store Sales Volume Percent	Farmers Markets Count Percent
Up to \$60,000	7 18%	11 17%	\$730,000 2%	1 20%
60,001 to \$100,000	15 39%	29 45%	\$41,307,915 95%	0
100,001 to \$140,000	8 21%	22 34%	\$1,070,000 2%	3 60%
140,001 to \$180,000	6 16%	2 3%	\$160,000 0%	1 20%
\$180,001+	2 5%	0	\$0	0

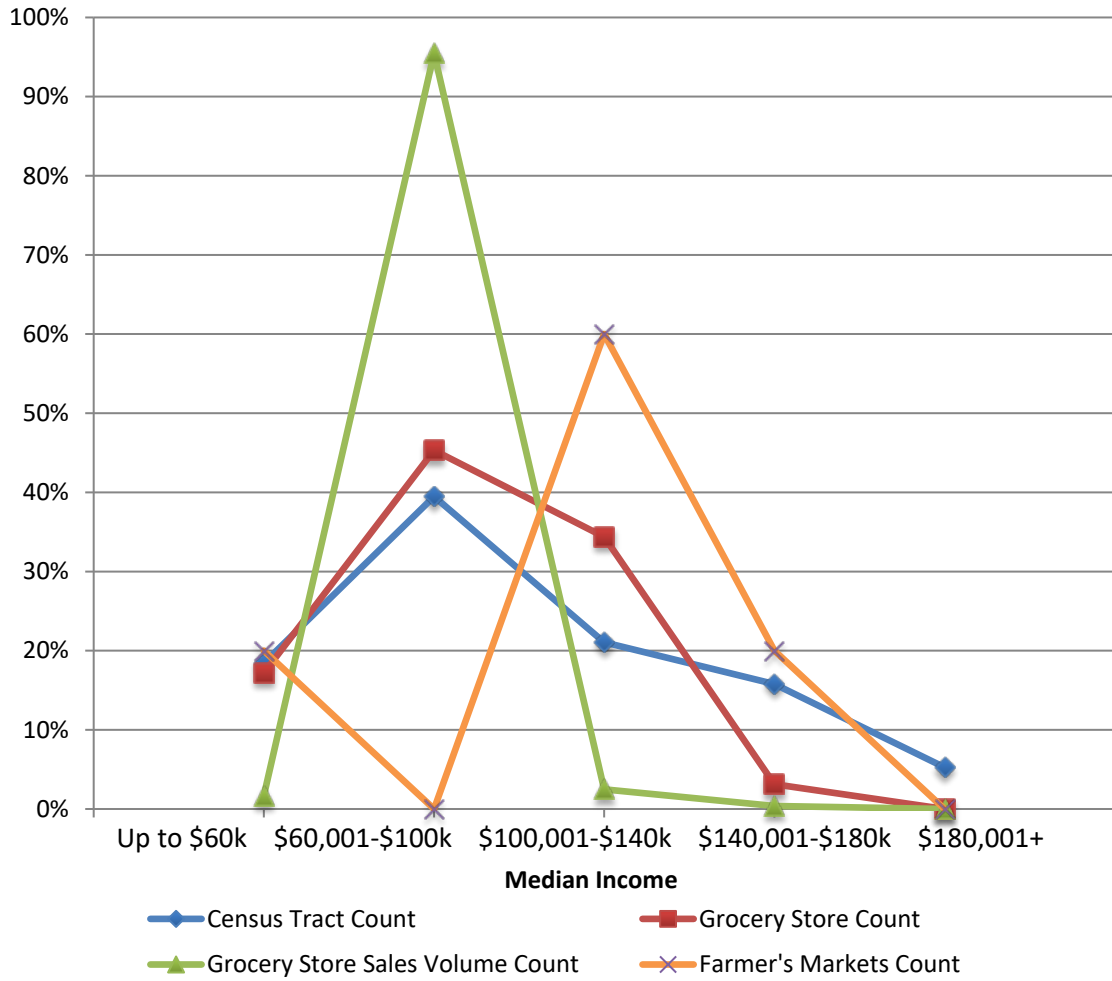


Figure 23. Distribution of grocery stores and farmers markets in Alexandria relative to median income.

Ethnicity

Of the total Black population in Northern Virginia, approximately 38% live in Fairfax County, followed by Prince William (32%), Alexandria (11%), Loudoun (nine percent), and Arlington (seven percent) (Figure 24). Together, these counties are home to 97% of the Black population. Of the total Hispanic population, approximately 44% live in Fairfax County, followed by Prince William (23%), Loudoun (12%), Arlington (eight percent), Alexandria (six percent) (Figure 24). Together these counties are home to 93% of the Hispanic population. Of the total Asian population, approximately 60% live in Fairfax County, followed by Loudoun (18%), Prince William (10%), Arlington (six percent), and Alexandria (three percent) (Figure 24). Together these counties are home to 97% of the Asian population. Of the total White population, approximately 46% live in Fairfax County, followed by Prince William (17%), Loudoun (16%), Arlington (11%), and Alexandria (six percent). Together these counties represent 96% of the White population (Figure 24).

This study shows that availability of fresh food from farmers markets differs in a salient manner from that of conventionally sourced food from grocery stores relative to ethnicity in Northern Virginia (in aggregate), Loudoun, Alexandria, and Prince William. In these areas, farmers markets tend to be located in areas where there are greater concentrations of people who identify as White as compared to grocery stores in a manner atypical of census tracts.

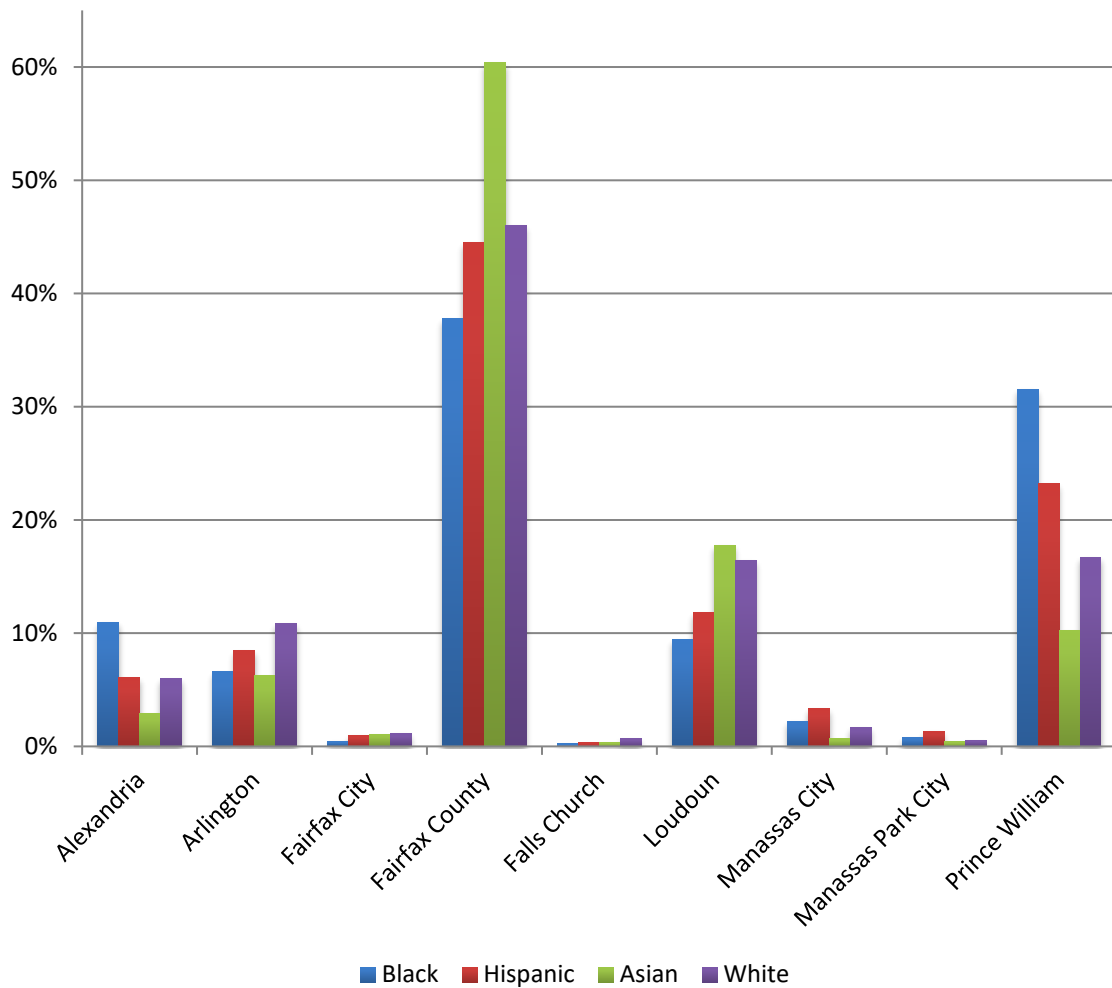


Figure 24. Northern Virginia share of ethnicity by county. Bar graph shows each Northern Virginia county’s share of population identifying as Black, Hispanic, Asian and White as a percent of the total population of such ethnicities across all Northern Virginia counties.

In Northern Virginia as a whole (Figure 25, Table 15, Figure 26) and in Loudoun (Figure 27, Table 16, Figure 28), grocery stores are predominantly located in areas where “41 to 60%” of the population identify as White, whereas farmers markets are most concentrated in the “61 to 80%” increment. The distribution of farmers markets matches the typical character of census tracts, but that of grocery stores skews right of both.

Grocery store distribution relative to the White population does not reflect the typical character of census tracts in Northern Virginia (aggregated) and Loudoun.

In Alexandria, grocery stores are predominantly located in areas where “61 to 80%” of the population identify as White, whereas farmers markets are most concentrated in the “81 to 100%” increment (Figure 29, Table 17, Figure 30).

Distributions of both grocery stores and farmers markets skew left of the typical character of census tracts. Neither grocery store nor farmers market distributions relative to the White population reflect the typical character of census tracts in Alexandria.

In Prince William, there is a salient divergence between distributions of grocery stores and farmers markets with respect to concentration of the White population (Figure 31). Grocery stores are predominantly located in areas where “41 to 60%” of the population identify as White, whereas farmers markets are most concentrated in the “61 to 80%” increment (Table 18, Figure 32). The distribution of grocery stores matches the typical character of census tracts, but that of farmers stores skews left of both. In Prince William, farmers market distribution relative to the White population does not reflect the typical character of census tracts.

These results support the hypothesis that farmers markets (more-so than grocery stores) are located in areas with a higher concentration of the population that identify as White in Northern Virginia (in aggregate), and particularly in Loudoun, Alexandria and Prince William.

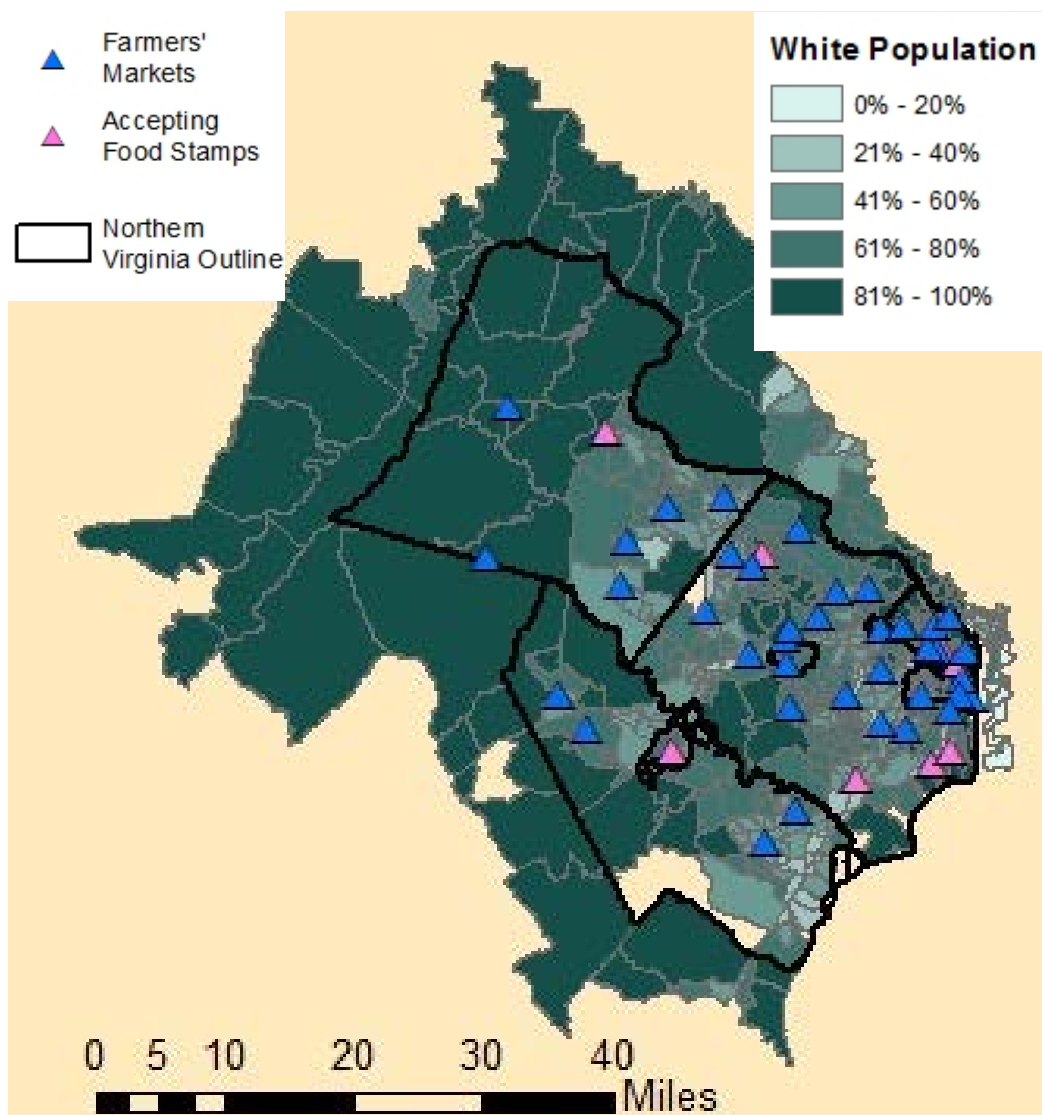


Figure 25. Ethnicity map for Northern Virginia showing locations of farmers markets and subset accepting food stamps relative to concentration of population identifying as White. Beige denotes no data in tract.

Table 15. Ethnicity (White population) count and normalized results for Northern Virginia (aggregated).

White Population	Census Tract Count Percent	Grocery Store Count Percent	Grocery Store Sales Volume Percent	Farmers Markets Count Percent
0 to 20%	2 0.4%	0	\$0	0
21 to 40%	46 8.8%	84 11.2%	\$80,894,992 7.4%	4 8.7%
41 to 60%	183 35.2%	305 40.8%	\$535,741,800 48.9%	12 26.1%
61 to 80%	206 39.6%	267 35.7%	\$327,007,361 29.8%	20 43.5%
81 to 100%	83 16.0%	91 12.2%	\$152,226,660 13.9%	10 21.7%

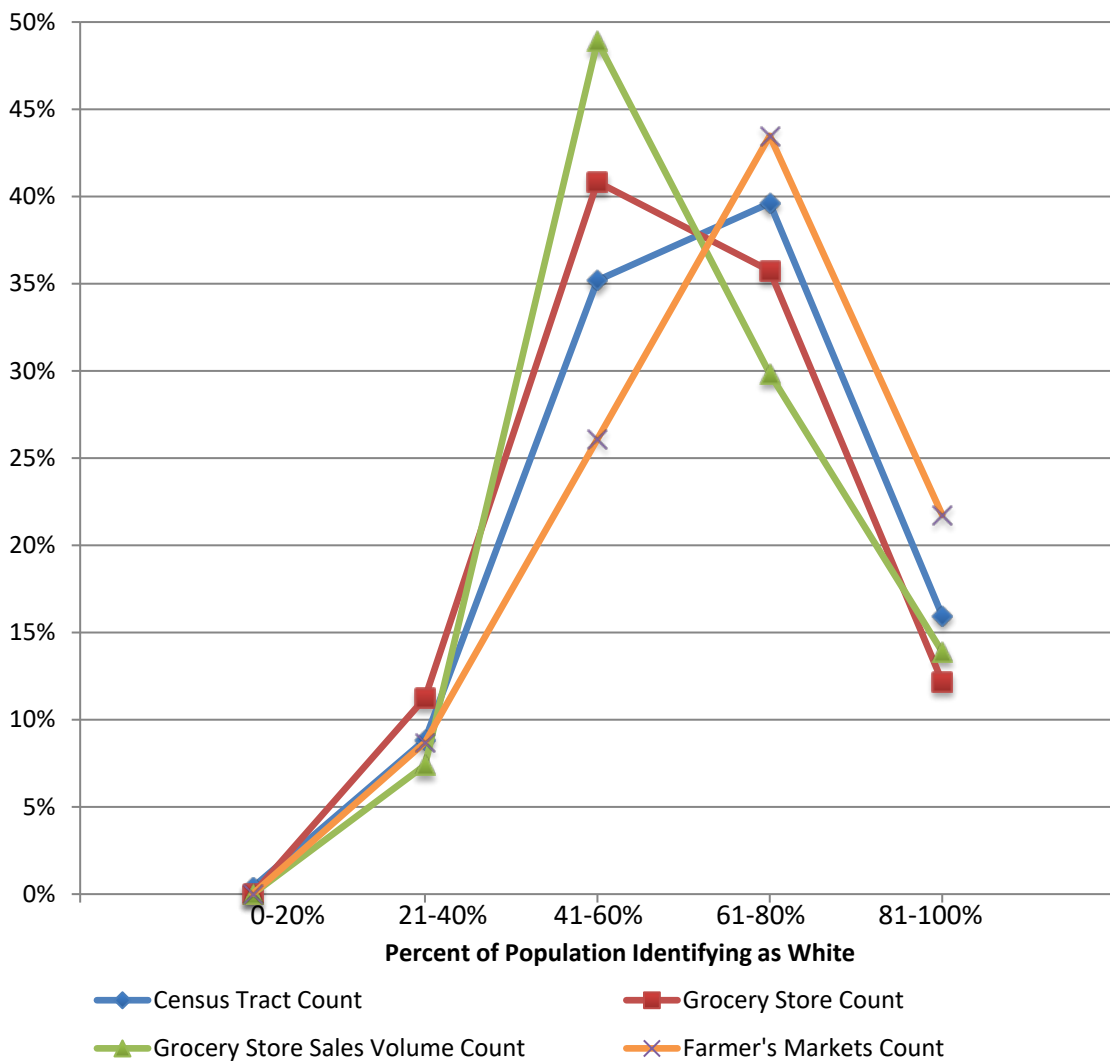


Figure 26. Distribution of grocery stores and farmers markets in Northern Virginia relative to concentration of population identifying as White.

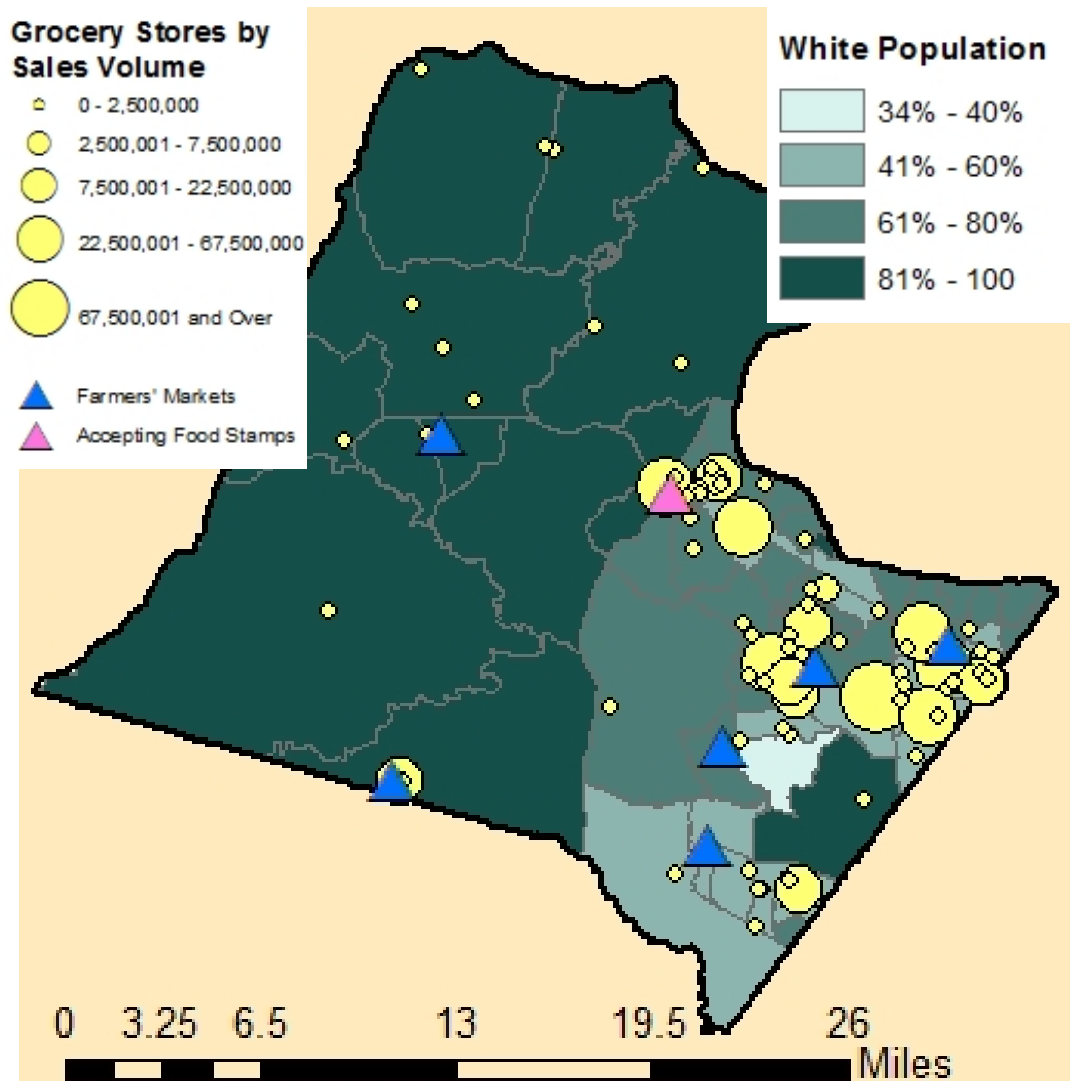


Figure 27. Ethnicity map for Loudoun showing locations of grocery stores, farmers markets, and subset of farmers markets accepting food stamps relative to concentration of population identifying as White. No census tracts have less than 34% White population. Beige denotes no data in tract.

Table 16. Ethnicity (White population) count and normalized results for Loudoun.

White Population	Census Tract Count Percent	Grocery Store Count Percent	Grocery Store Sales Volume Percent	Farmers Markets Count Percent
0 to 20%	0	0	\$0	0
21 to 40%	1 2%	3 4%	\$190,000 0%	1 0%
41 to 60%	21 32%	36 45%	\$99,608,225 28%	21 14%
61 to 80%	29 45%	25 31%	\$200,407,291 57%	29 57%
81 to 100%	14 22%	16 20%	\$52,865,211 15%	14 29%

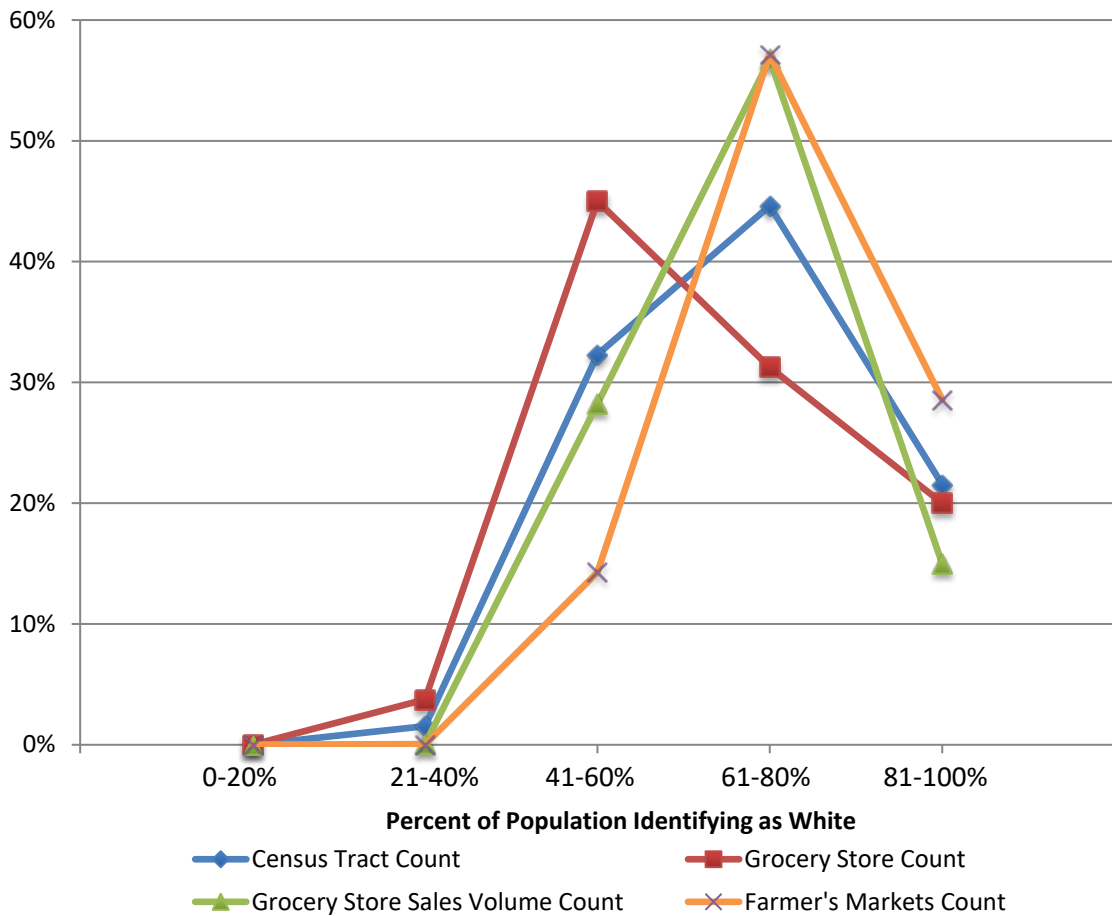


Figure 28. Distribution of grocery stores and farmers markets in Loudoun relative to concentration of population identifying as White.

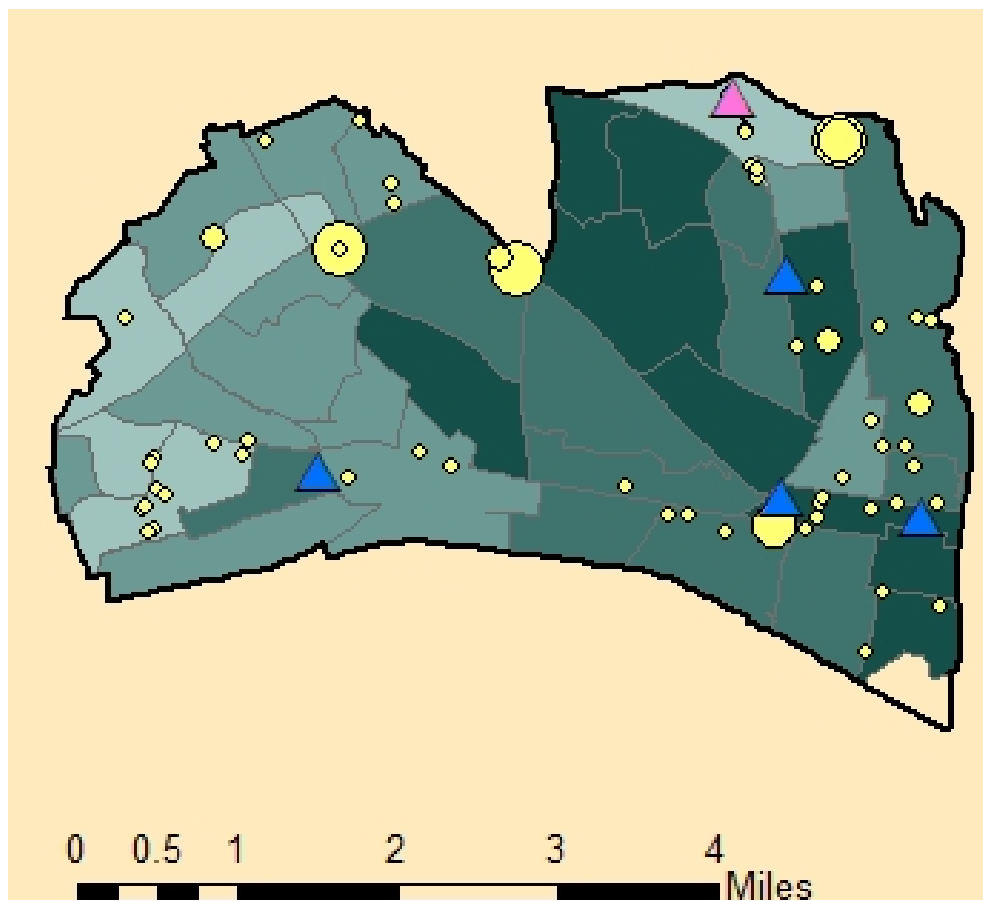
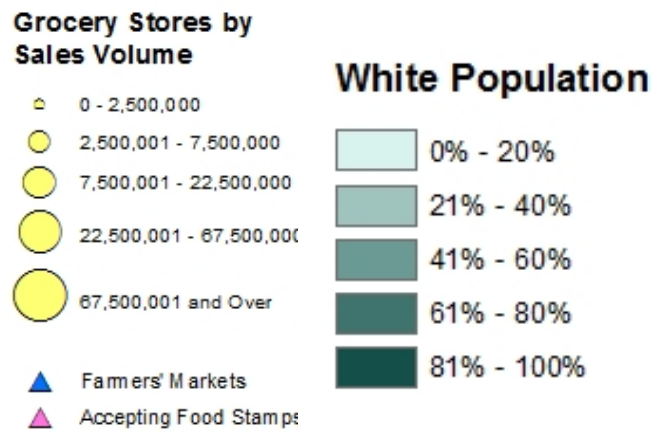


Figure 29. Ethnicity map for Alexandria showing locations of grocery stores, farmers markets, and subset of farmers markets accepting food stamps relative to concentration of population identifying as White. Beige denotes no data in tract.

Table 17. Ethnicity (White population) count and normalized results for Alexandria.

White Population	Census Tract Count Percent	Grocery Store Count Percent	Grocery Store Sales Volume Percent	Farmers Markets Count Percent
0 to 20%	0	0	\$0	0
21 to 40%	6 16%	19 30%	\$720,000 2%	1 20%
41 to 60%	12 32%	13 20%	\$7,289,926 17%	0
61 to 80%	11 29%	21 33%	\$34,597,989 80%	1 20%
81 to 100%	9 24%	11 17%	\$660,000 2%	3 60%

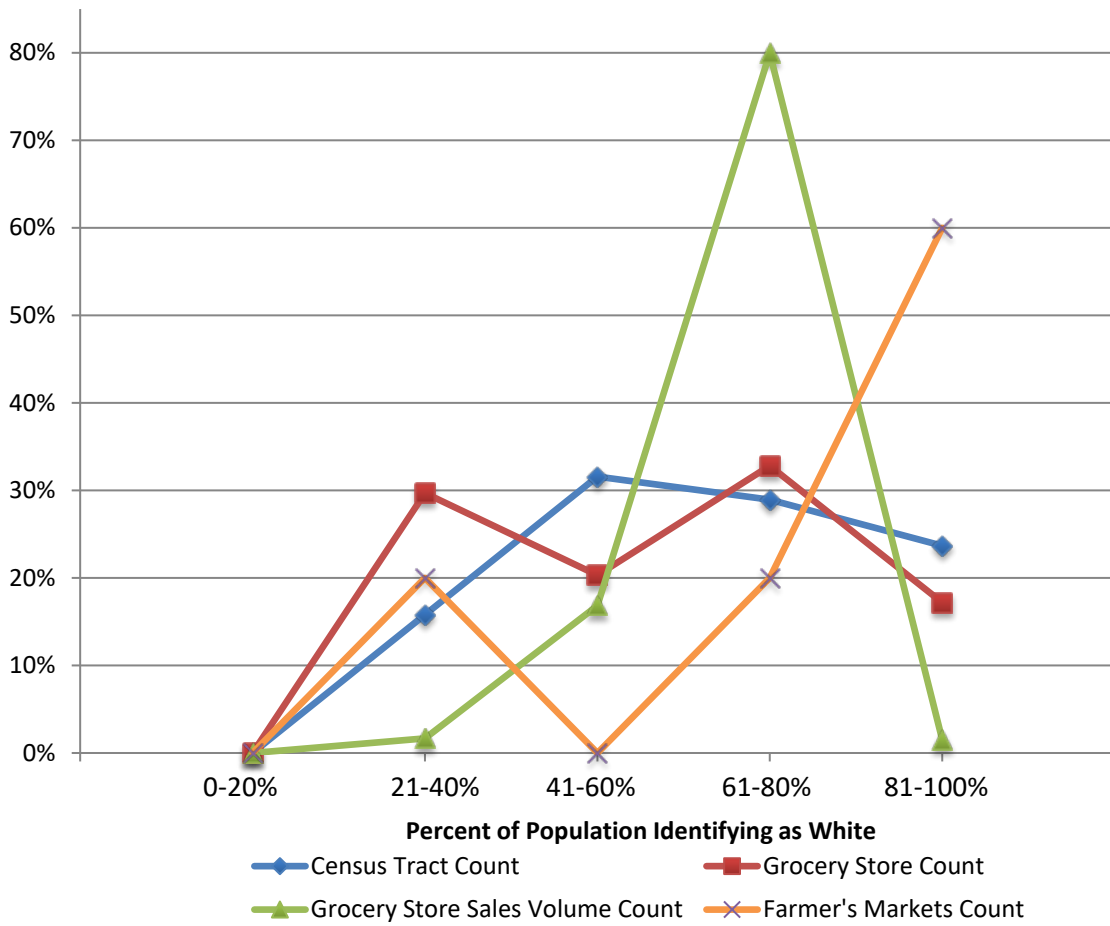


Figure 30. Distribution of grocery stores and farmers markets in Alexandria relative to concentration of population identifying as White.

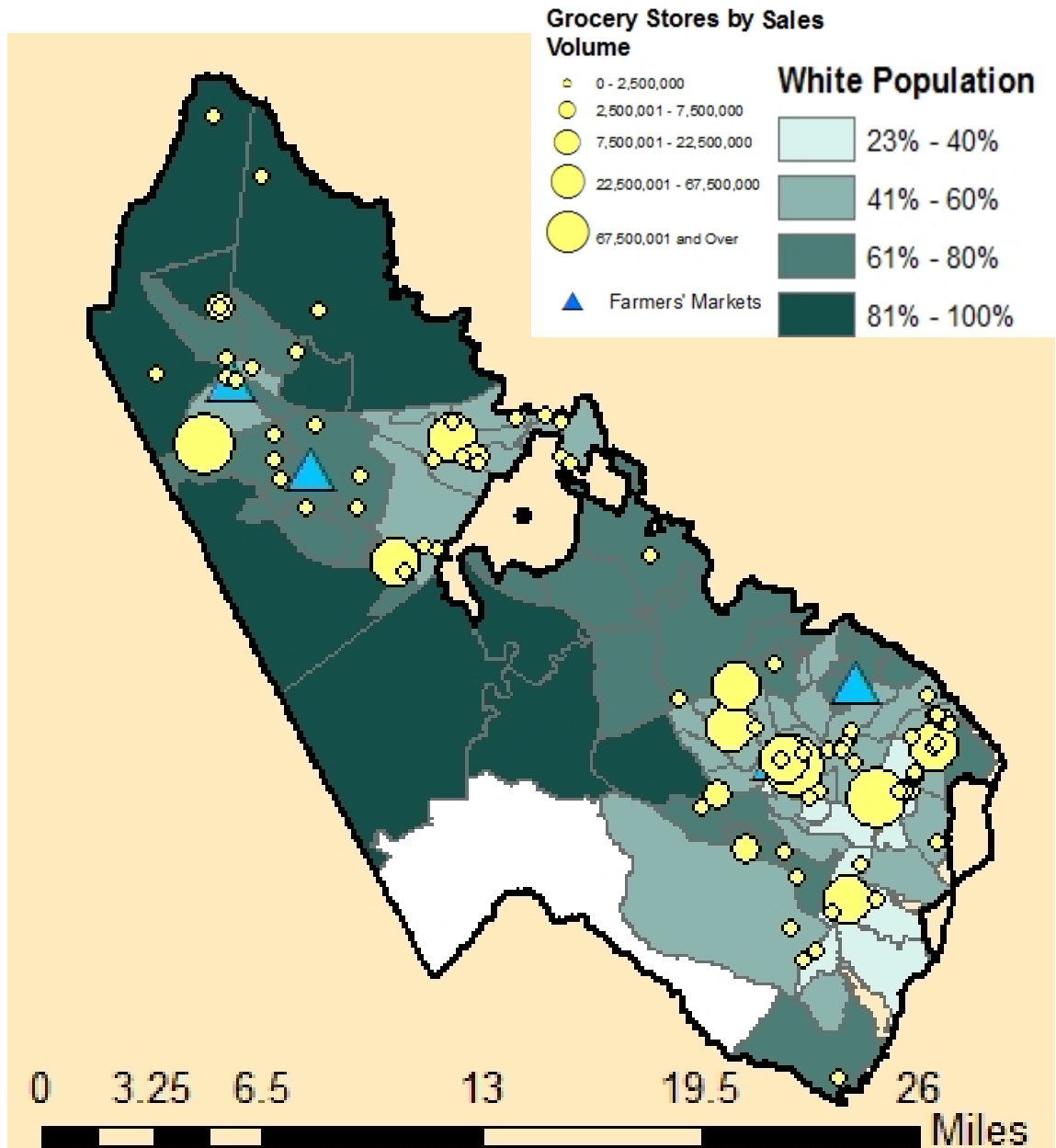


Figure 31. Ethnicity map for Prince William showing locations of grocery stores and farmers markets relative to concentration of population identifying as White. No census tracts have less than 23% White population. No farmers markets in Prince William accept food stamps. Beige denotes no data in tract.

Table 18. Ethnicity (White population) count and normalized results for Prince William.

White Population	Census Tract Count Percent	Grocery Store Count Percent	Grocery Store Sales Volume Percent	Farmers Markets Count Percent
0 to 20%	1 1%	0	\$0	0
21 to 40%	11 13%	19 20%	\$65,859,562 69%	0
41 to 60%	35 42%	46 48%	\$23,947,780 25%	1 25%
61 to 80%	27 33%	23 24%	\$4,245,832 4%	3 75%
81 to 100%	9 11%	7 7%	\$1,693,000 2%	0

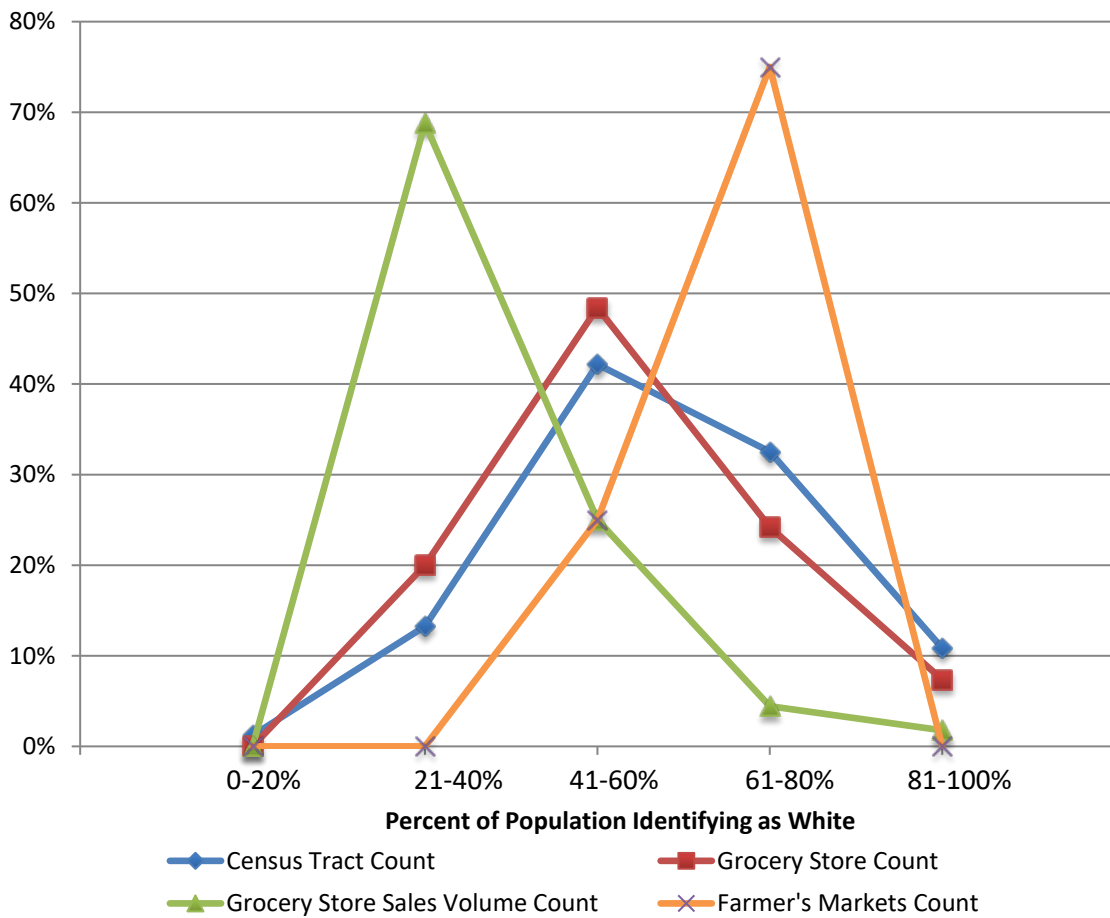


Figure 32. Distribution of grocery stores and farmers markets in Prince William relative to concentration of population identifying as White.

Elderly Population

The majority of Northern Virginia's elderly population (i.e., people age 65 and over) live in Fairfax County (approximately 54%), followed by Prince William, Loudoun, Arlington and Alexandria, which together represent about 96% of Northern Virginia's elderly population (Figure 33). This study indicates that availability of fresh food from farmers markets does not differ in a salient manner from that of conventionally sourced food from grocery stores relative to the concentration of the elderly population in these areas.

Figure 34 is a GIS elderly population map of Northern Virginia, with the locations of farmers markets and the subset thereof that accepts food stamps. Count and normalized data obtained from this map indicate that the majority of census tracts (90%), grocery stores (92%), and farmers markets (89%) are located in areas where "0 to 20%" of the elderly population live, with the predominant remainder in the "21 to 40%" increment (Table 19).

Distributions of grocery stores and farmers markets match one another with respect to concentration of the elderly population in Northern Virginia and these in turn match the typical character of census tracts (Figure 35). Any county-level divergences observed are not atypical of census tracts.

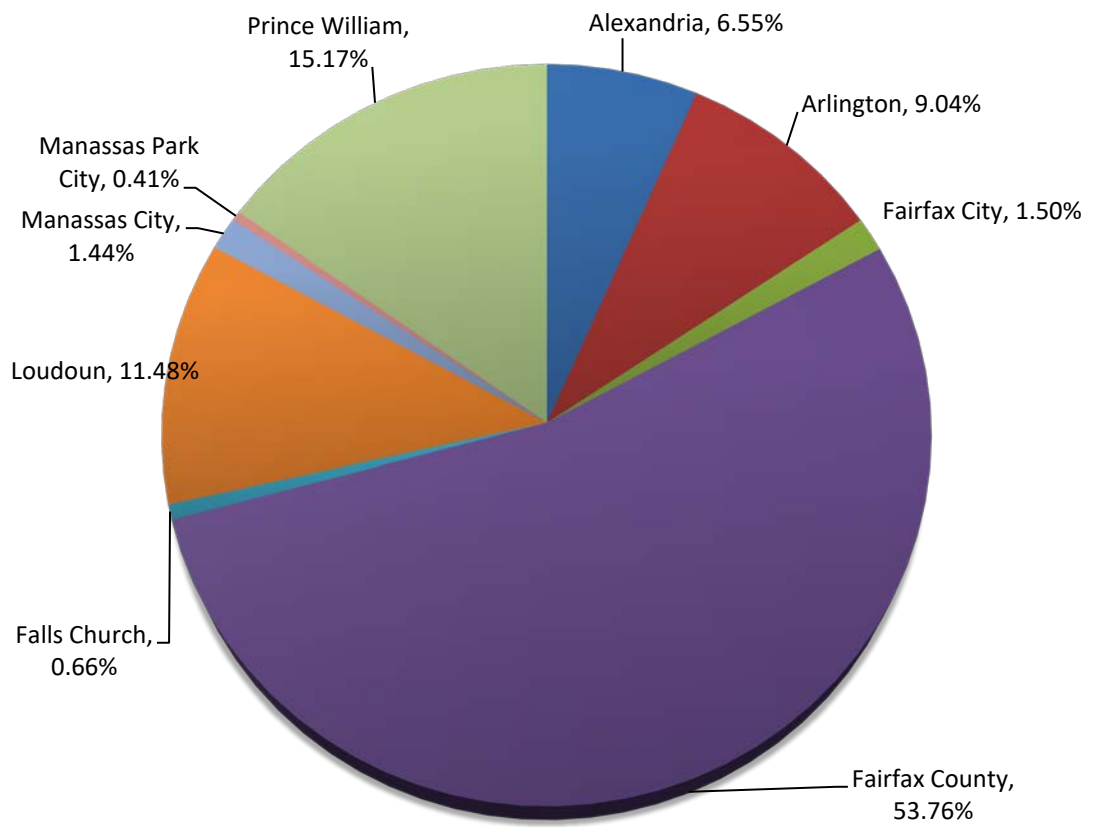


Figure 33. Northern Virginia share of elderly population by county.

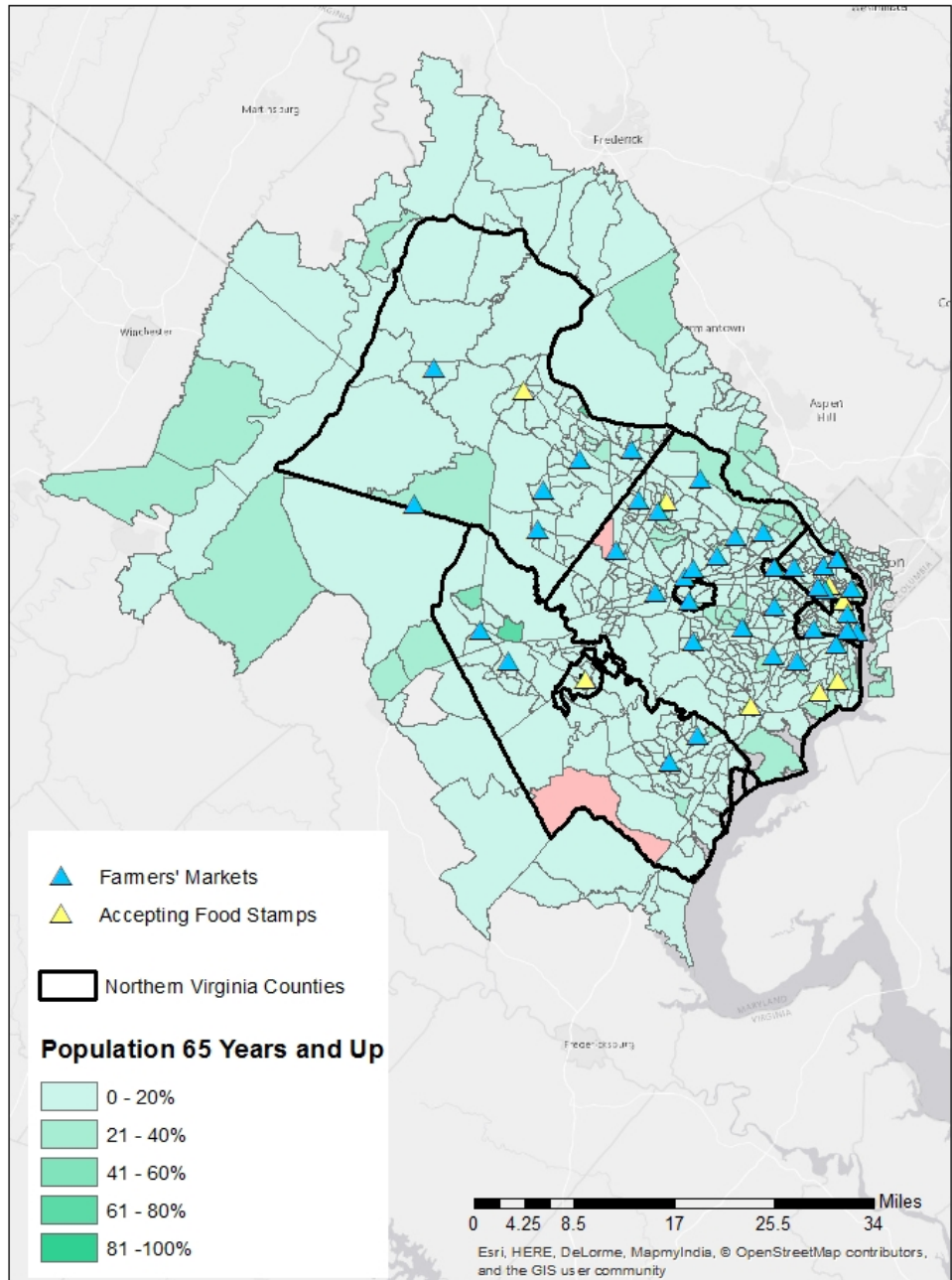


Figure 34. Elderly population map for Northern Virginia showing locations of farmers markets and subset accepting food stamps. Pink (within Northern Virginia) and grey (outside of Northern Virginia) denote no data in tracts.

Table 19. Elderly population count and normalized results for Northern Virginia.

Age Over 65	Census Tract Count Percent	Grocery Store Count Percent	Grocery Store Sales Volume Percent	Farmers Markets Count Percent
0 to 20%	469 90.2%	686 91.8%	\$1,037,196,911 94.6%	41 89.1%
21 to 40%	47 9.0%	58 7.8%	\$58,380,902 5.3%	5 10.9%
41 to 60%	2 0.4%	2 0.3%	\$200,000 0.0%	0
61 to 80%	2 0.4%	1 0.1%	\$200,000 0.0%	0
81 to 100%	0	0	\$0	0

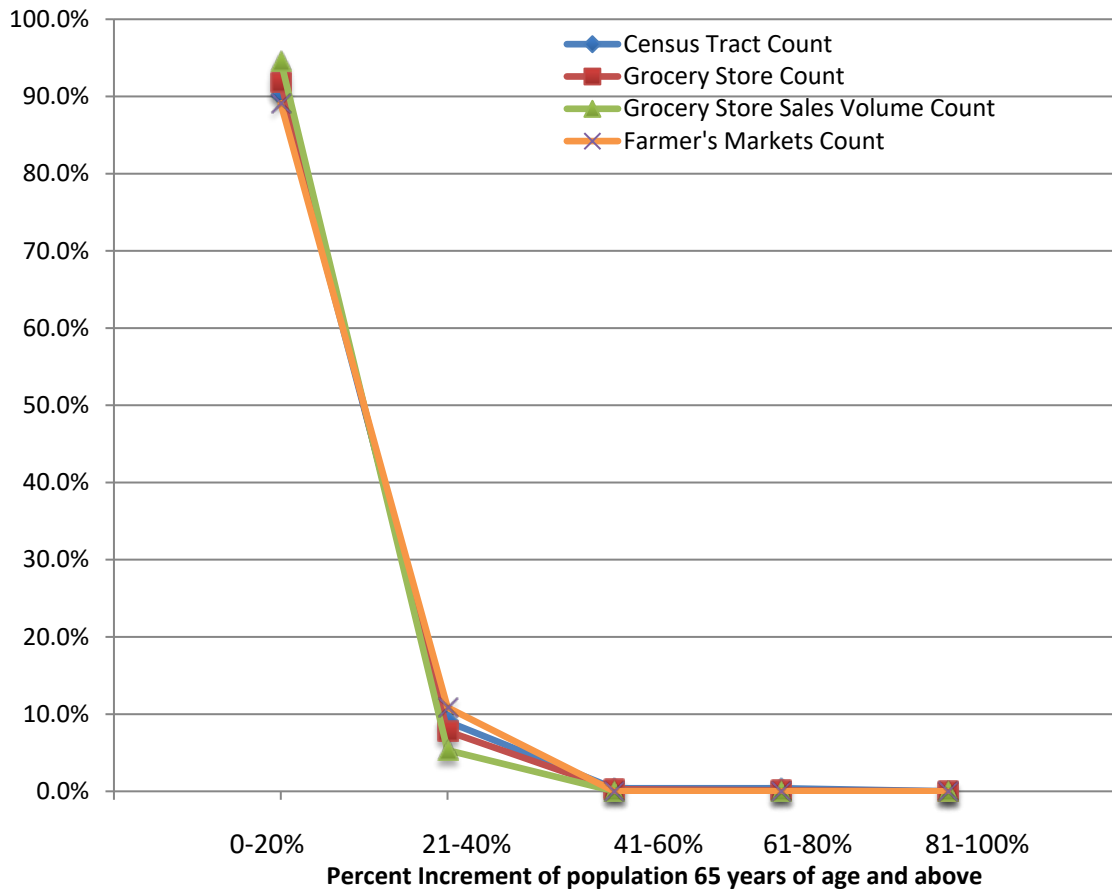


Figure 35. Distribution of grocery stores and farmers markets in Northern Virginia relative to concentration of the elderly population.

Households Without Vehicles

The majority of Northern Virginia's households that do not own or lease at least one vehicle are in Fairfax County (approximately 38%), followed by Arlington, Alexandria, Prince William, and Loudoun, which together represent 98% of Northern Virginia's households without vehicles (Figure 36).

In Alexandria, there is a salient divergence between the distribution of grocery stores and farmers markets with respect to concentration of households without vehicles. Figure 37 is a GIS Map showing the locations of grocery stores and farmers markets in Alexandria relative to concentration of households that do not own or lease at least one vehicle. Count and normalized data generated from this map indicate that grocery stores are predominantly located in areas where "21 to 40%" of households are without vehicles, whereas farmers markets are most concentrated in the "41 to 60%" increment (Table 20). The distribution of grocery stores matches the typical character of census tracts, but that of farmers stores skews left of both (Figure 38). In Alexandria, farmers market distribution relative to concentration of households without vehicles does not reflect the typical character of census tracts (Figure 38).

These results support the hypothesis that farmers markets (more-so than grocery stores) are located in areas where there are more households without vehicles in Alexandria.

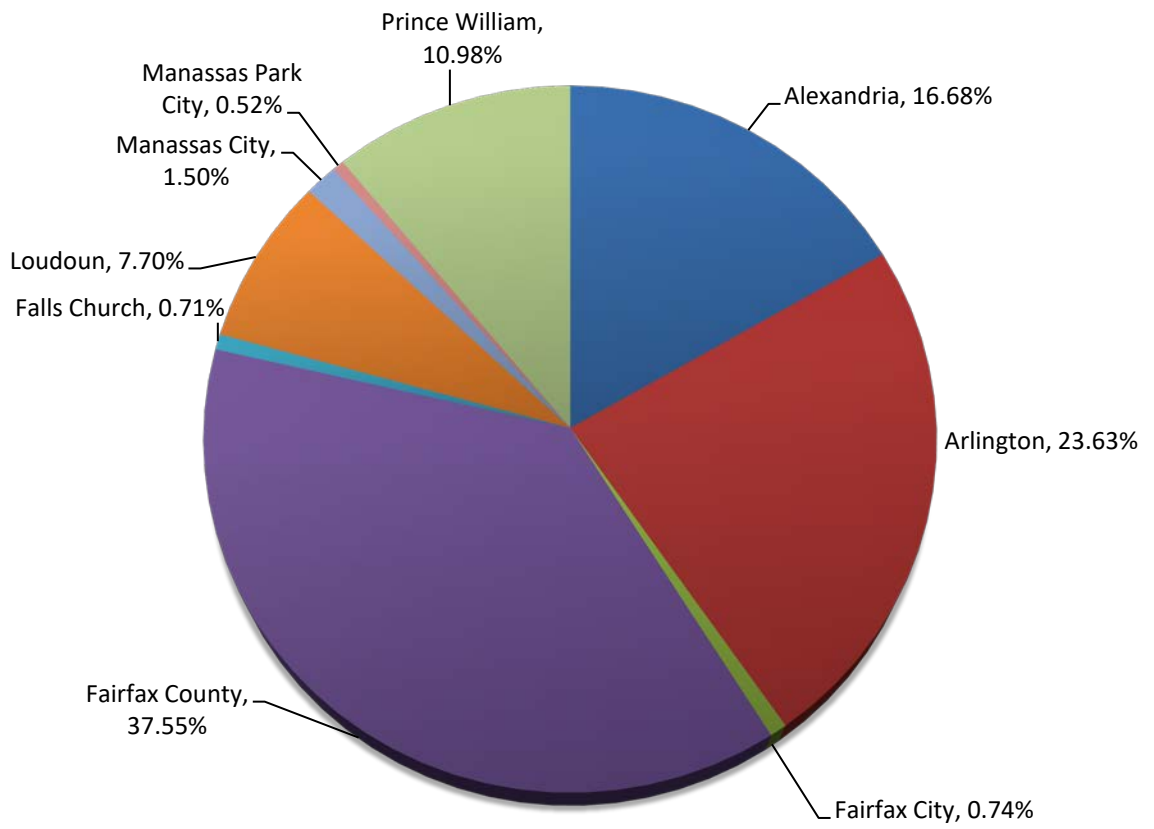


Figure 36. Northern Virginia share of households without vehicles by county.

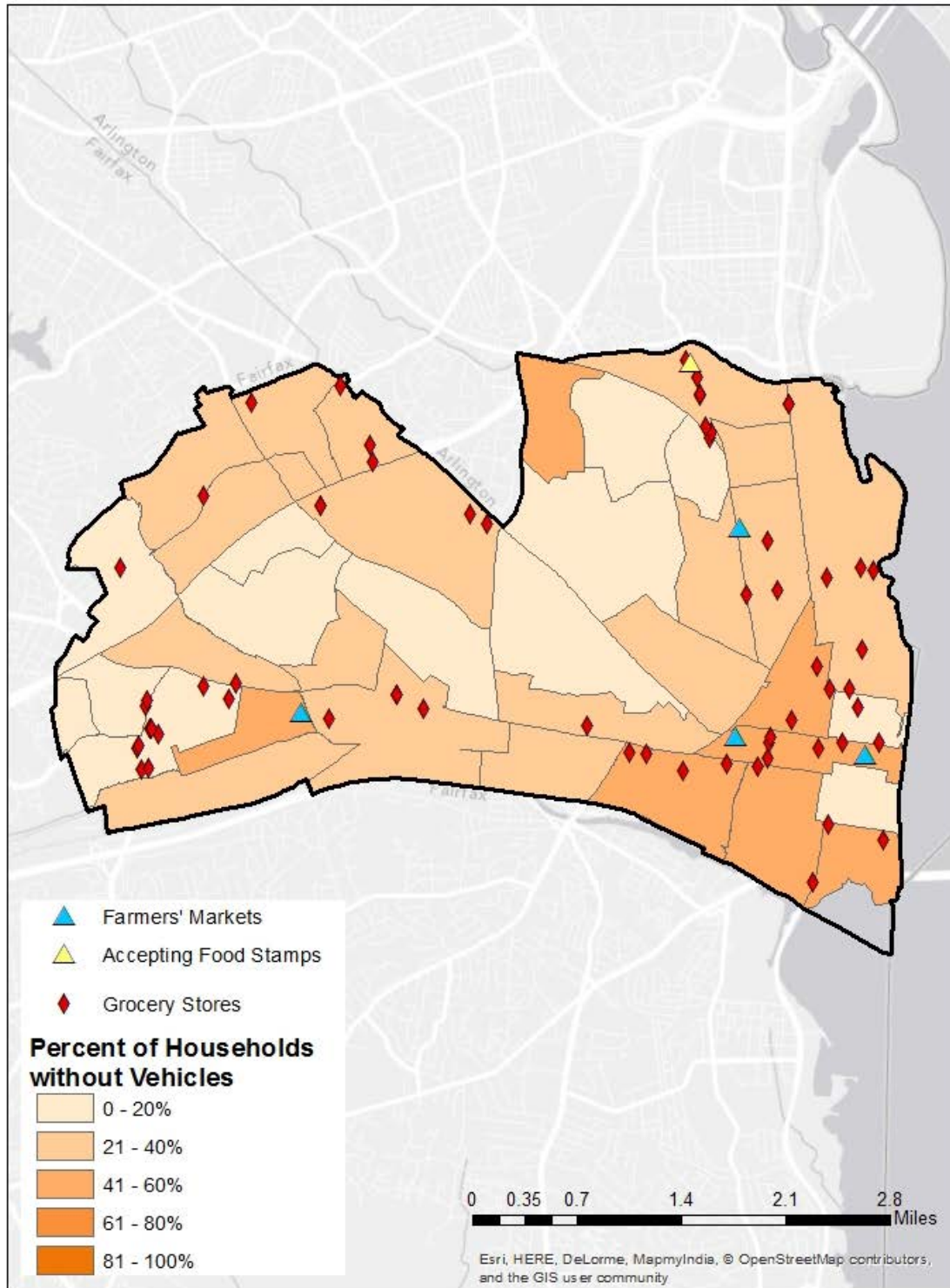


Figure 37. Households without vehicles map for Alexandria showing locations of grocery stores, farmers markets and subset of farmers markets accepting food stamps. Grey denotes no data in tracts.

Table 20. Households without vehicles count and normalized results for Alexandria.

Age Over 65	Census Tract Count Percent	Grocery Store Count Percent	Grocery Store Sales Volume Percent	Farmers Markets Count Percent
0 to 20%	13 34%	15 23%	\$880,000 2%	0
21 to 40%	18 47%	34 53%	\$41,417,915 96%	2 40%
41 to 60%	7 18%	15 23%	\$970,000 2%	3 60%
61 to 80%	0	0	\$0	0
81 to 100%	0	0	\$0	0

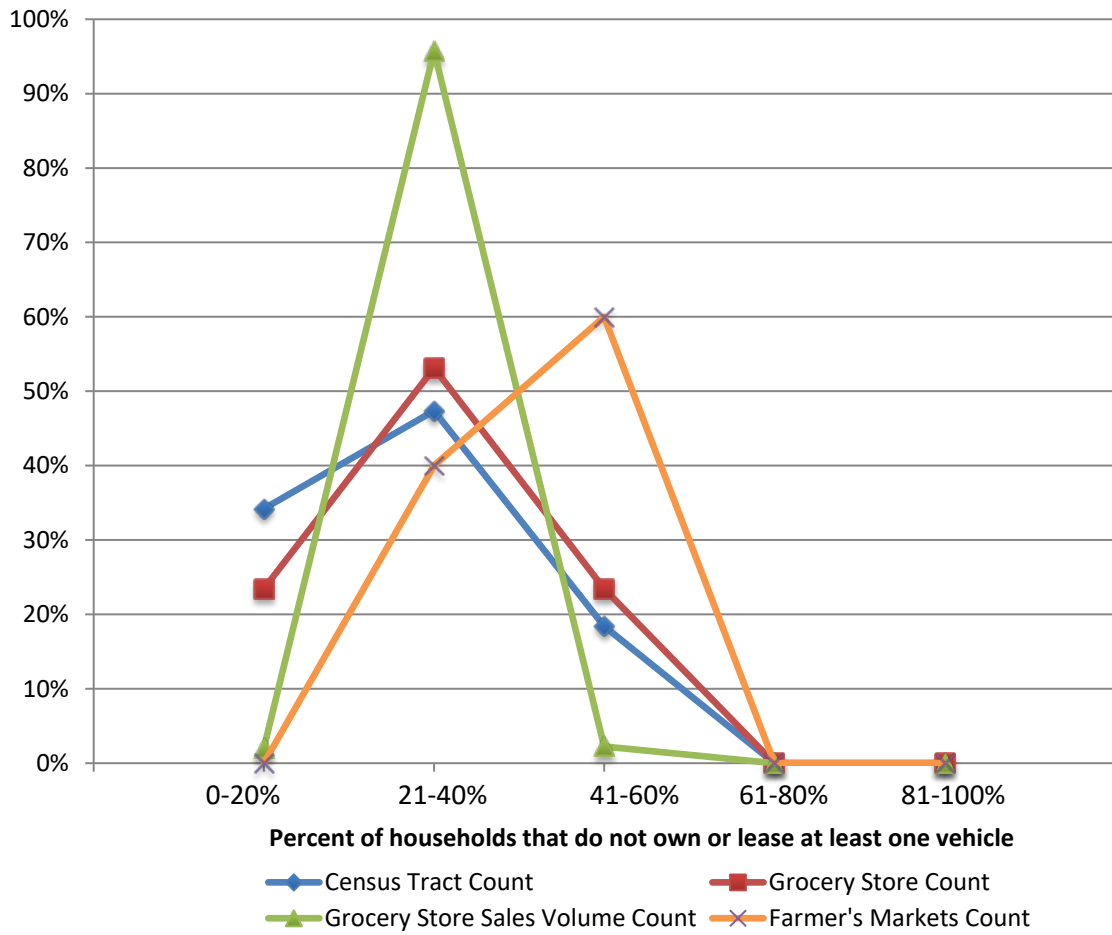


Figure 38. Distribution of grocery stores and farmers markets in Alexandria relative to households without vehicles.

Public Transportation

Figure 39 is a GIS map of Alexandria showing the locations of public transportation stops, grocery stores, farmers markets, and the subset of farmers markets that accept food stamps. Half-mile radii buffer zones were added to each farmer’s market and grocery store to depict walkability. Similar maps for each county are included in Appendix 7. Count and normalized data generated from these maps indicate that every county of Northern Virginia has public transportation (metro train and bus) stops within a short (0.5 mile) walk of grocery stores and farmers markets (except Fairfax City and Manassas Park City, which do not have farmers markets) (Table 21).

These results indicate that, generally, public transportation stops allow for a high degree of walkability to both grocery stores and farmers markets in Northern Virginia.

Table 21. Count and normalized results for public transportation stops in each Northern Virginia county.

Northern Virginia Counties	All Public Transportation Stops (“PTS”)	PTS within 0.5 mile radius of Farmers Markets	PTS within 0.5 mile radius of Grocery Stores
	Count Percent	Count Percent	Count Percent
Alexandria	1028 13%	234 21%	979 17%
Arlington	1352 18%	347 31%	1281 22%
Fairfax City	216 3%	0	236 4%
Fairfax County	4206 55%	448 40%	2835 48%
Falls Church	60 1%	31 3%	60 1%
Loudoun	270 4%	38 3%	173 3%
Manassas City	58 1%	15 1%	63 1%
Manassas Park City	26 0%	0	27 0%
Prince William	422 6%	15 1%	218 4%

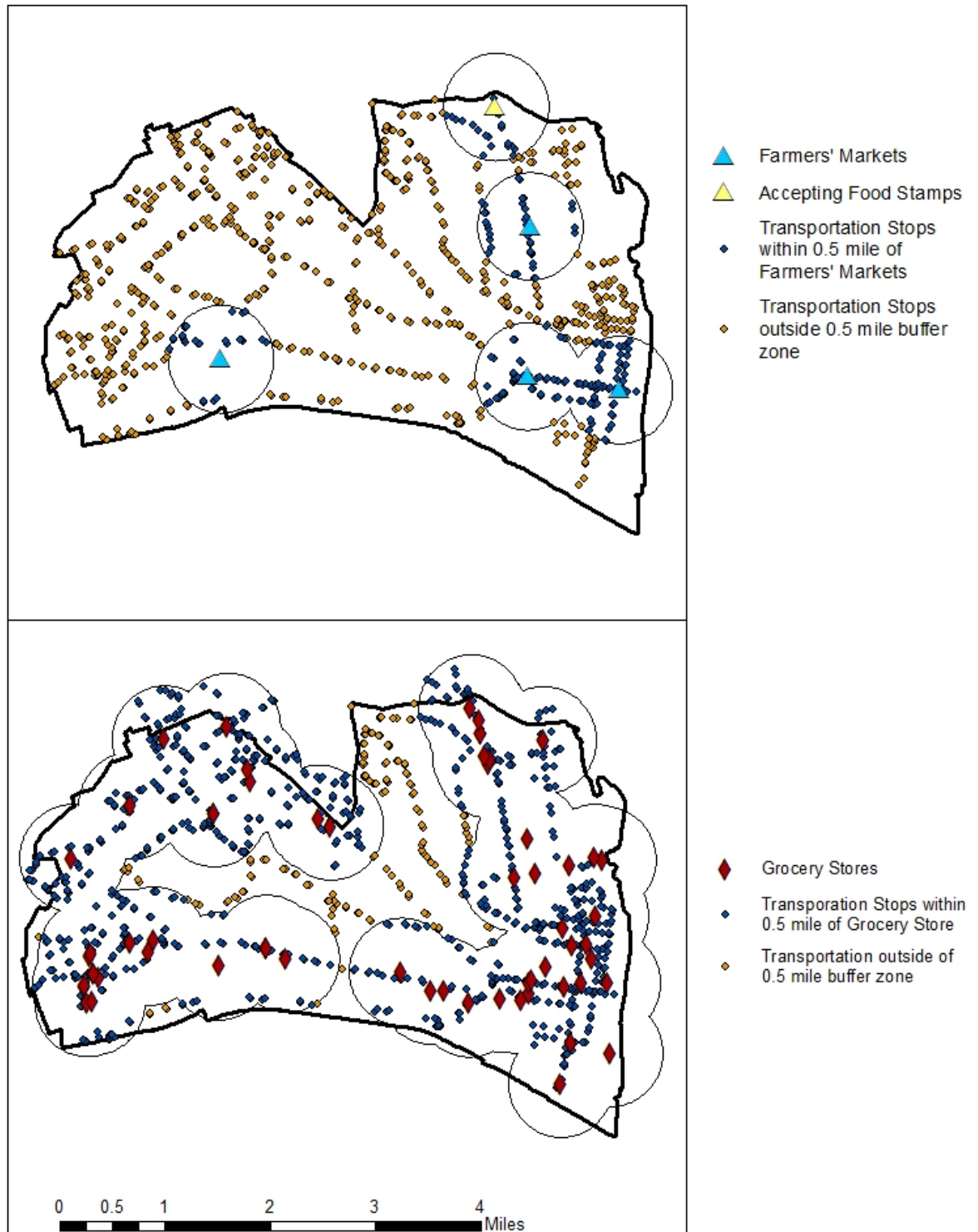


Figure 39. Public transportation map for Alexandria showing locations of grocery stores, farmers markets and subset of farmers markets accepting food stamps. Buffer zones show grocery stores and farmers markets within a half-mile walk from public transportation stops.

Chapter IV

Discussion

The local food movement is commonly criticized as being elitist. There is a perception that farmers markets locations disproportionately benefit the “haves” at the expense of the “have-nots”. To test this criticism, this study mapped the distribution of conventional food sources against that of farmers markets relative to population density, educational attainment, median income, ethnicity, elderly population, and households without vehicles in Northern Virginia.

GIS maps were quantitatively analyzed to determine whether salient trends support the hypotheses that farmers markets are located in more privileged areas (i.e. those with (a) lower population density and elderly populations, and (b) higher educational attainment, median income, White populations and households without vehicles). In this study, the term “salient trends” refers to variations in compared distributions that do not match variations in census tracts across data classes in X-Y plots (for example, Figure 32 illustrates salient trends, whereas Figure 35 shows variation in compared distributions that match those of census tracts and are thus not salient). Salient trends observed in Northern Virginia regions support all hypotheses posed for the demographic attributes of interest (except elderly population, for which no salient trends were observed) (Table 22).

These results have clear implications for those seeking to increase fresh food access in underserved communities. Most importantly, future farmers markets should be

established in areas where they are currently non-existent or under-represented (i.e. Fairfax City, Manassas Park City, and in parts of Alexandria, Prince William and Loudoun counties).

Table 22. Summary of salient trends supporting hypotheses.

Farmers markets (more-so than grocery stores) are located in areas...	Supported by salient trends in...
with lower population density.	Alexandria and Prince William
where fewer people have less than a bachelor's degree.	Northern Virginia (aggregate data) and Alexandria
where more people have a bachelor's degree or higher level of educational attainment.	Northern Virginia (aggregate data), Alexandria and Loudoun
of higher median income.	Northern Virginia (aggregate data), Alexandria, Loudoun, and Prince William
where more people identify as White.	Northern Virginia (aggregate data), Alexandria, Loudoun, and Prince William
with higher concentrations of households without vehicles.	Alexandria

Resources to establish new farmers markets should be directed to the following priority areas in Northern Virginia:

1. Fairfax City and Manassas Park City (where there are currently no farmers markets);
2. Alexandria census tracts where (i) population density ranges between 8,001-32,000 people, (ii) 21-60% of the population have less than a bachelor's degree, (iii) less than 61% of the population have a bachelor's degree or higher, (iv) median income is less than \$100,001, (v) 41-60% of the population identify as White, or (vi) less than 41% of households do not own or lease at least one car;

3. Prince William census tracts where (i) population density ranges between 4,000 to 8,000 people, (ii) median income is less than \$100,001, or (iii) 21-60% of the population identify as White; and
4. Loudoun census tracts where (i) less than 41% of the population have a bachelor's degree or higher, (ii) median income is less than \$140,001, or (iii) 41-60% of the population identify as White.

Investments for farmers markets in these particular areas would have the greatest impact in addressing concerns about elitism, exclusivity and inequity in fresh food availability in Northern Virginia. The above recommendations are subject to the assumption that locally grown, fresh foods are available at farmers markets and conventionally sourced foods are available at grocery stores. Although this assumption is generally true, it is conceivable that vendors at a given farmers markets are not selling locally grown, fresh foods. There is also a growing tendency among grocery stores to stock locally grown, fresh foods in addition to or in lieu of conventionally sourced foods. This would only be consequential if such grocery stores are over-represented in the census tracts noted above.

In addition, the INOVA and Buy Fresh Buy Local consortium updated its list of Northern Virginia farmers markets since the GIS mapping phase of the study was completed. This study draws from the Consortium List published in 2014. The 2015 list includes a total of 45 farmers markets. It omits the Dale City, Upper King Street, Rosslyn and Wellness Connection farmers markets (which are included in this study) and adds the Fairlington farmers market (which is not included in this study). Although this does not affect the recommendations above, updates to the consortium list that concern

Fairfax City, Manassas Park City, Alexandria, Prince William and Loudoun may influence these recommendations.

The results of this study also suggest that generally, public transportation stops allow for a high degree of walkability to both grocery stores and farmers markets in Northern Virginia. This study assumed that presence of public transportation stops within a 0.5 mile radius to a farmers market or grocery store is an indicator of a high degree of walkability per the methods of USDA (2013). This does not account for physical or other factors (e.g., presence of sidewalks and cross walks, reliability of public transportation, health issues affecting residents' ability to walk, etc.) that may reduce walkability. Furthermore, Amtrak and commuter rail station data were not incorporated in this study. Their omission is not deemed significant (inclusion would only increase the number of transportation stops within walking distance of grocery stores and farmers markets).

Conclusions

In closing, there are opportunities to establish new farmers markets in certain underserved areas of Northern Virginia. For example, Fairfax City and Manassas Park City should be prioritized as they currently lack any farmers markets. From a demographic perspective, the results of this study indicate that the distributions of grocery stores and farmers markets do not differ from one another relative to concentration of the elderly population in Northern Virginia. Accordingly, the results of this study do not support the hypotheses that farmers markets, more-so than grocery

stores, are likely located in areas of lower concentrations of elderly populations.

However, distributions do appear to differ relative to other attributes (summarized below).

1. In Prince William and Alexandria, farmers markets tend to be located in areas of lower population density as compared to the location of grocery stores. These results support the initial hypothesis with respect to population density.
2. In Prince William, Loudoun, Alexandria, and Northern Virginia as a whole farmers markets tend to be located in areas where people have higher levels of educational attainment as compared to the location of grocery stores. These results support the initial hypothesis with respect to educational attainment.
3. In Alexandria, Loudoun, Prince William, and Northern Virginia as a whole, farmers markets tend to be located in areas where people have higher median incomes as compared to the location of grocery stores. These results support the initial hypothesis with respect to median income.
4. In Alexandria, Loudoun, Prince William, and Northern Virginia as a whole, farmers markets tend to be located in areas where there are greater concentrations of people who identify as White as compared to the location of grocery stores. These results support the initial hypothesis with respect to ethnicity.
5. In Alexandria, farmers markets tend to be located in areas where there are more households without vehicles as compared to the location of grocery stores. These results support the initial hypothesis with respect to households without vehicles.
6. There is a high degree of walkability to both farmers markets and grocery stores in all Northern Virginia counties (except Fairfax City and Manassas Park City, which do not have farmers markets). This result does not specifically address any

of the initial hypotheses but does mitigate against “food desert” related concerns in Northern Virginia.

This study did not involve the performance of statistical analyses. The numerical results of this study point to qualitative and quantitative patterns and associations in census tract data that require further review to test for statistical significance. The results should not be interpreted as indications of a causal relationship. Future work should focus on performing statistical tests to determine whether or to what extent the above patterns of distributions are correlated using the latest GIS data available. Furthermore, this study involved the collection and presentation of grocery store sales volume data. However, such data could not be meaningfully compared with farmers markets because of the present lack of data on annual farmers markets sales volume in Northern Virginia. Future work should endeavor to gather such data and evaluate its use as an indicator of access.

Appendix 1

Population Density by Census Tract, and Locations of Farmers Markets and Grocery Stores for Various Northern Virginia Regions

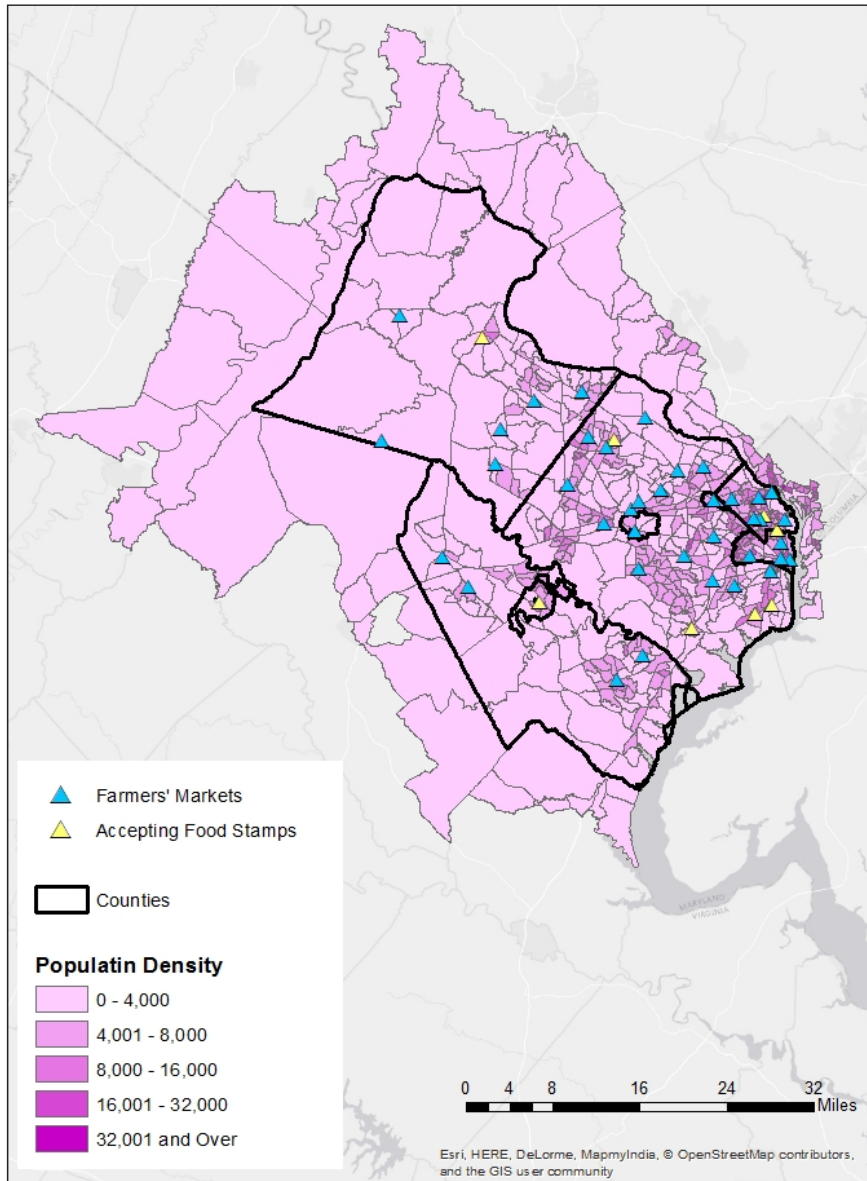


Figure 40. Population density by census tract, and locations of farmers markets for Northern Virginia. Grey denotes no data in tracts.

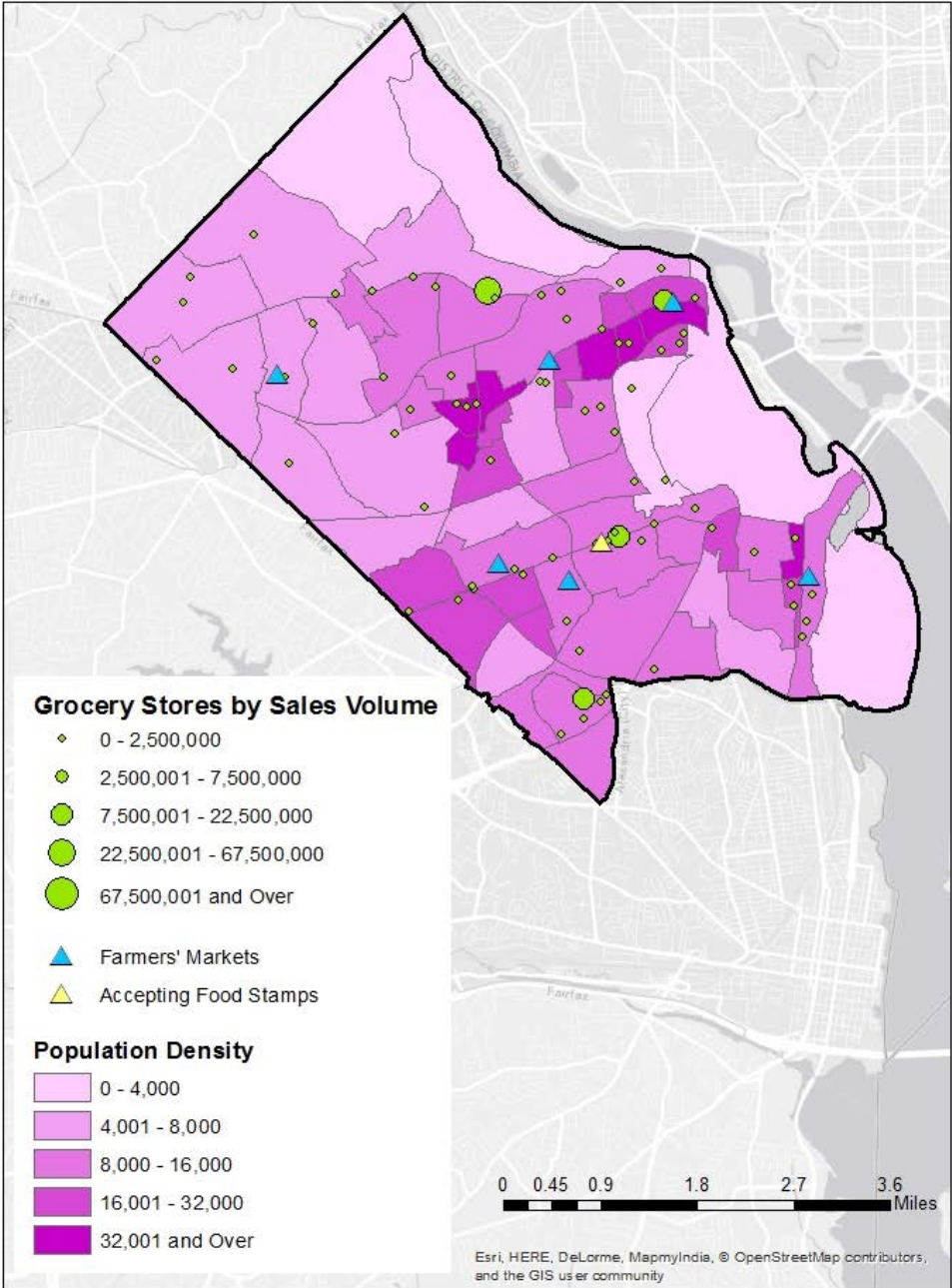


Figure 41. Population density by census tract, and locations of farmers markets and grocery stores for Arlington. Grey denotes no data in tracts.

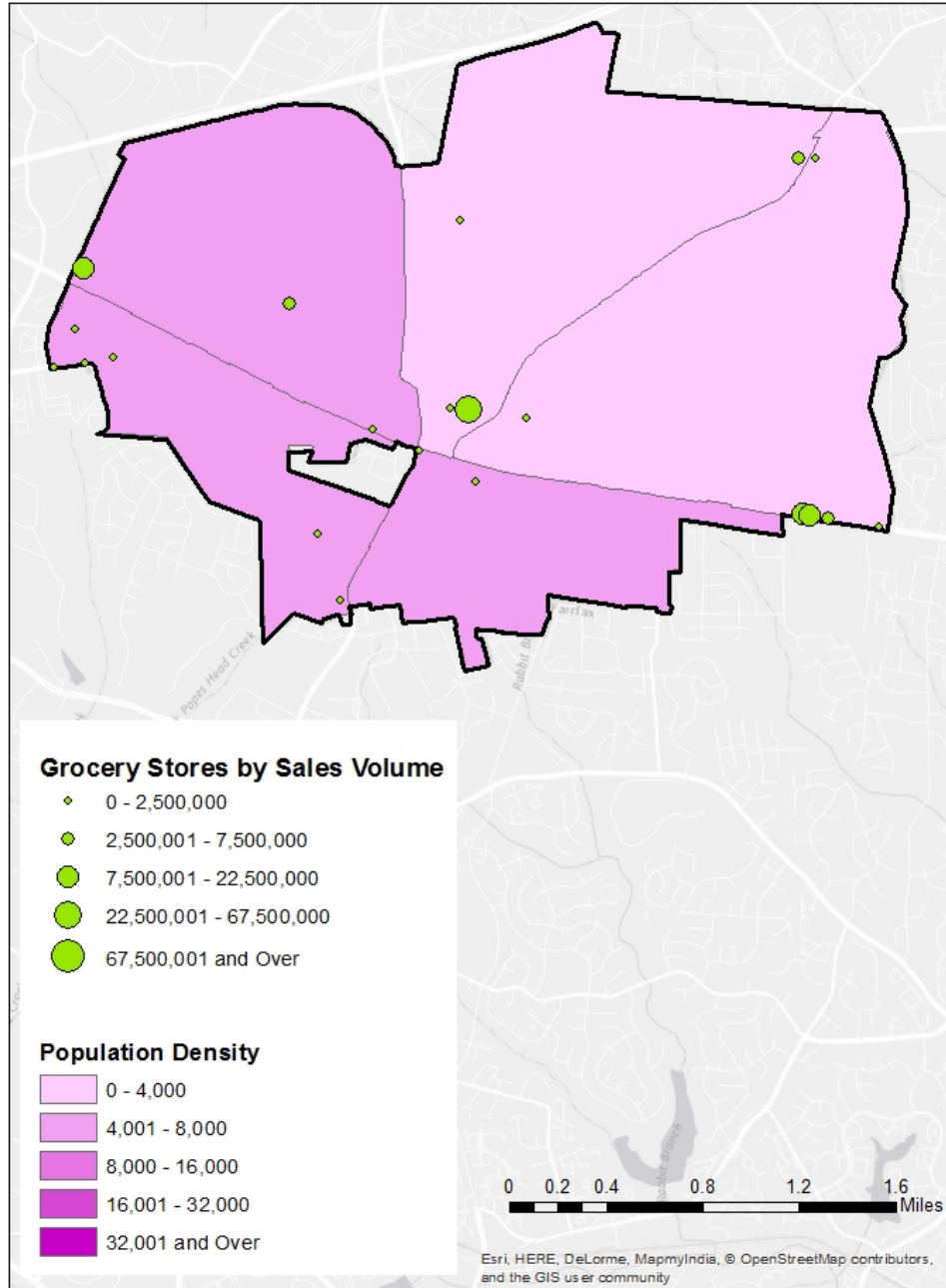


Figure 42. Population density by census tract, and locations of grocery stores for Fairfax City. There are no farmers markets in Fairfax City. Grey denotes no data in tracts.

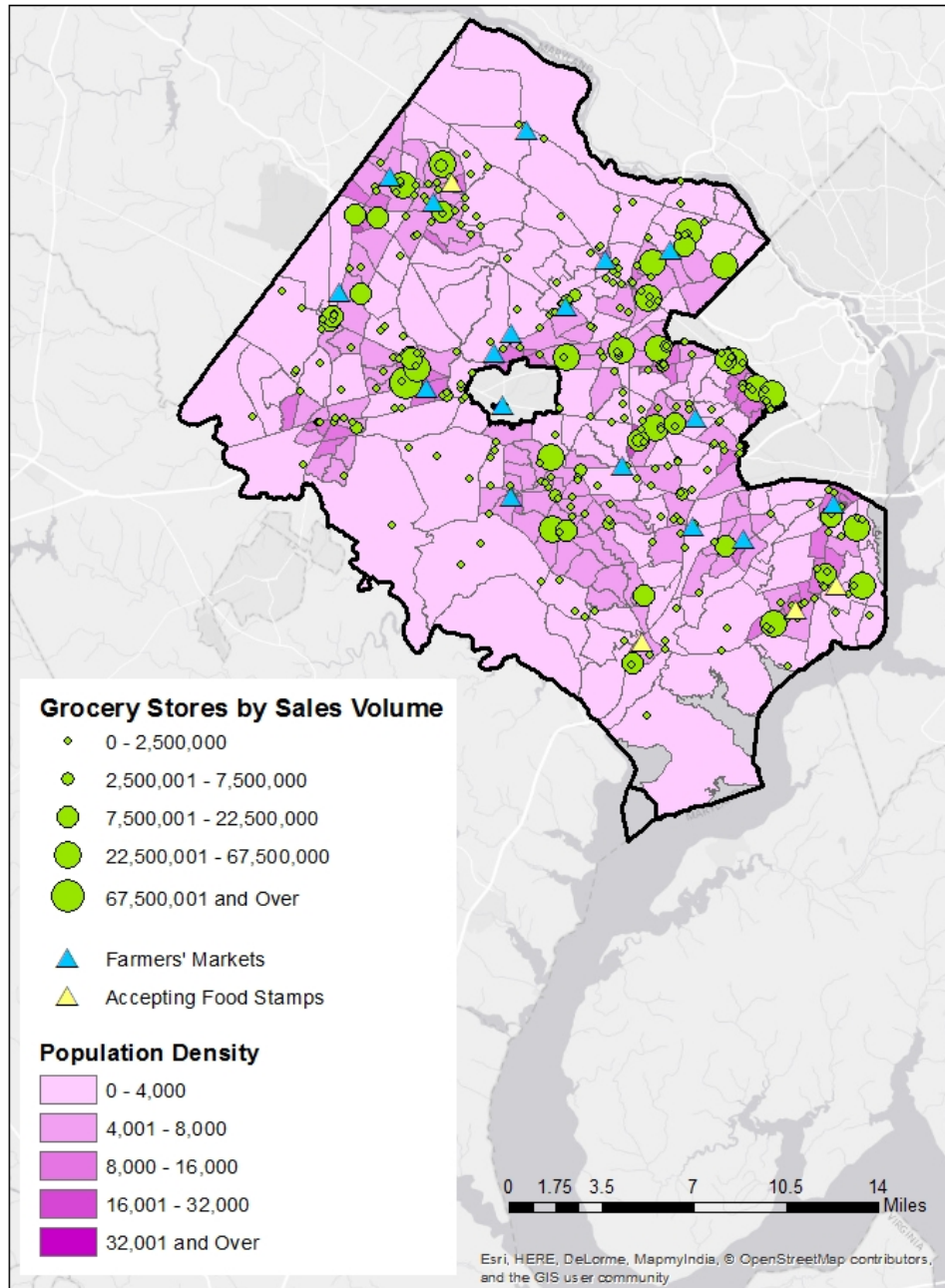


Figure 43. Population density by census tract, and locations of farmers markets and grocery stores for Fairfax County. Grey denotes no data in tracts.

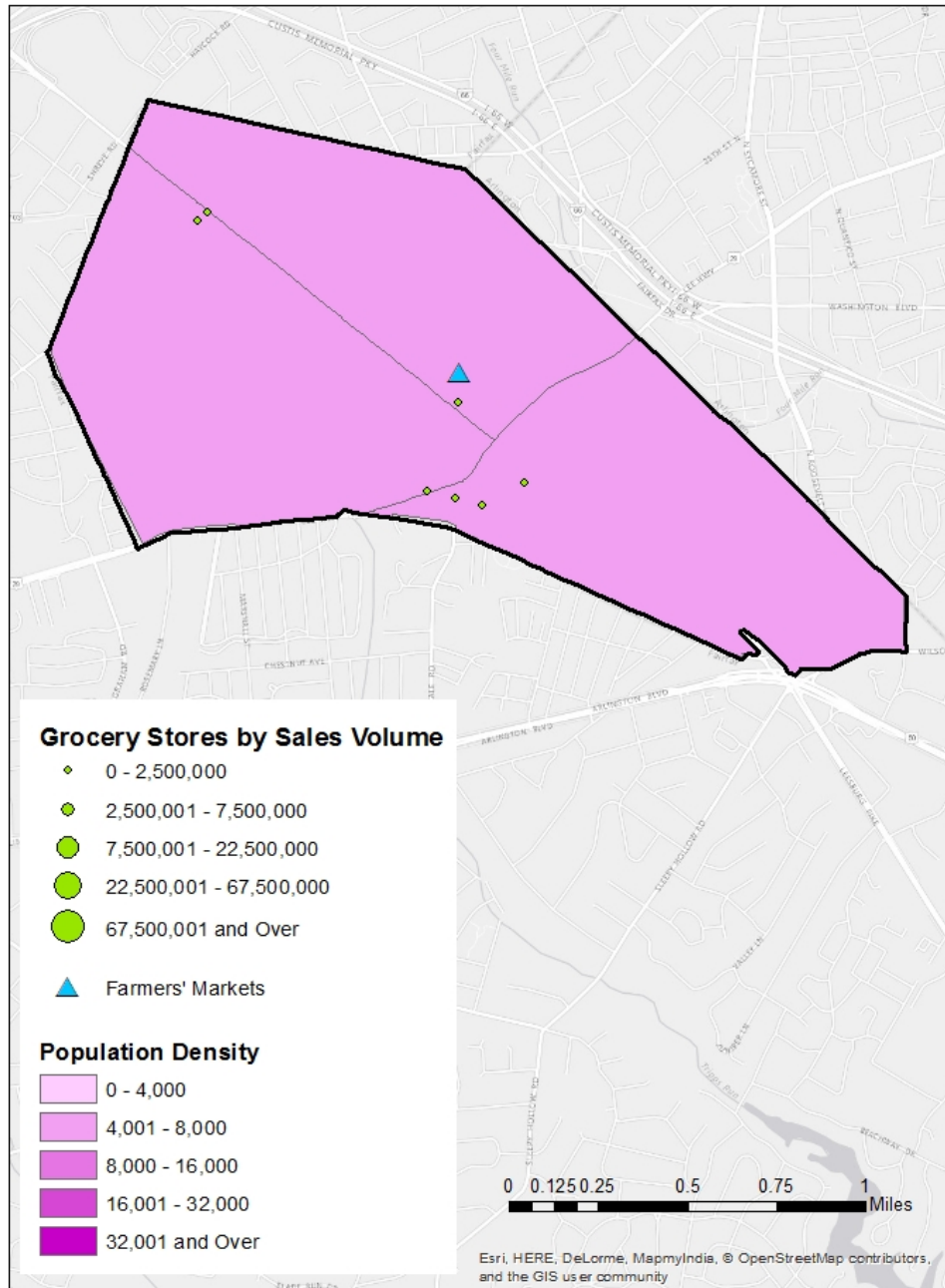


Figure 44. Population density by census tract, and locations of grocery stores and farmers markets for Falls Church City. Grey denotes no data in tracts.

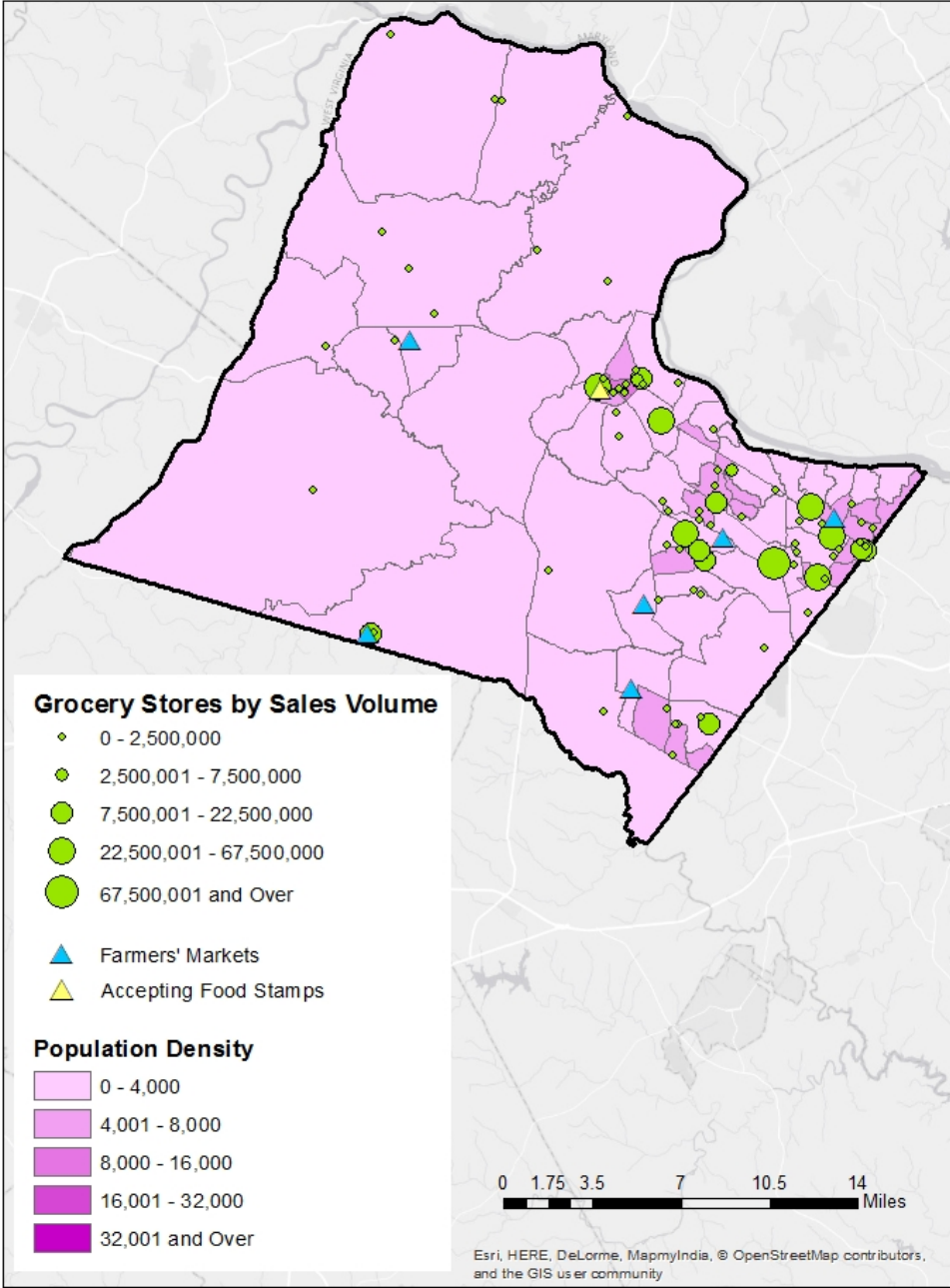


Figure 45. Population density by census tract, and locations of grocery stores and farmers markets for Loudoun County. Grey denotes no data in tracts.

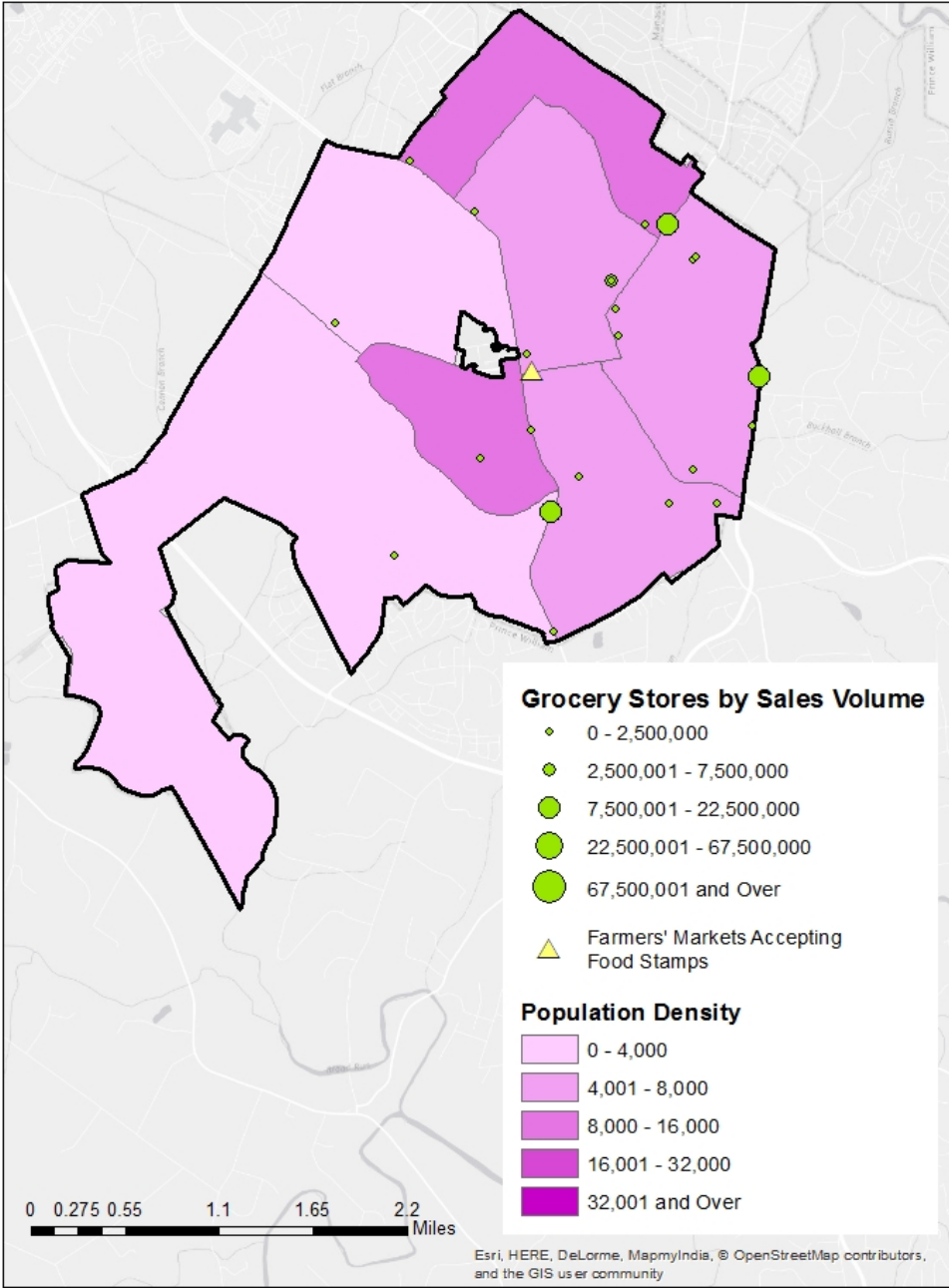


Figure 46. Population density by census tract, and locations of grocery stores and farmers markets for Manassas City. Grey denotes no data in tracts.

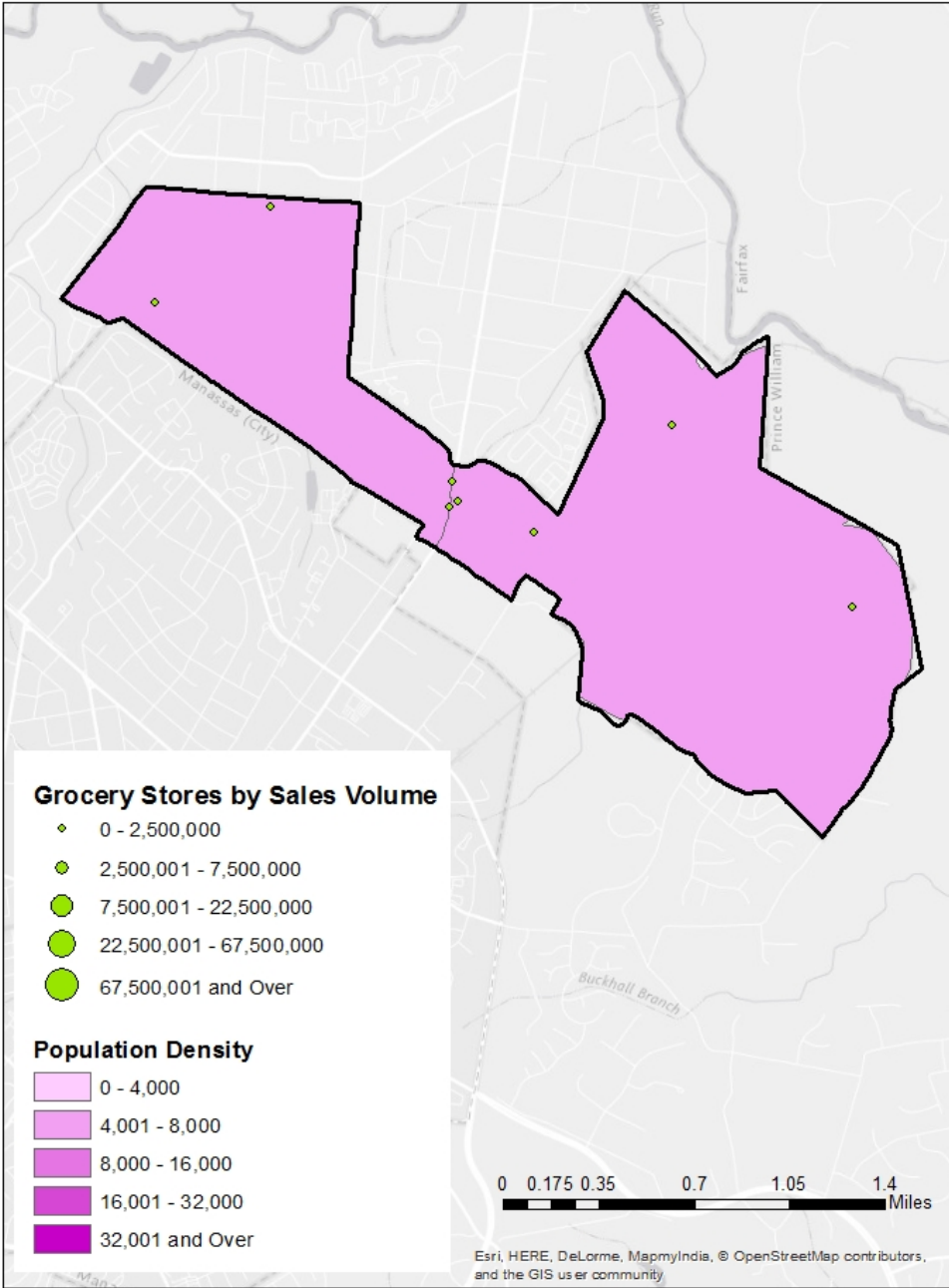


Figure 47. Population density by census tract, and locations of grocery stores for Manassas Park City. There are no farmers markets in Manassas Park City. Grey denotes no data in tracts.

Appendix 2

Educational Attainment, and Locations of Farmers Markets and Grocery Stores for Various Northern Virginia Regions

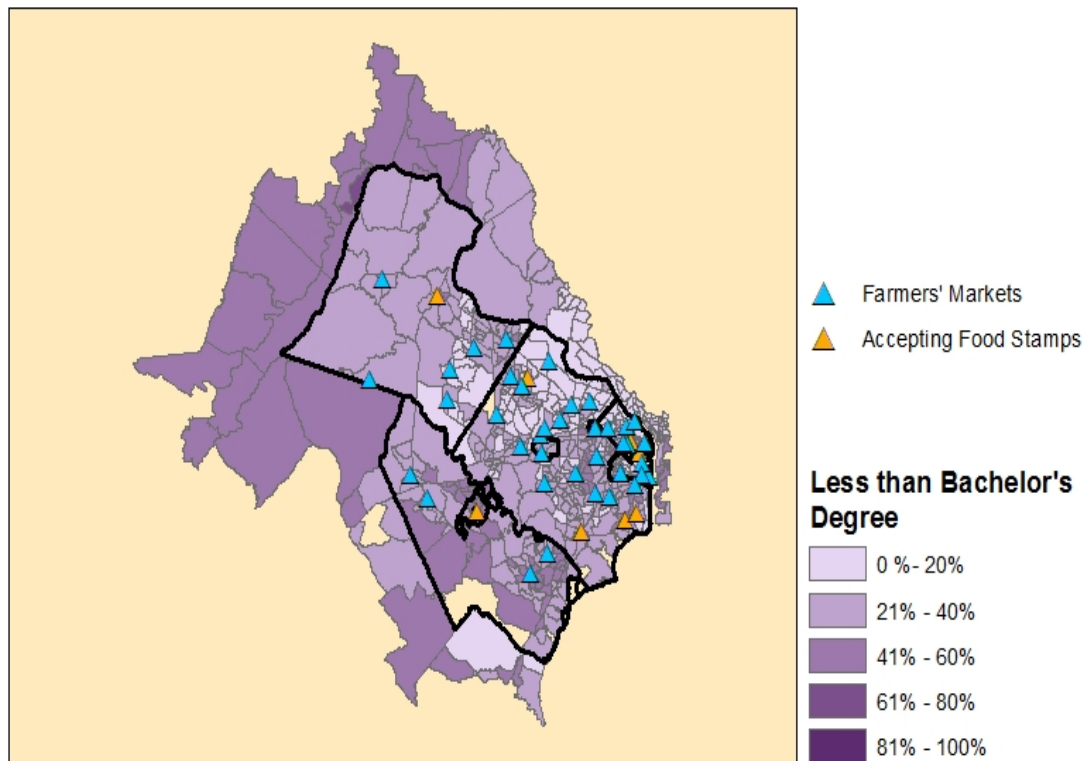


Figure 48. Educational attainment map for Northern Virginia showing percent of population with less than a bachelor's degree, and locations of farmers markets and subset accepting food stamps. Beige denotes no data in tracts.

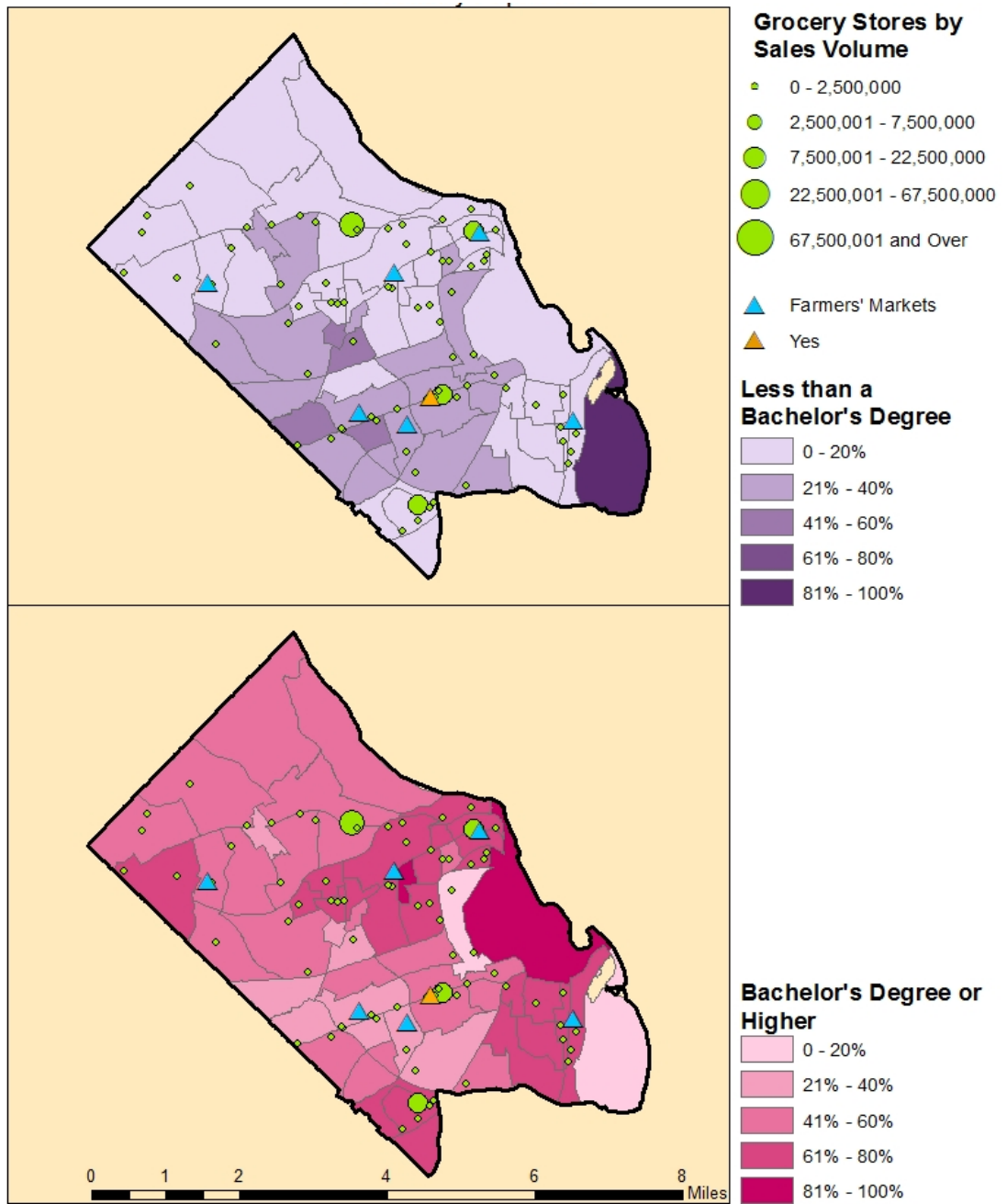


Figure 49. Educational attainment maps for Arlington with locations of grocery stores, farmers markets, and subset of farmers markets accepting food stamps. Beige denotes no data in tracts.

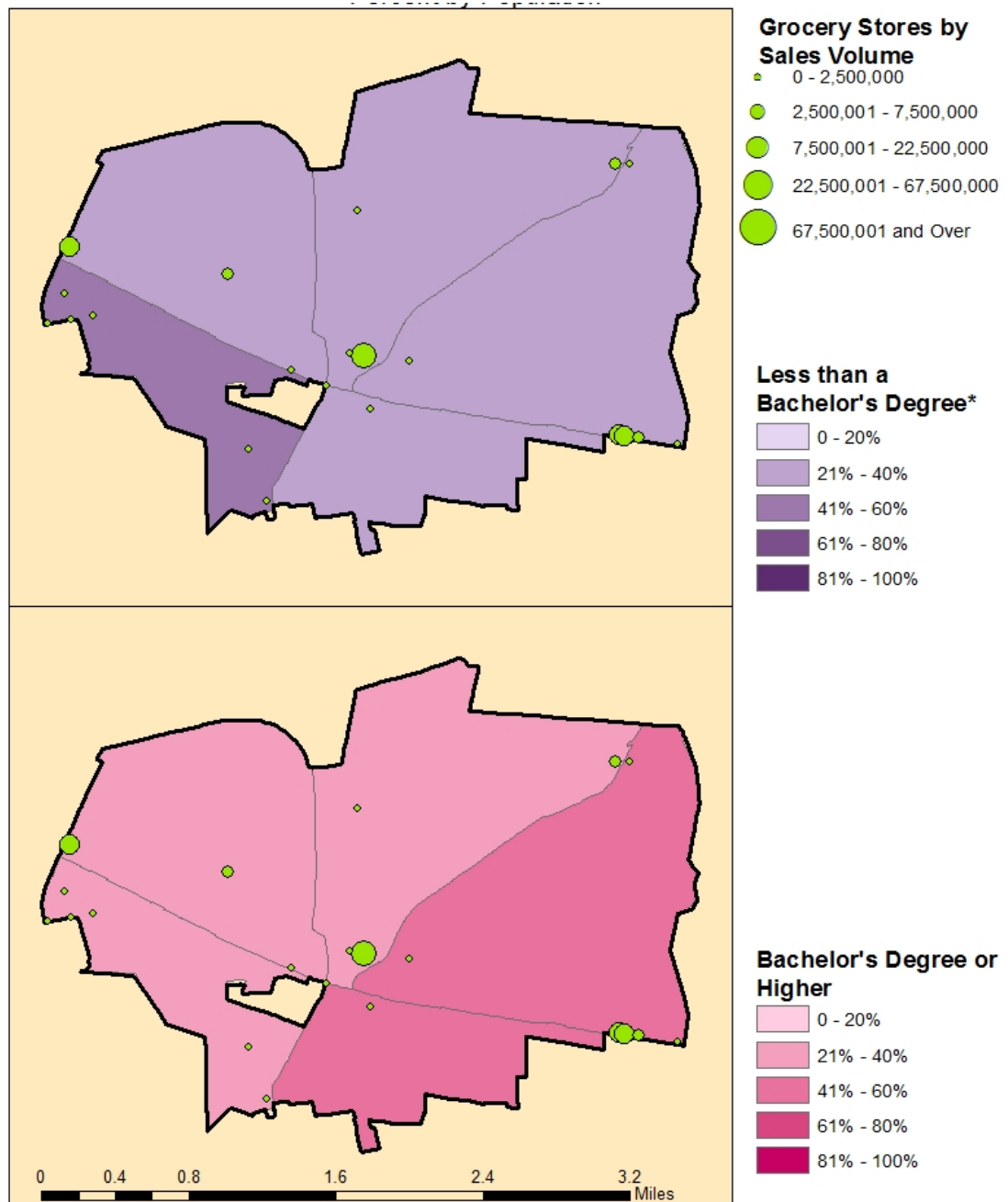


Figure 50. Educational attainment maps for Fairfax City with locations of grocery stores. There are no farmers markets in Fairfax City. Beige denotes no data in tracts.

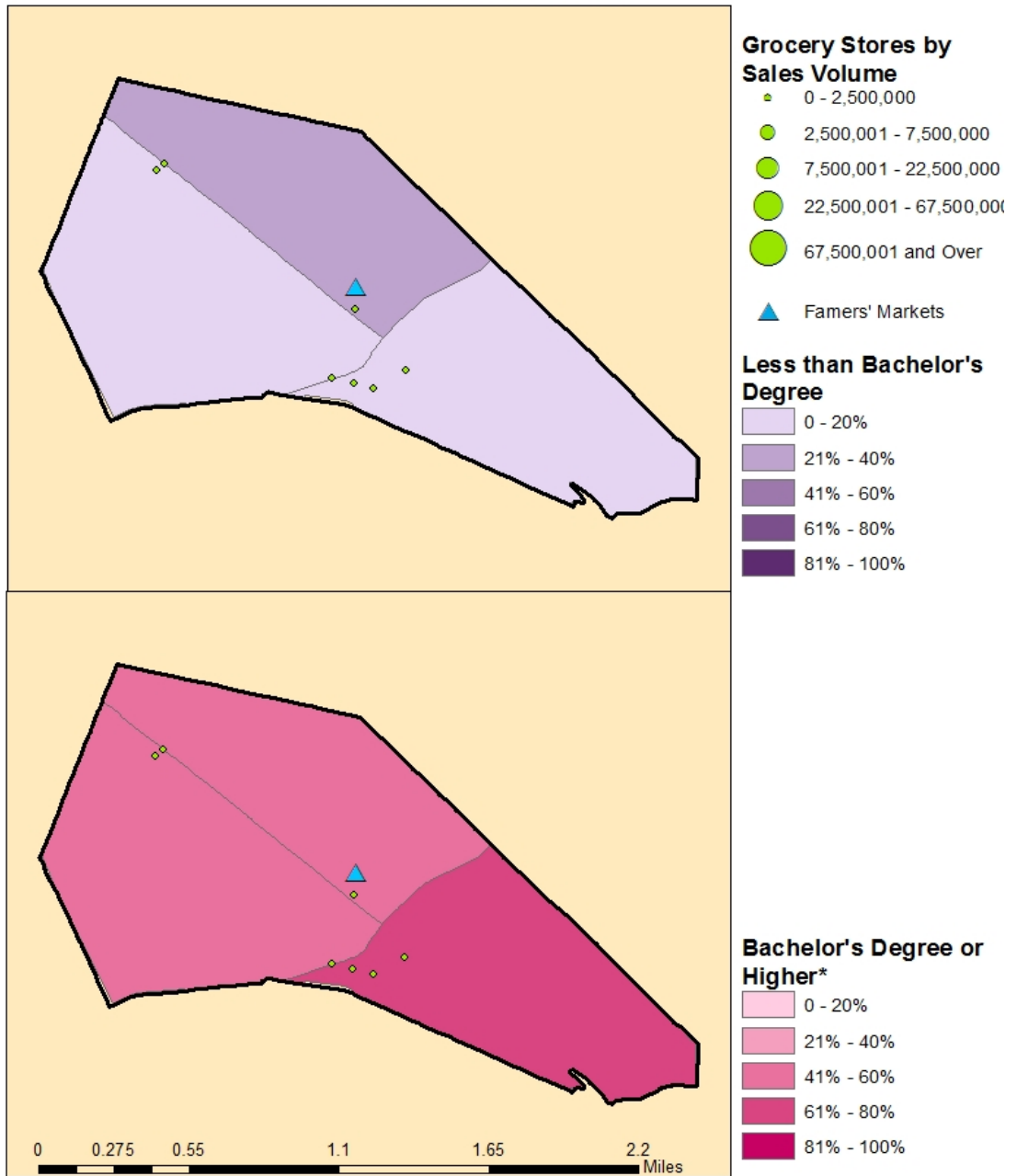


Figure 51. Educational attainment maps for Falls Church City with locations of grocery stores and farmers markets. Beige denotes no data in tracts.

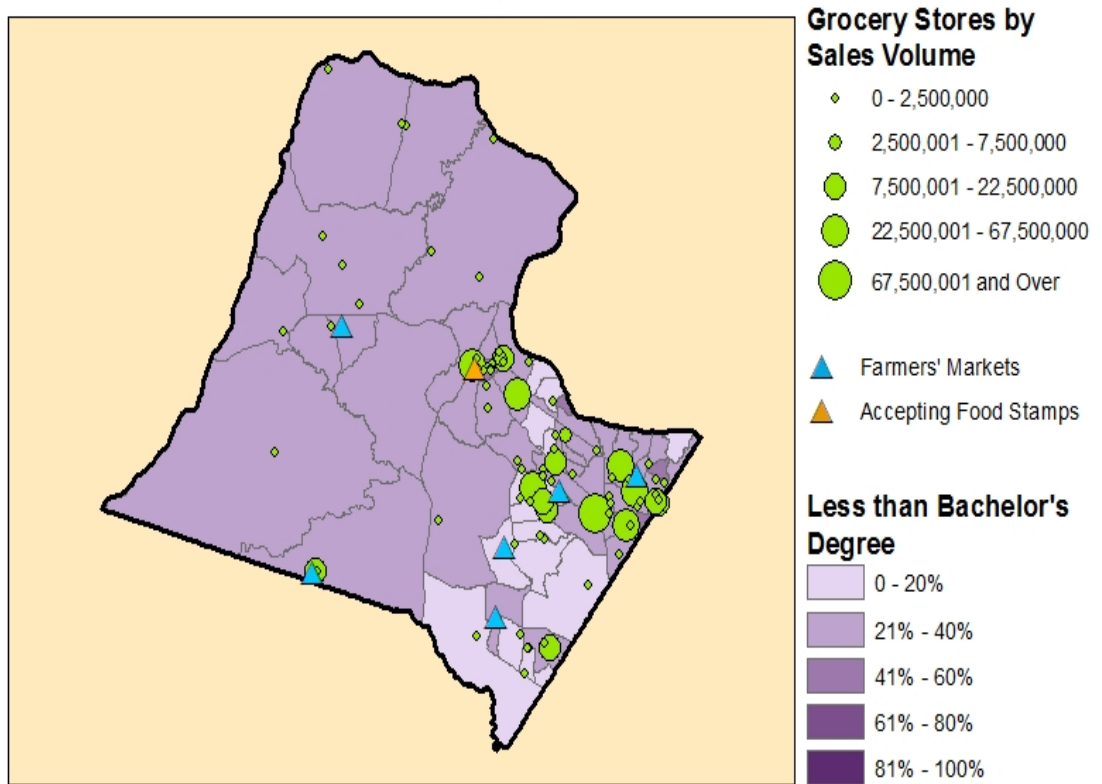
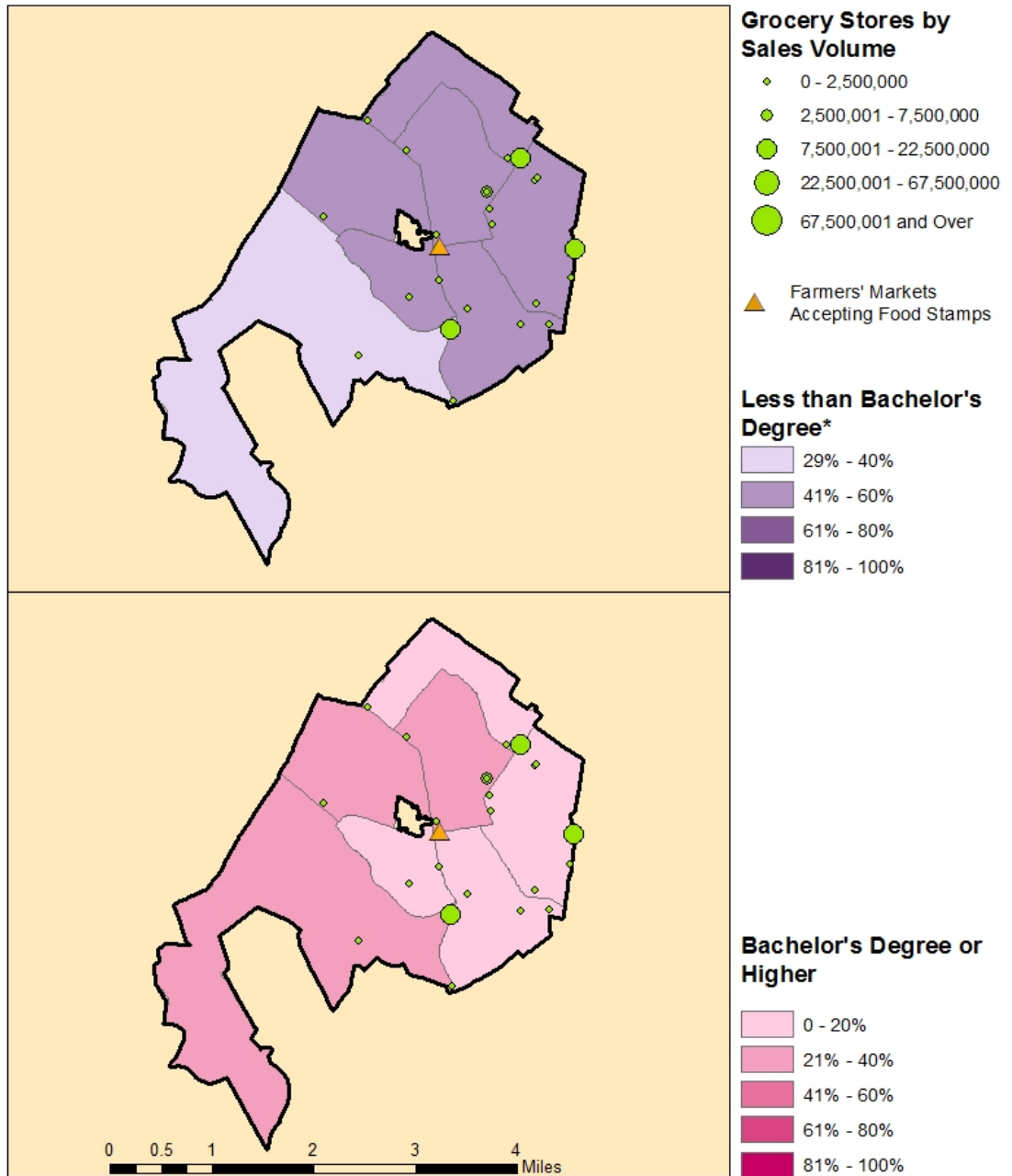
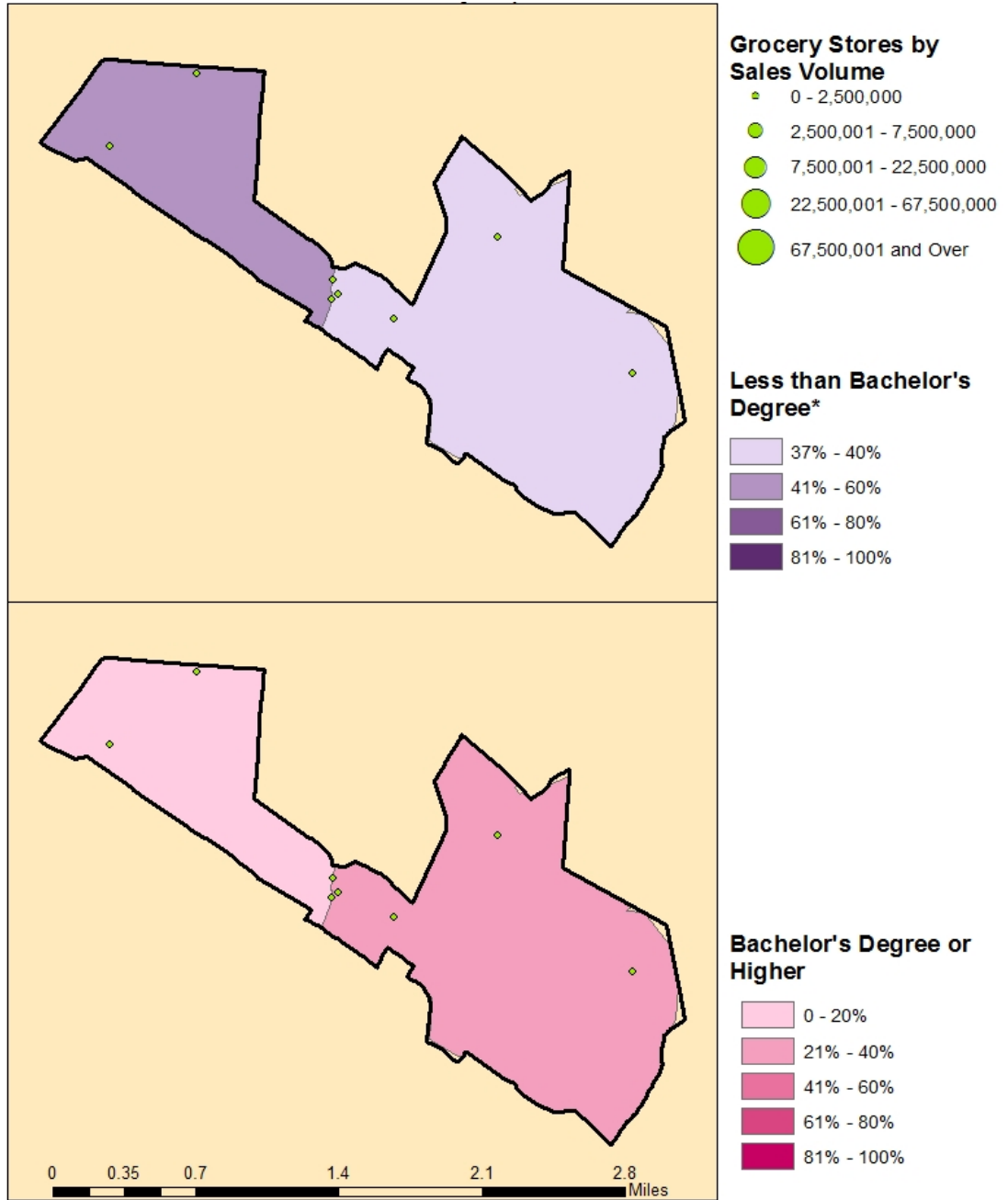


Figure 52. Educational attainment map for Loudoun County showing percent of population with less than a bachelor's degree, and locations of farmers markets and subset accepting food stamps. Beige denotes no data in tracts.



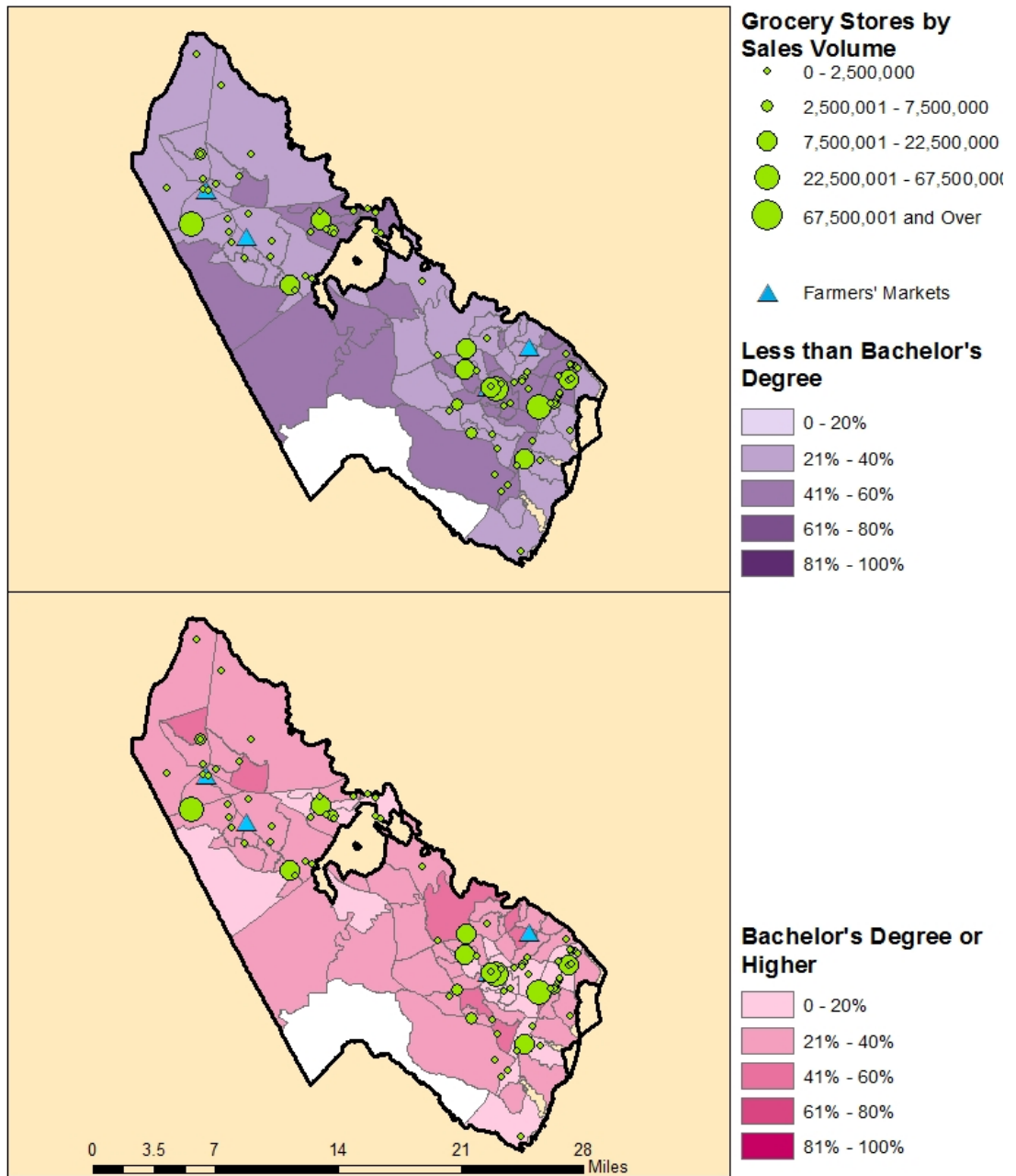
*Minimum population is 29%

Figure 53. Educational attainment maps for Manassas City with locations of grocery stores and farmers markets. Beige denotes no data in tracts.



*Minimum population is 37%

Figure 54. Educational attainment maps for Manassas Park City with locations of grocery stores. There are no farmers markets in Manassas Park City. Beige denotes no data in tracts.



White census tracts indicate no data

Figure 55. Educational attainment maps for Prince William with locations of grocery stores and farmers markets.

Appendix 3

Median Income, and Locations of Farmers Markets and Grocery Stores for Various Northern Virginia Regions

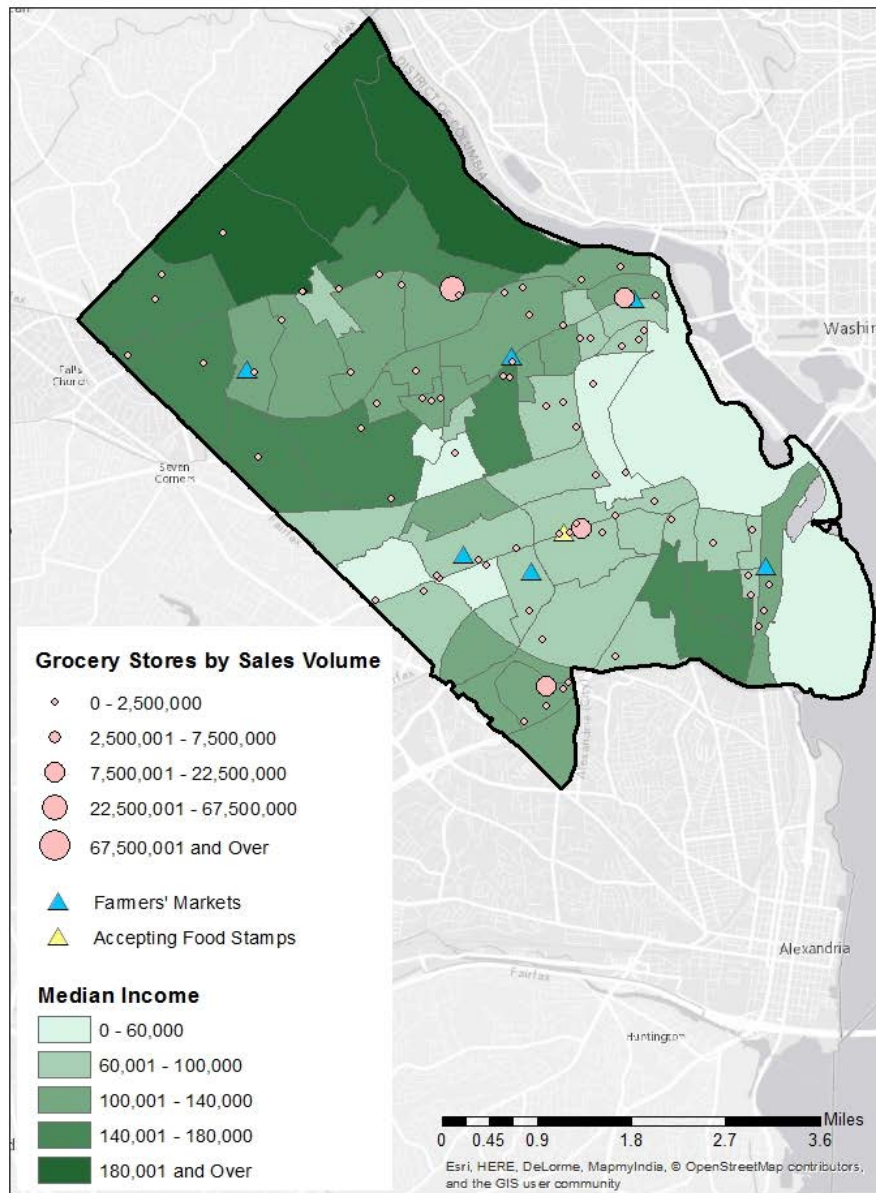


Figure 56. Median income map for Arlington showing locations of grocery stores, farmers markets, and subset of farmers markets accepting food stamps. Grey denotes no data in tracts.

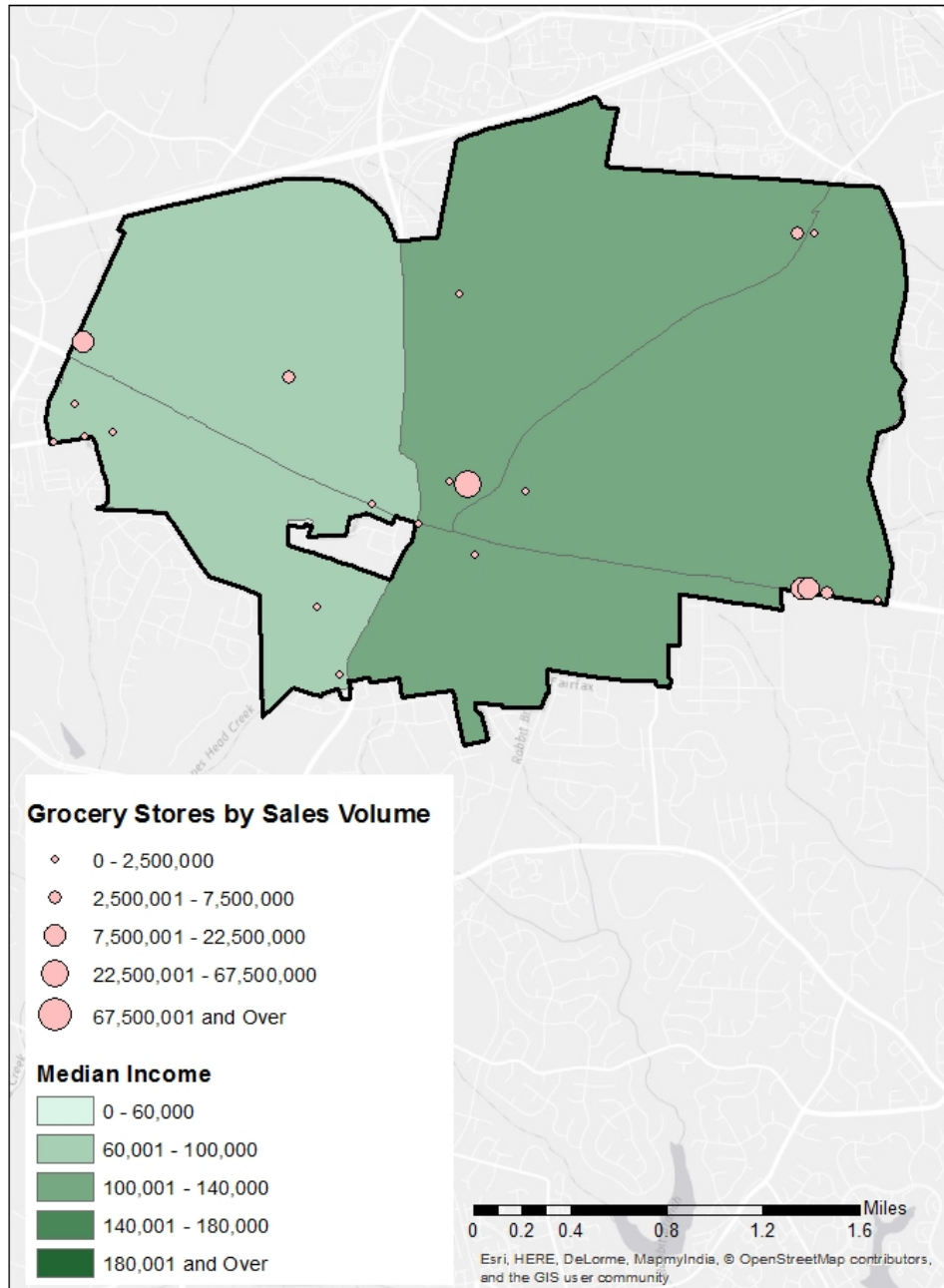


Figure 57. Median income map for Fairfax City with locations of grocery stores. There are no farmers markets in Fairfax City. Grey denotes no data in tracts.

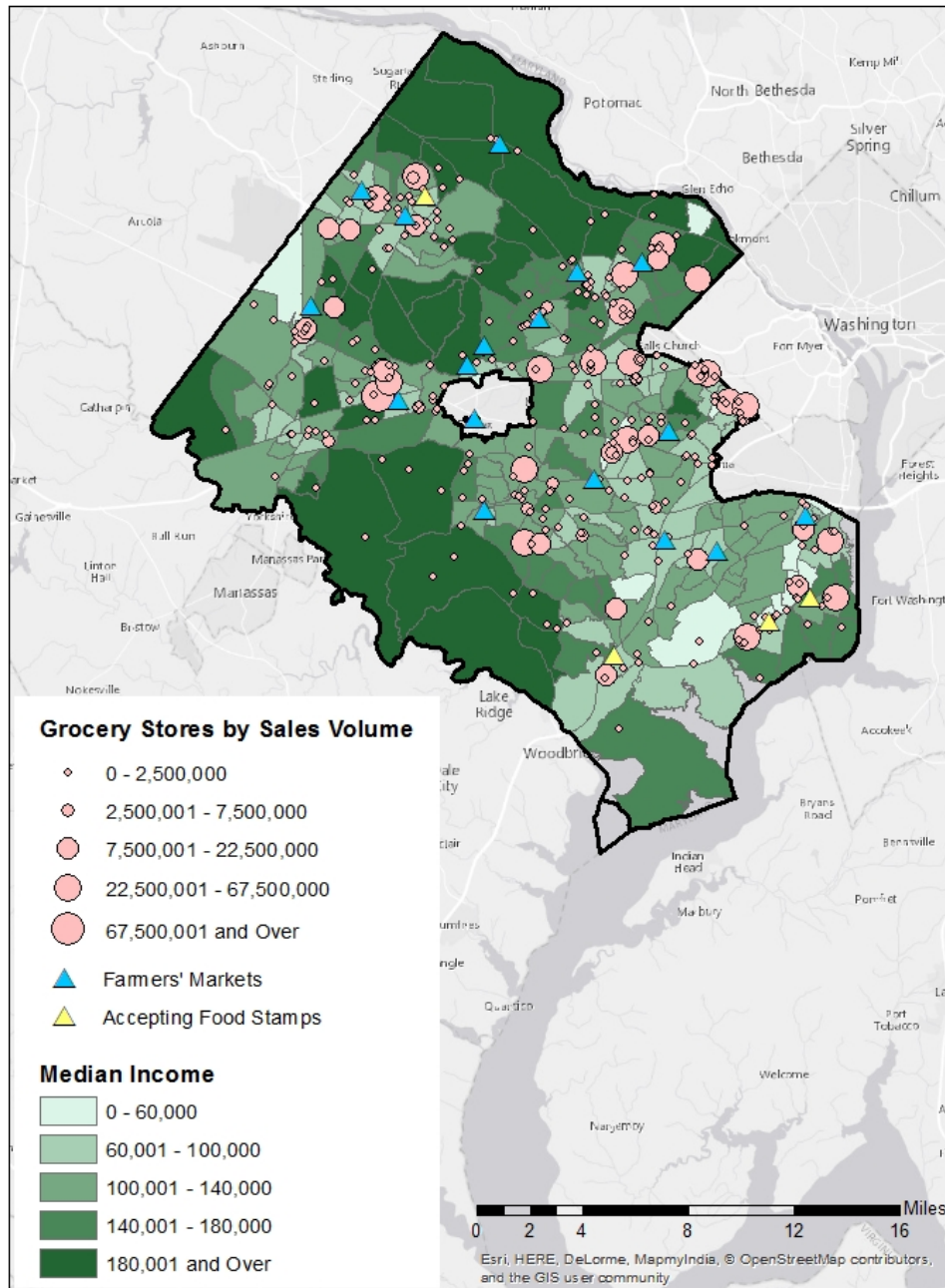


Figure 58. Median income map for Fairfax County showing locations of grocery stores, farmers markets, and subset of farmers markets accepting food stamps. Grey denotes no data in tracts.

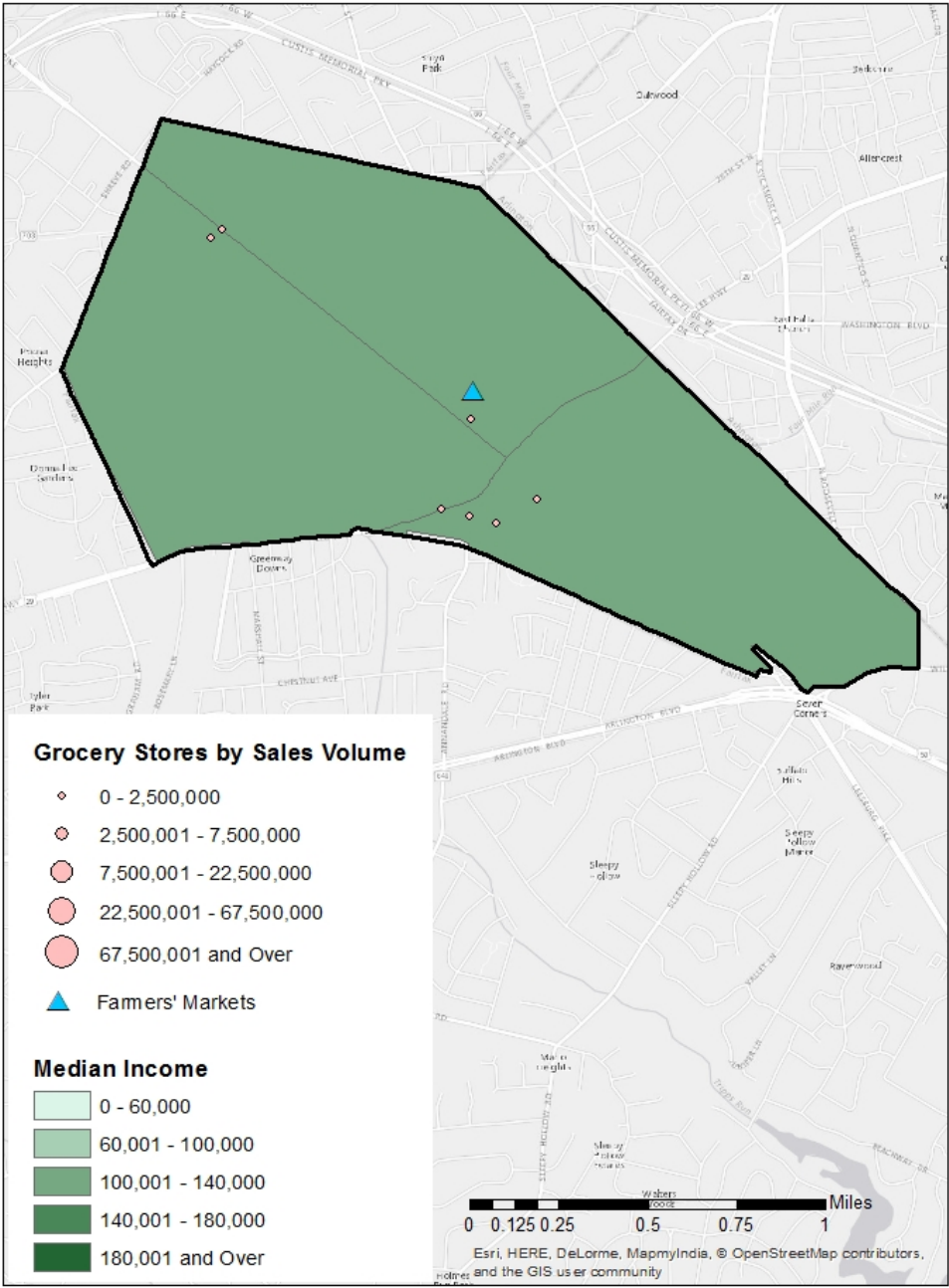


Figure 59. Median income map for Falls Church City with locations of grocery stores and farmers markets. Grey denotes no data in tracts.

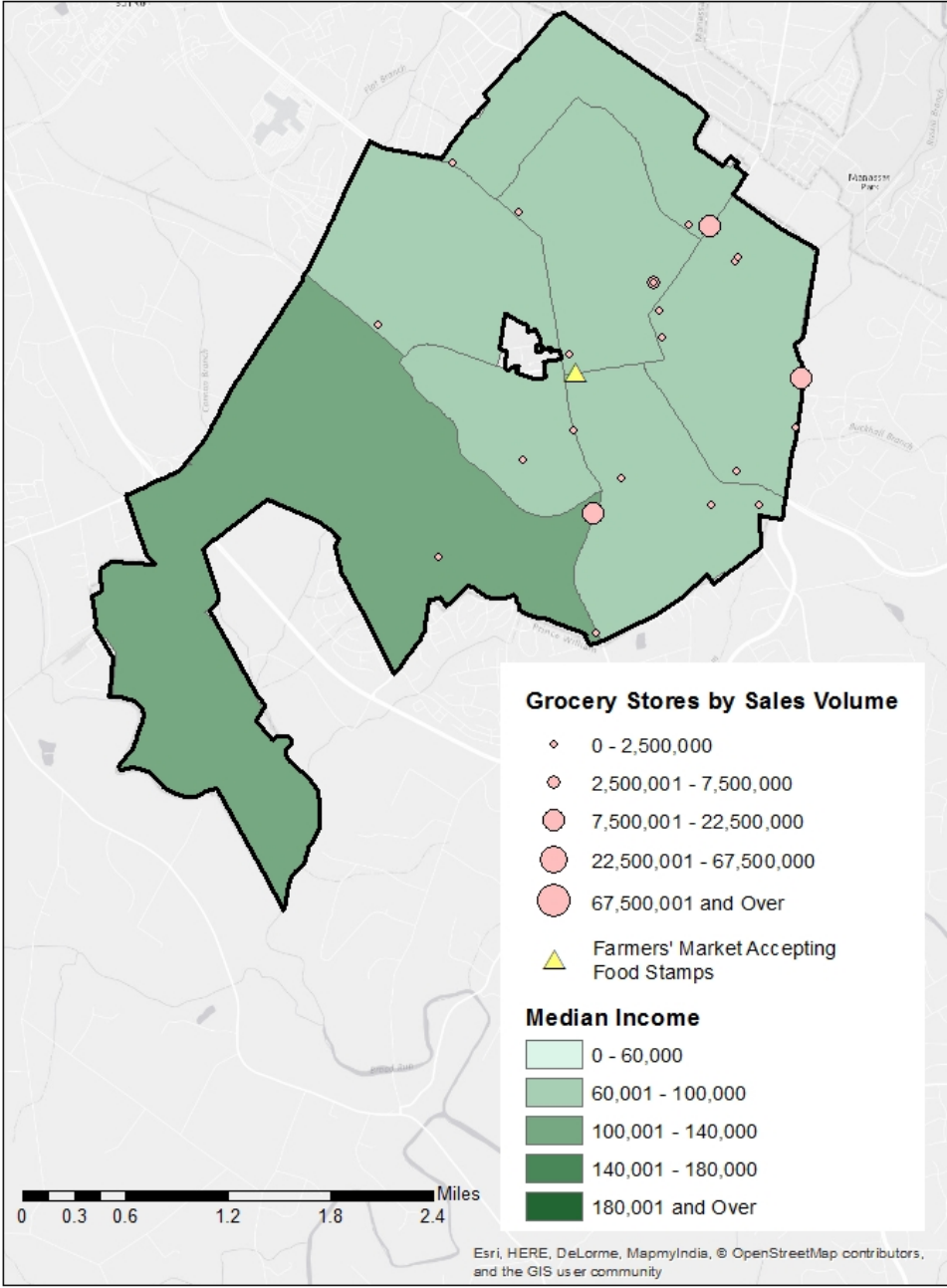


Figure 60. Median income map for Manassas City with locations of grocery stores and farmers markets. Grey denotes no data in tracts.

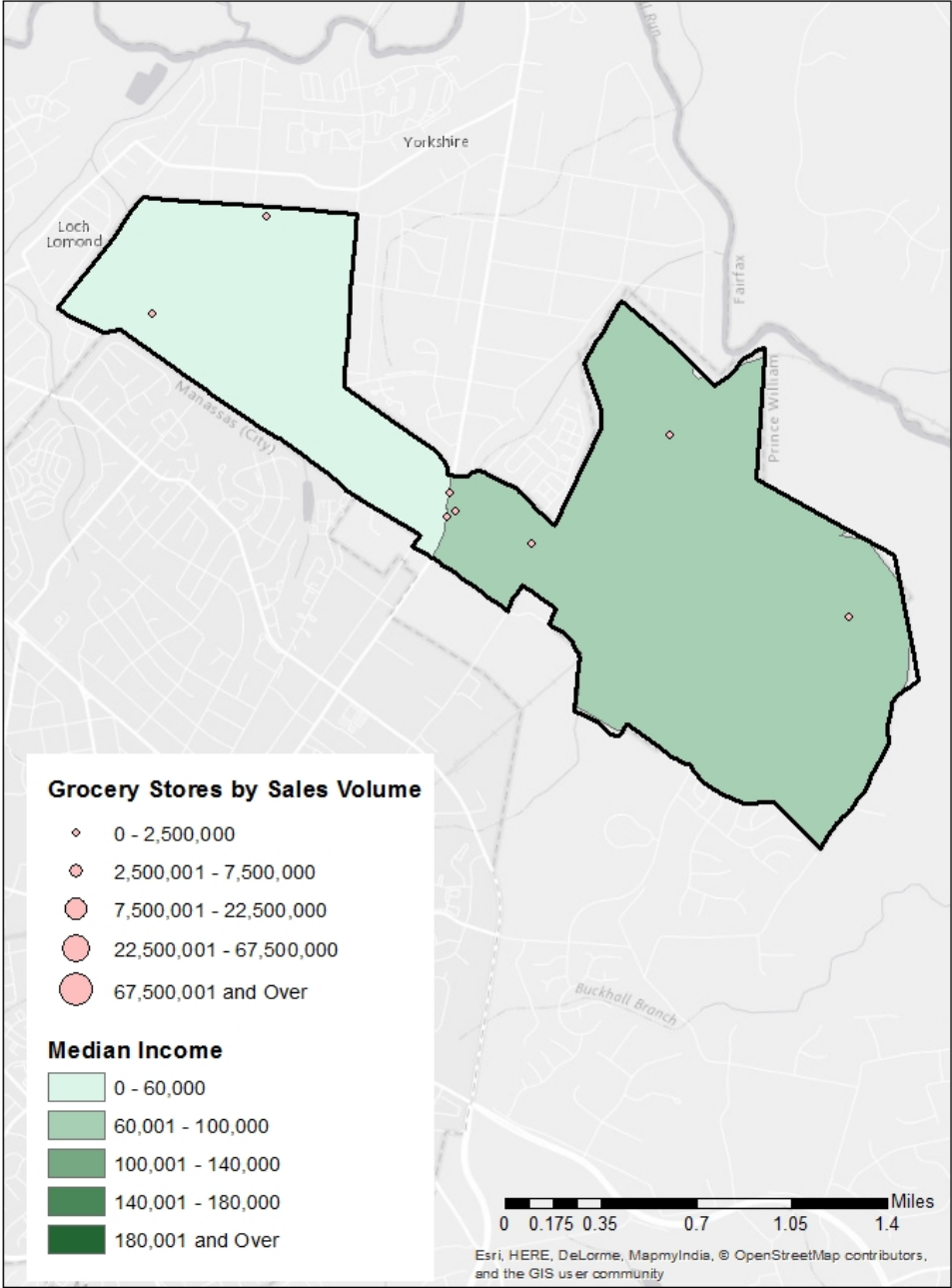


Figure 61. Median income map for Manassas Park City with locations of grocery stores. There are no farmers markets in Manassas Park City. Grey denotes no data in tracts.

Appendix 4

Ethnicity, and Locations of Farmers Markets and Grocery Stores for Various Northern

Virginia Regions

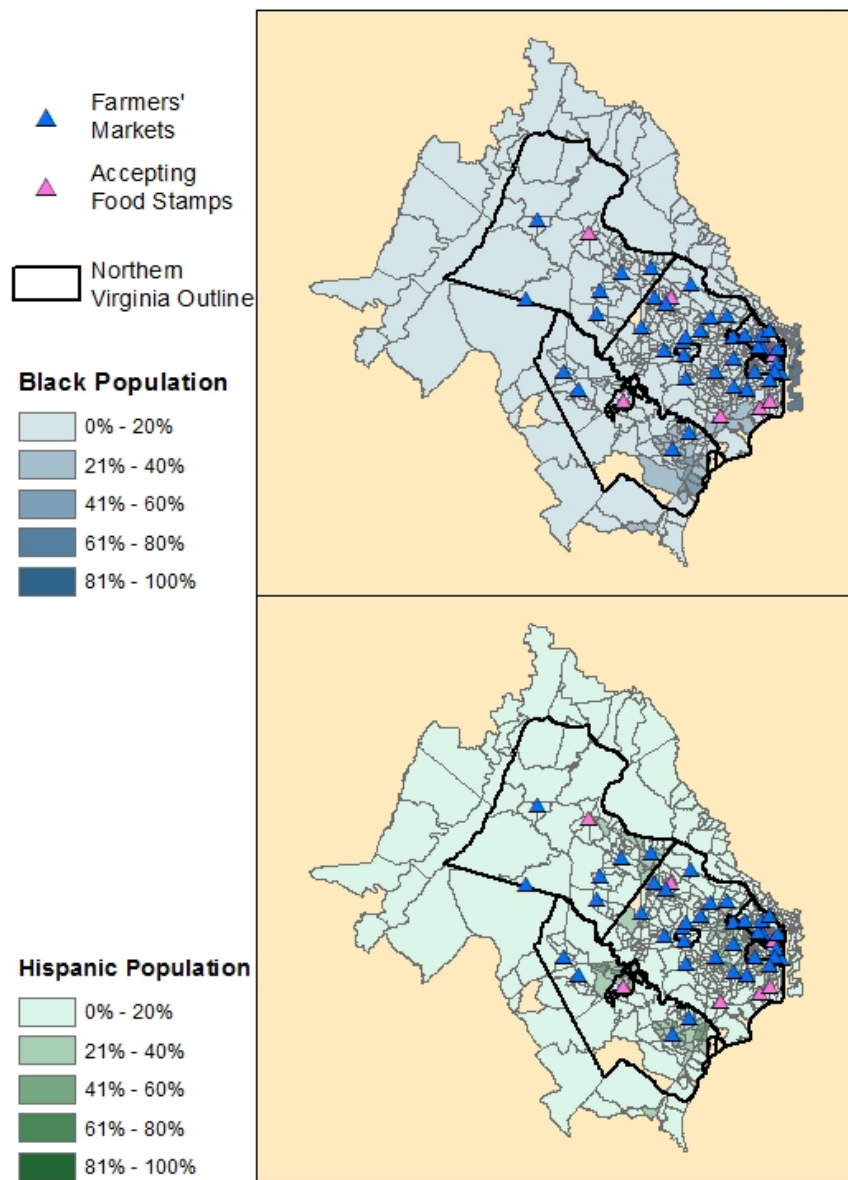


Figure 62. Ethnicity maps of Black and Hispanic populations for Northern Virginia showing locations of farmers markets, and subset of farmers markets accepting food stamps. Beige denotes no data in tracts.

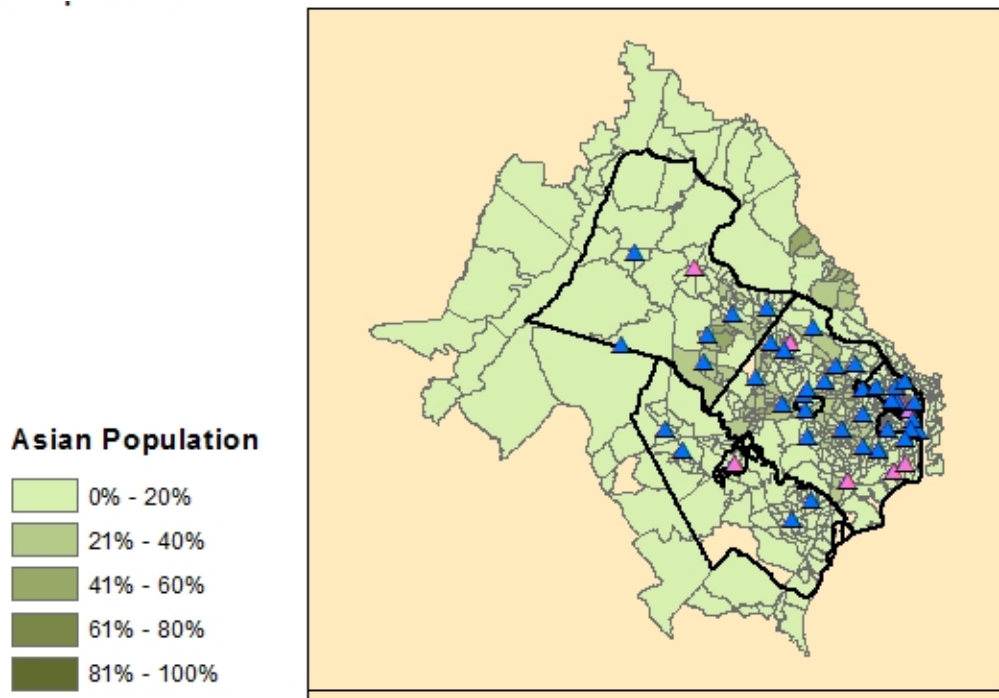


Figure 63. Ethnicity map of Asian population for Northern Virginia showing locations of farmers markets, and subset of farmers markets accepting food stamps (using symbols of Figure 62). Beige denotes no data in tracts.

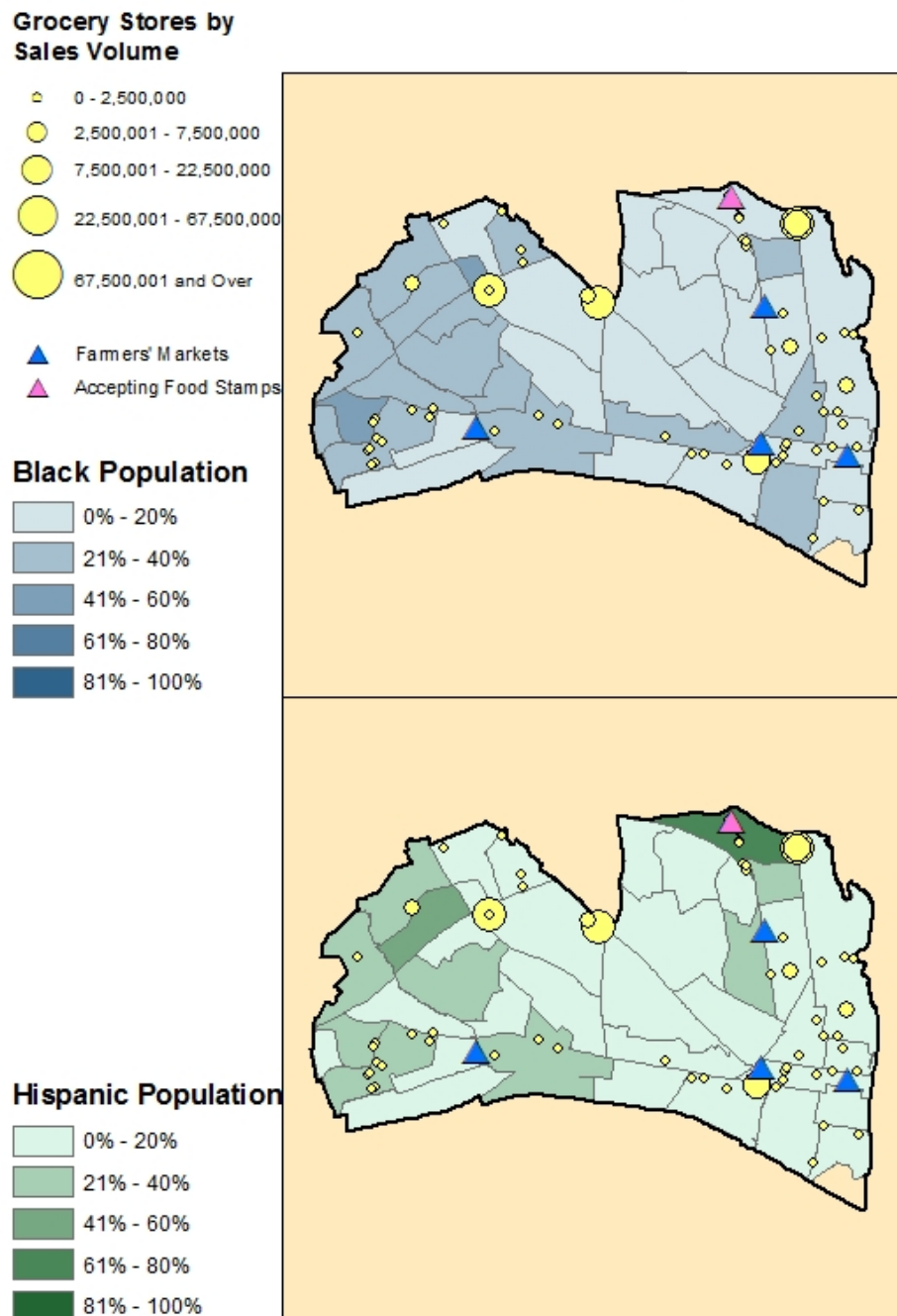


Figure 64. Ethnicity maps of Black and Hispanic populations for Alexandria showing locations of grocery stores, farmers markets, and subset of farmers markets accepting food stamps. Beige denotes no data in tracts.

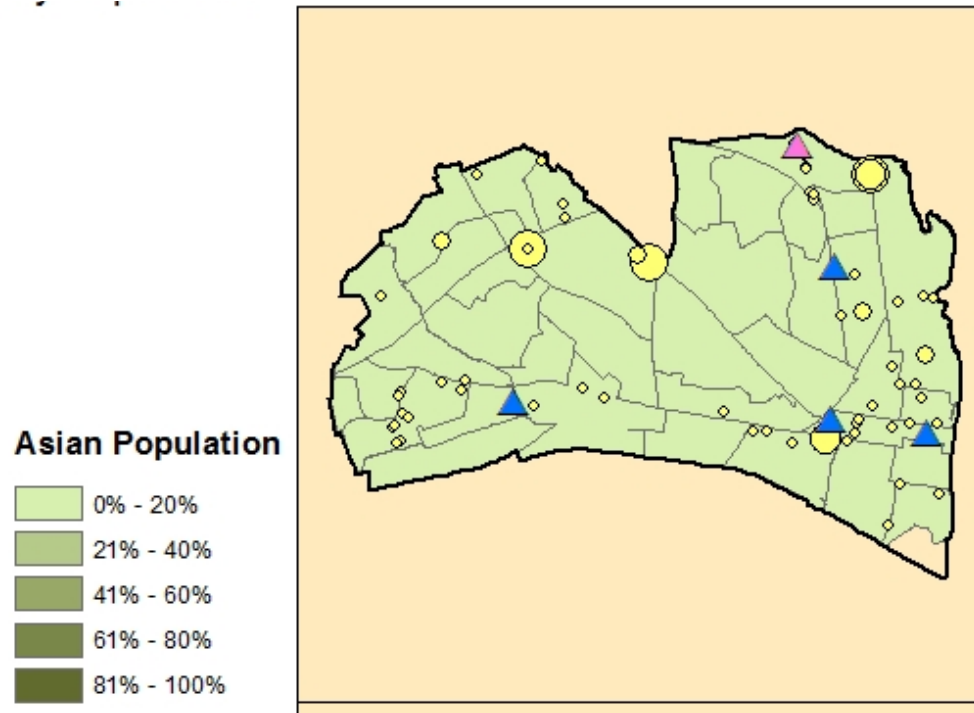
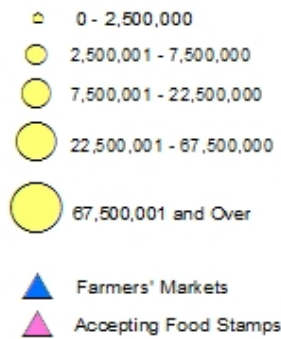
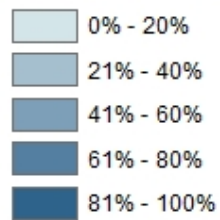


Figure 65. Ethnicity map of Asian population for Alexandria showing locations of grocery stores, farmers markets, and subset of farmers markets accepting food stamps (using symbols of Figure 64). Beige denotes no data in tracts.

Grocery Stores by Sales Volume



Black Population



Hispanic Population

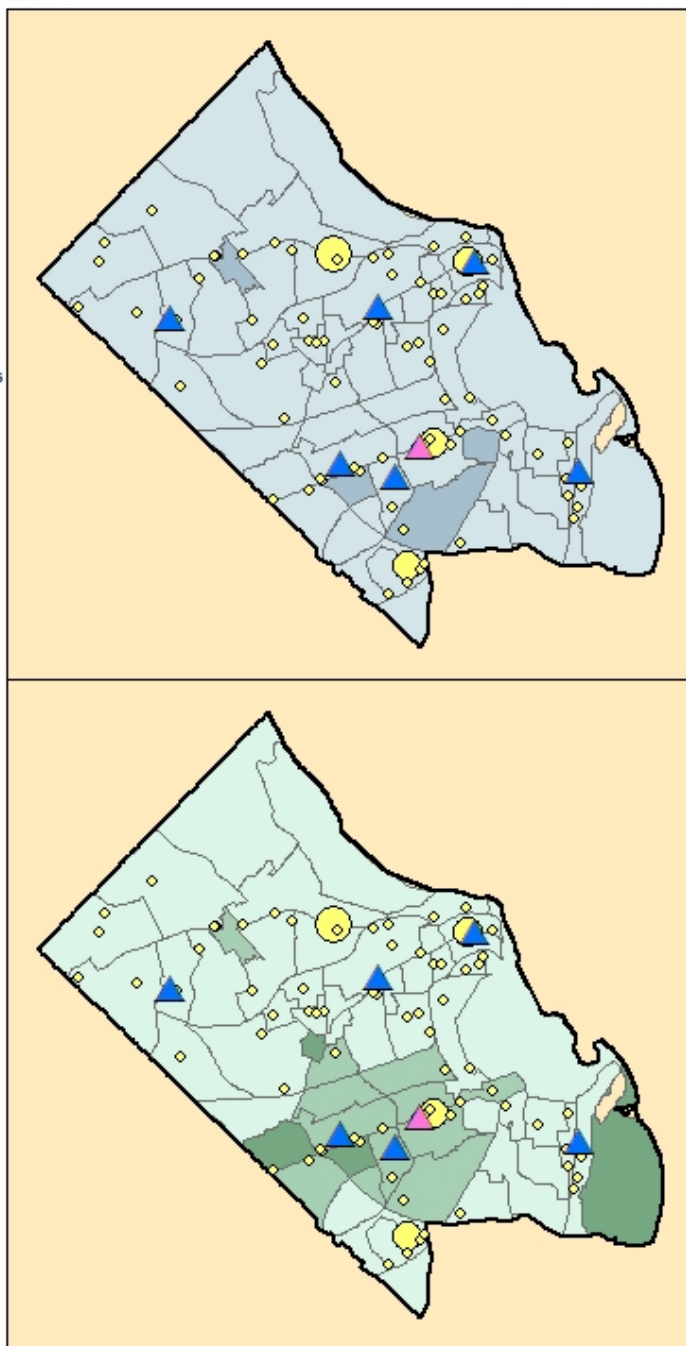
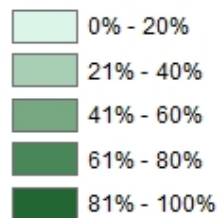
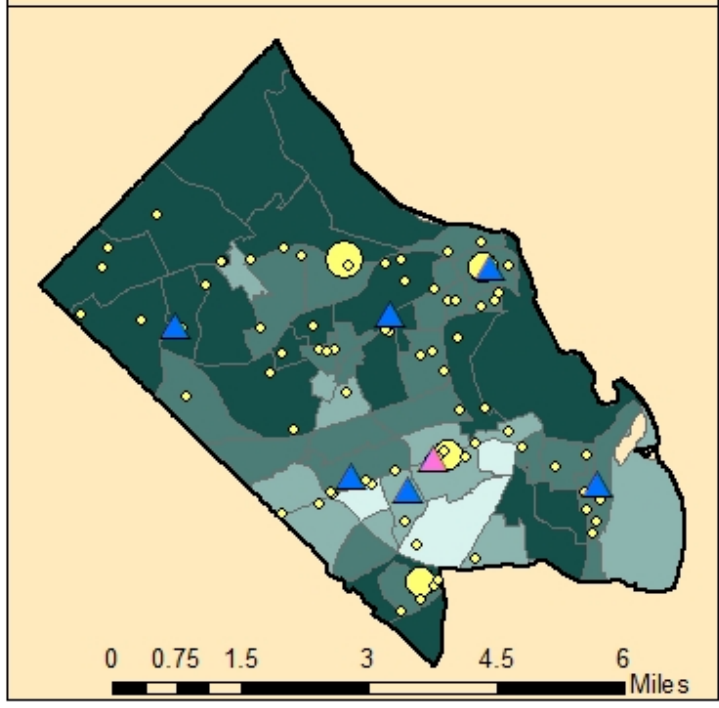
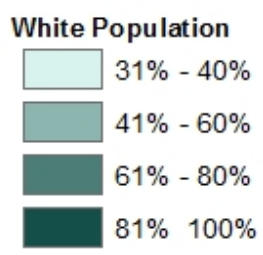
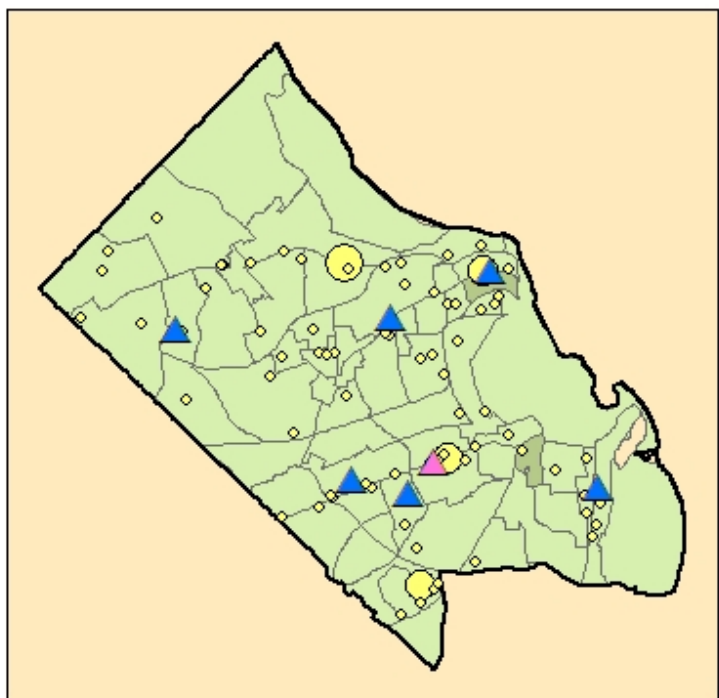
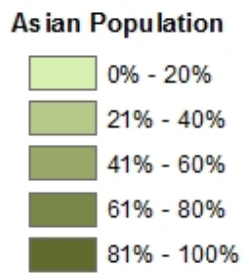


Figure 66. Ethnicity maps of Black and Hispanic populations for Arlington showing locations of grocery stores, farmers markets, and subset of farmers markets accepting food stamps. Beige denotes no data in tracts.



*Minimum white population is 31%

Figure 67. Ethnicity maps of Asian and White populations for Arlington showing locations of grocery stores, farmers markets, and subset of farmers markets accepting food stamps (using symbols of Figure 66). Beige denotes no data in tracts.

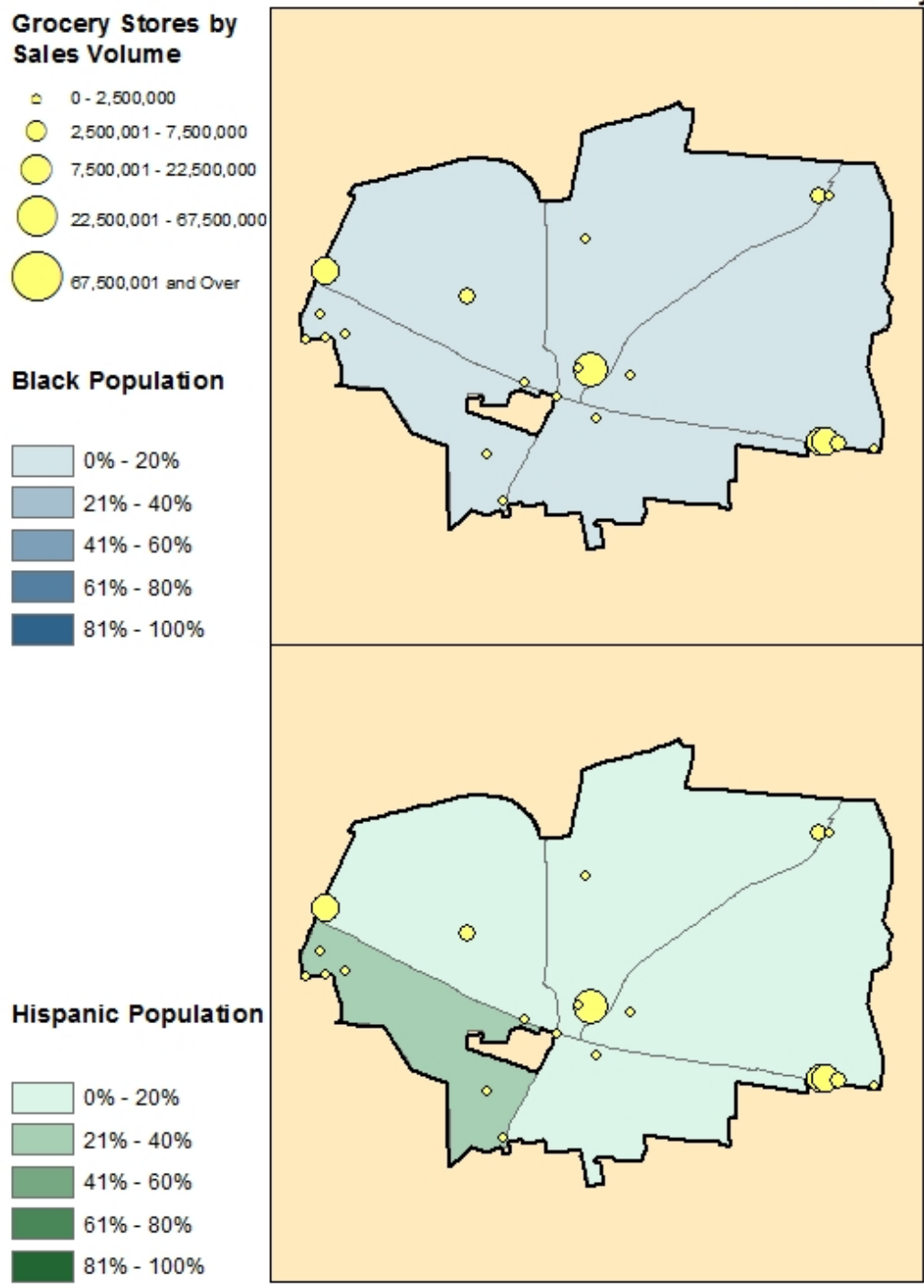


Figure 68. Ethnicity maps of Black and Hispanic populations for Fairfax City showing locations of grocery stores. There are no farmers markets in Fairfax City. Beige denotes no data in tracts.

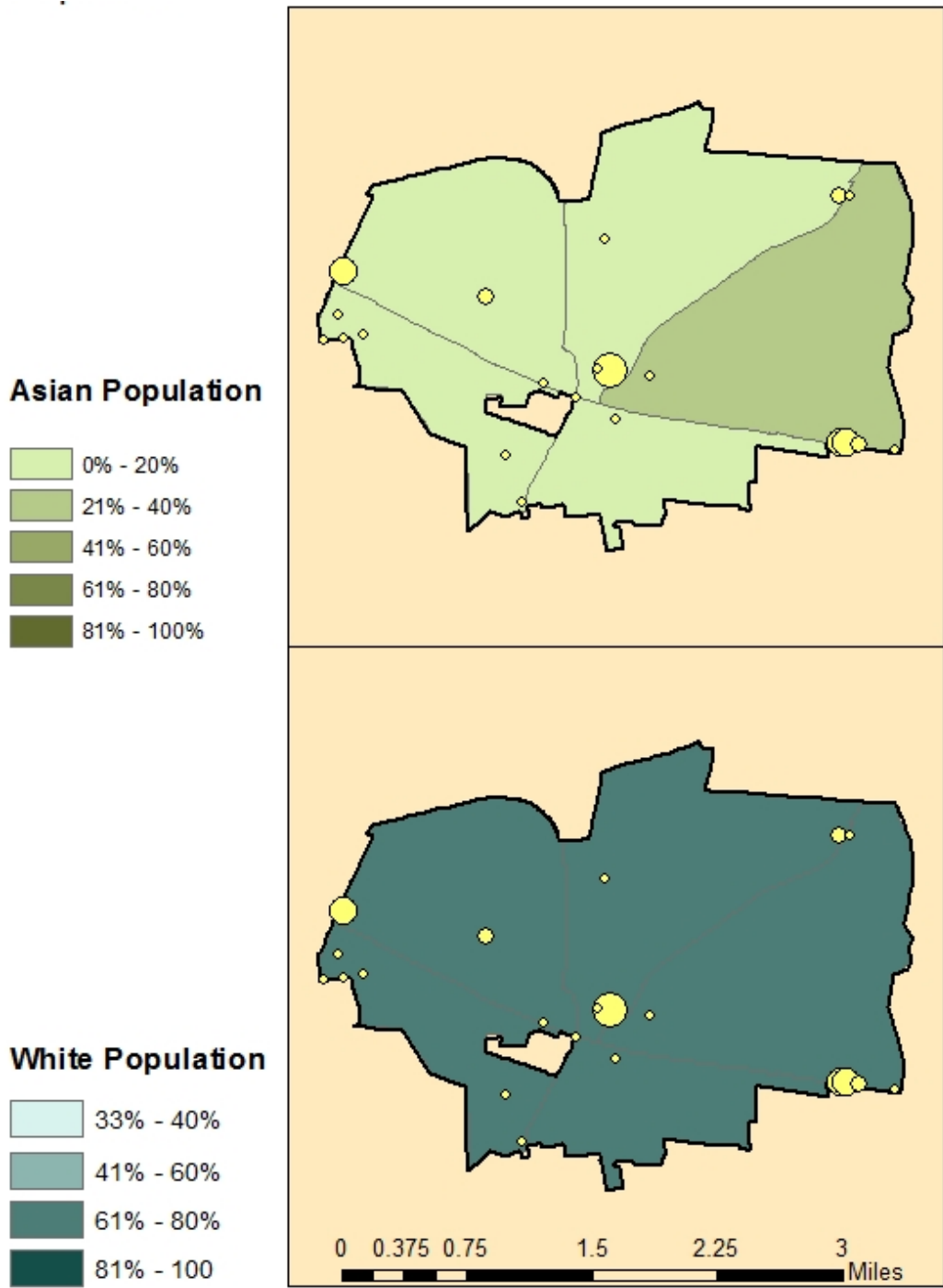
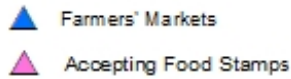
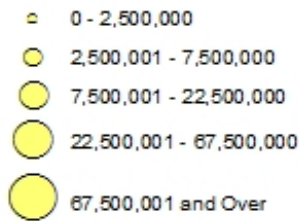
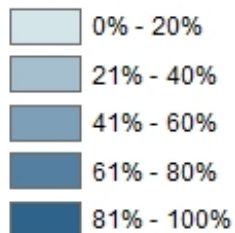


Figure 69. Ethnicity maps of Asian and White populations for Fairfax City showing locations of grocery stores (using symbols of Figure 68). There are no farmers markets in Fairfax City. Beige denotes no data in tracts.

Grocery Stores by Sales Volume



Black Population



Hispanic Population

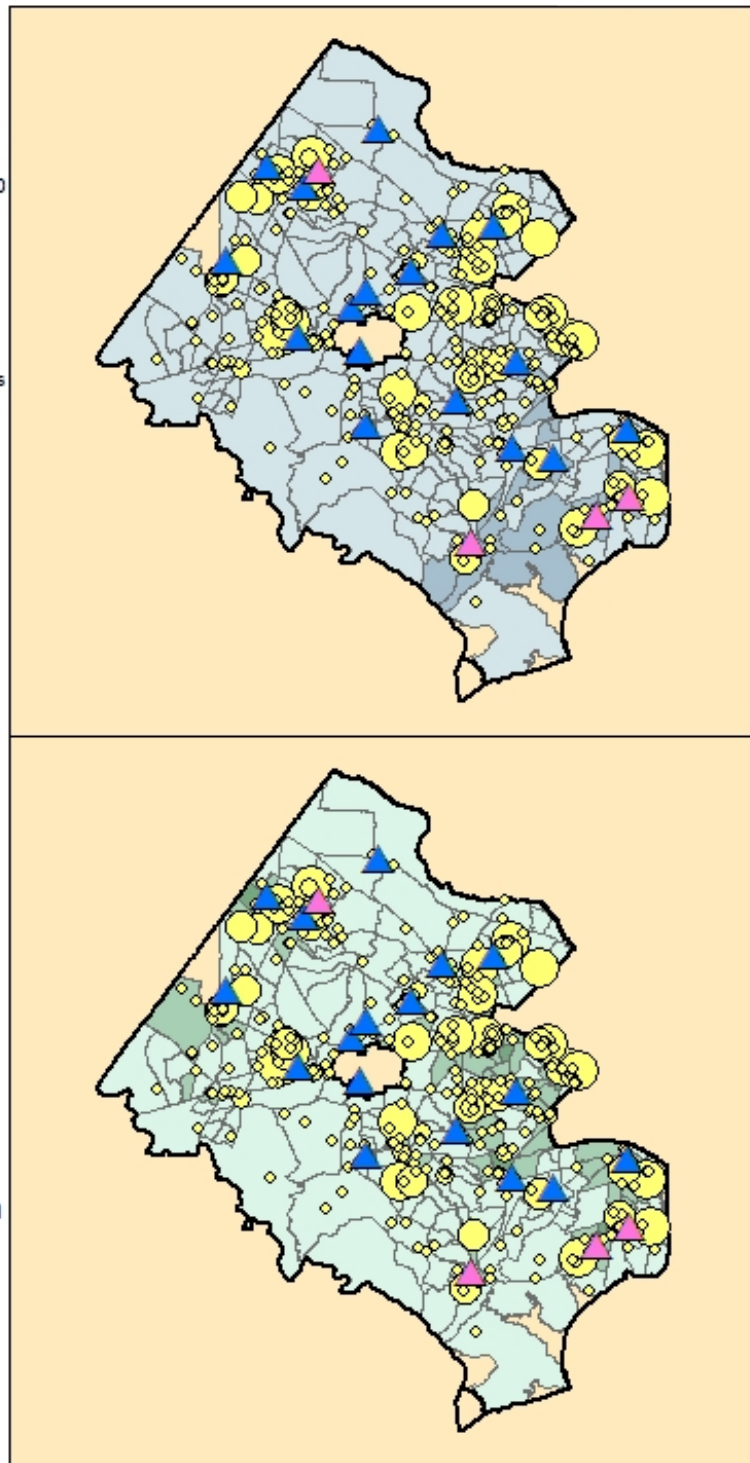
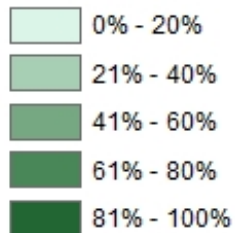


Figure 70. Ethnicity maps of Black and Hispanic populations for Fairfax County showing locations of grocery stores, farmers markets, and subset of farmers markets accepting food stamps. Beige denotes no data in tracts.

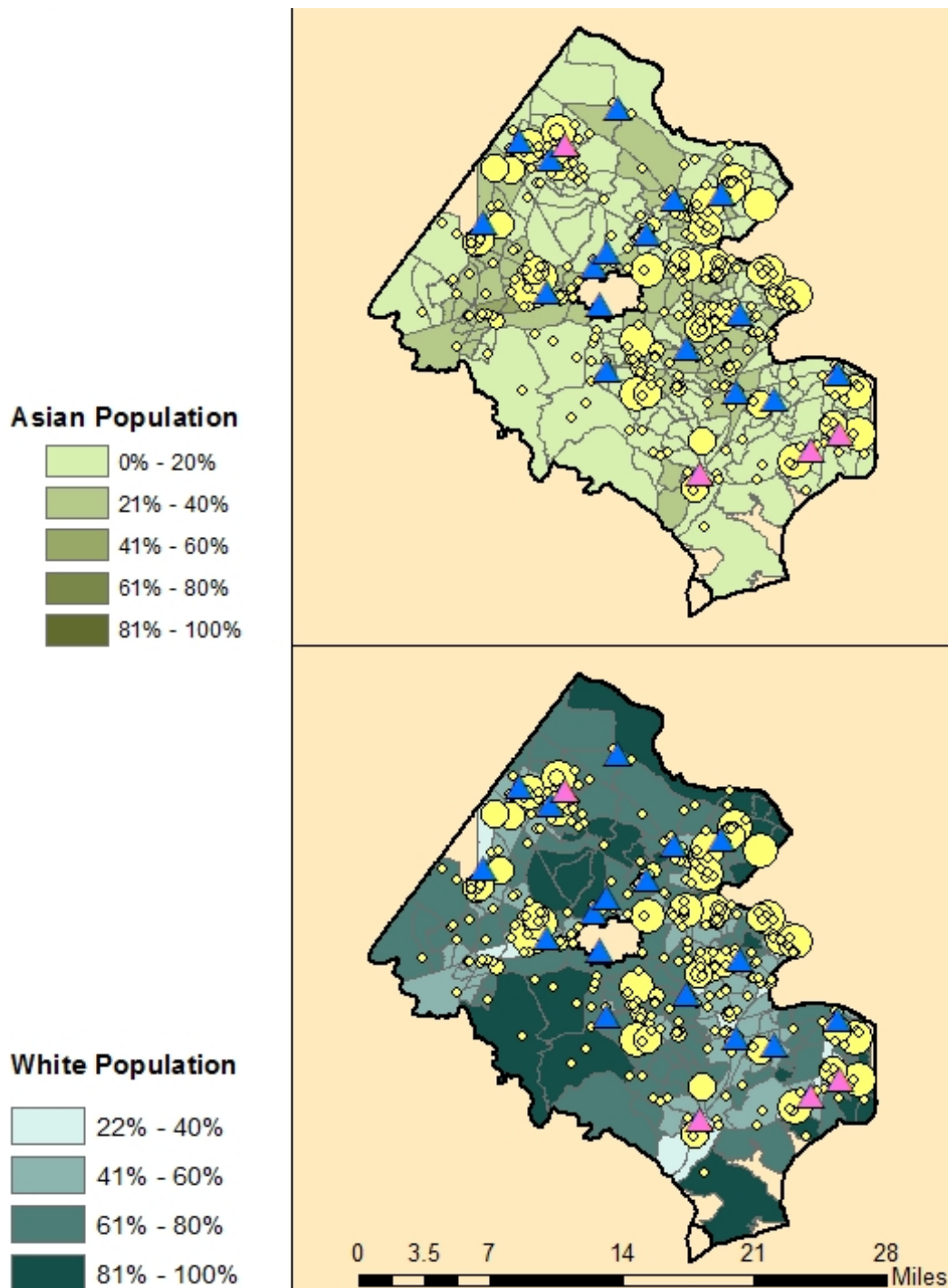


Figure 71. Ethnicity maps of Asian and White populations for Fairfax County showing locations of grocery stores, farmers markets, and subset of farmers markets accepting food stamps (using symbols of Figure 70). Beige denotes no data in tracts.

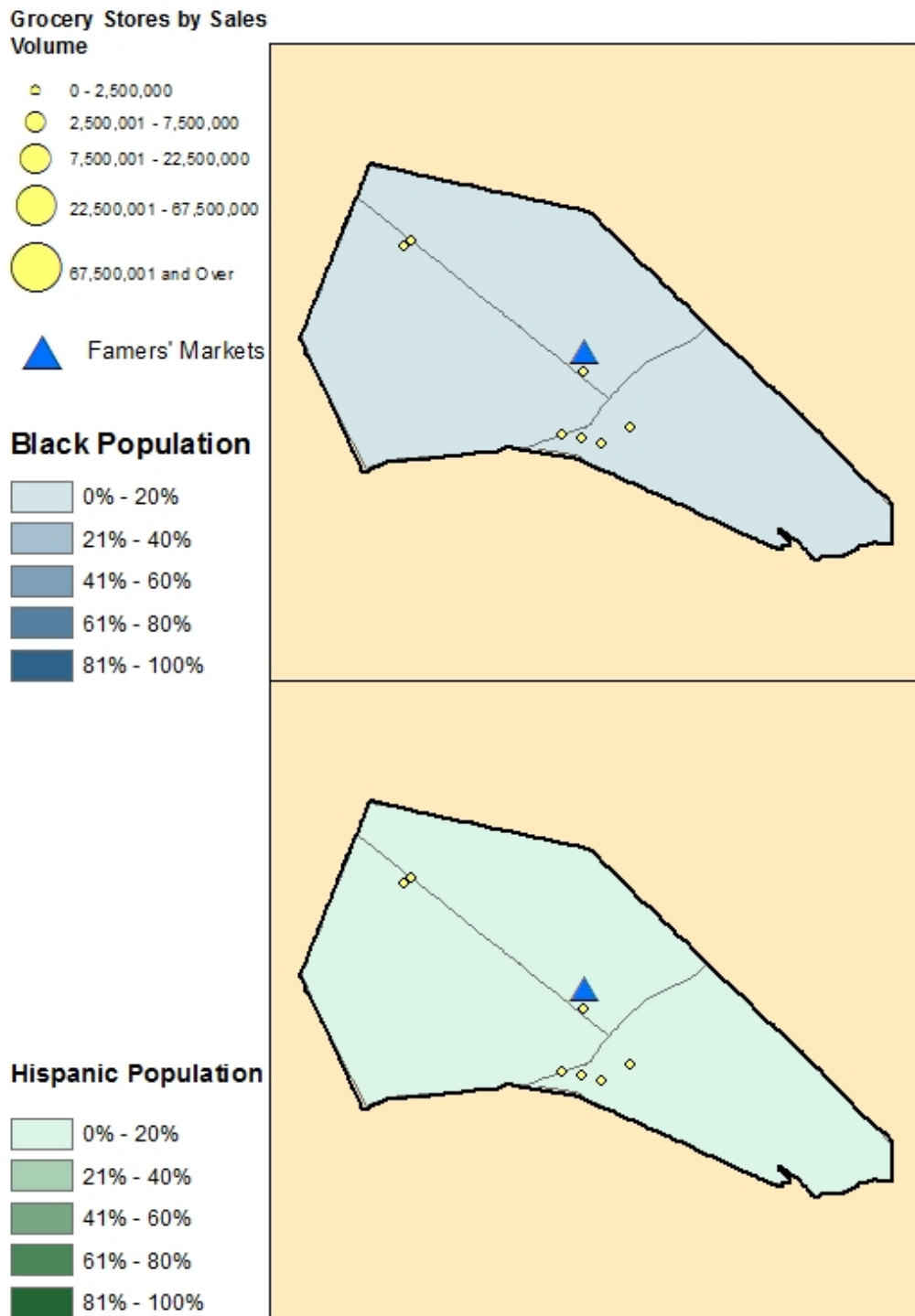


Figure 72. Ethnicity maps of Black and Hispanic populations for Falls Church showing locations of grocery stores and farmers markets. Beige denotes no data in tracts.

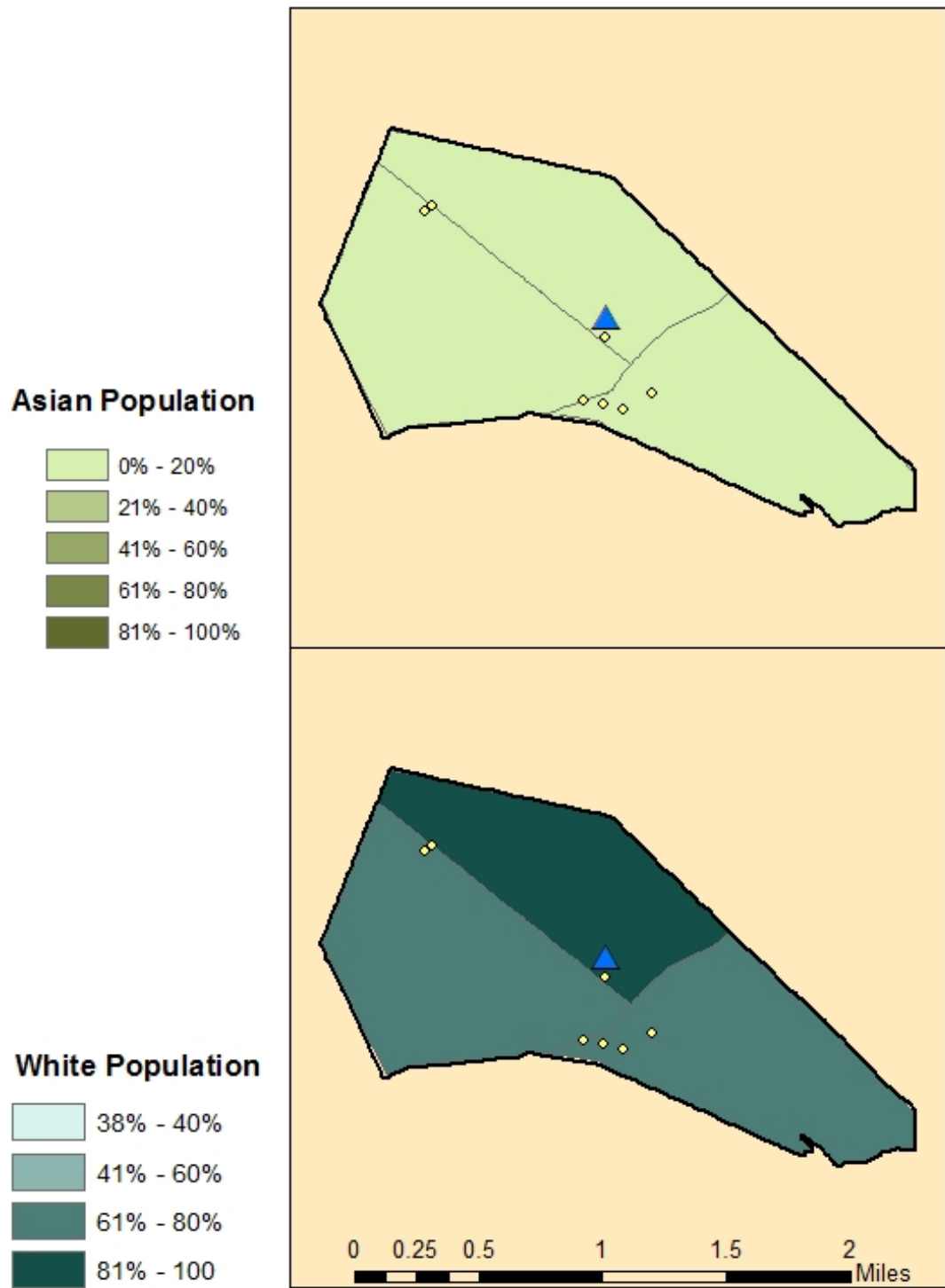
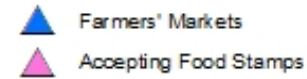
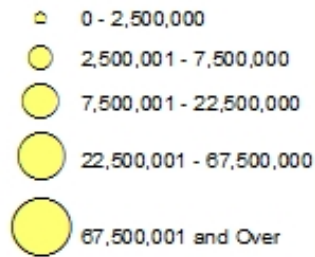
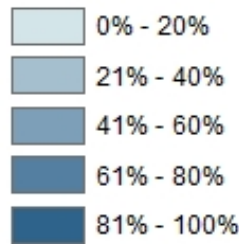


Figure 73. Ethnicity maps of Asian and White populations for Falls Church showing locations of grocery stores and farmers markets (using symbols of Figure 72). Beige denotes no data in tracts.

Grocery Stores by Sales Volume



Black Population



Hispanic Population

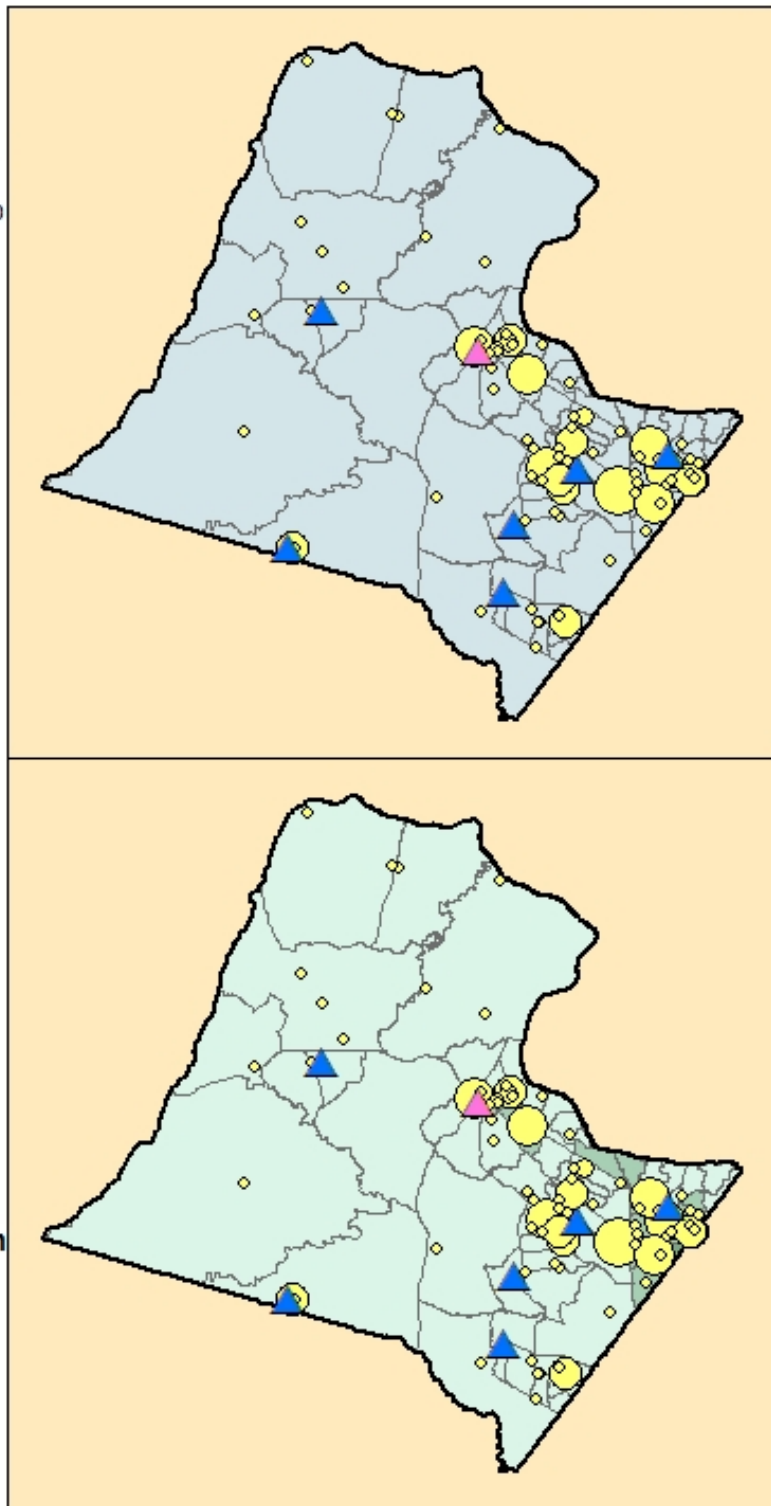
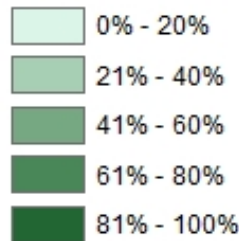


Figure 74. Ethnicity maps of Black and Hispanic populations for Loudoun County showing locations of grocery stores, farmers markets, and subset of farmers markets accepting food stamps. Beige denotes no data in tracts.

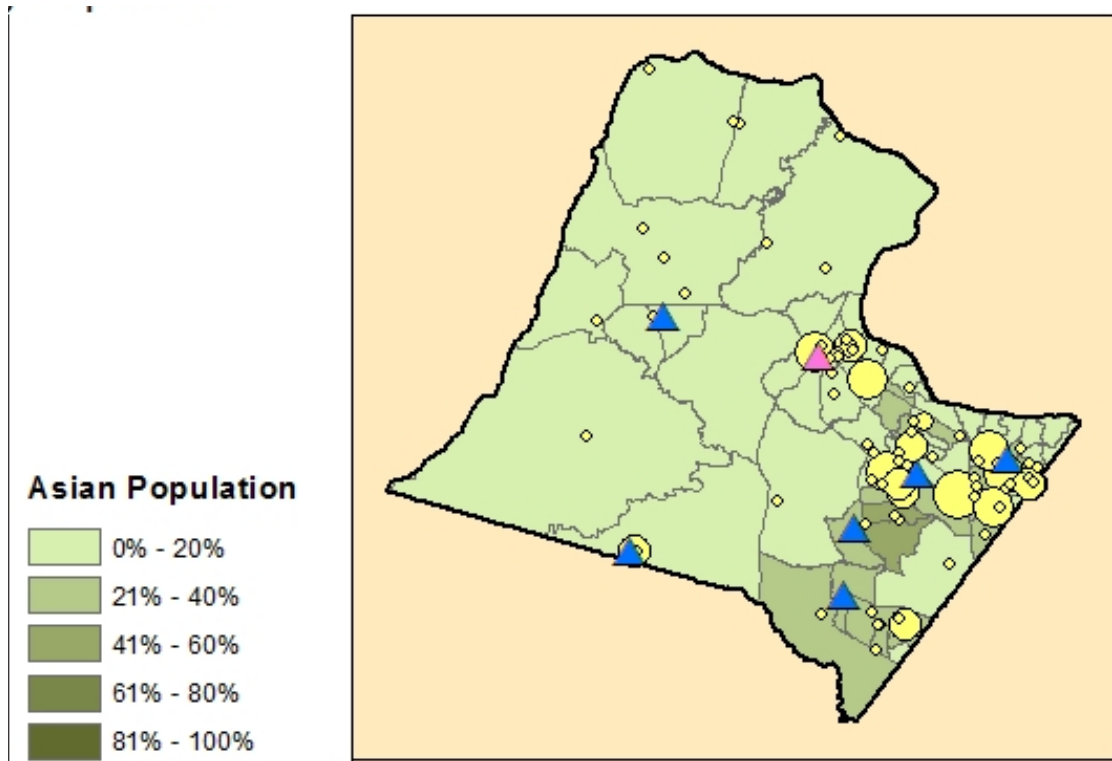
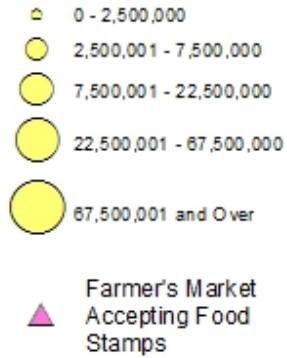
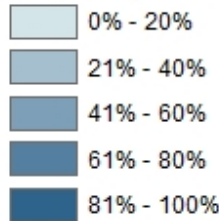


Figure 75. Ethnicity map of Asian population for Loudoun County showing locations of grocery stores, farmers markets, and subset of farmers markets accepting food stamps (using symbols of Figure 74). Beige denotes no data in tracts.

Grocery Stores by Sales Volume



Black Population



Hispanic Population

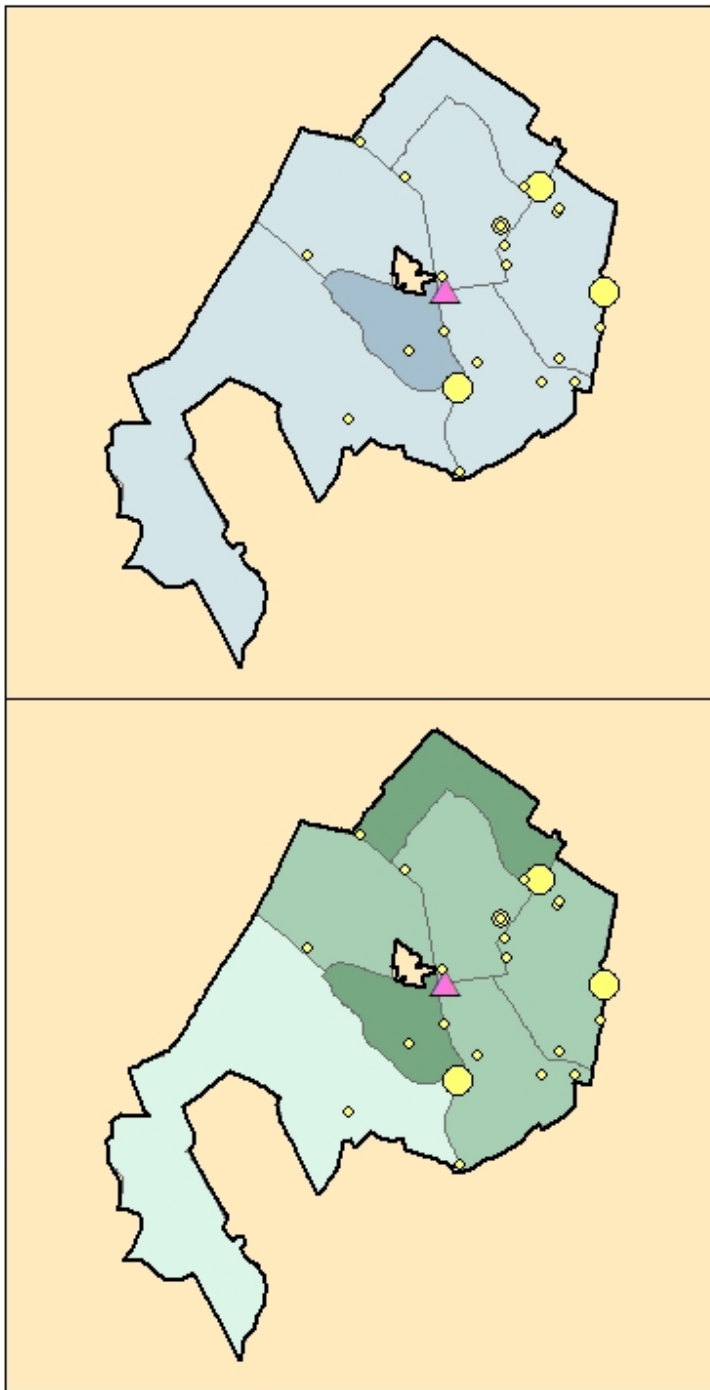
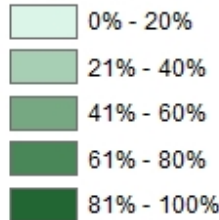


Figure 76. Ethnicity maps of Black and Hispanic populations for Manassas City showing locations of grocery stores, farmers markets, and subset of farmers markets accepting food stamps. Beige denotes no data in tracts.

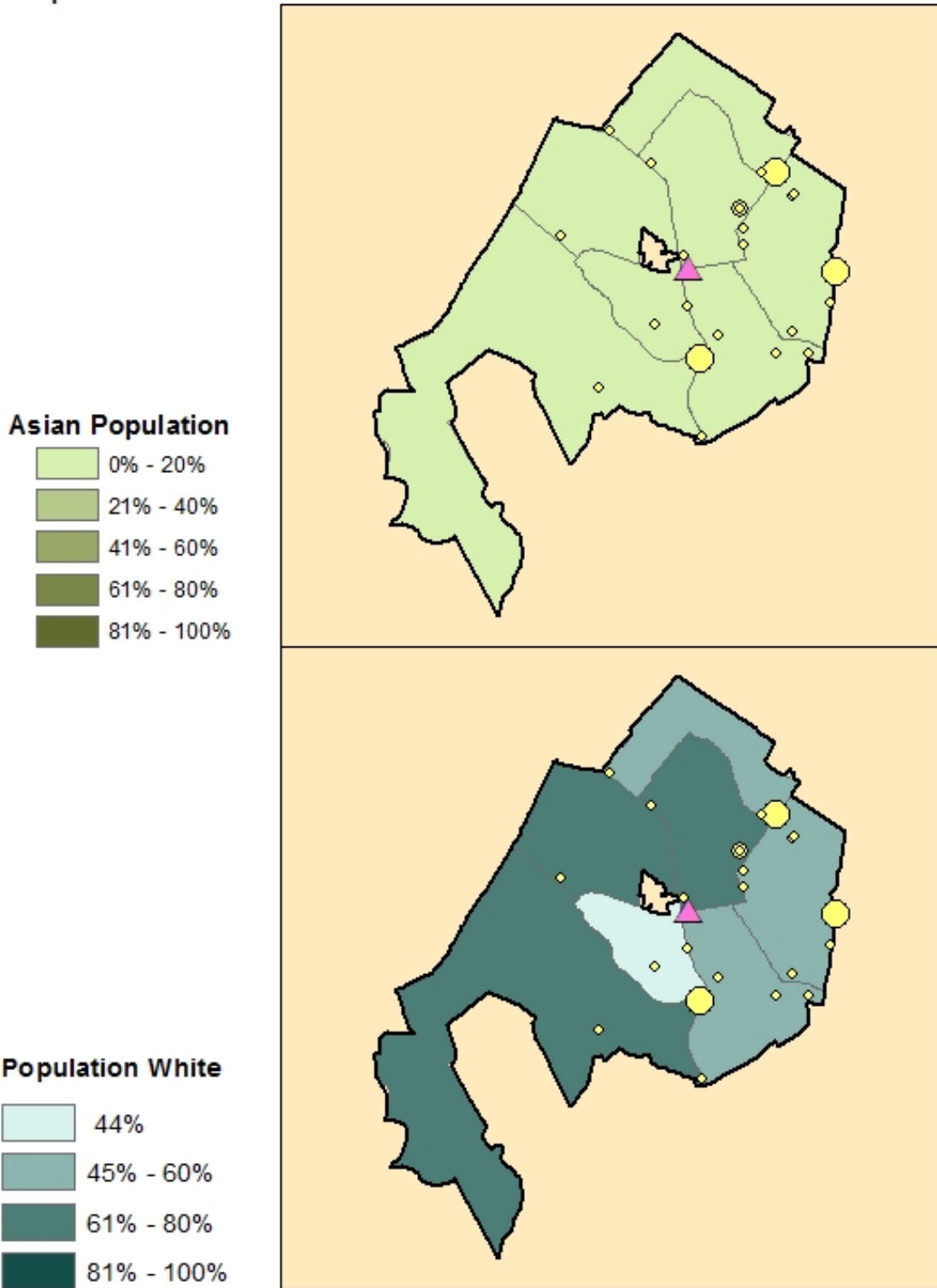
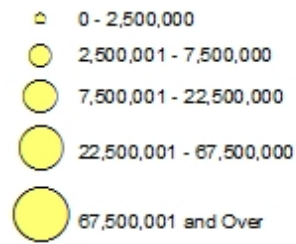
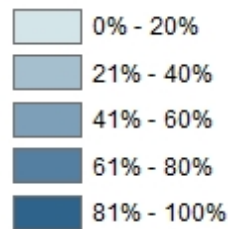


Figure 77. Ethnicity maps of Asian and White populations for Manassas City showing locations of grocery stores, farmers markets, and subset of farmers markets accepting food stamps (using symbols of Figure 76). Beige denotes no data in tracts.

Grocery Stores by Sales Volume



Black Population



Hispanic Population

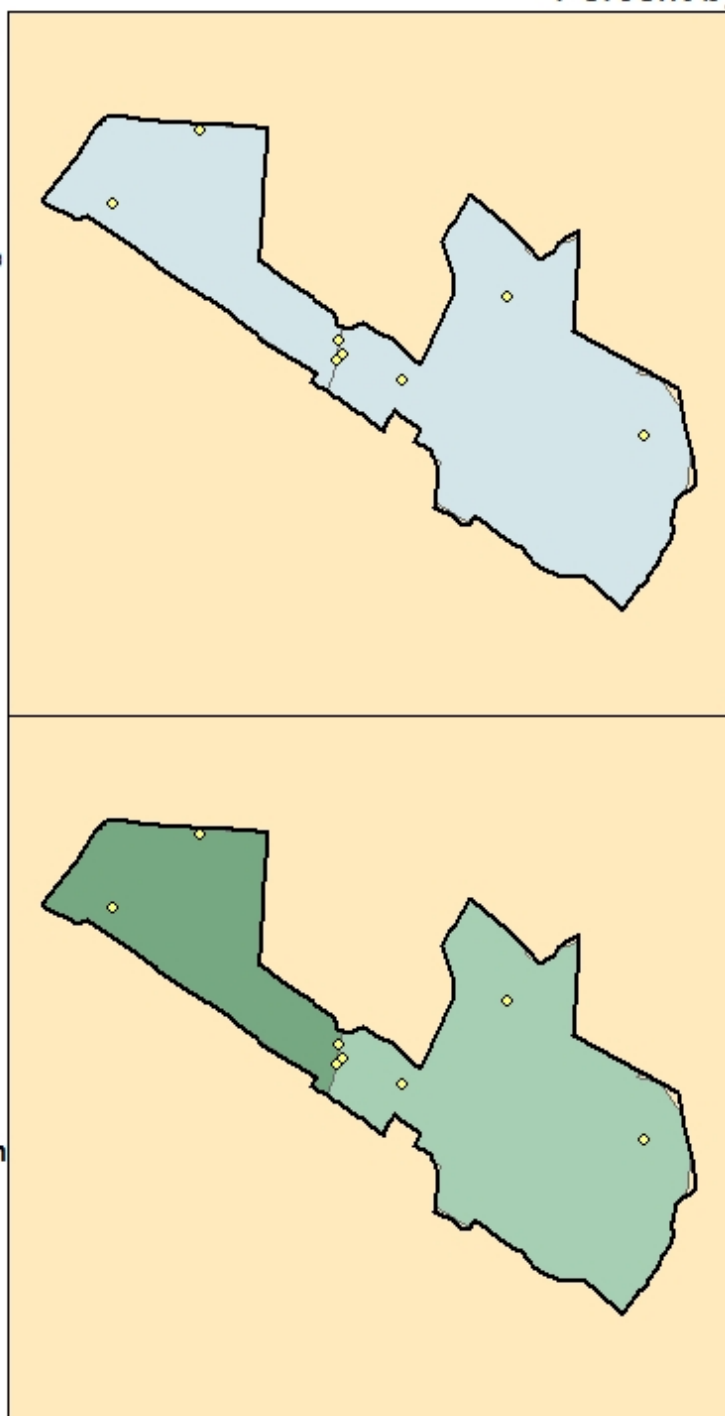
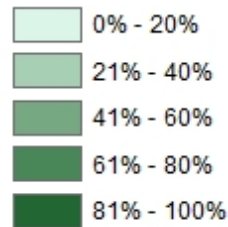


Figure 78. Ethnicity maps of Black and Hispanic populations for Manassas Park City showing locations of grocery stores. There are no farmers markets in Manassas Park City. Beige denotes no data in tracts.

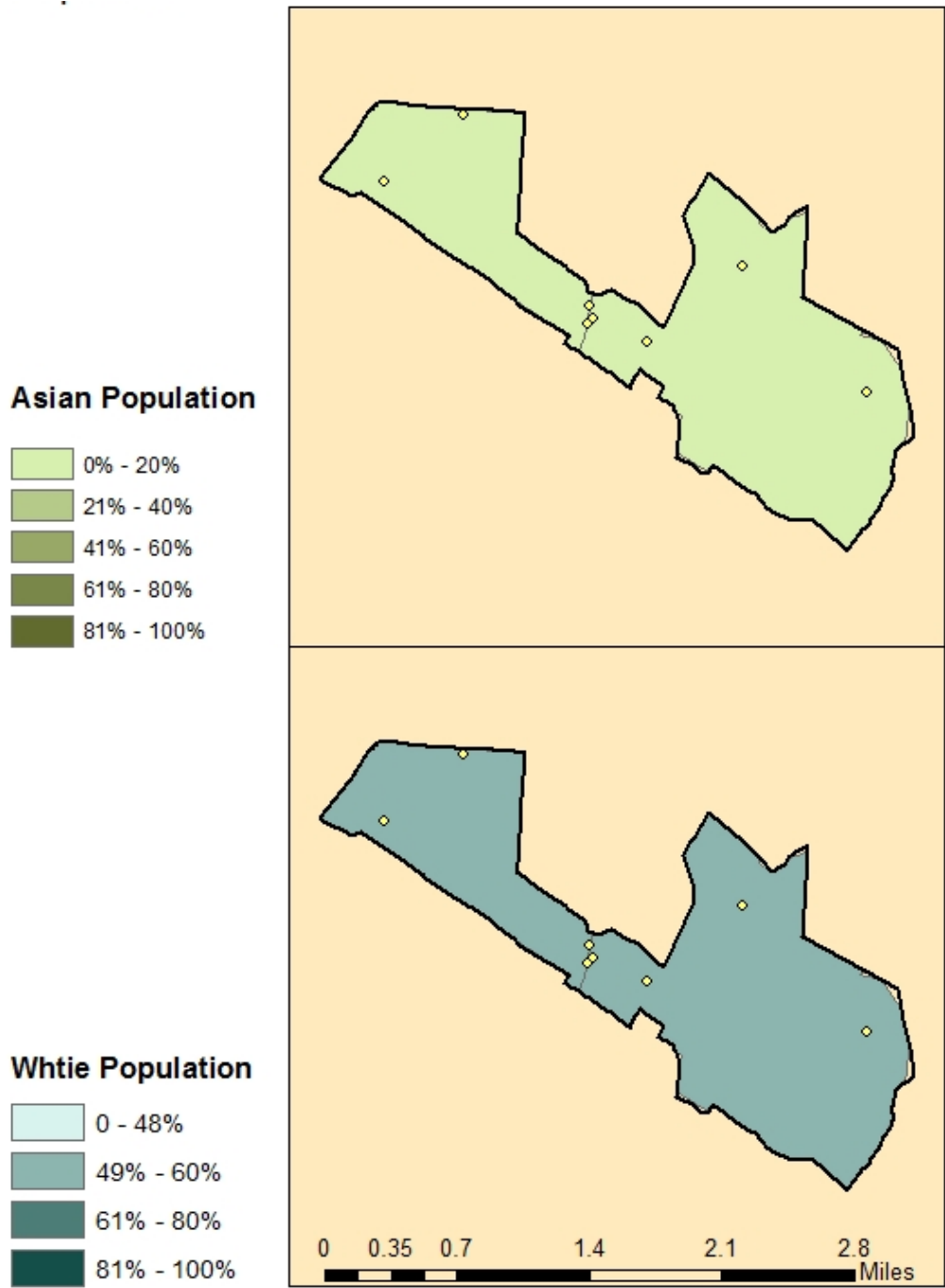
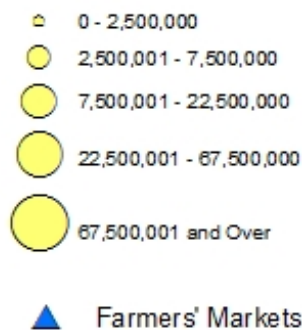
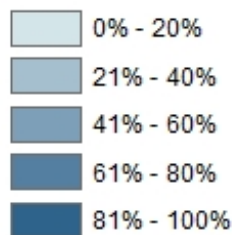


Figure 79. Ethnicity maps of Asian and White populations for Manassas Park City showing locations of grocery stores (using symbols of Figure 78). There are no farmers markets in Manassas Park City. Beige denotes no data in tracts.

Grocery Stores by Sales Volume



Black Population



Hispanic Population

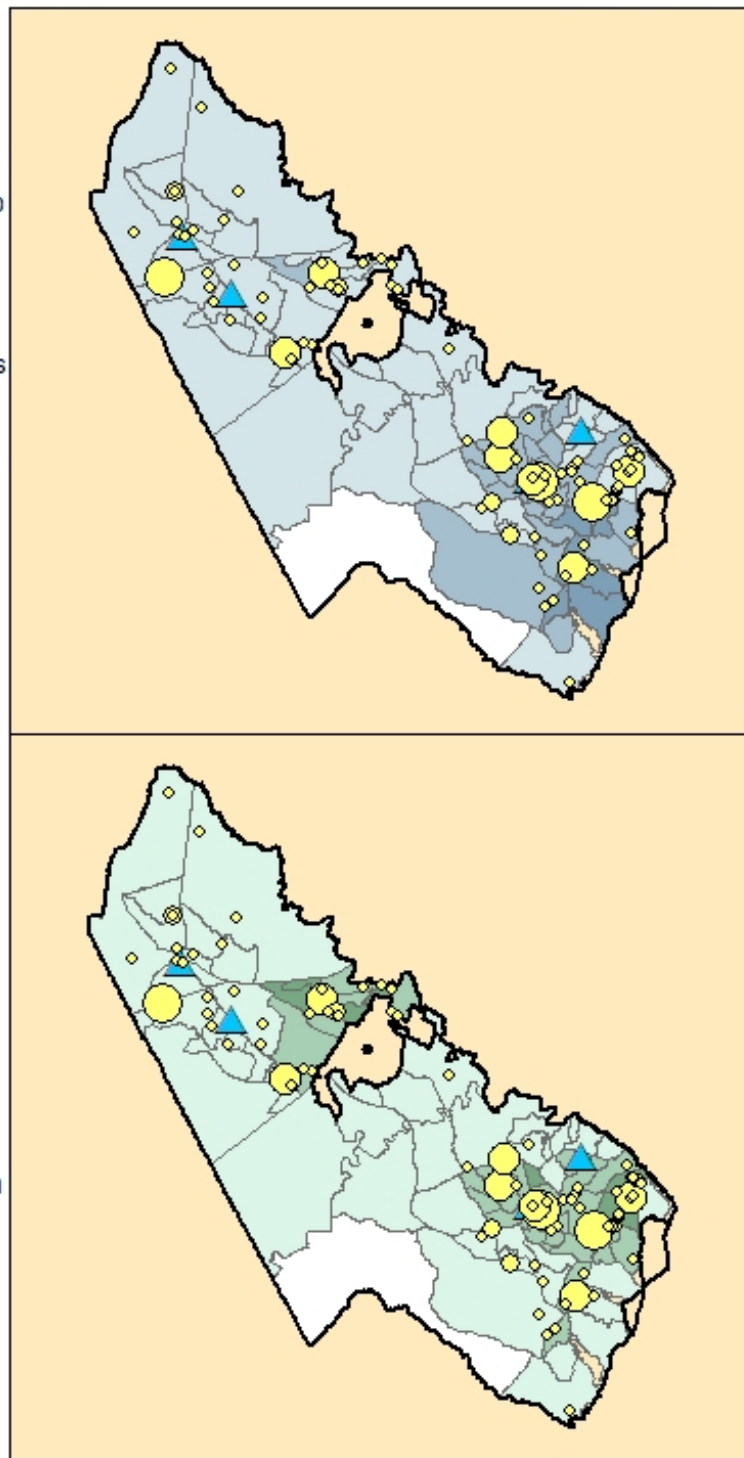
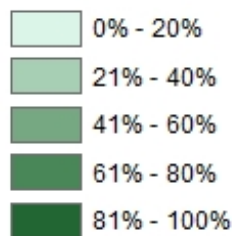


Figure 80. Ethnicity maps of Black and Hispanic populations for Prince William showing locations of grocery stores, farmers markets, and subset of farmers markets accepting food stamps. Beige and white denote no data in tracts.

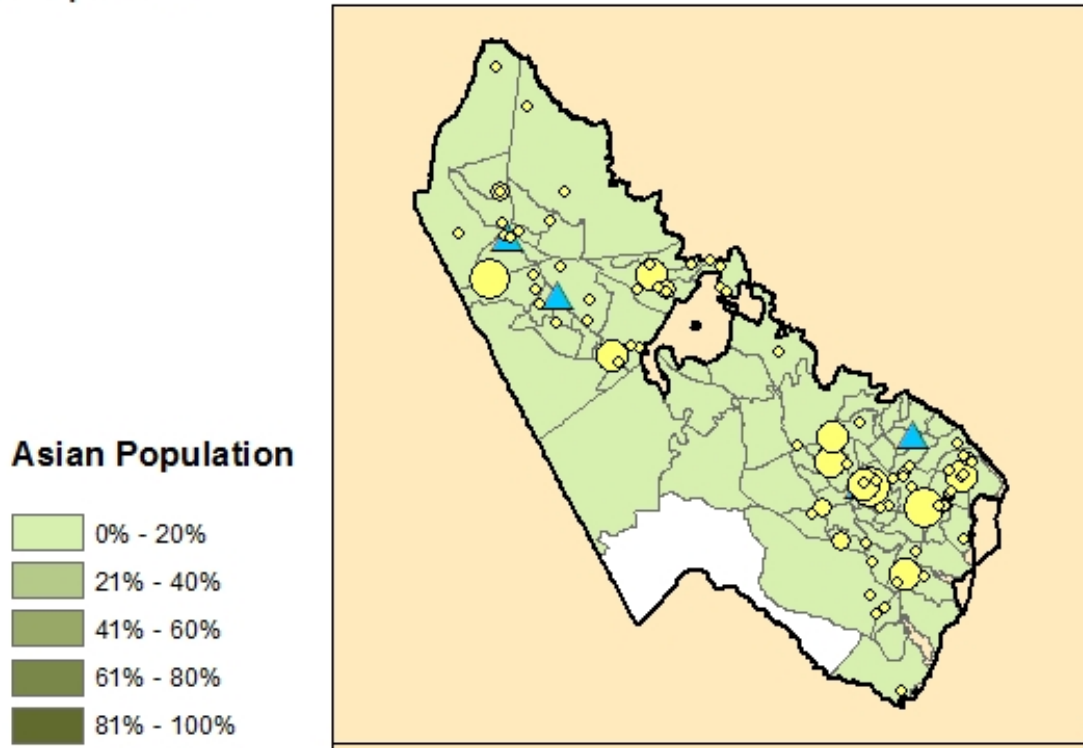


Figure 81. Ethnicity maps of Asian and White populations for Prince William showing locations of grocery stores, farmers markets, and subset of farmers markets accepting food stamps (using symbols of Figure 80). Beige and white denote no data in tracts.

Appendix 5

Elderly Population, and Locations of Farmers Markets and Grocery Stores for Various Northern Virginia Regions

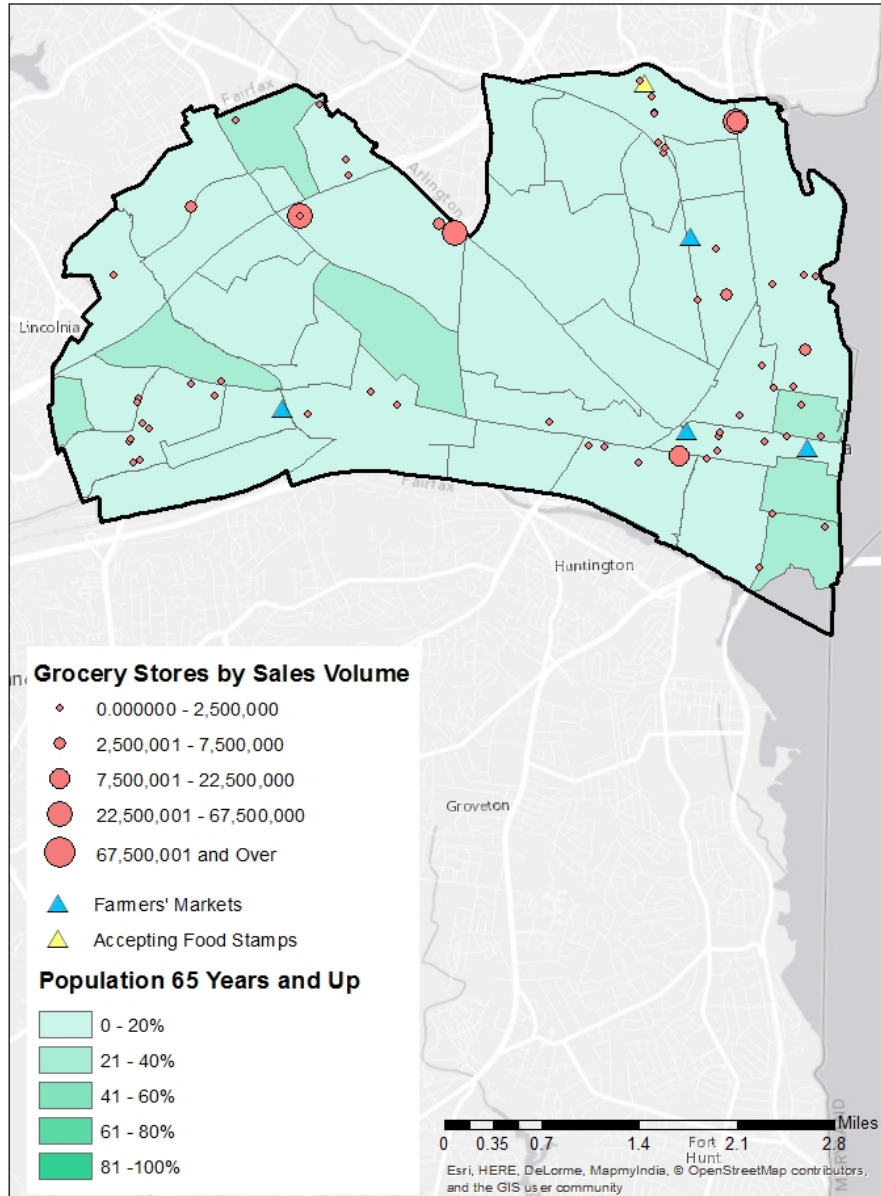


Figure 82. Elderly population map for Alexandria showing locations of grocery stores, farmers markets, and subset of farmers markets accepting food stamps. Grey denotes no data in tracts.

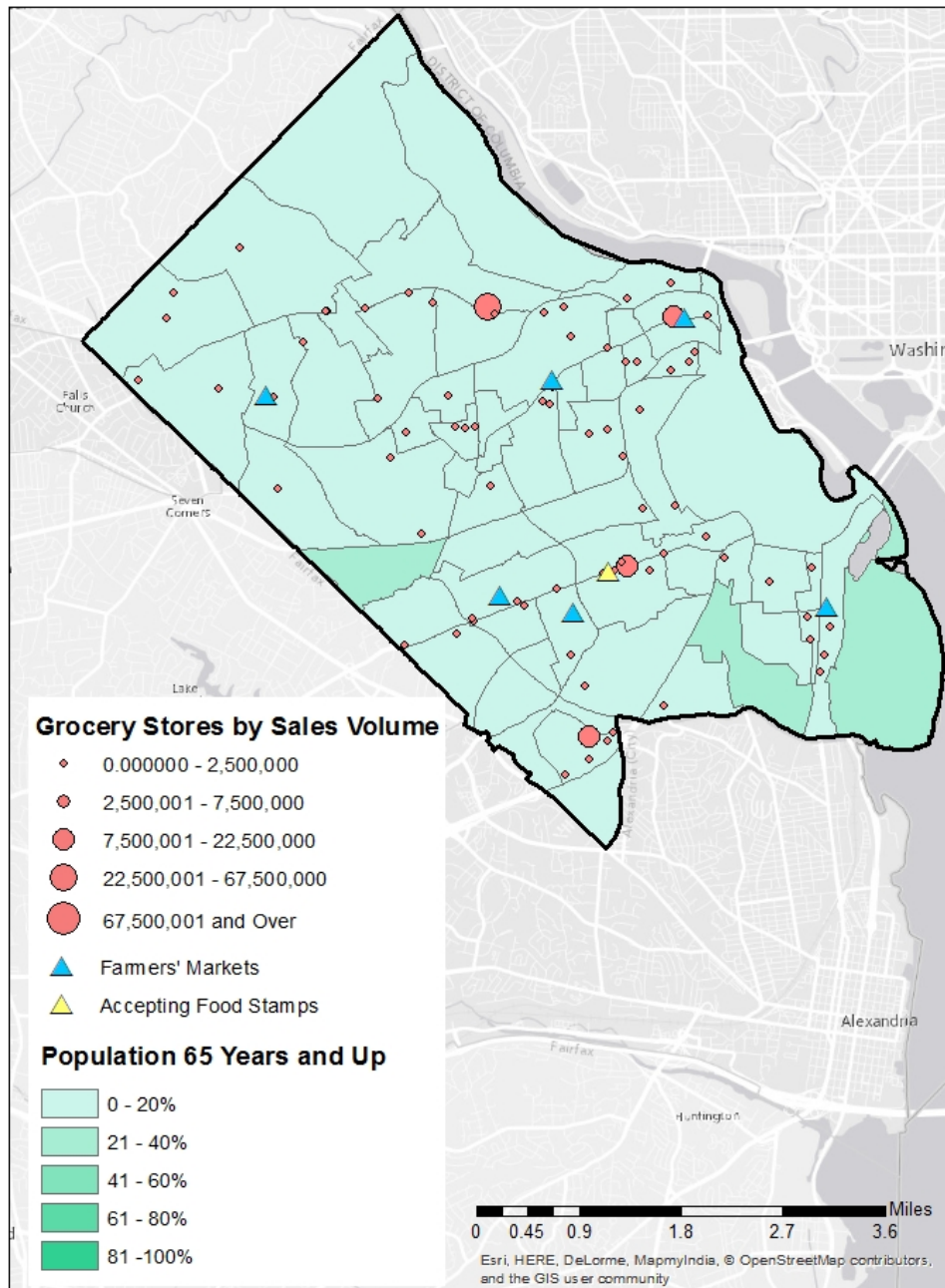


Figure 83. Elderly population map for Arlington showing locations of grocery stores, farmers markets, and subset of farmers markets accepting food stamps. Grey denotes no data in tracts.

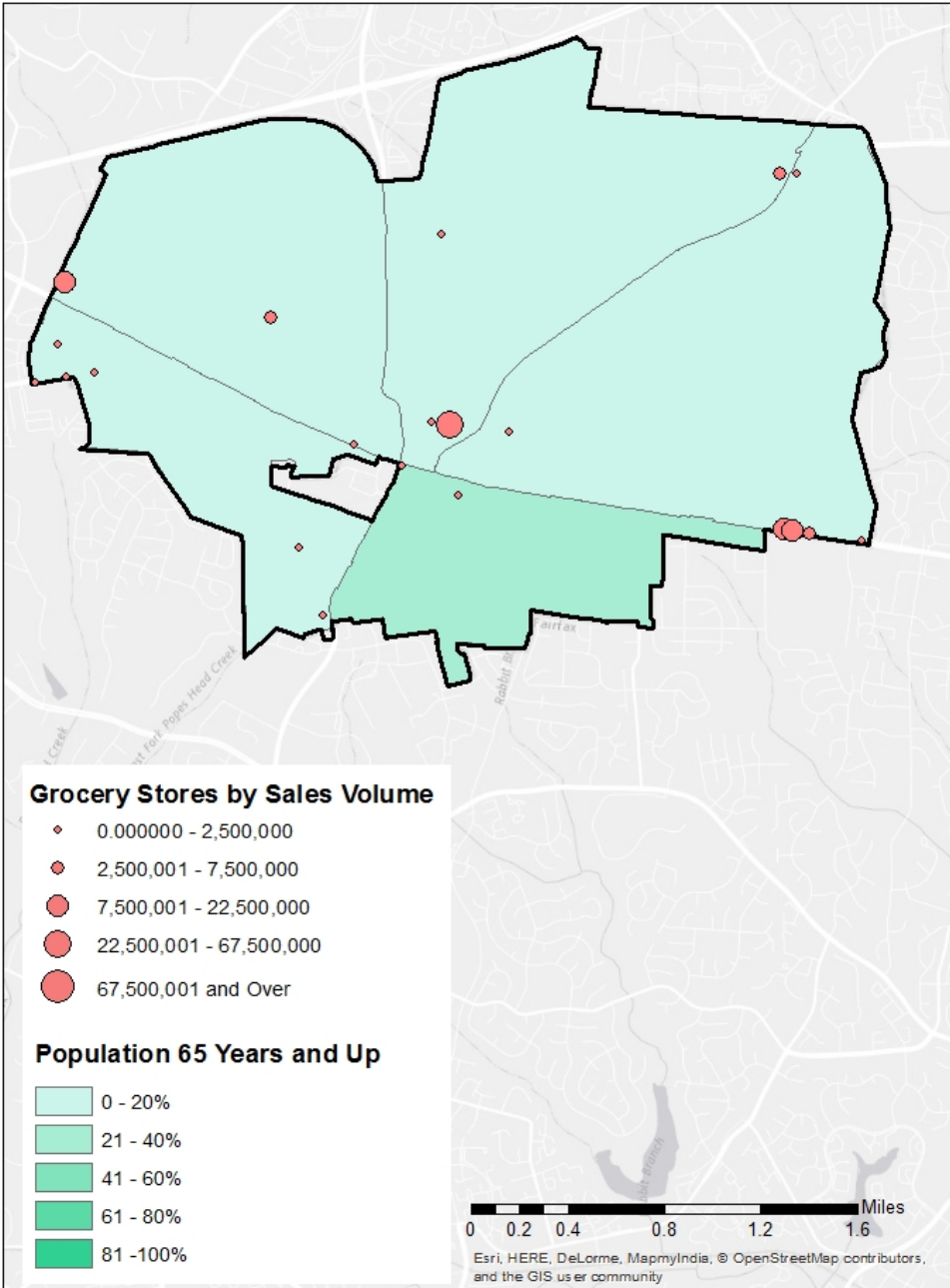


Figure 84. Elderly population map for Fairfax City showing locations of grocery stores. There are no farmers markets in Fairfax City. Grey denotes no data in tracts.

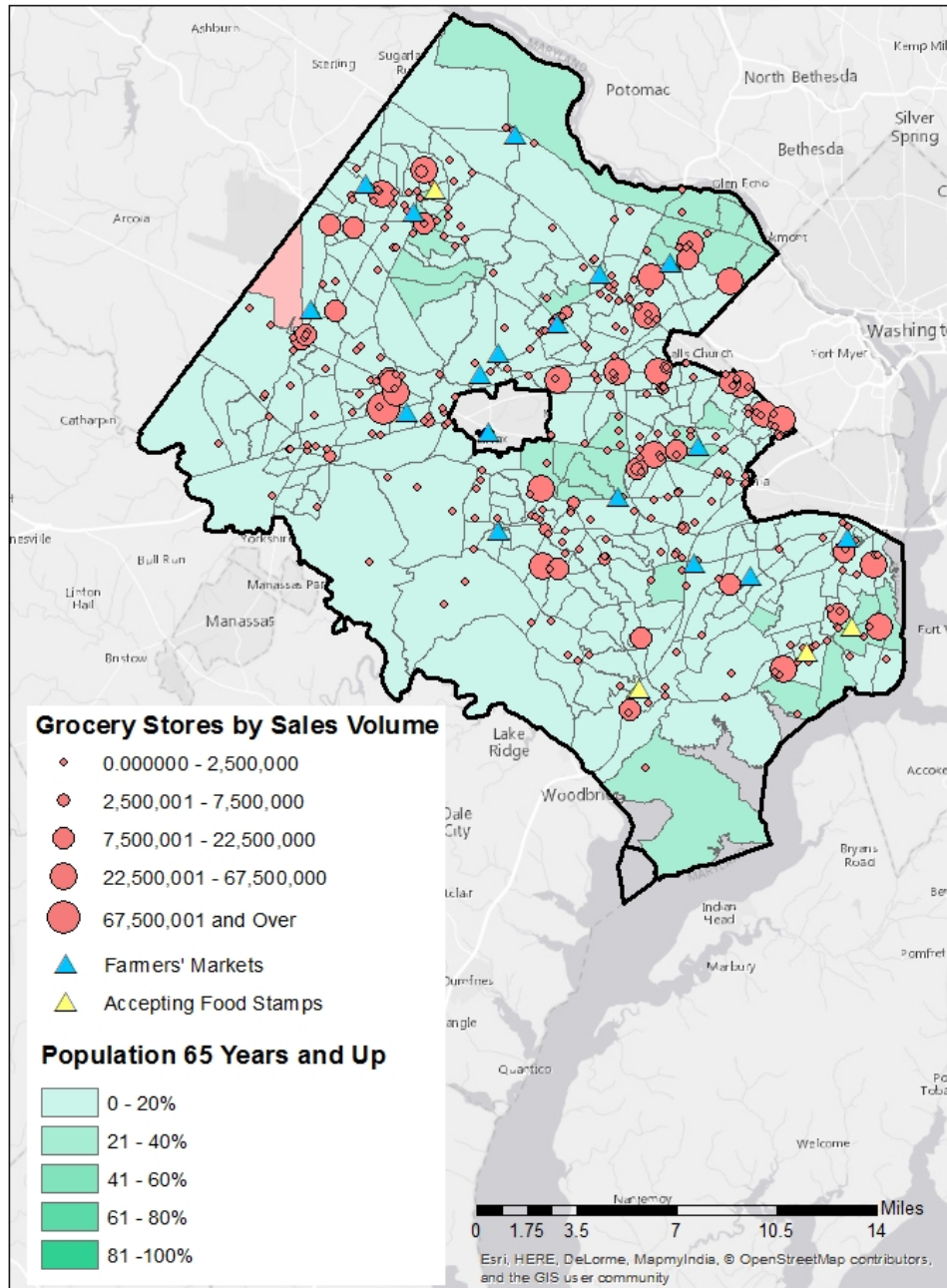
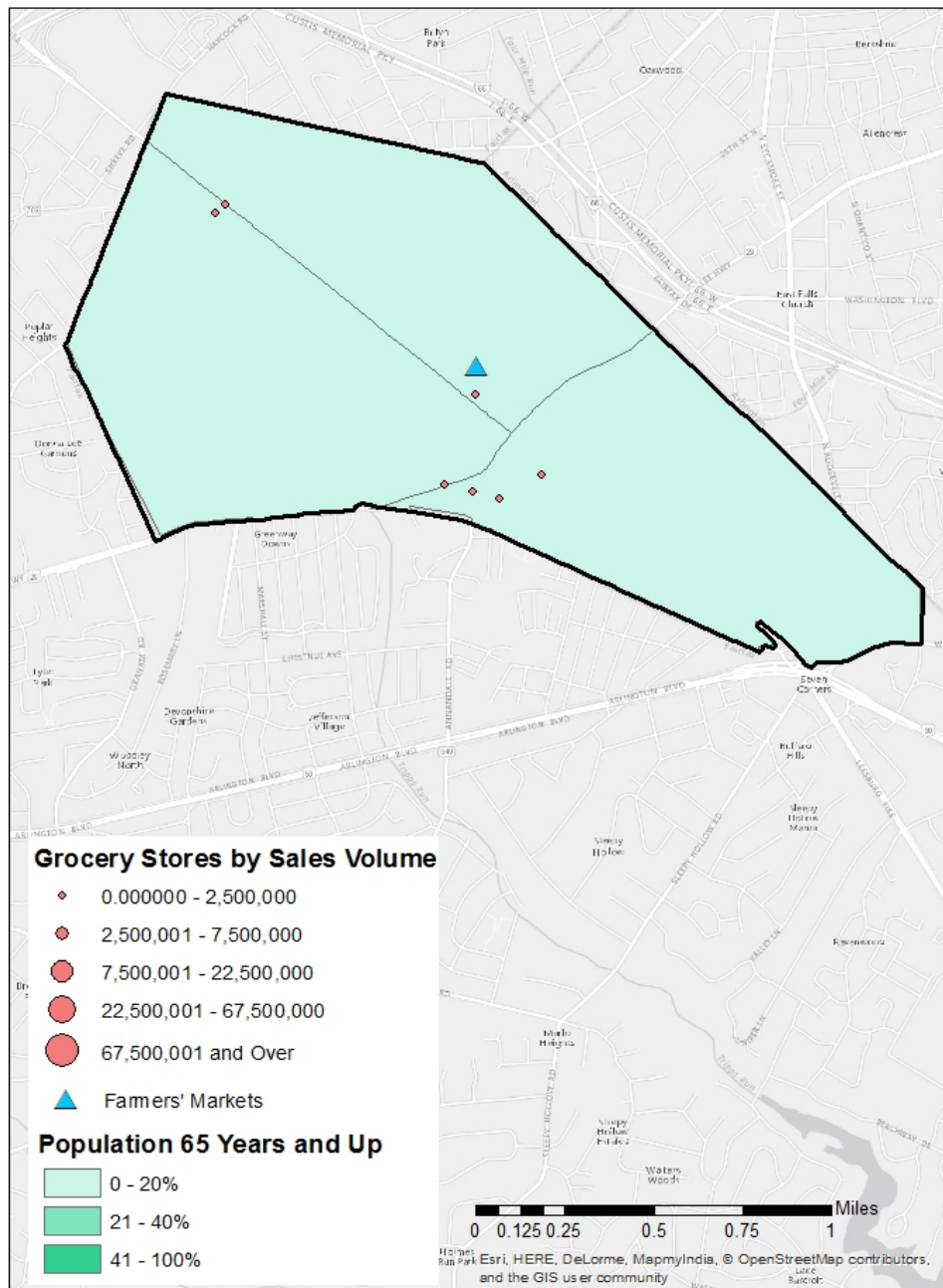


Figure 85. Elderly population map for Fairfax County showing locations of grocery stores, farmers markets, and subset of farmers markets accepting food stamps. Pink and grey denote no data in tracts.



*Due to the small population, there are only 3 percentage categories

Figure 86. Elderly population map for Falls Church showing locations of grocery stores, farmers markets, and subset of farmers markets accepting food stamps. Grey denotes no data in tracts.

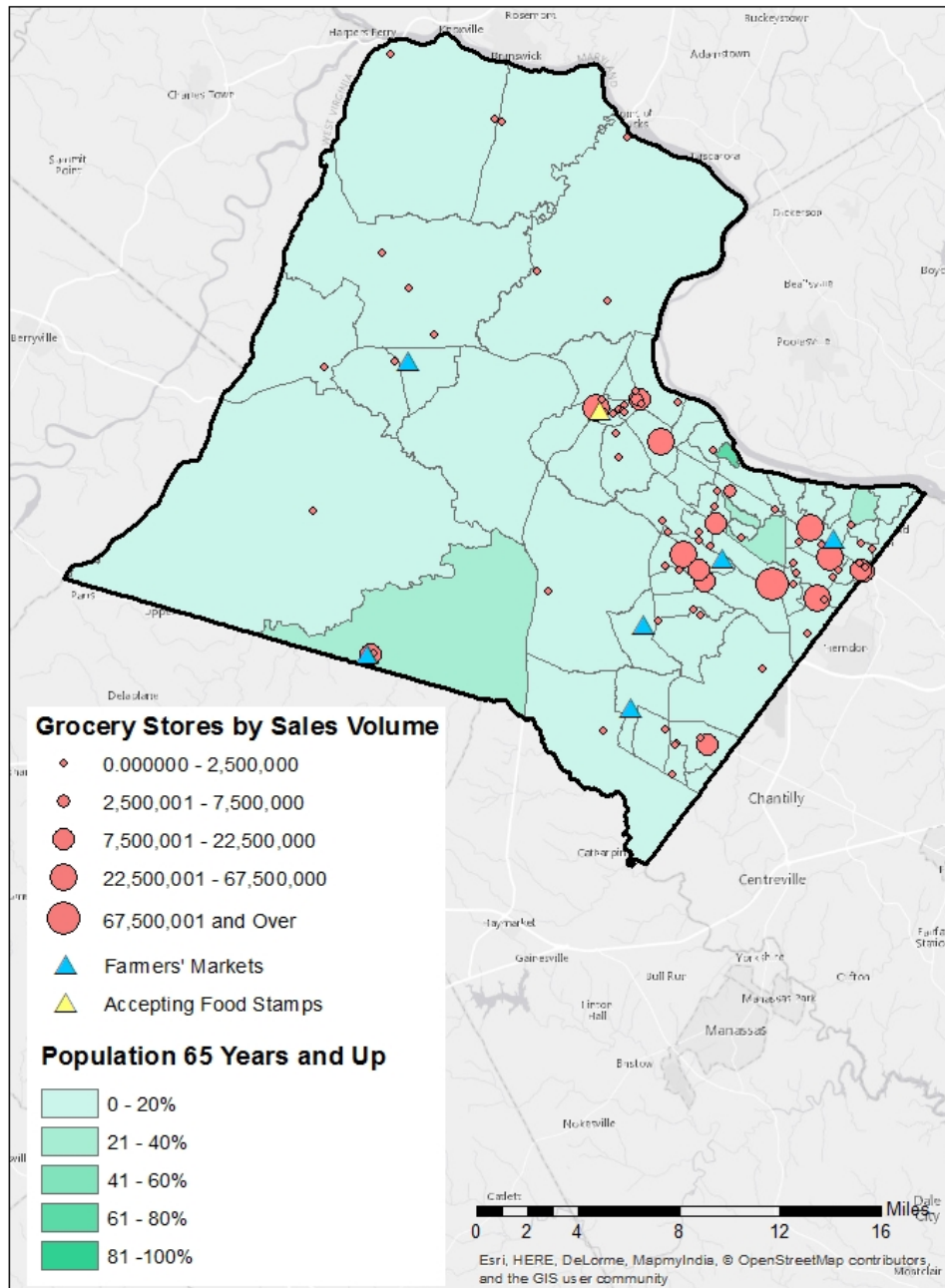


Figure 87. Elderly population map for Loudoun showing locations of grocery stores, farmers markets, and subset of farmers markets accepting food stamps. Grey denotes no data in tracts.

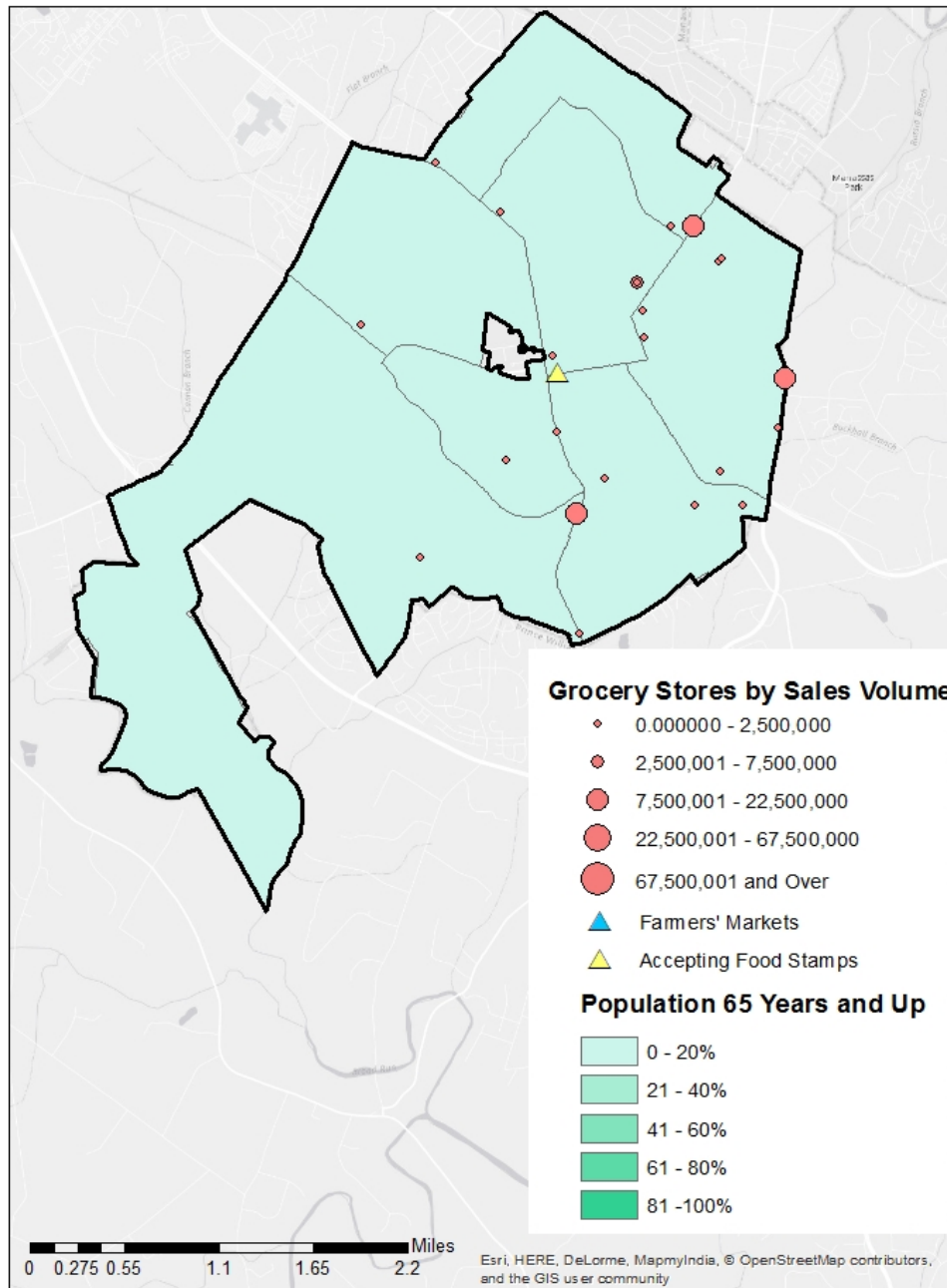


Figure 88. Elderly population map for Manassas City showing locations of grocery stores, farmers markets, and subset of farmers markets accepting food stamps. Grey denotes no data in tracts.

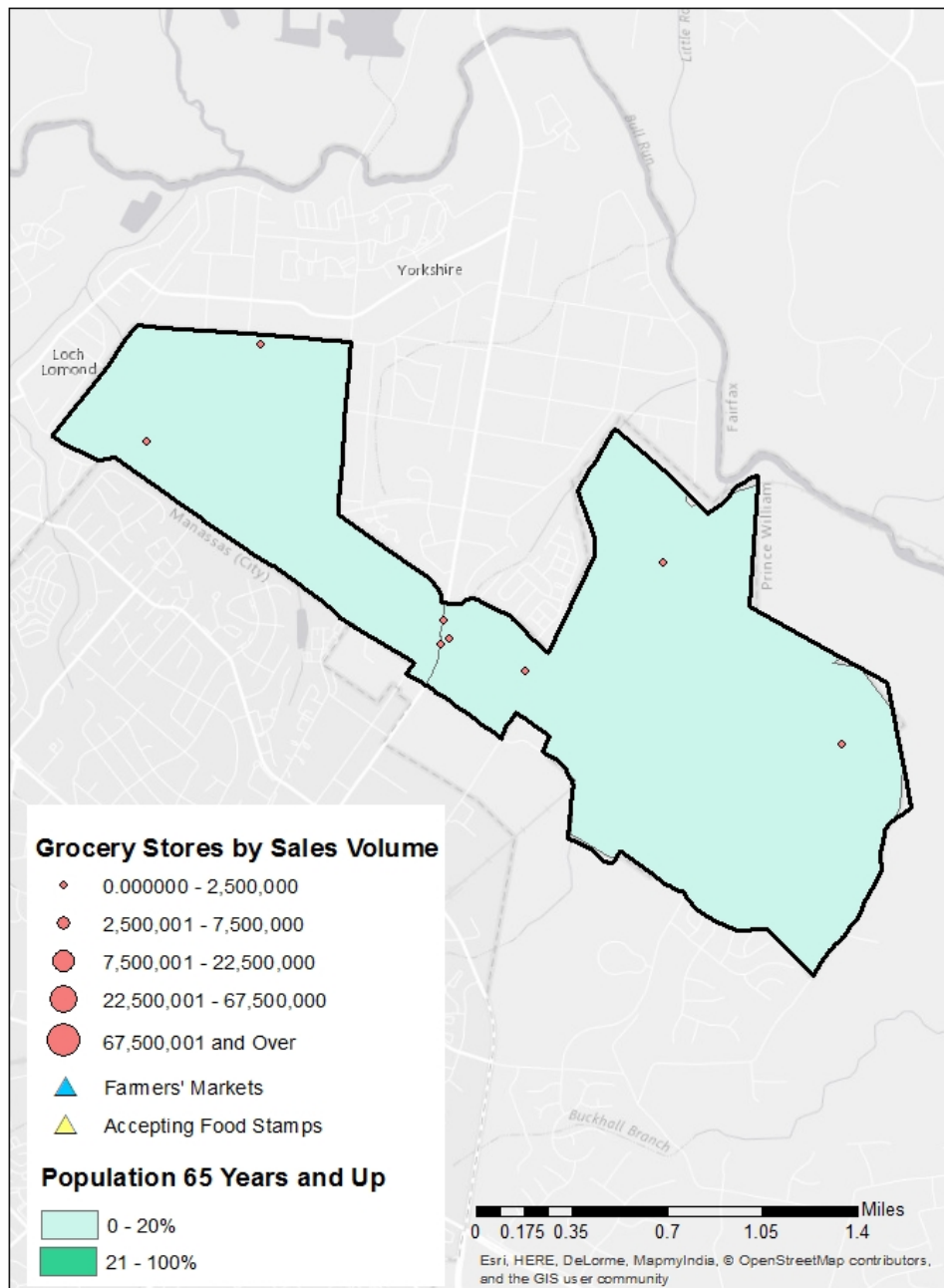


Figure 89. Elderly population map for Manassas Park City showing locations of grocery stores. There are no farmers markets in Manassas Park City. Grey denotes no data in tracts.

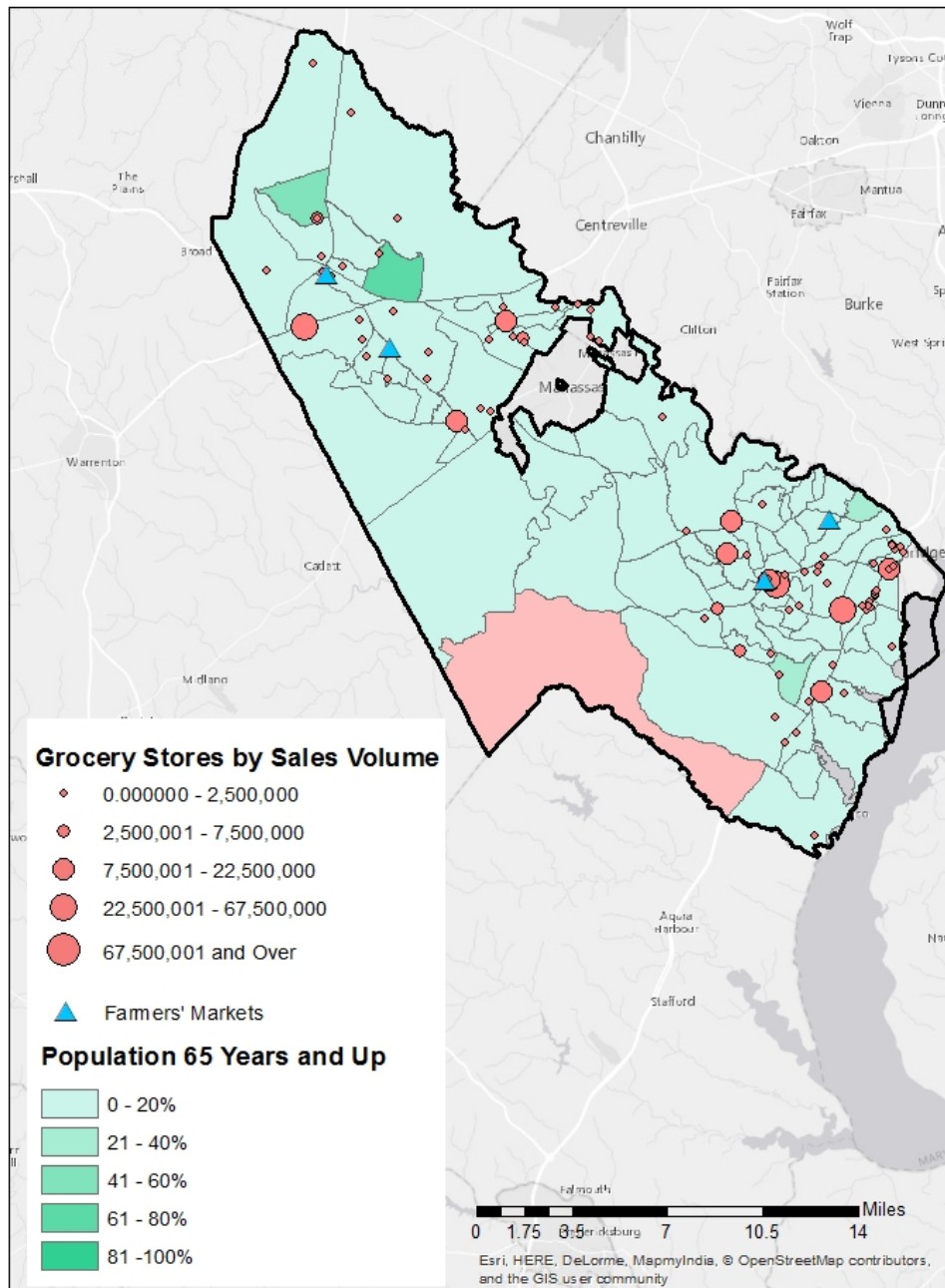


Figure 90. Elderly population map for Prince William showing locations of grocery stores, farmers markets, and subset of farmers markets accepting food stamps. Pink and grey denote no data in tracts.

Appendix 6

Households Without Vehicles, and Locations of Farmers Markets and Grocery Stores for Various Northern Virginia Regions

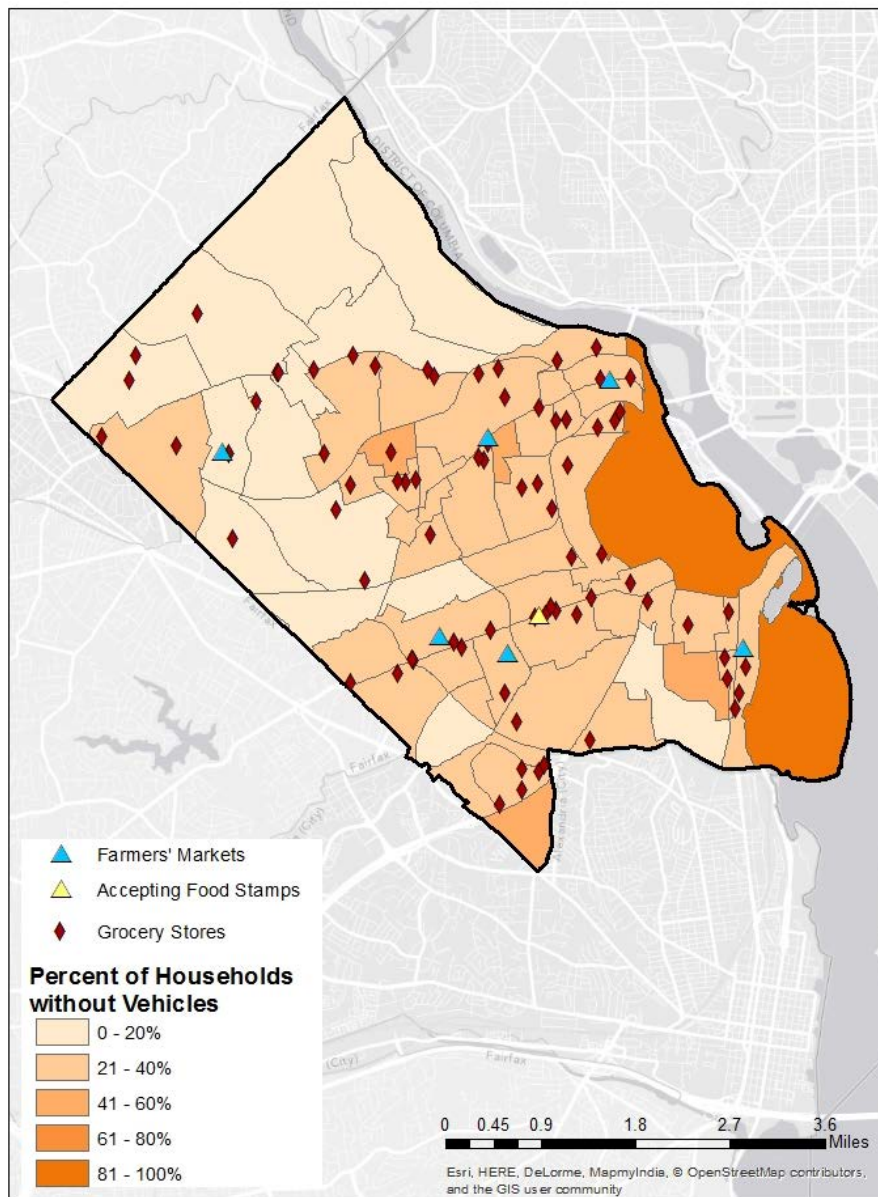


Figure 91. Map of households without vehicles for Arlington showing locations of grocery stores, farmers markets, and subset of farmers markets accepting food stamps. Grey denotes no data in tracts.

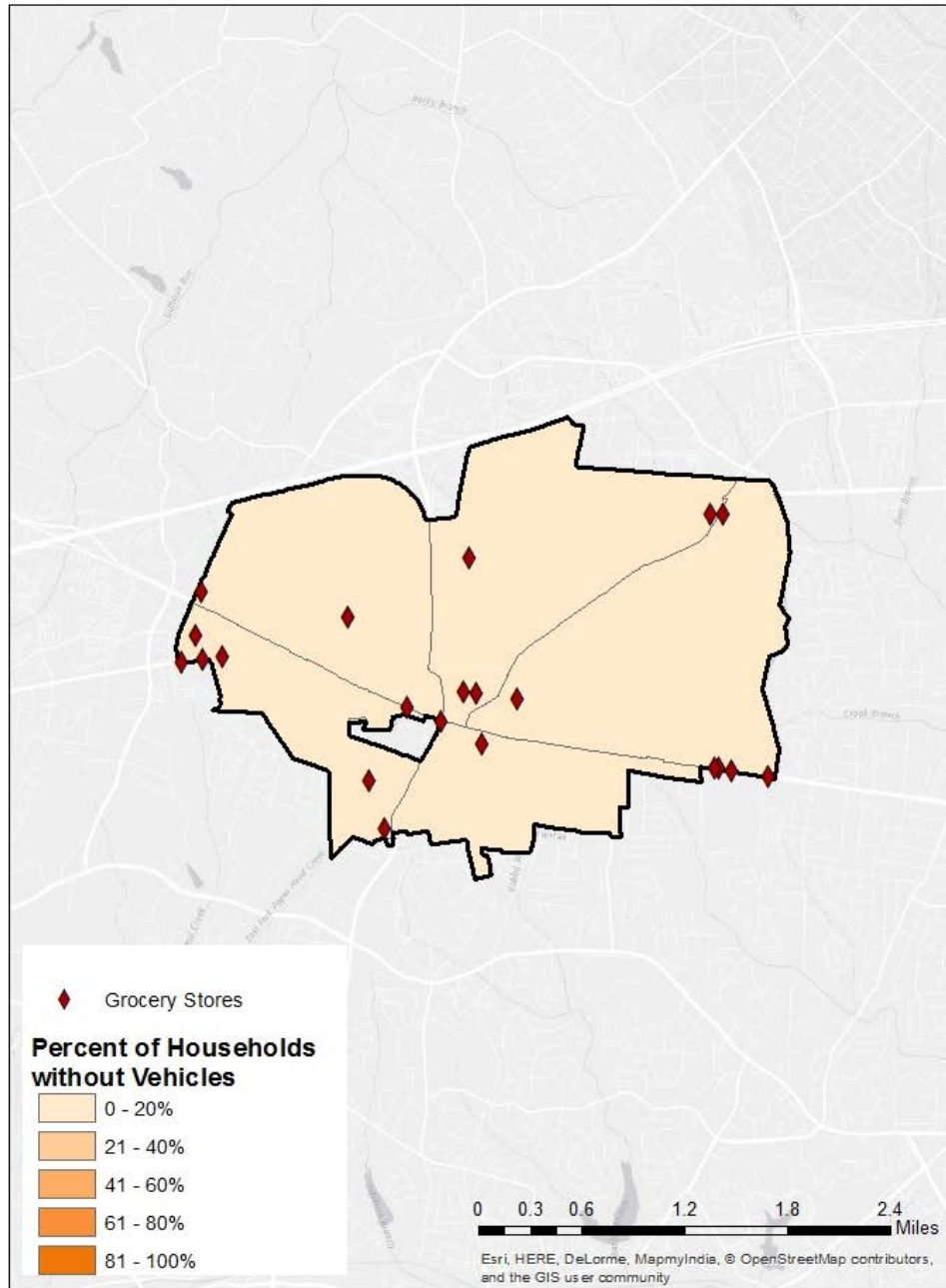


Figure 92. Map of households without vehicles for Fairfax City showing locations of grocery stores. There are no farmers markets in Fairfax City. Grey denotes no data in tracts.

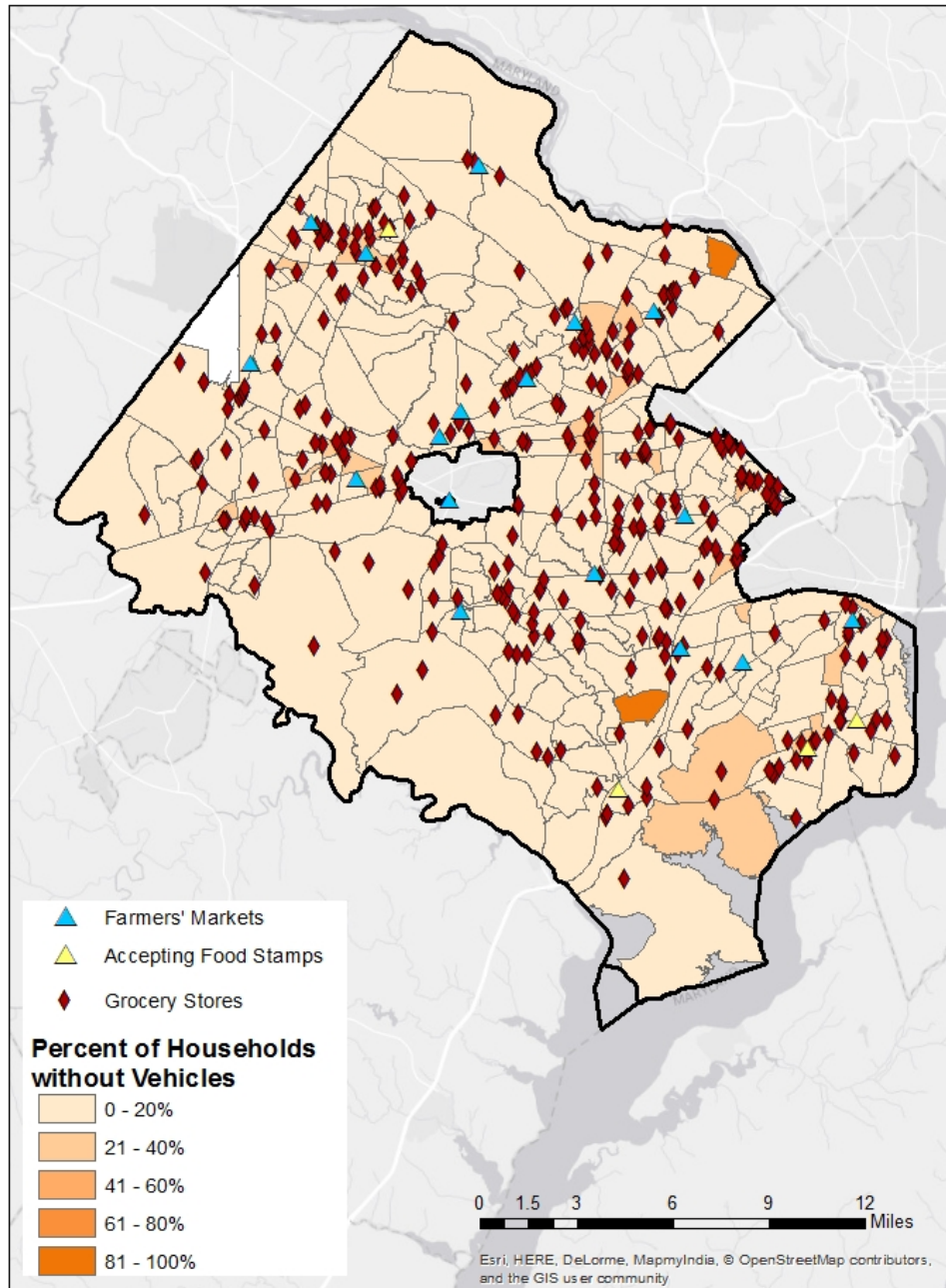


Figure 93. Map of households without vehicles for Fairfax County showing locations of grocery stores, farmers markets, and subset of farmers markets accepting food stamps. White and grey denote no data in tracts.

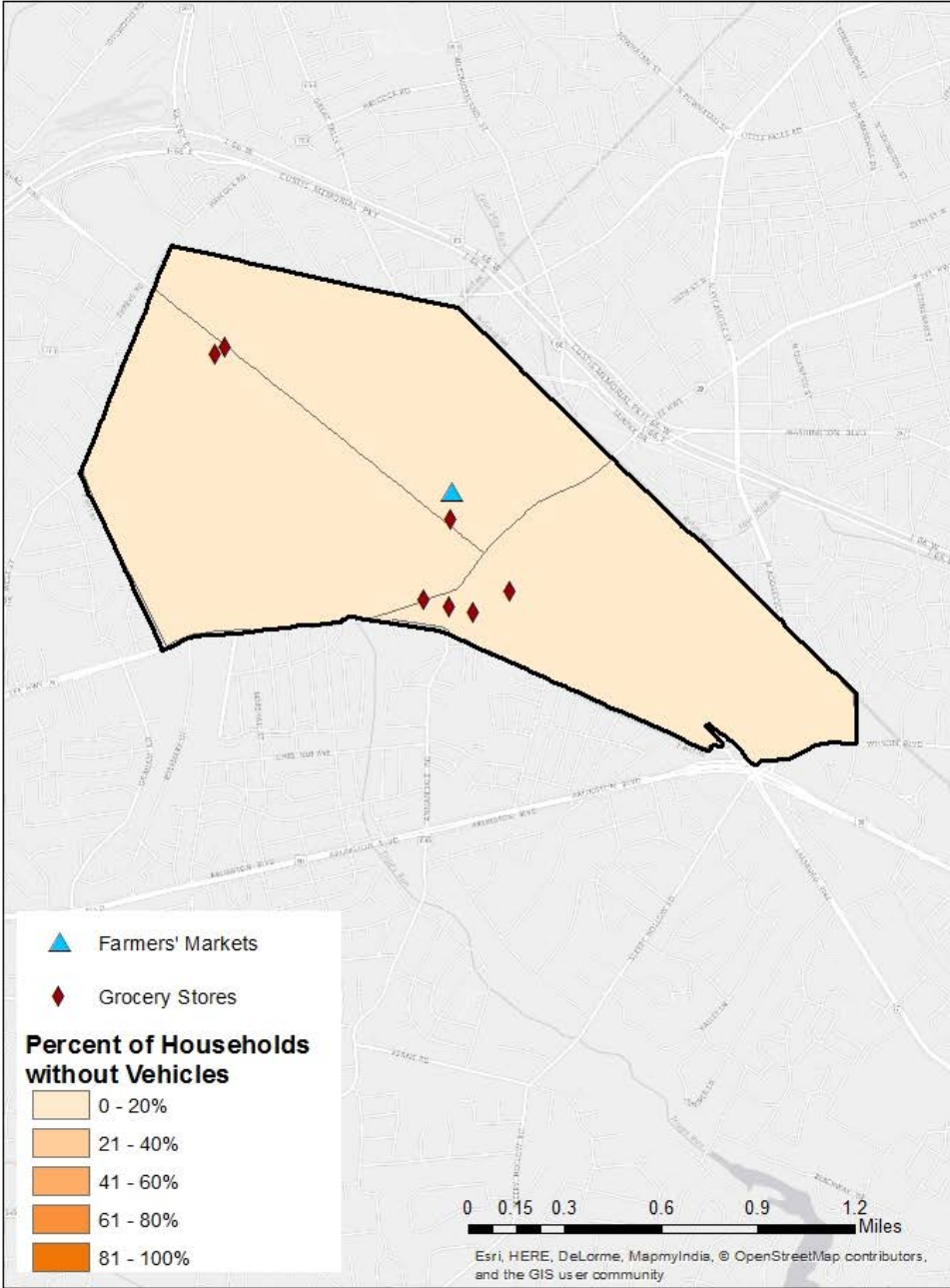


Figure 94. Map of households without vehicles for Falls Church showing locations of grocery stores, farmers markets, and subset of farmers markets accepting food stamps. Grey denotes no data in tracts.

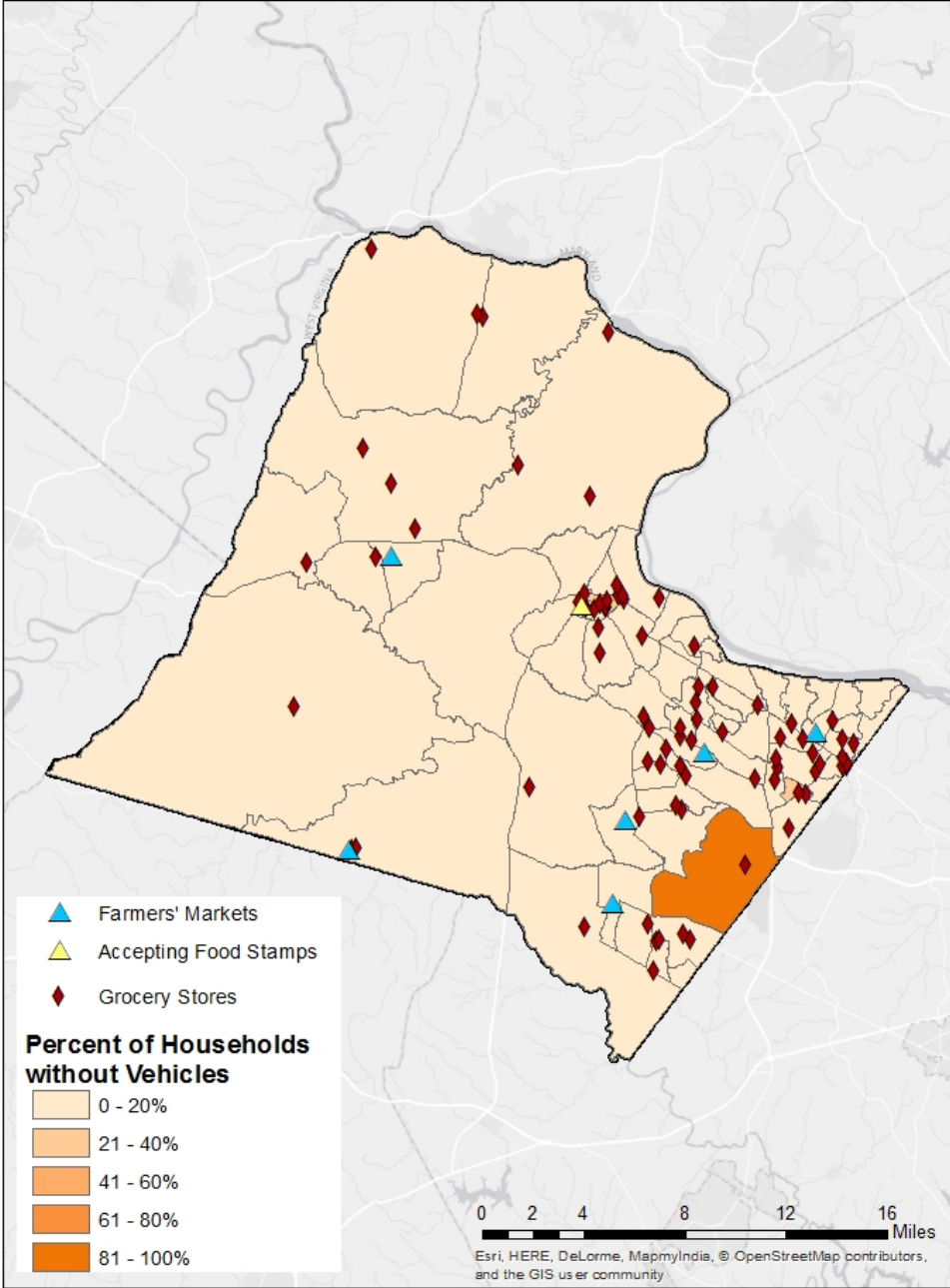


Figure 95. Map of households without vehicles for Loudoun showing locations of grocery stores, farmers markets, and subset of farmers markets accepting food stamps. Grey denotes no data in tracts.

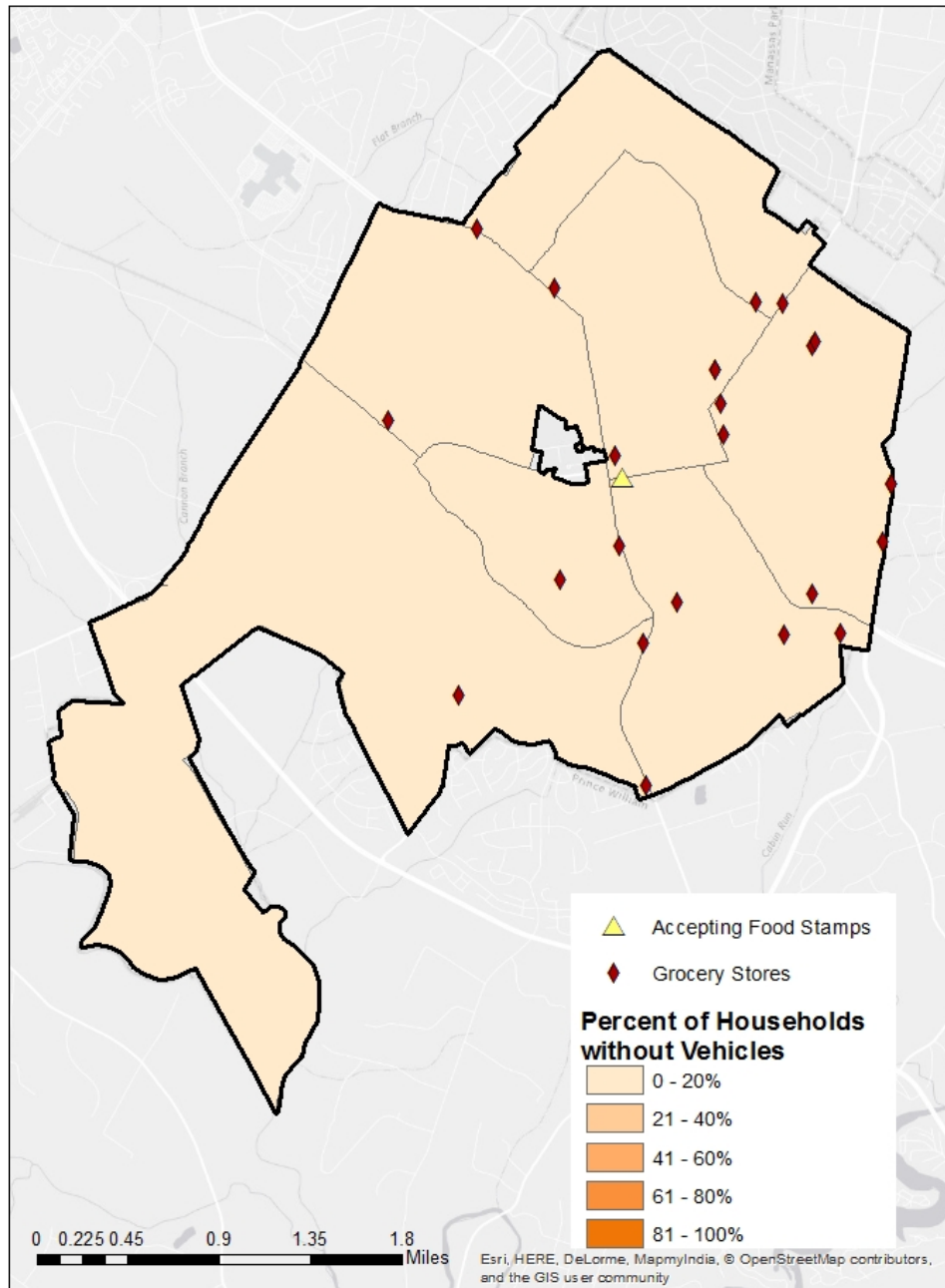


Figure 96. Map of households without vehicles for Manassas City showing locations of grocery stores, farmers markets, and subset of farmers markets accepting food stamps. Grey denotes no data in tracts.

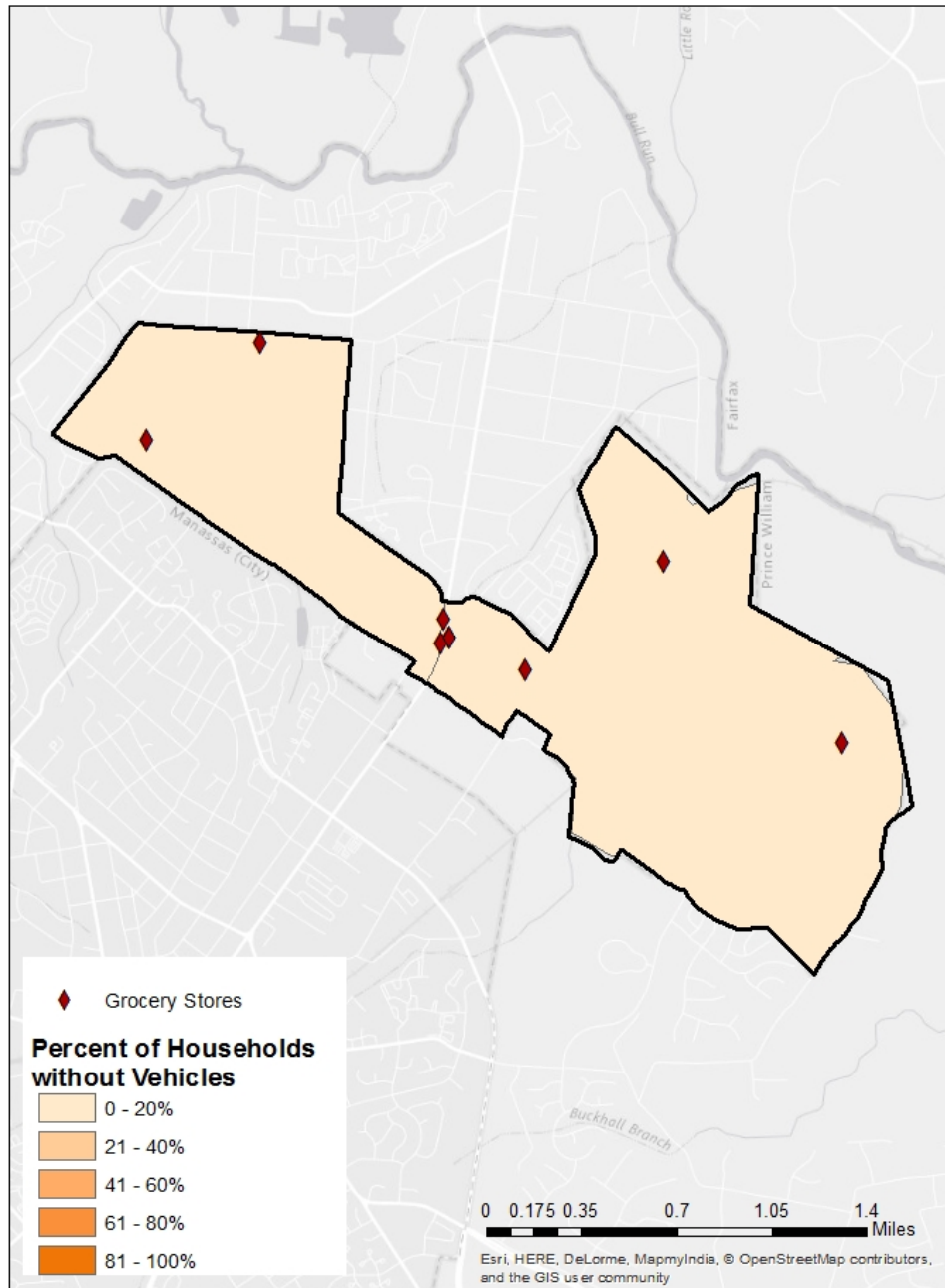
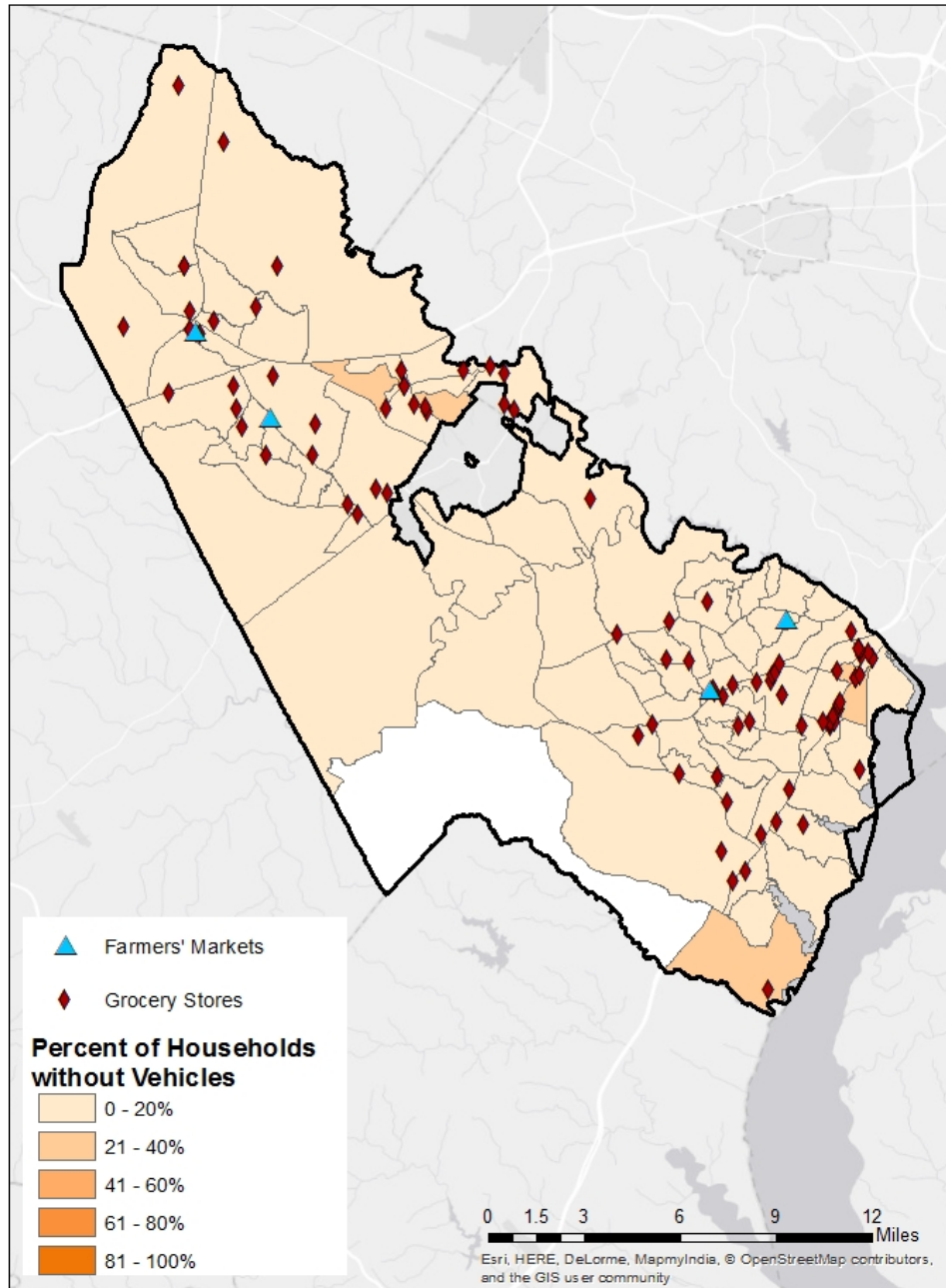


Figure 97. Map of households without vehicles for Manassas Park City showing locations of grocery stores. There are no farmers markets in Manassas Park City. Grey denotes no data in tracts.



*White census tract indicates no data

Figure 98. Map of households without vehicles for Prince William showing locations of grocery stores, farmers markets, and subset of farmers markets accepting food stamps. White and grey denote no data in tracts.

Appendix 7

Public Transportation Stops, and Locations of Farmers Markets and Grocery Stores for
Various Northern Virginia Regions

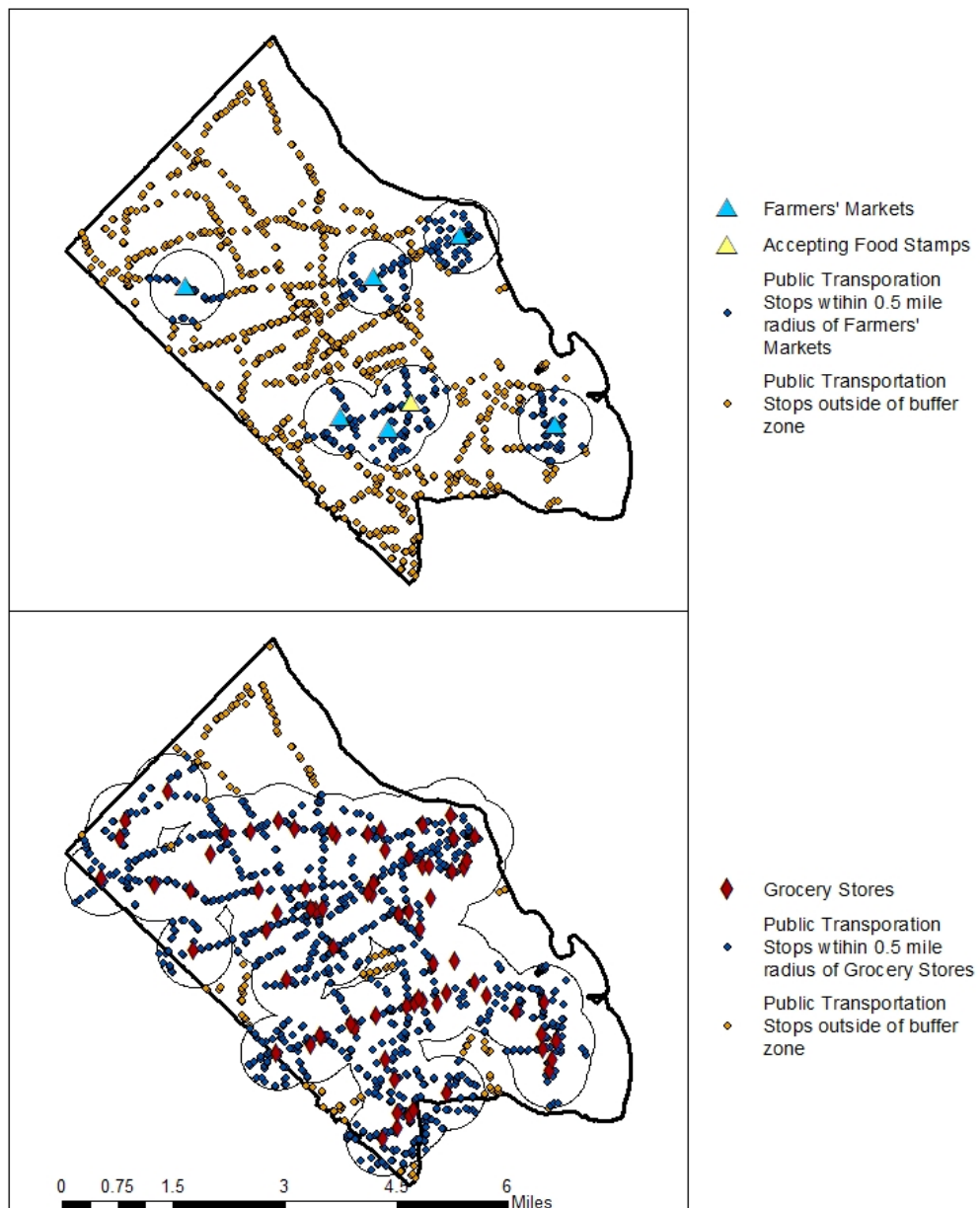


Figure 99. Public transportation maps for Arlington showing locations of grocery stores, farmers markets and subset of farmers markets accepting food stamps. Buffer zones show grocery stores and farmers markets within a half-mile walk from public transportation stops.

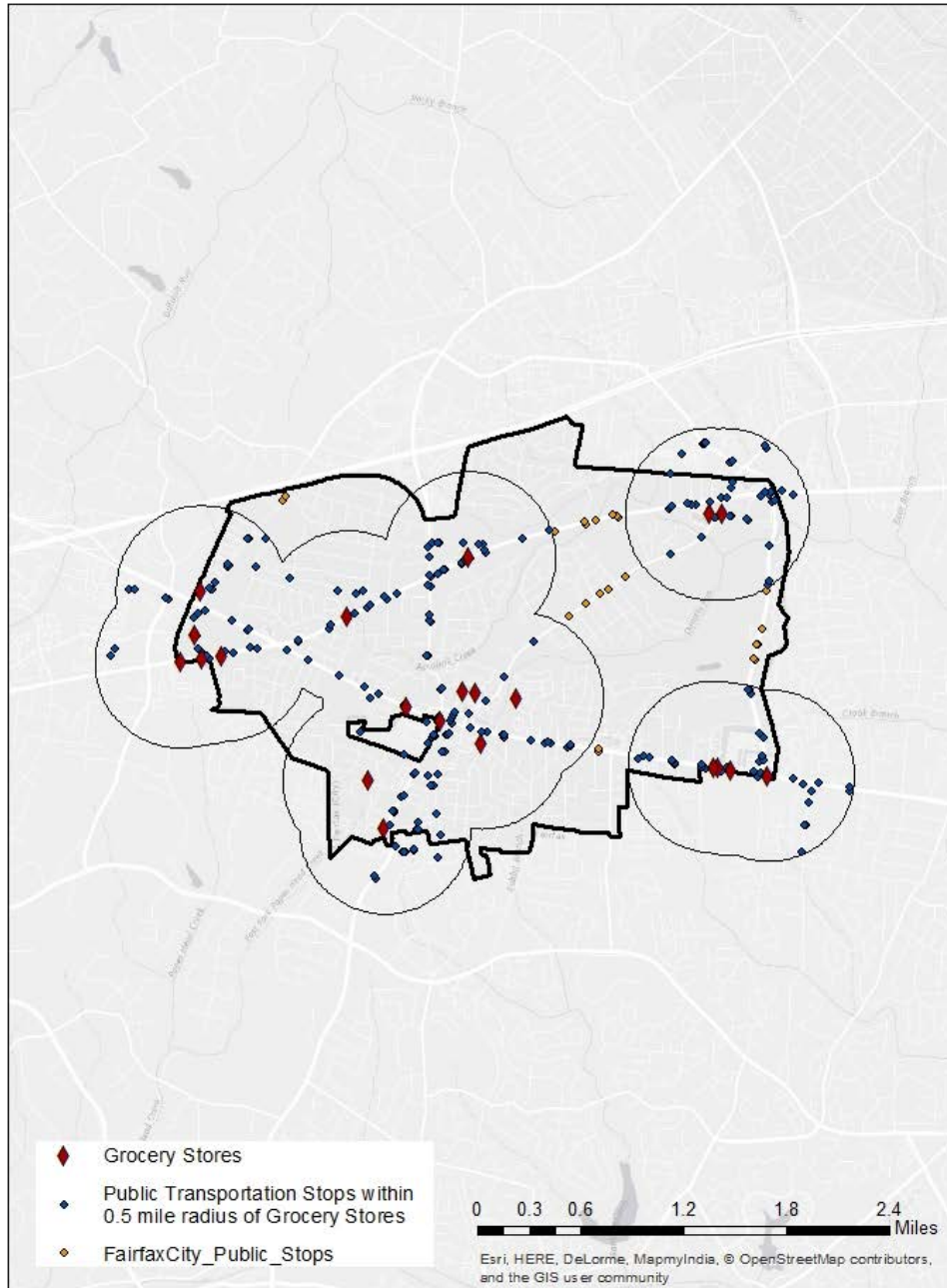


Figure 100. Public transportation map for Fairfax City showing locations of grocery stores. There are no farmers markets in Fairfax City. Buffer zones show grocery stores within a half-mile walk from public transportation stops.

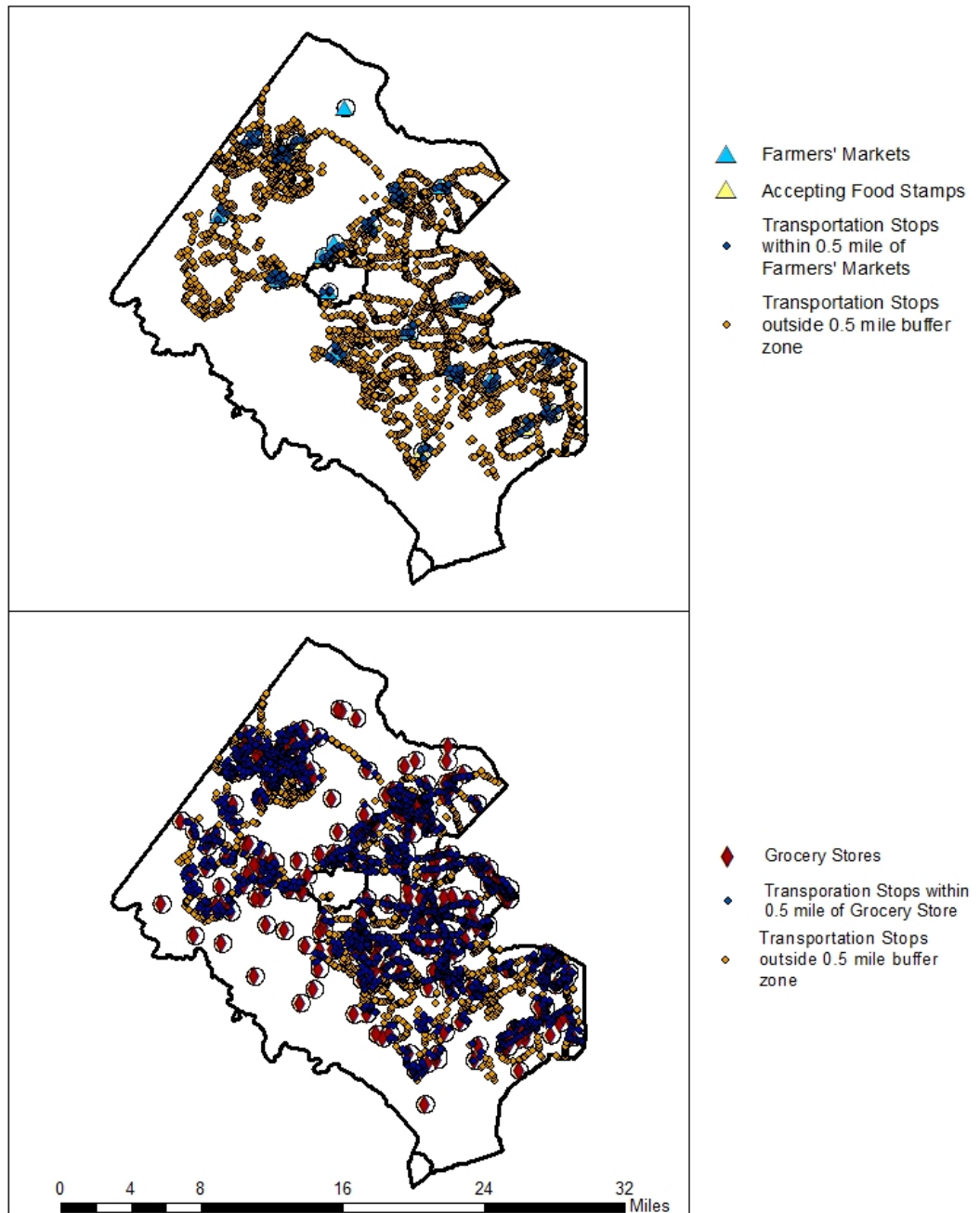


Figure 101. Public transportation maps for Fairfax County showing locations of grocery stores, farmers markets and subset of farmers markets accepting food stamps. Buffer zones show grocery stores and farmers markets within a half-mile walk from public transportation stops.

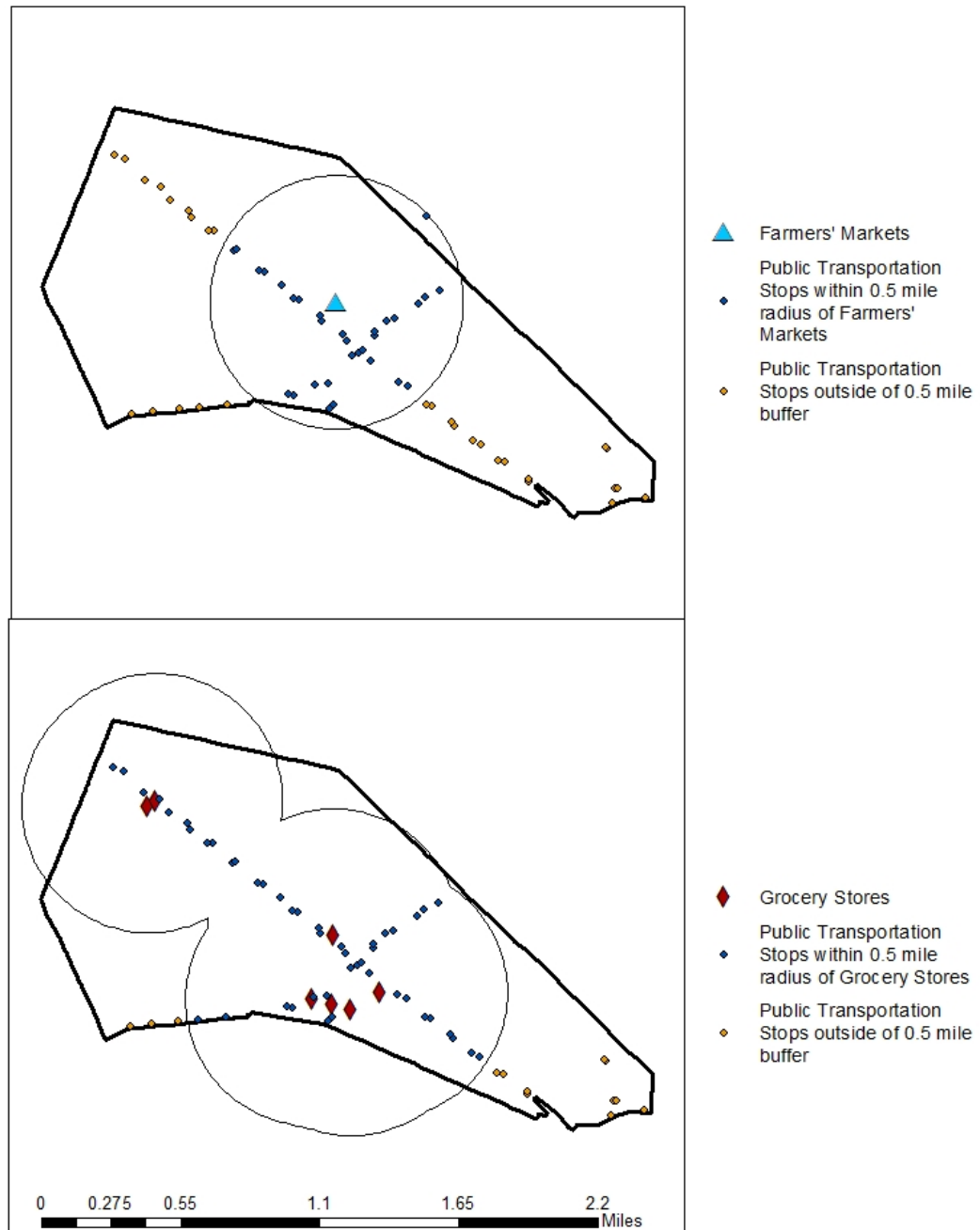


Figure 102. Public transportation maps for Falls Church showing locations of grocery stores, farmers markets and subset of farmers markets accepting food stamps. Buffer zones show grocery stores and farmers markets within a half-mile walk from public transportation stops.

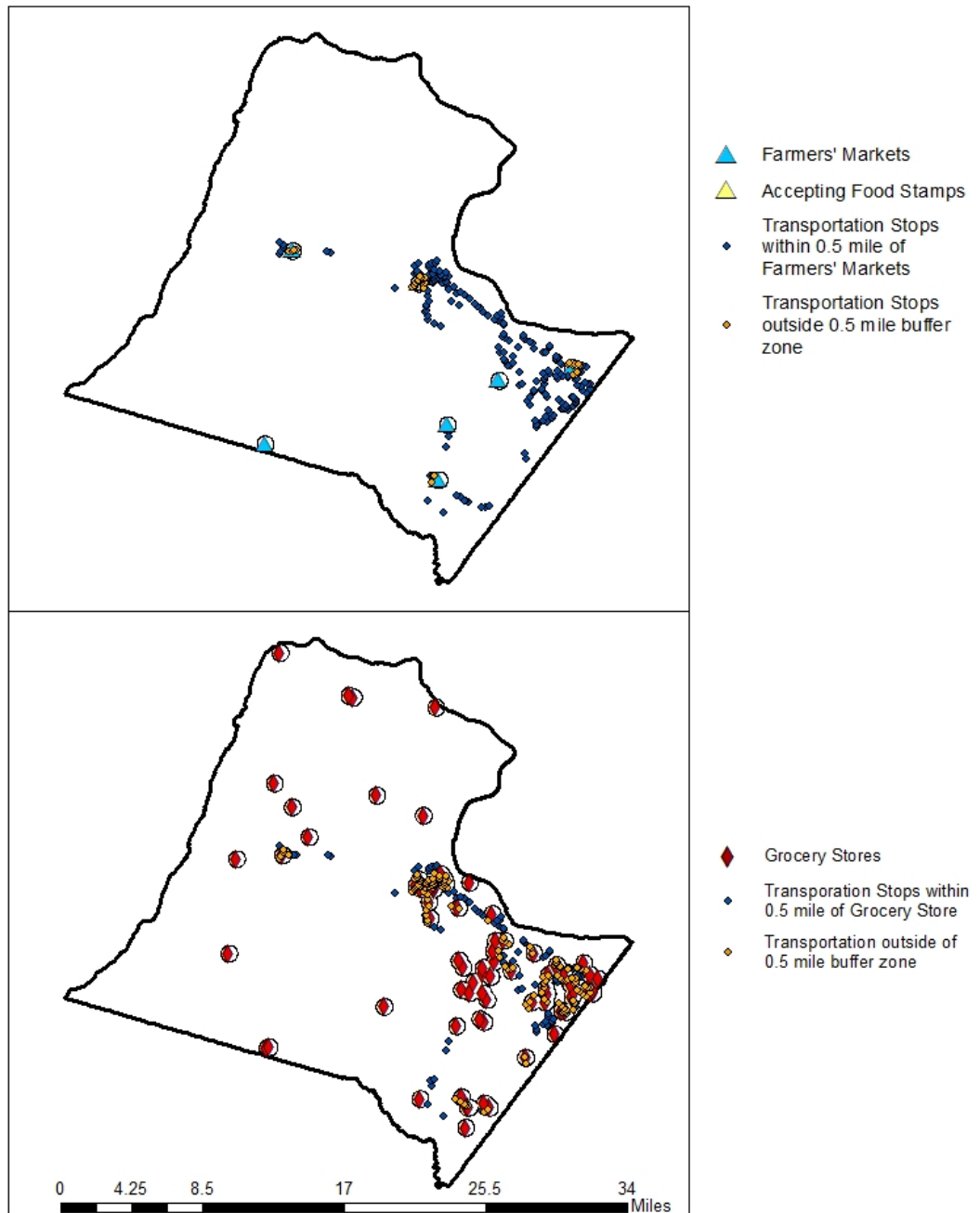


Figure 103. Public transportation maps for Loudoun showing locations of grocery stores, farmers markets and subset of farmers markets accepting food stamps. Buffer zones show grocery stores and farmers markets within a half-mile walk from public transportation stops.

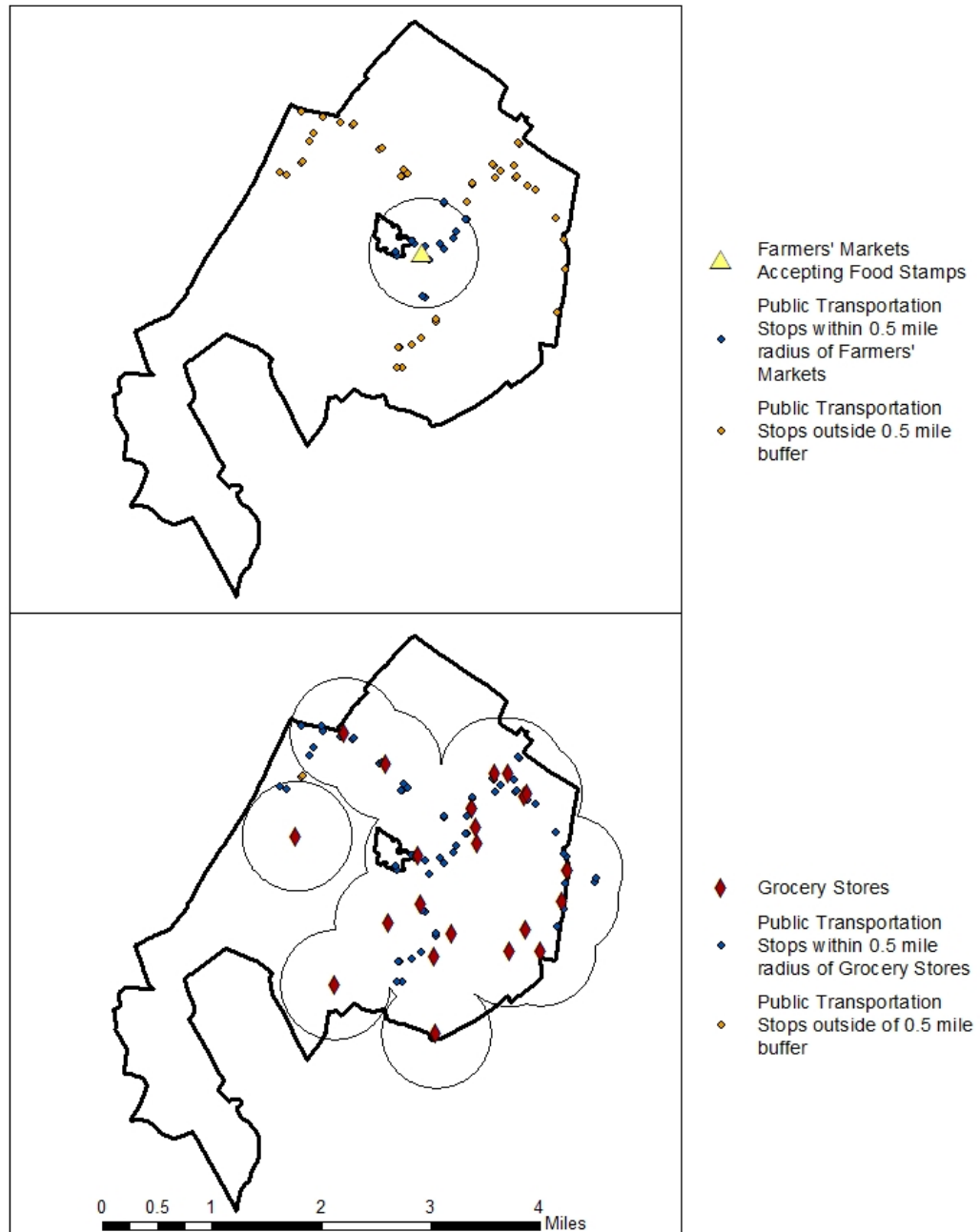


Figure 104. Public transportation maps for Manassas City showing locations of grocery stores, farmers markets and subset of farmers markets accepting food stamps. Buffer zones show grocery stores and farmers markets within a half-mile walk from public transportation stops.

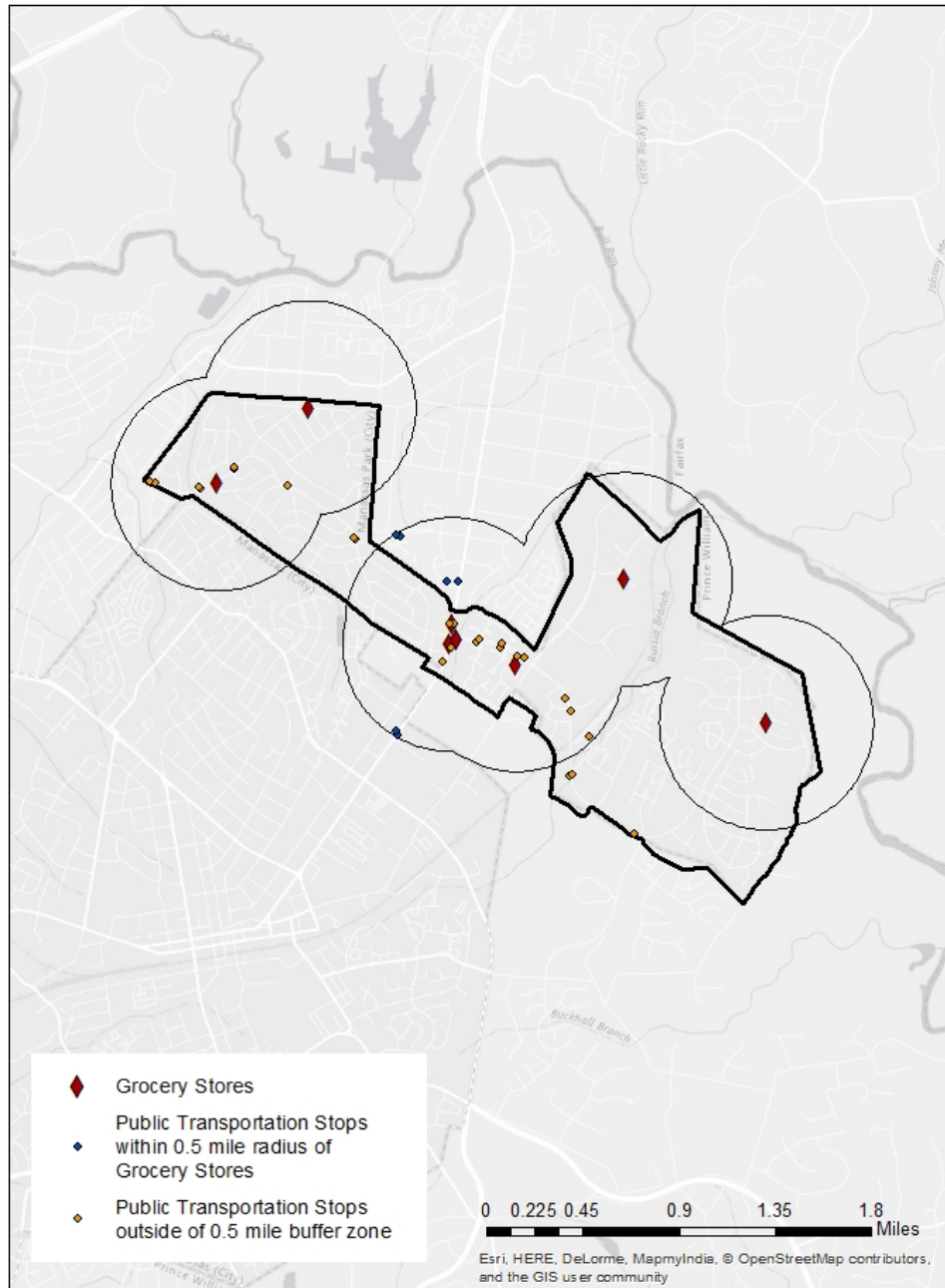


Figure 105. Public transportation map for Manassas Park City showing locations of grocery stores. There are no farmers markets in Manassas Park City. Buffer zones show grocery stores within a half-mile walk from public transportation stops.

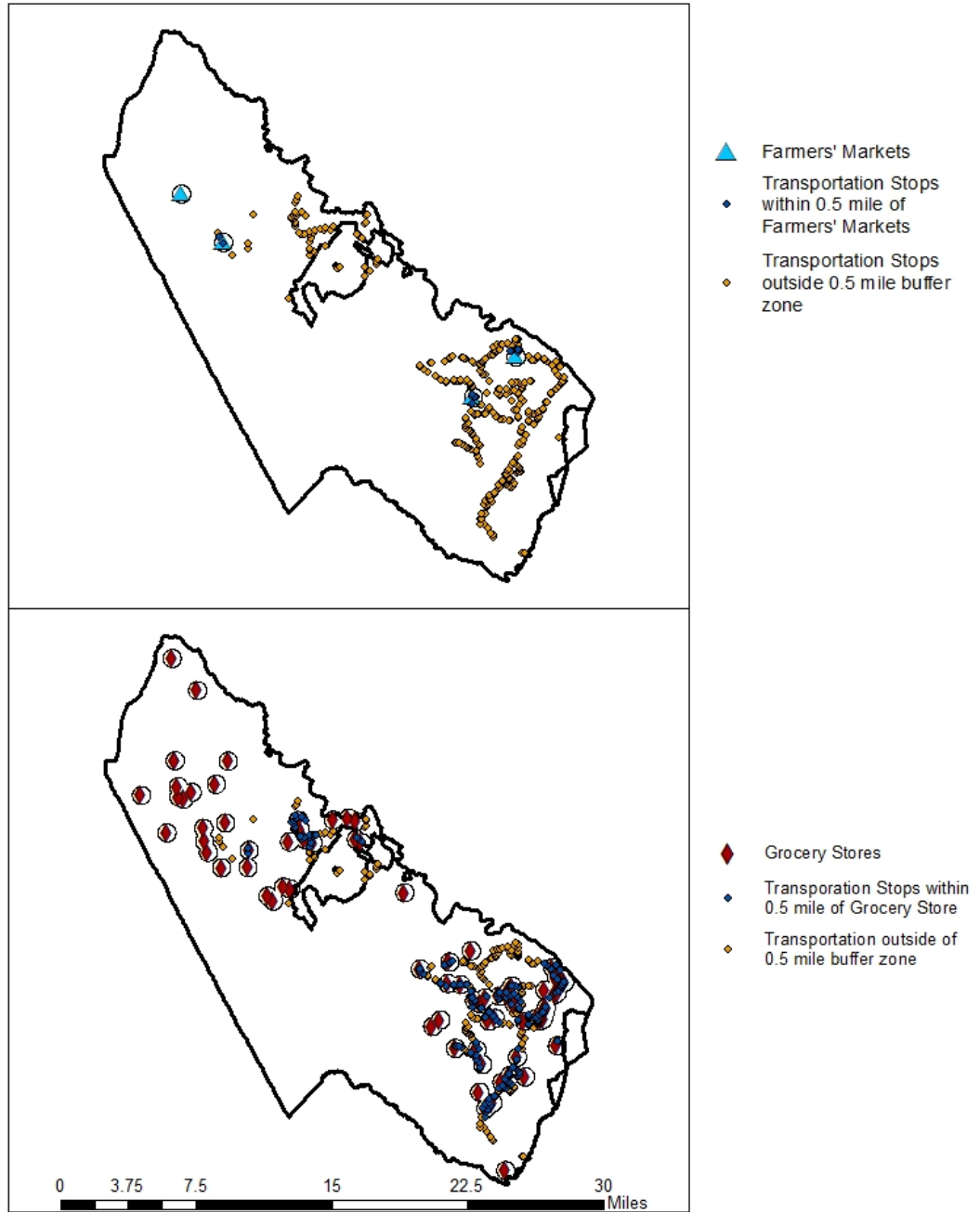


Figure 106. Public transportation maps for Prince William showing locations of grocery stores, farmers markets and subset of farmers markets accepting food stamps. Buffer zones show grocery stores and farmers markets within a half-mile walk from public transportation stops.

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Ancillary Appendix 1

List of Grocery Stores in Northern Virginia

Business Name	Address	City	ZIP	Food Stamp
Harris Teeter 235	4250 Campbell Ave	Arlington	22206	SNAP
Sevencleven Food Stores	1131 S George Mason Dr	Arlington	22204	SNAP
Food Star Supermarket	950 S George Mason Dr	Arlington	22204	SNAP
Ledeta Market	2630 Columbia Pike	Arlington	22204	SNAP
Glebe Market	300 N Glebe Rd	Arlington	22203	SNAP
Westover Supermarket	5863 Washington Blvd	Arlington	22205	SNAP
Ukrop S Super Markets Inc	3115 Lee Hwy	Arlington	22201	SNAP
Bangla Bazar	5149 Lee Hwy	Arlington	22207	SNAP
Asia Halal Meat & Grocery	5143 Lee Hwy	Arlington	22207	SNAP
Safeway	3713 Lee Hwy	Arlington	22207	SNAP
7 Mart	4505 Lee Hwy	Arlington	22207	SNAP
The Food Sherpa LLC	4612 31st Rd S	Arlington	22206	
Shirlington Market	4201 31st St S APT 323	Arlington	22206	
Ah Love Oil And Vinegar, LLC	4017 Campbell Ave	Arlington	22206	
Ama Confident Market LLC	2727 S Quincy St	Arlington	22206	
Ethiopian Market	2444 26th CT S	Arlington	22206	
Market Your Time	2200 S Oakland St	Arlington	22206	
Kherry & Sons	2711 Jefferson Davis Hwy	Arlington	22202	
National News Corp.	2461 S Clark St Ste 123a	Arlington	22202	
Dawn Golden Market	1816 S Oakland St	Arlington	22204	
Miguel'S Q Mart	5555 Columbia Pike # 201	Arlington	22204	
Concepts In Food LLC	507 23rd St S	Arlington	22202	
Austin'S Food LLC	4990 Columbia Pike	Arlington	22204	
Deli Works	2136 Crystal Plaza ARC	Arlington	22202	
Arlington Latin Market Inc	4807 Columbia Pike	Arlington	22204	
Asian Grocery Market	4809 Columbia Pike	Arlington	22204	
Crystal Food Inc	1900 S Eads St	Arlington	22202	
Superstar Money Transfer	3711 Columbia Pike Ste 6	Arlington	22204	
You'S Market Inc	801 15th St S	Arlington	22202	
Bangkok 54	2927 Columbia Pike	Arlington	22204	
Dominion Market	1201 S Courthouse Rd # 1	Arlington	22204	
Marketplace 2	1201 S Eads St	Arlington	22202	
Giant 171	2408 Columbia Pike	Arlington	22204	

Giant Food - Ahold	2501 9th Rd S	Arlington	22204
Horizon House Grocery	1300 Army Navy Dr APT 109	Arlington	22202
Young'S Market	1201 S Scott St Ste 2	Arlington	22204
Dama Market	1503 Columbia Pike	Arlington	22204
Fiesta Oriental Store	4815 1st St N	Arlington	22203
Girl Meets Food LLC	2005 4th St S APT 11	Arlington	22204
Fort Myer Commissary	523 Carpenter Rd Bldg 409	Arlington	22211
Iss	6035 Wilson Blvd	Arlington	22205
Arlington Latin Market	5100 Wilson Blvd	Arlington	22205
Super Food Mart, LLC	115 N Wayne St APT 1	Arlington	22201
Family Grocery	2618 N Pershing Dr	Arlington	22201
Cabana 11 Productions LLC	4800 9th St N	Arlington	22203
Lee Super Market Inc	2233 N Pershing Dr	Arlington	22201
Richmond Square Market	900 N Randolph St # 100	Arlington	22203
Primo Fresh Deli	901 N Stuart St Ste 117	Arlington	22203
Solo Deli	4001 9th St N Ste 115	Arlington	22203
Old Town Market	208 Lee Ave	Fort Myer	22211
Sunshine Market	3128 10th St N	Arlington	22201
Courtland Tower Store	1000 N Irving St	Arlington	22201
Market Technology Associates Inc	5013 Washington Blvd	Arlington	22205
Arlington Market	1144 N Stuart St	Arlington	22201
Wavelength Market Analytics	6231 19th St N	Arlington	22205
Clarendon Cafe Inc	3100 Clarendon Blvd Ste 8	Arlington	22201
Johnson'S Organic Food LLC	6908 Fairfax Dr Unit 200	Arlington	22213
Fort Myer Market	1210 Fort Myer Dr	Arlington	22209
Prospect Market	1200 N Nash St APT 201	Arlington	22209
Gene'S Market & Deli	2020 14th St N	Arlington	22201
Sun'S Deli Market	1401 N Taft St	Arlington	22201
Woo Lae Oak Food Group LLC	1309 14th St N	Arlington	22209
Fannetastic Food LLC	2201 Wilson Blvd APT 816	Arlington	22201
Delices Fabrique	2007 N Inglewood St	Arlington	22205
Biz Markets, Inc.	1701 N Calvert St	Arlington	22201
Red White -N- Blue Tours, LLC	6528 27th St N	Arlington	22213
Safeway	1525 Wilson Blvd Lbby 2	Arlington	22209
Rosslyn Market	1101 Wilson Blvd Ste 2300	Arlington	22209
Philippine-Oriental Market	3610 Lee Hwy	Arlington	22207
India A1 Grocery LLC	4815 Lee Hwy Ste A	Arlington	22207

New Energy Marketplace LLC	2009 N Daniel St	Arlington	22201	
Red, White & Bean Inc.	4343 Lee Hwy APT 702	Arlington	22207	
Red Fox Estates LLC	2021 20th Rd N	Arlington	22201	
Williamsburg Deli	2900 N Sycamore St	Arlington	22207	
Red Owl Analytics, LLC	1501 Lee Hwy Ste 303	Arlington	22209	
Wellington Market, LLC	3104 N Inglewood St	Arlington	22207	
Shoppers Food Warehouse 2384	9409 Lorton Market St	Lorton	22079	SNAP
Shoppers Food & Pharmacy	9409 Lorton Market St	Lorton	22079	SNAP
Carolinas Supermarket	8723 Cooper Rd	Alexandria	22309	SNAP
El Compadre Grocery	8723 Cooper Rd	Alexandria	22309	SNAP
Safeway	8646 Richmond Hwy	Alexandria	22309	SNAP
Margarita'S Grocery	8512 Richmond Hwy	Alexandria	22309	SNAP
Crosspoint Market	8912 Village Shops Dr	Fairfax Station	22039	SNAP
Aldi Inc.	8256 Richmond Hwy	Alexandria	22309	SNAP
Tdp Supermarket	8228 Richmond Hwy	Alexandria	22309	SNAP
La Despensa Supermarket	8123 Richmond Hwy	Alexandria	22309	SNAP
Giant 229	8074 Rolling Rd	Springfield	22153	SNAP
Safeway	7900 Fort Hunt Rd	Alexandria	22308	SNAP
El Tropico Supermarket	7866 Richmond Hwy	Alexandria	22306	SNAP
Shoppers Food & Pharmacy	7660 Richmond Hwy	Alexandria	22306	SNAP
Shoppers Food Warehouse 2358	7660 Richmond Hwy	Alexandria	22306	SNAP
Shoppers Food & Pharmacy	7005 Manchester Blvd	Alexandria	22310	SNAP
Shri Krishna Grocery	7033 Brookfield Plz	Springfield	22150	SNAP
Shoppers Food & Pharmacy	9274 Old Keene Mill Rd	Burke	22015	SNAP
Safeway	9596 Old Keene Mill Rd	Burke	22015	SNAP
Safeway	1624 Belle View Blvd	Alexandria	22307	SNAP
Whole Foods Market	8402 Old Keene Mill Rd	Springfield	22152	SNAP
Sevенеleven Food Stores	6221 Rolling Rd	Springfield	22152	SNAP
Trader Joe'S 651	6394 Springfield Plz	Springfield	22150	SNAP
Sevенеleven Food Stores	6146 Rose Hill Dr	Alexandria	22310	SNAP
El Grande Fairfax Co	6901 Hechinger Dr	Springfield	22151	SNAP
Phuoc Hoa Market	6975 Hechinger Dr	Springfield	22151	SNAP
Bestway Supermarket	5695 Telegraph Rd	Alexandria	22303	SNAP
Marvin Food Inc.	5541 Peppercorn Dr	Burke	22015	SNAP
Dcinternational Food, Inc.	5541 Peppercorn Dr	Burke	22015	SNAP
Giant Food Stores, LLC	8970 Burke Lake Rd	Springfield	22151	SNAP
Safeway	9525 Braddock Rd	Fairfax	22032	SNAP
Grand Mart	6255 Little River Tpke	Alexandria	22312	SNAP

African Grocery And Meat Market	6243 Little River Tpke	Alexandria	22312	SNAP
H Mart Annandale, Inc.	7885 Heritage Dr	Annandale	22003	SNAP
Giant 96	7885 Heritage Dr	Annandale	22003	SNAP
Giant Of Maryland LLC	5740 Union Mill Rd	Clifton	20124	SNAP
Safeway	7414 Little River Tpke	Annandale	22003	SNAP
H Mart Centreville, LLC	13818 Braddock Rd	Centreville	20121	SNAP
Green World Food Corporation	13818 Braddock Rd	Centreville	20121	SNAP
Tenadam International Market	3817 S George Mason Dr	Falls Church	22041	SNAP
Marhaba Market	3819 S George Mason Dr	Falls Church	22041	SNAP
Aid A Sirag	3819 S George Mason Dr	Falls Church	22041	SNAP
Abay Market	3811 S George Mason Dr	Falls Church	22041	SNAP
Al-Amanah Market	3811 S George Mason Dr	Falls Church	22041	SNAP
Wegmans Food Markets, Inc.	11620 Monument Dr	Fairfax	22030	SNAP
Giant 180	3480 S Jefferson St	Falls Church	22041	SNAP
Giant Of Maryland LLC	5615 Stone Rd	Centreville	20120	SNAP
Trader Joe'S 644	5847 Leesburg Pike	Baileys Crossroads	22041	SNAP
Culmore Supermarket	6019 Leesburg Pike	Falls Church	22041	SNAP
Iran, Sara Market	6039 Leesburg Pike	Falls Church	22041	SNAP
Whole Foods Market, Inc.	4501 Market Commons Dr	Fairfax	22033	SNAP
Bestway	3109 Graham Rd	Falls Church	22042	SNAP
Giant Of Maryland LLC	7235 Arlington Blvd	Falls Church	22042	SNAP
N H A Trang Market	7248 Arlington Blvd	Falls Church	22042	SNAP
Safeway	6118 Arlington Blvd	Falls Church	22044	SNAP
Shoppers Food Warehouse 2364	6360 Seven Corners Ctr	Falls Church	22044	SNAP
Arlington Bodega Inc	6170 Arlington Blvd	Falls Church	22044	SNAP
Safeway	3043 Nutley St	Fairfax	22031	SNAP
Lot 11 Sp Project Ltd Partners	9302 Lee Hwy Ste 300	Fairfax	22031	SNAP
Spartanburg Market Square LLC	9302 Lee Hwy Ste 300	Fairfax	22031	SNAP
Harris Teeter, Inc.	3905 Fair Ridge Dr	Fairfax	22033	SNAP
Phuoc Hoa Market No 2	2930 Patrick Henry Dr	Falls	22044	SNAP

		Church		
Good Fortune Supermarket Of Va I, Inc.	6751 Wilson Blvd	Falls Church	22044	SNAP
Vietnam Supermarket	6609 Wilson Blvd	Falls Church	22044	SNAP
Trader Joe'S 654	14100 Lee Hwy	Falls Church	22041	SNAP
Hanahreum, Corp.	8103 Lee Hwy	Falls Church	22042	SNAP
Safeway	7397 Lee Hwy	Falls Church	22042	SNAP
Compare Foods Supermarket	2800 Graham Rd	Falls Church	22042	SNAP
Compare Foods	2800 Graham Rd	Falls Church	22042	SNAP
Compare Foods Burlington	2800 Graham Rd	Falls Church	22042	SNAP
Priya Fashion Saree Inc	7177 Lee Hwy	Falls Church	22046	SNAP
Sanabel Butcher & Grocery	2946 Chain Bridge Rd	Oakton	22124	SNAP
Lotte Plaza	13955 Metrotech Dr	Chantilly	20151	SNAP
Raina'S Indian Market	13961 Metrotech Dr	Chantilly	20151	SNAP
India Bazaar	13961 Metrotech Dr	Chantilly	20151	SNAP
Sevенеleven Food Stores	2242 Gallows Rd	Dunn Loring	22027	SNAP
B H M Inc	14513 Lee Jackson Mem Hwy	Chantilly	20151	SNAP
Sun Groceries Inc	14513 Lee Jackson Mem Hwy	Chantilly	20151	SNAP
Whole Foods Market Group, Inc.	143 Maple Ave E	Vienna	22180	SNAP
Whole Foods Market	7511 Leesburg Pike	Falls Church	22043	SNAP
Trader Joe'S 641	7514 Leesburg Pike	Falls Church	22043	SNAP
The Fresh Market Inc	150 Branch Rd SE	Vienna	22180	SNAP
Giant 179	13330 Franklin Farm Rd	Herndon	20171	SNAP
Food Lion Store 1322	3059 Centreville Rd	Herndon	20171	SNAP
Safeway	6244 Old Dominion Dr	Mc Lean	22101	SNAP
Safeway	7401 Colshire Dr	Mc Lean	22102	SNAP
Shiraz Market	8486 Tyco Rd	Vienna	22182	SNAP
Safeway Stores Inc	11120 South Lakes Dr	Reston	20191	SNAP
Safeway	1330 Chain Bridge Rd	Mc Lean	22101	SNAP
Consortium Three Campus Common	1900 Campus Commons Dr	Reston	20191	SNAP
Campus Commons Deli	1900 Campus Commons Dr	Reston	20191	SNAP
Shoppers Food Warehouse 2356	2425 Centreville Rd	Herndon	20171	SNAP

Whole Foods Market Group, Inc.	11660 Plaza America Dr	Reston	20190	SNAP
Fresh World Herndon, Inc.	1070 Elden St	Herndon	20170	SNAP
Safeway	413 Elden St	Herndon	20170	SNAP
Al-Hera Supermarket	150 Elden St	Herndon	20170	SNAP
Trader Joe'S 646	11958 Killingsworth Ave	Reston	20194	SNAP
Fairprice International Supermarket	720 Grant St	Herndon	20170	SNAP
Bmh Enterprize Inc	690 Elden St	Herndon	20170	SNAP
Herndon Bestway Market	690 Elden St	Herndon	20170	SNAP
Food Lion	7760 Gunston Dr	Lorton	22079	
9/11 Security Solutions LLC	4501 Neptune Dr	Alexandria	22309	
Lorton Barber Market	9437 Lorton Market St	Lorton	22079	
Nana'S African/Latino Food Market LLC	9248 Ashland Woods Ln B2	Lorton	22079	
One Stop Market	9114 Richmond Hwy	Fort Belvoir	22060	
Quick Shop	9314 Richmond Hwy	Lorton	22079	
Crystal Foods, Inc.	7351 Lockport Pl Ste E	Lorton	22079	
Arabic Food Online LLC	8139 Bluebonnet Dr	Lorton	22079	
Cub Solutions LLC	8801 Black Alder Dr	Alexandria	22309	
Fort Belvoir Commissary	6020 Gorgas Rd Bldg 2302	Fort Belvoir	22060	
Bottom Dollar Food Holding LLC	8750 Richmond Hwy	Alexandria	22309	
Bestway Supermarket	8457 Richmond Hwy	Alexandria	22309	
Tailgate Flea Market, LLC	8419 Conover Pl	Alexandria	22308	
World Market Inc	2608 Stirrup Ln	Alexandria	22308	
Caroline Supermarket Inc	9029 Chestnut Ridge Rd	Fairfax Station	22039	
Markintcon	8311 Linden Oaks CT	Lorton	22079	
5 Ten Foodmart Inc	8339 Richmond Hwy	Alexandria	22309	
Emhouda International Food Inc	8249 Backlick Rd Ste C	Lorton	22079	
Latino Market	8337 Brockham Dr	Alexandria	22309	
Medtrition Food LLC	8206 Frye Rd	Alexandria	22309	
Crepe Deli LLC	2102 Shenandoah Rd	Alexandria	22308	
Advanced Market Alternatives LLC	6765 Morning Ride Cir	Kingstowne	22315	
High'S Up Food Market	7849 Richmond Hwy Ste A	Alexandria	22306	
Red Fox Partners, LLC	1905 Paul Spring Pkwy	Alexandria	22308	
Italian Deli 2 LLC	7612 Rustle Ridge CT	Fairfax Station	22039	
The Olde British Pantry LLC	9361 Berry Hill CT # 101	Springfield	22153	
Desrite International Foods	7611 Richmond Hwy Ste G	Alexandria	22306	

Quizco Food, Inc.	7573 Great Swan CT	Alexandria	22306
Davis General Store	7600 Clifton Rd	Fairfax Station	22039
Local Marketplace LLC	7001 Loisdale Rd	Springfield	22150
Market Vision	6811 Old Stone Fence Rd	Fairfax Station	22039
Market Raymond	7412 Spring Village Dr	Springfield	22150
Metro Park Deli	6354 Walker Ln Ste 104	Alexandria	22310
Pineapple Place Grocery And Deli	6731 Kenyon Dr	Alexandria	22307
Ali Baba Grocer	6701 Richmond Hwy Ste 105	Alexandria	22306
Griffin Market	6500 Glenbard CT	Burke	22015
Deli Mall Cafe	6553 Loisdale CT	Springfield	22150
Clifton Store Inc	7140 Main St	Clifton	20124
Food Vendor	6401 Pioneer Dr	Springfield	22150
Markato Market Inc	6816 Bland St	Springfield	22150
Orlando Sunga And Edith Sunga	6230 Rolling Rd Ste A	Springfield	22152
Pat'S Market	1401 Belle Haven Rd	Alexandria	22307
Red, White & Beautiful, LLC	1607 Belle Haven Rd	Alexandria	22307
Wedding Market LLC	9091 Andromeda Dr	Burke	22015
Shoppers Food Warehouse	6228 N Kings Hwy	Alexandria	22303
Time Saver Plus, LLC	7404 Dickenson St	Springfield	22150
Manila Inc.	7026 Commerce St	Springfield	22150
Sks Market, LLC	6039 Sweet Oak CT	Springfield	22152
Global Discount Grocery	6138 N Kings Hwy Ste B	Alexandria	22303
Metro Supermarket	10800 Fournier Dr	Fairfax Station	22039
Young La Inc	6010 Mardale Ln	Burke	22015
Mini Foodmart	6038 Richmond Hwy	Alexandria	22303
Victoria'S Food, Lp	5921 Queenston St	Springfield	22152
Project For American Value	5930 Wilton Rd	Alexandria	22310
Mjs Food, Inc.	9411 Old Burke Lake Rd	Burke	22015
Mandala World Market L.L.C.	9201 Fox Lair Dr	Burke	22015
Giant 157	9550 Burke Rd	Burke	22015
Market Institute LLC	2624 Wagon Dr APT 2b	Alexandria	22303
Supermercado La Colonia	6969 Hechinger Dr	Springfield	22151
Park Place Gourmet	6708 Industrial Rd	Springfield	22151
Shus Market Inc	5603 Castlebury CT	Burke	22015
Jackie S Market Place	5520 Southampton Dr	Springfield	22151
C&A Food Distributors Inc	5516 Inverness Woods CT	Fairfax	22032

Columbia Pike Shell Food Mart	10639 John Ayres Dr	Fairfax	22032
J P Gallagher Co	5502 Kathleen Pl	Springfield	22151
Y&E	9628 Pierrpont St	Burke	22015
Georgetown Market	5262 Signal Hill Dr	Burke	22015
Royal Market	5624 Dogue Run Dr	Fairfax Station	22039
Jeanie'S Kitchen Deli	5552 Port Royal Rd	Springfield	22151
Indochine Food Inc.	5303 Renaissance CT	Burke	22015
Rosemont Food Market	9512 Ashbourn Dr	Burke	22015
Force 5 Market Intelligence LI	6416 Noble Rock CT	Clifton	20124
Poplar Run Deli Inc	5285 Shawnee Rd Ste 105	Alexandria	22312
Ethiopian-Latino Market, LLC	7415 Inzer St	Springfield	22151
Smith & Clarksons Deli	8015 Braddock Rd	Springfield	22151
Emerging Markets Institute	7214 Hansford CT	Springfield	22151
Minheeso Food, Inc.	6809 Malton CT	Centreville	20121
Atl It Solutions LLC	9714 Commonwealth Blvd	Fairfax	22032
Food Village, Inc.	5103 Backlick Rd	Annandale	22003
King'S Deli & Grocery, Inc.	5105 Backlick Rd	Annandale	22003
Maj League Alumnus Market	5027 Backlick Rd	Annandale	22003
Hob'S Food Quest, LLC	5227 Portsmouth Rd	Fairfax	22032
Simply Country Store, Inc	11811 Popes Head Rd	Fairfax	22030
Manmin Inc	6235 Little River Tpke	Alexandria	22312
Food Gallery LLC	6423 Second St	Alexandria	22312
Today'S Market	5125 Portsmouth Rd	Fairfax	22032
Courthouse Market	12401 Bunche Rd	Fairfax	22030
Dire Dawa International Market, Inc.	4701 N Chambliss St	Alexandria	22312
Seven Express Food Store	6456 Autumn Glen CT	Alexandria	22312
Ginger And Spice Market	6548 Little River Tpke	Alexandria	22312
1St Choice Food Distributor, LLC	4605 Pinecrest Off Pk Dr	Alexandria	22312
Wheeler Road Market	7621 Roanoke Ave	Annandale	22003
Elie'S Deli	10629 Braddock Rd	Fairfax	22032
Market Source International LLC	4404 Glenn Rose St	Fairfax	22032
Rainbow Catering	7326 Little River Tpke	Annandale	22003
Circle Deli	7401 Estmrland Rd APT 227	Annandale	22003
Shivam Music Corner	4231 Markham St Ste C	Annandale	22003
Tiger Cub 7859, LLC	4216 Evergreen Ln Ste 132	Annandale	22003

Magruder'S 7	7010 Columbia Pike	Annandale	22003
Little Italy Deli Inc	13850 Braddock Rd Ste E	Centreville	20121
Food Safety Solutions, Inc.	4117 Morin St	Alexandria	22312
Kavir Market Place	8305 Little River Tpke	Annandale	22003
Majestic Food Service LLC	13500 Canada Goose CT	Clifton	20124
Hunter Mill Deli	14215u Centreville Sq	Centreville	20121
Tio'S Market Inc	14215 Centreville Sq	Centreville	20121
Chicken Kebab Inc	14220 Cntreville Sq Ste A	Centreville	20121
Ali Market	14260f Centreville Sq	Centreville	20121
Super Dollar	6464 Lincolnia Rd Ste A	Alexandria	22312
Food Geeks, Inc.	4071 Championship CT	Annandale	22003
Dsj Food Corp.	5632 Lierman Cir	Centreville	20120
Rust & Rust A Professiona	3915 Lake Blvd	Annandale	22003
Bombay Spices	13830 Lee Hwy Ste 16	Centreville	20120
Park And Shop	13830 Lee Hwy Ste 18	Centreville	20120
Computers 4 Less	15520 Eagle Tavern Ln	Centreville	20120
Food Buyers Network Inc	3918 Prosperity Ave	Fairfax	22031
Patara Foods & Grocery LLC	3936 Persimmon Dr APT 103	Fairfax	22031
La Mer Majik	6724 Rosewood St	Annandale	22003
Dream Food Network, LLC	3751 Tennis CT	Falls Church	22041
Carry Seleme Out & Grocery	3825h S George Mason Dr	Falls Church	22041
Andalucia Market LLC	3821 S George Mason Dr	Falls Church	22041
Oziolis Cafe & Market LLC	3821 Linda Ln	Annandale	22003
Marie'S Market	3780 Persimmon Cir	Fairfax	22031
La Bodega	12715 Heron Ridge Dr	Fairfax	22030
Vietnam Supermarket Inc.	7362 Annandale CT	Annandale	22003
Heart Market Inc	4877 Mayde CT	Fairfax	22030
Plaid Kangaroo, LLC	3611 Larchmont Dr	Annandale	22003
Dollar Food LLC	5505 Seminary Rd 1918n	Falls Church	22041
La Unica Irish Band, LLC	5505 Seminary Rd	Falls Church	22041
Americana Grocery Of Va Fairfa	3631 Camelot Dr	Annandale	22003
International Council For Food And Sustainable Agriculture	6729 Fern Ln	Annandale	22003
Cherry Grocery	5601 Seminary Rd Ste 2n	Falls Church	22041
Shell Gas	5757 Seminary Rd	Falls Church	22041

Santa Maria Latin Grocer	4225 Bumbry Ter	Fairfax	22030
Ly Food Co	4205 Stackler Dr	Fairfax	22030
The African Market LLC	4450 Oakdale Crescent CT # 138	Fairfax	22030
Palm Tree Grocery, Inc.	4297 Park Green CT	Fairfax	22030
Cloud 11 LLC	8111 Collins St	Annandale	22003
Triple S Food, Inc.	5209 Ellicott CT	Centreville	20120
Market To Market 4	5611 Columbia Pike	Falls Church	22041
Delivery Groceries Hercules	6030 Vista Dr APT 1	Falls Church	22041
Safeway	5821 Crossroads Ctr	Falls Church	22041
Food Lion Store 1314	13065 Fair Lakes Shopping	Fairfax	22033
Bridgewater Deli	11325 Random Hills Rd # 150	Fairfax	22030
Duangrant Oriental Food Mart	5888 Leesburg Pike	Falls Church	22041
Aphrodite Greek Imports	5886 Leesburg Pike	Falls Church	22041
Open Market Inc	11350 Random Hills Rd # 800	Fairfax	22030
88 Market	6035 Leesburg Pike	Falls Church	22041
East Market Retail L.C.	12500 Fair Lakes Cir	Fairfax	22033
Market At Opitz, Inc.	12500 Fair Lakes Cir # 400	Fairfax	22033
Food Star Inc	5211 Kimanna Dr	Centreville	20120
Epic At Cub Run, Inc.	3702 Pender Dr Ste 120	Fairfax	22030
Fantastic Fritzbe'S Flying Food Factory, Inc.	8280 Willow Oaks Corp Dr	Fairfax	22031
Mrl, LLC	4426 Middle Ridge Dr	Fairfax	22033
Nh Food LLC	5202 Kimanna Dr	Centreville	20120
Selecta Food, Inc.	3152 Anchorway CT APT G	Falls Church	22042
Safeway	12200 Fairfax Towne Ctr	Fairfax	22033
Celebrity Deli	7263a Arlington Blvd	Falls Church	22042
Rosslyn Market	4126 Monument CT Unit 201	Fairfax	22033
Sunny Shop	3141 Frview Pk Dr Ste R30	Falls Church	22042
My Party Food LLC	6040 Kelsey CT	Falls Church	22044
Eltigre Food Distributors Inc	3066 Patrick Henry Dr # 202	Falls Church	22044
Sam'S Deli	14151 Park Meadow Dr	Chantilly	20151
4 Lokos Quality Food, Inc.	12530 N Lake CT	Fairfax	22033
Harris Teeter, Inc.	3903 Fair Ridge Dr # 200	Fairfax	22033

Moms Organic Market	8298 Glass Aly Ste 120	Fairfax	22031
Monument Cafe Inc	12150 Monu Dr Ste L125	Fairfax	22033
La Placita Bodega Intl	2929 Gallows Rd Ste 103	Falls Church	22042
Lebanese Butcher, Inc.	2922 Annandale Rd	Falls Church	22042
Lucky Oriental Food & Gifts	3005 Steven Martin Dr	Fairfax	22031
Universal Food, LLC	12101 Green Leaf CT Ste 1	Fairfax	22033
Song Que	6773 Wilson Blvd	Falls Church	22044
Safeway Food & Drug	12200 Ox Hill Rd	Fairfax	22033
Y & G Food Corporation	2847 Gallows Rd	Falls Church	22042
Peoples Food	3403 Waples Glen CT	Oakton	22124
The Merrifield Market LLC	8522 Lee Hwy	Fairfax	22031
Lot 11 Springfield Plaza Limited Partner	3050 Chain Bridge Rd # 200	Fairfax	22030
Champ Star, LLC	13512 Tabscott Dr	Chantilly	20151
Nood Food, LLC	2975 Palmer St	Oakton	22124
German Gourmet	7185 Lee Hwy	Falls Church	22046
Fairfax Delicatessen & Plaza	7173 Lee Hwy	Falls Church	22046
Interactive Market Group	3194 Ariana Dr	Oakton	22124
Fair Oaks Deli	3700 Joseph Siewick Dr # 103	Fairfax	22033
Metro Cafeteria	2650 Park Twr Dr Ste 150	Vienna	22180
J'S Food, Inc.	3754 Millpond CT	Fairfax	22033
Red White & Blue	4264 Entre CT	Chantilly	20151
Market America	9725 Cheriton CT	Vienna	22181
Young'S Oriental Market	264 Cedar Ln SE Ste A	Vienna	22180
D C Deli	12783 Misty Creek Ln	Fairfax	22033
Pine Food	127 Casmar St SE	Vienna	22180
Shoppers Food & Pharmacy	13920 Lee Jackson Hwy	Chantilly	20151
Aldi 1777	13920a Lee Jckson Mem Hwy	Chantilly	20151
Sullyfield Gourmet Hut	14100 Sullyfield Cir # 100	Chantilly	20151
Italian Gourmet	505 Maple Ave W	Vienna	22180
Azalea Food Group, LLC	3840 Lightfoot St # 448	Chantilly	20151
Beirut Butcher And Grocery	407 Maple Ave W	Vienna	22180
Adisil Food Company LLC	7984 Foxmoor Dr	Dunn Loring	22027
Taiasian Food Market	350 Maple Ave W	Vienna	22180
Susan Black-Eyed Inc	2512 Rocky Branch Rd	Vienna	22181

K&M Food, Inc.	128 Maple Ave W	Vienna	22180
Yas Supermarket	131 Maple Ave W	Vienna	22180
Fairfax Towers Grocery	2251 Pimmit Dr Ste C1	Falls Church	22043
Fairfax Towers I, LLC	2251 Pimmit Dr	Falls Church	22043
Lee Food Safety Training LLC	7777 Lsburg Pike Ste 121s	Falls Church	22043
Utz Quality Food	212 Locust St SE APT 105	Vienna	22180
Kbn Food, Inc.	3935 Avion Park CT	Chantilly	20151
Big Apple Recruiting & Staffing, Inc.	7702 Leesburg Pike Ste T4	Falls Church	22043
Elie'S Deli	1950 Old Gallows Rd # 110	Vienna	22182
2010 Convenience Store	2010 Corporate RDG	Mc Lean	22102
Indian Boundary Food & Beverag	8221 Old Courthouse Rd # 35	Vienna	22182
Energy Market Insights, LLC	400 John Marshall Dr Ne	Vienna	22180
International Frozen Food Association T	2000 Corporate RDG	Mc Lean	22102
Tyson's Lobby Shop	8391 Old Courthouse Rd # 150	Vienna	22182
District Food Corporation	1835 Stanley Pl	Falls Church	22043
New York Deli Inc	8150 Leesburg Pike Ste J1	Vienna	22182
Sunshine Deli	8230 Leesburg Pike # 550	Vienna	22182
Market Station LLC	8230 Leesburg Pike # 620	Vienna	22182
Woo Lae Oak Food Group, LLC	8240 Leesburg Pike	Vienna	22182
Tyson's Market, LLC	1961 Chain Bridge Rd	Mc Lean	22102
Market Data Analysis L L C	2902 Mother Well CT	Herndon	20171
D J Deli, Inc	1750 Old Madow Rd Ste 100	Mc Lean	22102
Merger Markets Analytics LLC	8180 Greensboro Dr # 785	Mc Lean	22102
Food Safety Validation, LLC	10229 Cedar Pond Dr	Vienna	22182
Webers Pet Supermarket	2599 John Milton Dr	Herndon	20171
Market Torque	7019 Alicent Pl	Mc Lean	22101
Ringmasters Deli Inc	8607 Westwood Center Dr	Vienna	22182
Tyco Deli	8496 Tyco Rd Ste A	Vienna	22182
Giant 218	1445 Chain Bridge Rd	Mc Lean	22101
I Net Market LLC	7504 Box Elder CT	Mc Lean	22102
Positive Food Co	6885 Elm St	Mc Lean	22101
Dairy & Food Industries Supply	1451 Dolley Madison Blvd # 200	Mc Lean	22101
Ifey Int L Food Chain	2312 Emerald Heights CT	Reston	20191

Beverly Deli	1350 Beverly Rd Ste 109	Mc Lean	22101
Frontier Market Advisors, LLC	1350 Beverly Rd	Mc Lean	22101
Casa Veiga Super Market	2244 Lofty Heights Pl	Reston	20191
Madison Deli	1320 Old Chain Bridge Rd # 140	Mc Lean	22101
Delish	1835 Alexander Bell Dr # 11	Reston	20191
Pica Deli Gourmet	11864 Sunrise Valley Dr	Reston	20191
Nourish Market	1133 Dogwood Dr	Mc Lean	22101
Harris Teeter 85	12960 Hghland Crossing Dr	Herndon	20171
Combined Food Svc Of Virg	1324 Towlston Rd	Vienna	22182
Market Basket	12310 Sunrise Valley Dr	Reston	20191
Fairfax Lake Deli	1767 Business Center Dr # 200	Reston	20190
Zippy Shell Northern Virginia	11654 Plaza America Dr	Reston	20190
2 Markets Inc The Waldron Group	1984 Isaac Newton Sq W	Reston	20190
Nourish Market	8100 Old Dominion Dr E	Mc Lean	22102
Macrocosm Market	11200 Chestnut Grove Sq # 202	Reston	20190
11 Main Street LLC	6819 Benjamin St	Mc Lean	22101
Anacostia Warehouse Sprmkt	900 Canal Dr	Mc Lean	22102
Passion Food Five LLC	1875 Explorer St	Reston	20190
E & T Foods Corporate Office	12040 North Shore Dr	Reston	20190
Dist Deli LLC	12005 Taliesin Pl APT 13	Reston	20190
Market Centre, LLC	481 Carlisle Dr	Herndon	20170
Baker'S Place	505 Huntmar Park Dr # 350	Herndon	20170
El Supermercado	904 Alabama Dr	Herndon	20170
Scientific Stock Market A	1767 Wainwright Dr	Herndon	20190
Cameron Express Market	150 Elden St Ste 137	Herndon	20170
El Mercadito Hispano	495 Elden St Ste B	Herndon	20170
Suzies Deli Inc	1675 Reston Pkwy Ste M	Reston	20194
Anne Lake Market LLC	1645 Washington Plz	Reston	20190
Diab Foods	611 Live Oak Dr	Mc Lean	22101
La Villa Market Inc	1611 Wash Plz N	Reston	20190
Market Center Seven LLC	11450 Baron Cameron Ave	Reston	20190
Maria Fe Food LLC	11131 Saffold Way	Reston	20190
Sams Farm Market LLC	10800 Baron Cameron Ave	Herndon	20190
Giant Food Stores, LLC	N Point Village Ctr	Reston	20194
Giant Food Stores, LLC	1450 Reston Pkwy	Reston	20194

11 Mangos, LLC	1134 Whitworth CT	Herndon	20170	
Ecoasset Markets LLC	11267 Center Harbor Rd	Reston	20194	
Global Food Market Iii, Inc.	9599 Georgetown Pike	Great Falls	22066	
International Frozen Food	9912 Georgetown Pike	Great Falls	22066	
Pacific Food LLC	762 Applewood Ln	Great Falls	22066	
Safeway	12 W Washington St	Middleburg	20117	SNAP
Safeway	22350 S Sterling Blvd	Sterling	20164	SNAP
Wegmans	45131 Columbia Pl	Sterling	20166	SNAP
Global Food	43761 Parkhurst Plz	Ashburn	20147	SNAP
Safeway	30 Pidgeon Hill Dr	Sterling	20165	SNAP
The Fresh Market Inc	44755 Brimfield Dr	Ashburn	20147	SNAP
Harris Tweeter	42780 Creek View Plz	Ashburn	20147	SNAP
Wegmans Food Markets, Inc.	101 Crosstrail Blvd SE	Leesburg	20175	SNAP
Safeway	437 S King St	Leesburg	20175	SNAP
Sheetz 267	915 Edwards Ferry Rd Ne	Leesburg	20176	SNAP
Tom Hill Market	36933 Charles Town Pike	Purcellville	20132	SNAP
Morse Food Group LLC	26054 Kimberly Rose Dr	Chantilly	20152	
Mart 11	43053 Pemberton Sq # 150	Chantilly	20152	
Harris Teeter, Inc.	25401 Eastern Marketplace	Chantilly	20152	
Bloom Store 2716	43090 Peacock Market Plz	Chantilly	20152	
Cub Run Venture, LLC	43571 John Mosby Hwy	Chantilly	20152	
Red Fox Development, LLC	41536 Hoddesdon CT	Aldie	20105	
Giant Landover 237	25050 Riding Plz Ste 100	Chantilly	20152	
Marair Foods Inc	45020 Aviation Dr	Sterling	20166	
Dank S Deli	2 N Liberty St	Middleburg	20118	
Ox Deli	23035 Douglas CT Ste 134	Sterling	20166	
Market Peter	22813 Highcrest Cir	Ashburn	20148	
Market David & Michelle	43650 Lucketts Bridge Cir	Ashburn	20148	
Pooja Spices And Appliances	22589 Conklin Ridge CT	Ashburn	20148	
Alflaha Grocery & Halal Meat	156 Enterprise St Ste B	Sterling	20164	
Food Investors Corp	40368 Tamworth Farm Ln	Aldie	20105	
Sauson International Grocery Inc	45431 Ruritan Cir	Sterling	20164	
Giant Food Stores, LLC	43670 Greenway Corp Dr # 791	Ashburn	20147	
Village Market Centers Inc	46950 Cmnty Plz Ste 211	Sterling	20164	
Car Market LLC	45559 Ruislip Manor Way	Sterling	20166	
Giant 0762	21800 Towncntr Plz 226	Sterling	20164	
Giant 224	44110 Ashburn Vlg Ste 160	Ashburn	20147	
Shoppers Food & Pharmacy	47100 Community Plz	Sterling	20164	

Genesis Food Pantry, Inc.	43143 Chestwood Acres Ter	Broadlands	20148
Mi Casita Market Inc.	100 W Ivy Ave	Sterling	20164
Asian Groceries	47024 Harry Byrd Hwy # 108	Sterling	20164
Circle K Store	42870 Truro Parish Dr	Broadlands	20148
Swadesh Foods LLC	21586 Atlantic Blvd	Sterling	20166
Grand Mart Sterling	46900 Cedar Lake Plz # 150	Sterling	20164
Wegmans Food Markets, Inc.	21376 Potomac View Rd	Sterling	20164
Safeway	43150 Broadlands Ste 140	Ashburn	20148
Market Paths, LLC	21303 Windrush CT	Sterling	20165
Blessed Food Company	46110 Fessenden Ter	Sterling	20166
Champ, LLC	46911 Bushwood CT	Sterling	20164
Riz Food Inc	21100 Dulles Town Cir	Sterling	20166
107 East Market Street, L.L.C.	43546 Barley CT	Ashburn	20147
Jss Market LLC	44411 Whitford Sq APT 201	Ashburn	20147
Dollar Market LLC	43543 Plantation Ter	Ashburn	20147
Doggie Pantry	20940 Springwater CT	Ashburn	20147
Messianic Market	101 Hayloft CT	Sterling	20164
New Market Aeronautics, LLC	20273 Unison Rd	Round Hill	20141
Food For Thought LLC	45150 Russell Branch Pkwy	Ashburn	20147
Roberts Emporium	19375 Magnolia Grv 100	Ashburn	22093
Vintage Market House LLC	20091 Crew Sq	Ashburn	20147
Harris Teeter 242	20070 Ashbrk Cmns 151	Ashburn	20147
Deli Express	803 Sycolin Rd SE Ste 101	Leesburg	20175
Echo 11 Sms, LLC	19219 Burnt Bridge Dr	Leesburg	20176
India Grocery Deals	122 Burnell Pl SE	Leesburg	20175
Food For Love LLC	121 Oak View Dr SE	Leesburg	20175
Rj'S Deli & Store	707 E Market St Ste I	Leesburg	20176
7 Star Food Store	47 Catoctin Cir SE Ste A	Leesburg	20175
Ana'S Market	701 E Market St	Leesburg	20176
Deli South Inc	38 Catoctin Cir SE Ste D	Leesburg	20175
International Market	525 E Market St Ste F	Leesburg	20176
International Market Inc.	64 Plaza St Ne Ste B	Leesburg	20176
Bloom 2717	240 Fort Evans Rd Ne	Leesburg	20176
The Finer Points LLC	18240 Mill Spring CT	Leesburg	20176
Shoppers Food & Pharmacy	1079 Edwards Ferry Rd Ne	Leesburg	20176
International Deli	7 Loudoun St SE	Leesburg	20175
Market Street Productions LLC	1136 Huntmaster Ter Ne # 10	Leesburg	20176

Round Hill Mini Market	8 Main St	Round Hill	20141	
Purcellville Community Market LLC	230 W Main St APT 3	Purcellville	20132	
Sher Food Svcs Corp	16821 Falconhurst Dr	Purcellville	20132	
West Market Mercantile, LLC	16100 Garriland Dr	Leesburg	20176	
101 East Market Street LLC	37481 Chartwell Ln	Purcellville	20132	
Waterford Market	15487 Second St	Waterford	20197	
1 Stop Food Mart Amaco	12709 James Monroe Hwy	Leesburg	20176	
Evolution Food Group LLC	13 E Broad Way	Lovettsville	20180	
Lovettsville Cooperative Market Inc	17 Hammond Dr	Lovettsville	20180	
Little Country Store Inc	10975 Harpers Ferry Rd	Purcellville	20132	
Food Lion	3301 Pine Bluff Dr	Dumfries	22026	SNAP
Giant 229	16593 River Ridge Blvd	Woodbridge	22191	SNAP
Shoppers Food 74	4174 Fortuna Center Plz	Dumfries	22025	SNAP
Carlton Market	15896 Melody Ln	Dumfries	22025	SNAP
Try Grocery, Inc.	15896 Melody Ln	Montclair	22025	SNAP
Wegmans Potomac	14801 Dining Way	Woodbridge	22191	SNAP
Global Foods Warehouse	14823 Build America Dr	Woodbridge	22191	SNAP
Desi Bazaar	14808 Build America Dr	Woodbridge	22191	SNAP
Iroko International Food Mart	1801 Reddy Dr	Woodbridge	22191	SNAP
Zam Zam Market LLC	14794 Build America Dr	Woodbridge	22191	SNAP
Wawa	2051 Daniel Stuart Sq	Woodbridge	22191	SNAP
Food Lion, LLC	14641 Jefferson Davis Hwy	Woodbridge	22191	SNAP
Americana Grocery	14428 Jefferson Davis Hwy	Woodbridge	22191	SNAP
Durga Grocery Store	14339 Jefferson Davis Hwy	Woodbridge	22191	SNAP
Safeway	4215 Cheshire Station Plz	Woodbridge	22193	SNAP
Max Studio Com	2700 Potomac Mills Cir	Woodbridge	22192	SNAP
Giant 154	4309 Dale Blvd	Woodbridge	22193	SNAP
Birago Market	4357 Dale Blvd	Woodbridge	22193	SNAP
Kabul Halal Market	3143 Golansky Blvd	Woodbridge	22192	SNAP
Todos Market	13905 Jefferson Davis Hwy	Woodbridge	22191	SNAP
Giant Food 64	13905 Jefferson Davis Hwy	Woodbridge	22191	SNAP
Todos Hispanic Supermarket	13905 Jefferson Davis Hwy	Woodbridge	22191	SNAP
Aldi 1170	13782 Smoketown Rd	Woodbridge	22192	SNAP
Global Food LLC	13813 Foulger Sq	Woodbridge	22192	SNAP
Southland Corp	13360 Minnieville Rd	Woodbridge	22192	SNAP
Giant Food Stores, LLC	5469 Mapledale Plz	Woodbridge	22193	SNAP
Food Lion Store 1261	13414 Jefferson Davis Hwy	Woodbridge	22191	SNAP

Handy Dandy Market	13316 Occoquan Rd	Woodbridge	22191	SNAP
Aldi 741	13291 Gordon Blvd	Woodbridge	22191	SNAP
New Paak Bazaar Grocery Inc	13255 Occoquan Rd	Woodbridge	22191	SNAP
Americana Grocery	13215 Occoquan Rd	Woodbridge	22191	SNAP
Food Lion, LLC	6306 Hoadly Rd	Manassas	20112	SNAP
Harris Teeter 316	12745 Galveston CT	Manassas	20112	SNAP
Harris Teeter 313	10438 Bristow Center Dr	Bristow	20136	SNAP
Southland Market 258	11007 Nokesville Rd	Manassas	20110	SNAP
Bottom Dollar Food Holding LLC	8313 Sudley Rd	Manassas	20109	SNAP
Shoppers Food Warehouse Corp.	8328 Shoppers Sq	Manassas	20111	SNAP
Global Food LLC	10320 Festival Ln	Manassas	20109	SNAP
Southland Corp	8211 Old Centreville Rd	Manassas	20111	SNAP
Shoppers Food Warehouse Corp.	10864 Sudley Manor Dr	Manassas	20109	SNAP
Shoppers Food Warehouse 2344	10864 Sudley Manor Dr	Manassas	20109	SNAP
Hi Mart Inc	8693 Parkland St	Manassas	20111	SNAP
Super Giant Foods 790	5581 Merchants View Sq	Haymarket	20169	SNAP
Giant Of Maryland LLC	5581 Merchants View Sq	Haymarket	20169	SNAP
Quantico Commissary	Russell Rd Bldg 3400	Quantico	22134	
Todos Supermarket	17987 Dumfris Shpg Plz	Dumfries	22026	
Dimarie Restaurant & Grocery LLC	3651 Dahlgren Pl	Dumfries	22026	
Millionaire Supermarket	17420 Denali Pl	Dumfries	22025	
Yawzee Halal Grocery	2524 Blue Pool Dr	Woodbridge	22191	
Cuscatleca Latino Market, LLC	16208 Crest CT	Woodbridge	22191	
Food Lion 1249	5227 Waterway Dr	Dumfries	22025	
Super Q Mart	1601 Ladue CT APT 405	Woodbridge	22191	
M I K International Foods	14943 Slippery Elm CT	Woodbridge	22193	
El Balsamo Latin Market Inc	14812 Dillon Ave	Woodbridge	22193	
Store 2735	5592 Staples Mill Plz	Woodbridge	22193	
J&T Fresh Seafood	14792 Build America Dr	Woodbridge	22191	
Parkland Supermarket	14671 Cloverdale Rd	Woodbridge	22193	
Obeng International	1636 Woodside Dr	Woodbridge	22191	
Desi Best Bazar	14455 Jefferson Davis Hwy # 6	Woodbridge	22191	
Tutu Market	14418 Jefferson Davis Hwy	Woodbridge	22191	
Pionar Food Company LLC	2700 Potomac Mills Cir # 407	Woodbridge	22192	
Nater Tater'S Teeter	13959 Oleander CT	Woodbridge	22193	

Totters, LLC				
Food Lion Store 1190	14055 Noblewood Plz	Woodbridge	22193	
La Guadalupana	13734 Jefferson Davis Hwy	Woodbridge	22191	
The Sky Grocery Inc	1711 Rosa Dr	Woodbridge	22191	
Acr Snack Mart 2 Restaur	4802 Dale Blvd	Woodbridge	22193	
M N G	13412 Jefferson Davis Hwy	Woodbridge	22191	
Jz Fortune Food Inc.	13263 Occoquan Rd	Woodbridge	22191	
Friendly Piche Mart	1420 Old Bridge Rd	Woodbridge	22192	
Bloom Corp Inc	4406 Coventry Glen Dr	Woodbridge	22192	
Indo-American Food Company LLC	10450 Tenth Alabama Way	Bristow	20136	
Market Magenta LLC	10235 Chinkapin Dr	Manassas	20111	
Novo Horizonte Super Market, LLC	9952 Shallow Creek Loop	Manassas	20109	
Towers Market Deli	13509 Wembley Loop	Bristow	20136	
In & Out Food Store LLC	9508 Mark Twain CT	Bristow	20136	
Asian Gourmet Pantry	14117 Murphy Ter	Gainesville	20155	
Golden Food, LLC	12611 Tide View CT	Bristow	20136	
Lulu Vacuum Cleaner	8300 Humphrey Ln	Manassas	20109	
Eastern Market Online	12256 Scarlet Maple Dr	Gainesville	20155	
Ghigi Food Industries, LLC	10521 Crestwood Dr Ste 20	Manassas	20109	
Wegmans Food Markets, Inc.	8297 Stonewall Shops Sq	Gainesville	20155	
Sammi Oriental Market	14204 Lakeview Dr	Gainesville	20155	
Wellington Market Square, LLC	5611 Wellington Rd	Gainesville	20155	
J&L Foodmart	7517 Presidential Ln	Manassas	20109	
Affinity Market, LLC	9544 Covington Pl	Manassas	20109	
Rosas Hot Food LLC	7431 Boundary Ave	Manassas	20111	
La Frontera, Inc	14910 Washington St	Haymarket	20169	
Safeway Va Retail Operati	4400 Costello Way	Haymarket	20169	
South Market	6601 Beverly Rd	Broad Run	20137	
Brothers Food Corporation	6541 Ashby Grove Loop	Haymarket	20169	
Hc Market Center I LLC	15195 Heathcoat Blvd	Haymarket	20169	
King'S Deli	6108 Piney Grove Way	Gainesville	20155	
Madison Iga Foodliner	13270 Catharpin Valley Dr	Gainesville	20155	
Haymarket Regional Food Pantry	2628 Logmill Rd	Haymarket	20169	
Red Fox Arms, LLC	15023 Red Fox CT	Haymarket	20169	
Whole Foods Market Group, Inc.	1700 Duke St	Alexandria	22314	SNAP
Weyone International	510 S Van Dorn St	Alexandria	22304	SNAP
L & C Market	4105 Duke St Ste 101	Alexandria	22304	SNAP

Mercado Latino American	4105 Duke St Ste 101	Alexandria	22304	SNAP
Meron Supermarket	4105 Duke St	Alexandria	22304	SNAP
Old Towne Grocery And Carryout LLC	809 Pendleton St	Alexandria	22314	SNAP
Trader Joe'S 647	612 N Saint Asaph St	Alexandria	22314	SNAP
Sevencleven Food Stores	30 S Reynolds St	Alexandria	22304	SNAP
Community Market	1006 Madison St	Alexandria	22314	SNAP
Safeway	3526 King St	Alexandria	22302	SNAP
Giant 35	3680 King St	Alexandria	22302	SNAP
Magruders	4604 Kenmore Ave	Alexandria	22304	SNAP
Safeway	4604 Kenmore Ave	Alexandria	22304	SNAP
Giant 134	1476 N Beauregard St	Alexandria	22311	SNAP
El Paisa Grocery	3414 Mount Vernon Ave	Alexandria	22305	SNAP
Foodway	206 W Glebe Rd	Alexandria	22305	SNAP
Shoppers Food & Pharmacy	3801 Jefferson Davis Hwy	Alexandria	22305	SNAP
Mg Market Inc	3842 Mount Vernon Ave	Alexandria	22305	SNAP
Exxon Food Mart	3903 Mount Vernon Ave	Alexandria	22305	SNAP
Mercadito Ramos 3	4102 Mount Vernon Ave	Alexandria	22305	SNAP
Super Store	1204 S Washington St # 1	Alexandria	22314	
Barrow Grocery Company, Incorporated	35 Alexander St	Alexandria	22314	
Balduccis 103	600 Franklin St	Alexandria	22314	
Gallery Cafe Market	2141 Jamieson Ave	Alexandria	22314	
Abeba, Tesdey Grocery Store	672 S Pickett St	Alexandria	22304	
Hadi International Foods	640b S Pickett St	Alexandria	22304	
Global Food Safety Forum	1434 Duke St	Alexandria	22314	
Glen'S Garden Market, LLC	207 S West St	Alexandria	22314	
Popped Republic Gourmet Popcorn	2381 S Dove St	Alexandria	22314	
Champ International Refrigerant, LLC	26 S Dove St	Alexandria	22314	
Gourmet Center & Delicatessen	817 King St	Alexandria	22314	
Dollar Market	506 S Van Dorn St	Alexandria	22304	
G O P Marketplace	600 Cameron St	Alexandria	22314	
King Street Newsstand & Cards	1406 King St	Alexandria	22314	
Piccadeli	210 N Lee St Ste 108	Alexandria	22314	
Samiches Inc	108 N West St	Alexandria	22314	
Price Fair International Supermarket	5703c Edsall Rd	Alexandria	22304	
Marco Polo	5715 Edsall Rd Ste A	Alexandria	22304	

Girum Grocery & Bakery	5713 Edsall Rd Unit A	Alexandria	22304	
The Variety Mart	2727 Duke St Ste 2	Alexandria	22314	
Euro Star Market	300 N Fayette St	Alexandria	22314	
Red Fox Roofing LLC	208 S Jenkins St	Alexandria	22304	
Sy Food Incorporated	7 S Early St	Alexandria	22304	
Ginger Beef Foody Goody	430 N Pitt St	Alexandria	22314	
Eeshan Inc	295 S Van Dorn St	Alexandria	22304	
Ladys Bodega	235 S Van Dorn St	Alexandria	22304	
Damas Bodega	50 S Pickett St Ste 30	Alexandria	22304	
Sierra International Foods	5145 Duke St Ste C	Alexandria	22304	
Giant 246	530 First St	Alexandria	22314	
Universal Market	1513 Mount Vernon Ave	Alexandria	22301	
Giant 752	425 E Monroe Ave	Alexandria	22301	
Slater'S Market, LLC	1552 Potomac Greens Dr	Alexandria	22314	
Food Affinity Group, LLC	501 Slaters Ln APT 802	Alexandria	22314	
Market Mixture LLC	682 N Armistead St	Alexandria	22312	
Towngate Deli	625 Slaters Ln Ste G102	Alexandria	22314	
Four Mile Run Market Inc	317 E Custis Ave	Alexandria	22301	
Uptown Market Inc	2801 Park Center Dr	Alexandria	22302	
Advanced Market Alternatives LLC	3001 Park Center Dr Ofc # 514	Alexandria	22302	
Mobi Mkt Inc	138 Sanborn Pl	Alexandria	22305	
Shoppers Food Warehouse 2365	3801 Jeff Davis Hwy	Alexandria	22305	
Chesapeake Atlantic Development Group, L.L.C.	5194 Dawes Ave	Alexandria	22311	
M La Tiendona Market	3836 Mount Vernon Ave	Alexandria	22305	
Al Seria Grocery Store	3840 Mount Vernon Ave	Alexandria	22305	
Claremont Deli	4622 King St	Alexandria	22302	
Bernies Delicatessen Gourmet Market	4328 Chain Bridge Rd	Fairfax	22030	
Laguadalupana Grocery LLC	10621 Ashby Pl	Fairfax	22030	
Trader Joe'S 643	9464 Main St	Fairfax	22031	SNAP
Giant 755	9570 Main St	Fairfax	22031	
Shoppers Food Warehouse Corp.	9622 Main St	Fairfax	22031	SNAP
Shoppers Food Warehouse	9640 Main St	Fairfax	22031	
Food Fetish, LLC	10328 Sager Ave Unit 418	Fairfax	22030	
Royal Food Mart	10423 Main St	Fairfax	22030	
Mosby Deli Carryout	10560 Main St	Fairfax	22030	
New Star Supermarket	3814 Daniels Run CT	Fairfax	22030	
Safeway	10350 Willard Way	Fairfax	22030	SNAP

Shorty'S Deli	10382 Willard Way	Fairfax	22030	
Bombay Food & Gifts	11213 Lee Hwy Ste D	Fairfax	22030	
Food Lion 1693	11179 Lee Hwy A	Fairfax	22030	
Shivan Music & Spices	11127 Lee Hwy	Fairfax	22030	SNAP
Halal Meat & Grocer	4072 Jermantown Rd	Fairfax	22030	SNAP
Super H Mart	10780 Fairfax Blvd	Fairfax	22030	SNAP
Giant Food Stores, LLC	11200 Fairfax Blvd	Fairfax	22030	SNAP
Amity, LLC	10372 Fairfax Blvd	Fairfax	22030	SNAP
Alrafedain Market	3212 Old Pickett Rd	Fairfax	22031	
Lotte Plaza	3250 Old Lee Hwy	Fairfax	22030	SNAP
Halalco Super Market	155 Hillwood Ave	Falls Church	22046	SNAP
Pho Pasteur	133 E Annandale Rd	Falls Church	22046	
La Migueledda	402 S Washington St	Falls Church	22046	
Claudia J Bayliff	101 Lounsbury Pl	Falls Church	22046	
The Local Market LLC	246 W Broad St	Falls Church	22046	
Babylon Market	1055 W Broad St	Falls Church	22046	SNAP
Indian Spice & Appliances	1065 W Broad St	Falls Church	22046	
Southland Corporation Market 2585	10438 Dumfries Rd	Manassas	20110	SNAP
Food Lion, LLC	10105 Hastings Dr	Manassas	20110	
Giant 227	10100 Dumfries Rd	Manassas	20110	SNAP
Lopez Grocery	8613 Laws Dr	Manassas	20110	
Harris Teeter 303	10060 Market Cir	Manassas	20110	
Mecsk Inc	9911 Wellington Rd	Manassas	20110	SNAP
European Food LLC	8602 Dutchman CT	Manassas	20110	
Loudoun Valley Iga	9056 Coriander Cir	Manassas	20110	
Spice Town	9618 Grant Ave	Manassas	20110	
Aldi 1393	9714 Liberia Ave	Manassas	20110	SNAP
Shoppers Food & Pharmacy	9540 Liberia Ave	Manassas	20110	SNAP
Shoppers Food Warehouse 2380	9540 Liberia Ave	Manassas	20110	SNAP
The Grocery LLC	9210 Lee Ave	Manassas	20110	
Halifax Iga	8806 Quarry Rd	Manassas	20110	
Ventura Grocery	9928 Cockrell Rd	Manassas	20110	SNAP
Food Lion	9121 Centreville Rd	Manassas	20110	SNAP
Fiesta Supermarket	9100 Mathis Ave	Manassas	20110	SNAP
Food Town Super I.G.A.	9100 Mathis Ave	Manassas	20110	SNAP

Maxwell'S A Deli	9043 Liberia Ave	Manassas	20110	
Sabs International Market	9055 Liberia Ave	Manassas	20110	SNAP
Giant 168	8819 Centreville Rd	Manassas	20110	SNAP
Southland Corp	8708 Liberia Ave	Manassas	20110	SNAP
Leslie Market	9378 Forestwood Ln	Manassas	20110	
I Andrade Corp	8641 Sudley Rd	Manassas	20110	
Evergreen Food Products LLC	9404 Sonia CT	Manassas Park	20111	
Edo International Market, LLC	8641 Sumter CT	Manassas Park	20111	
Southland Corp Market 2585	8521 Centreville Rd	Manassas Park	20111	
Aliza Grocery LLC	8519 Manassas Dr	Manassas Park	20111	SNAP
A & A Halal Grocery LLC	8519 Manassas Dr	Manassas Park	20111	SNAP
Banburas Grocery 2	8452 Centreville Rd	Manassas Park	20111	
Yong American Deli	9207 Enterprise CT Ste F	Manassas Park	20111	
Vanessa'S Grocery LLC	108 Kent Village Sq	Manassas Park	20111	
Roxannas Food Service LLC	146 Holden Dr	Manassas Park	20111	

Ancillary Appendix 2

List of Farmers Markets in Northern Virginia

Market Name	Address	City	Food Stamp
Alexandria Farmers Market	301 King St.	Alexandria	
Annandale Farmers Market	6621 Columbia Pike	Annandale	
Arcadia Mobile Farmers' Market	8350 Richmond Highway	Alexandria	SNAP
Arlington County Farmers Market	1380 Monroe Street Northwest Washington, DC, 20010, United States	Arlington	
Ashburn Farmers Market	44036 Pipeline Plz	Ashburn	
Ballston Farmers Market	901 N Taylor St	Arlington	
Brambleton Farmers Market	Emberbrook Circle	Ashburn	
Bristow Smart Market	8301 Linton Hall Boulevard	Bristow	
Burke Farmers Market	5671 Roberts Parkway	Burke	
Cascades Farmers Market	21060 Whitfield Pl	Sterling	
Chantilly Smart Market	3460 Centerville Road	Chantilly	
Clarendon Farmers Market	Clarendon Metro Station	Arlington	
Columbia Pike Farmers Market	2820 Columbia Pike	Arlington	SNAP
Community Farmers Market	10500 Page Avenue	Fairfax	
Crystal City Farmers Market	251 18th Street South	Arlington	
Dale City Farmers' Market	14090 Gemini Way	Dale City	
Del Ray Farmers Market	203 Oxford Ave.	Alexandria	
Fairfax County Government Center	12011 Government Center Parkway	Fairfax	
Falls Church Farmers Market	300 Park Ave.	Falls Church	
Four Mile Run Farmers' and Artisan Market	4109 Mount Vernon Ave.	Alexandria	SNAP
Great Falls Farmers Market	778 Walker Road	Great Falls	
Haymarket Farmers' Market	15025 Washington Street	Haymarket	
Herndon Farmers Market	777 Lynn St.	Herndon	
Huntington Smart Market	5918 North Kings Highway	Alexandria	
Kingstowne Farmers Market	5955 Kingstowne Towne Ctr	Alexandria	
Lake Ridge Smart Market	12619 Oakwood Drive	Woodbridge	
Leesburg Farmers Market	20 Catoctin Cir SE	Leesburg	SNAP
Lorton Farmers Market	8990 Lorton Station Blvd.	Lorton	SNAP
Manassas Farmers' Market	9201 Center St	Manassas	SNAP
McCutcheon/Mount Vernon Farmers Market	2501 Sherwood Hall Lane	Alexandria	SNAP

McLean Farmers Market	1659 Chain Bridge Rd.	McLean	
Middleburg Community Farmers Market	200 Stonewall Ave	Middleburg	
Oak Marr	3200 Jermantown Rd.	Oakton	
Oakton Smart Market	2854 Hunter Mill Rd.	Oakton	
Purcellville Community Market	550 East Main Street	Purcellville	
Reston Farmers Market	11404 Washington Plaza W	Reston	SNAP
Reston Station Smart Market	1900 Reston Station Boulevard	Reston	
Rosslyn Farmers Market	1401 Wilson Boulevard	Arlington	
Springfield Smart Market	6417 Loisdale Avenue	Springfield	
Tysons Smart Market	8400 Westpark Drive	McLean	
Upper King Street Fresh Farmers Market	1806 King Street	Alexandria	
Vienna Saturday Farmers Market	301 Center Street South	Vienna	
Wakefield Farmers Market	8100 Braddock Road	Annandale	
Wellness Connection Farmers Market	24600 Millstream Drive	Stone Ridge	
West End Farmers Market	4800 Brenman Park Dr.	Alexandria	
Westover Farmers' Market	5900 Washington Blvd	Arlington	

Ancillary Appendix 3

List of Northern Virginia Census Tracts (U.S. Census Bureau, n.d.)

Geoid	Geoid Label
Arlington County	
51013100100	Census Tract 1001, Arlington County, Virginia
51013100200	Census Tract 1002, Arlington County, Virginia
51013100300	Census Tract 1003, Arlington County, Virginia
51013100400	Census Tract 1004, Arlington County, Virginia
51013100500	Census Tract 1005, Arlington County, Virginia
51013100600	Census Tract 1006, Arlington County, Virginia
51013100700	Census Tract 1007, Arlington County, Virginia
51013100800	Census Tract 1008, Arlington County, Virginia
51013100900	Census Tract 1009, Arlington County, Virginia
51013101000	Census Tract 1010, Arlington County, Virginia
51013101100	Census Tract 1011, Arlington County, Virginia
51013101200	Census Tract 1012, Arlington County, Virginia
51013101300	Census Tract 1013, Arlington County, Virginia
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51013101402	Census Tract 1014.02, Arlington County, Virginia
51013101403	Census Tract 1014.03, Arlington County, Virginia
51013101404	Census Tract 1014.04, Arlington County, Virginia
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51013101601	Census Tract 1016.01, Arlington County, Virginia
51013101602	Census Tract 1016.02, Arlington County, Virginia
51013101603	Census Tract 1016.03, Arlington County, Virginia
51013101701	Census Tract 1017.01, Arlington County, Virginia
51013101702	Census Tract 1017.02, Arlington County, Virginia
51013101703	Census Tract 1017.03, Arlington County, Virginia
51013101801	Census Tract 1018.01, Arlington County, Virginia
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51013102003	Census Tract 1020.03, Arlington County, Virginia
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51013102200	Census Tract 1022, Arlington County, Virginia
51013102301	Census Tract 1023.01, Arlington County, Virginia
51013102302	Census Tract 1023.02, Arlington County, Virginia

51013102400	Census Tract 1024, Arlington County, Virginia
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51013103300	Census Tract 1033, Arlington County, Virginia
51013103401	Census Tract 1034.01, Arlington County, Virginia
51013103402	Census Tract 1034.02, Arlington County, Virginia
51013103501	Census Tract 1035.01, Arlington County, Virginia
51013103502	Census Tract 1035.02, Arlington County, Virginia
51013103503	Census Tract 1035.03, Arlington County, Virginia
51013103601	Census Tract 1036.01, Arlington County, Virginia
51013103602	Census Tract 1036.02, Arlington County, Virginia
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Fairfax County	
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51059415402	Census Tract 4154.02, Fairfax County, Virginia
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51059415800	Census Tract 4158, Fairfax County, Virginia
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51059420503	Census Tract 4205.03, Fairfax County, Virginia
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Loudoun County	
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51107610202	Census Tract 6102.02, Loudoun County, Virginia
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51107610400	Census Tract 6104, Loudoun County, Virginia
51107610503	Census Tract 6105.03, Loudoun County, Virginia
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51107610505	Census Tract 6105.05, Loudoun County, Virginia
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51107610603	Census Tract 6106.03, Loudoun County, Virginia
51107610604	Census Tract 6106.04, Loudoun County, Virginia
51107610701	Census Tract 6107.01, Loudoun County, Virginia
51107610702	Census Tract 6107.02, Loudoun County, Virginia
51107610703	Census Tract 6107.03, Loudoun County, Virginia
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51107610900	Census Tract 6109, Loudoun County, Virginia
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51107611005	Census Tract 6110.05, Loudoun County, Virginia
51107611006	Census Tract 6110.06, Loudoun County, Virginia
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51107611011	Census Tract 6110.11, Loudoun County, Virginia
51107611012	Census Tract 6110.12, Loudoun County, Virginia
51107611013	Census Tract 6110.13, Loudoun County, Virginia
51107611014	Census Tract 6110.14, Loudoun County, Virginia
51107611015	Census Tract 6110.15, Loudoun County, Virginia
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51107611018	Census Tract 6110.18, Loudoun County, Virginia
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51107611205	Census Tract 6112.05, Loudoun County, Virginia
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51107611207	Census Tract 6112.07, Loudoun County, Virginia
51107611208	Census Tract 6112.08, Loudoun County, Virginia
51107611209	Census Tract 6112.09, Loudoun County, Virginia
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51107611805	Census Tract 6118.05, Loudoun County, Virginia
51107611806	Census Tract 6118.06, Loudoun County, Virginia
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51107980100	Census Tract 9801, Loudoun County, Virginia
Prince William County	
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51153900403	Census Tract 9004.03, Prince William County, Virginia
51153900404	Census Tract 9004.04, Prince William County, Virginia
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51153900409	Census Tract 9004.09, Prince William County, Virginia

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51153900802	Census Tract 9008.02, Prince William County, Virginia
51153900901	Census Tract 9009.01, Prince William County, Virginia
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51153900905	Census Tract 9009.05, Prince William County, Virginia
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51153901005	Census Tract 9010.05, Prince William County, Virginia
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51153901009	Census Tract 9010.09, Prince William County, Virginia
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51153901208	Census Tract 9012.08, Prince William County, Virginia
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51153901225	Census Tract 9012.25, Prince William County, Virginia
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51153901235	Census Tract 9012.35, Prince William County, Virginia

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51153901305	Census Tract 9013.05, Prince William County, Virginia
51153901306	Census Tract 9013.06, Prince William County, Virginia
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51153901407	Census Tract 9014.07, Prince William County, Virginia
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51153901506	Census Tract 9015.06, Prince William County, Virginia
51153901507	Census Tract 9015.07, Prince William County, Virginia
51153901508	Census Tract 9015.08, Prince William County, Virginia
51153901509	Census Tract 9015.09, Prince William County, Virginia
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51153901602	Census Tract 9016.02, Prince William County, Virginia
51153901701	Census Tract 9017.01, Prince William County, Virginia
51153901702	Census Tract 9017.02, Prince William County, Virginia
51153901900	Census Tract 9019, Prince William County, Virginia
51153980100	Census Tract 9801, Prince William County, Virginia
Alexandria City	
51510200102	Census Tract 2001.02, Alexandria city, Virginia
51510200103	Census Tract 2001.03, Alexandria city, Virginia
51510200104	Census Tract 2001.04, Alexandria city, Virginia
51510200105	Census Tract 2001.05, Alexandria city, Virginia
51510200106	Census Tract 2001.06, Alexandria city, Virginia
51510200107	Census Tract 2001.07, Alexandria city, Virginia

51510200201	Census Tract 2002.01, Alexandria city, Virginia
51510200202	Census Tract 2002.02, Alexandria city, Virginia
51510200301	Census Tract 2003.01, Alexandria city, Virginia
51510200302	Census Tract 2003.02, Alexandria city, Virginia
51510200303	Census Tract 2003.03, Alexandria city, Virginia
51510200403	Census Tract 2004.03, Alexandria city, Virginia
51510200404	Census Tract 2004.04, Alexandria city, Virginia
51510200405	Census Tract 2004.05, Alexandria city, Virginia
51510200406	Census Tract 2004.06, Alexandria city, Virginia
51510200407	Census Tract 2004.07, Alexandria city, Virginia
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51510200703	Census Tract 2007.03, Alexandria city, Virginia
51510200801	Census Tract 2008.01, Alexandria city, Virginia
51510200802	Census Tract 2008.02, Alexandria city, Virginia
51510200900	Census Tract 2009, Alexandria city, Virginia
51510201000	Census Tract 2010, Alexandria city, Virginia
51510201100	Census Tract 2011, Alexandria city, Virginia
51510201202	Census Tract 2012.02, Alexandria city, Virginia
51510201203	Census Tract 2012.03, Alexandria city, Virginia
51510201204	Census Tract 2012.04, Alexandria city, Virginia
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51510201400	Census Tract 2014, Alexandria city, Virginia
51510201500	Census Tract 2015, Alexandria city, Virginia
51510201600	Census Tract 2016, Alexandria city, Virginia
51510201801	Census Tract 2018.01, Alexandria city, Virginia
51510201802	Census Tract 2018.02, Alexandria city, Virginia
51510201900	Census Tract 2019, Alexandria city, Virginia
51510202001	Census Tract 2020.01, Alexandria city, Virginia
51510202002	Census Tract 2020.02, Alexandria city, Virginia
Fairfax city	
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51600300200	Census Tract 3002, Fairfax city, Virginia
51600300300	Census Tract 3003, Fairfax city, Virginia
51600300400	Census Tract 3004, Fairfax city, Virginia
51600300500	Census Tract 3005, Fairfax city, Virginia
Falls Church city	
51610500100	Census Tract 5001, Falls Church city, Virginia

51610500200	Census Tract 5002, Falls Church city, Virginia
51610500300	Census Tract 5003, Falls Church city, Virginia
Manassas city	
51683910100	Census Tract 9101, Manassas city, Virginia
51683910201	Census Tract 9102.01, Manassas city, Virginia
51683910202	Census Tract 9102.02, Manassas city, Virginia
51683910301	Census Tract 9103.01, Manassas city, Virginia
51683910302	Census Tract 9103.02, Manassas city, Virginia
51683910401	Census Tract 9104.01, Manassas city, Virginia
51683910402	Census Tract 9104.02, Manassas city, Virginia
Manassas Park city	
51685920100	Census Tract 9201, Manassas Park city, Virginia
51685920200	Census Tract 9202, Manassas Park city, Virginia

Ancillary Appendix 4

Count and Normalized Results for Northern Virginia Regions for each Demographic Variable

Table 23. Count and normalized results for Northern Virginia for each demographic variable.

(1) Population Density

a. Count Results

Population Density	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
Up to 4,000	220	283	\$578,798,280	17
4,001 to 8,000	183	282	\$369,831,680	16
8,001 to 16,000	82	132	\$104,996,384	11
16,001 to 32,000	24	37	\$41,254,469	2
32,001 +	16	34	\$990,000	0

b. Normalized Results

Population Density	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume Percent	Farmers Markets Percent
Up to 4,000	42.3%	37.9%	52.8%	37.0%
4,001 to 8,000	35.2%	37.8%	33.7%	34.8%
8,001 to 16,000	15.8%	17.7%	9.6%	23.9%
16,001 to 32,000	4.6%	5.0%	3.8%	4.3%
32,001 +	3.1%	4.6%	0.1%	0.0%

(2) Education

a. Count Results for Population with Less than a Bachelor's Degree

Less than Bachelor's Degree	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	139	183	\$194,286,673	17
21 to 40%	297	415	\$831,471,791	24
41 to 60%	83	149	\$70,112,349	5
61 to 80%	0	0	\$0	0
81 to 100%	1	0	\$0	0

b. Normalized Results for Population with Less than a Bachelor's Degree

Less than Bachelor's Degree	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume Percent	Farmers Markets Percent
0 to 20%	26.7%	24.5%	17.7%	37.0%
21 to 40%	57.1%	55.6%	75.9%	52.2%
41 to 60%	16.0%	19.9%	6.4%	10.9%
61 to 80%	0.0%	0.0%	0.0%	0.0%
81 to 100%	0.2%	0.0%	0.0%	0.0%

(3) Ethnicity

a. Count Results for Population Identifying as Black

Black Population	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	439	639	\$996,037,332	42
21 to 40%	73	94	\$96,242,067	4
41 to 60%	8	14	\$3,591,414	0
61 to 80%	0	0	\$0	0
81 to 100%	0	0	\$0	0

b. Normalized Results for Population Identifying as Black

Black Population	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume	Farmers Markets Percent
0 to 20%	84.4%	85.5%	90.9%	91.3%
21 to 40%	14.0%	12.6%	8.8%	8.7%
41 to 60%	1.5%	1.9%	0.3%	0.0%
61 to 80%	0.0%	0.0%	0.0%	0.0%
81 to 100%	0.0%	0.0%	0.0%	0.0%

c. Count Results for Population Identifying as Hispanic

Hispanic Population	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	365	455	\$827,637,915	33
21 to 40%	118	217	\$238,824,914	11
41 to 60%	35	63	\$29,227,984	1
61 to 80%	1	7	\$180,000	1
81 to 100%	1	5	\$0	0

d. Normalized Results for Population Identifying as Hispanic

Hispanic Population	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume	Farmers Markets Percent
0 to 20%	70.2%	60.9%	75.5%	71.7%

21 to 40%	22.7%	29.0%	21.8%	23.9%
41 to 60%	6.7%	8.4%	2.7%	2.2%
61 to 80%	0.2%	0.9%	0.0%	2.2%
81 to 100%	0.2%	0.7%	0.0%	0.0%

e. Count Results for Population Identifying as Asian

Asian Population	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	394	531	\$712,595,972	34
21 to 40%	118	204	\$373,038,592	12
41 to 60%	8	12	\$10,236,249	0
61 to 80%	0	0	\$0	0
81 to 100%	0	0	\$0	0

f. Normalized Results for Population Identifying as Asian

Asian Population	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume	Farmers Markets Percent
0 to 20%	75.8%	71.1%	65.0%	73.9%
21 to 40%	22.7%	27.3%	34.0%	26.1%
41 to 60%	1.5%	1.6%	0.9%	0.0%
61 to 80%	0.0%	0.0%	0.0%	0.0%
81 to 100%	0.0%	0.0%	0.0%	0.0%

(4) Households Without Vehicles

a. Count Results for Households that Do Not Own or Lease at Least One Vehicle

No Vehicle	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	415	558	\$933,559,127	32
21 to 40%	89	172	\$161,061,686	11
41 to 60%	11	16	\$1,070,000	3
61 to 80%	0	0	\$0	0
81 to 100%	5	1	\$180,000	0

b. Normalized Results for Households that Do Not Own or Lease at Least One Vehicle

No Vehicle	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume	Farmers Markets Percent
0 to 20%	80%	75%	85%	70%
21 to 40%	17%	23%	15%	24%
41 to 60%	2%	2%	0%	7%
61 to 80%	0%	0%	0%	0%
81 to 100%	1%	0%	0%	0%

Table 24. Count and normalized results for Alexandria for each demographic variable.

Total Population Size = 145,867

(1) Ethnicity

a. Count Results for Population Identifying as Black

Black Population	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	21	38	\$35,317,989	5
21 to 40%	15	24	\$7,769,926	0
41 to 60%	2	2	\$180,000	0
61 to 80%	0	0	\$0	0
81 to 100%	0	0	\$0	0

b. Normalized Results for Population Identifying as Black

Black Population	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume	Farmers Markets Percent
0 to 20%	55%	59%	82%	100%
21 to 40%	39%	38%	18%	0%
41 to 60%	5%	3%	0%	0%
61 to 80%	0%	0%	0%	0%
81 to 100%	0%	0%	0%	0%

c. Count Results for Population Identifying as Hispanic

Hispanic Population	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	28	39	\$36,017,989	4
21 to 40%	8	18	\$7,069,926	0
41 to 60%	1	0	\$0	0
61 to 80%	1	7	\$180,000	1
81 to 100%	0	0	\$0	0

d. Normalized Results for Population Identifying as Hispanic

Hispanic Population	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume	Farmers Markets Percent
0 to 20%	74%	61%	83%	80%
21 to 40%	21%	28%	16%	0%
41 to 60%	3%	0%	0%	0%
61 to 80%	3%	11%	0%	20%
81 to 100%	0%	0%	0%	0%

e. Count Results for Population Identifying as Asian

Asian Population	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	38	64	\$43,267,915	5
21 to 40%	0	0	\$0	0
41 to 60%	0	0	\$0	0
61 to 80%	0	0	\$0	0
81 to 100%	0	0	\$0	0

f. Normalized Results for Population Identifying as Asian

Asian Population	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume	Farmers Markets Percent
0 to 20%	100%	100%	100%	100%
21 to 40%	0%	0%	0%	0%
41 to 60%	0%	0%	0%	0%
61 to 80%	0%	0%	0%	0%
81 to 100%	0%	0%	0%	0%

(2) Elderly Population

a. Count Results for Population Over 65 Years of Age

Age Over 65	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	31	57	\$42,557,915	5
21 to 40%	7	7	\$710,000	0
41 to 60%	0	0	\$0	0
61 to 80%	0	0	\$0	0
81 to 100%	0	0	\$0	0

b. Normalized Results for Population Over 65 Years of Age

Age Over 65	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume	Farmers Markets Percent
0 to 20%	82%	89%	98%	100%
21 to 40%	18%	11%	2%	0%
41 to 60%	0%	0%	0%	0%
61 to 80%	0%	0%	0%	0%
81 to 100%	0%	0%	0%	0%

Table 25. Count and normalized results for Arlington for each demographic variable.

Total Population Size = 221,812

(1) Population Density

a. Count Results

Population Density	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
Up to 4,000	5	2	\$0	0
4,001 to 8,000	14	19	\$2,020,000	2
8,001 to 16,000	21	37	\$3,420,000	4
16,001 to 32,000	12	12	\$20,704,565	1
32,001 +	7	6	\$500,000	0

b. Normalized Results

Population Density	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume Percent	Farmers Markets Percent
Up to 4,000	8%	3%	0%	0%
4,001 to 8,000	24%	25%	8%	29%
8,001 to 16,000	36%	49%	13%	57%
16,001 to 32,000	20%	16%	78%	14%
32,001 +	12%	8%	2%	0%

(2) Education

a. Count Results for Population with Less than a Bachelor's Degree

Less than Bachelor's Degree	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	35	48	\$23,454,565	4
21 to 40%	19	25	\$2,610,000	3
41 to 60%	4	3	\$580,000	0
61 to 80%	0	0	\$0	0
81 to 100%	1	0	\$0	0

b. Normalized Results for Population with Less than a Bachelor's Degree

Less than Bachelor's Degree	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume Percent	Farmers Markets Percent
0 to 20%	59%	63%	88%	57%
21 to 40%	32%	33%	10%	43%
41 to 60%	7%	4%	2%	0%

61 to 80%	0%	0%	0%	0%
81 to 100%	2%	0%	0%	0%

c. Count Results for Population with a Bachelor's Degree or Higher

Bachelor's Degree or Higher	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	2	2	\$0	0
21 to 40%	9	9	\$1,200,000	2
41 to 60%	22	28	\$3,170,000	2
61 to 80%	24	37	\$22,274,565	3
81 to 100%	2	0	\$0	0

d. Normalized Results for Population with a Bachelor's Degree or Higher

Bachelor's Degree or Higher	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume	Farmers Markets Percent
0 to 20%	3%	3%	0%	0%
21 to 40%	15%	12%	5%	29%
41 to 60%	37%	37%	12%	29%
61 to 80%	41%	49%	84%	43%
81 to 100%	3%	0%	0%	0%

(3) Median Income

a. Count Results

Median Income	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
Up to \$60,000	7	5	\$580,000	0
60,001 to \$100,000	22	29	\$3,460,000	3
100,001 to \$140,000	19	27	\$21,214,565	3
140,001 to \$180,000	8	12	\$1,200,000	1
\$180,001 +	3	3	\$190,000	0

b. Normalized Results

Median Income	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume Percent	Farmers Markets Percent
Up to \$60,000	12%	7%	2%	0%
60,001 to \$100,000	37%	38%	13%	43%
100,001 to \$140,000	32%	36%	80%	43%
140,001 to \$180,000	14%	16%	5%	14%

\$180,001 +	5%	4%	1%	0%
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(4) Ethnicity

a. Count Results for Population Identifying as Black

Black Population	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	55	73	\$25,994,565	7
21 to 40%	4	3	\$650,000	0
41 to 60%	0	0	\$0	0
61 to 80%	0	0	\$0	0
81 to 100%	0	0	\$0	0

b. Normalized Results for Population Identifying as Black

Black Population	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume	Farmers Markets Percent
0 to 20%	93%	96%	98%	100%
21 to 40%	7%	4%	2%	0%
41 to 60%	0%	0%	0%	0%
61 to 80%	0%	0%	0%	0%
81 to 100%	0%	0%	0%	0%

c. Count Results for Population Identifying as Hispanic

Hispanic Population	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	44	59	\$24,564,565	4
21 to 40%	11	15	\$1,660,000	3
41 to 60%	4	2	\$420,000	0
61 to 80%	0	0	\$0	0
81 to 100%	0	0	\$0	0

d. Normalized Results for Population Identifying as Hispanic

Hispanic Population	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume	Farmers Markets Percent
0 to 20%	75%	78%	92%	57%
21 to 40%	19%	20%	6%	43%
41 to 60%	7%	3%	2%	0%
61 to 80%	0%	0%	0%	0%
81 to 100%	0%	0%	0%	0%

e. Count Results for Population Identifying as Asian

Asian Population	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	57	75	\$26,434,565	7
21 to 40%	2	1	\$210,000	0
41 to 60%	0	0	\$0	0
61 to 80%	0	0	\$0	0
81 to 100%	0	0	\$0	0

f. Normalized Results for Population Identifying as Asian

Asian Population	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume	Farmers Markets Percent
0 to 20%	97%	99%	99%	100%
21 to 40%	3%	1%	1%	0%
41 to 60%	0%	0%	0%	0%
61 to 80%	0%	0%	0%	0%
81 to 100%	0%	0%	0%	0%

g. Count Results for Population Identifying as White

White Population	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	0	0	\$0	0
21 to 40%	3	3	\$650,000	0
41 to 60%	11	11	\$1,450,000	2
61 to 80%	25	38	\$22,374,565	3
81 to 100%	20	24	\$2,170,000	2

h. Normalized Results for Population Identifying as White

White Population	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume	Farmers Markets Percent
0 to 20%	0%	0%	0%	0%
21 to 40%	5%	4%	2%	0%
41 to 60%	19%	14%	5%	29%
61 to 80%	42%	50%	84%	43%
81 to 100%	34%	32%	8%	29%

(5) Elderly Population

a. Count Results for Population Over 65 Years of Age

Age Over 65	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	56	76	\$26,644,565	7
21 to 40%	3	0	\$0	0

41 to 60%	0	0	\$0	0
61 to 80%	0	0	\$0	0
81 to 100%	0	0	\$0	0

b. Normalized Results for Population Over 65 Years of Age

Age Over 65	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume	Farmers Markets Percent
0 to 20%	95%	100%	100%	100%
21 to 40%	5%	0%	0%	0%
41 to 60%	0%	0%	0%	0%
61 to 80%	0%	0%	0%	0%
81 to 100%	0%	0%	0%	0%

(6) Households Without Vehicles

a. Count Results for Households that Do Not Own or Lease at Least One Vehicle

No Vehicle	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	14	12	\$1,290,000	1
21 to 40%	39	63	\$25,254,565	6
41 to 60%	4	1	\$100,000	0
61 to 80%	0	0	\$0	0
81 to 100%	2	0	\$0	0

b. Normalized Results for Households that Do Not Own or Lease at Least One Vehicle

No Vehicle	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume	Farmers Markets Percent
0 to 20%	24%	16%	5%	14%
21 to 40%	66%	83%	95%	86%
41 to 60%	7%	1%	0%	0%
61 to 80%	0%	0%	0%	0%
81 to 100%	3%	0%	0%	0%

Table 26. Count and normalized results for Fairfax City for each demographic variable.

Total Population Size = 23,965

Note: there are no farmers markets in Fairfax City.

(1) Population Density

a. Count Results

Population Density	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume
Up to 4,000	2	10	\$33,537,989
4,001 to 8,000	3	11	\$1,110,000
8,001 to 16,000	0	0	\$0
16,001 to 32,000	0	0	\$0
32,001 +	0	0	\$0

b. Normalized Results

Population Density	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume Percent
Up to 4,000	40%	48%	97%
4,001 to 8,000	60%	52%	3%
8,001 to 16,000	0%	0%	0%
16,001 to 32,000	0%	0%	0%
32,001 +	0%	0%	0%

(2) Education

a. Count Results for Population with Less than a Bachelor's Degree

Less than Bachelor's Degree	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume
0 to 20%	0	0	\$0
21 to 40%	4	15	\$33,857,989
41 to 60%	1	6	\$790,000
61 to 80%	0	0	\$0
81 to 100%	0	0	\$0

b. Normalized Results for Population with Less than a Bachelor's Degree

Less than Bachelor's Degree	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume Percent
0 to 20%	0%	0%	0%
21 to 40%	80%	71%	98%
41 to 60%	20%	29%	2%

61 to 80%	0%	0%	0%
81 to 100%	0%	0%	0%

c. Count Results for Population with a Bachelor's Degree or Higher

Bachelor's Degree or Higher	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume
0 to 20%	0	0	\$0
21 to 40%	3	13	\$34,477,989
41 to 60%	2	8	\$170,000
61 to 80%	0	0	\$0
81 to 100%	0	0	\$0

d. Normalized Results for Population with a Bachelor's Degree or Higher

Bachelor's Degree or Higher	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume
0 to 20%	0%	0%	0%
21 to 40%	60%	62%	100%
41 to 60%	40%	38%	0%
61 to 80%	0%	0%	0%
81 to 100%	0%	0%	0%

(3) Median Income

a. Count Results

Median Income	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume
Up to \$60,000	0	0	\$0
60,001 to \$100,000	2	9	\$940,000
100,001 to \$140,000	3	12	\$33,707,989
140,001 to \$180,000	0	0	\$0
\$180,001 +	0	0	\$0

b. Normalized Results

Median Income	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume Percent
Up to \$60,000	0%	0%	0%
60,001 to \$100,000	40%	43%	3%
100,001 to \$140,000	60%	57%	97%
140,001 to \$180,000	0%	0%	0%
\$180,001 +	0%	0%	0%

(4) Ethnicity

a. Count Results for Population Identifying as Black

Black Population	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume
0 to 20%	5	21	\$34,647,989
21 to 40%	0	0	\$0
41 to 60%	0	0	\$0
61 to 80%	0	0	\$0
81 to 100%	0	0	\$0

b. Normalized Results for Population Identifying as Black

Black Population	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume
0 to 20%	100%	100%	100%
21 to 40%	0%	0%	0%
41 to 60%	0%	0%	0%
61 to 80%	0%	0%	0%
81 to 100%	0%	0%	0%

c. Count Results for Population Identifying as Hispanic

Hispanic Population	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume
0 to 20%	4	15	\$33,857,989
21 to 40%	1	6	\$790,000
41 to 60%	0	0	\$0
61 to 80%	0	0	\$0
81 to 100%	0	0	\$0

d. Normalized Results for Population Identifying as Hispanic

Hispanic Population	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume
0 to 20%	80%	71%	98%
21 to 40%	20%	29%	2%
41 to 60%	0%	0%	0%
61 to 80%	0%	0%	0%
81 to 100%	0%	0%	0%

e. Count Results for Population Identifying as Asian

Asian Population	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume
0 to 20%	4	15	\$34,647,989
21 to 40%	1	6	\$0

41 to 60%	0	0	\$0
61 to 80%	0	0	\$0
81 to 100%	0	0	\$0

f. Normalized Results for Population Identifying as Asian

Asian Population	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume
0 to 20%	80%	71%	100%
21 to 40%	20%	29%	0%
41 to 60%	0%	0%	0%
61 to 80%	0%	0%	0%
81 to 100%	0%	0%	0%

g. Count Results for Population Identifying as White

White Population	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume
0 to 20%	0	0	\$0
21 to 40%	0	0	\$0
41 to 60%	0	0	\$0
61 to 80%	5	21	\$34,647,989
81 to 100%	0	0	\$0

h. Normalized Results for Population Identifying as White

White Population	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume
0 to 20%	0%	0%	0%
21 to 40%	0%	0%	0%
41 to 60%	0%	0%	0%
61 to 80%	100%	100%	100%
81 to 100%	0%	0%	0%

(5) Elderly Population

a. Count Results for Population Over 65 Years of Age

Age Over 65	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume
0 to 20%	4	19	\$34,477,989
21 to 40%	1	2	\$170,000
41 to 60%	0	0	\$0
61 to 80%	0	0	\$0
81 to 100%	0	0	\$0

b. Normalized Results for Population Over 65 Years of Age

Age Over 65	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume
0 to 20%	80%	90%	100%
21 to 40%	20%	10%	0%
41 to 60%	0%	0%	0%
61 to 80%	0%	0%	0%
81 to 100%	0%	0%	0%

(6) Households Without Vehicles

a. Count Results for Households that Do Not Own or Lease at Least One Vehicle

No Vehicle	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume
0 to 20%	5	21	\$34,647,989
21 to 40%	0	0	\$0
41 to 60%	0	0	\$0
61 to 80%	0	0	\$0
81 to 100%	0	0	\$0

b. Normalized Results for Households that Do Not Own or Lease at Least One Vehicle

No Vehicle	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume
0 to 20%	100%	100%	100%
21 to 40%	0%	0%	0%
41 to 60%	0%	0%	0%
61 to 80%	0%	0%	0%
81 to 100%	0%	0%	0%

Table 27. Count and normalized results for Fairfax County for each demographic variable.

Total Population Size = 1,115,882

(1) Population Density

a. Count Results

Population Density	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
Up to 4,000	110	155	\$130,919,335	8
4,001 to 8,000	101	138	\$293,517,150	7
8,001 to 16,000	40	61	\$91,897,054	6
16,001 to 32,000	5	10	\$19,609,904	0
32,001 +	2	7	\$490,000	0

b. Normalized Results

Population Density	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume Percent	Farmers Markets Percent
Up to 4,000	43%	42%	24%	38%
4,001 to 8,000	39%	37%	55%	33%
8,001 to 16,000	16%	16%	17%	29%
16,001 to 32,000	2%	3%	4%	0%
32,001 +	1%	2%	0%	0%

(2) Education

a. Count Results for Population with Less than a Bachelor's Degree

Less than Bachelor's Degree	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	70	92	\$132,264,119	8
21 to 40%	164	230	\$366,235,239	12
41 to 60%	24	49	\$37,934,085	1
61 to 80%	0	0	\$0	0
81 to 100%	0	0	\$0	0

b. Normalized Results for Population with Less than a Bachelor's Degree

Less than Bachelor's Degree	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume Percent	Farmers Markets Percent
0 to 20%	27%	25%	25%	38%
21 to 40%	64%	62%	68%	57%
41 to 60%	9%	13%	7%	5%

61 to 80%	0%	0%	0%	0%
81 to 100%	0%	0%	0%	0%

c. Count Results for Population with a Bachelor's Degree or Higher

Bachelor's Degree or Higher	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	12	20	\$1,729,181	2
21 to 40%	89	152	\$166,984,914	5
41 to 60%	150	187	\$353,849,935	13
61 to 80%	7	12	\$13,869,413	1
81 to 100%	0	0	\$0	0

d. Normalized Results for Population with a Bachelor's Degree or Higher

Bachelor's Degree or Higher	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume	Farmers Markets Percent
0 to 20%	5%	5%	0%	10%
21 to 40%	34%	41%	31%	24%
41 to 60%	58%	50%	66%	62%
61 to 80%	3%	3%	3%	5%
81 to 100%	0%	0%	0%	0%

(3) Median Income

a. Count Results

Median Income	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
Up to \$60,000	16	28	\$21,609,085	1
60,001 to \$100,000	74	133	\$340,285,972	8
100,001 to \$140,000	90	109	\$68,388,634	8
140,001 to \$180,000	46	58	\$53,940,026	1
\$180,001 +	32	43	\$52,209,726	3

b. Normalized Results

Median Income	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume Percent	Farmers Markets Percent
Up to \$60,000	6%	8%	4%	5%
60,001 to \$100,000	29%	36%	63%	38%
100,001 to \$140,000	35%	29%	13%	38%
140,001 to \$180,000	18%	16%	10%	5%

\$180,001 +	12%	12%	10%	14%
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(4) Ethnicity

a. Count Results for Population Identifying as Black

Black Population	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	232	330	\$531,504,262	18
21 to 40%	26	41	\$4,929,181	3
41 to 60%	0	0	\$0	0
61 to 80%	0	0	\$0	0
81 to 100%	0	0	\$0	0

b. Normalized Results for Population Identifying as Black

Black Population	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume	Farmers Markets Percent
0 to 20%	90%	89%	99%	86%
21 to 40%	10%	11%	1%	14%
41 to 60%	0%	0%	0%	0%
61 to 80%	0%	0%	0%	0%
81 to 100%	0%	0%	0%	0%

c. Count Results for Population Identifying as Hispanic

Hispanic Population	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	186	243	\$384,036,824	16
21 to 40%	57	96	\$130,517,534	4
41 to 60%	14	27	\$21,879,085	1
61 to 80%	0	0	\$0	0
81 to 100%	1	5	\$0	0

d. Normalized Results for Population Identifying as Hispanic

Hispanic Population	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume	Farmers Markets Percent
0 to 20%	72%	65%	72%	76%
21 to 40%	22%	26%	24%	19%
41 to 60%	5%	7%	4%	5%
61 to 80%	0%	0%	0%	0%
81 to 100%	0%	1%	0%	0%

e. Count Results for Population Identifying as Asian

Asian Population	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	154	190	\$179,654,738	12
21 to 40%	98	172	\$346,732,456	9
41 to 60%	6	9	\$10,046,249	0
61 to 80%	0	0	\$0	0
81 to 100%	0	0	\$0	0

f. Normalized Results for Population Identifying as Asian

Asian Population	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume	Farmers Markets Percent
0 to 20%	60%	51%	33%	57%
21 to 40%	38%	46%	65%	43%
41 to 60%	2%	2%	2%	0%
61 to 80%	0%	0%	0%	0%
81 to 100%	0%	0%	0%	0%

g. Count Results for Population Identifying as White

White Population	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	1	0	\$0	0
21 to 40%	25	40	\$13,475,430	3
41 to 60%	98	174	\$400,705,869	7
61 to 80%	104	125	\$27,733,695	9
81 to 100%	30	32	\$94,518,449	2

h. Normalized Results for Population Identifying as White

White Population	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume	Farmers Markets Percent
0 to 20%	0%	0%	0%	0%
21 to 40%	10%	11%	3%	14%
41 to 60%	38%	47%	75%	33%
61 to 80%	40%	34%	5%	43%
81 to 100%	12%	9%	18%	10%

(5) Elderly Population

a. Count Results for Population Over 65 Years of Age

Age Over 65	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	227	326	\$497,059,763	17
21 to 40%	30	45	\$39,373,680	4

41 to 60%	1	0	\$0	0
61 to 80%	0	0	\$0	0
81 to 100%	0	0	\$0	0

b. Normalized Results for Population Over 65 Years of Age

Age Over 65	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume	Farmers Markets Percent
0 to 20%	88%	88%	93%	81%
21 to 40%	12%	12%	7%	19%
41 to 60%	0%	0%	0%	0%
61 to 80%	0%	0%	0%	0%
81 to 100%	0%	0%	0%	0%

(6) Households Without Vehicles

a. Count Results for Households that Do Not Own or Lease at Least One Vehicle

No Vehicle	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	232	316	\$444,653,641	18
21 to 40%	24	55	\$91,779,802	3
41 to 60%	0	0	\$0	0
61 to 80%	0	0	\$0	0
81 to 100%	2	0	\$0	0

b. Normalized Results for Households that Do Not Own or Lease at Least One Vehicle

No Vehicle	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume	Farmers Markets Percent
0 to 20%	90%	85%	83%	86%
21 to 40%	9%	15%	17%	14%
41 to 60%	0%	0%	0%	0%
61 to 80%	0%	0%	0%	0%
81 to 100%	1%	0%	0%	0%

Table 28. Count and normalized results for Falls Church for each demographic variable.

Total Population Size = 12,967

(1) Population Density

a. Count Results

Population Density	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
Up to 4,000	0	0	\$0	0
4,001 to 8,000	3	7	\$2,600,000	1
8,001 to 16,000	0	0	\$0	0
16,001 to 32,000	0	0	\$0	0
32,001 +	0	0	\$0	0

b. Normalized Results

Population Density	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume Percent	Farmers Markets Percent
Up to 4,000	0%	0%	0%	0%
4,001 to 8,000	100%	100%	100%	100%
8,001 to 16,000	0%	0%	0%	0%
16,001 to 32,000	0%	0%	0%	0%
32,001 +	0%	0%	0%	0%

(2) Education

a. Count Results for Population with Less than a Bachelor's Degree

Less than Bachelor's Degree	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	2	6	\$2,280,000	0
21 to 40%	1	1	\$320,000	1
41 to 60%	0	0	\$0	0
61 to 80%	0	0	\$0	0
81 to 100%	0	0	\$0	0

b. Normalized Results for Population with Less than a Bachelor's Degree

Less than Bachelor's Degree	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume Percent	Farmers Markets Percent
0 to 20%	67%	86%	88%	0%
21 to 40%	33%	14%	12%	100%
41 to 60%	0%	0%	0%	0%

61 to 80%	0%	0%	0%	0%
81 to 100%	0%	0%	0%	0%

c. Count Results for Population with a Bachelor's Degree or Higher

Bachelor's Degree or Higher	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	0	0	\$0	0
21 to 40%	0	0	\$0	0
41 to 60%	2	4	\$500,000	1
61 to 80%	1	3	\$2,100,000	0
81 to 100%	0	0	\$0	0

d. Normalized Results for Population with a Bachelor's Degree or Higher

Bachelor's Degree or Higher	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume	Farmers Markets Percent
0 to 20%	0%	0%	0%	0%
21 to 40%	0%	0%	0%	0%
41 to 60%	67%	57%	19%	100%
61 to 80%	33%	43%	81%	0%
81 to 100%	0%	0%	0%	0%

(3) Median Income

a. Count Results

Median Income	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
Up to \$60,000	0	0	\$0	0
60,001 to \$100,000	0	0	\$0	0
100,001 to \$140,000	3	7	\$2,600,000	1
140,001 to \$180,000	0	0	\$0	0
\$180,001 +	0	0	\$0	0

b. Normalized Results

Median Income	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume Percent	Farmers Markets Percent
Up to \$60,000	0%	0%	0%	0%
60,001 to \$100,000	0%	0%	0%	0%
100,001 to \$140,000	100%	100%	100%	100%
140,001 to \$180,000	0%	0%	0%	0%

\$180,001 +	0%	0%	0%	0%
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(4) Ethnicity

a. Count Results for Population Identifying as Black

Black Population	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	3	7	\$2,600,000	1
21 to 40%	0	0	\$0	0
41 to 60%	0	0	\$0	0
61 to 80%	0	0	\$0	0
81 to 100%	0	0	\$0	0

b. Normalized Results for Population Identifying as Black

Black Population	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume	Farmers Markets Percent
0 to 20%	100%	100%	100%	100%
21 to 40%	0%	0%	0%	0%
41 to 60%	0%	0%	0%	0%
61 to 80%	0%	0%	0%	0%
81 to 100%	0%	0%	0%	0%

c. Count Results for Population Identifying as Hispanic

Hispanic Population	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	3	7	\$2,600,000	1
21 to 40%	0	0	\$0	0
41 to 60%	0	0	\$0	0
61 to 80%	0	0	\$0	0
81 to 100%	0	0	\$0	0

d. Normalized Results for Population Identifying as Hispanic

Hispanic Population	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume	Farmers Markets Percent
0 to 20%	100%	100%	100%	100%
21 to 40%	0%	0%	0%	0%
41 to 60%	0%	0%	0%	0%
61 to 80%	0%	0%	0%	0%
81 to 100%	0%	0%	0%	0%

e. Count Results for Population Identifying as Asian

Asian Population	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	3	7	\$2,600,000	1
21 to 40%	0	0	\$0	0
41 to 60%	0	0	\$0	0
61 to 80%	0	0	\$0	0
81 to 100%	0	0	\$0	0

f. Normalized Results for Population Identifying as Asian

Asian Population	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume	Farmers Markets Percent
0 to 20%	100%	100%	100%	100%
21 to 40%	0%	0%	0%	0%
41 to 60%	0%	0%	0%	0%
61 to 80%	0%	0%	0%	0%
81 to 100%	0%	0%	0%	0%

g. Count Results for Population Identifying as White

White Population	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	0	0	\$0	0
21 to 40%	0	0	\$0	0
41 to 60%	0	0	\$0	0
61 to 80%	2	6	\$2,280,000	0
81 to 100%	1	1	\$320,000	1

h. Normalized Results for Population Identifying as White

White Population	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume	Farmers Markets Percent
0 to 20%	0%	0%	0%	0%
21 to 40%	0%	0%	0%	0%
41 to 60%	0%	0%	0%	0%
61 to 80%	67%	86%	88%	0%
81 to 100%	33%	14%	12%	100%

(5) Elderly Population

a. Count Results for Population Over 65 Years of Age

Age Over 65	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	3	7	\$2,600,000	1
21 to 40%	0	0	\$0	0

41 to 60%	0	0	\$0	0
61 to 80%	0	0	\$0	0
81 to 100%	0	0	\$0	0

b. Normalized Results for Population Over 65 Years of Age

Age Over 65	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume	Farmers Markets Percent
0 to 20%	100%	100%	100%	100%
21 to 40%	0%	0%	0%	0%
41 to 60%	0%	0%	0%	0%
61 to 80%	0%	0%	0%	0%
81 to 100%	0%	0%	0%	0%

(6) Households Without Vehicles

a. Count Results for Households that Do Not Own or Lease at Least One Vehicle

No Vehicle	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	2	4	\$500,000	1
21 to 40%	1	3	\$2,100,000	0
41 to 60%	0	0	\$0	0
61 to 80%	0	0	\$0	0
81 to 100%	0	0	\$0	0

b. Normalized Results for Households that Do Not Own or Lease at Least One Vehicle

No Vehicle	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume	Farmers Markets Percent
0 to 20%	67%	57%	19%	100%
21 to 40%	33%	43%	81%	0%
41 to 60%	0%	0%	0%	0%
61 to 80%	0%	0%	0%	0%
81 to 100%	0%	0%	0%	0%

Table 29. Count and normalized results for Loudoun for each demographic variable.

Total Population Size = 364,716

(1) Population Density

a. Count Results

Population Density	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
Up to 4,000	45	53	\$328,212,266	5
4,001 to 8,000	19	21	\$24,648,461	2
8,001 to 16,000	1	6	\$210,000	0
16,001 to 32,000	0	0	\$0	0
32,001 +	0	0	\$0	0

b. Normalized Results

Population Density	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume Percent	Farmers Markets Percent
Up to 4,000	69%	66%	93%	71%
4,001 to 8,000	29%	26%	6%	29%
8,001 to 16,000	2%	8%	0%	0%
16,001 to 32,000	0%	0%	0%	0%
32,001 +	0%	0%	0%	0%

(2) Education

a. Count Results for Population with Less than a Bachelor's Degree

Less than Bachelor's Degree	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	16	14	\$1,830,000	2
21 to 40%	43	56	\$350,650,727	4
41 to 60%	6	10	\$590,000	1
61 to 80%	0	0	\$0	0
81 to 100%	0	0	\$0	0

b. Normalized Results for Population with Less than a Bachelor's Degree

Less than Bachelor's Degree	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume Percent	Farmers Markets Percent
0 to 20%	25%	18%	1%	29%
21 to 40%	66%	70%	99%	57%
41 to 60%	9%	13%	0%	14%

61 to 80%	0%	0%	0%	0%
81 to 100%	0%	0%	0%	0%

(3) Ethnicity

a. Count Results for Population Identifying as Black

Black Population	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	65	80	\$353,070,727	7
21 to 40%	0	0	\$0	0
41 to 60%	0	0	\$0	0
61 to 80%	0	0	\$0	0
81 to 100%	0	0	\$0	0

b. Normalized Results for Population Identifying as Black

Black Population	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume	Farmers Markets Percent
0 to 20%	100%	100%	100%	100%
21 to 40%	0%	0%	0%	0%
41 to 60%	0%	0%	0%	0%
61 to 80%	0%	0%	0%	0%
81 to 100%	0%	0%	0%	0%

c. Count Results for Population Identifying as Hispanic

Hispanic Population	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	51	53	\$278,269,638	6
21 to 40%	11	21	\$74,591,089	1
41 to 60%	3	6	\$210,000	0
61 to 80%	0	0	\$0	0
81 to 100%	0	0	\$0	0

d. Normalized Results for Population Identifying as Hispanic

Hispanic Population	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume	Farmers Markets Percent
0 to 20%	78%	66%	79%	86%
21 to 40%	17%	26%	21%	14%
41 to 60%	5%	8%	0%	0%
61 to 80%	0%	0%	0%	0%
81 to 100%	0%	0%	0%	0%

e. Count Results for Population Identifying as Asian

Asian Population	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	46	52	\$326,784,591	4
21 to 40%	17	25	\$26,096,136	3
41 to 60%	2	3	\$190,000	0
61 to 80%	0	0	\$0	0
81 to 100%	0	0	\$0	0

f. Normalized Results for Population Identifying as Asian

Asian Population	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume	Farmers Markets Percent
0 to 20%	71%	65%	93%	57%
21 to 40%	26%	31%	7%	43%
41 to 60%	3%	4%	0%	0%
61 to 80%	0%	0%	0%	0%
81 to 100%	0%	0%	0%	0%

(4) Elderly Population

a. Count Results for Population Over 65 Years of Age

Age Over 65	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	60	77	\$335,143,505	6
21 to 40%	4	3	\$17,927,222	1
41 to 60%	0	0	\$0	0
61 to 80%	1	0	\$0	0
81 to 100%	0	0	\$0	0

b. Normalized Results for Population Over 65 Years of Age

Age Over 65	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume	Farmers Markets Percent
0 to 20%	92%	96%	95%	86%
21 to 40%	6%	4%	5%	14%
41 to 60%	0%	0%	0%	0%
61 to 80%	2%	0%	0%	0%
81 to 100%	0%	0%	0%	0%

(5) Households Without Vehicles

a. Count Results for Households that Do Not Own or Lease at Least One Vehicle

No Vehicle	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
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0 to 20%	62	73	\$352,680,727	7
21 to 40%	2	6	\$210,000	0
41 to 60%	0	0	\$0	0
61 to 80%	0	0	\$0	0
81 to 100%	1	1	\$180,000	0

b. Normalized Results for Households that Do Not Own or Lease at Least One Vehicle

No Vehicle	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume	Farmers Markets Percent
0 to 20%	95%	91%	99%	100%
21 to 40%	3%	8%	0%	0%
41 to 60%	0%	0%	0%	0%
61 to 80%	0%	0%	0%	0%
81 to 100%	2%	1%	0%	0%

Table 30. Count and normalized results for Manassas City for each demographic variable.

Total Population Size = 41,614

(1) Population Density

a. Count Results

Population Density	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
Up to 4,000	2	4	\$550,000	0
4,001 to 8,000	3	16	\$490,000	1
8,001 to 16,000	2	4	\$1,800,000	0
16,001 to 32,000	0	0	\$0	0
32,001 +	0	0	\$0	0

b. Normalized Results

Population Density	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume Percent	Farmers Markets Percent
Up to 4,000	29%	17%	19%	0%
4,001 to 8,000	43%	67%	17%	100%
8,001 to 16,000	29%	17%	63%	0%
16,001 to 32,000	0%	0%	0%	0%
32,001 +	0%	0%	0%	0%

(2) Education

a. Count Results for Population with Less than a Bachelor's Degree

Less than Bachelor's Degree	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	0	0	\$0	0
21 to 40%	1	3	\$220,000	0
41 to 60%	6	21	\$2,620,000	1
61 to 80%	0	0	\$0	0
81 to 100%	0	0	\$0	0

b. Normalized Results for Population with Less than a Bachelor's Degree

Less than Bachelor's Degree	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume Percent	Farmers Markets Percent
0 to 20%	0%	0%	0%	0%
21 to 40%	14%	13%	8%	0%
41 to 60%	86%	88%	92%	100%

61 to 80%	0%	0%	0%	0%
81 to 100%	0%	0%	0%	0%

c. Count Results for Population with a Bachelor's Degree or Higher

Bachelor's Degree or Higher	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	4	16	\$2,120,000	1
21 to 40%	3	8	\$720,000	0
41 to 60%	0	0	\$0	0
61 to 80%	0	0	\$0	0
81 to 100%	0	0	\$0	0

d. Normalized Results for Population with a Bachelor's Degree or Higher

Bachelor's Degree or Higher	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume	Farmers Markets Percent
0 to 20%	57%	67%	75%	100%
21 to 40%	43%	33%	25%	0%
41 to 60%	0%	0%	0%	0%
61 to 80%	0%	0%	0%	0%
81 to 100%	0%	0%	0%	0%

(3) Median Income

a. Count Results

Median Income	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
Up to \$60,000	0	0	\$0	0
60,001 to \$100,000	6	21	\$2,620,000	1
100,001 to \$140,000	1	3	\$220,000	0
140,001 to \$180,000	0	0	\$0	0
\$180,001 +	0	0	\$0	0

b. Normalized Results

Median Income	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume Percent	Farmers Markets Percent
Up to \$60,000	0%	0%	0%	0%
60,001 to \$100,000	86%	88%	92%	100%
100,001 to \$140,000	14%	13%	8%	0%
140,001 to \$180,000	0%	0%	0%	0%

\$180,001 +	0%	0%	0%	0%
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(4) Ethnicity

a. Count Results for Population Identifying as Black

Black Population	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	6	22	\$1,240,000	1
21 to 40%	1	2	\$1,600,000	0
41 to 60%	0	0	\$0	0
61 to 80%	0	0	\$0	0
81 to 100%	0	0	\$0	0

b. Normalized Results for Population Identifying as Black

Black Population	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume	Farmers Markets Percent
0 to 20%	86%	92%	44%	100%
21 to 40%	14%	8%	56%	0%
41 to 60%	0%	0%	0%	0%
61 to 80%	0%	0%	0%	0%
81 to 100%	0%	0%	0%	0%

c. Count Results for Population Identifying as Hispanic

Hispanic Population	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	1	3	\$220,000	0
21 to 40%	4	17	\$820,000	1
41 to 60%	2	4	\$1,800,000	0
61 to 80%	0	0	\$0	0
81 to 100%	0	0	\$0	0

d. Normalized Results for Population Identifying as Hispanic

Hispanic Population	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume	Farmers Markets Percent
0 to 20%	14%	13%	8%	0%
21 to 40%	57%	71%	29%	100%
41 to 60%	29%	17%	63%	0%
61 to 80%	0%	0%	0%	0%
81 to 100%	0%	0%	0%	0%

e. Count Results for Population Identifying as Asian

Asian Population	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	7	24	\$2,840,000	1
21 to 40%	0	0	\$0	0
41 to 60%	0	0	\$0	0
61 to 80%	0	0	\$0	0
81 to 100%	0	0	\$0	0

f. Normalized Results for Population Identifying as Asian

Asian Population	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume	Farmers Markets Percent
0 to 20%	100%	100%	100%	100%
21 to 40%	0%	0%	0%	0%
41 to 60%	0%	0%	0%	0%
61 to 80%	0%	0%	0%	0%
81 to 100%	0%	0%	0%	0%

g. Count Results for Population Identifying as White

White Population	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	0	0	\$0	0
21 to 40%	0	0	\$0	0
41 to 60%	4	16	\$2,120,000	1
61 to 80%	3	8	\$720,000	0
81 to 100%	0	0	\$0	0

h. Normalized Results for Population Identifying as White

White Population	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume	Farmers Markets Percent
0 to 20%	0%	0%	0%	0%
21 to 40%	0%	0%	0%	0%
41 to 60%	57%	67%	75%	100%
61 to 80%	43%	33%	25%	0%
81 to 100%	0%	0%	0%	0%

(5) Elderly Population

a. Count Results for Population Over 65 Years of Age

Age Over 65	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	7	24	\$2,840,000	1
21 to 40%	0	0	\$0	0

41 to 60%	0	0	\$0	0
61 to 80%	0	0	\$0	0
81 to 100%	0	0	\$0	0

b. Normalized Results for Population Over 65 Years of Age

Age Over 65	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume	Farmers Markets Percent
0 to 20%	100%	100%	100%	100%
21 to 40%	0%	0%	0%	0%
41 to 60%	0%	0%	0%	0%
61 to 80%	0%	0%	0%	0%
81 to 100%	0%	0%	0%	0%

(6) Households Without Vehicles

a. Count Results for Households that Do Not Own or Lease at Least One Vehicle

No Vehicle	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	7	24	\$2,840,000	1
21 to 40%	0	0	\$0	0
41 to 60%	0	0	\$0	0
61 to 80%	0	0	\$0	0
81 to 100%	0	0	\$0	0

b. Normalized Results for Households that Do Not Own or Lease at Least One Vehicle

No Vehicle	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume	Farmers Markets Percent
0 to 20%	100%	100%	100%	100%
21 to 40%	0%	0%	0%	0%
41 to 60%	0%	0%	0%	0%
61 to 80%	0%	0%	0%	0%
81 to 100%	0%	0%	0%	0%

Table 31. Count and normalized results for Manassas Park City for each demographic variable.

Total Population Size = 15,305

Note: there are no farmers markets in Manassas Park City.

(1) Population Density

a. Count Results

Population Density	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume
Up to 4,000	0	0	\$0
4,001 to 8,000	2	9	\$620,000
8,001 to 16,000	0	0	\$0
16,001 to 32,000	0	0	\$0
32,001 +	0	0	\$0

b. Normalized Results

Population Density	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume Percent
Up to 4,000	0%	0%	0%
4,001 to 8,000	100%	100%	100%
8,001 to 16,000	0%	0%	0%
16,001 to 32,000	0%	0%	0%
32,001 +	0%	0%	0%

(2) Education

a. Count Results for Population with Less than a Bachelor's Degree

Less than Bachelor's Degree	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume
0 to 20%	0	0	\$0
21 to 40%	1	7	\$190,000
41 to 60%	1	2	\$430,000
61 to 80%	0	0	\$0
81 to 100%	0	0	\$0

b. Normalized Results for Population with Less than a Bachelor's Degree

Less than Bachelor's Degree	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume Percent
0 to 20%	0%	0%	0%
21 to 40%	50%	78%	31%

41 to 60%	50%	22%	69%
61 to 80%	0%	0%	0%
81 to 100%	0%	0%	0%

c. Count Results for Population with a Bachelor's Degree or Higher

Bachelor's Degree or Higher	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume
0 to 20%	1	2	\$430,000
21 to 40%	1	7	\$190,000
41 to 60%	0	0	\$0
61 to 80%	0	0	\$0
81 to 100%	0	0	0

d. Normalized Results for Population with a Bachelor's Degree or Higher

Bachelor's Degree or Higher	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume
0 to 20%	50%	22%	69%
21 to 40%	50%	78%	31%
41 to 60%	0%	0%	0%
61 to 80%	0%	0%	0%
81 to 100%	0%	0%	0%

(3) Median Income

a. Count Results

Median Income	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume
Up to \$60,000	1	2	\$430,000
60,001 to \$100,000	1	7	\$190,000
100,001 to \$140,000	0	0	\$0
140,001 to \$180,000	0	0	\$0
\$180,001 +	0	0	\$0

b. Normalized Results

Median Income	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume Percent
Up to \$60,000	50%	22%	69%
60,001 to \$100,000	50%	78%	31%
100,001 to \$140,000	0%	0%	0%
140,001 to \$180,000	0%	0%	0%
\$180,001 +	0%	0%	0%

(4) Ethnicity

a. Count Results for Population Identifying as Black

Black Population	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume
0 to 20%	2	9	\$620,000
21 to 40%	0	0	\$0
41 to 60%	0	0	\$0
61 to 80%	0	0	\$0
81 to 100%	0	0	\$0

b. Normalized Results for Population Identifying as Black

Black Population	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume
0 to 20%	100%	100%	100%
21 to 40%	0%	0%	0%
41 to 60%	0%	0%	0%
61 to 80%	0%	0%	0%
81 to 100%	0%	0%	0%

c. Count Results for Population Identifying as Hispanic

Hispanic Population	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume
0 to 20%	0	0	\$0
21 to 40%	1	7	\$190,000
41 to 60%	1	2	\$430,000
61 to 80%	0	0	\$0
81 to 100%	0	0	\$0

d. Normalized Results for Population Identifying as Hispanic

Hispanic Population	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume
0 to 20%	0%	0%	0%
21 to 40%	50%	78%	31%
41 to 60%	50%	22%	69%
61 to 80%	0%	0%	0%
81 to 100%	0%	0%	0%

e. Count Results for Population Identifying as Asian

Asian Population	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume
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0 to 20%	2	9	\$620,000
21 to 40%	0	0	\$0
41 to 60%	0	0	\$0
61 to 80%	0	0	\$0
81 to 100%	0	0	0

f. Normalized Results for Population Identifying as Asian

Asian Population	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume
0 to 20%	100%	100%	100%
21 to 40%	0%	0%	0%
41 to 60%	0%	0%	0%
61 to 80%	0%	0%	0%
81 to 100%	0%	0%	0%

g. Count Results for Population Identifying as White

White Population	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume
0 to 20%	0	0	\$0
21 to 40%	0	0	\$0
41 to 60%	2	9	\$620,000
61 to 80%	0	0	\$0
81 to 100%	0	0	\$0

h. Normalized Results for Population Identifying as White

White Population	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume
0 to 20%	0%	0%	0%
21 to 40%	0%	0%	0%
41 to 60%	100%	100%	100%
61 to 80%	0%	0%	0%
81 to 100%	0%	0%	0%

(5) Elderly Population

a. Count Results for Population Over 65 Years of Age

Age Over 65	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume
0 to 20%	2	9	\$620,000
21 to 40%	0	0	\$0
41 to 60%	0	0	\$0
61 to 80%	0	0	\$0

81 to 100%	0	0	\$0
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b. Normalized Results for Population Over 65 Years of Age

Age Over 65	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume
0 to 20%	100%	100%	100%
21 to 40%	0%	0%	0%
41 to 60%	0%	0%	0%
61 to 80%	0%	0%	0%
81 to 100%	0%	0%	0%

(6) Households Without Vehicles

a. Count Results for Households that Do Not Own or Lease at Least One Vehicle

No Vehicle	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume
0 to 20%	2	9	\$620,000
21 to 40%	0	0	\$0
41 to 60%	0	0	\$0
61 to 80%	0	0	\$0
81 to 100%	0	0	\$0

b. Normalized Results for Households that Do Not Own or Lease at Least One Vehicle

No Vehicle	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume
0 to 20%	100%	100%	100%
21 to 40%	0%	0%	0%
41 to 60%	0%	0%	0%
61 to 80%	0%	0%	0%
81 to 100%	0%	0%	0%

Table 32. Count and normalized results for Prince William for each demographic variable.

Total Population Size = 436,780

(1) Education

a. Count Results for Population with Less than a Bachelor's Degree

Less than Bachelor's Degree	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	1	0	\$0	0
21 to 40%	46	46	\$69,127,910	3
41 to 60%	36	49	\$26,618,264	1
61 to 80%	0	0	\$0	0
81 to 100%	0	0	\$0	0

b. Normalized Results for Population with Less than a Bachelor's Degree

Less than Bachelor's Degree	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume Percent	Farmers Markets Percent
0 to 20%	1%	0%	0%	0%
21 to 40%	55%	48%	72%	75%
41 to 60%	43%	52%	28%	25%
61 to 80%	0%	0%	0%	0%
81 to 100%	0%	0%	0%	0%

c. Count Results for Population with a Bachelor's Degree or Higher

Bachelor's Degree or Higher	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	27	43	\$22,725,264	1
21 to 40%	48	44	\$9,000,000	2
41 to 60%	8	8	\$64,020,910	1
61 to 80%	0	0	\$0	0
81 to 100%	0	0	\$0	0

d. Normalized Results for Population with a Bachelor's Degree or Higher

Bachelor's Degree or Higher	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume	Farmers Markets Percent
0 to 20%	33%	45%	24%	25%
21 to 40%	58%	46%	9%	50%
41 to 60%	10%	8%	67%	25%
61 to 80%	0%	0%	0%	0%

81 to 100%	0%	0%	0%	0%
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(2) Ethnicity

a. Count Results for Population Identifying as Black

Black Population	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	50	59	\$11,041,800	3
21 to 40%	27	24	\$81,292,960	1
41 to 60%	6	12	\$3,411,414	0
61 to 80%	0	0	\$0	0
81 to 100%	0	0	\$0	0

b. Normalized Results for Population Identifying as Black

Black Population	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume	Farmers Markets Percent
0 to 20%	60%	62%	12%	75%
21 to 40%	33%	25%	85%	25%
41 to 60%	7%	13%	4%	0%
61 to 80%	0%	0%	0%	0%
81 to 100%	0%	0%	0%	0%

c. Count Results for Population Identifying as Hispanic

Hispanic Population	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	48	36	\$68,070,910	2
21 to 40%	25	37	\$23,186,365	2
41 to 60%	10	22	\$4,488,899	0
61 to 80%	0	0	\$0	0
81 to 100%	0	0	\$0	0

d. Normalized Results for Population Identifying as Hispanic

Hispanic Population	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume	Farmers Markets Percent
0 to 20%	58%	38%	71%	50%
21 to 40%	30%	39%	24%	50%
41 to 60%	12%	23%	5%	0%
61 to 80%	0%	0%	0%	0%
81 to 100%	0%	0%	0%	0%

e. Count Results for Population Identifying as Asian

Asian Population	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	83	95	\$95,746,174	4
21 to 40%	0	0	\$0	0
41 to 60%	0	0	\$0	0
61 to 80%	0	0	\$0	0
81 to 100%	0	0	\$0	0

f. Normalized Results for Population Identifying as Asian

Asian Population	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume	Farmers Markets Percent
0 to 20%	100%	100%	100%	100%
21 to 40%	0%	0%	0%	0%
41 to 60%	0%	0%	0%	0%
61 to 80%	0%	0%	0%	0%
81 to 100%	0%	0%	0%	0%

(3) Elderly Population

a. Count Results for Population Over 65 Years of Age

Age Over 65	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
0 to 20%	79	91	\$95,253,174	4
21 to 40%	2	1	\$200,000	0
41 to 60%	1	2	\$200,000	0
61 to 80%	1	1	\$200,000	0
81 to 100%	0	0	\$0	0

b. Normalized Results for Population Over 65 Years of Age

Age Over 65	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume	Farmers Markets Percent
0 to 20%	95%	96%	99%	100%
21 to 40%	2%	1%	0%	0%
41 to 60%	1%	2%	0%	0%
61 to 80%	1%	1%	0%	0%
81 to 100%	0%	0%	0%	0%

(4) Households Without Vehicles

a. Count Results for Households that Do Not Own or Lease at Least One Vehicle

No Vehicle	Census Tract Count	Grocery Store Count	Grocery Store Sales Volume	Farmers Markets Count
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0 to 20%	78	84	\$95,446,770	4
21 to 40%	5	11	\$299,404	0
41 to 60%	0	0	\$0	0
61 to 80%	0	0	\$0	0
81 to 100%	0	0	\$0	0

b. Normalized Results for Households that Do Not Own or Lease at Least One Vehicle

No Vehicle	Census Tract Percent	Grocery Store Percent	Grocery Store Sales Volume	Farmers Markets Percent
0 to 20%	94%	88%	99%	100%
21 to 40%	6%	12%	0%	0%
41 to 60%	0%	0%	0%	0%
61 to 80%	0%	0%	0%	0%
81 to 100%	0%	0%	0%	0%

Ancillary Appendix 5

Distribution of Grocery Stores and Farmers Markets for Northern Virginia Regions

Relative to Population Density

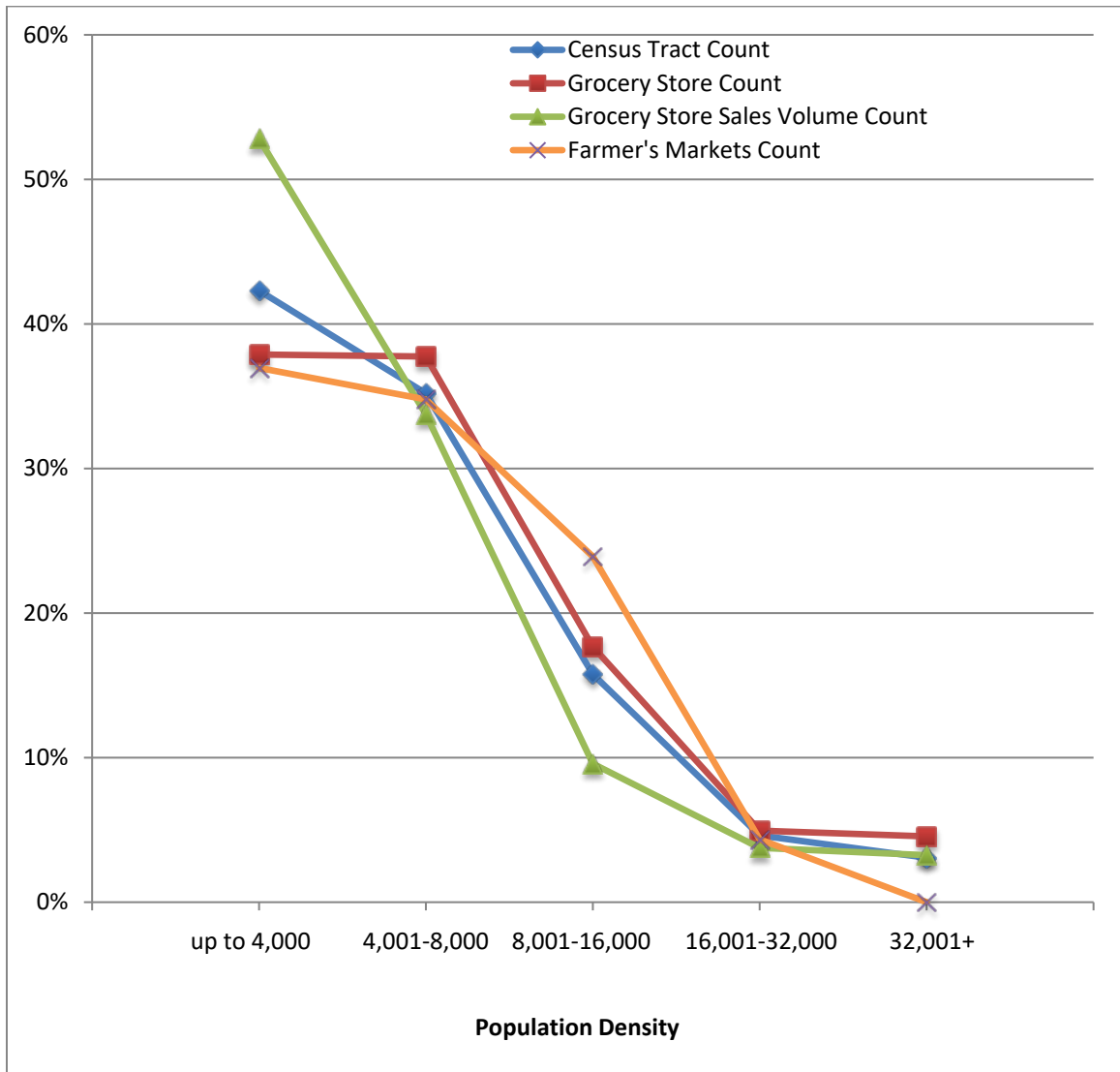


Figure 107. Distribution of grocery stores and farmers markets in Northern Virginia relative to population density (per sq. mile).

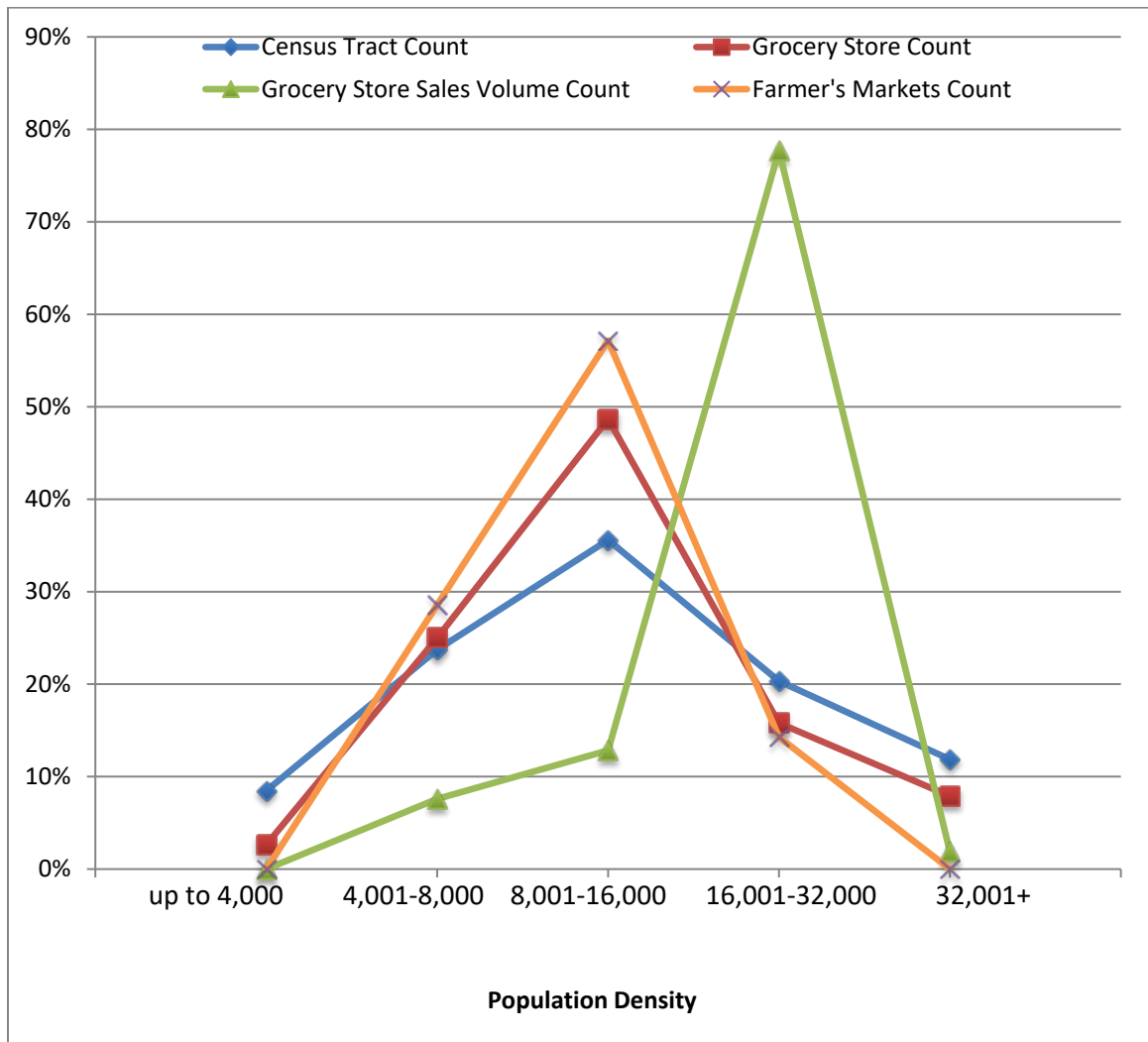


Figure 108. Distribution of grocery stores and farmers markets in Arlington relative to population density (per sq. mile).

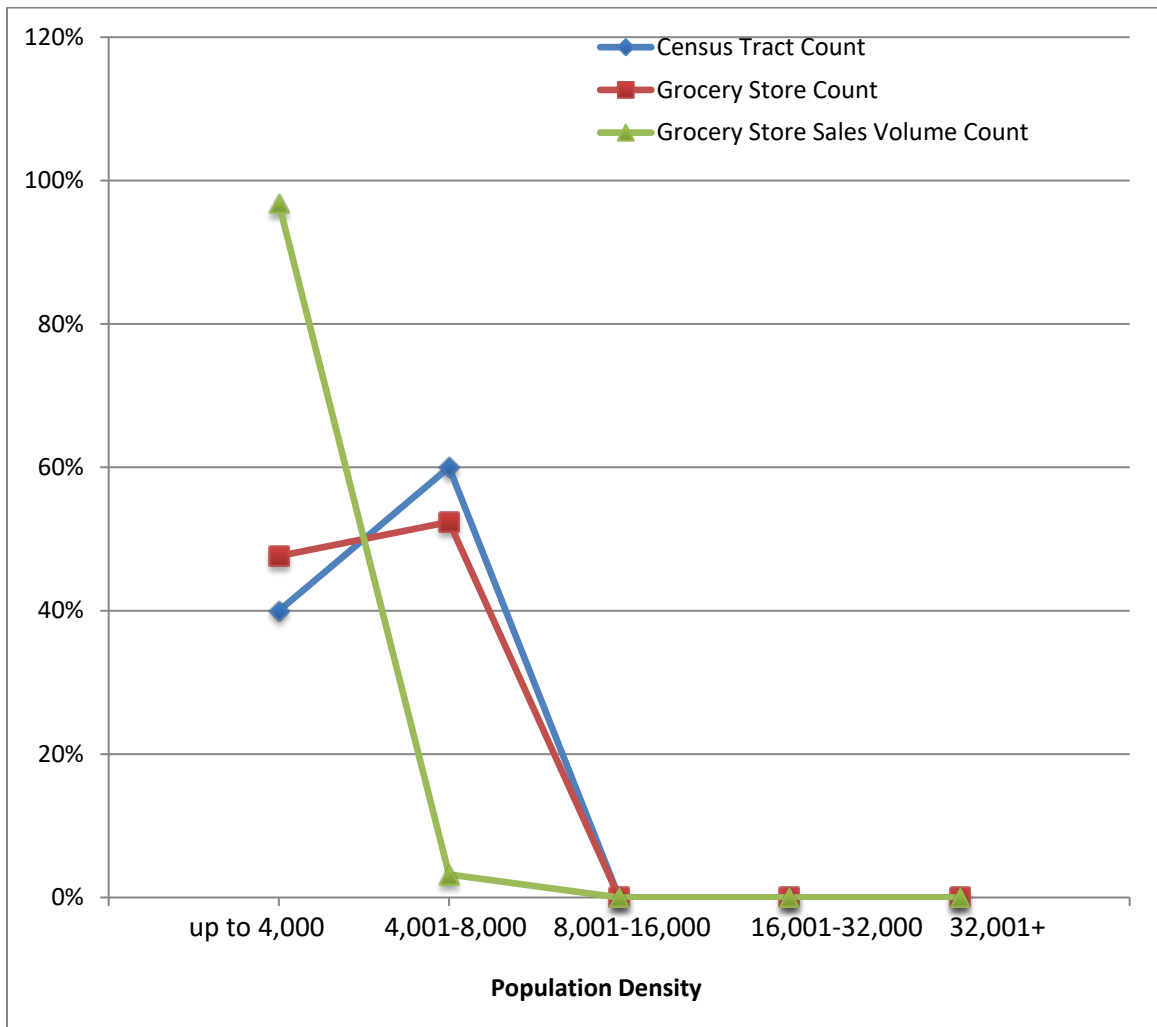


Figure 109. Distribution of grocery stores in Fairfax City relative to population density (per sq. mile). There are no farmers markets in Fairfax City.

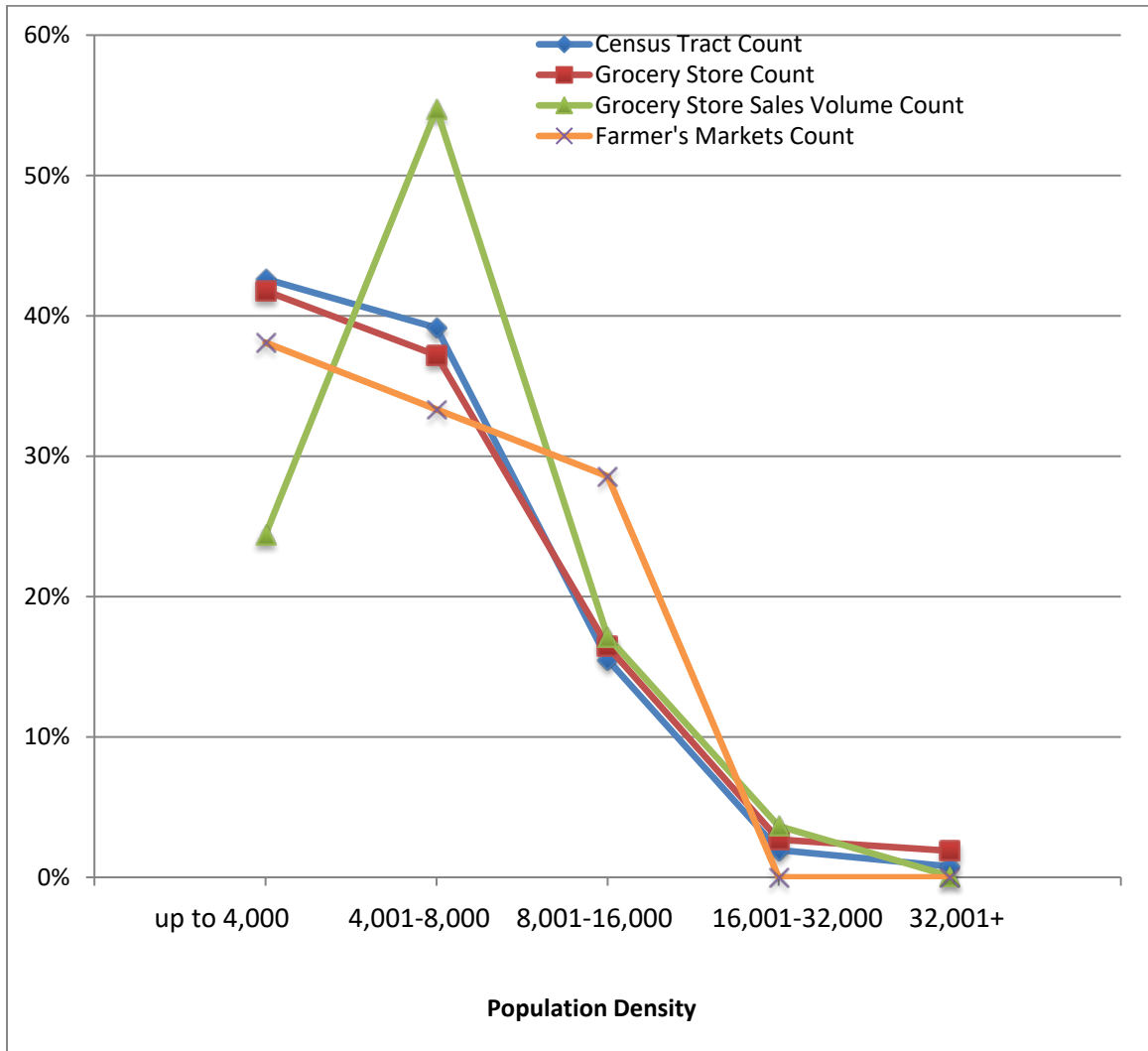


Figure 110. Distribution of grocery stores and farmers markets in Fairfax County relative to population density (per sq. mile).

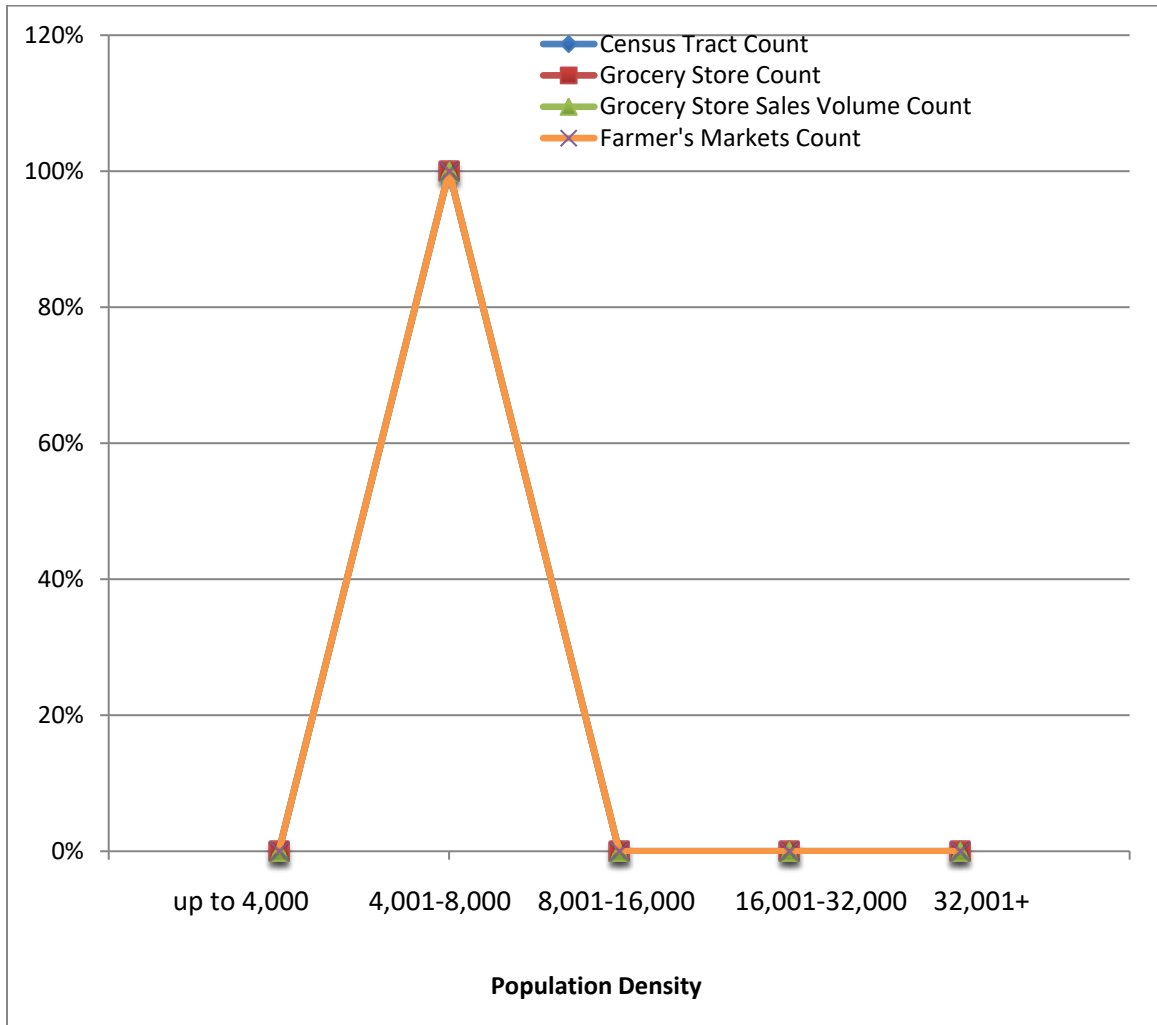


Figure 111. Distribution of grocery stores and farmers markets in Falls Church relative to population density (per sq. mile).

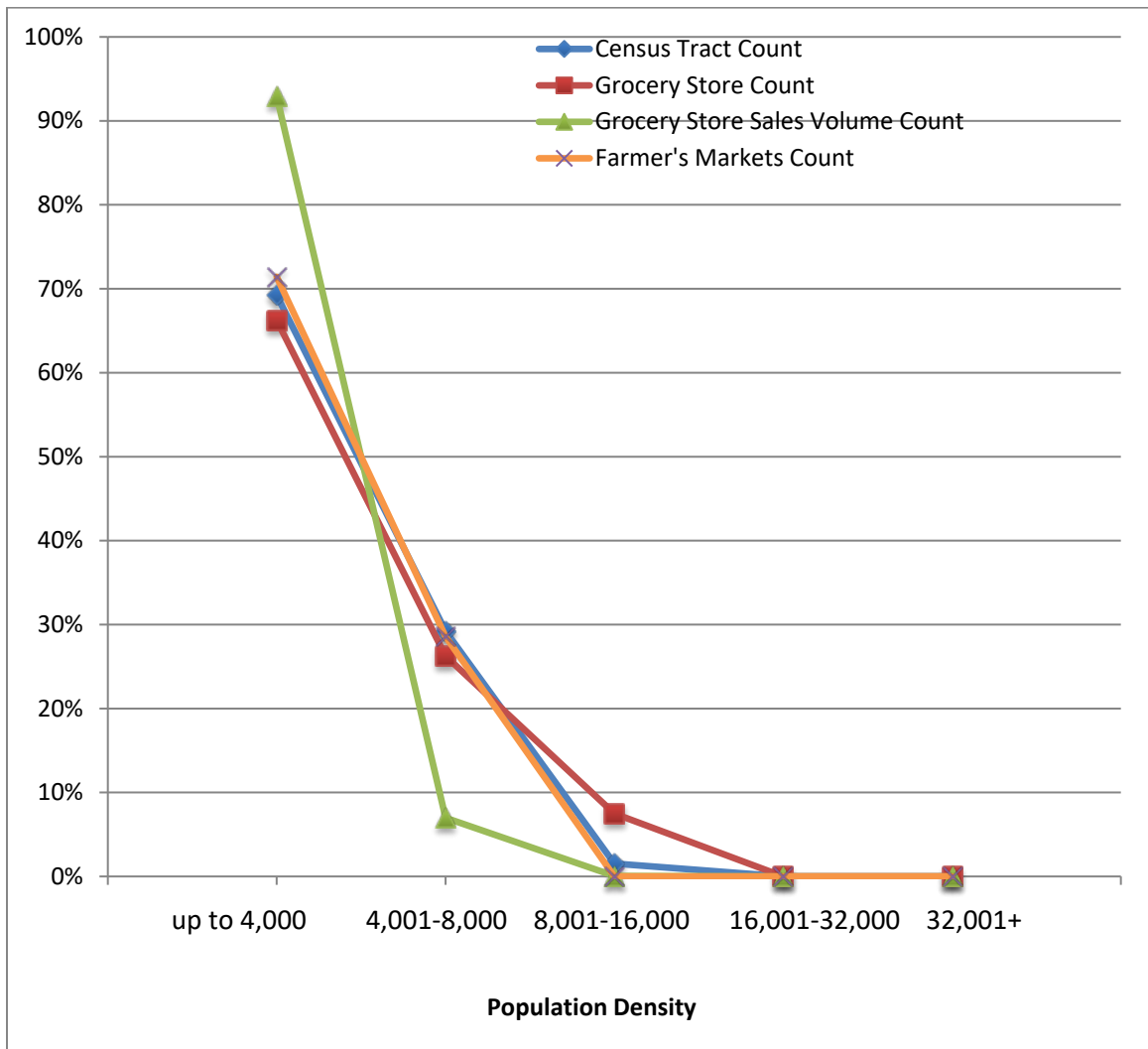


Figure 112. Distribution of grocery stores and farmers markets in Loudoun relative to population density (per sq. mile).

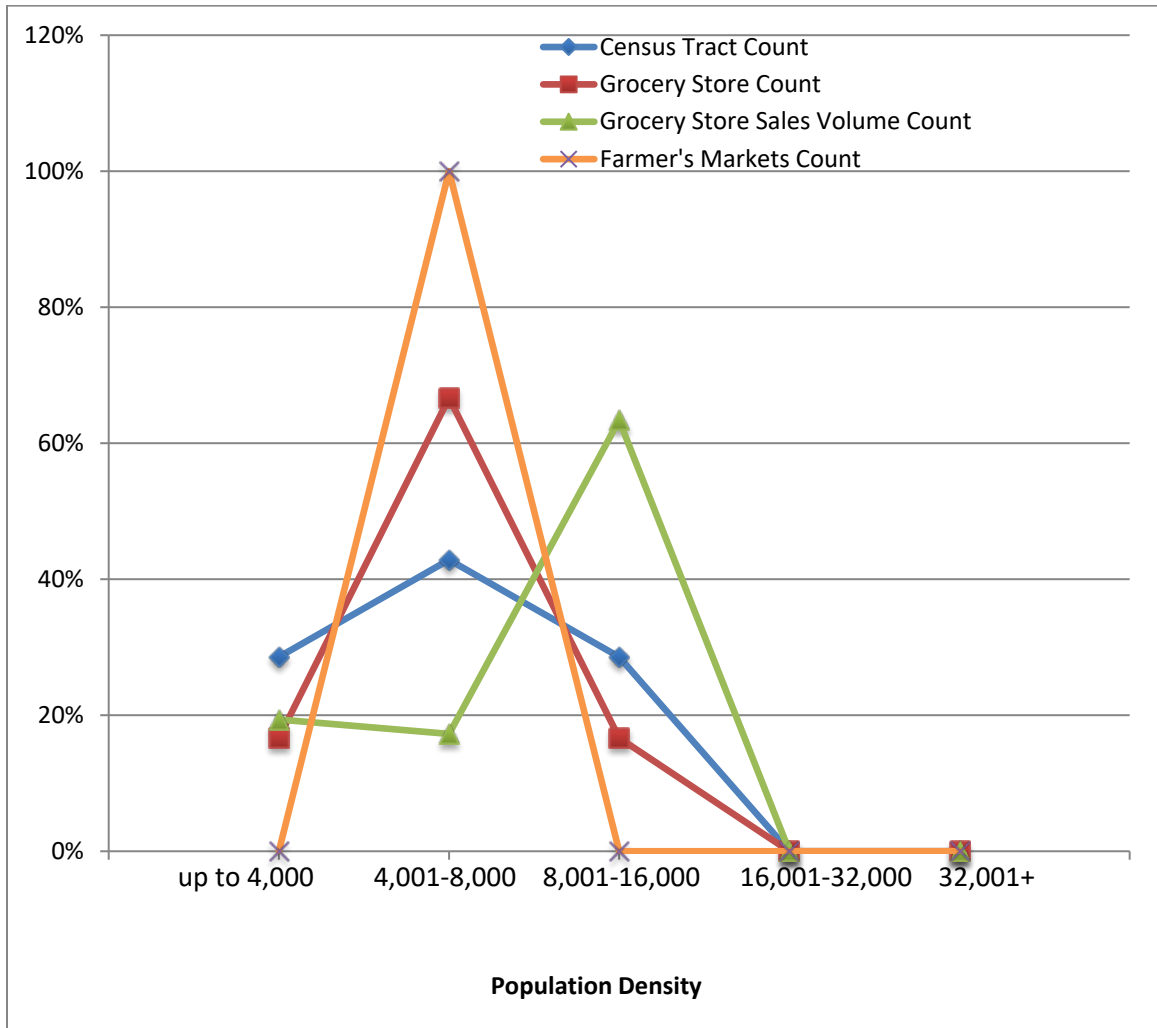


Figure 113. Distribution of grocery stores and farmers markets in Manassas City relative to population density (per sq. mile).

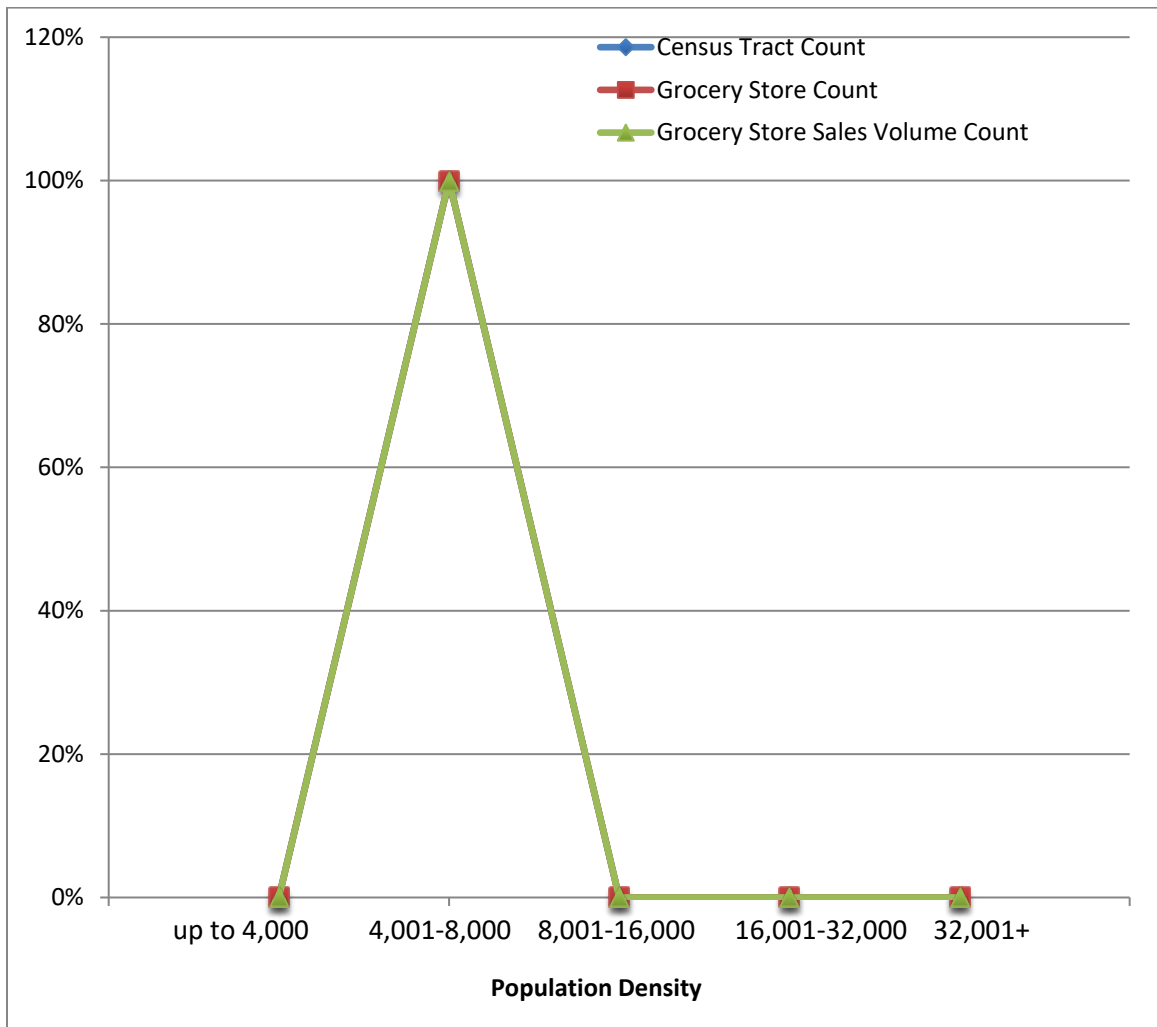


Figure 114. Distribution of grocery stores in Manassas Park City relative to population density (per sq. mile). There are no farmers markets in Manassas Park City.

Ancillary Appendix 6

Distribution of Grocery Stores and Farmers Markets for Northern Virginia Regions

Relative to Educational Attainment

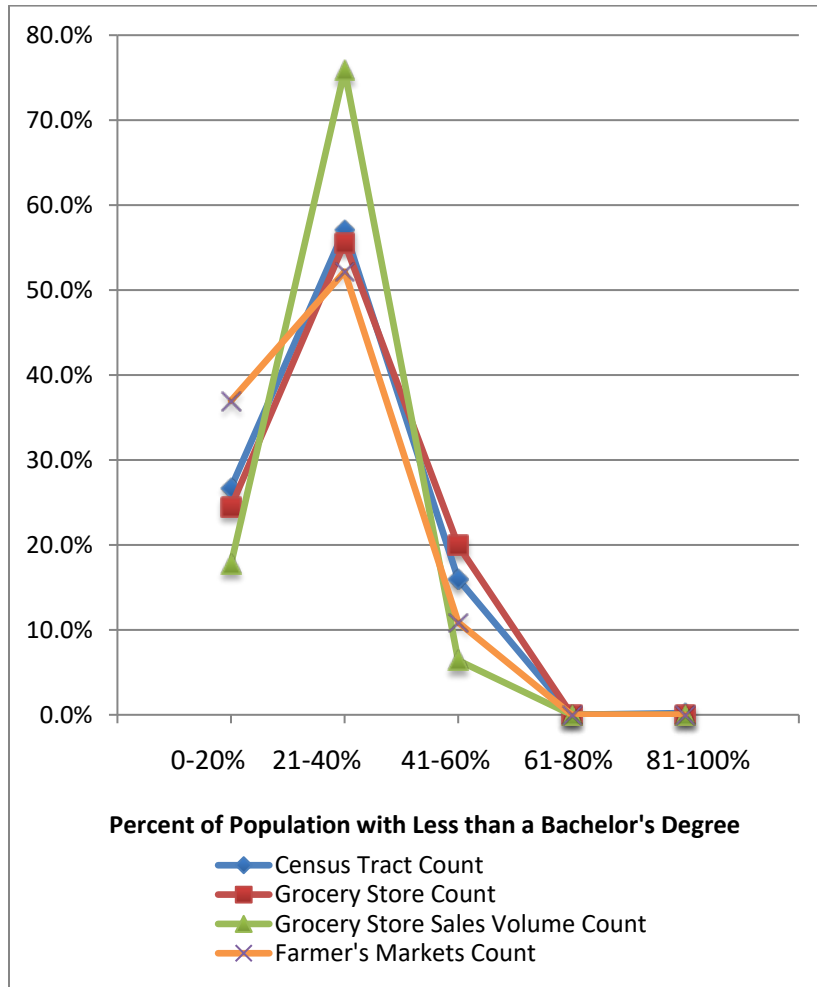


Figure 115. Distribution of grocery stores and farmers markets in Northern Virginia relative to low educational attainment.

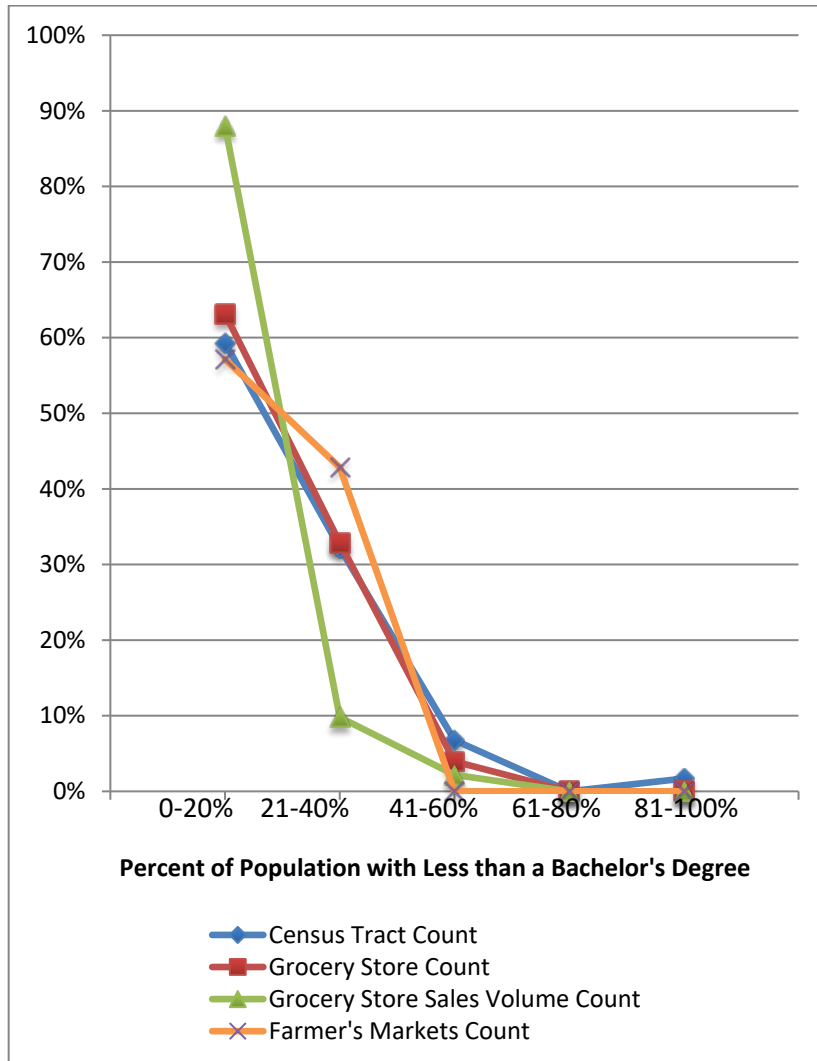


Figure 116. Distribution of grocery stores and farmers markets in Arlington relative to low educational attainment.

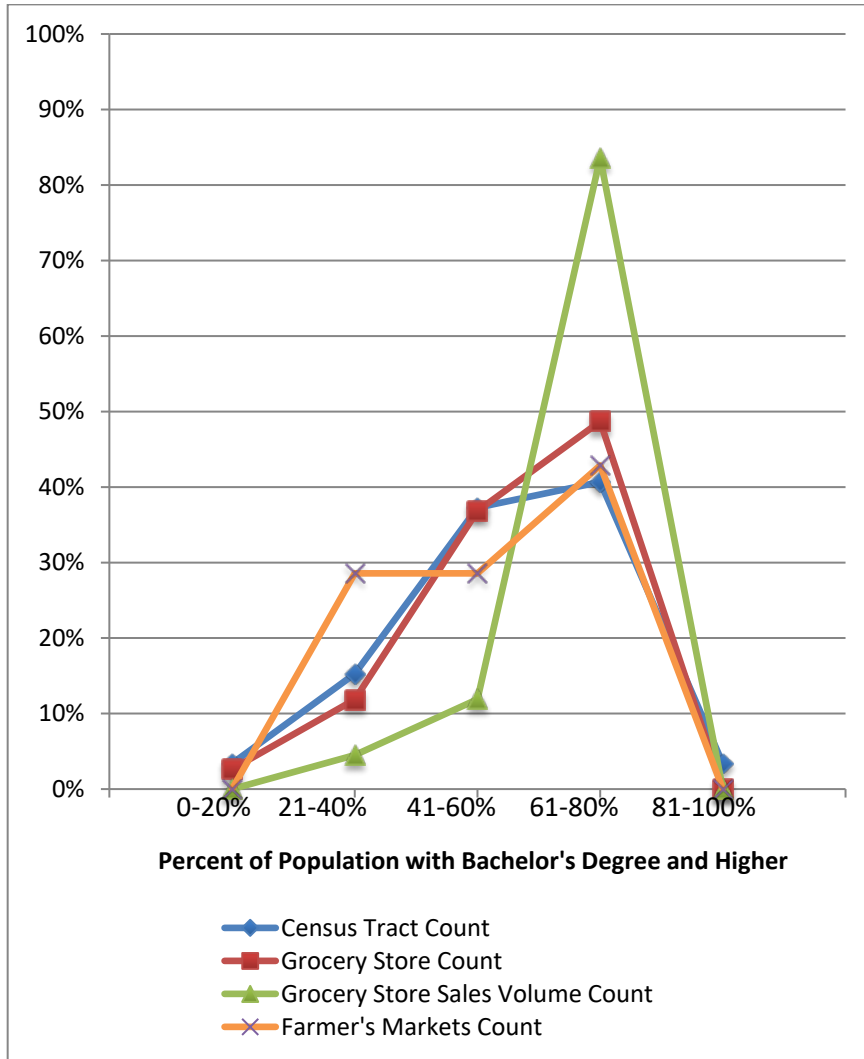


Figure 117. Distribution of grocery stores and farmers markets in Arlington relative to high educational attainment.

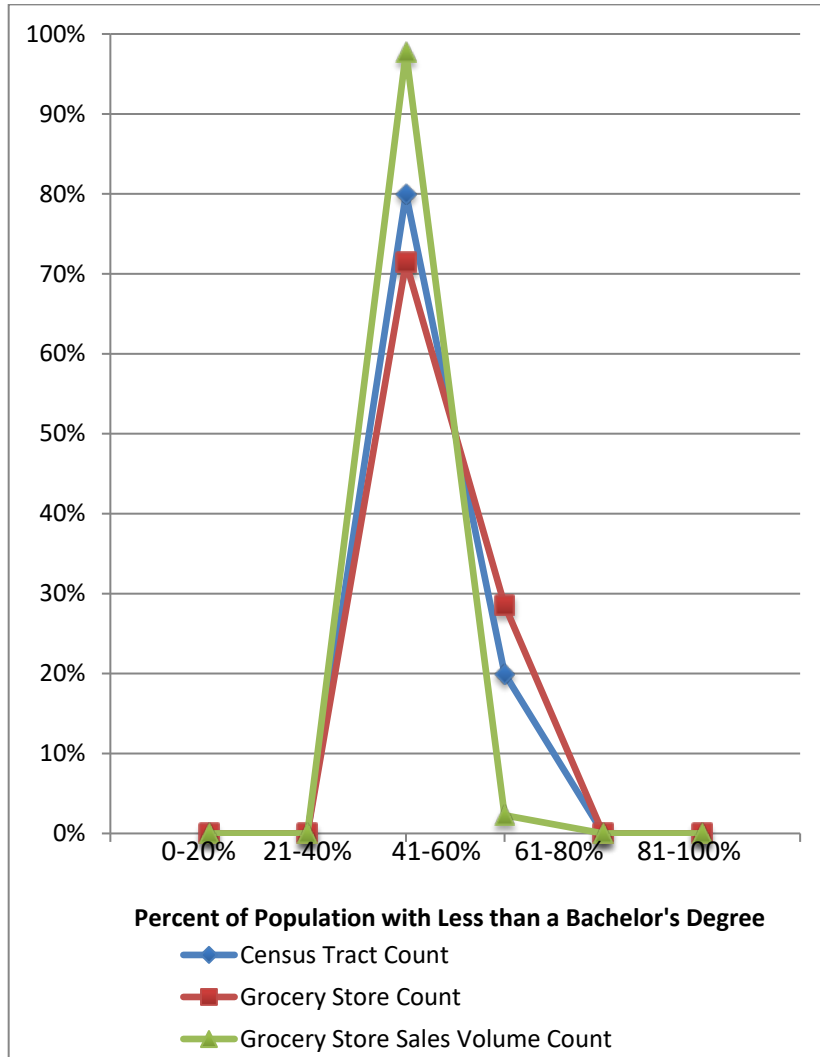


Figure 118. Distribution of grocery stores in Fairfax City relative to low educational attainment. There are no farmers markets in Fairfax City.

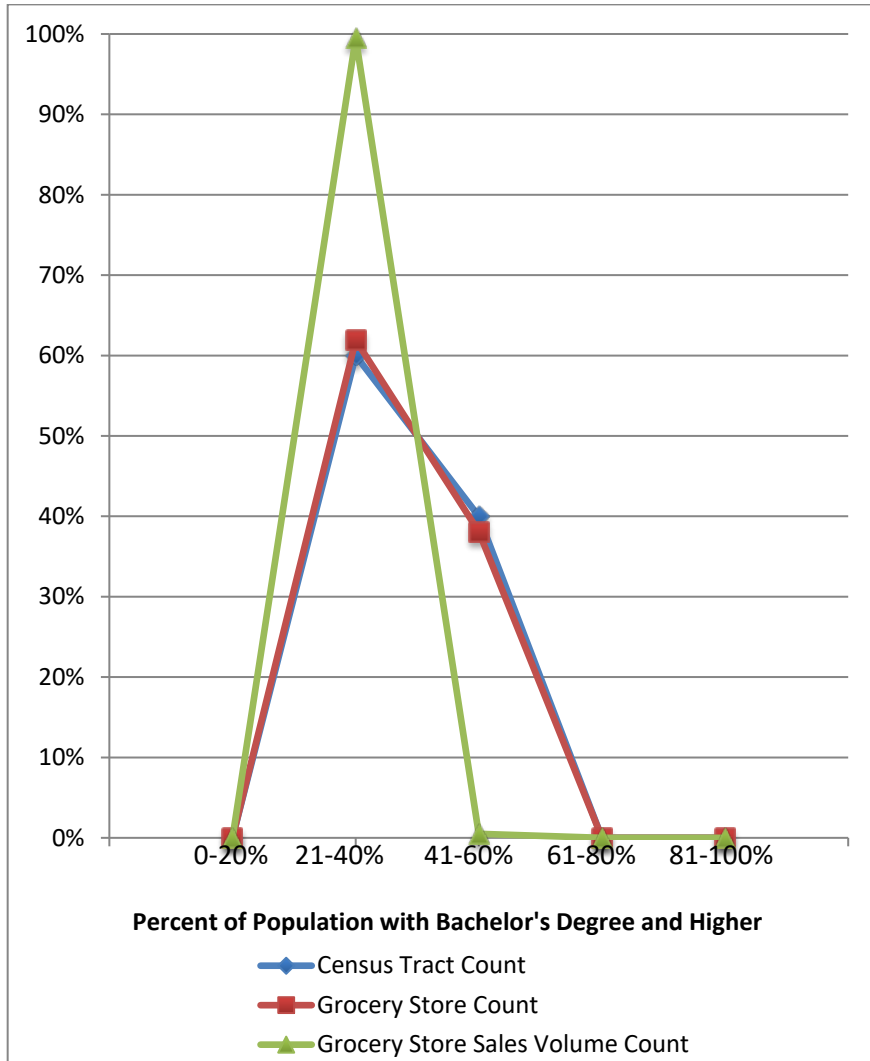


Figure 119. Distribution of grocery stores in Fairfax City relative to high educational attainment. There are no farmers markets in Fairfax City.

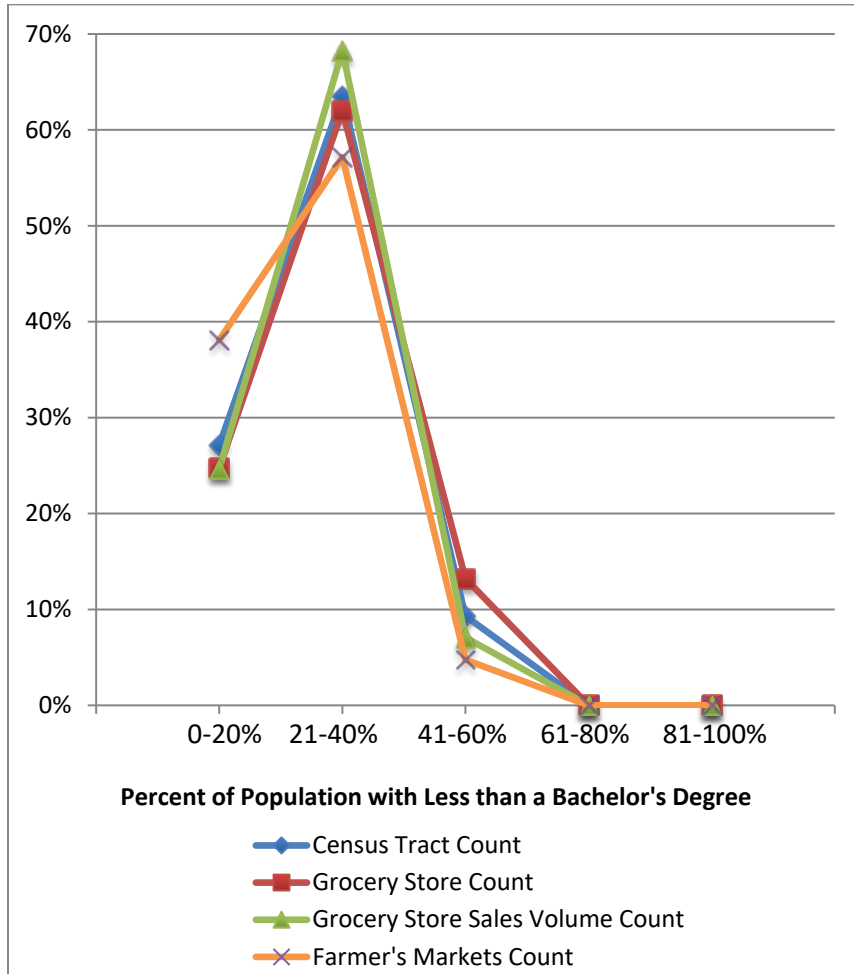


Figure 120. Distribution of grocery stores and farmers markets in Fairfax County relative to low educational attainment.

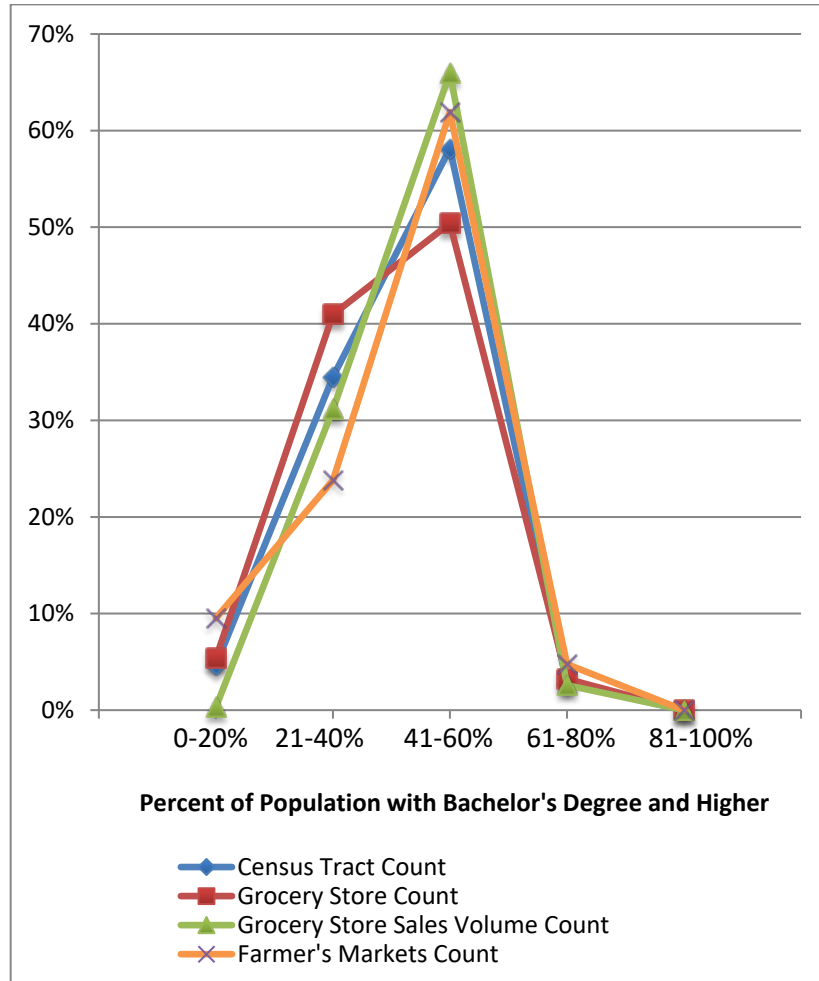


Figure 121. Distribution of grocery stores and farmers markets in Fairfax County relative to high educational attainment.

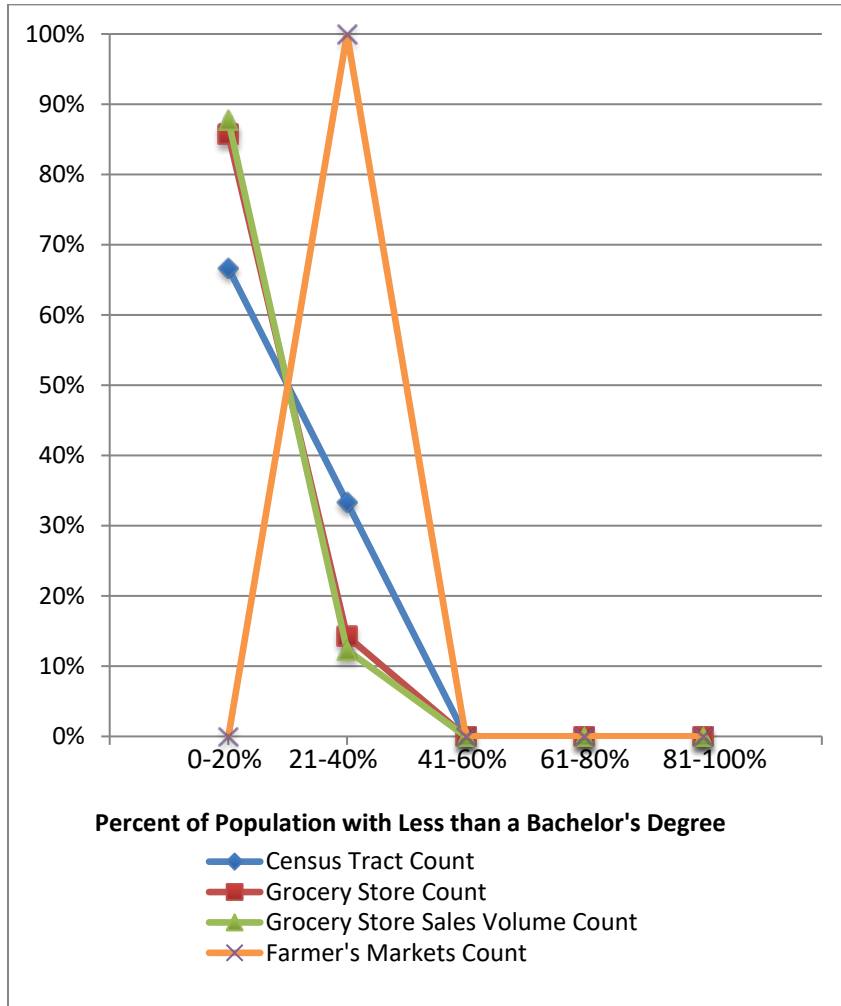


Figure 122. Distribution of grocery stores and farmers markets in Falls Church relative to low educational attainment.

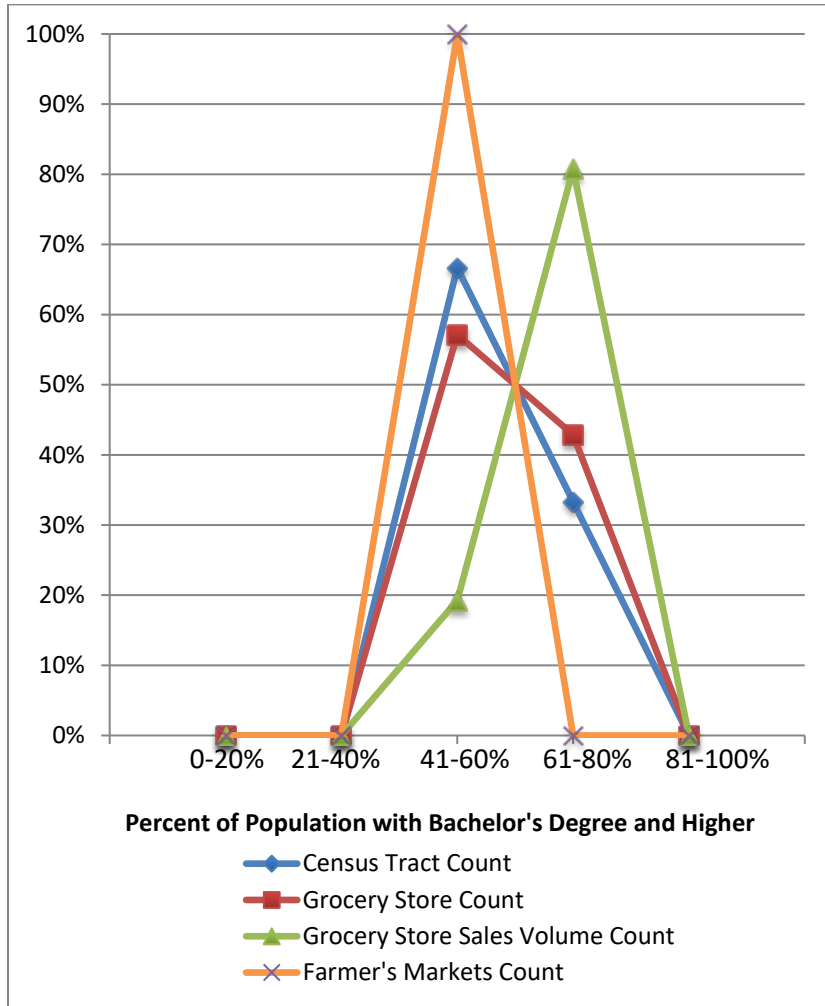


Figure 123. Distribution of grocery stores and farmers markets in Falls Church relative to high educational attainment.

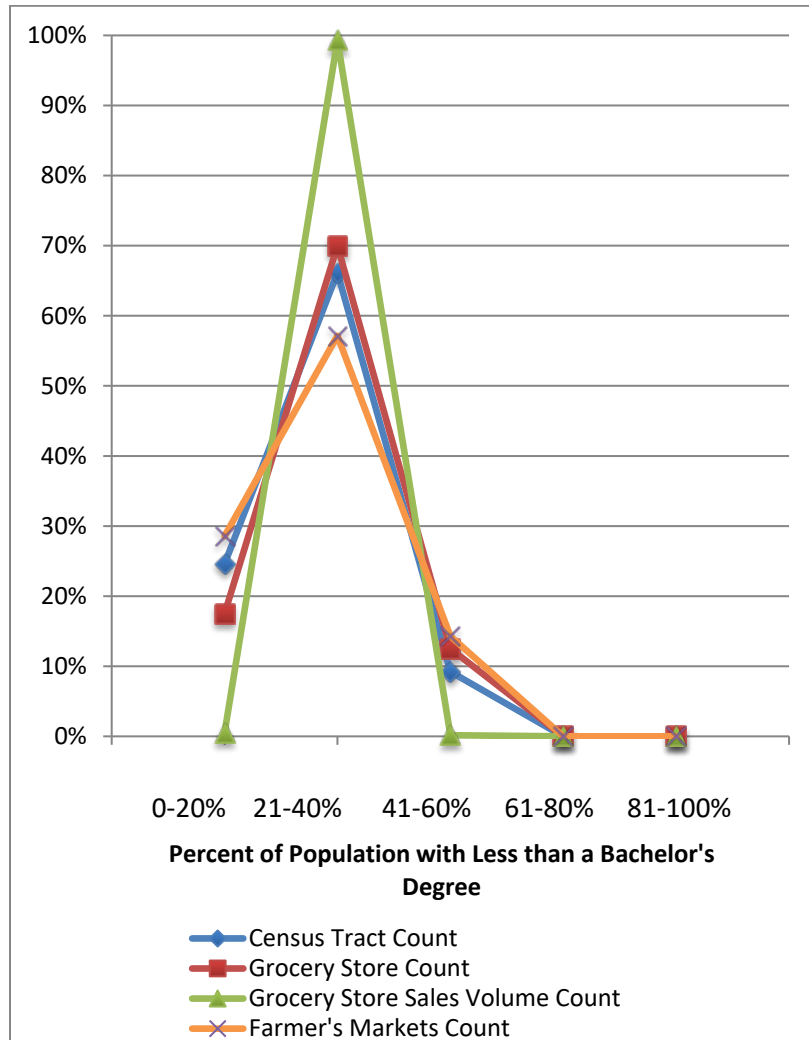


Figure 124. Distribution of grocery stores and farmers markets in Loudoun relative to low educational attainment.

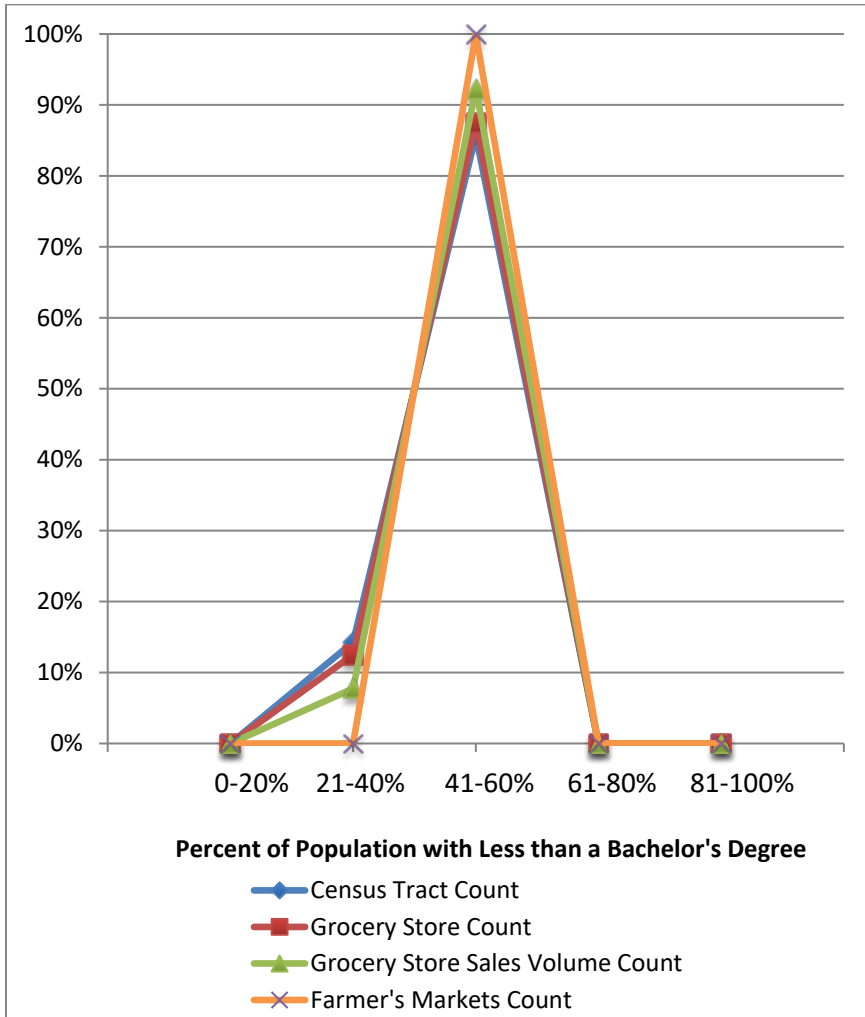


Figure 125. Distribution of grocery stores and farmers markets in Manassas City relative to low educational attainment.

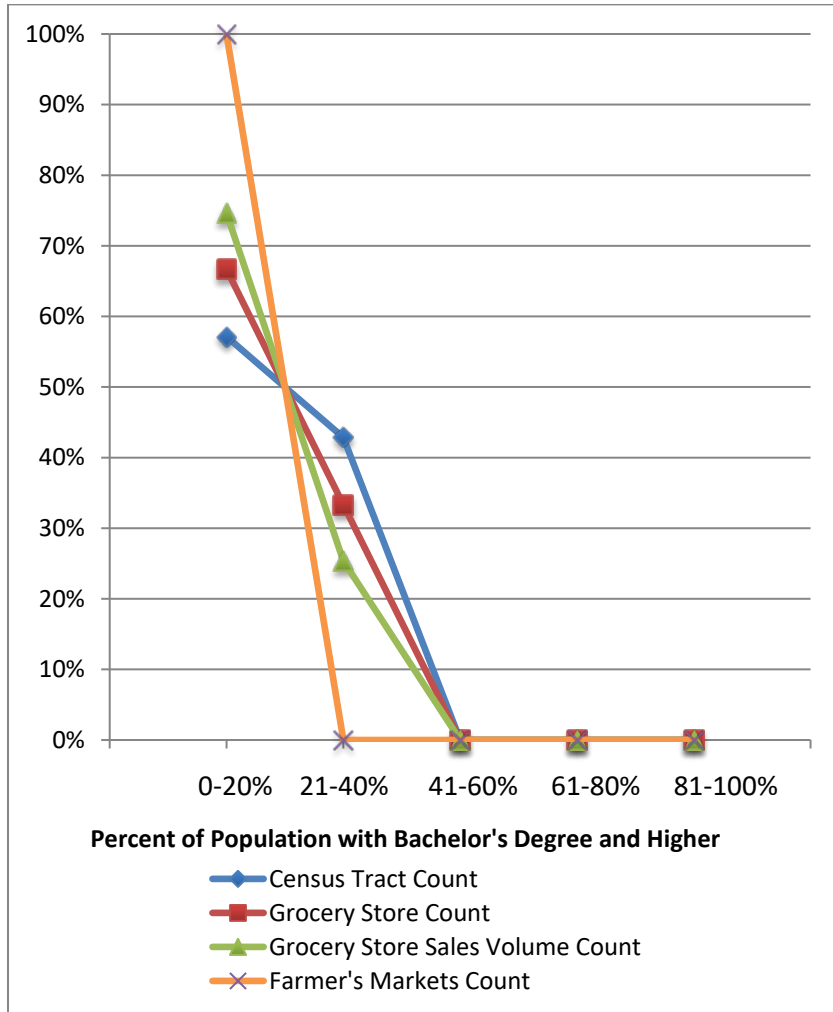


Figure 126. Distribution of grocery stores and farmers markets in Manassas City relative to high educational attainment.

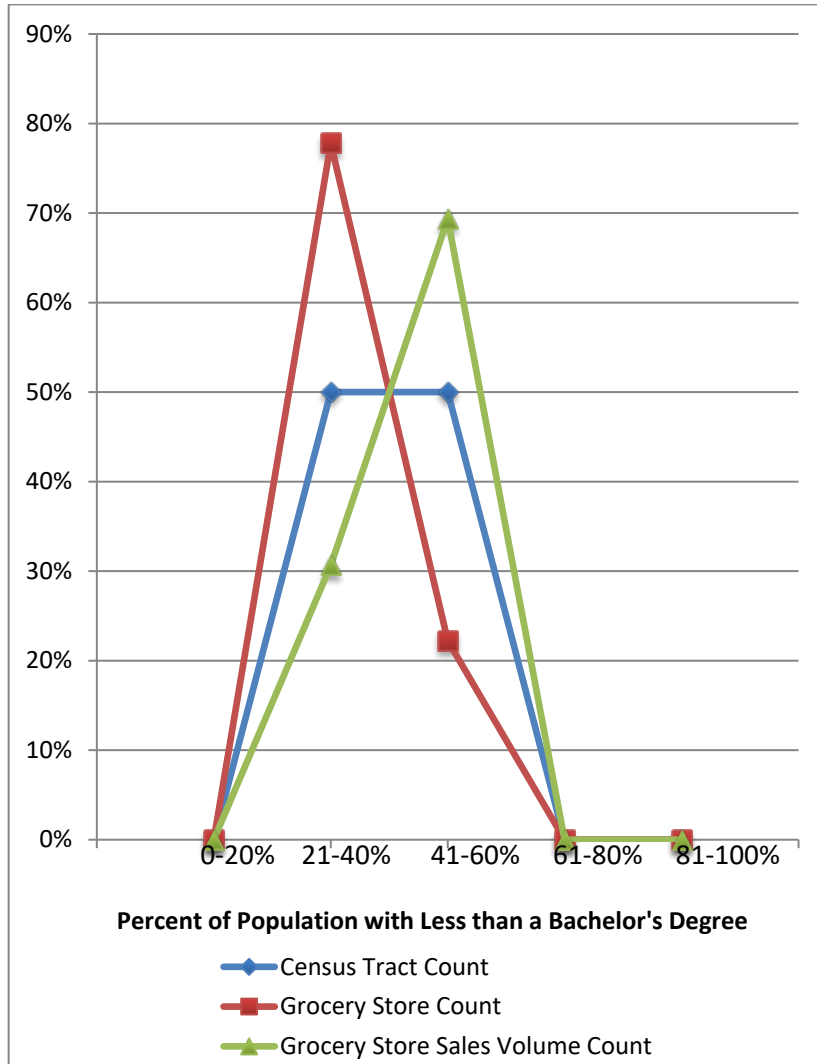


Figure 127. Distribution of grocery stores in Manassas Park City relative to low educational attainment. There are no farmers markets in Manassas Park City.

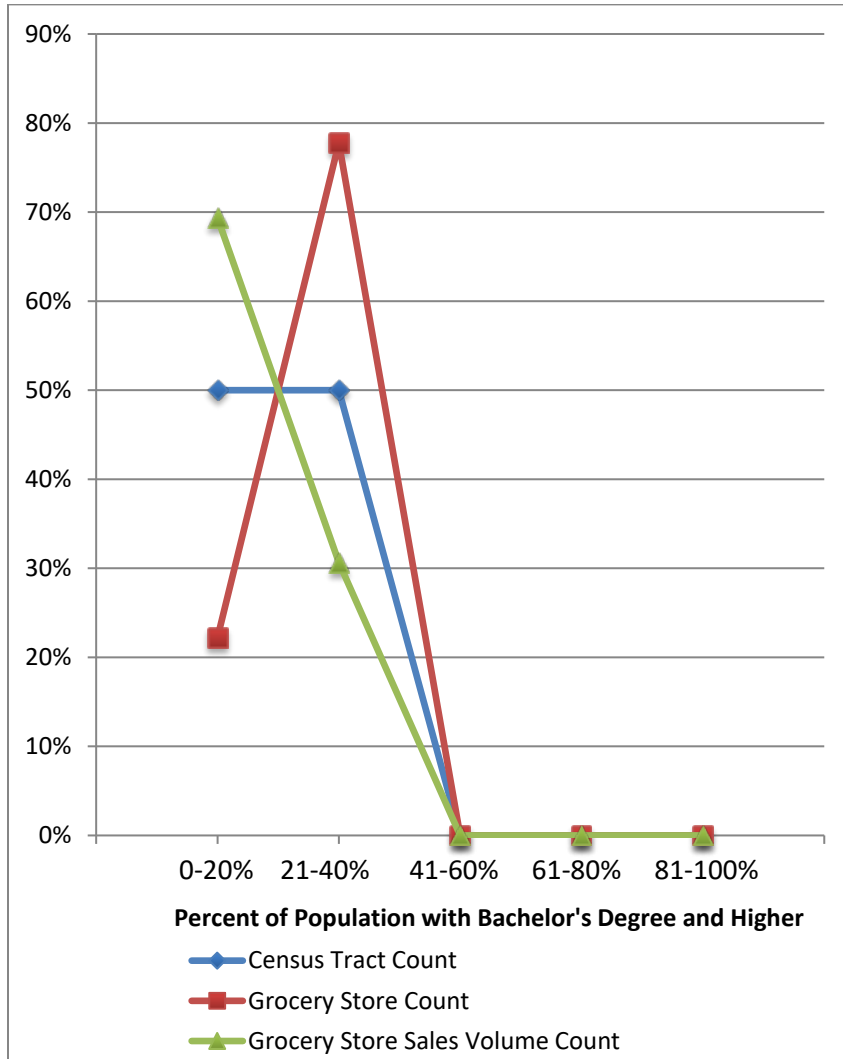


Figure 128. Distribution of grocery stores in Manassas Park City relative to high educational attainment. There are no farmers markets in Manassas Park City.

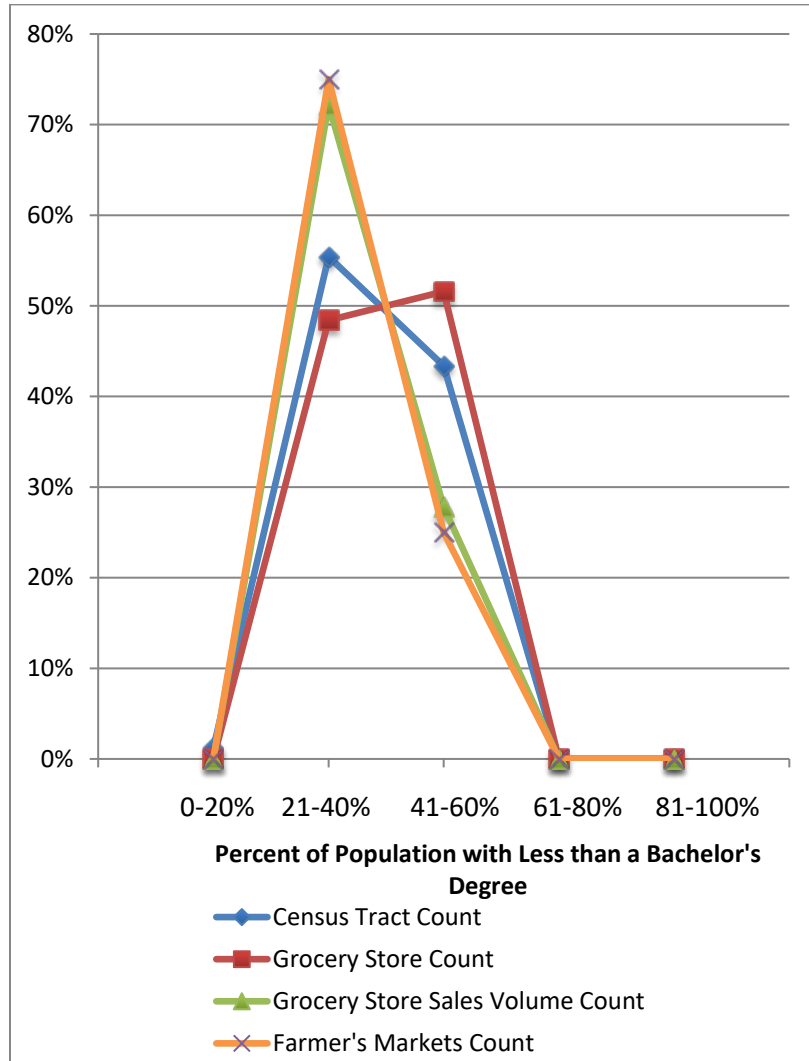


Figure 129. Distribution of grocery stores and farmers markets in Prince William relative to low educational attainment.

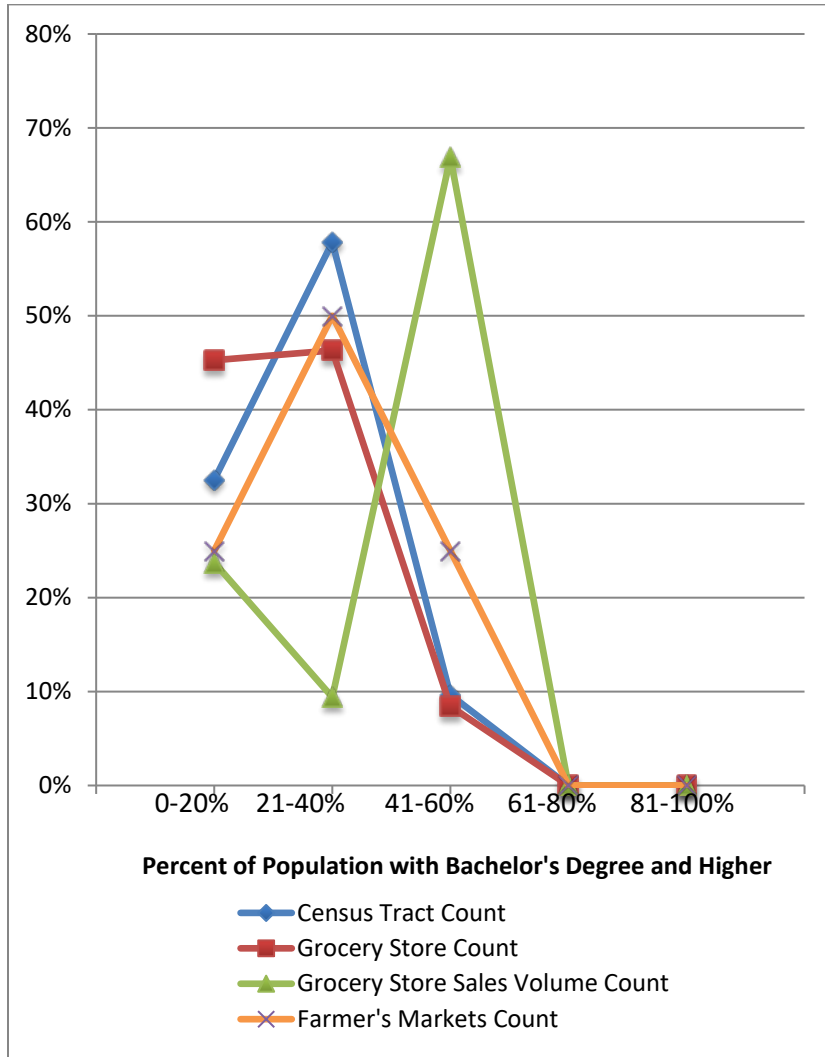


Figure 130. Distribution of grocery stores and farmers markets in Prince William relative to high educational attainment.

Ancillary Appendix 7

Distribution of Grocery Stores and Farmers Markets for Northern Virginia Regions

Relative to Median Income

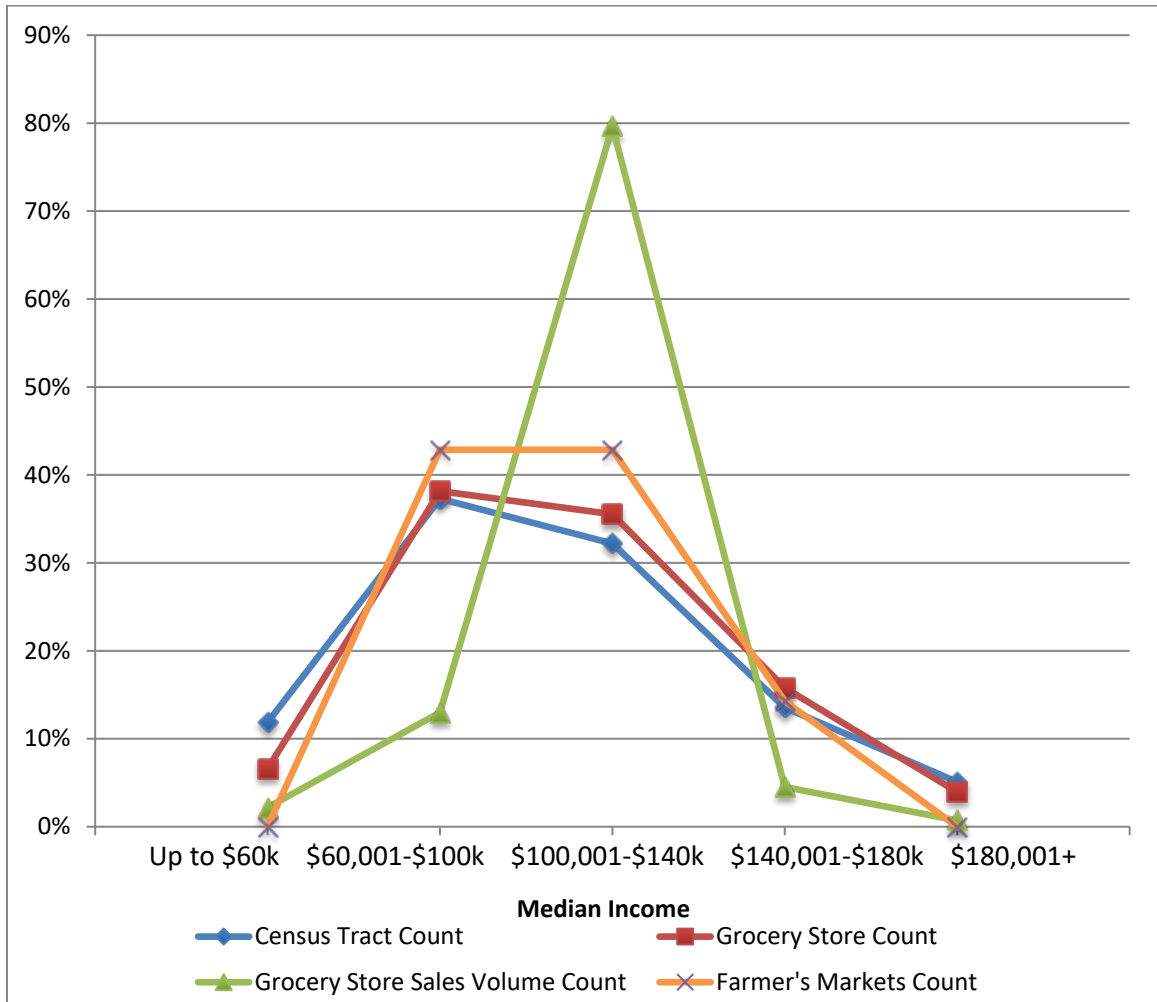


Figure 131. Distribution of grocery stores and farmers markets in Arlington relative to median income.

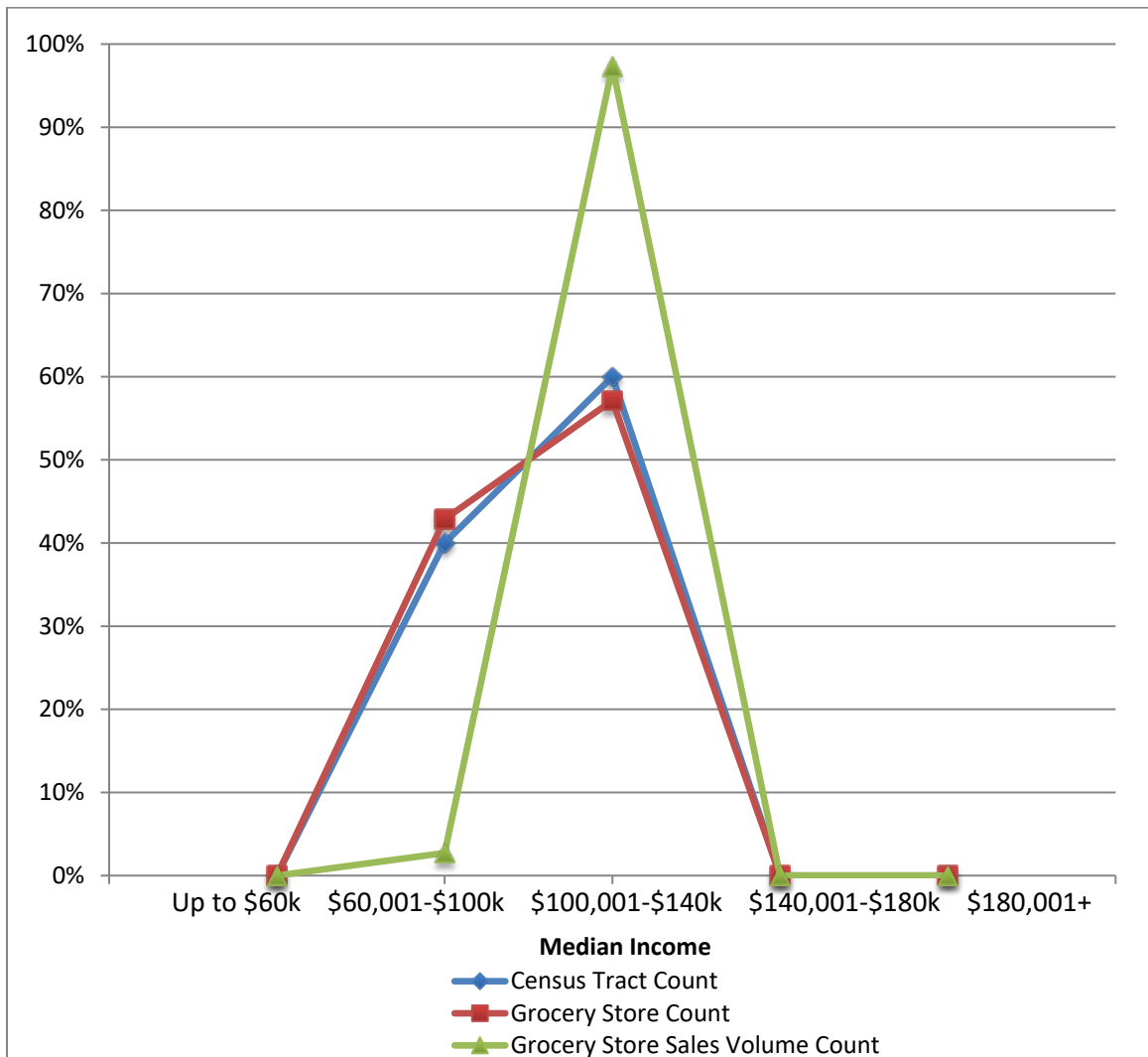


Figure 132. Distribution of grocery stores in Fairfax City relative to median income. There are no farmers markets in Fairfax City.

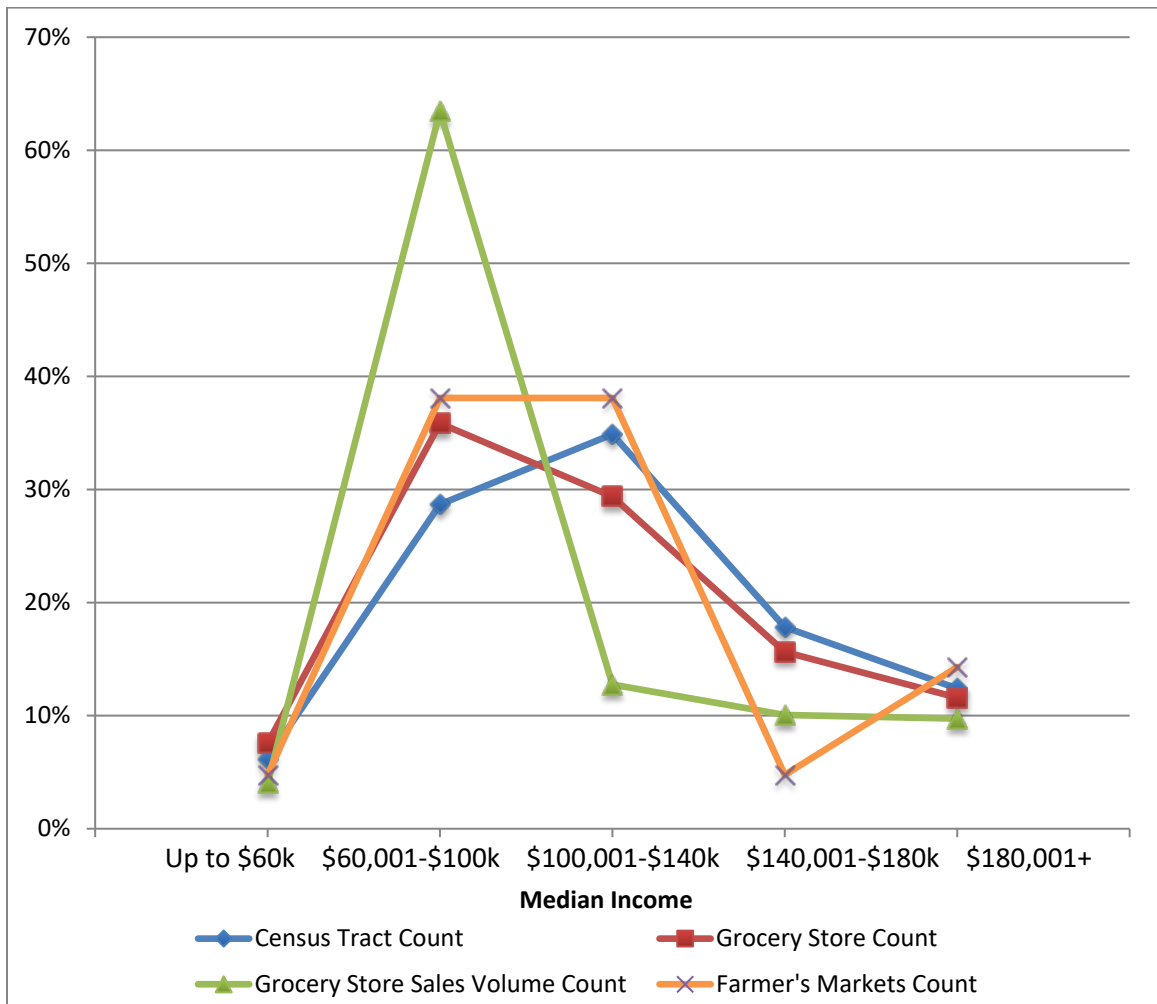


Figure 133. Distribution of grocery stores and farmers markets in Fairfax County relative to median income.

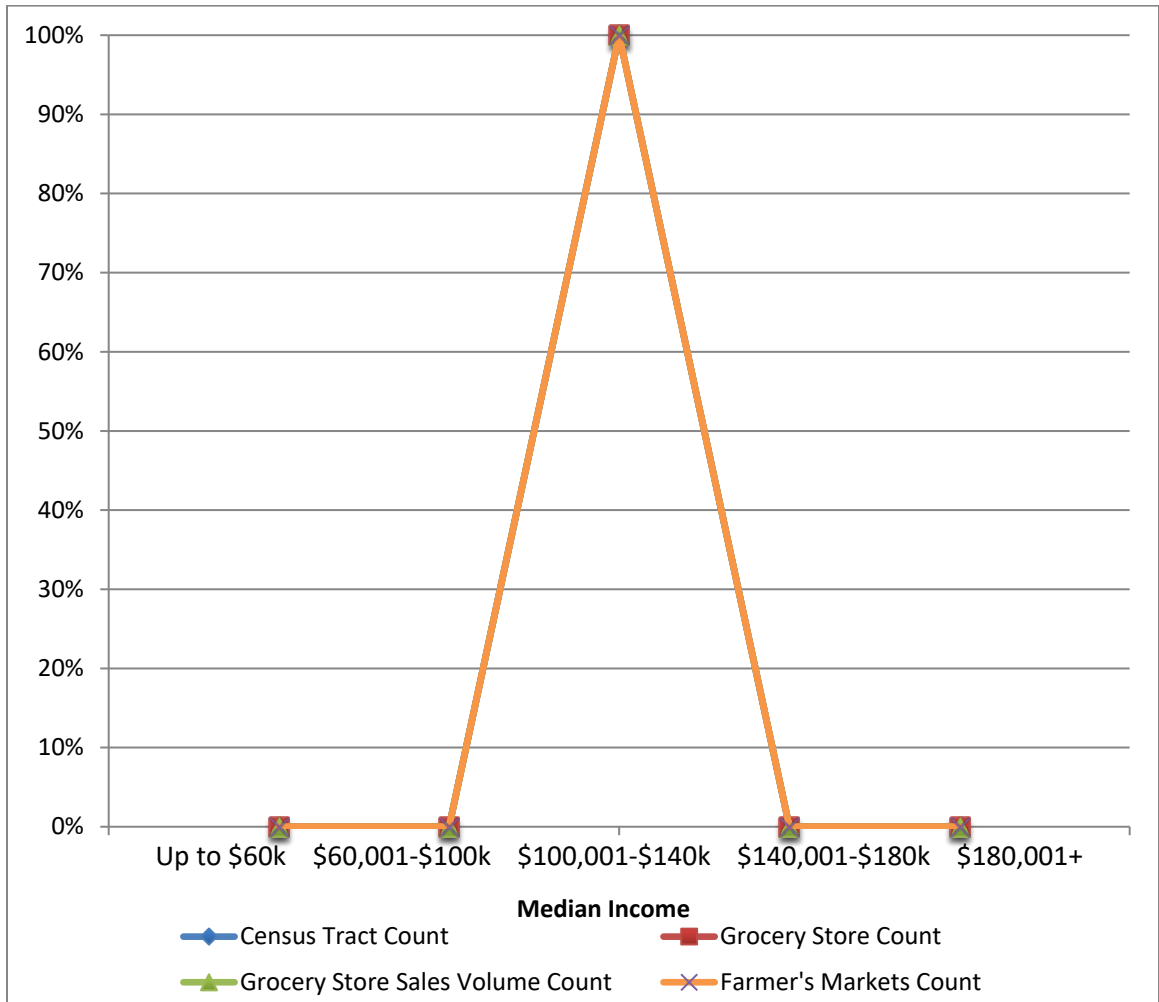


Figure 134. Distribution of grocery stores and farmers markets in Falls Church relative to median income.

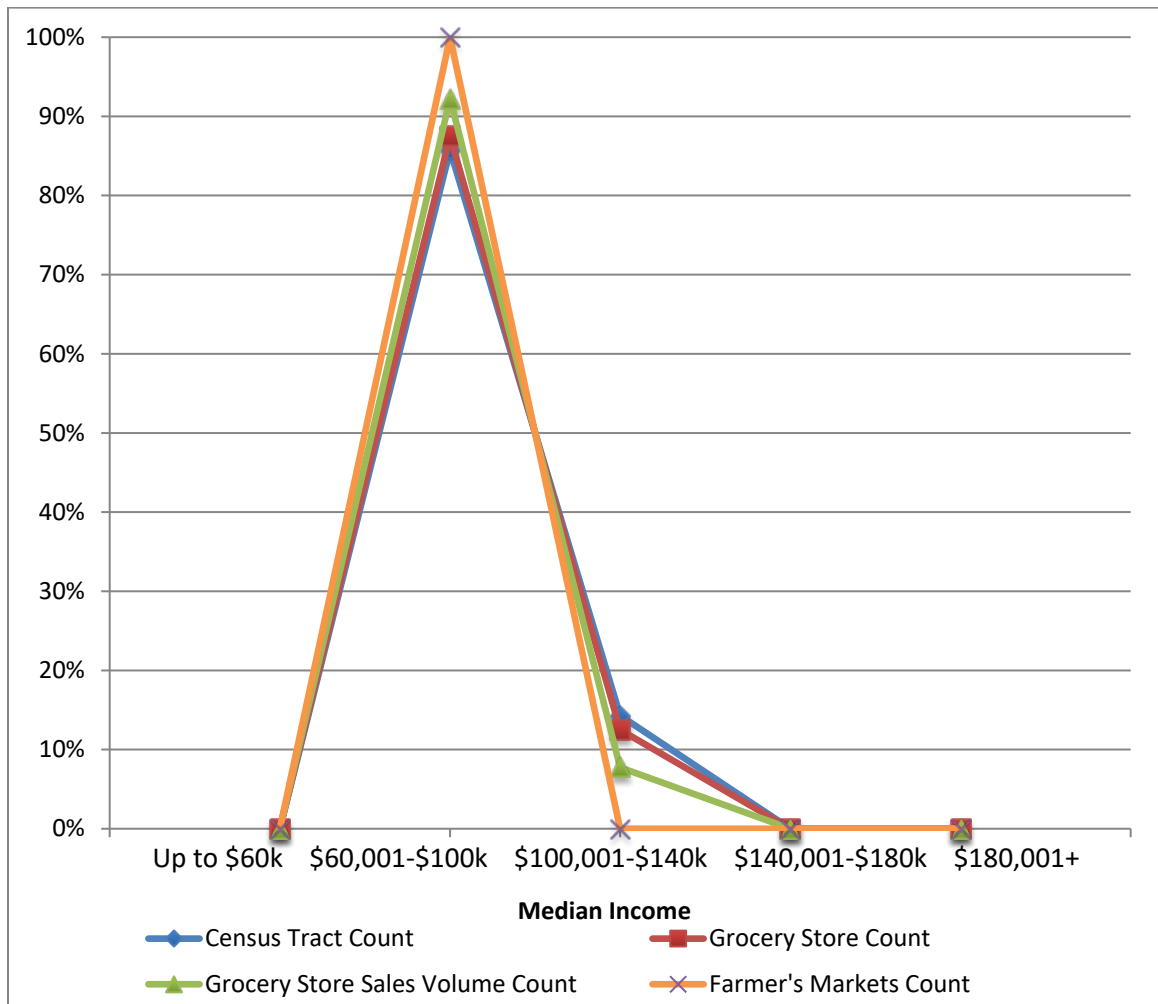


Figure 135. Distribution of grocery stores and farmers markets in Manassas City relative to median income.

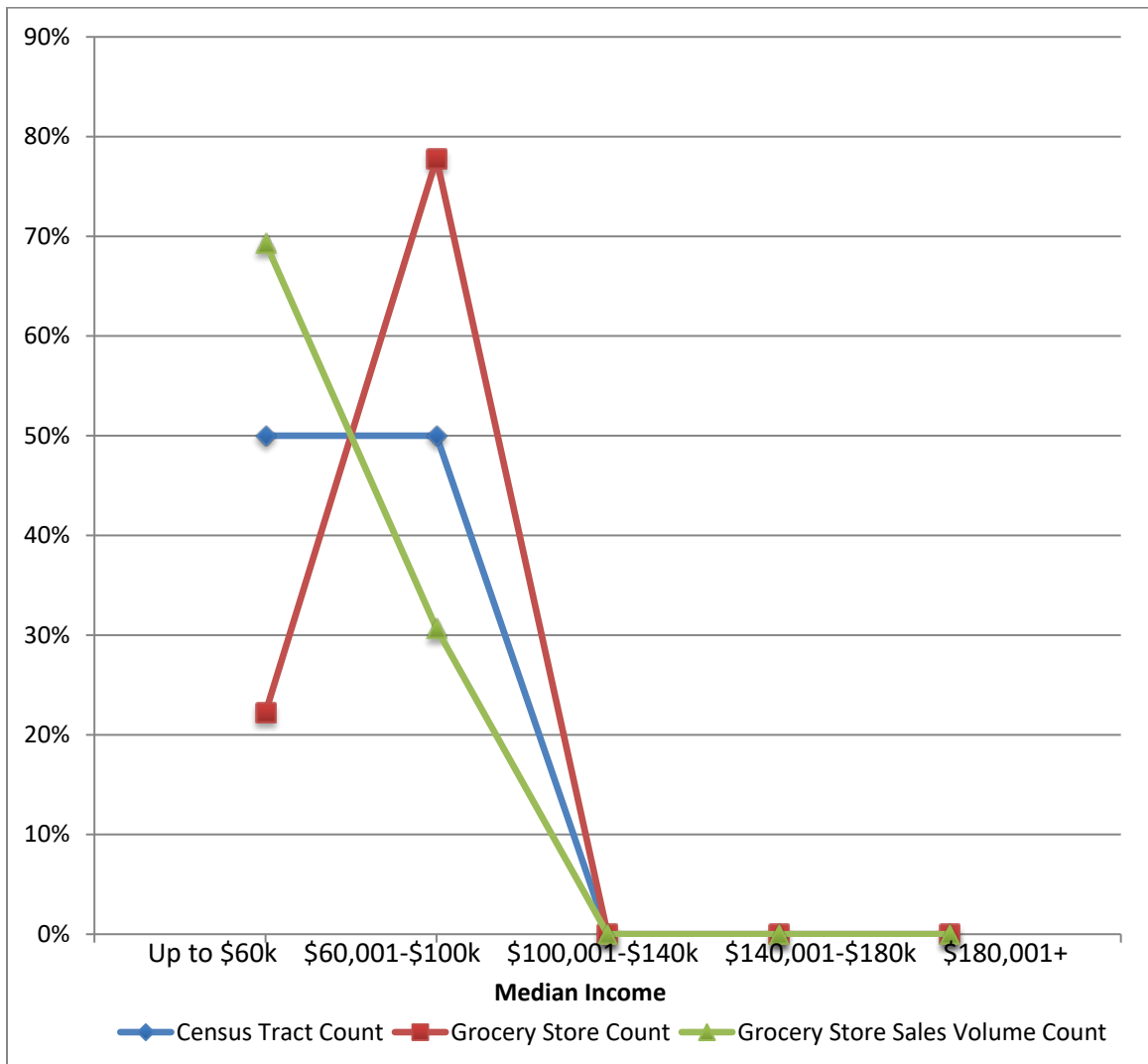


Figure 136. Distribution of grocery stores in Manassas Park City relative to median income. There are no farmers markets in Manassas Park City.

Ancillary Appendix 8

Distribution of Grocery Stores and Farmers Markets for Northern Virginia Regions

Relative to Ethnicity

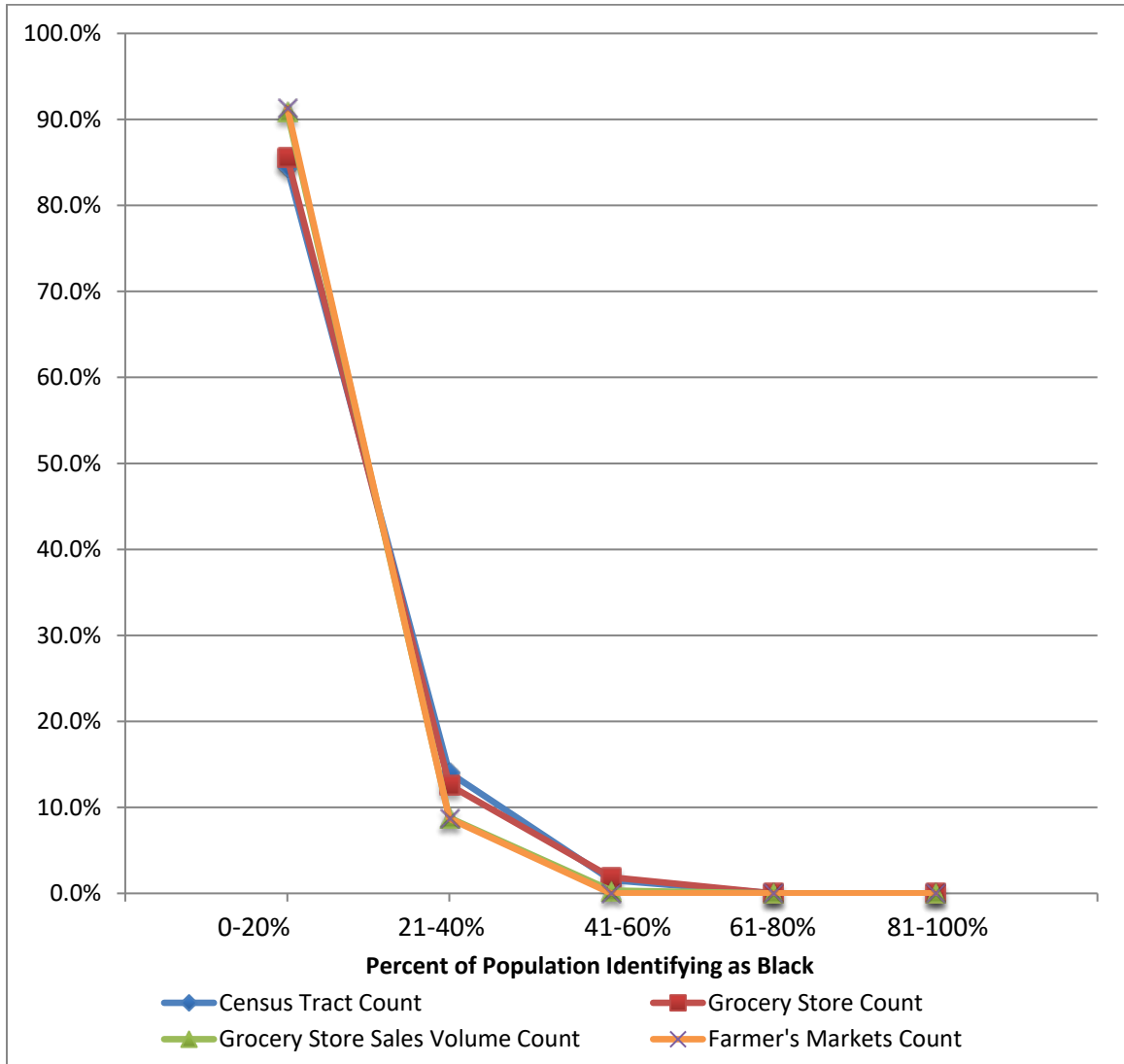


Figure 137. Distribution of grocery stores and farmers markets in Northern Virginia relative to concentration of Black population.

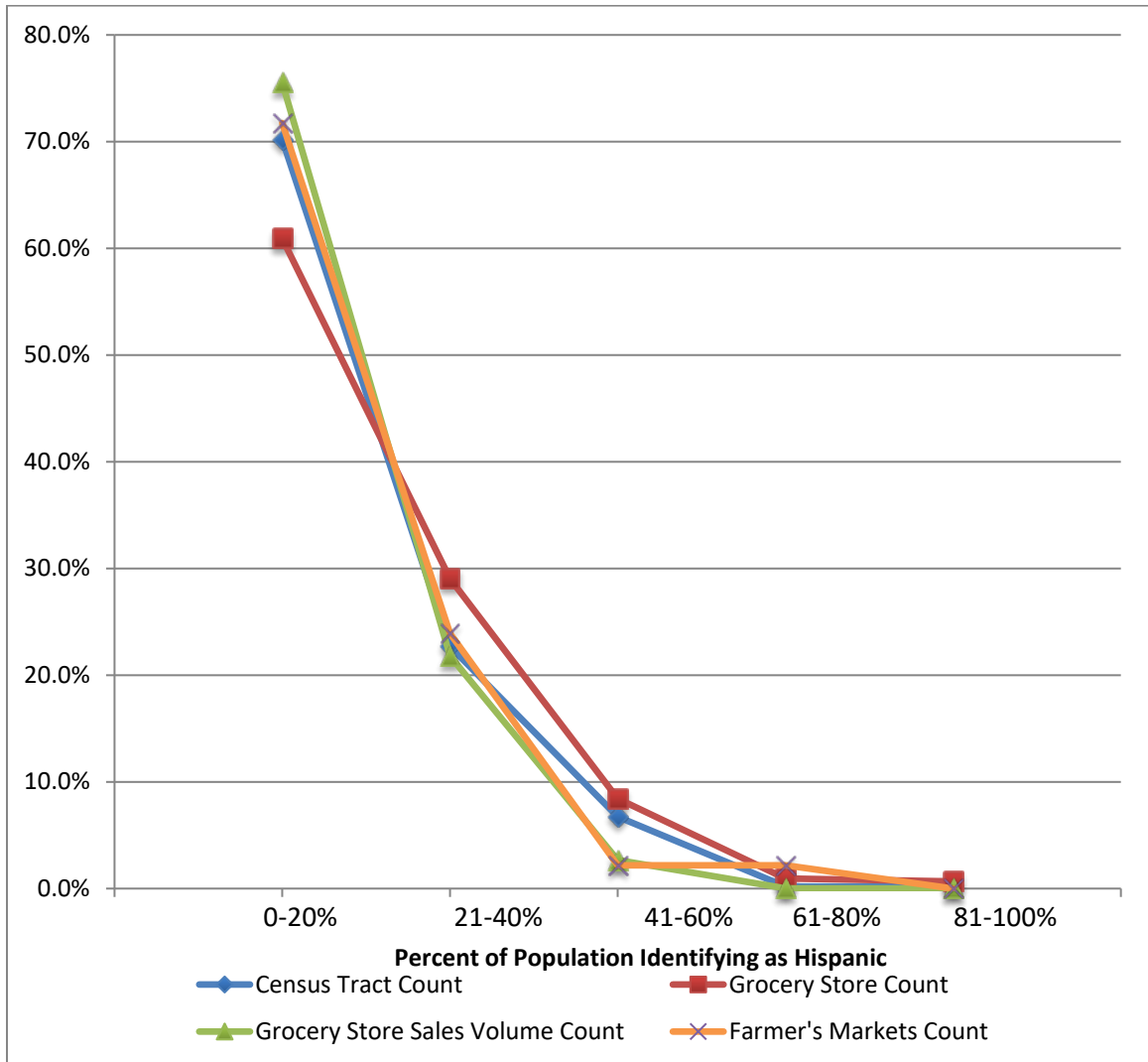


Figure 138. Distribution of grocery stores and farmers markets in Northern Virginia relative to concentration of Hispanic population.

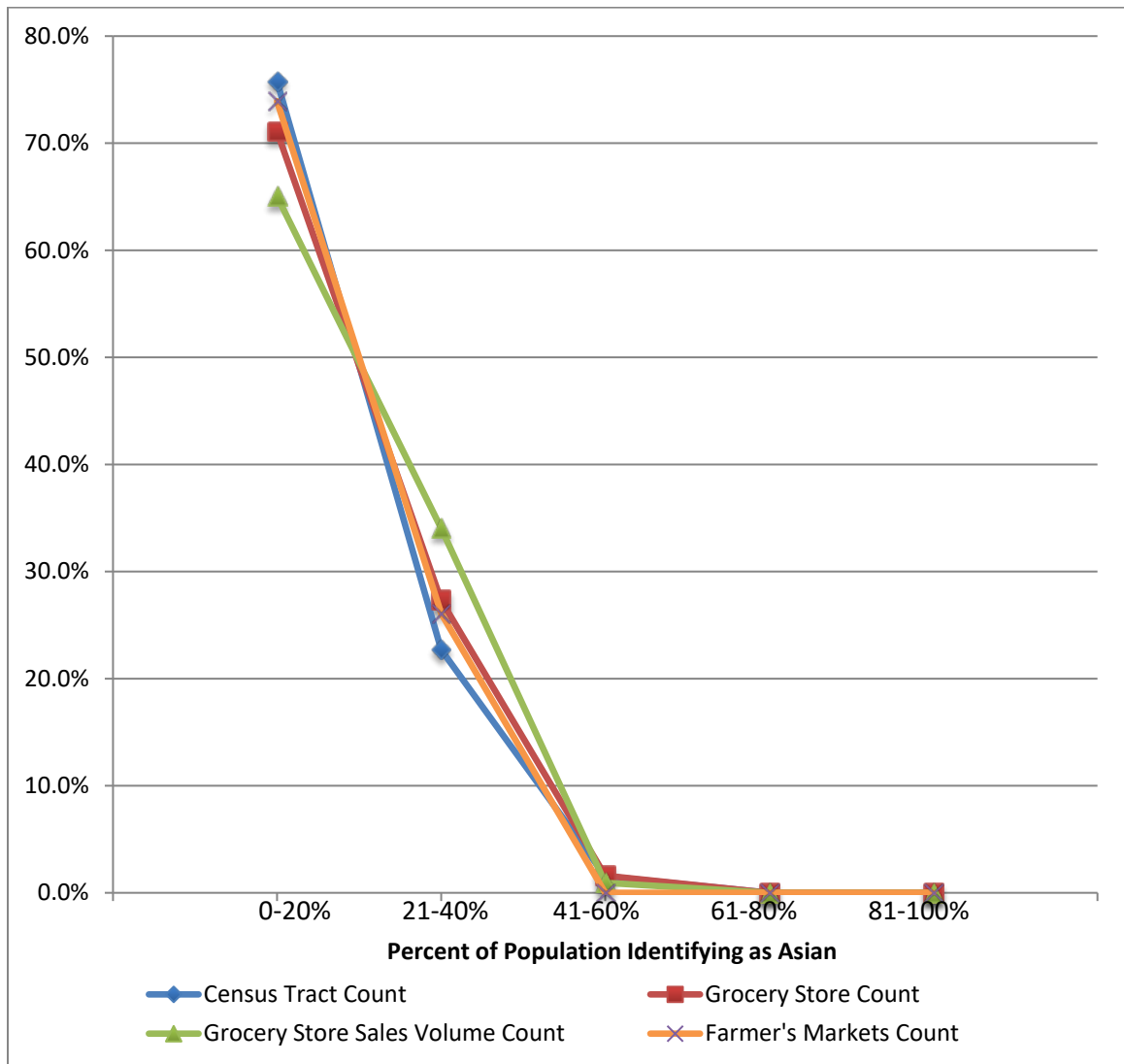


Figure 139. Distribution of grocery stores and farmers markets in Northern Virginia relative to concentration of Asian population.

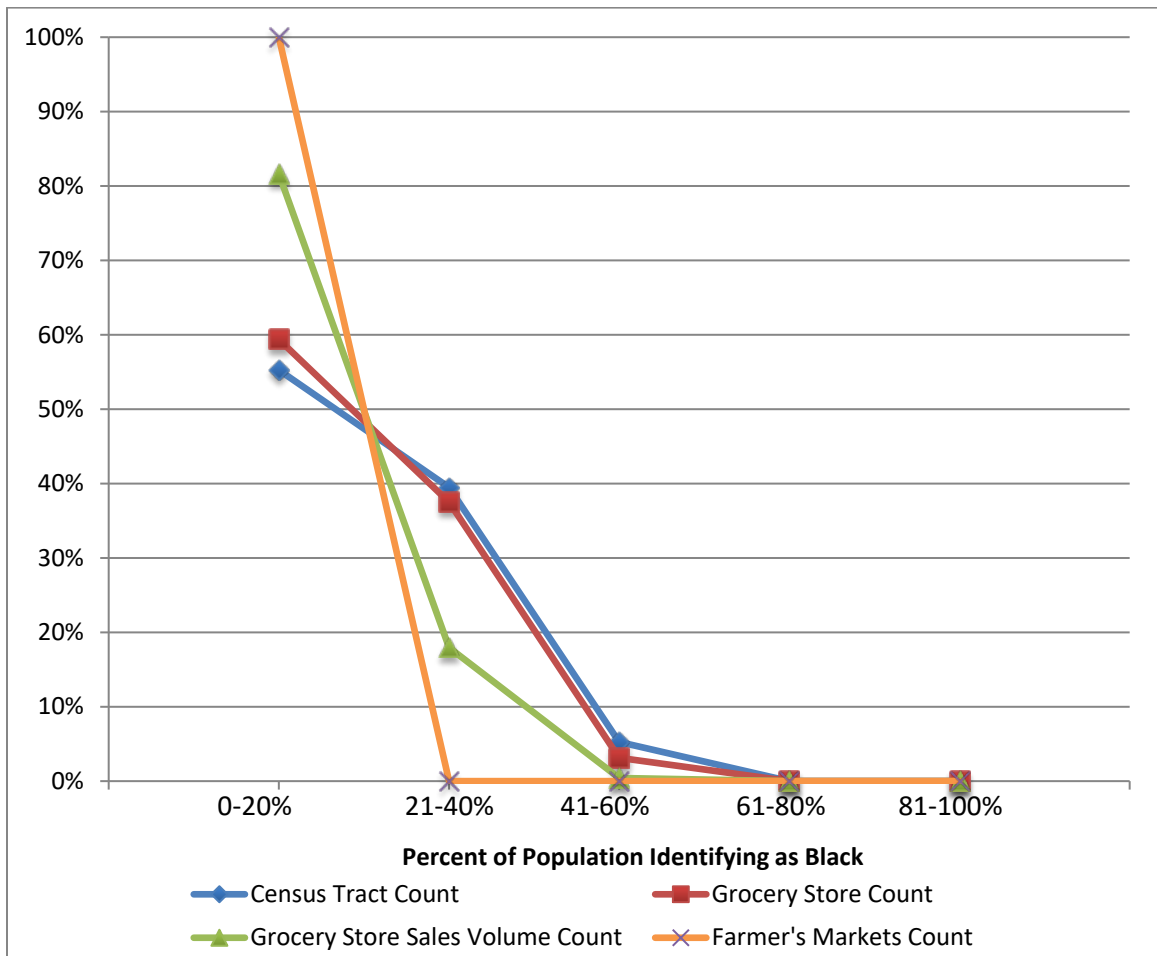


Figure 140. Distribution of grocery stores and farmers markets in Alexandria relative to concentration of Black population.

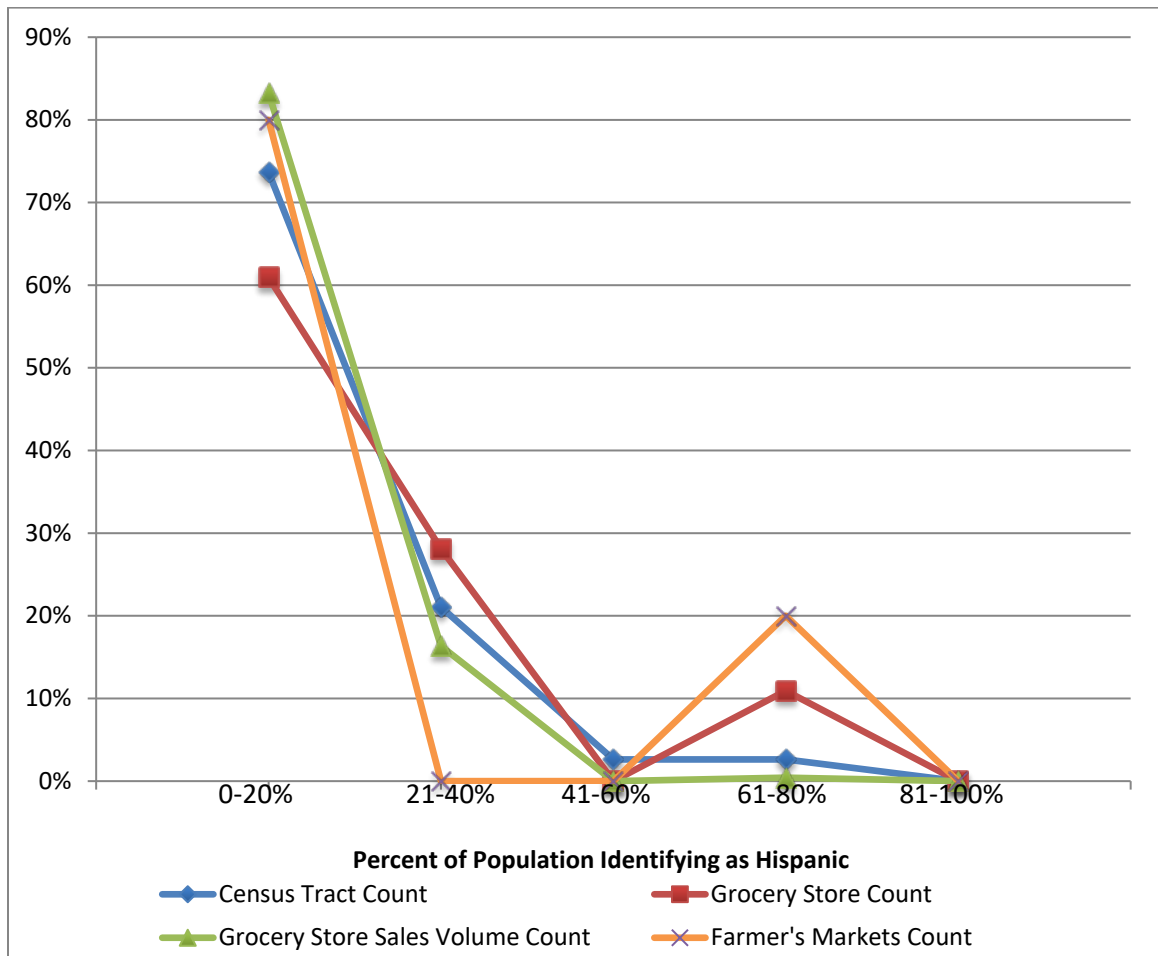


Figure 141. Distribution of grocery stores and farmers markets in Alexandria relative to concentration of Hispanic population.

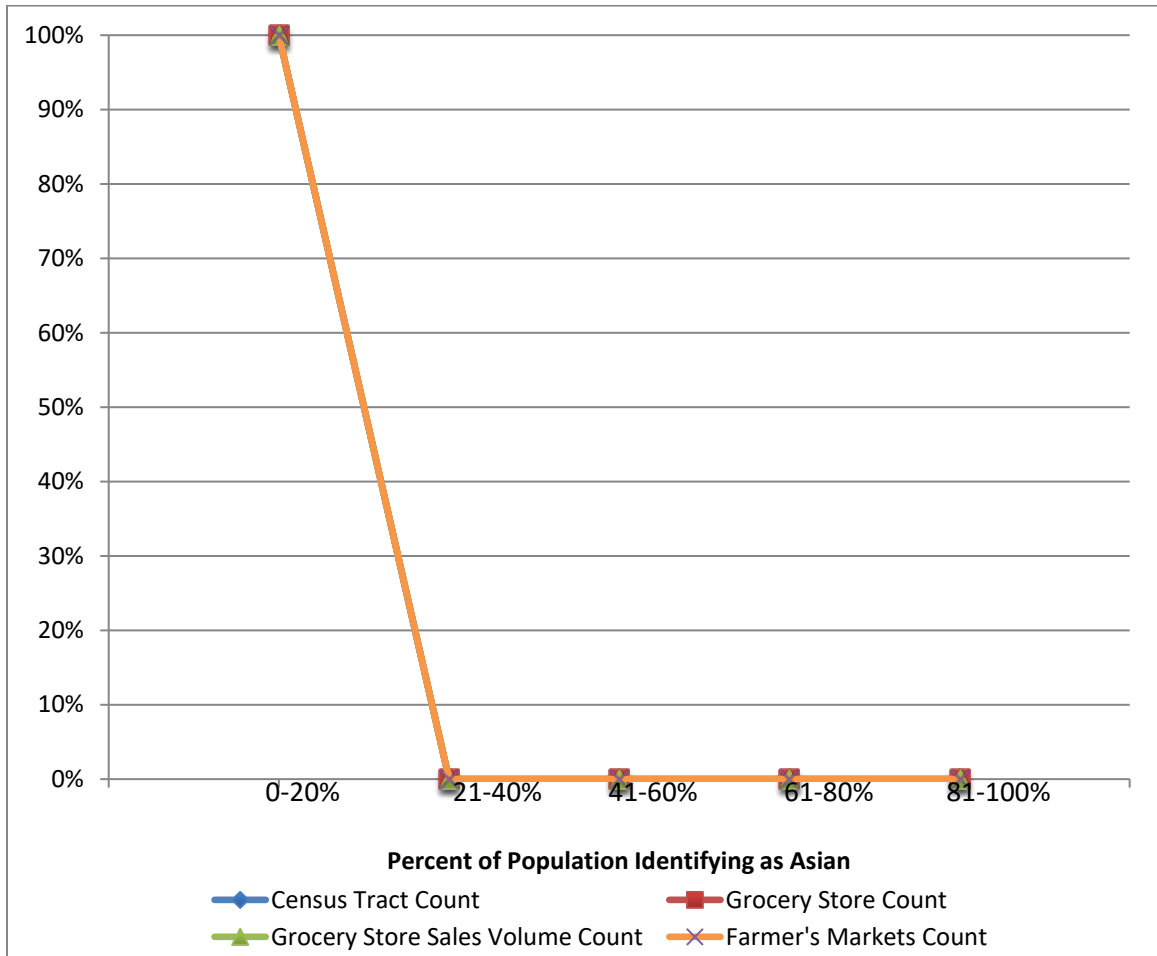


Figure 142. Distribution of grocery stores and farmers markets in Alexandria relative to concentration of Asian population.

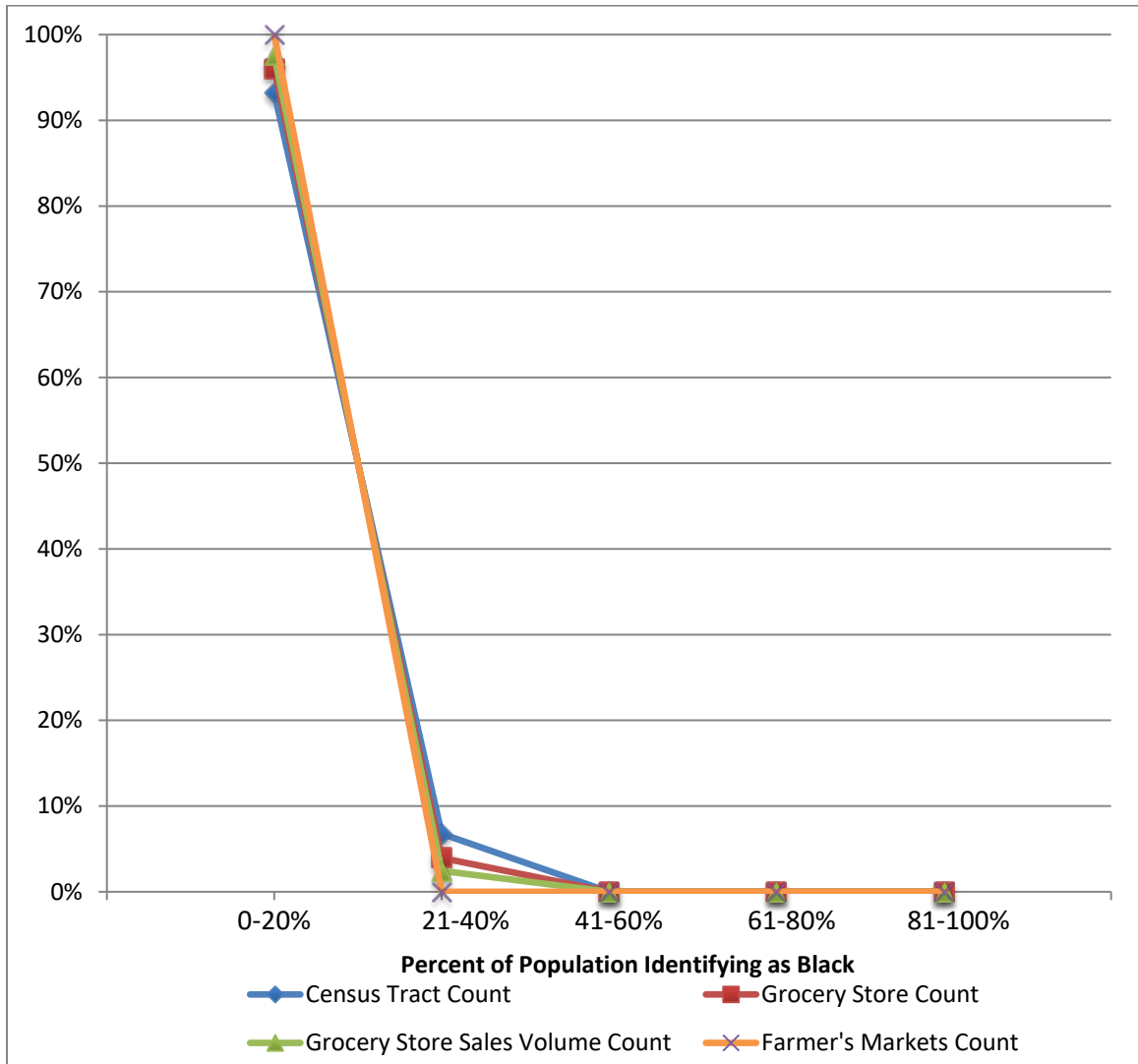


Figure 143. Distribution of grocery stores and farmers markets in Arlington relative to concentration of Black population.

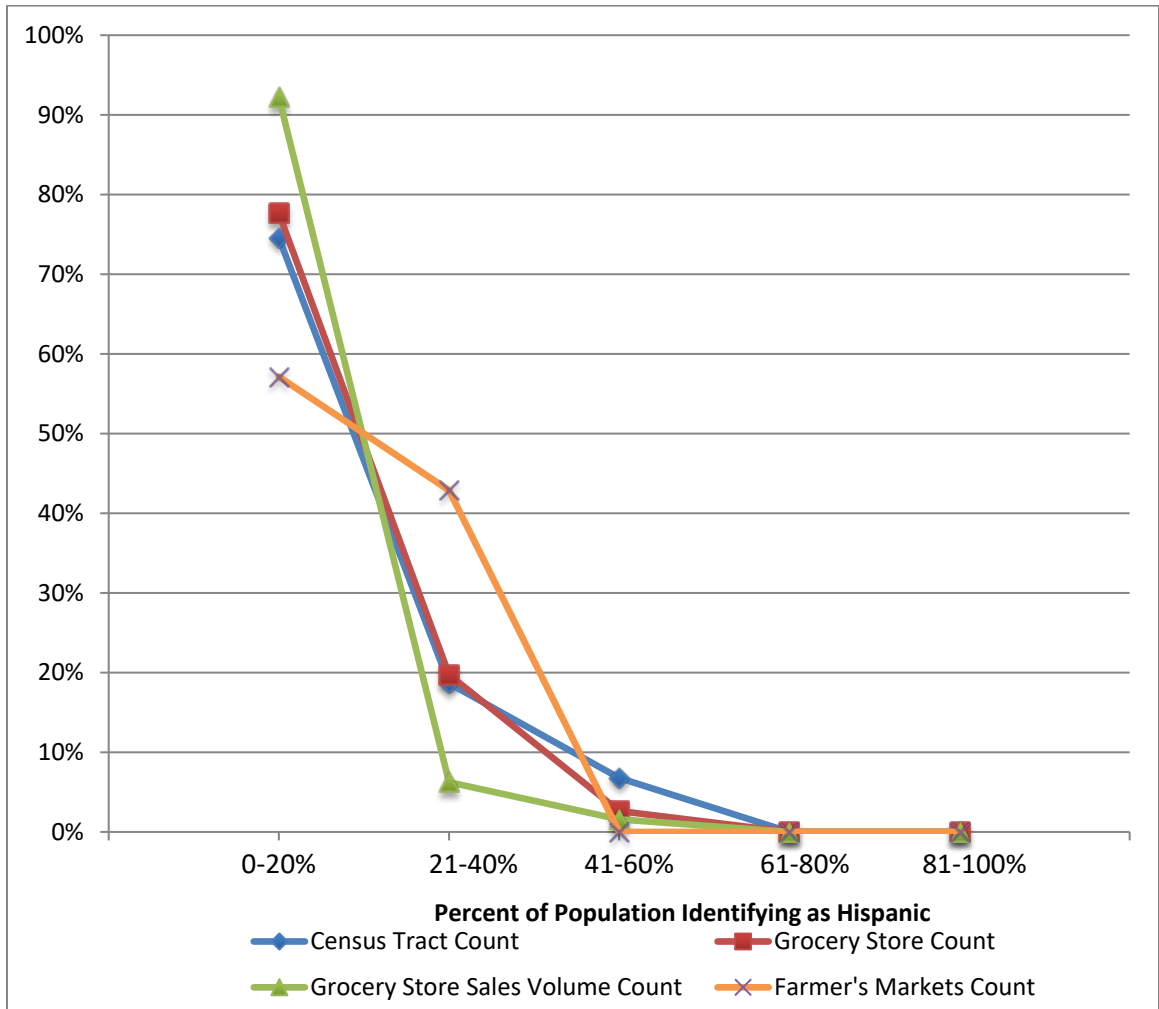


Figure 144. Distribution of grocery stores and farmers markets in Arlington relative to concentration of Hispanic population.

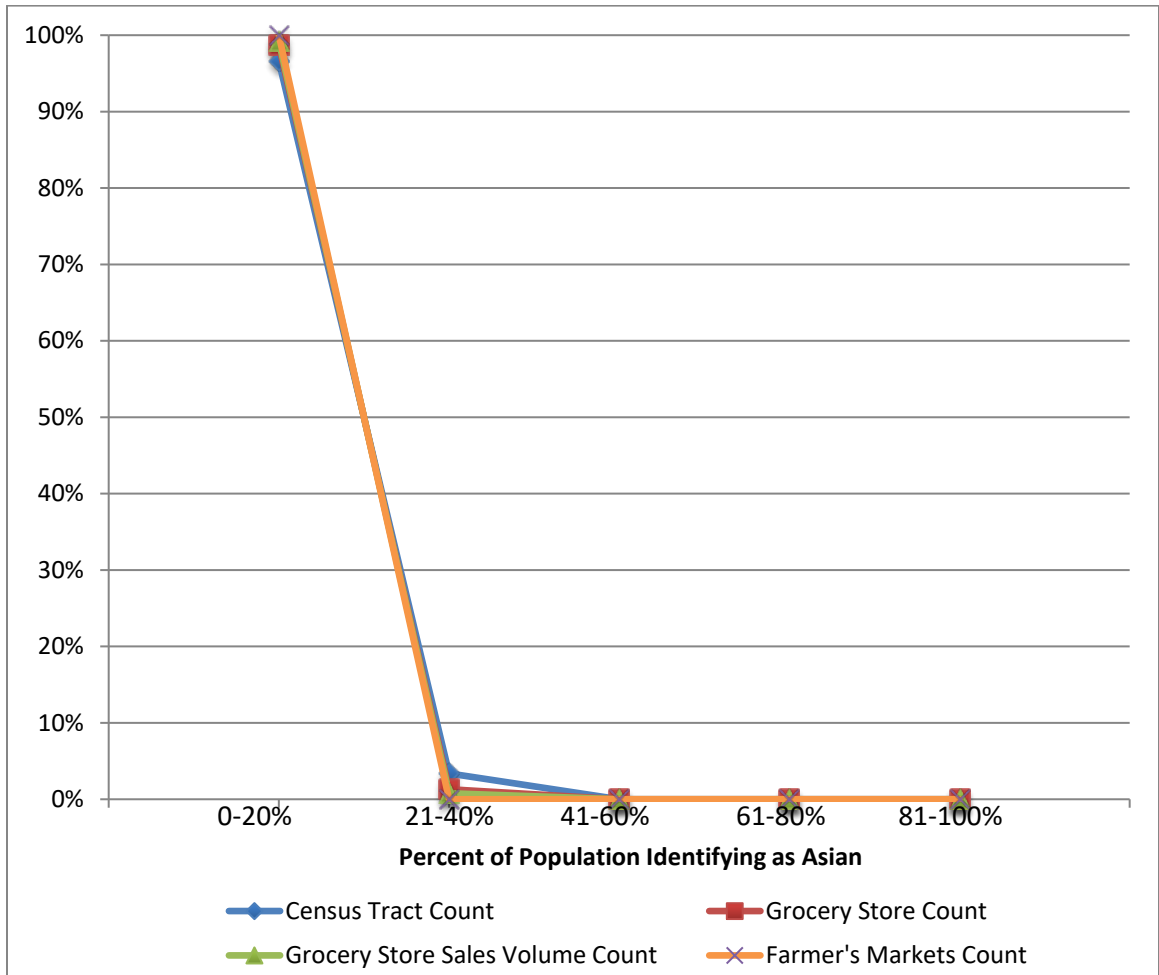


Figure 145. Distribution of grocery stores and farmers markets in Arlington relative to concentration of Asian population.

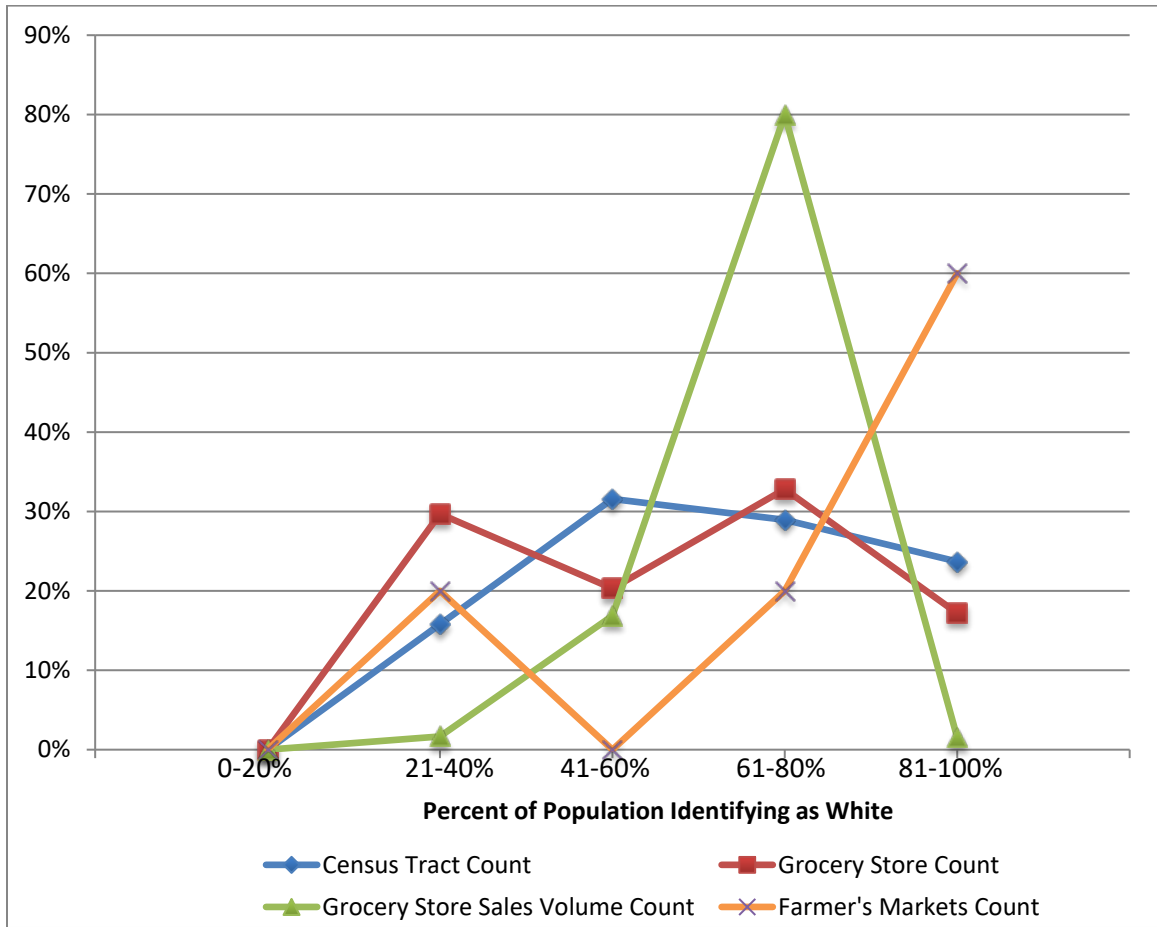


Figure 146. Distribution of grocery stores and farmers markets in Arlington relative to concentration of White population.

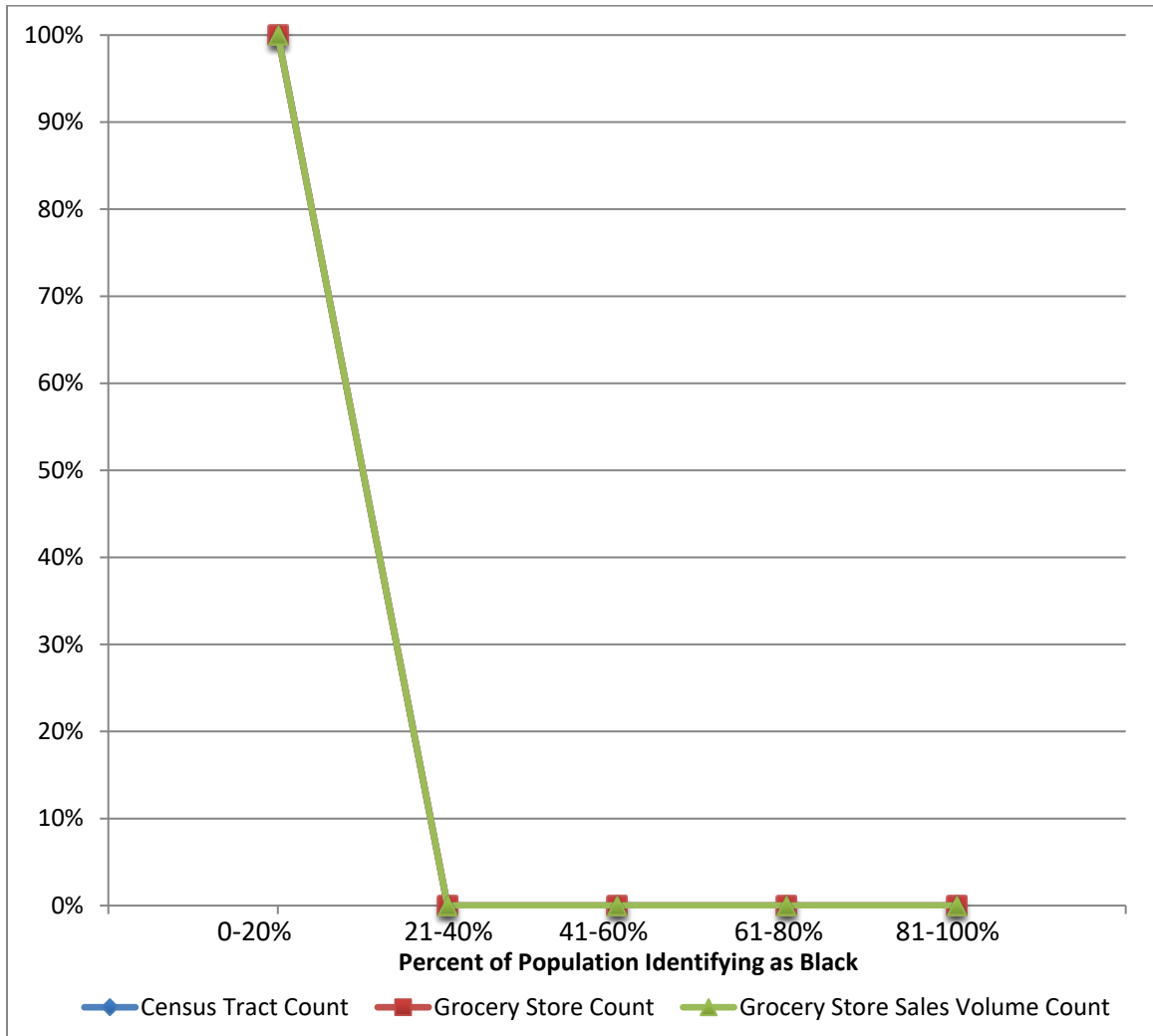


Figure 147. Distribution of grocery stores in Fairfax City relative to concentration of Black population. There are no farmers markets in Fairfax City.

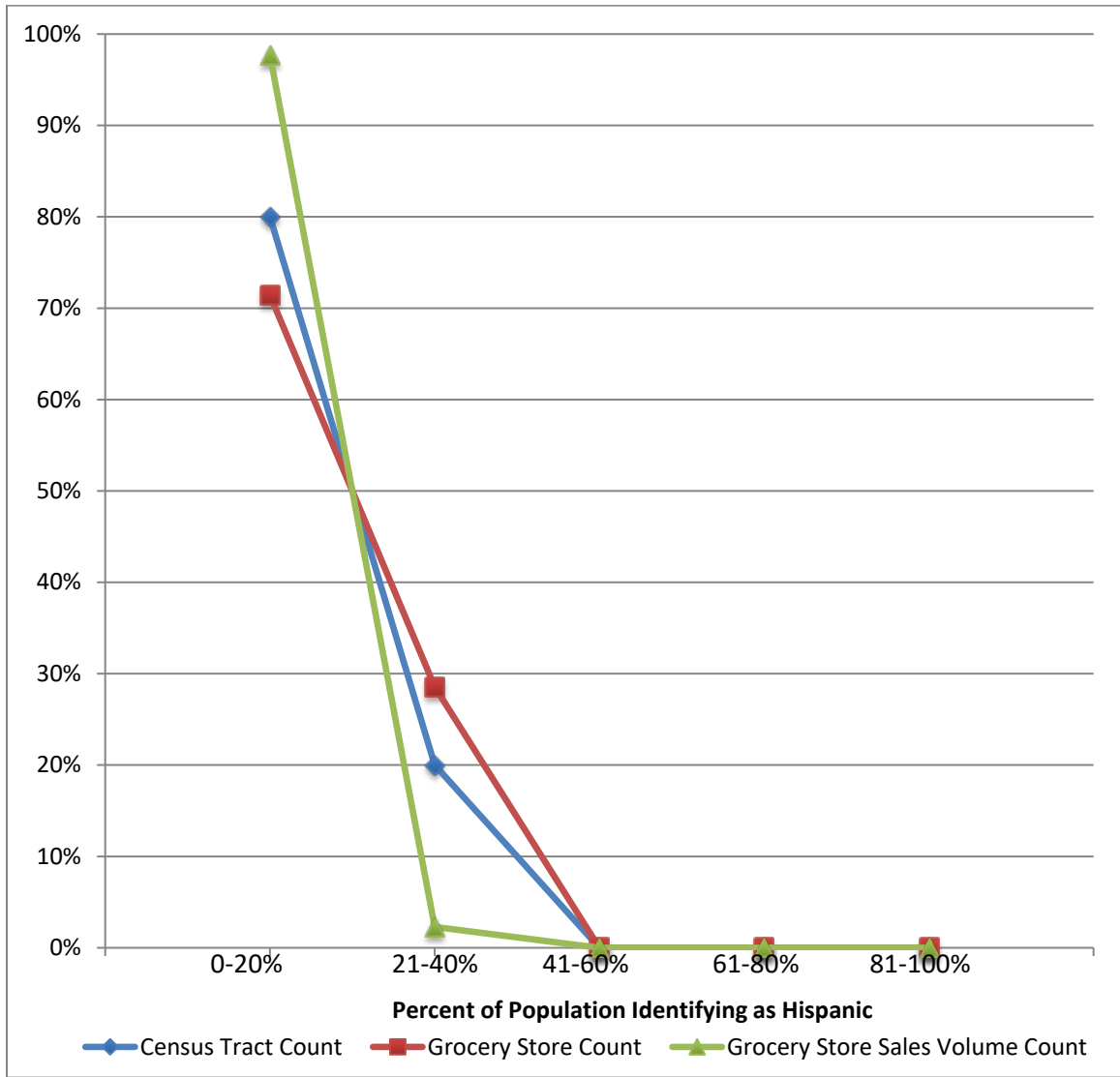


Figure 148. Distribution of grocery stores in Fairfax City relative to concentration of Hispanic population. There are no farmers markets in Fairfax City.

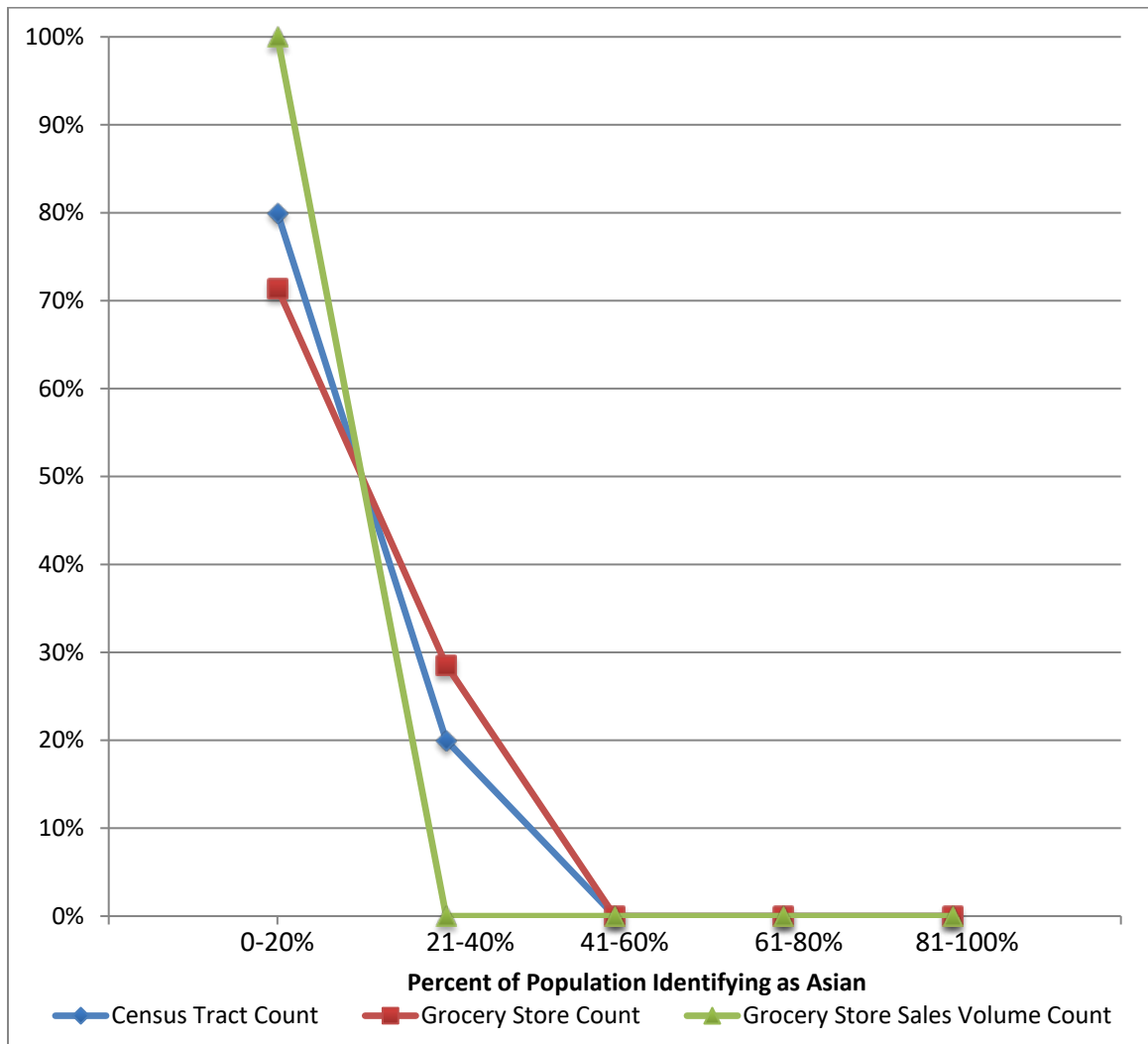


Figure 149. Distribution of grocery stores in Fairfax City relative to concentration of Asian population. There are no farmers markets in Fairfax City.

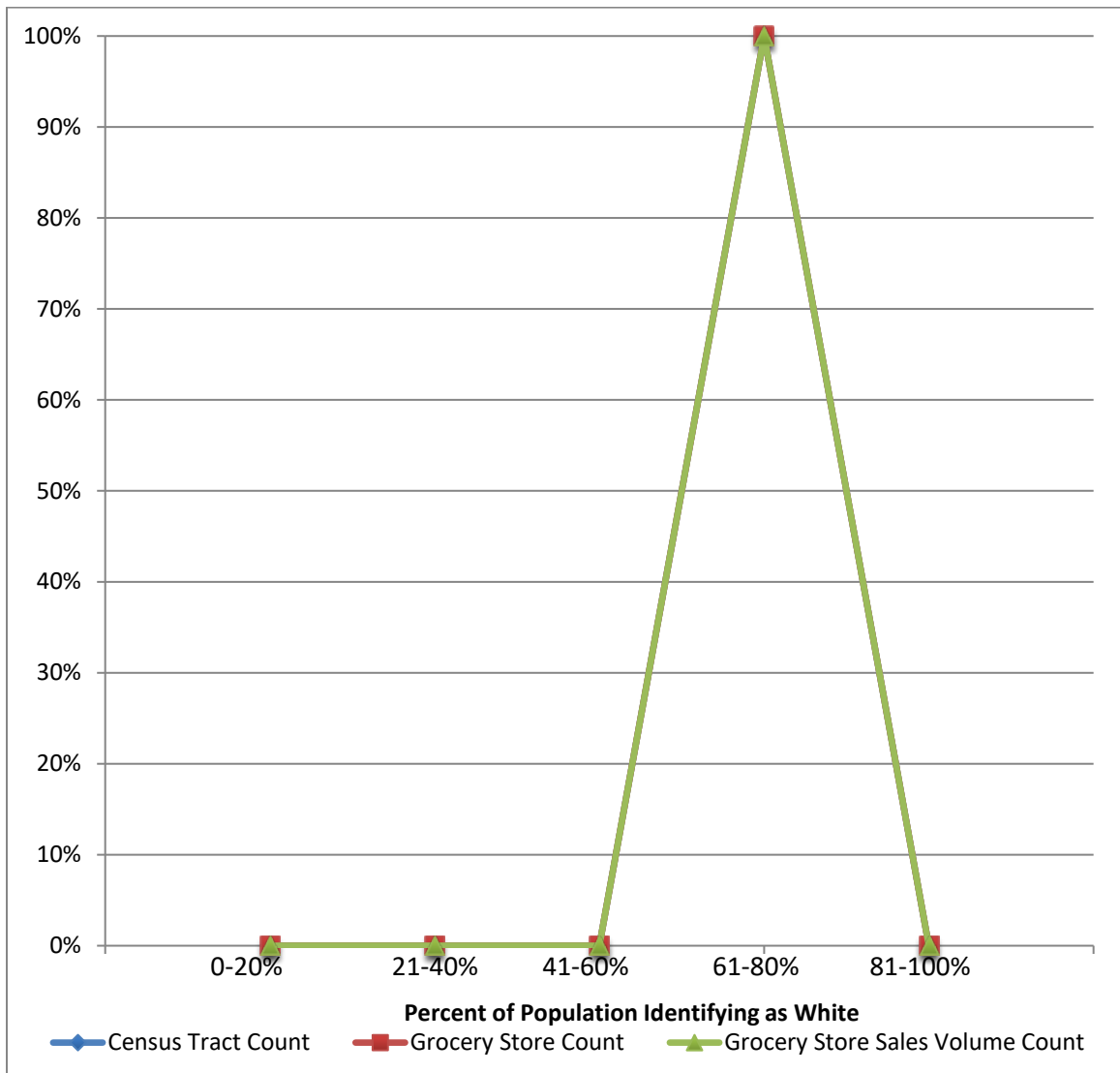


Figure 150. Distribution of grocery stores in Fairfax City relative to concentration of White population. There are no farmers markets in Fairfax City.

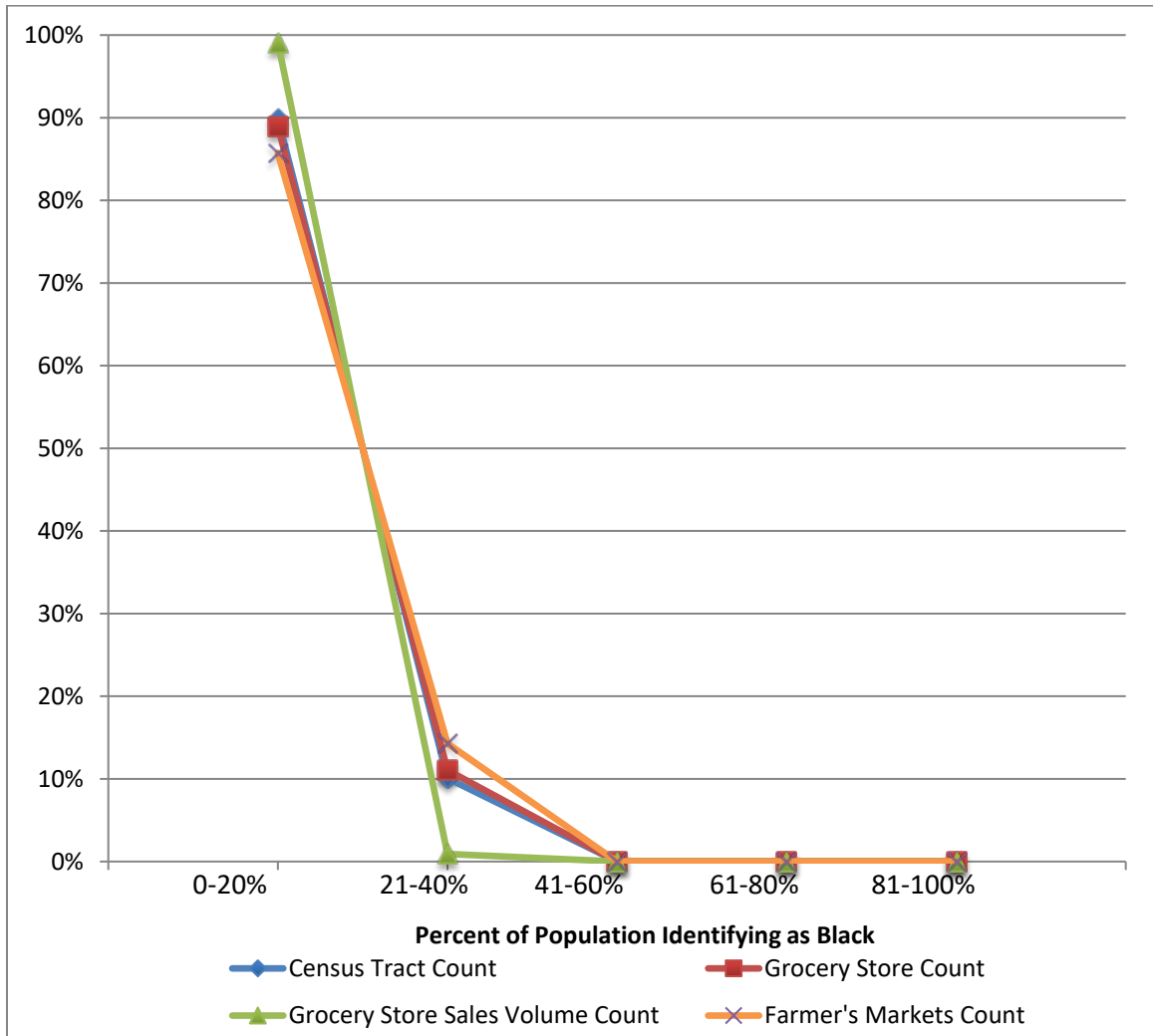


Figure 151. Distribution of grocery stores and farmers markets in Fairfax County relative to concentration of Black population.

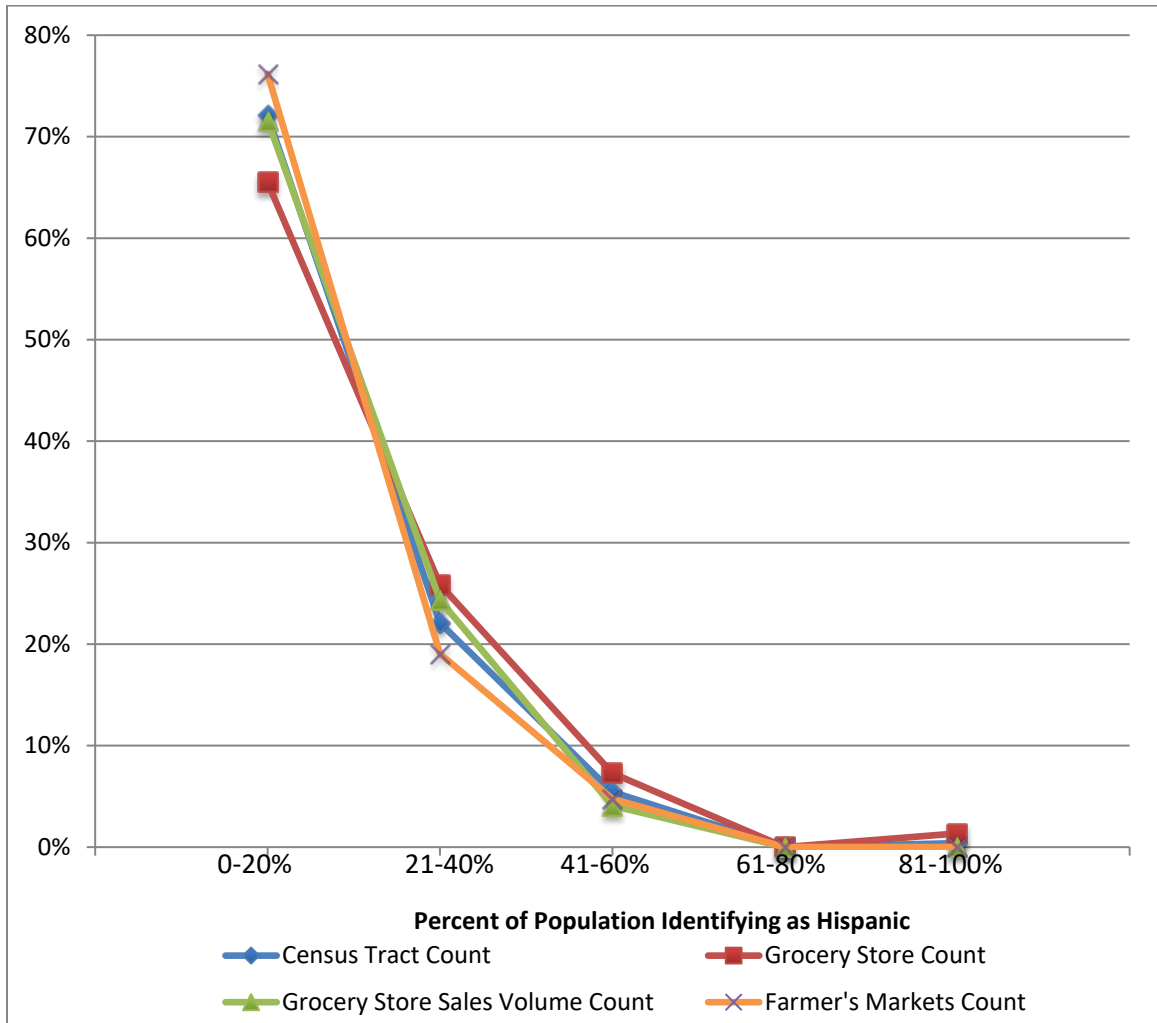


Figure 152. Distribution of grocery stores and farmers markets in Fairfax County relative to concentration of Hispanic population.

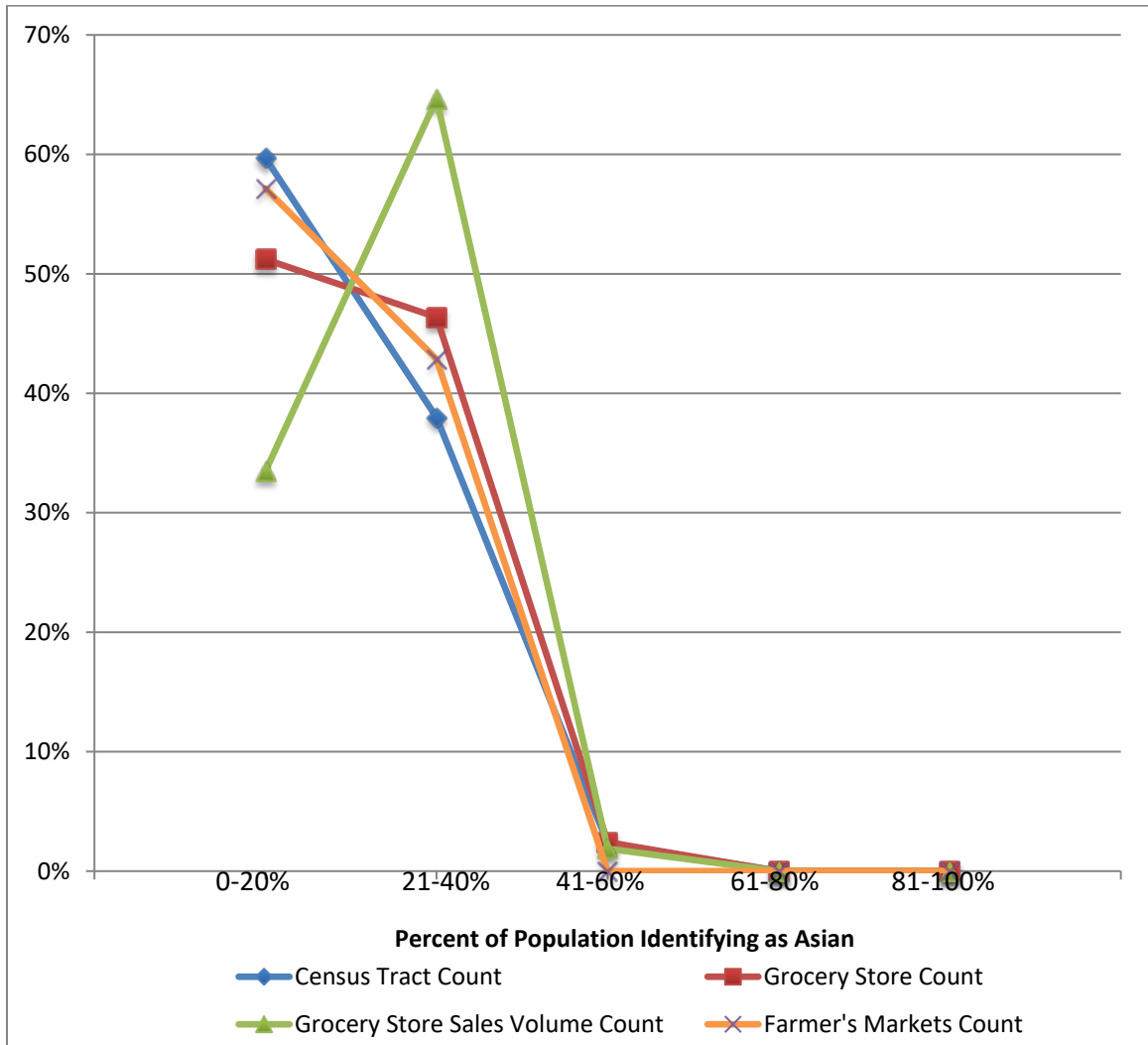


Figure 153. Distribution of grocery stores and farmers markets in Fairfax County relative to concentration of Asian population.

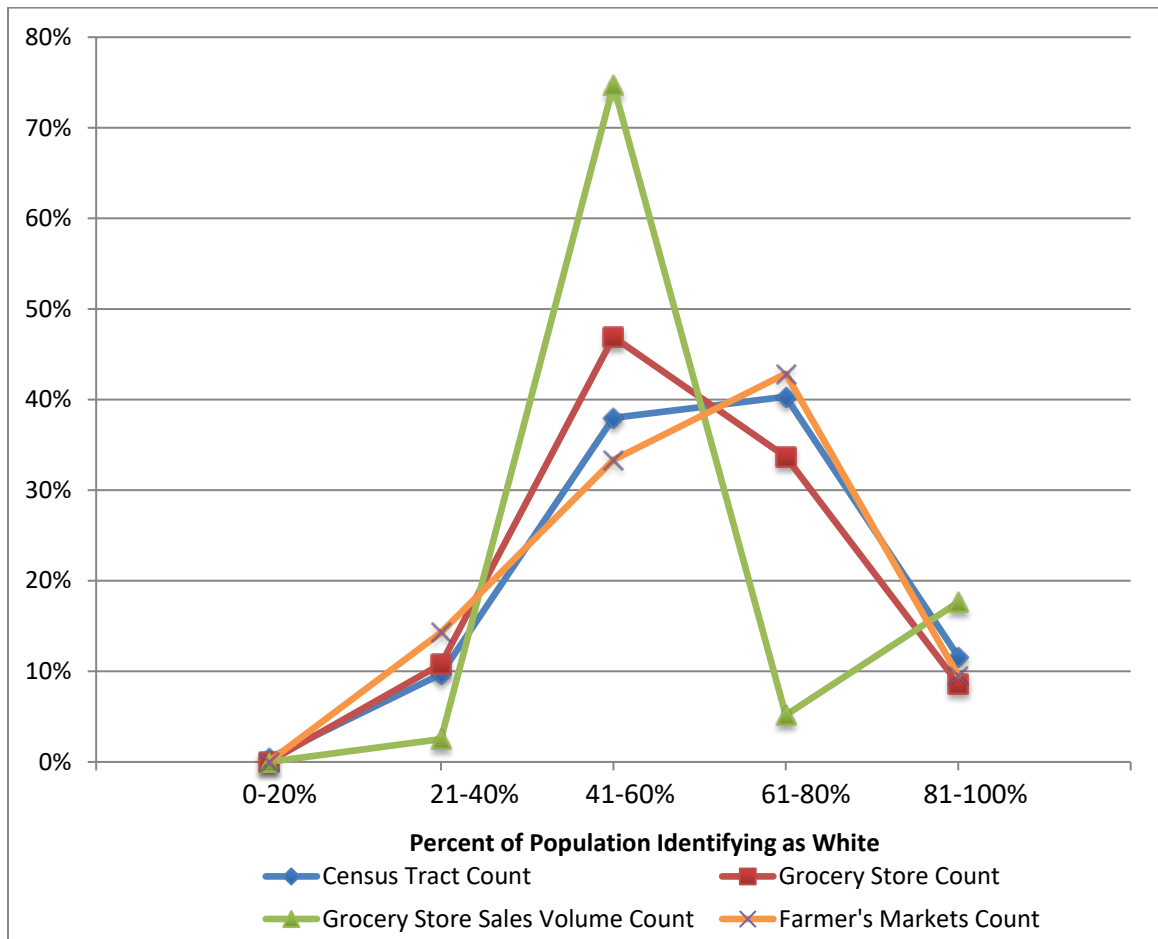


Figure 154. Distribution of grocery stores and farmers markets in Fairfax County relative to concentration of White population.

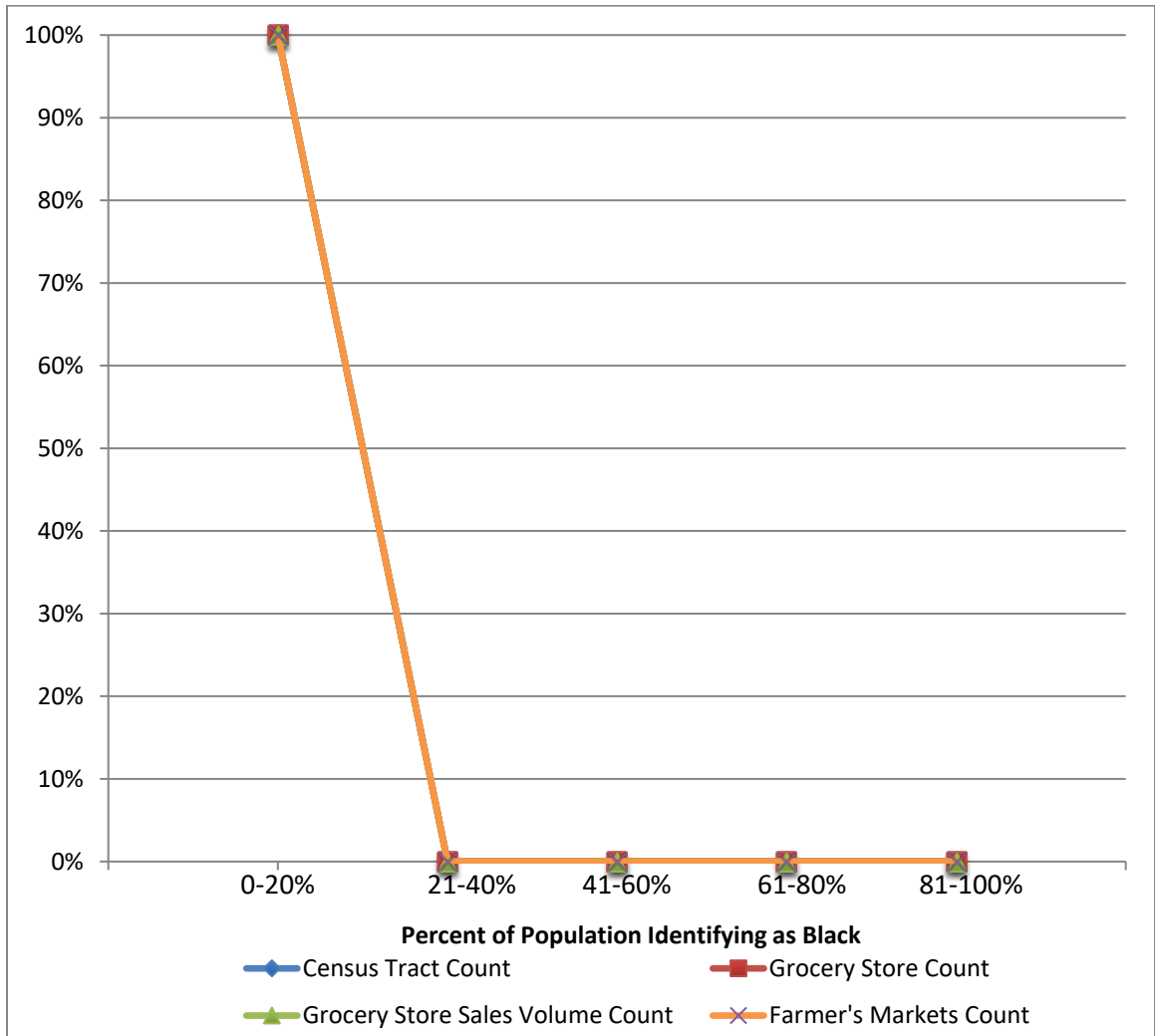


Figure 155. Distribution of grocery stores and farmers markets in Falls Church relative to concentration of Black population.

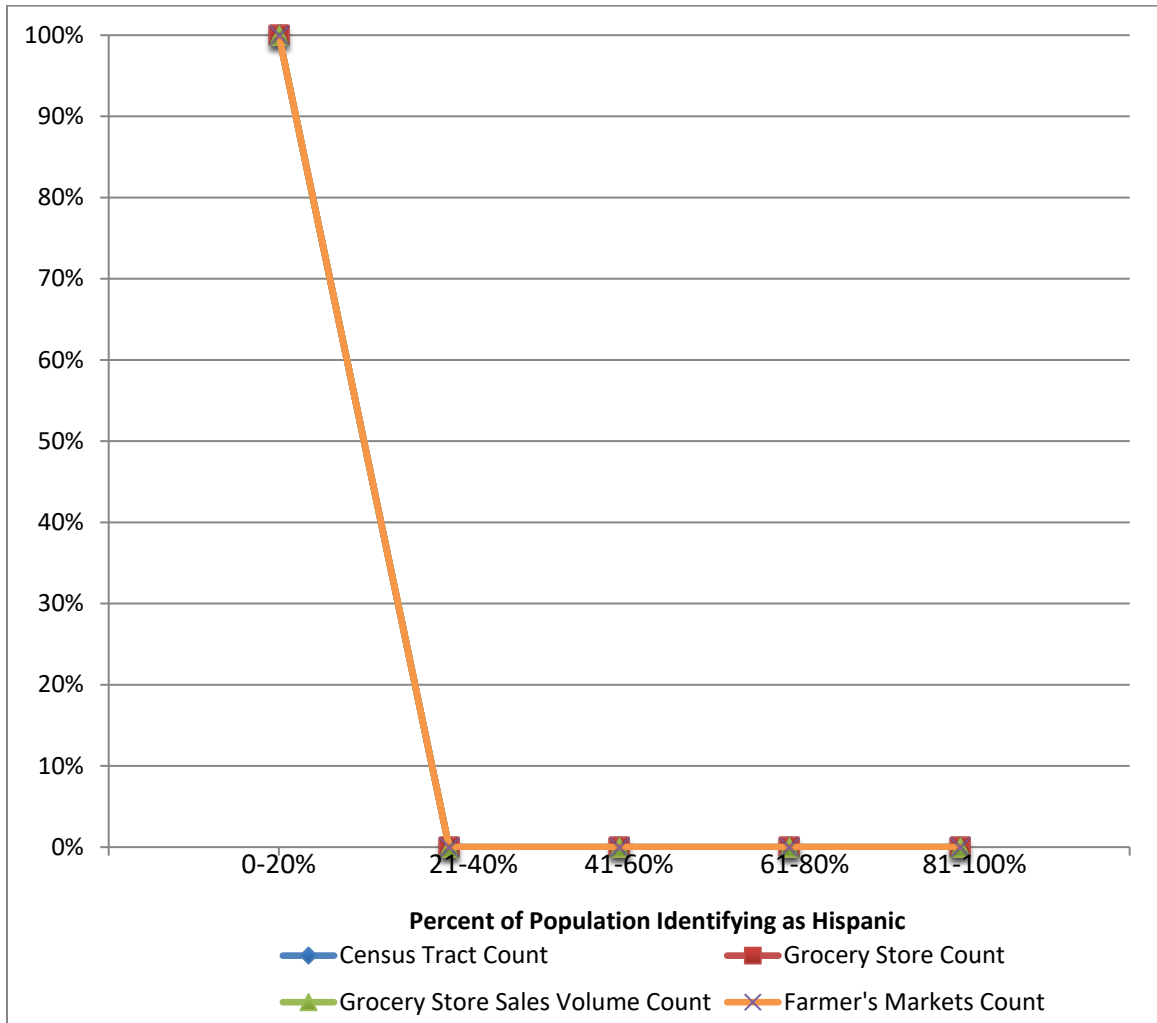


Figure 156. Distribution of grocery stores and farmers markets in Falls Church relative to concentration of Hispanic population.

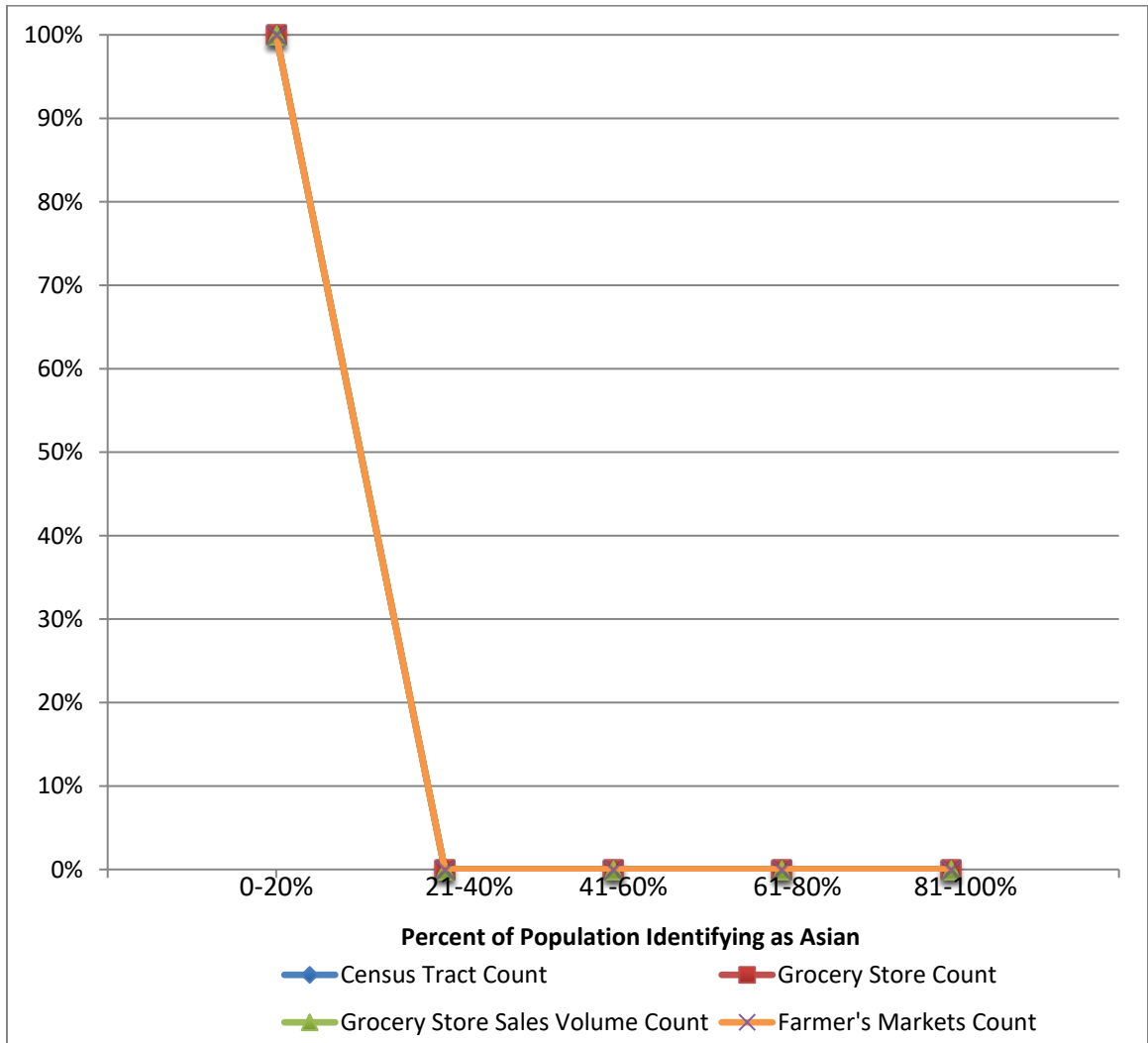


Figure 157. Distribution of grocery stores and farmers markets in Falls Church relative to concentration of Asian population.

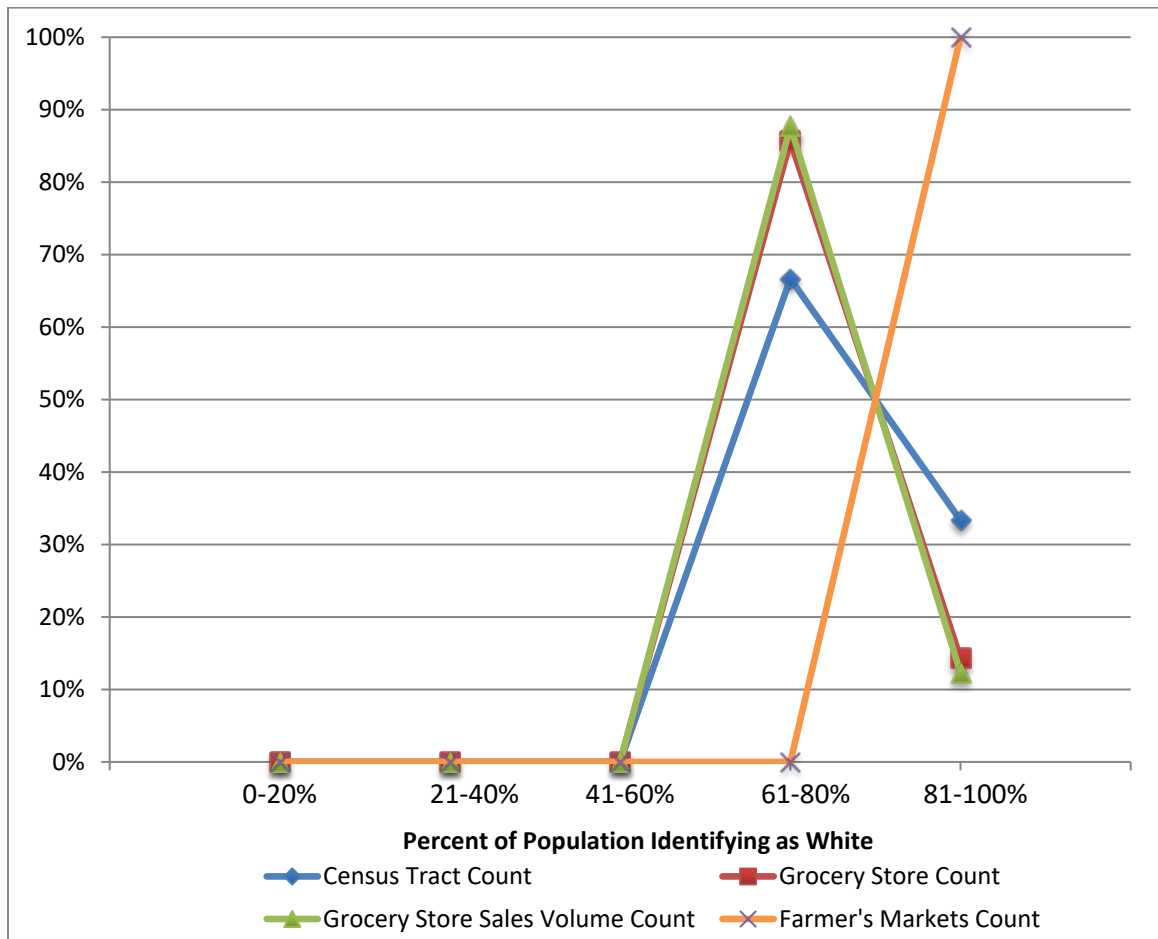


Figure 158. Distribution of grocery stores and farmers markets in Falls Church relative to concentration of White population.

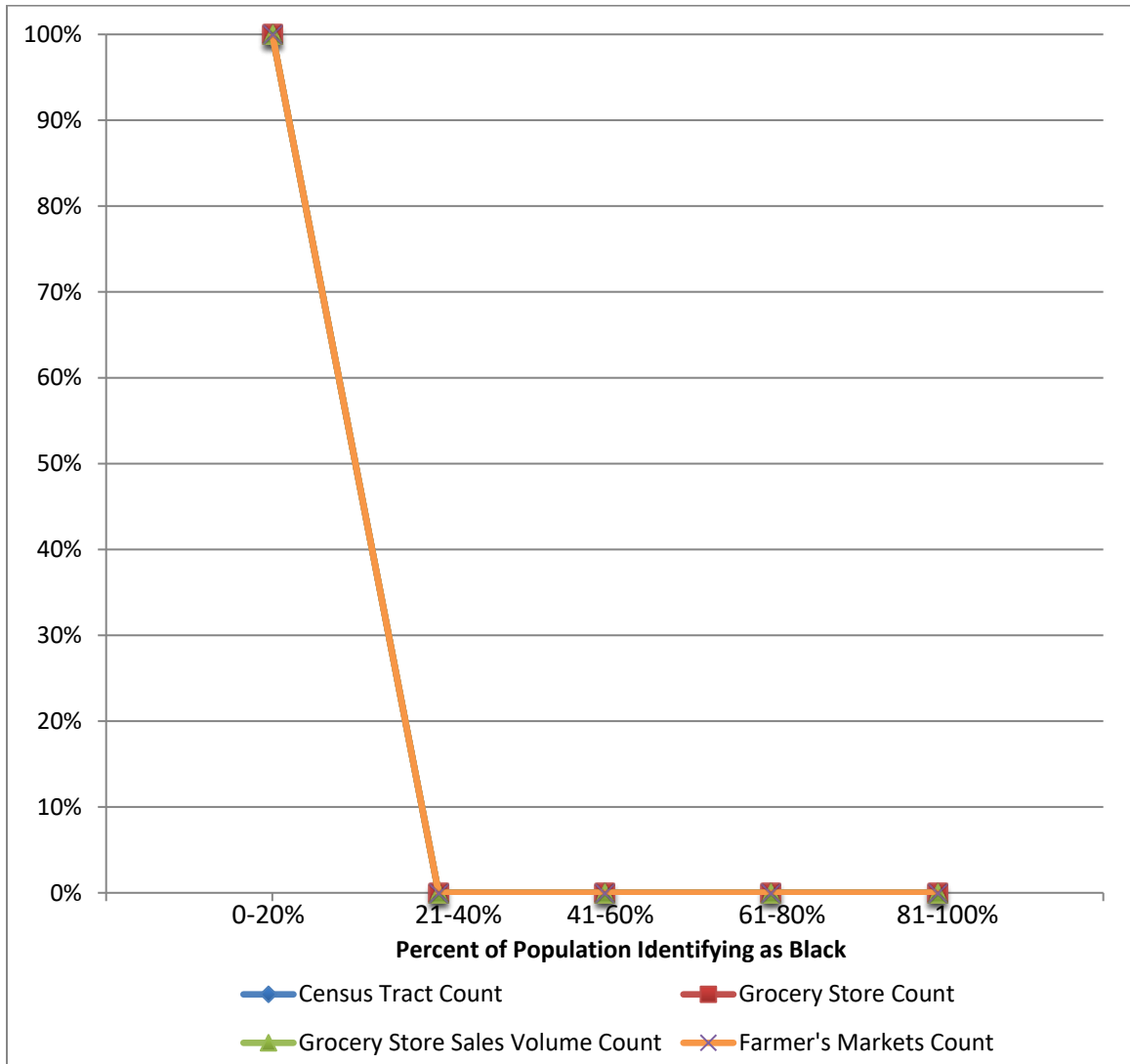


Figure 159. Distribution of grocery stores and farmers markets in Loudoun relative to concentration of Black population.

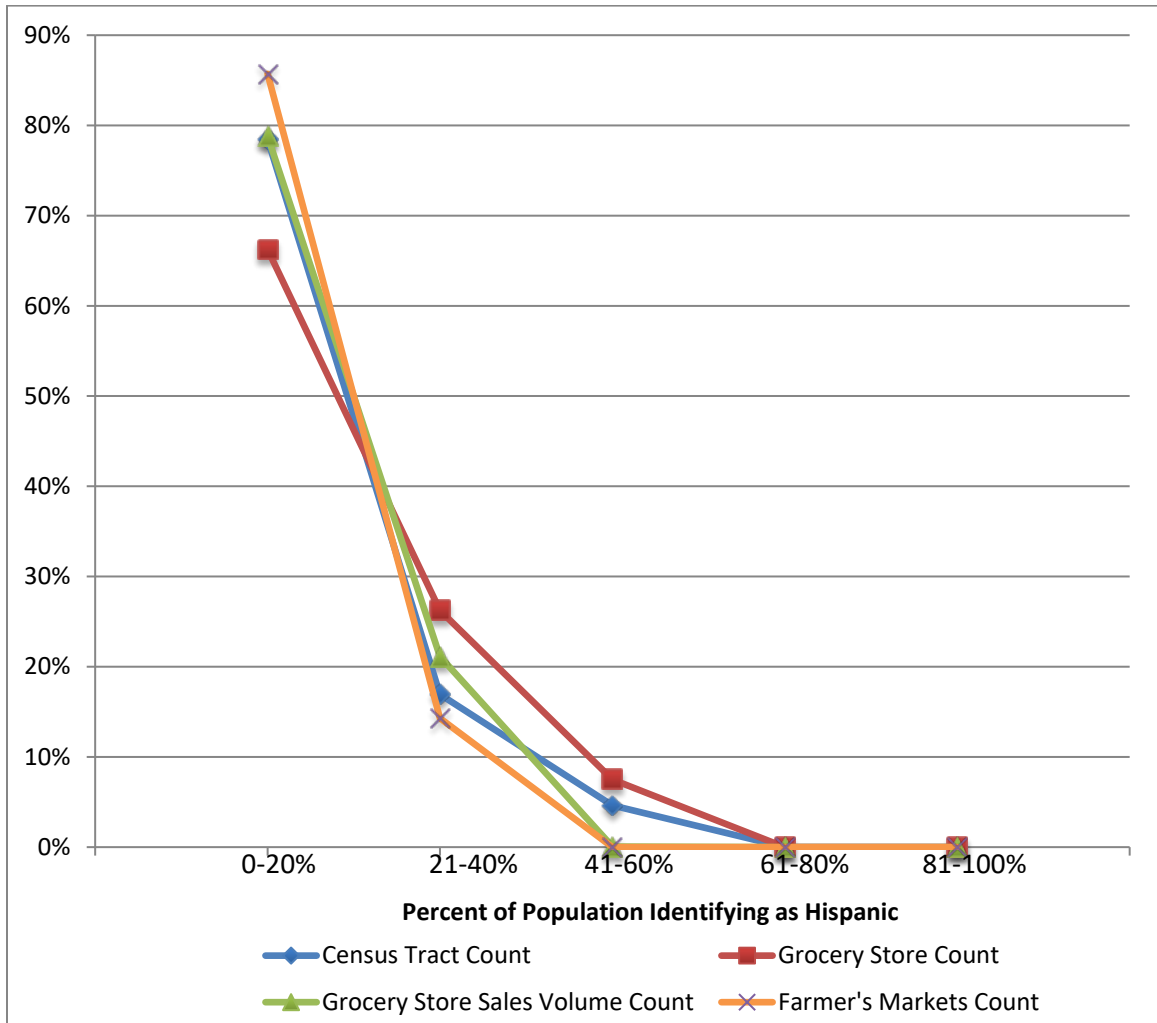


Figure 160. Distribution of grocery stores and farmers markets in Loudoun relative to concentration of Hispanic population.

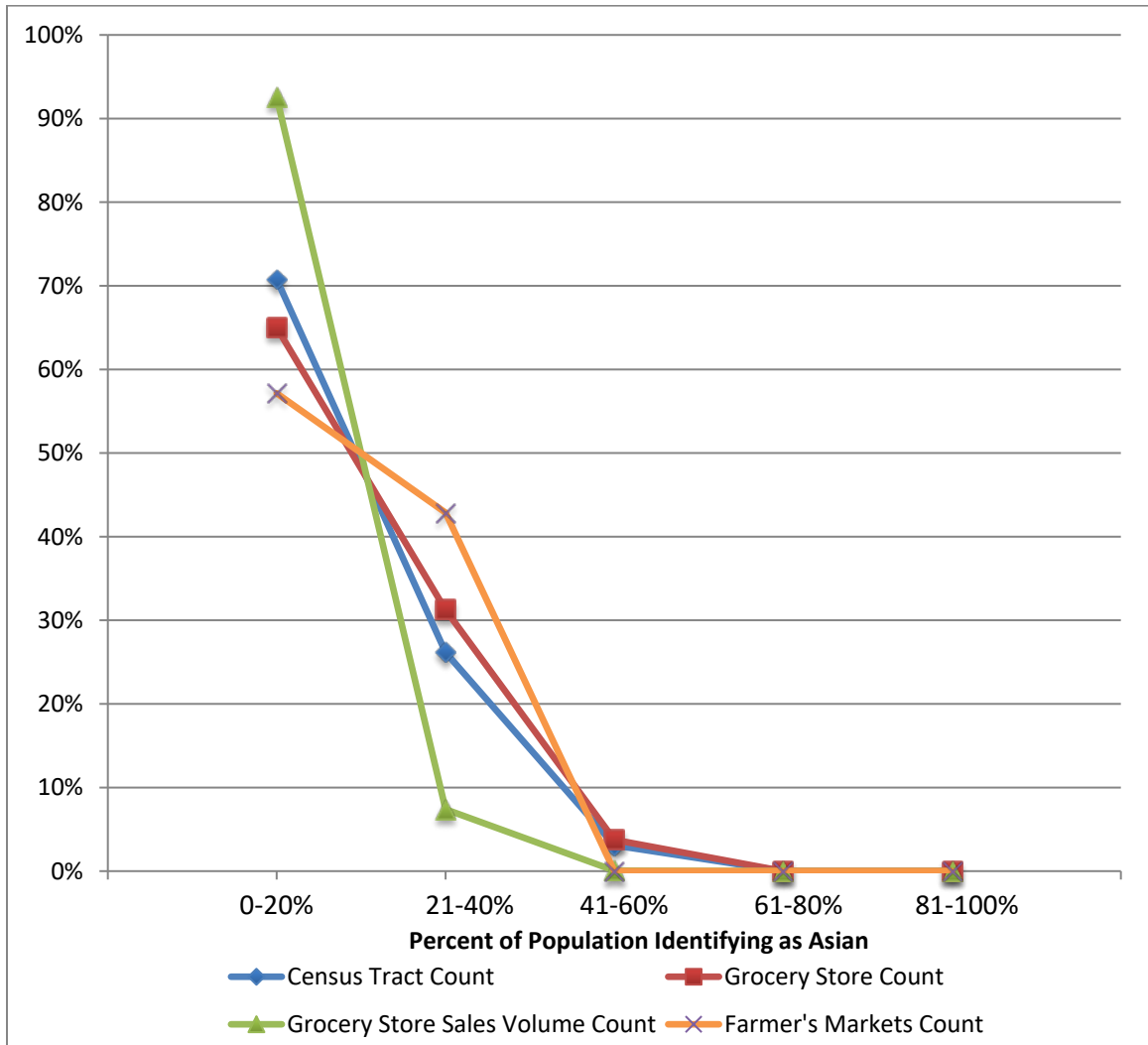


Figure 161. Distribution of grocery stores and farmers markets in Loudoun relative to concentration of Asian population.

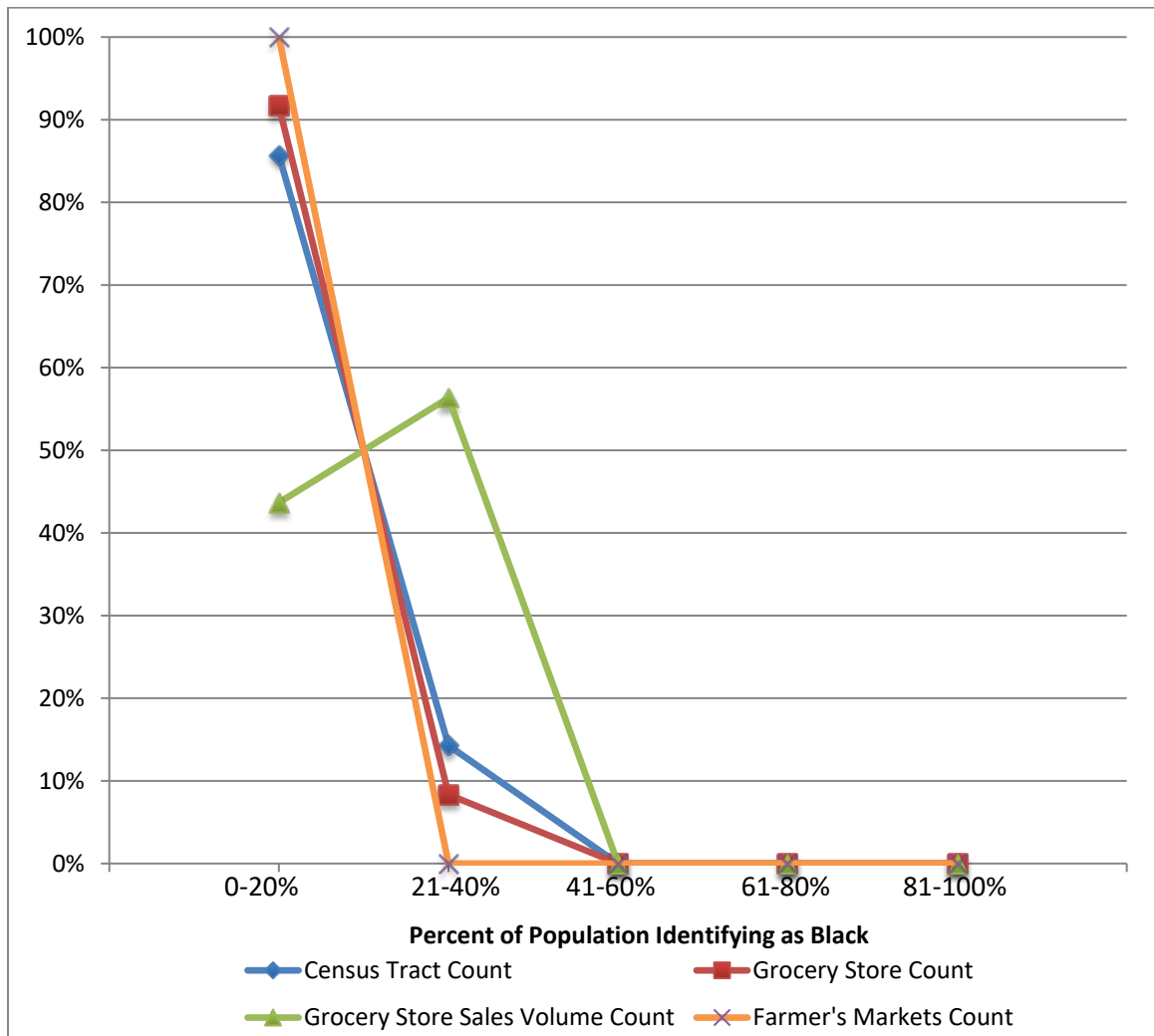


Figure 162. Distribution of grocery stores and farmers markets in Manassas City relative to concentration of Black population.

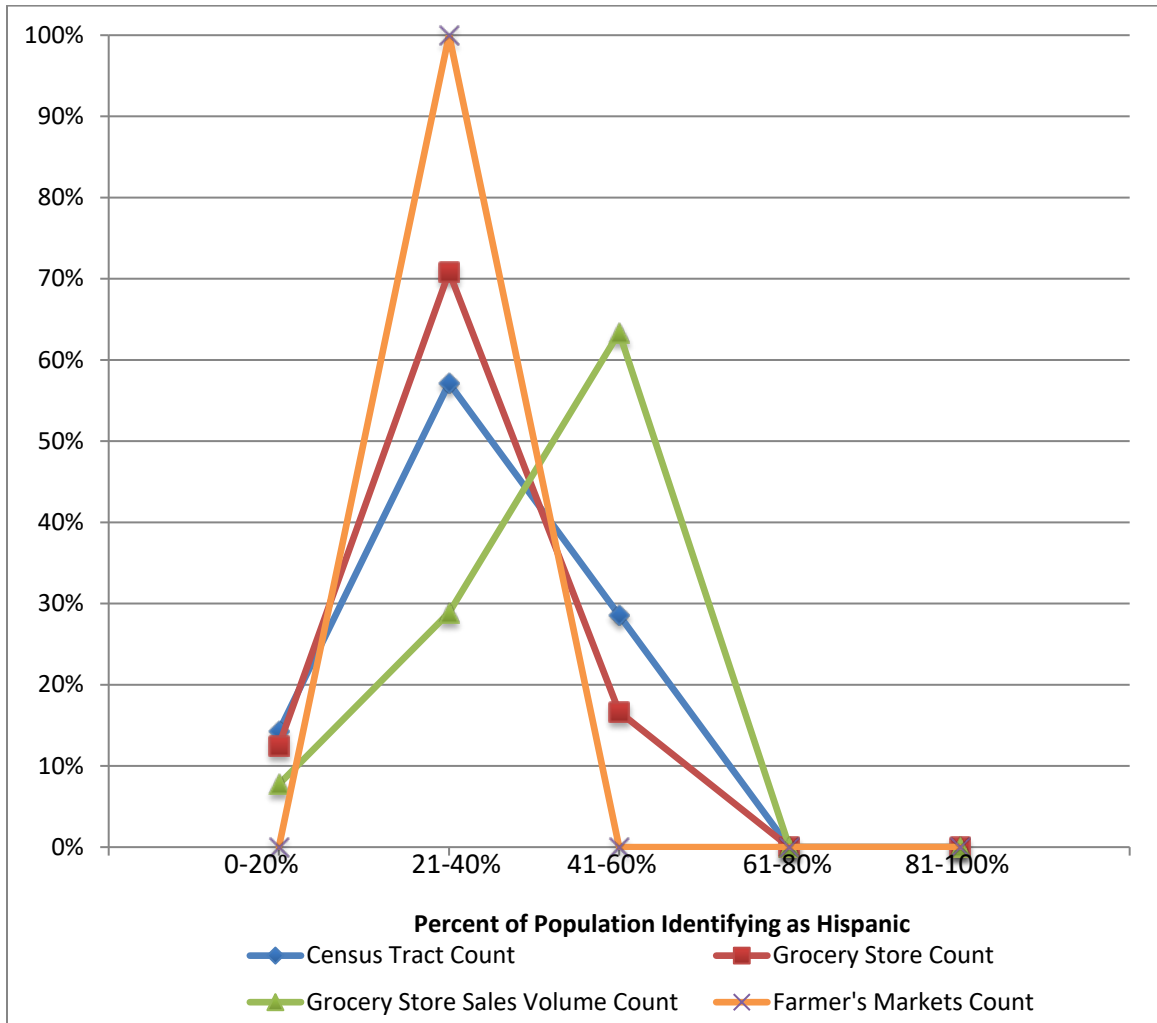


Figure 163. Distribution of grocery stores and farmers markets in Manassas City relative to concentration of Hispanic population.

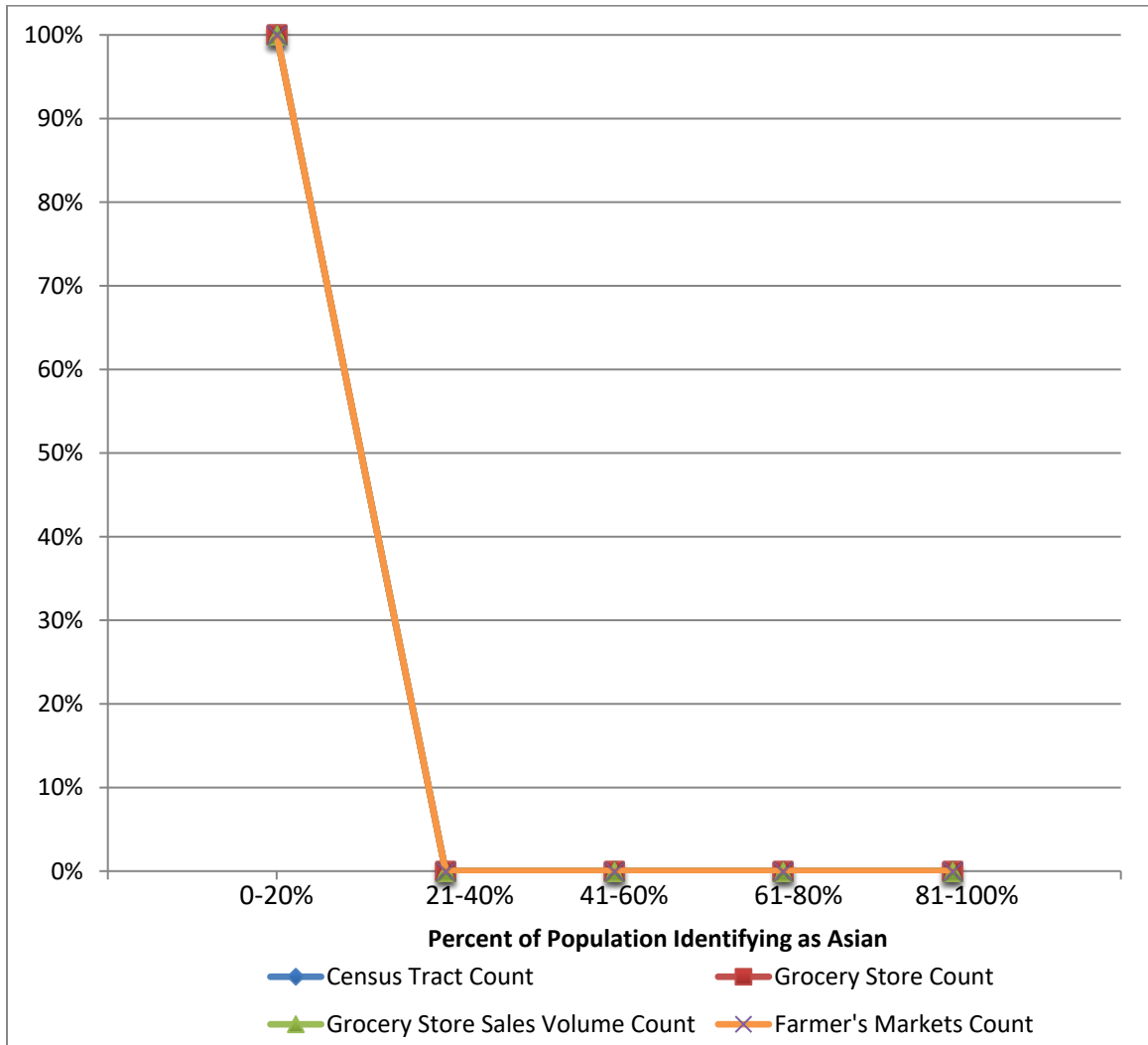


Figure 164. Distribution of grocery stores and farmers markets in Manassas City relative to concentration of Asian population.

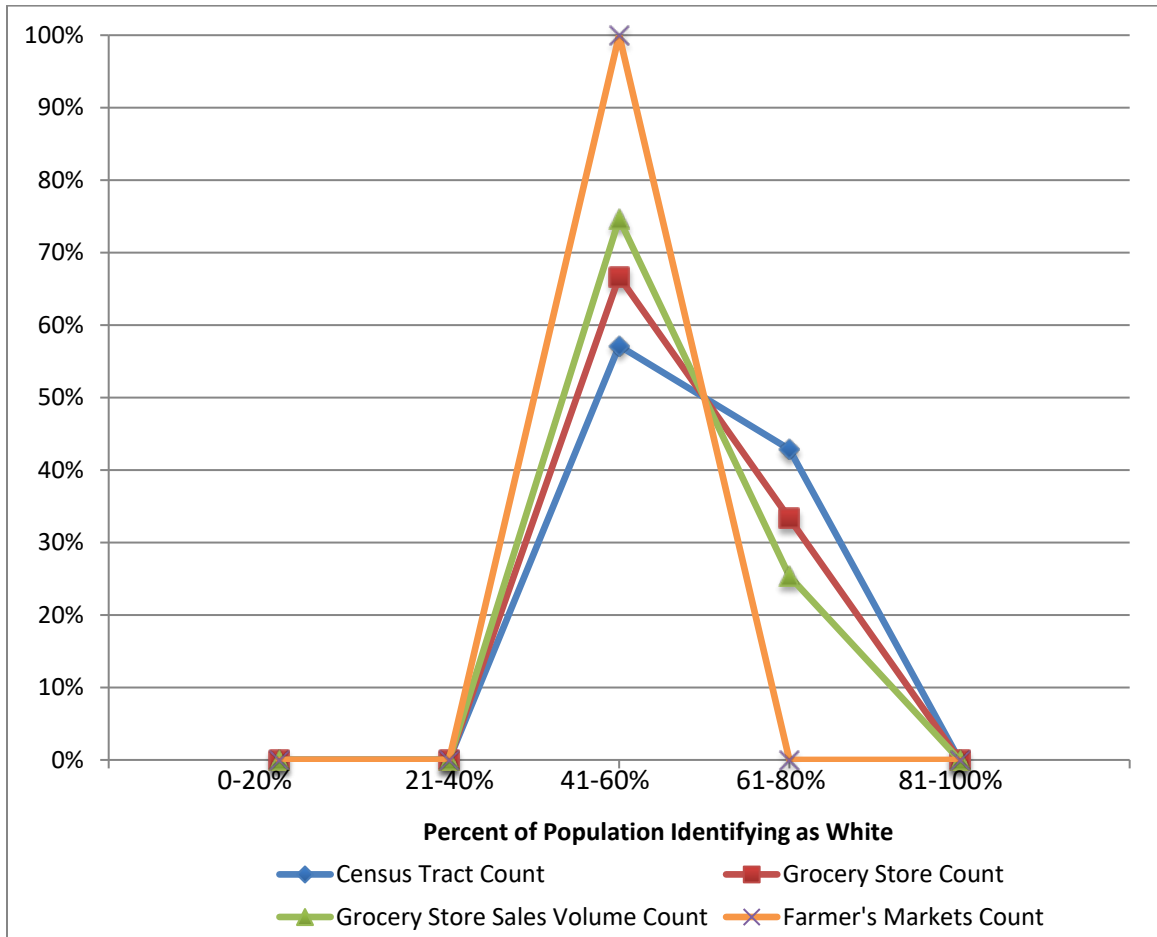


Figure 165. Distribution of grocery stores and farmers markets in Manassas City relative to concentration of White population.

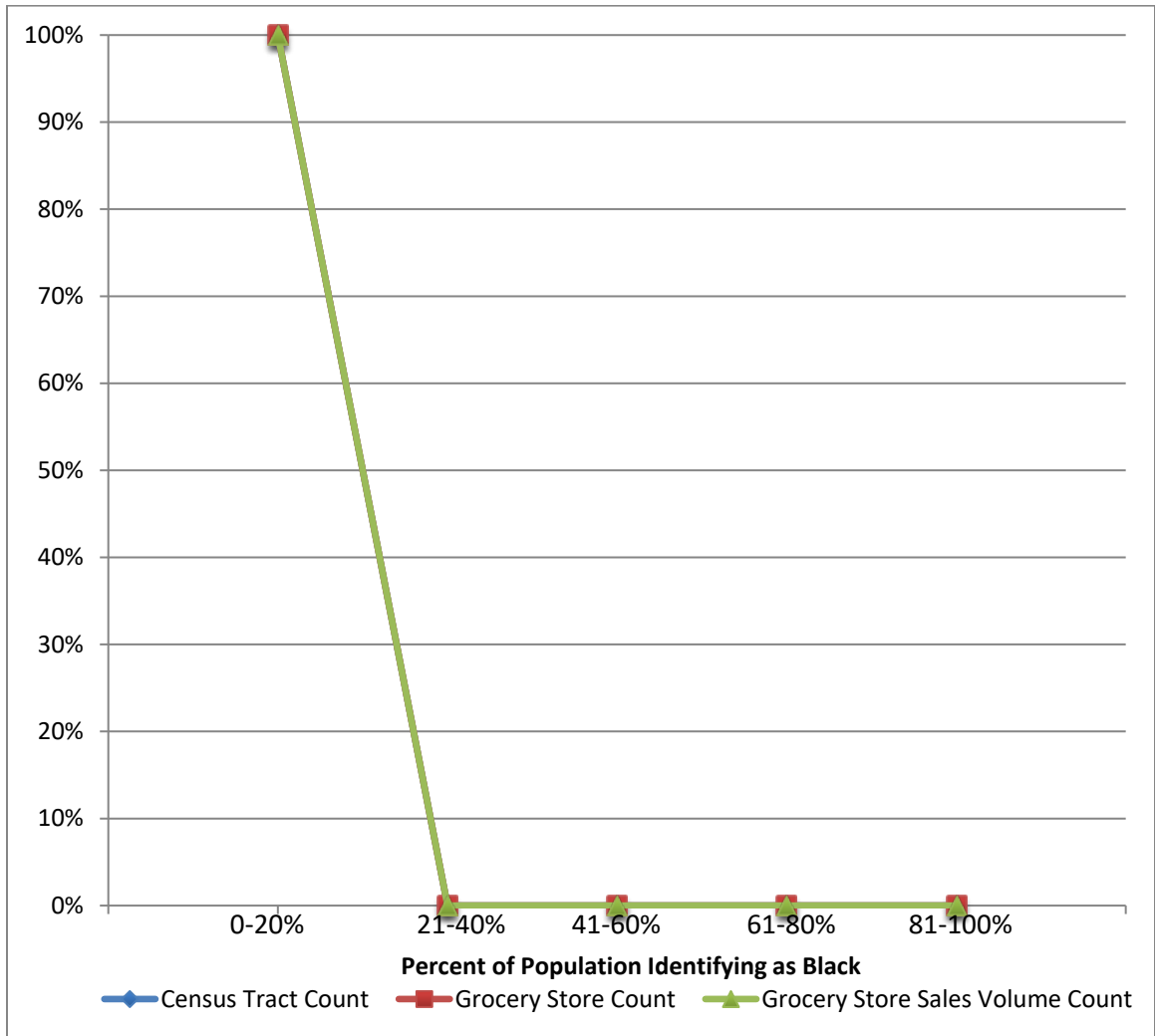


Figure 166. Distribution of grocery stores in Manassas Park City relative to concentration of Black population. There are no farmers markets in Manassas Park City.

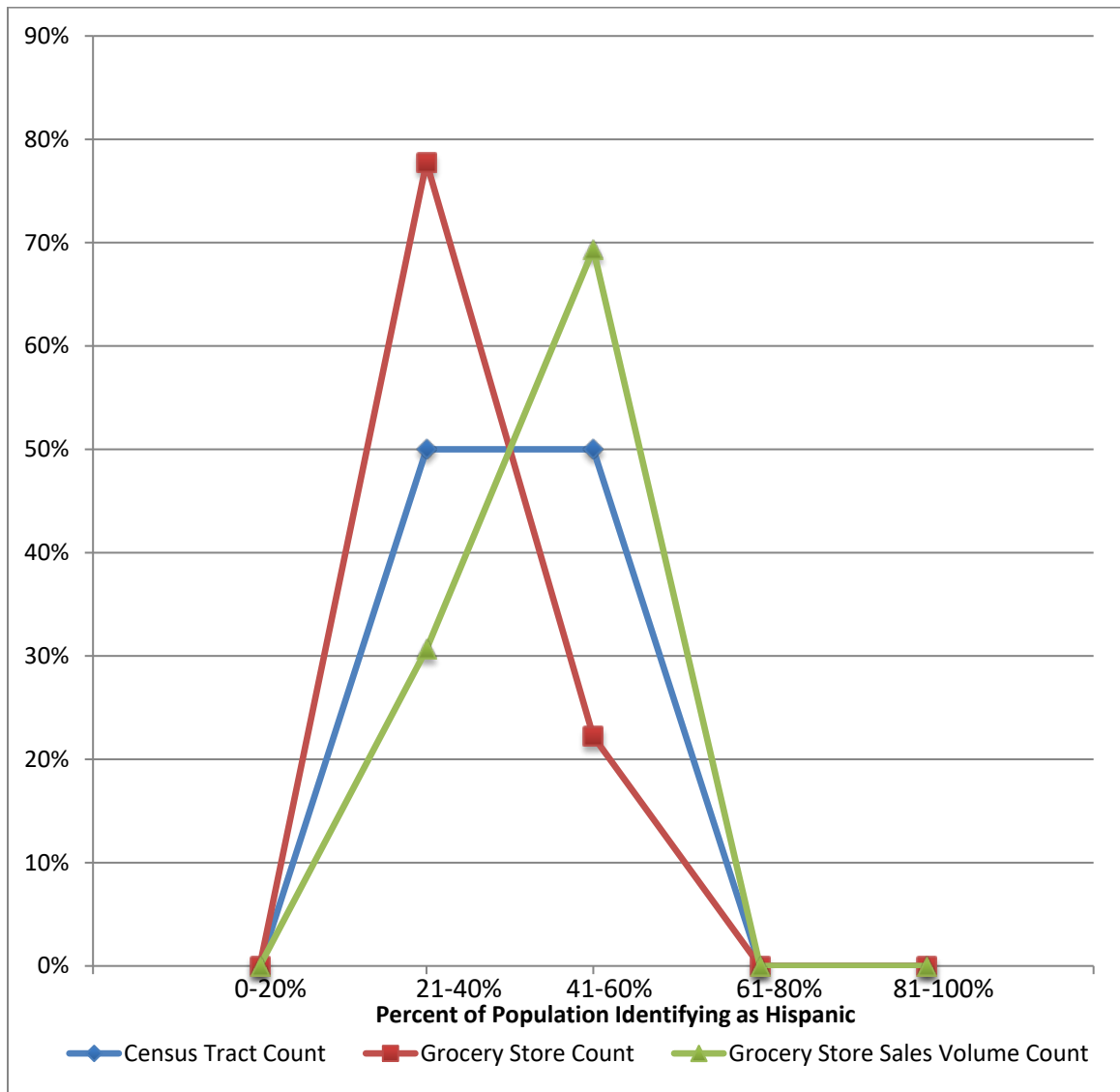


Figure 167. Distribution of grocery stores in Manassas Park City relative to concentration of Hispanic population. There are no farmers markets in Manassas Park City.

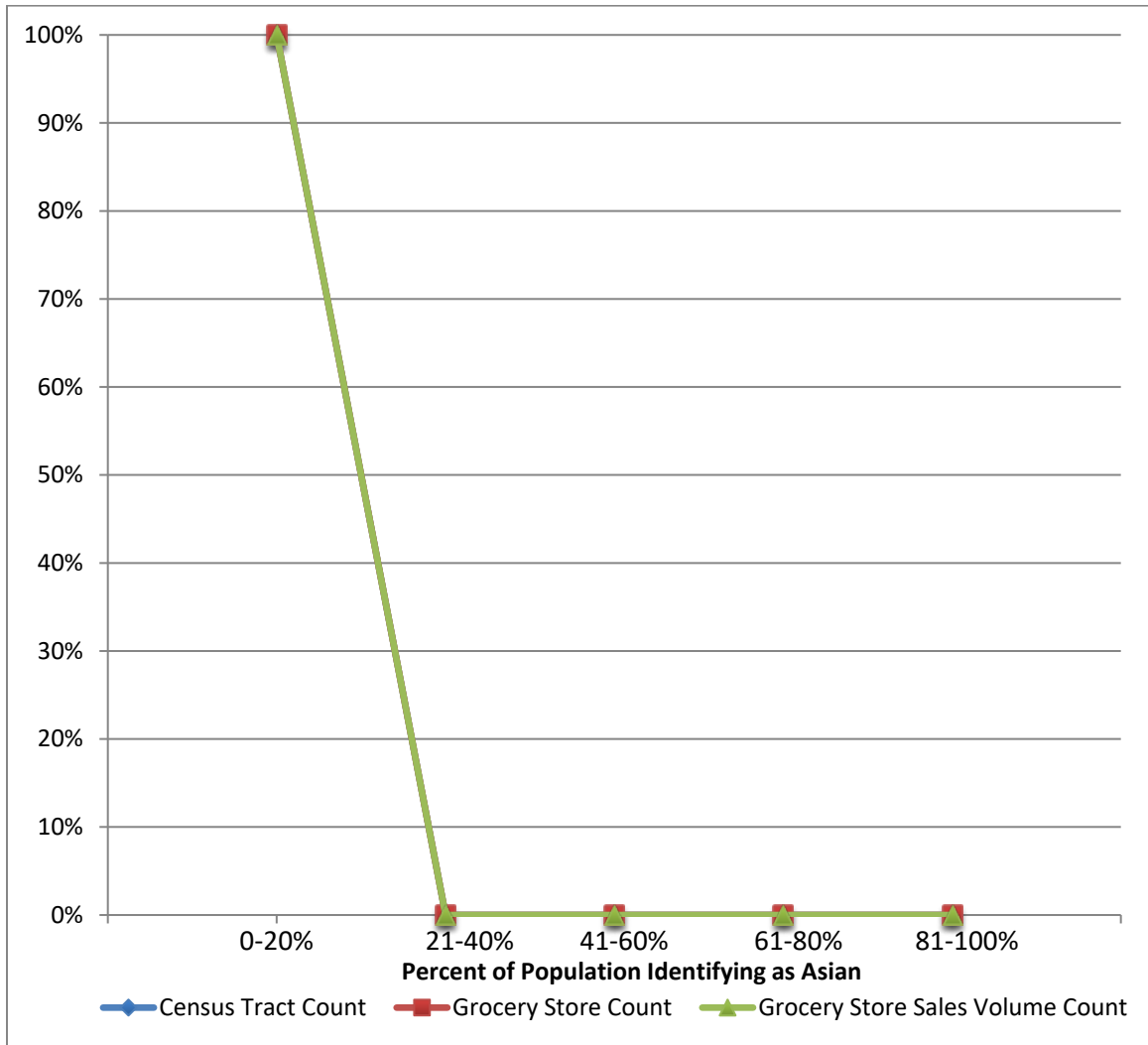


Figure 168. Distribution of grocery stores in Manassas Park City relative to concentration of Asian population. There are no farmers markets in Manassas Park City.

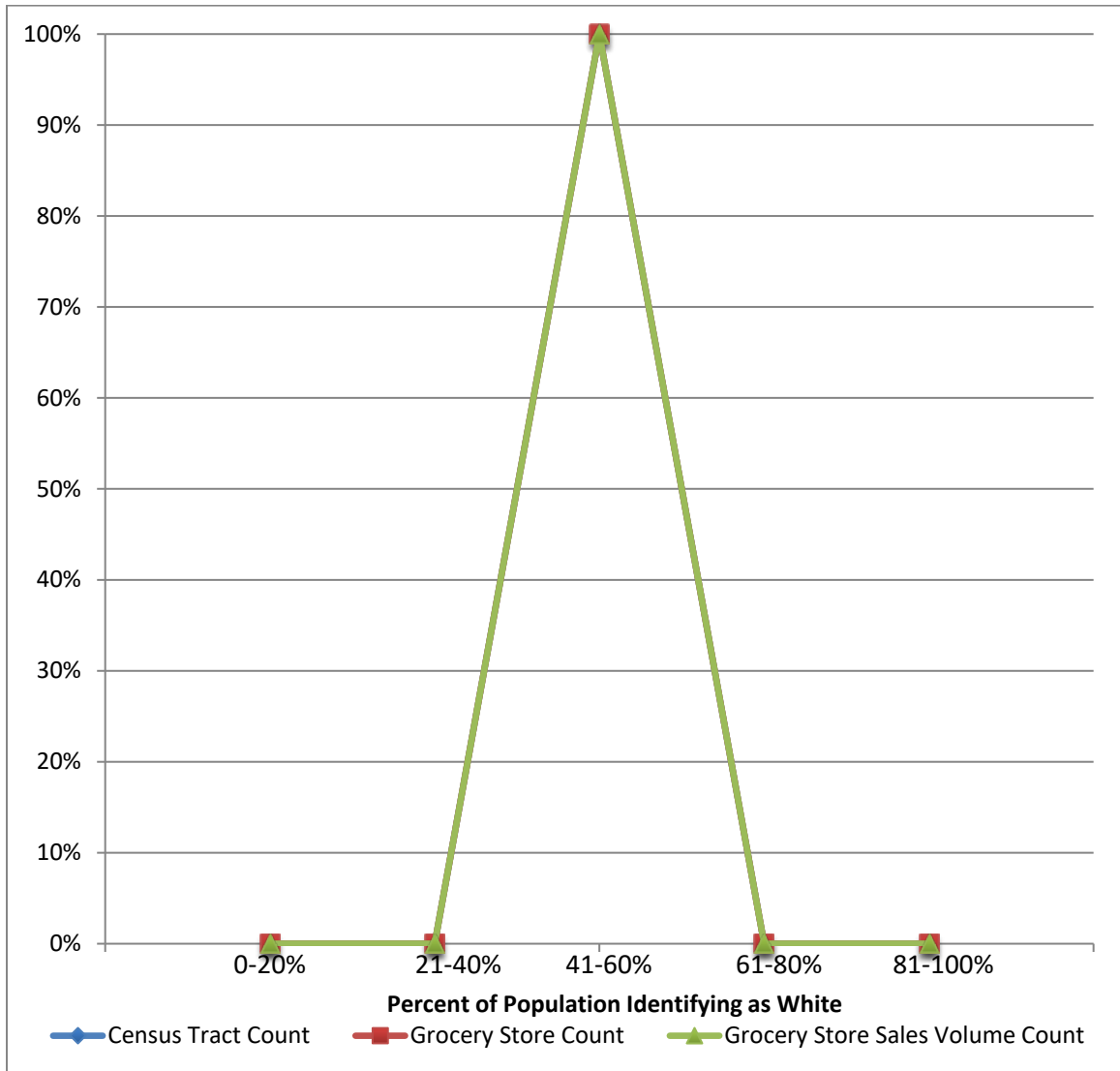


Figure 169. Distribution of grocery stores in Manassas Park City relative to concentration of White population. There are no farmers markets in Manassas Park City.

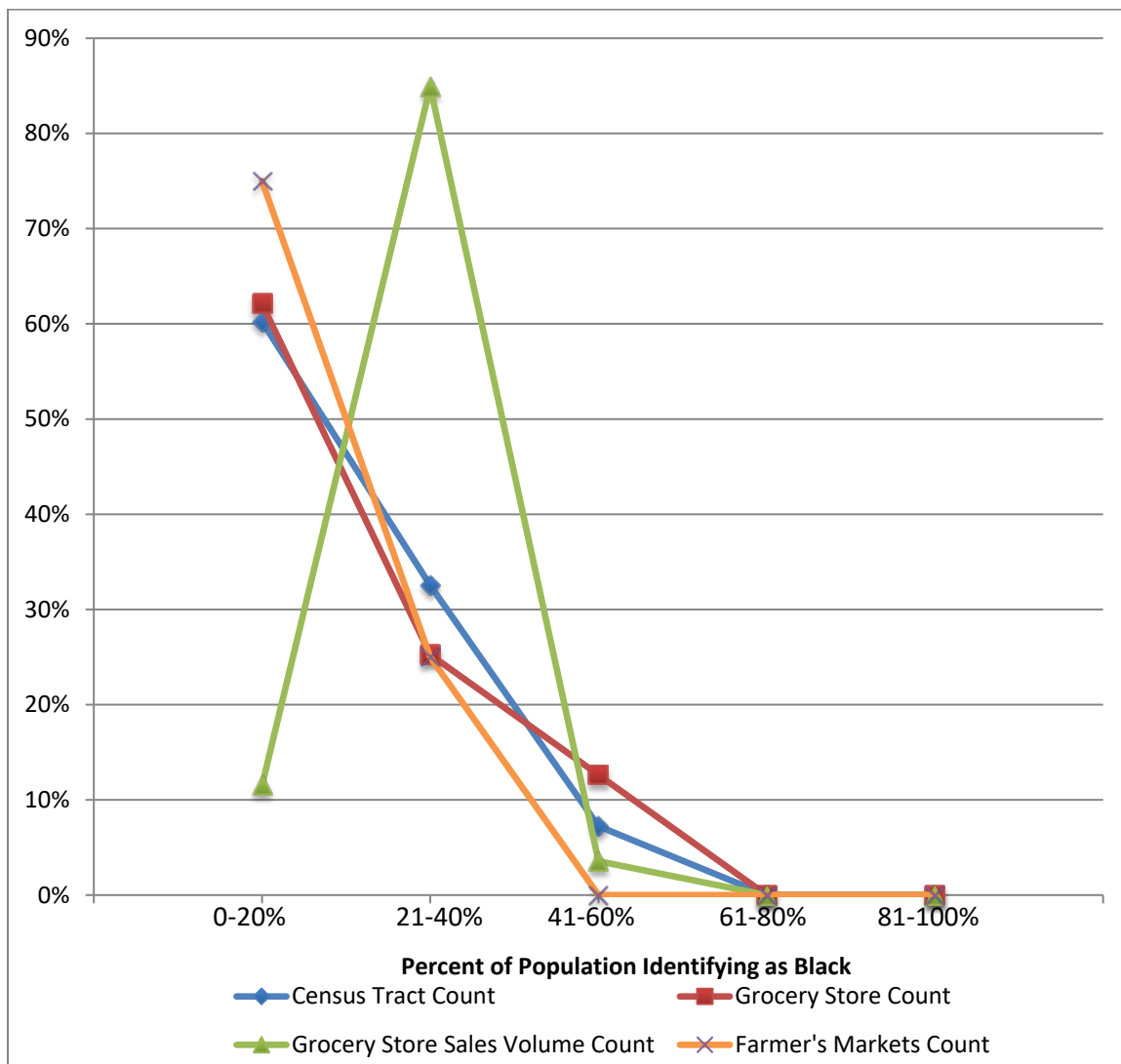


Figure 170. Distribution of grocery stores and farmers markets in Prince William relative to concentration of Black population.

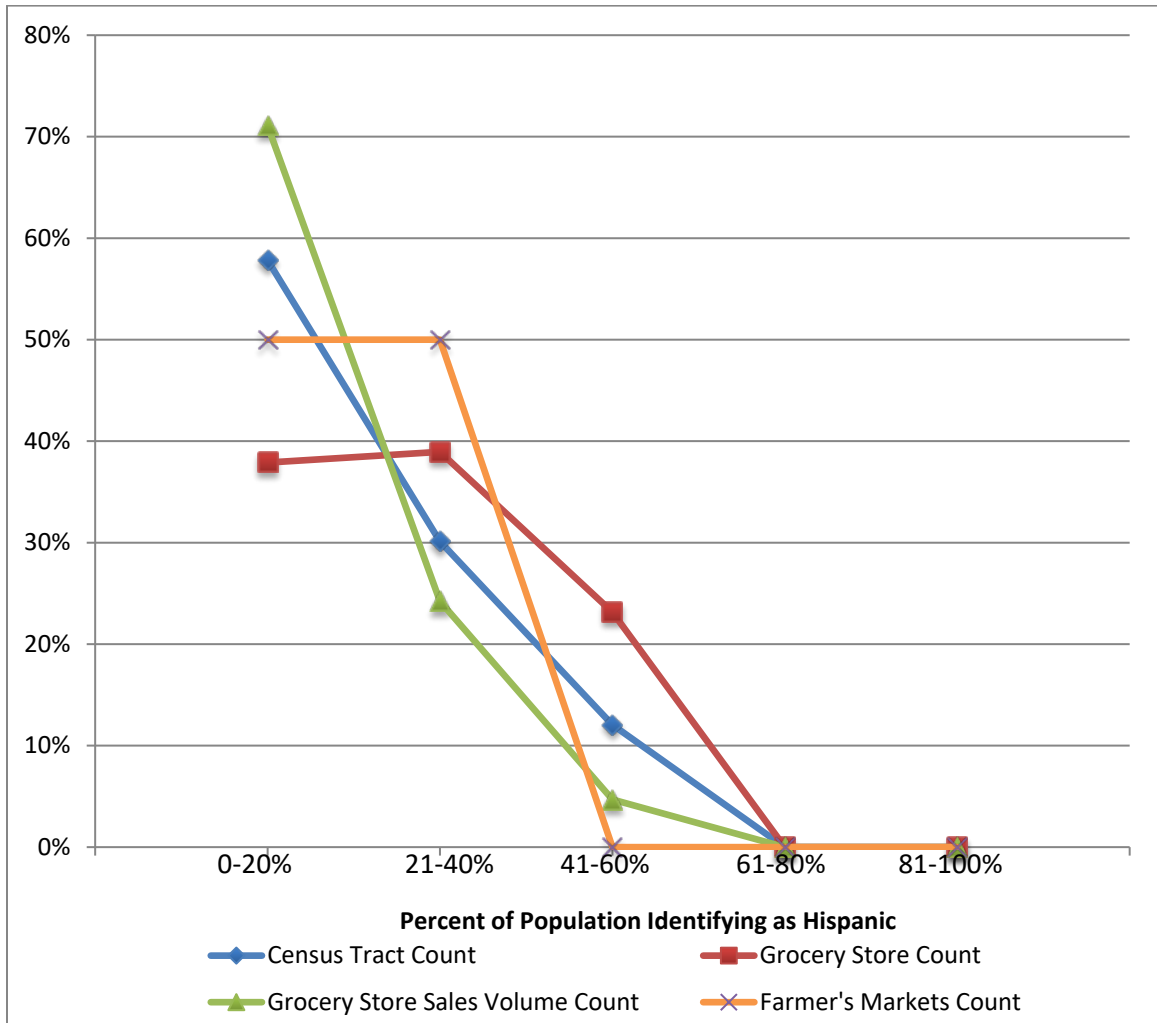


Figure 171. Distribution of grocery stores and farmers markets in Prince William relative to concentration of Hispanic population.

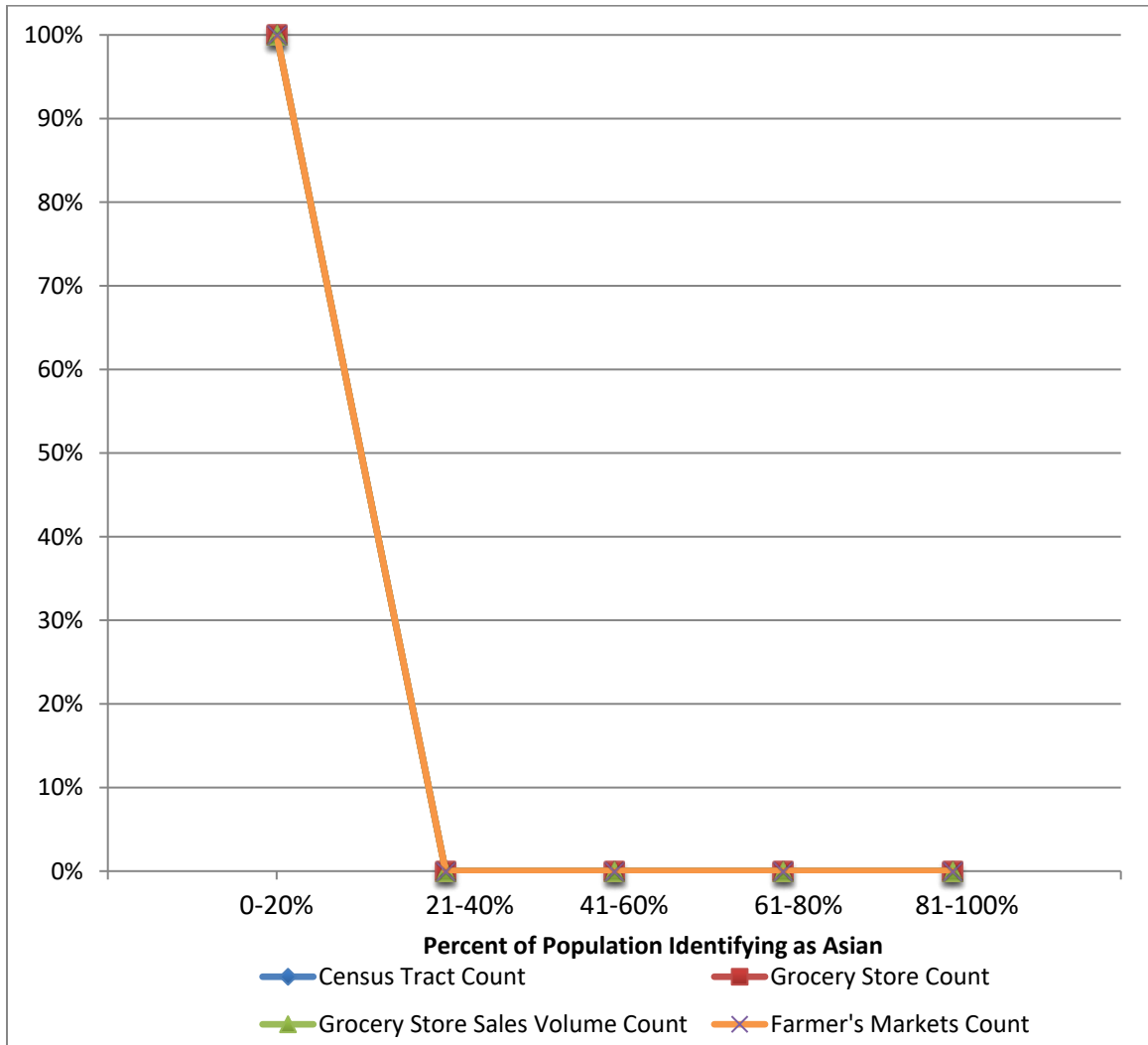


Figure 172. Distribution of grocery stores and farmers markets in Prince William relative to concentration of Asian population.

Ancillary Appendix 9

Distribution of Grocery Stores and Farmers Markets for Northern Virginia Regions

Relative to Elderly Population

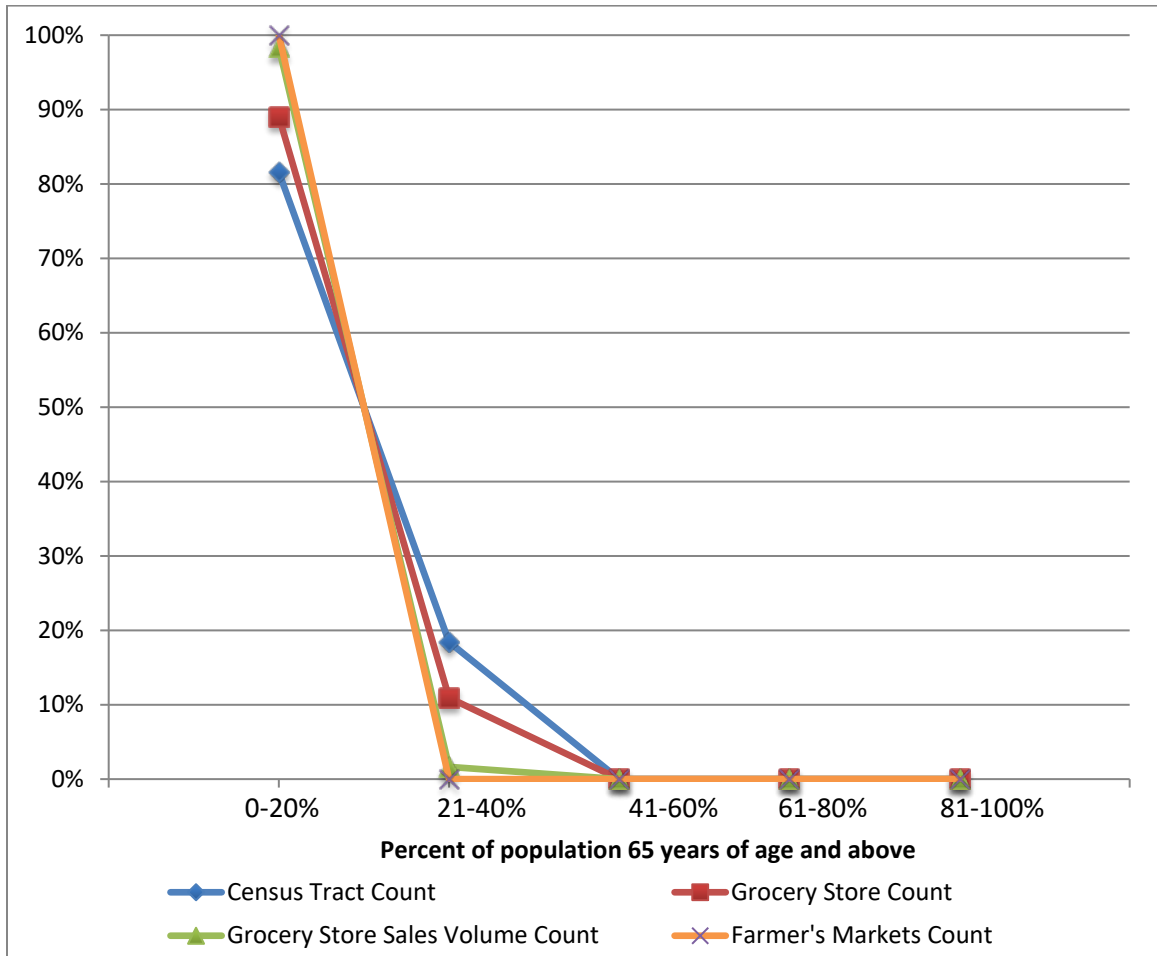


Figure 173. Distribution of grocery stores and farmers markets in Alexandria relative to concentration of elderly population.

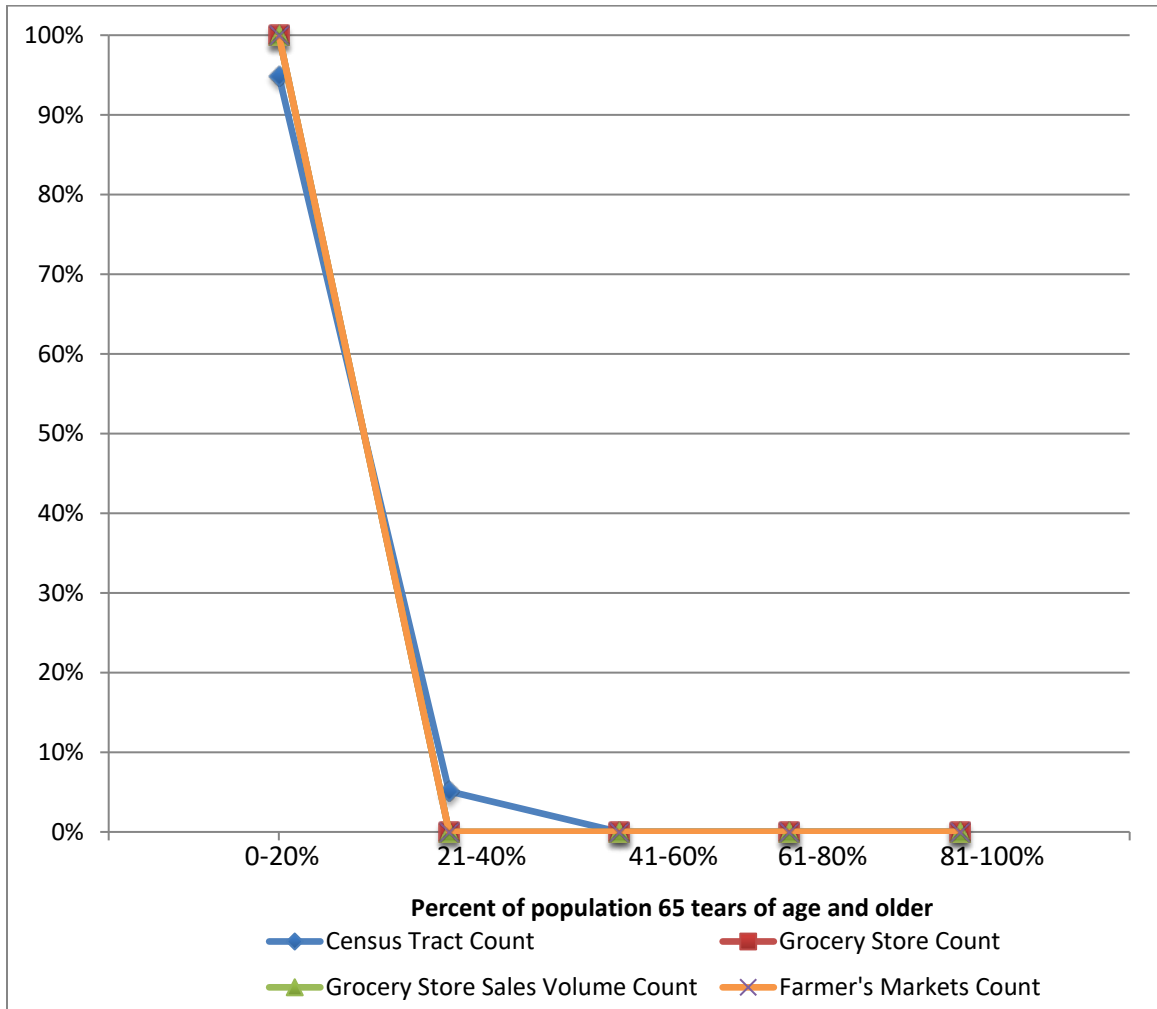


Figure 174. Distribution of grocery stores and farmers markets in Arlington relative to concentration of elderly population.

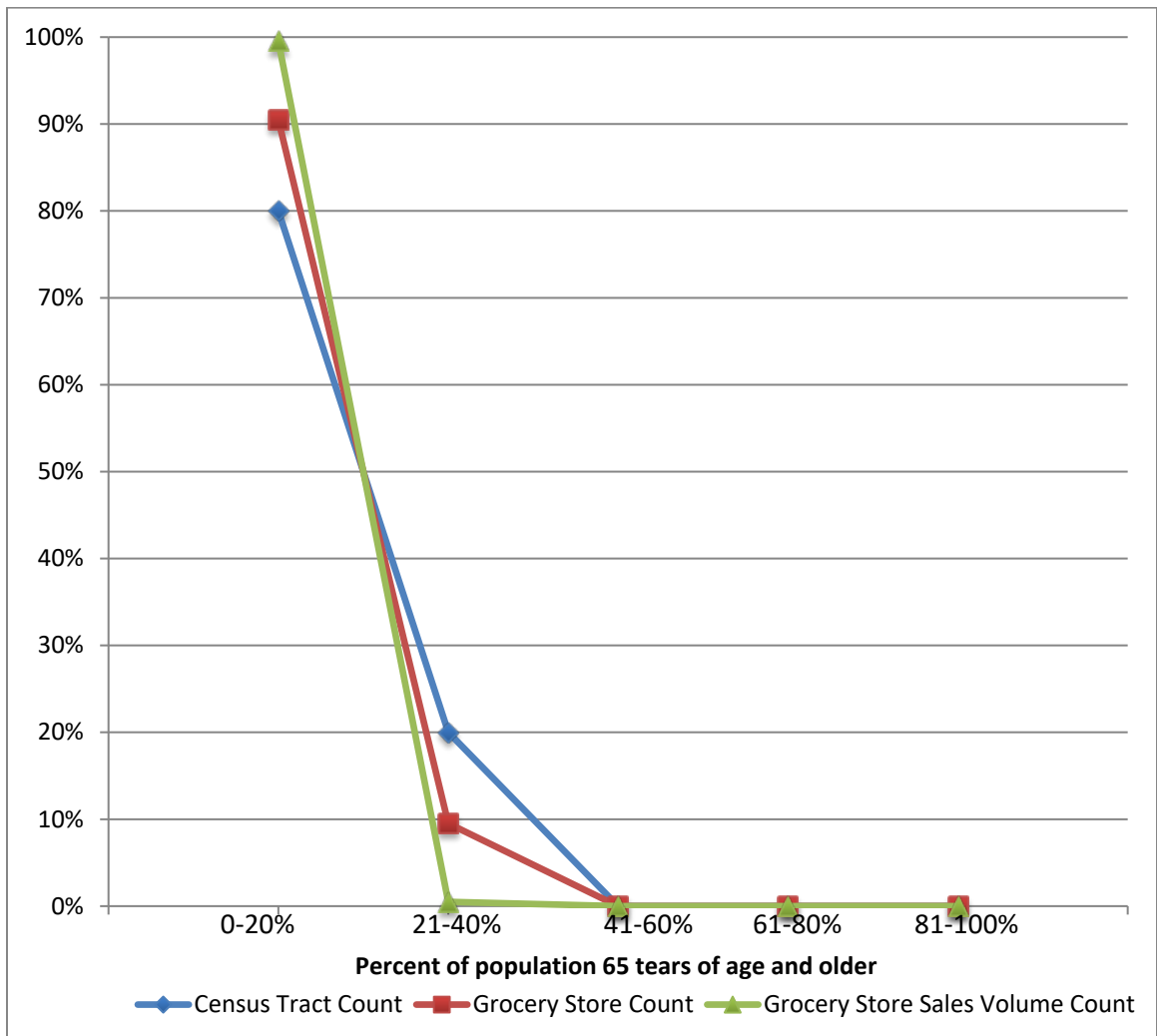


Figure 175. Distribution of grocery stores in Fairfax City relative to concentration of elderly population. There are no farmers markets in Fairfax City.

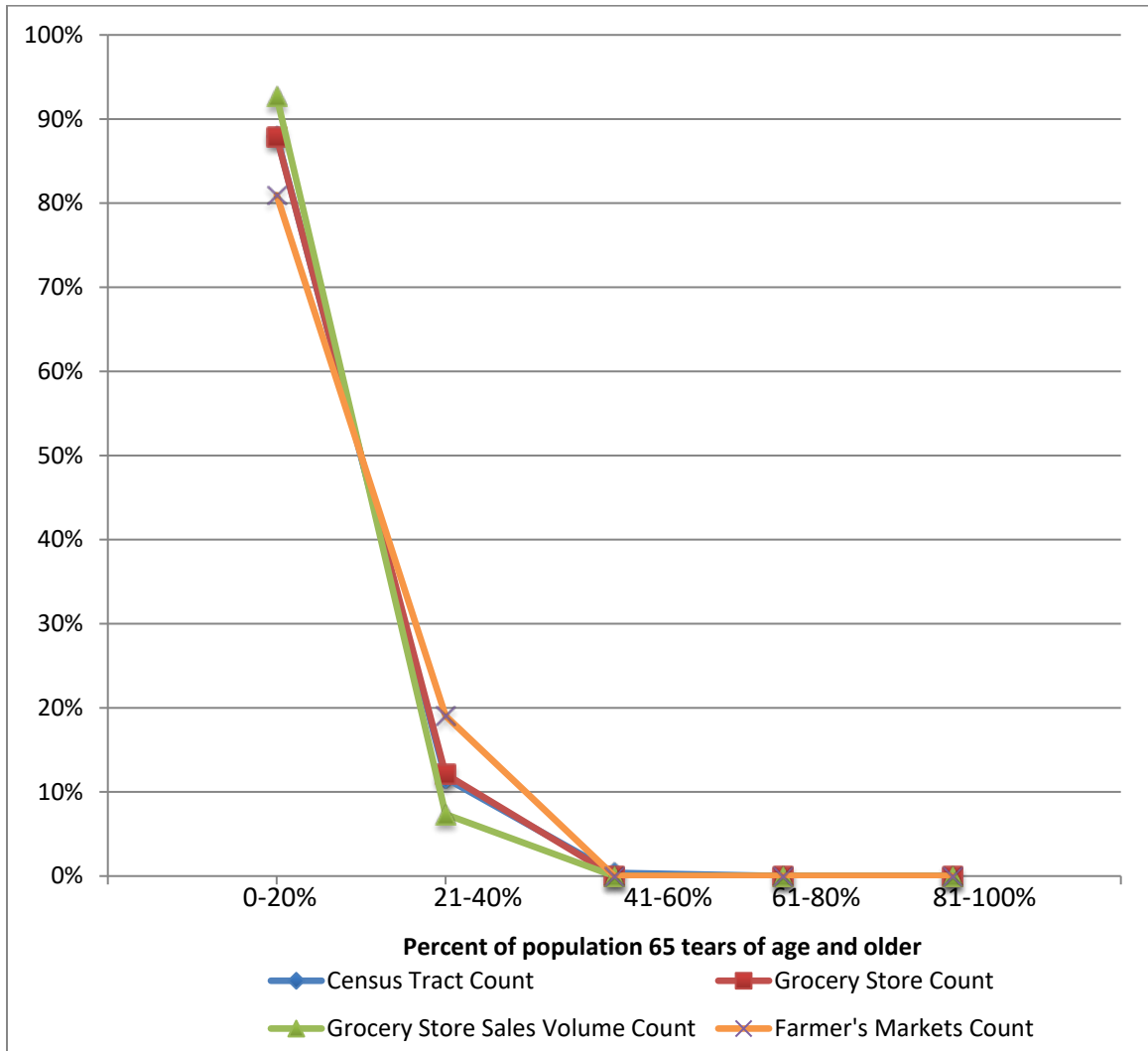


Figure 176. Distribution of grocery stores and farmers markets in Fairfax County relative to concentration of elderly population.

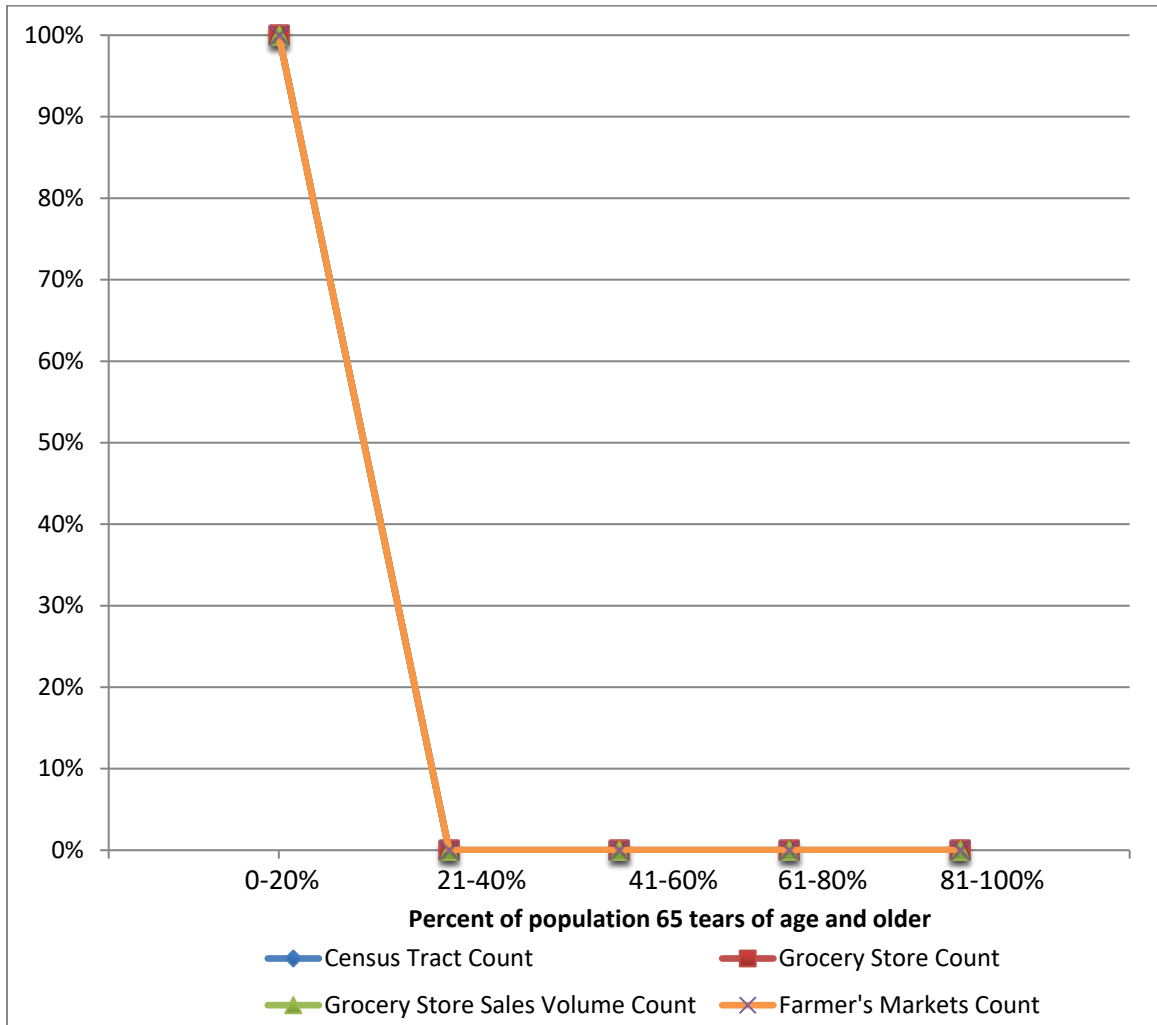


Figure 177. Distribution of grocery stores and farmers markets in Falls Church relative to concentration of elderly population.

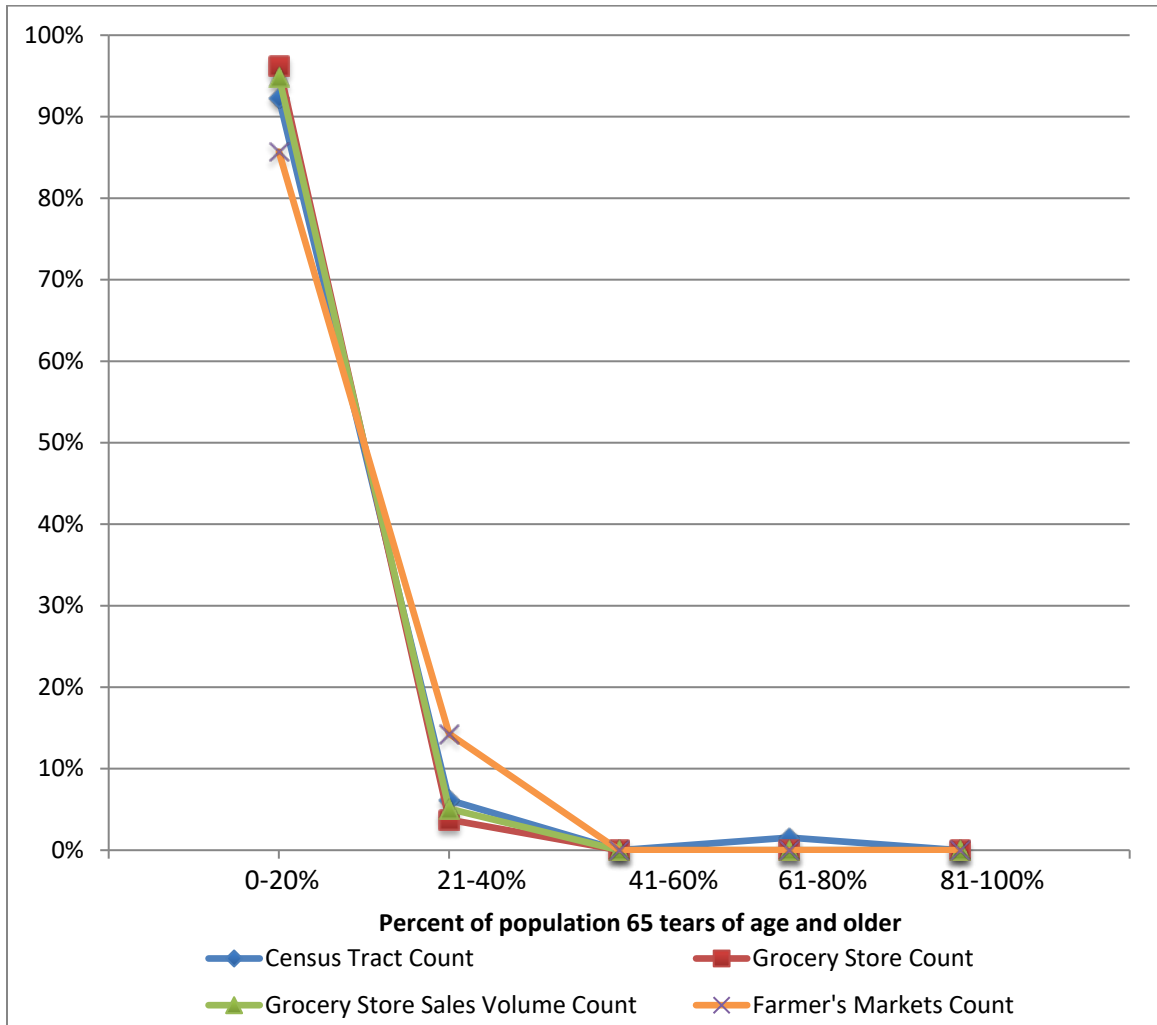


Figure 178. Distribution of grocery stores and farmers markets in Loudoun relative to concentration of elderly population.

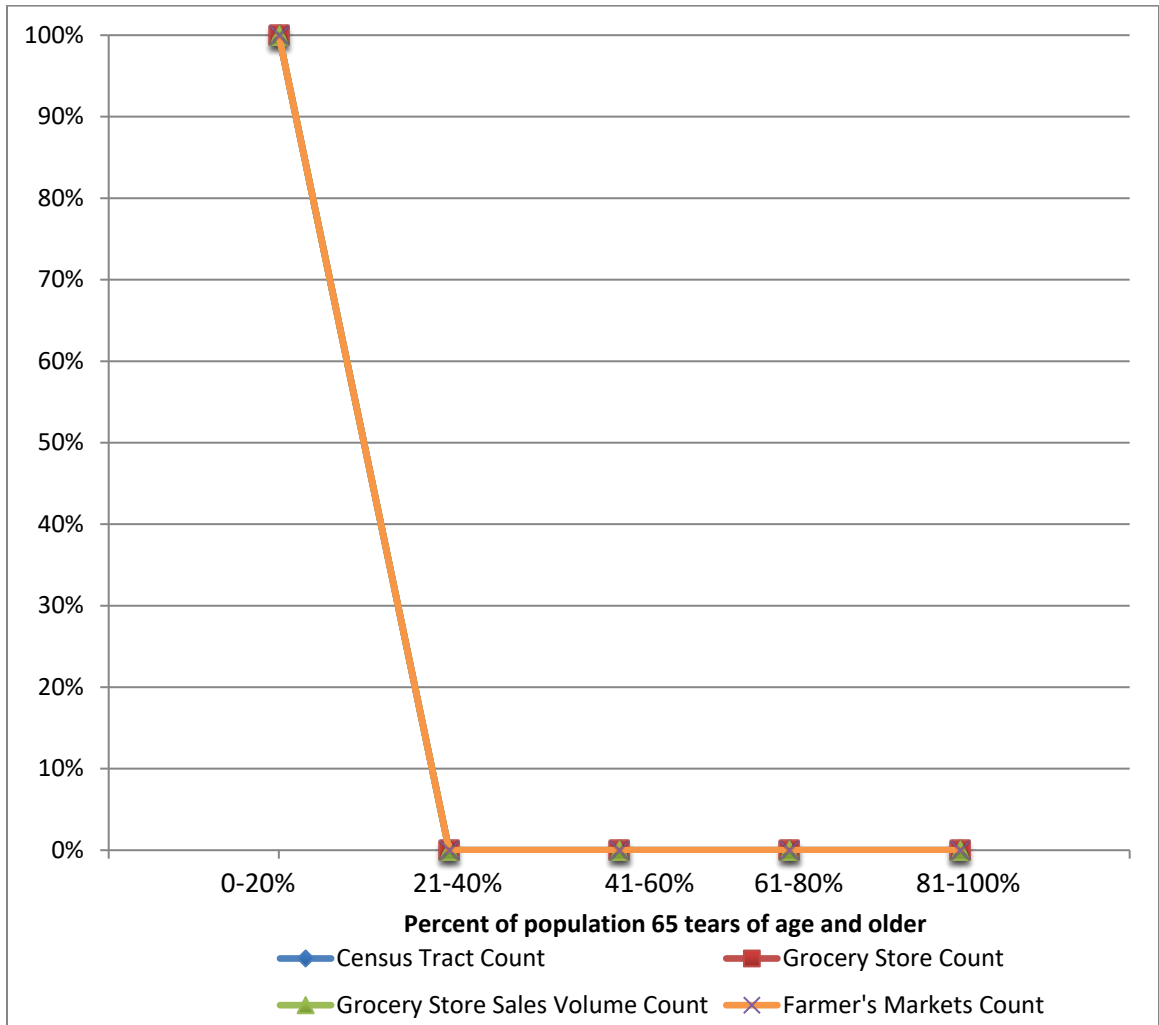


Figure 179. Distribution of grocery stores and farmers markets in Manassas City relative to concentration of elderly population.

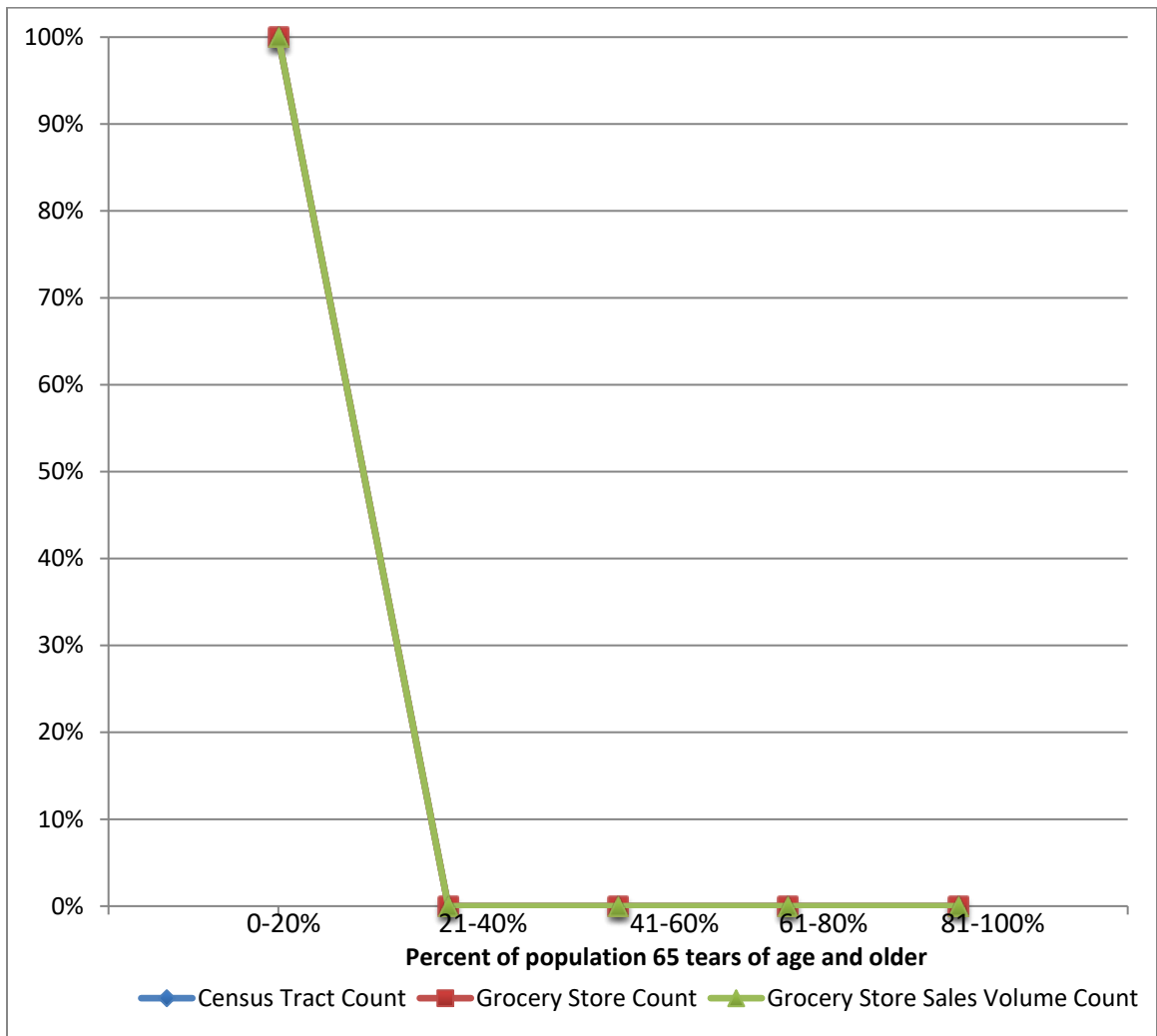


Figure 180. Distribution of grocery stores in Manassas Park City relative to concentration of elderly population. There are no farmers markets in Manassas Park City.

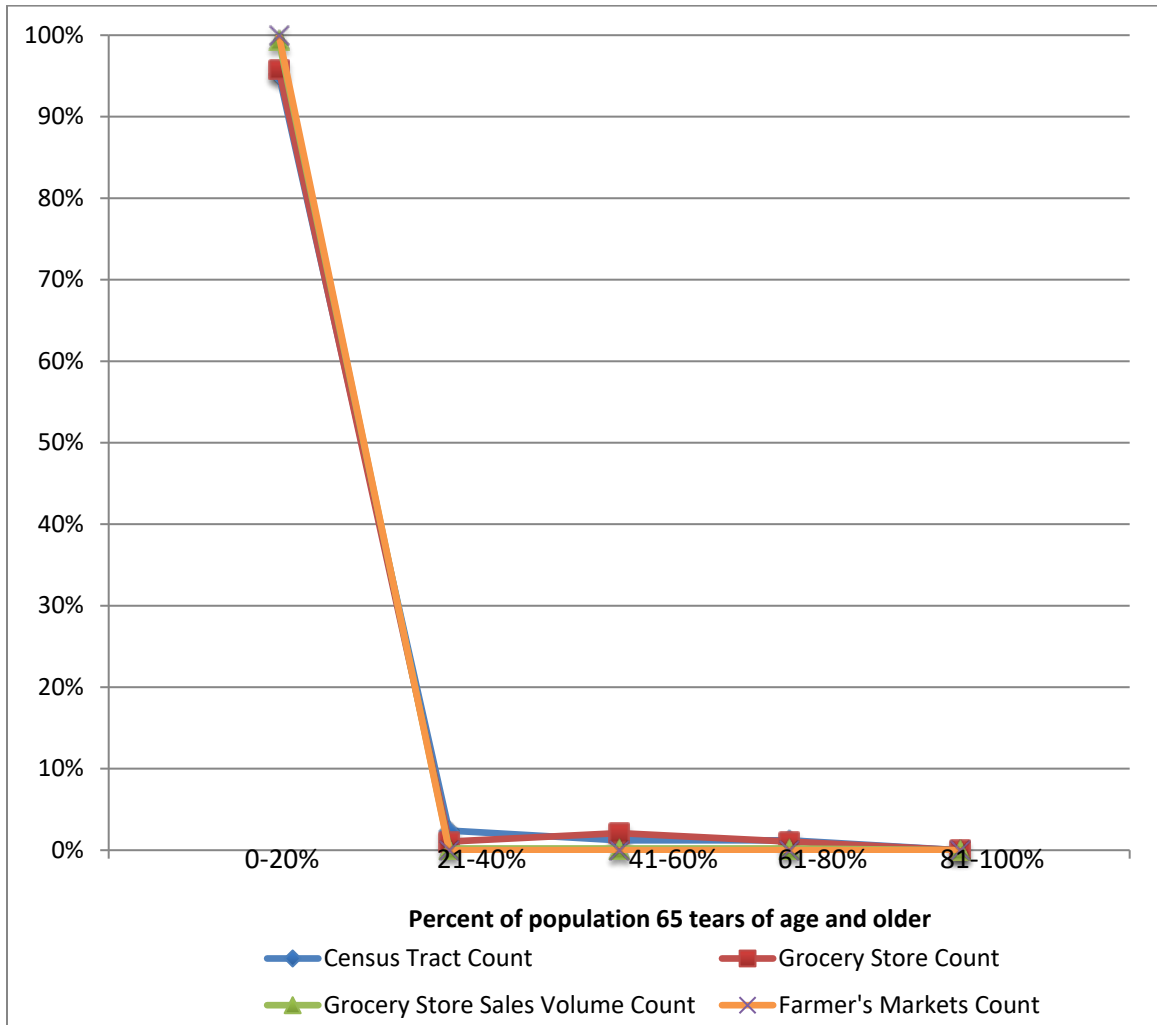


Figure 181. Distribution of grocery stores and farmers markets in Prince William relative to concentration of elderly population.

Ancillary Appendix 10

Distribution of Grocery Stores and Farmers Markets for Northern Virginia Regions

Relative to Households Without Vehicles

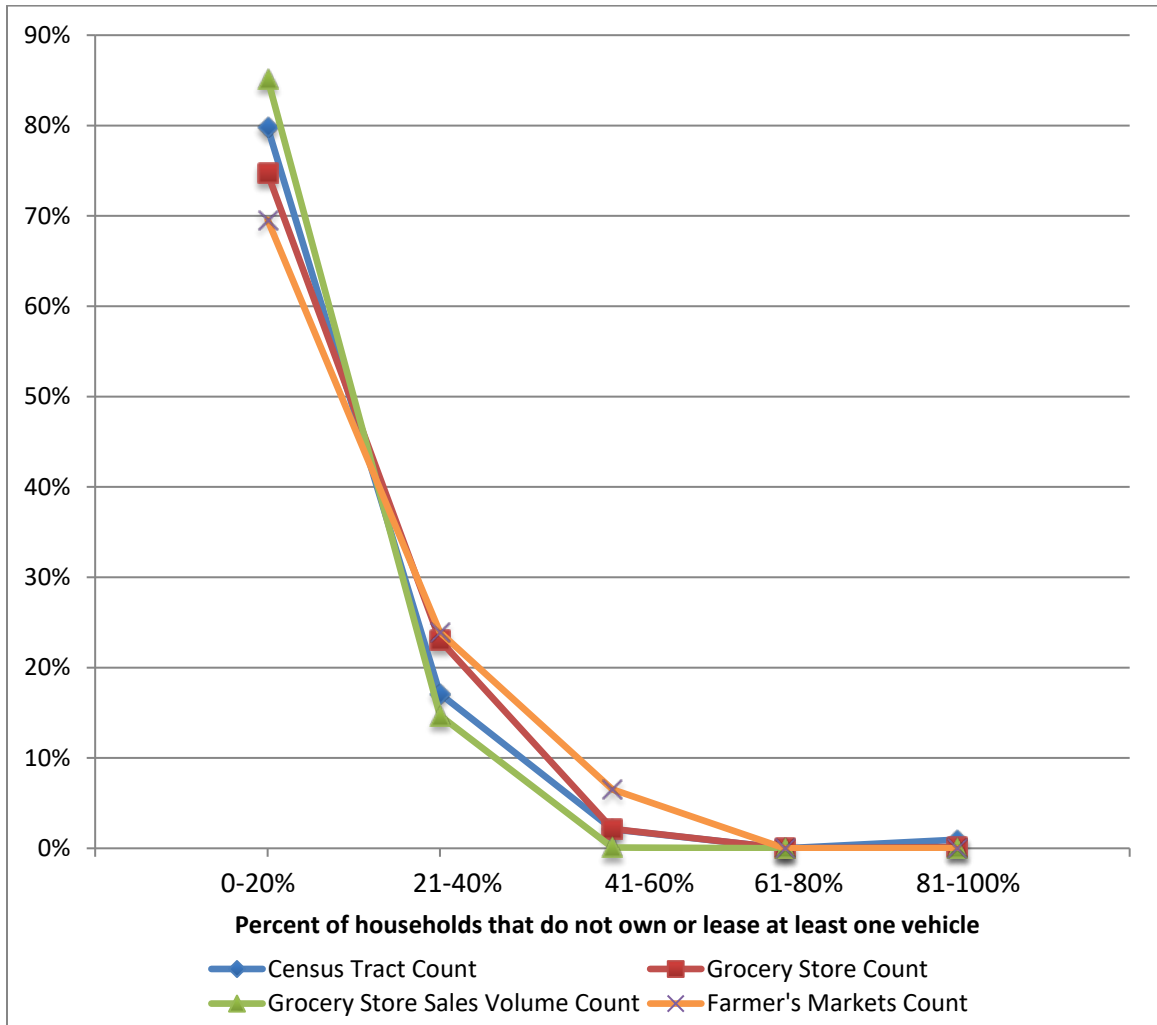


Figure 182. Distribution of grocery stores and farmers markets in Northern Virginia relative to concentration of households without vehicles.

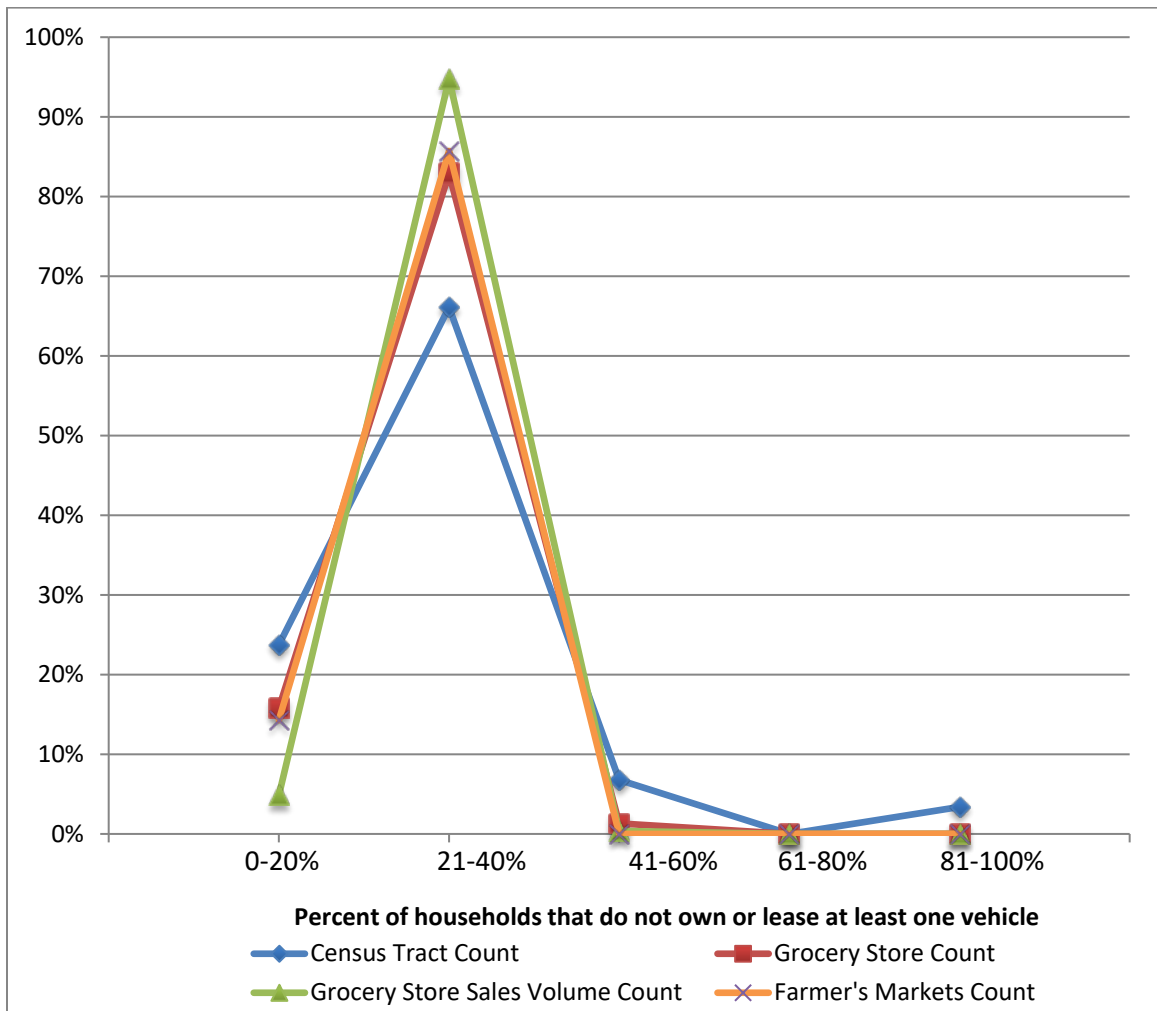


Figure 183. Distribution of grocery stores and farmers markets in Arlington relative to concentration of households without vehicles.

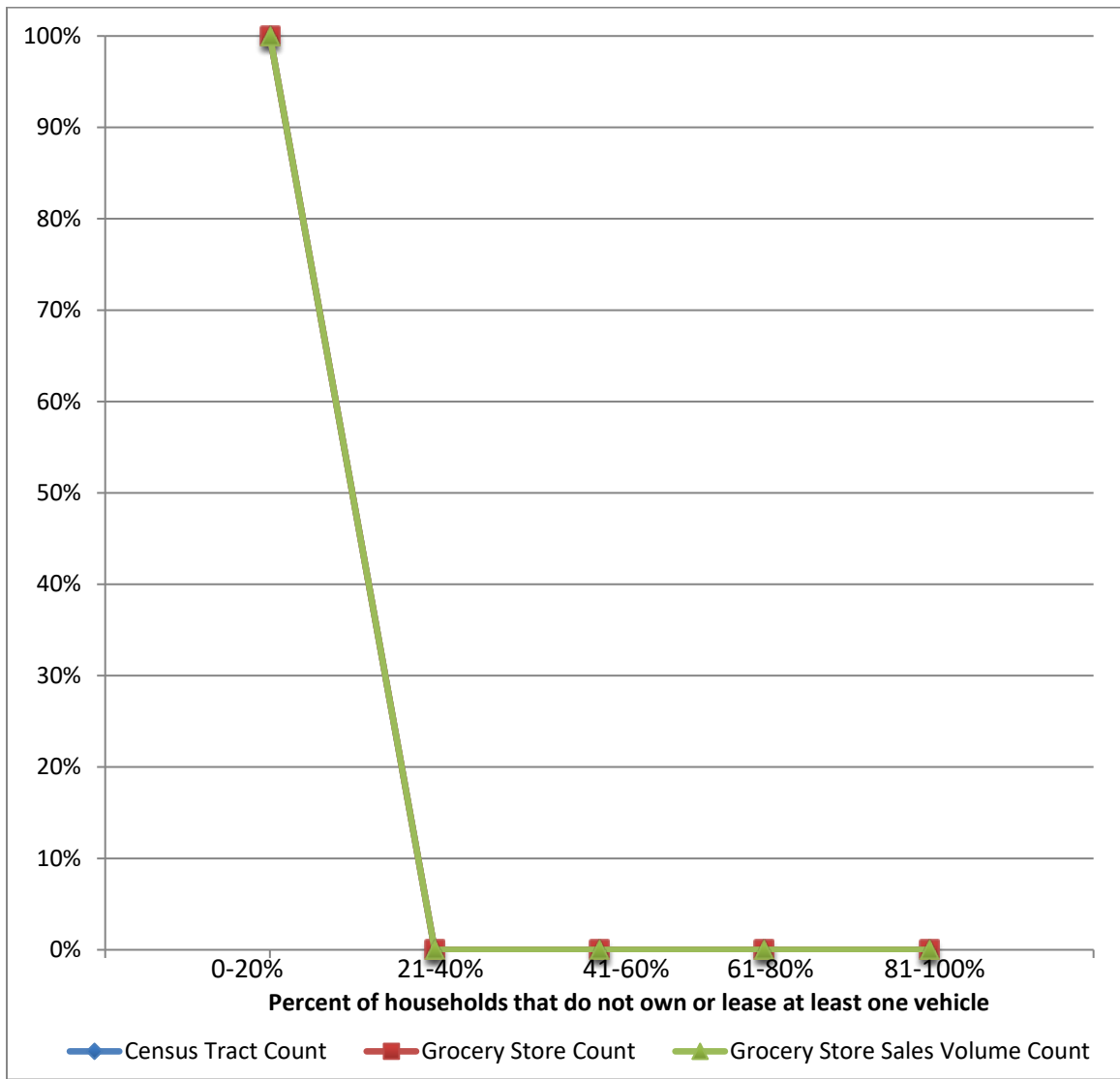


Figure 184. Distribution of grocery stores in Fairfax City relative to concentration of households without vehicles. There are no farmers markets in Fairfax City.

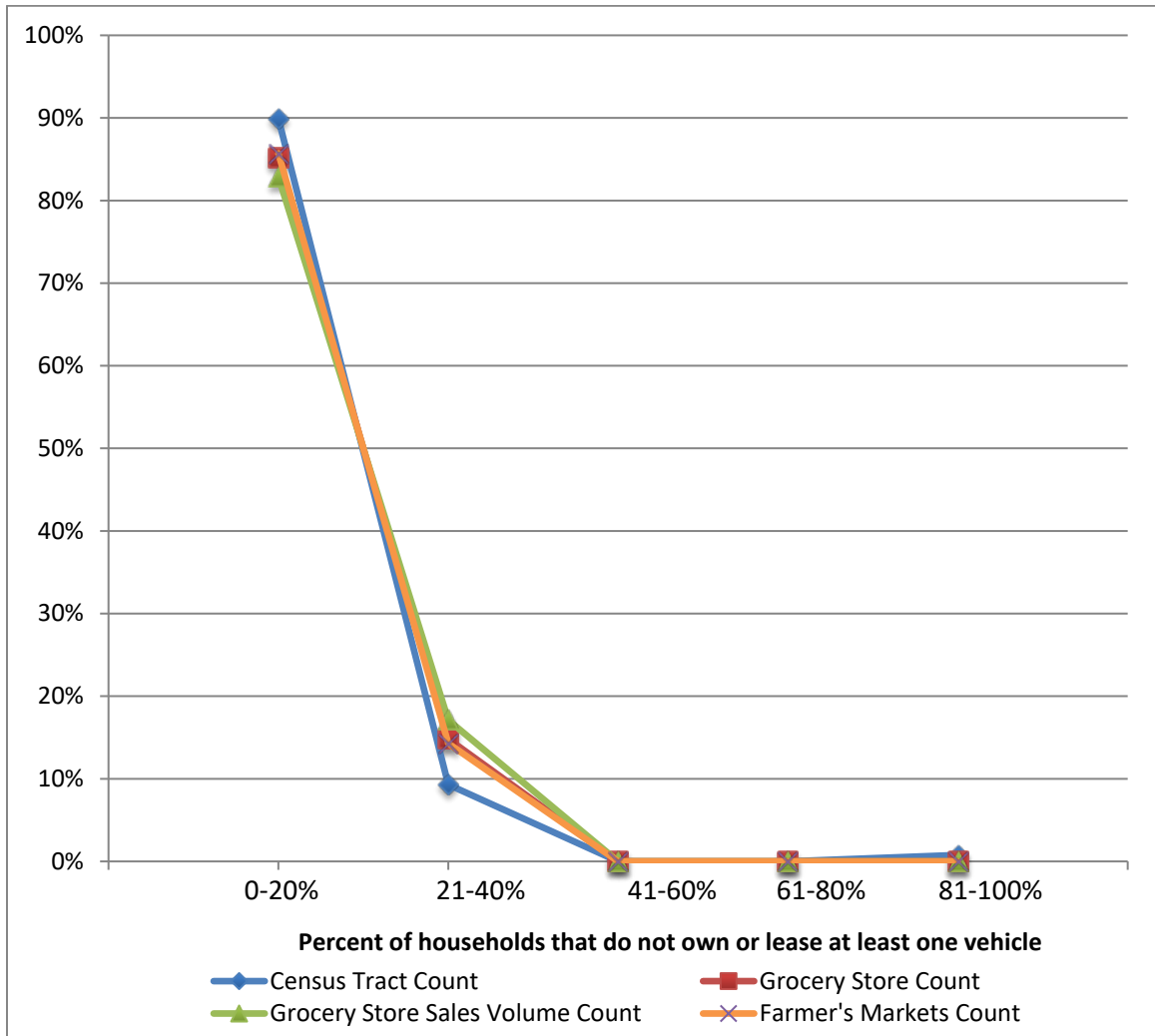


Figure 185. Distribution of grocery stores and farmers markets in Fairfax County relative to concentration of households without vehicles.

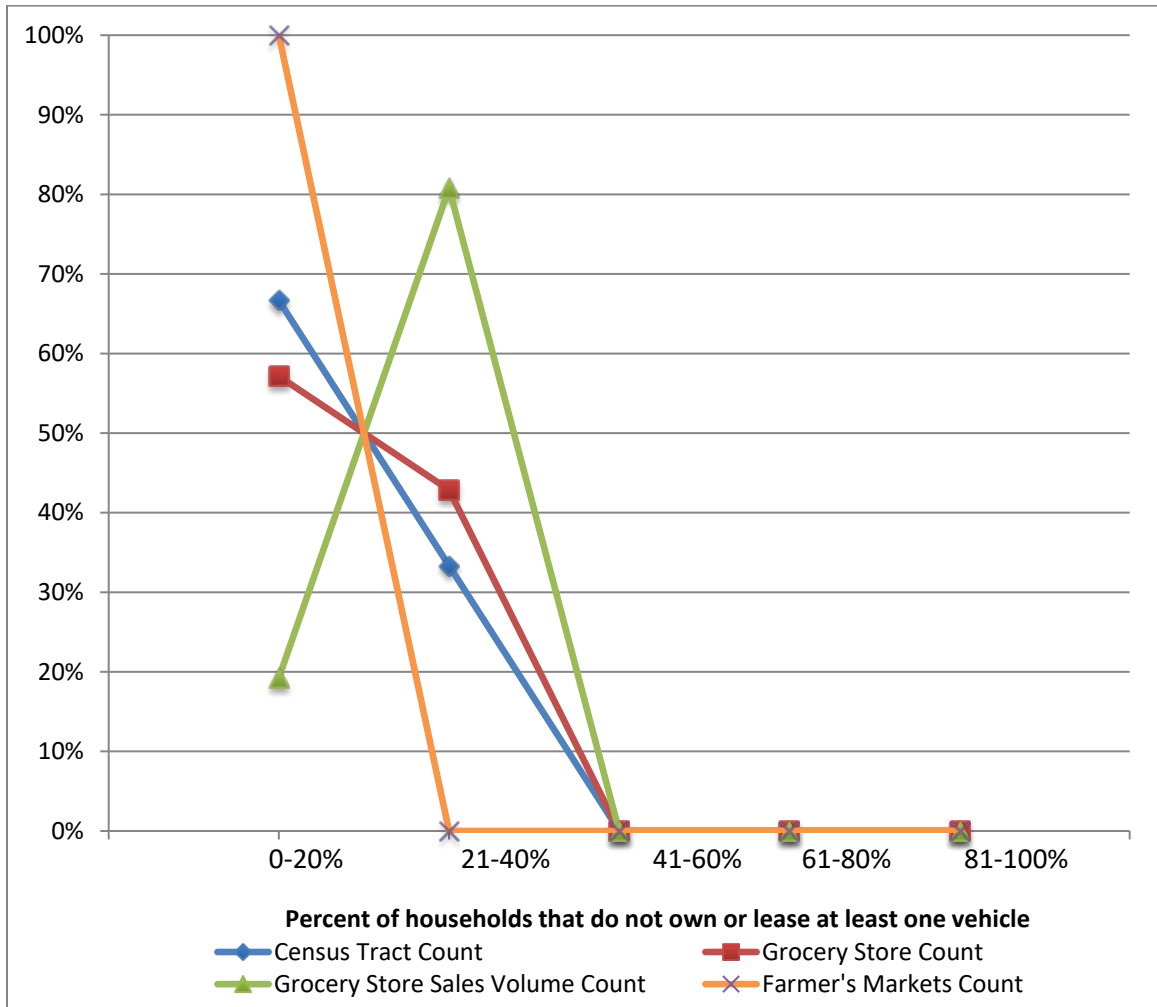


Figure 186. Distribution of grocery stores and farmers markets in Falls Church relative to concentration of households without vehicles.

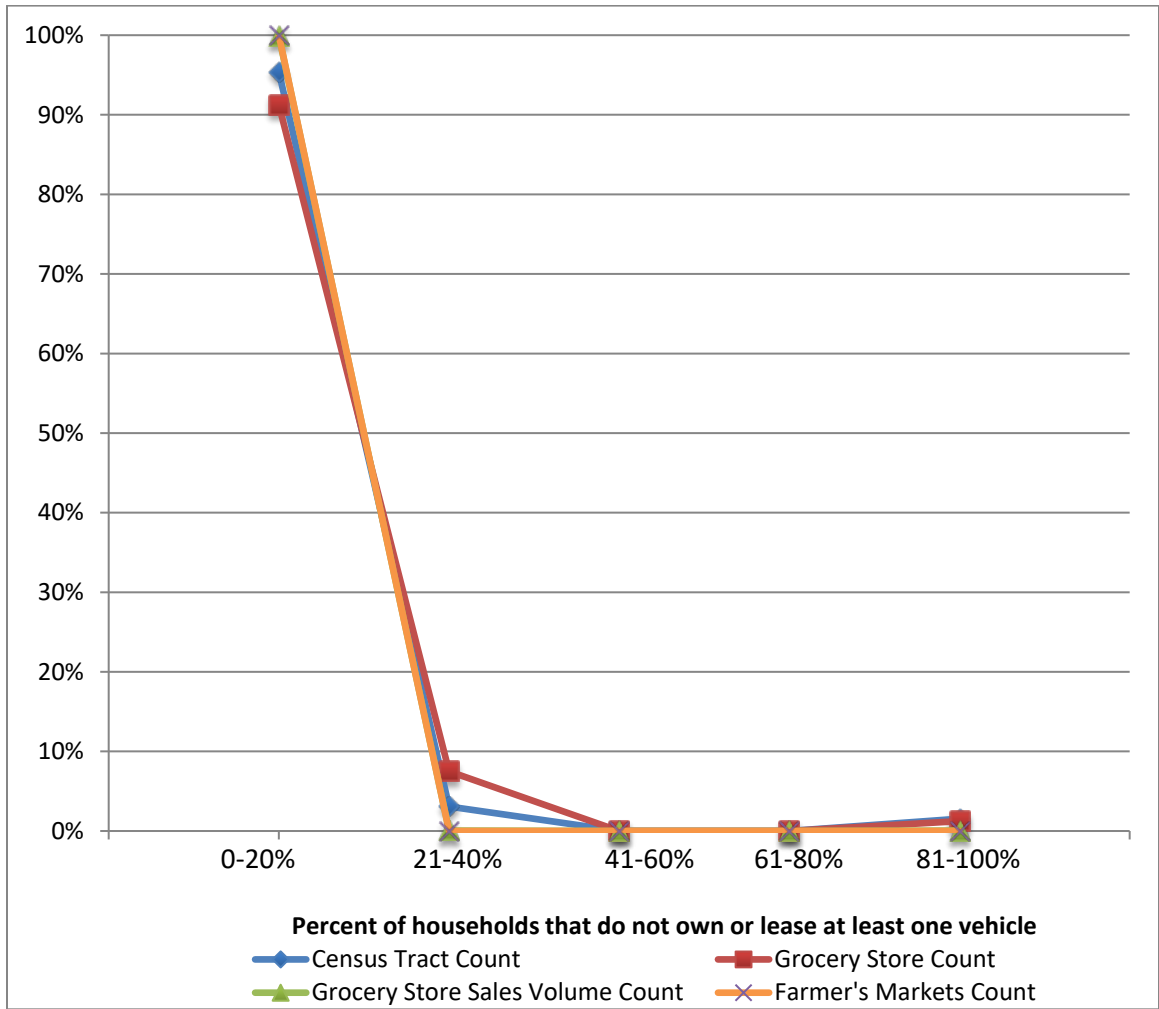


Figure 187. Distribution of grocery stores and farmers markets in Loudoun relative to concentration of households without vehicles.

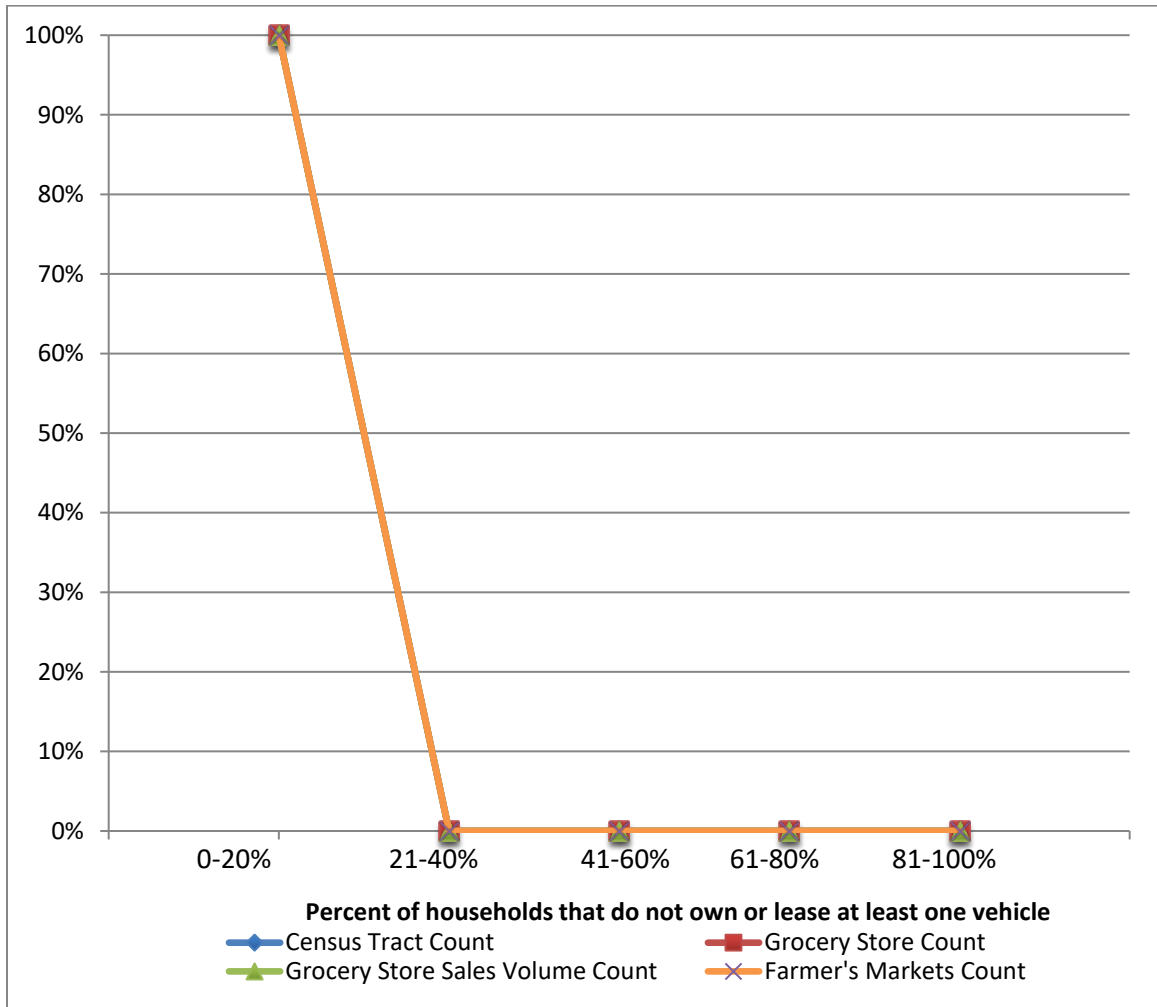


Figure 188. Distribution of grocery stores and farmers markets in Manassas City relative to concentration of households without vehicles.

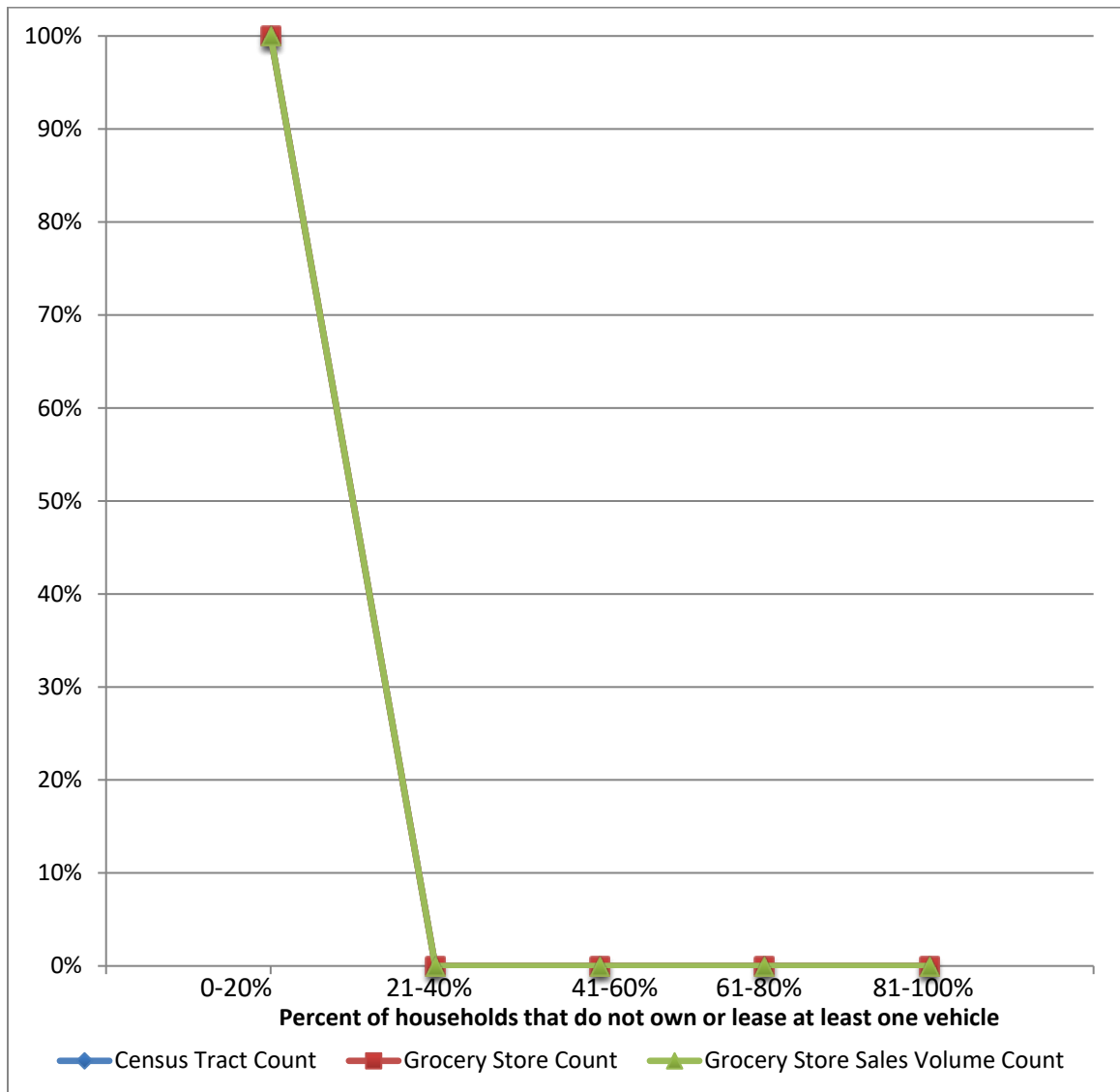


Figure 189. Distribution of grocery stores in Manassas Park City relative to concentration of households without vehicles. There are no farmers markets in Manassas Park City.

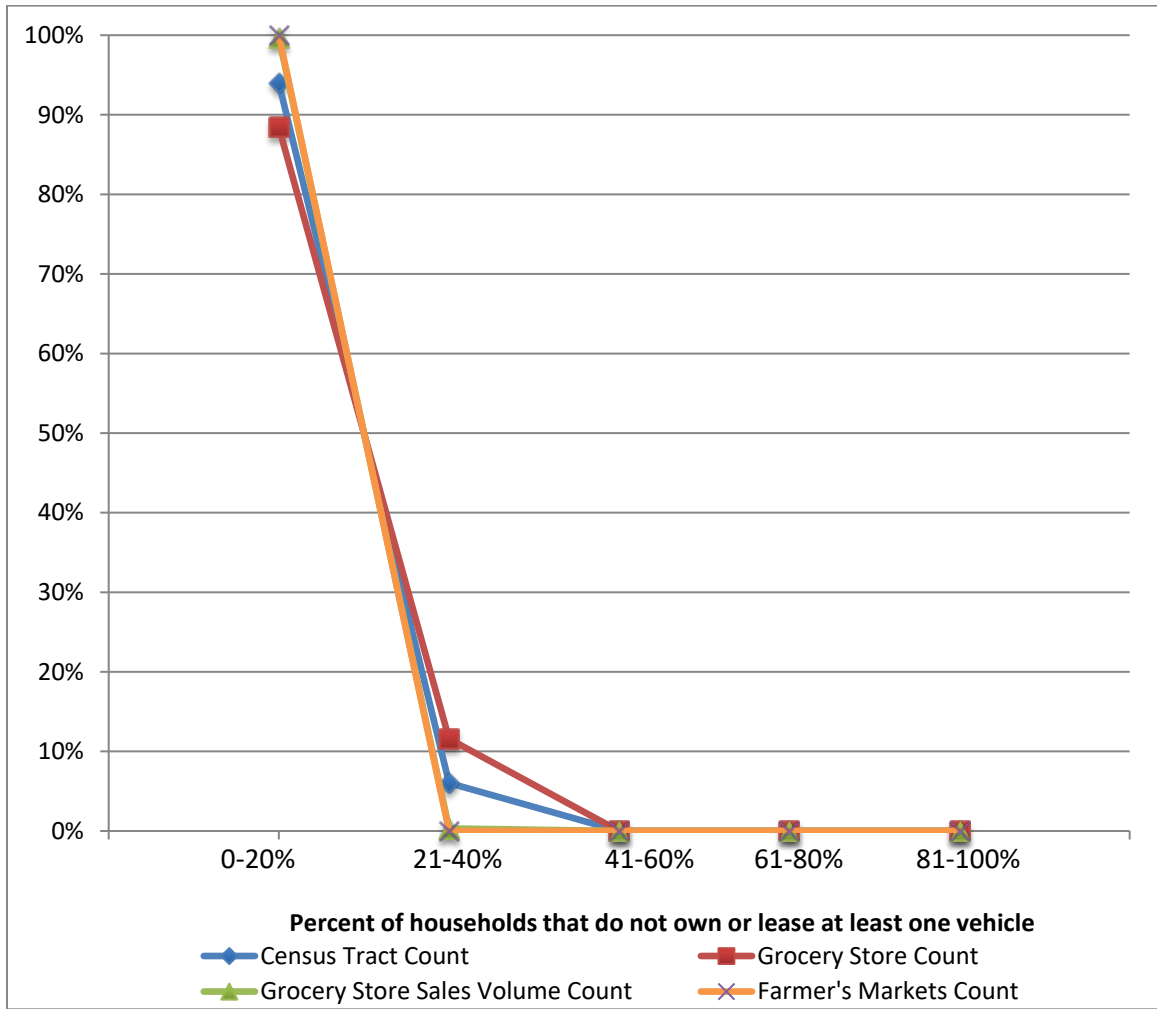


Figure 190. Distribution of grocery stores and farmers markets in Prince William relative to concentration of households without vehicles.