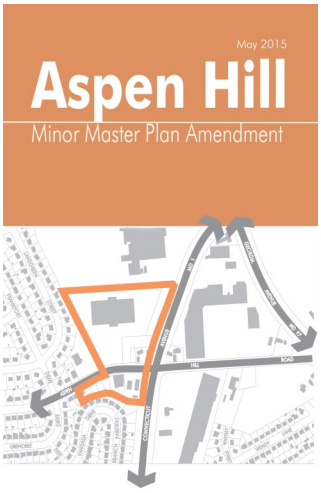



# ASPEN HILL MINOR MASTER PLAN AMENDMENT

**APPENDICES** (supplementary resource materials)

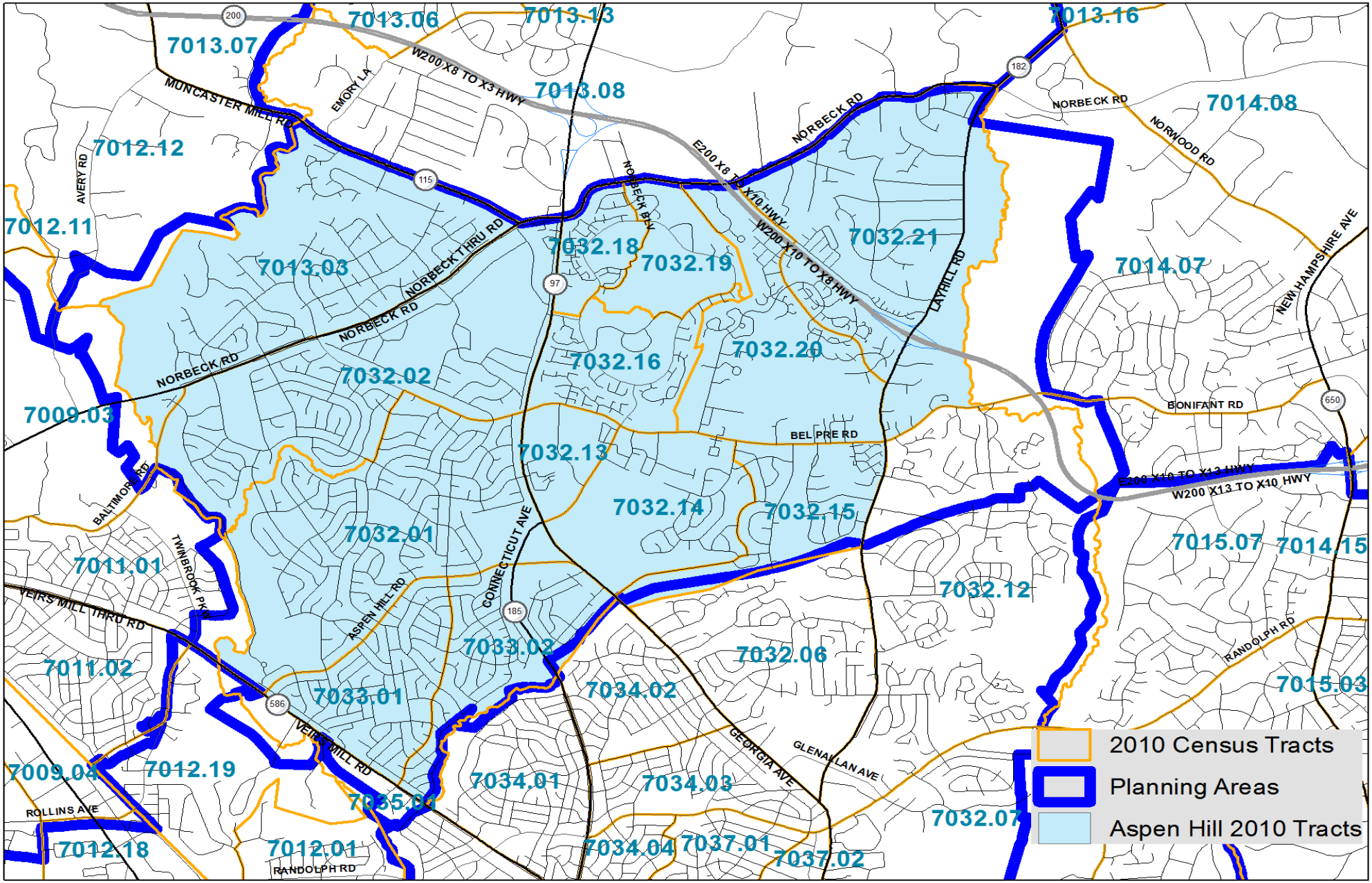
A. Demographic Profile
B. Market Analysis
C. Traffic Analysis

# APPENDIX A

# ASPEN HILL MINOR MASTER PLAN AMENDMENT

# DEMOGRAPHIC PROFILE

# Aspen Hill Planning Area: 2010 Tracts



# *Aspen Hill Study Area*

Montgomery County, Maryland

| | Aspen Hill Study Area [1] | | Montgomery County | |
|---|---|---|---|---|
| | estimate | percent | estimate | percent |
| **POPULATION** | | | | |
| Total population (% of County) | 60,090 | 6.3 | 959,738 | (X) |
| **Age Distribution** | | | | |
| 0-4 years | 3,567 | 5.9 | 63,809 | 6.7 |
| 5-19 years | 10,763 | 17.9 | 187,117 | 19.5 |
| 20-34 years | 10,764 | 17.9 | 182,574 | 19.0 |
| 35-44 years | 7,695 | 12.8 | 141,623 | 14.8 |
| 45-64 years | 14,092 | 23.5 | 267,203 | 27.8 |
| 65-74 years | 4,745 | 7.9 | 60,156 | 6.3 |
| 75 years and older | 8,464 | 14.1 | 57,256 | 6.0 |
| 65 years and older | 13,209 | 22.0 | 117,412 | 12.2 |
| **Race and Hispanic Origin Combined [2]** | | | | |
| Not Hispanic | 47,021 | 78.3 | 800,924 | 83.5 |
| White | 25,847 | 43.0 | 480,156 | 50.0 |
| Black | 13,678 | 22.8 | 160,575 | 16.7 |
| Asian or Pacific Islander | 5,954 | 9.9 | 131,748 | 13.7 |
| Other race | 1,542 | 2.6 | 28,445 | 3.0 |
| Hispanic or Latino [2] | 13,069 | 21.8 | 158,814 | 16.5 |
| Foreign-born | 20,182 | 33.6 | 301,013 | 31.4 |
| **Language Spoken at Home** | | | | |
| *Population 5 years and over* | 56,523 | | 895,929 | |
| Speak language other than English | 23,153 | 41.0 | 341,757 | 38.1 |
| Speak English less than "very well" | 10,677 | 18.9 | 137,264 | 15.3 |
| **Educational Attainment** | | | | |
| *Persons 25 years and older* | 42,604 | 100.0 | 655,343 | 100.0 |
| Less than high school diploma | 6,203 | 14.6 | 58,556 | 8.9 |
| High school graduate | 9,015 | 21.2 | 93,168 | 14.2 |
| Some college or associate degree | 9,759 | 22.9 | 131,297 | 20.0 |
| Bachelor's degree | 9,862 | 23.2 | 175,690 | 26.8 |
| Graduate or professional degree | 7,765 | 18.2 | 196,632 | 30.0 |
| **LABOR FORCE** | | | | |
| *Civilian employed population 16 years and over* | 28,171 | 58.07 | 516,957 | 68.4 |
| Females who are employed | 13,686 | 51.4 | 251,473 | 63.0 |
| **Class of Worker** | | | | |
| Private wage and salary | 20,657 | 73.3 | 368,949 | 71.4 |
| Government | 5,055 | 17.9 | 111,386 | 21.5 |
| Self-employed in own not incorporated business | 2,445 | 8.7 | 35,899 | 6.9 |
| **Occupation** | | | | |
| Management, business, science, and arts | 11,362 | 40.3 | 288,840 | 55.9 |
| Service | 6,716 | 23.8 | 77,463 | 15.0 |
| Sales and office | 5,732 | 20.4 | 99,060 | 19.2 |
| Natural resources, construction, and maintenance | 2,601 | 9.2 | 31,114 | 6.0 |
| Production, transportation, and material moving | 1,760 | 6.3 | 20,480 | 4.0 |
| **Work Trip** | | | | |
| Drove | 21,875 | 78.5 | 387,725 | 76.2 |
| Alone | 18,851 | 67.6 | 335,758 | 66.0 |
| Carpool | 3,024 | 10.9 | 51,967 | 10.2 |
| Public transportation | 4,616 | 16.6 | 77,077 | 15.2 |
| Walked and other means | 424 | 1.5 | 16,238 | 3.2 |
| Worked at home | 956 | 3.4 | 27,605 | 5.4 |
| Mean travel time to work (minutes) | 34.3 | (X) | 33.9 | (X) |
| **Work Location** | | | | |
| In County | 17,329 | 62.2 | 301,771 | 59.3 |
| Outside County, in Maryland | 3,426 | 12.3 | 54,147 | 10.7 |
| In another state | 7,116 | 25.5 | 152,727 | 30.0 |
| **HOUSING** | | | | |
| Housing units (% of County) | 24,785 | 6.6 | 374,145 | (X) |
| Households (% of housing units) | 23,052 | 93.0 | 355,434 | 95.0 |
| Average Household Size | 2.58 | (X) | 2.68 | (X) |

# *Aspen Hill Study Area*

Montgomery County, Maryland

| | Aspen Hill Study Area [1] | | Montgomery County | |
|---|---|---|---|---|
| | estimate | percent | estimate | percent |
| **Tenure** | | | | |
| Owner-occupied | 16,109 | 69.9 | 244,497 | 68.8 |
| Renter-occupied | 6,943 | 30.1 | 110,937 | 31.2 |
| **Units in Structure** | | | | |
| 1-unit, detached | 9,743 | 39.3 | 182,351 | 48.7 |
| 1-unit, attached | 3,866 | 15.6 | 68,139 | 18.2 |
| 2 to 4 units | 486 | 2.0 | 6,596 | 1.8 |
| 5 to 9 units | 1,752 | 7.1 | 19,105 | 5.1 |
| 10 to 19 units | 3,927 | 15.8 | 36,503 | 9.8 |
| 20 or more units | 5,011 | 20.2 | 60,997 | 16.3 |
| **Households by Type:** | | | | |
| Family households | 15,023 | 65.2 | 242,848 | 68.3 |
| Married-Couple | 10,441 | 45.3 | 189,719 | 53.4 |
| Single-Parent | 2,336 | 10.1 | 27,474 | 7.7 |
| Nonfamily households | 8,029 | 34.8 | 112,586 | 31.7 |
| Householder living alone | 7,123 | 30.9 | 91,890 | 25.9 |
| 65 years and over | 4,304 | 18.7 | 30,702 | 8.6 |
| **Residence 1 Year Ago** | | | | |
| *Population 1 year and over* | 59,404 | 100.0 | 947,660 | 100.0 |
| Same Home | 52,829 | 88.9 | 816,248 | 86.1 |
| Elsewhere in County | 3,779 | 6.4 | 66,780 | 7.0 |
| Elsewhere in Maryland | 694 | 1.2 | 14,652 | 1.5 |
| Different state | 1,351 | 2.3 | 34,920 | 3.7 |
| Abroad | 751 | 1.3 | 15,060 | 1.6 |
| **Selected Monthly Owner Costs** | | | | |
| *Housing units with a mortgage* | 10,495 | 100.0 | 195,241 | 100.0 |
| Less than $700 | 201 | 1.9 | 1,710 | 0.9 |
| $700 to $999 | 513 | 4.9 | 4,758 | 2.4 |
| $1,000 to $1,499 | 1,457 | 13.9 | 19,124 | 9.8 |
| $1,500 to $1,999 | 2,594 | 24.7 | 31,585 | 16.2 |
| $2,000 or more | 5,730 | 54.6 | 138,064 | 70.7 |
| Median (dollars) | | (X) | 2,592 | (X) |
| **Gross Rent** | | | | |
| *Occupied units paying rent* | 6,489 | 100.0 | 107,406 | 100.0 |
| Less than $500 | 353 | 5.4 | 3,294 | 3.1 |
| $500 to $749 | 469 | 7.2 | 3,434 | 3.2 |
| $750 to $999 | 366 | 5.6 | 7,349 | 6.8 |
| $1,000 to $1,499 | 2,619 | 40.4 | 40,925 | 38.1 |
| $1,500 or more | 2,592 | 39.9 | 50,993 | 47.5 |
| Median (dollars) | | (X) | 1,473 | (X) |
| **Households Spending More Than 35% of Income on Housing Costs** | | | | |
| Homeowners with a mortgage | 3,555 | 34.1 | 55,192 | 28.3 |
| Renters | 3,337 | 52.0 | 43,199 | 40.7 |
| **HOUSEHOLD INCOME** | | | | |
| **2011 Household Income Distribution** | | | | |
| Under $15,000 | 1,679 | 7.3 | 18,538 | 5.2 |
| $15,000 to $34,999 | 3,881 | 16.8 | 34,335 | 9.7 |
| $35,000 to $49,999 | 2,731 | 11.9 | 32,032 | 9.0 |
| $50,000 to $74,999 | 3,934 | 17.1 | 54,511 | 15.3 |
| $75,000 to $99,999 | 3,090 | 13.4 | 45,306 | 12.8 |
| $100,000 to 149,999 | 4,043 | 17.5 | 70,469 | 19.8 |
| $150,000 to 199,999 | 2,031 | 8.8 | 42,181 | 11.9 |
| $200,000+ | 1,663 | 7.2 | 58,062 | 16.3 |
| 2011 median household income (dollars) | 70,072 | (X) | 95,660 | (X) |
| People whose income is below the poverty level | 5,261 | 8.85 | 59,793 | 6.3 |
| 65 years and over | 662 | 5.1 | 6,996 | 6.2 |

[1] *Study area defined by 13 U.S. Census tracts: 13.03, 32.01, 32.02, 32.13-32.16, 32.18-32.21, 33.01 and 33.02.*

[2] *Those of Hispanic origin may be of any race.*

**Source: 2007-2011 American Community Survey 5-year estimate, U.S. Census Bureau; Research & Special Projects, Montgomery County Planning Dept., M-NCPPC.**

# APPENDIX B

# ASPEN HILL MINOR MASTER PLAN AMENDMENT

# Market Studies

- Office Market Analysis
- Residential Feasibility Study
- Retail Feasibility Study

Prepared by the

**RESEARCH & SPECIAL PROJECTS DIVISION**
**Montgomery County Planning Department**

Valdis Lazdins, Chief, *Research & Special Projects Division*
Rick Liu, Economic & Development Specialist
Lisa Madigan Tate, Senior Economic Research Planner

April 15, 2014

# Office Market Analysis

**RESEARCH & SPECIAL PROJECTS DIVISION**
Montgomery County Planning Department
April 15, 2014

## INTRODUCTION

This report assesses the general feasibility for future office uses within the proposed Aspen Hill Minor Master Plan Amendment (MMPA) area. It focuses on whether the market is likely to absorb existing vacant office space or support construction of a comparable amount of new office space in Aspen Hill as a whole and on the BAE/Vitro site in particular.

## METHODOLOGY AND ASSUMPTIONS

This analysis begins by examining key trends shaping office demand in general, and quantifies existing levels of office supply and demand in the region. The analysis then assesses the economic feasibility of large scale office use in Aspen Hill. It gauges Aspen Hill's ability to attract office users relative to alternative locations given tenant preferences regarding transit accessibility, building design, and proximity to commercial centers. Site-specific challenges to reusing, retrofitting or replacing office space in the MMPA area also are discussed.

# OFFICE MARKET OUTLOOK

## National Office Market Assessment

Despite a brighter economic climate, office users nationwide are choosing to maintain smaller physical footprints. Government and private sector tenants alike are consolidating operations, lowering their square foot per employee ratios, taking on new space more slowly, and negotiating shorter term leases.

These trends are driven by more than a desire to reduce occupancy costs. Telecommuting, new technologies, and changing workplace designs (such as unassigned workspaces and smaller 'on-the-fly' meeting spaces) make it easier for employers use space more intensively, but also appeal to workers seeking more flexible, creative and collaborative work environments.

Changing tenant preferences for office locations and building characteristics also are fundamentally reshaping the office market. Companies want to collocate with clients and suppliers, reinforcing the pull of existing business clusters. Tenants also increasingly favor more attractively-designed, greener and transit-accessible office spaces.

Newer spaces in higher density, mixed use environments are best positioned to compete for these tenants. Older or obsolete properties, especially those located outside business clusters, are at a growing competitive disadvantage.

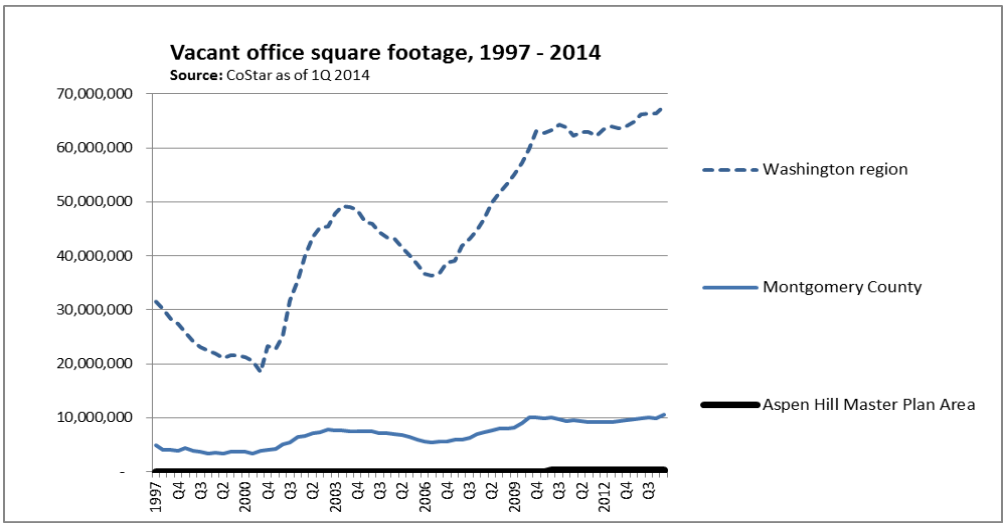
Medical offices may be an exception to the move to smaller, centralized and transit-centered offices. Demand for non-hospital health care space will be robust over the long term due to an increase in insured patients under the Affordable Care Act (ACA) and continued growth in the senior population. Medical providers increasingly favor suburban locations that are convenient and accessible to patients, fostering a boom in medical office construction--according to Colliers International, 25 percent of all office space under construction in the nation is medical office space.

This category of demand will not necessarily cure rising vacancy rates in existing suburban office buildings, as ACA compliance demands and cost containment are expected to spur consolidation in both the health care and insurance industries, potentially creating vacancies in medical and office buildings currently occupied by smaller providers. Medical offices have higher buildout costs and other increasingly specialized space requirements; newer and larger health care establishments typically prefer build-to-suit over existing office structures, and close proximity to retail centers.

## Regional Office Market Assessment

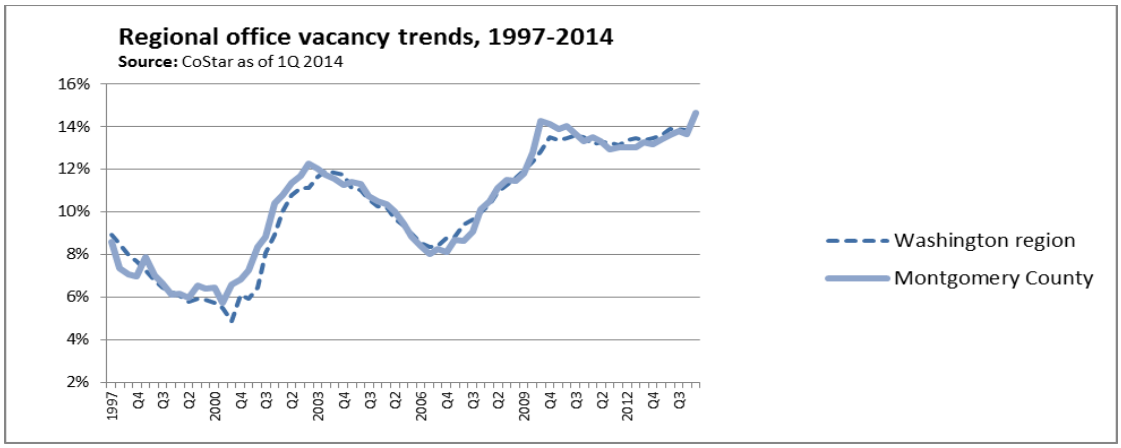
The vacant BAE/Vitro property represents a very minor part of the surplus of office space within Montgomery County and the Washington DC Metro region. Currently, there is roughly 10 million square feet of vacant office space in Montgomery County, and nearly 70 million square feet of vacant space in the Washington, D.C. metro region as a whole (Figure 1).

**Figure 1**



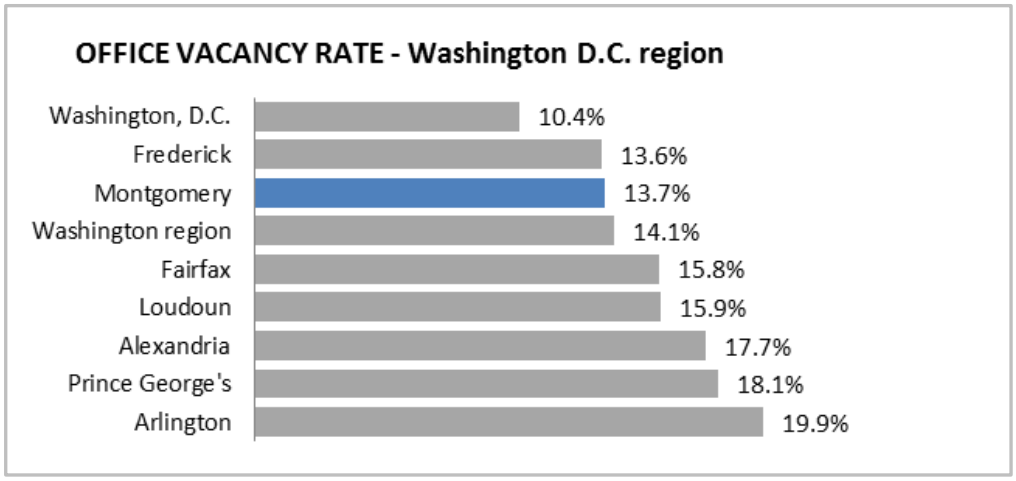

Part of this surplus can be attributed to the lingering impacts of an unusually long recession and federal budget cuts on hiring and leasing activity. Long development cycles and project costs make it difficult to quickly adjust the delivery of new space to market changes, adding to the oversupply. Even so, such 'normal' market ups and downs do not fully explain the office glut. As shown in Figure 2, there has been a persistent rise in office vacancy rates across multiple business cycles over the past two decades, an indication that there are broader trends contributing to the current oversupply of office space.

**Figure 2**



The Federal mandate for reducing office footprint is likely to only increase the vacancy rate: consolidation of federal space is expected to release 1 million square feet of space onto Montgomery County's office market alone. The current record-high 13.7 percent office vacancy rate for Montgomery is consistent with weakness in the office market region-wide (Figure 3).

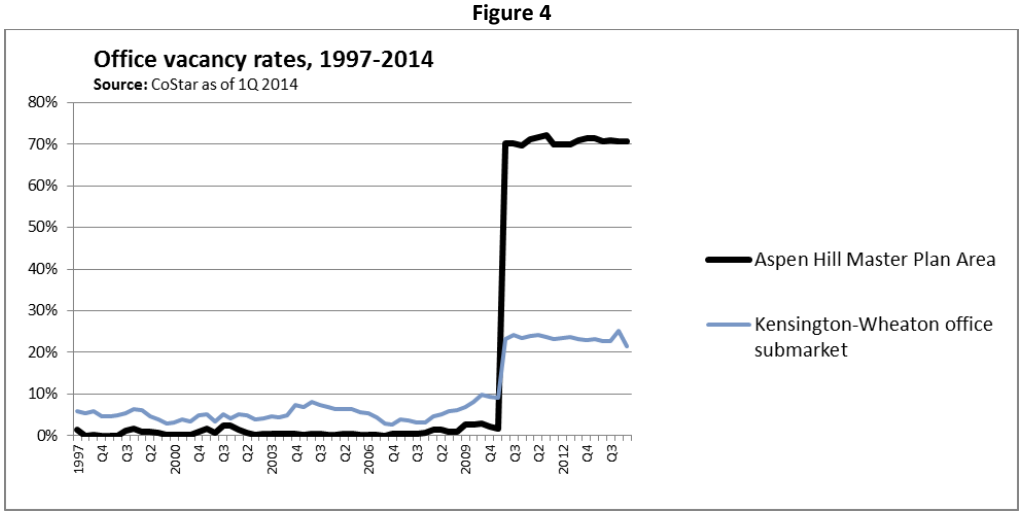
**Figure 3**




## Aspen Hill Office Market Assessment

The 242,000 square foot office building currently on the Vitro site accounts for the vast majority of office inventory in Aspen Hill. Consequently, the loss of the building's sole tenant in 2010 and the owner's reported inability to release the space has had an outsized impact in Aspen Hill, where the vacancy rate has hovered at around 71 percent. The Vitro vacancy has pushed the vacancy rate in its wider Kensington-Wheaton office submarket to around 25 % (Figure 4).

**Figure 4**



## IMPACT ON DEMAND FOR OFFICE SPACE IN ASPEN HILL

A long period of sustained economic growth and market adjustments may be needed to absorb the existing vacant office inventory in the regional economy, indicating that there will likely be fierce competition for office tenants for the foreseeable future. Changing office tenant location preferences also put suburban centers that lack Metro access or a strong non-retail commercial presence—such as Aspen Hill—at a significant competitive disadvantage.

It is important to note that the BAE/Vitro property, which accounts for most of Aspen Hill's office inventory, was custom-built for a large Federal defense contractor at a time when there was less risk associated with long-term leases. In the current market climate, it would be particularly difficult to attract a tenant large enough to absorb all 242,000 square feet of office space. Most tenants who do not want to collocate with other users are seeking smaller buildings that can be customized to their needs, as well as proximity to business partners as well as Metro.

The BAE/Vitro building's current interior layout (e.g., oddly placed stairwells and wall partitions) was designed for a unique user and would be obsolete and unappealing to contemporary tenants. Because the building was constructed with reinforced concrete, the cost of retrofitting these features to accommodate a new tenant would be unusually high.

Subdividing into a multi-tenant property would also be cost-prohibitive because it would require removing nearly all existing building components and essentially creating a new code-compliant building over the existing foundation. This option would be more expensive than fully demolishing and building new. Even then, it would be extremely challenging to find multiple tenants given the overall weakness in the current office market.

Based on these factors, it can be reasonably concluded that the market probably will not absorb the existing block of vacant office space or support the construction of a new or replacement office space in the MMPA area in the near future. Limited demand may exist for community-serving office uses, such as a medical or professional building.

## ASPEN HILL MINOR MASTER PLAN AMENDMENT

# Residential Feasibility Study

**RESEARCH & SPECIAL PROJECTS DIVISION**
Montgomery County Planning Department
April 15, 2014

## INTRODUCTION

This report was prepared in support of the Aspen Hill Minor Master Plan Amendment and it focuses on the former BAE/Vitro headquarters office site (see Figure 1). The report seeks to determine the economic feasibility of redeveloping it for residential uses, which would require a subsequent rezoning. The Research and Special Projects Division completed the following tasks for this effort:

- **Economic and Market Due Diligence Analysis**: Conducted economic, financial, and market analyses of the site's surrounding residential market and competitive areas to confirm variables and test a residential development program whose scale is generally in line with demand factors.
- **Financial Feasibility Analysis**: Analyzed the financial feasibility of a residential scenario based on development costs, revenue inputs, and development program variables based on the Economic and Market Due Diligence Analysis.

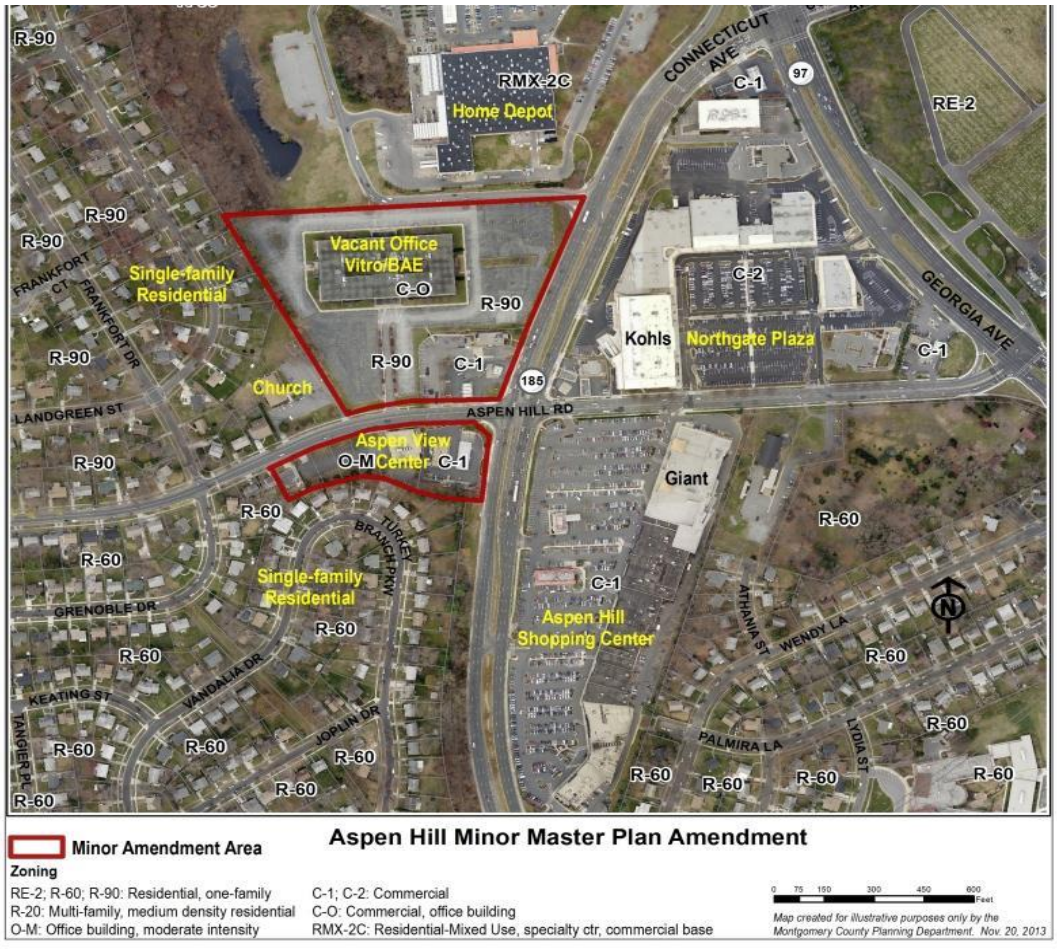
## SECTION 1: SITE BOUNDARIES

While the Aspen Hill Minor Master Plan Amendment covers a larger area, the planning effort is focused primarily on the now vacant BAE/Vitro office site located at 4115 Aspen Hill Road in Aspen Hill, MD. The site is approximately 10 acres and is bounded by single family homes and a church to the west. A Home Depot and conservation area are located to the north, Connecticut Avenue to the east, and Aspen Hill Road to the south. A small site, zoned C-1, has been "carved out" from the property at the southeast corner and contains a gas station and Dunkin' Donuts.

The BAE/Vitro property is split zoned. A 4.9+ acre area containing the office building is zoned C-O. The remaining 5.1+ acres, primarily the parking areas, are zoned R-90 and an approved special exception allows the site to be used for parking (See Figure 1). The area zoned C-O would need to be rezoned to accommodate any residential uses.

The site sits at a relatively busy intersection, Aspen Hill Road and Connecticut Avenue. It is surrounded by large commercial stores, particularly to the east. Across Connecticut Avenue is Northgate Shopping Center and Aspen Hill Shopping Center, both large regional shopping centers. However, the planning area lacks certain amenities, such as proximity to Metro, ample and well-connected sidewalks, walkable shopping/restaurants, easy access to freeways and major employment centers, and a highly desirable school district.

**Figure 5: Aspen Hill Minor Master Plan Boundaries**



# SECTION 2: ECONOMIC AND MARKET OVERVIEW

A residential market analysis typically addresses the appropriate scale and type of residential development for a site. However, this study just looks at the feasibility of townhouse development. This is because townhouses were determined to be the most compatible, given surrounding land uses and because they can serve as a transitional land use between the shopping centers to the east and single family homes to the west.

## Section 2a: Demographic and Economic Assessment

The demographic and economic assessment looks at households, age, incomes, and Tapestry Segments®1 in the two primary zip codes (20853, 20906) comprising Aspen Hill (the "Trade Area"). Zip codes were used to define the Trade Area for two reasons:

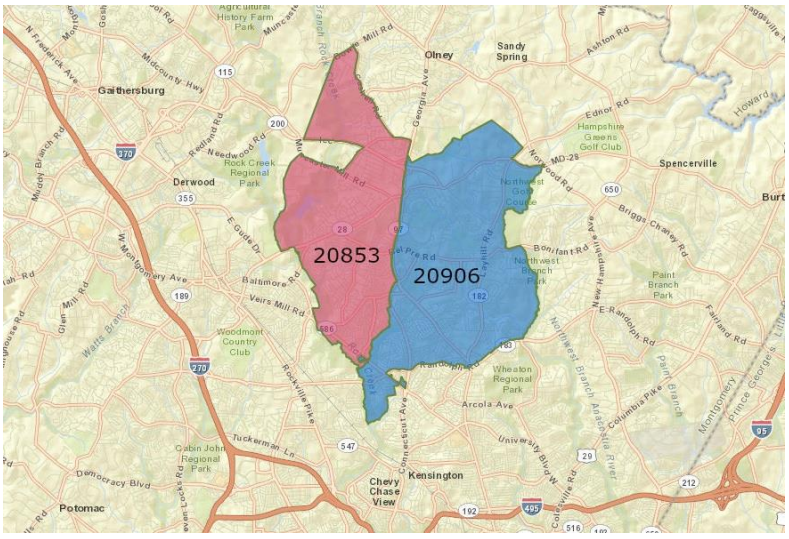
- Residential sales information is organized by zip code
- To highlight the difference in the composition and characteristics between the zip codes, which may lend support to different residential market opportunities.

While new development at the site may draw residents from Montgomery County and the Washington, D.C. metro area, the Trade Area is the best indicator of trends, characteristics, and consumer preferences that can be used to identify potential housing prices and the scale of development.

**Trade Area**

While land uses in both zip codes (see Figure 2) are primarily residential and retail, there are significant differences between the two. There is considerably less retail in 20853 than in 20906, which contains the majority of shopping centers in Aspen Hill. Additionally, residential in 20853 contains higher priced single family detached homes and fewer attached units or condominiums than 20906. The school districts in 20853 are also considered more desirable; contributing to the higher home prices. Lastly, Leisure World, a large, age-restricted community, is in 20906, which adds a large senior population.

**Figure 2: Trade Area (Zip Codes)**




[1] Community Tapesttry Segments are an ESRI trademarked classification system based on labor force characteristics, median income, age, spending habits, etc. to categorize neighborhoods.

**Populations/Households**

In 2013 the population for zip code 20853 was 29,963 (9,782 households), while for 20906 it was 49,345 (16,351 households). Household growth from 2013 – 2018 is expected to increase annually in zip codes 20853 and 20906, about 0.9% and 1.2% respectively. This is commensurate with the growth rate during the same period for Montgomery County as a whole (1.1%). See Table 1.

**Table 1: Population Growth in Trade Area**

| Zip Code 20853 | | | | | Zip Code 20906 | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Summary | 2013 | 2018 | Annual Growth 2013 - 2018 | % Annual Growth (2013 - 2018) | Summary | 2013 | 2018 | Annual Growth 2013 - 2018 | % Annual Growth (2013 - 2018) |
| Population | 29,963 | 31,334 | 274 | 0.9% | Population | 49,345 | 52,269 | 585 | 1.2% |
| Households | 9,782 | 10,193 | 82 | 0.8% | Households | 16,351 | 17,263 | 182 | 1.1% |
| Families | 7,612 | 7,895 | 57 | 0.7% | Families | 11,218 | 11,749 | 106 | 0.9% |
| Average Household Size | 3.05 | 3.06 | | | Average Household Size | 2.99 | 3.00 | | |
| *Source: ESRI Business Analyst Online* | | | | | | | | | |
| Owner Occupied Housing Units | 8,287 | 8,675 | 78 | 0.9% | Owner Occupied Housing Units | 10,840 | 11,570 | 146 | 1.3% |
| Renter Occupied Housing Units | 1,495 | 1,518 | 5 | 0.3% | Renter Occupied Housing Units | 5,511 | 5,693 | 36 | 0.7% |
| Median Age | 42.0 | 42.8 | | | Median Age | 36.1 | 37.1 | | |

**Household Age and Income Distribution**

Age and income distribution were evaluated for the Trade Area, since different age groups generally prefer different types of residential units at differing prices. For example, the Leesborough townhome community, located one half mile north of the Wheaton Metro Station, offers townhomes to a primary market that includes singles, newlyweds, and one parent families. Since townhomes are usually two stories or higher, they are less appealing to seniors (65+) since they create mobility challenges.

In 2013 median ages for zip codes 20853 and 20906 were 42.0 and 36.1 respectively (see Table 2). Zip code 20906 had a slightly younger population, most likely because of more multifamily and less expensive residential units. However, the population in both zip codes was fairly well distributed. No age group represented more than 15% of the population, although the demographic composition can generally be characterized as families with children, as well as seniors. Families and seniors generally do not find townhomes a desirable housing choice. However, the groups that would – singles and newlyweds (25-34 years) – are projected to decrease over the next five years.

| Table 2: Population Age Profile | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zip Code 20853 | | | | | | | Zip Code 20906 | | | | | | |
| | 2013 | | 2018 | | Pop Annual Growth 2013 - 2018 | | | 2013 | | 2018 | | Pop Annual Growth 2013 - 2018 | |
| Population by Age | Number | Percent | Number | Percent | Number | Percent | Population by Age | Number | Percent | Number | Percent | Number | Percent |
| 0 - 4 | 1,676 | 5.6% | 1,742 | 5.6% | 13 | 0.79% | Age 0 - 4 | 3,735 | 7.6% | 3,847 | 7.4% | 22 | 0.60% |
| 5 - 9 | 1,983 | 6.6% | 2,054 | 6.6% | 14 | 0.72% | Age 5 - 9 | 3,570 | 7.2% | 3,795 | 7.3% | 45 | 1.26% |
| 10 - 14 | 2,067 | 6.9% | 2,242 | 7.2% | 35 | 1.69% | Age 10 - 14 | 3,136 | 6.4% | 3,702 | 7.1% | 113 | 3.61% |
| 15 - 19 | 1,831 | 6.1% | 1,877 | 6.0% | 9 | 0.50% | Age 15 - 19 | 2,818 | 5.7% | 3,019 | 5.8% | 40 | 1.43% |
| 20 - 24 | 1,548 | 5.2% | 1,349 | 4.3% | -40 | -2.57% | Age 20 - 24 | 3,043 | 6.2% | 2,798 | 5.4% | -49 | -1.61% |
| 25 - 34 | 3,257 | 10.9% | 3,199 | 10.2% | -12 | -0.36% | Age 25 - 34 | 7,530 | 15.3% | 7,244 | 13.9% | -57 | -0.76% |
| 35 - 44 | 3,827 | 12.8% | 4,127 | 13.2% | 60 | 1.57% | Age 35 - 44 | 7,410 | 15.0% | 7,747 | 14.8% | 67 | 0.91% |
| 45 - 54 | 4,584 | 15.3% | 4,402 | 14.0% | -36 | -0.79% | Age 45 - 54 | 6,573 | 13.3% | 6,854 | 13.1% | 56 | 0.86% |
| 55 - 64 | 4,157 | 13.9% | 4,518 | 14.4% | 72 | 1.74% | Age 55 - 64 | 5,712 | 11.6% | 6,068 | 11.6% | 71 | 1.25% |
| 65 - 74 | 2,729 | 9.1% | 3,257 | 10.4% | 106 | 3.87% | Age 65 - 74 | 3,189 | 6.5% | 4,178 | 8.0% | 198 | 6.20% |
| 75 - 84 | 1,720 | 5.7% | 1,845 | 5.9% | 25 | 1.45% | Age 75 - 84 | 1,760 | 3.6% | 2,088 | 4.0% | 66 | 3.73% |
| 85+ | 584 | 1.9% | 722 | 2.3% | 28 | 4.73% | Age 85+ | 869 | 1.8% | 929 | 1.8% | 12 | 1.38% |
| Median Age | 42.0 | | 42.8 | | | | Median Age | 36.1 | | 37.1 | | | |
| *Source: ESRI Business Analyst Online* | | | | | | | | | | | | | |

As shown in Table 3, the median annual household income for this this age group (25-34 years) is $81,014 and $58,538 respectively for zip codes 20853 and 20906. It is also likely that many in this age group elect to live in Aspen Hill (characterized by lower residential densities, limited transit choice and a lack of mixed use development) preferring single family detached homes, or older and more affordable attached homes.

| Table 3: Household Age and Income Profile | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zip Code 20853 | | | | | | | | Zip Code 20906 | | | | | | |
| 2013 Households by Income and Age of Householder | | | | | | | | 2013 Households by Income and Age of Householder | | | | | | |
| | <25 | 25-34 | 35-44 | 45-54 | 55-64 | 65-74 | 75+ | | <25 | 25-34 | 35-44 | 45-54 | 55-64 | 65-74 | 75+ |
| HH Income Base | 69 | 762 | 1,599 | 2,240 | 2,175 | 1,493 | 1,444 | HH Income Base | 508 | 2,792 | 3,851 | 4,406 | 4,404 | 3,357 | 5,536 |
| | | | | | | | | | | | | | | | |
| <$15,000 | 14 | 46 | 64 | 112 | 101 | 51 | 174 | <$15,000 | 107 | 186 | 213 | 292 | 282 | 225 | 647 |
| $15,000-$24,999 | 9 | 37 | 78 | 89 | 70 | 84 | 134 | $15,000-$24,999 | 55 | 170 | 192 | 183 | 228 | 239 | 716 |
| $25,000-$34,999 | 12 | 72 | 116 | 127 | 113 | 97 | 169 | $25,000-$34,999 | 108 | 376 | 373 | 371 | 350 | 422 | 648 |
| $35,000-$49,999 | 6 | 66 | 118 | 118 | 106 | 84 | 180 | $35,000-$49,999 | 70 | 426 | 482 | 455 | 464 | 570 | 956 |
| $50,000-$74,999 | 16 | 121 | 204 | 202 | 199 | 221 | 227 | $50,000-$74,999 | 103 | 544 | 634 | 734 | 679 | 686 | 1,307 |
| $75,000-$99,999 | 4 | 128 | 206 | 257 | 244 | 250 | 105 | $75,000-$99,999 | 41 | 395 | 519 | 555 | 513 | 295 | 475 |
| $100,000-$149,999 | 8 | 194 | 434 | 605 | 610 | 341 | 267 | $100,000-$149,999 | 19 | 486 | 848 | 955 | 990 | 547 | 526 |
| $150,000-$199,999 | 0 | 59 | 201 | 352 | 339 | 194 | 92 | $150,000-$199,999 | 4 | 143 | 332 | 458 | 460 | 202 | 136 |
| $200,000+ | 0 | 39 | 178 | 378 | 393 | 171 | 96 | $200,000+ | 1 | 66 | 258 | 403 | 438 | 171 | 125 |
| | | | | | | | | | | | | | | | |
| Median HH Income | $34,436 | $81,014 | $100,894 | $112,519 | $115,104 | $94,844 | $55,409 | Median HH Income | $33,011 | $58,538 | $76,145 | $81,188 | $83,183 | $55,968 | $45,966 |
| Average HH Income | $47,457 | $94,366 | $117,091 | $135,728 | $139,725 | $117,238 | $83,142 | Average HH Income | $42,309 | $75,089 | $95,621 | $104,071 | $106,134 | $80,496 | $59,925 |
| *Source: ESRI Business Analyst Online* | | | | | | | | | | | | | | | |

**Community Tapestry Segments**

ESRI Business Analyst Online uses information such as labor force characteristics, median income, age, and spending habits to categorize demographic information according to a trademarked Community Tapestry classification system[2]. These tapestries provide insights into the housing and shopping preferences of Trade Area residents and can help inform the types of residential units that may be successful. The Community Tapestry Segments that characterize zip codes 20853 and 20906 include: Wealthy Seaboard Suburbs; The Elders, Connoisseurs; and Pleasant-Ville.

**Table 4: Community Tapestry Segmentation**

| Zip Code (20853) | | | | | |
|---|---|---|---|---|---|
| | Households | | U.S. Households | | |
| Tapestry Segment | Percent | Cumulative Percent | Percent | Cumulative Percent | Index |
| 05. Wealthy Seaboard Suburbs | 27.8% | 27.8% | 1.4% | 1.4% | 1,980 |
| 03. Connoisseurs | 26.5% | 54.3% | 1.3% | 2.7% | 2,111 |
| 10. Pleasant-Ville | 20.1% | 74.4% | 1.6% | 4.3% | 1,237 |
| **Zip Code (20906)** | | | | | |
| 43. The Elders | 20.4% | 20.4% | 0.6% | 0.6% | 3,178 |
| 05. Wealthy Seaboard Suburbs | 11.0% | 31.4% | 1.4% | 2.0% | 783 |
| 10. Pleasant-Ville | 10.4% | 41.8% | 1.6% | 3.6% | 636 |

*Source: ESRI Business Analyst Online*

- *Wealthy Seaboard Suburbs*, representing 27.8% of all households in zip codes 20853 and 11.0% in 20906 are generally described as older and more affluent. More than half work in professional or management positions and their median net worth is more than four times the U.S. median. Three fourths live in homes built before the 1970's and 89 percent of *Wealthy Seaboard Suburbs* households live in single family homes. Slow to change, they are the least likely to have moved in the last five years.

- *The Elders* represents 20.4% of all households in zip code 20906. Their median age is 73.2, and most are married with no children living at home, or single. Most are on a fixed income, receive Social Security benefits, and have a median household income of $42,293. They favor communities designed for senior living or with a large share of seniors. Residential choice is mixed; half reside in single family homes, one-third in multiunit buildings, and 17 percent in mobile homes.

[2] Community Tapestry segments descriptions provide national characteristics of the groups rather than Aspen Hill specific data.

- *Connoisseurs*, representing 26.5% of the households in zip code 20853 are somewhat older; being closer to retirement than child-rearing age. Of these, 64% hold a bachelor or graduate degree and are in high paying management, professional, and sales jobs; although many are self-employed. Their median net worth is nearly 7 times the national average. The neighborhoods they live in are usually slow growing, established, and affluent. Most live in single family homes built before 1970.

- *Pleasant-Ville* represents 20.1% and 10.1% of the households in zip codes 20853 and 20906, respectively. They are characterized as middle-aged, married couples, and nearly 40 percent of the households have children. Labor force participation is above average and employed residents work in diverse industry sectors, similar to U.S. distributions. These households live in single family homes, with nearly half built between 1950 and 1970. They enjoy where they live; two-thirds have lived in the same house since 1995.

These Tapestry Segments typically have a preference for single family housing and are disinterested in moving, or downsizing or upsizing their homes. These preferences suggest weak market support within the Trade Area for townhouse development on the BAE/Vitro site. For a townhome development to move forward it would likely need to:

- Capture residents outside Aspen Hill.

- Be priced lower than comparable townhome developments (in areas with greater market support, such as Rockville or Wheaton).

- Be smaller scale so that inventory does not exceed market demand.

## Section 2b: Housing Inventory Assessment

The housing market in the Trade Area was analyzed to identify the potential size and price ranges for new residential. There were considerably more sales (see Table 5) of attached units and condominiums/co-ops in zip code 20906 (534 units sold) than in 20853 (33 units sold). This is because single family detached homes are the dominant unit type in zip code 20853 and housing prices on average are lower in 20906 (-$69K difference for detached units, -106K difference for attached units). Most attached residential units are located in zip code 20906 and were built during the 1970s, or earlier, and are less expensive (see Table 5). The lower prices may be attributed to the age of homes, housing conditions, and being located in a less desirable school district.

The prices and sizes of residential units similar to the townhomes being analyzed for this planning effort were derived from discussions with sales associates and brokers, and online research of home listings for the Rockville and Wheaton markets (see Table 6 for residential market segments in the Trade Area and competing areas).

If developed for residential, townhome prices for the BAE/Vitro site would likely be higher than for similar units sold in the Trade Area during the past twelve months - partly because they would be newly constructed. However, prices would still be lower than comparable units in

**Table 5: Residential Sales from Feb. 2013 - Feb. 2014**

| | Zip Code 20853 | | Zip Code 20906 | |
|---|---|---|---|---|
| | Number | Price | Number | Price |
| Sold Dollar Volume | | $ 126,679,677 | | $216,784,894 |
| Avg. Sold Price | | $ 417,274 | | $ 251,770 |
| Median Sold Price | | $ 358,288 | | $ 239,000 |
| Units Sold | 302 | | 857 | |
| Avg. Days on Market | 49 | | 46 | |
| | | | | |
| Detached Units Sold | | Avg. Price | | Avg. Price |
| 2 BDR | - | N/A | 26 | $ 180,774 |
| 3 BDR | 60 | $ 338,691 | 94 | $ 315,737 |
| 4+ BDR | 208 | $ 469,920 | 203 | $ 418,196 |
| Overall | 268 | $ 440,541 | 323 | $ 371,190 |
| | | | | |
| Attached Units Sold | | Avg. Price | | Avg. Price |
| 2 BDR | 2 | $ 349,200 | 4 | $ 261,000 |
| 3 BDR | 11 | $ 391,294 | 75 | $ 323,429 |
| 4+ BDR | - | N/A | 14 | $ 317,696 |
| Condo/Co-Op | 20 | $ 160,225 | 441 | $ 152,111 |
| Overall | 33 | $ 248,701 | 534 | $ 181,329 |

*Source: RealEstate Business Intelligence, Inc.*

Rockville and Wheaton. This is primarily because the Plan area lacks amenities normally expected by residents; in this case singles, newlyweds, and one parent households. Such amenities include a nearby Metro station, ample and well-connected sidewalks, walkable shopping/restaurants, good access to freeways and major employment centers, and desirable school districts.

Based on comparable sales information (see Table 6), past sales data, and the capitalized value of monthly payments affordable to the expected group of buyers[3], **an appropriate average unit size for a townhouse on the BAE/Vitro site should be around 1,800 square feet (SF), and the price per square foot (PSF) can be conservatively estimated to be between $208 - $226.** Average unit size is slightly lower than comparison neighborhoods, in order to mitigate costs in a weaker market. The PSF is approximately 10% lower than for Wheaton North, the most comparable neighborhood based on proximity. These estimates would generate a per unit price between $375,000 and $407,000, which would be affordable to expected buyers. In particular, this type of unit may appeal to a more budget conscious buyer looking for a more affordable townhouse style residence.

**Table 6: Attached Housing Price Ranges**

| | Avg. Size (SF) | Avg. Price (Per SF) | Avg. Price |
|---|---|---|---|
| Rockville (west of I-270) | 2,127 | $332 | $706,164 |
| Wheaton (near Metro) | 2,069 | $213 | $440,697 |
| Wheaton North (closer to Aspen Hill) | 1,831 | $241 | $441,271 |
| Past Sales Data (in 20906) | | | $150,000 - $323,000 |
| Townhome Affordability Factors *(Based on household incomes of 25-34 age group in Trade Area. See Table 3)* | | | $300,000 - $415,000 |

*Source: Zillow, Allan and Rocks, Leesborough Townhomes*

[3] Assume 30% of annual income from 25-34 age group in zip codes 20853 and 20906. Capitalized value derived from amortized monthly payments using a 30-year, fixed rate mortgage at 5% interest.

## Section 2c: Project Scale / Market Absorption

While this study helps gauge the potential to redevelop the BAE/Vitro site for residential and determine the number of units that could be supported by the market, it does so as an informed estimate. The estimate is based on observations of market demand and additional factors that may affect development scale. Should a residential option for the site proceed, these factors, including competition from similar townhome developments in the pipeline or under construction (limited in Aspen Hill) and financing that a developer can obtain based on credit or prevailing interest rates, may require further investigation.

The methodology to estimate the number of supportable residential units is based on the following:

- Demand for townhouses from three primary buyers:
    - Singles
    - Newlyweds
    - One-parent families with children[4]
- Demand from nearby Rockville and Wheaton, which also have comparable townhouse developments and compete for similar buyers.
- Demand from people relocating within Montgomery County. About 20% of Montgomery County households will annually relocate based on a national home tenure of five years.
- Capture rates (how many new households and transfers a development can "capture" compared to projects elsewhere in the metro area). Capture rates are largely based on proximity of new housing to concentrations of households and competition from similar development.

[4] Singles, newlyweds, and one-parent families derived from data trends and ratios in 2010 U.S. Census

Annual household capture estimates for the BAE/Vitro site are presented in Table 7.

Two of the key groups of potential home buyers – singles and newlywed households – are not expected to significantly grow over the next five years (see Table 2), affecting demand. In addition, competition from townhomes with better amenities in Rockville and Wheaton further limits development potential. Consequently, fewer than ten new households within Aspen Hill are expected to be captured annually. Therefore, demand would be primarily generated by in-County transfers and relocations. In total, approximately 50 residential units could annually be absorbed by BAE/Vitro site development.

Typically, a developer will plan to sell out a project within 1.5 years to avoid increased risk and carrying costs. A longer time frame may also make it less attractive for financing. Based on these assumptions a residential development program is estimated to be 70-80 market-rate units (50 x 1.5 = 75 unit average). An additional 9-10 Moderately Priced Dwelling Units (MPDU) will be added to the development program, **resulting in a total development program of 79-90 total units.**[5] The MPDU program stems from a regulatory policy that mandates affordable housing in conjunction with residential development.

**Table 7: Annual Household Demand (On-Site)**

| | New Households (Aspen Hill, Rockville, Wheaton) | Existing Household Relocations (Montgomery County) | TOTAL |
|---|---|---|---|
| Singles | 6 | 16 | 22 |
| Newlyweds | 1 | 5 | 6 |
| One-Parent Households | 2 | 20 | 22 |
| Total | 9 | 41 | **50** |

*Source: U.S. Census, ESRI Business Solutions*

[5] Per DHCA policy, MPDUs represent an additional 12.5% of total number of market rate units.

# SECTION 3: FINANCIAL FEASIBILITY ANALYSIS

A financial feasibility analysis was conducted to determine the feasibility of a 70-80 unit residential development on the BAE/Vitro site. It also assumes a townhouse density of 12.5 dwelling units per acre (RT-12.5 Zone) Residential, townhouse (see Table 8 for requirements).[6]

The analysis evaluated revenues and costs for the current property owner (Lee Development Group) and a future residential developer. It assumed a conventional development process where the property owner would demolish the existing building, prepare the site for development (obtaining RT-12.5 zoning), and then sell it to a residential developer.[7] The developer would obtain all regulatory approvals, make all site improvements, and then construct townhomes.

| **Table 8: Zoning Designation Regulations (RT-12.5)** | |
|---|---|
| Maximum DU per Acre | 15.25 |
| Maximum Height | 35’ |
| Setback | 30 ft. (from front line) |
| Open Space | 45% of tract |
| Parking | Off-street, 1.5 spaces per DU |
| *Source: Montgomery County Planning Department* | |

Table 9 presents the assumed costs for the landowner, while Table 10 presents the assumed revenues and expenditures for the developer. All revenues and costs are approximate and should be considered order of magnitude estimates. For a property owner and developer to arrive at key decisions on whether to proceed they would have to prepare and assess more definitive studies and cost estimates.

| **Table 9: Landowner Costs for Site Preparation** | | | |
|---|---|---|---|
| **Site Preparation Costs** | | | |
| Hazardous Materials removal, Demolition (along with hauling, disposal, and recycling credit) | $ | 2,029,888.90 | *(Source: Lee Development Group + Independent Sources)* |
| Site Grading | $ | 300,000.00 | *(Source: Homewyse.com + Independent Sources)* |
| Pavement Removal | $ | 300,000.00 | *(Source: Independent Estimator)* |
| Rezoning Administrative Costs (Engineering, Legal, Entitlements, etc.) | $ | 1,100,000.00 | *(Source: Lee Development Group)* |
| **Total Landowner Costs for Site Preparation** | **$** | | **3,729,888.90** |

[6] Since the development is expected to include moderately priced dwelling units (MPDU), zoning regulations are derived from zoning ordinance *59-C-1.74. Development including moderately priced dwelling units.*

[7] Since this assumes the opportunity cost of not preparing the site is $0, it is assumed that the Lee Development Group would cover all the costs of site preparation.

## Section 3a: Landowner Costs

The cost to prepare the site for residential development is estimated to be approximately $3.5 - $4.0 million. This includes remediating hazardous materials (asbestos, lead based paint, etc.); building demolition, hauling, and disposing of or recycling debris; site clearing and pavement removal; and site grading (assuming an earthwork balance).[8]

The analysis further assumes the landowner would secure a rezoning and all entitlements, market the site, and sell it for the current assessed land value. It should be noted that the Vitro property owner has indicated they have no plans to sell the property in the foreseeable future.

[8] Assumes soil is not hauled into or from the site, which could increase costs considerably.

| Table 10: Residential Developer Summary | | | |
|---|---|---|---|
| **Development Revenue** | | | |
| | Low Estimate | High Estimate | Source |
| Number of Units | 70 | 80 | |
| Average Price PSF | $208 | $226 | |
| Average Unit Size (2 Floor Townhouse) | 1,800 | 1,800 | |
| MPDU Number of Units | 9 | 10 | (DHCA) |
| MPDU Price Per Unit | $150,000 | $180,000 | (DHCA) |
| MPDU Unit Size (2 Floor Townhouse) | 1,500 | 1,500 | (DHCA) |
| Total Building Development (SF) | 139,125 | 159,000 | |
| Total Building Footprint (SF) | 69,563 | 79,500 | |
| **Total Potential Revenue** | **$27,520,500** | **$34,344,000** | |
| | | | |
| **Expenditures** | | | |
| **Land Acquisition Cost** | Low Estimate | High Estimate | Source |
| *Assessed Value of Site* | $10,098,800 | $10,098,800 | *(County GIS Department)* |
| **Total Land Acquisition Cost** | **$10,098,800** | **$10,098,800** | |
| **Development Cost** | Low Estimate | High Estimate | Source |
| Building Construction (@ $140 PSF) | $19,477,500 | $22,260,000 | *(RS Means)* |
| Repaving (70% of non-building footprint) *Includes surface parking at 1.5 per DU* | $714,279 | $694,956 | *(Independent Estimator at $25/SY)* |
| On-Site Open Space & Landscaping (30% of non-building footprint as concrete walkways, bermuda grass, garden landscaping) | $492,240 | $478,924 | *(Homewyse, MNCPPC DR Historic Information* |
| Utilities (Electric) | $80,000 | $80,000 | *(MNCPPC DR Historic Information)* |
| Utilities (Gas) | $120,000 | $120,000 | *(MNCPPC DR Historic Information)* |
| Utilities (Sanitary Sewer + Water) | $500,000 | $500,000 | *(MNCPPC DR Historic Information)* |
| Utilities (Stormwater) | $250,000 | $250,000 | *(MNCPPC DR Historic Information)* |
| Amenities and Off-Site Improvements | $300,000 | $300,000 | |
| Planning, Design, Approvals, Contingency, and Soft Costs (25% of Hard Costs) | $5,483,505 | $6,170,970 | |
| Marketing (6.0% of sales) | $1,651,230 | $2,060,640 | *(Urban Land Institute)* |
| Administration and contingency (6.0% of sales) | $1,651,230 | $2,060,640 | *(Urban Land Institute)* |
| Financing Cost (2% of Loan) | $816,376 | $901,499 | |
| Developer Hurdle Rate (i.e. Rate of Return) @ 20% of equity @ 75% Loan To Value ratio | $2,040,939 | $2,253,747 | |
| **Total Development Cost** | **$33,577,299** | **$38,131,375** | |
| | | | |
| | Low Estimate | High Estimate | |
| **Total Project Cost (Land Acquisition + Development Cost)** | **$43,676,099** | **$48,230,175** | |
| **Funding Gap** | **($16,155,599)** | **($13,886,175)** | |

## Section 3b: Developer Revenues and Costs

The following describes and considers both revenues (residential sales), and expenditures (land acquisition, building construction, site improvement, infrastructure, marketing, and financing costs) associated with the development of a townhouse project on the BAE/Vitro site.

**Developer Revenues**

The analysis assumes 79-90 townhome units[9], comprised of 70-80 market rate and 9-10 Moderately Priced Dwelling Units (MPDUs). Based on discussions with Montgomery County's Department of Housing and Community Affairs, the MPDUs are expected to sell from $150,000 - $180,000.[10] [11] The potential revenues under this program may be approximately **$27.5 - $34.3 million** (see Table 10).

**Developer Expenditures**

Expenditures are divided between land acquisition costs ($10.1 million), and development costs (see Table 10). In addition, a developer would anticipate financing the project for 75% of the total cost of development and acquisition, and require a 20% "cash-on-cash" return on the total project investment (i.e. 20% of developer equity, which is represented as 25% of the total cost of development and acquisition). **Total development costs are estimated to be $33 - $38 million, while total project cost (acquisition + development costs) is estimated to be $43 - $48 million. Such an imbalance would result in a project funding gap of approximately $14 - $16 million** (see Table 10).

[9] All units assume 2-story townhome with 2 baths, fireplace, upgraded kitchen, no basement, and no garage. Parking provided via surface parking at 1.5 spaces per DU.
[10] Approximate estimates from Lisa Schwartz, Senior Planning Specialist, DHCA.
[11] Due to MPDUs priced significantly below the market, 100% of the MPDUs are assumed to be absorbed independent of market forces.

# SECTION 4: CONCLUSION

Given an estimated funding gap of $14-$16 million, the analyses would indicate that a townhome development on the BAE/Vitro site – in balance with market supply and demand factors – is not economically feasible without some type of subsidy. Based on the financial model and assumptions, a profitable and economically feasible project would require considerably more units; **approximately 270-300 units for revenues to exceed expenditures**.[12] This scale of development would not only exceed expected market demand, but it may also be difficult to meet the zoning standard that requires 40% of a site to remain as open space.

Although townhome demand in the Trade Area is limited, and prices are expected to be lower than comparable developments elsewhere in Montgomery County, opportunities to complement residential with other uses may provide enhanced value. More in-depth studies that consider a mix of residential, commercial/retail and other uses on the property may be warranted. However, all development scenarios should carefully consider factors such as compatibility with surrounding land uses, project phasing/staging that evolve with the market, and the interests and intentions of the property owner.

[12] This assumes keeping the price per unit constant, assumes a decrease in soft costs as a percentage of hard costs (currently 25%) due to economies of scale, and assumes additional costs for utility connections.

## ASPEN HILL MINOR MASTER PLAN AMENDMENT

# Retail Feasibility Study

**RESEARCH & SPECIAL PROJECTS DIVISION**
Montgomery County Planning Department
April 15, 2014

## INTRODUCTION

This report was prepared in support of the Aspen Hill Minor Master Plan Amendment and it assesses the market potential for retail uses within the Minor Amendment area. It is aimed at addressing two key concerns:

- Determining the amount of unmet retail demand within the Aspen Hill trade area, and consequently, the type of retail space that could be supported.
- The impact to existing retailers from new retail development on the Vitro site, which could potentially undermine existing businesses and create vacancies in nearby shopping centers.

## METHODOLOGY AND ASSUMPTIONS

This analysis seeks to determine the economic feasibility for retail development in the Minor Amendment area by assessing the overall retail market in Aspen Hill. In order to quantify the amount of new retail space that could be supported, annual retail expenditures by residents (demand) were compared to estimated retail sales from businesses (supply). Those sales not captured represent the retail gap or "leakage", which could be used to support additional retail development.

The analysis evaluated retail market potential among all retail categories and in accordance with surrounding land uses identified the potential type of retail and its format, which could be supported by the findings. The Minor Master Plan Application (MMPA) submitted by the Vitro property owner in 2012 that triggered this larger planning effort states that a prospective tenant is interested in building a 118,000 square foot (SF) big-box department store on the Vitro site; with a roughly equivalent mix between general merchandise and groceries. This report also evaluates the economic viability of this scenario.

# EXISTING RETAIL ASSESSMENT

## Retail inventory

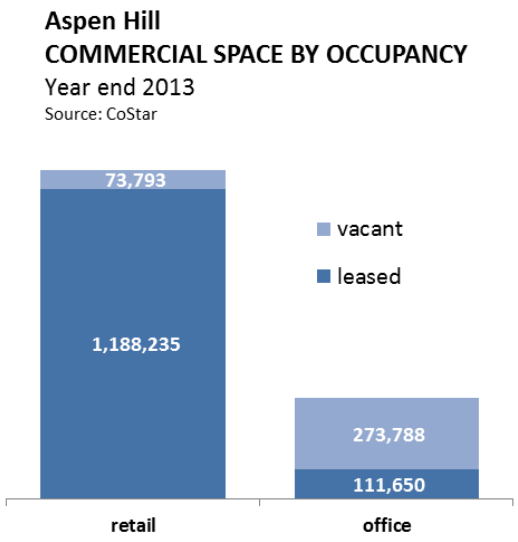
Aspen Hill's existing commercial base overwhelmingly consists of big-box retail and shopping plazas. Roughly 1.26 million square feet of retail space is contained in 52 buildings within the Aspen Hill Master Plan Area. Of this amount, around 74,000 square feet (5.8 percent) was vacant as of the end of 2013. Most of the area's shopping centers were built before 1970. Occupancy rates are high, between 96 percent and 100 percent in most centers. The exception is Plaza del Mercado, which accounts for nearly half of Aspen Hill's vacant retail space[13].

### ASPEN HILL RETAIL SPACE

**Year end 2013**

Source: CoStar

| Retail Inventory | Aspen Hill | Montgomery County |
|---|---|---|
| Buildings | 52 | 2,255 |
| Existing SF | 1,262,028 | 39,652,767 |
| Under Construction SF | - | 370,468 |
| **Retail Leasing** | **Aspen Hill** | **Montgomery County** |
| NNN Rent Per SF | $26.51 | $25.09 |
| Vacant SF | 73,793 | 1,720,544 |
| Vacancy Rate | 5.8% | 4.3% |




### Shopping Centers in Aspen Hill

**Community and Neighborhood Centers located in the Aspen Hill Planning Area**

SOURCE: CoStar; Montgomery County Planning Department

| Center name | Center type | Year built | Retail GLA | Leased | Anchors | Anchor sf |
|---|---|---|---|---|---|---|
| Aspen Hill Shopping Center | Community Center | 1962 | 170,499 | 98% | Giant Food | 54,000 |
| Northgate Plaza Shopping Center | Community Center | 1960 | 158,410 | 98% | Kohl's | 36,700 |
| Plaza del Mercado* | Neighborhood Center | 1969 | 104,232 | 64% | CVS | 14,999 |
| Rock Creek Village Center | Community Center | 1968 | 103,075 | 100% | Safeway | 48,262 |
| Leisureworld Plaza | Neighborhood Center | 1986 | 94,712 | 96% | Giant Food | 55,425 |
| Aspen Manor | Neighborhood Center | 1971 | 76,467 | 100% | AutoZone | 7,547 |
| Aspen Manor Shopping Center | Neighborhood Center | 1954 | 72,769 | 100% | Lotte Supermarket | 24,692 |

* Former 25,000 sf Giant Food store closed in 2011; anchor space has not been relet.

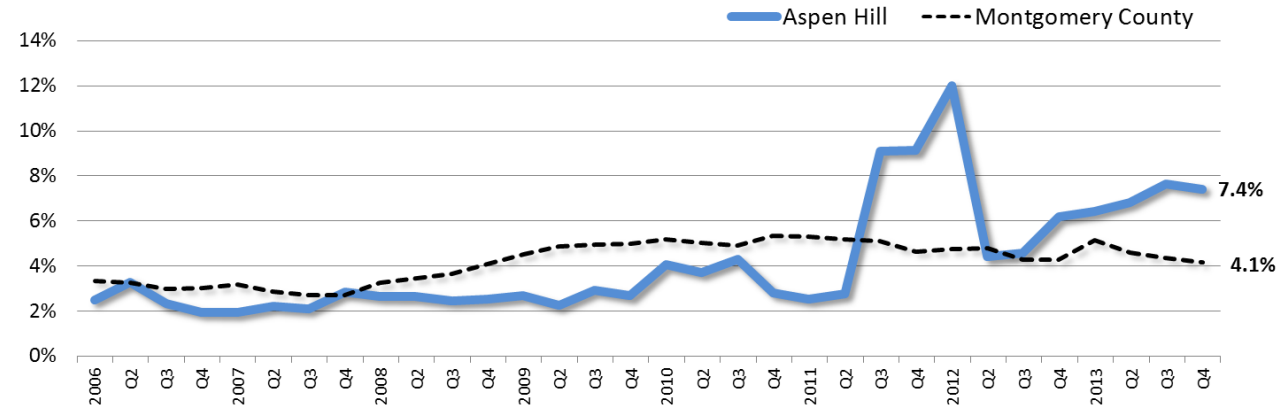
[13] NNN rent, or "Triple Net" rent, represents the rental rate where the tenant is responsible for all costs relating to the asset being leased, such as real estate taxes, net building insurance, and net common area maintenance.

## Retail market activity

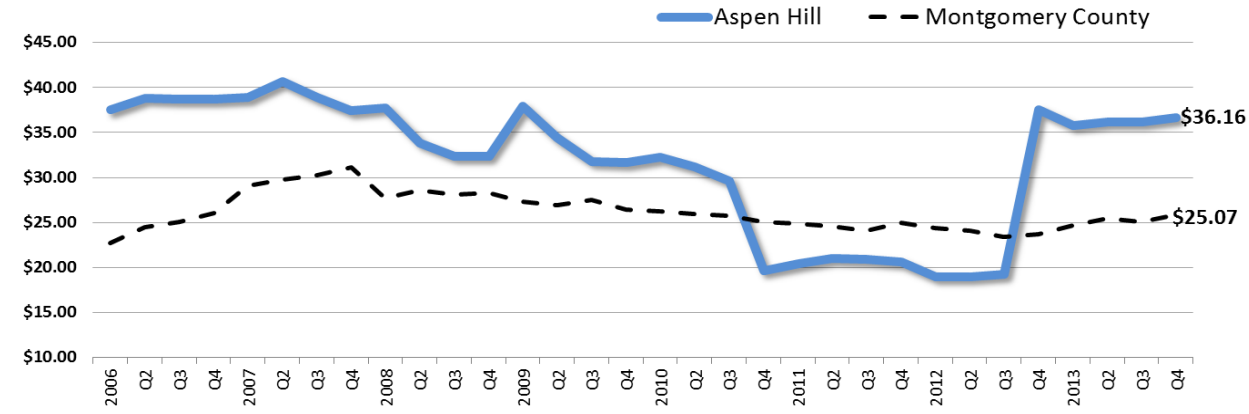
Retail space in the Aspen Hill market is generally stable. No new retail space has come on line in the past decade. With a fixed inventory and steady demand, retail occupancy rates and average asking rents in the area have been relatively high, compared to the County as a whole. In a small market such as Aspen Hill store closings or turnovers tend have a more visible impact.

Aspen Hill's overall retail vacancy rate spiked from 2.5 percent to 12.0 percent in 2011 following the closure of two area grocery stores. The vacancy rate fell to 4.4 percent in 2012 after Kohl's department store replaced the former SuperFresh grocery store in Northgate Plaza, but it has steadily ticked up since then. One factor is that Plaza del Mercado has not yet secured a new anchor tenant to replace the 25,000 square foot Giant Food grocery store that closed in 2011 when the company consolidated its Aspen Hill stores. Area vacancies reached 7.7 percent in 2013, potentially putting downward pressure on Aspen Hill rents.

RETAIL VACANCY RATE




AVERAGE RETAIL RENT



# PRIMARY TRADE AREA ANALYSIS

## Primary trade area definitions

The retail market analysis focuses on two Primary Trade Areas (PMAs)

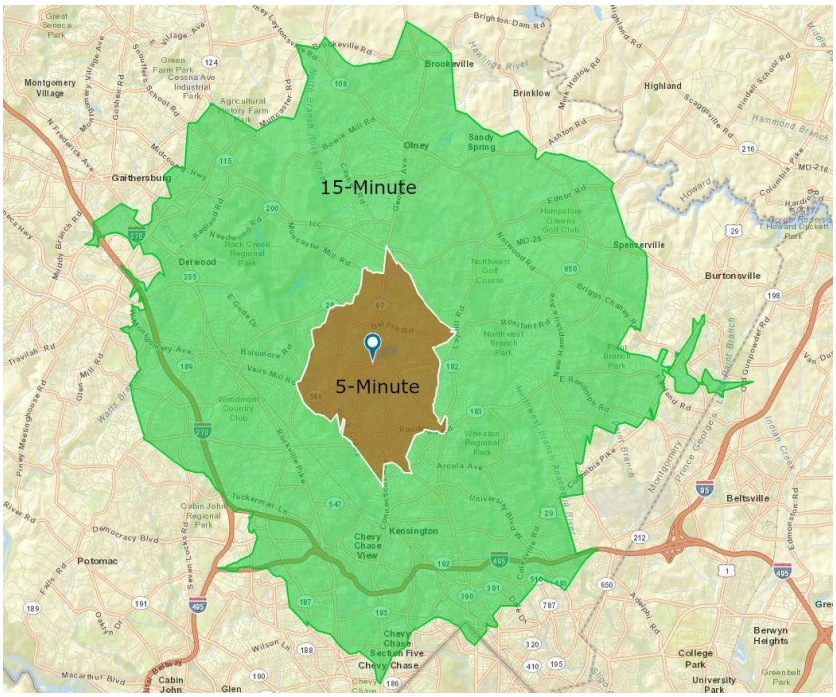
- 5-Minute Driveshed from the Aspen Hill Vitro Site
- 10-Minute Driveshed from the Aspen Hill Vitro Site

A Primary Trade Area is the geographic area from which most of a retail establishment's customers originate. However, trade areas can differ based on the type of products offered. For example, the trade area for a convenience good, such as milk, is typically smaller than that for a shoppers good, or "comparison" good, such as furniture or apparel. The distance a consumer will travel to buy a gallon of milk is significantly shorter than the travel distance tolerated to buy a new sofa.

Another factor affecting the trade areas for convenience and shoppers goods is comparison shopping. To purchase a gallon of milk, one does not need to compare brands or stores. To purchase furniture, consumers are willing to travel farther to compare various merchandise. Trade areas are also impacted by competitive retail destinations. A shopping district with little nearby competition will have a much larger trade area than one with significant regional competition.

Given the character of the Aspen Hill commercial environment, as well as its significant nearby competition, the PMA for this market study is defined as a 5-Minute Driveshed for Convenience Goods and a 15-Minute Driveshed for Shoppers Goods. While Shoppers Goods generally have a larger driveshed – for instance, big-box retail tends to have a 30 minute PMA driveshed according to the Urban Land Institute – a 15-Minute Driveshed was defined for this study given the considerable retail competition in the greater Washington D.C. metro area. A map of

**Figure 6: PMA for Convenience and Shoppers Goods**



the PMAs is presented in Figure 1.

## Primary trade area demographics

The table below indicates that there are around 28,405 households and 81,945 residents within a 5-Minute Driveshed of the Vitro site. Within a 15-Minute Driveshed, there are nearly 174,000 households. The data also show that Aspen Hill's primary customer base has lower disposable incomes relative to potential customers in the wider trade area. This suggests that there could be relatively high demand for price-competitive retail in the area.

**Table 1: Primary Trade Area Demographic Characteristics**

| | 5 Minutes | 15 Minutes |
|---|---|---|
| 2013 Population | 81,945 | 468,406 |
| 2013 Households by Disposable Income | 28,405 | 173,749 |
| <$15,000 | 2,390 | 9,017 |
| $15,000 - $24,999 | 2,187 | 7,337 |
| $25,000 - $34,999 | 3,077 | 10,969 |
| $35,000 - $49,999 | 4,001 | 19,012 |
| $50,000 - $74,999 | 5,274 | 26,835 |
| $75,000 - $99,999 | 3,412 | 21,089 |
| $100,000 - $149,999 | 4,956 | 35,630 |
| $150,000 - $199,999 | 1,710 | 20,413 |
| $200,000+ | 1,397 | 23,446 |
| 2013 Median Household Income | $59,673 | $89,708 |
| 2013 Average Household Income | $81,501 | $117,157 |
| 2013 Per Capita Income | $28,581 | $43,701 |

*Source: ESRI Business Analyst Online*

# RETAIL SUPPLY AND DEMAND ANALYSIS

## Retail supply and demand by trade area

This analysis quantifies existing retail demand and supply in the PMA for Convenience Goods within the 5-Minute Driveshed and Shoppers Goods within the 15-Minute Driveshed. Both Convenience and Shoppers Goods are organized by the North American Industrial Classification System (NAICS) codes.

- The four principal retail categories under Convenience Goods are: 1.) Food and Beverage Stores, 2.) Health and Personal Care Stores, 3.) Miscellaneous Store Retailers, and 4.) Food Service and Drinking Places.

- The six principal retail categories under Shoppers Goods are: 1.) Furniture and Home Furnishings Stores, 2.) Electronics and Appliance Stores, 3.) Building Materials, Garden Equipment and Supply Stores, 4.) Clothing and Clothing Accessories Stores, 5.) Sporting Goods, Hobby, Book & Music Stores, and 6.) General Merchandise.

Consumer expenditures (retail potential) provide a measure of household demand for retail goods and services for different retail categories. Retail sales provide a measure of retail inventory and supply for the same categories. The retail gap – retail demand minus retail sales – represents available purchasing power, or retail opportunities.

If supply is greater than demand, the retail market is considered saturated and there is no surplus demand to support a new store. If estimated spending by area households (demand) exceeds sales by existing retailers (supply), the area is losing sales to outside retailers. A new store or an existing store that repositions itself in the market, could try to capture at least a percentage of those sales.

However, residents will frequently make retail purchases outside their trade area. Examples include purchases made near one's place of employment or while traveling, and business purchases (consumer expenditures above cover only expenditures for personal use). Therefore, market "capture rates" were derived for each retail category. Capture rates are a measure of the percentage of household expenditures "captured" from or made within a defined PMA. Sales not captured represent a retail gap or "leakage" - expenditures that take place outside of the retail trade area.

Capture rates can vary given certain factors. These include the nature of a retail establishment, the retail category, the age, quality and variety of merchandise, the customer base, a store's competitive position, and whether an establishment caters to local or regional consumers. As a

rule, for retail categories where convenience and proximity are essential – such as grocery or convenience stores – there is a comparatively larger share of sales derived from PMA households (approximately 60-70%). Categories that draw people regionally – such as furniture and home furnishings stores – have a smaller share of sales derived from PMA households (with a high range of 30%-40%).

**Table 2: 2013 Retail Supply and Demand**

| Industry Group | Demand (Retail Potential) | Supply (Retail Sales) | Existing Capture Rate from HH (assumed) | Retail Gap |
|---|---|---|---|---|
| | | | | |
| *Convenience Goods (5-Minute Driveshed)* | | | | |
| Food and Beverage Stores | $ 168,440,978 | $ 88,184,242 | 75% | $ 60,192,552 |
| Health and Personal Care Stores | $ 65,026,257 | $ 153,136,318 | 70% | $ (61,677,043) |
| Miscellaneous Store Retailers | $ 25,196,427 | $ 7,792,905 | 50% | $ 8,701,761 |
| Food Services and Drinking Places | $ 95,029,156 | $ 38,044,314 | 65% | $ 37,040,147 |
| | | | | |
| *Shoppers Goods (15-Minute Driveshed)* | | | | |
| Furniture and Home Furnishings Stores | $ 158,883,485 | $ 184,143,464 | 25% | $ (6,314,995) |
| Electronics and Appliance Stores | $ 195,981,703 | $ 172,564,342 | 35% | $ 8,196,076 |
| Building Materials, Garden Equipment and Supply Stores | $ 247,494,338 | $ 89,552,975 | 40% | $ 63,176,545 |
| Clothing and Clothing Accessories Stores | $ 467,254,342 | $ 296,956,802 | 20% | $ 34,059,508 |
| Sporting Goods, Hobby, Book & Music Stores | $ 187,997,998 | $ 153,638,481 | 30% | $ 10,307,855 |
| General Merchandise | $ 1,016,006,167 | $ 218,539,329 | 40% | $ 318,986,735 |
| *Source: ESRI Business Analyst Online* | | | | |

As shown in the Table 2 above, the retail gap is largest in Food and Beverage Stores (in the Convenience Goods category) at $60.1 million, and General Merchandise (in the Shoppers Goods category) at $319.0 million. Based on the large retail gaps in these two categories suggests that from a market perspective a new big-box retailer selling general merchandise and groceries (represented as Food and Beverage Stores) could be introduced to the Aspen Hill market. The relatively large retail gaps in Building Materials/Supply Stores, Clothing and Accessories Stores, and Food Services and Drinking Places offer potentially additional retail opportunities.

The current gaps for most retail categories would further indicate that retail development on the Vitro site is unlikely to adversely affect existing businesses in a significant way. Existing retailers can still tap the available purchasing power within the PMAs without strictly competing for existing household expenditures. Any new commercial development on the Vitro

site should, however, be appropriately scaled so as not to create oversupply; especially in categories with a limited demand (small or negative retail gap).

## Supportable retail space

Projections for supportable retail space in the respective PMAs (see Table 3) are provided for the existing retail environment, using the capture rates and retail gap for each category. Retail sales gaps for respective categories were divided by sales productivity factors for new development, based on sales per square foot[14] to arrive at supportable space estimates.

**Table 3: Supportable Retail Space in PMA**

| Industry Group | Retail Gap | PSF Productivity Factors | Supportable SF in PMA |
|---|---|---|---|
| *Convenience Goods (5-Minute Driveshed)* | | | |
| Food and Beverage Stores | $ 60,192,552 | $ 479 | 125,663 |
| Health and Personal Care Stores | $ (61,677,043) | $ 231 | (267,579) |
| Miscellaneous Store Retailers | $ 8,701,761 | $ 339 | 25,669 |
| Food Services and Drinking Places | $ 37,040,147 | $ 470 | 78,809 |
| *Shoppers Goods (15-Minute Driveshed)* | | | |
| Furniture and Home Furnishings Stores | $ (6,314,995) | $ 302 | (20,911) |
| Electronics and Appliance Stores | $ 8,196,076 | $ 412 | 19,893 |
| Building Materials, Garden Equipment and Supply Stores | $ 63,176,545 | $ 325 | 194,389 |
| Clothing and Clothing Accessories Stores | $ 34,059,508 | $ 345 | 98,676 |
| Sporting Goods, Hobby, Book & Music Stores | $ 10,307,855 | $ 311 | 33,144 |
| General Merchandise | $ 318,986,735 | $ 253 | 1,260,817 |

*Source: ULI Dollars and Cents of Shopping Centers 2008: Regional Centers*

Estimates indicate that Aspen Hill would find its greatest support for retail space in the General Merchandise and Grocery category. Assuming new retail development is not large enough to cause a supply and demand imbalance, the Vitro site would likely be able to support a big-box store with an approximately 50/50 mix between General Merchandise and Groceries, consistent with the minor master plan application. A following calculation demonstrates that sufficient support likely exists for this store:

[14] Sales per square foot were obtained from the Urban Land Institute, *Dollars & Centers of Shopping Centers* 2008, using the sales PSF factors for regional shopping centers.

*MMPA Application: 118,000 total SF x 50% = 59,000 SF each for General Merchandise and Groceries*

- 59,000 SF Grocery Store = 47% of Food and Beverage Store potential (125,663 SF)
- 59,000 SF General Merchandise = 5% of General Merchandise potential (1,260,817 SF)

Estimates also indicate support, albeit more limited, for Clothing and Clothing Accessories retailers, Building Materials and Supply Stores, as well as Food Services and Drinking Places.[15]

## Potential retail models for Aspen Hill

This analysis primarily focused on assessing the economic feasibility of retail uses on the Vitro site, rather than identifying particular store sizes, layouts, or tenants. However, the following retail formats could be appropriate, given surrounding land uses and market demand:

- **Big-Box Retail**: Big-box retail is a large format retail store ranging from 20,000 – 170,000 SF. The types and mix of goods sold widely varies by store (an overview of big-box retail characteristics and trends is provided below). The area around the Vitro site already includes various big-box stores, such as Home Depot to the north and Kohl's across Connecticut Avenue. These stores are generally large, free-standing, rectangular, single story buildings that sit in the middle of a parking lot. Many of the retail categories with a potential for additional sales in the Aspen Hill PMA are commonly served by big-box retail, particularly General Merchandise, Food and Beverage Stores, and Building Materials and Supply Stores. Examples of a big-box store with a 50/50 mix between General Merchandise and Groceries include discount department stores such as a WalMart or Target Supercenter.

- **Shopping Plaza**: Shopping Plazas usually range from 5,000 SF to over 100,000 SF; with an open-air layout. Stores are arranged in a row, with a sidewalk in front and are generally developed as a unit. Shopping Plazas are generally anchored by a big-box retailer and/or a grocery store. The ancillary retail may vary widely, from dry cleaners and smaller restaurants (small shopping plazas) to electronic stores, bookstores, and home improvement stores (larger shopping plazas). The Vitro site could accommodate a larger shopping plaza; given market demand, with a discount department or grocery store as the anchor. Smaller, ancillary stores would complement the anchor store, tapping retail categories with available demand.

15 Supportable Retail Space in PMA estimates apply across the PMA but are not site-specific. Properly sizing site-specific development requires a case-by-case approach, since retail gravitation changes as newer, large-scale retail is introduced into a market

## Impacts on Existing Retail

Commercial development of the Vitro site may affect existing businesses differently, depending on whether the merchandise sold is complementary or competitive with surrounding businesses.

**Potential impact on complementary retail**

New big-box stores or shopping plazas do not necessarily cause nearby stores to decline. For example, they may enhance the competitiveness of existing stores that sell similar or complementary products by increasing the overall number of customers drawn to the area. Assuming some sort of General Merchandise or Grocery use on the Vitro site, complementary uses in the vicinity may benefit:

- The Vitro site is next to an existing Home Depot, which commonly co-locates with large discount department stores such as Wal-Mart or Target.
- The Vitro site is across from the Northgate shopping center; anchored by Kohl's and Michael's. Neither store typically competes directly with a large discount department store.
- The potential mix of adjacent large format retailers near the BAE/Vitro site could result in the draw of a power center; with a comparable draw of additional customers that may enhance nearby existing stores.

**Impact on directly competitive retail**

The most important factor affecting the viability of existing businesses in Aspen Hill is their ability to attract the same level of consumer expenditures, in their respective trade areas, from potential customers. This is true whether the Vitro site is developed for retail uses, or not. Consequently, if demand for Groceries, General Merchandise, or other retail categories is sufficiently high, as shown by this study, the entrance of a major new competitor could have minimal adverse economic impacts on existing businesses in Aspen Hill. However, given the types of potential uses on the Vitro site the following should nevertheless be considered:

- Traditional supermarkets within a 5-minute drive time of the study area may be disadvantaged by the selection, price, and one-stop shopping advantages of a hybrid discount department store/grocery store. If such advantages are significant, enough to result in a store closing, the loss of a grocery store anchor could jeopardize the viability of an existing shopping center. This could in turn impact the viability of other stores,

especially those in the center. However, a discount department store with a slightly scaled-down grocery component could reduce that potential.

- Nontraditional supermarkets provide convenience, they have a wider customer base, and they know the local market well; things that a large format retailer may lack. For example, Lotte offers a wide selection of international foods at very low prices; the store also has a different customer base and a wider trade area. Consequently, such a retailer is less likely to be affected by the arrival of a large grocery store.

- While a direct competitor in the discount department store category, the existing K-Mart is older, less visible from main streets, and does not sell a full line of groceries (the store has a dry grocery component but does not sell produce). Without improvements, K-Mart may experience increased competition and could potentially face significant economic pressures. If a vacancy results, it could be challenging to find a similar tenant.

## BIG-BOX RETAIL: CHARACTERISTICS AND TRENDS

The term "big box" describes a wide range of large format retail stores that vary by size, the kinds of items they sell and their main customer base. Big box stores generally fall into four subcategories:

| Category | Size Range (square feet) | Examples |
|---|---|---|
| Warehouse clubs | 100,000 to 170,000 | Costco, Sam's Club |
| Discount department store | 80,000 to 130,000 | Wal-Mart, Kmart, Target |
| Category killers | 20,000 to 120,000 | Staples, Home Depot |
| Outlet stores | 20,000 to 80,000 | Nordstrom Rack, Burlington Coat Factory |

These categories are not necessarily fixed. Big box retailers are continually developing new store models and refining their product mix, target markets and location strategies to respond to changing market conditions and consumer preferences. The following is a brief literature review on characteristics and trends of big-box retail, as well as how big box retailers interact with other retailers.

**Big box stores reflect a long term trend toward retail consolidation.** Sears and Woolworths are early examples of large format stores and retail chains that gradually displaced many smaller, locally-based businesses. Large scale retailers do not necessarily operate large scale stores. Their key economic advantages as large enterprises—including price, selection, branding, and shared overhead—enable them to achieve comparable market coverage and profitability with smaller, multi-site store formats.

**Discount department stores nearly always include food sales, from basic non-perishables to full service grocery stores.** The proportion of store area dedicated to food sales has steadily increased since the 1980s, when the major U.S. discount department store chains (Wal-Mart, Kmart and Target) introduced "hypermarkets" combining department store and grocery store formats in one 150,000 square foot or larger superstore. Grocery items generate a higher average sales per square foot compared to general merchandise items ($479 versus $253), but due to low profit margins, groceries are not necessarily a highly lucrative product line. The impetus behind adding grocery sales is because they enable stores to compete on the basis of one-stop shopping convenience, not just price.

**Big box stores commonly co-locate with other large retailers.** Colocation can benefit a big box retailer by increasing the overall number of customers drawn to an area. Big boxes often are clustered with other large-format retailers in non-competing retail categories. One example is the 250,000 to 1,000,000 square foot "power center" featuring three or more big box retailers in freestanding or in-line configurations. For example, Wal-Mart stores tend to co-locate with large hardware and building supply stores, such as Lowe's or Home Depot; furniture stores also appear to benefit from proximity to a national discount retailer. If the consumer base is sufficiently large and differentiated, stores selling similar product lines, such as groceries, can

coexist with large discount chains by targeting a different market segment. For example, an Aldi supermarket and a forthcoming Wegman's are adjacent to a Wal-Mart in Germantown, Maryland.

**Big boxes also co-locate with smaller retailers by anchoring regional shopping malls or smaller scale community centers.** Smaller retailers can survive by fulfilling a retail niche (e.g., offering specialty products, convenience, or a superior customer experience), or by locating in established small scale shopping districts or under-retailed areas. Small businesses that differentiate can survive or even thrive with an increase in traffic generated by a large retailer. Depending on the location, restaurants, specialty food markets and service-oriented retail, such as hair salons, generally are least at risk.

**Big box retail formats are evolving.** Due to their large footprint, most hypermarkets and power centers built to date are located in auto-oriented rural or suburban settings. Recent trends are forcing retailers and developers to come up with new formats and location strategies since rural and outer suburban markets are largely saturated. More significant is that population growth—and purchasing power—is migrating back to cities and older suburbs. To retain or expand market share, retailers need to follow.

**Very large big box store formats do not readily adapt to denser urban environments.** Higher land prices, more complex regulations, potential compatibility issues with existing uses, and political opposition make it more challenging to build. Consumer preferences also are more fragmented, making it more difficult to compete primarily on the basis of price and convenience. In large, diverse consumer markets already served by established retailers of all sizes and types, the potential for any new retailer to dominate the market is extremely limited. In such an environment, big box chain retailers can take advantage of localized gaps in retail coverage, but competition will limit their potential trade area and supportable square footage.

# APPENDIX C

# Aspen Hill Minor Master Plan Amendment

# Traffic Analysis

Prepared by:

Maryland-National Capital Park and Planning Commission
Montgomery County Planning Department
Area 2 Planning Division

**Traffic Analysis**

Since the Vitro/BAE site has been proposed for redevelopment, an analysis was conducted for several possible development scenarios to measure the impacts of increased traffic at three major signalized intersections surrounding the site. Assuming either staff's initial recommendation of a CRT Zone or the existing EOF Zone, the Vitro/BAE site could theoretically be redeveloped with a variety of uses including a theoretical maximum of 320,000 square feet of general office, 218,000 square feet of general retail, or 349 multi-family residential units. The following table shows a comparison of trips generated by each of these scenarios, as well as other scenarios such as re-using the existing Vitro/BAE office building (268,000 square feet) and a 120,000-square foot big box retail building which has been previously discussed by the property owner.

As shown in Table 1, an office development (either re-use of the existing building or maximizing the zoning potential on) would generate the most amount of traffic in the weekday morning peak hour, while a retail use would generate the most traffic during the weekday evening peak hour. Multi-family residential development would generate the least amount of traffic during both weekday morning and evening peak hours.

**Table 1 – Comparison of Vehicle Trip Generation - Aspen Hill Minor Master Plan Amendment**

| | Office * | | Residential | Retail *** | |
|---|---|---|---|---|---|
| Weekday Peak Hour | Reuse Exist. Bldg. 268k SF 1.20 FAR | Max EOF Build-out 320k SF 1.5 FAR ** | Max CRT Multi-Fam. 349 Units 1.0 FAR | Max CRT Build-out 218k SF 0.50 FAR | Proposed Big Box 120k SF 0.27 FAR |
| AM | 450 | 660 | 145 | 305 | 185 |
| PM | 405 | 590 | 165 | 1215 | 740 |

Notes: * Office square footages were calculated based on the existing approximately 5-acre EOF Zoned portion of the Vitro/BAE property only. Residential and retail sizes were calculated based on the future consolidated 10.3–acre Vitro/BAE property.

** In the remapped EOF zoning district on the property, 1.5 FAR is the baseline maximum amount of developable office space with an option to achieve a 3.0 FAR if certain criteria are met.

*** Retail trips include a pass-by reduction rate of 35%, consistent with the ITE recommended methodology, to account for vehicles that are already on the roadway network in the vicinity of the site that choose to enter the proposed development and then exit the site continuing on their original journey.

The trips shown in Table 1 represent the 'worst-case' scenarios for the Vitro/BAE site. Due to various constraints of the site (i.e., setbacks, parking, slopes) it is unlikely that the maximum allowable square footages for any of the uses could be achieved. Since the property owner has publicly expressed an interest in potentially pursuing a big box retail development, a further detailed trip generation analysis for retail uses was conducted to determine the highest ('worst case') traffic generating methodology.

Table 2 below shows a comparison of sources of similar retail-type trip generation data.

**Table 2 – Comparison of Trip Generation Sources for Retail Uses**

| Source | Weekday Peak Hour | Max CRT Build-out 218k SF | Proposed Big Box 120k SF |
|---|---|---|---|
| LATR & TPAR * (General Retail) | AM | 305 | 185 |
| | PM | 1215 | 740 |
| ITE 9th Edition * (#813 Free-Standing Discount Superstore) | AM | 260 | 145 |
| | PM | 615 | 340 |
| Wal-Mart ** (average of 32 sites nationwide) | AM | 235 | 130 |
| | PM | 735 | 405 |

Notes: * Trips shown for Local Area Transportation Review (LATR) & Transportation Policy Area Review (TPAR) Guidelines and Institute of Transportation Engineers (ITE) sources used a pass-by reduction rate of 35%, consistent with the ITE recommended methodology.

** A pass-by rate of 25% was used consistent with recommendations of the nationwide study.

As shown in Table 2, the highest trip generating rates for a retail use comes from the Planning Department's Local Area Transportation Review and Transportation Policy Area Review (LATR & TPAR) Guidelines. These rates were used in the following traffic analysis conducted by Staff to represent 'worst case' retail development scenarios.

The standard methodology in Montgomery County for determining intersection congestion is to calculate an intersection's critical lane volume (CLV). The CLV measures the traffic throughput of an intersection by determining the amount of conflicting traffic movements in the intersection. In the Aspen Hill Policy Area, the LATR & TPAR Guidelines state that intersections must operate at a CLV below 1475 in order for a proposed development to be approved without intersection improvements or other traffic mitigation. Table 3 on the following page shows a comparison of CLVs at nearby study intersections under the existing conditions, background (no build), and development (retail, residential, office) scenarios.

This traffic analysis assumed for all scenarios that the existing primary access driveway for the Vitro/BAE site to Aspen Hill Road would be converted to a right-in/right-out driveway and primary access would be shifted to the existing shared Home Depot driveway onto Connecticut Avenue.

**Table 3 – Critical Lane Volume (CLV) Comparison - Aspen Hill Minor Master Plan Amendment**

| Intersection | Peak Hour | Existing (2014) Currently Vacant | No Build* (2020) Remains Vacant | Office ** | | Residential | Retail | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | C-O Reuse Exist. Bldg. (2020) 268k SF | Max EOF Build-out (2020) 320k SF *** | Max CRT Multi-Fam (2020) 349 Units | Max CRT Build-out (2020) 218k SF | Proposed Big Box (2020) 120k SF | Max SF w/ Accept. CLVs (2020) 170k SF |
| Georgia Ave & Connecticut Ave | AM | 980 | 985 | 1005 | 1010 | 1000 | 1010 | 1005 | 1010 |
| | PM | 1095 | 1100 | 1140 | 1155 | 1105 | 1205 | 1165 | 1185 |
| Connecticut Ave & Aspen Hill Rd | AM | 1300 | 1315 | 1430 | 1480 | 1340 | 1385 | 1355 | 1375 |
| | PM | 1120 | 1130 | 1245 | 1300 | 1175 | 1540 | 1380 | 1470 |
| Georgia Ave & Aspen Hill Rd | AM | 935 | 940 | 1025 | 1065 | 970 | 1010 | 980 | 1010 |
| | PM | 1125 | 1130 | 1245 | 1300 | 1160 | 1415 | 1305 | 1365 |

Notes: CLV standard is 1475 in the Aspen Hill Policy Area.
CLV analysis assumed right-in/out access to Aspen Hill Road and primary access driveway (with a traffic signal) on Connecticut Avenue for all scenarios.

* Pipeline projects assumed to be constructed by 2020 and factored into traffic analysis include Home Depot Expansion, Homecrest 2, and Layhill Overlook.

** Office square footages were calculated based on the existing approximately 5-acre EOF Zoned portion of the Vitro/BAE property only. Residential and retail sizes were calculated based on the future consolidated 10.3–acre Vitro/BAE property.

*** In the remapped EOF zoning district on the site, 1.5 FAR is the baseline maximum amount of developable office space with an option to achieve a 3.0 FAR if certain criteria are met.

As shown in Table 3 above, except for the theoretical maximum build-out of retail and office uses, all intersections in all other scenarios would operate below the CLV threshold of 1475. In the cases of maximum general office and maximum general retail, the only intersection to exceed the 1475 threshold in either of the weekday peak hours is the Connecticut Avenue and Aspen Hill Road intersection. In the maximum office build-out scenario, this intersection would barely exceed the 1475 threshold with a CLV of 1480. In the maximum retail build-out scenario, this intersection would exceed the 1475 threshold with a CLV of 1540. As noted, the maximum square footages are unlikely to be achieved due to site constraints and the highest trip generation rates were used for the retail uses to present the most conservative ('worst case') analysis of traffic conditions.

An additional retail scenario was analyzed to determine the 1475 CLV 'tipping point' for retail development. The analysis shows that the site could develop with approximately 170,000 square feet of retail without the nearby intersections exceeding the 1475 CLV threshold during either of the AM or PM peak hours. This 170,000 square foot figure could be adjusted higher or lower based on changes to trip generation assumptions, distribution of site traffic, or location/design of access driveways.

APPROVED AND ADOPTED

May 2015

# Aspen Hill

## Minor Master Plan Amendment

**Montgomery County Planning Department**
**M-NCPPC**
**MontgomeryPlanning.org**

415000001