JAKUBIAK & ASSOCIATES
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# Technical Memorandum

**To**: Jeffrey Jackman, AICP, Senior Planner
St. Mary's County Department of Land Use and Growth Management

**From**: Christopher Jakubiak, AICP
Jakubiak & Associates, Inc.

**Re**: Market and Opportunities Assessment

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I am transmitting herewith the Market & Opportunities Assessment report prepared by the Chesapeake Group, Inc, under contract to Jakubiak & Associates, Inc. The purpose of this Assessment was to provide information and economic insights into the development district that would inform our work on the update of the Lexington Park Development District Master Plan. The Assessment has been useful in a number of key respects among them are the following:

- The consumer and attitudinal survey conducted as part of the assessment during the summer of 2011 provided insights into the shopping and spending patterns of area residents.

- The Assessment indicates that, compared to a number of similar development areas and counties, there are underrepresented sectors in the local economy. Businesses in these sectors could be targeted as part of a business recruitment program for the Lexington Park Development District.

- The Assessment confirms our view that household and population growth in the Development District will generate a demand for retail space of a magnitude sufficient to bring about commercial development and redevelopment opportunities through 2020. It is reasonable to expect continued retail growth after 2020 as population and employment increases as projected.

The study also introduces research and development (R&D) ideas in emerging technology sectors which could both diversify the County's economy and draw on the agricultural and rural resource strengths of the region.

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# Market & Opportunities Assessment

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*This Market & Opportunities Assessment was prepared by The Chesapeake Group, Inc.*

# Market & Opportunities Assessment

## *Introduction*

To facilitate the identification of opportunities, substantial survey work and analyses were performed. Included are: a survey of residents in a multi-county area; a comparative assessment that provides guidance with respect to opportunities by defining “gaps”; demand forecast of goods and services that are supported by the population; and analysis of Research and Development (R & D) and emerging technologies opportunities for non-defense related activity. Highlights of these and the identified opportunities follow.

## *Comparative Assessments*

The purpose of the comparative assessment is to identify potential business “gaps” in the economic structure of the area when compared to other similar “communities” throughout the country. In some cases, those gaps become opportunities that can be filled through either business expansion or recruitment activity.

The U. S. Census Bureau provides annual information on business patterns throughout the nation in three different geographical formats. These are county, zip code, and metropolitan statistical area. This analysis includes assessments of local business patterns on both a County and zip code level. Because of the nature and scale of the Development District, this assessment required comparing the combined business structure of zip code tabulation areas (ZCTA) 20619 (California), 20634 (Great Mills) and 20653 (Lexington Park) to that associated with other ZCTAs and communities that are similar based on various factors. The identified business “gaps” defined in this process may or may not be appropriate for any and all locations in the Lexington Park Development District or St. Mary’s County because of the nature of operations, scale, or other factors.

### *Zip Code 20619, 20634 & 20653*

In determining communities for which the comparison can be made, the following criteria are used:

- ✓ The population size and household numbers had to be similar to those associated with ZCTAs 20619, 20634 and 20653, since demand for goods and services are ultimately dependent largely upon the size of the market served.
- ✓ The selected communities all have reported median household incomes that are comparable to the LPDD’s reported incomes.
- ✓ Transportation and interstate highway access had to be similar.
- ✓ Military instillations, preferably those involved with technology, had to be within or nearby.
- ✓ All are adjacent to or in proximity to significant bodies of water.
- ✓ If possible climatic conditions are somewhat similar

Based on the criteria, nine communities defined by ZCTA were identified for which the comparison in economic structure was made. These are:

| | |
|---|---|
| Bellmore, New York | Annapolis, Maryland |
| Schenectady, New York | Alexandria, Virginia |
| Bear, Delaware | Midlothian, Virginia |
| Clinton, Maryland | Cumming, Georgia |
| Upper Marlboro, Maryland | |

It is noted that all population and household estimates for all areas were derived from the same source – the U. S. Census Bureau. Also for consistency purposes, the U. S. Census Bureau's <u>County Business Patterns</u> was employed to define the business structure and activity within all counties and zip code areas.

The North American Industry Classification System (NAICS) was introduced in 1997 as a more effective business classification system that identifies and groups establishments according to the activities in which they are primarily engaged. It replaces the older Standard Industry Classification (SIC) coding system which was first employed in 1938. NAICS identifies and groups 1,170 different types of "industries" or establishments into twenty major industry sectors ranging from Agriculture (Sector 11) to Public Administration (Sector 92). This analysis examined and extracted data from all of the twenty sectors for all areas. These sectors are:

- ✓ Agriculture, Forestry, Fishing and Hunting (Sector 11): Crop and animal production, forestry and logging, fishing, hunting, trapping, support activities for agriculture and forestry.
- ✓ Mining (Sector 21): oil and gas extraction, mining, support activities for mining.
- ✓ Utilities (Sector 22): power generation, transmission, and distribution, water, sewage, and other systems.
- ✓ Construction (Sector 23): building, developing, general contracting, heavy construction, special trade contractors.
- ✓ Manufacturing (Sector 31-33): food, beverage and tobacco product, textile and textile product mills, apparel, leather and allied products, wood product, paper, printing and related support activities, petroleum and coal products, chemicals, plastics and rubber products, nonmetallic mineral products, primary metals, fabricated metal products, machinery, computer and electronic products, electronic equipment, appliances, and components, transportation equipment, furniture and related products.
- ✓ Wholesale Trade (Sector 42): durable and nondurable goods.
- ✓ Retail Trade (Sector 44-45): Motor vehicle and parts, furniture and home furnishings, electronics and appliances, building material and garden equipment and supplies, grocery and beverage, health and personal care, gasoline stations, clothing and accessories, sports, hobby, books and music, general merchandise and miscellaneous store retailers.
- ✓ Transportation and Warehousing (Sector 48-49): air, rail, water, and truck transportation, transit and ground passenger transportation, pipeline transportation, scenic and sightseeing transportation, support activities for transportation, postal service, couriers and messengers, warehousing and storage.
- ✓ Information (Sector 51): Publishing, motion picture and sound recording and exhibition, broadcasting and telecommunications, information services and data processing.
- ✓ Finance and Insurance (Sector 52): Monetary authorities, credit intermediation, securities, commodities, insurance, funds, trusts, and other financial vehicles.

- ✓ Real Estate, Rental and Leasing (Sector 53): Real estate, rental centers and leasing services.
- ✓ Professional, Scientific and Technical Services (Sector 54): Lawyers, accountants, engineers, computer services, veterinary services, etc.
- ✓ Management of Companies and Enterprises (Sector 55): Management, holding companies, corporate and regional offices.
- ✓ Administrative and Support, Waste Management and Remediation Services (Sector 56): Administrative and facilities support services, employment and business support services, travel arrangements, investigative and security systems and other business services.
- ✓ Educational Services (Sector 61): Public sector schools, business, technical, trade schools and instruction.
- ✓ Health Care and Social Assistance (Sector 62): Ambulatory health care services, hospitals, nursing and residential care facilities and social assistance.
- ✓ Arts, Entertainment, and Recreation (Sector 71): Performing arts, spectator sports, museums, historical sites, amusement, gambling and recreation industries.
- ✓ Accommodation and Food Services (Sector 72): Accommodations, food service and drinking places.
- ✓ Other Services (Sector 81): Repair and maintenance, personal and laundry services, and religious, grant making, civic and professional organizations.
- ✓ Public Administration (Sector 92): executive, legislative, and other general government support.

Under-represented "industries" were then defined as those where the combined Development District related zip code areas had a lesser number of businesses, in absolute terms, than at least five of the other seven communities. Thus, the number of businesses in the Development District zip codes compared to the other communities was below what might be expected. Once again, under-representation does not mean that the identified categories of businesses are desirable for the Development District.

The following are the "industries" or businesses identified as being under-represented in the Lexington Park Development District area. Forty-four are identified.

*Table 1 – Under-represented Industries at the Zip Code Level**

| NAICS Code | Type of Business |
|---|---|
| 115210 | Support Activities for Animal Production |
| **236220** | **Commercial and Institutional Building Construction** |
| **237130** | **Power and Communication Line and Related Structures Construction** |
| **238110** | **Poured Concrete Foundation and Structure Contractors** |
| **238130** | **Framing Contractors** |
| **238140** | **Masonry Contractors** |
| **238160** | **Roofing Contractors** |
| **238210** | **Electrical Contractors and Other Wiring Installation Contractors** |
| **238220** | **Plumbing, Heating, and Air-Conditioning Contractors** |
| **238310** | **Drywall and Insulation Contractors** |
| **238320** | **Painting and Wall Covering Contractors** |
| **238330** | **Flooring Contractors** |
| **238350** | **Finish Carpentry Contractors** |
| 423830 | Industrial Machinery and Equipment Merchant Wholesalers |

| | |
|---|---|
| 425120 | Wholesale Trade Agents and Brokers |
| 443111 | Household Appliance Stores |
| 444220 | Nursery, Garden Center, and Farm Supply Stores |
| 445120 | Convenience Stores |
| 454111 | Electronic Shopping |
| 484110 | General Freight Trucking, Local |
| 522120 | Savings Institutions |
| 523120 | Securities Brokerage |
| 523930 | Investment Advice |
| 524126 | Direct Property and Casualty Insurance Carriers |
| 531320 | Offices of Real Estate Appraisers |
| 541410 | Interior Design Services |
| 541430 | Graphic Design Services |
| 541810 | Advertising Agencies |
| 541820 | Public Relations Agencies |
| 551114 | Corporate, Subsidiary, and Regional Managing Offices |
| 561310 | Employment Placement Agencies |
| 561320 | Temporary Help Services |
| 561410 | Document Preparation Services |
| 561730 | Landscaping Services |
| 561740 | Carpet and Upholstery Cleaning Services |
| 611110 | Elementary and Secondary Schools |
| 611620 | Sports and Recreation Instruction |
| 621340 | Offices of Specialty Therapists |
| 621610 | Home Health Care Services |
| 623210 | Residential Mental Retardation Facilities |
| 624410 | Child Day Care Services |
| 713910 | Golf Courses and Country Clubs |
| 812310 | Coin-Operated Laundries and Drycleaners |
| 812320 | Dry cleaning and Laundry Services (except Coin-Operated) |

*Developed by The Chesapeake Group, Inc., 2011.

It is noted that there are two industry clusters that standout as gaps, whether or not they are appropriate for the LPDD. These are contracting associated with construction and home improvement (highlighted by bold lettering in the table) and segments of the Finance, Insurance & Real Estate industries (shaded in light grey in the table).

It is also important to note that the above list does not contain many retail operations, or the vast majority of professional services.

## *County Level Results – St Mary's County*

As noted, analyses at the county level were also performed. For this assessment component, the same criteria were employed as that for the zip code level. Based on the criteria, seven counties were identified for which the comparison in economic structure was made. These seven counties are:

Cecil County, Maryland
Putnam County, New York
Warren County, New Jersey
Hanover County, Virginia
Geauga County, Ohio
Columbia County, Georgia
Kendall County, Illinois

Under-represented "industries" were then defined as those where St. Mary's County had a lesser number of businesses than at least five of the other seven counties. Thus, the number of businesses in St. Mary's County compared to the other communities was below what might be expected. Once again, under-representation does not mean that the identified categories of businesses are desirable for the Development District or St. Mary's County. More than 125 are identified.

*Table 2 – Under-represented Industries at the County Level**

| NAICS Code | Type of Business |
|---|---|
| 115210 | Support Activities for Animal Production |
| **236116** | **New Multifamily Housing Construction (except Operative Builders)** |
| **236210** | **Industrial Building Construction** |
| **237130** | **Power and Communication Line and Related Structures Construction** |
| **237210** | **Land Subdivision** |
| **238130** | **Framing Contractors** |
| **238170** | **Siding Contractors** |
| **238210** | **Electrical Contractors and Other Wiring Installation Contractors** |
| **238220** | **Plumbing, Heating, and Air-Conditioning Contractors** |
| **238310** | **Drywall and Insulation Contractors** |
| **238320** | **Painting and Wall Covering Contractors** |
| **238330** | **Flooring Contractors** |
| **238340** | **Tile and Terrazzo Contractors** |
| **238350** | **Finish Carpentry Contractors** |
| **238910** | **Site Preparation Contractors** |
| 314121 | Curtain and Drapery Mills |
| 321920 | Wood Container and Pallet Manufacturing |
| 327331 | Concrete Block and Brick Manufacturing |
| 327991 | Cut Stone and Stone product Manufacturing |
| 332323 | Ornamental and Architectural Metal Work Manufacturing |
| 332710 | Machine Shops |
| 339112 | Surgical and Medical Instrument Manufacturing |
| 332996 | Fabricated Pipe and Pipe Fitting Manufacturing |
| 339112 | Surgical and Medical Instrument Manufacturing |
| 339116 | Dental Laboratories |
| 339950 | Sign Manufacturing |
| 423110 | Automobile and Other Motor Vehicle Merchant Wholesalers |
| 423220 | Home Furnishing Merchant Wholesalers |
| 423310 | Lumber, Plywood, Millwork, and Wood Panel Merchant Wholesalers |
| 423430 | Computer and Software Merchant Wholesalers |
| 423450 | Medical Equipment Merchant Wholesalers |
| 423510 | Metal Service Centers and Other Metal Merchant Wholesalers |
| 423610 | Electrical Equipment and Wiring Merchant Wholesalers |
| 423830 | Industrial Machinery and Equipment Merchant Wholesalers |
| 423840 | Industrial Supplies Merchant Wholesalers |
| 423850 | Service Establishment Equipment and Supplies Merchant Wholesale |
| 423910 | Sporting and Recreational Goods and Supplies Merchant Wholesalers |
| 424120 | Stationery and Office Supplies Merchant Wholesalers |
| 424930 | Flower, Nursery Stock, and Florists' Supplies Merchant Wholesalers |
| 425120 | Wholesale Trade Agents and Brokers |
| **443111** | **Household Appliance Stores** |
| **444110** | **Home Centers** |
| **444220** | **Nursery, Garden Center, and Farm Supply Stores** |
| **446110** | **Pharmacies and Drug Stores** |
| **448120** | **Women's Clothing Stores** |

| | |
|---|---|
| **448130** | **Children’s and Infants’ Clothing Stores** |
| **448310** | **Jewelry Stores** |
| **451110** | **Sporting Goods Stores** |
| **453910** | **Pet and Pet Supplies Stores** |
| **454111** | **Electronic Shopping** |
| 454113 | Mail Order Houses |
| 484110 | General Freight Trucking, Local |
| 484121 | General Freight Trucking, Long-Distance, Truckload |
| 484122 | General Freight Trucking, Long- Distance, Less than Truckload |
| 484220 | Specialized Freight (except Used Goods) Trucking, Local |
| 484230 | Specialized Freight (except Used Goods) Trucking, Long-Distance |
| 485320 | Limousine Service |
| 448410 | Motor Vehicle Towing |
| 488510 | Freight Transportation Arrangement |
| 492210 | Local Messengers and Local Delivery |
| 493110 | General Warehousing and Storage |
| 511120 | Periodical Publishers |
| 522110 | Commercial Banking |
| 522120 | Savings Institutions |
| 522220 | Sales Financing |
| 522310 | Mortgage and Non-mortgage Loan Brokers |
| 523120 | Securities Brokerage |
| 523910 | Portfolio Management |
| 523930 | Investment Advice |
| 524126 | Direct Property and Casualty Insurance Carriers |
| 542210 | Insurance Agencies and Brokerages |
| 531320 | Offices of Real Estate Appraisers |
| 532120 | Truck, Utility Trailer, and RV (Recreational Vehicle) Rental and Leasing |
| 532310 | General Rental Centers |
| 541110 | Offices of Lawyers |
| 541191 | Title Abstract and Settlement Offices |
| 541211 | Offices of Certified Public Accountants |
| 541213 | Tax Preparation Services |
| 541310 | Architectural Services |
| 541340 | Drafting Services |
| 541410 | Interior Design Services |
| 541430 | Graphic Design Services |
| 541613 | Marketing Consulting Services |
| 541810 | Advertising Agencies |
| 541860 | Direct Mail Advertising |
| 541921 | Photography Studios, Portrait |
| 541940 | Veterinary Services |
| 561110 | Office Administrative Services |
| 561310 | Employment Placement Agencies |
| 561320 | Temporary Help Services |
| 561410 | Document Preparation Services |
| 561431 | Private Mail Centers |
| 561611 | Investigation Services |
| 561622 | Locksmiths |
| 561730 | Landscaping Services |
| 562111 | Solid Waste Collection |
| 562910 | Remediation Services |
| 611420 | Computer Training |
| 611610 | Fine Arts Schools |
| 611620 | Sports and Recreation Instruction |
| 611692 | Automobile Driving Schools |

| | |
|---|---|
| **621111** | **Offices of Physicians (except Mental Health Specialists)** |
| **621210** | **Offices of Dentists** |
| **621310** | **Offices of Chiropractors** |
| **621320** | **Offices of Optometrists** |
| **621340** | **Offices of Specialty Therapists** |
| **621420** | **Outpatient Mental Health and Substance Abuse Centers** |
| **621511** | **Medical Laboratories** |
| **621512** | **Diagnostic Imaging Centers** |
| **621610** | **Home Health Care Services** |
| **623312** | **Homes for the Elderly** |
| **624120** | **Services for the Elderly and Persons with Disabilities** |
| 624410 | Child Day Care Services |
| 711110 | Theater Companies and Dinner Theaters |
| 711510 | Independent Artists, Writers, and Performers |
| 713910 | Golf Courses and Country Clubs |
| 713940 | Fitness and Recreational Sports Centers |
| 721191 | Bed and Breakfast Inns |
| 722310 | Food Service Contractors |
| **722410** | **Drinking Places (alcoholic beverages)** |
| **811111** | **General Automotive Repair** |
| 811121 | Automotive Body, Paint, and Interior Repair and Maintenance |
| **812112** | **Beauty Salons** |
| **812310** | **Coin-Operated Laundries and Drycleaners** |
| **812320** | **Dry cleaning and Laundry Services (except Coin-Operated)** |
| **812910** | **Pet Care (except veterinary) Services** |
| 813910 | Business Associations |
| 813920 | Professional Organizations |

*Developed by The Chesapeake Group, Inc., 2011.

Four clusters are identified as being under-represented at the county level. These are:

1. Construction and home improvement related contractors, designated in the table by bold lettering and light grey shading.
2. Segments of the Finance, Insurance & Real Estate industries, designated by light grey shading in the table.
3. Segments of retail goods and related services activity, designated in the table by bold lettering and light grey shading.
4. Medical and senior related services, designated in the chart by white lettering with a dark grey shaded background.

## *Common Under-representative Industries*

A total of thirty-four industries are identified as being under-represented at both the zip code and county levels. These businesses are identified in Table 3.

*Table 3 – Common Under-represented Industries**

| NAICS Code | Type of Business |
|---|---|
| 115210 | Support Activities for Animal Production |
| **237130** | **Power and Communication Line and Related Structures Construction** |
| **238130** | **Framing Contractors** |
| **238210** | **Electrical Contractors and Other Wiring Installation Contractors** |
| **238220** | **Plumbing, Heating, and Air-Conditioning Contractors** |
| **238310** | **Drywall and Insulation Contractors** |
| **238320** | **Painting and Wall Covering Contractors** |

| | |
|---|---|
| **238330** | **Flooring Contractors** |
| **238350** | **Finish Carpentry Contractors** |
| 423830 | Industrial Machinery and Equipment Merchant Wholesalers |
| 425120 | Wholesale Trade Agents and Brokers |
| **443111** | **Household Appliance Stores** |
| **444220** | **Nursery, Garden Center, and Farm Supply Stores** |
| 454111 | Electronic Shopping |
| 484110 | General Freight Trucking, Local |
| 522120 | Savings Institutions |
| 523120 | Securities Brokerage |
| 523930 | Investment Advice |
| 524126 | Direct Property and Casualty Insurance Carriers |
| 531320 | Offices of Real Estate Appraisers |
| 541410 | Interior Design Services |
| 541430 | Graphic Design Services |
| 541810 | Advertising Agencies |
| 561310 | Employment Placement Agencies |
| 561320 | Temporary Help Services |
| 561410 | Document Preparation Services |
| 561730 | Landscaping Services |
| 611620 | Sports and Recreation Instruction |
| 621340 | Offices of Specialty Therapists |
| 621610 | Home Health Care Services |
| 624410 | Child Day Care Services |
| 713910 | Golf Courses and Country Clubs |
| 812310 | Coin-Operated Laundries and Drycleaners |
| 812320 | Dry cleaning and Laundry Services (except Coin-Operated) |

*Developed by The Chesapeake Group, Inc., 2011.

## *LPDD Concentrations*

A total of twelve "industries" are identified as being over-represented within the LPDD's zip codes but under-represented within the County-wide analysis. This distribution generally implies either dominance in the "industry" or for the type of operation or a unique niche. These business types are contained in the following table.

*Table 4 – Over-represented at the Zip Code Level But Under-represented at the County Level**

| NAICS Code | Type of Business |
|---|---|
| 238910 | Site Preparation Contractors |
| 444110 | Home Centers |
| 448310 | Jewelry Stores |
| 488510 | Freight Transportation Arrangement |
| 532310 | General Rental Centers |
| 541921 | Photography Studios, Portrait |
| 561110 | Office Administrative Services |
| 621210 | Office of Dentists |
| 713940 | Fitness & Recreational Sports Centers |
| 722410 | Drinking Places (Alcoholic Beverages) |
| 812112 | Beauty Salons |
| 813910 | Business Associations |

*Developed by The Chesapeake Group, Inc., 2011.

# *Demand Forecasting*

Future demand for all types of goods and services will generally come from the residential population living within the Development District, elsewhere in St. Mary's County, and Charles and Calvert Counties. Employees at Pax River and elsewhere in the Development District are most often subsets of the larger residential population of this tri-county area.

The number of households and housing units in each of the counties has grown in the past and are expected to continue to grow in the future, assuming investment and mission for the military at Pax River continues into the future.

Between 2005 and 2011, St. Mary's County issued roughly 3,900 housing permits for new units. Of these, about 1,400 were issued in the County's defined "rural areas," with the remainder in development districts/growth areas. Of the roughly 2,500 growth area/development district permits, all but a few were issued in the Lexington Park Development District (LPDD). Thus, 64% of the permits were associated with the LPDD.

*Table 5 – New Unit Housing Permits in St. Mary's County from 2005 through 2010*

| Year | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|
| Growth Areas | 478 | 475 | 851 | 275 | 249 | 165 |
| Rural Area | 401 | 350 | 229 | 210 | 144 | 71 |
| Total | 879 | 825 | 1080 | 485 | 393 | 236 |

This average proportion of growth in somewhat skewed by the year 2007 figures when a substantial number of permits were issued for multi-family units. As found in Table 6, the proportion generally ranged from 52% to 62% annually.

*Table 6 - New Unit Residential Building Permits Issued For the LPDD & County for 2005 Through 2010 and Proportion of Growth in LPDD*

| Area/Year | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|
| Lex. Park Dev. Dis. | 471 | 460 | 831 | 252 | 203 | 147 |
| St. Mary's County | 879 | 825 | 1080 | 485 | 393 | 236 |
| % of Growth | 54 | 56 | 77 | 52 | 52 | 62 |

As would be anticipated by current economic conditions, residential permits since 2007 have declined. Yet, there is continued growth; and further growth is anticipated. Based on historical patterns, two estimates for growth for St. Mary's County and the Development District have been developed, providing a range. It is noted that both involve annual rates of growth less than the growth in 2007. The first is based on average annual growth rate from 2005 to 2010, excluding 2007; while the second involves a growth rate somewhat below that achieved in 2005 and 2006. This is done so based on the assumption that structural changes in financing from the 2005-2006 time period have changed for the foreseeable future. It is also assumed that the first few years of the 2011 to 2020 period will see lesser numbers of permits for new units than the latter years.

The projected permits issued for the period from 2011 through 2020 for St. Mary's County are expected to range from a low of 6,431 to a high of 7,725, with between 4,090 and 4,750 of the units permits issued within the LPDD.

# Retail Goods & Related Services Demand

In an effort to obtain critical information on potential spending on commodities, a survey of more than 640 households in the tri-county area was conducted. The survey was conducted on-line during the spring of 2011. The results, with modifications to adjust for biases associated with this type of survey, were employed in computer modeling.

Salient information with respect to commercial spending from that large sample includes but is not limited to that which follows.

- ✓ The average annual household income of respondents is roughly $127,000. The figure includes income derived from employment as well as retirement sources and is higher than the anticipated average household income in the total markets.
- ✓ About six out of every ten households have annual household incomes in excess of $100,000. (Once again, there is higher than the anticipated share of households with such incomes in the total markets.)
- ✓ An additional 18% of the households have annual incomes between $75,000 and $100,000.

*Table 7 – Total Household Income**

| Income | Response Percent |
|---|---|
| Less than $14,999 | 1 |
| $15,000 to $24,999 | 3 |
| $25,000 to $49,999 | 5 |
| $50,000 to $74,999 | 12 |
| $75,000 to $99,999 | 18 |
| $100,000 to $149,999 | 33 |
| $150,000 to $199,999 | 16 |
| $200,000 to $299,999 | 10 |
| $300,000 or more | 2 |
| Total | 100 |

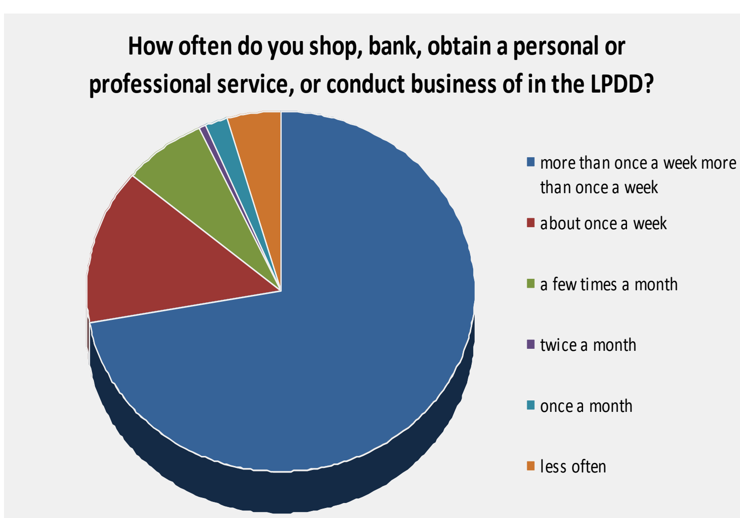
*Developed by The Chesapeake Group, Inc., 2011.

- ✓ 88% of the households frequent commercial areas and establishments at any and all locations more than once per week; while 72% do so in the Development District.

*Table 8 - Frequency of Trips**

| Frequency Of Trips | % Conducting Any Business | % Conducting in LPDD |
|---|---|---|
| More than once a week | 86.2 | 72.1 |
| About once a week | 8.5 | 13.9 |
| A few times a month | 3.8 | 7.1 |
| Twice a month | 0.2 | 0.6 |
| Once a month | 0.5 | 1.7 |
| Less often | 0.9 | 4.5 |

*Developed by The Chesapeake Group, Inc., 2011.



There are essentially three commodities upon which households spend much of their incomes and assets over time. These are food, transportation, and housing. The type and variety of each commodity often changes with income and other fiscal resources.

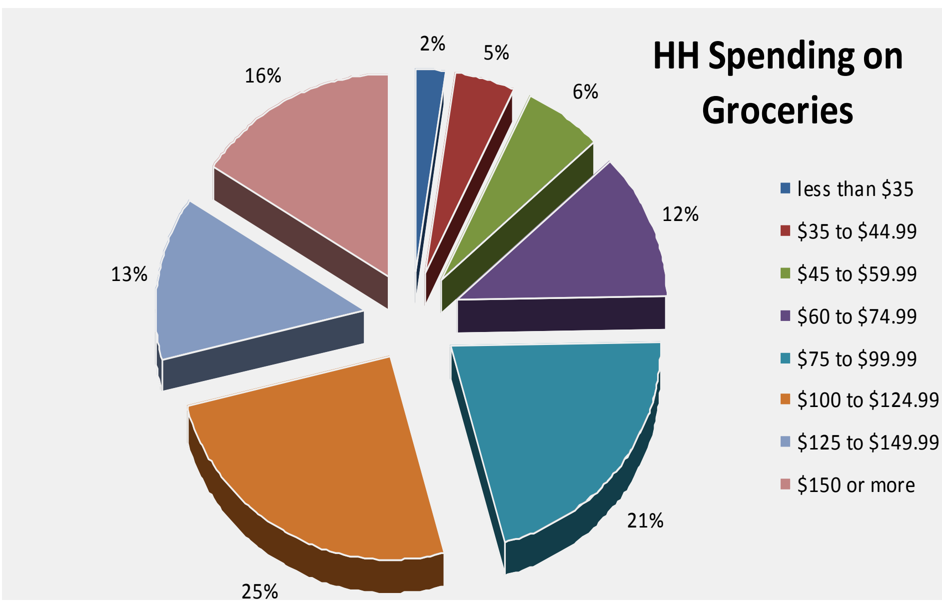
## Food

- ✓ Food for home consumption is generally purchased at supermarkets or other facilities that have a supermarket component, such as Wal*Mart. Households report a range of weekly grocery expenditures. While 54% typically spend more than $100 per week on groceries; about one-fourth spends less than $75 each week on grocery and related items. The average household spends about $95 per week on groceries and related merchandise.

*Table 9 – Average Amount Spent on Groceries and Related Merchandise Per Week**

| Amount Spent | Percent of Households |
|---|---|
| less than $35 | 2.2 |
| $35 to $44.99 | 4.6 |
| $45 to $59.99 | 6.3 |
| $60 to $74.99 | 11.6 |
| $75 to $99.99 | 21.0 |
| $100 to $124.99 | 25.4 |
| $125 to $149.99 | 13.2 |
| $150 or more | 15.7 |

*Developed by The Chesapeake Group, Inc., 2011.




- ✓ There is little variation by income in grocery spending. For example, households with incomes $25,000 or under spend on average about $83; while households with incomes between $50,000 and $100,000 spend about $105 on average. Therefore, a greater proportion of income in lower income strata households is spent on food purchases at supermarkets and other merchants with food components.

*Table 10 – Spending on Food and Related Merchandise at Various Income Clusters**

| Income | Under $25000 | $25 to $49,999 | $50 to $99,999 | $100 to $199,999 | $200,000 or More |
|---|---|---|---|---|---|
| Grocery Spending | $83.18 | $85.97 | $104.98 | $81.89 | $125.79 |

*Developed by The Chesapeake Group, Inc., 2011.

- ✓ The frequented businesses for grocery shopping include: BJ's Warehouse, Pax River, Food Lion, Giants, McKay's, Safeway, Wal*Mart, and Target.
- ✓ Other food spending is associated with lunch and dinner trips as well as entertainment activity often sought simultaneously with food or beverage consumption. As revealed in Table 10, 65% of the households have someone who eats lunch out at the rate of at least once a week.
- ✓ Almost 90% eat lunch out at a frequency of at least once per month.

*Table 11 - Frequency Lunch is Consumed Outside the Home or Workplace**

| Frequency | Percent |
|---|---|
| a few times a week | 36.1 |
| about once a week | 28.6 |
| twice a month | 16.3 |
| once a month | 7.3 |
| 4 to 9 times a year | 4.0 |
| a few times a year | 3.7 |
| less often | 4.0 |

*Developed by The Chesapeake Group, Inc., 2011.

- ✓ Full-service restaurants were the most popular choice for lunch for about 43% of the households; while about 29% generally eat lunch out at fast food establishments and 16% at sub shops.

*Table 12 - Type of Establishment Most Often Associated With Lunch**

| Type Of Establishment | % |
|---|---|
| Full-Service Restaurant | 43 |
| Fast Food Operation | 29 |
| All You Can Eat Buffet | 3 |
| Sub Shop | 16 |
| Other | 10 |

*Developed by The Chesapeake Group, Inc., 2011.

- ✓ As is typical, households eat dinner out with a lower frequency than they do lunch. As detailed in Table 12, 58% have dinner at an establishment at least on a monthly basis.

*Table 13 – Frequency Dinner is Consumed Outside the Home**

| Answer Options | Percent |
|---|---|
| a few times a week | 19.0 |
| about once a week | 37.5 |
| twice a month | 19.3 |
| once a month | 12.5 |
| 4 to 9 times a year | 5.9 |
| a few times a year | 3.2 |
| less often | 2.6 |

*Developed by The Chesapeake Group, Inc., 2011.

- ✓ Full-service restaurants are preferred by 89% of the households for the evening meal outside of the home.

- ✓ 79% of the households indicated that they do not go out to view movies at a theater more often than once per month. These trips often involving food consumption.

*Table 14 - Frequency Household Members Go Out to the Movies**

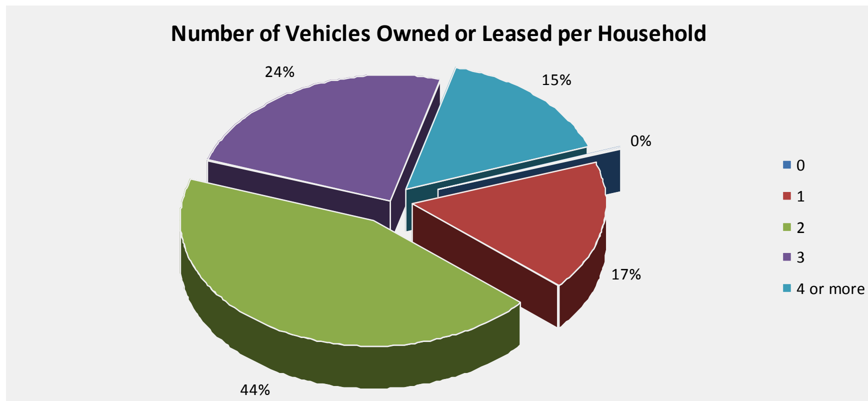
| Answer Options | Percent |
|---|---|
| more than once a week | 0.8 |
| about once a week | 1.7 |
| a few times a month | 5.2 |
| twice a month | 3.8 |
| once a month | 9.3 |
| less often | 79.1 |

*Developed by The Chesapeake Group, Inc., 2011.

## Transportation

Transportation is the second major household expense reviewed.

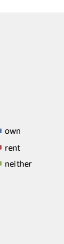
- ✓ The majority of households have two or more vehicles available for use by household members.




## Housing

The third major area of household spending is shelter or housing. Spending on housing over time is dependent upon a number of factors. Ownership and tenure are two of those factors. In general, mortgages have a tendency to increase at a slower pace, if at all, than do payments for rent.

- ✓ A majority of 81% of the households reported that they owned rather than rent their residences.




- ✓ A relatively small proportion of 14% have lived at the same address for more than twenty years and only about one-third of the households have lived at the same address for at least 10 years. (Those living in their residence for less than ten years have a greater chance of owing more on their home than the value of their home at this time and may or may not be "under water" depending upon the amount owed, the purchase price, and the current value. On the other hand, some major employers pay relocation and other costs when their employees relocate, lessening the impact.)

*Table 15 – Number of Years Living at the Address**

| Tenure at Address | Percent |
|---|---|
| 2 years or less | 28.2 |
| 3 to 4 years | 15.7 |
| 5 to 9 years | 22.5 |
| 10 to 19 years | 19.9 |
| 20 or more years | 13.8 |

*Developed by The Chesapeake Group, Inc., 2011.

- ✓ Roughly 10% of the households reported that they do not have a monthly mortgage or rent payment as a result generally of having paid off the mortgage or other circumstances. 16% pay less than $1,000 per month while about one in ten households pay more than $2,500 per month.

*Table 16 – Amount Spent on Rent or Mortgage Per Month**

| Monthly Rent or Mortgage | Percent |
|---|---:|
| Do not pay rent/mortgage | 9.5 |
| Less than $599 per month | 3.5 |
| $600 to $799 per month | 5.0 |
| $800 to $999 per month | 7.5 |
| $1,000 to $1,249 per month | 15.3 |
| $1,250 to $1,499 per month | 13.8 |
| $1,500 to $1,999 per month | 23.7 |
| $2,000 to $2,499 per month | 13.0 |
| $2,500 to $2,999 per month | 5.5 |
| $3,000 or more per month | 3.2 |

*Developed by The Chesapeake Group, Inc., 2011.

- ✓ When those without monthly rent or mortgage payments are excluded, there is a strong correlation between income and monthly mortgages or rents.

- ✓ The overwhelming majority of responding households reside in single-family detached units.

*Table 17 – Type of Housing Unit**

| Type of Unit | Percent |
|---|:---:|
| single-family detached house | 78.5 |
| townhouse or row house | 8.9 |
| duplex or side-by-side | 1.8 |
| mobile or manufactured home | 2.6 |
| condo | 2.4 |
| apartment complex | 4.7 |
| accessory apartment/'in law suite' | 0.8 |
| other structure | 0.3 |
| Total** | 97.6 |

*Developed by The Chesapeake Group, Inc., 2011.

**The total does not equal 100% since the options included “condominiums, which is a form of ownership and not a physical form of housing.

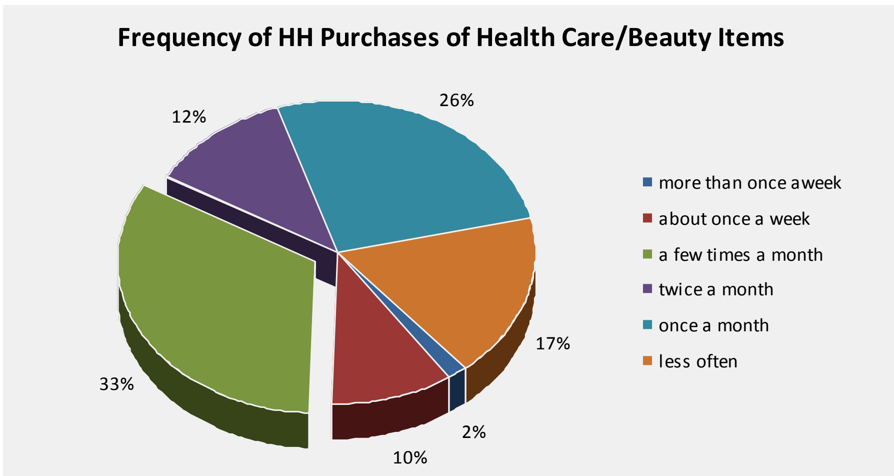
## Other Spending

- ✓ Information on other household spending was also generated. Health and beauty aid shopping, along with food shopping, are surrogates for “convenience” shopping in general. About 45% of the households purchase health and beauty aids at least a few times each month; while shoe purchases on a significantly less frequent basis.

*Table 18 - Frequency of Health & Beauty Aids Purchases**

| Frequency of Purchases | Percent |
|---|---|
| more than once a week | 1.6 |
| about once a week | 10.0 |
| a few times a month | 32.9 |
| twice a month | 11.8 |
| once a month | 26.4 |
| less often | 17.4 |

*Developed by The Chesapeake Group, Inc., 2011.



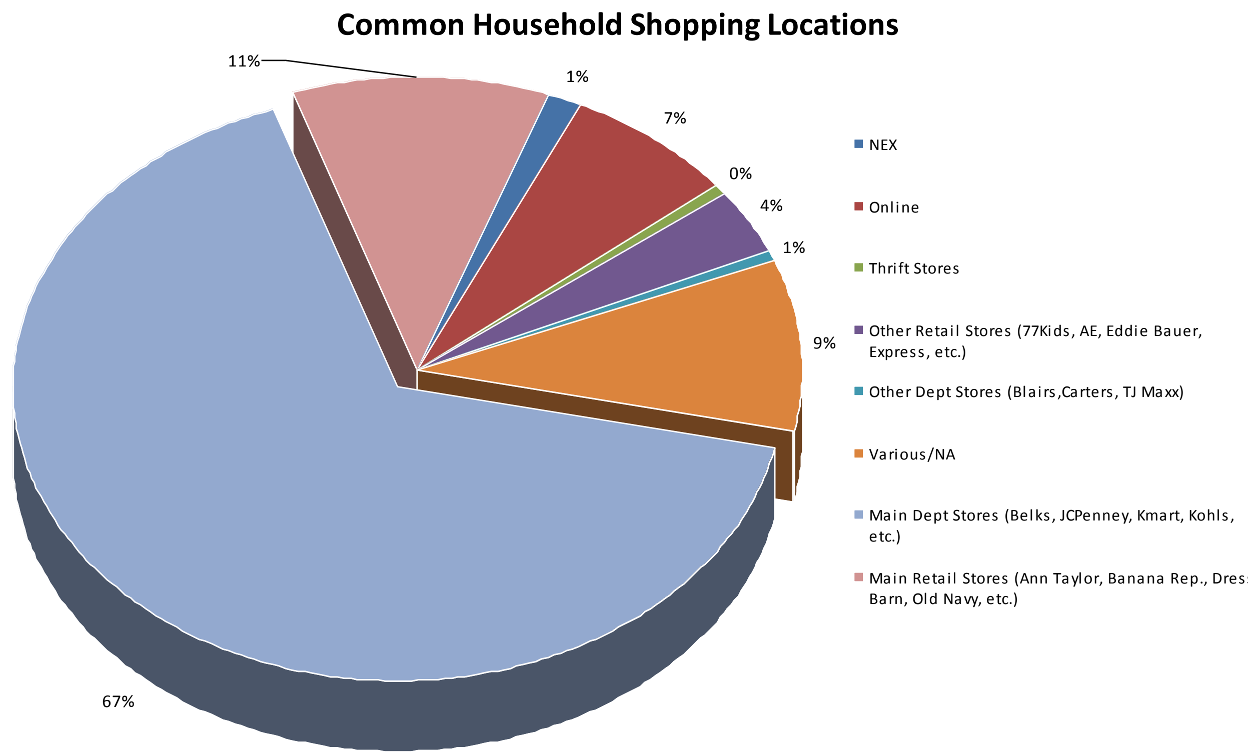

- ✓ Apparel shopping is generally a surrogate for non-convenience goods shopping. Generally, non-convenience goods shopping trips are made further from home than convenience shopping trips and with less frequency. For example, only 3% purchase shoes a few times per month.

*Table 19 - Frequency of Shoe Purchases**

| Frequency | Percent |
|---|---|
| more than once a week | 0.2 |
| about once a week | 0.8 |
| a few times a month | 2.1 |
| twice a month | 3.2 |
| once a month | 12.7 |
| less often | 81.1 |

*Developed by The Chesapeake Group, Inc., 2011.

- ✓ Shopping is generally done for clothing and other goods at a variety of stores, like department and discount stores, and at a variety of locations.




- ✓ As indicated by the above graphic, many dollars are exported as shopping is often done elsewhere, including "on-line" or by catalog. About two-thirds of all responding households make such purchases at least once per month.

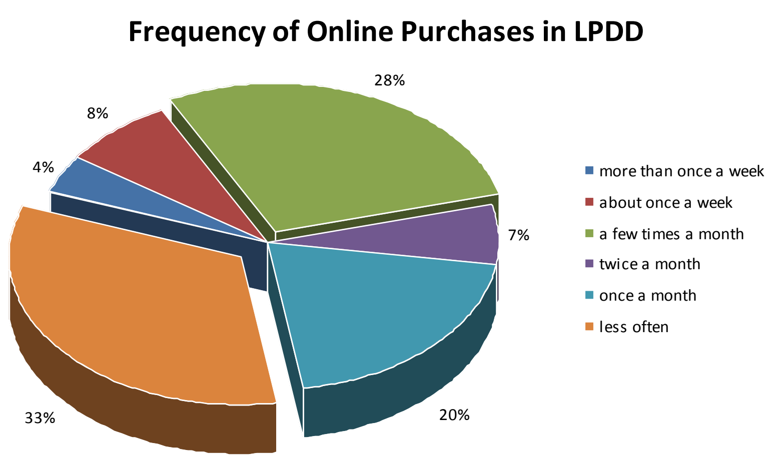
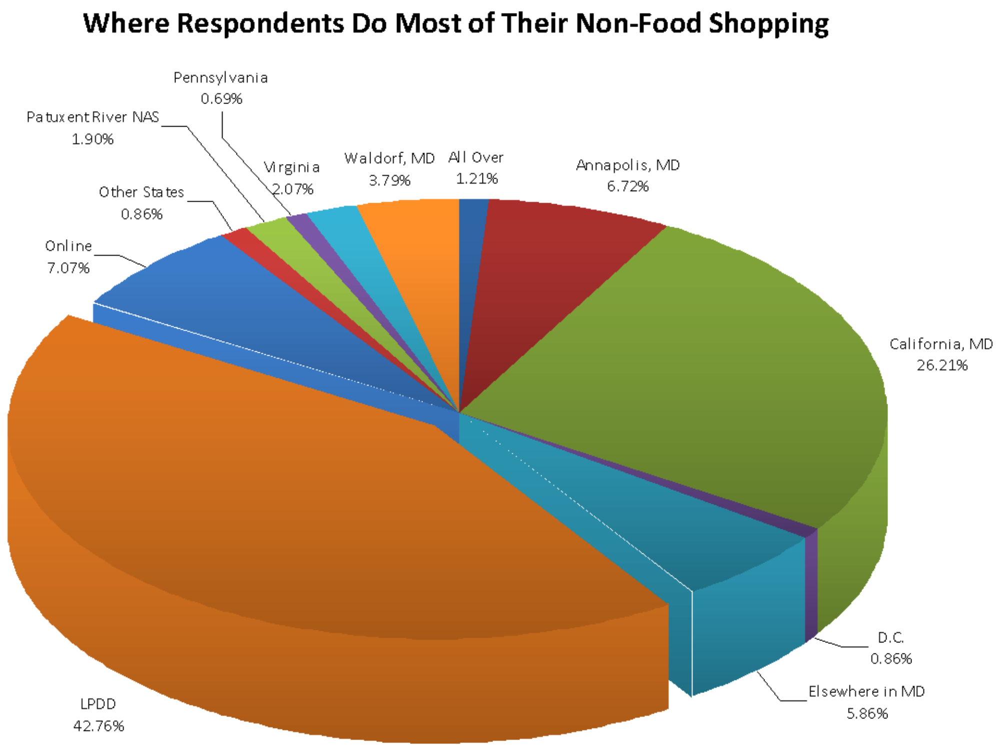



*Table 20 - Frequency of Purchases by Catalog or On-Line**

| Frequency of Purchases | Percent |
|---|---|
| more than once a week | 4.1 |
| about once a week | 7.9 |
| a few times a month | 28.4 |
| twice a month | 6.6 |
| once a month | 20.0 |
| less often | 33.0 |

*Developed by The Chesapeake Group, Inc., 2011.

✓ Yet, the majority of trips for shopping are made within the Development District.




## *Commercial Demand Market Areas*

The market is the driving force behind economic viability, whether it is commercial, service, or residential opportunity. In an effort to define opportunities, a forecasting of demand for goods and services was performed. It is noted that:

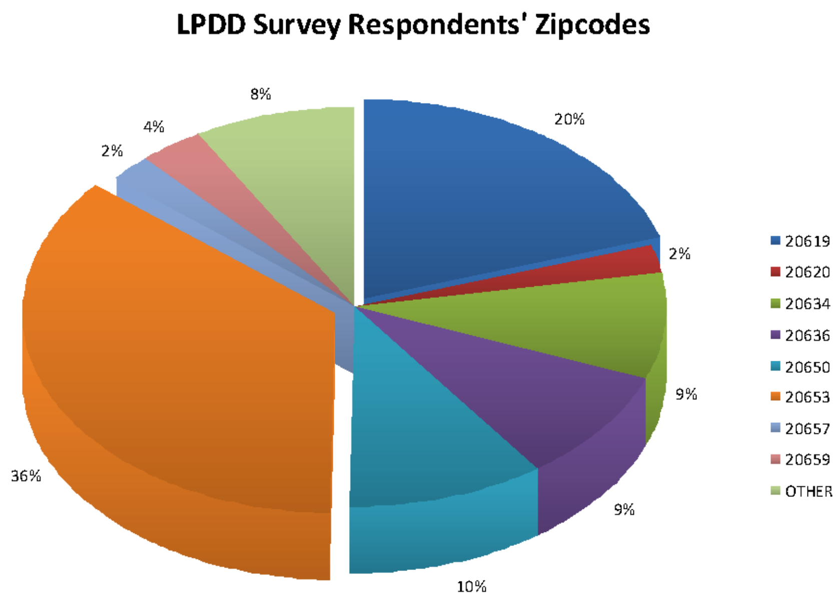
✓ All estimates are in 2011 dollars.
✓ There have been some substantial changes nationally in consumer spending in the past two years that are anticipated to remain relatively constant over the next few years if not longer.
✓ The estimates are considered conservative in nature, underestimating rather than overestimating potential.

Based on the survey results, the Development District attracts patronage from a broad geographic area that is associated with specific zip codes found in Table 21 as well as others identified as "Others".

*Table 21 – On Line Sample Zip Codes Associated with Those that Come to Activity in the Development District**

| ZIP CODE AREA | ZIP CODE | Percent |
|---|---|---|
| 20653 | Lexington Park, MD | 36 |
| 20619 | California, MD | 20 |
| 20650 | Leonardtown, MD | 10 |
| 20634 | Great Mills, MD | 9 |
| 20636 | Hollywood, MD | 9 |
| Others | Not app. | 8 |
| 20659 | Mechanicsville, MD | 4 |
| 20620 | Callaway, MD | 2 |
| 20657 | Lusby, MD | 2 |

*Developed by The Chesapeake Group, Inc., 2011.




This is likely a result of a number of factors. Most probably, it reflects employment activity in the area associated with Pax River as well as the distribution of commercial development within St. Mary's County.

There are several markets for activity in the Development District, whether that is the established Lexington Park section, Hollywood or elsewhere. It is noted that the employees associated with the military instillation and related contractors generally reside within the markets. The markets included and analyzed are:

- ✓ Those residing within the Development District.
- ✓ Those living elsewhere in St. Mary's County.
- ✓ Those living in Charles County.
- ✓ Those living in Calvert County.

For both the Development District and the remainder of St. Mary's County, two alternatives (defined as Option A and Option B) are developed based on the previously noted range in household and housing unit growth anticipated. The noted estimates are made for the period through 2020. Longer term estimates would be more open to greater variation by unknown factors. Thus, estimates beyond 2020 are more conjectural. If it is assumed that continued military spending and presence will grow in the area and indicated additional non-military R & D suggested activity is pursued; then one could double the anticipated growth from 2011 to 2020 to determine additional supportable activity from 2020 to 2030.

### *Generated Demand for Retail Goods and Services*

Aggregate retail sales figures represent a compilation of sales associated with ten major categories and the types of operations within those categories. The ten major categories of retail goods and related services demand are as follows:

- Food, such as groceries and related merchandise generally purchased for home preparation or consumption.
- Eating and drinking, consisting of prepared food and beverages generally consumed on the premises or carried to another location.
- General merchandise, including variety stores, department stores and large value oriented retail operators.
- Furniture and accessories, including appliances and home furnishings.
- Transportation and utilities, including the sale of new and used automotive and other personal vehicles and parts and basic utilities for the home.
- Drugstores, including those specializing in health and beauty aids or pharmaceuticals.
- Apparel and accessories.
- Hardware and building materials, including traditional hardware stores and garden and home improvement centers.
- Auto services, including gasoline and vehicle repair.
- Miscellaneous, including a plethora of retail goods and services ranging from florists to paper goods.

Many of today's better known operations in fact fall into more than one category. For example, many of the "big box" general merchandisers, such as Wal*Mart, have traditional supermarket components within their operations.

Aggregate retail goods and related services sales generated by residents of the Development District are estimated at over $500 million in 2011. In Option A, demand is expected to grow by 2020 by an additional $97 million based on slight changes in incomes and housing growth. For Option B, based on assumptions of higher housing growth than for Option A, demand for retail goods and services generated by residents of the Development District would increase by about $117 million.

It is important to understand that irrespective of the strength, location factors, mass, or other issues; no community or development is capable of attracting all of the sales generated in any market or market area. As examples, people employed elsewhere often spend resources at or near their places of employment. At other times, people make visits and spend money with relatives and friends living in other locations or while on vacations.

Retail sales and related services revenues are converted to supportable space through the application of sales or revenue productivity levels. A sales or revenue productivity level is the level of sales or revenues per square foot at which it is assumed that the business will generate sufficient revenue to cover all costs of operation as well as provide a reasonable return on investment for the ownership or operating entity.

Sales productivity levels vary for each sub-category, type of business operation, or store-type. The productivity levels vary from low figures for bowling centers to hundreds of dollars for others. Supportable space is derived by dividing the amount of sales by a productivity level.

Table 22 contains a breakdown of retail goods and related services supportable square footage of space associated with the respective sales by category generated by the Development District for Options A and B and anticipated changes from 2011 to 2020. It is noted that the range in additional supportable retail goods and services space between 2011 and 2020 is from roughly 276,000 to 331,000 square feet.

*Table 22 – LPDD Generated Options A & B Retail Goods & Services Sales and Space (Square Feet) and Change in Space Estimates by Category for 2011 to 2020**

| Category | Existing LPDD A or B Sales 2011 | LPDD A Sales 2011-2020 | LPDD A or B Space 2011 | LPDD A Space 2011-2020 | LPDD B Sales 20111-2020 | LPDD B Space 2011-2020 |
|---|---|---|---|---|---|---|
| Food | $124,830,000 | $21,346,000 | 233,127 | 39,864 | $25,590,000 | 47,791 |
| Eat/Drink | 46,968,000 | 8,032,000 | 117,420 | 20,080 | 9,628,000 | 24,070 |
| General Merchandise | 96,957,000 | 16,580,000 | 316,265 | 54,081 | 19,876,000 | 64,835 |
| Furniture | 34,770,000 | 5,946,000 | 107,098 | 18,315 | 7,128,000 | 21,956 |
| Transportation | 55,176,000 | 9,435,000 | 160,555 | 27,455 | 11,311,000 | 32,913 |
| Drugstore | 25,137,000 | 4,298,000 | 50,274 | 8,596 | 5,153,000 | 10,306 |
| Apparel | 28,785,000 | 4,922,000 | 89,572 | 15,317 | 5,901,000 | 18,363 |
| Hardware | 52,326,000 | 8,948,000 | 222,436 | 38,037 | 10,727,000 | 45,599 |
| Vehicle Service | 60,021,000 | 10,264,000 | 146,120 | 24,988 | 12,304,000 | 29,954 |
| Miscellaneous | 45,030,000 | 7,700,000 | 173,917 | 29,741 | 9,231,000 | 35,653 |
| TOTAL | $570,000,000 | $97,471,000 | 1,616,784 | 276,474 | $116,849,000 | 331,440 |

*Developed by The Chesapeake Group, Inc., 2011.

*Table 23 – LPDD Generated Options A & B Retail Goods & Services Sales and Space (Square Feet) and Change in Space Estimates by Sub-category for 2011 to 2020**

| Sub-category | LPDD A Sales 2011 | LPDD A Sales 2011-2020 | LPDD A or B Space 2011 | LPDD A Space 2011-2020 | LPDD B Sales 20111-2020 | LPDD B Space 2011-2020 |
|---|---|---|---|---|---|---|
| Food | $124,830,000 | $21,346,000 | 233,127 | 39,864 | $25,590,000 | 47,791 |
| Supermarkets | 104,233,050 | 17,823,910 | 176,666 | 30,210 | 21,367,650 | 36,216 |
| Independents | 9,986,400 | 1,707,680 | 24,966 | 4,269 | 2,047,200 | 5,118 |
| Bakeries | 2,746,260 | 469,612 | 9,154 | 1,565 | 562,980 | 1,877 |
| Dairies | 1,622,790 | 277,498 | 4,508 | 771 | 332,670 | 924 |
| Others | 6,241,500 | 1,067,300 | 17,833 | 3,049 | 1,279,500 | 3,656 |
| Eat/Drink | 46,968,000 | 8,032,000 | 117,420 | 20,080 | 9,628,000 | 24,070 |
| General Merchandise | 96,957,000 | 16,580,000 | 316,265 | 54,081 | 19,876,000 | 64,835 |
| Dept. Stores | 34,322,778 | 5,869,320 | 114,409 | 19,564 | 7,036,104 | 23,454 |
| Variety Stores | 6,980,904 | 1,193,760 | 26,850 | 4,591 | 1,431,072 | 5,504 |
| Jewelry | 6,690,033 | 1,144,020 | 9,423 | 1,611 | 1,371,444 | 1,932 |
| Sporting Goods/Toys | 10,568,313 | 1,807,220 | 35,228 | 6,024 | 2,166,484 | 7,222 |
| Discount Dept. | 36,358,875 | 6,217,500 | 121,196 | 20,725 | 7,453,500 | 24,845 |
| Antiques, etc. | 484,785 | 82,900 | 2,108 | 360 | 99,380 | 432 |
| Others | 1,551,312 | 265,280 | 7,051 | 1,206 | 318,016 | 1,446 |
| Furniture | 34,770,000 | 5,946,000 | 107,098 | 18,315 | 7,128,000 | 21,956 |
| Furniture | 5,250,270 | 897,846 | 16,936 | 2,896 | 1,076,328 | 3,472 |
| Home Furnishings | 7,232,160 | 1,236,768 | 20,663 | 3,534 | 1,482,624 | 4,236 |
| Store/Office Equip. | 5,493,660 | 939,468 | 18,312 | 3,132 | 1,126,224 | 3,754 |
| Music Instr./Suppl. | 1,495,110 | 255,678 | 7,476 | 1,278 | 306,504 | 1,533 |
| Radios,TV, etc. | 15,298,800 | 2,616,240 | 43,711 | 7,475 | 3,136,320 | 8,961 |
| Transportation | 55,176,000 | 9,435,000 | 160,555 | 27,455 | 11,311,000 | 32,913 |
| New/Used Vehicles | 19,311,600 | 3,302,250 | 48,279 | 8,256 | 3,958,850 | 9,897 |
| Tires, Batt., Prts. | 24,332,616 | 4,160,835 | 81,109 | 13,869 | 4,988,151 | 16,627 |
| Marine Sales/Rentals | 2,924,328 | 500,055 | 7,904 | 1,352 | 599,483 | 1,620 |
| Auto/Truck Rentals | 8,607,456 | 1,471,860 | 23,263 | 3,978 | 1,764,516 | 4,769 |
| Drugstore | 25,137,000 | 4,298,000 | 50,274 | 8,596 | 5,153,000 | 10,306 |
| Apparel | 28,785,000 | 4,922,000 | 89,572 | 15,317 | 5,901,000 | 18,363 |
| Men's and Boy's | 3,770,835 | 644,782 | 9,427 | 1,612 | 773,031 | 1,933 |
| Women's and Girl's | 9,556,620 | 1,634,104 | 25,829 | 4,416 | 1,959,132 | 5,295 |
| Infants | 604,485 | 103,362 | 2,015 | 345 | 123,921 | 413 |
| Family | 8,002,230 | 1,368,316 | 26,674 | 4,561 | 1,640,478 | 5,468 |
| Shoes | 6,016,065 | 1,028,698 | 21,877 | 3,741 | 1,233,309 | 4,485 |
| Jeans/Leather | 115,140 | 19,688 | 384 | 66 | 23,604 | 79 |
| Tailors/Uniforms | 518,130 | 88,596 | 2,591 | 443 | 106,218 | 531 |
| Others | 201,495 | 34,454 | 775 | 133 | 41,307 | 159 |
| Hardware | 52,326,000 | 8,948,000 | 222,436 | 38,037 | 10,727,000 | 45,599 |
| Hardware | 25,325,784 | 4,330,832 | 101,303 | 17,323 | 5,191,868 | 20,767 |
| Lawn/Seed/Fertil. | 994,194 | 170,012 | 2,924 | 500 | 203,813 | 599 |
| Others | 26,006,022 | 4,447,156 | 118,209 | 20,214 | 5,331,319 | 24,233 |
| Vehicle Service | 60,021,000 | 10,264,000 | 146,120 | 24,988 | 12,304,000 | 29,954 |
| Gasoline | 20,407,140 | 3,489,760 | 14,074 | 2,407 | 4,183,360 | 2,885 |
| Garage, Repairs | 39,613,860 | 6,774,240 | 132,046 | 22,581 | 8,120,640 | 27,069 |
| Miscellaneous | 45,030,000 | 7,700,000 | 173,917 | 29,741 | 9,231,000 | 35,653 |
| Advert. Signs, etc. | 720,480 | 123,200 | 2,620 | 448 | 147,696 | 537 |
| Barber/Beauty shop | 2,746,830 | 469,700 | 13,734 | 2,349 | 563,091 | 2,815 |
| Book Stores | 2,071,380 | 354,200 | 5,598 | 957 | 424,626 | 1,148 |
| Bowling | 1,035,690 | 177,100 | 10,357 | 1,771 | 212,313 | 2,123 |
| Cig./Tobacco Dealer | 315,210 | 53,900 | 630 | 108 | 64,617 | 129 |
| Dent./Physician Lab | 1,801,200 | 308,000 | 5,542 | 948 | 369,240 | 1,136 |
| Florist/Nurseries | 3,377,250 | 577,500 | 7,946 | 1,359 | 692,325 | 1,629 |
| Laundry, Dry Clean | 1,531,020 | 261,800 | 5,103 | 873 | 313,854 | 1,046 |
| Optical Goods/Opt. | 1,080,720 | 184,800 | 3,088 | 528 | 221,544 | 633 |
| Photo Sup./Photog. | 3,107,070 | 531,300 | 8,877 | 1,518 | 636,939 | 1,820 |
| Printing | 3,647,430 | 623,700 | 13,263 | 2,268 | 747,711 | 2,719 |
| Paper/Paper Prod. | 1,936,290 | 331,100 | 9,681 | 1,656 | 396,933 | 1,985 |
| Gifts/Cards/Novel. | 6,439,290 | 1,101,100 | 21,464 | 3,670 | 1,320,033 | 4,400 |
| Newsstands | 360,240 | 61,600 | 720 | 123 | 73,848 | 148 |
| Video Rent/Sales | 5,853,900 | 1,001,000 | 29,270 | 5,005 | 1,200,030 | 6,000 |
| Others | 9,006,000 | 1,540,000 | 36,024 | 6,160 | 1,846,200 | 7,385 |
| TOTAL | $570,000,000 | $97,471,000 | 1,616,784 | 276,474 | $116,849,000 | 331,440 |

*Developed by The Chesapeake Group, Inc., 2011.

There are sub-categories found within each retail category. In general, each of these sub-categories is associated with a particular type or cluster of businesses. While not necessarily the largest in terms of sales, the miscellaneous category contains more sub-categories or types of establishments than any other major retail category. The change in sales and supportable space by sub-category between 2011 and 2020 for Options A and B is found in Table 23.

For the remainder of the St. Mary's County residents that do not live within the LPDD, two options are provided as well, with Option B resulting in greater demand. Based on the assumptions made for Option B, residents from the remainder of St. Mary's County will generate between $166 and $199 million in new retail goods and related services sales by 2020, supporting between 470,000 and 564,000 square feet of additional space at any and all locations beyond that supported in 2011.

*Table 24 – Remainder of St. Mary's Co. Residentially Generated Options A & B Retail Goods & Services Sales and Space (Square Feet) and Change in Space Estimates by Category for 2011 to 2020**

| Category | St Mary's A Sales 2011 | St. Mary's A Sales 2011-2020 | St Mary's A or B Space 2011 | St. Mary's A Space 2011-2020 | St Mary's B Sales 2011-2020 | St Mary's B Space 2011-2020 |
|---|---|---|---|---|---|---|
| Food | $212,430,000 | $36,326,000 | 396,724 | 67,841 | $43,548,000 | 81,329 |
| Eat/Drink | 79,928,000 | 13,668,000 | 199,820 | 34,170 | 16,385,000 | 40,963 |
| General Merchandise | 164,997,000 | 28,214,000 | 538,204 | 92,032 | 33,824,000 | 110,330 |
| Furniture | 59,170,000 | 10,118,000 | 182,256 | 31,165 | 12,130,000 | 37,362 |
| Transportation | 93,896,000 | 16,056,000 | 273,225 | 46,721 | 19,249,000 | 56,012 |
| Drugstore | 42,777,000 | 7,315,000 | 85,554 | 14,630 | 8,769,000 | 17,538 |
| Apparel | 48,985,000 | 8,376,000 | 152,429 | 26,065 | 10,042,000 | 31,249 |
| Hardware | 89,046,000 | 15,227,000 | 378,532 | 64,729 | 18,254,000 | 77,597 |
| Vehicle Service | 102,141,000 | 17,466,000 | 248,660 | 42,520 | 20,939,000 | 50,976 |

*Developed by The Chesapeake Group, Inc., 2011.

Sub-category information is found in Table 25.

*Table 25 – Remainder of St. Mary's Co. Residentially Generated Options A & B Retail Goods & Services Sales and Space (Square Feet) and Change in Space Estimates by Sub-category for 2011 to 2020**

| Sub-category | St Mary's A Sales 2011 | St. Mary's A Sales 2011-2020 | St Mary's A or B Space 2011 | St. Mary's A Space 2011-2020 | St Mary's B Sales 2011-2020 | St Mary's B Space 2011-2020 |
|---|---|---|---|---|---|---|
| Food | $212,430,000 | $36,326,000 | 396,724 | 67,841 | $43,548,000 | 81,329 |
| Supermarkets | 177,379,050 | 30,332,210 | 300,642 | 51,411 | 36,362,580 | 61,631 |
| Independents | 16,994,400 | 2,906,080 | 42,486 | 7,265 | 3,483,840 | 8,710 |
| Bakeries | 4,673,460 | 799,172 | 15,578 | 2,664 | 958,056 | 3,194 |
| Dairies | 2,761,590 | 472,238 | 7,671 | 1,312 | 566,124 | 1,573 |
| Others | 10,621,500 | 1,816,300 | 30,347 | 5,189 | 2,177,400 | 6,221 |
| Eat/Drink | 79,928,000 | 13,668,000 | 199,820 | 34,170 | 16,385,000 | 40,963 |
| General Merchandise | 164,997,000 | 28,214,000 | 538,204 | 92,032 | 33,824,000 | 110,330 |
| Dept. Stores | 58,408,938 | 9,987,756 | 194,696 | 33,293 | 11,973,696 | 39,912 |
| Variety Stores | 11,879,784 | 2,031,408 | 45,691 | 7,813 | 2,435,328 | 9,367 |
| Jewelry | 11,384,793 | 1,946,766 | 16,035 | 2,742 | 2,333,856 | 3,287 |
| Sporting Goods/Toys | 17,984,673 | 3,075,326 | 59,949 | 10,251 | 3,686,816 | 12,289 |
| Discount Dept. | 61,873,875 | 10,580,250 | 206,246 | 35,268 | 12,684,000 | 42,280 |
| Antiques, etc. | 824,985 | 141,070 | 3,587 | 613 | 169,120 | 735 |
| Others | 2,639,952 | 451,424 | 12,000 | 2,052 | 541,184 | 2,460 |
| Furniture | 59,170,000 | 10,118,000 | 182,256 | 31,165 | 12,130,000 | 37,362 |
| Furniture | 8,934,670 | 1,527,818 | 28,822 | 4,928 | 1,831,630 | 5,908 |
| Home Furnishings | 12,307,360 | 2,104,544 | 35,164 | 6,013 | 2,523,040 | 7,209 |
| Store/Office Equip. | 9,348,860 | 1,598,644 | 31,163 | 5,329 | 1,916,540 | 6,388 |
| Music Instr./Suppl. | 2,544,310 | 435,074 | 12,722 | 2,175 | 521,590 | 2,608 |
| Radios,TV, etc. | 26,034,800 | 4,451,920 | 74,385 | 12,720 | 5,337,200 | 15,249 |
| Transportation | 93,896,000 | 16,056,000 | 273,225 | 46,721 | 19,249,000 | 56,012 |
| New/Used Vehicles | 32,863,600 | 5,619,600 | 82,159 | 14,049 | 6,737,150 | 16,843 |
| Tires, Batt., Prts. | 41,408,136 | 7,080,696 | 138,027 | 23,602 | 8,488,809 | 28,296 |
| Marine Sales/Rentals | 4,976,488 | 850,968 | 13,450 | 2,300 | 1,020,197 | 2,757 |
| Auto/Truck Rentals | 14,647,776 | 2,504,736 | 39,589 | 6,770 | 3,002,844 | 8,116 |
| Drugstore | 42,777,000 | 7,315,000 | 85,554 | 14,630 | 8,769,000 | 17,538 |
| Apparel | 48,985,000 | 8,376,000 | 152,429 | 26,065 | 10,042,000 | 31,249 |
| Men's and Boy's | 6,417,035 | 1,097,256 | 16,043 | 2,743 | 1,315,502 | 3,289 |
| Women's and Girl's | 16,263,020 | 2,780,832 | 43,954 | 7,516 | 3,333,944 | 9,011 |
| Infants | 1,028,685 | 175,896 | 3,429 | 586 | 210,882 | 703 |
| Family | 13,617,830 | 2,328,528 | 45,393 | 7,762 | 2,791,676 | 9,306 |
| Shoes | 10,237,865 | 1,750,584 | 37,229 | 6,366 | 2,098,778 | 7,632 |
| Jeans/Leather | 195,940 | 33,504 | 653 | 112 | 40,168 | 134 |
| Tailors/Uniforms | 881,730 | 150,768 | 4,409 | 754 | 180,756 | 904 |
| Others | 342,895 | 58,632 | 1,319 | 226 | 70,294 | 270 |
| Hardware | 89,046,000 | 15,227,000 | 378,532 | 64,729 | 18,254,000 | 77,597 |
| Hardware | 43,098,264 | 7,369,868 | 172,393 | 29,479 | 8,834,936 | 35,340 |
| Lawn/Seed/Fertil. | 1,691,874 | 289,313 | 4,976 | 851 | 346,826 | 1,020 |
| Others | 44,255,862 | 7,567,819 | 201,163 | 34,399 | 9,072,238 | 41,237 |
| Vehicle Service | 102,141,000 | 17,466,000 | 248,660 | 42,520 | 20,939,000 | 50,976 |
| Gasoline | 34,727,940 | 5,938,440 | 23,950 | 4,095 | 7,119,260 | 4,910 |
| Garage, Repairs | 67,413,060 | 11,527,560 | 224,710 | 38,425 | 13,819,740 | 46,066 |
| Miscellaneous | 76,630,000 | 13,104,000 | 295,969 | 50,611 | 15,709,000 | 60,671 |
| Advert. Signs, etc. | 1,226,080 | 209,664 | 4,458 | 762 | 251,344 | 914 |
| Barber/Beauty shop | 4,674,430 | 799,344 | 23,372 | 3,997 | 958,249 | 4,791 |
| Book Stores | 3,524,980 | 602,784 | 9,527 | 1,629 | 722,614 | 1,953 |
| Bowling | 1,762,490 | 301,392 | 17,625 | 3,014 | 361,307 | 3,613 |
| Cig./Tobacco Dealer | 536,410 | 91,728 | 1,073 | 183 | 109,963 | 220 |
| Dent./Physician Lab | 3,065,200 | 524,160 | 9,431 | 1,613 | 628,360 | 1,933 |
| Florist/Nurseries | 5,747,250 | 982,800 | 13,523 | 2,312 | 1,178,175 | 2,772 |
| Laundry, Dry Clean | 2,605,420 | 445,536 | 8,685 | 1,485 | 534,106 | 1,780 |
| Optical Goods/Opt. | 1,839,120 | 314,496 | 5,255 | 899 | 377,016 | 1,077 |
| Photo Sup./Photog. | 5,287,470 | 904,176 | 15,107 | 2,583 | 1,083,921 | 3,097 |
| Printing | 6,207,030 | 1,061,424 | 22,571 | 3,860 | 1,272,429 | 4,627 |
| Paper/Paper Prod. | 3,295,090 | 563,472 | 16,475 | 2,817 | 675,487 | 3,377 |
| Gifts/Cards/Novel. | 10,958,090 | 1,873,872 | 36,527 | 6,246 | 2,246,387 | 7,488 |
| Newsstands | 613,040 | 104,832 | 1,226 | 210 | 125,672 | 251 |
| Video Rent/Sales | 9,961,900 | 1,703,520 | 49,810 | 8,518 | 2,042,170 | 10,211 |
| Others | 15,326,000 | 2,620,800 | 61,304 | 10,483 | 3,141,800 | 12,567 |
| TOTAL | $970,000,000 | $165,870,000 | 2,751,373 | 470,484 | $198,849,000 | 564,027 |

*Developed by The Chesapeake Group, Inc., 2011.

Growth in Charles and Calvert Counties is also anticipated. Based on anticipated increases in households and related housing units, residentially generated demand for retail goods and related services are expected to increase to amounts sufficient to support an additional 410,000 square feet of space for Charles County residents by 2020.

*Table 26 – Charles Co. Residentially Generated Retail Goods & Services Sales and Space (Square Feet) and Change in Space Estimates by Category for 2011 to 2020**

| Category | Charles Co Sales 2011 | Charles Co Sales 2011-2020 | Charles Co Space 2011 | Charles Co Space 2011-2020 |
|---|---|---|---|---|
| Food | $451,385,000 | $31,597,000 | 842,988 | 59,009 |
| Eat/Drink | 169,836,000 | 11,889,000 | 424,590 | 29,723 |
| General Merchandise | 350,597,000 | 24,542,000 | 1,143,614 | 80,055 |
| Furniture | 125,728,000 | 8,801,000 | 387,267 | 27,108 |
| Transportation | 199,516,000 | 13,966,000 | 580,565 | 40,639 |
| Drugstore | 90,895,000 | 6,363,000 | 181,790 | 12,726 |
| Apparel | 104,087,000 | 7,286,000 | 323,889 | 22,672 |
| Hardware | 189,211,000 | 13,245,000 | 804,331 | 56,304 |
| Vehicle Service | 217,036,000 | 15,192,000 | 528,370 | 36,984 |
| Miscellaneous | 162,828,000 | 11,398,000 | 628,891 | 44,023 |
| TOTAL | $2,061,119,000 | $144,279,000 | 5,846,295 | 409,243 |

*Developed by The Chesapeake Group, Inc., 2011.

The sub-category information for Charles County generated demand follows.

*Table 27 – Charles Co. Residentially Generated Retail Goods & Services Sales and Space (Square Feet) and Change in Space Estimates by Sub-category for 2011 to 2020**

| Sub-category | Charles Co Sales 2011 | Charles Co Sales 2011-2020 | Charles Co Space 2011 | Charles co Space 2011-2020 |
|---|---|---|---|---|
| Food | $451,385,000 | $31,597,000 | 842,988 | 59,009 |
| Supermarkets | 376,906,475 | 26,383,495 | 638,825 | 44,718 |
| Independents | 36,110,800 | 2,527,760 | 90,277 | 6,319 |
| Bakeries | 9,930,470 | 695,134 | 33,102 | 2,317 |
| Dairies | 5,868,005 | 410,761 | 16,300 | 1,141 |
| Others | 22,569,250 | 1,579,850 | 64,484 | 4,514 |
| Eat/Drink | 169,836,000 | 11,889,000 | 424,590 | 29,723 |
| General Merchandise | 350,597,000 | 24,542,000 | 1,143,614 | 80,055 |
| Dept. Stores | 124,111,338 | 8,687,868 | 413,704 | 28,960 |
| Variety Stores | 25,242,984 | 1,767,024 | 97,088 | 6,796 |
| Jewelry | 24,191,193 | 1,693,398 | 34,072 | 2,385 |
| Sporting Goods/Toys | 38,215,073 | 2,675,078 | 127,384 | 8,917 |
| Discount Dept. | 131,473,875 | 9,203,250 | 438,246 | 30,678 |
| Antiques, etc. | 1,752,985 | 122,710 | 7,622 | 534 |
| Others | 5,609,552 | 392,672 | 25,498 | 1,785 |
| Furniture | 125,728,000 | 8,801,000 | 387,267 | 27,108 |
| Furniture | 18,984,928 | 1,328,951 | 61,242 | 4,287 |
| Home Furnishings | 26,151,424 | 1,830,608 | 74,718 | 5,230 |
| Store/Office Equip. | 19,865,024 | 1,390,558 | 66,217 | 4,635 |
| Music Instr./Suppl. | 5,406,304 | 378,443 | 27,032 | 1,892 |
| Radios,TV, etc. | 55,320,320 | 3,872,440 | 158,058 | 11,064 |
| Transportation | 199,516,000 | 13,966,000 | 580,565 | 40,639 |
| New/Used Vehicles | 69,830,600 | 4,888,100 | 174,577 | 12,220 |
| Tires, Batt., Prts. | 87,986,556 | 6,159,006 | 293,289 | 20,530 |
| Marine Sales/Rentals | 10,574,348 | 740,198 | 28,579 | 2,001 |
| Auto/Truck Rentals | 31,124,496 | 2,178,696 | 84,120 | 5,888 |
| Drugstore | 90,895,000 | 6,363,000 | 181,790 | 12,726 |
| Apparel | 104,087,000 | 7,286,000 | 323,889 | 22,672 |
| Men's and Boy's | 13,635,397 | 954,466 | 34,088 | 2,386 |
| Women's and Girl's | 34,556,884 | 2,418,952 | 93,397 | 6,538 |
| Infants | 2,185,827 | 153,006 | 7,286 | 510 |
| Family | 28,936,186 | 2,025,508 | 96,454 | 6,752 |
| Shoes | 21,754,183 | 1,522,774 | 79,106 | 5,537 |
| Jeans/Leather | 416,348 | 29,144 | 1,388 | 97 |
| Tailors/Uniforms | 1,873,566 | 131,148 | 9,368 | 656 |
| Others | 728,609 | 51,002 | 2,802 | 196 |
| Hardware | 189,211,000 | 13,245,000 | 804,331 | 56,304 |
| Hardware | 91,578,124 | 6,410,580 | 366,312 | 25,642 |
| Lawn/Seed/Fertil. | 3,595,009 | 251,655 | 10,574 | 740 |
| Others | 94,037,867 | 6,582,765 | 427,445 | 29,922 |
| Vehicle Service | 217,036,000 | 15,192,000 | 528,370 | 36,984 |
| Gasoline | 73,792,240 | 5,165,280 | 50,891 | 3,562 |
| Garage, Repairs | 143,243,760 | 10,026,720 | 477,479 | 33,422 |
| Miscellaneous | 162,828,000 | 11,398,000 | 628,891 | 44,023 |
| Advert. Signs, etc. | 2,605,248 | 182,368 | 9,474 | 663 |
| Barber/Beauty shop | 9,932,508 | 695,278 | 49,663 | 3,476 |
| Book Stores | 7,490,088 | 524,308 | 20,243 | 1,417 |
| Bowling | 3,745,044 | 262,154 | 37,450 | 2,622 |
| Cig./Tobacco Dealer | 1,139,796 | 79,786 | 2,280 | 160 |
| Dent./Physician Lab | 6,513,120 | 455,920 | 20,040 | 1,403 |
| Florist/Nurseries | 12,212,100 | 854,850 | 28,734 | 2,011 |
| Laundry, Dry Clean | 5,536,152 | 387,532 | 18,454 | 1,292 |
| Optical Goods/Opt. | 3,907,872 | 273,552 | 11,165 | 782 |
| Photo Sup./Photog. | 11,235,132 | 786,462 | 32,100 | 2,247 |

*Developed by The Chesapeake Group, Inc., 2011.

Growth in Calvert County is expected to result in supportable space growing by 425,000 square feet by 2020 as found in Table 28.

*Table 28 – Calvert Co. Residentially Generated Retail Goods & Services Sales and Space (Square Feet) and Change in Space Estimates by Category for 2011 to 2020**

| Category | Calvert Co Sales 2011 | Calvert Co Sales 2011-2020 | Calvert Co Space 2011 | Calvert Co Space 2011-2020 |
|---|---|---|---|---|
| Food | $273,296,000 | $32,795,000 | 510,395 | 61,246 |
| Eat/Drink | 102,829,000 | 12,339,000 | 257,073 | 30,848 |
| General Merchandise | 212,272,000 | 25,473,000 | 692,411 | 83,091 |
| Furniture | 76,123,000 | 9,135,000 | 234,472 | 28,138 |
| Transportation | 120,799,000 | 14,496,000 | 351,509 | 42,181 |
| Drugstore | 55,033,000 | 6,604,000 | 110,066 | 13,208 |
| Apparel | 63,020,000 | 7,562,000 | 196,101 | 23,531 |
| Hardware | 114,560,000 | 13,747,000 | 486,991 | 58,438 |
| Vehicle Service | 131,407,000 | 15,769,000 | 319,908 | 38,390 |
| Miscellaneous | 98,586,000 | 11,830,000 | 380,772 | 45,691 |
| TOTAL | $1,247,925,000 | $149,750,000 | 3,539,698 | 424,762 |

*Developed by The Chesapeake Group, Inc., 2011.

*Table 29 – Calvert Co. Residentially Generated Retail Goods & Services Sales and Space (Square Feet) and Change in Space Estimates by Sub-category for 2011 to 2020**

| Sub-category | Calvert Co Sales 2011 | Calvert Co Sales 2011-2020 | Calvert Co Space 2011 | Calvert Co Space 2011-2020 |
|---|---|---|---|---|
| Food | $273,296,000 | $32,795,000 | 510,395 | 61,246 |
| Supermarkets | 228,202,160 | 27,383,825 | 386,783 | 46,413 |
| Independents | 21,863,680 | 2,623,600 | 54,659 | 6,559 |
| Bakeries | 6,012,512 | 721,490 | 20,042 | 2,405 |
| Dairies | 3,552,848 | 426,335 | 9,869 | 1,184 |
| Others | 13,664,800 | 1,639,750 | 39,042 | 4,685 |
| Eat/Drink | 102,829,000 | 12,339,000 | 257,073 | 30,848 |
| General Merchandise | 212,272,000 | 25,473,000 | 692,411 | 83,091 |
| Dept. Stores | 75,144,288 | 9,017,442 | 250,481 | 30,058 |
| Variety Stores | 15,283,584 | 1,834,056 | 58,783 | 7,054 |
| Jewelry | 14,646,768 | 1,757,637 | 20,629 | 2,476 |
| Sporting Goods/Toys | 23,137,648 | 2,776,557 | 77,125 | 9,255 |
| Discount Dept. | 79,602,000 | 9,552,375 | 265,340 | 31,841 |
| Antiques, etc. | 1,061,360 | 127,365 | 4,615 | 554 |
| Others | 3,396,352 | 407,568 | 15,438 | 1,853 |
| Furniture | 76,123,000 | 9,135,000 | 234,472 | 28,138 |
| Furniture | 11,494,573 | 1,379,385 | 37,079 | 4,450 |
| Home Furnishings | 15,833,584 | 1,900,080 | 45,239 | 5,429 |
| Store/Office Equip. | 12,027,434 | 1,443,330 | 40,091 | 4,811 |
| Music Instr./Suppl. | 3,273,289 | 392,805 | 16,366 | 1,964 |
| Radios,TV, etc. | 33,494,120 | 4,019,400 | 95,697 | 11,484 |
| Transportation | 120,799,000 | 14,496,000 | 351,509 | 42,181 |
| New/Used Vehicles | 42,279,650 | 5,073,600 | 105,699 | 12,684 |
| Tires, Batt., Prts. | 53,272,359 | 6,392,736 | 177,575 | 21,309 |
| Marine Sales/Rentals | 6,402,347 | 768,288 | 17,304 | 2,076 |
| Auto/Truck Rentals | 18,844,644 | 2,261,376 | 50,931 | 6,112 |
| Drugstore | 55,033,000 | 6,604,000 | 110,066 | 13,208 |
| Apparel | 63,020,000 | 7,562,000 | 196,101 | 23,531 |
| Men's and Boy's | 8,255,620 | 990,622 | 20,639 | 2,477 |
| Women's and Girl's | 20,922,640 | 2,510,584 | 56,548 | 6,785 |
| Infants | 1,323,420 | 158,802 | 4,411 | 529 |
| Family | 17,519,560 | 2,102,236 | 58,399 | 7,007 |
| Shoes | 13,171,180 | 1,580,458 | 47,895 | 5,747 |
| Jeans/Leather | 252,080 | 30,248 | 840 | 101 |
| Tailors/Uniforms | 1,134,360 | 136,116 | 5,672 | 681 |
| Others | 441,140 | 52,934 | 1,697 | 204 |
| Hardware | 114,560,000 | 13,747,000 | 486,991 | 58,438 |
| Hardware | 55,447,040 | 6,653,548 | 221,788 | 26,614 |
| Lawn/Seed/Fertil. | 2,176,640 | 261,193 | 6,402 | 768 |
| Others | 56,936,320 | 6,832,259 | 258,801 | 31,056 |
| Vehicle Service | 131,407,000 | 15,769,000 | 319,908 | 38,390 |
| Gasoline | 44,678,380 | 5,361,460 | 30,813 | 3,698 |
| Garage, Repairs | 86,728,620 | 10,407,540 | 289,095 | 34,692 |
| Miscellaneous | 98,586,000 | 11,830,000 | 380,772 | 45,691 |
| Advert. Signs, etc. | 1,577,376 | 189,280 | 5,736 | 688 |
| Barber/Beauty shop | 6,013,746 | 721,630 | 30,069 | 3,608 |
| Book Stores | 4,534,956 | 544,180 | 12,257 | 1,471 |
| Bowling | 2,267,478 | 272,090 | 22,675 | 2,721 |
| Cig./Tobacco Dealer | 690,102 | 82,810 | 1,380 | 166 |
| Dent./Physician Lab | 3,943,440 | 473,200 | 12,134 | 1,456 |
| Florist/Nurseries | 7,393,950 | 887,250 | 17,398 | 2,088 |
| Laundry, Dry Clean | 3,351,924 | 402,220 | 11,173 | 1,341 |
| Optical Goods/Opt. | 2,366,064 | 283,920 | 6,760 | 811 |
| Photo Sup./Photog. | 6,802,434 | 816,270 | 19,436 | 2,332 |
| Printing | 7,985,466 | 958,230 | 29,038 | 3,484 |
| Paper/Paper Prod. | 4,239,198 | 508,690 | 21,196 | 2,543 |
| Gifts/Cards/Novel. | 14,097,798 | 1,691,690 | 46,993 | 5,639 |
| Newsstands | 788,688 | 94,640 | 1,577 | 189 |
| Video Rent/Sales | 12,816,180 | 1,537,900 | 64,081 | 7,690 |
| Others | 19,717,200 | 2,366,000 | 78,869 | 9,464 |
| TOTAL | $1,247,925,000 | $149,750,000 | 3,539,698 | 424,762 |

*Developed by The Chesapeake Group, Inc., 2011.

It is noted that the supportable space forecasts focus on opportunities created from anticipated growth. From a public policy perspective, growth opportunities are critical. By focusing on opportunities that result from growth and assuming reasonable competitive positions, no sales or revenues are theoretically extracted from existing operations to create or attract new business or businesses. Thus and theoretically, expansions or new businesses do not come at the expense of existing ones.

Total increases in supportable retail goods and related services space generated by the various components of the market are defined by adding the space generated by each component. Current demand is sufficient to support about 13.75 million square feet of space in 2011. This will increase in the lesser of the two alternatives by 1.58 million square feet by 2020. For Option B, the total increase is estimated at 1.7 million square feet by 2020.

*Table 30 - Total Square Feet of Supportable Space Generated by the Combined Markets for 2011 and the Change from 2011 to 2020 for Option A and B**

| Area | 2011 | Option A 2011-20 | Option B 2011-20 |
|---|---:|---:|---:|
| LPDD | 1,616,784 | 276,474 | 331,440 |
| Remainder St. Mary's Co. | 2,751,373 | 470,484 | 564,027 |
| Charles County | 5,846,295 | 409,243 | 409,243 |
| Calvert County | 3,539,698 | 424,762 | 424,762 |
| Total | 13,754,150 | 1,580,963 | 1,729,472 |

*Developed by The Chesapeake Group, Inc., 2011.

As has been previously noted, no matter how large, how "strong," or how dominant an area; no single area or market will attract all space from within its own markets. All residents have many choices and many make trips outside of their home or place of employment to visit friends or family or take vacations and spend dollars elsewhere through the course of any year. In addition, increasing leakage occurs as a result of rising internet sales.

Based on the available survey information conducted as part of the effort as well as the proportion of housing growth attributable over time to the Development District as well as other parts of St. Mary's County, the probability of attracting a share of the demand or market is estimated as follows.

- ✓ Between 50% and 70% of the LPDD growth could be captured in the Development District based on its historic share of growth in the county.
- ✓ About 50% of square footage associated with the growth elsewhere in St. Mary's County could be captured based on the concentration of employment in the LPDD and the proclivity of shopping near such employment.
- ✓ Roughly 10% to 15% of the growth in square footage in Calvert and Charles County can be captured.

Based on the above "penetration" levels, the LPDD has the potential to capture between 457,000 and 597,000 square feet of additional retail goods and related services space through 2020. This space will come from growth in market forces alone and should not come at the expense of any existing competitive operations.

The above are total figures. Increases in retail within the confines of the military base would lower the amount that could be located in the LPDD area "outside the fences."

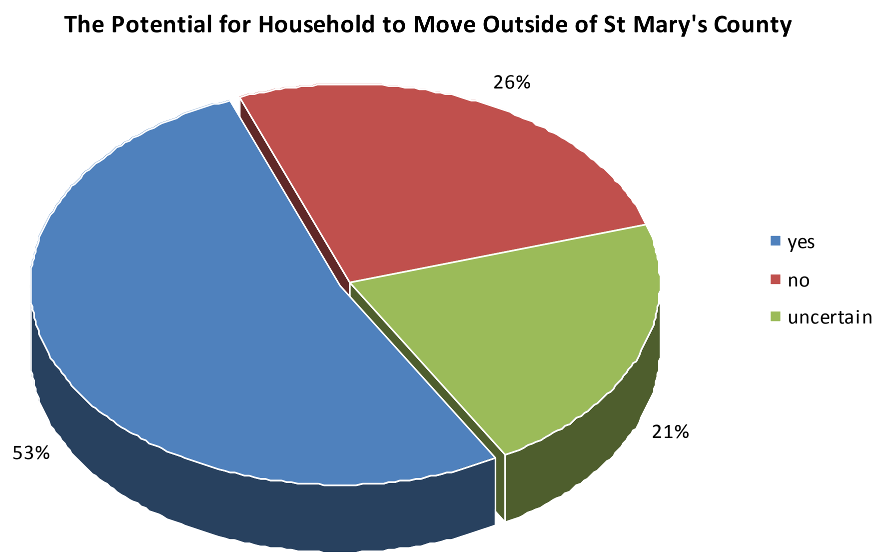
### *Generated Demand for Market Rate Housing*

Future growth in commercial demand is premised upon market growth. Demand for housing is directly related to continued investment in personnel and mission for the military, existing household movement, internal generation of new households, and in-migration of new households that do not currently reside in the general area.

The potential household and housing unit growth estimates have previously been noted. The survey of area residents that was conducted provides evidence of potential markets for new housing in general and specifically opportunities for housing in the established Lexington Park section of the Development District. The survey identified changes in household sizes and other conditions that will impact the market, current residency, potential distribution and form of housing in the next five to ten years. It is noted that:

- ✓ About one-half of the households indicated that they might seek other housing within the next five years as a result of numerous factors including changes in the household size, employment conditions, rental or housing markets conditions, and physical or fiscal conditions.

- ✓ About one-half of these households that indicated that they might seek other housing within five years feel that a move to another community outside of St. Mary's County was a possibility.



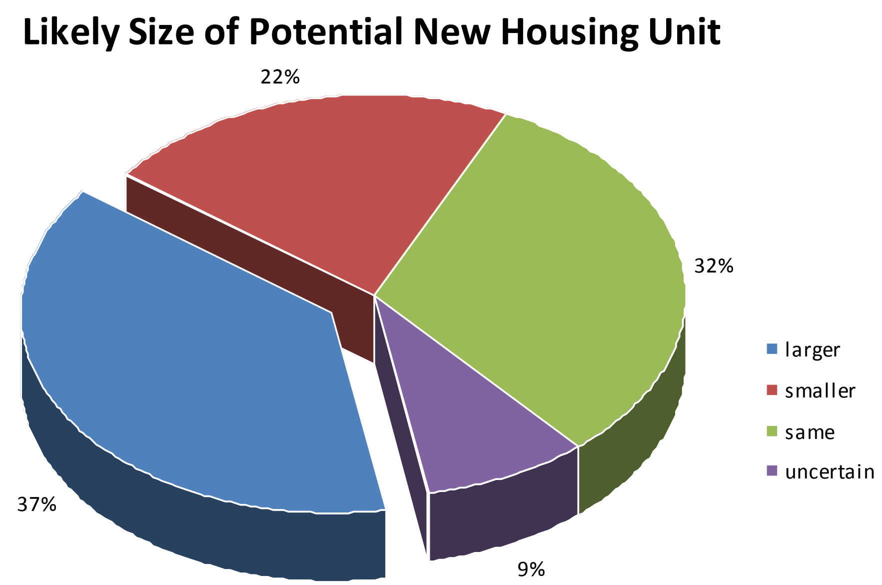

- ✓ Many feel the move may be to another state and is likely linked to changes related to employment.

*Table 31 - Potential Relocation Areas for Those that Anticipate a Potential Move**

| Potential Location for Move | % of those that might move |
|---|---|
| Move near family members or friends near where you live now | 5.8 |
| Move elsewhere in your current county | 30..2 |
| Move to another Southern Maryland County | 8.1 |
| Move elsewhere in Maryland | 6.5 |
| Move to another state | 48.1 |
| Move outside of the Continental US | 1.3 |

*Developed by The Chesapeake Group, Inc., 2011.

- ✓ 22% of the households expressing an interest in a change in residence indicated that the new unit would likely be smaller than their current residence; while 38% anticipate it potentially being larger.




- ✓ The most popular characteristics or amenities identified or sought by those expressing the potential to move in the next five years follow in order of their frequency:

  - Near shopping and dining
  - Have open space
  - Security/privacy
  - Quality construction
  - Near parks and recreation
  - Garages and basements
  - Youth activities
  - Walkable/bike-able neighborhood
  - Better schools
  - Waterfront

- ✓ As the population in the country ages, there is an increasing pattern of relocation associated with parents and their adult off-spring. Two-thirds of the households sampled have adult relatives 60 years of age or older for whom there may be future responsibilities as a result of aging and other factors. Less than 4% of the households have such a parent or relative living with them at this point in time.

- ✓ More than 85% of households with aging relatives for which they may have future responsibilities own their current housing units, with the majority owning them for more than 20 years. Thus, there is a high probability that the aging relatives have equity in their homes that could be used to purchase new units if moves were required.

*Table 31 – Type of Housing**

| Type of Unit | Percent |
|---|---|
| single-family detached house | 81.5 |
| townhouse or row house | 3.6 |
| duplex or side-by-side | 1.0 |
| mobile or manufactured home | 1.8 |
| single story apartment/condo complex | 2.3 |
| mid or high-rise apartment/condo complex | 6.7 |
| other structure | 3.1 |

*Developed by The Chesapeake Group, Inc., 2011.

- ✓ 60% of the responding households do not envision these relatives moving in the next five years. However, for those who do, about two in ten feel the move will be made to a locations in proximity to them.

- ✓ About one-half feels that their relatives would prefer independent senior housing, but about one-half feels some level of assisted living is possible or would be required. .

- ✓ 55% feel that the provision of amenities such as recreation, medical care, or nearby shopping would influence their relatives' choice of new housing.

The range of total housing unit growth in the LPDD between 2011 and 2020 is expected to be between 4,090 and 4,750 units as previously defined.

Based on the survey findings and the anticipated overall growth in housing, it is estimated that there is the potential for 240 to 450 of the market rate units to be in a quality non-traditional setting, such as in redeveloped "town centers" that might evolve in the "Lexington Park" section of the LPDD. Between 100 to 150 of these units could be "adult living" oriented. This would provide the opportunity for both new compatible development as well as reuse of portions of existing structures.

***Generated Demand for Additional Office Activity***

As previously defined and for at least the next ten years, the primary economic engine driving commercial and residential growth in the Development District will be Pax River and related contracting activity. Much of the growth in housing units anticipated as well as the retail growth result from a continuation of the facilities to expand employment. Most of the associated employment will take the form of office space for which the location could be either "within" or "outside" the fence.

In estimating the amount of office space generated, the following assumptions are made.

- ✓ Each office employee requires 250 gross square feet of space. (This includes not just the "office" of the person, but halls, elevator shafts, stairwells, etc.)

- ✓ Each new household will have an average of 1.2 people employed.

- ✓ The number of households added to the Development District from 2011 to 2030 could be between 8,180 and 9,600 units, yielding between 9,800 and 11,500 employees.

- ✓ The conservatively estimated average proportion of "office employment" of all employment associated with the new households is estimated to be between roughly 51% to 52%.

Based on the assumptions, it is estimated that office demand will grow from 2011 to 2030 by between 1.254 and 1.506 million square feet of space. Much of this space will be directly linked to the military and military contracting. The location of some or all of that space could be in rehabilitated structures as well as new structures.

## *R & D and Emerging Technology Assessment*

While there is a growing concentration of military and technology related research and development increasingly situated on the base or in very nearby locations and some of the technology has transfer potential for new product development which has already been addressed by the County; there are other niches that are not related to the current R & D activity for which there is substantial opportunity that can result in a total "new" direction. Pursuit of the activity has significant implications to the office space market for the community and expansion of educational opportunities in the area in the future. Most importantly, pursuit would allow the Development District and St. Mary's County to carve out a niche to recruit new major "players," including private companies, public entities and a range of institutions; and to develop expanded entrepreneurship. This R & D activity is generally related to agricultural products and the natural resources in the area which are abundant.

Numerous prospective research and development programs can be gleaned from agricultural products and the area's natural resources, including but not limited to bio-medical research, bio-fuel production, animal cognition and communications, DNA genome exploration, chemical defense weapons and environmental monitoring, and climate change and its impacts.

The following is a synopsis of prospective research studies and/or products which can be garnered from St. Mary's County's and the Lexington Park area's natural resources.

The abundance of St. Mary's County water bodies, including but not limited to, the Potomac, The Patuxent and St Mary's Rivers and Chesapeake Bay offer a wealth of bio diversity providing resources leading to potentially new pharmaceutical and medical advances; as well as electronics and nanoscale research; fresh/brackish water ecosystems, evaluation, monitoring and mitigation; and others.

Existing technology firms are clustered in and around Lexington Park. Major business parks are located at Lexington Park Corporate Center, Exploration, Expedition, Willows Run, Pine Hill and others can serve as a nucleus for the recruitment of additional research and development interests, institutions and university locations and expansions.

The categories offering significant economic development opportunities include but are not limited to:

1. **Tobacco** - In 2007, The 2007 agriculture census conducted by the Maryland Department of Planning reported St. Mary's County produced the majority of Maryland's tobacco (559,694 pounds, or 66.4%) on the majority of tobacco-producing land (292 acres, or 69.0% of the state total). Tobacco is being re-purposed for: plant-made pharmaceuticals including malaria vaccines, cholera vaccines, flu vaccine, antibiotics, cancer treatments, orthopedics, wound healing and

blood substitutes; bio-degradable plastics; phyto-remediation; and biodegradable solar storage cells. In addition, tobacco-made ant-bodies are in clinical trials to prevent tooth decay causing bacteria.

Transgenic tobacco and potato plants can accumulate high levels of cyanophycin, a possible source for poly-aspartate. This work opens the way to the future production of biodegradable plastics using a plant-based production system. Several problems need to be overcome first, such as growth retardation as a result of cyanophycin accumulating in the cytosol, and a co-production system needs to be developed for economical reasons.

Genetically engineered viruses injected into tobacco plants trigger the plants to grow solar cells. University of California Berkeley researchers used genetically engineered bacteria to produce the building blocks for artificial photovoltaic and photochemical cells. The technique could be more environmentally friendly than traditional methods of making solar cells and could lead to cheap, temporary and biodegradable solar cells.

Evolution has established exactly the right distances between chromophore to allow them to collect and use light from the sun with unparalleled efficiency. Researchers are trying to mimic these finely tuned systems using the tobacco mosaic virus, (TMV), an RNA virus that infects plants, especially tobacco and other members of the family Solanaceae, alarge and economically important family of herbs/shrubs/ trees often strongly scented and sometimes narcotic or poisonous.

Hebrew University of Jerusalem's Robert H. Smith Institute of Plant Sciences and Genetics in Agriculture has established the only laboratory in the world that has reported successful co-expression of all five essential genes in transgenic tobacco plants for the production of processed pro-collagen. CollPlant Ltd., a biotechnology company engaged in the development and marketing of collagen biomaterials for the wound care and orthopedic markets. It has been established based on patents and technology developed in the laboratory. CollPlant is a public company traded in "TASE," and the potential revenue for the Hebrew University from this invention is estimated to reach into the multi-million dollar range. The Faculty of Agriculture, Food and Environment succeeded in producing a replica of human collagen from tobacco plants, an achievement with tremendous commercial implications for use in a variety of human medical procedures. Commercially produced collagen (pro-collagen) is used in surgical implants and many wound healing devices in regenerative medicine. The current market for collagen-based medical devices in orthopedics and wound healing exceeds US $30 billion annually worldwide.

2. **Benthic Communities** - These include both animals and organisms, exist in all water bodies. They are currently being studied in ‘vertical zones” exploring how individual organisms, populations, and ecological communities develop over space and time. They are also a primary resource for anti-cancer drug development therapies. Diatoms, are benthic micro-algae, found in aquatic and semi-aquatic habitats, are of ecological importance, and an important part of the food web. They are a critical climate and environmental monitoring tool. They are also being used to create electronics and nanoscale research of photovoltaic cells.

Didymo Algae/Rock Snot is a Diatom. Diatoms are micro-algae characterized by their extraordinary cell walls, made of silica laid down in intricately patterned and perforated geometrical structures. Found in aquatic and semi-aquatic habitats diatoms are of ecological importance, an important part of the food web. Individuals or colonies of diatoms are generally free floating in the water column. These photosynthetic organisms are prolific producers, and one of the most important food sources for many aquatic animals. The Chesapeake and Coastal Bay Life report on diatoms was focused on those that live in Chesapeake Bay and its tributaries. More than 400 diatom species, primarily marine and estuarine taxa, were identified in the sediments.

3. **Crab Shells** - waste from the crabs is chitan, which is a by-product used for medical therapies, including but not limited to blocking tumor-related angiogenesis. Chitosan a product created from chitan is being developed as a drug delivery system, and used by the military for soldier's wound healing.

The blue crab in St. Mary's waters provides the multi-purpose crab shells containing natural chitan, a waste by-product converted into chitosan, which can be used for medical therapies, including but not limited to blocking tumor-related angiogenesis, an effective drug delivery system and a natural wound healing remedy.

Chitin is commercially extracted from crab shells, a waste by-product of picking/cleaning crabs. In a research project financially supported by the European Union, the CARAPAX project, researchers from Germany, France, Norway, and Greece teamed up to optimize the processes of chitin extraction and chitosan production so that chitosans, with specific and well known amounts of acetic acid attached to the sugar backbone, could be produced.

Using the extraneous crab shells to develop and exploit the economic and ecological potential of the biological raw material, these bio-compatible, bio-degradable, non-allergenic, non-toxic chitosans will be used for their ability to protect economically important crop plants from disease. The upgrading of bulk chitosan into pure, high added value specialty chitosans for consumer-safe, environment-friendly, cost-effective plant protection will add value and improve whole crop utilization for the crab fisheries, improving sustainability in agriculture, and improving the quality of life.

Unstoppable bleeding is one of the leading causes of death on battlefields however; soldiers in Iraq and Afghanistan have a way to reduce bleeding when they're wounded. In "War Bandages," ScienCentral News writes these new bandages contain chitosan molecules extracted from shrimp/crab shells. These positively charged chitosan molecules attract negatively charged red blood cells, stopping hemorrhage in one to five minutes. The Food and Drug Administration approved these bandages for human usage; however, they are exclusively sold to the Army, with a $90 price tag for a 4-inch-by-4-inch single bandage.

4. **Birds** – Species native to St. Mary's County include, but are not limited to:

- ✓ Chickadees, a species with a high functioning language-shaped brain, being used for research of bird/ human brain comparisons.
- ✓ The Dark-Eyed Junco who's declining population is believed to be due to the hemlock tree's diseases which are the natural habitat of the bird. Increasing evidence suggests climate change is affecting the breeding timing of birds, but there is less evidence to show how such changes affect the population dynamics of birds overall. Scientists have also observed that birds are breeding and laying their eggs earlier and migratory species have altered their wintering and/or critical stopover habitats.
- ✓ Corvids, which include Jays, Jackdaws and Crows, have been used to compare cognitive development with young children. Comparative cognition in animals, with an emphasis on naturalistic models of learning and cognition, has asked the question "are humans the only ones who remember unique, personal past experiences, or can animals do it, too?" Research using crows and several species of Jays (blue jays and scrub jays) has produced positive results that they in fact can see an action, process it and plan to prevent it in the future.

Given the frequency and severity of episodic memory (what, where and when) deficits in humans, it would be useful to have animal models of episodic memory to better understand and treat the loss of episodic memory in humans. Gaining a better understanding of episodic-like memory functions in animals creates the potential for more sophisticated models to determine the effectiveness of drug and behavioral treatments for episodic memory loss attributable to damage or disease. Animal models of episodic memory provide the best hope of developing and exploring treatments for people who have lost the ability to reminisce about their past and seem confined to live in a perpetual present.

5. **Pine trees** - St Mary's County's native pine trees include, but are not limited to the Eastern White Pine, Loblolly pines and on St. Mary's Christmas Tree Farms, the varieties include, but are not limited to the Caanan, Concolor, Douglas and Fraser Firs, Norway Spruce and White Pine. These ubiquitous trees have a variety of alternative benefits including using their cones to produce extract and chiral ionic liquids who's chemistries are applied as an adjuvant with cancer chemotherapies, to create natural chemical weapon defenses, a natural ingredient for phtyo-remediation or green chemistry and as a model for smart sports clothing.

6. **Local Produce** - Southern Maryland's local production and crops includes but is not limited to:

arugula
asparagus
apples - Fuji, Gala, Red/Yellow Delicious/Granny Smith/Stayman/Winesap
beets
lima/snap/string/wax beans
blackberries
blueberries
broccoli
buffalo
cabbage
cauliflower
sweet/sour cherries
chicken eggs
collard/cress/turnip/mustard greens
sweet/white/bi-color corn
cucumbers
eggplant
figs
flowers
gourds
grain
grapes
hay
honey
kale
lettuce
mesclun
mums
shitake mushrooms
nectarines
okra
onions
white/yellow peaches
peas
pears
plums
sweet/hot peppers
sweet/white/yellow/fingerling/purple/heirloom potatoes
sheep
sod
summer/winter squash
turnip roots
cantaloupe/honey dew/watermelons
cooking/jack-o-lantern pumpkins
raspberries
rhubarb
strawberries,
Christmas Trees, Douglas Fir, Fraser Fir
wines

These produce have many applications, including but not limited to research exploring:

- ✓ cancer,
- ✓ alzheimers,
- ✓ paralization,
- ✓ shingles therapy,
- ✓ natural gas storage,
- ✓ fetal prevention of asthma,
- ✓ gout treatment
- ✓ hydrogen generation alternative fuels

The anti-oxidants and flavonoids in the vegetables and fruits are used in the treatment/therapy of cancer and heart disease prevention. Licopene which offers prostate cancer prevention and prevention of neuro-degenerative diseases (NDD). These NDD include motor neuron diseases such as amyotrophic lateral sclerosis (ALS). Other ingredient found in both fruits and vegetables is polyphenol oxidase used to treat allergic responses and for therapeutic medicinal extract delivery. These extracts inhibit the growth of cancer cells, protecting the liver from the chemotherapy's toxic effects and increasing the healthy cell's regeneration following radiation.

Apitherapy is the science of using bee sting venom immunotherapy. Its uses include but are not limited to. stimulating the immune system to fight cancer. Also, the venom contains several biochemical or pharmacologically active substances, including at least the following: histamine, dopamine, melittin, apamin (mast cell destroyer - MCD), peptide, minimine, and the enzymes - phospholipase A, and hyaluronidase.

The venom causes the body to produce natural cortisone and with treatment has been known to restore paralyzed legs and open end fractures. It has also been used to normalize menstruation periods in women and increase sperm count in men. The venom has been effective in the treating of shingles (having an anti viral effect),and also in the remission of tumors of many different types of malignant diseases, including but not limited to, the treatment of rheumatoid arthritis, reducing calcification of arthritic areas; desensitization of hypersensitive individuals, reducing the growth of leukemic cells by calmodulin: phenothiazines and melittin inhibitors.

Researchers at the University of Missouri-Columbia and Midwest Research Institute in Kansas City have devised a way to use corncob waste creating "carbon briquettes." As opposed to conventional natural gas storage, which compresses to 3,600 psi pressure requiring bulky tanks with reduced driving range and frequent refueling trips; the briquettes store natural gas at 500 psi, pipeline pressure, providing design options for thin-wall fuel tanks to fit under vehicles, vs. a trunk or pickup bed.

Apple consumption may increase acetylcholine production in the brain neuro-transmitter, resulting in improved memory. Acetylcholine is a chemical released from nerve cells that transmit messages to other nerve cells. The role of acetylcholine in the brain is not a new area of research and its medication studies start with the premise that increasing the amount of acetylcholine in the brain can help to slow mental decline in people with Alzheimer's disease. Testing a similar hypothesis, the University of Massachusetts research team found that having animals consume antioxidant-rich apple juice had a comparable and beneficial effect.

Pumpkin Seeds contain chemical substances called cucurbitacins that can prevent the body from converting testosterone into a more potent form called dihydrotestostrerone (DHT). DHT is responsible for the development of many male gender characteristics including its accumulation in the prostate that can lead to an enlargement in size, a condition is common in men over 50 and by the age of 80, 9 of10 men will show symptoms. Pumpkin seed's healing properties have also been investigated with respect to arthritis. In animal studies, the addition of pumpkin seeds to the diet has compared favorably with use of the non-steroidal anti-inflammatory drug indomethacin in reducing inflammatory symptoms.

Engineers at Ohio State University found a way to turn discarded chicken eggshells into an alternative energy resource. The most effective carbon dioxide absorber ever tested, ground-up eggshells could be used in the water-gas-shift reaction. Calcium carbonate, a key eggshell ingredient, captures 78% of carbon dioxide by weight.

7. **Floriculture** – Floriculture or flower farming in St. Mary's County was the largest single agricultural product by sales volume for any jurisdiction in Maryland in 2007. This discipline includes the hybridizing to produce new varieties of flowers and plants, breeding increased color and bloom quantities, as well as disease protection.

US Department of Agriculture, Agricultural Research Service, U. S. National Arboretum, Floral and Nursery Plants Research Unit in Beltsville, Maryland has conducted projects for engineering resistance and disease management in ornamental crops. Viral diseases of ornamental plants cause major losses in productivity and quality. Host plant resistance offers an effective means of controlling plant diseases caused by viruses. It minimizes the necessity for the application of pesticides. However, there are many ornamentals in which no natural disease resistance is available. Genetic engineering allows the introduction of specific, and in some instances broad spectrum, disease resistance derived from other species, or even from the pathogen itself into plant genotypes that have been selected for desirable horticultural properties.

8. **Stink bugs** - The recent proliferation of the invasive species needs a method to at least manage, if not eradicate their damage to crops and nuisance to residents. The University of Maryland has developed some promising transgenic fungi therapies for the treatment of malaria which may also be applied to many other diseases as well as the stink bug. Other states are spending multiple thousands of dollars researching control and extinction methods.

The brown marmorated stink bug (Halyomorpha halys), a native of Asia, is emerging as a major nuisance to homeowners and a devastating pest to orchardists and potentially to soybean growers in Maryland. Damage to fruit and vegetable crops from stink bugs in Middle Atlantic states has reached critical levels, according to a government report. Farmers in Maryland, New Jersey, Pennsylvania and other states are battling a pest whose appetite has left dry boreholes in everything from apples and grapes to tomatoes and soybeans, all St. Mary's local produce.

Agriculture Department's Appalachian Fruit Research Station in Kearneysville, West Virginia is among three laboratories looking for a stink bug solution. The U.S. D. A. is spending $800,000 this fiscal year on stink bug research, double last year's budget, and an estimated seven more full-time researchers are needed, at a cost of about $3.5 million a year for salaries and research expenses.

The University of Maryland Extension with other research institutions are working to find solutions but there is no quick answer to control this new pest. In 2010, Maryland had significant damage to commercial growers.

The Pennsylvania Apple Marketing Board announced an aggressive stand against the Brown Marmorated Stink Bug providing $50,000 to fund a two-year research project through the entomology program at Penn State University's Fruit Research and Extension Center.

9. **Swine** - Swine includes both hogs and pigs which are being used in medical therapies including but not limited to transgenic human organ transplant units, membrane for osteoarthritis treatment, the mandibles for dental research, muscle tissues for regenerative medical therapies, and tendons are being used in ACL corrective knee operations . Lab-grown meats are being made from the pig's stem cells and could provide both a solution for world hunger as well as a tastier alternative to kelp for astronauts living in space. Swine gelatin is used in foods and has industrial uses for lighting equipment and glossy paper and playing card production.

Scientists in Melbourne, Australia, used a ventilator and pump to keep pig lungs_alive and "breathing" while human blood flowed in them, successfully creating a human transplant option.

Atazoa a UK company called has successfully created transgenic pig sperm. Human DNA is now added to the pigs as they are reared to reduce clotting and the number of lungs which are rejected. Atazoa moved its research to the United States and breed the pigs in Missouri, to produce a fully modified animal within the next year (2011 or 2012). They hope to begin clinical trials to demonstrate that the genetically engineered organs are safe for human transplant.

Gelatin, a protein produced by partial hydrolysis of collagen extracted from animal's boiled bones, connective tissues, organs and some intestines, has medical applications, including but not limited to: gelatin peptides to reinforce resistance of the stomach mucous tunic, decreasing the ulcer area by one-half: promoting general joint health and used as a biological substrate to culture adherent cells; and as an ingredient in implantable medical devices, like in some bone void fillers. Gelatin also constitutes the shells of pharmaceutical capsules which makes them easier to swallow;

Designer meat would theoretically be free of hormones, antibiotics, and the threat of mad cow disease or bird flu. Omega-3 fatty acids and vitamins could be blasted into the mixture or dispersed through veins. It may be possible to design a hamburger that prevents heart attacks. Several other groups in the U.S., Scandinavia and Japan are also researching ways to make meat in the laboratory, but the Dutch project is the most advanced.