



2012 Annual Growth Report



Harford County Government Department of Planning and Zoning

David R. Craig
Harford County Executive
Preserving Harford's Past; Promoting Harford's Future

Mary F. Chance
Director of Administration

C. Pete Gutwald
Director of Planning and Zoning
This document is available in alternative format upon request.

The 2012 Annual Growth Report

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EXECUTIVE SUMMARY

In accordance with the Harford County Adequate Public Facilities provisions (Section 267-126) of the Harford County Code, the Harford County Annual Growth Report must be updated annually to identify any facilities that are below the County's adopted minimum standards. This year's Annual Growth Report includes information and analysis regarding Public Schools, the Water and Sewerage System, and Road Intersections, and it addresses the requirements of the Smart Green and Growing legislative package adopted by the Maryland General Assembly in 2009.

This legislation requires local jurisdictions to provide an annual report on development activities and planning programs to ensure that these activities are being completed in a manner consistent with the visions established by the legislation. Every other year, since July 2010, local jurisdictions have been required to report on their Adequate Public Facilities ordinances and how these ordinances are influencing growth within the designated Priority Funding Areas.

Harford County Development Activity:

During calendar year 2012, Harford County approved 31 subdivisions, 28 of which were residential. The residential subdivisions resulted in the creation of 217 lots, of which 176 were located within the County's designated growth areas. This is consistent with the Land Use Element Plan's goal of directing 80% of all new growth to the Development Envelope.

There were a total of 1,757 building permits issued by Harford County in 2012, of which 594 were for new residential structures. The municipalities of Aberdeen, Bel Air, and Havre de Grace issued 145 new residential permits collectively. Approximately 80% of the new construction residential permits were issued for projects within the designated growth areas.

The Master Plan and Land Use Element Plan was adopted in early 2012.

Harford County Public Schools:

Effective July 1, 2013 the adopted adequacy standards for the Public School system are:

- Elementary Schools - 110 percent of rated capacity within 3 years.
- Secondary Schools - 110 percent of rated capacity within 3 years.

Based on these standards, preliminary plans for subdivisions of greater than five lots cannot be approved in elementary and secondary school districts where the full-time enrollment currently exceeds, or is projected to exceed, 110 percent of the capacity within three years. Currently 32 of 33 elementary schools and all 17 middle and high schools meet adequacy standards. The following school listed below does not meet the adequacy standards established:

| Elementary Schools | Year | Actual / Projected Students | Utilization Rate |
|--------------------|-----------|-----------------------------|------------------|
| Hickory | 2015/2016 | 724 | 110.53% |

Currently, major subdivisions in the following attendance area will not be approved, but will continue to be reviewed and placed on a waiting list until capacity is available.

Harford County Water and Sewerage System:

Based on the Adequate Public Facilities Ordinance and the Harford County Water and Sewer Design Guidelines, preliminary plan approvals, public works utility agreements, and building permits in areas served by public water and sewer systems can be approved only where adequate capacity exists in the water and wastewater treatment facilities and in distribution and collection lines serving the area.

The County water system's average daily usage in 2012 was 12.5 MGD (Million Gallons Per Day), with a peak day demand of 16.1 MGD. With the completion of the Abingdon Water Treatment Plant (AWTP) in May of 2012, the total permitted maximum daily water treatment capacity is approximately 30.4 MGD. The County has a maximum day drought demand of 18.7 MGD. Currently it is estimated that there is a need for 5.4 MGD for approved preliminary plans. An additional 6.3 MGD is reserved for planned development in the County's defined service area and 4.0 MGD for internal water treatment use. With the further expansion of the AWTP to 25 MGD the County's water service area is adequately planned for.

The Maryland Department of the Environment is currently reviewing the *Water Supply Capacity Management Plan* submitted by the Maryland American Water Company, a private water company which serves the Town of Bel Air and parts of the Greater Bel Air area. Currently, all new preliminary plans, recorded plats, and building permits in the Maryland American service area are on hold until the conclusions of this plan review are received.

The total average sewage flows, system capacity, and average reserve for the four service areas within Harford County are listed below.

| Harford County 2012 Sewerage Capacity by Service Area in Million Gallons Per Day (MGD) | | | |
|---|------------|-----------------|-----------------|
| Service Area | Total Flow | System Capacity | Average Reserve |
| Harford County-Sod Run | 11.7 | 20.0 | 8.3 |
| Joppatowne | 0.79 | 0.95 | 0.16 |
| Spring Meadows | 0.01 | 0.01 | 0.00 |
| Whiteford-Cardiff | 0.027 | 0.12 | 0.15 |

The determination of water or sewerage capacity in a specific area of the County can be found in the "Water and Sewer 2012 Adequate Public Facilities Report" with appropriate guidance from the Department of Public Works. A determination of adequacy is made prior to preliminary plan approval, site plan approval, public works utility agreement execution, and building permit approval.

The water system is evaluated for adequacy for providing flows during the maximum day demand, while maintaining system pressures required to deliver fire flows. Water booster stations and/or transmission lines, service mains, storage tanks, and water treatment plants are evaluated. Areas within the Harford County Development Envelope that exist at the highest elevations of the water pressure zones are evaluated for adequacy on a case-by-case analysis. The anticipated growth within the County is accommodated through a combination of developer funded projects and the County Capital Improvement Program.

The sewerage system is evaluated to accommodate expected peak flows through collectors, interceptors, pump stations, force mains, and wastewater treatment plants. Should a problem exist in a collector sewer, it is the developer's responsibility to resolve the inadequacy. Inadequacies at major pumping stations and wastewater treatment plants are resolved by programmed capital projects or by projects cooperatively supported by a group of developers.

Harford County Road System:

To determine existing service levels at intersections and the impact of additional traffic, a Traffic Impact Analysis (TIA) must be submitted for developments that generate 249 trips per day at the time of preliminary/site plan review. Proposed developments located within the Chesapeake Science and Security Corridor will not be required to submit a Traffic Impact Analysis unless the proposed use will generate 1,500 trips per day at the time of preliminary/site plan review.

The adequacy standards for road intersections within the study area are based on the property's location within or outside the Development Envelope and are defined as follows:

Inside the Development Envelopment: Level of Service (LOS) D.

If existing LOS is E or F at an intersection within the Development Envelope, then the developer must mitigate the development's new trips.

Outside the Development Envelope: Level of Service (LOS) C.

If the existing LOS is D or lower, then the developer must mitigate the development's new trips.

A developer is required to provide improvements at intersections within the study area where trips generated by the development lower the LOS below the adopted standards. These improvements must bring the LOS to the adopted standard. If the TIA determines that the existing level of service does not meet the adopted standards, then the subdivider

must mitigate the impact of the trips generated from the development site. The study area is defined for areas within and outside the development envelope as:

Inside the Development Envelope: The TIA study area shall include all the existing County and State roads from point of entrance of site to the second intersection of an arterial roadway or higher functional classification road, in all directions. Developments which generate 1,500 or more trips per day may be required to expand the study area.

Outside the Development Envelope: The TIA study area shall include all existing County and State roads from point of entrance to first intersection of a major collector or higher functional classification road, in all directions.

The determination of existing and projected Levels of Service is calculated in the Traffic Impact Analysis, which is performed by the developer and reviewed by the Departments of Planning and Zoning and Public Works.

In addition to the review of individual Traffic Impact Analyses, the Departments of Planning and Zoning and Public Works have studied a number of major roads and intersections to identify existing conditions. This list of roads represents a cross section of key intersections located inside, outside, and on the fringes of the Development Envelope.

There are two signalized intersections and ten unsignalized intersections with one or more movements operating at a LOS E (or D outside Development Envelope) or lower during peak hours. The evaluation of the LOS is determined by performance of the intersection during one hour peak traffic periods in the a.m. and/or p.m. The following intersections contain one or more movements that operate at an unacceptable LOS:

1. Maryland 22 and Thomas Run Road / Schucks Road
2. Maryland 715 and Old Philadelphia Road
3. Business US 1 and Henderson Road
4. Maryland 147 and Connolly Road
5. Maryland 23 and Grafton Shop Road
6. Tollgate Road and MacPhail Road
7. US 1 and Reckord Road
8. Maryland 7 and Brass Mill Road
9. Maryland 7 and Joppa Farm Road
10. Maryland 155 and Earlton Road
11. Maryland 543 and Henderson Road
12. Maryland 22 and Aldino-Stepney Road

Developments that impact these intersections will be required to mitigate their impacts to the intersection.

INTRODUCTION

In 2009, the Maryland General Assembly enacted the Smart, Green, and Growing legislative package. This legislation was designed to protect Maryland's environment and natural resources and to promote sustainable growth. As a result of Senate Bill 280 and House Bill 295, Harford County is required to submit an annual report to the Maryland Department of Planning. This report must provide information on development activity and planning programs to ensure that these activities are being completed in a manner consistent with the State's Smart, Green, and Growing goals and visions. The aforementioned bills require that reporting be based on designated Priority Funding Areas (See Appendix A).

Starting in July 2010, Harford County was required to submit a report to the Maryland Department of Planning on its Adequate Public Facilities Ordinances (APFOs) and any development restrictions within Priority Funding Areas that are the result of these ordinances. This report must be submitted by July 1st and then every two years thereafter; however, Harford County includes this information annually. As a result of these regulations Harford County's Annual Growth Report has been expanded to include the Smart, Green, and Growing requirements.

The 2012 Annual Growth Report is an ongoing analysis of growth trends, facility capacity, and service performance. The report also contains information on updates to the County's Development Regulations and updates of all planning documents as required by the State. It addresses State requirements regarding planning consistency and opportunities for improving the planning process.

This report is prepared by the Department of Planning and Zoning in coordination with the Department of Public Works - Water and Sewer and Engineering Divisions and the Board of Education. This report provides information on the present development activity as well as past trends and future projections for Harford County and the region.

The information in this report will be used by public officials, citizens, and private developers for various purposes:

- to assess facility adequacy during the development review and approval process;
- to assess facility capacity in regard to zoning reclassification decisions;
- to support the evaluation of priority projects in the annual Capital Budget review; and
- to identify critical deficiencies which require prompt attention by the County.

GROWTH TRENDS

Population Projection Methodology

Yearly estimates of population and households in Harford County for the Annual Growth Report are determined from the 2010 Census. This data is adjusted to reflect a number of variables including building permits, average household size, and household vacancy rates. The five and ten year projections are based on these estimates, with a growth factor applied to determine the rate and quantity of growth in the County. This growth factor is based on the number of building permits anticipated to be issued each year. It is important to note that projections are based on past trends and land availability. The population projections for the five other jurisdictions in the Baltimore Region are based on an interpolation of the Baltimore Metropolitan Council's Round 7C population forecast.

The population/household projections are compared to the Residential Vacant Land Inventory and reallocated based on the availability of residential capacity. A component of the residential land inventory is the number of net planned units remaining. The total planned units remaining is calculated by subtracting the total new residential building permits issued from the total preliminary plan approved units. Subdivision plans with six or more units remaining and approved municipality plans are included. There are 8,158 planned units remaining as of December 31, 2012.

The 2010 Census information at the census block level is utilized for specific analysis of each facility regarding area maps and demographic information. Building permits are identified by facility areas and by subdivision name and/or address for each year. This provides the needed information on growth trends by facility service area.

Regional Data

In accordance with the Harford County Adequate Public Facilities provisions of the Harford County Code, the annual growth report must include data on growth that has occurred during the previous year. Tables 1- 5 address the requirements specified in §267-126A(2).

Harford County Development Activity

As required by §3.09 of Article 66B, enacted by Senate Bill 280 and House Bill 295 (2009), Harford County is also required to prepare an annual report on development activity and planning programs as a means of ensuring consistency with the State's Smart, Green, and Growing goals and visions. The bills require that reporting be based on designated Priority Funding Areas.

Table 1
Harford County - Baltimore Region
Residential Permit Activity
2008 - 2012

| Jurisdiction | 2008 | 2009 | 2010 | 2011 | 2012 | Total | Percentage of Baltimore Region |
|---------------------|--------------|--------------|--------------|--------------|--------------|---------------|---------------------------------------|
| Harford County | 788 | 511 | 587 | 548 | 594 | 3,028 | 11.4% |
| Anne Arundel County | 1,851 | 988 | 1,180 | 1,720 | 1,657 | 7,396 | 27.9% |
| Baltimore City | 449 | 1,144 | 438 | 380 | 642 | 3,053 | 11.5% |
| Baltimore County | 1,143 | 1,529 | 1,021 | 1,230 | 976 | 5,899 | 22.3% |
| Carroll County | 310 | 198 | 180 | 190 | 315 | 1,193 | 4.5% |
| Howard County | 1,390 | 1,054 | 1,473 | 1,421 | 591 | 5,929 | 22.4% |
| Total | 5,931 | 5,424 | 4,879 | 5,489 | 4,775 | 26,498 | 100.00% |

Source: Baltimore Metropolitan Council, May 2013

Note: Includes municipal permit activity.

Table 2
Harford County - Baltimore Region
Population and Household Projections
2012 - 2022

| Jurisdiction | 2012 Population | 2012 Households | 2017 Population | 2017 Households | 2022 Population | 2022 Households |
|---------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| Harford County | 250,416 | 93,491 | 262,680 | 100,480 | 272,260 | 105,720 |
| Anne Arundel County | 541,194 | 203,987 | 550,540 | 213,660 | 560,200 | 220,200 |
| Baltimore City | 642,537 | 260,622 | 678,380 | 278,900 | 686,360 | 283,840 |
| Baltimore County | 816,857 | 323,989 | 839,560 | 337,980 | 851,000 | 344,320 |
| Carroll County | 173,720 | 62,152 | 187,080 | 67,260 | 195,380 | 71,120 |
| Howard County | 291,771 | 109,929 | 304,160 | 120,860 | 314,480 | 127,440 |
| Total | 2,716,495 | 1,054,169 | 2,822,400 | 1,119,140 | 2,879,680 | 1,152,640 |

Source: Baltimore Metropolitan Council, Round 7C Forecast.

Table 3
Harford County - Baltimore Region
Employment Projections
2012 - 2022

| Jurisdiction | 2012 Employment | 2017 Employment | 2022 Employment |
|---------------------|------------------------|------------------------|------------------------|
| Harford County | 134,740 | 145,860 | 154,000 |
| Anne Arundel County | 348,640 | 372,100 | 393,120 |
| Baltimore City | 455,340 | 465,540 | 474,740 |
| Baltimore County | 518,380 | 535,600 | 547,760 |
| Carroll County | 85,300 | 87,400 | 88,700 |
| Howard County | 203,040 | 221,060 | 237,900 |
| Total | 1,745,440 | 1,827,560 | 1,896,220 |

Source: Baltimore Metropolitan Council, Round 7C Forecast.

Table 4
Harford County
Non-Residential Permit Activity
New Permits Valued \$50,000 and Over

| Permit Type | 2008 | | 2009 | | 2010 | | 2011 | | 2012 | |
|---------------|-------------------|------------------|-------------------|----------------|-------------------|----------------|-------------------|----------------|-------------------|----------------|
| | Number of Permits | Square Footage | Number of Permits | Square Footage | Number of Permits | Square Footage | Number of Permits | Square Footage | Number of Permits | Square Footage |
| Commercial | 22 | 436,289 | 18 | 376,243 | 13 | 469,461 | 11 | 78,641 | 24 | 576,114 |
| Industrial | 7 | 438,550 | 1 | 564 | 2 | 59,232 | 2 | 14,450 | 0 | 0 |
| Institutional | 20 | 497,894 | 10 | 151,389 | 1 | 42,144 | 5 | 30,779 | 5 | 71,992 |
| Utilities | 8 | 65,064 | 2 | 4,856 | 2 | 8,640 | 10 | 61,027 | 1 | 2,674 |
| Other | 1 | 13,000 | 0 | 0 | 4 | 11,991 | 3 | 3,130 | 2 | 16,911 |
| Total | 58 | 1,450,797 | 31 | 533,052 | 22 | 591,468 | 31 | 188,027 | 32 | 667,691 |

Source: Baltimore Metropolitan Council, May 2013.

Table 5
Harford County
Non-Residential Permit Activity
Additions, Alterations, and Repairs Valued \$50,000 and Over

| Permit Type | 2008 | | 2009 | | 2010 | | 2011 | | 2012 | |
|---------------|-------------------|----------------|-------------------|----------------|-------------------|----------------|-------------------|----------------|-------------------|----------------|
| | Number of Permits | Square Footage |
| Commercial | 35 | NA | 16 | NA | 24 | NA | 56 | NA | 50 | NA |
| Industrial | 5 | NA | 3 | NA | 2 | NA | 7 | NA | 1 | NA |
| Institutional | 20 | NA | 16 | NA | 14 | NA | 20 | NA | 26 | NA |
| Utilities | 1 | NA | 3 | NA | 3 | NA | 7 | NA | 5 | NA |
| Total | 61 | NA | 38 | NA | 43 | NA | 90 | NA | 82 | NA |

NA: Data Not Available

Source: Baltimore Metropolitan Council, May 2013.

New Subdivisions

In 2012, Harford County approved 31 subdivisions, of which 28 were for residential plans and three were for non-residential plans, involving a total of 526 acres. The residential subdivisions resulted in the creation of 217 lots involving approximately 470 acres (See Appendix A). While six of the subdivisions occurred within the County's designated Priority Funding Area, they yielded 176 lots or 80% of the new lots approved. This percentage is consistent with the 2012 Land Use Element Plan's intent of directing at least 80% of all new growth to designated growth areas. The data reflects no changes in development patterns.

The remaining 22 residential subdivisions, located outside of the designated growth area, created 41 lots. Of these, 82% were two lots or less (14 single-lot subdivisions and four two-lot subdivisions). For the non-residential plans, all three were located within the Priority Funding Area. A map of all the approved subdivisions is provided in Appendix A.

New Building Permits Issued

A total of 1,757 building permits were issued by Harford County in 2012, of which 594 were for new residential structures. This is down from 1,808 in 2011. This number includes residential, non-residential, and accessory structure permits. The municipalities of Aberdeen, Bel Air, and Havre de Grace issued 145 of the new residential permits collectively. Approximately 80% of the 594 new residential permits were located within the County's designated growth area. A total of 88 non-residential permits were also issued. Of these, the largest numbers of permits issued were for industrial (44) with 19 being for storage/warehousing, and eight for modular/industrialized structures. The remaining 1,075 non-residential permits were for a variety of commercial and industrial uses; permits were issued for accessory structures such as sheds, swimming pools, garages, and other miscellaneous uses. Harford County maintains a monthly data report for building permits.

Development Capacity

The Department of Planning and Zoning has updated the inventory of residentially zoned land in the Development Envelope. This inventory provides a total residential land capacity and includes vacant undeveloped land, preliminary plan approvals, vacant land capacity in the municipalities, and potential redevelopment/infill capacity. Based on this update, there is an estimated capacity of 20,603 units in the development envelope.

Zoning Map Amendment(s)

For 2012, there was one zoning map amendment to report. 2A Newport Drive, a 1.217 acre parcel was rezoned from VR to CI on November 20, 2012. See Appendix B for information regarding this rezoning.

PLANNING DOCUMENT UPDATES

This section addresses State reporting requirements regarding Code amendments and new or updated comprehensive plans and plan elements. During 2012, Harford County enacted four amendments to its Development Regulations, which were comprehensively revised in 2008. Harford County adopted its update of the Master Plan and Land Use Element Plan, and continued working on an update to the Land Preservation, Parks, and Recreation Plan (LPPRP) and the development of a Bicycle and Pedestrian Master Plan. Details are provided below.

Zoning Code Amendments

In 2012, three bills were enacted that resulted in changes to the County's Zoning Code; one bill amended the Subdivision Regulations. A list of the amendments is provided in Appendix C. Bill 12-07 provided that certain temporary uses would be allowed for a maximum of 45 calendar days, and it addressed hours of operation and information regarding emergency personnel. Bill 12-24 amended the B3 zoning classification to permit personal care boarding homes, and Bill 12-44 amended the definition of commercial vehicles and clarified the use of these vehicles in agricultural and residential districts. It also clarified the use of commercial vehicles by hawkers and peddlers. The County's Subdivision Regulations were amended by Bill 12-50, which added a definition of major subdivision for the purposes of the Sustainable Growth and Agricultural Preservation Act (SB 236).

Comprehensive Plan and Element Plan Updates

The 2012 Master Plan and Land Use Element Plan were adopted on March 20, 2012 and incorporated the requirements of the Smart, Green, and Growing legislative package adopted by the Maryland General Assembly in 2009. The County's Water and Sewer Master Plan was updated in the spring and fall as required.

The Department of Parks and Recreation continued work on their update to the 2005 Land Preservation, Parks, and Recreation Plan. A public meeting on the draft plan was conducted in February 2013 and the plan was adopted in the spring of 2013. The County's Bicycle and Pedestrian Master Plan was developed in 2012. A draft plan was made available for public review in January 2013 with a public workshop also being held that month. The plan was adopted by the County Council in March 2013.

Senate Bill 236 – Sustainable Growth and Agricultural Preservation Act

In response to Senate Bill 236, Harford County administratively adopted a countywide Tier Map. Developed in coordination with the municipalities, the map and all required information were submitted to the Maryland Department of Planning in December 2012. As noted above, a definition for major subdivisions as it relates to SB236 was adopted by the County Council in December 2012.

ADEQUATE PUBLIC FACILITIES

The County's Annual Growth Report must be updated annually to identify any facilities that are below the County's adopted minimum standards. This year's Annual Growth Report includes information and analysis regarding Public Schools, the Water and Sewerage System, and Road Intersections.

This report also addresses State reporting requirements for Adequate Public Facilities Ordinances (APFO) including reporting requirements for roads, transportation facilities and schools as they relate to development patterns. Since July 1, 2010, local jurisdictions have been required to submit an APFO report to the Maryland Department of Planning with future reports being due every two years thereafter. In the report, Harford County must identify any restrictions that occur within a Priority Funding Area as a result of APFO restrictions, and the report must address how the restrictions will be resolved.

Public Schools

To assess current and future adequacy of the public school facilities, the capacities of existing schools, school utilization and future populations are analyzed. The data in this report regarding the public school system are aggregated by the elementary/middle/high school districts, and include school enrollments, County-rated capacities for each school facility, utilization of each school facility, and three-year projected school enrollments (See Tables 6, 7, and 8). Modified school enrollment projections are included and take into account planned units remaining and projected units from vacant residential zoned land (See Tables 9 and 10). In addition, development information such as building permits issued by dwelling type (See Tables 11, 12, and 13) and population and household estimates (See Tables 14, 15, and 16) are included in this report. School maps and pupil yield factors by dwelling unit type are included in Appendix D and E, respectively.

Analysis

Each school facility has been analyzed in terms of past growth trends, current conditions, and future enrollment projections. The information is based on factual data and is aggregated by current school districts. Based on the Adequate Public Facilities provision of the County Code (Section 267-126), the level of service standard for Public Schools are:

- Elementary – 110 percent of rated capacity within 3 years
- Secondary – 110 percent of rated capacity within 3 years

Elementary Schools

Under current law, preliminary plans for subdivisions of greater than five lots cannot be approved in elementary school districts where the full-time enrollment currently exceeds, or is projected to exceed, 110 percent of the capacity within three years. Currently, 32 of 33 elementary schools meet adequacy standards. Currently, major subdivisions in the following attendance area will not be approved, but will continue to be reviewed and placed on a waiting list until capacity is available.

| Elementary Schools | Year | Actual / Projected Students | Utilization Rate |
|---------------------------|-------------|------------------------------------|-------------------------|
| Hickory | 2015/2016 | 724 | 110.53% |

Secondary Schools

Under current law, preliminary plans for subdivisions of greater than five lots cannot be approved in secondary school districts where the full-time enrollment currently exceeds, or is projected to exceed, 110 percent of the capacity within three years. Currently, all 17 middle and high schools meet adequacy standards.

School Enrollment Projection Methodology

The methodology for projecting students utilizes historical data for live births and the number of children enrolled in public schools. Using these data, a series of ratios that reflect grade cohort survival are developed. These ratios include consideration of a number of factors:

1. Births in a given year which affect subsequent kindergarten and first grade enrollments.
2. Net migration of school age children.
3. Net transfer of children between public and private schools.
4. Non-promotion of children to the next grade level.
5. Dropouts in the later years of secondary school.
6. Shifts between regular grade and upgraded groups other than special education.

This technique of establishing a ratio is used for each successive grade. For example, a ratio is developed between the number of children actually in first grade in 2000 and the number in second grade the following year. The ratio, therefore, represents the number of first graders who advance to second grade. If significant variations exist (such as a rapid increase in home building), then factors such as pupil yields for subdivision activity and development trends must be measured.

In order to ensure accurate projections, development monitoring is a key activity because housing expansion periods have a direct impact on school enrollments. A primary means of calculating projected student enrollment due to a housing expansion period is by using pupil yield factors for new developments.

Pupil yield factors are determined by researching the number of students from a particular community/subdivision based on the attendance area where the students reside. By dividing the number of students accounted for by the number of dwelling units, a pupil generation factor is determined. It is important to note that different pupil yield factors are generated depending on housing type (single family, townhouse, apartment, etc.) and

school level (elementary, middle, and high). Surveys of sample subdivisions to assess an accurate yield factor are completed on a regular basis. (See Appendix E)

Modified School Enrollment Methodology

Utilizing our regional cooperative forecast methodology, a projection of housing units was determined for each school district. It is imperative to note that these projections are constrained by Countywide estimates. The number and type of units were based on the existing zoning. After the number and type of units were determined and projected by year, a pupil yield factor was applied to determine the total number of new pupils by school district.

The methodology for determining a growth factor included a multi-step process. The process included utilization of the existing grade cohort succession methodology and the pupil yield factor. A factor was applied to the existing grade cohort succession ratio per school if the pupil yield factor identified an increase in the average number of students. In order to maintain a consistent application, all calculations were based on the Harford County Public School system's definition of "unadjusted" enrollment projections. No assumptions were made in terms of school capacities or utilization of existing facilities.

Table 6
Harford County Elementary Schools
Utilization Chart
2012

| Elementary School | State-Rated Capacity | Actual | | Projected | | | | | |
|-------------------------|-------------------------|---------------|------------|---------------|------------|---------------|------------|---------------|----------------|
| | | 2012 - 2013 | | 2013 - 2014 | | 2014 - 2015 | | 2015 - 2016 | |
| | | ENROLL | % UTIL. |
| Abingdon | 864 | 882 | 102% | 843 | 98% | 843 | 98% | 841 | 97% |
| Bakerfield | 500 | 409 | 82% | 417 | 83% | 425 | 85% | 433 | 87% |
| Bel Air | 500 | 484 | 97% | 488 | 98% | 491 | 98% | 495 | 99% |
| Church Creek | 793 | 745 | 94% | 768 | 97% | 793 | 100% | 818 | 103% |
| Churchville | 388 | 395 | 102% | 405 | 104% | 415 | 107% | 425 | 109.5% |
| Darlington | 192 | 115 | 60% | 112 | 58% | 110 | 57% | 107 | 56% |
| Deerfield | 816 | 793 | 97% | 766 | 94% | 769 | 94% | 771 | 94% |
| Dublin | 295 | 299 | 101% | 302 | 102% | 304 | 103% | 307 | 104% |
| Edgewood | 511 | 426 | 83% | 422 | 83% | 417 | 82% | 413 | 81% |
| Emmorton | 549 | 505 | 92% | 509 | 93% | 513 | 93% | 517 | 94% |
| Forest Hill | 581 | 507 | 87% | 490 | 84% | 474 | 82% | 458 | 79% |
| Forest Lakes | 546 | 483 | 88% | 474 | 87% | 465 | 85% | 457 | 84% |
| Fountain Green | 571 | 513 | 90% | 483 | 85% | 454 | 80% | 427 | 75% |
| G. Lisby at Hillsdale | 455 | 434 | 95% | 449 | 99% | 464 | 102% | 480 | 105% |
| Hall's Cross Roads | 562 | 463 | 82% | 474 | 84% | 486 | 86% | 498 | 89% |
| Havre de Grace | 566 | 421 | 74% | 430 | 76% | 438 | 77% | 447 | 79% |
| Hickory | 655 | 681 | 104% | 695 | 106% | 709 | 108% | 724 | 110.53% |
| Homestead/Wakefield | 907 | 897 | 99% | 903 | 100% | 909 | 100% | 914 | 101% |
| Jarrettsville | 548 | 480 | 88% | 480 | 88% | 481 | 88% | 481 | 88% |
| Joppatowne | 653 | 629 | 96% | 583 | 89% | 578 | 89% | 574 | 88% |
| Magnolia | 518 | 470 | 91% | 491 | 95% | 513 | 99% | 536 | 103% |
| Meadowvale | 568 | 535 | 94% | 527 | 93% | 518 | 91% | 510 | 90% |
| Norrisville | 252 | 186 | 74% | 177 | 70% | 169 | 67% | 162 | 64% |
| North Bend | 500 | 378 | 76% | 379 | 76% | 380 | 76% | 380 | 76% |
| North Harford | 500 | 432 | 86% | 419 | 84% | 407 | 81% | 395 | 79% |
| Prospect Mill | 680 | 612 | 90% | 590 | 87% | 569 | 84% | 549 | 81% |
| Red Pump | 696 | 669 | 96% | 670 | 96% | 670 | 96% | 671 | 96% |
| Ring Factory | 548 | 549 | 100% | 547 | 100% | 545 | 99% | 542 | 99% |
| Riverside | 522 | 505 | 97% | 464 | 89% | 446 | 85% | 429 | 82% |
| Roye-Williams | 683 | 474 | 69% | 457 | 67% | 440 | 64% | 425 | 62% |
| Wm. Paca / Old Post Rd. | 954 | 766 | 80% | 929 | 97% | 962 | 101% | 997 | 105% |
| Wm. S. James | 522 | 451 | 86% | 455 | 87% | 432 | 83% | 410 | 79% |
| Youth's Benefit | 958 | 973 | 102% | 958 | 100% | 944 | 99% | 929 | 97% |
| TOTAL | 19,353 | 17,561 | 91% | 17,557 | 91% | 17,534 | 91% | 17,523 | 91% |

Table 7

**Harford County Middle Schools
Utilization Chart
2012**

| Middle School | State-Rated Capacity | Actual | | Projected | | | | | |
|--------------------------------|-------------------------|-------------|-------|-------------|-------|-------------|-------|-------------|-------|
| | | 2012 - 2013 | | 2013 - 2014 | | 2014 - 2015 | | 2015 - 2016 | |
| | | ENROLL | %UTIL | ENROLL | %UTIL | ENROLL | %UTIL | ENROLL | %UTIL |
| Aberdeen | 1,444 | 1,034 | 72% | 1,014 | 70% | 994 | 69% | 974 | 67% |
| Bel Air | 1,318 | 1,271 | 96% | 1,277 | 97% | 1,282 | 97% | 1,288 | 98% |
| Edgewood | 1,370 | 1,046 | 76% | 1,051 | 77% | 1,056 | 77% | 1,061 | 77% |
| Fallston | 1,105 | 879 | 80% | 873 | 79% | 867 | 78% | 862 | 78% |
| Havre de Grace | 775 | 532 | 69% | 514 | 66% | 496 | 64% | 480 | 62% |
| Magnolia | 1,073 | 688 | 64% | 666 | 62% | 645 | 60% | 624 | 58% |
| North Harford | 1,243 | 974 | 78% | 938 | 75% | 903 | 73% | 869 | 70% |
| Patterson Mill | 711 | 700 | 98% | 685 | 96% | 671 | 94% | 657 | 92% |
| Southampton | 1,540 | 1,235 | 80% | 1,221 | 79% | 1,207 | 78% | 1,193 | 77% |
| Alternative Education/RAACS | 50 | 13 | | | | | | | |
| Total | 10,629 | 8,372 | 79% | 8,238 | 78% | 8,121 | 77% | 8,007 | 76% |

Table 8
Harford County High Schools
Utilization Chart
2012

| High School | State-Rated Capacity | Actual | | Projected | | | | | |
|--------------------------|-------------------------|-------------|-------|-------------|-------|-------------|-------|-------------|-------|
| | | 2012 - 2013 | | 2013 - 2014 | | 2014 - 2015 | | 2015 - 2016 | |
| | | ENROLL | %UTIL | ENROLL | %UTIL | ENROLL | %UTIL | ENROLL | %UTIL |
| Aberdeen | 1,679 | 1,411 | 84% | 1,394 | 83% | 1,377 | 82% | 1,360 | 81% |
| Bel Air | 1,668 | 1,647 | 99% | 1,699 | 102% | 1,753 | 105% | 1,809 | 108% |
| C. Milton Wright | 1,678 | 1,494 | 89% | 1,463 | 87% | 1,433 | 85% | 1,404 | 84% |
| Edgewood | 1,743 | 1,236 | 71% | 1,251 | 72% | 1,265 | 73% | 1,280 | 73% |
| Fallston | 1,529 | 1,064 | 70% | 1,020 | 67% | 978 | 64% | 938 | 61% |
| Harford Technical | 920 | 1,010 | 110% | 1,005 | 109% | 999 | 109% | 994 | 108% |
| Havre de Grace | 850 | 674 | 79% | 643 | 76% | 614 | 72% | 587 | 69% |
| Joppatowne | 1,126 | 840 | 75% | 806 | 72% | 773 | 69% | 742 | 66% |
| North Harford | 1,603 | 1,420 | 89% | 1,430 | 89% | 1,439 | 90% | 1,449 | 90% |
| Patterson Mill | 924 | 941 | 102% | 939 | 102% | 937 | 101% | 935 | 101% |
| Alternative Education | 200 | 73 | | | | | | | |
| Total | 13,920 | 11,810 | 85% | 11,650 | 85% | 11,570 | 84% | 11,497 | 84% |

Table 9

**Harford County
Modified Elementary School Enrollment Projections**

| School District | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|-------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| ABINGDON | 882 | 843 | 843 | 841 | 906 | 906 | 907 | 907 |
| modified | 882 | 843 | 843 | 911 | 914 | 918 | 921 | 924 |
| BAKERSFIELD | 409 | 417 | 425 | 433 | 442 | 442 | 442 | 442 |
| modified | 409 | 417 | 425 | 446 | 458 | 470 | 483 | 496 |
| BEL AIR | 484 | 488 | 491 | 495 | 498 | 499 | 499 | 499 |
| modified | 484 | 488 | 491 | 500 | 507 | 513 | 519 | 525 |
| CHURCH CREEK | 745 | 768 | 793 | 818 | 843 | 844 | 844 | 845 |
| modified | 745 | 768 | 793 | 845 | 875 | 906 | 938 | 971 |
| CHURCHVILLE | 395 | 405 | 415 | 425 | 436 | 436 | 436 | 437 |
| modified | 395 | 405 | 415 | 431 | 436 | 441 | 447 | 453 |
| DARLINGTON | 115 | 112 | 110 | 107 | 104 | 104 | 104 | 104 |
| modified | 115 | 112 | 110 | 109 | 111 | 113 | 115 | 118 |
| DEERFIELD | 793 | 766 | 769 | 771 | 936 | 936 | 937 | 937 |
| modified | 793 | 766 | 769 | 952 | 970 | 990 | 1,009 | 1,028 |
| DUBLIN | 299 | 302 | 304 | 307 | 309 | 310 | 310 | 310 |
| modified | 299 | 302 | 304 | 309 | 313 | 316 | 319 | 322 |
| EDGEWOOD | 426 | 422 | 417 | 413 | 409 | 409 | 409 | 409 |
| modified | 426 | 422 | 417 | 414 | 415 | 416 | 417 | 418 |
| EMMORTON | 505 | 509 | 513 | 517 | 521 | 521 | 522 | 522 |
| modified | 505 | 509 | 513 | 528 | 539 | 551 | 563 | 575 |
| FOREST HILL | 507 | 490 | 474 | 458 | 443 | 443 | 444 | 444 |
| modified | 507 | 490 | 474 | 461 | 463 | 466 | 468 | 470 |
| FOREST LAKES | 483 | 474 | 465 | 457 | 448 | 449 | 449 | 449 |
| modified | 483 | 474 | 465 | 456 | 457 | 457 | 457 | 457 |
| FOUNTAIN GREEN | 513 | 483 | 454 | 427 | 402 | 402 | 402 | 402 |
| modified | 513 | 483 | 454 | 428 | 430 | 431 | 432 | 433 |
| G. LISBY AT HILLSDALE | 434 | 449 | 464 | 480 | 496 | 496 | 496 | 496 |
| modified | 434 | 449 | 464 | 481 | 483 | 485 | 487 | 489 |
| HALLS CROSS ROADS | 463 | 474 | 486 | 498 | 511 | 511 | 511 | 511 |
| modified | 463 | 474 | 486 | 503 | 507 | 510 | 514 | 519 |
| HAVRE DE GRACE | 421 | 430 | 438 | 447 | 456 | 457 | 457 | 457 |
| modified | 421 | 430 | 438 | 472 | 500 | 529 | 559 | 591 |
| HICKORY | 681 | 695 | 709 | 724 | 739 | 739 | 740 | 740 |
| modified | 681 | 695 | 709 | 738 | 753 | 770 | 785 | 801 |
| HOMESTEAD/WAKEFIELD | 897 | 903 | 909 | 914 | 920 | 921 | 921 | 922 |
| modified | 897 | 903 | 909 | 933 | 952 | 971 | 991 | 1,011 |
| JARRETTSVILLE | 480 | 480 | 481 | 481 | 482 | 482 | 482 | 483 |
| modified | 480 | 480 | 481 | 489 | 496 | 503 | 512 | 520 |
| JOPPATOWNE | 629 | 583 | 578 | 574 | 672 | 673 | 673 | 673 |
| modified | 629 | 583 | 578 | 687 | 698 | 708 | 719 | 730 |
| MAGNOLIA | 470 | 491 | 513 | 536 | 528 | 528 | 528 | 529 |
| modified | 470 | 491 | 513 | 511 | 517 | 523 | 530 | 537 |
| MEADOWVALE | 535 | 527 | 518 | 510 | 502 | 502 | 503 | 503 |
| modified | 535 | 527 | 518 | 514 | 518 | 523 | 527 | 532 |
| NORRISVILLE | 186 | 177 | 169 | 162 | 154 | 154 | 154 | 154 |
| modified | 186 | 177 | 169 | 164 | 167 | 170 | 174 | 177 |
| NORTH BEND | 378 | 379 | 380 | 380 | 381 | 381 | 382 | 382 |
| modified | 378 | 379 | 380 | 386 | 391 | 397 | 402 | 408 |
| NORTH HARFORD | 432 | 419 | 407 | 395 | 383 | 383 | 383 | 383 |
| modified | 432 | 419 | 407 | 402 | 409 | 417 | 424 | 432 |
| PROSPECT MILL | 612 | 590 | 569 | 549 | 530 | 530 | 530 | 531 |
| modified | 612 | 590 | 569 | 553 | 558 | 562 | 567 | 572 |
| RED PUMP | 669 | 670 | 670 | 671 | 672 | 672 | 672 | 673 |
| modified | 669 | 670 | 670 | 683 | 695 | 708 | 721 | 735 |
| RING FACTORY | 549 | 547 | 545 | 542 | 540 | 540 | 541 | 541 |
| modified | 549 | 547 | 545 | 550 | 557 | 565 | 573 | 580 |
| RIVERSIDE | 505 | 464 | 446 | 429 | 489 | 489 | 489 | 489 |
| modified | 505 | 464 | 446 | 514 | 519 | 524 | 529 | 535 |
| ROYE-WILLIAMS | 474 | 457 | 440 | 425 | 409 | 410 | 410 | 410 |
| modified | 474 | 457 | 440 | 423 | 424 | 424 | 424 | 424 |
| WM PACA/OLD POST RD | 766 | 929 | 962 | 997 | 759 | 760 | 760 | 761 |
| modified | 766 | 929 | 962 | 752 | 772 | 793 | 815 | 837 |
| W.S. JAMES | 451 | 455 | 432 | 410 | 416 | 416 | 417 | 417 |
| modified | 451 | 455 | 432 | 439 | 440 | 443 | 444 | 445 |
| YOUTHS BENEFIT | 973 | 958 | 944 | 929 | 915 | 916 | 916 | 917 |
| modified | 973 | 958 | 944 | 943 | 957 | 971 | 986 | 1,001 |
| Total | 17,561 | 17,557 | 17,533 | 17,523 | 17,651 | 17,661 | 17,670 | 17,679 |
| Total - modified | 17,561 | 17,557 | 17,533 | 17,925 | 18,201 | 18,482 | 18,770 | 19,064 |

Table 10
Harford County
Modified Secondary School Enrollment Projections

Middle School

| School District | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|-------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Aberdeen | 1,034 | 1,014 | 994 | 974 | 955 | 955 | 956 | 956 |
| modified | 1,034 | 1,014 | 994 | 1,007 | 1,021 | 1,055 | 1,091 | 1,128 |
| Bel Air | 1,271 | 1,277 | 1,282 | 1,288 | 1,294 | 1,295 | 1,295 | 1,296 |
| modified | 1,271 | 1,277 | 1,282 | 1,302 | 1,322 | 1,337 | 1,352 | 1,367 |
| Edgewood | 1,046 | 1,051 | 1,056 | 1,061 | 1,066 | 1,067 | 1,067 | 1,068 |
| modified | 1,046 | 1,051 | 1,056 | 1,083 | 1,110 | 1,134 | 1,158 | 1,183 |
| Fallston | 879 | 873 | 867 | 862 | 856 | 856 | 857 | 857 |
| modified | 879 | 873 | 867 | 872 | 876 | 886 | 898 | 908 |
| Havre de Grace | 532 | 514 | 496 | 480 | 463 | 463 | 464 | 464 |
| modified | 532 | 514 | 496 | 496 | 494 | 510 | 528 | 545 |
| Magnolia | 688 | 666 | 645 | 624 | 604 | 605 | 605 | 605 |
| modified | 688 | 666 | 645 | 632 | 620 | 630 | 638 | 646 |
| North Harford | 974 | 938 | 903 | 869 | 837 | 837 | 838 | 838 |
| modified | 974 | 938 | 903 | 884 | 866 | 880 | 896 | 911 |
| Patterson Mill | 700 | 685 | 671 | 657 | 643 | 643 | 643 | 644 |
| modified | 700 | 685 | 671 | 664 | 657 | 664 | 672 | 680 |
| Southampton | 1,235 | 1,221 | 1,207 | 1,193 | 1,179 | 1,179 | 1,180 | 1,180 |
| modified | 1,235 | 1,221 | 1,207 | 1,204 | 1,201 | 1,212 | 1,225 | 1,236 |
| Total | 8,372 | 8,239 | 8,121 | 8,007 | 7,897 | 7,901 | 7,905 | 7,909 |
| Total - modified | 8,432 | 8,312 | 8,194 | 8,216 | 8,241 | 8,383 | 8,529 | 8,677 |

High School

| School District | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|-------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Aberdeen | 1,411 | 1,394 | 1,377 | 1,360 | 1,344 | 1,345 | 1,345 | 1,346 |
| modified | 1,411 | 1,394 | 1,377 | 1,399 | 1,424 | 1,466 | 1,508 | 1,553 |
| Bel Air | 1,647 | 1,699 | 1,753 | 1,809 | 1,866 | 1,867 | 1,868 | 1,869 |
| modified | 1,647 | 1,699 | 1,753 | 1,826 | 1,901 | 1,919 | 1,938 | 1,956 |
| C. Milton Wright | 1,494 | 1,463 | 1,433 | 1,404 | 1,375 | 1,375 | 1,376 | 1,377 |
| modified | 1,494 | 1,463 | 1,433 | 1,417 | 1,401 | 1,414 | 1,428 | 1,443 |
| Edgewood | 1,236 | 1,251 | 1,265 | 1,280 | 1,295 | 1,296 | 1,296 | 1,297 |
| modified | 1,236 | 1,251 | 1,265 | 1,306 | 1,348 | 1,376 | 1,404 | 1,433 |
| Fallston | 1,064 | 1,020 | 978 | 938 | 899 | 899 | 900 | 900 |
| modified | 1,064 | 1,020 | 978 | 950 | 923 | 935 | 948 | 961 |
| Havre de Grace | 674 | 643 | 614 | 587 | 560 | 560 | 561 | 561 |
| modified | 674 | 643 | 614 | 605 | 596 | 615 | 636 | 656 |
| Joppatowne | 840 | 806 | 773 | 742 | 712 | 712 | 713 | 713 |
| modified | 840 | 806 | 773 | 752 | 732 | 742 | 753 | 764 |
| North Harford | 1,420 | 1,430 | 1,439 | 1,449 | 1,459 | 1,460 | 1,461 | 1,461 |
| modified | 1,420 | 1,430 | 1,439 | 1,466 | 1,493 | 1,512 | 1,530 | 1,548 |
| Patterson Mill | 941 | 939 | 937 | 935 | 933 | 933 | 934 | 934 |
| modified | 941 | 939 | 937 | 944 | 951 | 960 | 971 | 980 |
| Total | 10,727 | 10,645 | 10,570 | 10,503 | 10,442 | 10,447 | 10,453 | 10,457 |
| Total - modified | 10,727 | 10,645 | 10,570 | 10,665 | 10,768 | 10,939 | 11,117 | 11,295 |

Table 11
Harford County Residential Building Permit Activity
by Elementary School District
2008 - 2012

| SCHOOL | 2008 | | | | | 2009 | | | | | 2010 | | | | | 2011 | | | | | 2012 | | | | |
|-----------------------|------|-----|--------|----|-------|------|-----|--------|----|-------|------|-----|--------|----|-------|------|-----|--------|----|-------|------|-----|--------|----|-------|
| | SF | TH | APT/CO | MH | TOTAL | SF | TH | APT/CO | MH | TOTAL | SF | TH | APT/CO | MH | TOTAL | SF | TH | APT/CO | MH | TOTAL | SF | TH | APT/CO | MH | TOTAL |
| Abingdon | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| Bakerfield | 2 | 2 | 0 | 0 | 4 | 3 | 0 | 0 | 0 | 3 | 3 | 4 | 0 | 0 | 7 | 14 | 0 | 0 | 0 | 14 | 29 | 0 | 0 | 0 | 29 |
| Bel Air | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 1 | 1 | 12 | 0 | 0 | 13 | 1 | 24 | 0 | 0 | 25 | 0 | 0 | 0 | 0 | 0 |
| Church Creek | 1 | 79 | 14 | 0 | 94 | 1 | 62 | 0 | 0 | 63 | 0 | 51 | 0 | 0 | 51 | 2 | 12 | 212 | 0 | 226 | 0 | 6 | 0 | 0 | 6 |
| Churchville | 7 | 0 | 0 | 0 | 7 | 7 | 0 | 0 | 0 | 7 | 5 | 0 | 0 | 1 | 6 | 4 | 0 | 0 | 0 | 4 | 5 | 0 | 0 | 0 | 5 |
| Darlington | 3 | 0 | 0 | 1 | 4 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 |
| Deerfield | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Dublin | 7 | 0 | 0 | 0 | 7 | 2 | 0 | 0 | 2 | 4 | 2 | 0 | 0 | 1 | 3 | 5 | 0 | 0 | 1 | 6 | 12 | 0 | 0 | 1 | 13 |
| Edgewood | 0 | 4 | 0 | 0 | 4 | 0 | 4 | 0 | 0 | 4 | 0 | 8 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Emmorton | 13 | 6 | 28 | 0 | 47 | 3 | 30 | 0 | 0 | 33 | 2 | 94 | 0 | 0 | 96 | 1 | 36 | 12 | 0 | 49 | 0 | 36 | 24 | 0 | 60 |
| Forest Hill | 1 | 12 | 0 | 0 | 13 | 1 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 2 | 4 | 0 | 0 | 1 | 5 |
| Forest Lakes | 1 | 0 | 0 | 0 | 1 | 3 | 0 | 0 | 0 | 3 | 2 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 2 | 5 | 0 | 0 | 0 | 5 |
| Fountain Green | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 4 | 3 | 0 | 0 | 0 | 3 |
| G. Lisby at Hillsdale | 9 | 0 | 0 | 0 | 9 | 2 | 0 | 0 | 0 | 2 | 2 | 18 | 0 | 0 | 20 | 20 | 28 | 0 | 0 | 48 | 17 | 33 | 0 | 0 | 50 |
| Hall's Cross Roads | 1 | 17 | 0 | 0 | 18 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22 | 0 | 0 | 22 |
| Havre de Grace | 22 | 44 | 0 | 0 | 66 | 55 | 40 | 0 | 0 | 95 | 71 | 50 | 0 | 0 | 121 | 33 | 39 | 0 | 0 | 72 | 33 | 36 | 0 | 0 | 69 |
| Hickory | 2 | 0 | 0 | 0 | 2 | 3 | 0 | 0 | 0 | 3 | 15 | 0 | 0 | 0 | 15 | 2 | 0 | 0 | 0 | 2 | 29 | 27 | 21 | 0 | 77 |
| Homestead/Wakefield | 15 | 4 | 0 | 0 | 19 | 17 | 0 | 0 | 0 | 17 | 15 | 0 | 0 | 0 | 15 | 35 | 10 | 0 | 0 | 45 | 35 | 0 | 0 | 0 | 35 |
| Jarrettsville | 14 | 0 | 0 | 0 | 14 | 14 | 0 | 0 | 0 | 14 | 10 | 0 | 0 | 0 | 10 | 5 | 0 | 0 | 0 | 5 | 17 | 0 | 0 | 0 | 17 |
| Joppatowne | 9 | 0 | 0 | 0 | 9 | 3 | 0 | 84 | 0 | 87 | 6 | 0 | 0 | 0 | 6 | 5 | 0 | 0 | 0 | 5 | 3 | 0 | 0 | 0 | 3 |
| Magnolia | 3 | 16 | 0 | 0 | 19 | 0 | 0 | 0 | 0 | 0 | 2 | 22 | 0 | 0 | 24 | 1 | 20 | 0 | 0 | 21 | 1 | 45 | 0 | 0 | 46 |
| Meadowvale | 1 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| Norrisville | 2 | 0 | 0 | 1 | 3 | 3 | 0 | 0 | 0 | 3 | 2 | 0 | 0 | 0 | 2 | 3 | 0 | 0 | 0 | 3 | 6 | 0 | 0 | 2 | 8 |
| North Bend | 6 | 0 | 0 | 0 | 6 | 8 | 0 | 0 | 0 | 8 | 10 | 0 | 0 | 1 | 11 | 4 | 0 | 0 | 0 | 4 | 22 | 0 | 0 | 1 | 23 |
| North Harford | 12 | 0 | 0 | 3 | 15 | 10 | 0 | 0 | 1 | 11 | 12 | 0 | 0 | 0 | 12 | 11 | 0 | 0 | 1 | 12 | 9 | 0 | 0 | 0 | 9 |
| Prospect Mill | 0 | 0 | 30 | 0 | 30 | 0 | 0 | 16 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 |
| Red Pump | 7 | 51 | 0 | 0 | 58 | 11 | 71 | 28 | 0 | 110 | 6 | 28 | 28 | 0 | 62 | 16 | 0 | 14 | 0 | 30 | 19 | 0 | 0 | 0 | 19 |
| Ring Factory | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 3 | 0 | 0 | 0 | 3 | 5 | 0 | 0 | 0 | 5 | 1 | 0 | 0 | 0 | 1 |
| Riverside | 1 | 0 | 0 | 0 | 1 | 25 | 0 | 0 | 0 | 25 | 20 | 0 | 0 | 0 | 20 | 17 | 0 | 0 | 0 | 17 | 8 | 0 | 0 | 0 | 8 |
| Roye-Williams | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 5 | 0 | 0 | 4 | 9 | 7 | 0 | 0 | 0 | 7 |
| Wm. Paca/Old Post Rd | 19 | 22 | 0 | 0 | 41 | 24 | 26 | 0 | 0 | 50 | 10 | 0 | 0 | 0 | 10 | 23 | 10 | 0 | 0 | 33 | 16 | 6 | 0 | 0 | 22 |
| Wm. S. James | 1 | 6 | 0 | 0 | 7 | 0 | 3 | 0 | 0 | 3 | 1 | 3 | 0 | 0 | 4 | 1 | 10 | 0 | 0 | 11 | 2 | 7 | 0 | 0 | 9 |
| Youth's Benefit | 8 | 0 | 0 | 1 | 9 | 16 | 0 | 0 | 0 | 16 | 12 | 5 | 0 | 0 | 17 | 11 | 13 | 0 | 0 | 24 | 16 | 23 | 1 | 0 | 40 |
| TOTAL | 170 | 263 | 72 | 6 | 511 | 220 | 236 | 128 | 3 | 587 | 218 | 295 | 28 | 4 | 545 | 234 | 202 | 238 | 7 | 681 | 302 | 241 | 46 | 5 | 594 |

* Note: Permit totals revised to reflect cancelled permits.

Source: Harford County Dept. of Planning & Zoning, May 2013

Table 12
Harford County Residential Building Permit Activity
by Middle School District
2008 - 2012

| SCHOOL | 2008 | | | | | 2009 | | | | | 2010 | | | | | 2011 | | | | | 2012 | | | | |
|----------------|---|-----|------------|----|-------|---|-----|------------|----|-------|---|-----|------------|----|-------|---|-----|------------|----|-------|---|-----|------------|----|-------|
| | BUILDING PERMITS ISSUED BY DWELLING TYPE | | | | | BUILDING PERMITS ISSUED BY DWELLING TYPE | | | | | BUILDING PERMITS ISSUED BY DWELLING TYPE | | | | | BUILDING PERMITS ISSUED BY DWELLING TYPE | | | | | BUILDING PERMITS ISSUED BY DWELLING TYPE | | | | |
| | SF | TH | APT/ CO | MH | TOTAL | SF | TH | APT/ CO | MH | TOTAL | SF | TH | APT/ CO | MH | TOTAL | SF | TH | APT/ CO | MH | TOTAL | SF | TH | APT/ CO | MH | TOTAL |
| Aberdeen | 14 | 117 | 14 | 0 | 145 | 8 | 62 | 0 | 0 | 70 | 5 | 88 | 0 | 1 | 94 | 41 | 56 | 212 | 4 | 313 | 53 | 78 | 0 | 0 | 131 |
| Bel Air | 14 | 45 | 28 | 0 | 87 | 10 | 87 | 28 | 0 | 125 | 26 | 134 | 28 | 0 | 188 | 27 | 63 | 26 | 0 | 116 | 59 | 36 | 45 | 0 | 140 |
| Edgewood | 21 | 26 | 0 | 0 | 47 | 25 | 30 | 0 | 0 | 55 | 13 | 8 | 0 | 0 | 21 | 23 | 10 | 0 | 0 | 33 | 17 | 6 | 0 | 0 | 23 |
| Fallston | 27 | 12 | 0 | 1 | 40 | 38 | 14 | 0 | 0 | 52 | 21 | 5 | 0 | 0 | 26 | 30 | 13 | 0 | 0 | 43 | 35 | 23 | 1 | 1 | 60 |
| Havre de Grace | 26 | 25 | 0 | 1 | 52 | 60 | 40 | 0 | 0 | 100 | 75 | 35 | 0 | 0 | 110 | 35 | 23 | 0 | 1 | 59 | 37 | 19 | 0 | 0 | 56 |
| Magnolia | 13 | 16 | 0 | 0 | 29 | 28 | 0 | 84 | 0 | 112 | 28 | 22 | 0 | 0 | 50 | 20 | 20 | 0 | 0 | 40 | 10 | 45 | 0 | 0 | 55 |
| North Harford | 32 | 12 | 0 | 4 | 48 | 29 | 0 | 0 | 3 | 32 | 33 | 0 | 0 | 1 | 34 | 27 | 0 | 0 | 2 | 29 | 60 | 0 | 0 | 3 | 63 |
| Patterson Mill | 15 | 10 | 0 | 0 | 25 | 15 | 3 | 0 | 0 | 18 | 14 | 3 | 0 | 0 | 17 | 22 | 17 | 0 | 0 | 39 | 21 | 7 | 0 | 0 | 28 |
| Southampton | 8 | 0 | 30 | 0 | 38 | 7 | 0 | 16 | 0 | 23 | 3 | 0 | 0 | 2 | 5 | 9 | 0 | 0 | 0 | 9 | 10 | 27 | 0 | 1 | 38 |
| TOTAL | 170 | 263 | 72 | 6 | 511 | 220 | 236 | 128 | 3 | 587 | 218 | 295 | 28 | 4 | 545 | 234 | 202 | 238 | 7 | 681 | 302 | 241 | 46 | 5 | 594 |

Note: Permits totals revised for cancelled permits.

Source: Harford County Dept. of Planning & Zoning, May 2013

KEY:

SF = Single Family Dwelling
 TH = Townhouse
 APT/CO = Apartment/Condominium
 MH = Mobile Home

Table 13
Harford County Residential Building Permit Activity
by High School District
2008-2012

| SCHOOL | 2008 | | | | | 2009 | | | | | 2010 | | | | | 2011 | | | | | 2012 | | | | |
|----------------|---|-----|------------|----|-------|---|-----|------------|----|-------|---|-----|------------|----|-------|---|-----|------------|----|-------|---|-----|------------|----|-------|
| | BUILDING PERMITS ISSUED BY DWELLING TYPE | | | | | BUILDING PERMITS ISSUED BY DWELLING TYPE | | | | | BUILDING PERMITS ISSUED BY DWELLING TYPE | | | | | BUILDING PERMITS ISSUED BY DWELLING TYPE | | | | | BUILDING PERMITS ISSUED BY DWELLING TYPE | | | | |
| | SF | TH | APT/ CO | MH | TOTAL | SF | TH | APT/ CO | MH | TOTAL | SF | TH | APT/ CO | MH | TOTAL | SF | TH | APT/ CO | MH | TOTAL | SF | TH | APT/ CO | MH | TOTAL |
| Aberdeen | 14 | 117 | 14 | 0 | 145 | 8 | 62 | 0 | 0 | 70 | 5 | 88 | 0 | 1 | 94 | 41 | 56 | 212 | 4 | 313 | 53 | 78 | 0 | 0 | 131 |
| Bel Air | 14 | 45 | 28 | 0 | 87 | 10 | 87 | 28 | 0 | 125 | 26 | 134 | 28 | 0 | 188 | 27 | 63 | 26 | 0 | 116 | 59 | 36 | 45 | 0 | 140 |
| C.M. Wright | 8 | 0 | 30 | 0 | 38 | 7 | 0 | 16 | 0 | 23 | 3 | 0 | 0 | 2 | 5 | 9 | 0 | 0 | 0 | 9 | 10 | 27 | 0 | 1 | 38 |
| Edgewood | 21 | 26 | 0 | 0 | 47 | 25 | 30 | 0 | 0 | 55 | 13 | 8 | 0 | 0 | 21 | 23 | 10 | 0 | 0 | 33 | 17 | 6 | 0 | 0 | 23 |
| Fallston | 27 | 12 | 0 | 1 | 40 | 38 | 14 | 0 | 0 | 52 | 21 | 5 | 0 | 0 | 26 | 30 | 13 | 0 | 0 | 43 | 35 | 23 | 1 | 1 | 60 |
| Havre de Grace | 26 | 25 | 0 | 1 | 52 | 60 | 40 | 0 | 0 | 100 | 75 | 35 | 0 | 0 | 110 | 35 | 23 | 0 | 1 | 59 | 37 | 19 | 0 | 0 | 56 |
| Joppatowne | 13 | 16 | 0 | 0 | 29 | 28 | 0 | 84 | 0 | 112 | 28 | 22 | 0 | 0 | 50 | 20 | 20 | 0 | 0 | 40 | 10 | 45 | 0 | 0 | 55 |
| North Harford | 32 | 12 | 0 | 4 | 48 | 29 | 0 | 0 | 3 | 32 | 33 | 0 | 0 | 1 | 34 | 27 | 0 | 0 | 2 | 29 | 60 | 0 | 0 | 3 | 63 |
| Patterson Mill | 15 | 10 | 0 | 0 | 25 | 15 | 3 | 0 | 0 | 18 | 14 | 3 | 0 | 0 | 17 | 22 | 17 | 0 | 0 | 39 | 21 | 7 | 0 | 0 | 28 |
| TOTAL | 170 | 263 | 72 | 6 | 511 | 220 | 236 | 128 | 3 | 587 | 218 | 295 | 28 | 4 | 545 | 234 | 202 | 238 | 7 | 681 | 302 | 241 | 46 | 5 | 594 |

Note: Permits totals revised for cancelled permits.

Source: Harford County Dept. of Planning & Zoning, May 2013

KEY:

SF = Single Family Dwelling
 TH = Townhouse
 APT/CO = Apartment/Condominium
 MH = Mobile Home

Table 14
Harford County Population and Households
by Elementary School District*
2008 - 2012

| SCHOOL | 2008* | | 2009* | | 2010* | | 2011* | | 2012* | |
|-----------------------|---------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|
| | Households | Population |
| Abingdon | 4,781 | 12,998 | 4,783 | 12,992 | 4,781 | 11,593 | 4,781 | 12,933 | 4,781 | 12,906 |
| Bakerfield | 2,257 | 6,138 | 2,270 | 6,168 | 2,274 | 5,581 | 2,281 | 6,170 | 2,294 | 6,193 |
| Bel Air | 3,011 | 8,189 | 3,011 | 8,181 | 3,013 | 7,731 | 3,025 | 8,184 | 3,049 | 8,231 |
| Church Creek | 3,317 | 9,023 | 3,449 | 9,369 | 3,538 | 9,248 | 3,587 | 9,703 | 3,802 | 10,263 |
| Churchville | 2,447 | 6,655 | 2,456 | 6,673 | 2,463 | 6,808 | 2,469 | 6,678 | 2,473 | 6,675 |
| Darlington | 1,000 | 2,721 | 1,003 | 2,726 | 1,007 | 2,646 | 1,007 | 2,724 | 1,009 | 2,724 |
| Deerfield | 3,259 | 8,864 | 3,262 | 8,862 | 3,263 | 9,506 | 3,265 | 8,832 | 3,265 | 8,814 |
| Dublin | 1,643 | 4,471 | 1,651 | 4,485 | 1,658 | 4,490 | 1,661 | 4,493 | 1,667 | 4,499 |
| Edgewood | 1,222 | 3,322 | 1,244 | 3,381 | 1,248 | 3,523 | 1,256 | 3,397 | 1,256 | 3,390 |
| Emmorton | 2,175 | 5,916 | 2,229 | 6,056 | 2,274 | 6,159 | 2,366 | 6,400 | 2,412 | 6,512 |
| Forest Hill | 2,393 | 6,508 | 2,397 | 6,512 | 2,409 | 7,004 | 2,411 | 6,522 | 2,413 | 6,513 |
| Forest Lakes | 2,831 | 7,698 | 2,836 | 7,705 | 2,837 | 7,785 | 2,839 | 7,680 | 2,841 | 7,669 |
| Fountain Green | 1,892 | 5,146 | 1,892 | 5,140 | 1,892 | 5,742 | 1,892 | 5,118 | 1,896 | 5,118 |
| G. Lisby at Hillsdale | 2,252 | 6,124 | 2,256 | 6,128 | 2,264 | 5,693 | 2,283 | 6,176 | 2,329 | 6,287 |
| Hall's Cross Roads | 1,915 | 5,211 | 1,934 | 5,253 | 1,951 | 5,350 | 1,951 | 5,278 | 1,951 | 5,267 |
| Havre de Grace | 3,187 | 8,667 | 3,326 | 9,035 | 3,388 | 7,890 | 3,504 | 9,478 | 3,572 | 9,643 |
| Hickory | 2,753 | 7,489 | 2,759 | 7,495 | 2,761 | 7,994 | 2,775 | 7,508 | 2,777 | 7,497 |
| Homestead/Wakefield | 5,242 | 14,253 | 5,271 | 14,319 | 5,287 | 14,411 | 5,301 | 14,341 | 5,344 | 14,427 |
| Jarrettsville | 2,707 | 7,361 | 2,725 | 7,403 | 2,738 | 7,730 | 2,748 | 7,432 | 2,752 | 7,430 |
| Joppatowne | 3,825 | 10,405 | 3,834 | 10,416 | 3,843 | 9,801 | 3,849 | 10,411 | 3,853 | 10,403 |
| Magnolia | 1,590 | 4,323 | 1,621 | 4,404 | 1,639 | 4,670 | 1,662 | 4,496 | 1,682 | 4,540 |
| Meadowvale | 2,608 | 7,095 | 2,621 | 7,119 | 2,622 | 6,963 | 2,624 | 7,098 | 2,625 | 7,086 |
| Norrisville | 1,245 | 3,388 | 1,255 | 3,409 | 1,258 | 3,496 | 1,260 | 3,408 | 1,263 | 3,409 |
| North Bend | 2,214 | 6,021 | 2,220 | 6,032 | 2,226 | 6,214 | 2,237 | 6,050 | 2,240 | 6,048 |
| North Harford | 2,286 | 6,219 | 2,302 | 6,253 | 2,316 | 6,599 | 2,327 | 6,296 | 2,339 | 6,314 |
| Prospect Mill | 2,800 | 7,615 | 2,829 | 7,686 | 2,858 | 7,418 | 2,858 | 7,731 | 2,858 | 7,715 |
| Red Pump | 3,670 | 9,983 | 3,720 | 10,107 | 3,776 | 10,127 | 3,835 | 10,375 | 3,864 | 10,430 |
| Ring Factory | 2,680 | 7,288 | 2,712 | 7,368 | 2,712 | 7,349 | 2,715 | 7,344 | 2,720 | 7,342 |
| Riverside | 2,451 | 6,666 | 2,453 | 6,663 | 2,454 | 6,532 | 2,473 | 6,690 | 2,489 | 6,720 |
| Roye-Williams | 1,844 | 5,015 | 1,844 | 5,010 | 1,844 | 5,901 | 1,845 | 4,991 | 1,854 | 5,004 |
| Wm. Paca/Old Post Rd | 1,862 | 12,077 | 1,911 | 5,191 | 4,528 | 12,516 | 4,538 | 12,275 | 4,569 | 12,334 |
| Wm. S. James | 4,503 | 5,236 | 4,521 | 12,283 | 1,950 | 5,712 | 1,954 | 5,285 | 1,964 | 5,303 |
| Youth's Benefit | 5,121 | 13,929 | 5,138 | 13,957 | 5,146 | 14,644 | 5,162 | 13,965 | 5,185 | 13,997 |
| TOTAL | 88,984 | 242,012 | 89,733 | 243,779 | 90,218 | 244,826 | 90,739 | 245,460 | 91,387 | 246,700 |

* Note: Population and household figures have been revised to reflect 2010 Census data (April 1 of each year).

Table 15
Harford County Population and Households
by Middle School District
2008 - 2012

| SCHOOL | 2008* | | 2009* | | 2010* | | 2011* | | 2012* | |
|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|
| | Households | Population |
| Aberdeen | 12,106 | 32,926 | 12,318 | 33,465 | 12,456 | 33,298 | 12,546 | 33,938 | 12,844 | 34,671 |
| Bel Air | 13,422 | 36,504 | 13,511 | 36,706 | 13,594 | 35,055 | 13,774 | 37,259 | 13,884 | 37,480 |
| Edgewood | 13,684 | 37,217 | 13,764 | 37,393 | 13,809 | 37,068 | 13,829 | 37,408 | 13,860 | 37,415 |
| Fallston | 8,729 | 23,741 | 8,788 | 23,875 | 8,826 | 25,102 | 8,851 | 23,943 | 8,892 | 24,004 |
| Havre de Grace | 7,113 | 19,344 | 7,222 | 19,620 | 7,271 | 18,129 | 7,376 | 19,954 | 7,433 | 20,064 |
| Magnolia | 7,764 | 21,117 | 7,800 | 21,189 | 7,827 | 21,071 | 7,875 | 21,303 | 7,913 | 21,361 |
| North Harford | 10,221 | 27,799 | 10,268 | 27,895 | 10,313 | 29,368 | 10,346 | 27,987 | 10,373 | 28,003 |
| Patterson Mill | 6,072 | 16,513 | 6,147 | 16,699 | 6,170 | 17,460 | 6,187 | 16,736 | 6,224 | 16,801 |
| Southampton | 9,873 | 26,851 | 9,916 | 26,938 | 9,952 | 28,275 | 9,956 | 26,933 | 9,965 | 26,901 |
| TOTAL | 88,984 | 242,012 | 89,733 | 243,779 | 90,218 | 244,826 | 90,739 | 245,460 | 91,387 | 246,700 |

* Note: Population and household figures have been revised to reflect 2010 Census data (April 1 of each year).

Table 16
Harford County Population and Households
by High School District
2008 - 2012

| SCHOOL | 2008* | | 2009* | | 2010* | | 2011* | | 2012* | |
|------------------|---------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|---------------|----------------|
| | Households | Population |
| Aberdeen | 12,106 | 32,926 | 12,318 | 33,465 | 12,456 | 33,298 | 12,546 | 33,938 | 12,844 | 34,671 |
| Bel Air | 13,422 | 36,504 | 13,511 | 36,706 | 13,594 | 35,055 | 13,774 | 37,259 | 13,884 | 37,480 |
| C. Milton Wright | 9,873 | 26,851 | 9,916 | 26,938 | 9,952 | 28,275 | 9,956 | 26,933 | 9,965 | 26,901 |
| Edgewood | 13,684 | 37,217 | 13,764 | 37,393 | 13,809 | 37,068 | 13,829 | 37,408 | 13,860 | 37,415 |
| Fallston | 8,729 | 23,741 | 8,788 | 23,875 | 8,826 | 25,102 | 8,851 | 23,943 | 8,892 | 24,004 |
| Havre de Grace | 7,113 | 19,344 | 7,222 | 19,620 | 7,271 | 18,129 | 7,376 | 19,954 | 7,433 | 20,064 |
| Joppatowne | 7,764 | 21,117 | 7,800 | 21,189 | 7,827 | 21,071 | 7,875 | 21,303 | 7,913 | 21,361 |
| North Harford | 10,221 | 27,799 | 10,268 | 27,895 | 10,313 | 29,368 | 10,346 | 27,987 | 10,373 | 28,003 |
| Patterson Mill | 6,072 | 16,513 | 6,147 | 16,699 | 6,170 | 17,460 | 6,187 | 16,736 | 6,224 | 16,801 |
| TOTAL | 88,984 | 242,012 | 89,733 | 243,779 | 90,218 | 244,826 | 90,739 | 245,460 | 91,387 | 246,700 |

* Note: Population and household figures have been revised to reflect 2010 Census data (April 1 of each year).

Water and Sewerage

The data included in this section for the water and sewerage system are aggregated by the water and sewer service area, which essentially reflects the Development Envelope as defined in the 2012 Harford County Land Use Element Plan. Additional information is included in this report on water/sewage usage by dwelling type for non-residential uses, an inventory of existing water consumption/sewage flows, demand projections (including the basis for their computation), and a list of capital projects is contained in the County's Capital Improvements Program for expanding facilities, including project status (See Tables 17-20). This information is extracted from the "2012 Water and Sewer Adequate Public Facilities Report," and is consistent with the County's Water Resources Element Plan.

Water and Sewer Facility Projection Methodology

Water:

The Harford County water service area is divided into four pressure zones because of varying topography within the Development Envelope. To provide an adequate supply of water, the transmission lines, and pumping and storage facilities for all zones must be sized for estimated future demands. In 1997, the average daily water demand by customers served by the County's central system was approximately 9.6 MGD, with a corresponding maximum day demand of approximately 14.3 MGD.

The County water system's average daily usage in 2012 was 12.5 MGD (Million Gallons Per Day), with a peak day demand of 16.1 MGD. With the completion of the Abingdon Water Treatment Plant (AWTP) in May of 2012, the total permitted maximum daily water treatment capacity is approximately 30.4 MGD. The County has a maximum day drought demand of 18.7 MGD. Currently it is estimated that there is a need for 5.4 MGD for approved preliminary plans. An additional 6.3 MGD is reserved for planned development in the County's defined service area and 4.0 MGD for internal water treatment use. With the further expansion of the AWTP to 25 MGD the County's water service area is adequately planned for. To keep pace with the projected growth, staged construction programs are established that distribute required capital costs for improvements and/or additions to the County's system over a period of years.

There are 13 community water systems that are not maintained or operated by Harford County, but are subject to the APF provision of the County Code. These private systems, which are monitored and evaluated by the Maryland Department of the Environment, are as follows:

- 1) Maryland-American Water Co.
- 2) Campus Hills Water Works Inc.
- 3) Clear View Court Mobile Home Park
- 4) Darlington
- 5) Darlington Mobile Estates

- 6) Fountain Green Mobile Home Park
- 7) Greenridge Utilities Inc.
- 8) Hart Heritage
- 9) Lakeside Vista
- 10) Queens Castle Mobile Home Park
- 11) R & R Estates Mobile Home Park
- 12) Swan Harbor Mobile Home Park
- 13) Williams Mobile Home Park

The Maryland Department of the Environment is currently reviewing the *Water Supply Capacity Management Plan* submitted by the Maryland American Water Company, a private water company which serves the Town of Bel Air and parts of the Greater Bel Air area. Currently, all new preliminary plans, recorded plats and building permits in the Maryland American service area, are on hold until the conclusions of this plan review are received.

Sewerage:

The sewage flows to Harford County's existing Sod Run and Joppatowne Wastewater Treatment Plants (WWTP) originate from a portion of the Development Envelope. The area between the municipalities of Aberdeen and Havre de Grace, as well as the cities themselves, are within the Development Envelope and are served by the municipal sewerage facilities. A complete "Sewer System Capacity Analysis" is included in the "2012 Water and Sewer Adequate Public Facilities Report."

The average daily influent flow to the Sod Run WWTP in 2012 was approximately 12.5 MGD, exclusive of recycle flows and septage. The average daily influent flow to the Joppatowne WWTP in 2012 was approximately 0.79 MGD. The average daily influent flow for Spring Meadows in 2012 was 0.01 MGD. The determination of future wastewater flows to wastewater treatment plants is made by using population and household projections developed by the Harford County Department of Planning and Zoning for the years 2000 through 2025. The projections were distributed by transportation analysis zones (TAZs) by aggregating the ultimate development in terms of equivalent dwelling units into sewerage drainage areas. In order to keep pace with projected growth, the expansion of the Sod Run Wastewater Treatment Plant from 12 MGD in 1995 to 20 MGD was completed in 2000. A sanitary sewer collection system has also been established in Whiteford-Cardiff, which serves the properties within an established sanitary subdistrict. This system was made operational in 2001 with 172 mandatory hook-ups completed in 2002. Treatment for this subdistrict is provided by Delta Borough, Pennsylvania, with a current permitted average flow of 0.12 MGD.

In addition to the major publicly owned wastewater treatment plants, there are multiple private wastewater treatment systems, including mobile home parks and other commercial/community establishments, plus a larger population on private individual septic systems outside the Development Envelope. In addition, many of the schools outside the public sewerage service area are on publicly owned multi-use wastewater treatment

systems. Since 1972, the County has prohibited any additional privately owned community or multi-use treatment plants with a peak capacity larger than 10,000 gallons per day (GPD) outside the Development Envelope. This encourages growth to remain within the growth corridor, maintains financial stability, and protects the environment.

The Division of Water and Sewer has identified sewage pumping stations that do not have any additional reserve capacity and that may impact future development in the vicinity of these pumping stations. These pumping stations include:

- Brentwood Park Sewage Pumping Station (S.P.S.)
- Dembytowne/Hanson Road Petition S.P.S. (3)
- Farwind Farms S.P.S.
- Forest Greens S.P.S.
- Greenridge S.P.S.
- Harford Square S.P.S.
- Haverhill Road S.P.S.
- Parliament Ridge S.P.S.
- Perry Avenue S.P.S.
- Singer Woods S.P.S.
- West Baker Avenue S.P.S.
- Woodland Hills S.P.S.

The non-inclusive listings of the sewage pumping stations above have no available capacity. This listing does not preclude the possibility of finding adequate capacity in other sewage pumping stations should a development request approval for more flow capacity than that available, prior to any programmed improvements. It is imperative to note that mechanisms exist to cure such APF problem areas. Such remedies may include an upgrade to the pumping station by a development entity or by development of a recoupment/surcharge policy which specifies design, construction, and financial responsibilities.

There is a sanitary sewer within the Bynum Ridge subdivision that does not have adequate capacity as defined by the APF Ordinance. This has the potential to affect development in the Bynum Run Collector Sewer drainage area north of Bynum Ridge Road. The Division of Water and Sewer is currently studying the sewers to determine the best method of eliminating the capacity issue. It is possible that this capacity issue could be resolved by a development entity or by development of a recoupment/ surcharge policy which specifies design, construction, and financial responsibilities.

Table 17
JANUARY - DECEMBER 2012
WATER CONSUMPTION & SEWAGE GENERATIONS

This table reflects the total number of water and sewer customers and the water consumption and sewage generations for residential and commercial/industrial users.

| | 2012 |
|--|-------------|
| Total Number of Connections | 43,387 |
| WATER | |
| Total Number of Connections | 40,264 |
| Average Water Production | 12.5 MGD |
| Maximum Day Water Production | 16.1 MGD |
| Average Water Usage per Connection (gal/day) | 310 |
| Residential Unit Water Usage (gal/day) | 142 |
| Average Commercial/Industrial Water Usage (gal/day) | 6,598 |
| SEWAGE | |
| Total Number of Sewer Connections | 40,676 |
| Average Sewage Flows | 12.5 MGD |
| Maximum Day Sewage Flows | 28.5 MGD |
| Average Sewage per Connection (gal/day) | 307 |
| Residential Sewage Generation (gal/day) | 142 |
| Average Commercial/Industrial Sewage Generation (gal/day) | 6,598 |

- MGD = Million Gallons per Day

Source: 2012 Adequate Public Facilities Report, Dept. of Public Works, Division of Water and Sewer.

Table 18

HARFORD COUNTY SYSTEM WATER PRODUCTION PROJECTIONS

| SYSTEM WIDE RESIDENTIAL/ COMMERCIAL INDUSTRIAL WATER DEMAND | | 1993 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2015 | 2020 | 2025 |
|--|---------------|------------|---------------|------|------|------|------|------|------|------|-------|------|------|------|-------|------|------|------|------|------|------|------|------|
| | | First Zone | Avg. Day, mgd | 3.2 | 4.1 | 4.05 | 4.5 | 4.5 | 4.6 | 3.5 | 5.1 | 5.7 | 3.6 | 3.8 | 4.2 | 3.6 | 4.2 | 5.3 | 5.3 | 5.7 | 5.8 | 6.5 | 7.6 |
| | Max. Day, mgd | 4.6 | 6 | 4.8 | 6.5 | 6.6 | 6.5 | 4.6 | 9.1 | 7.8 | 4.7 | 4.8 | 5.9 | 4.9 | 5.8 | 6.9 | 7.26 | 9.1 | 9.3 | 8.4 | 11.0 | 12.1 | 13.0 |
| Total of Second, Third and Fourth Zones | Avg. Day, mgd | 3.5 | 3.8 | 4.5 | 5 | 5 | 5.7 | 5.9 | 6.4 | 5.8 | 7.5 | 7.5 | 7.7 | 8.0 | 7.8 | 6.8 | 6.0 | 6.0 | 5.8 | 6.0 | 7.3 | 7.5 | 7.95 |
| | Max. Day, mgd | 3.9 | 5.6 | 5.9 | 6.8 | 6.9 | 7.3 | 6.9 | 7.1 | 8.1 | 8.2 | 8.2 | 8.5 | 9.1 | 8.8 | 7.5 | 6.8 | 8.0 | 6.2 | 7.7 | 10.7 | 11.0 | 11.6 |
| Aberdeen | Avg. Day, mgd | 0 | 0.5 | 0.05 | 0.03 | 0.01 | 0.3 | 0.26 | 0.26 | 0.47 | 0.5 | 0.21 | 0.2 | 0.2 | 0.5 | 0.2 | 0.2 | 0.4 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| * | Max. Day, mgd | 0 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.54 | 0.6* | 0.6* | 0.9* | 0.9 | 1.5 | 1.5 |
| Chapel Hill | Avg. Day, mgd | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.2 | 0.2 | 0 | 0 | 0 |
| * | Max. Day, mgd | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.5* | 1.5* | 1.0 A | 1.5* | 1.5* | 1.5* | 1.5* | 1.7* | 2.0 | 2.0 | 2 |
| Maryland-American Water Co. | Avg. Day, mgd | 0 | 0 | 0 | 0.07 | 0.01 | 0.01 | 0.19 | 0.01 | 0.16 | 0.001 | 0.02 | 0.03 | 0.03 | 0.4 A | 0.01 | 0.03 | 0.0 | 0.0 | 0.0 | 0.3 | 0.3 | 0.35 |
| * | Max. Day, mgd | 0 | 0 | 0 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5* | 0.5* | 0.5* | 0.5 | 0.5 | 0.5 |
| Total | Avg. Day, mgd | 6.7 | 8.4 | 8.6 | 9.6 | 9.5 | 10.6 | 9.9 | 11.8 | 12.1 | 11.6 | 11.6 | 12.1 | 11.8 | 12.9 | 12.3 | 11.5 | 12.1 | 12.1 | 13.0 | 15.5 | 16.5 | 17.6 |
| | Max. Day, mgd | 8.5 | 12.1 | 11.2 | 14.3 | 14.5 | 14.8 | 12.5 | 17.2 | 16.9 | 13.9 | 14.0 | 15.4 | 15.0 | 16.6 | 15.4 | 15.1 | 17.1 | 15.5 | 16.1 | 25.1 | 27.1 | 28.6 |

*-Allocated maximum day flow projections based on service agreements.

A - Actual flows

Table 19

Harford County Present and Projected Sewerage Demands and Planned Capacities in Million Gallons Per Day (MGD)

| SERVICE AREA | PLANNING YEAR | NUMBER OF CONNECTIONS | DOMESTIC FLOW (ADF) | INDUSTRIAL FLOW (ADF) | INFILTRATION / INFLOW (ADF) | TOTAL FLOW | SYSTEM CAPACITY |
|-------------------|---------------|-----------------------|---------------------|-----------------------|-----------------------------|------------|-----------------|
| SOD RUN | 1993 | 17,684 | 7.7 | 0.4 | 1 | 9.1 | 10 |
| | 1995 | 22,050 | 7.7 | 0.5 | 1.4 | 9.6 | 12 |
| | 2000 | 27,561 | 9.3 | 0.6 | 1.7 | 11.6 | 20 |
| | 2009 | 36,658 | 8.4 | 1.3 | 2.8 | 12.5 | 20 |
| | 2010 | 37,176 | 8.1 | 1.7 | 2.8 | 12.6 | 20 |
| | 2011 | 37,418 | 8.1 | 1.7 | 3.6 | 13.4 | 20 |
| | 2012 | 37,612 | 8.1 | 1.7 | 1.9 | 11.7 | 20 |
| | 2025 | 45,872 | 10.3 | 2.58 | 4.0 | 16.88 | 20 |
| JOPPATOWNE | 1993 | 2,607 | 0.59 | 0 | 0.19 | 0.78 | 0.75 |
| | 1995 | 2,607 | 0.56 | 0 | 0.19 | 0.75 | 0.75 |
| | 2000 | 3,107 | 0.65 | 0 | 0.19 | 0.84 | 0.95 |
| | 2009 | 3,294 | 0.58* | 0.03* | 0.08* | 0.69* | 0.95 |
| | 2010 | 3,033 | 0.64 | 0.04 | 0.08 | 0.76 | 0.95 |
| | 2011 | 3,048 | 0.66 | 0.04 | 0.02 | 0.90 | 0.95 |
| | 2012 | 3,064 | 0.55 | 0.04 | 0.2 | 0.79** | 0.95 |
| | 2025 | 3,251 | 0.71 | 0.04 | 0.2 | 0.95 | 0.95 |
| SPRING MEADOWS | 1993 | 51 | 0.01 | 0 | NC | 0.01 | 0.01 |
| | 1995 | 51 | 0.01 | 0 | NC | 0.01 | 0.01 |
| | 2000 | 52 | 0.01 | 0 | NC | 0.01 | 0.01 |
| | 2009 | 53 | 0.01 | 0 | NC | 0.01 | 0.01 |
| | 2010 | 53 | 0.01 | 0 | NC | 0.01 | 0.01 |
| | 2011 | 53 | 0.01 | 0 | NC | 0.01 | 0.01 |
| | 2012 | 53 | 0.01 | 0 | NC | 0.008 | 0.01 |
| | 2025 | 53 | 0.01 | 0 | NC | 0.01 | 0.01 |
| WHITEFORD-CARDIFF | 2004 | 178 | 0.02 | 0 | 0.01 | 0.03 | 0.12 |
| | 2009 | 179 | 0.02 | 0 | 0.01 | 0.03 | 0.12 |
| | 2010 | 179 | 0.023 | 0 | 0.01 | 0.03 | 0.12 |
| | 2011 | 179 | 0.023 | 0 | 0.001 | 0.024 | 0.12 |
| | 2012 | 178 | 0.022 | 0 | 0.005 | 0.027 | 0.12 |
| | 2025 | 179 | 0.09 | 0.01 | 0.02 | 0.12 | 0.12 |

NC = Not Computed

* During the last 6 months of 2009, the clarifiers at the Joppatowne WWTP were being worked on, so Pump Station 47 was sending some flow to the Harford County Sod Run drainage area for treatment.

** Due to ENR construction project at Joppatowne WWTP, Pump Station 47 was sending some flow to Harford County Sod Run for treatment.

Table 20

2012 EXISTING WATER & SEWER CAPITAL PROJECTS

The Capital Improvement Program establishes projects for expanding and improving water and sewer facilities. This list of 2012 Capital Projects includes the project status.

| <u>PROJECT NO.</u> | <u>PROJECT NAME</u> | <u>PROJECT STATUS</u> |
|--------------------|--|---|
| 6440 | Infiltration/Inflow | Flow Monitoring, Manhole Rehabilitation, Televising & Smoke Testing: on-going |
| 6613 | Church Creek Pump Station | Construction Complete |
| 6627 | Country Walk Water Transmission Main Parallel | Design Phase Complete / On hold |
| 6632 | Bear Cabin Pump Station | Construction Complete |
| 6634 | Lower Bynum Run Interceptor Parallel | Construction Phase |
| 6637 | Sod Run ENR | Under Construction |
| 6665 | Joppa Farm Road Pump Station # 47 Redirection & Parallel Sewer | Bid Phase |
| 6671 | Abingdon Water Treatment Plant Expansion | Construction Complete |
| 6679 | Joppa Farm Road Pump Station # 47 Facility Improvements | Design Phase Complete / On hold |
| 6687 | Abingdon Road Water Main | Design Phase & Easement Acquisition Completed |
| 6690 | MD Route 24 Water Transmission Main | Study Phase |
| 6692 | Bush Creek Pump Station Upgrade | Construction Complete |
| 6692 A | Bush Creek Pump Station Force Main Replacement | Design Phase |
| 6699 | Winters Run Pump Station Outfall Sewer | Construction Complete |
| 6703 | Bynum Run Parallel Phase 6 & 7 | Wetland Permitting & Design Phase for Phase 7 |
| 6705 | Joppatowne ENR | Under Construction |
| 6707 | Infiltration / Inflow in Bynum Run Drainage Area | Implementation Phase |
| 6711 | Swan Creek Water Tank | Site Acquisition |
| 6712 | Edgewood Interceptor Parallel | Design Phase |
| 6713 | Greenridge Pump Station Replacement | Design Phase |
| 6715 | Bill Bass Outfall Sewer Replacement | Design Phase |
| 6730 | Bill Bass Pump Station Force Main Parallel / Replacement | Design Phase |

Road System

The information for the APF Road System contained in this section includes the following: signalized and unsignalized intersection capacity analysis results - existing conditions (Tables 21 and 22), average daily count locations (Table 23), a list of approved County capital projects funded for construction in FY 13 (Table 24), and a list of State Consolidated Transportation Program (CTP) projects funded for construction in FY 13 (Table 25). This information will help identify existing deficiencies in the road system and guide both County and State capital project funding to the most critical road projects.

The intent of the APF Roads provisions of the County Code is to create a mechanism that requires proposed development to make appropriate and reasonable road improvements, based on the proposed development's impact to the road.

Road Intersection Analysis Methodology

A key feature of the APF Road Intersection regulations is the requirement for preparation of a Traffic Impact Analysis (TIA) for residential and non-residential uses that generate more than 249 trips per day. Proposed development located within the Chesapeake Science and Security Corridor will not be required to submit a Traffic Impact Analysis unless the proposed use will generate 1,500 trips per day at the time of preliminary/site plan review. The TIA provides information regarding the impact of generated trips from proposed land uses on traffic safety and traffic operation within a designated area, and recommends solutions to mitigate the impact. The method of conducting a Traffic Impact Analysis is outlined in the "Harford County Traffic Impact Analysis Guidelines."

A complete TIA includes the following:

- The designation of the study area as required in the APF regulations based on whether the proposed development is inside or outside the Development Envelope.

Inside the Development Envelope:

The TIA shall include all the existing County and State roads from the point of entrance of site to the second intersection of an arterial roadway or higher functional classification road, in all directions. Developments which generate 1,500 or more trips per day may be required to expand the study area.

Outside the Development Envelope:

The TIA shall include all existing County and State roads from point of entrance to the first intersection of a major collector or higher classification road, in all directions.

- An analysis of existing conditions including traffic counts, lane configuration, and signal timings.

- An analysis of background conditions without site development, including growth in background traffic, future traffic generated by nearby proposed developments and the determination of Levels of Service with any approved/funded State and County Capital projects.
- An analysis of the projected conditions with site development, including the traffic being generated by the proposed development and background traffic.
- An explanation of the results with recommended improvements as necessary.

The developer is required to provide improvements where the trips generated by the development reduce the Level of Service (LOS) from adequate to a LOS below the standard. The standard for intersections within the Development Envelope will be LOS D. If existing LOS is E or F at an intersection within the Development Envelope, then the developer must mitigate the impact of the development's new trips. The standard for intersections outside the Development Envelope will be LOS C. If the existing LOS is D or lower, then the developer must mitigate the impact of the development's new trips.

In addition to the review of individual Traffic Impact Analyses, the Departments of Planning and Zoning and Public Works have studied a number of major roads and intersections to identify existing conditions. This list represents a cross section of key intersections located inside, outside, and on the fringes of the Development Envelope. There are two signalized intersections and ten unsignalized intersections with one or more movements operating at a LOS E (LOS D outside the Development Envelope) or lower during peak hours. The evaluation of the LOS is determined by performance of the intersection during one hour peak traffic periods in the a.m. and/or p.m. The following intersections contain one or more movements that operate at an unacceptable LOS:

1. Maryland 22 and Thomas Run Road / Schucks Road
2. Maryland 715 and Old Philadelphia Road
3. Business US 1 and Henderson Road
4. Maryland 147 and Connolly Road
5. Maryland 23 and Grafton Shop Road
6. Tollgate Road and MacPhail Road
7. US 1 and Reckord Road
8. Maryland 7 and Brass Mill Road
9. Maryland 7 and Joppa Farm Road
10. Maryland 155 and Earlton Road
11. Maryland 543 and Henderson Road
12. Maryland 22 and Aldino-Stepney Road

Developments that impact these intersections will be required to mitigate their impacts to the intersection.

To address operational issues and impacts associated with BRAC, the Maryland State Highway Administration began construction on the US 40 and MD 715 interchange project

in the fall of 2010. This project will add a spur to the eastbound US 40 ramp which will allow vehicles to access northbound MD 715 and eliminate the U-turn movement on US 40. The project will also add capacity to MD 715 at the Old Philadelphia intersection. The anticipated completion date for this project is 2013. Tables 24 and 25 detail County Capital Projects and State Consolidated Transportation Projects relative to this reporting period.

Table 21
Signalized Intersection Capacity Analyses
Level Of Service And Delay In Seconds
2009 - 2012

| Intersection | 2009 Peak Hour Level Of Service / Delay In Seconds | 2010 Peak Hour Level Of Service / Delay In Seconds | 2011 Peak Hour Level Of Service / Delay In Seconds | 2012 Peak Hour Level Of Service / Delay In Seconds |
|--|--|--|--|--|
| Maryland Route 7 and U.S. Route 40 | | C / 29.2 | | D / 52.6 |
| Maryland Route 924 and Moores Mill Road | | B / 19.8 | | C / 22.0 |
| Maryland Route 24 and Trimble Road | | D / 40.6 | | C / 27.4 |
| Maryland Route 152 and U.S. Route 1 | | D / 48.6 | | D / 45.3 |
| Maryland Route 24 and U.S. Route 1 | | E / 59.6 | | D / 43.4 |
| Maryland Route 152 and Trimble Road | | C / 23.6 | | D / 36.2 |
| Maryland Route 24 and Jarrettsville Road | | C / 23.8 | | C / 22.9 |
| Maryland Route 152 and Hanson Road | | C / 27.9 | | C / 27.2 |
| Maryland Route 152 and Singer Road | | D / 37.6 | | C / 31.6 |
| Maryland 22 and Thomas Run Road/Schucks Road | | D / 41.8 | | D / 48.8 |
| Maryland 715 and Old Philadelphia Road* | | C / 23.3 | | F / 279.0 |
| Maryland Route 22 and Brier Hill Road | B / 15.1 | | C / 24.7 | |
| Maryland Route 22 and Maryland Route 136 | C / 29.6 | | C / 31.9 | |
| Maryland Route 24 and Bel Air South Parkway | E / 52.7 | | D / 40.7 | |
| Maryland Route 24 and Forest Valley Drive | C / 20.3 | | B / 18.0 | |
| Maryland Route 24 and Plumtree Road | C / 34.0 | | C / 26.4 | |
| Maryland Route 24 and Ring Factory Road | C / 33.7 | | C / 28.5 | |
| MD 924 @ MD 24 North Bound Ramp | Under Construction | | C / 28.6 | |
| Tollgate Rd @ MD 24 Southbound Ramp | Under Construction | | C / 20.1 | |
| Maryland Route 543 and U.S. Route 1 | C / 23.2 | | D / 35.7 | |
| Maryland Route 543 and Maryland Route 22 | D / 43.8 | | C / 34.1 | |
| Maryland Route 924 and Abingdon Road ** | D / 41.0 | | D / 47.1 | |

* SHA improvement at this intersection

** Improvement funded by developer at this intersection

Source: Harford County Dept. of Planning and Zoning, May 2013

Table 22
Unsignalized Intersection Capacity Analyses
Level Of Service And Delay In Seconds
2009- 2012

| Intersection | 2009 Peak Hour Level Of Service / Delay In Seconds | 2010 Peak Hour Level Of Service / Delay In Seconds | 2011 Peak Hour Level Of Service / Delay In Seconds | 2012 Peak Hour Level Of Service / Delay In Seconds |
|---|---|---|---|---|
| Maryland Route 24 @ I-95 Northbound On/Off Ramp& | | Under Construction | | D / 45.1 |
| Maryland Route 24 @ I-95 Southbound Ramp* | | Under Construction | | B / 18.2 |
| Business US 1 and Henderson Road | | E / 40.0 | | E / 35.6 |
| Maryland 147 and Connolly Road | | E / 49.6 | | F / 165.5 |
| Maryland 23 and Grafton Shop Road | | F / 55.6 | | F / 138.9 |
| Tollgate Road and MacPhail Road** | | E / 36.0 | | E / 35.2 |
| US 1 and Reckord Road | | F / 56.2 | | F / 128.9 |
| Maryland 7 and Brass Mill Road | | F / 221.4 | | F / 83.1 |
| Woodsdale Road and Box Hill Corporate Center Drive | | D / 27.8 | | D / 29.3 |
| Maryland Route 7 and Maryland Route 159 | B / 11.4 | | B / 12.4 | |
| Maryland Route 7 and Joppa Farm Road | F / 84.8 | | E / 38.5 | |
| Maryland Route 159 and Spesutia Road | C / 16.8 | | C / 15.2 | |
| Maryland 155 and Earlton Road | D / 34.8 | | E / 40.0 | |
| Maryland 543 and Henderson Road *** | C / 24.8 | | F / 56.8 | |
| Tollgate Road and Ring Factory Road | A / 7.9 | | A / 7.8 | |
| Maryland 22 and Aldino-Stepney Road *** | E / 38.5 | | F / 56.9 | |
| Macphail and Ring Factory Road | C / 15.0 | | B / 12.3 | |

* Major interchange improvements for the I-95 / MD 24 / MD 924 interchange completed in November, 2011.

** Count taken prior to Roundabout was completed

*** Improvements funded by developers at these intersections.

Source: Harford County Dept. of Planning and Zoning, May 2013.

Table 23

48 Hour Average Weekday Daily Traffic Volume And Locations

2009 - 2012

| Road Name | Location | 2009 Average Daily Count | 2010 Average Daily Count | 2011 Average Daily Count | 2012 Average Daily Count |
|--------------------|-------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Beards Hill Road | North of Churchville Road | | 13,503 | | 12,538 |
| Carrs Mill Road | North of Maryland Route 152 | | 9,434 | | 9,783 |
| Chapel Road | North of Interstate 95 | | 2,510 | | 2,588 |
| Jarrettsville Road | East of Maryland Route 24 | | 6,962 | | 6,273 |
| Jarrettsville Road | West of Maryland Route 24 | | 4,886 | | 5,259 |
| Maryland Route 7 | West of Maryland Route 24 | | 7,341 | | 7,230 |
| Moore's Mill Road | West of Coconut Court | | 9,624 | | 9,726 |
| Moore's Mill Road | West of Old English Court | | 7,944 | | 7,781 |
| Pleasantville Road | North of Putnam Road | | 3,521 | | 3,547 |
| U.S. Route 1 | North of Maryland Route 152 | | 26,650 | | 26,552 |
| U.S. Route 40 | North of Maryland Route 24 | | 22,212 | | 22,802 |
| Abingdon Road | North of Interstate 95 | 12,414 | | 13,217 | |
| Hanson Road | South of Silverbell Road | 2,775 | | 2,714 | |
| Hanson Road | West of Maryland Route 24 | 10,740 | | 10,425 | |
| Maryland Route 24 | North of Singer Road | 43,082 | | 39,821 | |
| Maryland Route 152 | South of U.S. Route 1 | 23,832 | | 24,701 | |
| Maryland Route 543 | South of Maryland Route 22 | 18,667 | | 17,670 | |
| Plumtree Road | East of Maryland Route 24 | 6,418 | | 7,229 | |
| Ring Factory Road | West of Maryland Route 24 | 4,709 | | 3,603 | |
| Ring Factory Road | East of Maryland Route 24 | 8,646 | | 8,700 | |
| Singer Road | West of Maryland Route 24 | 9,902 | | 10,576 | |
| Singer Road | East of Maryland Route 24 | 8,933 | | 9,837 | |
| Trimble Road | East of Maryland Route 24 | 8,298 | | 7,152 | |
| Trimble Road | West of Maryland Route 24 | 6,959 | | 8,917 | |
| Vale Road | West of U.S. Route 1 Overpass | 8,819 | | 8,555 | |

Source: Harford County Dept. of Planning and Zoning, May 2013.

Table 24
List of Approved County Capital Projects
Funded for Construction in FY 13

| | |
|---|-------------------------------------|
| Bridge and Road Scours | Repairs |
| Bridge Rehabilitation | Repairs |
| Harford Creamery Road Bridge #104 | Replacement |
| Jericho Road Bridge #3 | Improve / Maintain |
| St. Clair Bridge Road Bridge #99 | Rehabilitation |
| Abingdon Road Bridge #169 over CSX | Replacement |
| Watervale Road Bridge #63 | Replacement |
| MacPhail Road @ Tollgate Road | Roundabout |
| Hess Road Bridge #82 | Replacement |
| Macton Road Bridge #145 | Replacement |
| Moores Mill Road – MD 924 to Southampton MS | Upgrade |
| Wheel Road – Laurel Bush Road to Fairway Drive | Upgrade |
| Road Reconstruction and Rehabilitation* | Reconstruct and rehabilitate |
| Roadways Resurfacing* | Resurfacing |

*Note: These are ongoing county-wide project activities that include repairs, upgrades, and resurfacing of roads and bridges selected each spring dependent upon severity of roadway problems and cost for repairs.

Table 25
List of State Consolidated Transportation Program
Funded for Construction in FY 13

| | |
|---|---|
| US 40 / MD 715 Interchange | Interchange Improvements |
| US 40 at MD 7 / MD 159 in Aberdeen | Interchange Improvements |
| MD 924: N. Main Street – Gordon Street to US 1 Business | Resurfacing |
| MD 924 S. Main Street – E. MacPhail Road to MD 22 | Resurfacing |
| US 40: Pulaski Highway; MD 132 to Plater Street | Resurface |
| Conowingo Road – south of Conowingo Dam | Repair Slide |
| MD 155 – Superior Street – Bayview Drive/Graceview Drive – provide a left turn lane from MD 155 into School on Graceview Drive | Left Turn Lane |
| MD 763 – Superior Street; East of Ohio Street to Juniata Street | ADA Improvements |
| MD 543: Riverside Parkway; Gilmer Way to Church Creek Road | Bicycle/Pedestrian Route |
| Edgewood MARC Train Station | Under Construction |
| I-95 John F. Kennedy Memorial Highway | Rehabilitate pier foundations & address pier scour protection |
| US 40 Thomas J. Hatem Memorial Bridge | Rehabilitate pier foundations & address pier scour protection & paint structural members |

PLANNING CONSISTENCY REVIEW

Maryland's Smart, Green and Growing regulations require that local jurisdictions, as part of their annual report, must determine if all of the changes in development patterns reported are consistent with each other, the recommendations from the last report, and the adopted plans of the jurisdiction and the adjoining jurisdictions, and the plans of State and local jurisdictions that are responsible for financing or constructing public improvements that are necessary for the implementation of local plans. To address this requirement the following is provided:

All of the development noted in this report has been determined to be consistent with the surrounding land uses. A review of consistency is part of the plan approval process. As recommended in previous reports, the County continues to direct the majority of its new development and redevelopment (80% in 2012) to the designated growth areas.

Preservation efforts were continued through a variety of State and local programs. While participation in agricultural preservation programs is available to all property owners with agriculturally zoned land, the County's primary focus remains on protecting the Priority Preservation Area (PPA). During 2012, 1,489 acres were preserved countywide, bringing the total protected land in the County to 47,162 acres. Of the acreage protected in 2012, 622 acres were located in the County's Priority Preservation Area, bringing the total amount of protected land there to just over 34,000 acres.

The subdivisions noted in Appendix A are consistent with the intent and policies of the recently adopted 2012 Land Use Element Plan, the Water and Sewer Master Plan, and the Adequate Public Facilities regulations. All roadway improvements are consistent with the State Consolidated Transportation Plan, the Transportation Improvement Program, and the County's Transportation Element Plan.

In addition, all major subdivisions or development plans that must be reviewed by the County's Development Advisory Committee, along with requests for rezoning that are located within one mile of a local jurisdiction, are submitted to that jurisdiction for review and comment. All development activity approved during 2012 was consistent with the plans of adjoining jurisdictions.

During 2012, the County participated in work sessions for the development of the Aberdeen Station Square Feasibility Study. The County also coordinated with the municipalities for the development and adoption of a Tier Map to address the requirements of SB 236, and the development of the Bicycle and Pedestrian Master Plan. Coordination between the municipalities and the County will continue as the 2012 Land Use Plan and the Bicycle and Pedestrian Master Plan are implemented.

Harford County also completed the Maryland 22 Corridor Study in 2012. This study was developed as a means to identify short, medium, and long term solutions for the MD 22 Corridor from the intersection of MD 543 to Aberdeen Proving Ground, providing for Complete Streets solutions that emphasized the potential to allow users other means of transportation beyond the automobile.

PROCESS IMPROVEMENTS

As part of the annual report, local jurisdictions must identify any changes that will improve the planning and development process, and any zoning ordinances or regulations that have been adopted during the reporting period that specifically address the planning visions in §1.01 of Article 66B.

With the adoption of the 2012 Master Plan and Land Use Element Plan (adopted March 2012) the next major program improvement to be addressed is the update of the 2005 Land Preservation, Parks, and Recreation Plan. A draft plan will be made available for public review in early 2013 with adoption to follow. The County will also be submitting a Bicycle and Pedestrian Master Plan to the County Council for adoption in March 2013.

Following the adoption of the Tier Map required by SB 236, the County will continue to work on the development of a new Transfer of Development Rights Program, and a re-evaluation of the Priority Preservation Plan will be initiated.

In 2012, the Harford County Phase II Watershed Implementation Plan (WIP) for the Chesapeake Bay TMDL (Total Maximum Daily Load) was completed and submitted to the Maryland Department of the Environment. The WIP was developed by a Core Team of County, municipal, State and federal staff with expertise in the various nutrient source sectors (agriculture, septic systems, urban stormwater, and wastewater treatment plants) to identify strategies to meet the nutrient reduction goals assigned to Harford County for the Chesapeake Bay TMDL. Two-year milestones for 2012 – 2013 were also presented. The Core Team is continuing to meet to track progress and prepare for the next set of two-year milestones.

The County does not anticipate making any changes to the development review process in the immediate future, and will continue to direct the majority of development and redevelopment to its designated growth area.

In February 2013, the Harford County Planning and Zoning, Public Works, Inspections, Licenses and Permits, and Information Systems Departments began a scheduled 18 month implementation of Tyler Technologies' ***EnerGov Permitting and Land Management*** software suite.

The EnerGov solution will modernize the County's Permitting, Subdivision Review, and Plan Management systems. Disparate departments, agencies, and citizens will access a central "location-based" system utilizing the County's extensive Geographic Information System.

Code enforcement, permit inspections and construction management systems will all utilize the EnerGov solution to streamline and automate many time-consuming processes from intake, citizen requests, and pre-applications to fee calculations and review, task and field inspection routing, to creating a completely paperless and fully automated regulatory environment.

The County anticipates this centralized system will significantly improve the life cycle of land management throughout the County and provide enhanced services to citizens and to construction and service professionals. The EnerGov project is expected to be fully implemented by Fall 2014.

ORDINANCES AND/OR REGULATIONS THAT IMPLEMENT THE STATE PLANNING VISIONS

The Department of Planning and Zoning has updated several of its element plans (Master Plan and Land Use Element Plan, Natural Resources and Water Resources Element Plan, Transportation Element Plan and Historic Element Plan). Each of these plans include the planning visions contained in §1.01 of Article 66B, and strategies that address these visions. The County has also completed the update of its Chesapeake Bay Critical Area Program. The planning visions will also be incorporated into the Harford County Land Preservation, Parks, and Recreation Plan update as well as Bicycle and Pedestrian Master Plan, which are currently being developed.

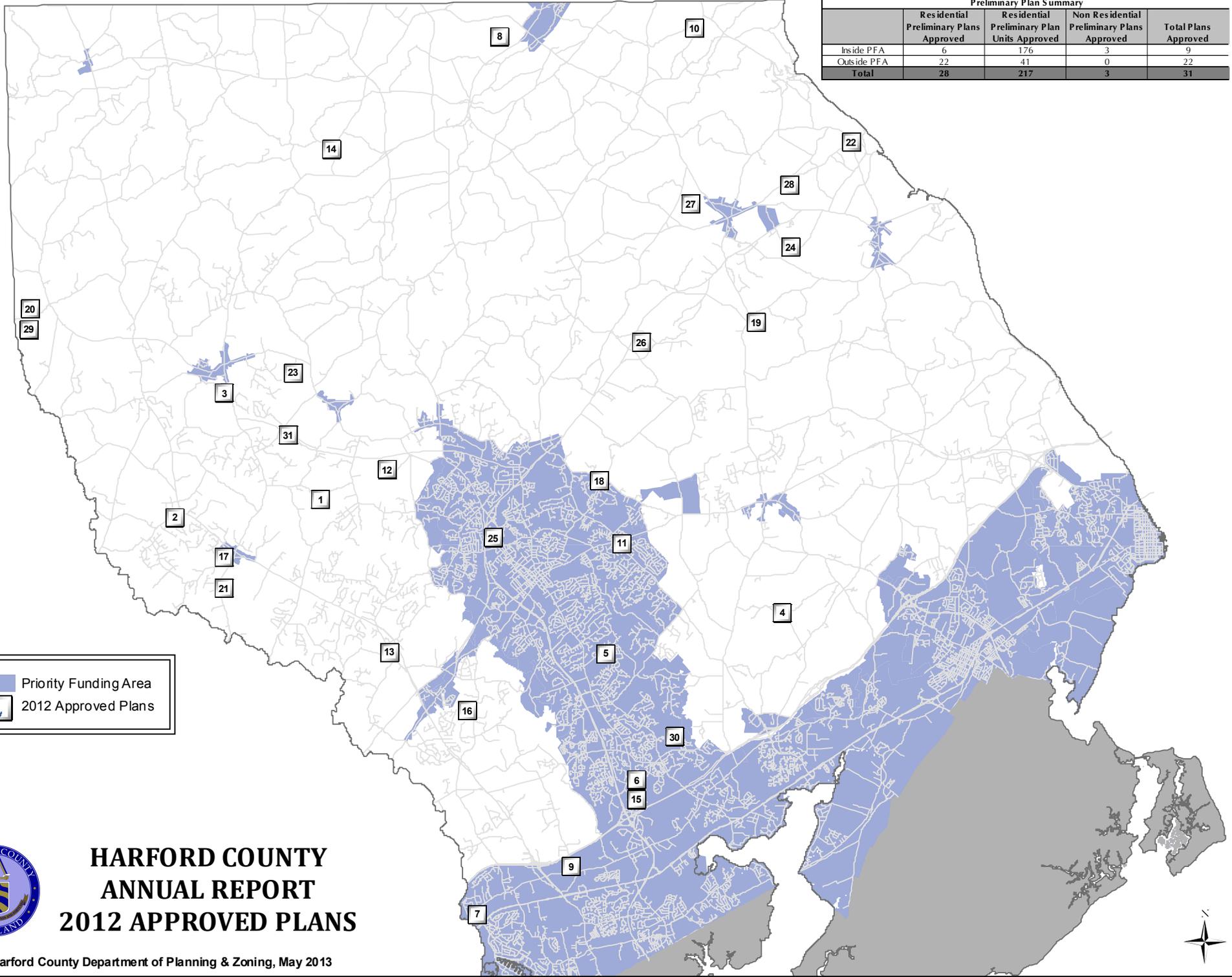
APPENDIX A

Appendix A
HARFORD COUNTY
APPROVED SUBDIVISION PLANS: 2012

| MAP # | PLAN NAME | ACREAGE | LOT ACREAGE | TOTAL UNITS | SF UNITS | TH UNITS | APT UNITS | CONDO UNITS | TDR UNITS | TYPE OF USE | PFA | ZONING |
|-------|---|------------|-------------|-------------|------------|----------|-----------|-------------|-----------|-----------------|-----|-----------|
| 1 | 1500 CLAYTON ROAD | 1.338 | 1.338 | 2 | 2 | 0 | 0 | 0 | | RESIDENTIAL | YES | R1 |
| 2 | 1615 E. CHURCHVILLE ROAD | 1.24 | 0 | 0 | 0 | 0 | 0 | 0 | | NON RESIDENTIAL | YES | CI |
| 3 | ANN'S MEADOWS, LOTS 1-20 | 6.063 | 6.063 | 20 | 20 | 0 | 0 | 0 | | RESIDENTIAL | YES | R2 COS |
| 4 | BAYNE RIDGE, LOT 6 | 4.076 | 4.076 | 1 | 1 | 0 | 0 | 0 | | RESIDENTIAL | NO | RR |
| 5 | BLACK BROTHERS, LD OF - LOTS 1 & 2 | 27.54 | 27.54 | 2 | 2 | 0 | 0 | 0 | | RESIDENTIAL | NO | AG |
| 6 | BOULEVARD AT BOX HILL - LOT 2 | 25.63 | 25.63 | 0 | 0 | 0 | 0 | 0 | | NON RESIDENTIAL | YES | CI |
| 7 | BOULEVARD AT BOX HILL-PHASE 2 | 30.46 | 30.46 | 0 | 0 | 0 | 0 | 0 | | NON RESIDENTIAL | YES | CI |
| 8 | CALARY, LD OF LOT 1 | 2.27 | 2.27 | 1 | 1 | 0 | 0 | 0 | | RESIDENTIAL | NO | AG |
| 9 | CEDAR CHURCH ESTATES | 7.4 | 7.4 | 2 | 2 | 0 | 0 | 0 | | RESIDENTIAL | NO | AG |
| 10 | CICONE, LAND OF - LOT 1 | 2.41 | 2.41 | 1 | 1 | 0 | 0 | 0 | | RESIDENTIAL | NO | AG |
| 11 | HAGY, ELOISE - LOT 2 | 2 | 2 | 1 | 1 | 0 | 0 | 0 | | RESIDENTIAL | NO | AG |
| 12 | HARFORD DALE SOUTH-LOTS 108-112 | 11.53 | 11.53 | 5 | 5 | 0 | 0 | 0 | | RESIDENTIAL | YES | R2 |
| 13 | HENRY CLAY ESTATES-LOT 2 | 2.71 | 2.71 | 1 | 1 | 0 | 0 | 0 | | RESIDENTIAL | NO | AG |
| 14 | HUFF, ESTATE OF CLARENCE A. - PARCEL B | 2.471 | 2.471 | 1 | 1 | 0 | 0 | 0 | | RESIDENTIAL | NO | AG |
| 15 | KIRKWOOD, JR, LDS OF EDWIN L. & WIFE | 25.88 | 25.88 | 4 | 4 | 0 | 0 | 0 | | RESIDENTIAL | NO | AG |
| 16 | LAUREL BUSH ESTATES | 115.48 | 115.48 | 136 | 136 | 0 | 0 | 0 | | RESIDENTIAL | YES | AG/R1 COS |
| 17 | LAYNE, GLEN & MARGARET, LOT 2 & 3 | 24.368 | 24.368 | 2 | 2 | 0 | 0 | 0 | | RESIDENTIAL; | NO | AG |
| 18 | LUX, LAND OF - LOT 1 | 11.53 | 11.53 | 1 | 1 | 0 | 0 | 0 | | RESIDENTIAL | NO | AG |
| 19 | MARINER'S REST | 10.03 | 10.03 | 11 | 11 | 0 | 0 | 0 | | RESIDENTIAL | YES | R1 COS |
| 20 | MCPMAHON, LAND OF | 21.31 | 21.31 | 4 | 4 | 0 | 0 | 0 | | RESIDENTIAL | NO | AG |
| 21 | OVERLOOK, THE, LOT 5 | 2 | 2 | 1 | 1 | 0 | 0 | 0 | | RESIDENTIAL | NO | AG |
| 22 | PARSONS, LAND OF- LOTS 4 & 5 | 3.18 | 3.18 | 2 | 2 | 0 | 0 | 0 | | RESIDENTIAL | YES | R2 |
| 23 | PIEPER FAMILY FARM LOT 2 | 8.814 | 8.814 | 1 | 1 | 0 | 0 | 0 | | RESIDENTIAL | NO | AG |
| 24 | POI, LDS OF LOTS 5, 6 & 7 | 18.408 | 18.408 | 3 | 3 | 0 | 0 | 0 | | RESIDENTIAL | NO | AG |
| 25 | SCARFF, LAND OF ADDIE W. - LOT 1 | 68.074 | 38.535 | 1 | 1 | 0 | 0 | 0 | | RESIDENTIAL | NO | AG/VR |
| 26 | SCHIAVI, LDS OF ANN & AMERICO - LOT 2 | 3.165 | 3.165 | 1 | 1 | 0 | 0 | 0 | | RESIDENTIAL | NO | AG |
| 27 | SHACKELFORD, LD OF - LOT 2 | 2 | 2 | 1 | 1 | 0 | 0 | 0 | | RESIDENTIAL | NO | AG |
| 28 | STEINBACH, JR., LDS OF ROZIER LEWIS ET AL | 68.732 | 68.732 | 8 | 8 | 0 | 0 | 0 | | RESIDENTIAL | NO | AG |
| 29 | THOMAS, LANDS OF - LOT 3 | 2 | 2 | 1 | 1 | 0 | 0 | 0 | | RESIDENTIAL | NO | AG |
| 30 | TOBIN, RACHEL K. ET.AL - LOTS 10 & 11 | 10 | 10 | 2 | 2 | 0 | 0 | 0 | | RESIDENTIAL | NO | RR |
| 31 | WARFIELD, LANDS OF - LOT 1 | 3.622 | 3.622 | 1 | 1 | 0 | 0 | 0 | | RESIDENTIAL | NO | AG |
| | | 526 | 495 | 217 | 217 | 0 | 0 | 0 | 0 | | | |

| Preliminary Plan Summary | | | | |
|--------------------------|--|---|--|----------------------|
| | Residential Preliminary Plans Approved | Residential Preliminary Plan Units Approved | Non Residential Preliminary Plans Approved | Total Plans Approved |
| Inside PFA | 6 | 176 | 3 | 9 |
| Outside PFA | 22 | 41 | 0 | 22 |
| Total | 28 | 217 | 3 | 31 |

 Priority Funding Area
 2012 Approved Plans



HARFORD COUNTY ANNUAL REPORT 2012 APPROVED PLANS

Source: Harford County Department of Planning & Zoning, May 2013



APPENDIX B

Appendix B

HARFORD COUNTY REZONING(S) IN 2012

| Owner | Tax ID # | Address | Original Zoning | New Zoning | Acreage | Date of Rezoning |
|--------------------------------|----------|------------------------|-----------------------------|-------------------------------|---------|------------------|
| Lot 83 Newport Drive LLC | 03317021 | 2A Newport Drive | Village Residential (VR) | Commercial Industrial (CI) | 1.217 | 11/20/2012 |

APPENDIX C

Appendix C

DEVELOPMENT REGULATIONS - LIST OF AMENDMENTS

Zoning Code

| Effective | Bill | Description |
|-----------|-------|--|
| 5/14/12 | 12-07 | Provided that temporary uses be allowed for a maximum of 45 consecutive calendar days; includes hours and information about emergency personnel. |
| 5/21/12 | 12-14 | Permits personal care boarding homes in B3. |
| 1/26/13 | 12-44 | Related to commercial vehicle weight including definitions, hawker peddler and accessory uses. |

Subdivision Regulations

| Effective | Bill | Description |
|-----------|-------|--|
| 12/31/12 | 12-50 | Added definition of major subdivision for the Sustainable Growth and Agricultural Preservation Act (SB 236). |

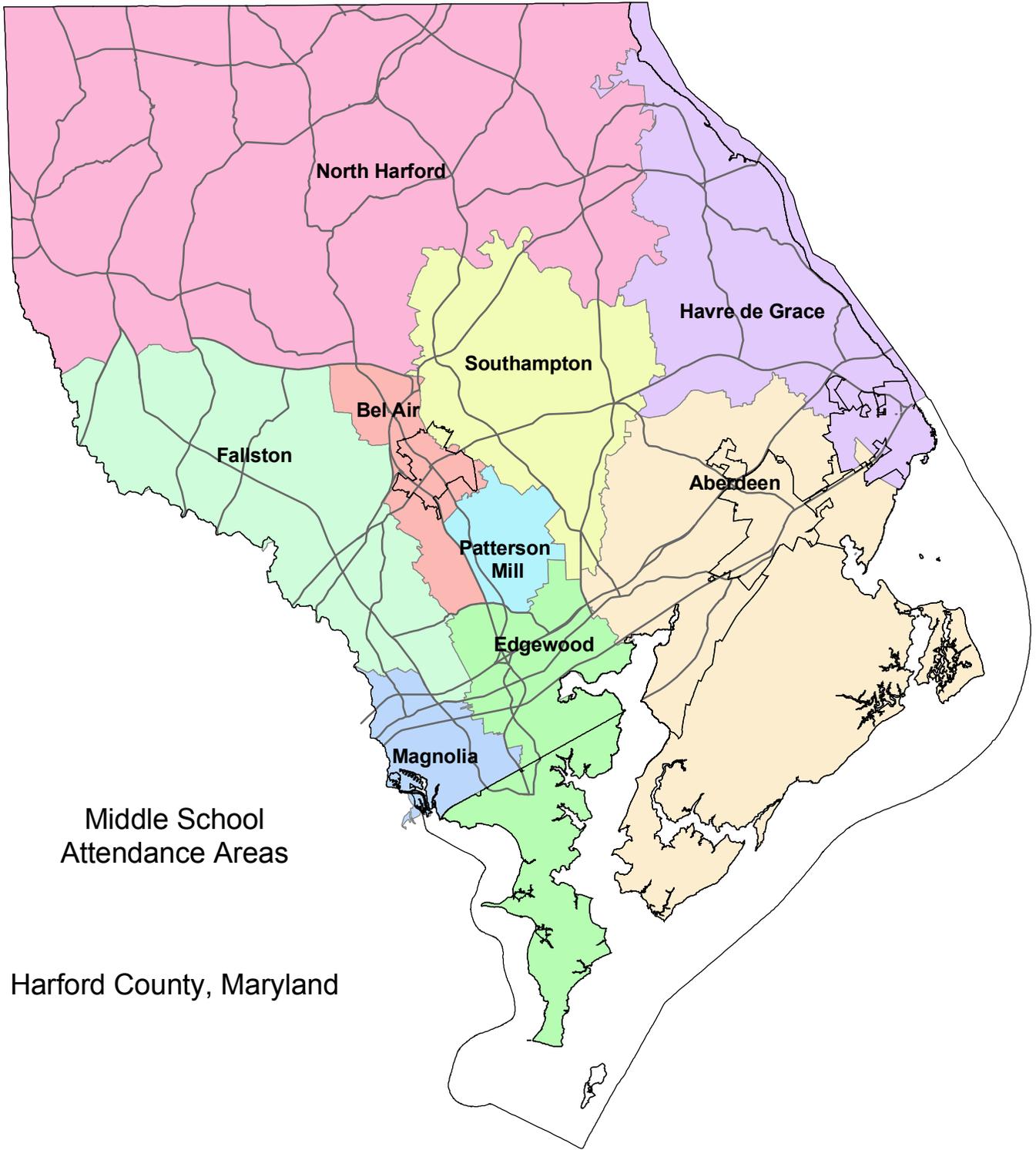
APPENDIX D



Elementary School
Attendance Areas

Harford County, Maryland

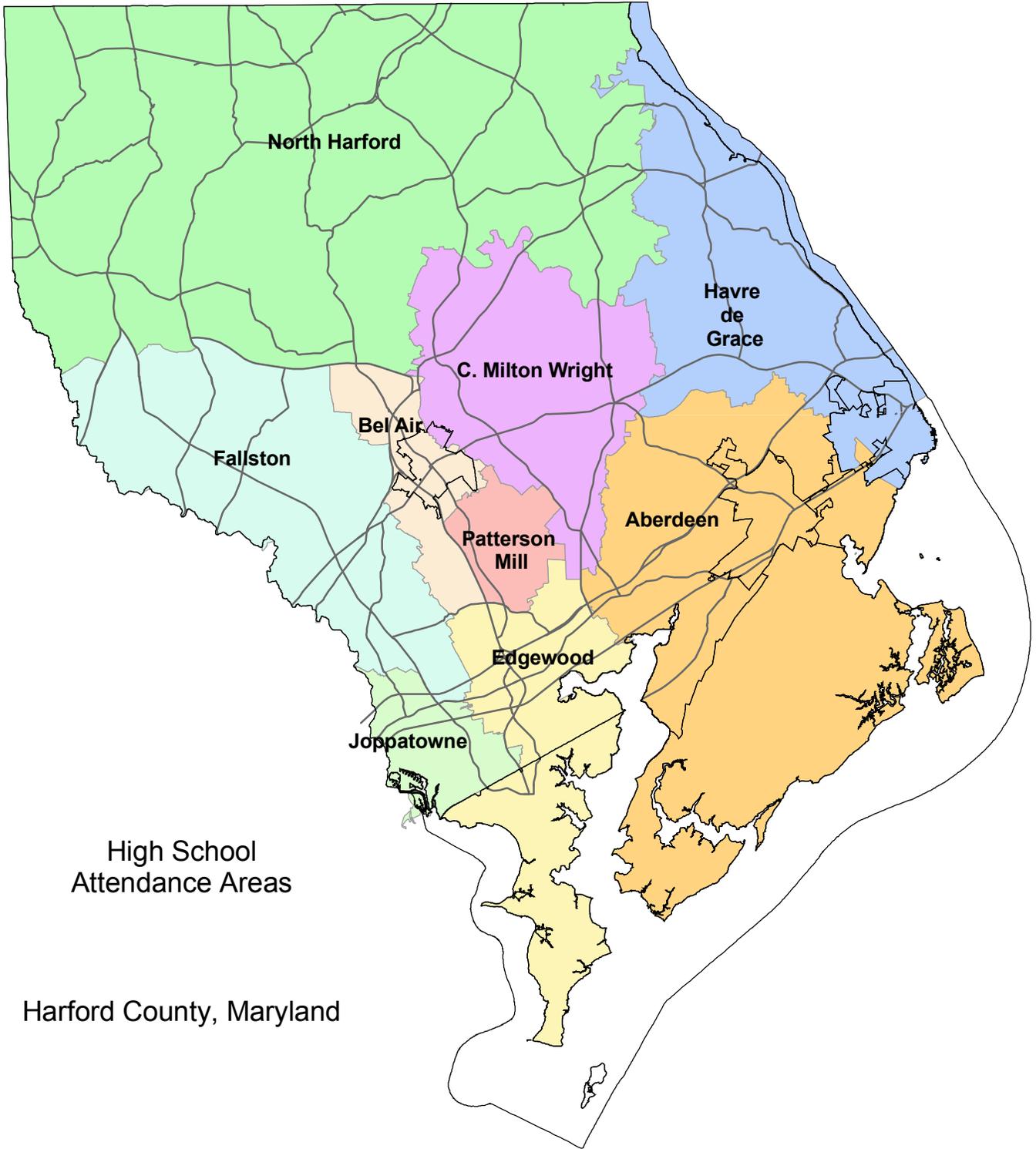
SOURCE: Harford County Public Schools, March 2011.



Middle School
Attendance Areas

Harford County, Maryland

SOURCE: Harford County Public Schools, September 2006.



SOURCE: Harford County Public Schools, September 2006.

APPENDIX E

PUPIL YIELD FACTORS

To calculate pupil yield factors forty-eight subdivisions were selected from various geographic locations throughout Harford County, to include single family dwellings, townhouse units, apartments/condominium units, and mobile home units. The subdivisions selected represented newly constructed and established subdivisions ranging in size from 22 units to 2,240 units. Additionally, subdivisions were selected to provide a broad range of attendance areas across the County. A count was made of each student who resided in each of the forty-eight subdivisions studied. The data were tabulated by unit type, and the specific pupil yields were calculated for each subdivision in the elementary, middle, and high schools.

| UNIT TYPE | GRADES | | |
|----------------------|--------|-----|------|
| | K-5 | 6-8 | 9-12 |
| Single Family | .28 | .15 | .19 |
| Townhome | .25 | .12 | .14 |
| Apartments (2 Bdrms) | .04 | .01 | .02 |
| Condo (2+ Bdrms) | .04 | .01 | .02 |
| Mobile Home | .16 | .07 | .06 |

