



2008 Annual Growth Report



Harford County Government Department of Planning and Zoning

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Preserving Harford's Past; Promoting Harford's Future

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This document is available in alternative format upon request.

The 2008 Annual Growth Report

Table of Contents

Executive Summary	1
Introduction and Growth Trends.....	5
Public Schools.....	11
Water and Sewerage	25
Road System	31
Appendix.....	
1. Pupil Yield Factors	
2. Elementary School District Map	
3. Middle School District Map	
4. High School District Map	

List of Tables

Table 1	Harford County - Baltimore Region Residential Building Permit Activity	6
Table 2	Harford County - Baltimore Region Population and Household Projections.....	7
Table 3	Harford County - Baltimore Region Employment Projections.....	8
Table 4	Harford County - Baltimore Region Non-Residential Permit Activity New Permits Valued \$50,000 and Over	9
Table 5	Harford County - Baltimore Region Non-Residential Permit Activity Additions, Alterations, and Repairs Valued \$50,000 and Over.....	10
Table 6	Harford County Elementary Schools Utilization Chart.....	14
Table 7	Harford County Middle Schools Utilization Chart.....	15
Table 8	Harford County High Schools Utilization Chart	16
Table 9	Harford County Modified Elementary School Projections.....	17
Table 10	Harford County Modified Secondary School Projections	18
Table 11	Harford County Residential Building Permit Activity by Elementary School District.....	19
Table 12	Harford County Residential Building Permit Activity by Middle School District.....	20
Table 13	Harford County Residential Building Permit Activity by High School District ...	21
Table 14	Harford County Population and Households by Elementary School District	22
Table 15	Harford County Population and Households by Middle School District	23
Table 16	Harford County Population and Households by High School District.....	24
Table 17	Water Consumption and Sewage Generation	27
Table 18	Harford County System Water Production Projections.....	28
Table 19	Harford County Present and Projected Sewerage Demands and Planned Capacities.....	29

List of Tables Continued

Table 20	2008 Existing Water and Sewer Capital Projects	30
Table 21	Signalized Intersection Capacity Analyses.....	33
Table 22	Unsignalized Intersection Capacity Analyses.....	34
Table 23	Average Daily Count Locations	35
Table 24	List of Approved County Capital Projects Funded for Construction in FY 09	36
Table 25	List of Consolidated Transportation Program Projects Funded for Construction in FY 09.....	37

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.

Harford County Public Schools:

Effective July 1, 2009 the adopted adequacy standards for the Public School system are:

Elementary Schools - 110 percent of rated capacity within 5 years.
Secondary Schools - 110 percent of rated capacity within 5 years.

Based on these standards, preliminary plans for major subdivisions (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 five years. Currently, twenty-five of thirty-two elementary schools and all seventeen middle and high schools meet adequacy standards. The following schools listed below do not meet the adequacy standards established.

Elementary Schools	Year	Actual / Projected Students	Utilization Rate
Emmorton	2008/2009	676	123%
Forest Lakes	2008/2009	664	121%
Fountain Green	2008/2009	651	114%
Hickory	2008/2009	696	112%
Magnolia	2009/2010	536	110.2%
Prospect Mill	2008/2009	931	137%
Youth's Benefit	2008/2009	1,072	120%

Beginning July 1, 2009, major subdivision plans within these attendance areas will not be approved but will be reviewed and placed on a waiting list until capacity is available. The Joppatowne Elementary School addition/modernization is planned for completion in September 2009 and will provide relief to the attendance area.

There are several capital projects that are planned for completion over the next two years. The Deerfield Elementary School Replacement and the Edgewood High School Replacement have planned opening dates of August 2010. The state rated capacities of the replacement schools are 771 and 1,742, respectively. The Bel Air High School Replacement has a planned opening date of August 2009, with a state rated capacity of 1,668.

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 current average daily usage is 12.3 MGD (Million Gallons Per Day), with a peak day demand of 15.4 MGD. In addition, the County has contracts with the municipalities totaling 2.5 MGD; for a total demand of 17.9 MGD. The Water Treatment capacity is 20.4 MGD.

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

Harford County 2008 Sewerage Capacity by Service Area in Million Gallons Per Day (MGD)

Service Area	Total Flow	System Capacity	Average Reserve
Harford County-Sod Run	11.5	20.0	8.5
Joppatowne	0.73	0.95	0.22
Spring Meadows	0.01	0.01	0.00
Whiteford-Cardiff	0.03	0.12	0.09

The determination of water or sewerage capacity in a specific area of the County can be found in the "Water and Sewer 2008 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.

Currently, there is an estimated 1.3 MGD of water capacity available in the Abingdon Water Treatment Plant service area. Funding, right-of-way acquisition, and construction plans have been completed for the expansion of the Abingdon Water Treatment Plant, with construction anticipated to be completed in the spring of 2011.

The sewer 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 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 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 Envelope: 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 five signalized intersections and eight 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 24 / Maryland 924 / Tollgate Road
2. Maryland 24 and US 1
3. Maryland 152 and US 1
4. Maryland 22 and Thomas Run Road / Schucks Road
5. Maryland 24 and Bel Air South Parkway
6. Interstate 95 and Maryland 24 Ramp
7. Maryland 147 and Connolly Road
8. Maryland 23 and Grafton Shop Road
9. Tollgate Road and MacPhail Road
10. US 1 and Milton Avenue
11. US 1 and Reckord Road
12. Maryland 7 and Brass Mill Road
13. Maryland 22 and Aldino-Stepney Road

Developments that impact these intersections will be required to mitigate their impacts to the intersection. The Interstate 95/MD 24 Improvement Project is currently under construction and is anticipated to improve the LOS at the Maryland 24/Maryland 924/Tollgate Road intersection and the Interstate 95 and Maryland 24 Ramp.

INTRODUCTION

The Annual Growth Report is an ongoing analysis of growth trends, facility capacity, and service performance. This report was 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;
- 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 2000 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 remaining jurisdictions in the Baltimore Region are based on an interpolation of the Baltimore Metropolitan Council's Round 7B 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 8,490 planned units remaining as of December 31, 2008.

The 2000 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 of each building permit for each year. This provides the needed information on growth trends by facility service area.

Table 1
Harford County - Baltimore Region
Residential Permit Activity
2004 - 2008

Jurisdiction	2004	2005	2006	2007	2008	Total	Percentage of Baltimore Region
Harford County	1,779	2,113	1,001	788	527	6,208	15.5%
Anne Arundel County	2,380	3,014	1,465	1,851	988	9,698	24.2%
Baltimore City	723	1,262	1,081	449	1,144	4,659	11.6%
Baltimore County	2,209	1,990	2,223	1,143	1,529	9,094	22.7%
Carroll County	923	675	515	310	198	2,621	6.5%
Howard County	1,840	1,781	1,699	1,390	1,054	7,764	19.4%
Total	9,854	10,835	7,984	5,931	5,440	40,044	100.0%

Source: Baltimore Metropolitan Council, May 2009.

Table 2
Harford County - Baltimore Region
Population and Household Projections
2008 - 2018

Jurisdiction	2008 Population	2008 Households	2013 Population	2013 Households	2018 Population	2018 Households
Harford County	245,340	92,170	255,860	96,480	270,020	103,340
Anne Arundel County	525,160	198,380	541,020	207,460	552,560	215,040
Baltimore City	655,480	262,560	668,940	272,500	680,120	280,000
Baltimore County	804,960	320,320	826,600	330,880	841,240	339,420
Carroll County	172,980	60,720	180,360	64,060	188,820	68,040
Howard County	280,340	105,340	294,540	114,100	307,140	122,080
Total	2,684,260	1,039,490	2,767,320	1,085,480	2,839,900	1,127,920

Source: Baltimore Metropolitan Council, May 2009.

Table 3
Harford County - Baltimore Region
Employment Projections
2008 - 2018

Jurisdiction	2008 Employment	2013 Employment	2018 Employment
Harford County	122,780	137,260	147,656
Anne Arundel County	330,760	352,800	375,438
Baltimore City	447,100	457,460	467,458
Baltimore County	530,120	522,680	539,138
Carroll County	81,100	85,800	87,698
Howard County	188,560	207,500	224,678
Total	1,700,420	1,763,500	1,842,066

Source: Baltimore Metropolitan Council, May 2009.

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

Permit Type	2004		2005		2006		2007		2008	
	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	36	461,819	33	691,534	21	237,953	23	219,660	22	436,289
Industrial	7	615,313	9	61,082	17	174,590	13	879,800	7	438,550
Institutional	18	123,150	22	313,231	33	342,869	23	42,186	20	497,894
Utilities	2	0	2	0	2	0	1	0	8	65,064
Other	5	38,640	1	8,400	2	161,000	1	82,620	1	13,000
Total	68	1,238,922	67	1,074,247	75	916,412	61	1,224,266	58	1,450,797

Source: Baltimore Metropolitan Council, May 2009.

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

Permit Type	2004		2005		2006		2007		2008	
	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	43	NA	33	NA	31	NA	34	NA	35	NA
Industrial	8	NA	1	NA	1	NA	1	NA	5	NA
Institutional	19	NA	4	NA	11	NA	10	NA	20	NA
Utilities	3	NA	1	NA	0	NA	2	NA	1	NA
Total	73	NA	39	NA	43	NA	47	NA	61	NA

NA: Data Not Available

Source: Baltimore Metropolitan Council, May 2009.

PUBLIC SCHOOLS

Introduction

To assess current and future adequacy of the public school facilities, the capacities of the existing schools, the utilization of the schools, 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 five-year projected school enrollments (Tables 6, 7, and 8). Modified school enrollment projections are included and take into account planned units remaining and projected units from vacant land zoned for residential purposes (Tables 9 and 10). In addition, development information such as building permits issued by dwelling type (Tables 11, 12, and 13) and population and household estimates (Tables 14, 15, and 16) are included in this report. School maps and pupil yield factors by dwelling unit type are included in the Appendix.

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 the current school districts. Based on the Adequate Public Facilities provision of the County Code (Section 267-126), the levels of service standard for Public Schools are:

Elementary – 110 percent of rated capacity within 5 years

Secondary – 110 percent of rated capacity within 5 years

Elementary Schools

Under current law, preliminary plans for major subdivisions (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 five years. Currently, twenty-five of thirty-two elementary schools meet adequacy standards. The following schools listed below do not meet the adequacy standards established.

Elementary Schools	Year	Actual / Projected Students	Utilization Rate
Emmorton	2008/2009	676	123%
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Beginning July 1, 2009, major subdivision plans within these attendance areas will not be approved but will be reviewed and placed on a waiting list until capacity is available. The Joppatowne Elementary School addition/modernization is planned for completion in September 2009 and will provide relief to the attendance area.

There are several capital projects that are planned for completion over the next two years. The Deerfield Elementary School Replacement and the Edgewood High School Replacement have planned opening dates of August 2010. The state rated capacities of the replacement schools will be 771 and 1,742, respectively. The Bel Air High School Replacement has a planned opening date of August 2009, with a state rated capacity of 1,668.

Secondary Schools

Under current law, preliminary plans for major subdivisions (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 five years. Currently all seventeen 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 the first grade in 2000 and the number in the second grade the following year. The ratio, therefore, represents the number of first graders who advance to the 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 who are actually attending their home school. 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)

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 was based on the existing zoning. Once 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 will be made in terms of school capacities or utilization of existing facilities.

Table 6
Harford County Elementary Schools
Utilization Chart
2008

Elementary School	State-Rated Capacity	Actual		Projected									
		2008 - 2009		2009 - 2010		2010 - 2011		2011 - 2012		2012 - 2013		2013 - 2014	
		ENROLL	% UTIL.	ENROLL	% UTIL.	ENROLL	% UTIL.	ENROLL	% UTIL.	ENROLL	% UTIL.	ENROLL	% UTIL.
Abingdon	821	775	94%	762	93%	755	92%	757	92%	762	93%	749	91%
Bakerfield	455	458	101%	471	104%	473	104%	477	105%	486	107%	484	106%
Bel Air	500	493	99%	498	100%	491	98%	499	100%	510	102%	522	104%
Church Creek	789	723	92%	758	96%	787	100%	797	101%	808	102%	820	104%
Churchville	388	363	94%	339	87%	349	90%	351	90%	355	91%	349	90%
Darlington	192	125	65%	109	57%	112	58%	118	61%	116	60%	119	62%
Deerfield	555	520	94%	493	89%	496	89%	501	90%	517	93%	517	93%
Dublin	295	230	78%	240	81%	249	84%	246	83%	243	82%	243	82%
Edgewood	511	351	69%	329	64%	317	62%	313	61%	305	60%	303	59%
Emmorton	549	676	123%	695	127%	705	128%	711	130%	715	130%	731	133%
Forest Hill	581	564	97%	574	99%	568	98%	563	97%	560	96%	576	99%
Forest Lakes	548	664	121%	675	123%	667	122%	652	119%	659	120%	663	121%
Fountain Green	571	651	114%	642	112%	638	112%	629	110%	641	112%	643	113%
G. Lisby at Hillsdale	432	333	77%	336	78%	343	79%	344	80%	345	80%	340	79%
Hall's Cross Roads	632	405	64%	424	67%	435	69%	448	71%	478	76%	470	74%
Havre de Grace	574	375	65%	403	70%	419	73%	445	78%	445	78%	463	81%
Hickory	622	696	112%	700	113%	694	112%	695	112%	723	116%	721	116%
Homestead/Wakefield	907	880	97%	894	99%	903	100%	880	97%	890	98%	889	98%
Jarrettsville	520	414	80%	426	82%	428	82%	439	84%	454	87%	446	86%
Joppatowne*	653	526	109%	532	81%	532	81%	548	84%	561	86%	545	83%
Magnolia	499	536	107%	550	110.2%	557	112%	565	113%	575	115%	581	116%
Meadowvale	568	528	93%	479	84%	487	86%	479	84%	484	85%	490	86%
Norrisville	252	192	76%	186	74%	185	73%	175	69%	174	69%	180	71%
North Bend	513	399	78%	401	78%	392	76%	398	78%	411	80%	418	81%
North Harford	487	449	92%	447	92%	439	90%	432	89%	445	91%	441	91%
Prospect Mill	680	931	137%	946	139%	949	140%	953	140%	968	142%	984	145%
Ring Factory	549	500	91%	495	90%	475	87%	463	84%	476	87%	486	89%
Riverside	522	484	93%	436	84%	441	84%	452	87%	456	87%	459	88%
Roye-Williams	752	407	54%	389	52%	367	49%	359	48%	359	48%	362	48%
Wm. Paca / Old Post Rd.	940	995	106%	1,009	107%	1,029	109%	1,034	110%	1,034	110%	1,026	109%
Wm. S. James	476	467	98%	427	90%	420	88%	432	91%	429	90%	429	90%
Youth's Benefit	890	1,072	120%	1,093	123%	1,098	123%	1,103	124%	1,130	127%	1,131	127%
TOTAL	18,223	17,182	95%	17,158	94%	17,200	94%	17,258	95%	17,514	96%	17,580	96%

* Joppatowne Elementary School Addition/Moderization will increase capacity to 653 in September 2009; capacity for 2008-09 is 484.

Source: Harford County Public Schools and Dept. of Planning and Zoning, November 2008.

Table 7
Harford County Middle Schools
Utilization Chart
2008

Middle School	State-Rated Capacity	Actual		Projected									
		2008 - 2009		2009 - 2010		2010 - 2011		2011 - 2012		2012 - 2013		2013 - 2014	
		ENROLL	%UTIL	ENROLL	%UTIL	ENROLL	%UTIL	ENROLL	%UTIL	ENROLL	%UTIL	ENROLL	%UTIL
Aberdeen	1,709	1,120	66%	1,128	66%	1,115	65%	1,091	64%	1,049	61%	1,100	64%
Bel Air	1,318	1,249	95%	1,242	94%	1,249	95%	1,267	96%	1,246	95%	1,234	94%
Edgewood	1,370	1,028	75%	1,040	76%	984	72%	990	72%	954	70%	985	72%
Fallston	1,105	905	82%	890	81%	908	82%	884	80%	864	78%	876	79%
Havre de Grace	775	613	79%	605	78%	567	73%	550	71%	563	73%	581	75%
Magnolia	1,073	785	73%	764	71%	698	65%	709	66%	676	63%	701	65%
North Harford	1,243	1,134	91%	1,118	90%	1,084	87%	1,040	84%	1,022	82%	1,009	81%
Patterson Mill	733	763	104%	769	105%	758	103%	724	99%	703	96%	681	93%
Southampton	1,540	1,295	84%	1,233	80%	1,198	78%	1,221	79%	1,149	75%	1,138	74%
Alternative Education/RAACS	100	48											
Total	10,966	8,940	82%	8,789	81%	8,561	79%	8,476	78%	8,226	76%	8,305	76%

Table 8

**Harford County High Schools
Utilization Chart
2008**

High School	State-Rated Capacity	Actual		Projected									
		2008 - 2009		2009 - 2010		2010 - 2011		2011 - 2012		2012 - 2013		2013 - 2014	
		ENROLL	%UTIL	ENROLL	%UTIL	ENROLL	%UTIL	ENROLL	%UTIL	ENROLL	%UTIL	ENROLL	%UTIL
Aberdeen	1,679	1504	90%	1,476	88%	1,454	87%	1,455	87%	1,463	87%	1,423	85%
Bel Air*	1,668	1380	83%	1,318	79%	1,363	82%	1,362	82%	1,351	81%	1,338	80%
C. Milton Wright	1,678	1587	95%	1,626	97%	1,563	93%	1,540	92%	1,567	93%	1,490	89%
Edgewood	1,380	1123	81%	1,091	79%	1,084	79%	980	71%	988	72%	962	70%
Fallston	1,529	1365	89%	1,264	83%	1,122	73%	1,165	76%	1,105	72%	1,095	72%
Harford Technical	966	1040	108%	1,057	109%	1,070	111%	1,079	112%	1,067	110%	1,062	110%
Havre de Grace	850	764	90%	799	94%	821	97%	824	97%	825	97%	776	91%
Joppatowne	1,105	969	88%	939	85%	965	87%	876	79%	860	78%	821	74%
North Harford	1,603	1367	85%	1,381	86%	1,381	86%	1,419	89%	1,375	86%	1,350	84%
Patterson Mill	1,030	701	68%	891	87%	871	85%	854	83%	825	80%	824	80%
Alternative Education	225	137											
Total	13,713	11,937	87%	11,842	88%	11,694	87%	11,554	86%	11,426	85%	11,141	83%

* Bel Air High School Replacement is planned to open August 2009.

Table 9

Harford County
Modified Elementary School Enrollment Projections

School District	2008	2009	2010	2011	2012	2013	2014	2015	2016
ABINGDON	775	762	755	757	762	749	766	759	765
modified	775	762	756	759	765	753	771	765	772
BAKERSFIELD	458	471	473	477	486	484	487	483	486
modified	458	471	505	545	594	633	681	723	779
BEL AIR	493	498	491	499	510	522	523	519	523
modified	493	498	499	518	541	565	578	586	603
CHURCH CREEK	723	758	787	797	808	820	808	800	807
modified	723	758	829	894	964	1,039	1,091	1,151	1,236
CHURCHVILLE	363	339	349	351	355	349	356	387	390
modified	363	339	357	366	377	379	394	435	446
DARLINGTON	125	109	112	118	116	119	122	131	131
modified	125	109	115	124	125	131	138	151	155
DEERFIELD	520	493	496	501	517	517	524	566	570
modified	520	493	500	509	529	533	545	592	600
DUBLIN	230	240	249	246	243	243	252	250	252
modified	230	240	253	254	254	258	272	274	280
EDGEWOOD	351	329	317	313	305	303	313	311	313
modified	351	329	321	322	319	322	338	342	349
EMMORTON	676	695	705	711	715	731	732	723	727
modified	676	695	723	752	781	823	850	866	899
FOREST HILL	564	574	568	563	560	576	583	578	582
modified	564	574	574	574	576	598	610	610	620
FOREST LAKES	664	675	667	652	659	663	679	672	677
modified	664	675	677	671	688	701	727	730	745
FOUNTAIN GREEN	651	642	638	629	641	643	652	646	651
modified	651	642	640	633	647	651	662	658	665
G. LISBY AT HILLSDALE	333	336	343	344	345	340	342	339	341
modified	333	336	349	356	363	364	373	376	385
HALLS CROSS ROADS	405	424	435	448	478	470	470	467	471
modified	405	424	438	454	487	482	485	485	493
HAVRE DE GRACE	375	403	419	445	445	463	472	468	473
modified	375	403	452	518	563	631	695	745	814
HICKORY	696	700	694	695	723	721	725	719	724
modified	696	700	712	732	779	797	821	835	861
HOMESTEAD/WAKEFIELD	880	894	903	880	890	889	909	899	906
modified	880	894	923	922	956	978	1,024	1,038	1,071
JARRETTSVILLE	414	426	428	439	454	446	450	447	452
modified	414	426	435	453	476	475	486	491	504
JOPPATOWNE	526	532	532	548	561	545	554	550	555
modified	526	532	540	564	586	577	595	600	614
MAGNOLIA	536	550	557	565	575	581	580	575	579
modified	536	550	563	576	591	602	607	607	616
MEADOWVALE	528	479	487	479	484	490	497	534	538
modified	528	479	498	501	518	536	555	608	625
NORRISVILLE	192	186	185	175	174	180	178	177	178
modified	192	186	189	183	186	197	199	202	208
NORTH BEND	399	401	392	398	411	418	413	411	416
modified	399	401	401	415	437	453	456	463	478
NORTH HARFORD	449	447	439	432	445	441	448	446	451
modified	449	447	454	463	492	505	530	545	569
PROSPECT MILL	931	946	949	953	968	984	997	988	995
modified	931	946	962	980	1,010	1,041	1,069	1,075	1,098
RING FACTORY	500	495	475	463	476	486	489	484	489
modified	500	495	477	467	482	494	499	496	503
RIVERSIDE	484	436	441	452	456	459	471	509	514
modified	484	436	459	490	514	539	575	643	673
ROYE-WILLIAMS	407	389	367	359	359	362	370	370	373
modified	407	389	371	367	371	379	391	395	403
WM PACA/OLD POST RD	995	1,009	1,029	1,034	1,034	1,026	1,050	1,041	1,047
modified	995	1,009	1,061	1,104	1,144	1,176	1,245	1,279	1,332
W.S. JAMES	467	427	420	432	429	429	434	468	472
modified	467	427	423	438	437	440	448	485	492
YOUTHS BENEFIT	1,072	1,093	1,098	1,103	1,130	1,131	1,138	1,128	1,139
modified	1,072	1,093	1,111	1,129	1,170	1,184	1,205	1,208	1,234
Total	17,182	17,158	17,200	17,258	17,514	17,580	17,784	17,845	17,987
Total - modified	17,182	17,158	17,567	18,035	18,722	19,237	19,915	20,458	21,121

Table 10
Harford County
Modified Secondary School Enrollment Projections

Middle School

School District	2008	2009	2010	2011	2012	2013	2014	2015	2016
Aberdeen	1,120	1,128	1,115	1,091	1,049	1,100	1,118	1,188	1,174
modified	1,120	1,128	1,154	1,171	1,169	1,268	1,333	1,460	1,491
Bel Air	1,249	1,242	1,249	1,267	1,246	1,234	1,188	1,249	1,260
modified	1,249	1,242	1,265	1,299	1,294	1,299	1,268	1,349	1,378
Edgewood	1,028	1,040	984	990	954	985	944	931	908
modified	1,028	1,040	1,009	1,040	1,028	1,087	1,069	1,082	1,084
Fallston	905	890	908	884	864	876	858	914	901
modified	905	890	920	908	900	925	919	991	990
Havre de Grace	613	605	567	550	563	581	588	540	556
modified	613	605	593	601	641	687	724	697	748
Magnolia	785	764	698	709	676	701	706	706	691
modified	785	764	720	752	739	787	815	838	845
North Harford	1,134	1,118	1,084	1,040	1,022	1,009	985	1,036	1,038
modified	1,134	1,118	1,110	1,091	1,099	1,112	1,114	1,199	1,230
Patterson Mill	763	769	758	724	703	681	668	660	665
modified	763	769	768	744	733	721	718	720	737
Southampton	1,295	1,233	1,198	1,221	1,149	1,138	1,111	1,165	1,170
modified	1,295	1,233	1,215	1,256	1,200	1,207	1,197	1,272	1,296
Total	8,892	8,789	8,561	8,476	8,226	8,305	8,166	8,389	8,363
Total - modified	8,892	8,789	8,754	8,862	8,804	9,093	9,156	9,608	9,798

High School

School District	2008	2009	2010	2011	2012	2013	2014	2015	2016
Aberdeen	1,504	1,476	1,454	1,455	1,463	1,423	1,442	1,375	1,400
modified	1,504	1,476	1,494	1,535	1,584	1,584	1,648	1,618	1,693
Bel Air	1,380	1,318	1,363	1,362	1,351	1,338	1,374	1,339	1,330
modified	1,380	1,318	1,378	1,394	1,398	1,400	1,453	1,432	1,439
C. Milton Wright	1,587	1,626	1,563	1,540	1,567	1,490	1,474	1,426	1,391
modified	1,587	1,626	1,581	1,575	1,618	1,554	1,553	1,519	1,498
Edgewood	1,123	1,091	1,084	980	988	962	939	927	931
modified	1,123	1,091	1,108	1,029	1,061	1,059	1,059	1,072	1,103
Fallston	1,365	1,264	1,122	1,165	1,105	1,095	1,084	1,028	1,045
modified	1,365	1,264	1,136	1,191	1,141	1,142	1,143	1,096	1,125
Havre de Grace	764	799	821	824	825	776	758	778	765
modified	764	799	844	872	898	873	880	931	944
Joppatowne	969	939	965	876	860	821	767	764	773
modified	969	939	984	916	920	899	862	880	912
North Harford	1,367	1,381	1,381	1,419	1,375	1,350	1,329	1,260	1,257
modified	1,367	1,381	1,401	1,459	1,434	1,428	1,427	1,374	1,391
Patterson Mill	701	891	871	854	825	824	803	770	752
modified	701	891	881	874	855	865	853	829	821
Total	10,760	10,785	10,624	10,475	10,359	10,079	9,970	9,667	9,644
Total - modified	10,760	10,785	10,807	10,845	10,910	10,805	10,879	10,752	10,928

Table 11
Harford County Residential Building Permit Activity
by Elementary School District
2004 - 2008

	2004					2005					2006					2007					2008					
	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					
SCHOOL	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	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0
Bakerfield	15	0	0	0	15	9	4	0	0	13	2	0	0	1	3	2	0	12	0	14	2	2	0	0	4	
Bel Air	1	0	247	0	248	8	14	96	0	118	5	6	12	0	23	1	8	0	0	9	1	19	0	0	20	
Church Creek	107	148	0	1	256	17	151	0	0	168	3	27	12	0	42	0	126	12	0	138	1	79	14	0	94	
Churchville	31	0	0	1	32	19	0	0	1	20	11	0	0	0	11	10	0	0	0	10	7	0	0	0	7	
Darlington	8	0	0	1	9	31	0	0	2	33	2	0	0	1	3	3	0	0	0	3	3	0	0	1	4	
Deerfield	5	0	0	0	5	3	0	0	0	3	0	0	0	0	0	3	0	0	0	3	1	0	0	0	1	
Dublin	15	0	0	0	15	18	0	0	2	20	9	0	0	0	9	7	0	0	0	7	7	0	0	0	7	
Edgewood	2	0	0	0	2	17	58	0	0	75	0	24	0	0	24	0	24	0	0	24	0	4	0	0	4	
Emmorton	61	27	0	0	88	35	92	80	0	207	26	57	16	0	99	7	50	0	0	57	13	6	28	0	47	
Forest Hill	26	0	0	0	26	14	4	0	0	18	11	8	0	0	19	1	0	0	0	1	0	12	0	0	12	
Forest Lakes	26	0	0	0	26	29	0	0	0	29	20	0	0	0	20	17	0	0	0	17	15	0	0	0	15	
Fountain Green	22	0	0	0	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
G. Lisby at Hillsdale	4	0	0	0	4	5	0	0	0	5	6	0	0	0	6	4	0	0	0	4	9	0	0	0	9	
Hall's Cross Roads	26	3	0	0	29	41	92	0	0	133	3	14	0	0	17	1	19	0	0	20	1	17	0	0	18	
Havre de Grace	18	24	98	0	140	140	150	20	0	310	95	103	48	0	246	24	42	32	0	98	24	25	0	0	49	
Hickory	9	30	0	3	42	54	23	48	0	125	36	0	0	0	36	6	0	0	1	7	2	0	0	0	2	
Homestead/Wakefield	36	4	0	0	40	46	8	0	0	54	26	42	40	0	108	19	44	0	0	63	15	36	0	0	51	
Jarrettsville	21	0	0	1	22	24	0	0	1	25	44	0	0	2	46	14	0	0	1	15	12	0	0	0	12	
Joppatowne	8	0	0	0	8	27	0	0	0	27	24	0	0	0	24	3	0	0	0	3	9	0	0	0	9	
Magnolia	16	0	0	0	16	1	0	0	0	1	0	0	0	0	0	5	28	0	0	33	4	16	0	0	20	
Meadowvale	17	39	0	0	56	5	69	0	0	74	7	0	0	0	7	2	11	0	0	13	1	0	0	0	1	
Norrisville	8	0	0	2	10	22	0	0	2	24	17	0	0	1	18	4	0	0	0	4	2	0	0	1	3	
North Bend	34	0	0	2	36	32	0	0	1	33	16	0	0	2	18	12	0	0	0	12	7	0	0	0	7	
North Harford	54	0	0	2	56	46	0	0	0	46	19	0	0	0	19	19	0	0	0	19	13	0	0	3	16	
Prospect Mill	23	100	16	0	139	6	48	64	0	118	1	0	0	0	1	0	0	31	0	31	0	0	30	0	30	
Ring Factory	2	0	0	0	2	14	0	0	0	14	4	0	0	0	4	34	0	0	0	34	0	0	0	0	0	
Riverside	8	0	132	0	140	3	0	64	0	67	28	4	48	0	80	8	0	0	0	8	1	5	0	0	6	
Roye-Williams	28	0	0	0	28	19	0	0	0	19	0	29	28	0	57	0	23	24	0	47	0	19	0	0	19	
Wm. Paca/Old Post Rd	0	0	0	0	0	175	99	0	0	274	13	0	0	0	13	6	45	0	0	51	19	22	0	0	41	
Wm. S. James	137	0	0	0	137	3	0	0	2	5	5	15	0	0	20	4	15	0	0	19	1	6	0	0	7	
Youth's Benefit	128	0	0	0	128	55	0	0	0	55	28	0	0	0	28	22	0	0	0	22	11	0	0	1	12	
TOTAL	898	375	493	13	1,779	918	812	372	11	2,113	461	329	204	7	1,001	240	435	111	2	788	181	268	72	6	527	

* Note: Permit totals revised to reflect cancelled permits.

Source: Harford County Dept. of Planning & Zoning, May 2009

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

Table 12
Harford County Residential Building Permit Activity
by Middle School District
2004 - 2008

	2004					2005					2006					2007					2008				
	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				
SCHOOL	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	182	151	0	1	334	93	247	0	0	340	16	70	40	1	127	7	168	48	0	223	14	117	14	0	145
Bel Air	69	0	247	0	316	78	96	224	0	398	60	98	28	0	186	10	84	0	0	94	14	45	28	0	87
Edgewood	146	0	0	0	146	196	157	0	0	353	15	24	0	0	39	15	69	0	0	84	21	26	0	0	47
Fallston	163	0	0	0	163	96	0	64	0	160	89	0	48	0	137	55	7	0	0	62	35	12	0	1	48
Havre de Grace	50	63	98	2	213	185	219	20	2	426	110	103	48	1	262	30	53	32	0	115	27	25	0	1	53
Magnolia	31	0	132	0	163	29	0	0	0	29	40	4	0	0	44	9	28	0	0	37	14	21	0	0	35
North Harford	150	0	0	7	157	145	4	0	6	155	87	8	0	5	100	48	0	0	1	49	33	12	0	4	49
Patterson Mill	34	31	0	0	65	70	18	0	2	90	34	22	40	0	96	53	26	0	0	79	15	10	0	0	25
Southampton	73	130	16	3	222	26	71	64	1	162	10	0	0	0	10	13	0	31	1	45	8	0	30	0	38
TOTAL	898	375	493	13	1,779	918	812	372	11	2,113	461	329	204	7	1,001	240	435	111	2	788	181	268	72	6	527

Note: Permits totals revised for cancelled permits.

Source: Harford County Dept. of Planning & Zoning, May 2009

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
2004-2008

	2004					2005					2006					2007					2008				
	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				
SCHOOL	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	182	151	0	1	334	93	247	0	0	340	16	70	40	1	127	7	168	48	0	223	14	117	14	0	145
Bel Air	69	0	247	0	316	78	96	224	0	398	60	98	28	0	186	10	84	0	0	94	14	45	28	0	87
C.M. Wright	73	130	16	3	222	26	71	64	1	162	10	0	0	0	10	13	0	31	1	45	8	0	30	0	38
Edgewood	146	0	0	0	146	196	157	0	0	353	15	24	0	0	39	15	69	0	0	84	21	26	0	0	47
Fallston	163	0	0	0	163	96	0	64	0	160	89	0	48	0	137	55	7	0	0	62	35	12	0	1	48
Havre de Grace	50	63	98	2	213	185	219	20	2	426	110	103	48	1	262	30	53	32	0	115	27	25	0	1	53
Joppatowne	31	0	132	0	163	29	0	0	0	29	40	4	0	0	44	9	28	0	0	37	14	21	0	0	35
North Harford	150	0	0	7	157	145	4	0	6	155	87	8	0	5	100	48	0	0	1	49	33	12	0	4	49
Patterson Mill	34	31	0	0	65	70	18	0	2	90	34	22	40	0	96	53	26	0	0	79	15	10	0	0	25
TOTAL	898	375	493	13	1,779	918	812	372	11	2,113	461	329	204	7	1,001	240	435	111	2	788	181	268	72	6	527

Note: Permits totals revised for cancelled permits.

Source: Harford County Dept. of Planning & Zoning, May 2009

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*

2004 - 2008

SCHOOL	2004*		2005*		2006*		2007*		2008*	
	Households	Population	Households	Population	Households	Population	Households	Population	Households	Population
Abingdon	4,131	11,115	4,133	11,086	4,133	11,057	4,133	11,034	4,134	11,005
Bakerfield	2,974	8,003	2,989	8,017	3,001	8,029	3,004	8,020	3,017	8,031
Bel Air	3,552	9,557	3,787	10,160	3,899	10,433	3,921	10,470	3,930	10,460
Church Creek	3,357	9,034	3,601	9,659	3,760	10,060	3,800	10,146	3,931	10,464
Churchville	2,101	5,652	2,129	5,711	2,148	5,747	2,159	5,763	2,168	5,771
Darlington	1,031	2,775	1,040	2,790	1,071	2,866	1,074	2,868	1,077	2,867
Deerfield	2,544	6,847	2,549	6,838	2,552	6,828	2,552	6,814	2,555	6,801
Dublin	1,321	3,554	1,335	3,581	1,355	3,625	1,363	3,638	1,369	3,645
Edgewood	1,389	3,738	1,391	3,731	1,462	3,912	1,485	3,965	1,508	4,013
Emmorton	2,798	7,528	2,881	7,729	3,078	8,235	3,172	8,469	3,226	8,587
Forest Hill	2,242	6,033	2,267	6,080	2,284	6,110	2,306	6,156	2,307	6,140
Forest Lakes	3,237	8,711	3,262	8,750	3,288	8,798	3,309	8,836	3,325	8,852
Fountain Green	2,581	6,944	2,601	6,979	2,601	6,960	2,601	6,946	2,601	6,925
G. Lisby at Hillsdale	1,949	5,245	1,896	5,086	1,958	5,238	1,964	5,243	1,967	5,237
Hall's Cross Roads	1,932	5,198	1,959	5,256	2,085	5,580	2,102	5,612	2,121	5,645
Havre de Grace	3,018	8,122	3,151	8,454	3,460	9,257	3,730	9,963	3,823	10,175
Hickory	2,562	6,899	2,603	6,982	2,720	7,276	2,754	7,353	2,760	7,348
Homestead/Wakefield	5,237	14,091	5,274	14,150	5,326	14,249	5,428	14,494	5,488	14,608
Jarrettsville	2,307	6,207	2,329	6,247	2,353	6,294	2,396	6,398	2,410	6,416
Joppatowne	3,510	9,446	3,518	9,437	3,544	9,481	3,567	9,523	3,569	9,501
Magnolia	1,535	4,131	1,550	4,159	1,551	4,151	1,551	4,142	1,583	4,213
Meadowvale	2,529	6,804	2,582	6,926	2,652	7,096	2,659	7,099	2,671	7,110
Norrisville	913	2,452	921	2,470	943	2,524	961	2,565	964	2,567
North Bend	2,308	6,211	2,341	6,281	2,373	6,349	2,390	6,381	2,401	6,392
North Harford	2,377	6,397	2,432	6,525	2,476	6,625	2,494	6,660	2,512	6,687
Prospect Mill	3,842	10,339	3,976	10,666	4,089	10,941	4,094	10,931	4,123	10,976
Ring Factory	2,361	6,352	2,363	6,338	2,376	6,357	2,380	6,354	2,412	6,420
Riverside	2,685	7,224	2,818	7,559	2,881	7,709	2,957	7,897	2,965	7,892
Roye-Williams	1,506	4,051	1,589	4,264	1,550	4,148	1,604	4,284	1,649	4,389
Wm. Paca/Old Post Rd	5,439	14,636	5,569	14,940	5,830	15,598	5,844	15,604	5,884	15,664
Wm. S. James	1,902	5,119	1,902	5,103	1,907	5,102	1,926	5,143	1,944	5,175
Youth's Benefit	5,547	14,927	5,671	15,212	5,723	15,312	5,752	15,357	5,773	15,365
TOTAL	86,718	233,340	88,410	237,165	90,430	241,950	91,430	244,130	92,170	245,340

* Note: Population / Household figures are as of April 1 each year.

Table 15
Harford County Population and Households
by Middle School District
2004 - 2008

SCHOOL	2004*		2005*		2006*		2007*		2008*	
	Households	Population	Households	Population	Households	Population	Households	Population	Households	Population
Aberdeen	12,177	32,765	12,494	33,515	12,817	34,292	12,938	34,545	13,150	35,001
Bel Air	10,304	27,726	10,604	28,446	10,985	29,391	11,162	29,804	11,251	29,949
Edgewood	14,197	38,200	14,335	38,454	14,671	39,251	14,710	39,276	14,781	39,346
Fallston	8,359	22,492	8,515	22,843	8,667	23,187	8,800	23,496	8,858	23,579
Havre de Grace	6,858	18,452	7,060	18,938	7,475	19,998	7,758	20,716	7,867	20,940
Magnolia	7,266	19,552	7,421	19,907	7,449	19,929	7,490	20,000	7,526	20,032
North Harford	9,419	25,346	9,571	25,673	9,719	26,002	9,818	26,214	9,864	26,256
Patterson Mill	5,875	15,807	5,936	15,923	6,022	16,111	6,113	16,322	6,188	16,471
Southampton	12,264	33,000	12,474	33,466	12,629	33,788	12,643	33,758	12,686	33,767
TOTAL	86,718	233,340	88,410	237,165	90,430	241,950	91,430	244,130	92,170	245,340

* Note: Population / Household figures are as of April 1 each year.

Table 16
Harford County Population and Households
by High School District
2004 - 2008

SCHOOL	2004*		2005*		2006*		2007*		2008*	
	Households	Population	Households	Population	Households	Population	Households	Population	Households	Population
Aberdeen	12,177	32,765	12,494	33,515	12,817	34,292	12,938	34,545	13,150	35,001
Bel Air	10,304	27,726	10,604	28,446	10,985	29,391	11,162	29,804	11,251	29,949
C. Milton Wright	12,264	33,000	12,474	33,466	12,559	33,602	12,643	33,758	12,686	33,767
Edgewood	14,197	38,200	14,335	38,454	14,490	38,768	14,710	39,276	14,781	39,346
Fallston	8,359	22,492	8,515	22,843	8,851	23,680	8,800	23,496	8,858	23,579
Havre de Grace	6,858	18,452	7,060	18,938	7,221	19,320	7,758	20,716	7,867	20,940
Joppatowne	7,266	19,552	7,421	19,907	7,826	20,938	7,490	20,000	7,526	20,032
North Harford	9,419	25,346	9,571	25,673	9,598	25,680	9,818	26,214	9,864	26,256
Patterson Mill	5,875	15,807	5,936	15,923	6,084	16,278	6,113	16,322	6,188	16,471
TOTAL	86,718	233,340	88,410	237,165	90,430	241,950	91,430	244,130	92,170	245,340

* Note: Population / Household figures are as of April 1 each year.

WATER AND SEWERAGE

Introduction

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 2004 Harford County Land Use Element Plan. Additional information is included in this report on water/sewerage usage by dwelling type; for nonresidential uses, an inventory of existing water consumption/sewerage 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. This information is extracted from Sections IV and V of the "2008 Water and Sewer Adequate Public Facilities Report."

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. In 2008, the County's average day and maximum day demands were 12.3 MGD and 15.4 MGD, respectively. In addition to the County demand, the County has contracts with Aberdeen and Maryland American Water (Bel Air) totaling 2.5 MGD. The combined customer and contracted demand is 17.9 MGD. 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.

Currently, there is an estimated 1.3 MGD of water capacity available in the Abingdon Water Treatment Plant service area. Funding, right-of-way acquisition, and construction plans have been completed for the expansion of the Abingdon Water Treatment Plant, with construction anticipated to be completed in the spring of 2011.

There are seven multiple-use water systems that are not maintained or operated by Harford County, but are subject to the APF provision of the County Code. These systems are listed below:

- 1) Maryland-American Water Co.
- 2) Conowingo Power Co.
- 3) Campus Hills Water Works Inc.
- 4) Darlington
- 5) Greenridge Utilities Inc.
- 6) Lakeside Vista
- 7) Bel Air Heights

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 "2008 Water and Sewer Adequate Public Facilities Report."

The average daily influent flow to the Sod Run WWTP in 2008 was approximately 11.5 MGD, exclusive of recycle flows and septage. The average daily influent flow to the Joppatowne WWTP in 2008 was approximately 0.73 MGD. The average daily influent flows for Spring Meadows in 2008 is 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.

There are two private multi-use sewerage systems in the County. The Conowingo-Susquehanna Power Company provides sewerage service to the Conowingo Power Plant, some surrounding residences, and the Swan Harbor Dell Mobile Home Park which serves about 160 units. In addition, a sanitary sewer collection system has 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.

Table 17

JANUARY - DECEMBER 2008 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.

	2008
Total Number of Connections	41,635
WATER	
Total Number of Connections	39,137
Average Water Production	12.3 MGD
Maximum Day Water Production	15.4 MGD
Average Water Usage per Connection (gal/day)	314
Residential Unit Water Usage (gal/day)	156
Average Commercial/Industrial Water Usage (gal/day)	5,534
SEWAGE	
Total Number of Sewer Connections	39,794
Average Sewage Flows	12.3 MGD
Maximum Day Sewage Flows	18.5 MGD
Average Sewage per Connection (gal/day)	309
Residential Sewage Generation (gal/day)	156
Average Commercial/Industrial Sewage Generation (gal/day)	5,534

- MGD = Million Gallons per Day

Source: 2008 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																			
	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2010	2015	2020	2025
First Zone																			
Avg. Day, mgd	3.4	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	6.6	7.6	8.4	9.0
Max. Day, mgd	4.8	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	9.5	11.0	12.1	13.0
Total of Second, Third and Fourth Zones																			
Avg. Day, mgd	3.7	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	6.7	7.3	7.5	7.95
Max. Day, mgd	4	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	9.6	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	0.3	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	0.5	0.5	0.5	0.5
Chapel Hill																			
Avg. Day, mgd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	1.5
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	0.2	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
Total																			
Avg. Day, mgd	7.1	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	13.7	15.5	16.5	17.6
Max. Day, mgd	8.8	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	21.6	24.2	25.6	27.1

*-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
HARFORD COUNTY	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
	2007	36,214	8.9	1.6	1.2	11.7	20
	2008	36,530	8.4	1.3	1.8	11.5	20
	2010	39,507	8.8	1.74	2.2	12.74	20
	2025	45,872	10.3	4.18	2.4	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
	2007	3,257	0.60	0.04	0.09	0.73	0.95
	2008	3,264	0.60	0.04	0.09	0.73	0.95
	2010	3,440	0.66	0.04	0.08	0.78	0.95
	2025	3,475	0.76	0.04	0.1	0.90	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
	2007	53	0.01	0	NC	0.01	0.01
	2008	53	0.01	0	NC	0.01	0.01
	2010	53	0.01	0	NC	0.01	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
	2007	179	0.02	0	0.01	0.03	0.12
	2008	179	0.02	0	0.01	0.03	0.12
	2010	179	0.03	0.01	0.02	0.06	0.12
	2025	179	0.09	0.01	0.02	0.12	0.12

Source: 2008 Harford County Adequate Public Facilities Report, Dept. of Public Works, Division of Water and Sewer.

Table 20

2008 EXISTING WATER & SEWER CAPITAL PROJECTS

The Capital Improvement Program establishes projects for expanding and improving water and sewer facilities. This list of 2008 Capital Projects includes the project status.

<u>PROJECT NO.</u>	<u>PROJECT NAME</u>	<u>PROJECT STATUS</u>
6440	Infiltration/Inflow	- Flow Monitoring, Televising & Smoke Testing: on-going
6613	Church Creek Pump Station and Force Main Replacement	Design Phase and Easement Acquisition
6627	Country Walk Water Transmission Main Parallel	Updating plans, specifications and permits
6634	Lower Bynum Run Interceptor Parallel	Phase 1 & Phase 2: Design & Easement Acquisition Complete, Awaiting Bid Schedule
6635	Oaklyn Manor / Mandeville Road Sewer Petition	Construction Complete
6646	Foster Branch Pump Station and Force Main	Construction Phase
6647	Riverside Force Main	Construction Complete
6665	Joppatowne Pump Station # 47 and Parallel Sewer	Design Phase & Easement Acquisition
6671	Abingdon Water Treatment Plant Expansion	Construction Phase
6676	Oaklyn Manor Phase II Petition	Design Phase
6678	Stans Road and Dugan Drive Sewer Petition	Construction Complete
6685	Paul's Utility Pump Station Replacement	Construction Complete
6687	Abingdon Road Water Main	Design Phase & Easement Acquisition
6690	MD Route 24 Water Transmission Main	Study Phase
6692	Bush Creek Pump Station Upgrade and Force Main Replacement	Design Phase
6696	Haverhill Pump Station Replacement	Design Phase
6697	Riviera Drive Pump Station Replacement	Design Complete
6699	Winters Run Pump Station Outfall Sewer	Design Phase
6700	Hickory Bypass Water Transmission Main (Rte. 1 to Vineyard Oaks)	Design Phase
6703	Bynum Run Parallel Phase 6 & 7	Funding Phase
6707	Infiltration / Inflow in Bynum Run Drainage Area	Program Development

ROAD SYSTEM

Introduction

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 09 (Table 24), and a list of State consolidated transportation program projects funded for construction in FY 09 (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 nonresidential 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 of 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 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 the 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, 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 three signalized intersections and nine 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 24 / Maryland 924 / Tollgate Road
2. Maryland 24 and US 1
3. Maryland 152 and US 1
4. Maryland 22 and Thomas Run Road / Schucks Road
5. Maryland 24 and Bel Air South Parkway
6. Interstate 95 and Maryland 24 Ramp
7. Maryland 147 and Connolly Road
8. Maryland 23 and Grafton Shop Road
9. Tollgate Road and MacPhail Road
10. US 1 and Milton Avenue
11. US 1 and Reckord Road
12. Maryland 7 and Brass Mill Road
13. Maryland 22 and Aldino-Stepney Road

Developments that impact these intersections will be required to mitigate their impacts to the intersection. The Interstate-95/Maryland 24 Improvement Project is currently under construction and is anticipated to improve the LOS at the Maryland 24/Maryland 924/Tollgate Road intersection and the Interstate 95 and Maryland 24 Ramp.

Table 21
Signalized Intersection Capacity Analyses
Level Of Service And Delay In Seconds
2005- 2008

Intersection	2005 Peak Hour Level Of Service / Delay In Seconds	2006 Peak Hour Level Of Service / Delay In Seconds	2007 Peak Hour Level Of Service / Delay In Seconds	2008 Peak Hour Level Of Service / Delay In Seconds
Maryland Route 7 and U.S. Route 40		C / 27.6		C / 30.1
Maryland Route 924 and Moores Mill Road		C / 33.4		C / 33.4
Maryland Route 24 and Trimble Road		C / 28.6		B / 19.5
Maryland Route 152 and U.S. Route 1		D / 47.0		E / 61.0
Maryland Route 24 and U.S. Route 1		D / 39.7		E / 61.8
Maryland Route 152 and Trimble Road		C / 20.7		C / 32.7
Maryland Route 24 and Jarrettsville Road		C / 22.4		C / 24.6
Maryland Route 152 and Hanson Road		C / 22.7		B / 19.3
Maryland Route 152 and Singer Road		C / 30.1		D / 40.2
Maryland 22 and Thomas Run Road/Schucks Road		D / 42.6		D / 41.2
Maryland 715 and Old Philadelphia Road*		C / 22.9		C / 24.9
Maryland Route 22 and Brier Hill Road	C / 24.7		B / 16.7	
Maryland Route 22 and Maryland Route 136	C / 34.6		C / 29.0	
Maryland Route 24 and Bel Air South Parkway	D / 36.6		E / 58.7	
Maryland Route 24 and Forest Valley Road**	F / 121.5		C / 21.0	
Maryland Route 24 and Plumtree Road	D / 34.5		C / 31.8	
Maryland Route 24 and Ring Factory Road	D / 39.8		D / 48.0	
Maryland Route 24 and Maryland Route 924 (Tollgate)	F / 132.6		F / > 80	
Maryland Route 543 and U.S. Route 1	C / 22.3		C / 29.6	
Maryland Route 543 and Maryland Route 22	D / 35.1		C / 29.8	
Maryland Route 924 and Abingdon Road	D / 42.6		C / 33.5	

* Signalized in 2006

** Signalized in 2007

Source: Harford County Dept. of Planning and Zoning, May 2009

Table 22
Unsignalized Intersection Capacity Analyses
Level Of Service And Delay In Seconds
2005 - 2008

Intersection	2005 Peak Hour Level Of Service / Delay In Seconds	2006 Peak Hour Level Of Service / Delay In Seconds	2007 Peak Hour Level Of Service / Delay In Seconds	2008 Peak Hour Level Of Service / Delay In Seconds
Interstate 95 and Maryland Route 24 Ramp*		F / >60		F / >60
Business US 1 and Henderson Road		E / 35.5		D / 28.5
Maryland 147 and Connolly Road		F / 113.4		F / 55.5
Maryland 23 and Grafton Shop Road		F / 127.1		F / 76.2
Tollgate Road and MacPhail Road		F / 54.5		F / 57.6
US 1 and Milton Avenue		F / 245.9		F / 44.5
US 1 and Reckord Road		F / 95.5		F / 143.1
Maryland 7 and Brass Mill Road		C / 21.3		E / 38.6
Woodsdale Road and Box Hill Corporate Center Drive		C / 18.8		D / 25.8
Maryland Route 7 and Maryland Route 159	B / 12.5		B / 13.2	
Maryland Route 7 and Joppa Farm Road	E / 35.8		D / 32.5	
Maryland Route 159 and Spesutia Road	B / 10.4		B / 13.2	
Maryland 155 and Earltan Road	E / 36.3		D / 31.2	
Maryland 543 and Henderson Road	D / 34.2		D / 26.2	
Tollgate Road and Ring Factory Road**	D / 27.3		A / 7.8	
Maryland 22 and Aldino-Stepney Road	E / 36.0		E / 49.2	
Macphail and Ring Factory Road	B / 12.1		B / 14.7	

* Major interchange improvements are currently underway for the I-95 / MD 24 / MD 924 interchange.

** Roundabout constructed in 2007

Source: Harford County Dept. of Planning and Zoning, May 2009.

Table 23

48 Hour Average Weekday Daily Traffic Volume And Locations

2005 - 2008

Road Name	Location	2005 Average Daily Count	2006 Average Daily Count	2007 Average Daily Count	2008 Average Daily Count
Beards Hill Road	North of Churchville Road		8,025		7,167
Carrs Mill Road	North of Maryland Route 152		8,756		9,609
Chapel Road	North of Interstate 95		2,406		2,228
Jarrettsville Road	East of Maryland Route 24		7,930		7,284
Jarrettsville Road	West of Maryland Route 24		5,550		5,063
Maryland Route 7	West of Maryland Route 24		7,840		7,612
Moores Mill Road	West of Coconut Court		10,653		11,568
Moores Mill Road	West of Old English Court		7,877		8,694
Pleasantville Road	North of Putnam Road		3,608		3,251
U.S. Route 1	North of Maryland Route 152		27,282		28,011
U.S. Route 40	North of Maryland Route 24		24,530		22,540
Abingdon Road	North of Interstate 95	10,519		10,396	
Hanson Road	South of Silverbell Road	3,602		2,740	
Hanson Road	West of Maryland Route 24	11,246		11,960	
Maryland Route 24	North of Singer Road	45,250		44,410	
Maryland Route 152	South of U.S. Route 1	24,050		24,570	
Maryland Route 543	South of Maryland Route 22	19,175		18,982	
Plumtree Road	East of Maryland Route 24	5,307		6,071	
Ring Factory Road	West of Maryland Route 24	3,765		4,596	
Ring Factory Road	East of Maryland Route 24	8,639		8,924	
Singer Road	West of Maryland Route 24	7,984		8,556	
Singer Road	East of Maryland Route 24	9,776		9,832	
Trimble Road	East of Maryland Route 24	5,711		5,179	
Trimble Road	West of Maryland Route 24	5,478		7,321	
Vale Road	West of U.S. Route 1 Overpass	8,253		8,697	

Source: Harford County Dept. of Planning and Zoning, May 2009.

Table 24

List of Approved County Capital Projects Funded for Construction in FY 09

Bridge Painting	Surface Coatings
Bridge Rehabilitation	Repairs
Road and Bridge Scours	Repairs
Macton Road Bridge #144	Replacement
Macton Road Bridge #145	Replacement
Ruff's Mill Road Bridge #190	Replacement
Watervale Road Bridge #63	Replacement
Commerce Road-Private Road Construction	Upgrade to County standards and connect to MD 23
Wheel Road, Laurel Bush-Fairway	Upgrade
Road Reconstruction and Rehabilitation	Reconstruct and rehabilitate

Table 25

State Consolidated Transportation Program Funded for Construction in FY 09

MD 24 – Singer Road to MD 7	Grade separate MD 24/MD 924/ Tollgate intersection and upgrade I-95/MD 24 interchange
US 40 Thomas J. Hatem Memorial Bridge	Deck Replacement
MD 132 – Beards Hill Road to MD 462	Resurface
US 1 – Connolly Road to MD 147/Bus US 1	Widen and provide left turn lanes at intersections
MD 755 – MD 24 to Willoughby Beach Road	Streetscape
MD 924 – Woodsdale Road to St. Clair Road	Resurface, Safety and Provide Center Turn Lane
US 40 at Bata Blvd	Sidewalk
MD 924 – Holly Wreath Drive to Holly Wreath Court	Sidewalk
Magness Property – Creamery Road	Wetland Restoration

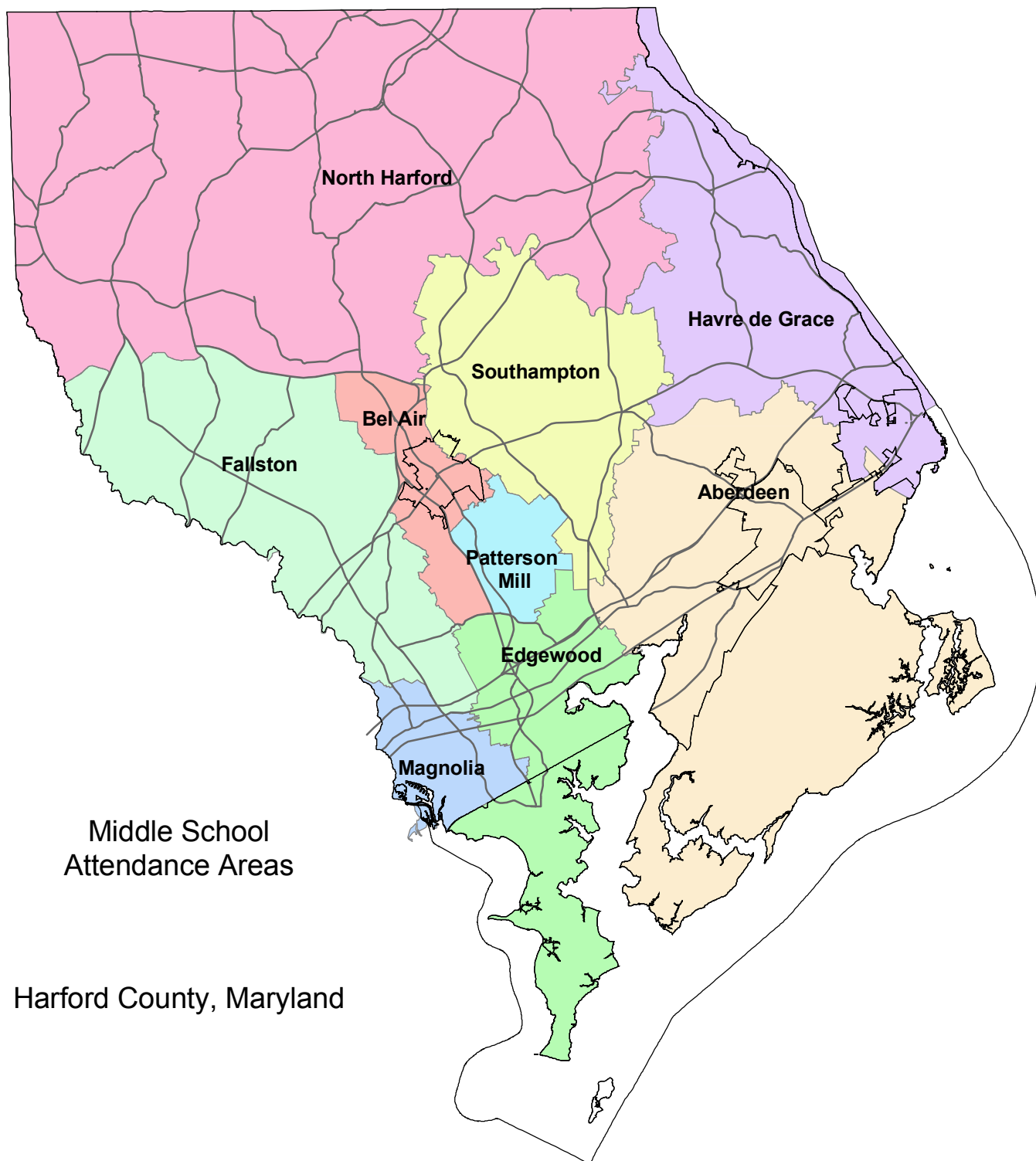
APPENDIX

PUPIL YIELD FACTORS

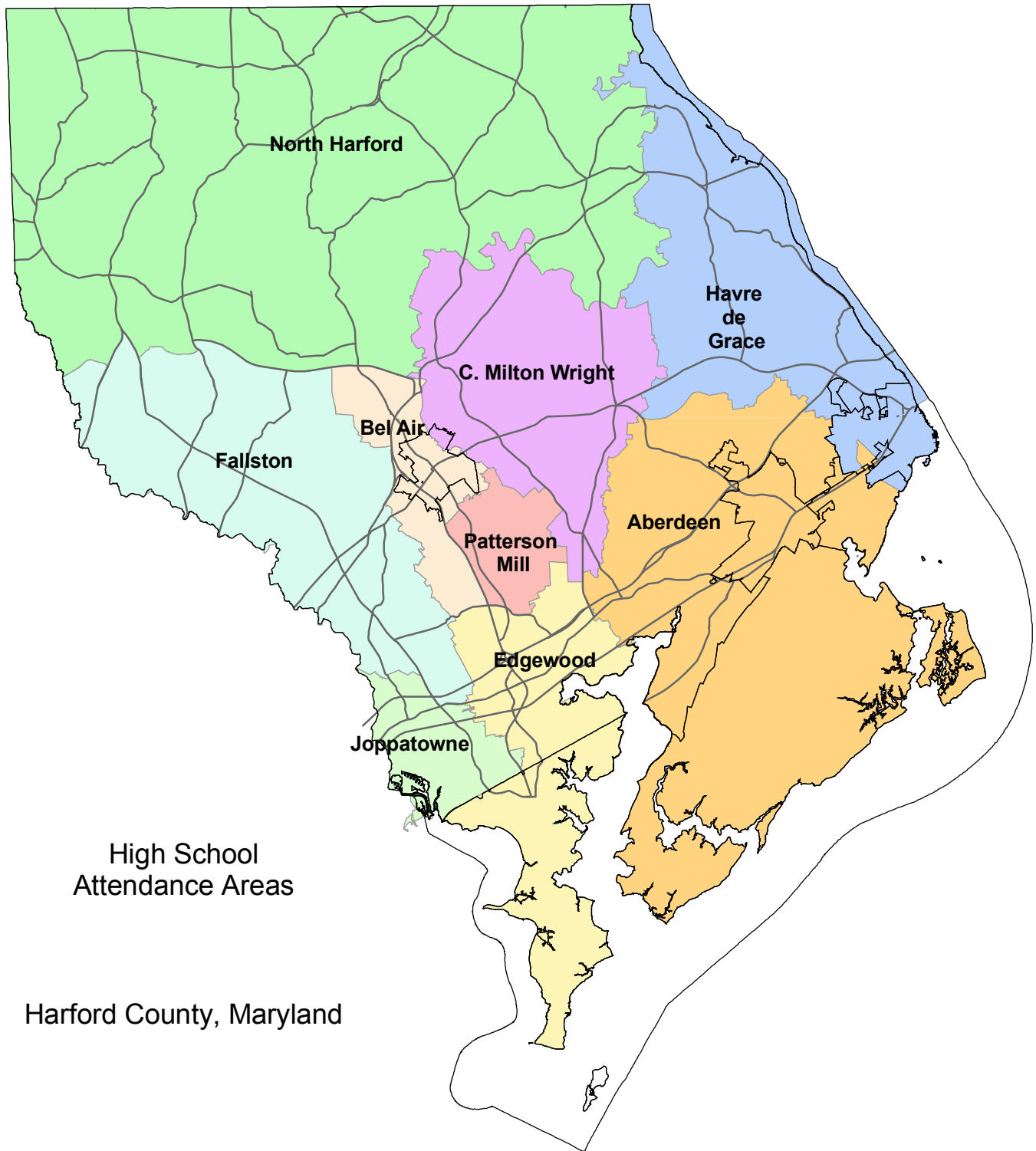
Forty-seven subdivisions were selected from various geographic locations throughout Harford County, to include single family dwellings, townhouse units, apartments/condominium units, and mobile home units. The subdivisions selected represented newly constructed and established subdivisions ranging in size from 23 units to 2,395 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-seven 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	.31	.16	.20
Townhome	.23	.11	.14
Apartments (2 Bdrms)	.05	.02	.02
Condo (2+ Bdrms)	.05	.02	.02
Mobile Home	.13	.05	.07





SOURCE: Harford County Public Schools, September 2006.



SOURCE: Harford County Public Schools, September 2006.