

2015 ANNUAL GROWTH REPORT



HARFORD COUNTY GOVERNMENT DEPARTMENT OF PLANNING AND ZONING

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"MARYLAND'S NEW CENTER OF OPPORTUNITY"

The 2015 Annual Growth Report

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INTRODUCTION

In accordance with State law, 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. This report also addresses the implementation status of the County's Master Plan and Land Use Element Plan. The indicators required by the State are included in this report, and additional information about plan implementation is provided in the County's Annual Land Use and Element Plan Implementation Report.

Starting in July 2010, Harford County was required to submit a report to the Maryland Department of Planning (MDP) on its Adequate Public Facilities provisions and any development restrictions within Priority Funding Areas (PFAs) that are the result of these provisions. This report must be submitted by July 1st and then every two years thereafter. Harford County provides this information annually to MDP.

The 2015 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:

1. To assess facility adequacy during the development review and approval process;
2. To assess facility capacity in regard to zoning reclassification decisions;
3. To support the evaluation of priority projects in the annual Capital Budget review; and
4. 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 8B 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 6,730 planned units remaining in the Development Envelope as of December 31, 2015. There are an additional 479 planned units remaining outside of the Development Envelope as of December 31, 2015.

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 §267-126 A(2).

Harford County Development Activity

As required by State Land Use Article §1-207, Harford County is also required to prepare an annual report on development activity and planning programs. Reporting is required to be based on designated PFAs.

Table 1
Harford County - Baltimore Region
Residential Permit Activity
2011 - 2015

Jurisdiction	2011	2012	2013	2014	2015	Total	Percentage of Baltimore Region
Harford County	681	588	737	740	908	3,654	10.6%
Anne Arundel County	2,365	1,657	1,853	2,120	2,699	10,694	31.1%
Baltimore City	1,093	642	1,257	803	1,629	5,424	15.8%
Baltimore County	488	976	1,101	996	1,305	4,866	14.1%
Carroll County	183	315	429	356	313	1,596	4.6%
Howard County	1,178	1,657	2,288	1,446	1,589	8,158	23.7%
Total	5,988	5,835	7,665	6,461	8,443	34,392	100.0%

Source: Baltimore Metropolitan Council, May 2016.

Note: Includes municipal permit activity.

Table 2
Harford County - Baltimore Region
Population and Household Projections
2015 - 2025

Jurisdiction	2015 Population	2015 Households	2020 Population	2020 Households	2025 Population	2025 Households
Harford County	250,025	93,358	258,668	97,892	265,098	101,689
Anne Arundel County	559,619	206,441	580,007	213,504	593,595	220,565
Baltimore City	636,722	256,904	647,282	261,374	656,314	265,100
Baltimore County	827,063	323,815	834,292	326,827	849,414	332,928
Carroll County	170,549	62,218	175,900	64,226	179,437	65,980
Howard County	311,168	111,753	337,051	122,781	354,149	131,398
Total	2,755,146	1,054,489	2,833,200	1,086,604	2,898,007	1,117,660

Source: Baltimore Metropolitan Council, Round 8B Forecast.

Table 3
Harford County - Baltimore Region
Employment Projections
2015 - 2025

Jurisdiction	2015 Employment	2020 Employment	2025 Employment
Harford County	115,562	126,040	135,775
Anne Arundel County	342,011	361,688	376,085
Baltimore City	392,956	395,942	407,073
Baltimore County	465,801	484,533	492,436
Carroll County	73,063	76,107	78,421
Howard County	196,381	211,381	226,381
Total	1,585,774	1,655,691	1,716,171

Source: Baltimore Metropolitan Council, Round 8B Forecast.

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

Permit Type	2011		2012		2013		2014		2015	
	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	11	78,641	24	576,114	6	113,272	9	150,235	14	221,386
Industrial	2	14,450	0	0	2	1,601,520	3	12,225	0	0
Institutional	5	30,779	5	71,992	5	90,238	6	103,598	4	35,296
Utilities	10	61,027	1	2,674	0	0	1	300	0	0
Other	3	3,130	2	16,911	0	0	2	1,970	0	0
Total	31	188,027	32	667,691	13	1,805,030	21	268,328	18	256,682

Source: Baltimore Metropolitan Council, May 2016.

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

Permit Type	2011		2012		2013		2014		2015	
	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	56	NA	50	NA	4	NA	29	NA	28	NA
Industrial	7	NA	1	NA	2	NA	5	NA	17	NA
Institutional	20	NA	26	NA	4	NA	11	NA	16	NA
Utilities	7	NA	5	NA	3	NA	11	NA	9	NA
Total	90	NA	82	NA	13	NA	56	NA	70	NA

NA: Data Not Available

Source: Baltimore Metropolitan Council, May 2016.

New Subdivisions

In 2015, Harford County approved 24 residential subdivisions, totaling 456 acres. The residential subdivisions resulted in the creation of 300 units, including 240 single-family and 60 townhouse lots. While only four of the subdivisions occurred within the County's designated Priority Funding Area, they yielded 225 units or 75% of the new lots/units approved. This percentage is consistent with the 2012 Land Use Element Plan's intent of directing new growth to designated growth areas. The data reflects no changes in development patterns.

The remaining 20 residential subdivisions, located outside of the designated growth area, created 75 lots. Of these, 74% were two lots or less (ten single-lot subdivisions, three two-lot subdivisions). There were two non-residential plans approved. Of these, one was located in the PFA and one was located outside the PFA.

New Building Permits Issued

A total of 2,154 building permits were issued by Harford County in 2015, which represents a 22.5% increase over the 2014 permit total of 1,758. This number includes new construction residential, non-residential, and accessory structure permits. Of these, 781 were for residential new construction dwelling units. Additionally, the municipalities of Aberdeen, Bel Air, and Havre de Grace issued 127 new construction residential permits collectively. Approximately 90% of the 836 new residential permits were located within the County's designated growth area. The County issued a total of 115 permits for new non-residential construction. Of these, the largest numbers of permits issued were for industrial (87) with 37 being for storage/warehousing, 30 for industrial structures, and 20 for modular/industrialized structures. The remaining 1,215 non-residential permits were for a variety of commercial and industrial uses. Permits were also issued for residential accessory structures such as sheds, swimming pools, garages, and other miscellaneous uses. Harford County maintains a monthly data report for all building permits.

Development Capacity

The Department of Planning and Zoning routinely updates the inventory of residentially zoned land in the Development Envelope. This inventory provides a total residential land capacity and includes vacant undeveloped land, preliminary and site plan approvals, vacant land capacity in the municipalities, and potential redevelopment/infill capacity. Based on this update, there is an estimated capacity of 17,754 units in the Development Envelope.

Zoning Map Amendment(s)

There were a total of four piecemeal rezoning requests approved by the Board of Appeals during 2015. All four cases involved adjacent parcels located in the Emmorton area on the east side of MD 924. Three of the parcels were zoned R2/Urban Residential District and one parcel was zoned RO/Residential Office District. All four parcels were rezoned to B3/General Business District.

HARFORD COUNTY 2015 ZONING MAP AMENDMENTS

Owner	Tax ID #	Address	Original Zoning	New Zoning	Acreage	Date of Rezoning
Truth House Ministry Church	01019910	3309 Emmorton Road	R2	B3	1.86	12/22/2015
Box Hill South Commercial, LLC	01319841	10 Box Hill South Parkway	RO	B3	2.64	12/22/2015
Box Hill South Commercial, LLC	01019910	3309 Emmorton Road	R2	B3	2.95	12/22/2015
Box Hill South Commercial, LLC	01019910	3305 Emmorton Road	R2	B3	1.63	12/22/2015

PLANNING DOCUMENT UPDATES

This section addresses state reporting requirements regarding code amendments and new or updated comprehensive plans and plan elements.

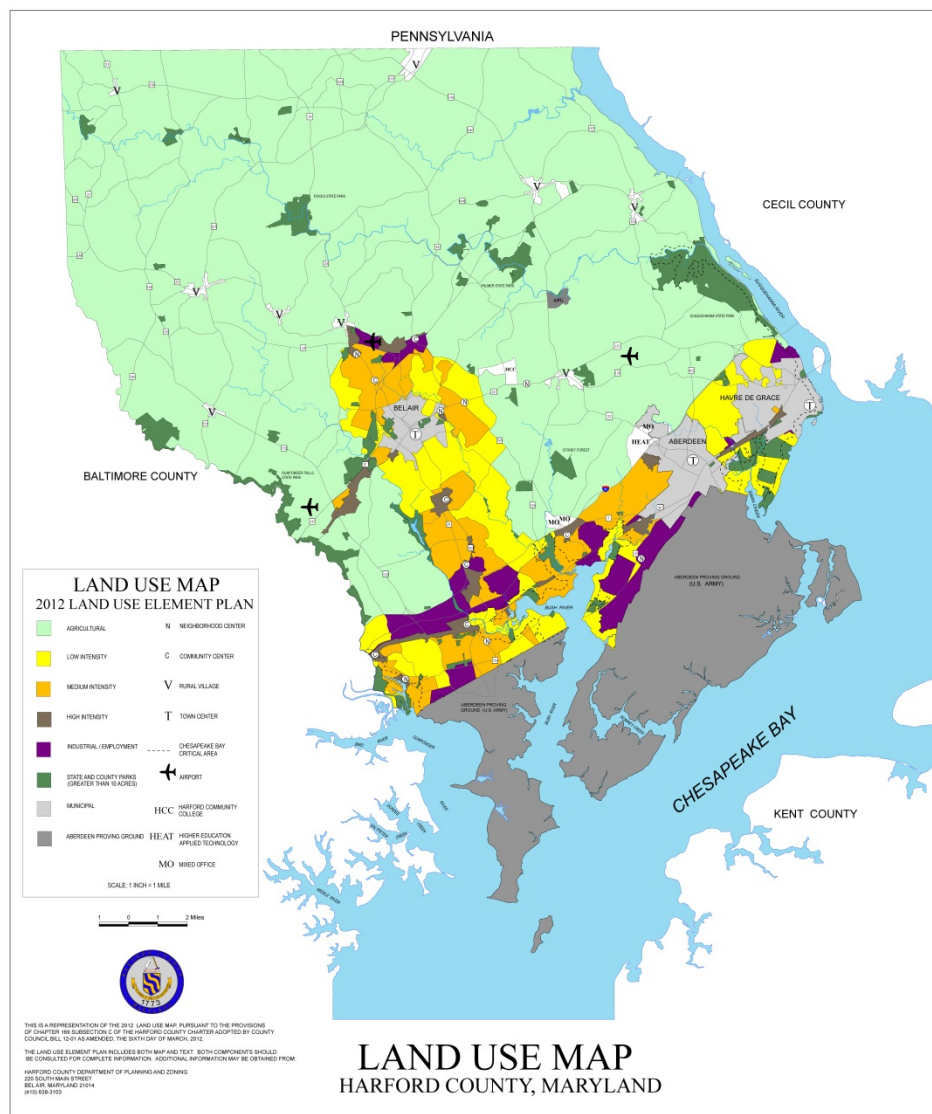
Zoning Code Amendments

In 2015, four bills were enacted that resulted in changes to the County's Zoning Code.

Effective	Bill	Description
12/7/15	15-017	267-109 - Clarifies the criteria for review of certificates of appropriateness for historic properties and increases the time period from 7 to 14 days that the Historic Preservation Commission must send the recommendations and report to the Department of Planning and Zoning; 267-115 – Clarifies the standards for review for historic properties to indicate that design guidelines for applying for review of certificates of appropriateness shall adhere to the US Secretary of the Interior's Standard for the Treatment of Historic Properties; 267-116 - Increases the time period from 30 to 45 days the Historic Preservation Commission has to review and recommend the application for a certificate of appropriateness to the Department of Planning and Zoning.
1/4/16	15-023AA	267-73. Adds a requirement of minimum gross AG income to general provisions regarding AG/commercial use.
2/8/16	15-035AA	Signs 267-33 – permit electronic message boards for institutional uses in AG district
2/16/16	15-036AA	267-61 MO standards – allow new uses according to MO Design Manual; allow 40% retail and service; 25% open space; 75% impervious surface; residential uses not to exceed 45% of floor area; update Design requirements table 61-1 (country inns, hotels, apartments and townhouses), 267-50 – update to add P in the MO columns: Services-business services; Amusements-commercial amusements; nightclubs, lounges, bars and taverns; theaters/indoor and/outdoor; Institutional-schools, colleges and universities; Retail Trade-AG retail; shoppers merchandise (modify to remove limitation #5); Residential conventional-garden apt, midrise apt, townhouses; Residential transient-hotels and motels, nursing homes, assisted living facilities
2/16/16	15-039AA	Farm Brewery – 267-4 Add definition; 267-50 Permitted Use Chart, Natural Resources – add SD in the AG; 267-73 Add requirements for operation of farm brewery.

Comprehensive Plan and Element Plan Updates

The Department of Planning and Zoning initiated an update to the 2012 Master Plan and Land Use Element Plan during 2015. The Master Plan, titled Harford NEXT, combines the Land Use Element Plan, Transportation Element Plan, Natural Resources Element Plan, Historic Preservation Plan, Water Resources Element Plan and Priority Preservation Element Plan into one cohesive and streamlined document. It is anticipated that this document will be adopted and become effective in August of 2016. The 2012 Land Use Plan Map (see map below) remains effective as of the date of this report. The Harford County Solid Waste Plan (Bill No. 15-004 As Amended) was adopted in January of 2015.



ADEQUATE PUBLIC FACILITIES

The County's Annual Growth Report must be updated annually to identify any public facilities that are functioning 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, Road Intersections and Government Facilities.

This report also addresses State reporting requirements for Adequate Public Facilities provisions; 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 APF report to MDP with future reports being due every two years thereafter. In the report, Harford County must identify any restrictions that occur within a PFA as a result of APF 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.

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 represent newly constructed and established subdivisions. Additionally, subdivisions were selected from 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.

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

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 provisions of the County Code, the level of service standard for Public Schools is 110 percent of rated capacity within 3 years for elementary and secondary schools.

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, all 33 elementary schools meet adequacy standards.

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 a given year 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 since 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.

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.

The actual enrollment of Harford County Public Schools (HCPS) is retained as base enrollment for the modified enrollment projections. HCPS first-year projected enrollment figures are also retained as they have been shown to be historically accurate.

Table 6
Harford County Elementary Schools
Utilization Chart
2015

Elementary School	State-Rated Capacity	Actual		Projected					
		2015 - 2016		2016 - 2017		2017 - 2018		2018 - 2019	
		ENROLL	% UTIL.	ENROLL	% UTIL.	ENROLL	% UTIL.	ENROLL	% UTIL.
Abingdon	864	809	94%	812	94%	816	94%	819	95%
Bakerfield	500	415	83%	409	82%	402	80%	396	79%
Bel Air	500	477	95%	472	94%	468	94%	464	93%
Church Creek	793	800	101%	782	99%	761	96%	725	91%
Churchville	388	373	96%	375	97%	376	97%	378	97%
Darlington	157	122	78%	122	78%	122	78%	122	78%
Deerfield	816	799	98%	801	98%	803	98%	805	99%
Dublin	295	266	90%	270	92%	273	93%	277	94%
Edgewood	511	390	76%	391	77%	391	77%	392	77%
Emmorton	549	550	100%	538	98%	526	96%	514	94%
Forest Hill	581	474	82%	463	80%	452	78%	441	76%
Forest Lakes	546	460	84%	439	80%	418	77%	399	73%
Fountain Green	571	492	86%	473	83%	455	80%	438	77%
G. Lisby at Hillsdale	455	437	96%	446	98%	443	97%	441	97%
Hall's Cross Roads	562	519	92%	524	93%	515	92%	502	89%
Havre de Grace	566	450	80%	459	81%	469	83%	478	84%
Hickory	655	677	103%	674	103%	672	103%	669	102%
Homestead/Wakefield	907	949	105%	956	105%	963	106%	970	107%
Jarrettsville	548	441	80%	445	81%	450	82%	454	83%
Joppatowne	653	558	85%	561	86%	564	86%	567	87%
Magnolia	518	499	96%	498	96%	497	96%	496	96%
Meadowvale	568	524	92%	521	92%	519	91%	516	91%
Norrisville	252	183	73%	182	72%	181	72%	181	72%
North Bend	500	324	65%	314	63%	305	61%	296	59%
North Harford	500	405	81%	397	79%	389	78%	381	76%
Prospect Mill	680	587	86%	551	81%	518	76%	486	71%
Red Pump	696	675	97%	677	97%	679	98%	681	98%
Ring Factory	548	538	98%	544	99%	550	100%	556	101%
Riverside	522	458	88%	452	87%	446	85%	441	84%
Roye-Williams	683	551	81%	566	83%	572	84%	573	84%
Wm. Paca / Old Post Rd.	954	836	88%	819	86%	802	84%	785	82%
Wm. S. James	522	423	81%	415	80%	408	78%	401	77%
Youth's Benefit	958	997	104%	987	103%	977	102%	967	101%
TOTAL	19,318	17,458	90%	17,335	90%	17,181	89%	17,009	88%

Source: Harford County Public Schools & Dept. of Planning and Zoning, November 2015.

Table 7

**Harford County Middle Schools
Utilization Chart
2015**

Middle School	State-Rated Capacity	Actual		Projected					
		2015 - 2016		2016 - 2017		2017 - 2018		2018 - 2019	
		ENROLL	%UTIL	ENROLL	%UTIL	ENROLL	%UTIL	ENROLL	%UTIL
Aberdeen	1,444	1,183	82%	1,193	83%	1,204	83%	1,214	84%
Bel Air	1,318	1,257	95%	1,258	95%	1,260	96%	1,261	96%
Edgewood	1,370	1,062	78%	1,068	78%	1,073	78%	1,079	79%
Fallston	1,105	879	80%	876	79%	873	79%	869	79%
Havre de Grace	775	566	73%	561	72%	559	72%	549	71%
Magnolia	1,073	760	71%	759	71%	762	71%	740	69%
North Harford	1,243	966	78%	976	79%	965	78%	981	79%
Patterson Mill	711	699	98%	708	100%	712	100%	702	99%
Southampton	1,540	1,251	81%	1,245	81%	1,240	80%	1,234	80%
Total	10,579	8,623	82%	8,644	82%	8,647	82%	8,629	82%

Source: Harford County Public Schools & Dept. of Planning and Zoning, November 2015.

Table 8
Harford County High Schools
Utilization Chart
2015

High School	State-Rated Capacity	Actual		Projected					
		2015 - 2016		2016 - 2017		2017 - 2018		2018 - 2019	
		ENROLL	%UTIL	ENROLL	%UTIL	ENROLL	%UTIL	ENROLL	%UTIL
Aberdeen	1,679	1,452	86%	1,451	86%	1,450	86%	1,448	86%
Bel Air	1,668	1,581	95%	1,585	95%	1,594	96%	1,592	95%
C. Milton Wright	1,678	1,447	86%	1,429	85%	1,410	84%	1,393	83%
Edgewood	1,743	1,311	75%	1,341	77%	1,371	79%	1,402	80%
Fallston	1,529	1,057	69%	1,048	69%	1,039	68%	1,035	68%
Harford Technical	920	1,018	111%	1,015	110%	1,012	110%	1,009	110%
Havre de Grace	850	605	71%	603	71%	613	72%	610	72%
Joppatowne	1,126	666	59%	675	60%	696	62%	709	63%
North Harford	1,603	1,219	76%	1,234	77%	1,274	79%	1,287	80%
Patterson Mill	924	833	90%	849	92%	858	93%	866	94%
Total	13,720	11,189	82%	11,229	82%	11,317	82%	11,351	83%

Source: Harford County Public Schools & Dept. of Planning and Zoning, November, 2015.

Table 9

**Harford County
Modified Elementary School Enrollment Projections**

School District	2015	2016	2017	2018	2019	2020	2021	2022
ABINGDON	809	812	816	819	822	826	829	832
modified	809	812	817	822	828	834	839	844
BAKERSFIELD	415	409	402	396	390	384	378	372
modified	415	409	410	412	415	417	419	421
BEL AIR	477	472	468	464	459	455	450	446
modified	477	472	472	472	471	471	470	470
CHURCH CREEK	800	782	761	725	702	688	686	686
modified	800	782	782	766	764	771	791	814
CHURCHVILLE	373	375	376	378	379	381	383	384
modified	373	375	380	386	391	397	404	409
DARLINGTON	122	122	122	122	121	121	121	121
modified	122	122	123	124	124	125	126	127
DEERFIELD	799	801	803	805	807	810	812	814
modified	799	801	816	831	847	863	879	896
DUBLIN	266	270	273	277	280	284	288	292
modified	266	270	275	281	286	292	298	304
EDGEWOOD	390	391	391	392	393	393	394	395
modified	390	391	392	394	396	397	399	401
EMMORTON	550	538	526	514	503	491	480	470
modified	550	538	534	530	527	523	520	518
FOREST HILL	474	463	452	441	431	420	410	401
modified	474	463	453	443	434	424	415	407
FOREST LAKES	460	439	418	399	380	362	345	329
modified	460	439	419	401	383	366	350	335
FOUNTAIN GREEN	492	473	455	438	421	405	390	375
modified	492	473	456	440	424	409	395	381
G. LISBY AT HILLSDALE	437	446	443	441	439	429	437	436
modified	437	446	444	443	442	433	442	442
HALLS CROSS ROADS	519	524	515	502	499	482	481	484
modified	519	524	518	508	508	494	496	502
HAVRE DE GRACE	450	459	469	478	488	498	508	519
modified	450	459	487	514	544	575	607	641
HICKORY	677	674	672	669	666	664	661	658
modified	677	674	683	691	700	709	718	726
HOMESTEAD/WAKEFIELD	949	956	963	970	977	984	991	998
modified	949	956	976	996	1,017	1,037	1,058	1,079
JARRETTSVILLE	441	445	450	454	459	463	468	472
modified	441	445	455	464	474	483	494	503
JOPPATOWNE	558	561	564	567	570	573	576	579
modified	558	561	571	581	591	602	612	623
MAGNOLIA	499	498	497	496	495	495	494	493
modified	499	498	501	504	507	511	514	517
MEADOWVALE	524	521	519	516	513	511	508	506
modified	524	521	522	522	522	523	523	524
NORRISVILLE	183	182	181	181	180	179	178	177
modified	183	182	183	185	186	187	188	189
NORTH BEND	324	314	305	296	287	278	270	262
modified	324	314	309	304	299	294	290	286
NORTH HARFORD	405	397	389	381	373	366	358	351
modified	405	397	394	391	388	386	383	381
PROSPECT MILL	587	551	518	486	456	428	402	378
modified	587	551	521	492	465	440	416	395
RED PUMP	675	677	679	681	684	686	688	690
modified	675	677	687	697	708	719	729	740
RING FACTORY	538	544	550	556	562	568	574	580
modified	538	544	555	566	577	588	600	611
RIVERSIDE	458	452	446	441	435	430	424	419
modified	458	452	450	449	447	446	444	443
ROYE-WILLIAMS	551	566	572	573	576	571	575	575
modified	551	566	572	573	576	571	575	575
WM PACA/OLD POST RD	836	819	802	785	769	753	737	722
modified	836	819	815	811	809	806	803	801
W.S. JAMES	423	415	408	401	394	387	380	373
modified	423	415	409	403	397	391	385	379
YOUTHS BENEFIT	997	987	977	967	957	948	938	929
modified	997	987	986	985	985	984	984	983
Total	17,458	17,335	17,181	17,009	16,868	16,712	16,615	16,517
Total - modified	17,458	17,335	17,367	17,383	17,432	17,468	17,567	17,668

Table 10
Harford County
Modified Secondary School Enrollment Projections

Middle School

School District	2015	2016	2017	2018	2019	2020	2021	2022
Aberdeen	1,183	1,193	1,204	1,214	1,225	1,235	1,246	1,258
modified	1,183	1,193	1,222	1,264	1,305	1,348	1,393	1,439
Bel Air	1,257	1,258	1,260	1,261	1,263	1,264	1,265	1,266
modified	1,257	1,258	1,272	1,288	1,304	1,319	1,335	1,351
Edgewood	1,062	1,068	1,073	1,079	1,084	1,090	1,096	1,101
modified	1,062	1,068	1,089	1,117	1,145	1,174	1,204	1,233
Fallston	879	876	873	869	866	863	860	857
modified	879	876	886	892	900	907	914	922
Havre de Grace	566	561	559	549	553	557	559	559
modified	566	561	579	585	605	626	645	662
Magnolia	760	759	762	740	742	751	757	758
modified	760	759	771	757	767	785	799	809
North Harford	966	976	965	981	976	974	973	974
modified	966	976	969	999	1,008	1,020	1,034	1,050
Patterson Mill	699	708	712	702	697	694	694	698
modified	699	708	710	707	709	713	720	732
Southampton	1,251	1,245	1,240	1,234	1,228	1,223	1,217	1,212
modified	1,251	1,245	1,257	1,262	1,268	1,273	1,279	1,285
Total	8,623	8,644	8,647	8,629	8,634	8,651	8,666	8,682
Total - modified	8,623	8,644	8,756	8,871	9,010	9,166	9,323	9,483

High School

School District	2015	2016	2017	2018	2019	2020	2021	2022
Aberdeen	1,452	1,451	1,450	1,448	1,447	1,446	1,445	1,444
modified	1,452	1,451	1,489	1,527	1,567	1,608	1,651	1,694
Bel Air	1,581	1,585	1,594	1,592	1,622	1,617	1,613	1,607
modified	1,581	1,585	1,611	1,626	1,674	1,686	1,699	1,711
C. Milton Wright	1,447	1,429	1,410	1,393	1,375	1,357	1,340	1,323
modified	1,447	1,429	1,423	1,419	1,414	1,409	1,405	1,401
Edgewood	1,311	1,341	1,371	1,402	1,434	1,466	1,500	1,533
modified	1,311	1,341	1,396	1,454	1,513	1,574	1,638	1,702
Fallston	1,057	1,048	1,039	1,035	1,058	1,057	1,055	1,052
modified	1,057	1,048	1,051	1,059	1,095	1,106	1,117	1,126
Havre de Grace	605	603	613	610	611	601	600	601
modified	605	603	631	646	666	675	695	716
Joppatowne	666	675	696	709	724	708	699	698
modified	666	675	706	729	754	748	749	759
North Harford	1,219	1,234	1,274	1,287	1,304	1,291	1,285	1,281
modified	1,219	1,234	1,290	1,321	1,355	1,360	1,371	1,385
Patterson Mill	833	849	858	866	880	870	863	860
modified	833	849	867	884	907	906	909	915
Total	10,171	10,214	10,306	10,341	10,454	10,413	10,398	10,399
Total - modified	10,171	10,214	10,464	10,665	10,947	11,074	11,233	11,411

Table 11
Harford County Residential Building Permit Activity
by Elementary School District
2011-2015

SCHOOL	2011					2012					2013					2014					2015				
	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
Abingdon	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	3	32	208	0	243	3	0	84	0	87
Bakerfield	14	0	0	0	14	28	0	0	0	28	16	0	96	0	112	10	2	72	0	84	22	0	32	0	54
Bel Air	1	24	0	0	25	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	4	0	0	0	4
Church Creek	2	12	212	0	226	0	6	0	0	6	0	19	188	0	207	0	28	0	0	28	1	8	0	0	9
Churchville	4	0	0	0	4	4	0	0	0	4	2	0	0	2	4	3	0	0	0	3	6	0	0	0	6
Darlington	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1	2	0	0	0	2	1	0	0	0	1
Deerfield	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
Dublin	5	0	0	1	6	12	0	0	1	13	4	0	0	0	4	6	0	0	1	7	7	0	0	0	7
Edgewood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Emmorton	1	36	12	0	49	0	36	24	0	60	0	29	0	0	29	2	18	0	0	20	4	25	72	0	101
Forest Hill	2	0	0	0	2	4	0	0	1	5	1	0	0	0	1	4	0	0	0	4	12	0	0	0	12
Forest Lakes	2	0	0	0	2	5	0	0	0	5	2	0	0	0	2	1	0	0	0	1	1	0	0	0	1
Fountain Green	4	0	0	0	4	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
G. Lisby at Hillsdale	20	23	0	0	43	17	33	0	0	50	17	30	0	0	47	26	35	0	0	61	24	15	0	0	39
Hall's Cross Roads	0	0	0	0	0	0	22	0	0	22	0	0	0	0	0	0	36	0	0	36	0	0	0	0	0
Havre de Grace	31	39	0	0	70	33	36	0	0	69	31	0	0	0	31	36	11	0	0	47	37	4	0	0	41
Hickory	2	0	0	0	2	29	27	21	0	77	42	13	0	0	55	19	15	0	0	34	30	11	0	0	41
Homestead/Wakefield	35	10	0	0	45	34	0	0	0	34	28	6	0	0	34	11	3	0	0	14	9	22	38	0	69
Jarrettsville	5	0	0	0	5	17	0	0	0	17	6	0	0	0	6	4	0	0	0	4	10	0	0	1	11
Joppatowne	5	0	0	0	5	2	0	0	0	2	4	0	0	0	4	1	0	0	0	1	0	0	0	0	0
Magnolia	1	20	0	0	21	1	37	0	0	38	2	23	0	0	25	10	25	0	0	35	6	0	0	0	6
Meadowvale	1	0	0	0	1	0	0	0	0	0	4	0	0	0	4	2	0	0	0	2	2	0	0	1	3
Norrisville	3	0	0	0	3	6	0	0	2	8	9	0	0	0	9	3	0	0	0	3	5	0	0	0	5
North Bend	4	0	0	0	4	22	0	0	1	23	8	0	0	0	8	4	0	0	1	5	10	0	0	1	11
North Harford	11	0	0	1	12	8	0	0	0	8	9	0	0	1	10	7	0	0	0	7	12	0	0	0	12
Prospect Mill	0	0	0	0	0	2	0	0	0	2	1	0	0	0	1	3	0	0	0	3	2	0	0	0	2
Red Pump	16	0	14	0	30	19	0	0	0	19	53	0	0	0	53	22	0	0	0	22	23	0	288	0	311
Ring Factory	5	0	0	0	5	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1	1	0	0	0	1
Riverside	17	0	0	0	17	8	0	0	0	8	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0
Roye-Williams	5	0	0	4	9	7	0	0	0	7	11	0	0	0	11	14	0	0	0	14	21	0	0	0	21
Wm. Paca/Old Post Rd	23	10	0	0	33	16	6	0	0	22	23	0	0	0	23	4	0	0	0	4	5	0	0	0	5
Wm. S. James	1	10	0	0	11	1	7	0	0	8	0	0	0	0	0	1	0	0	0	1	3	4	0	0	7
Youth's Benefit	11	13	0	0	24	15	23	1	0	39	12	38	0	0	50	17	34	0	0	51	11	28	0	1	40
TOTAL	232	197	238	6	673	295	233	46	5	579	288	158	284	3	733	217	239	280	2	738	273	117	514	4	908

* Note: Permit totals revised to reflect cancelled permits.

Source: Harford County Dept. of Planning & Zoning, May 2016.

Table 12
Harford County Residential Building Permit Activity
by Middle School District
2011-2015

SCHOOL	2011					2012					2013					2014					2015				
	BUILDING PERMITS ISSUED					BUILDING PERMITS ISSUED					BUILDING PERMITS ISSUED					BUILDING PERMITS ISSUED					BUILDING PERMITS ISSUED				
	BY DWELLING TYPE					BY DWELLING TYPE					BY DWELLING TYPE					BY DWELLING TYPE					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	41	51	212	4	308	52	78	0	0	130	45	49	284	0	378	50	101	72	0	223	68	27	32	0	127
Bel Air	27	63	26	0	116	59	36	45	0	140	105	29	0	0	134	43	18	0	0	61	48	44	72	0	164
Edgewood	23	10	0	0	33	17	6	0	0	23	22	0	0	0	22	5	32	208	0	245	8	0	84	0	92
Fallston	30	13	0	0	43	34	23	1	1	59	19	38	0	0	57	18	34	0	0	52	16	28	288	1	333
Havre de Grace	33	23	0	0	56	37	19	0	0	56	36	0	0	1	37	40	11	0	0	51	40	0	0	1	41
Magnolia	20	20	0	0	40	9	37	0	0	46	3	23	0	0	26	12	25	0	0	37	6	0	0	0	6
North Harford	27	0	0	2	29	59	0	0	3	62	34	0	0	1	35	25	0	0	1	26	49	0	0	2	51
Patterson Mill	22	17	0	0	39	19	7	0	0	26	17	6	0	0	23	10	3	0	0	13	8	7	38	0	53
Southampton	9	0	0	0	9	9	27	0	1	37	7	13	0	1	21	14	15	0	1	30	30	11	0	0	41
TOTAL	232	197	238	6	673	295	233	46	5	579	288	158	284	3	733	217	239	280	2	738	273	117	514	4	908

Note: Permits totals revised for cancelled permits.

Source: Harford County Dept. of Planning & Zoning, May 2016.

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
2011-2015

SCHOOL	2011					2012					2013					2014					2015				
	BUILDING PERMITS ISSUED					BUILDING PERMITS ISSUED					BUILDING PERMITS ISSUED					BUILDING PERMITS ISSUED					BUILDING PERMITS ISSUED				
	BY DWELLING TYPE					BY DWELLING TYPE					BY DWELLING TYPE					BY DWELLING TYPE					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	41	51	212	4	308	52	78	0	0	130	45	49	284	0	378	50	101	72	0	223	68	27	32	0	127
Bel Air	27	63	26	0	116	59	36	45	0	140	105	29	0	0	134	43	18	0	0	61	48	44	72	0	164
C.M. Wright	9	0	0	0	9	9	27	0	1	37	7	13	0	1	21	14	15	0	1	30	30	11	0	0	41
Edgewood	23	10	0	0	33	17	6	0	0	23	22	0	0	0	22	5	32	208	0	245	8	0	84	0	92
Fallston	30	13	0	0	43	34	23	1	1	59	19	38	0	0	57	18	34	0	0	52	16	28	288	1	333
Havre de Grace	33	23	0	0	56	37	19	0	0	56	36	0	0	1	37	40	11	0	0	51	40	0	0	1	41
Joppatowne	20	20	0	0	40	9	37	0	0	46	3	23	0	0	26	12	25	0	0	37	6	0	0	0	6
North Harford	27	0	0	2	29	59	0	0	3	62	34	0	0	1	35	25	0	0	1	26	49	0	0	2	51
Patterson Mill	22	17	0	0	39	19	7	0	0	26	17	6	0	0	23	10	3	0	0	13	8	7	38	0	53
TOTAL	232	197	238	6	673	295	233	46	5	579	288	158	284	3	733	217	239	280	2	738	273	117	514	4	908

Note: Permits totals revised for cancelled permits.

Source: Harford County Dept. of Planning & Zoning, May 2016.

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*

2011 - 2015

SCHOOL	2011*		2012*		2013*		2014*		2015*	
	Households	Population	Households	Population	Households	Population	Households	Population	Households	Population
Abingdon	4,781	12,933	4,781	12,906	4,782	12,875	4,782	12,841	5,014	13,427
Bakerfield	2,281	6,170	2,294	6,193	2,321	6,249	2,428	6,521	2,509	6,718
Bel Air	3,025	8,184	3,049	8,231	3,049	8,210	3,051	8,193	3,051	8,171
Church Creek	3,587	9,703	3,802	10,263	3,808	10,252	4,007	10,759	4,033	10,802
Churchville	2,469	6,678	2,473	6,675	2,476	6,667	2,480	6,660	2,483	6,650
Darlington	1,007	2,724	1,009	2,724	1,009	2,716	1,010	2,712	1,012	2,710
Deerfield	3,265	8,832	3,265	8,814	3,265	8,791	3,265	8,767	3,265	8,744
Dublin	1,661	4,493	1,667	4,499	1,679	4,521	1,683	4,519	1,690	4,525
Edgewood	1,256	3,397	1,256	3,390	1,256	3,381	1,256	3,372	1,256	3,363
Emmorton	2,366	6,400	2,412	6,512	2,470	6,650	2,498	6,707	2,517	6,740
Forest Hill	2,411	6,522	2,413	6,513	2,418	6,509	2,419	6,494	2,422	6,487
Forest Lakes	2,839	7,680	2,841	7,669	2,846	7,662	2,848	7,646	2,848	7,629
Fountain Green	1,892	5,118	1,896	5,118	1,899	5,112	1,899	5,098	1,899	5,085
G. Lisby at Hillsdale	2,283	6,176	2,329	6,287	2,377	6,399	2,422	6,503	2,480	6,642
Hall's Cross Roads	1,951	5,278	1,951	5,267	1,972	5,310	1,972	5,295	2,006	5,373
Havre de Grace	3,504	9,478	3,572	9,643	3,638	9,796	3,668	9,850	3,713	9,944
Hickory	2,775	7,508	2,777	7,497	2,851	7,676	2,904	7,798	2,936	7,864
Homestead/Wakefield	5,301	14,341	5,344	14,427	5,377	14,476	5,409	14,526	5,423	14,523
Jarrettsville	2,748	7,432	2,752	7,430	2,769	7,454	2,774	7,450	2,778	7,440
Joppatowne	3,849	10,411	3,853	10,403	3,855	10,380	3,859	10,363	3,860	10,338
Magnolia	1,662	4,496	1,682	4,540	1,726	4,647	1,750	4,699	1,783	4,776
Meadowvale	2,624	7,098	2,625	7,086	2,625	7,067	2,629	7,059	2,631	7,045
Norrisville	1,260	3,408	1,263	3,409	1,270	3,421	1,279	3,435	1,282	3,433
North Bend	2,237	6,050	2,240	6,048	2,262	6,091	2,270	6,096	2,275	6,092
North Harford	2,327	6,296	2,339	6,314	2,347	6,318	2,356	6,327	2,363	6,328
Prospect Mill	2,858	7,731	2,858	7,715	2,860	7,700	2,861	7,682	2,864	7,669
Red Pump	3,835	10,375	3,864	10,430	3,882	10,452	3,933	10,561	3,954	10,589
Ring Factory	2,715	7,344	2,720	7,342	2,721	7,325	2,721	7,305	2,722	7,289
Riverside	2,473	6,690	2,489	6,720	2,497	6,723	2,497	6,705	2,498	6,690
Roye-Williams	1,845	4,991	1,854	5,004	1,860	5,009	1,871	5,024	1,884	5,046
Wm. Paca/Old Post Rd	4,538	12,275	4,569	12,334	4,590	12,358	4,612	12,385	4,616	12,362
Wm. S. James	1,954	5,285	1,964	5,303	1,973	5,312	1,973	5,298	1,974	5,286
Youth's Benefit	5,162	13,965	5,185	13,997	5,222	14,061	5,271	14,153	5,319	14,245
TOTAL	90,739	245,460	91,387	246,700	91,951	247,570	92,655	248,800	93,358	250,025

* 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
2011 - 2015

SCHOOL	2011*		2012*		2013*		2014*		2015*	
	Households	Population	Households	Population	Households	Population	Households	Population	Households	Population
Aberdeen	12,546	33,938	12,844	34,671	12,968	34,916	13,331	35,798	13,544	36,272
Bel Air	13,774	37,259	13,884	37,480	14,018	37,743	14,147	37,988	14,205	38,043
Edgewood	13,829	37,408	13,860	37,415	13,882	37,376	13,903	37,333	14,137	37,860
Fallston	8,851	23,943	8,892	24,004	8,948	24,093	9,003	24,176	9,053	24,244
Havre de Grace	7,376	19,954	7,433	20,064	7,486	20,156	7,522	20,198	7,570	20,274
Magnolia	7,875	21,303	7,913	21,361	7,965	21,444	7,990	21,454	8,025	21,492
North Harford	10,346	27,987	10,373	28,003	10,433	28,090	10,466	28,105	10,491	28,097
Patterson Mill	6,187	16,736	6,224	16,801	6,250	16,828	6,272	16,841	6,284	16,830
Southampton	9,956	26,933	9,965	26,901	10,000	26,925	10,021	26,908	10,049	26,913
TOTAL	90,739	245,460	91,387	246,700	91,951	247,570	92,655	248,800	93,358	250,025

* 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
2011 - 2015

SCHOOL	2011*		2012*		2013*		2014*		2015*	
	Households	Population	Households	Population	Households	Population	Households	Population	Households	Population
Aberdeen	12,546	33,938	12,844	34,671	12,968	34,916	13,331	35,798	13,544	36,272
Bel Air	13,774	37,259	13,884	37,480	14,018	37,743	14,147	37,988	14,205	38,043
C. Milton Wright	9,956	26,933	9,965	26,901	10,000	26,925	10,021	26,908	10,049	26,913
Edgewood	13,829	37,408	13,860	37,415	13,882	37,376	13,903	37,333	14,137	37,860
Fallston	8,851	23,943	8,892	24,004	8,948	24,093	9,003	24,176	9,053	24,244
Havre de Grace	7,376	19,954	7,433	20,064	7,486	20,156	7,522	20,198	7,570	20,274
Joppatowne	7,875	21,303	7,913	21,361	7,965	21,444	7,990	21,454	8,025	21,492
North Harford	10,346	27,987	10,373	28,003	10,433	28,090	10,466	28,105	10,491	28,097
Patterson Mill	6,187	16,736	6,224	16,801	6,250	16,828	6,272	16,841	6,284	16,830
TOTAL	90,739	245,460	91,387	246,700	91,951	247,570	92,655	248,800	93,358	250,025

* 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 generally coincides with 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 for residential and 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 derived from the "2015 Water and Sewer Adequate Public Facilities Report," and is consistent with the County's Water Resources Element Plan.

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 basis. 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 similarly evaluated for adequacy to accommodate expected peak flows through collectors, interceptors, pump stations, force mains, and wastewater treatment plants. Should a capacity 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.

Water and Sewer Facility Projection Methodology

Water:

The Harford County water service area is divided into four pressure zones due to 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.

The County water system's average daily usage in 2015 was 12.2 MGD (Million Gallons Per Day), with a peak day demand of 14.2 MGD. With the completion of the Abingdon Water Treatment Plant (AWTP) in May of 2012, the total countywide permitted maximum daily water treatment capacity is approximately 29.1 MGD. The County has a maximum day drought demand of 19.75 MGD. Currently it is estimated that there is a need for 5.0 MGD to accommodate approved preliminary and site plans as well as to service 1,905 acres of existing industrially zoned land. With the further expansion of the AWTP to 20 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

In October, 2014, Harford County, the Town of Bel Air, and The Maryland-American Water Company (MAWC) agreed to the First Amendment of the Water Service Contract (between Harford County and MAWC). Due to a deficit of supply from Winters Run, the Maryland Department of the Environment and the Harford County Health Department could not approve building permits within MAWC's service area. Through this amendment, Harford County may provide an additional 40,000 gallons per day (GPD) to MAWC through the existing West MacPhail Road metering station, which could allow for up to 114 equivalent dwelling units (EDUs) to be developed within MAWC's service area. This amendment is in effect until 2018. It is only intended to provide MAWC time to construct the ultimate solution of an impoundment to provide a safe and reliable water supply, sufficient for the entire approved service area. The proposed impoundment is currently in the design phase.

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 "2015 Water and Sewer Adequate Public Facilities Report."

The average daily influent flow to the Sod Run WWTP in 2015 was approximately 11.7 MGD, exclusive of recycle flows and septage. The average daily influent flow to the Joppatowne WWTP in 2015 was approximately 0.76 MGD. The average daily influent flow for Spring Meadows in 2015 was 0.007 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:

1. Brentwood Park Sewage Pumping Station
2. Dembytowne/Hanson Road Petition
3. Forest Greens Sewage Pumping Station
4. Harford Square Sewage Pumping Station

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, before programmed improvements are completed. It is imperative to note that mechanisms exist to cure such APFO 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.

The existing Bill Bass S.P.S. located in Edgewood receives flows from the Winter's Run Interceptor, Harbour Oaks Collector, Ha-Ha Collector/Interceptor and the Edgewood Interceptor. This station has been experiencing unexpected peak flows during wet weather periods. As a result, the Division of Water and Sewer has planned capital projects to address these issues including increasing the Bill Bass discharge capacity by enlarging or paralleling of the Bill Bass Pump Station force main.

There are sanitary sewers within the Bynum Ridge subdivision that do not have capacity for additional flow into the system. This will affect development proposed in the Bynum Run

Collector drainage area north of Bynum Ridge Road. The Division of Water and Sewer has implemented a policy for a project to handle the increase in capacity that is needed in this area. Design of this replacement sewer has begun. When the revised record plats have been completed, the county will begin to obtain the required easements. Construction is anticipated to begin shortly after the easements have been obtained. Until improvements are made, new building permits, preliminary and site plans which utilize this sewer may not be approved.

Table 17
JANUARY - DECEMBER 2015
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.

	2015
Total Number of Connections*	44,224
WATER	
Total Number of Connections**	41,099
Average Water Production	12.2 MGD
Maximum Day Water Production	14.2 MGD
Average Water Usage per Connection (gal/day)	298
Residential Unit Water Usage (gal/day)	144
Average Commercial/Industrial Water Usage (gal/day)	1,626
SEWAGE	
Total Number of Sewer Connections***	42,690
Average Sewage Flows	12.5 MGD
Maximum Day Sewage Flows	21.1 MGD
Average Sewage per Connection (gal/day)	293
Residential Sewage Generation (gal/day)	144
Average Commercial/Industrial Sewage Generation (gal/day)	1,626

- MGD = Million Gallons per Day

Notes: * Includes Water/Sewer service, Water service only, and Sewer service only

** Includes Water/Sewer service and Water service only

*** Includes Water/Sewer service and Sewer service only

Source: 2015 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	YEAR																									
	1993	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2020	2025	2030	2035
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	6.0	6.1	6.1	8.9	9.5	10.5	11.5
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	7.4	6.7	6.3	11.7	13.1	14.1	14.9
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	6.1	6.1	6.1	8	9	9.6	10.1
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	7.4	7.8	8	12.5	13.3	14.5	15.8
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	0.66	0.6	0.6	0.6	0.6	0.6
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*	0.72	0.9*	0.9	0.9	0.9	0.9
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	0.15	0.20	0.2	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*	1.7*	1.7*	0.2	0.2	0.0	0.0	0.0	0.0
Edgewood - APG																										
Avg. Day, mgd	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0	1.0	1.0	1.0
Max. Day, mgd	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	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	0.03	0.0	0.0	0.0	0.01	0.01	0.04	0.3	0.35	0.35	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*	0.01	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	12.6	13.1	13.1	18.8	20.5	22.0	23.6
Max. Day, mgd	8.5	12.1	11.2	14.3	14.5	14.8	12.5	17.2	16.9	14.9	14.0	15.4	15.0	16.6	15.4	15.1	17.1	15.5	16.1	14.8	15.4	15.7	27.1	29.3	31.5	33.6

NOTE - For the years 2015 and previous, demands from Harford County, Aberdeen, Chapel Hill, and Maryland -American were added to produce the total demands; for 2020 and future years, the demands from Aberdeen, Chapel Hill, Edgewood-APG and Maryland-American were subtracted from their respective zones.

*-Maximum flow based on service agreements.

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)	COMMERCIAL & 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
	2010	37,000	8.1	1.7	2.8	12.6	20
	2011	37,261	8.1	1.7	3.6	13.4	20
	2012	37,711	8.2	1.7	1.9	11.7	20
	2013	37,711	8.2	1.7	2.1	12.0	20
	2014	37,903	8.4	1.9	2.1	12.4	20
	2015	39,168	8.1	1.7	2.1	11.7	20
	2025	47,517	10.8	3.5	2.4	16.7	20
	2030	50,180	11.5	3.8	2.5	17.8	20
	2035	52,844	12.2	4.2	2.7	19.1	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
	2010	3,209	0.64	0.04	0.08	0.76	0.95
	2011	3,224	0.66	0.04	0.02	0.90	0.95
	2012	3,242	0.55	0.04	0.2	0.79**	0.95
	2013	3,242	0.52	0.04	0.2	0.76	0.95
	2014	3,270	0.59	0.04	0.2	0.83	0.95
	2015	3,290	0.52	0.04	0.2	0.76	0.95
	2025	3,418	0.61	0.04	0.2	0.85	0.95
	2030	3,484	0.66	0.04	0.2	0.90	0.95
	2035	3,550	0.70	0.05	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
	2010	53	0.01	0	NC	0.01	0.01
	2011	53	0.01	0	NC	0.01	0.01
	2012	53	0.008	0	NC	0.008	0.01
	2013	53	0.008	0	NC	0.008	0.01
	2014	53	0.008	0	NC	0.008	0.01
	2015	53	0.007	0	NC	0.007	0.01
	2025	53	0.008	0	NC	0.008	0.01
	2030	53	0.008	0	NC	0.009	0.01
	2035	53	0.008	0	NC	0.01	0.01
WHITEFORD-CARDIFF	2004	178	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	0.014	0.024	0.12
	2012	178	0.022	0	0.005	0.027	0.12
	2013	179	0.022	0	0.002	0.024	0.12
	2014	179	0.029	0	0.002	0.031	0.12
	2015	179	0.026	0	0.002	0.028	0.12
	2025	179	0.03	0.015	0.004	0.049	0.12
	2030	179	0.05	0.024	0.006	0.080	0.12
	2035	179	0.06	0.032	0.008	0.10	0.12

NC = Not Computed

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

Table 20
2015 EXISTING WATER & SEWER CAPITAL PROJECTS

The Capital Improvement Program establishes projects for expanding and improving water and sewer facilities. This list of 2015 Capital Projects includes the project status.

<u>PROJECT NO.</u>	<u>PROJECT NAME</u>	<u>PROJECT STATUS</u>
6440	Infiltration/Inflow	Preparing Rehabilitation Schedule
6665	Phase 1 - Parallel Sewer	Complete
	Phase 2 - Pump Station # 47 Improvements	Under Construction
6687	Abingdon Road Water Main	Design Phase Completed / Easement Acquisition / Permitting Phase
6692 A	Ph. 1 - Bush Creek Pump Station Improvements	Ph. 1 - Construction Complete
	Ph. 2 - Bush Creek Force Main and Interceptor	Ph. 2 - Under Construction
	Ph. 3 – Bush Creek Force Main Rehabilitation	Ph. 3 - 100% Design Complete
6703	Bynum Run Parallel Phase 6 & 7	Bid Phase
6707	Infiltration / Inflow in Bynum Run Drainage Area	Preparing Implementation Phase and recommended improvements
6712	Edgewood Interceptor Parallel	Design Phase
6730	Bill Bass Pump Station Force Main Parallel / Replacement	Under Design
6737	Towne Center Drive Pump Station	Scope of Services Phase
6709	Magnolia Water Booster Station Improvements - Hydro-Pneumatic Tank 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 16 (Table 24), and a list of State Consolidated Transportation Program (CTP) projects funded for construction in FY 16 (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 system.

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 are projected to generate more than 249 trips per day. Proposed development located within the Chesapeake Science and Security Corridor (CSSC) will not be required to submit a TIA unless the proposed use is expected to generate 1,500 trips per day. 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 TIA is outlined in the "Harford County Traffic Impact Analysis Guidelines."

Inside the Development Envelope:

The TIA shall include all existing County and state roads in all directions, from each point of entrance of site through the intersection with the first arterial roadway to the next intersecting collector or higher functional classification road. 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 in all directions from each point of entrance of the site to the first intersection of a major collector or higher functional classification road as defined by the Harford County Transportation Plan.

All TIA's shall include:

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

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

Developments which generate 1,500 or more trips per day may be required to expand the study area. The determination of existing and projected LOS is calculated in the TIA, which is performed by the developer and reviewed by the Departments of Planning and Zoning, Public Works and SHA

The developer is required to provide improvements where trips generated by the development reduce the LOS from adequate to a LOS below the standard. The standard for intersections within the Development Envelope is a LOS D. If the 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 is a LOS C. If the existing LOS is a D or lower, then the developer must mitigate the impact of the development's new trips.

In addition to the review of individual TIAs, 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 eight 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 7 and U.S. Route 40
3. Business US 1 and Henderson Road
4. Maryland 147 and Connolly Road
5. Maryland 23 and Grafton Shop Road
6. US 1 and Reckord Road
7. Maryland 7 and Brass Mill Road
8. Woodsdale Road and Box Hill Corporate Center Drive
9. Maryland 155 and Earleton Road
10. Maryland 22 and Aldino-Stepney Road

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

Table 21
Signalized Intersection Capacity Analyses
Level Of Service And Delay In Seconds
2012 - 2015

Intersection	2012 Peak Hour Level Of Service / Delay In Seconds	2013 Peak Hour Level Of Service / Delay In Seconds	2014 Peak Hour Level Of Service / Delay In Seconds	2015 Peak Hour Level Of Service / Delay In Seconds
Maryland Route 24 @ I-95 Northbound On/Off Ramp	D / 45.1		D / 51.7	
Maryland Route 24 @ I-95 Southbound Off Ramp	B / 18.2		B / 10.9	
Maryland Route 7 and U.S. Route 40**	D / 52.6		E / 63.2	
Maryland Route 924 and Moores Mill Road	C / 22.0		C / 29.2	
Maryland Route 24 and Trimble Road	C / 27.4		C / 27.2	
Maryland Route 152 and U.S. Route 1	D / 45.3		D / 37.9	
Maryland Route 24 and U.S. Route 1	D / 43.4		D / 36.6	
Maryland Route 152 and Trimble Road	D / 36.2		D / 39.9	
Maryland Route 24 and Jarrettsville Road	C / 22.9		C / 24.8	
Maryland Route 152 and Hanson Road	C / 27.2		B / 19.8	
Maryland Route 152 and Singer Road	C / 31.6		C / 32.2	
Maryland 22 and Thomas Run Road/Schucks Road	D / 48.8		D / 37.1	
Maryland 715 and Old Philadelphia Road**	F / 279.0		B / 16.4	
Maryland Route 22 and Brier Hill Road		B / 11.4		B / 13.1
Maryland Route 22 and Maryland Route 136		C / 28.9		C / 23.4
Maryland Route 24 and Bel Air South Parkway		D / 39.2		D / 39.0
Maryland Route 24 and Forest Valley Drive		C / 24.0		B / 12.3
Maryland Route 24 and Plumtree Road		C / 32.3		C / 28.7
Maryland Route 24 and Ring Factory Road		D / 41.7		D / 39.0
MD 924 @ MD 24 North Bound Ramp		D / 53.0		D / 49.1
Tollgate Rd @ MD 24 Southbound Ramp		C / 20.1		B / 18.9
Maryland Route 543 and U.S. Route 1		C / 24.5		C / 27.1
Maryland Route 543 and Maryland Route 22		D / 38.5		D / 35.8
Maryland Route 924 and Abingdon Road **		B / 18.4		D / 43.3

* SHA improvement at this intersection

** Improvement funded by developer at this intersection

Source: Harford County Dept. of Planning and Zoning, May 2016

Table 22
Unsignalized Intersection Capacity Analyses
Level Of Service And Delay In Seconds
2012- 2015

Intersection	2012 Peak Hour Level Of Service / Delay In Seconds	2013 Peak Hour Level Of Service / Delay In Seconds	2014 Peak Hour Level Of Service / Delay In Seconds	2015 Peak Hour Level Of Service / Delay In Seconds
Business US 1 and Henderson Road	E / 35.6		E / 48.6	
Maryland 147 and Connolly Road	F / 165.5		F / 84.7	
Maryland 23 and Grafton Shop Road	F / 138.9		E / 39.6	
Tollgate Road and MacPhail Road*	E / 35.2		B / 10.7	
US 1 and Reckord Road	F / 128.9		F / 130.4	
Maryland 7 and Brass Mill Road	F / 83.1		E / 58.3	
Woodsdale Road and Box Hill Corporate Center Drive **	D / 29.3		F / 50.8	
Maryland Route 7 and Maryland Route 159		C / 16.9		B / 13.2
Maryland Route 7 and Joppa Farm Road		D / 27.2		C / 24.4
Maryland Route 159 and Spesutia Road		B / 12.4		B / 12.1
Maryland 155 and Earltton Road		D / 33.6		E / 37.6
Maryland 543 and Henderson Road		D / 28.8		C / 24.8
Tollgate Road and Ring Factory Road		A / 7.5		A / 9.3
Maryland 22 and Aldino-Stepney Road **		E / 48.6		F / 51.7
Macphail and Ring Factory Road		B / 14.8		C / 18.0

* Count taken prior to Roundabout completion.

** Improvements funded by developers at these intersections.

Source: Harford County Dept. of Planning and Zoning, May 2016.

Table 23**48 Hour Average Weekday Daily Traffic Volume And Locations****2012 - 2015**

Road Name	Location	2012 Average Daily Count	2013 Average Daily Count	2014 Average Daily Count	2015 Average Daily Count
Beards Hill Road	North of Churchville Road	12,538		13,161	
Carrs Mill Road	North of Maryland Route 152	9,783		10,250	
Chapel Road	North of Interstate 95	2,588		2,766	
Jarrettsville Road	East of Maryland Route 24	6,273		6,187	
Jarrettsville Road	West of Maryland Route 24	5,259		5,035	
Maryland Route 7	West of Maryland Route 24	7,230		7,222	
Moores Mill Road	West of Coconut Court	9,726		8,965	
Moores Mill Road	West of Old English Court	7,781		8,078	
Pleasantville Road	North of Putnam Road	3,547		3,048	
U.S. Route 1	North of Maryland Route 152	26,552		28,911	
U.S. Route 40	North of Maryland Route 24	22,802		22,909	
Abingdon Road	North of Interstate 95		12,394		12,530
Hanson Road	South of Silverbell Road		2,493		2,605
Hanson Road	West of Maryland Route 24		10,693		10,807
Maryland Route 24	North of Singer Road		39,900		40,822
Maryland Route 152	South of U.S. Route 1		23,330		23,872
Maryland Route 543	South of Maryland Route 22		17,572		19,741
Plumtree Road	East of Maryland Route 24		7,651		7,909
Ring Factory Road	West of Maryland Route 24		4,469		4,241
Ring Factory Road	East of Maryland Route 24		9,288		9,617
Singer Road	West of Maryland Route 24		11,541		11,785
Singer Road	East of Maryland Route 24		10,429		10,150
Trimble Road	East of Maryland Route 24		6,975		6,135
Trimble Road	West of Maryland Route 24		9,971		9,095
Vale Road	West of U.S. Route 1 Overpass		8,718		8,389

Source: Harford County Dept. of Planning and Zoning, May 2016.

Table 24

List of Approved County Capital Projects Funded for Construction in FY 16

Bridge and Road Scours	Repairs
Bridge Rehabilitation	Repairs
Carrs Mill Road Bridge #216	Replacement
Jericho Road Bridge #3	Improve / Maintain
Robinson Mill Road Bridge #154	Replacement
Watervale Road Bridge #63	Replacement
Macton Road Bridge #145	Replacement
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 16

MD 7, Philadelphia Road Bridge over James Run	Completed
MD 22, Aberdeen Thruway at Old Post Road	Construction Underway
MD 22, Aberdeen Thruway at Beard's Hill Road	Construction Underway
MD 22, Aberdeen Thruway at Paradise Road	Right of Way Underway
US 40 at MD 7 / MD 159 in Aberdeen (Phase 1)	Open to Service
US 40 at MD 7 / MD 159 in Aberdeen (Phase2)	Right of Way Underway
MD 24 – From Deer Creek Bridge to 1,800 feet south of the bridge	Construction Underway
MD 24, East of MD 924 to West MacPhail Road	Guardrail Construction
US 40, MD 132 to Robinson Avenue	Resurfacing
MD 755, Willoughby Beach Road to MARC Station Drainage	Pedestrian Safety & Improvements - Under Construction
Various Locations in Harford County, East and West of US 1	Resurfacing

GOVERNMENT FACILITIES

The County's Annual Growth Report must include an analysis of the need for additional fire, library and public safety services and a list of approved capital projects contained in the capital improvement program related to the above mentioned facilities.

Fire/EMS Services

The Harford County Fire and EMS Services Master Plan that was completed in 2009 identified the need for four additional Fire Station Facilities. One of these facilities, the Patterson Mill Road Station, has been completed and turned over to Bel Air Volunteer Fire Company. There is still the need for three additional Fire/Emergency Medical Service facilities which are listed below:

- Riverside area on MD Route 543 just north of US Route 40
- On MD 543 (Fountain Green Road between Hickory and Fountain Green)
- Churchville near the intersection of MD Routes 22 and 136

The Fire and EMS Services Master Plan has estimated total cost for these stations to be \$11,000,000.

The approved FY 2017 Capital Budget includes \$250,000 for Self-contained Breathing Apparatus (SCBA) replacement account and \$400,000 for Volunteer Fire Company priority facility repairs.

Library Services

The Maryland Department of Budget and Management require that libraries refer to "Maryland's Planning Guidelines for Libraries" in order to justify the need for expansion. Please reference the planning guidelines for square footage per capita below:

- Essential = 1.0 square feet per capita (nationally accepted minimum facility size)
- Enhanced = 1.1 square feet per capita
- Exemplary = 1.2 square feet per capita

The total gross square footage of all Harford County Public Library branches totals 229,917. Based on a 2015 population figure of 250,025 the square footage per capita figure is 1.09, which exceeds the minimum accepted standard of 1.0 square feet per capita.

The approved FY 2017 Capital Budget includes \$50,000 for replacement of public and staff computers and \$388,000 for window and roof replacement for the Aberdeen Library. The newly constructed Havre de Grace Library has a planned opening of June 1st and the final appropriation for the \$9,000,020 project was completed in the FY 2016 Capital Budget cycle.

Law Enforcement

The 2014 Federal Bureau of Investigation Uniform Crime Report the nationwide rate of sworn officers was 2.3 per 1,000 residents. Based on staffing data obtained from the Harford County Sheriff's Office, the Maryland State Police, and the police departments of Aberdeen, Bel Air, and Havre de Grace the total sworn staff is 581. The rate of sworn officers is currently 2.32 per 1,000 residents. Based on a 2015 population figure of 250,025, Harford County exceeds the nationwide rate and therefore is considered adequate.

The approved FY 2017 Capital Budget includes \$100,000 for the purchase and installation of bi-directional amplifiers (BDA's) in the schools which will greatly improve radio coverage for public safety personnel. In addition, \$900,000 in funding allocated for the replacement of essential vehicles and equipment to enable agencies to perform their critical jobs in public safety.

PLANNING CONSISTENCY REVIEW

Local jurisdictions, as part of their annual reporting, must determine if all of the changes in development patterns reported are consistent with several factors. The changes must be in line with each other, the recommendations from the previous report, and the adopted plans of the jurisdiction and the adjoining jurisdictions. They must also be consistent with state and local jurisdiction plans that are responsible for financing or constructing public improvements that are necessary for the local plan implementation. The following section is being provided to address this requirement.

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 new development and redevelopment (90% in 2015) 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 is protecting the Priority Preservation Area (PPA). HarfordNEXT expands the PPA boundary to include all lands north of the 2009 boundary and the Harford County portion of the Manor Rural Legacy Area. During 2015, 1,095 acres were preserved countywide, bringing the total protected land in the County to 49,409 acres. Of the acreage protected in 2015, 634 acres were located in the County's PPA, bringing the total amount of protected land in the PPA to just over 45,224 acres.

All subdivisions approved in 2015 are consistent with the intent and policies of the 2012 Land Use Element Plan, the Water and Sewer Master Plan, and Adequate Public Facilities regulations. The Department continues to track plans grandfathered through SB 236. In 2015, the Department tracked 12 grandfathered preliminary plans comprised of 152 lots. All roadway improvements are consistent with the State Consolidated Transportation Plan, the Transportation Improvement Plan, and the County's Transportation Element Plan.

The second phase of the MD 22 Multimodal Corridor Study was completed in 2015. The outcome of the study looked at opportunities to create short-term, medium-term and long-term multimodal solutions to the roadway from MD 543 to Tollgate Road. Recommended improvements have been forwarded to SHA for inclusion in their annual maintenance and operations work plans. Improvements have also been added to the County's annual transportation priorities list which has been sent to MDOT to be considered for inclusion in the FY 17 Consolidated Transportation Program (CTP). Harford County continues to partner with the Health Department and Healthy Harford on implementation of the programs established by the Local Health Coalition and the Obesity Task Force. The Department of Planning and Zoning partnered with the Board of Education on two Safe Routes to School grants while maintaining an ongoing partnership with Emmorton Elementary to address walkability issues.

PROCESS IMPROVEMENTS

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

In 2015, implementation of the Harford County Phase II Watershed Implementation Plan (WIP) for the Chesapeake Bay TMDL (Total Maximum Daily Load) progressed. This Plan was completed in 2012 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 meet the nutrient reduction goals that were assigned to Harford County for the Chesapeake Bay TMDL. Strategies to meet these goals by 2025 were presented in the Plan, with two-year milestones identified to track progress. In 2014, a final report for the 2012-2013 milestones was submitted, along with a new set of two-year milestones for 2014-2015. Department staff provided MDE with a progress report on the 2014-2015 milestones in early 2016 while preparing for Phase III of the WIP. In addition, Planning and Zoning staff continued working with FEMA on the development of state-of-the-art floodplain mapping.

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 the designated growth areas. In order to provide citizens with more information and better access to development review activities, the Department has implemented an interactive web based portal known as Track-It that provides up to date information on all development activities associated with a specific property.

In November 2015, Harford County Planning and Zoning; Public Works; Inspections, Licenses, and Permits; and Information Systems Departments implemented the Tyler Technologies' *EnerGov Permitting and Land Management* software suite. The *EnerGov* solution has modernized the County's permitting, subdivision review, and plan management systems. Disparate departments, agencies, and citizens are accessing a central "location-based" system utilizing the County's extensive Geographic Information System. Code enforcement, permit inspections, and construction management systems are utilizing *EnerGov* to streamline and automate processes from intake, citizen requests, and pre-applications to fee calculations and review, task and field inspection routing. The County anticipates this centralized system will significantly improve the life cycle of land management throughout the County and will provide enhanced services to citizens and to construction and service professionals. In addition, the County unveiled its new Permit Center that was relocated to the first floor of the County's Administrative Offices. The Permit Center was thoroughly modernized to create an efficient work environment and allow the public to work directly with permit technicians and staff from other agencies.

ORDINANCES AND/OR REGULATIONS THAT IMPLEMENT THE STATE PLANNING VISIONS

Harford County's Master Plan is consistent with the 12 State Planning Vision. The various element plans that support the Master Plan, such as the Land Use Element Plan, Natural Resources and Water Resources Element Plan, Historic Preservation Element Plan, Transportation Element Plan, the Land Preservation, Parks, and Recreation Element Plan are also consistent with the planning visions contained in the Land Use Article of the Maryland Code. The plans also include strategies that address these visions. Although not adopted at the time of this report, HarfordNext is consistent with the 12 State Planning Visions. The County's Chesapeake Bay Critical Area Program and its Bicycle and Pedestrian Master Plan are also consistent with the visions.

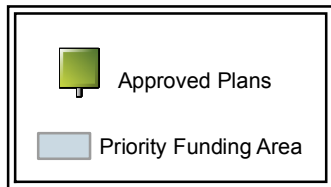
APPENDIX A

Appendix A

HARFORD COUNTY APPROVED SUBDIVISION PLANS: 2015

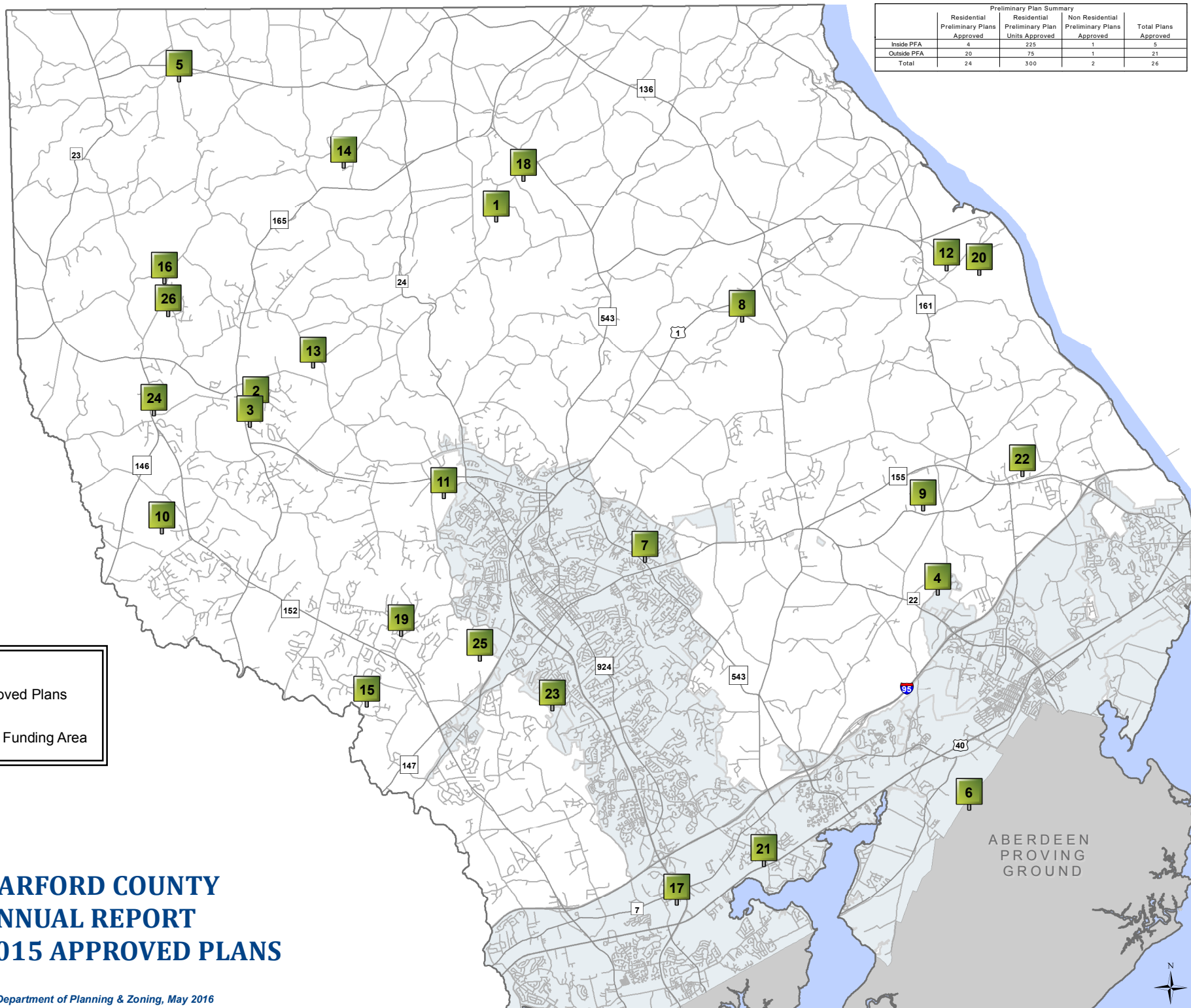
MAP #	PLAN NAME	ACREAGE	LOT ACREAGE	TOTAL UNITS	SF UNITS	TH UNITS	APT UNITS	CONDO UNITS	TYPE OF USE	PFA	ZONING
1	BERTIER PROPERTY - LOT 5	7.919	2.058	1	1	0	0	0	RESIDENTIAL	NO	AG
2	CARDINAL'S CHOICE - LOT 1	1.154	1.154	1	1	0	0	0	RESIDENTIAL	NO	VR/AG
3	CLAIRE'S MEADOW-LOT 5	2.344	2.344	1	1	0	0	0	RESIDENTIAL	NO	RR
4	DAVIS, LANDS OF JACKIE L. - LOT 7	12.37	12.37	1	1	0	0	0	RESIDENTIAL	NO	AG
5	DAWSON, LANDS OF	7.01	7.01	3	3	0	0	0	RESIDENTIAL	NO	AG
6	EASTGATE	246.14	205.59	0	0	0	0	0	NON RESIDENTIAL	YES	LI
7	EVA MAR	105.48	105.48	144	144	0	0	0	RESIDENTIAL	YES	R1
8	HAMRICK PROPERTY	4.0535	4.0535	2	2	0	0	0	RESIDENTIAL	NO	AG
9	HARFORD COUNTY AIRPORT	172.61	0	0	0	0	0	0	NON RESIDENTIAL	NO	AG/GI
10	HARFORD HILL FARM	246.6	15.86	11	11	0	0	0	RESIDENTIAL	NO	AG/CDS
11	JACOB'S POND	33.359	33.359	5	5	0	0	0	RESIDENTIAL	NO	AG
12	JOURDAN-REEVES, LDS OF - LOT 3	3	3	1	1	0	0	0	RESIDENTIAL	NO	AG
13	KNOPP PROPERTY	18.518	18.518	2	2	0	0	0	RESIDENTIAL	NO	AG
14	LUX, LAND OF - LOT 2	4	4	1	1	0	0	0	RESIDENTIAL	NO	AG
15	MARTIN MEADOWS - LOT45	14.965	14.965	1	1	0	0	0	RESIDENTIAL	NO	AG
16	QUESINBERRY LOT 3	12.023	12.023	1	1	0	0	0	RESIDENTIAL	NO	AG
17	RAVENS WOODS	6.468	6.468	27	0	27	0	0	RESIDENTIAL	YES	R2
18	ROBERTS, LAND OF - LOT 4	2.72	2.72	1	1	0	0	0	RESIDENTIAL	NO	AG
19	RYAN'S RIDGE	13.14	13.14	5	5	0	0	0	RESIDENTIAL	NO	RR
20	SCARBOROUGH, LDS OF LOT 4	6.328	6.328	1	1	0	0	0	RESIDENTIAL	NO	AG
21	SONGBIRD WOODS	8	8	33	0	33	0	0	RESIDENTIAL	YES	R2
22	SUSQUEHANNA MEADOWS - PHASE II	175.22	137.54	30	30	0	0	0	RESIDENTIAL	NO	AG
23	TWS TOLLGATE (FORMERLY O'CONNELL PROPERTY)	7.38	7.38	21	21	0	0	0	RESIDENTIAL	YES	R2
24	WAGNER, LANDS OF	13.33	0	0	0	0	0	0	RESIDENTIAL	NO	AG
25	WINTERS RUN - LOTS 10-14	33.8	33.8	5	5	0	0	0	RESIDENTIAL	NO	AG
26	ZVONAR, LDS OF LOTS 2 &3	5.107	5.107	2	2	0	0	0	RESIDENTIAL	NO	AG
		1,163	662	300	240	60	0	0			

Preliminary Plan Summary				
	Residential Preliminary Plans Approved	Residential Preliminary Plan Units Approved	Non Residential Preliminary Plans Approved	Total Plans Approved
Inside PFA	4	225	1	5
Outside PFA	20	75	1	21
Total	24	300	2	26

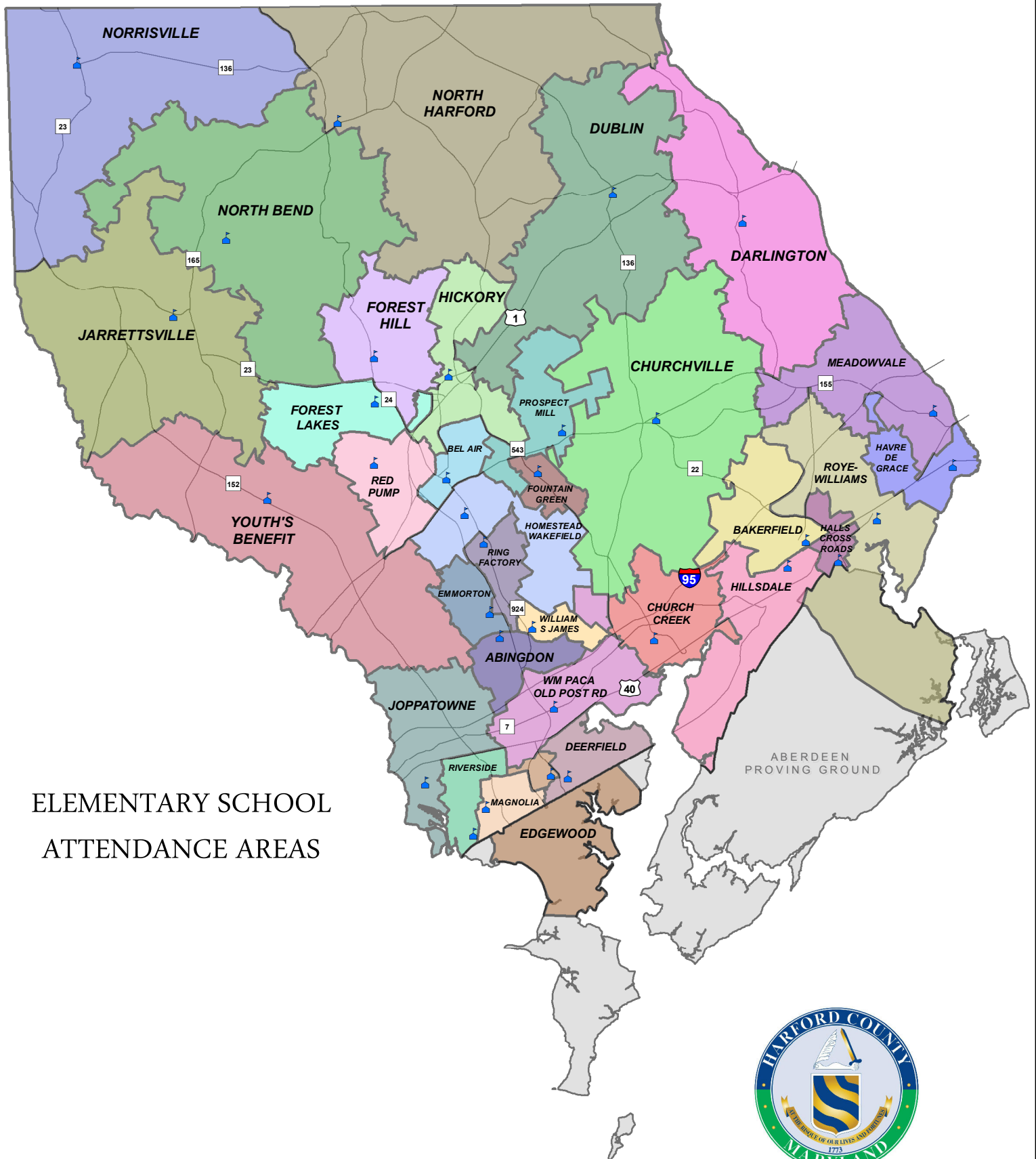


HARFORD COUNTY ANNUAL REPORT 2015 APPROVED PLANS

Source: Harford County Department of Planning & Zoning, May 2016



APPENDIX B

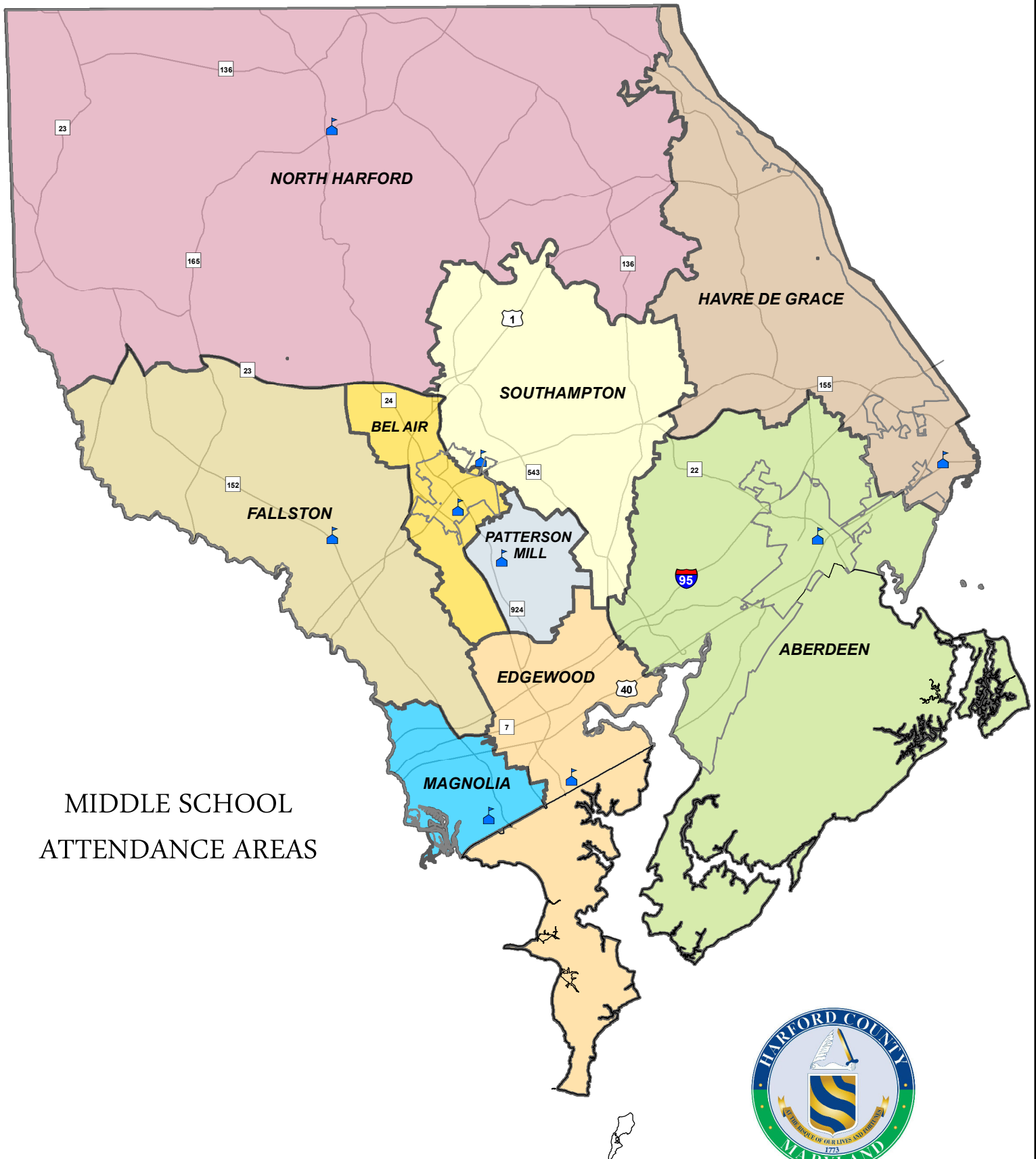


ELEMENTARY SCHOOL ATTENDANCE AREAS



Harford County
MARYLAND



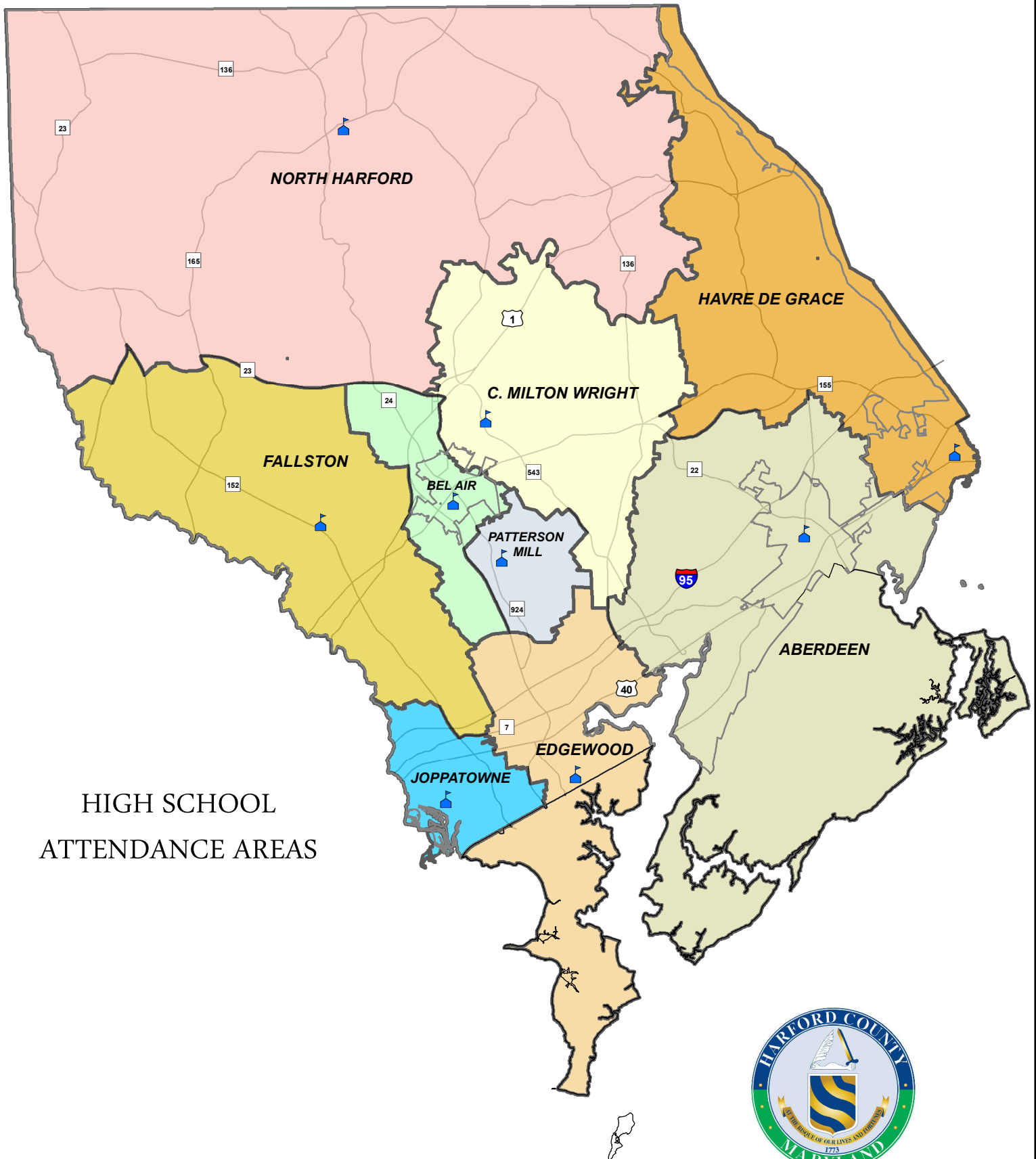


MIDDLE SCHOOL
ATTENDANCE AREAS



Harford County
MARYLAND





Harford County
MARYLAND



SOURCE: Harford County Public Schools, September 2006