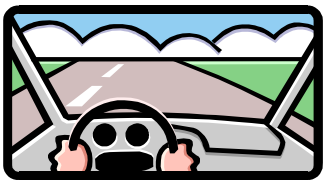
2002 Annual Growth Report

With Amendments



Harford County Government
Department of Planning and Zoning

James M. Harkins
Harford County Executive
Preserving our values, protecting our future

John J. O'Neill, Jr.
Director of Administration

J. Steven Kaii-Ziegler
Director of Planning and Zoning

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The 2002 Annual Growth Report

Table of Contents

List of Tables

List of Tables Continued

EXECUTIVE SUMMARY

In accordance with the Harford County Adequate Public Facilities provisions (Section 267-104) 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, Water and Sewerage System, and Road Intersections.

Harford County Public Schools:

The adopted adequacy standards for the Public School system are:

Elementary Schools - 120 % of rated capacity within 2 years.
Secondary Schools - 120 % of rated capacity within 3 years.

Preliminary Plans for new developments cannot be approved in elementary school districts where the full-time enrollment currently exceeds or is projected to exceed 120 percent of the capacity within two years. All thirty-two elementary schools currently meet adequacy standards.

Preliminary plans for new developments cannot be approved in secondary school districts where full-time enrollment currently exceeds or is projected to exceed 120 percent of the capacity within three years. Fourteen of the seventeen middle and high schools in Harford County meet adequacy standards. The projected enrollment for the Fallston Middle School during the 2003/2004 school year is 1,237 for a utilization rate of 125 percent. County planning funds have been made available for FY 2004 for a new middle/high school. As occurred during the July 1, 2002 to June 30, 2003 period, major subdivision plans within this attendance area will not be approved but will be reviewed and placed on a waiting list until capacity is available for the year beginning July 1, 2003.

The projected enrollment for Southampton Middle School during the 2005/2006 school year is 1,810 for a utilization rate of 120 percent. County planning funds have been made available for FY 2004 for a new middle/high school. As occurred during the July 1, 2002 to June 30, 2003 period, major subdivision plans within this attendance area will not be approved but will be reviewed and placed on a waiting list until capacity is available for the year beginning July 1, 2003.

The projected enrollment for Bel Air High School during the 2005/2006 school year is 1,713 for a utilization rate of 120 percent. County planning funds have been made available for FY 2004 for a new middle/high school. Major subdivision plans within this attendance area will not be approved but will be reviewed and placed on a waiting list until capacity is available for the year beginning July 1, 2003.

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.

Harford County's sewerage system's average flow to the Sod Run Wastewater Treatment Plant is 12.3 Million Gallons per Day (MGD) while the design capacity is 20.96 MGD for a total Average Reserve of 8.66 MGD (as of December 2002). The County water system's current average daily usage is 12.1 MGD with a peak day consumption of 16.9 MGD. The Water Treatment capacity is 21.3 MGD, leaving a total reserve of 4.4 MGD (as of December 2002). These figures refer only to a county-wide total capacity figure.

The determination of water or sewerage capacity in a specific area of the County can be found in the "Water and Sewer 2002 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 with the minimum required pressures for fire flows. Water booster stations and/or transmission lines, service mains, storage tanks, and water treatment plants are evaluated. Areas within the Harford County Development Envelope that exist at the highest elevations of the water pressure zones are evaluated for adequacy on a case-by-case analysis. The anticipated growth within the County is accommodated through a combination of developer funded projects and the County Capital Improvement Program.

The 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 Route 40 Overlay District will not be required to submit a Traffic Impact Analysis unless the proposed use will generate 1,500 trips per day at the time of preliminary/site plan review.

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

> ***Inside the Development Envelopment*:** Level of Service (LOS) D.
> If existing LOS is E or F at an intersection within the Development Envelope, 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 lowers the Level of Service (LOS) below the adopted standards. These improvements must bring the level of service to the adopted standard. If the TIA determines that the existing level of service does not meet the adopted standards, 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 represents a cross section of key intersections located inside, outside, and on the fringes of the Development Envelope. There are two unsignalized intersections and one signalized intersection with one or more movements operating at a LOS E or lower during peak hours. The following intersections contain one or more movements that operate at an unacceptable LOS. The evaluation of the LOS is determined on performance of the intersection during one hour peak traffic periods in the a.m. and/or p.m.:

1. Interstate 95 and Maryland 24 Ramp
2. Maryland 152 and Singer Road
3. Maryland 152 and U.S. 1

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

INTRODUCTION

The Annual Growth Report is an on-going 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 5 and 10 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 6 population forecast.

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, 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
1998 - 2002

Jurisdiction	1998	1999	2000	2001	2002	Total	Percentage of Baltimore Region
Harford County	1,704	1,964	1,593	2,057	1,922	9,240	15.5%
Anne Arundel County	3,822	3,682	2,898	2,763	2,499	15,664	26.7%
Baltimore City	152	200	212	216	368	1,148	2.0%
Baltimore County	3,695	3,309	2,916	3,618	2,949	16,487	28.1%
Carroll County	919	1,108	1,258	1,364	1,546	6,195	10.6%
Howard County	2,255	2,365	2,240	1,509	1,637	10,006	17.1%
Total	**12,547**	**12,628**	**11,117**	**11,527**	**10,921**	**58,740**	**100%**

Source: Baltimore Metropolital Council, March, 2003; Permit totals do not reflect cancelled permits.

Table 2
Harford County - Baltimore Region
Population and Household Projections
2002 - 2012

Jurisdiction	2002 Population	2002 Households	2007 Population	2007 Households	2012 Population	2012 Households
Harford County	222,040	82,020	230,880	87,860	240,000	93,120
Anne Arundel County	501,900	184,500	525,760	197,040	537,940	205,880
Baltimore City	652,040	259,640	654,460	264,940	657,280	270,080
Baltimore County	758,940	304,940	770,380	315,500	781,020	321,760
Carroll County	157,500	55,100	171,360	60,720	178,220	64,060
Howard County	259,740	94,600	280,660	103,000	296,620	110,500
Total	**2,552,160**	**980,800**	**2,633,500**	**1,029,060**	**2,691,080**	**1,065,400**

Source: Baltimore Metropolitan Council, March, 2003

Table 3
Harford County - Baltimore Region
Employment Projections
2002 - 2012

Jurisdiction	2002 Employment	2007 Employment	2012 Employment
Harford County	99,640	107,500	112,860
Anne Arundel County	304,580	329,780	345,800
Baltimore City	463,280	471,980	483,000
Baltimore County	457,920	477,540	491,600
Carroll County	70,380	74,820	77,720
Howard County	168,000	188,000	206,000
Total	**1,563,800**	**1,649,620**	**1,716,980**

Source: Baltimore Metropolitan Council, March, 2003

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

Permit Type	1998		1999		2000		2001		2002	
	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	502,761	29	356,896	24	315,797	15	345,549	17	394,900
Industrial	0	0	9	490,502	7	330,504	0	0	12	228,300
Institutional	8	145,025	15	202,482	13	213,426	7	78,480	17	241,300
Utiities	2	3,160	2	0	1	20,000	1	240	5	4,600
Other	2	134,338	0	0	0	0	4	87,929	1	12,000
Total	**48**	**785,284**	**55**	**1,049,880**	**45**	**879,727**	**27**	**512,198**	**52**	**881,100**

Source: Baltimore Metropolitan Council, March, 2003

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

Permit Type	1998		1999		2000		2001		2002	
	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	NA	57	NA	47	NA	65	NA	44	NA
Industrial	11	NA	14	NA	6	NA	3	NA	7	NA
Institutional	12	NA	17	NA	20	NA	30	NA	24	NA
Utiities	2	NA	2	NA	7	NA	8	NA	10	NA
Total	**61**		**90**		**80**		**106**		**85**	

NA: Data Not Available

Source: Baltimore Metropolitan Council, March, 2003

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 3 year projected school enrollments (Tables 6, 7, and 8). In addition, development information such as building permits issued by dwelling type (Tables 9, 10, and 11) and population and households (Tables 12, 13, and 14) 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. The information in this report is based on factual data. Based on the Adequate Public Facilities provision of the County Code, the level of service standard for Public Schools are:

Elementary - 120% of rated capacity within 2 years
Secondary - 120% of rated capacity within 3 years

Preliminary Plans for new developments cannot be approved in elementary school districts where the full-time enrollment currently exceeds or is projected to exceed 120 percent of the capacity within two years. All thirty-two elementary schools currently meet adequacy standards.

Preliminary plans for new developments cannot be approved in secondary school districts where full-time enrollment currently exceeds or is projected to exceed 120 percent of the capacity within three years. Fourteen of the seventeen middle and high schools in Harford County meet adequacy standards. The projected enrollment for the Fallston Middle School during the 2003/2004 school year is 1,237 for a utilization rate of 125 percent. County planning funds have been made available for FY 2004 for a new middle/high school. As occurred during the July 1, 2002 to June 30, 2003 period, major subdivision plans within this attendance area will not be approved but will be reviewed and placed on a waiting list until capacity is available for the year beginning July 1, 2003.

The projected enrollment for Southampton Middle School during the 2005/2006 school year is 1,810 for a utilization rate of 120 percent. County planning funds have been made available for FY 2004 for a new middle/high school. As occurred during the July 1, 2002 to June 30, 2003 period, major subdivision plans within this attendance area will not be approved, but will be reviewed and placed on a waiting list until capacity is available for the year beginning July 1, 2003.

The projected enrollment for Bel Air High School during the 2005/2006 school year is 1,713 for a utilization rate of 120 percent. County planning funds have been made available for FY 2004 for a new middle/high school. Major subdivision plans within this attendance area will not be approved but will be reviewed and placed on a waiting list until capacity is available for the year beginning July 1, 2003.

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 1985 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 are by using pupil yield factors for new developments.

Pupil yield factors are determined by researching the number of students from a particular community/subdivision that 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)

See Amended Table 6 on page 41 of this document

Table 6
Harford County Elementary Schools
Utilization Chart
2002

Elementary School	Capacity	Actual		Projected					
		*2002 - 2003		*2003 - 2004		*2004 - 2005		*2005 - 2006	
		ENROLL	% UTIL.	ENROLL	% UTIL.	ENROLL	% UTIL.	ENROLL	% UTIL.
Abingdon	910	760	84%	766	84%	772	85%	865	95%
Bakerfield	500	452	90%	500	100%	504	101%	507	101%
Bel Air	550	516	94%	488	89%	487	89%	511	93%
Church Creek	865	661	76%	632	73%	667	77%	668	77%
Churchville	425	358	84%	362	85%	366	86%	400	94%
Darlington	200	118	59%	109	55%	109	55%	107	54%
Deerfield	585	570	97%	613	105%	687	117%	699	119%
Dublin	325	223	69%	226	70%	237	73%	225	69%
Edgewood	500	383	77%	400	80%	402	80%	395	79%
Emmorton	575	531	92%	543	94%	573	100%	543	94%
Forest Hill	635	494	78%	570	90%	668	105%	739	116%
Forest Lakes	600	635	106%	623	104%	604	101%	573	96%
Fountain Green	600	565	94%	591	99%	594	99%	631	105%
G. Lisby at Hillsdale	475	349	73%	368	77%	348	73%	335	71%
Hall's Cross Rds	570	337	59%	378	66%	370	65%	374	66%
Havre de Grace	625	426	68%	472	76%	477	76%	461	74%
Hickory	700	646	92%	621	89%	596	85%	645	92%
Home/Wakefield	975	887	91%	849	87%	819	84%	878	90%
Jarrettsville	570	438	77%	421	74%	414	73%	402	71%
Joppatowne	535	538	101%	550	103%	594	111%	580	108%
Magnolia	525	527	100%	582	111%	588	112%	577	110%
Meadowvale	575	525	91%	524	91%	577	100%	568	99%
Norrisville	275	175	64%	170	62%	166	60%	175	64%
North Bend	575	461	80%	460	80%	465	81%	503	87%
North Harford	550	474	86%	475	86%	508	92%	507	92%
Prospect Mill	775	826	107%	814	105%	840	108%	859	111%
Ring Factory	600	543	91%	535	89%	532	89%	530	88%
Riverside	600	485	81%	498	83%	544	91%	539	90%
Roye-Williams	700	548	78%	614	88%	638	91%	637	91%
Wm Paca / Old Post Rd	1,035	919	89%	999	97%	1,019	98%	1,008	97%
Wm. S. James	575	500	87%	485	84%	503	87%	544	95%
Youth's Benefit	950	928	98%	916	96%	907	95%	893	94%
TOTAL	19,455	16,798	86%	17,154	88%	17,575	90%	17,878	92%

*Note: Projected enrollments are based on the school district boundaries adopted April 26, 2002.

Source: Harford County Public Schools and Dept. of Planning and Zoning, May, 2003.

See Amended Table 7 on page 42 of this document

Table 7

Harford County Middle Schools

Utilization Chart

2002

High School	Capacity	Actual		Projected					
		*2002 - 2003		*2003 - 2004		*2004 - 2005		*2005 - 2006	
		ENROLL	%UTIL	ENROLL	%UTIL	ENROLL	%UTIL	ENROLL	%UTIL
Aberdeen	1,656	1,299	78%	1,275	77%	1,223	74%	1,170	71%
Bel Air	1,316	1,429	109%	1,422	108%	1,295	98%	1,248	95%
Edgewood	1,338	1,349	101%	1,361	102%	1,312	98%	1,328	99%
Fallston	988	1,274	129%	1,237	125%	1,215	123%	1,202	122%
Havre de Grace	785	657	84%	638	81%	610	78%	591	75%
Magnolia	1,030	935	91%	902	88%	901	87%	953	93%
North Harford	1,241	1,226	99%	1,192	96%	1,086	88%	1,037	84%
Southampton	1,509	1,613	107%	1,642	109%	1,697	112%	1,810	120%
Alternative Education		3							
Total	9,863	9,785	99%	9,669	98%	9,339	95%	9,339	95%

*Note: Projected enrollments are based on the school district boundaries adopted April 26, 2002.

See Amended Table 8 on page 43 of this document

Table 8

Harford County High Schools

Utilization Chart

2002

High School	Capacity	Actual		Projected					
		*2002 - 2003		*2003 - 2004		*2004 - 2005		*2005 - 2006	
		ENROLL	%UTIL	ENROLL	%UTIL	ENROLL	%UTIL	ENROLL	%UTIL
**Aberdeen	1,209	1,250	103%	1,263	104%	1,275	105%	1,311	108%
Bel Air	1,423	1,573	111%	1,628	114%	1,669	117%	1,713	120%
C. Milton Wright	1,624	1,793	110%	1,849	114%	1,929	119%	1,884	116%
Edgewood	1,379	1,226	89%	1,283	93%	1,367	99%	1,369	99%
Fallston	1,529	1,656	108%	1,679	110%	1,683	110%	1,690	111%
Harford Technical	965	1,054	109%	1,088	113%	1,079	112%	1,065	110%
Havre de Grace	849	690	81%	698	82%	717	84%	731	86%
Joppatowne	1,115	1,052	94%	1,074	96%	1,100	99%	1,140	102%
North Harford	1,454	1,370	94%	1,399	96%	1,458	100%	1,463	101%
Alternative Education		17							
Total	11,547	11,681	101%	11,961	104%	12,277	106%	12,366	107%

*Note: Projected enrollments are based on the school district boundaries adopted April 26, 2002.
**Capacity has been adjusted to reflect construction of the new Aberdeen High School.

Source: Harford County Public Schools and Dept. of Planning and Zoning, November, 2002

Table 9

Harford County Residential Building Permit Activity

by Elementary School District

1998 - 2002

SCHOOL	1998 BUILDING PERMITS ISSUED BY DWELLING TYPE					1999 BUILDING PERMITS ISSUED BY DWELLING TYPE					2000 BUILDING PERMITS ISSUED BY DWELLING TYPE					2001 BUILDING PERMITS ISSUED BY DWELLING TYPE					2002 BUILDING PERMITS ISSUED BY DWELLING TYPE				
	SF	TH	APT/ CONDO	MH	TOTAL	SF	TH	APT/ CONDO	MH	TOTAL	SF	TH	APT/ CONDO	MH	TOTAL	SF	TH	APT/ CONDO	MH	TOTAL	SF	TH	APT/ CONDO	MH	TOTAL
Abingdon	20	86	0	0	106	22	131	0	0	153	5	132	0	0	137	2	170	0	0	172	5	141	0	6	152
Bakersfield	33	23	0	1	57	41	8	0	1	50	40	15	0	0	55	6	5	0	1	12	19	7	0	0	26
Bel Air	35	3	0	0	38	40	13	0	0	53	31	0	0	0	31	9	0	0	0	9	1	0	0	0	1
Church Creek	7	6	0	0	13	23	12	18	0	53	16	21	17	0	54	16	16	18	0	50	30	48	19	0	97
Churchville	28	0	0	0	28	23	0	0	0	23	27	0	0	0	27	53	0	0	0	53	50	0	0	1	51
Darlington	10	0	0	3	13	12	0	0	2	14	6	0	0	2	8	13	0	0	0	13	8	0	0	1	9
Deerfield	30	0	0	0	30	35	0	0	0	35	66	8	0	0	74	102	16	0	0	118	191	16	0	0	207
Dublin	9	0	0	1	10	13	0	0	1	14	5	0	0	1	6	15	0	0	2	17	20	0	0	3	23
Edgewood	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Emmorton	15	0	0	0	15	17	19	0	0	36	25	24	0	0	49	77	55	1	0	133	80	78	0	0	158
Forest Hill	137	42	0	0	179	149	90	36	1	276	136	95	36	1	268	125	125	36	1	287	81	69	48	1	199
Forest Lakes	26	8	36	0	70	26	7	24	0	57	45	0	0	1	46	84	0	0	0	84	44	0	0	0	44
Fountain Green	37	0	0	0	37	40	0	0	0	40	59	0	0	0	59	104	0	0	0	104	96	0	0	1	97
G. Lisby at Hillsdale	13	0	0	0	13	18	0	0	0	18	20	0	0	0	20	12	0	0	1	13	6	30	0	0	36
Hall's Cross Roads	0	18	0	0	18	2	0	0	0	2	16	0	0	0	16	9	0	0	0	9	1	10	0	0	11
Havre de Grace	7	0	0	0	7	4	0	0	0	4	4	0	0	0	4	7	2	0	0	9	0	8	0	0	8
Hickory	155	113	0	0	268	117	79	6	1	203	83	54	0	1	138	54	38	0	1	93	18	0	0	1	19
Homestead/Wakefield	61	11	0	0	72	87	12	0	0	99	76	6	0	0	82	66	5	0	0	71	68	3	0	0	71
Jarrettsville	23	0	0	1	24	38	0	0	1	39	21	0	0	1	22	28	0	0	1	29	32	0	0	0	32
Joppatowne	46	30	25	0	101	28	38	0	0	66	57	25	0	0	82	120	14	0	0	134	101	52	0	0	153
Magnolia	24	0	0	0	24	16	0	0	0	16	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4
Meadowvale	41	20	0	2	63	38	33	24	0	95	12	6	0	0	18	12	0	0	1	13	45	8	0	0	53
Norrisville	23	0	0	4	27	17	0	0	1	18	15	0	0	3	18	18	0	0	2	20	10	0	0	2	12
North Bend	33	0	0	1	34	37	0	0	2	39	37	0	0	4	41	35	0	0	3	38	30	0	0	2	32
North Harford	46	0	1	3	50	37	0	0	9	46	31	0	0	5	36	40	0	0	9	49	45	0	0	2	47
Prospect Mill	47	0	39	0	86	30	0	51	1	82	38	0	70	2	110	91	13	117	0	221	112	17	38	1	168
Ring Factory	24	59	3	0	86	16	79	0	0	95	10	7	0	0	17	2	0	0	0	2	5	0	0	0	5
Riverside	9	0	0	0	9	17	20	0	0	37	3	21	0	0	24	5	0	0	1	6	8	0	0	0	8
Roye-Williams	0	0	0	1	1	2	0	0	0	2	0	0	0	1	1	0	0	0	1	1	10	0	0	0	10
Wm. Paca/Old Post Rd	42	30	1	0	73	61	20	0	1	82	77	16	0	0	93	86	17	0	0	103	83	32	1	0	116
Wm. S. James	33	0	0	0	33	11	0	0	0	11	13	0	0	0	13	5	0	0	0	5	0	0	0	0	0
Youth's Benefit	88	0	0	1	89	71	0	0	1	72	47	0	0	0	47	44	0	0	0	44	67	0	0	0	67
TOTAL	1,103	449	105	18	1,675	1,088	561	159	22	1,830	1,021	430	123	22	1,596	1,240	476	172	24	1,912	1,270	519	106	21	1,916

* Note: Permit totals revised to reflect cancelled permits and redistricting that occurred in 2002

Source: Harford County Dept. of Planning & Zoning, March, 2003

KEY:

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

Table 10

Harford County Residential Building Permit Activity

by Middle School District

1998 - 2002

	1998					1999					2000					2001					2002				
	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/ CONDO	MH	TOTAL	SF	TH	APT/ CONDO	MH	TOTAL	SF	TH	APT/ CONDO	MH	TOTAL	SF	TH	APT/ CONDO	MH	TOTAL	SF	TH	APT/ CONDO	MH	TOTAL
Aberdeen	69	42	0	2	113	88	20	18	2	128	102	36	17	1	156	63	21	18	3	105	74	95	19	1	189
Bel Air	135	73	3	0	211	154	123	0	0	277	142	37	0	0	179	154	60	1	0	215	154	81	0	0	235
Edgewood	124	121	1	0	246	133	151	0	1	285	160	156	0	1	317	194	203	0	0	397	279	189	1	6	475
Fallston	123	8	36	1	168	108	7	30	1	146	103	0	0	2	105	134	0	0	0	134	116	0	0	0	116
Havre de Grace	57	20	0	5	82	54	33	24	2	113	22	6	0	2	30	32	2	0	1	35	52	16	0	1	69
Magnolia	79	30	25	0	134	61	58	0	0	119	60	46	0	0	106	125	14	0	1	140	113	52	0	0	165
North Harford	135	0	1	10	146	142	0	0	12	154	109	0	0	13	122	139	0	0	17	156	138	0	0	9	147
Southampton	381	155	39	0	575	348	169	87	4	608	323	149	106	3	581	399	176	153	2	730	344	86	86	4	520
TOTAL	1,103	449	105	18	1,675	1,088	561	159	22	1,830	1,021	430	123	22	1,596	1,240	476	172	24	1,912	1,270	519	106	21	1,916

NOTE: Permits totals revised for cancelled permits and to reflect redistricting that occurred in 2002.

KEY:

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

Source: Harford County Dept. of Planning and Zoning, May, 2003

Table 11

Harford County Residential Building Permit Activity

by High School District

1998 - 2002

	1998					1999					2000					2001					2002				
	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/ CONDO	MH	TOTAL	SF	TH	APT/ CONDO	MH	TOTAL	SF	TH	APT/ CONDO	MH	TOTAL	SF	TH	APT/ CONDO	MH	TOTAL	SF	TH	APT/ CONDO	MH	TOTAL
Aberdeen	68	42	0	2	112	87	20	18	2	127	102	36	17	1	156	63	21	18	3	105	74	95	19	1	189
Bel Air	135	73	3	0	211	154	123	0	0	277	142	37	0	0	179	152	60	1	0	213	154	81	0	0	235
C.M. Wright	354	113	39	0	506	313	79	51	4	447	318	54	0	3	375	372	51	117	2	542	307	17	38	4	366
Edgewood	124	121	1	0	246	133	151	0	1	285	160	156	0	1	317	194	203	0	0	397	279	189	1	6	475
Fallston	153	50	36	1	240	143	97	66	1	307	109	95	0	2	206	164	125	36	0	325	153	69	48	0	270
Havre de Grace	58	20	0	5	83	55	33	24	2	114	22	6	0	2	30	32	2	0	1	35	52	16	0	1	69
Joppatowne	79	30	25	0	134	61	58	0	0	119	60	46	0	0	106	125	14	0	1	140	113	52	0	0	165
North Harford	132	0	1	10	143	142	0	0	12	154	108	0	106	13	227	138	0	0	17	155	138	0	0	9	147
TOTAL	1,103	449	105	18	1,675	1,088	561	159	22	1,830	1,021	430	123	22	1,596	1,240	476	172	24	1,912	1,270	519	106	21	1,916

NOTE: Permits totals revised for cancelled permits and to reflect redistricting that occurred in 2002.

KEY:

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

Source: Harford County Dept. of Planning and Zoning, May, 2003

Table 12
Harford County Population and Households
by Elementary School District*

1998 - 2002

SCHOOL	1998*		1999*		2000*		2001*		2002*	
	Households	Population	Households	Population	Households	Population	Households	Population	Households	Population
Abingdon	3,345	9,171	3,495	9,544	3,645	9,393	3,775	10,319	3,921	10,614
Bakerfield	2,788	7,644	2,816	7,690	2,844	7,050	2,896	7,917	2,921	7,908
Bel Air	3,251	8,915	3,275	8,945	3,299	8,381	3,328	9,098	3,329	9,014
Churchville	1,953	5,356	1,963	5,361	1,973	5,434	2,024	5,533	2,117	5,732
Church Creek	2,704	7,415	2,817	7,694	2,930	7,714	2,956	8,079	3,005	8,134
Darlington	946	2,595	973	2,658	1,000	2,698	1,008	2,754	1,016	2,751
Deerfield	1,942	5,326	1,956	5,341	1,969	5,925	2,039	5,574	2,238	6,058
Dublin	1,258	3,449	1,257	3,433	1,256	3,400	1,262	3,449	1,284	3,475
Edgewood	1,447	3,967	1,418	3,872	1,389	3,955	1,389	3,797	1,389	3,760
Emmorton	2,085	5,716	2,206	6,025	2,328	6,234	2,375	6,491	2,526	6,838
Forest Hill	2,393	6,562	2,510	6,855	1,564	4,336	1,818	4,969	2,008	5,437
Forest Lakes	2,013	5,520	2,137	5,835	3,042	8,884	3,086	8,435	3,128	8,468
Fountain Green	2,232	6,119	2,271	6,202	2,310	6,544	2,366	6,468	2,459	6,657
G. Lisby at Hillsdale	1,819	4,987	1,827	4,989	1,835	4,825	1,854	5,068	1,888	5,113
Hall's Cross Roads	1,848	5,067	1,856	5,067	1,863	4,718	1,878	5,134	1,889	5,113
Havre de Grace	2,898	7,947	2,943	8,038	2,988	6,885	2,992	8,178	2,999	8,120
Hickory	2,183	5,986	2,266	6,188	2,349	6,930	2,480	6,779	2,498	6,764
Homestead/Wakefield	4,767	13,070	4,856	13,261	4,945	12,966	5,023	13,730	5,091	13,783
Jarrettsville	2,158	5,918	2,163	5,906	2,167	6,432	2,188	5,981	2,219	6,006
Joppatowne	3,040	8,335	3,059	8,354	3,078	7,888	3,156	8,627	3,302	8,941
Magnolia	1,473	4,038	1,486	4,058	1,499	4,344	1,499	4,097	1,503	4,069
Meadowvale	2,253	6,179	2,288	6,249	2,323	6,391	2,340	6,397	2,391	6,473
Norrisville	826	2,266	841	2,297	856	2,493	873	2,387	885	2,395
North Bend	2,083	5,713	2,119	5,788	2,174	6,488	2,213	6,049	2,244	6,074
North Harford	1,899	5,207	1,921	5,246	2,205	6,453	2,239	6,121	2,284	6,184
Prospect Mill	2,924	8,019	3,096	8,454	3,267	9,519	3,372	9,216	3,532	9,563
Ring Factory	2,166	5,940	2,252	6,149	2,337	6,727	2,353	6,432	2,358	6,384
Riverside	2,718	7,453	2,670	7,291	2,621	7,068	2,644	7,227	2,651	7,178
Roye-Williams	1,496	4,103	1,477	4,033	1,457	4,747	1,458	3,985	1,468	3,973
Wm. Paca/Old Post Rd	4,547	12,467	4,786	13,071	5,026	12,999	5,114	13,980	5,225	14,147
Wm. S. James	1,789	4,905	1,839	5,021	1,888	5,791	1,900	5,195	1,900	5,145
Youth's Benefit	5,127	14,058	5,183	14,156	5,240	14,978	5,285	14,446	5,349	14,481
TOTAL	76,372	209,413	78,020	213,072	79,667	218,590	81,182	221,911	83,050	224,840

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

Source: Harford County Dept. of Planning and Zoning, May, 2003

Table 13
Harford County Population and Households
by Middle School District

1998 - 2002

SCHOOL	1998*		1999*		2000*		2001*		2002*	
	Households	Population	Households	Population	Households	Population	Households	Population	Households	Population
Aberdeen	11,412	31,292	11,561	31,572	11,709	31,085	11,859	32,417	11,962	32,406
Bel Air	9,856	27,026	10,129	27,661	12,669	33,719	12,839	35,095	13,043	35,333
Edgewood	11,892	32,608	12,337	33,691	12,781	34,446	13,082	35,760	13,459	36,460
Fallston	8,405	23,045	8,650	23,623	9,907	28,745	10,007	27,353	10,134	27,452
Havre de Grace	6,137	16,827	6,248	17,063	6,359	16,105	6,388	17,460	6,421	17,393
Magnolia	7,208	19,765	7,177	19,599	7,145	19,257	7,246	19,806	7,379	19,988
North Harford	7,757	21,270	7,824	21,366	8,560	24,995	8,676	23,715	8,824	23,904
Southampton	13,705	37,580	14,096	38,496	10,537	30,238	11,089	30,312	11,777	31,904
TOTAL	76,372	209,413	78,020	213,072	79,667	218,590	81,185	221,919	83,000	224,840

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

Source: Harford County Dept. of Planning and Zoning, May, 2003.

Table 14
Harford County Population and Households
by Middle School District

1998 - 2002

SCHOOL	1998*		1999*		2000*		2001*		2002*	
	Households	Population	Households	Population	Households	Population	Households	Population	Households	Population
Aberdeen	11,412	31,292	11,561	31,572	11,709	31,085	11,859	32,417	11,962	32,406
Bel Air	12,089	33,147	12,328	33,669	12,669	33,719	12,839	35,095	13,041	35,328
Edgewood	9,946	27,271	10,309	28,155	9,926	28,771	10,349	28,288	10,859	29,415
Fallston	11,892	32,608	12,337	33,691	12,781	34,446	13,082	35,760	13,459	36,460
Havre de Grace	9,932	27,234	10,237	27,957	10,518	30,209	10,748	29,379	11,057	29,951
Joppatowne	6,137	16,827	6,248	17,063	6,359	16,105	6,388	17,460	6,421	17,393
North Harford	7,208	19,765	7,177	19,599	7,145	19,257	7,246	19,806	7,379	19,988
C. Milton Wright	7,757	21,270	7,824	21,366	8,560	24,998	8,675	23,713	8,822	23,898
TOTAL	76,372	209,413	78,020	213,072	79,667	218,590	81,185	221,919	83,000	224,840

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

Source: Harford County Dept. of Planning and Zoning, May, 2003.

WATER AND SEWERAGE

Introduction

The data included in this section for the water and sewerage system are aggregated by the water & sewer service area, which essentially reflects the Development Envelope as defined in the 1996 Harford County Land Use Element Plan. Additional information is included in this report on water/sewerage usage by dwelling type and 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 contained in the County's Capital Improvements Program for expanding facilities - including project status. This information is extracted from the "2002 Water and Sewer Adequate Public Facilities Report," and can be found on pages 24 - 28 of this 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, pumping and storage facilities for all zones must be sized for estimated future demands. In 1996, the average daily water demand by customers served by the County's central system was approximately 8.6 MGD, with a corresponding maximum day demand of approximately 11.2 MGD. In 2002, the County's average day and maximum day demands were 12.1 MGD and 16.9 MGD respectively. 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 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 on page 9 and pages 32-157 of the 2002 Water and Sewer Adequate Public Facilities Report.

The average daily influent flow to the Sod Run WWTP in 2002 was approximately 11.4 MGD, exclusive of recycle flows and septage. The average daily influent flow to the Joppatowne WWTP in 2002 was approximately 0.75 MGD. The determination of future wastewater flows to wastewater treatment plants are made by using population and household projections developed by Harford County Department of Planning and Zoning for the years 2000 through 2025. The projections were distributed by local transportation zone (LTZs) by aggregating the ultimate development in terms of equivalent dwelling units into sewerage drainage areas. In order to keep pace with projected growth, construction of an expansion of the Sod Run Wastewater Treatment Plant from 12 MGD in 1995 to 20 MGD by 2000 had been completed.

There are two private multi-use sewerage systems in the County. The Conowingo-Susquehanna Power Company provides sewerage service to the Conowingo Power Plant and some surrounding residences and the Swan Harbor Dell Mobile Home Park that 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 15

JANUARY - DECEMBER 2002
WATER CONSUMPTION & SEWAGE GENERATION

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

	2002
Total Number of Connections	37,280
WATER	
Average Water Production	12.1 MGD
Maximum Day Water Production	16.9 MGD
Average Water Usage per Connection (gal/day)	348
Residential Unit Water Usage (gal/day)	174
Average Commercial/Industrial Water Usage (gal/day)	5,668
SEWAGE	
Average Sewage Flows	12.1 MGD
Maximum Day Sewage Flows	19.3 MGD
Average Sewage per Connection (gal/day)	335
Residential Sewage Generation (gal/day)	174
Average Commercial/Industrial Sewage Generation (gal/day)	5,668

- MGD = Million Gallons per Day

Table 16

HARFORD COUNTY SYSTEM WATER PRODUCTION PROJECTIONS

SYSTEM WIDE RESIDENTIAL/ COMMERCIAL INDUSTRIAL WATER DEMAND	YEAR														
	1990	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2010	2015	2020	2025
First Zone															
Avg. Day, mgd	3.4	3.2	3.4	4.1	4.05	4.5	4.5	4.6	3.5	5.1	5.7	6.7	11	13.5	17.2
Max. Day, mgd	4.3	4.6	4.8	6	4.8	6.5	6.6	6.5	4.6	9.1	7.8	9.5	15.8	19.7	25
Total of Second, Third and Fourth Zones															
Avg. Day, mgd	2.5	3.5	3.7	3.8	4.5	5	5	5.7	5.9	6.4	5.8	6.6	7.3	9.1	9.9
Max. Day, mgd	3.3	3.9	4	5.6	5.9	6.8	6.9	7.3	6.9	7.1	8.1	9.8	10.7	13.2	14.4
Aberdeen															
Avg. Day, mgd	0	0	0	0.5	0.05	0.03	0.01	0.3	0.26	0.26	0.47	0.3	0.4	0.5	0.5
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
Chapel Hill															
Avg. Day, mgd	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
Max. Day, mgd	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0
Maryland-American Water Co.															
Avg. Day, mgd	0	0	0	0	0	0.07	0.01	0.01	0.19	0.01	0.16	0.2	0.25	0.3	0.35
Max. Day, mgd	0	0	0	0	0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Total															
Avg. Day, mgd	5.9	6.7	7.1	8.4	8.6	9.6	9.5	10.6	9.9	11.8	12.1	15.8	19	23.4	28
Max. Day, mgd	7.6	8.5	8.8	12.1	11.2	14.3	14.5	14.8	12.5	17.2	16.9	23.3	27.5	33.9	40.4

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

Table 17

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

SERVICE AREA	PLANNING YEAR	RESIDENTIAL POPULATION SERVED	DOMESTIC FLOW (ADF)	INDUSTRIAL FLOW (ADF)	INFILTRATION / INFLOW (ADF)	TOTAL FLOW	SYSTEM CAPACITY
HARFORD COUNTY	1993	70,732	7.7	0.4	1	9.1	10
	1995	81,696	7.7	0.5	1.4	9.6	12
	2000	99,057	9.3	0.6	1.7	11.6	20
	2002	101,052	9.3	0.6	1.5	11.4	20
	2005	104,000	9.4	0.6	1.7	11.7	20
	2010	113,000	10	0.6	1.9	12.5	20
	2025	178,000	14.5	1	2.3	17.8	20
JOPPATOWNE	1993	7,000	0.59	0	0.19	0.78	0.75
	1995	7,000	0.56	0	0.19	0.75	0.75
	2000	7,700	0.65	0	0.19	0.84	0.95
	2002	7,850	0.6	0	0.15	0.75	0.95
	2005	8,800	0.65	0	0.19	0.84	0.95
	2010	9,500	0.76	0	0.19	0.95	0.95
	2025	9,500	0.76	0	0.19	0.95	0.95
SPRING MEADOWS	1993	153	0.01	0	0	0.01	0.01
	1995	153	0.01	0	0	0.01	0.01
	2000	153	0.01	0	0	0.01	0.01
	2002	153	0.01	0	0	0.01	0.01
	2005	153	0.01	0	0	0.01	0.01
	2010	153	0.01	0	0	0.01	0.01
	2025	153	0.01	0	0	0.01	0.01
WHITEFORD - CARDIFF	2002	516	0.02	0	0.01	0.03	0.12
	2005	516	0.07	0.01	0.01	0.09	0.12
	2010	537	0.08	0.01	0.01	0.1	0.12
	2025	537	0.09	0.01	0.02	0.12	0.12

Table 18
2002 EXISTING WATER & SEWER CAPITAL PROJECTS

The Capital Improvement Program establishes projects for expanding and improving water and sewer facilities. This list of 2002 Capital Projects includes the project status.

PROJECT NO.	PROJECT NAME	PROJECT STATUS
6440	Infiltration/Inflow	Implementation of the program
6458	Lower Bynum Run Parallel Interceptor	Phase 3A: Construction complete Phase 3B: Awaiting right-of-way Phases 4 & 5: Under design
6540	Country Walk Tank & Booster Station	Construction complete
6587	Route 7 Sewer Extension	Under design
6591	Perryman Well Field Improvements	Well #5 under construction
6603	Abingdon Road Water Main Phase III	Construction complete
6608	Bush Creek P.S. Force Main Surge Facility Modification	Under bid
6611	Old Joppa Road Sewer Petition	Under construction
6620	Perryman WTP Granular Activated Carbon (GAC) Relocation	Under construction
6627	Country Walk 20" Water Main Parallel	Under design
6628	Fourth Zone Loop	Under design
6632	Red Pump Road Force Main	Under design
6634	Lower Bynum Run Interceptor Parallel	Environmental Permitting and Alternative Analyses
6639	Edgewood Interceptor Extension Phase II	Under construction
19284	Leeswood Garth Sewer Parallel	Construction complete

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 19 and 20), average daily count locations (Table 21), a list of approved county capital projects funded for construction in FY 02 (Table 22), and a list of state consolidated transportation program projects funded for construction FY 02 (Table 23). 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. Proposed development located within the Route 40 Overlay District 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 recommending 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 two unsignalized intersections and one signalized intersection with one or more movements operating at a LOS E or lower during peak hours. The following intersections contain one or more movements that operate at an unacceptable LOS. The evaluation of the LOS is determined on performance of the intersection during one hour peak traffic periods in the a.m. and/or p.m.:

1. Interstate 95 and Maryland 24 Ramp
2. Maryland 152 and Singer Road
3. Maryland 152 and U.S. 1

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

Table 19

Signalized Intersection Capacity

Level Of Service And Delay In Seconds

1999 - 2002

Intersection	1999 Peak Hour Level Of Service / Delay In Seconds	2000 Peak Hour Level Of Service / Delay In Seconds	2001 Peak Hour Level Of Service / Delay In Seconds	2002 Peak Hour Level Of Service / Delay In Seconds
Maryland Route 7 and U.S. Route 40		D / 36.6		C / 30.8
Maryland Route 924 and Moores Mill Road		C / 31.0		C / 27.2
Maryland Route 24 and Trimble Road		C / 32.6		C / 23.5
Maryland Route 152 and U.S. Route 1		D / 49.7		E / 56.5
Maryland Route 24 and U.S. Route 1		D / 50.8		D / 54.8
Maryland Route 152 and Trimble Road		C / 26.8		C / 24.3
Maryland Route 24 and Jarrettsville Road		C / 34.5		C / 20.8
Maryland Route 152 and Hanson Road		C / 25.2		C / 28.8
Maryland Route 22 and Brier Hill Road	C / 31.6		C / 29.9	
Maryland Route 22 and Maryland Route 136	C / 28.5		C / 20.3	
Maryland Route 24 and Bel Air South Parkway	D / 54.9		D / 52.1	
Maryland Route 24 and Plumtree Road	C / 22.6		C / 24.4	
Maryland Route 24 and Ring Factory Road	D / 53.7		C / 20.8	
Maryland Route 24 and Maryland Route 755	D / 38.8		D / 43.8	
Maryland Route 24 and Maryland Route 924 (Tollgate	F / >60		F / 88.7	
Maryland Route 543 and U.S. Route 1	C / 32.2		C / 27.5	
Maryland Route 543 and Maryland Route 22	D / 45.0		D / 36.1	
Maryland Route 924 and Abingdon Road	D / 48.1		D / 37.9	

Table 20

Unsignalized Intersection Capacity

Level Of Service And Delay In Seconds

1999 - 2002

Intersection	1999 Peak Hour Level Of Service / Delay In Seconds	2000 Peak Hour Level Of Service / Delay In Seconds	2001 Peak Hour Level Of Service / Delay In Seconds	2002 Peak Hour Level Of Service / Delay In Seconds
Interstate 95 and Maryland Route 24 Ramp		F / >60		F / >60
Maryland Route 152 and Singer Road		F / >60		F / >60
Maryland Route 924 and Plumtree Road	F / >60		F / 92.8	
Maryland Route 7 and Maryland Route 159	B / 13.5		B / 11.5	
Maryland Route 24 and Forest Valley Road	F / >60		F / 171.4	
Maryland Route 159 and Spesutia Road	B / 12.4		B / 14.5	

Table 21

48 Hour Average Weekday Daily Traffic Volume And Locations

2000 - 2002

Road Name	Location	2000 Average Daily Count	2001 Average Daily Count	2002 Average Daily Count
Beards Hill Road	North of Churchville Road	10,602		6,825
Carrs Mill Road	North of Maryland Route 152	7,533		8,644
Chapel Road	North of Interstate 95	1,752		1,705
Jarrettsville Road	East of Maryland Route 24	9,006		10,196
Jarrettsville Road	West of Maryland Route 24	6,498		4,526
Maryland Route 7	West of Maryland Route 24	6,250		7,625
Moores Mill Road	West of Coconut Court	12,693		10,662
Moores Mill Road	West of Old English Court	9,226		6,942
Pleasantville Road	North of Putnam Road	3,104		3,505
Singer Road	East of Maryland Route 24	N/A*		N/A*
Stepney Road	North of Interstate 95	1,311		1,373
U.S. Route 1	North of Maryland Route 152	26,150		31,050
U.S. Route 40	North of Maryland Route 24	17,341		17,341
Abingdon Road	North of Interstate 95		9,395	
Hanson Road	South of Silverbell Road		3,094	
Hanson Road	West of Maryland Route 24		11,738	
Maryland Route 24	North of Singer Road		43,900	
Maryland Route 152	South of U.S. Route 1		27,025	
Maryland Route 543	South of Maryland Route 22		17,625	
Plumtree Road	East of Maryland Route 24		4,532	
Ring Factory Road	West of Maryland Route 24		4,515	
Ring Factory Road	East of Maryland Route 24		12,082	
Singer Road	West of Maryland Route 24		11,739	
Trimble Road	East of Maryland Route 24		4,226	
Trimble Road	West of Maryland Route 24		7,039	
Vale Road	West of U.S. Route 1 Overpass		8,656	

*** Road closed (construction)**

Table 22

List of Approved County Capital Projects

Funded for Construction in FY 03

Bridge Inspection Program	**Inspection**
Greene Road Bridge	**Reconstruction**
Grier Nursery Road Bridge	**Reconstruction**
Moores Mill Road Bridge	**Reconstruction**
Singer Road Bridge	**Reconstruction**
Southampton Road Bridge	**Reconstruction**
Turner Road Bridge	**Reconstruction**
Tollgate Road; between W. Ring Factory & Plumtree Roads	**Upgrade**
Old Pylesville Road; between Md 136 & PA line & MD 136 to Chestnut Street	**Upgrade**

Table 23

State Consolidated Transportation Program

Funded for Construction in FY 03

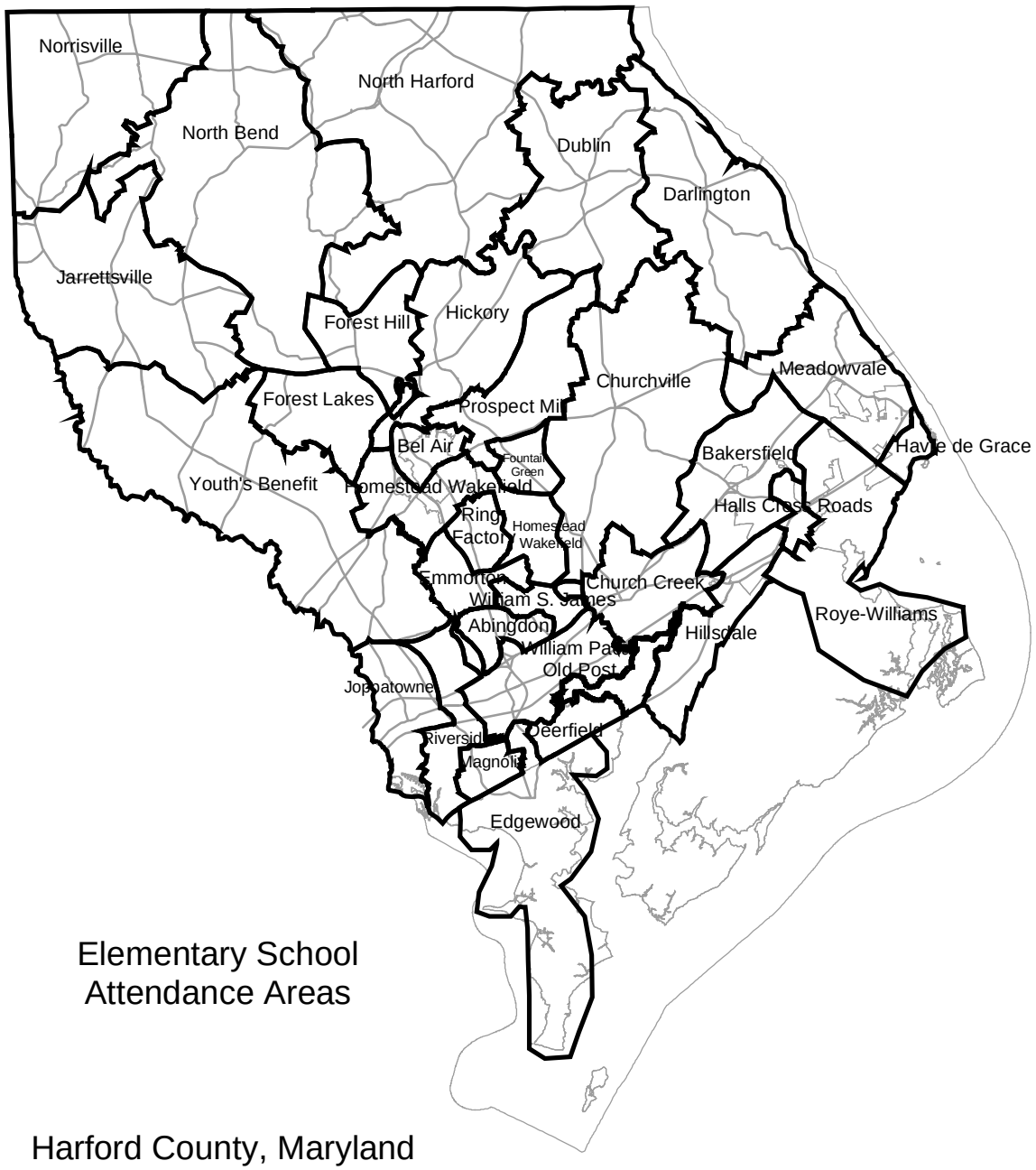
Baltimore Pike from Tolgate Road to MD 924	**Resurfacing**
MD 924 from MacPhail Road to Linwood Avenue	**Resurfacing**
Pulaski Highway; Baltimore Co. line to Joppa Road	**Resurfacing**
Emmorton Road from St. Clair Dr. to Box Ridge Dr.	**Center Turn Lane**

APPENDIX

PUPIL YIELD FACTORS

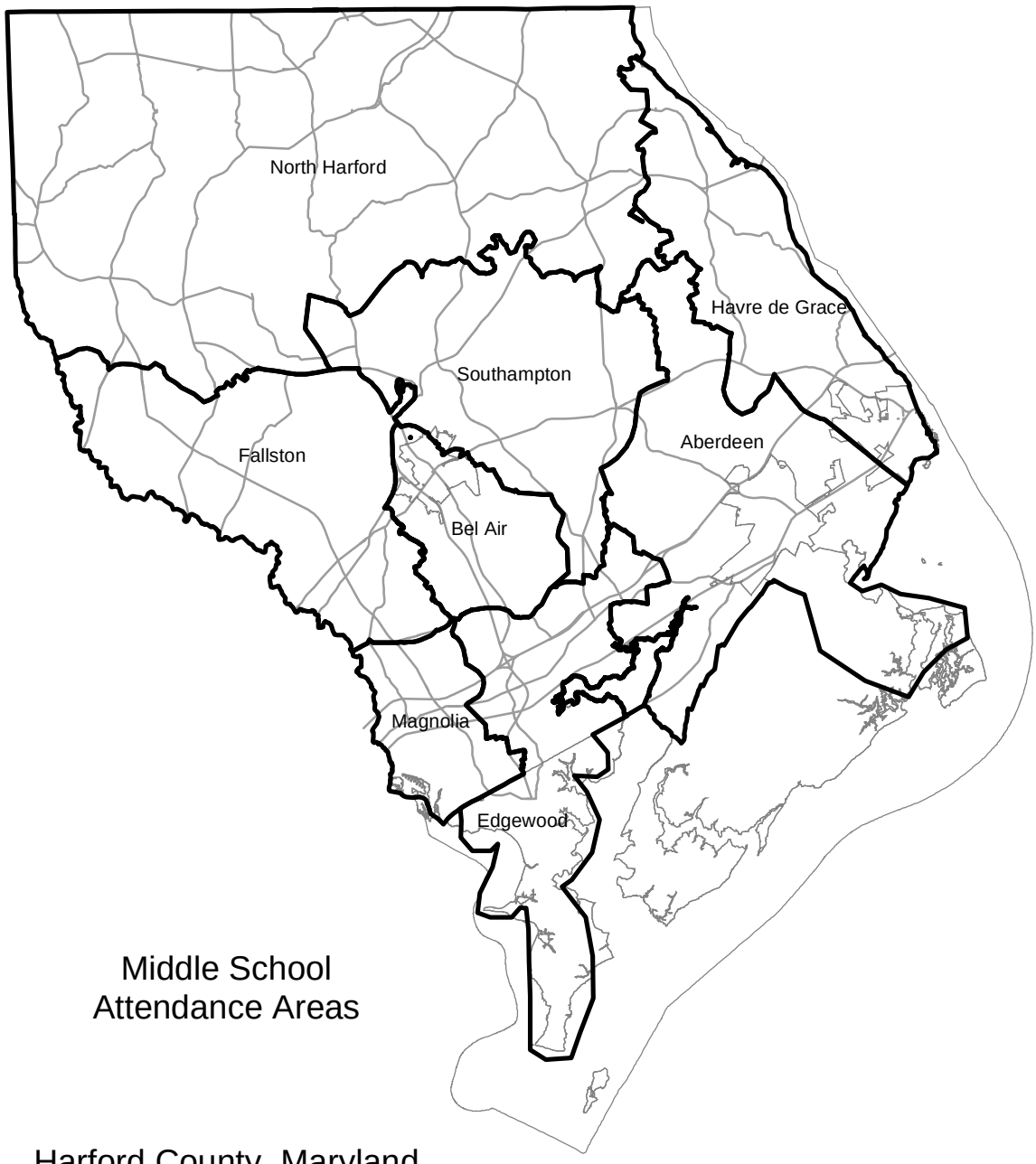
Forty subdivisions were selected from various geographic locations throughout Harford County, to include single family dwellings, townhouse units, apartments/condominium units, and mobile home units. The subdivisions selected represented newly constructed and established subdivisions ranging in size from 28 units to 2,423 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 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.

	GRADES		
UNIT TYPE	**K-5**	**6-8**	**9-12**
Single Family	.31	.16	.20
Townhome	.23	.09	.15
Apartments (2 Bdrms)	.08	.03	.01
Condo (2+ Bdrms)	.08	.03	.01
Mobile Home	.11	.04	.06



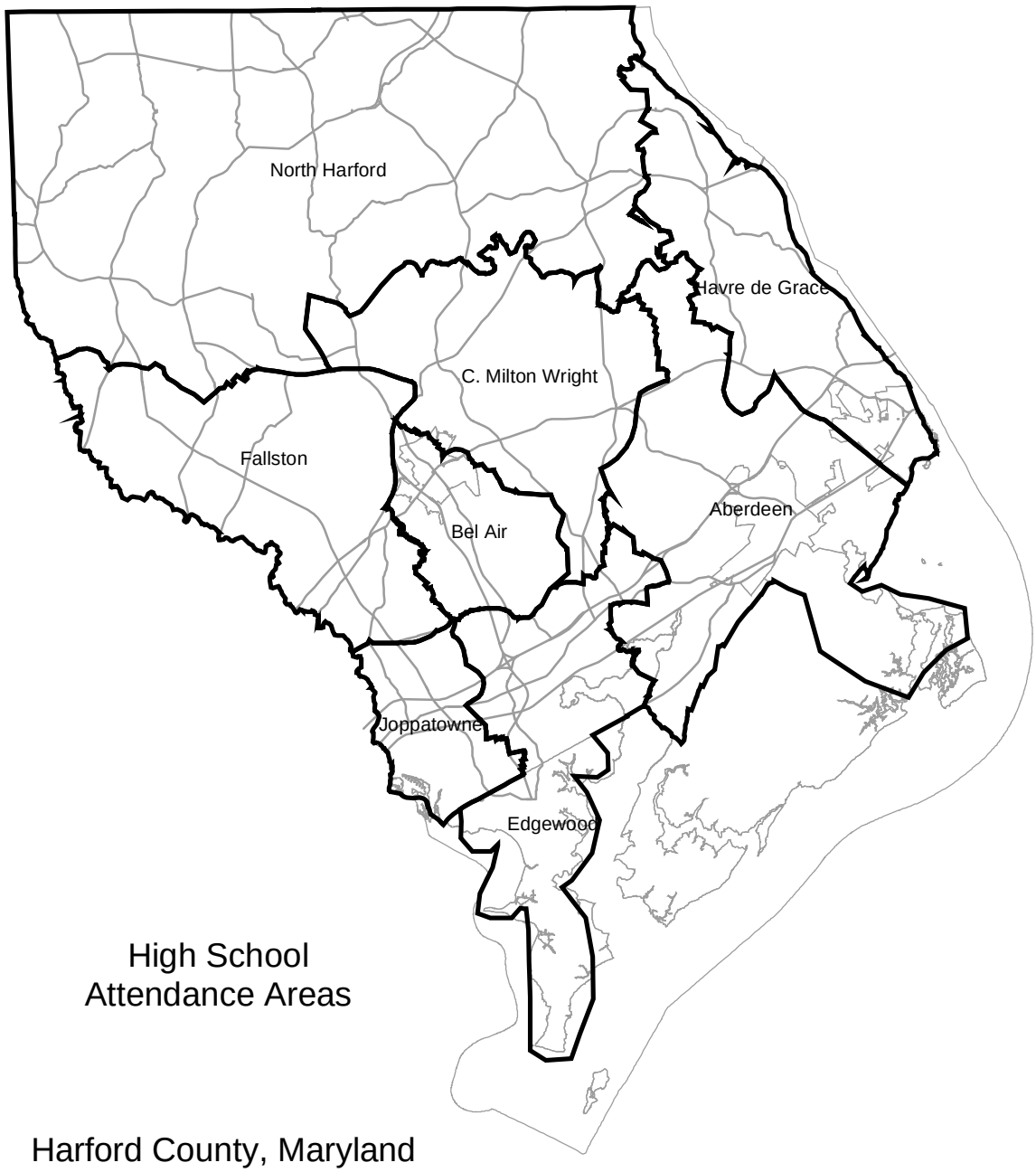
Elementary School
Attendance Areas

Harford County, Maryland



Middle School
Attendance Areas

Harford County, Maryland



High School
Attendance Areas

Harford County, Maryland

AMENDMENTS

AMENDMENT TO 2002 ANNUAL GROWTH REPORT

Background:

In accordance with the Harford County Adequate Public Facilities provisions (Section 267-104) of the Harford County Code, and Bill No. 03-37 As Amended, testing for adequate school capacities shall occur on December 1 and June 1 of each year. Therefore, amendments to the 2002 Annual Growth Report are required and include updated enrollment figures and projections based on September 30, 2003 enrollment figures. Based on the adequacy standards outlined below, the Annual Growth Report is amended to reflect current enrollments and projections as of September 30, 2003.

Adequacy Standards:

The adopted adequacy standards for the Public School system are 115% of the rated capacity within 5 years for both elementary and secondary schools. Included with this amendment to the 2002 Annual Growth Report are Tables 6, 7, and 8, the utilization charts for the elementary, middle, and high schools. These tables identify current enrollment figures as of September 30, 2003, and include projections through the 2008/2009 school year. Preliminary plans for new developments cannot be approved in elementary or secondary school districts where full-time enrollment currently exceeds or is projected to exceed 115 percent of the capacity within five years.

Elementary Schools:

Thirty-one of thirty-two elementary schools in Harford County meet adequacy standards. The projected enrollment for the Deerfield Elementary School during the 2006/2007 school year is 714 for a utilization rate of 122 percent. Major subdivision plans within this attendance area will not be approved but will continue to be reviewed and placed on a waiting list until capacity is available beginning January 1, 2004.

Secondary Schools:

Fifteen of the seventeen middle and high schools in Harford County meet adequacy standards. The current enrollment for Southampton Middle School during the 2003/2004 school year is 1,509 for a utilization rate of 107 percent. The enrollment is not projected to exceed 115% within 5 years; therefore, major subdivision plans within this attendance area will be removed from the waiting list for review and preliminary plan approval beginning January 1, 2004.

The current enrollment for the Fallston Middle School during the 2003/2004 school year is 1,228 for a utilization rate of 124 percent. Major subdivision plans within this attendance area will not be approved but will continue to be reviewed and placed on a waiting list until capacity is available beginning January 1, 2004.

The projected enrollment for Bel Air High School during the 2006/2007 school year is 1,770 for a utilization rate of 124 percent. Major subdivision plans within this attendance area will not be approved but will continue to be reviewed and placed on a waiting list until capacity is available beginning January 1, 2004.

The projected enrollment for Southampton Middle School during the 2008/2009 school year is 1,593 for a utilization rate of 106 percent. Major subdivision plans within this attendance area will reviewed for approval beginning January 1, 2004

Table 6

Harford County Elementary Schools

Utilization Chart

2003

Elementary School	Capacity	Actual		Projected									
		2003 - 2004		*2004 - 2005		*2005 - 2006		*2006 - 2007		*2007 - 2008		*2008 - 2009	
		ENROLL	% UTIL.	ENROLL	% UTIL.	ENROLL	% UTIL.	ENROLL	% UTIL.	ENROLL	% UTIL.	ENROLL	% UTIL.
Abingdon	910	744	82%	737	81%	806	89%	776	85%	770	85%	771	85%
Bakerfield	500	490	98%	487	97%	479	96%	473	95%	480	96%	472	94%
Bel Air	550	471	86%	476	87%	500	91%	481	87%	488	89%	491	89%
Church Creek	865	670	77%	694	80%	672	78%	658	76%	658	76%	641	74%
Churchville	425	369	87%	368	87%	401	94%	399	94%	399	94%	400	94%
Darlington	200	129	65%	133	67%	132	66%	128	64%	128	64%	132	66%
Deerfield	585	**622**	**106%**	**683**	**117%**	**686**	**117%**	**714**	**122%**	**710**	**121%**	**697**	**119%**
Dublin	325	230	71%	235	72%	219	67%	208	64%	207	64%	208	64%
Edgewood	500	430	86%	446	89%	446	89%	455	91%	455	91%	455	91%
Emmorton	575	535	93%	570	99%	557	97%	595	103%	606	105%	599	104%
Forest Hill	635	536	84%	567	89%	562	89%	605	95%	584	92%	586	92%
Forest Lakes	600	624	104%	626	104%	620	103%	669	112%	661	110%	664	111%
Fountain Green	600	594	99%	596	99%	630	105%	662	110%	682	114%	671	112%
G. Lisby at Hillsdale	475	363	76%	343	72%	318	67%	303	64%	308	65%	312	66%
Hall's Cross Rds	570	338	59%	335	59%	336	59%	334	59%	337	59%	330	58%
Havre de Grace	625	469	75%	479	77%	473	76%	481	77%	488	78%	502	80%
Hickory	700	638	91%	647	92%	721	103%	700	100%	711	102%	725	104%
Home/Wakefield	975	899	92%	875	90%	930	95%	906	93%	907	93%	883	91%
Jarrettsville	570	435	76%	422	74%	409	72%	432	76%	431	76%	415	73%
Joppatowne	535	509	95%	543	101%	528	99%	527	99%	522	98%	535	100%
Magnolia	525	546	104%	532	101%	507	97%	501	95%	496	94%	505	96%
Meadowvale	575	540	94%	591	103%	569	99%	567	99%	558	97%	548	95%
Norrisville	275	180	65%	179	65%	190	69%	199	72%	199	72%	190	69%
North Bend	575	445	77%	436	76%	461	80%	454	79%	445	77%	445	77%
North Harford	550	485	88%	522	95%	522	95%	508	92%	489	89%	484	88%
Prospect Mill	775	793	102%	804	104%	818	106%	882	114%	881	114%	870	112%
Ring Factory	600	529	88%	505	84%	475	79%	502	84%	499	83%	479	80%
Riverside	600	509	85%	545	91%	532	89%	540	90%	534	89%	527	88%
Roye-Williams	700	543	78%	537	77%	515	74%	513	73%	519	74%	521	74%
Wm Paca / Old Post Rd	1,035	984	95%	1,004	97%	983	95%	974	94%	970	94%	960	93%
Wm. S. James	575	463	81%	483	84%	515	90%	505	88%	504	88%	511	89%
Youth's Benefit	950	907	95%	897	94%	873	92%	943	99%	942	99%	926	97%
TOTAL	19,455	17,019	87%	17,297	89%	17,385	89%	17,594	90%	17,568	90%	17,455	90%

*Note: Projected enrollments are based on the school district boundaries adopted April 26, 2002.

Source: Harford County Public Schools and Dept. of Planning and Zoning, October, 2003.

Table 7

Harford County Middle Schools
Utilization Chart
2003

High School	Capacity	Actual		Projected									
		2003 - 2004		*2004 - 2005		*2005 - 2006		*2006 - 2007		*2007 - 2008		2008- 2009	
		ENROLL	%UTIL	ENROLL	%UTIL	ENROLL	%UTIL	ENROLL	%UTIL	ENROLL	%UTIL	ENROLL	%UTIL
Aberdeen	1,656	1,293	78%	1,239	75%	1,171	71%	1,124	68%	1,069	65%	1,046	63%
Bel Air	1,316	1,461	111%	1,386	105%	1,362	103%	1,301	99%	1,295	98%	1,284	98%
Edgewood	1,338	1,346	101%	1,313	98%	1,335	100%	1,319	99%	1,375	103%	1,402	105%
Fallston	988	**1,228**	**124%**	**1,253**	**127%**	**1,265**	**128%**	**1,263**	**128%**	**1,261**	**128%**	**1,250**	**127%**
Havre de Grace	785	650	83%	621	79%	615	78%	612	78%	625	80%	595	76%
Magnolia	1,030	903	88%	906	88%	921	89%	928	90%	943	92%	891	87%
North Harford	1,241	1,200	97%	1,149	93%	1,158	93%	1,167	94%	1,197	96%	1,194	96%
Southampton	1,509	1,541	102%	1,505	100%	1,494	99%	1,505	100%	1,514	100%	1,593	106%
Education		2											
Total	9,863	9,624	98%	9,372	95%	9,321	95%	9,219	93%	9,279	94%	9,255	94%

*Note: Projected enrollments are based on the school district boundaries adopted April 26, 2002

Source: Harford County Public Schools and Dept. of Planning and Zoning, October, 2003

Table 8

Harford County High Schools
Utilization Chart

2003

High School	Capacity	Actual		Projected									
		2003 - 2004		*2004 - 2005		*2005 - 2006		*2006 - 2007		*2007 - 2008		*2008-2009	
		ENROLL	%UTIL	ENROLL	%UTIL	ENROLL	%UTIL	ENROLL	%UTIL	ENROLL	%UTIL	ENROLL	%UTIL
**Aberdeen	1,209	1,250	103%	1,250	103%	1,314	109%	1,306	108%	1,260	104%	1,219	101%
Bel Air	1,423	**1,649**	**116%**	**1,674**	**118%**	**1,740**	**122%**	**1,770**	**124%**	**1,706**	**120%**	**1,675**	**118%**
C. Milton Wright	1,624	1,789	110%	1,801	111%	1,738	107%	1,731	107%	1,699	105%	1,628	100%
Edgewood	1,379	1,327	96%	1,424	103%	1,458	106%	1,507	109%	1,457	106%	1,451	105%
Fallston	1,529	1,672	109%	1,646	108%	1,641	107%	1,650	108%	1,630	107%	1,651	108%
Harford Technical	965	1,070	111%	1,070	111%	1,058	110%	1,068	111%	1,072	111%	1,069	111%
Havre de Grace	849	687	81%	712	84%	733	86%	731	86%	722	85%	726	86%
Joppatowne	1,115	1,051	94%	1,056	95%	1,117	100%	1,113	100%	1,097	98%	1,135	102%
North Harford	1,454	1,425	98%	1,464	101%	1,468	101%	1,484	102%	1,449	100%	1,424	98%
Alternative Education		28		30		30		30		30		30	
Total	11,547	11,948	103%	12,127	105%	12,297	106%	12,390	107%	12,122	105%	12,008	104%

*Note: Projected enrollments are based on the school district boundaries adopted April 26, 2002.
**Capacity has been adjusted to reflect construction of the new Aberdeen High School.

Source: Harford County Public Schools and Dept. of Planning and Zoning, October, 2003