1994 Annual Growth Report

Prepared by the Department of Planning and Zoning May 1995

THE 1994 ANNUAL GROWTH REPORT
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EXECUTIVE SUMMARY

In accordance with Section 267-104 of the Harford County Adequate Public Facilities, the Harford County Annual Growth Report is required to be updated to identify any facilities which have fallen below the adopted minimum standards. This year's Annual Growth Report includes information and analysis regarding Public Schools, Water and Sewerage System, and the Road Intersections.

Harford County Public Schools:

The adopted adequacy standards for the Public School system are:

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

Secondary Schools - 120 % of local rated capacity within 3 years

Preliminary Plans for new developments cannot be approved in school districts where the full time enrollment is projected to exceed 120 percent of the capacity as of September 30. The projected enrollment for the Abingdon Elementary School during the 1995/96 school year is 752 with a utilization rate of 125 percent. As of this date, no additional elementary schools facilities which would relieve this situation have received funding. Effective July 1, 1995, any preliminary plans for new developments within this attendance area will not be approved but will be be reviewed and placed on a waiting list until capacity is available.

As set forth in the 1993 Annual Growth Report, the utilization rate for the 1994/95 school year at Forest Hill Elementary School exceeded 120% of capacity; therefore, no new preliminary plans were approved in that attendance area. The projected utilization rate for the 1995/96 school year at this school is 128 percent, but funding has been received for a new school in the Forest Lakes development. Forest Lakes Elementary School has a planned opening date of September, 1997. and

will provide relief to Bel Air, Forest Hill, Hickory, and Homestead/Wakefield elementary schools. As this school will be open within two school years of this report, the moratorium on preliminary plan approvals will be hereby lifted.

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 9.8 Million Gallons per Day (MGD) while the design capacity is 12.0 MGD -leaving a total Average Reserve of 2.2 MGD (as of December, 1994). The County Water system's current average daily usage is 7.1 MGD with a peak day consumption of 8.8 MGD. The Water Treatment Plant capacity is 15 MGD, leaving a total reserve of 7.9 MGD (as of December 1994). 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 1994 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 accommodating 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 which exist at the highest elevations of any of the water pressure zones are evaluated for adequacy on a case-by-case analysis. A combination of developer funded projects and the capital improvement program has been established to accommodate the anticipated growth within the County.

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 subdivisions that generate 249 trips per day at the time of preliminary plan review.

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 so that the level of service meets the adopted standard. If the TIA determines that the existing level of service

does not meet the adopted standards, the subdivider needs only to mitigate the portion of trips generated from the subdivision site. The study area is defined for areas within and outside the development envelope as:

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

Inside the Development Envelopment: 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: LOS C.

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

The determination of existing and projected Level of Service is calculated in the Traffic Impact Analysis conducted by the developer and reviewed by the Departments of Planning and Zoning and Public Works.

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 in locations inside, outside, and on the fringes of the Development Envelope. There are five signalized and seven unsignalized intersections operating at a LOS E or lower.

The following intersections contain one or more movements which operate at an unacceptable LOS The evaluation of the LOS is determined on performance of the intersection during one hour periods in the a.m. and/or p.m. time period:

1. MD 24 & Bel Air S. Pkwy.
2. MD 24 & MD 924 (Tollgate)
3. MD 543 & U.S. 1
4. MD 543 & MD 22
5. MD 152 & U.S. 1
6. MD 543 & Wheel Rd.
7. MD 24 & Plumtree Rd.
8. MD 924 & Plumtree Rd.
9. MD 152 & Trimble Rd.
10. MD 152 & Singer Rd.
11. MD 24 & Forest Valley Rd.
12. MD 152 & Hanson Rd.

INTRODUCTION

The Annual 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 with cooperation of the Department of Public Works - Water and Sewer and Engineering Divisions and the Board of Education. It is the intention of this report to provide 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 support of 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

The population and household information in this annual report is based on the 1990 Census data. Yearly estimates of population and households in Harford County are determined from the Census information and a number of variables including, building permits, average household size and household vacancy rates. The 5 and 10 year projections use the same information however; a growth factor is applied to determine the rate and quantity of growth in the County. This growth factor is based on the number of building permits that are expected to be issued each year. It is important to

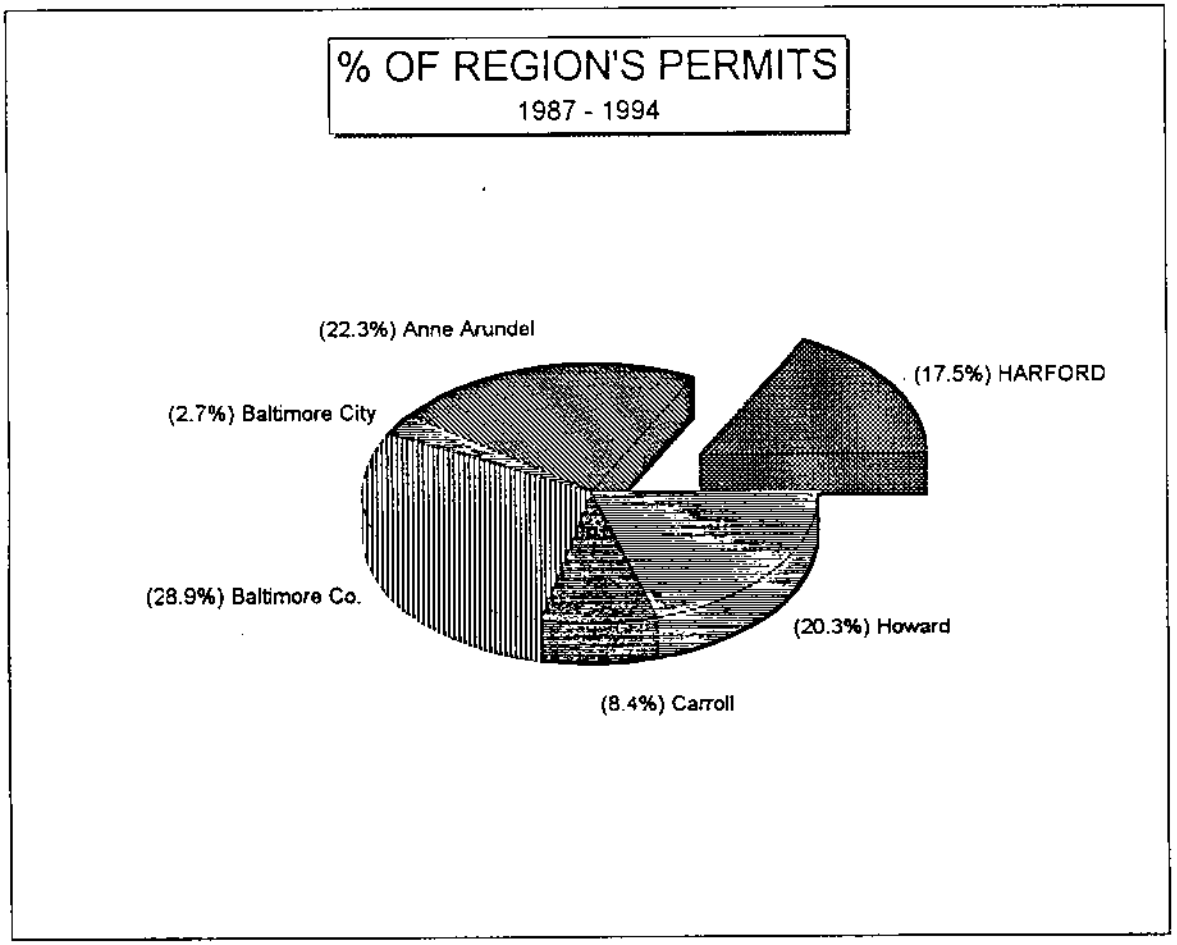
note that projections are based on past trends and land use availability. The population projections for the five remaining jurisdictions in the Baltimore Region are based on an interpolation of the Baltimore Metropolitan Council's Round V population forecast.

The 1990 Census information at the census block level is utilized for specific analysis of each facility regarding area maps and demographic information. Building permits were distributed among 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.

HARFORD COUNTY - BALTIMORE REGION
RESIDENTIAL PERMIT ACTIVITY - 1987 - 1994

TABLE 1

County	1987	1988	1989	1990	1991	1992	1993	1994	TOTAL 1987-1994
HARFORD	**2,706**	**2,586**	**3,128**	**2,647**	**2,280**	**2,707**	**2,155**	**1,615**	**18,209**
Anne Arundel	3,788	3,390	2,555	3,892	2,408	3,491	3,716	3,197	23,240
Baltimore City	306	668	672	240	530	78	315	257	2,809
Baltimore Co.	4,628	4,810	4,167	4,324	3,185	5,190	3,817	3,862	30,121
Carroll	1,786	1,458	1,335	958	751	1,046	1,389	1,436	8,723
Howard	4,161	4,101	5,348	1,303	1,772	2,603	1,869	2,032	21,157
REGION	18,384	17,375	17,013	17,205	13,364	10,926	15,115	12,399	104,259



Source: Harford County Dept. of Planning & Zoning, May 1995.

TABLE 2

HARFORD COUNTY POPULATION/EMPLOYMENT PROJECTIONS

HARFORD COUNTY - BALTIMORE REGION
POPULATION / HOUSEHOLD PROJECTIONS - 1994 -2004

County	1994 POP	1994 HH	1999 POP	1999 HH	2004 POP	2004 HH
HARFORD	**203,710**	**71,520**	**223,020**	**80,080**	**236,980**	**86,820**
Anne Arundel	443,610	158,140	464,100	170,000	484,840	181,760
Baltimore City	722,880	278,180	718,800	280,120	710,120	281,300
Baltimore Co.	700,670	278,540	711,040	290,940	721,820	302,920
Carroll	132,350	46,450	143,000	51,740	154,540	56,960
Howard	209,630	77,910	239,520	91,260	268,400	104,960
REGION	2,412,850	910,740	2,499,480	964,140	2,576,700	1,014,720

HARFORD COUNTY - BALTIMORE REGION
EMPLOYMENT PROJECTIONS - 1994 - 2004

County	1994 Total Employment	1999 Total Employment	2004 Total Employment
HARFORD	**77,360**	**82,380**	**87,780**
Anne Arundel	259,260	271,640	281,740
Baltimore City	462,400	464,520	467,160
Baltimore Co.	424,040	443,400	461,500
Carroll	50,580	53,720	57,500
Howard	113,820	127,860	142,340
REGION	1,387,460	1,443,520	1,498,020

Source: Harford County Dept. of Planning & Zoning, May, 1995.

HARFORD COUNTY - BALTIMORE REGION
NON-RESIDENTIAL PERMIT ACTIVITY - 1990 - 1994

TABLE 3

NEW NON-RESIDENTIAL PERMITS (Valued $50,000 & Over)

	1990		1991		1992		1993		1994	
PERMIT TYPE	# of Permits	Sq. Feet	# of Permits	Sq. Feet	# of Permits	Sq. Feet	# of Permits	Sq. Feet	# of Permits	Sq. Feet
Commercial	25	212,241	9	142,097	18	156,966	12	206,952	24	158,683
Industrial	7	1,525,463	8	793,851	5	51,488	8	77,523	9	43,491
Institutional	1	2,800	2	71,520	4	123,995	5	95,151	7	22,385
Utilities	0	0	4	11,434	1	NA	0	0	6	27,626
Other	1	36,250	2	52,728	1	8,976	1	7,746	2	36,922
Total	34	1,776,754	25	1,071,630	29	341,425	26	387,372	48	289,107

ADDITIONS, ALTERATIONS & REPAIRS (Valued $50,000 & Over)

	1990		1991		1992		1993		1994	
PERMIT TYPE	# of Permits	Sq. Feet	# of Permits	Sq. Feet	# of Permits	Sq. Feet	# of Permits	Sq. Feet	# of Permits	Sq. Feet
Commercial	3	NA	7	NA	19	NA	30	NA	31	NA
Industrial	3	NA	6	NA	8	NA	13	NA	7	NA
Institutional	2	NA	4	NA	3	NA	2	NA	10	NA
Utilities	0	NA	1	NA	1	NA	1	NA	2	NA
Total	8	0	18	NA	31	NA	46	NA	50	NA

NA: DATA NOT AVAILABLE

Source: Baltimore Metropolitan Council, May, 1995.

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 relating to the public school system are aggregated by the elementary/middle/high school districts and includes school enrollments, County rated capacities for each school facility, utilization of each school facility, and 3 year projected school enrollments (Tables 4 & 5). In addition, development information such as building permits issued by dwelling type (Tables 6 & 7) and population and households (Tables 8 & 9) 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 has been 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 local rated capacity within 2 years

Secondary - 120% of local rated capacity within 3 years

The Abingdon Elementary School utilization rate is projected to reach 125 percent for the 1995/96 School year (See Table 4). Based on the level of service standards established by the Adequate Public Facilities provision of the County Code (Sec. 267-104), preliminary plans for residential subdivisions will not be approved in the Abingdon Elementary School District. All preliminary plans located in

this district will be processed and placed on a waiting list until capacity is available.

The planned Forest Lakes Elementary School has received planning and construction funding approval from the State Interagency Committee for a 608 student capacity school. Forest Lakes is planned to provide relief for Bel Air, Forest Hill, Hickory, and Homestead/Wakefield elementary schools.

School Enrollment Projection Methodology

The method for projecting students requires historical data for live births and the number of children enrolled in public schools. Using these data a series of ratios which reflect grade cohort survival are developed. These ratios automatically 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. Nonpromotion 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 finding 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, such as a housing boom exist then factors such as pupil yields for subdivision activity and development trends must be measured.

In order to ensure precise projections, development monitoring is a key task in performing accurate projections because housing expansion periods are one of the greatest impacts to school enrollments. Two of the primary means of calculating projected student enrollment due to a housing expansion period are by using pupil yield factors and build out schedules from developers.

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.

Along with pupil yield factors, build out schedules help to determine impact to area schools on a yearly basis. A build out schedule will show the number and type of units to be constructed in year "x" and every successive year "x" until completion of the project. The Board of Education requests build-out schedules from developers for year one, year three, and year five. Yearly updates are also requested for the above scenarios in case there are amendments made to the schedule.

1994 HARFORD COUNTY SCHOOLS UTILIZATION CHART
ELEMENTARY SCHOOLS

TABLE 4

ELEMENTARY SCHOOLS	CAPACITY	Actual 94-95 ENROLL	Actual 94-95 %UTIL	Projected 95-96 ENROLL	Projected 95-96 %UTIL	Projected 96-97 ENROLL	Projected 96-97 %UTIL	Projected 97-98 ENROLL	Projected 97-98 %UTIL	Projected 98-99 ENROLL	Projected 98-99 %UTIL	Projected 1999-2000 ENROLL	Projected 1999-2000 %UTIL
Abingdon	600	667	111%	752	125%	857	143%	907	151%	977	163%	991	165%
Bakerfield	500	449	90%	431	86%	443	89%	444	89%	452	90%	441	88%
Bel Air	525	571	109%	592	113%	594	113%	605	115%	611	116%	606	115%
Church Creek	600	548	91%	597	100%	636	106%	668	111%	685	114%	702	117%
Churchville	385	383	99%	407	106%	424	110%	449	117%	485	126%	506	131%
Darlington	175	125	71%	127	73%	125	71%	121	69%	115	66%	104	59%
Deerfield	545	537	99%	536	98%	567	104%	565	104%	575	106%	581	107%
Dublin	300	288	96%	296	99%	307	102%	314	105%	325	108%	319	106%
Edgewood	520	391	75%	403	78%	423	81%	436	84%	444	85%	437	84%
Emmorton	600	365	61%	445	74%	499	83%	534	89%	554	92%	593	99%
Forest Hill	375	437	117%	481	128%*	510	136%*	544	145%*	578	154%*	597	159%*
Fountain Green	600	574	96%	595	99%	604	101%	624	104%	632	105%	647	108%
Hall's Cross Rds	650	459	71%	468	72%	464	71%	471	72%	460	71%	453	70%
Havre de Grace	535	417	78%	442	83%	471	88%	488	91%	520	97%	535	100%
Hickory	670	652	97%	622	93%	612	91%	611	91%	611	91%	624	93%
Hillsdale	485	391	81%	384	79%	375	77%	368	76%	359	74%	344	71%
Home/Wakefield	955	1022	107%	1013	106%	1008	106%	1013	106%	1003	105%	996	104%
Jarrettsville	550	528	96%	521	95%	548	100%	552	100%	561	102%	579	105%
Joppatowne	515	494	96%	496	96%	510	99%	535	104%	521	101%	529	103%
Magnolia	525	542	103%	569	108%	613	117%	611	116%	606	115%	583	111%
Meadowvale	570	595	104%	612	107%	639	112%	636	112%	637	112%	629	110%
Norrisville	200	205	103%	217	109%	227	114%	233	117%	240	120%	249	125%
North Bend	565	522	92%	535	95%	536	95%	498	88%	499	88%	484	86%
North Harford	525	439	84%	444	85%	441	84%	435	83%	437	83%	439	84%
Prospect Mill	750	743	99%	798	106%	849	113%	865	115%	858	114%	870	116%
Ring Factory	600	532	89%	512	85%	545	91%	580	97%	606	101%	618	103%
Riverside	625	557	89%	585	94%	581	93%	606	97%	597	96%	596	95%
Roye-Williams	750	682	91%	679	91%	683	91%	662	88%	637	85%	618	82%
WP/OPR	1105	899	81%	937	85%	1010	91%	1037	94%	1064	96%	1041	94%
Wm. S. James	575	542	94%	546	95%	558	97%	557	97%	561	98%	545	95%
Youth's Benefit	920	1030	112%	1068	116%	1077	117%	1066	116%	1058	115%	1073	117%
ELEMENTARY TOTAL	17,795	16,586		17,110		17,736		18,035		18,268		18,329	

* Forest Lakes Elementary School has received construction funding approval and is planned to provide relief for Forest Hill, Bel Air, Hickory, and Homestead Wakefield elementary schools.

Source: Harford County Public Schools and Department of Planning and Zoning

1994 HARFORD COUNTY SCHOOLS UTILIZATION CHART
SECONDARY SCHOOLS

TABLE 5

		Actual		Projected									
		94-95		95-96		96-97		97-98		98-99		1999-2000	
MIDDLE SCHOOLS	CAPACITY	ENROLL	%UTIL	ENROLL	%UTIL	ENROLL	%UTIL	ENROLL	%UTIL	ENROLL	%UTIL	ENROLL	%UTIL
Aberdeen	1530	1236	81%	1317	86%	1391	91%	1458	95%	1497	98%	1526	100%
Bel Air *	1312	1105	84%	1141	87%	1141	87%	1132	86%	1127	86%	1176	90%
Edgewood	1391	1092	79%	1152	83%	1169	84%	1245	90%	1254	90%	1373	99%
Fallston	900	986	110%	967	107%	993	110%	1032	115%	1081	120%	1056	117%
Havre de Grace	792	536	68%	519	66%	527	67%	553	70%	559	71%	599	76%
Magnolia	1071	853	80%	877	82%	838	78%	827	77%	852	80%	889	83%
North Harford	1242	1021	82%	1029	83%	1025	83%	1057	85%	1055	85%	1051	85%
Southampton	1535	1538	100%	1645	107%	1758	115%	1835	120%	1888	123%	1885	123%
MS SUBTOTAL	9,773	8,367		8,647		8,842		9,139		9,313		9,555	

		Actual		Projected									
		94-95		95-96		96-97		97-98		98-99		1999-2000	
HIGH SCHOOLS	CAPACITY	ENROLL	%UTIL	ENROLL	%UTIL	ENROLL	%UTIL	ENROLL	%UTIL	ENROLL	%UTIL	ENROLL	%UTIL
Aberdeen	1877	1081	58%	1056	56%	1156	62%	1235	66%	1339	71%	1379	73%
Bel Air	1409	1291	92%	1283	91%	1305	93%	1385	98%	1453	103%	1491	106%
C. Milton Wright *	1197	1300	109%	1364	114%	1395	117%	1452	121%	1492	125%	1579	132%
Edgewood	1382	869	63%	889	64%	948	69%	1030	75%	1107	80%	1160	84%
Fallston	1670	1299	78%	1518	91%	1659	99%	1811	108%	1876	112%	1927	115%
Harford Technical	738	660	89%	700	95%	725	98%	725	98%	725	98%	725	98%
Havre de Grace	905	553	61%	603	67%	632	70%	636	70%	665	73%	659	73%
Joppatowne	1143	889	78%	864	76%	936	82%	945	83%	993	87%	1008	88%
North Harford	1440	1057	73%	1145	80%	1207	84%	1288	89%	1359	94%	1351	94%
HS SUBTOTAL	11,761	9,032 #		9,422		9,963		10,507		11,009		11,279	
SECONDARY TOTA	21,534	8,367		18,069		18,805		19,646		20,322		20,834	

*** To be relieved by the C. Milton Wright High School addition.**

\# Includes 33 students enrolled in alternative education programs.

Source: Harford County Public Schools and Department of Planning & Zoning.

HARFORD COUNTY BUILDING PERMIT ACTIVITY BY ELEMENTARY SCHOOL DISTRICT 1990 - 1994

TABLE 6

SCHOOL	1990 BUILDING PERMITS ISSUED BY DWELLING TYPE					1991 BUILDING PERMITS ISSUED BY DWELLING TYPE					1992 BUILDING PERMITS ISSUED BY DWELLING TYPE					1993 BUILDING PERMITS ISSUED BY DWELLING TYPE					1994 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	192	219	204	11	626	99	212	0	10	321	137	222	24	3	386	156	71	36	0	263	99	130	12	1	242
Bakerfield	14	0	0	2	16	11	0	0	4	15	50	0	0	2	52	50	0	0	0	50	11	5	0	1	17
Bel Air	40	0	0	0	40	51	0	0	0	51	10	0	223	0	233	49	0	224	0	273	37	0	0	0	37
Churchville	10	0	0	6	16	27	0	0	2	29	36	0	0	6	42	23	0	0	1	24	24	0	0	3	27
Church Creek	4	53	348	0	405	46	166	84	0	296	31	166	33	0	230	55	44	16	0	115	10	43	10	0	63
Darlington	1	0	0	11	12	5	0	0	8	13	4	0	0	12	16	5	0	0	2	7	2	0	0	1	3
Deerfield	61	0	0	1	62	23	0	0	4	27	22	0	0	1	23	20	0	0	0	20	43	0	0	0	43
Dublin	8	0	0	10	18	6	0	0	4	10	11	0	0	5	16	10	0	0	3	13	7	0	0	2	9
Edgewood	1	0	0	0	1	0	0	12	0	12	0	0	0	0	0	3	0	0	0	3	3	0	0	0	3
Emmorton	43	19	0	0	62	53	69	24	0	146	77	113	52	0	242	73	30	48	0	151	73	30	24	0	127
Forest Hill	62	8	36	7	113	77	8	102	2	189	101	0	36	1	138	77	12	12	0	101	77	77	24	0	178
Fountain Green	79	48	0	0	127	53	16	0	0	69	53	0	0	0	53	69	0	0	0	69	32	0	0	0	32
Hall's Cross Roads	30	0	0	0	30	15	0	0	0	15	5	0	0	0	5	0	0	0	0	0	7	0	0	0	7
Havre de Grace	5	0	8	0	13	0	10	6	0	16	2	0	1	0	3	1	0	1	0	2	4	0	10	0	14
Hickory	21	95	0	4	120	19	134	0	4	157	18	8	0	4	30	58	156	12	2	228	28	70	12	0	110
Hillsdale	20	0	0	41	61	8	0	0	19	27	15	0	0	30	45	7	0	0	0	7	6	0	0	0	6
Homestead/Wakefield	151	4	12	1	168	104	16	107	0	227	79	0	24	0	103	106	4	24	0	134	50	33	38	0	121
Jarrettsville	26	0	0	1	27	24	1	0	2	27	27	0	0	3	30	25	0	0	1	26	25	0	0	2	27
Joppatowne	3	0	0	2	5	4	0	0	6	10	1	0	0	7	8	4	0	0	1	5	20	0	0	2	22
Magnolia	18	1	0	7	26	20	0	0	7	27	12	0	0	5	17	4	0	0	0	4	2	0	0	1	3
Meadowvale	56	0	0	6	62	64	0	0	4	68	135	83	1	2	221	131	83	1	1	216	90	0	24	2	116
Norrisville	25	0	0	4	29	19	0	0	0	19	28	0	0	3	31	12	0	0	2	14	10	0	0	1	11
North Bend	40	0	0	10	50	17	0	0	6	23	30	0	0	12	42	33	0	0	3	36	20	0	1	6	27
North Harford	27	0	0	18	45	44	0	0	16	60	41	0	1	15	57	48	0	0	10	58	27	0	0	4	31
Prospect Mill	60	31	0	1	92	92	74	0	1	98	122	131	12	0	265	29	27	66	0	122	23	58	36	0	117
Ring Factory	82	76	36	0	194	76	2	0	0	78	101	39	0	0	140	73	7	0	0	80	38	8	1	0	47
Riverside	5	10	0	4	19	2	9	0	1	12	3	0	1	3	7	2	0	0	0	2	1	0	0	1	2
Roye-Williams	2	0	0	8	10	4	0	0	9	13	1	0	0	10	11	1	0	0	1	2	0	0	0	1	1
Wm. Paca/Old Post Rd	52	72	0	19	143	99	50	1	31	181	94	54	33	20	201	56	0	0	0	56	57	67	0	0	124
Wm. S. James	2	0	0	0	2	0	0	0	1	1	7	0	0	0	7	16	0	0	1	17	11	0	0	0	11
Youth's Benefit	49	0	0	4	53	43	0	0	0	43	52	0	0	1	53	54	0	2	1	57	36	0	0	1	37
TOTAL	1,189	636	644	178	2,647	1,105	767	336	141	2,280	1,305	816	441	145	2,707	1,250	434	442	29	2,155	873	521	192	29	1,615

Source: Harford County Dept. of Planning & Zoning, May 1995.

HARFORD COUNTY BUILDING PERMIT ACTIVITY BY SECONDARY SCHOOL DISTRICTS 1990 - 1994

TABLE 7

MIDDLE SCHOOLS

SCHOOL	1990 BUILDING PERMITS ISSUED BY DWELLING TYPE					1991 BUILDING PERMITS ISSUED BY DWELLING TYPE					1992 BUILDING PERMITS ISSUED BY DWELLING TYPE					1993 BUILDING PERMITS ISSUED BY DWELLING TYPE					1994 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
Aberdeen	75	53	348	56	532	102	172	84	55	413	118	166	66	60	410	118	44	15	0	177	39	32	10	3	84
Bel Air	175	99	36	1	311	159	102	47	1	309	246	165	277	0	688	212	41	309	1	563	172	71	65	0	308
Edgewood	309	291	204	29	833	216	247	13	23	499	216	275	24	11	526	238	71	0	1	310	202	213	12	1	428
Fallston	194	8	48	4	254	172	8	176	0	356	198	0	60	1	259	168	12	38	1	219	55	37	0	1	93
Havre de Grace	62	0	8	17	87	69	0	16	12	97	142	83	2	13	240	137	83	2	3	225	96	0	34	3	133
Magnolia	26	11	0	13	50	26	9	0	14	49	16	0	1	15	32	11	0	0	1	12	23	0	0	4	27
North Harford	125	0	0	41	166	112	0	0	28	140	127	0	1	34	162	125	0	0	19	144	86	0	1	16	103
Southampton	221	174	0	19	414	196	213	0	8	417	230	139	12	9	390	241	183	78	3	505	200	168	70	1	439
TOTAL	1,187	636	644	180	2,647	1,052	751	336	141	2,280	1,293	828	443	143	2,707	1,250	434	442	29	2,155	873	521	192	29	1,615

HIGH SCHOOLS

SCHOOL	1990 BUILDING PERMITS ISSUED BY DWELLING TYPE					1991 BUILDING PERMITS ISSUED BY DWELLING TYPE					1992 BUILDING PERMITS ISSUED BY DWELLING TYPE					1993 BUILDING PERMITS ISSUED BY DWELLING TYPE					1994 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
Aberdeen	75	53	348	56	532	102	172	84	55	413	118	166	66	60	410	118	44	15	0	177	39	32	10	3	84
Bel Air	185	99	36	1	321	171	100	46	2	319	259	165	277	0	701	213	41	309	1	564	171	71	65	0	307
Edgewood	309	291	204	29	833	216	247	13	23	499	216	275	24	11	526	238	71	0	1	310	202	213	12	1	428
Fallston	202	8	48	4	262	181	8	177	0	366	208	0	60	1	269	174	18	50	1	243	67	45	12	1	125
Havre de Grace	62	0	8	17	87	69	0	16	12	97	142	83	2	13	240	137	83	2	3	225	96	0	34	3	133
Joppatowne	26	11	0	13	50	26	9	0	14	49	16	0	1	15	32	11	0	0	1	12	23	0	0	4	27
North Harford	125	0	0	41	166	112	0	0	28	140	127	0	1	34	162	125	0	0	19	144	86	0	1	16	103
C. Milton Wright	205	174	0	17	396	175	215	0	7	397	207	139	12	9	367	234	177	66	3	480	189	160	58	1	408
TOTAL	1,189	636	644	178	2,647	1,052	751	336	141	2,280	1,293	828	443	143	2,707	1,250	434	442	29	2,155	873	521	192	29	1,615

Source: Harford County Dept. of Planning & Zoning, May, 1995

HARFORD COUNTY POPULATION / HOUSEHOLDS 1990 - 1994
BY ELEMENTARY SCHOOL DISTRICT

TABLE 8

SCHOOL	1990 *		1991 *		1992 *		1993 *		1994 *	
	Households	Population	Households	Population	Households	Population	Households	Population	Households	Population
Abingdon	3,410	8,076	4,005	11,333	4,310	12,110	4,676	13,062	4,926	13,724
Bakerfield	2,562	6,664	2,577	7,293	2,591	7,282	2,641	7,377	2,688	7,490
Bel Air	3,061	7,894	3,099	8,770	3,147	8,844	3,369	9,410	3,628	10,108
Churchville	1,874	5,460	1,889	5,346	1,917	5,386	1,957	5,466	1,979	5,515
Church Creek	1,875	4,965	2,260	6,395	2,541	7,140	2,759	7,708	2,869	7,992
Darlington	732	2,046	743	2,104	756	2,124	771	2,153	778	2,166
Deerfield	1,836	5,818	1,895	5,363	1,921	5,397	1,942	5,426	1,961	5,464
Dublin	1,266	3,504	1,283	3,631	1,293	3,632	1,308	3,653	1,320	3,678
Edgewood	1,596	5,306	1,597	4,519	1,608	4,519	1,608	4,493	1,611	4,489
Emmorton	1,111	3,285	1,170	3,311	1,309	3,677	1,539	4,297	1,682	4,686
Forest Hill	1,963	6,064	2,070	5,859	2,250	6,322	2,381	6,651	2,477	6,901
Fountain Green	1,918	4,926	2,039	5,769	2,104	5,913	2,155	6,018	2,220	6,185
Hall's Cross Roads	1,788	4,738	1,554	4,398	1,554	4,367	1,554	4,341	1,836	5,114
Havre de Grace	2,540	6,163	2,552	7,223	2,568	7,215	2,570	7,180	2,572	7,166
Hickory	1,816	5,737	1,930	5,462	2,079	5,842	2,108	5,887	2,324	6,475
Hillsdale	1,753	4,741	1,811	5,125	1,837	5,161	1,879	5,250	1,886	5,254
Homestead/Wakefield	4,205	11,556	4,365	12,353	4,580	12,871	4,678	13,067	4,830	13,457
Jarrettsville	2,124	6,826	2,150	6,084	2,175	6,113	2,204	6,156	2,229	6,209
Joppatowne	2,887	7,851	2,892	8,184	2,901	8,153	2,909	8,125	2,914	8,117
Magnolia	1,367	4,329	1,392	3,939	1,417	3,983	1,434	4,004	1,437	4,004
Meadowvale	1,975	5,410	2,034	5,756	2,099	5,897	2,308	6,448	2,514	7,003
Norrisville	708	2,151	736	2,082	754	2,118	783	2,187	796	2,219
North Bend	1,797	5,655	1,845	5,220	1,866	5,244	1,906	5,325	1,940	5,406
North Harford	1,722	5,144	1,765	4,994	1,822	5,119	1,876	5,240	1,931	5,380
Prospect Mill	1,600	4,622	1,687	4,775	1,781	5,003	2,032	5,677	2,148	5,985
Ring Factory	1,484	4,105	1,668	4,721	1,742	4,896	1,875	5,239	1,951	5,437
Riverside	3,183	8,982	3,225	9,127	3,236	9,094	3,243	9,059	3,221	8,974
Roye-Williams	1,654	7,142	1,664	4,708	1,676	4,709	1,686	4,710	1,688	4,703
Wm. Paca/Old Post Rd	1,335	3,581	1,471	4,163	1,643	4,616	1,834	5,122	1,887	5,257
Wm. S. James	1,352	4,451	1,354	3,832	1,355	3,807	1,362	3,803	1,378	3,838
Youth's Benefit	4699	14940	4,749	13,440	4,790	13,460	4,841	13,521	4,870	13,567
TOTAL	63,193	182,132	65,708	185,953	67,874	190,725	70,445	196,775	72,493	201,960

Population as of April 1

Source: Harford County Dept. of Planning & Zoning, May, 1995.

HARFORD COUNTY POPULATION / HOUSEHOLDS 1990 - 1994
BY SECONDARY SCHOOL DISTRICT

TABLE 9

MIDDLE SCHOOLS

SCHOOL	1990 *		1991 *		1992 *		1993 *		1994 *	
	Households	Population	Households	Population	Households	Population	Households	Population	Households	Population
Aberdeen	10,224	29,927	10,729	30,364	11,122	31,252	11,511	32,154	11,679	32,539
Bel Air	7,678	22,030	7,975	22,570	8,269	23,236	8,923	24,923	9,457	26,344
Edgewood	8,336	23,208	9,127	25,830	9,601	26,979	10,101	28,214	10,396	28,962
Fallston	6,443	20,322	6,684	18,917	7,023	19,733	7,269	20,303	7,477	20,830
Havre de Grace	5,247	13,619	5,330	15,083	5,422	15,236	5,650	15,783	5,864	16,336
Magnolia	7,461	21,227	7,509	21,249	7,555	21,230	7,585	21,188	7,597	21,165
North Harford	7,226	22,231	7,384	20,895	7,517	21,122	7,671	21,426	7,807	21,751
Southampton	10,578	29,568	10,969	31,043	11,366	31,937	11,736	32,782	12,216	34,033
TOTAL	63,193	182,132	65,708	185,953	67,874	190,725	70,445	196,775	72,493	201,960

HIGH SCHOOLS

SCHOOL	1990 *		1991 *		1992 *		1993 *		1994 *	
	Households	Population	Households	Population	Households	Population	Households	Population	Households	Population
Aberdeen	10,224	29,927	10,729	30,364	11,122	31,252	11,511	32,154	11,679	32,539
Bel Air	10,171	28,182	10,401	29,435	10,705	30,081	11,371	31,762	11,907	33,168
C. Milton Wright	7,036	19,914	7,677	21,727	8,055	22,633	8,403	23,473	8,859	24,681
Edgewood	8,336	23,208	9,127	25,830	9,601	26,979	10,101	28,214	10,396	28,962
Fallston	7,492	23,824	7,550	21,368	7,898	22,193	8,153	22,774	8,384	23,357
Havre de Grace	5,247	13,619	5,330	15,083	5,422	15,236	5,650	15,783	5,864	16,336
Joppatowne	7,461	21,227	7,509	21,251	7,555	21,228	7,585	21,188	7,596	21,165
North Harford	7,226	22,231	7,384	20,895	7,517	21,123	7,671	21,426	7,808	21,751
TOTAL	63,193	182,132	65,708	185,953	67,874	190,725	70,445	196,775	72,493	201,960

* Population as of April 1

Source: Harford County Dept. of Planning & Zoning, May, 1995.

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 is essentially the Development Envelope as defined in the 1988 Harford County Land Use 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 "1994 Water and Sewer Adequate Public Facilities Report," and can be found in section VI (pages 20-25) of this report.

Water and Sewer Projection Methodology

Water:

The Harford County water service area is divided into four pressure zones because of varying topography within the Development Envelope. In order to provide an adequate supply of water the corresponding transmission lines, pumping and storage facilities for all zones must be sized for estimated future demands. In 1990, the average daily water demand by customers served by the County's central system was approximately 5.9 MGD, with a corresponding maximum day demand of approximately 7.6 mgd. In 1994, the County's average day and maximum day demands were 7.1 and 8.8 mgd respectively. In order 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 the long term.

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

1) City of Aberdeen (Areas served by Harford County)
2) Maryland-American Water Co.
3) Conowingo Power Co.
4) Campus Hills Water Works Inc.
5) Darlington
6) Greenridge Utilities Inc.
7) City of Havre de Grace (Areas served by Harford County)
8) Lakeside Vista
9) Bel Air Heights

Campus Hills Water Works Inc. had previously experienced some problems with adequate water storage and supplying adequate potable water to its customers. Currently, Campus Hills Water Works Inc. is in compliance with MDE standards. MDE has set a limit of seven new connections that can be made to the existing water system through the adjoining distribution lines without requiring additional improvements to the water system.

Sewerage:

The flows contributing to Harford County's existing Sod Run and Joppatowne Wastewater Treatment Plants (WWTP) originate from a portion of an area that Harford County Division of Water and Sewer has designated as 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 their own local municipal sewerage facilities. A complete "Sewer System Capacity Analysis" is included on pages 7-9 and pages 31-154 of the 1994 Water and Sewer Adequate Public Facilities Report.

The average daily influent flow to the Sod Run WWTP in 1994 was approximately 9.8 MGD, exclusive of recycle flows and septage. The average daily influent flow to the Joppatowne WWTP in 1994 was approximately 0.69 MGD. The determination of future wastewater flows to Wastewater Treatment Plants, are, are made by using population and household projections developed by Harford County Department of Planning and Zoning for the years 1995 through 2010. These projections used the 1990 Census as a base. The projections were developed 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, staged construction of the Sod Run Wastewater Treatment Plant from 12 MGD in 1995 to 20 MGD by 1996 will be necessary. Construction is currently under way for increasing capacity in the Joppatowne WWTP from the 0.75 MGD in 1995 to 0.95 MGD by 1996.

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 which serves about 160 units.

Table 12

HARFORD COUNTY SYSTEM WATER DEMAND PROJECTIONS

SYSTEMWIDE RESIDENTIAL/ COMMERCIAL INDUSTRIAL WATER DEMAND	YEAR								
	1990	1993	1994	1995	2000	2005	2010	2015	2020
FIRST ZONE									
Avg. Day, mgd	3.4	3.2	3.4	4.6	5.6	6.6	7.6	9.0	10.4
Max. Day, mgd	4.3	4.6	4.8	6.8	8.7	10.6	12.7	15.3	18.2
Total of Second, Third and Fourth Zones and MAWC Requirements									
Avg. Day, mgd	2.5	3.5	3.7	4.5	5.8	7.3	9.1	10.0	10.9
Max. Day, mgd	3.3	3.9	4.0	6.9	9.5	12.8	17.0	18.7	20.5
Aberdeen									
Avg. Day, mgd	0.0	0.0	0.0	1.0	1.0	1.5	2.0	2.8	3.0
Max. Day, mgd	0.0	0.0	0.0	1.0	1.0	1.5	2.0	2.8	3.0
Total									
Avg. Day, mgd	5.9	6.7	7.1	10.1	12.4	15.4	18.7	21.8	24.3
Max. Day, mgd	7.6	8.5	8.8	14.7	19.2	24.9	31.7	36.8	41.7

TABLE 11
JANUARY - DECEMBER 1994
WATER USAGE & SEWER GENERATIONS

	1994
Total Number of Connections	27,739
WATER	
Water Average Consumption	7.1 MGD
Water Peak Day Consumption	8.8 MGD **
Average Water Usage per Connection (gal/day)	278
Residential Unit Water Usage (gal/day)	182
Average Commercial/Industrial Water Usage (gal/day)	3,617
SEWER	
Sewer Average Flows	9.8 MGD
Sewer Peak Day Flows	25.0 MGD
Average Sewer per Connection (gal/day)	372
Residential Sewer Generation (gal/day)	182
Average Commercial/Industrial Sewer Generation (gal/day)	3,617

* MGD = Million Gallons per Day

** The actual maximum day peak of 10.3 MGD occurred in December 1994 when Harford County Division of Water & Sewer was supplying 1.7 MGD to the Edgewood Area Facility of Aberdeen Proving Ground.

Table 13

Harford County Present and Projected Sewerage Demands and Planned Capacities Million Gallons Per Day - MGD

	SERVICE AREAS				
	PLANNING YEAR	HARFORD COUNTY	FALLSTON	JOPPATOWNE	SPRING MEADOWS
PER CAPITA SEWAGE FLOW	1993	90	50	80	65
	1994	90	50	80	65
	1995	90	50	80	65
	2000	90	50	80	65
RESIDENTIAL POPULATION SERVED	1993	70,732	0	7,000	153
	1994	78,849	0	7,000	153
	1995	85,187	0	7,000	153
	2000	104,979	0	9,500	153
DOMESTIC FLOW (ADF)	1993	7.7	0	.59	.01
	1994	7.9	0	.56	.01
	1995	8.8	0	.69	.01
	2000	10.7	0	.76	.01
INDUSTRIAL FLOW (ADF)	1993	.4	.035	0.0	0
	1994	.5	.035	0.0	0
	1995	.9	.035	0.0	0
	2000	1.1	.000	0.0	0
INFILTRATION/INFLOW (ADF)	1993	1.0	0	.19	0
	1994	1.4	0	.19	0
	1995	1.6	0	.19	0
	2000	2.1	0	.19	0
TOTAL FLOW	1993	9.1	.035	.78	.01
	1994	9.8	.035	.75	.01
	1995	11.3	.035	.88	.01
	2000	13.9	.000	.95	.01
SYSTEM CAPACITY	1993	10.0	.035	.75	.01
	1994	12.0	.035	.75	.01
	1995	12.0	.035	.88	.01
	2000	20.0	.000	.95	.01

TABLE 14

1994 EXISTING WATER & SEWER CAPITAL PROJECTS

PROJECT NO.	PROJECT NAME	PROJECT STATUS
6387	Upper Bynum Run Parallel Interceptor	Awaiting easements
6437-2	Winters Run S.P.S. II	Under construction
6438	Winters Run Parallel Interceptor	Awaiting Right-of-Ways
6440	Infiltration/Inflow	Defining scope
6441	Fallston Sanitary Sewer Petition	Awaiting Right-of-Ways
6442	Swan Creek Commercial Sanitary Sewer	Completed
6458	Lower Bynum Run Parallel Interceptor	Selected engineer for design of Phase 1
6459	Bush Creek Sewage P.S. II	Under design
6474	Abingdon (Big Inch) WTP	Completed
6486	Whiteford Area Sewer	Awaiting commitment of federal funding
6487	Perryman Well Expansion	Defining scope
6508	Bill Bass Sewage Pump Station Upgrade	Completed
6509	Singer Road Water Extension	Under design
6510	Abingdon Rd. Water Trans. Main I	Under final design
6510	Abingdon Rd. Water Trans. Main II	Completed
6510	Abingdon Rd. Water Trans. Main IV	Awaiting Right-of-Ways
6511	Woodsdale Booster Station	Completed
6512	Wakefield Water Transmission Main	Completed
6514	MacPhail Water Transmission Main	Awaiting Right-of-Ways
6518	Red Pump Road Transmission Line	Under final design
6521	Boulton St. & Tollgate Rd. Trans Main	Awaiting Right-of-Ways
6524	Joppa-Trimble Sanitary Sewer	Under design
6526	Turner Lane Water Extension	Complete
6527	Northview Road Sewer Extension	Complete

PROJECT NO.	PROJECT NAME	PROJECT STATUS
6530	Old Constant Friendship Sewer Petition	Awaiting easements
6533	Joppa Storage Tank	Negotiating for a new tank site
6536	HdG WTP - Transmission Line Improvement	Complete
6540	Country Walk Tank & Booster Station	Under design
6547	Underwood Lane Sewer	Under design
6553	Upper Lake Sanitary Sewer	Defining scope
6555	Woodbridge Center Way Relief Sewer	Awaiting permits
7004	Joppatowne WWTP Short Term Improv.	Completed
7013	Joppatowne WWTP Long Term Impro.	Under construction
-	Zone 4 Water Improvements - Bynum Water Booster Sta. Pump Upgrade	Under design
-	Laurel Bush - Water Transmission Line	Waiting for funding
-	Sod Run WWTP - Stage 2	Waiting for funding & Under design
-	Fallston Fire Storage & Booster Sta.	Developing community input

ROAD SYSTEM

Introduction

The information for the APF Road System that is contained in this section includes the following: signalized and unsignalized intersection capacity analyses results - existing conditions (Tables 15 and 16), average daily count locations (Table 17), a list of approved county capital projects funded for construction in FY 95 (Table 18), and a list of state consolidated transportation program projects funded for construction FY95 (Table 19). 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 reasonable road improvements, based on the proposed development's impact to the road.

Road System Methodology

A key feature of the APF Roads regulations is the requirement of a traffic impact study (TIA) for residential and nonresidential uses that generate more than 249 trips. The TIA is a study to provide information regarding the impact of generated trips from proposed land uses on traffic safety and traffic operation within a designated area and recommends solutions to mitigate the impact. The method of conducting a Traffic Impact Analysis is outlined in the "Harford County Traffic Impact Analysis Guidelines".

The basic structure for a complete TIA includes the following:

- A designation of the study area as required in the APF regulations and defined 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 which include conducting traffic counts and determining lane configuration and possible signal timings.
- An analysis of Background Conditions without the site, which includes a projected natural growth in traffic, traffic generated by nearby developments and determination of Levels of Service with any approved/funded projects identified in the Capital Improvement Program.
- An analysis of the projected conditions with the site, which includes the traffic being generated by the proposed development and the background traffic.
- An explanation of the results with recommended improvements as necessary.

The Developer will be required to provide improvements where the trips generated by the development reduce the level of service from adequate to a LOS below the LOS 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 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 development's new trips.

TABLE 15

SIGNALIZED INTERSECTION CAPACITY ANALYSES RESULTS
EXISTING CONDITIONS
1994

Intersection Name	Level of Service Peak Hour (Delay in Sec.)
MD 24 & Bel Air S. Pkwy	D (30.1)PM
MD 7 & U.S. 40	C (23.8) AM
MD24 & MD 924 (Tollgate)	F (>60)PM
MD 24 & Ring Factory	B (7.7)PM
MD 543 & U.S. 1	E (49.0)PM
MD 924 & Abingdon	D (36.3)PM
MD 22 & MD 136	B (12.7)PM
MD 924 & Moores Mill	B (11.0)PM
MD 24 & MD 755 (south)	C (22.8)PM
MD 22 & Brierhill	C (17.2)PM
MD 543 & MD 22	E (52.4)PM
MD 24 & Trimble Road	B (8.5) PM
MD 136 & MD 165	B (6.1) PM
MD 152 & US 1	F(>60) PM
MD 24 & US 1	D (34.3) PM

TABLE 16

UNSIGNALIZED INTERSECTION CAPACITY ANALYSIS
EXISTING CONDITIONS
1994

INTERSECTION NAME	LEVEL OF SERVICE (peak hour)			
	Eastbound	Westbound	Northbound	Southbound
MD 543 & Wheel	F	D	A	A
MD 24 & Plumtree Rd	F	F	F	D
MD 924 & Plumtree Rd	E	---	C	---
MD 152 & Trimble Rd	F	C	A	A
MD 152 & Singer Rd	---	E	---	E
MD 159 & Spesutia Rd	---	A	---	A
MD 24 & Jarrettsville	B	C	A	A
MD 7 & MD 159	---	A	A	---
Abingdon Rd/Hookers Mill	A	---	---	A
MD 24 & Forest Valley	E	---	C	---
MD 152 & Hanson Rd	E	F	A	D
MD 165 & MD 24	A	A	C	B

TABLE 17

AVERAGE DAILY COUNT LOCATIONS

Road Name	Location	Average Weekday Daily Count
Abingdon Road	N. of I-95	3194
Beards Hill Road	N. of Churchville Road	5116
Chapel Road	N. of I-95	1092
Hanson Road	S. of Silverbell Road	1731
Jarrettsville Road	E. of MD 24	2526
MD 152	S. of U.S 1	21225
MD 24	N. Singer Road	28440
MD 543	S. MD 22	10625
Moores Mill Road	W. of Old English Court	3771
Moores Mill Road	W. of Coconut Court	4696
Pleasantville Road	N. of Putnam Road	1172
Trimble Road	E. of MD 24	2837
U.S 1	N. of MD 152	26775
U.S 40	N. MD 24	20319

TABLE 18

List of Approved County Capital Projects
Funded for Construction in FY 95

Arena Road Culvert	Replacement
Bridge Rehabilitation Program	Painting, deck replacement, Abutement repairs
Chapel Road Culvert	Rehabilitation
Delp Road Bridge	Reconstruction
Dry Branch Road Bridge	Reconstruction
Durham Road Bridge	Reconstruction
Fashion Way at MD 7	Signal and geometric improvements
Forge Hill Road Bridge	Rehabilitation
Handicap Ramps	Retrofit
Intersection Improvements	Safety improvements throughout County
Mill Green Road Bridge	Reconstruction
Moores Mill Box Culvert	Replacement
New Roads and Storm Drains	Upgrade roadway segments and Storm Drains
Nobles Mill Road Bridge	Rehabilitation
Poteet Road Bridge	Replacement
Traffic Calming	Construct devices to slow traffic at various locations
Traffic Signals	Match costs to construct necessary signals at various locations
Wheel Road Bridge	Replacement
Willoughby Beach Road Extended	MD 755 to Trimble Road - 2 lane facility

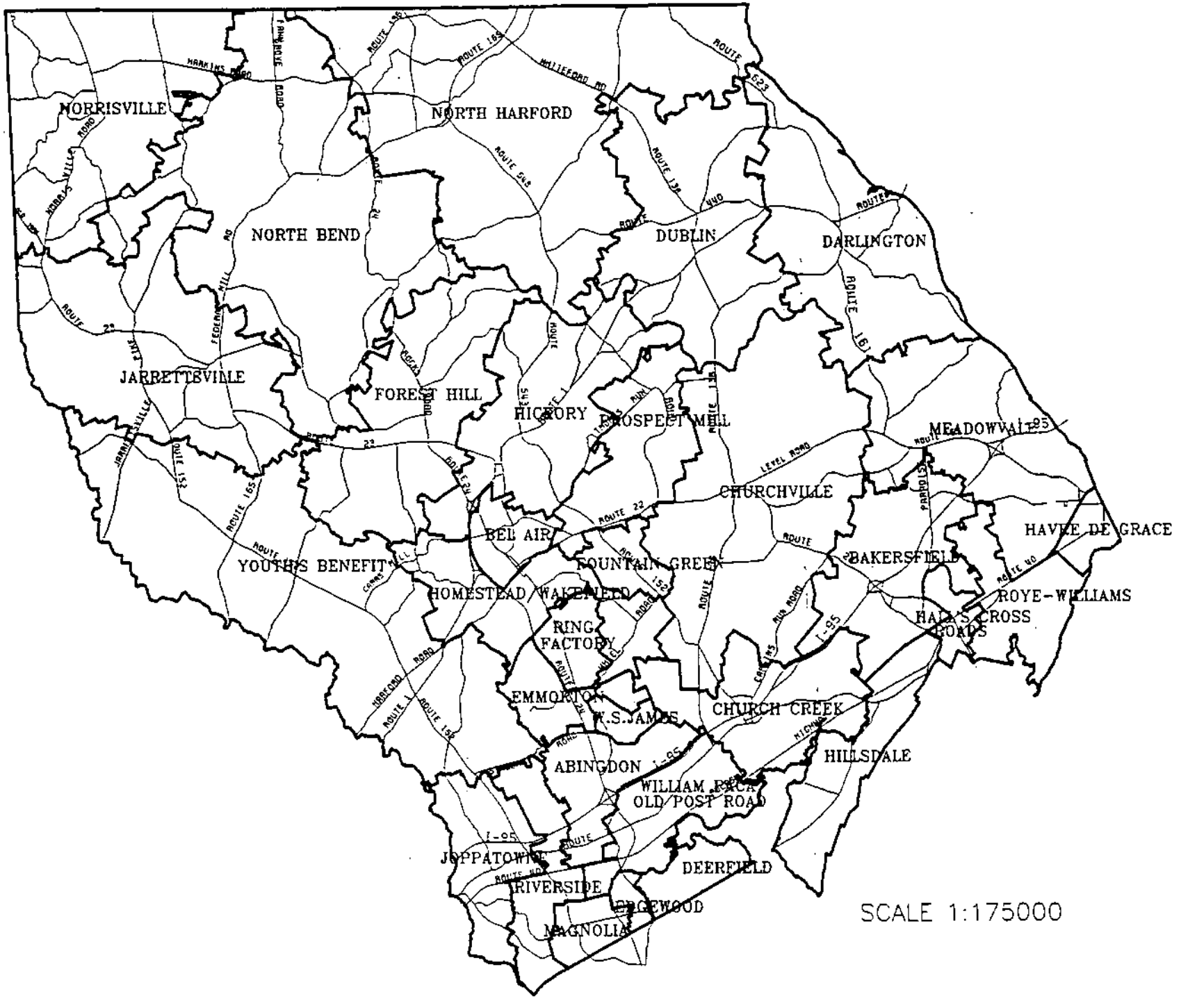
TABLE 19

State Consolidated Transportation Program
Projects funded for Construction FY 95

U.S. 1 Bridge over Deer Creek	Reconstruction
MD 7 Bridge over CSX rail	Realignment of road and reconstruct bridge
MD 22 - East of Shamrock to east of MD 543	Upgrade to 4 lane facility
MD 24 - I -95 to MD 755	Upgrade to 4 lane facility
MD 152 Bridge over AMTRAK	Replacement
MD 159 - Stockhams Lane to MD 7	Upgrade 2 lanes, add shoulders
MD 161 Bridge over Deer Creek	Replacement
U.S. 40 Bridge over Otter Creek	Replacement
U.S. 1 - Poole Road to Smith Road	Safety and Resurface
U.S. 1 Bridge over MD 24/924	Structure repairs
MD 7 at MD 755	Geometric Improvements add left turn lanes
MD 7 east of Lewis Lane to MD 490	Minor Reconstruct
MD 24 Southwest quadrant of U.S. 1 Bypass	Revise Park and Ride lot to accomodate bus facility
MD 136 - MD 624 to MD 165	Safety and Resurface
MD 136 - MD 23 to Telegraph	Safety and Resurface
MD 146 at Hess Road	Widen approaches and Signalize
MD 165 - MD 543 to PA line	Safety and Resurface
MD 165 - MD 23 to Morse Road	Safety and Resurface
MD 624 Bridge over Jacks Hole	Repair structure

APPENDIX

ELEMENTARY SCHOOL DISTRICTS HARFORD COUNTY, MD. 1994

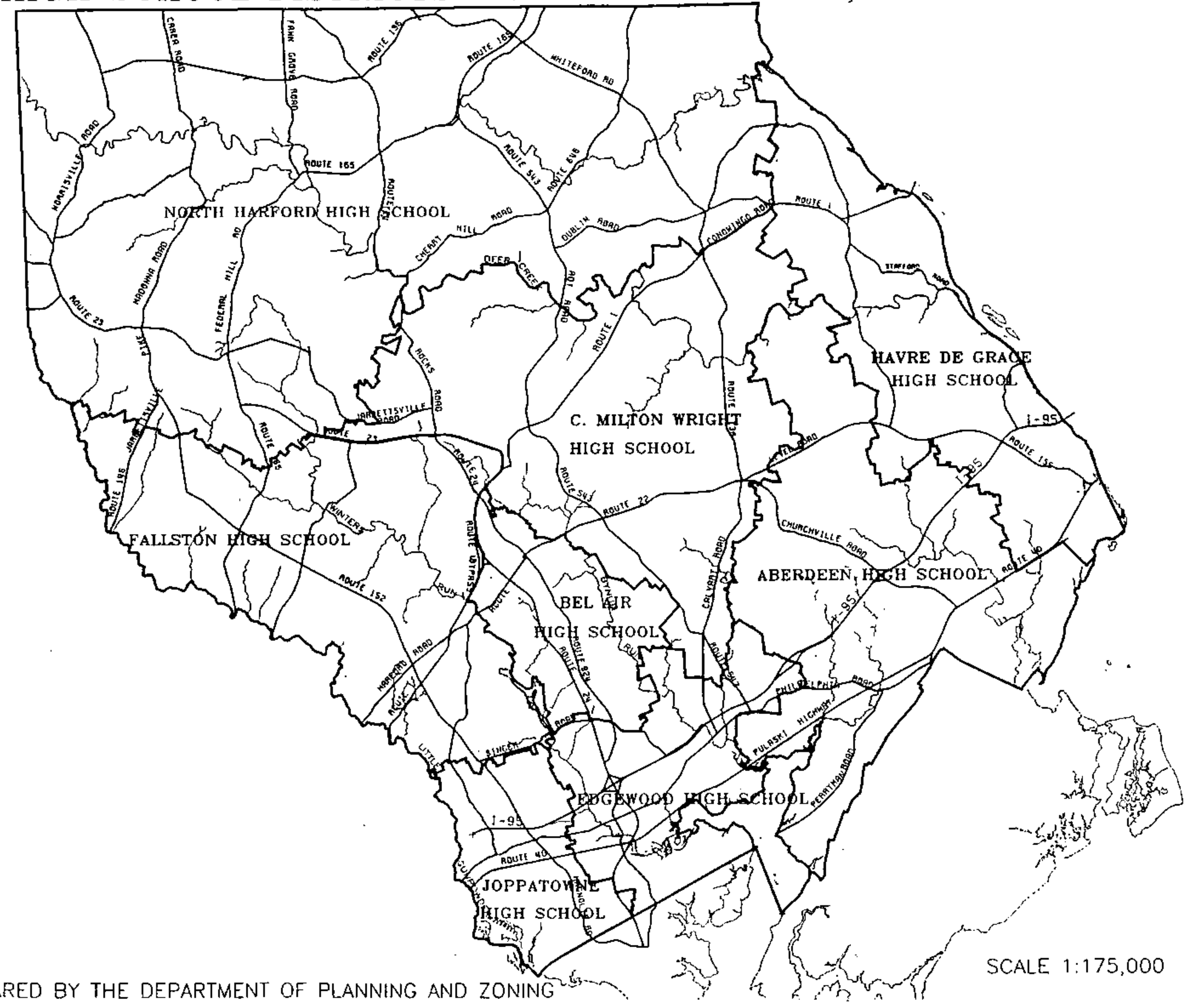


MIDDLE SCHOOL DISTRICTS HARFORD COUNTY, MD.

SCALE 1:175,000

PREPARED BY THE DEPARTMENT OF PLANNING AND ZONING

HIGH SCHOOL DISTRICTS HARFORD COUNTY, MD. 1994



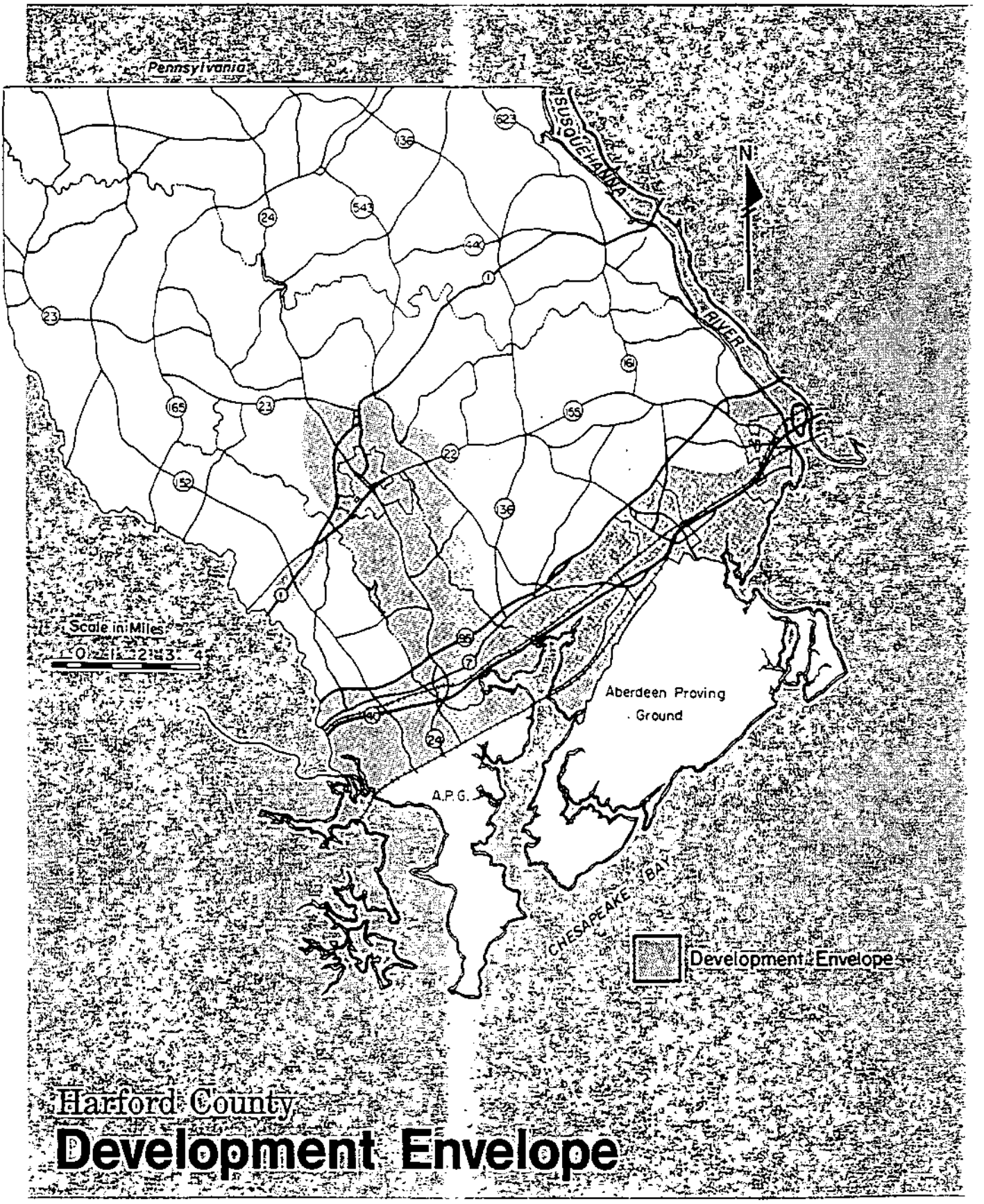
SCALE 1:175,000

PREPARED BY THE DEPARTMENT OF PLANNING AND ZONING

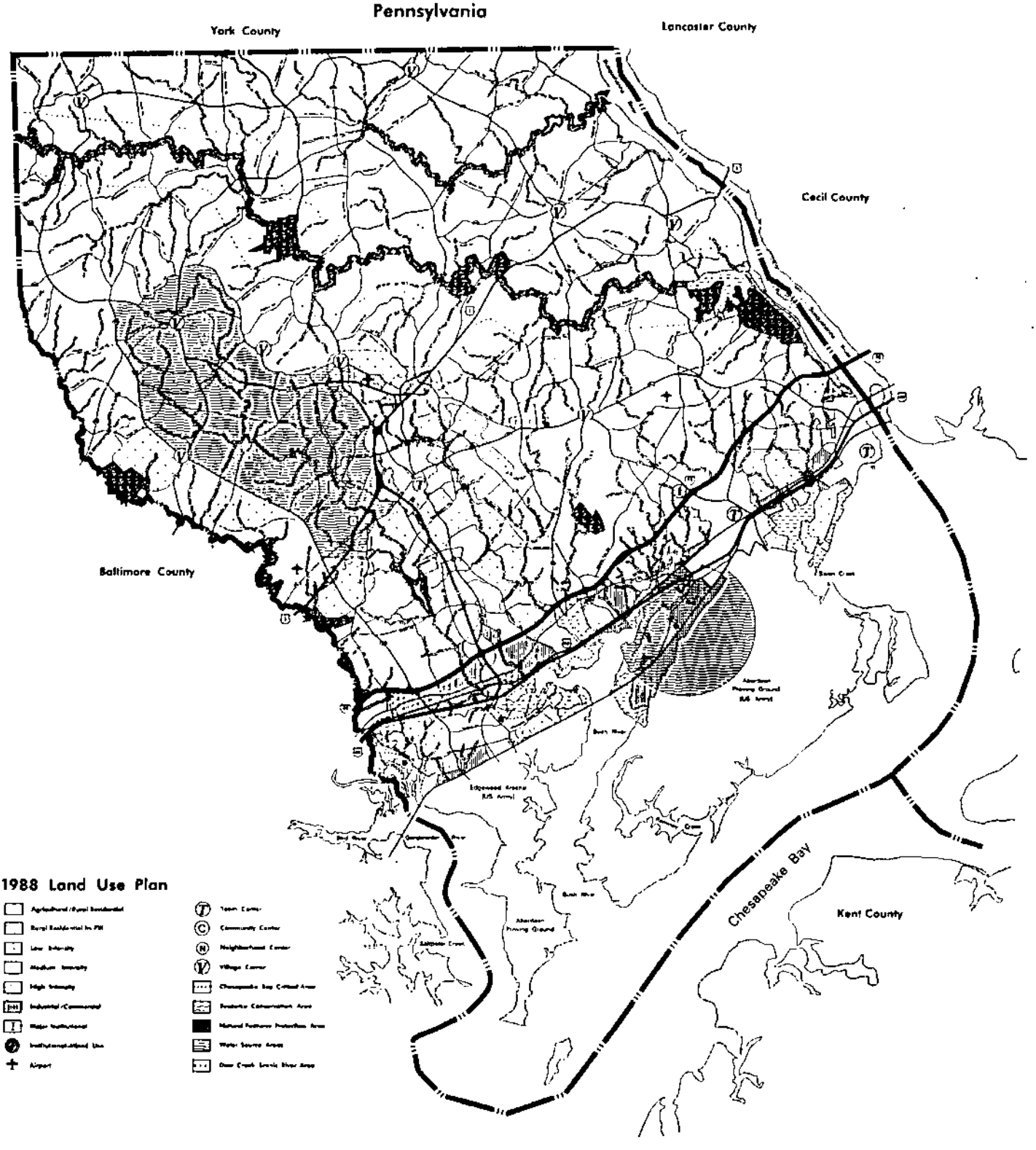
PUPIL YIELD FACTORS

Nineteen 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 as well as established subdivisions ranging in size from 69 units to 1,025 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 nineteen 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	.43	.18	.17
Townhome	.23	.08	.11
Apartments (2 Bdrms)	.15	.03	.03
Condo (2+ Bdrms)	.15	.03	.03
Mobile Home	.07	.02	.02



Harford County
Development Envelope


Pennsylvania
York County
Lancaster County
Cecil County
Baltimore County
Chesapeake Bay
Kent County
1988 Land Use Plan