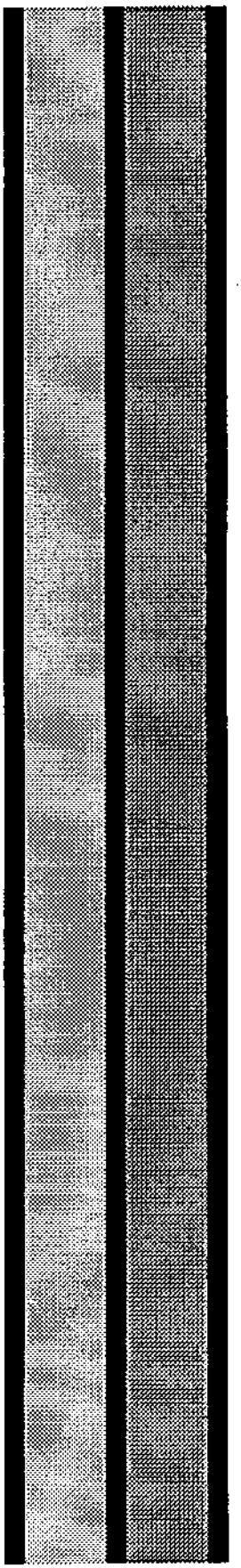
1995 Annual Growth Report



Prepared by The Harford County
Department of Planning and Zoning
May 1996

THE 1995 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 must be updated annually to identify any facilities that have fallen 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 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 Church Creek Elementary School during the 1997/98 school year is 737 with a utilization rate of 123 percent. As of this date, no additional elementary schools facilities that would relieve this situation have received funding. Effective July 1, 1996, any preliminary plans for new developments within this attendance area will not be approved but will be reviewed and placed on a waiting list until capacity is available.

The enrollment for the Abingdon Elementary School during the 1995/96 school year is 729 with a utilization rate of 122 percent. However, a new redistricting plan adopted by the Board of Education in May, 1996, will provide relief to the Abingdon Elementary school district. This redistricting plan will take effect in Fall 1996. Based on the projected enrollment, effective July 1, 1996 the Abingdon Elementary School district area will be open for preliminary plan approvals.

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The utilization rate for Forest Hill Elementary School for the 1995/96 school year exceeded 120% of capacity. However, construction funds have been received for the new Forest Lakes Elementary School. 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 one school year of this report, the moratorium on preliminary plan approvals was lifted in 1995.

The projected enrollment for Fallston Middle School in the 1997/98 school year is expected to be 1,124 students with a utilization rate of 125%. As of this date, no additional middle school facilities that would relieve this situation have received funding. Effective July 1, 1996, any preliminary plans for new developments within this attendance area will not be approved but will be reviewed and placed on a waiting list until capacity is available.

Harford County Water and Sewerage System:

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

Harford County's sewerage system's average flow to the Sod Run Wastewater Treatment Plant is 9.6 Million Gallons per Day (MGD) while the design capacity is 12.0 MGD -leaving a total Average Reserve of 2.4 MGD (as of December, 1995). The County Water system's current average daily usage

is 8.4 MGD with a peak day consumption of 12.1 MGD. The Water Treatment capacity is 18 MGD, leaving a total reserve of 9.6 MGD (as of December 1995). 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 1995 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 that 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 development that generate 249 trips per day at the time of preliminary/site 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. 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 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 Envelope 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 located inside, outside, and on the fringes of the Development Envelope. There are four signalized and seven unsignalized intersections 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. MD 24 & MD 924 (Tollgate)
2. MD 543 & U.S. 1
3. MD 543 & MD 22
4. MD 152 & U.S. 1
5. MD 543 & Wheel Rd.
6. MD 24 & Plumtree Rd.
7. MD 924 & Plumtree Rd.
8. MD 152 & Singer Rd.
9. MD 24 & Forest Valley Rd.
10. MD 152 & Hanson Rd.
11. MD 152 & Trimble Rd.

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

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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 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 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

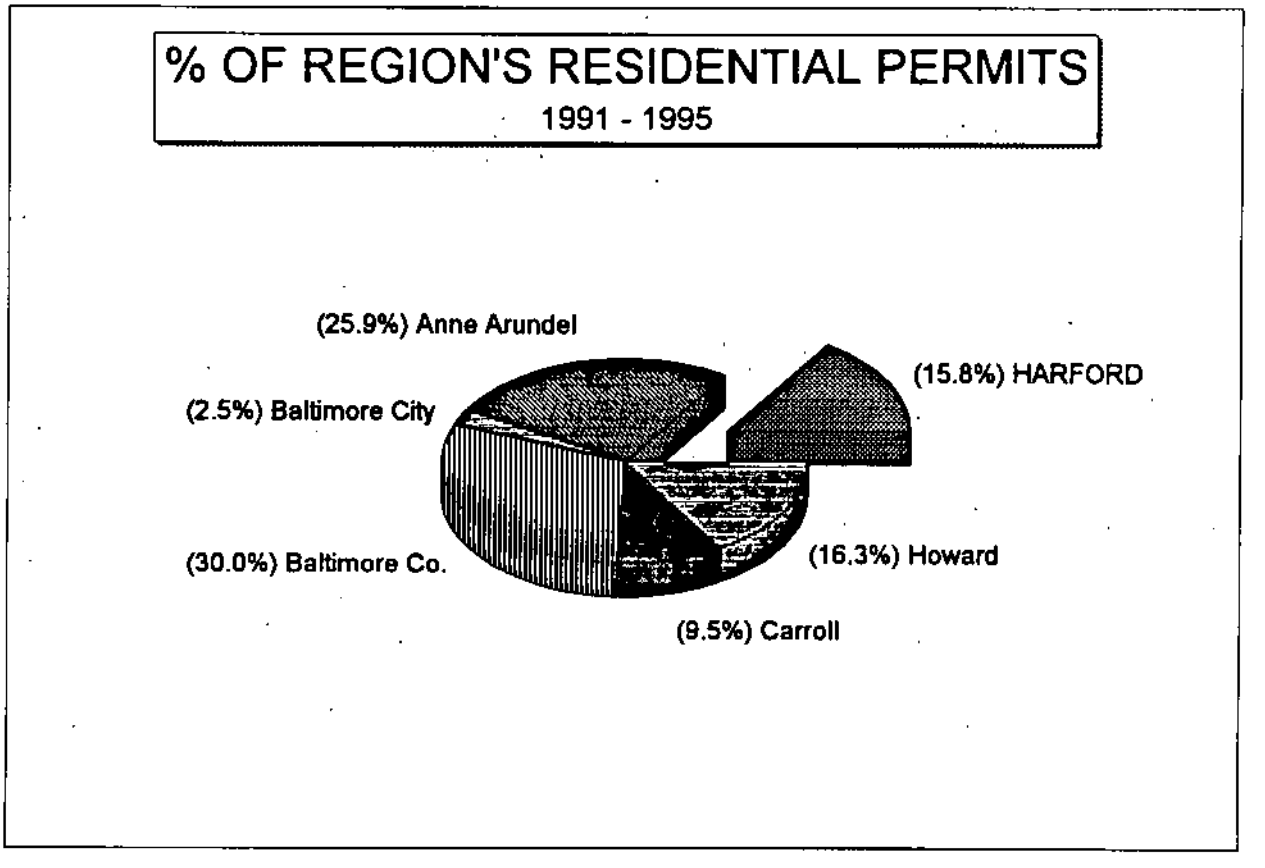
Yearly estimates of population and households in Harford County for the Annual Report are determined from the 1990 Census. This data is adjusted to reflect a number of variables including building permits, average household size and household vacancy rates. The 5 and 10 year projections are based on 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 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 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.

HARFORD COUNTY - BALTIMORE REGION TABLE 1
RESIDENTIAL PERMIT ACTIVITY - 1991 - 1995

County	1991	1992	1993	1994	1995	TOTAL 1991-1995
HARFORD	2,062	2,508	1,835	1,847	1,616	9,868
Anne Arundel	2,408	3,491	3,716	3,197	3,307	16,119
Baltimore City	530	78	315	257	366	1,546
Baltimore Co.	3,185	5,190	3,817	3,862	2,649	18,703
Carroll	751	1,046	1,389	1,436	1,299	5,921
Howard	1,772	2,603	1,869	2,032	1,860	10,136
REGION	10,708	14,916	12,941	12,631	11,097	62,293



Source: Harford County Dept. of Planning & Zoning
and Baltimore Metropolitan Council, May, 1996

TABLE 2

HARFORD COUNTY POPULATION/EMPLOYMENT PROJECTIONS

HARFORD COUNTY - BALTIMORE REGION
POPULATION / HOUSEHOLD PROJECTIONS - 1995 -2000

County	1995 POP	1995 HH	2000 POP	2000 HH	2005 POP	2005 HH
HARFORD	**209,130**	**73,600**	**226,500**	**81,700**	**239,600**	**88,100**
Anne Arundel	447,700	160,400	468,200	172,400	489,000	184,100
Baltimore City	719,600	278,600	718,600	280,500	708,000	281,500
Baltimore Co.	702,800	281,100	713,100	293,400	724,000	305,300
Carroll	134,600	47,500	145,100	52,800	156,900	58,000
Howard	215,200	80,300	245,600	94,000	274,100	107,700
REGION	2,429,030	921,500	2,517,100	974,800	2,591,600	1,024,700

HARFORD COUNTY - BALTIMORE REGION
EMPLOYMENT PROJECTIONS - 1995 - 2005

County	1995 Total Employment	2000 Total Employment	2005 Total Employment
HARFORD	**78,700**	**83,300**	**88,900**
Anne Arundel	262,600	273,900	283,700
Baltimore City	462,600	465,000	467,700
Baltimore Co.	427,000	447,500	465,000
Carroll	51,400	54,300	58,300
Howard	115,700	130,900	145,200
REGION	1,398,000	1,454,900	1,508,800

Source: Harford County Dept. of Planning & Zoning, May, 1996.

HARFORD COUNTY - BALTIMORE REGION
NON-RESIDENTIAL PERMIT ACTIVITY - 1991 - 1995

TABLE 3

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

	1991		1992		1993		1994		1995	
PERMIT TYPE	# of Permits	Sq. Feet	# of Permits	Sq. Feet	# of Permits	Sq. Feet	# of Permits	Sq. Feet	# of Permits	Sq. Feet
Commercial	9	142,097	18	156,966	12	206,952	24	158,683	22	371,664
Industrial	8	793,851	5	51,488	8	77,523	9	43,491	6	328,786
Institutional	2	71,520	4	123,995	5	95,151	7	22,385	6	40,546
Utilities	4	11,434	1	NA	0	0	6	27,626	1	80
Other	2	52,728	1	8,976	1	7,746	2	36,922	1	7,542
Total	25	1,071,630	29	341,425	26	387,372	48	289,107	36	748,618

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

	1991		1992		1993		1994		1995	
PERMIT TYPE	# of Permits	Sq. Feet	# of Permits	Sq. Feet	# of Permits	Sq. Feet	# of Permits	Sq. Feet	# of Permits	Sq. Feet
Commercial	7	NA	19	NA	30	NA	31	NA	39	NA
Industrial	6	NA	8	NA	13	NA	7	NA	16	NA
Institutional	4	NA	3	NA	2	NA	10	NA	12	NA
Utilities	1	NA	1	NA	1	NA	2	NA	0	NA
Total	18	NA	31	NA	46	NA	50	NA	67	NA

NA: DATA NOT AVAILABLE

Source: Baltimore Metropolitan Council, May, 1996.

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 include 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 currently at 122 percent for the 1995/96 School year. However, a new redistricting plan adopted by the Board of Education in May, 1996, will provide relief to the Abingdon Elementary school district. This redistricting plan will take effect in Fall 1996. Based on the projected enrollment, effective July 1, 1996, the Abingdon Elementary School district area will be open for preliminary plan approvals.

The projected enrollment for the Church Creek Elementary School during the 1997/98 school year is 737 with a utilization rate of 123 percent (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 Church Creek 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. As this school will be open within one school year of this report, the moratorium on preliminary plan approvals was lifted in 1995.

The projected enrollment for Fallston Middle School in the 1997/98 school year is expected to be 1,124 students with a utilization rate of 125%. As of this date, no additional middle school facilities that would relieve this situation have been proposed. Effective July 1, 1996, any preliminary plans for new developments within this attendance area will not be approved but will be reviewed and placed on a waiting list until capacity is available.

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. 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 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 housing boom), 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 maintaining accurate projections because housing expansion periods have a direct impact on 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. (See Appendix)

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 requested to keep this information up to date.

1995 HARFORD COUNTY SCHOOLS UTILIZATION CHART
ELEMENTARY SCHOOLS

TABLE 4

ELEMENTARY SCHOOLS	CAPACITY	Actual 95-96 ENROLL	Actual 95-96 %UTIL	96-97 ENROLL	96-97 %UTIL	97-98 ENROLL	97-98 %UTIL	98-99 ENROLL	98-99 %UTIL
Abingdon **	600	729	122%	578	98%	627	107%	694	118%
Bakerfield	500	433	87%	469	94%	470	94%	499	100%
Bel Air *	525	557	106%	551	105%	559	106%	562	107%
Church Creek	600	619	103%	674	112%	737	123%	763	127%
Churchville	385	363	94%	355	92%	349	91%	358	93%
Darlington	175	116	66%	115	66%	116	66%	118	67%
Deerfield	545	557	102%	545	100%	539	99%	529	97%
Dublin	300	293	98%	303	101%	304	101%	316	105%
Edgewood **	520	389	75%	482	96%	507	101%	509	101%
Emmorton	600	463	77%	503	86%	536	91%	539	92%
Forest Hill *	375	476	127%	494	132%	511	136%	533	142%
Fountain Green	600	594	99%	586	98%	595	99%	603	101%
Hall's Cross Rds	650	455	70%	467	72%	483	74%	486	75%
Havre de Grace	535	425	79%	449	84%	463	87%	481	90%
Hickory *	670	631	94%	617	92%	605	90%	601	90%
Hillsdale	485	386	80%	382	79%	385	79%	373	77%
Home/Wakefield *	955	1027	108%	1031	108%	1013	106%	1009	106%
Jarrettsville	550	519	94%	549	100%	547	99%	552	100%
Joppatowne	515	471	91%	465	90%	465	90%	469	91%
Magnolia	525	567	108%	605	115%	605	115%	601	114%
Meadowvale	570	623	109%	644	113%	669	117%	690	121%
Norrisville	200	209	105%	209	105%	212	106%	216	108%
North Bend	565	545	96%	563	100%	573	101%	569	101%
North Harford	525	424	81%	438	83%	454	86%	466	89%
Prospect Mill	750	792	106%	834	111%	857	114%	869	116%
Ring Factory	600	535	89%	556	93%	582	97%	615	103%
Riverside	625	540	86%	535	86%	540	86%	523	84%
Roye-Williams	750	621	83%	679	91%	691	92%	684	91%
WP/OPR **	1105	916	83%	1030	104%	1069	107%	1115	112%
Wm. S. James **	575	505	88%	599	111%	583	108%	572	106%
Youth's Benefit	920	1071	116%	1039	113%	993	108%	975	106%
ELEMENTARY TOTAL	17,795	16,851	95%	17,346	97%	17,639	99%	17,889	101%

** Schools affected by redistricting, starting in the 1996/97 school year.

* 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

1995 HARFORD COUNTY SCHOOLS UTILIZATION CHART
SECONDARY SCHOOLS

TABLE 5

MIDDLE SCHOOLS	CAPACITY	Actual 95-96 ENROLL	Actual 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
Aberdeen	1530	1210	79%	1167	76%	1190	78%	1212	79%
Bel Air	1312	1166	89%	1194	91%	1223	93%	1246	95%
Edgewood	1391	1069	77%	1067	77%	1096	79%	1104	79%
Fallston	900	1010	112%	1072	119%	1124	125%	1142	127%
Havre de Grace	792	552	70%	588	74%	644	81%	668	84%
Magnolia	1071	925	86%	922	86%	945	88%	969	90%
North Harford	1242	983	79%	955	77%	979	79%	971	78%
Southampton	1535	1600	104%	1700	111%	1729	113%	1757	114%
TOTAL - MS *	9,773	8,518	87%	8,665	89%	8,930	91%	9,069	93%

HIGH SCHOOLS	CAPACITY	Actual 95-96 ENROLL	Actual 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
Aberdeen	1877	1121	60%	1219	65%	1243	66%	1271	68%
Bel Air	1409	1312	93%	1359	96%	1466	104%	1567	111%
C. Milton Wright	1553	1355	87%	1443	93%	1504	97%	1546	100%
Edgewood	1382	939	68%	1019	74%	1076	78%	1153	83%
Fallston	1670	1364	82%	1430	86%	1494	89%	1537	92%
Harford Technical	738	716	97%	750	102%	750	102%	750	102%
Havre de Grace	905	607	67%	640	71%	682	75%	720	80%
Joppatowne	1143	883	77%	965	84%	1025	90%	1080	94%
North Harford	1440	1089	76%	1124	78%	1133	79%	1120	78%
TOTAL - HS **	12,117	9,450	78%	9,949	82%	10,373	86%	10,744	89%

TOTAL SECONDARY	21,890	17,968	82%	18,614	85%	19,303	88%	19,813	91%

* INCLUDES 3 STUDENTS ENROLLED IN ALTERNATIVE EDUCATION PROGRAMS.
** INCLUDES 64 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 1991 - 1995

TABLE 6

SCHOOL	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					1995 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	5	207	0	1	213	71	207	24	0	302	93	71	36	0	200	58	121	12	1	192	5	255	0	0	260
Bakerfield	11	0	0	4	15	49	0	0	2	51	50	0	0	0	50	13	5	0	1	19	22	31	0	0	53
Bel Air	50	0	0	0	50	7	0	223	0	230	48	4	0	0	52	40	0	0	0	40	25	0	0	0	25
Churchville	27	0	0	2	29	36	0	0	6	42	22	0	0	1	23	28	0	0	3	31	25	0	0	0	25
Church Creek	36	143	72	0	251	29	152	33	0	214	54	37	16	0	107	10	50	20	0	80	17	39	0	0	56
Darlington	4	0	0	8	12	4	0	0	12	16	5	0	0	2	7	2	0	0	1	3	8	0	0	0	8
Deerfield	22	0	0	4	26	21	0	0	1	22	20	0	0	0	20	46	0	0	0	46	22	0	0	0	22
Dublin	5	0	0	4	9	11	0	0	5	16	10	0	0	3	13	8	0	0	2	10	13	0	6	0	19
Edgewood	0	9	10	0	19	0	0	0	0	0	3	0	0	0	3	4	0	0	0	4	0	0	0	0	0
Emmorton	50	69	24	0	143	69	93	52	0	214	68	30	48	0	146	81	38	24	0	143	55	50	36	0	141
Forest Hill	71	8	102	2	183	96	0	36	1	133	75	12	12	0	99	82	78	24	0	184	57	15	26	0	98
Fountain Green	50	12	0	0	62	53	0	0	0	53	69	0	0	0	69	35	4	0	0	39	21	4	0	0	25
Hall's Cross Roads	15	0	0	0	15	5	0	0	0	5	0	0	0	0	0	7	0	0	0	7	10	0	0	0	10
Havre de Grace	0	10	5	0	15	2	0	1	0	3	1	0	1	0	2	3	0	12	0	15	0	0	1	0	1
Hickory	18	134	0	4	156	18	8	0	4	30	58	149	12	2	221	33	70	24	0	127	48	64	0	0	112
Hillsdale	8	0	0	19	27	14	0	0	30	44	7	0	0	0	7	6	0	0	0	6	6	0	0	0	6
Homestead/Wakefield	76	16	85	0	177	77	0	24	0	101	105	4	24	0	133	59	33	51	0	143	66	0	50	0	116
Jarrettsville	23	1	0	2	26	26	0	0	3	29	25	0	0	1	26	27	0	0	2	29	17	0	1	0	18
Joppatowne	4	0	0	6	10	0	0	0	7	7	4	0	0	1	5	30	0	0	2	32	70	0	1	0	71
Magnolia	20	0	0	7	27	12	0	0	5	17	4	0	0	0	4	2	0	0	1	3	2	0	0	0	2
Meadowvale	64	0	0	4	68	133	83	3	0	219	101	42	32	1	176	90	20	22	2	134	79	12	6	0	97
Norrisville	18	0	0	0	18	28	0	0	3	31	12	0	0	2	14	12	0	1	1	14	15	0	1	0	16
North Bend	16	0	0	6	22	28	0	0	12	40	33	0	0	3	36	25	0	2	6	33	26	0	1	0	27
North Harford	44	0	0	16	60	41	0	1	15	57	48	0	0	10	58	30	0	0	4	34	38	0	6	0	44
Prospect Mill	37	14	0	1	52	121	71	12	0	204	29	15	66	0	110	30	58	36	0	124	28	24	0	0	52
Ring Factory	71	2	0	0	73	100	24	0	0	124	72	7	0	0	79	58	15	1	0	74	66	39	0	0	105
Riverside	2	9	0	1	12	3	0	1	3	7	2	0	0	0	2	1	0	0	1	2	4	0	1	0	5
Roye-Williams	4	0	0	9	13	1	0	0	10	11	1	0	0	1	2	0	0	0	1	1	0	0	0	0	0
Wm. Paca/Old Post Rd	100	25	0	40	165	84	46	33	23	186	57	0	0	0	57	64	75	0	0	139	50	44	0	0	94
Wm. S. James	69	0	0	1	70	57	0	0	0	57	56	0	0	1	57	61	0	0	0	61	64	0	0	0	64
Youth's Benefit	41	0	0	0	41	51	0	0	1	52	54	0	2	1	57	41	0	0	1	42	44	0	0	0	44
TOTAL	961	659	298	141	2,059	1,247	684	443	143	2,517	1,186	371	249	29	1,835	987	567	229	29	1,812	903	577	136	0	1,616

HARFORD COUNTY BUILDING PERMIT ACTIVITY BY SECONDARY SCHOOL DISTRICTS 1991 - 1995

TABLE 7

MIDDLE SCHOOLS

SCHOOL	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					1995 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	94	149	72	55	370	115	152	66	60	393	117	37	15	0	169	45	31	20	3	99	57	35	0	0	92
Bel Air	127	102	25	1	255	235	130	277	0	642	203	45	85	1	334	212	86	78	0	376	195	89	86	0	370
Edgewood	191	226	10	23	450	202	240	24	11	477	218	71	0	1	290	222	220	12	1	455	144	334	0	0	478
Fallston	163	8	176	0	347	191	0	60	1	252	167	12	38	1	218	64	38	0	1	103	84	15	1	0	100
Havre de Grace	68	0	15	12	95	140	83	2	13	238	107	42	33	3	185	96	20	34	3	153	87	12	7	0	106
Magnolia	26	9	0	14	49	15	0	1	15	31	11	0	0	1	12	33	0	0	4	37	76	0	2	0	78
North Harford	108	0	0	28	136	124	0	1	34	159	125	0	0	19	144	99	0	3	16	118	109	0	15	0	124
Southampton	184	165	0	8	357	225	79	12	9	325	238	164	78	3	483	216	172	82	1	471	151	92	25	0	268
TOTAL	961	659	298	141	2,059	1,247	684	443	143	2,517	1,186	371	249	29	1,835	987	567	229	29	1,812	903	577	136	0	1,616

HIGH SCHOOLS

SCHOOL	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					1995 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	94	149	72	55	370	115	152	66	60	393	117	37	15	0	169	45	31	20	3	99	57	35	0	0	92
Bel Air	139	100	24	2	265	248	130	277	0	655	203	45	85	1	334	212	86	78	0	376	195	89	86	0	370
Edgewood	191	226	10	23	450	202	240	24	11	477	218	71	0	1	290	222	220	12	1	455	144	334	0	0	478
Fallston	172	8	177	0	357	201	0	60	1	262	173	18	50	1	242	65	38	24	1	128	96	22	1	0	119
Havre de Grace	68	0	15	12	95	140	83	2	13	238	107	42	33	3	185	96	20	34	3	153	87	12	7	0	106
Joppatowne	26	9	0	14	49	15	0	1	15	31	11	0	0	1	12	33	0	0	4	37	76	0	2	0	78
North Harford	108	0	0	28	136	124	0	1	34	159	125	0	0	19	144	99	0	3	16	118	109	0	15	0	124
C. Milton Wright	163	167	0	7	337	202	79	12	9	302	232	158	66	3	459	215	172	58	1	446	139	85	25	0	249
TOTAL	961	659	298	141	2,059	1,247	684	443	143	2,517	1,186	371	249	29	1,835	987	567	229	29	1,812	903	577	136	0	1,616

HARFORD COUNTY POPULATION / HOUSEHOLDS 1991 - 1995
BY ELEMENTARY SCHOOL DISTRICT

TABLE 8

SCHOOL	1991 *		1992 *		1993 *		1994 *		1995 *	
	Households	Population	Households	Population	Households	Population	Households	Population	Households	Population
Abingdon	2,529	7,267	2,734	7,833	3,012	8,605	3,202	9,121	3,418	9,706
Bakerfield	2,577	7,406	2,591	7,425	2,640	7,542	2,687	7,655	2,705	7,683
Bel Air	3,097	8,900	3,145	9,010	3,363	9,608	3,413	9,720	3,451	9,799
Churchville	1,889	5,429	1,917	5,492	1,957	5,590	1,979	5,635	2,008	5,702
Church Creek	2,181	6,268	2,420	6,932	2,623	7,493	2,724	7,760	2,852	8,101
Darlington	743	2,136	755	2,163	770	2,200	777	2,212	780	2,214
Deerfield	1,895	5,445	1,920	5,500	1,941	5,544	1,960	5,581	2,003	5,689
Dublin	1,293	3,715	1,301	3,728	1,316	3,760	1,330	3,780	1,338	3,800
Edgewood	1,678	4,822	1,696	4,859	1,696	4,845	1,699	4,839	1,703	4,835
Emmorton	1,170	3,362	1,306	3,741	1,509	4,311	1,648	4,693	1,784	5,065
Forest Hill	2,065	5,933	2,239	6,414	2,365	6,756	2,459	7,004	2,694	7,650
Fountain Green	2,039	5,858	2,098	6,010	2,148	6,136	2,213	6,305	2,251	6,391
Hall's Cross Roads	1,817	5,220	1,831	5,246	1,836	5,244	1,836	5,228	1,842	5,232
Havre de Grace	2,552	7,335	2,567	7,354	2,569	7,340	2,571	7,324	2,586	7,343
Hickory	1,930	5,546	2,078	5,955	2,107	6,018	2,317	6,599	2,437	6,922
Hillsdale	1,811	5,204	1,837	5,262	1,878	5,366	1,885	5,369	1,891	5,370
Homestead/Wakefield	4,368	12,551	4,536	12,996	4,632	13,232	4,758	13,553	4,894	13,899
Jarrettsville	2,150	6,177	2,174	6,230	2,202	6,290	2,227	6,342	2,254	6,402
Joppatowne	2,892	8,310	2,901	8,313	2,908	8,307	2,913	8,296	2,943	8,358
Magnolia	1,392	3,999	1,417	4,061	1,434	4,095	1,437	4,094	1,440	4,090
Meadowvale	2,034	5,845	2,099	6,013	2,307	6,589	2,474	7,046	2,601	7,387
Norrisville	736	2,114	753	2,157	782	2,234	795	2,266	809	2,297
North Bend	1,845	5,300	1,865	5,345	1,903	5,438	1,938	5,519	1,969	5,592
North Harford	1,764	5,069	1,821	5,217	1,875	5,356	1,930	5,497	1,962	5,573
Prospect Mill	1,687	4,849	1,737	4,976	1,931	5,515	2,035	5,797	2,213	6,284
Ring Factory	1,653	4,750	1,722	4,935	1,840	5,257	1,915	5,455	1,986	5,639
Riverside	3,125	8,980	3,136	8,987	3,143	8,979	3,145	8,958	3,147	8,937
Roye-Williams	1,664	4,780	1,676	4,802	1,686	4,817	1,688	4,809	1,689	4,797
Wm. Paca/Old Post Rd	2,888	8,300	3,045	8,725	3,222	9,204	3,276	9,331	3,408	9,678
Wm. S. James	1,444	4,150	1,511	4,329	1,565	4,471	1,619	4,612	1,677	4,763
Youth's Benefit	4,724	13,576	4,763	13,648	4,813	13,749	4,867	13,862	4,907	13,935
TOTAL	65,630	188,598	67,589	193,656	69,971	199,892	71,715	204,263	73,640	209,130

Population as of April 1

Source: Harford County Dept of Planning & Zoning, May, 1996.

HARFORD COUNTY POPULATION / HOUSEHOLDS 1991 - 1995
BY SECONDARY SCHOOL DISTRICT

TABLE 9

MIDDLE SCHOOLS

SCHOOL	1991 *		1992 *		1993 *		1994 *		1995 *	
	Households	Population	Households	Population	Households	Population	Households	Population	Households	Population
Aberdeen	10,723	30,814	11,075	31,732	11,448	32,704	11,609	33,066	11,729	33,310
Bel Air	7,942	22,823	8,184	23,449	8,794	25,123	9,111	25,951	9,468	26,888
Edgewood	9,099	26,147	9,529	27,302	9,974	28,494	10,250	29,195	10,741	30,503
Fallston	6,673	19,176	7,003	20,065	7,242	20,689	7,449	21,217	7,577	21,518
Havre de Grace	5,330	15,317	5,420	15,529	5,646	16,129	5,822	16,583	5,967	16,946
Magnolia	7,509	21,578	7,556	21,650	7,585	21,669	7,596	21,634	7,631	21,671
North Harford	7,383	21,216	7,512	21,524	7,663	21,892	7,800	22,216	7,912	22,469
Southampton	10,971	31,527	11,310	32,405	11,619	33,192	12,078	34,401	12,615	35,825
TOTAL	65,630	188,598	67,589	193,656	69,971	199,892	71,715	204,263	73,640	209,130

HIGH SCHOOLS

	1991 *		1992 *		1993 *		1994 *		1995 *	
	Households	Population	Households	Population	Households	Population	Households	Population	Households	Population
Aberdeen	10,723	30,814	11,075	31,732	11,448	32,704	11,609	33,066	11,729	33,310
Bel Air	10,368	29,794	10,620	30,428	11,242	32,116	11,559	32,923	11,916	33,840
C. Milton Wright	7,679	22,067	7,999	22,919	8,286	23,671	8,722	24,842	9,235	26,226
Edgewood	9,099	26,147	9,529	27,302	9,974	28,494	10,250	29,195	10,741	30,503
Fallston	7,539	21,665	7,878	22,572	8,127	23,217	8,357	23,804	8,509	24,165
Havre de Grace	5,330	15,317	5,420	15,529	5,646	16,129	5,822	16,583	5,967	16,946
Joppatowne	7,509	21,578	7,556	21,650	7,585	21,669	7,596	21,634	7,631	21,671
North Harford	7,383	21,216	7,512	21,524	7,663	21,892	7,800	22,216	7,912	22,469
TOTAL	65,630	188,598	67,589	193,656	69,971	199,892	71,715	204,263	73,640	209,130

Population as of April 1

Source: Harford County Dept. of Planning & Zoning, May, 1996

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 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 "1995 Water and Sewer Adequate Public Facilities Report," and can be found in section VI (pages 20-25) 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 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 1995, the County's average day and maximum day demands were 8.4 MGD and 12.1 MGD respectively. To keep pace with the projected growth, staged construction programs are established so that facilities are available as required and are distributed over the long term.

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 pages 8-10 and pages 32-147 of the 1995 Water and Sewer Adequate Public Facilities Report.

The average daily influent flow to the Sod Run WWTP in 1995 was approximately 9.6 MGD, exclusive of recycle flows and septage. The average daily influent flow to the Joppatowne WWTP in 1995 was approximately 0.46 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 1995 through 2010. 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 has been initiated. Construction is approximately 95% complete for increased capacity in the Joppatowne WWTP from 0.75 MGD to 0.95 MGD.

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 10
JANUARY - DECEMBER 1995
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.

	1995
Total Number of Connections	28,815
WATER	
Water Average Consumption	8.4 MGD
Water Peak Day Consumption	12.1 MGD
Average Water Usage per Connection (gal/day)	318
Residential Unit Water Usage (gal/day)	172
Average Commercial/Industrial Water Usage (gal/day)	3,855
SEWAGE	
Sewage Average Flows	9.6 MGD
Sewage Peak Day Flows	16.5 MGD
Average Sewage per Connection (gal/day)	352
Residential Sewage Generation (gal/day)	172
Average Commercial/Industrial Sewage Generation (gal/day)	3,855

* MGD = Million Gallons per Day

Table 11

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	4.1	5.6	6.6	7.6	9.0	10.4
Max. Day,mgd	4.3	4.6	4.8	6.0	8.7	10.6	12.7	15.3	18.2
Total of Second, Third and Fourth Zones Requirements									
Avg. Day,mgd	2.5	3.5	3.7	3.8	4.8	6.3	8.1	9.0	9.9
Max. Day,mgd	3.3	3.9	4.0	5.6	8.5	11.8	16.0	17.7	19.5
Aberdeen									
Avg. Day,mgd	0.0	0.0	0.0	0.5	1.0	1.5	2.0	2.8	3.0
Max. Day,mgd	0.0	0.0	0.0	0.5	1.0	1.5	2.0	2.8	3.0
Maryland-American Water Company									
Avg. Day,mgd	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.5
Max. Day,mgd	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.5
Total									
Avg. Day,mgd	5.9	6.7	7.1	8.4	11.9	14.9	18.2	21.3	23.8
Max. Day,mgd	7.6	8.5	8.8	12.1	18.7	24.4	31.2	36.3	41.2

Table 12

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	81,696	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	7.7	0	.56	.01
	2000	10.7	0	.76	.01
INDUSTRIAL FLOW (ADF)	1993	.4	.035	0.0	0
	1994	.5	.035	0.0	0
	1995	.5	.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	1.4	0	.19	0
	2000	2.1	0	.19	0
TOTAL FLOW	1993	9.1	.035	.78	.01
	1994	9.8	.035	.75	.01
	1995	9.6	.035	.75	.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	.75	.01
	2000	20.0	.000	.95	.01

Table 13
1995 EXISTING WATER & SEWER CAPITAL PROJECTS

The Capital Improvement Program establishes projects for expanding water and sewer facilities. This list of 1995 Capital Projects includes the projects status.

PROJECT NO.	PROJECT NAME	PROJECT STATUS
6387	Upper Bynum Run Parallel Interceptor	Construction completed
6437-2	Winters Run S.P.S. II	Construction completed
6438	Winters Run Parallel Interceptor	Under construction
6440	Infiltration/Inflow	Defining scope
6441	Fallston Sewer Petition	Under construction
6458	Lower Bynum Run Parallel Interceptor	Phase 1: Under design Phase 2: Selecting engineer
6459	Bush Creek Sewage P.S. II	Design completed
6486	Whiteford-Cardiff Sewer Petition	Federal funding approval received in March, 1996
6487	Perryman Well Head Protection Program	Completed particle tracking study
6509	Singer Road Water Extension	Awaiting Right-of-Ways
6510	Abingdon Rd. Water Trans. Main I	Design completed
6510	Abingdon Rd. Water Trans. Main IV	Under design
6514	MacPhail Rd. Water Transmission Main	Construction completed
6518	Red Pump Road Transmission Line	Under final design
6521	Boulton St. & Tollgate Rd. Trans Main	Awaiting Right-of-Ways
6524	Joppa-Trimble Sewer Petition	Awaiting construction notice-to-proceed
6530	Old Constant Friendship Sewer Petition	Evaluating construction bids received
6533	Joppa Storage Tank	Under final design
6540	Country Walk Tank & Booster Station	Design completed
6547	Underwood Lane Sewer Petition	Awaiting Right-of-Ways and Re-vote from community
6552	Winters Run Emergency Sewer Realignment	Construction completed

PROJECT NO.	PROJECT NAME	PROJECT STATUS
6553	Upper Lake Fanny Sewer Petition	Defining design scope
6555	Woodbridge Center Way Relief Sewer	Construction completed
6559	Old Emmorton Road Sewer Petition	Preparation of package for council approval
6564	Forest Lakes Elevated Water Storage Tank	Awaiting Board of Estimates approval for design consultant
6565	Fallston Fire Storage & Booster Station (Feasibility Study)	Awaiting Board of Estimates approval for design consultant
7013	Joppatowne WWTP: Long Term Improvements	Under construction
-	Zone 4 Water Improvements - Bynum Water Booster Sta. Pump Upgrade	Under construction
-	Laurel Bush - Water Transmission Main	Defining design scope
-	Sod Run WWTP - Stage 2	Bidding for construction

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 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 FY 95 (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 Intersection Analysis Methodology

A key feature of the APF Road Intersection regulations is the requirement of a traffic impact analysis (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 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 is 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 will be 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.

TABLE 14

SIGNALIZED INTERSECTION CAPACITY ANALYSES RESULTS
EXISTING CONDITIONS
1995

Intersection Name	Level of Service Peak Hour (Delay in Sec.)
MD 24 & Bel Air S. Pkwy	D (34.1)PM
MD 7 & U.S. 40	C (20.0)PM
MD 24 & MD 924 (Tollgate)	F (>60)PM
MD 24 & Ring Factory	C (23.2)PM
MD 543 & U.S. 1	D (34.1)PM
MD 924 & Abingdon	D (36.3)PM
MD 22 & MD 136	B (12.7)PM
MD 924 & Moores Mill	C (19.1)PM
MD 24 & MD 755 (south)	D (35.8)PM
MD 22 & Brierhill	B (11.7)PM
MD 543 & MD 22	E (47.5)PM
MD 24 & Trimble Road	B (6.9) PM
MD 136 & MD 165	B (6.2) PM
MD 152 & US 1	F(>60) PM
MD 24 & US 1	D (29.3) PM

TABLE 15

UNSIGNALIZED INTERSECTION CAPACITY ANALYSIS
EXISTING CONDITIONS
1995

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

TABLE 16

AVERAGE DAILY COUNT LOCATIONS

Road Name	Location	Average Weekday Daily Count
Abingdon Road	N. of I-95	6,386
Beards Hill Road	N. of Churchville Road	10,251
Chapel Road	N. of I-95	1,584
Hanson Road	S. of Silverbell Road	3,460
Jarrettsville Road	E. of MD 24	7,800
MD 152	S. of U.S 1	20,050
MD 24	N. Singer Road	31,629
MD 543	S. MD 22	11,225
Moores Mill Road	W. of Old English Court	10,677
Moores Mill Road	W. of Coconut Court	9,903
Pleasantville Road	N. of Putnam Road	2,324
Trimble Road	E. of MD 24	2,720
U.S 1	N. of MD 152	26,775
U.S 40	N. MD 24	19,659

TABLE 17

List of Approved County Capital Projects
Funded for Construction in FY 96

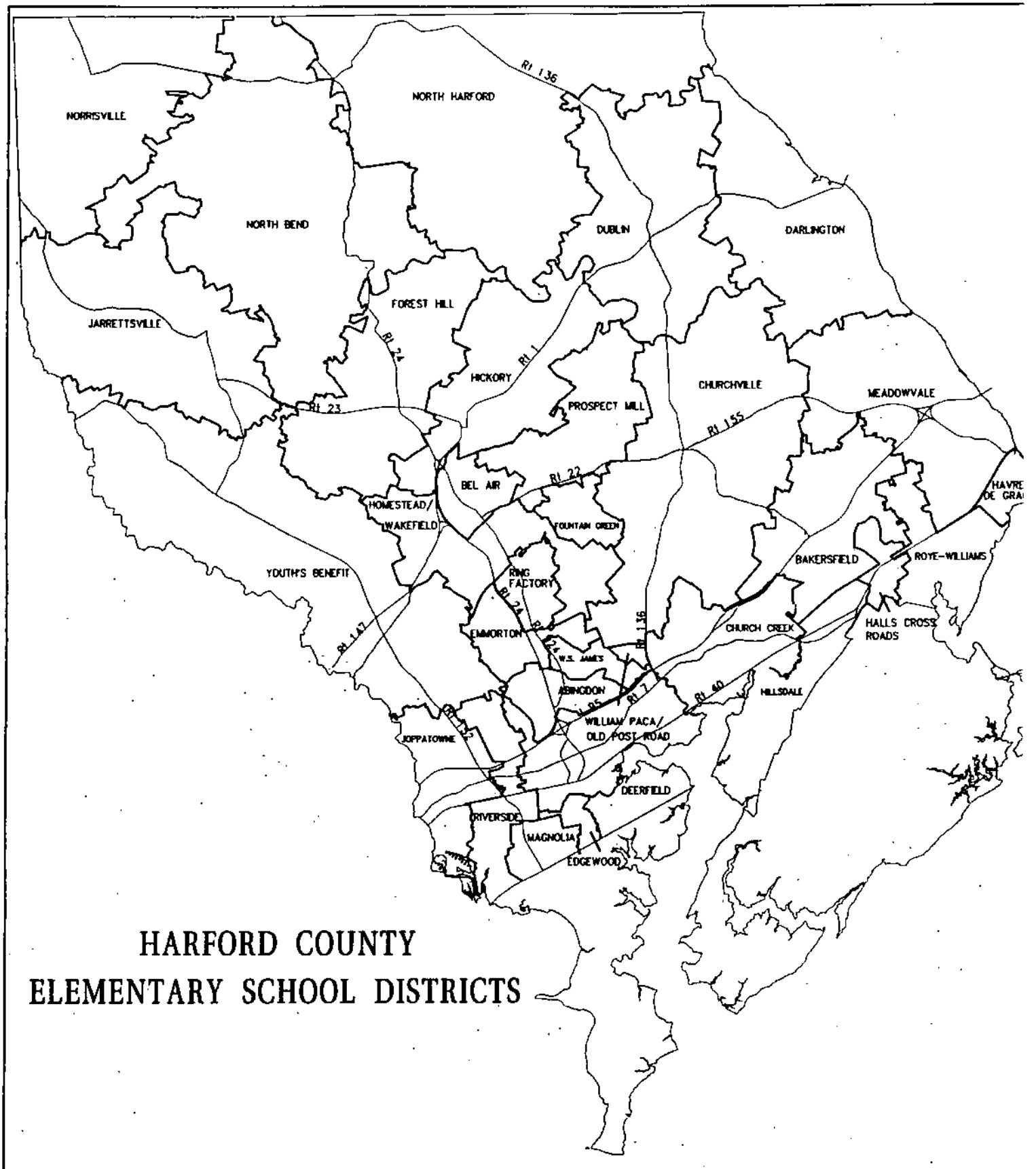
Access Rd / Rts 543 & 1	Intersection improvements
Aldino / Stepney Rd Bridge	Reconstruction
Arena Road Culvert	Replacement
Bridge Deck Replacement (Schuster and Mount Horeb Rd)	Replacement
Bridge Rehabilitation Program	Rehabilitation
Bridge Scour Analysis	Rehabilitation
Bridge Scour Repairs	Rehabilitation
Dry Branch Road Bridge	Reconstruction
Forge Hill Road Bridge	Rehabilitation
Heaps Road Bridge	Reconstruction
Henderson Rd	Rehabilitation
Hess Road Bridge	Replacement
Hookers Mill Road	Rehabilitation
Joppa Farm Road Bridge	Replacement
Morse Road Bridge	Reconstruction
North Bend Road	Rehabilitation
Old Pylesville Road Bridge	Reconstruction
Southampton Road Bridge	Reconstruction
Wheel Road Bridge	Replacement
Wheel Rd / MD 924 & Laurel Bush	Rehabilitation

TABLE 18

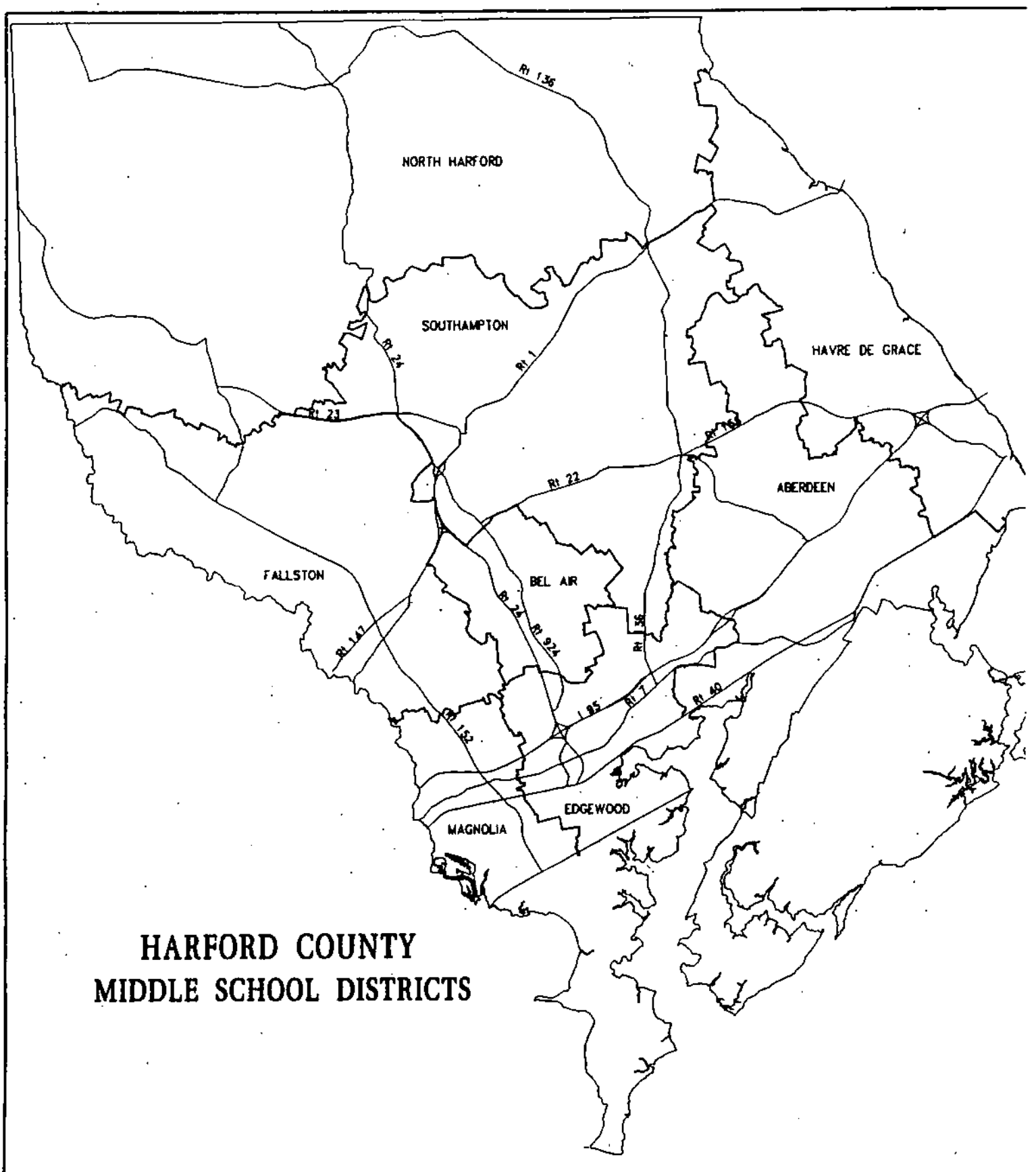
State Consolidated Transportation Program
Projects funded for Construction FY 96

Bel Air Bypass - Bridge over MD24	Superstructure and substructure repairs
Bel Air Bypass - MD 24 to MD 23	Resurface and mill
Conowingo Rd - MD 543 to Gibson	Resurface and int. improvements
Graceton Rd - Bridge over Jacks Hole	Superstructure and substructure repairs
Harkins Rd - MD 24 to Telegraph Rd	Resurface and mill
MD 7 at Fashion Way	Rehabilitation
MD 7 Bridge over CSX rail	Realignment of road and reconstruct bridge
MD 22 - East of Shamrock to east of MD 543	Upgrade to a 4 lane facility
MD 24 - I-95 to MD 755	Upgrade to a 4 lane facility
MD 152 Bridge over CSX	Reconstruction / widen
MD 152 Bridge over AMTRACK	Replacement
MD 161 Bridge over Deer Creek	Replacement
Old Post Rd - Lewis Lane to MD 490	Minor Reconstruction
Rocks Rd - Bridge over North Stirrup Run	Rehabilitation
Whiteford Rd - MD 624 to @ MD 165	Safety and Resurface

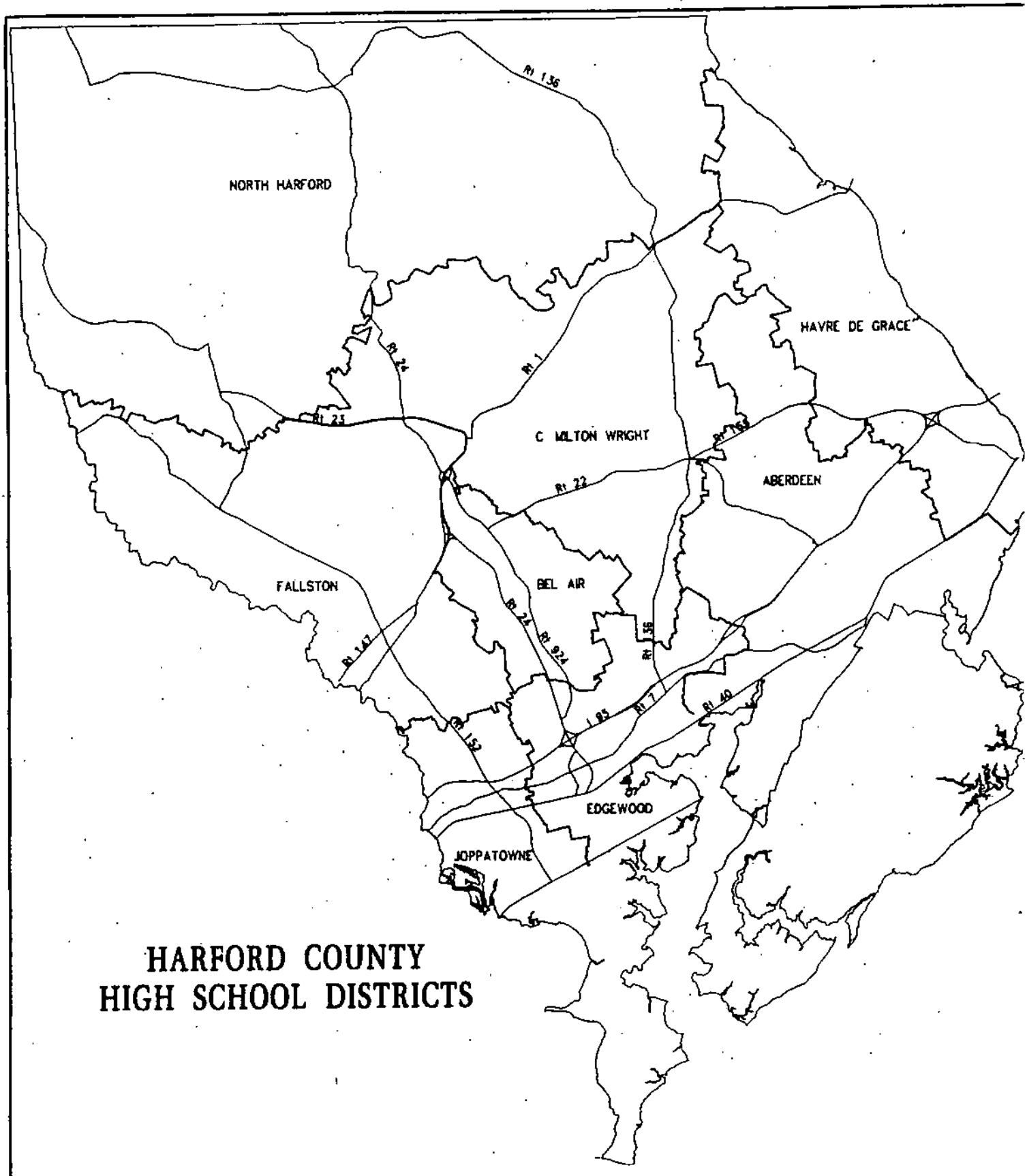
APPENDIX



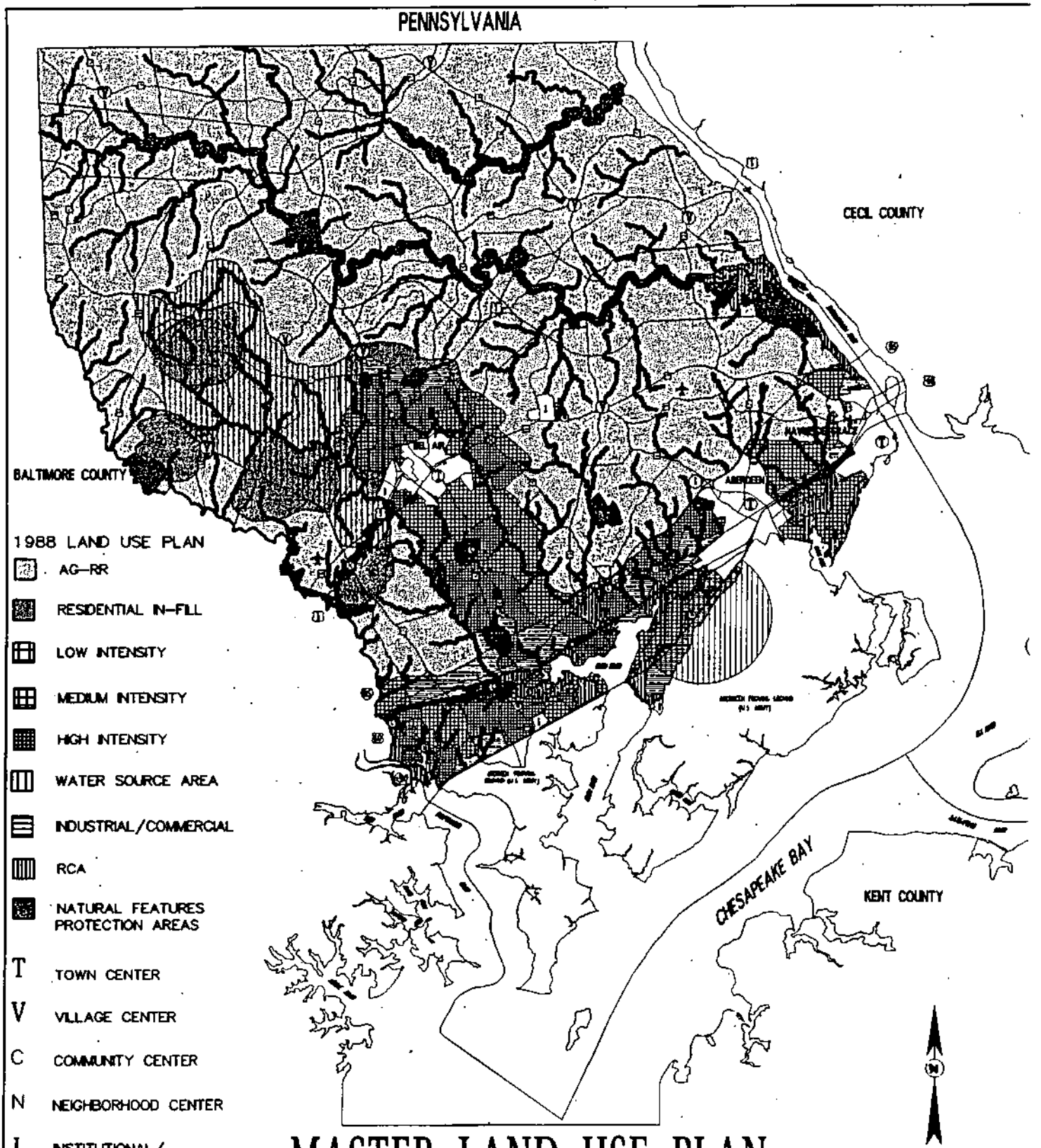
HARFORD COUNTY
ELEMENTARY SCHOOL DISTRICTS



HARFORD COUNTY
MIDDLE SCHOOL DISTRICTS



HARFORD COUNTY
HIGH SCHOOL DISTRICTS



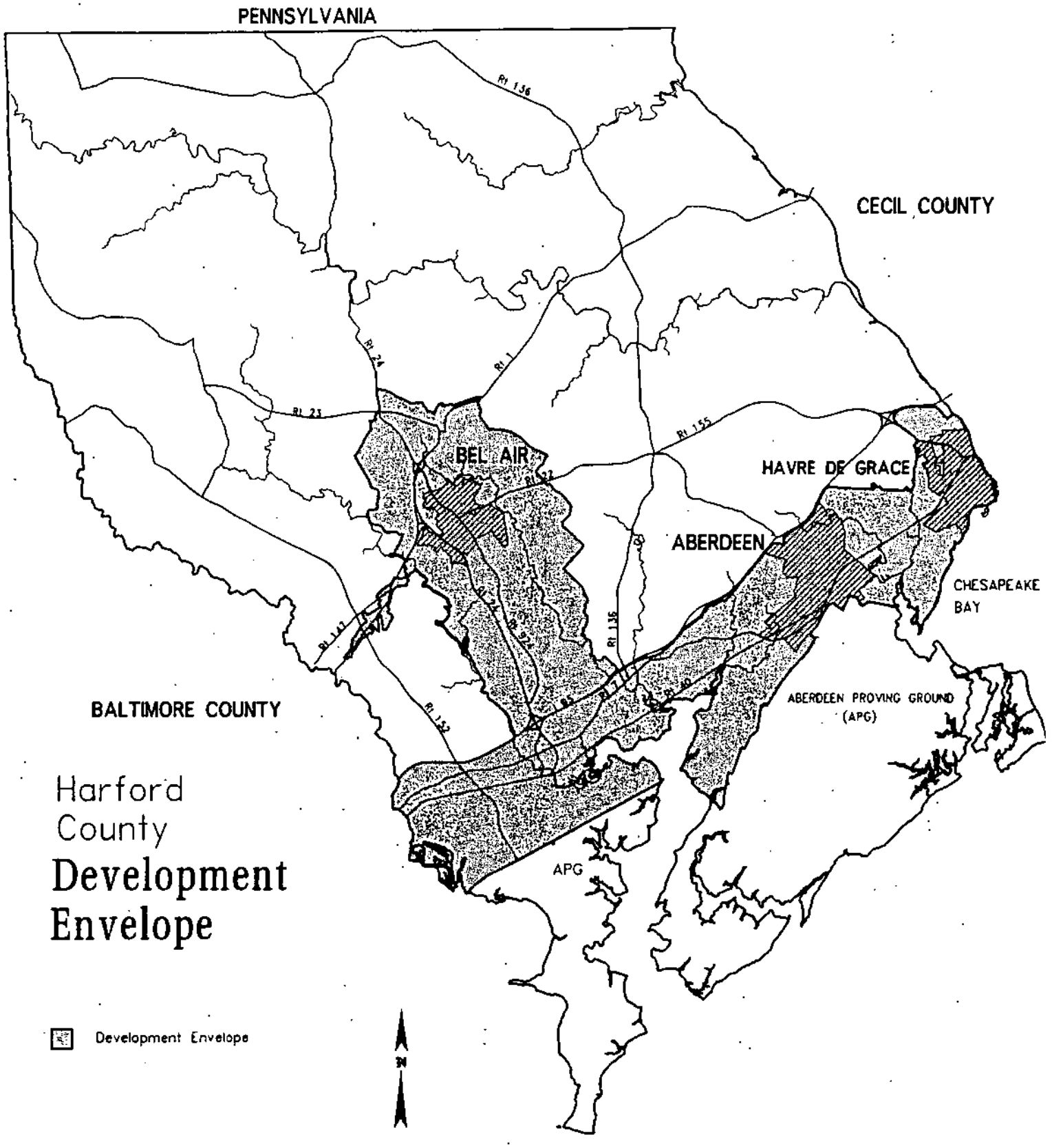
MASTER LAND USE PLAN

HARFORD COUNTY, MARYLAND

PUPIL YIELD FACTORS

Nineteen subdivisions were selected from various geographic locations throughout Harford County, t include single family dwellings, townhouse units, apartments/condominium units, and mobile home units. Th subdivisions selected represented newly constructed and established subdivisions ranging in size from 69 units t 1,025 units. Additionally, subdivisions were selected to provide a broad range of attendance areas across th County. A count was made of each student who resided in each of the nineteen subdivisions studied. The dat 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



Source: Harford County Department of Planning and Zoning.