

LONG-TERM STUDENT ENROLLMENT FORECASTING METHODOLOGY

During the 2001 redistricting committee process, Dr. Wes Thomas, Professor of Geography at West Chester University with extensive knowledge of Geographical Information Systems (GIS), performed an analysis to forecast long-term student growth for the West Chester Area School District. The results were summarized in the chart titled, "Potential Future Housing Developments". The following methodology was used in his analysis:

- Utilized Chester County GIS map.
- Identified 20+ acre parcels of land zoned residential.
- Excluded all parcels less than 20 acres.
- Excluded certain large parcels of public and private properties such as township parks, golf courses, other large recreational areas, cemeteries, university land and Westtown School.
- Did not exclude wetlands or steep sloped land, or land in agricultural preservation and easement properties.
- Assumed single-family home development on open land, the lowest density housing. (Even if zoning allowed for higher density housing such as cluster homes, apartments or townhouses.)
- Assumed that single-family homes will be built on 50% of the land.
- Used a student factor of 0.55 per single family home. The School District administration determined this factor by surveying housing developments and creating a student/household ratio.

West Chester Area School District

Potential Future Housing Development

	Lot Minimums	Total Acres	Maximum Possible Units	50% Development	.55 Students Per Unit	75% Development	.55 Students Per Unit
East Bradford	3 acre lots	1,929	643				
	2 acre lots	1,090	545				
	1 acre lots	865	865				
Total East Bradford		3,884	2,053	1,027	565	1,540	847
East Goshen	1 acre lots	797	797				
	1/2 acre lots	266	532				
Total East Goshen		1,063	1,329	665	365	997	548
West Goshen	1 acre lots	99	99				
	1/2 acre lots	1,285	2,570				
Total West Goshen		1,384	2,669	1,335	734	2,002	1,101
Westtown	1 acre lots	1,121	1,121				
	1/2 acre lots	502	1,004				
Total Westtown		1,623	2,125	1,063	584	1,594	877
West Whiteland (approximate lots sizes)	1 acre lots	1,000	1,000				
	1/2 acre lots	1,019	2,038				
	1/3 acre lots	496	1,488				
	1/10 acre lots	277	2,770				
Total West Whiteland		2,792	7,296	3,648	2,006	5,472	3,010
Thornbury, Ches. Co.	2 acre lots	141	71	35	19	53	29
Total Thornbury, Ches Co.		141	71	35	19	53	29
Thornbury Township, Del. Co.	2 acre lots	973	487				
Total Thornbury, Del Co.		973	487	243	134	365	201
Total Possible		11,860	16,029	8,015	4,408	12,022	6,612

Data Source for East Bradford, East Goshen, West Goshen, Westtown, West Whiteland: January 2001
Chester County Planning Commission Geographic Information System

Data Source for Thornbury, Chester County and Thornbury, Delaware County: Township Managers, October 2001

WEST CHESTER AREA SCHOOL DISTRICT

Analysis of Student/Home Ratio

10/02

<u>DEVELOPMENT NAME</u>	<u># OF SINGLE HOMES</u>	<u># OF STUDENTS</u>	<u>RATIO STUDENTS/ HOME</u>
APPLEGATE	120	84	0.70
AVONLEA	34	22	0.65
BANBURY	72	43	0.60
BOW TREE	520	221	0.43
BRANDYWINE AT THORNBURY	125	67	0.54
BRANDYWINE OVERLOOK	29	23	0.79
BRANDYWINE RIVER ESTATES	52	29	0.56
BROOKWOOD ACRES	125	70	0.56
CLOCK TOWER	159	72	0.45
COBBLESTONE	134	82	0.61
DEER POINTE	66	34	0.52
GOSHEN DOWNS	71	31	0.44
GREYSTONE	34	32	0.94
IDLEWILDE	82	32	0.39
JEFFRIES BRIDGE	107	63	0.59
KENMARA	65	52	0.80
MARSHALLTON CHASE	48	22	0.46
MARYDELL/PIN OAKS	268	134	0.50
MILITIA HILL	34	28	0.82
OAK HILL	125	58	0.46
PLEASANT GROVE	314	260	0.83
PLUMLY	103	48	0.47
PLUMTRY/SHROPESHIRE	134	119	0.89
RYERS HUNT	189	116	0.61
SWEDES FORD CHASE	192	78	0.41
THE PINES	46	25	0.54
THORNBURY ESTATES	105	32	0.30
THORNBURY HUNT	167	146	0.87
WENTWORTH	<u>67</u>	<u>37</u>	<u>0.55</u>
	3,587	2,060	0.57

WEST CHESTER AREA SCHOOL DISTRICT

Minimum Acre Lots for Zoning Classifications in Townships

East Bradford

R-1	3 ACRE MINIMUM
R-2	2 ACRE MINIMUM
R-3	1 ACRE MINIMUM
R-4	1 ACRE MINIMUM FOR ONSITE SEWER OR WATER 25,000 SQ FT FOR BOTH OFFSITE SEWER/WATER

West Goshen

R-2	1 ACRE MINIMUM
R-3	30,000 SQ FT FOR ON SITE SEWER & WATER 22,000 SQ FT FOR ON SITE SEWER OR WATER 18,000 SQ FT FOR PUBLIC SEWER & WATER
R-4	SFH - 30,000 SQ FT FOR ON SITE SEWER & WATER SFH - 22,000 SQ FT FOR ON SITE SEWER OR WATER SFH - 18,000 SQ FT FOR PUBLIC SEWER & WATER APTS - 1 TO 3 ACRES - 6 UNITS PER ACRE APTS - 3 TO 10 ACRES - 8 UNITS PER ACRE APTS - 10+ ACRES - 10 UNITS PER ACRE SEMI ATTACHED - 3 ACRE MINIMUM - 6 UNITS/ACRE

Westtown

R-1	1 ACRE BASE; ALSO CLUSTER
R-2	SLIDING SCALE; 22,000 TO 1 ACRE; ALSO SMALL CLUSTER
R-3	1 ACRE TRACT APTS 3 ACRE TRACT APTS

West Whiteland

R-1	43,000-30,000 SQ FT FOR PUBLIC SEWER & WATER CLUSTER HOMES ON 22,000 SQ FT FOR 4 ACRE LOTS
R-2	22,000 SQ FT FOR PUBLIC WATER & SEWER 16,000 SQ FT FOR CLUSTER
R-3	14,000 SQ FT FOR PUBLIC WATER & SEWER 10,000 SQ FT FOR CLUSTER HOMES, MIN 4 ACRES
R-4	10,000 SQ FT; CROSS DENSITY OF 4 DWELLING UNITS/ACRE PUBLIC WATER & SEWER

East Goshen (80% OF LAND ZONED R-2)

R-2	1 ACRE
R-3	18,000 SQ FT FOR SFH DETACHED 12,000 SQ FT FOR SFH SEMI-DETACHED
R-4	14,500 SQ FT FOR SFH DETACHED 12,000 SQ FT FOR SFH SEMI-DETACHED
R-5	14,000 SQ FT FOR SFH DETACHED 10,000 SQ FT FOR SFH SEMI-DETACHED; T/H & APTS 14 UNITS/ACRE

West Chester Area School District

Long Term Analysis of Student Population by Municipality

Current Enrollment by Township and % of Enrollment by Township as of September 2001

	Boro	E. Bradford	E. Goshen	Thorn CC	Thorn DC	W. Goshen	W-Town	W. Whtlnd	Totals
Kind	10.32%	11.38%	11.77%	3.31%	5.95%	24.74%	11.64%	20.90%	100%
Grade 1	9.71%	9.83%	13.79%	4.92%	5.52%	25.66%	11.75%	18.82%	100%
Grade 2	9.75%	12.27%	15.02%	2.98%	4.93%	23.85%	12.50%	18.69%	100%
Grade 3	11.11%	12.87%	13.92%	2.34%	5.85%	25.38%	10.99%	17.54%	100%
Grade 4	10.05%	12.88%	15.08%	1.99%	6.49%	22.72%	12.67%	18.12%	100%
Grade 5	11.35%	12.43%	12.76%	2.81%	5.84%	23.78%	14.05%	16.97%	100%
Grade 6	11.40%	12.23%	14.72%	2.59%	4.87%	23.52%	12.54%	18.13%	100%
Grade 7	11.49%	10.64%	13.28%	2.42%	5.27%	26.98%	12.33%	17.60%	100%
Grade 8	8.95%	13.31%	15.02%	2.02%	6.50%	23.75%	11.82%	18.64%	100%
Grade 9	10.58%	11.09%	15.56%	2.54%	5.49%	24.52%	13.43%	16.79%	100%
Grade 10	12.71%	13.05%	15.78%	2.04%	4.77%	24.06%	12.49%	15.10%	100%
Grade 11	14.51%	11.59%	15.73%	2.44%	5.49%	20.24%	13.05%	16.95%	100%
Grade 12	12.02%	12.88%	17.55%	3.07%	4.17%	24.05%	13.13%	13.13%	100%

	Boro	E. Bradford	E. Goshen	Thorn CC	Thorn DC	W. Goshen	W-Town	W. Whtlnd	Totals
Kind	78	86	89	25	45	187	88	158	756
Grade 1	82	83	117	42	47	217	99	159	845
Grade 2	85	107	131	26	43	208	109	163	874
Grade 3	94	109	118	20	50	215	93	149	847
Grade 4	95	122	143	19	61	215	120	171	946
Grade 5	103	112	115	25	53	215	127	153	904
Grade 6	107	115	138	24	46	221	118	171	941
Grade 7	107	99	124	23	49	252	115	164	934
Grade 8	83	123	139	19	60	219	109	172	923
Grade 9	103	108	152	25	54	240	131	164	977
Grade 10	111	114	137	18	41	209	109	131	870
Grade 11	117	94	127	20	44	164	105	137	808
Grade 12	97	104	141	25	34	194	106	106	805
Totals	1,262	1,376	1,671	309	626	2,756	1,430	1,999	11,430
% of Total	11.04%	12.04%	14.62%	2.71%	5.48%	24.11%	12.51%	17.49%	100.00%

West Chester Area School District Long Term Analysis of Student Population by Municipality

FUTURE DEVELOPMENT FOR WEST CHESTER AREA SCHOOL DISTRICT *						
50% Build-Out						
Township	Maximum Possible Units	50% Development	.55 Students Per Unit	0.45 elementary	27.5 middle	27.5 high
East Bradford	2,053	1,027	565	254	155	155
East Goshen	1,329	665	365	164	101	101
West Goshen	2,669	1,335	734	330	202	202
Westtown	2,125	1,063	584	263	161	161
West Whiteland	7,296	3,648	2,006	903	552	552
Thornbury, Chester Co.	71	36	20	9	5	5
Thornbury , Del. Co.	487	243	134	60	37	37
Total	16,030	8,015	4,408	1,984	1,212	1,212

* See back up data on chart titled Potential Future Long Term Housing Development

West Chester Area School District
Long Term Analysis of Student Population by Municipality

PROJECTION OF FUTURE HIGH SCHOOL ENROLLMENT BY MUNICIPALITY									
50% Build-Out									
BASED ON CURRENT HIGH SCHOOL ENROLLMENT (GRADES 9-12) AND FUTURE DEVELOPMENT									
	Boro	E. Bradford	E. Goshen	Thorn CC	Thorn DC	W. Goshen	W-Town	W. Whtlnd	Totals
Students currently in Grades 9-12	428	419	558	87	173	806	451	538	3,460
Additional High School Students from New Developments	0	155	100	5	37	201	160	552	1,210
Potential High School Students in 20 years	428	574	658	92	210	1,007	611	1,090	4,670
% of Total	9.2%	12.3%	14.1%	2.0%	4.5%	21.6%	13.1%	23.3%	100%

PROJECTION OF FUTURE MIDDLE SCHOOL ENROLLMENT BY MUNICIPALITY									
50% Build-Out									
BASED ON CURRENT MIDDLE SCHOOL ENROLLMENT (GRADES 6-8) AND FUTURE DEVELOPMENT									
	Boro	E. Bradford	E. Goshen	Thorn CC	Thorn DC	W. Goshen	W-Town	W. Whtlnd	Totals
Students currently in Grades 6-8	297	337	401	66	155	693	342	507	2,798
Additional Middle School Students from New Developments	0	155	100	5	37	201	160	552	1,210
Potential Middle School Students in 20 years	297	492	501	71	192	894	502	1,059	4,008
% of Total	7.4%	12.3%	12.5%	1.8%	4.8%	22.3%	12.5%	26.4%	100%

West Chester Area School District
Long Term Analysis of Student Population by Municipality

PROJECTION OF FUTURE ELEMENTARY SCHOOL ENROLLMENT BY MUNICIPALITY									
50% Build-Out									
BASED ON CURRENT ELEMENTARY ENROLLMENT (GRADES K-5) AND FUTURE DEVELOPMENT									
	Boro	E. Bradford	E. Goshen	Thorn CC	Thorn DC	W. Goshen	W-Town	W. Whtlnd	Totals
Students currently in Grades K-5	537	620	713	157	298	1,257	637	954	5,172
Additional Elementary School Students from New Developments	0	254	164	9	60	330	263	903	1,984
Potential Elementary School Students in 20 years	537	874	877	165	359	1,588	900	1,857	7,156
% of Total	7.5%	12.2%	12.3%	2.3%	5.0%	22.2%	12.6%	25.9%	100%

West Chester Area School District
Long Term Analysis of Student Population by Municipality

FUTURE DEVELOPMENT FOR WEST CHESTER AREA SCHOOL DISTRICT *						
75% Build-Out						
Township	Maximum Possible Units	75% Development	.55 Students Per Unit	0.45 elementary	0.275 middle	0.275 high
East Bradford	2,053	1,540	847	381	233	233
East Goshen	1,329	997	548	247	151	151
West Goshen	2,669	2,002	1,101	495	303	303
Westtown	2,125	1,594	877	394	241	241
West Whiteland	7,296	5,472	3,010	1,354	828	828
Thornbury, Chester Co.	71	53	29	13	8	8
Thornbury , Del. Co.	487	365	201	90	55	55
Total	16,030	12,022	6,612	2,975	1,818	1,818

* See back up data on chart titled Potential Future Long Term Housing Development

West Chester Area School District
Long Term Analysis of Student Population by Municipality

PROJECTION OF FUTURE HIGH SCHOOL ENROLLMENT BY MUNICIPALITY									
75% Build-Out									
BASED ON CURRENT HIGH SCHOOL ENROLLMENT (GRADES 9-12) AND FUTURE DEVELOPMENT									
	Boro	E. Bradford	E. Goshen	Thorn CC	Thorn DC	W. Goshen	W-Town	W. Whtlnd	Totals
Students currently in Grades 9-12	428	419	558	87	173	806	451	538	3,460
Additional High School Students from New Developments	0	233	151	8	55	303	241	828	1,818
Potential High School Students in 20 years	428	652	708	95	228	1,109	692	1,366	5,278
% of Total	8.1%	12.4%	13.4%	1.8%	4.3%	21.0%	13.1%	25.9%	100%

PROJECTION OF FUTURE MIDDLE SCHOOL ENROLLMENT BY MUNICIPALITY									
75% Build-Out									
BASED ON CURRENT MIDDLE SCHOOL ENROLLMENT (GRADES 6-8) AND FUTURE DEVELOPMENT									
	Boro	E. Bradford	E. Goshen	Thorn CC	Thorn DC	W. Goshen	W-Town	W. Whtlnd	Totals
Students currently in Grades 6-8	297	337	401	66	155	693	342	507	2,798
Additional Middle School Students from New Developments	0	233	151	8	55	303	241	828	1,818
Potential Middle School Students in 20 years	297	570	552	74	210	995	583	1,335	4,616
% of Total	6.4%	12.4%	12.0%	1.6%	4.6%	21.6%	12.6%	28.9%	100%

West Chester Area School District
Long Term Analysis of Student Population by Municipality

PROJECTION OF FUTURE ELEMENTARY SCHOOL ENROLLMENT BY MUNICIPALITY									
75% Build-Out									
BASED ON CURRENT ELEMENTARY ENROLLMENT (GRADES K-5) AND FUTURE DEVELOPMENT									
	Boro	E. Bradford	E. Goshen	Thorn CC	Thorn DC	W. Goshen	W-Town	W. Whtlnd	Totals
Students currently in Grades K-5	537	620	713	157	298	1,257	637	954	5,172
Additional Elementary School Students from New Developments	0	381	247	13	90	495	394	1,354	2,975
Potential Elementary School Students in 20 years	537	1,001	959	170	389	1,753	1,031	2,308	8,147
% of Total	6.6%	12.3%	11.8%	2.1%	4.8%	21.5%	12.7%	28.3%	100%