DEMOGRAPHIC STUDY

for the

UNION TOWNSHIP BOARD OF EDUCATION

Union, Union County, State of New Jersey

Prepared By:

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Whereas, all New Jersey Public School Districts are required by and N.J.A.C. 6A:26-2.1 to prepare a Long Range Facility Plan and,

Whereas, N.J.A.C. 6A:26-2.2 requires the certification of the school district's Long Range Facility Plan demographics by a qualified demographer and,
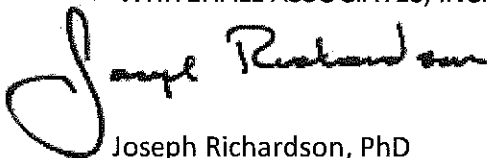
Whereas, Whitehall Associates, Inc. is considered a qualified demographer by the New Jersey Department of Education.

Therefore, Whitehall Associates, Inc. states that the demographic report it prepared for the Union Township Board of Education was prepared in compliance with the appropriate law and administrative code.

IMPORTANT NOTICE: The enrollments for these demographics begin with the 2008-2009 school year and end with the 2013-2014 school year. The enrollment projections are through the 2018-2019 school year. They take into account the dynamics of the district and may or may not agree with the report posted on the web by the New Jersey Department of Education (NJDOE). The NJDOE report does not take into account some of the dynamics such as residential development or changes in programs. Bernard Piaia, at the NJDOE Office of School Facilities, has agreed to accept this report, if it is submitted in its complete final form, with an original signature, along with the NJDOE cohort survival worksheets for the Long Range Facility Plan.

The original of this report is on electronic file at the offices of Whitehall Associates, Inc. and is available for examination by the appropriate authorities.

For:
WHITEHALL ASSOCIATES, INC.

Joseph Richardson, PhD
President

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INTRODUCTION

Whitehall Associates was retained by the Union Township Board of Education to prepare a demographic study for the Union Township Public Schools. The information in this demographic report is suitable for inclusion in any document to be forwarded to the New Jersey Department of Education for matters concerning school facilities.

OVERVIEW OF THE DISTRICT

Union Township covers 9.11 square miles in Union County, New Jersey. The school district is in District Factor Group DE. The Board of Education maintains ten schools in a K-12 district. Board offices are located at 2369 Morris Avenue in Union Township.

SPECIAL NOTE CONCERNING
THE LONG RANGE FACILITY PLAN

If the cohort projections, as developed in the New Jersey Department of Education (NJDOE) Long Range Facility Plan (LRFP) electronic data sheets, do not fit a particular district, the correct information may be entered manually. Even so there are some cells on the worksheets that cannot be modified, such as the birth to kindergarten ratio in districts where the birth figures are inaccurate. If a reason exists not to use the birth to kindergarten ratios and some other method is used, such as a regression analysis of the kindergarten figures, the information may be entered manually. Any modification to the NJDOE worksheets will be fully explained in this report. In some instances there is no way to rectify this report with the NJDOE

worksheets. The Office of the Chief of Staff - School Facilities of the NJDOE will accept this report in its final form if submitted, in its entirety, along with the NJDOE worksheets. This report must be submitted with an original signature on page 2.

SPECIAL NOTE CONCERNING PRE-SCHOOL REPORTING

As of June 13, 2008, The NJDOE promulgated N.J.A.C. 6A-13A which established the ground rules for state funded pre-school programs. One of the factors was determining the "universe". According to the definitions in paragraph 1.2, "Universe of eligible three- and four-year-old children" means all three- and four-year-old general education children eligible for preschool pursuant to the School Funding Reform Act (P.L. 2007, c. 260) in a public school district providing a *universal* or *targeted* pre-school program. This is different than what was previously used by demographers. Previously, the "universe" was considered the maximum number of students that could be expected to be enrolled in pre-school programs. It was generally accepted that this figure would be the live births for that cohort. The NJDOE Data Center now combines the pre-kindergarten figures and list them as **PK**.

Of special concern, at the time this report is being prepared, is the reporting of pre-school students to NJDOE by the district, whose figures are used to prepare this report. Current instructions from NJSMART give an option to the district NOT to report pre-school students under certain circumstances. This can substantially affect the total enrollment figures and provide a false number of students for which the district most provide space. The problem has been pre-

sented to NJDOE by Whitehall and several concerned districts. At this time there is no definitive solution. Whitehall must rely on the district to provide the correct numbers at the time the draft is reviewed or preferably before.

NOTE CONCERNING THE SOURCE OF ENROLLMENT DATA

In 2010 the Fall Survey Report, which was previously used as the basis for demographic projections dealing with facilities, was eliminated by the New Jersey Department of Education (NJDOE). Official student enrollments are now computed from NJSMART using the **Program Type Codes**. This was done to standardize reporting and make it simpler for the NJDOE to prepare reports that are needed by Federal, State, and local entities.

The projections for the pre-school students are calculated by the cohort survival method. We have found this to be the most accurate method.

ENROLLMENT DATA AND PROJECTIONS

In studies for the New Jersey Department of Education, enrollment data, by grade, as of October 15th of each year for the past six years is required. A five year enrollment projection based on these data and computed by the cohort survival method is required. The resulting enrollments are used as a factor in determining the adequacy of the educational facilities. Birth figures are obtained from the Center for Health Statistics of the New Jersey Department of Health and Senior Services. Enrollment figures are as described in the previous section. The only special education students in this report are those in self-contained classrooms. Self-contained students are defined as those with 39 percent or less time in regular classes. Prior to the 2010-11 school year these students were reported by classification as special education students and by grade grouping such as pre-kindergarten, K-5, 6-8, and 9-12. Now they are grouped together as "ungraded" or "UG".

In developing a projection of five year enrollments, the cohort-survival method has been used as a base. This method is the one required by law and expected by the New Jersey Department of Education unless a cogent reason exists for another method to be used. The use of a different method must be explained and justified to the satisfaction of the Commissioner of Education.

The cohort-survival method acquires its name from the use of grade to grade survival figures derived from a recent history of the school district. Grade survival ratios at each level can then be computed on the basis of the recent years' known enrollment with an average survival ratio per grade determined. Ratios less than one usually reflect such factors as out-transfers, ex-migration from the school district and other such losses. A survival ratio of more than one usually reflects such factors as in-transfers and in-migration. Projections of enrollment can then be made by applying the individual grade by grade survival ratio to each grade level for future years with a base of known enrollments for the present year. In reports for districts with self-contained special education students, projections are made by using the percent of population method. That is, the number of special education students is divided by the total school population to

arrive at a percentage for each year. The last year's percentage in Table 2 is used to project the number of special education students reported in Table 3.

With some adaptation to local circumstances, the cohort survival method is the most accurate we have to project enrollments. In rapidly developing districts, the impact of new residential development must be taken into account. This is accomplished by using data derived from the Center for Urban Policy Research at Rutgers University and Whitehall's research. In Union Township's case there is some proposed residential development that will warrant the modification of the cohort survival projections.

MUNICIPAL POPULATION TRENDS

This table lists the population of Union Township since 1930. The greatest population growth occurred in the 1930's and 1940's. It then began to taper off and actually declined in the 1970's and 1980's. In the 1990's the township experienced an 8.758 percent increase and from 2000 to 2010 a 4.11 percent increase.

TABLE 1

The pre-kindergarten data for the district, both the "universe" and the actual is provided. Please refer back to the special comments on page 4 concerning pre-school enrollment projections.

TABLE 2

The district's enrollment history is exhibited wherein the survival

ratios mentioned in the preceding paragraphs are developed. Student enrollments used were those provided by the district administration to the New Jersey Department of Education or to Whitehall Associates directly. These figures are for students housed in the district schools and do not include out of district placements. This method is standard and is fully acceptable by the Department of Education and required by law as the source of enrollments. Birth figures were obtained from the Center for Health Statistics of the New Jersey Department of Health and Senior Services (NJDOH). This also is standard and is required by law.

TABLE 3

This is the main table and is designed to be used in conferences and meetings and conforms to the NJDOE worksheet. It allows the participant to be able to refer to one page rather than searching through a document for more information. The back-up for Table 3 entries will be found in other tables. All calculations are carried to eight or more decimal places. Since there cannot be fractions of a student, the district totals may vary by one or two students if added manually. These projections can and should be updated every year.

The solid boxed area to the lower left of the table is an area of low confidence in that these children have either not been born or reported. Births in the red dashed boxed area may be shown as a regression, an average of the last nine year's births, or the last known birth figure. In this case we used a regression analysis.

Table 3 shows the live births attributed to Union Township for the

five years prior to the kindergarten year shown.

The projection of student enrollment for the next five years has been made. The total school population is expected to decrease by 112 students or 1.50 percent in the next five years.

TABLE 4

This table shows the population impact of planned and approved residential development in the district. The name of the development, type, number of units, number of bedrooms and remarks were supplied by Rich Malanda, the Union Township Construction Official.

We begin with some assumptions. The cohort survival method assumes that the rate of growth during the period the data is collected will remain the same for the period of population projection. Therefore the rate of growth indicated in Table 2 will carry over to Table 3 in all cases. Now if something were to happen that changes the rate of growth, that event must be taken into account. Residential development is one of those factors. There are several options at this point:

a. If the development impact in Table 4 is less than the projected five year increase in student population shown in Table 3, the Table 4 impact is ignored. To do otherwise would be double counting.

b. If the development impact in Table 4 is more than the projected five year increase in student population shown in Table 3, the net impact is shown on the line labeled **Net Develop-**

ment Impact in Table 3.

c. If there is a projected decrease in the student population in Table 3, the entire Table 4 impact is considered and shown on the line labeled **Net Development Impact** in Table 3.

d. If, within the past five years, there has been no development of the magnitude shown in Table 4, the entire Table 4 impact is considered and shown on a line labeled **Net Development Impact** in Table 3.

Since there is a projected decrease in the student population of 112 in the next five years, the entire Table 4 impact is considered and shown on the line labeled **Net Development Impact** in Table 3.

Usually the **Net Development Impact** is added to the last year of enrollment projections. This becomes the planning figure for new facilities. It is understood that the developments could contribute additional students throughout the five year period of projections. However, there is no competent way to determine how many students will be added in any particular year.

TABLE 5

The enrollment projections by school, by grade for the year 2018-19 are shown here. The ratio of students was taken from the October 15, 2013 enrollment data supplied by the district, as mentioned in the section on the source of enrollment data, and applied to the 2018-19 district wide projections. This method is required by the NJDOE in the Long Range Facilities Plan.

UNION TOWNSHIP (Union)
MUNICIPAL POPULATION TRENDS

LAND AREA = 9.11 Sq. Mi.

YEAR	POPULATION	INCREASE	% INCREASE
1930	16,472		
		8,258	50.13%
1940	24,730		
		13,274	53.68%
1950	38,004		
		13,495	35.51%
1960	51,499		
		1,578	3.06%
1970	53,077		
		-2,893	-5.45%
1980	50,184		
		-160	-0.32%
1990	50,024		
		4,381	8.76%
2000	54,405		
		2,237	4.11%
2010	56,642		

SOURCE: U.S. Census Bureau

TABLE 1

TOWNSHIP OF UNION PUBLIC SCHOOLS
PRE-SCHOOL STUDENT ENROLLMENT HISTORY

PRE-SCHOOL UNIVERSE CALCULATIONS

District Factor Group: DE

Universal Districts = 1st Grade X 2 = 1014

Targeted Districts = 1st Grade X 2 X % of free and reduced (K-12) = 314

Number of free and reduced lunches (K-12) = 2317

Percent of free and reduced lunches = 30.98

YEAR	PK
ACTUAL	
07-08	251
08-09	250
09-10	180
10-11	184
11-12	192
12-13	256
PROJECTED	
13-14	221
14-15	214
15-16	220
16-17	220
17-18	221

NOTES:

1. The method for Pre-school universe calculations shown to the left above is that required by the NJDOE Pre-School Education Office.
2. The table to the right is a cohort survival calculation of actual pre-school enrollments as of the 2013-14 school year.
3. Please read the narrative concerning the Pre-school projections.

TABLE 2
TOWNSHIP OF UNION PUBLIC SCHOOLS
STUDENT ENROLLMENT HISTORY

School Year	Births 5 Yrs. Ago	PK	K	1st Gr.	2nd Gr.	3rd Gr.	4th Gr.	5th Gr.	6th Gr.	7th Gr.	8th Gr.	9th Gr.	10th Gr.	11th Gr.	12th Gr.	UNGRADED	DISTRICT TOTAL
HISTORIC DATA																	
2008-09	600	0.40 / 251	0.79 / 473	547	503	538	550	550	597	563	622	544	631	615	626	133	7743
				1.05	1.01	1.02	1.03	1.02	1.03 / 1.00	1.02	0.98	1.04	0.97	0.98			
2009-10	635	0.42 / 250	0.80 / 509	499	550	512	553	561	566	596	577	607	564	613	604	124	7685
				1.04	0.99	1.03	1.01	0.96	1.03 / 1.02	1.01	0.96	1.01	1.01	1.01			
2010-11	595	0.31 / 180	0.82 / 488	528	495	564	515	530	580	578	599	555	613	570	620	125	7540
				1.01	1.03	1.04	0.99	1.02	1.00 / 1.00	1.02	0.95	0.98	1.00	0.98			
2011-12	574	0.30 / 184	0.82 / 468	493	545	513	561	524	528	580	589	567	546	610	561	173	7442
				1.02	1.02	1.00	1.04	0.99	1.00 / 1.04	1.00	0.94	1.06	1.03	1.00			
2012-13	611	0.33 / 192	0.79 / 485	478	504	545	532	557	526	550	579	552	601	565	608	223	7497
				1.05	1.03	1.05	1.01	0.99	1.00 / 1.03	1.02	0.96	1.01	1.02	1.02			
2013-14	588	0.39 / 256	0.84 / 492	507	493	531	548	525	558	540	561	558	557	615	577	162	7480
Average Survival Ratio		0.36	0.81	1.03	1.02	1.03	1.01	1.00 / 1.01	1.02	1.01	0.96	1.02	1.01	1.00			

TABLE 3
TOWNSHIP OF UNION PUBLIC SCHOOLS
STUDENT ENROLLMENT PROJECTIONS

School Year	Births 5 Yrs. Ago	PK	K	1st Gr.	2nd Gr.	3rd Gr.	4th Gr.	5th Gr.	PK-5 Total	6th Gr.	7th Gr.	8th Gr.	6-8 Total	9th Gr.	10th Gr.	11th Gr.	12th Gr.	9-12 Total	UNGRADED	DISTRICT TOTAL
PROJECTIONS																				
2014-15	655	221 0.81 530	509	515	506	539	545	3365	532	568	547	1647	537	569	561	614	2281	161	7455
		0.36		1.03	1.02	1.03	1.01	1.00		1.01	1.02	1.01		0.96	1.02	1.01	1.00			
2015-16	618	214	500	548	517	529	513	536	3358	552	541	575	1669	524	548	573	560	2205	160	7392
2016-17	598	220	484	517	557	531	537	511	3357	543	562	548	1653	551	534	551	573	2209	160	7379
2017-18	614	220	497	500	526	572	538	534	3388	517	552	570	1639	525	562	538	551	2175	159	7362
2018-19	616	221	498	514	509	540	580	536	3397	541	527	560	1627	545	535	566	537	2184	160	7368
NET DEVELOPMENT IMPACT		1	3	4	4	4	4	4	23	4	4	4	11	4	4	4	4	15	1	50
2018-19 TOTAL ENROLLMENT		222	502	517	512	543	584	539	3420	545	530	564	1638	549	539	569	541	2199	161	7418

NOTES:
1. Births in the dashed boxes were calculated by a regression analysis. Students in those year groups have not been born or reported to date.
2. The solid boxed area to the lower left of the table is an area of low confidence in that these children have not been born or reported to date.
3. All calculations are carried to eight or more decimal places. Since there cannot be fractions of a student, the district total may vary by one or two students if added manually.
4. The line **2018-19 TOTAL ENROLLMENT** must be entered manually into the Long Range Facility Plan Worksheet along with the explanation that the normal cohort did not consider residential development impact.

TABLE 4

UNION TOWNSHIP (Union)

RESIDENTIAL DEVELOPMENT IMPACT

DEVELOPMENT	TYPE OF UNIT	NUMBER OF		REMARKS	TOTAL STUDENTS
		UNITS	BEDROOMS		
E & G	Multifamily (5+ units - rent)	75	1		5
E & G	Multifamily (5+ units - rent)	55	2		15
E & G	Multifamily (5+ units - own)	140	2		14
ARC UNION	Multifamily (5+ units - own)	172	2		17
				TOTALS	50

NOTES:

1. The name of the development, type, number of units, number of bedrooms, and remarks were supplied by Rich Malanda, the Union Township Construction Official.

2. All calculations are carried to eight or more decimal places. Since there cannot be fractions of a student, the district total may vary by one or two students if added manually.

3. If there is a projected decrease in student population in Table 3, the entire Table 4 impact is considered and shown on the line labeled **NET DEVELOPMENT IMPACT** in Table 3.

4. Any net development impact must be added to the normal 2017-18 projection and entered manually into the Long Range Facility Plan Worksheet along with an appropriate explanation.

TABLE 5
TOWNSHIP OF UNION PUBLIC SCHOOLS
OCTOBER 15, 2013 ENROLLMENT, BY SCHOOL, BY GRADE

SCHOOL	PK	K	1	2	3	4	5	6	7	8	9	10	11	12	UG	TOTAL
Union Senior H.S. (050)	0	0	0	0	0	0	0	0	0	0	558	557	615	577	50	2357
Burnet M.S. (060)	0	0	0	0	0	0	0	326	353	340	0	0	0	0	28	1047
Kawameeh M.S. (070)	0	0	0	0	0	0	1	232	187	221	0	0	0	0	9	650
Jefferson E.S. (085)	0	0	0	0	0	0	524	0	0	0	0	0	0	0	15	539
Battle Hill E.S. (080)	50	62	56	71	66	77	0	0	0	0	0	0	0	0	39	421
Hannah Caldwell E.S. (083)	99	85	102	90	113	105	0	0	0	0	0	0	0	0	4	598
Connecticut Farms E.S. (090)	0	75	92	76	85	85	0	0	0	0	0	0	0	0	10	423
Franklin E.S. (100)	0	72	88	85	91	105	0	0	0	0	0	0	0	0	4	445
Livingston E.S. (130)	45	71	69	77	78	73	0	0	0	0	0	0	0	0	3	416
Washington E.S. (140)	62	127	100	94	98	103	0	0	0	0	0	0	0	0	0	584
TOTAL	256	492	507	493	531	548	525	558	540	561	558	557	615	577	162	7480

PROJECTED ENROLLMENT BY SCHOOL, BY GRADE - FOR 2018-19

SCHOOL	PK	K	1	2	3	4	5	6	7	8	9	10	11	12	UG	TOTAL
Union Senior H.S. (050)	0	0	0	0	0	0	0	0	0	0	549	539	569	541	50	2248
Burnet M.S. (060)	0	0	0	0	0	0	0	318	347	342	0	0	0	0	28	1034
Kawameeh M.S. (070)	0	0	0	0	0	0	1	226	184	222	0	0	0	0	9	642
Jefferson E.S. (085)	0	0	0	0	0	0	538	0	0	0	0	0	0	0	15	553
Battle Hill E.S. (080)	43	63	57	74	68	82	0	0	0	0	0	0	0	0	39	426
Hannah Caldwell E.S. (083)	86	87	104	94	116	112	0	0	0	0	0	0	0	0	4	602
Connecticut Farms E.S. (090)	0	76	94	79	87	91	0	0	0	0	0	0	0	0	10	437
Franklin E.S. (100)	0	73	90	88	93	112	0	0	0	0	0	0	0	0	4	460
Livingston E.S. (130)	39	72	70	80	80	78	0	0	0	0	0	0	0	0	3	422
Washington E.S. (140)	54	129	102	98	100	110	0	0	0	0	0	0	0	0	0	593
TOTAL	222	502	517	512	543	584	539	545	530	564	549	539	569	541	161	7418

	PK	K	1	2	3	4	5	6	7	8	9	10	11	12	UG	TOTAL
TABLE 3 PROJECTIONS FOR 2018-19	222	502	517	512	543	584	539	545	530	564	549	539	569	541	161	7418