STATISTICAL FORECASTING LLC

Demographic Study

for the

West Orange Public Schools

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Executive Summary

Statistical Forecasting LLC ("Statistical Forecasting") completed a demographic study for the West Orange Public Schools, projecting grade-by-grade enrollments from 2017-18 through 2021-22, a five-year period. In addition, the following tasks were completed:

- Analyzed community population trends and age structure, birth and fertility rates, and new housing starts.
- Computed student yields (number of children per housing unit) for 1- to 4-family homes, townhouses/condos, and apartments.
- Geocoded, or electronically "pin-mapped," student addresses from the 2016-17 school year to show the relative concentrations of where students live.

Community Overview

In the Township of West Orange ("West Orange"), the population steadily grew from 1940-1970, with its greatest gain occurring in the 1950s (+39.5%). After declines in the 1970s and 1980s, the township's population has had small gains in each of the last two decades. In 2010, West Orange had 46,207 residents and forecasts project the population to increase to 51,671 in 2040, which would be a gain of nearly 5,500 persons from the 2010 population.

Regarding race, while Whites are the largest subgroup in West Orange, their population has declined rather significantly from 2000 to 2010. In 2010, West Orange was 57.1% White as compared to 67.6% in 2000, a loss of 10.5 percentage points. Blacks/African Americans were the second-largest race at 26.6% in 2010, followed by Asians at 8.0%. While the Asian percentage has not changed appreciably since 2000, there has been a gain of 9.1 percentage points in the Black/African American population. Regarding Hispanics, the Census Bureau does not consider Hispanic as a separate race; rather it identifies the percent of people having Hispanic origin. Hispanics in the Census population can be part of the White, Black, Asian, or any of the other race categories. It is not a mutually exclusive race category. The concentration of persons having Hispanic origin was 16.2% in 2010, which is a 6.2 percentage point increase from the 2000 percentage (10.0%).

With respect to nativity, 28.1% of West Orange residents are foreign-born, which is greater than that of New Jersey (21.7%). Haiti is the largest source, accounting for 16.1% of the foreign-born population in West Orange.

Historical Enrollment Trends

Historical enrollments were analyzed from 2007-08 through 2016-17, a 10-year period. After a period of increasing enrollment, the district has experienced a decline in enrollment in the last three years, losing 252 students since the peak enrollment of 6,868 students in 2013-14.

Kindergarten replacements were analyzed to determine whether there was any relationship between overall enrollment change and kindergarten replacement, which is the numerical difference between the number of graduating 12th graders and the number of entering

kindergarten students. Prior to 2016-17, the district had experienced positive kindergarten replacement in each of the last eight years. Positive kindergarten replacement occurs when the number of graduating 12th grade students is less than the number of kindergarten students entering the district in the next year. Negative kindergarten replacement occurs when the number of graduating 12th grade students is larger than the number of kindergarten students replacing them in the next year. In 2016-17, there was a loss of 37 students due to kindergarten replacement, as 485 twelfth graders graduated in 2015-16 and were replaced by 448 kindergarten students in 2016-17.

Most of the district's gains due to positive kindergarten replacement have been partially offset (or totally, resulting in a net enrollment loss) by a net outward migration of students in the other grades (K to 1, 1 to 2, 2 to 3, etc.). Nine of the thirteen average survival ratios in the six-year trends were below 1.000, indicating net outward migration.

Enrollments by Subgroup

a) Race

Blacks are the majority race in the district in 2016-17, consisting of 38.9% of the student population. Hispanics are the second-largest race (30.0%) and are making up a larger share of the population as compared to five years prior. Whites make up 21.4% of the student population in 2016-17. At the elementary level, Whites are the largest race in Gregory and St. Cloud while Blacks are the largest race in Redwood and Mt. Pleasant. Hispanics are the largest race in Hazel Avenue, Kelly, and Washington. In the three middle schools, Blacks are the largest racial subgroup in 2016-17, ranging from 38.6% in Edison to 41.0% in Roosevelt. Hispanics are the second largest racial subgroup in each school. At West Orange High School, Blacks are the largest racial subgroup in 2016-17, representing 46.1% of the population, while Hispanics are second-largest (28.0%).

b) Economically Disadvantaged

At the district level, the number and percentage of students that are economically disadvantaged have been generally increasing. Whereas 2,591 students (38.3%) were economically disadvantaged in the district in 2011-12, the number increased to 2,859 (43.2%) in 2016-17, a gain of 268 economically disadvantaged students despite a decline of 148.5 students in the overall student population. At the elementary level, the percentage of students who are economically disadvantaged has been generally increasing in each of the schools. In 2016-17, Washington and Hazel Avenue have the highest percentages of economically disadvantaged students at 83.1% and 61.7% respectively, while St. Cloud has the lowest percentage at 14.2%. While the percentage of economically disadvantaged students at Edison and Roosevelt has been fairly stable in the last six years, the percentage has been increasing at Liberty. In 2016-17, nearly half of the students (48.4%) at Liberty are economically disadvantaged. At West Orange High School, nearly half (47.3%) of the students are economically disadvantaged.

c) Special Education

Regarding special education students, 1,298 students (19.2%) received special education in the school district in 2011-12. In 2016-17, the number has dropped to 1,191 (18.0%), a decline of 107 special education students. In general, each elementary school has a similar number and percentage of special education students in 2016-17 as compared to 2011-12. In 2011-12 and 2016-17, Hazel Avenue had the lowest percentage of special education students while Kelly had the highest. At the middle school level, while the percentage of special education students at Liberty and Roosevelt has been fairly stable from 2011-12 to 2016-17, the percentage has been decreasing at Edison. In 2016-17, 15.4% of students at Edison receive special education, which a decline of 5.9 percentage points from 2011-12, the largest change of any school in the district. From 2011-12 to 2016-17, the number of special education students at West Orange High School declined from 415 to 349. In 2016-17, 17.4% of the students at the school receive special education as compared to 19.7% in 2011-12, a decline of 2.3 percentage points.

d) English Language Learners

Regarding English Language Learners ("ELL"), the number and percentage of ELL students at the district level has declined. In 2011-12, there were 249 ELL students representing 3.7% of the student population as compared to 199 ELL students in 2016-17 representing 3.0% of the district's population. At the elementary school level, Washington had the largest percentage (9.4%) in 2016-17. At the middle school level, the ELL percentage has not changed significantly in any of the schools and was approximately 2% in each school in 2016-17. In West Orange High School, the ELL percentage is 3.3% in 2016-17.

Attrition Rate

With the exception of the 2015-16 school year when the school district completed a re-registration of students resulting in a high number of students leaving the district, the number leaving has been fairly stable, ranging from 194-268 students per year. The district's attrition rate has also been fairly stable, ranging from 2.8-3.9%. At the elementary school level, the number and percentage of students exiting in 2016-17 are very similar to 2011-12. In 2016-17, Kelly has the highest attrition rate (4.8%) while St. Cloud has the lowest (0.8%) attrition rate of the elementary schools. At the middle school level, the number of students exiting and the attrition rate also has not changed significantly. In 2016-17, Edison and Liberty have similar percentages, 3.7% and 3.6% respectively, while Roosevelt was lower at 1.8%. Districtwide, West Orange High School had the greatest number (81) of students leave in 2016-17, representing 4.0% of the school's student population. However, the number of students exiting and the attrition rate in the school are similar to those from 2011-12 (93 and 4.4% respectively).

Birth Counts

The number of births in West Orange was used to project kindergarten enrollments. The number of births in the township has been declining. After peaking at 696 births in 2003, births have declined to 501 in 2014, which is a 28% decline. As a result of the decline in births, the

number of kindergarten students in the last two years (438 and 448) is lower than the average of 513 kindergarten students from 2011-12 to 2014-15.

In comparing both 2004 and 2014, the number of births was greatest in the Redwood attendance area in each instance. Over this timeframe, the northern parts of West Orange, represented by the Redwood and Kelly attendance areas, have had the largest declines in the annual number of births.

Regarding fertility rates, West Orange's rate is slightly below the fertility rate in both Essex County and the State of New Jersey.

The 2000 and 2010 age-sex diagrams for West Orange were created to show the percentage of males and females in each age class. The largest number of individuals in West Orange in 2000 was aged 35-39 for females and 40-44 for males. As these individuals advance in age, the largest cohort in 2010 was aged 45-49 for females and 50-54 for males. From 2000 to 2010, the greatest declines occurred in the 30-34 age group for males and females. There was also a significant decline in the 35-39 age group, and to a lesser extent the 25-29 age group, which correspond to the ages when many females have their children. The greatest gains occurred in the 55-59 age group for males and 60-64 age group for females. The combination of low fertility rates and declining percentages of females in the 25-29, 30-34, and 35-39 age groups have likely led to the declining birth rate in the township.

Potential New Housing

West Orange municipal representatives provided information regarding planned residential development in the community. A total of 756 housing units are planned in West Orange. As part of the Downtown Redevelopment, there are plans to redevelop the former Edison Storage Battery Building. The first phase of the redevelopment, known as Edison Lofts, will include 333 rental apartment units. A second phase is planned on Lakeside Avenue, Babcock Place, and Watchung Avenue and will consist of 296 market-rate and affordable townhouses. This development is expected to begin construction in 2019 and not be completed until 2025. In total, 148 public school children are projected to be generated from the new housing developments during the next five years.

Student Yields

Student yields by length of ownership for 1-4 family homes (excluding townhouses and condominiums, which were analyzed separately) was determined by linking the township's parcel-level property database with the 2016-17 student address data. Student yields in West Orange slowly increase with length of ownership, peaking at 0.77 children per housing unit with 14 years of ownership. Student yields then gradually decline as length of ownership increases. After 24 years of ownership, student yields are typically below 0.20 children per home.

Student yields were also computed for townhouses/condominiums. There are than 2,800 townhouse/condominium units in West Orange with the Redwood attendance area having the greatest number of units, accounting for 35% of the township's townhouses/condominiums. The average student yield for townhouse/condominium units in West Orange is 0.11 children per unit.

Finally, student yields were computed for apartment complexes. The average student yield is 0.21 children per unit in West Orange. The Mt. Pleasant and St. Cloud attendance areas had the lowest student yield (0.15) while the Kelly attendance area had the highest student yield (0.77). The Mt. Pleasant attendance area had the greatest number of apartment units, accounting for nearly 41% of the 1,973 apartment units in West Orange.

Home Sales

After peaking at 1,027 home sales in 2004, the number of sales in West Orange declined to 458 in 2010 due to the housing market crash and banking crisis. After 2010, home sales have increased but are still below the number of sales that occurred in the early and mid-2000s.

Enrollment Projections

Enrollment projections were calculated at the school level and were computed for each grade from the 2017-18 school year through the 2021-22 school year. Enrollments were adjusted for new housing growth in the Havel Avenue, Mt. Pleasant, and Washington elementary attendance areas, as well as for each of the middle schools and high school. Despite the additional housing, total enrollment is projected to be lower at the end of the projection period. In 2021-22, enrollment is projected to be 6,456, which would be a decline of 160 students from the 2016-17 enrollment of 6,616.

At the elementary level containing grades PK-5, enrollment is projected to slowly decline throughout the five-year projection period. In 2021-22, enrollment is projected to be 2,816, which would represent a decline of 219 students from the 2016-17 enrollment of 3,035. Enrollments were also computed for each elementary school. The following table summarizes the projected enrollments by school compared to the actual enrollments in 2016-17. With the exception of Washington, each elementary school is projected to have a decline in enrollment, with the largest occurring at Redwood.

Projected Elementary Enrollment Summary

School	Actual Enrollment 2016-17	Projected Enrollment 2021-22	Difference
Gregory (K-5)	504	433	**-71**
Hazel Avenue (K-5)	337	315	**-22**
Kelly (PK-5)	456	453	**-3**
Mt. Pleasant (K-5)	365	338	**-27**
Redwood (K-5)	573	468	**-105**
St. Cloud (K-5)	367	354	**-13**
Washington (K-5)	433	455	**+22**

For grades 6-8, enrollment is projected to decline for the first two years of the projection period before stabilizing. Enrollment is projected to be 1,537 in 2021-22, which would represent a decline of 41 students from the 2016-17 enrollment of 1,578.

For grades 9-12 at West Orange High School, enrollment is projected to slowly increase for the first four years of the projection period before reversing trend. In 2021-22, enrollment is projected to be 2,103, which would be a gain of 100 students from the 2016-17 enrollment of 2,003.

Building Capacities

The capacities of the school buildings in the district were compared to the current enrollments in 2016-17 and the projected enrollments in the 2021-22 school year. Small shortages of seating currently exist in most elementary schools with the exception of Kelly, which has 29 surplus seats in 2016-17. With the exception of Washington, all of the elementary schools are projected to have surplus seating in 2021-22 due to declining enrollment. At the middle school level, Edison and Liberty are near capacity while Roosevelt has a surplus of 67 seats in 2016-17. By 2021-22, Edison and Roosevelt are projected to have surplus seats while Liberty is projected to be slightly above capacity. In West Orange High School, there are currently 643 surplus seats in 2016-17. By 2021-22, the surplus of seating is projected to decrease to 543 due to increasing enrollment in the school.

Mapping

Student addresses from the school district were geocoded or "pin-mapped" for 2016-17 using mapping software. The greatest number of children per census block is located in the northern section of the township in the Redwood attendance area and the eastern section of the township in the Washington attendance area. In an effort to control for the different census block sizes, the number of students in each census block was divided by the block's geographical area to determine the density of students (students per square mile). The greatest student densities are in the eastern section of the township, in an area that predominantly sends to Washington, Kelly, and Hazel Avenue.

To see which sections of West Orange have the most children per housing unit (student yield), the number of children per census block group was divided by the number of housing units in each block group. Student yields were greatest in the Hazel Avenue attendance area, and to a lesser extent, the Kelly, Washington, and Gregory attendance areas in the eastern section of the township. Student yields were lowest in the northern, central, and western sections of the township, corresponding predominantly to the Redwood, Mt. Pleasant, and Kelly attendance areas.

Final Thoughts

Enrollments are projected to be lower at the end of the five-year projection period in the West Orange Public Schools, with most of the decline occurring at the elementary level. At first glance, one might expect an increase in enrollment as 756 new housing units are projected to come online in the next few years. However, most of these homes are multi-family units with low student yields. While the new developments will generate additional children, it does not appear to be enough to overcome West Orange's declining birth rate resulting in fewer children entering kindergarten. As these smaller grade levels advance through the school district, lower enrollments are inevitable in the elementary grades.

Introduction

Statistical Forecasting LLC ("Statistical Forecasting") completed a demographic study for the West Orange Public Schools, projecting grade-by-grade enrollments from 2017-18 through 2021-22, a five-year period. Information was also collected regarding community population trends and age structure, birth and fertility rates, new housing starts, and student yields by property type**.** Finally, student addresses from 2016-17 were geocoded, or electronically "pin-mapped", into a mapping software program. A series of maps was created to show the relative concentrations of where students live.

Population Trends in West Orange

Located in Essex County, the Township of West Orange ("West Orange") contains a land area of approximately 12.05 square miles, with an additional 0.13 square miles of water area. In the 2010 Census, West Orange had 46,207 residents, which is approximately 3,834.6 persons per square mile. Historical and projected populations for West Orange from 1940-2040 are shown in Table 1 and Figure 1. West Orange's population steadily grew from 1940-1970, with its greatest gain occurring in the 1950s (+39.5%). After declines in the 1970s and 1980s, the township's population has had small gains in each of the last two decades.

Table 1
Historical and Projected Populations for West Orange
1940-2040

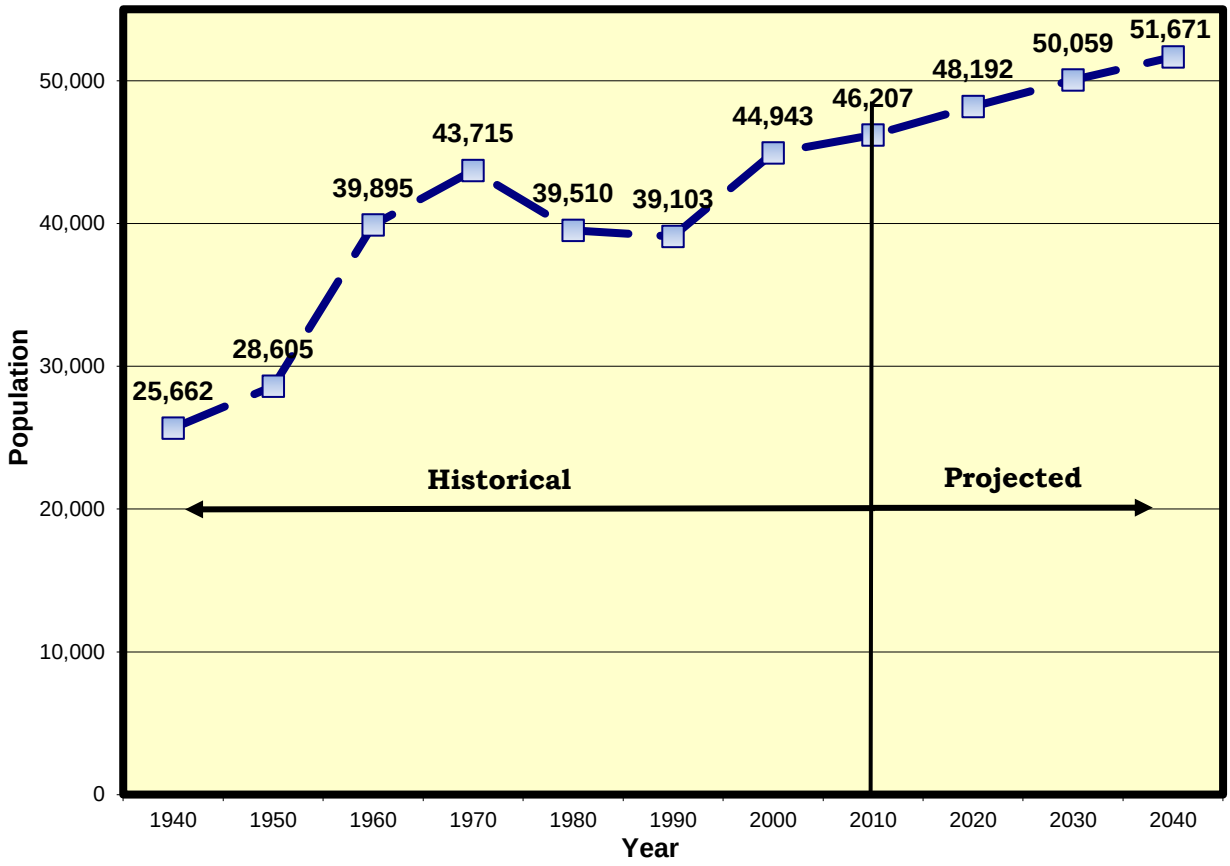
Year	Population	Percent Change
Historical[1]		
1940	25,662	N/A
1950	28,605	+11.5%
1960	39,895	+39.5%
1970	43,715	+9.6%
1980	39,510	-9.6%
1990	39,103	-1.0%
2000	44,943	+14.9%
2010	46,207	+2.8%
2015 (est.)	47,390	+2.6%
Projected[2]		
2020	48,192	+1.7%
2030	50,059	+3.9%
2040	51,671	+3.2%

Notes: [1]Source: United States Census Bureau
[2]Source: North Jersey Transportation Planning Authority, Inc. (2013)

In addition, a population estimate for 2015 is provided in Table 1. The estimated population in 2015 is 47,390 persons, which is a gain of nearly 1,200 persons from 2010. The Census Bureau publishes estimates every July 1st following the last decennial census and are computed using the decennial census base counts, number of births and deaths in a community, and migration data (both domestic and international).

Population projections from 2020-2040, which were prepared by the North Jersey Transportation Planning Authority ("NJTPA"), indicate that the population in West Orange will continue to increase. In 2040, West Orange's population is projected to be 51,671, which would be an 11.8% increase from the 2010 population and a gain of 5,464 persons.

Figure 1
Historical and Projected Populations for West Orange
1940-2040



West Orange Demographic Profile

In Table 2 following, selected demographic characteristics of West Orange are compared from the 2000 and 2010 Censuses and the 2011-2015 American Community Survey ("ACS"). While some Census variables account for everyone in the population (e.g., age and race), other variables are collected from a sample (e.g., median family income, educational attainment, poverty status, etc.). The ACS replaced the long form of the Census, last administered in 2000 to approximately 16% of the population in the United States. For small municipalities such as West Orange, ACS data represent a sample collected over a five-year time period, where the estimates represent the average characteristics between January 2011 and December 2015. This information does not represent a single point in time like the long form of earlier Censuses. The five-year ACS contains 1% annual samples from all households and persons from 2011 to 2015, resulting in a 5% sample of the population. Due to the small sample size, the sampling error is quite large, which increases the degree of uncertainty of the estimated values. Therefore, the forthcoming ACS data should be interpreted with caution.

While Whites are the largest race in West Orange, their population has declined rather significantly from 2000 to 2010. In 2010, West Orange was 57.1% White as compared to 67.6% in 2000, a loss of 10.5 percentage points. Blacks/African Americans were the second-largest race at 26.6% in 2010, followed by Asians at 8.0%. While the Asian percentage has not changed appreciably since 2000, there has been a gain of 9.1 percentage points in the Black/African American population. Regarding Hispanics, the Census Bureau does not consider Hispanic as a separate race; rather it identifies the percent of people having Hispanic origin. Hispanics in the Census population can be part of the White, Black, Asian, or any of the other race categories. It is not a mutually exclusive race category. The concentration of persons having Hispanic origin was 16.2% in 2010, which is a 6.2 percentage point increase from the 2000 percentage (10.0%).

Regarding nativity, 28.1% of West Orange residents were foreign-born in the 2011-2015 ACS, which is greater than the 2000 percentage of 25.6%. As a point of comparison, New Jersey's foreign-born resident percentage was 21.7% in the 2011-2015 ACS. While not shown in the table, place of birth, which serves as a proxy for country of origin, indicates that Haiti and the Philippines were the largest sources of immigrants in 2000, accounting for 10.2% and 6.6% respectively of the foreign-born population. In the 2011-2015 ACS, Haiti continues to be the largest source, but accounts for a larger share (16.1%) of the foreign-born population. India was the second-largest source (8.1%) in the 2011-2015 ACS.

The median age in West Orange has increased from 39.4 years in 2000 to 40.6 years in 2010, which is slightly higher than the median age in New Jersey (39.4 years). During the same time period, the percentage of people under the age of 18 years increased slightly from 23.3% to 23.7%.

Regarding educational attainment for adults aged 25 and over, 48.4% of the population had a bachelor's degree or higher in the 2011-2015 ACS as compared to 43.1% in 2000, which is a gain of 5.3 percentage points. Persons with graduate or professional degrees increased from 19.0% to 20.5% during this time period.

Table 2
Selected Demographic Characteristics in West Orange

Race Origin	2000 Census	2010 Census 2011-2015 ACS
White	67.6%	57.1%
Black or African American	17.5%	26.6%
American Indian and Alaska Native	0.1%	0.4%
Asian	8.1%	8.0%
Native Hawaiian and Other Pacific Islander	0.0%	0.0%
Other Race	3.5%	4.8%
Two or more Races	3.2%	3.1%
Total	**100.0%**[1]	**100.0%**[1]
Hispanic Origin	10.0%	16.2%
Place of Birth		
Foreign-Born	25.6%	28.1%
Age		
Under 18	23.3%	23.7%
18-64	59.3%	60.4%
65 and over	17.4%	15.9%
Median age	39.4 years	40.6 years
Educational Attainment		
Bachelor's degree or higher	43.1%	48.4%
Graduate or professional degree	19.0%	20.5%
Income		
Median family income	$83,375	$110,919
% of Persons in Poverty aged 5-17	6.4%	6.7%
Housing Units		
Total number	16,901[2]	17,612[3]
Occupied units	16,480 (97.5%)	16,790 (95.3%)
Owner-occupied units	11,601 (70.4%)	11,698 (69.7%)
Renter-occupied units	4,879 (29.6%)	5,092 (30.3%)
Median value of an owner-occupied unit	$209,200	$353,500
Average household size	2.66	2.70
Housing Type		
Total number	16,825[2]	17,217[3]
1-unit, attached or detached	11,223 (66.7%)	11,235 (65.3%)
Two units	1,794 (10.7%)	2,309 (13.4%)
Three or four units	1,243 (7.4%)	1,257 (7.3%)
Five to nine units	719 (4.3%)	434 (2.5%)
10 to 19 units	400 (2.4%)	364 (2.1%)
20 or more units	1,440 (8.6%)	1,591 (9.2%)
Mobile home, Boat, Van, RV, etc.	6 (0.0%)	27 (0.2%)

Sources: American Community Survey (2011-2015), United States Census (2000 and 2010)
Notes: [1]Data may not sum to 100.0% due to rounding.
[2]Total number of housing units differs but is within a reasonable tolerance.
[3]Total number differs as Housing Units are from the 2010 Census while Housing Type data are from the 2011-15 ACS.

Median family income increased from $83,375 in 2000 to $110,919 in the 2011-2015 ACS, a gain of 33.0%. By comparison, median family income in New Jersey is $88,335, which is lower than West Orange's. During this time period, the percentage of school-age children (5-17) that are in poverty increased slightly from 6.4% to 6.7%.

Regarding housing, there were 17,612 housing units in West Orange in 2010, which is a gain of 711 housing units (+4.2%) from 2000. From 2000 to 2010, the overall occupancy rate declined from 97.5% to 95.3%. Renter-occupied units accounted for 30.3% of the occupied units in 2010, which is a small increase from the 2000 percentage (29.6%). In the last decade, the average household size increased from 2.66 to 2.70 persons. Finally, the median home price of an owner-occupied unit in the 2011-2015 ACS was $353,500, which is a 69.0% gain from the value reported in 2000 ($209,200).

With respect to housing type, 65.3% of the homes in the township are one-unit, either attached or detached, which is a 1.4 percentage point decline from 2000. Homes with two units were the second-largest type of housing in the 2011-2015 ACS and consisted of 13.4% of the housing stock, a 2.7 percentage-point gain from 2000. This was the largest gain of the different home types.

If the renter population in West Orange contains school-age children, a more mobile student population within the West Orange Public Schools may result. Since the Cohort-Survival Ratio method, which is used to project enrollments, depends upon stability within the student population, the forthcoming enrollment projections may be more susceptible to inaccuracies if the district has high mobility rates.

District Overview

The West Orange Public Schools has eleven (11) schools that serve grades pre-kindergarten through twelfth. Children attend one of seven (7) elementary schools for grades PK-5 before attending Edison Middle School for grade 6. Liberty and Roosevelt Middle Schools educate children in grades 7-8, while West Orange High School educates children in grades 9-12. In Figure 2, the location of each of the district's schools is shown with respect to the municipal boundaries. Figure 3 shows only the elementary schools (PK-5) and their respective attendance areas while Figure 4 shows only the Liberty and Roosevelt Middle Schools (7-8) and their respective attendance areas. It should be noted that that the center of the township is not affiliated with any attendance area as it contains the Essex County Country Club. In addition, there is a small pocket within the Liberty attendance area that attends Roosevelt Middle School. According to the district's Long Range Facility Plan ("LRFP"), total educational capacity in the district is 7,218 using District Practices methodology and 5,080 using Facilities Efficiency Standards ("FES") methodology. The District Practices methodology considers how the building is utilized by the school district and its targeted student-teacher ratios. This method does not take into account square footage allowances per student, which is the FES methodology. Capacity using FES methodology is often lower than when using District Practices methodology, but is used by the State for funding purposes.

In this study, historical enrollments from the October 15th Fall Reports and the NJ SMART database were used to project enrollments for five years into the future. With the advent of NJ SMART, the Fall Report was eliminated by the New Jersey Department of Education ("NJDOE") in the 2010-11 school year. In the past, the Fall Report was used by the NJDOE as a tool to uniformly compare school district enrollment data across the state. Unfortunately, the method of reporting special education students for NJ SMART is different, as these students are now referred to as "ungraded." To maintain a level of consistency, "ungraded" student counts in the forthcoming tables were listed under the self-contained special education heading. Future enrollments were then projected using the Cohort-Survival Ratio method.

Figure 2
School Locations – West Orange Public Schools

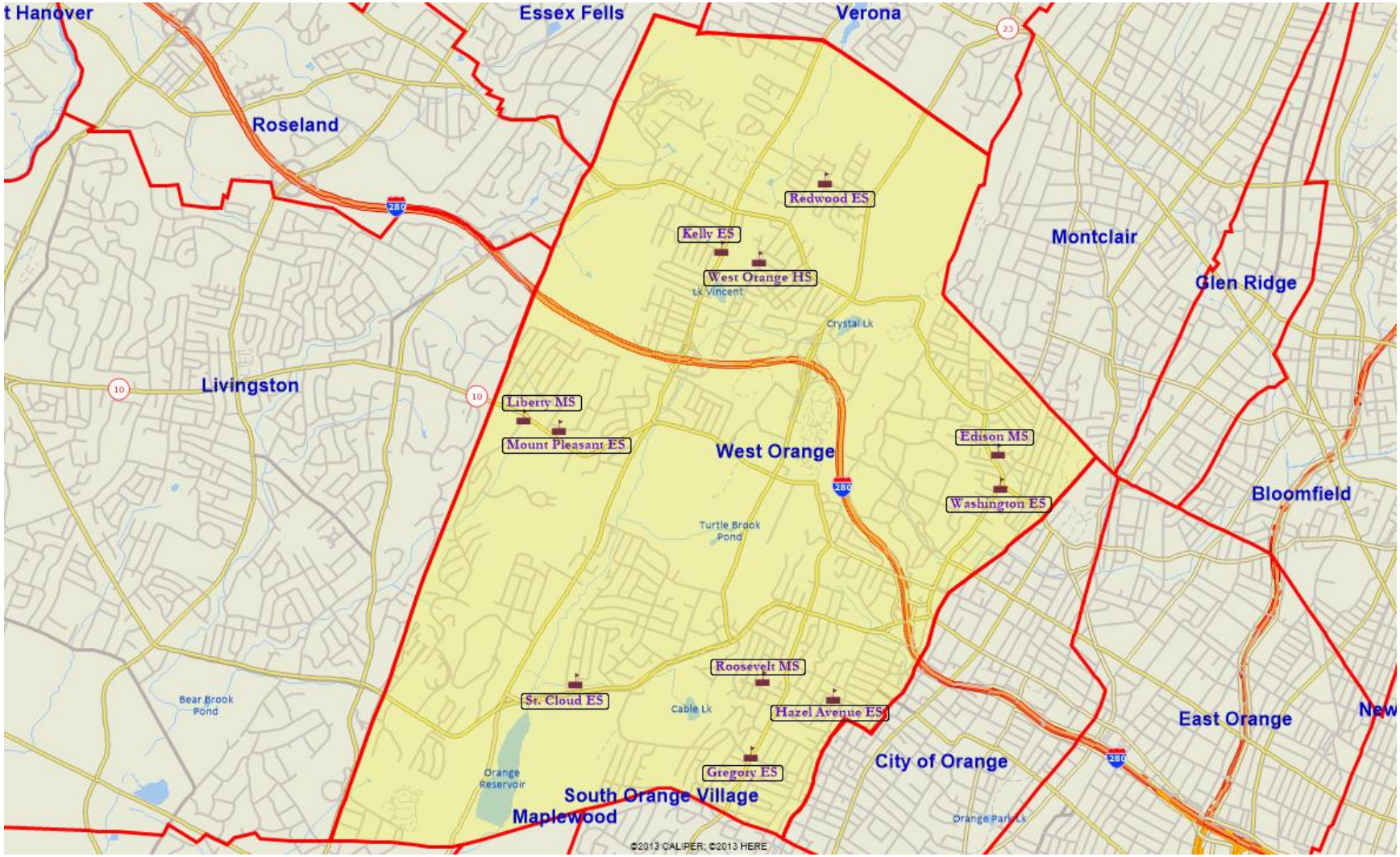


Figure 3
Elementary School Locations and Attendance Boundaries

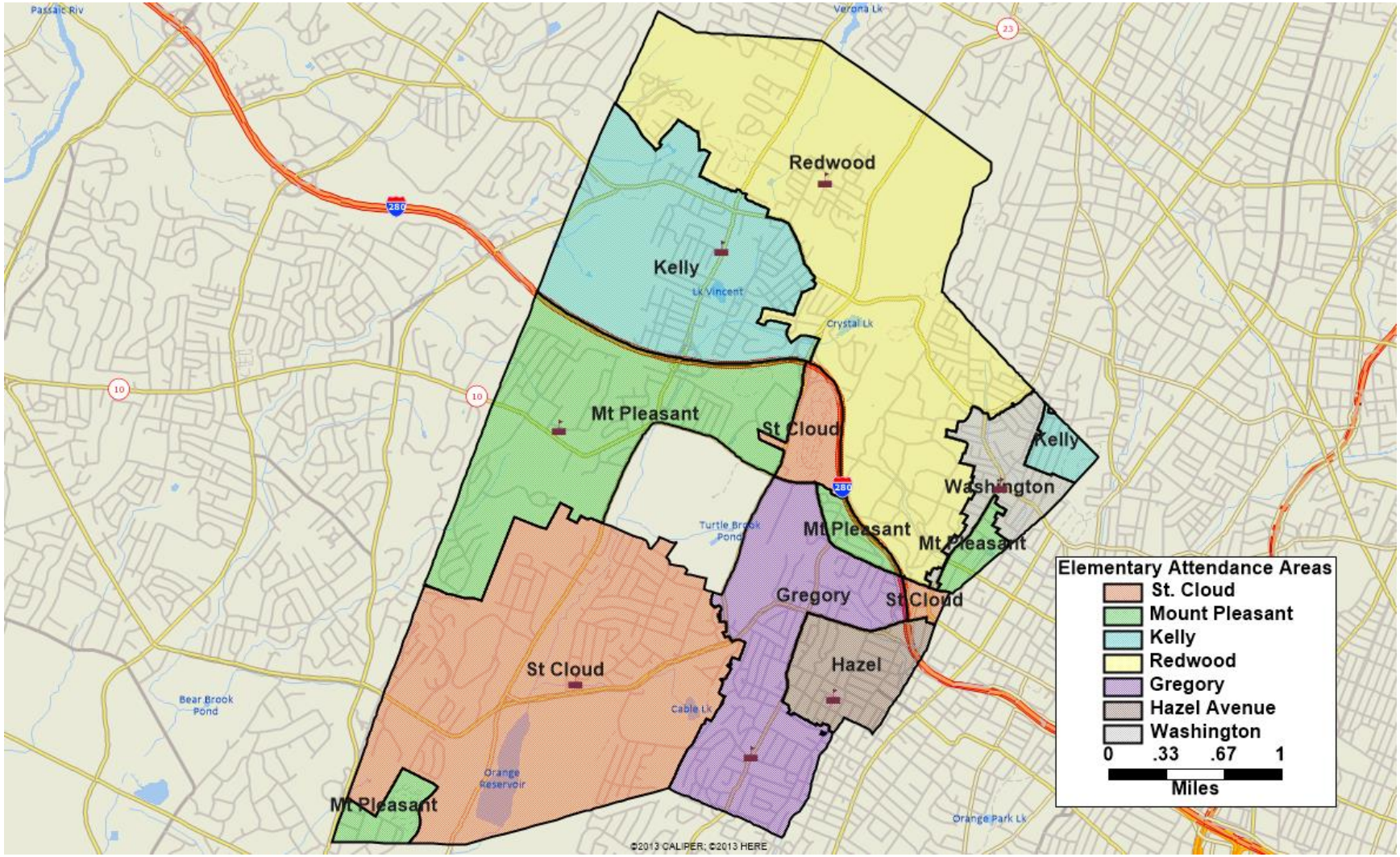
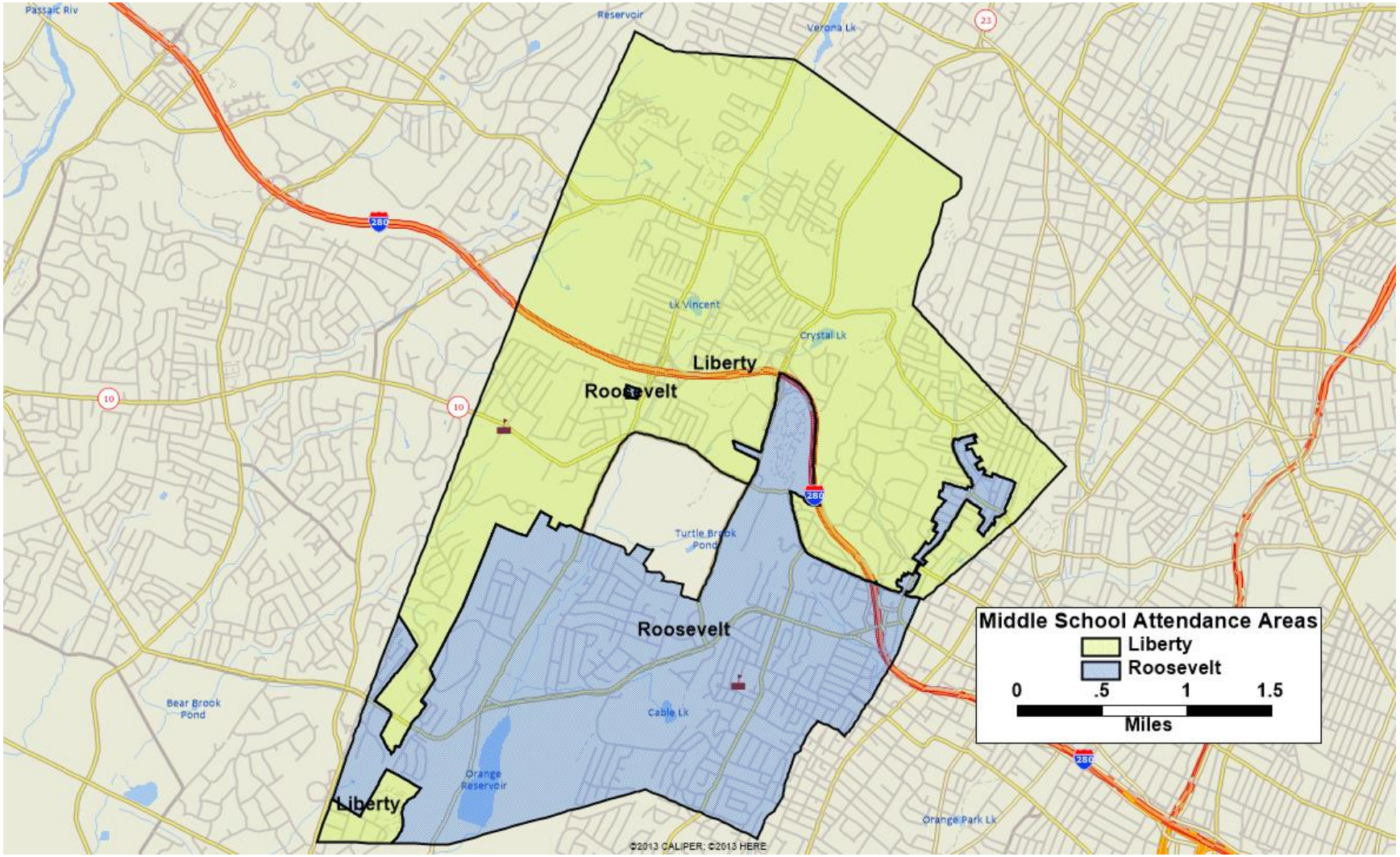


Figure 4
Middle School Locations and Attendance Boundaries



Explanation of the Cohort-Survival Ratio Method

In 1930, Dublin and Lodka provided an explicit age breakdown, which enabled analysts to follow each cohort through its life stages and apply appropriate birth and death rates for each generation. A descendant of this process is the Cohort-Survival Ratio ("CSR") method, which is the NJDOE-approved methodology to project public school enrollments. In this method, a survival ratio is computed for each grade progression, which essentially compares the number of students in a particular grade to the number of students in the previous grade during the previous year. The survival ratio indicates whether the enrollment is stable, increasing, or decreasing. A survival ratio of one indicates stable enrollment, less than one indicates declining enrollment, while greater than one indicates increasing enrollment. If, for example, a school district had 100 fourth graders and the next year only had 95 fifth graders, the survival ratio would be 0.95.

The CSR method assumes that what happened in the past will also happen in the future. In essence, this method provides a linear projection of the population. The CSR method is most applicable for districts that have relatively stable increasing or decreasing trends without any major unpredictable fluctuations from year to year. In school districts encountering rapid growth not experienced historically (a change in the historical trend), the CSR method must be modified and supplemented with additional information. In this study, survival ratios were calculated using historical data for birth to kindergarten, kindergarten to first grade, first grade to second grade, etc. Due to the fluctuation in survival ratios from year to year, it is appropriate to calculate an average survival ratio, which is then used to calculate grade enrollments five years into the future.

Historical Enrollment Trends

Historical enrollments for the West Orange Public Schools from 2007-08 through 2016-17, a ten-year period, are shown in Figure 5 and Table 3. After a period of increasing enrollment, the district has experienced a decline in enrollment in the last three years, losing 252 students since the peak enrollment of 6,868 students in 2013-14.

Table 3 following shows computed grade-by-grade survival ratios from 2007-08 to 2016-17. In addition, the average, minimum, and maximum survival ratios are shown for the past ten years along with the six-year averages, which were used to project enrollments. The average survival ratios also indicate the net migration by grade, where values over 1.000 reflect net inward migration and values below 1.000 reflect net outward migration. Nine of the thirteen average survival ratios (six-year average) were below 1.000, indicating a general net outward migration of students. Factors related to inward migration include families with school-age children purchasing an existing home or new housing unit. The reasons for families moving into a community vary. For instance, a family could move into West Orange for economic reasons and proximity to employment. Another plausible reason for inward migration is the reputation of the school district, as the appeal of a school district draws families into a community, resulting in the transfer of students into the district. On the flip side, outward migration is caused by families with children moving out of the community, perhaps due to difficulty in finding employment. Outward migration in the school district can also be caused by parents choosing to withdraw their children from public school to attend private or parochial schools. In the case of the West Orange Public Schools, the reasons for migration are not explicitly known (such as for economic reasons or the appeal of the school district), as exit and entrance interviews would need to be conducted for all children leaving or entering the district.

Figure 5
West Orange Public Schools Historical Enrollments
2007-08 to 2016-17

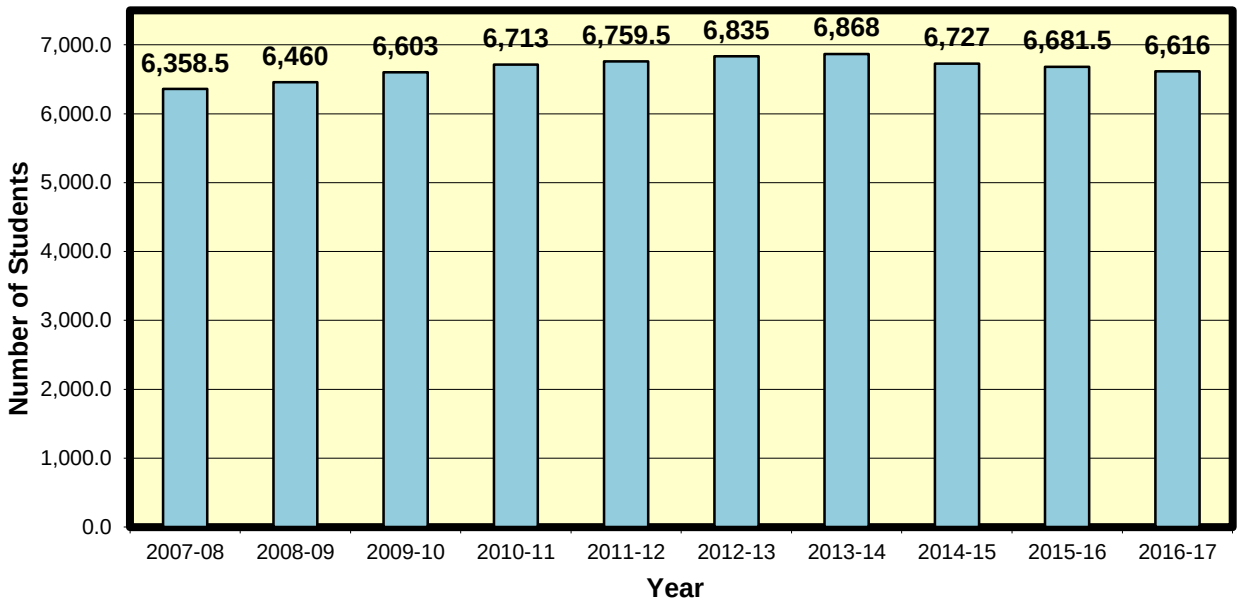


Table 3
West Orange Public Schools Historical Enrollments
2007-08 to 2016-17

Year[1]	PK RE[2]	K	1	2	3	4	5	6	7	8	9	10	11	12	SE[3]	PK-5 Total	6-8 Total	9-12 Total	PK-12 Total
2007-08	35	422	441	434	421	471	442	482	458	455	481	503	494	407.5	412	**2,929**	**1,459**	**1,970.5**	**6,358.5**
2008-09	15	533	422	437	423	428	473	440	507	454	526	481.5	479	441	400.5	**2,989**	**1,471**	**2,000**	**6,460**
2009-10	18	482	547	408	445	436	444	480	449	523	498.5	557	462.5	442	411	**3,029**	**1,533**	**2,041**	**6,603**
2010-11	25	479	499	550	422	445	445	448	496	451	592	525	505	427	404	**3,097**	**1,473**	**2,143**	**6,713**
2011-12	26	517	491	494	541	433	449	458	458	503	501	569	483	471	365.5	**3,161**	**1,490**	**2,108.5**	**6,759.5**
2012-13	26	492	498	493	507	538	438	472	472	468	551	506	520	466.5	387.5	**3,208**	**1,489**	**2,138**	**6,835**
2013-14	28	541	489	485	480	497	546	432	470	483	515	542.5	475.5	489	395	**3,283**	**1,467**	**2,118**	**6,868**
2014-15	28	501	502	488	479	476	511	525	439	462	507	499.5	497.5	436	376	**3,171**	**1,515**	**2,041**	**6,727**
2015-16	19	438	506	486	466	487	474	491	534	439	495	503.5	488.5	485	369.5	**3,055**	**1,549**	**2,077.5**	**6,681.5**
2016-17	21	448	426	522	479	470	480	464	493	533	439.5	508.5	494.5	462	375.5	**3,035**	**1,578**	**2,003**	**6,616**

Notes: [1]Data were provided by the New Jersey Department of Education (http://www.nj.gov/education/data/enr/).
[2]Pre-kindergarten regular education enrollment
[3]Self-contained special education enrollment/Ungraded Students

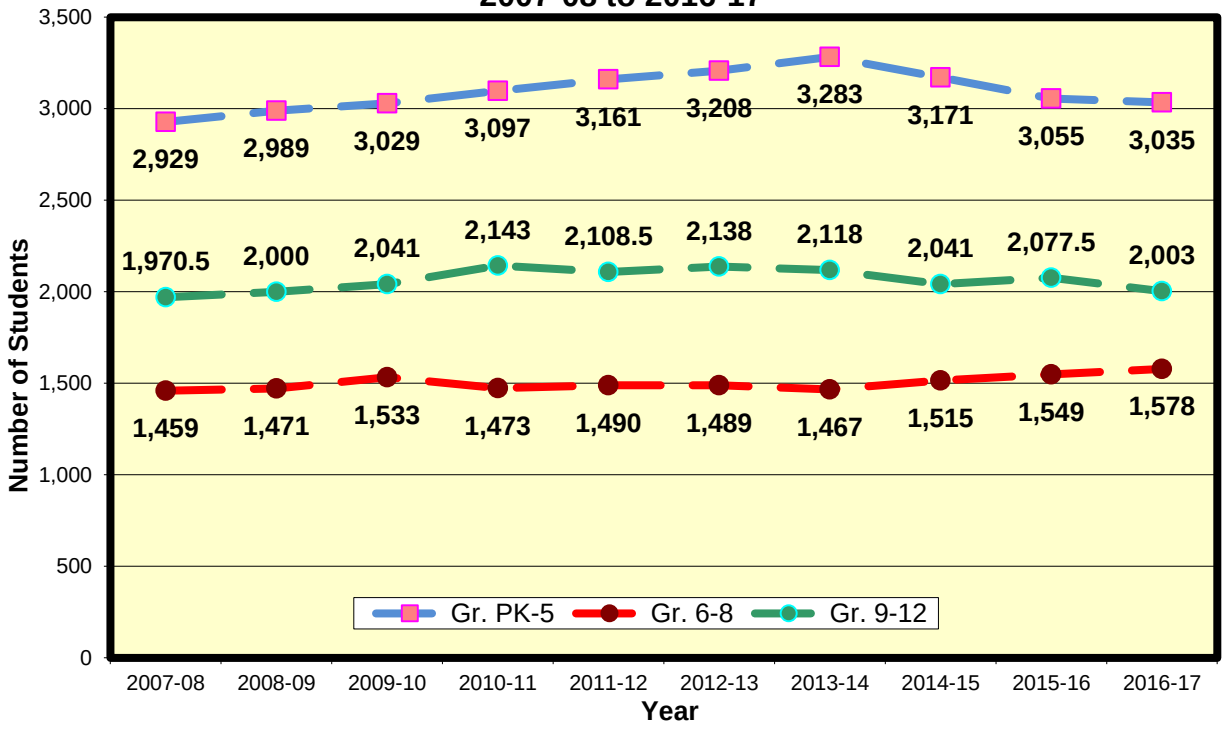
Table 4
West Orange Public Schools Historical Survival Ratios
2007-08 to 2016-17

Progression Years	B-K	K-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12
2007-08 to 2008-09	0.7658	1.0000	0.9909	0.9747	1.0166	1.0042	0.9955	1.0519	0.9913	1.1560	1.0010	0.9523	0.8927
2008-09 to 2009-10	0.7531	1.0263	0.9668	1.0183	1.0307	1.0374	1.0148	1.0205	1.0316	1.0980	1.0589	0.9605	0.9228
2009-10 to 2010-11	0.7543	1.0353	1.0055	1.0343	1.0000	1.0206	1.0090	1.0333	1.0045	1.1319	1.0532	0.9066	0.9232
2010-11 to 2011-12	0.7671	1.0251	0.9900	0.9836	1.0261	1.0090	1.0292	1.0223	1.0141	1.1109	0.9611	0.9200	0.9327
2011-12 to 2012-13	0.7664	0.9632	1.0041	1.0263	0.9945	1.0115	1.0512	1.0306	1.0218	1.0954	1.0100	0.9139	0.9658
2012-13 to 2013-14	0.8285	0.9939	0.9739	0.9736	0.9803	1.0149	0.9863	0.9958	1.0233	1.1004	0.9846	0.9397	0.9404
2013-14 to 2014-15	0.8094	0.9279	0.9980	0.9876	0.9917	1.0282	0.9615	1.0162	0.9830	1.0497	0.9699	0.9171	0.9169
2014-15 to 2015-16	0.8760	1.0100	0.9681	0.9549	1.0167	0.9958	0.9609	1.0171	1.0000	1.0714	0.9931	0.9780	0.9749
2015-16 to 2016-17	0.8220	0.9726	1.0316	0.9856	1.0086	0.9856	0.9789	1.0041	0.9981	1.0011	1.0273	0.9821	0.9458
Maximum Ratio	0.8760	1.0353	1.0316	1.0343	1.0307	1.0374	1.0512	1.0519	1.0316	1.1560	1.0589	0.9821	0.9749
Minimum Ratio	0.7531	0.9279	0.9668	0.9549	0.9803	0.9856	0.9609	0.9958	0.9830	1.0011	0.9611	0.9066	0.8927
Avg. 6-Year Ratios	0.8115	0.9735	0.9951	0.9856	0.9983	1.0072	0.9878	1.0128	1.0052	1.0636	0.9970	0.9462	0.9488
Avg. 10-Year Ratios	0.7936	0.9949	0.9921	0.9932	1.0072	1.0119	0.9986	1.0213	1.0075	1.0906	1.0066	0.9411	0.9350

Historical enrollments are also shown in Table 3 and Figure 6 by grade configuration (PK-5, 6-8, and 9-12). It should be noted that the students from the three middle schools were grouped together for reporting purposes. Self-contained special education/ungraded students were incorporated into the totals by level, as well as for the district-wide total.

For grades PK-5, enrollment increased steadily through 2013-14, peaking at 3,283, before declining to 3,035 in 2016-17. In the last three years, enrollment has declined by 248 students.

Figure 6
West Orange Public Schools Historical Enrollments by Level
2007-08 to 2016-17



For grades 6-8, enrollment was fairly stable from 2007-08 to 2014-15, varying from 1,459-1,533, a range of 74 students. However, in the last two years, enrollment has increased outside of the historical range to 1,578 in 2016-17.

At West Orange High School, which contains grades 9-12, enrollment has been generally declining since peaking at 2,143 students in 2010-11. In 2016-17, enrollment is 2,003 students, which is a decline of 140 students from 2010-11.

Kindergarten Replacement

Kindergarten replacements were analyzed to determine whether there was any relationship between overall enrollment change and kindergarten replacement, which is the numerical difference between the number of graduating 12th graders and the number of entering kindergarten students. Prior to 2016-17, the district had experienced positive kindergarten replacement in each of the last eight years. Positive kindergarten replacement occurs when the number of graduating 12th grade students is less than the number of kindergarten students entering the district in the next year. Negative kindergarten replacement occurs when the number of graduating 12th grade students is larger than the number of kindergarten students replacing them in the next year. As shown in Figure 7, positive kindergarten replacement has ranged from 2 to 125.5 students per year. However, in 2016-17, there was a loss of 37 students due to kindergarten replacement, as 485 twelfth graders graduated in 2015-16 and were replaced by 448 kindergarten students in 2016-17. As the figure shows, the magnitude of the positive kindergarten replacement has been declining over time, before becoming negative in 2016-17.

Figure 7
West Orange Public Schools
Historical Kindergarten Replacement

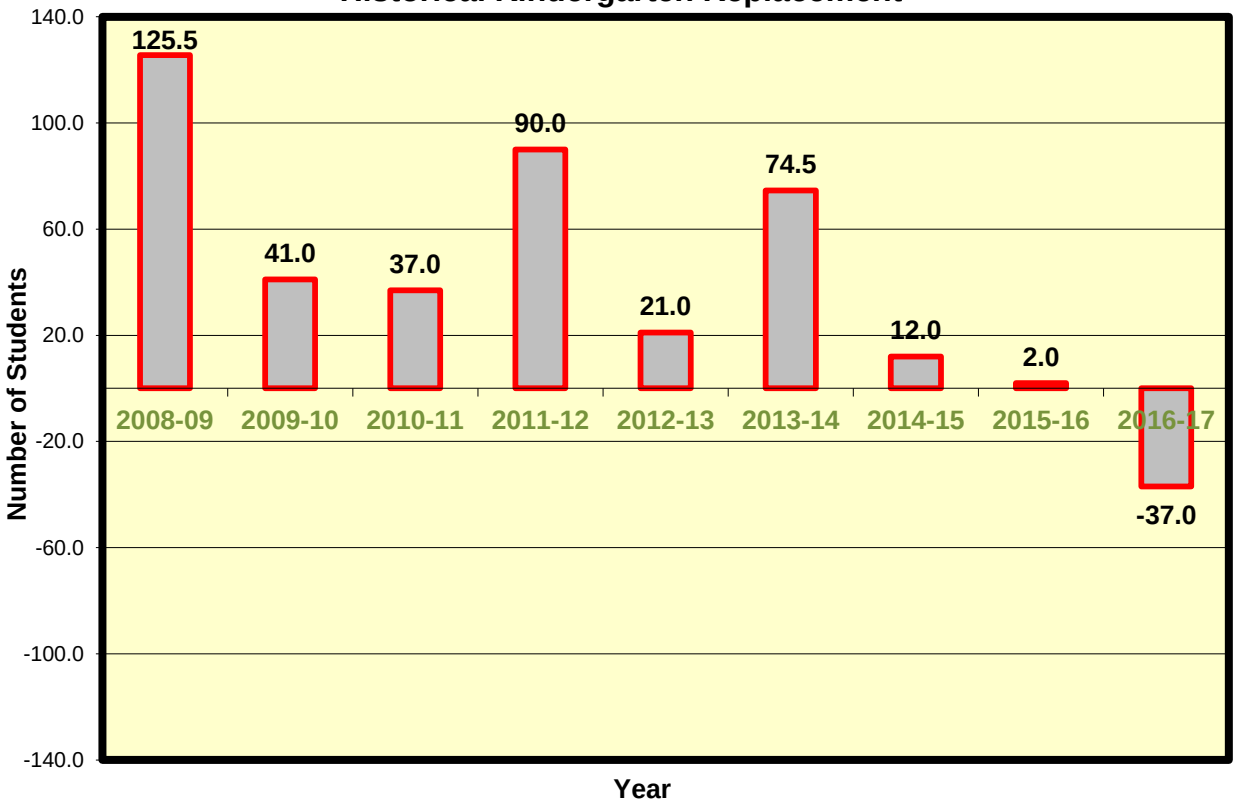
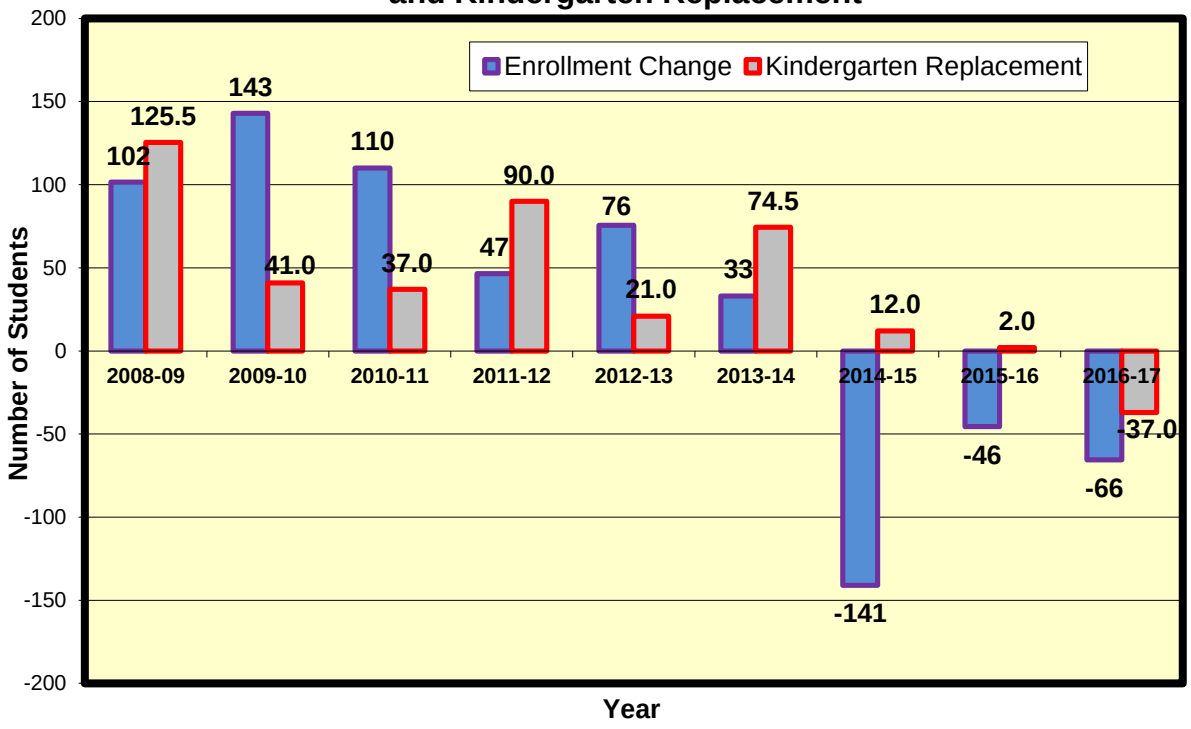


Figure 8 shows the annual change in total enrollment compared to kindergarten replacement. As the figure demonstrates, there appears to be a strong relationship, statistically speaking, between the overall change in enrollment and kindergarten replacement. Although this data represents a small sample, the correlation coefficient between the two variables was 0.57. Correlation coefficients measure the relationship or association between two variables; this does not imply that there is cause and effect between the two variables. Other variables, known as lurking variables, may have an effect on the true relationship between kindergarten replacement and total enrollment change. Negative correlation coefficients indicate that as one variable is increasing (decreasing), the other variable is decreasing (increasing). Positive correlation coefficients indicate that as one of the variables increases (decreases), the other variable increases (decreases) as well. The computed linear correlation coefficient is always between –1 and +1. Values near -1 or +1 indicate a strong linear relationship between the variables while values near zero indicate a weak linear relationship. Based on the correlation of 0.57, there appears to be a strong relationship between kindergarten replacement and enrollment change in the school district in the last nine years.

From 2011-12 to 2015-16 (with the exception of 2012-13), the district's gains due to positive kindergarten replacement were partially offset (or totally, resulting in a net enrollment loss) by a net outward migration of students in the other grades (K to 1, 1 to 2, 2 to 3, etc.). This was confirmed previously as nine of the thirteen average survival ratios in the six-year trend were below 1.000. Most recently, the negative kindergarten replacement in 2016-17 is less than the overall decline in enrollment, indicating outward migration in the other grades as well.

Figure 8
Comparison of PK-12 Enrollment Change and Kindergarten Replacement



Birth Data

Birth data were needed to compute kindergarten enrollments, which were calculated as follows. Birth data, which are lagged five years behind their respective kindergarten classes, were used to calculate the survival ratio for each birth-to-kindergarten cohort. For instance, in 2011, there were a total of 545 births in West Orange. Five years later (the 2016-17 school year), 448 children enrolled in kindergarten, which is equal to a survival ratio of 0.822 from birth to kindergarten. Birth counts and birth-to-kindergarten survival ratios are displayed in Table 5. Values greater than 1.000 indicate that some children are born outside of a community's boundaries and are attending kindergarten in the school district five years later, i.e. an inward migration of children. This type of inward migration is typical in school districts with excellent reputations, because the appeal of a good school district draws families into the community. Inward migration is also seen in communities where there are a large number of new housing starts (or home resales), with families moving into the community having children of age to attend kindergarten. Birth-to-kindergarten survival ratios that are below 1.000 indicate that a number of children born within a community are not attending kindergarten in the school district five years later. This is common in communities where a high proportion of children attend private, parochial, or out-of-district special education facilities, or where there is a net migration of families moving out of the community. It is also common in school districts that have a half-day kindergarten program where parents choose to send their children to a private full-day kindergarten for the first year.

Table 5
Birth Counts and Historical Birth-to-Kindergarten Survival Ratios in the West Orange Public Schools

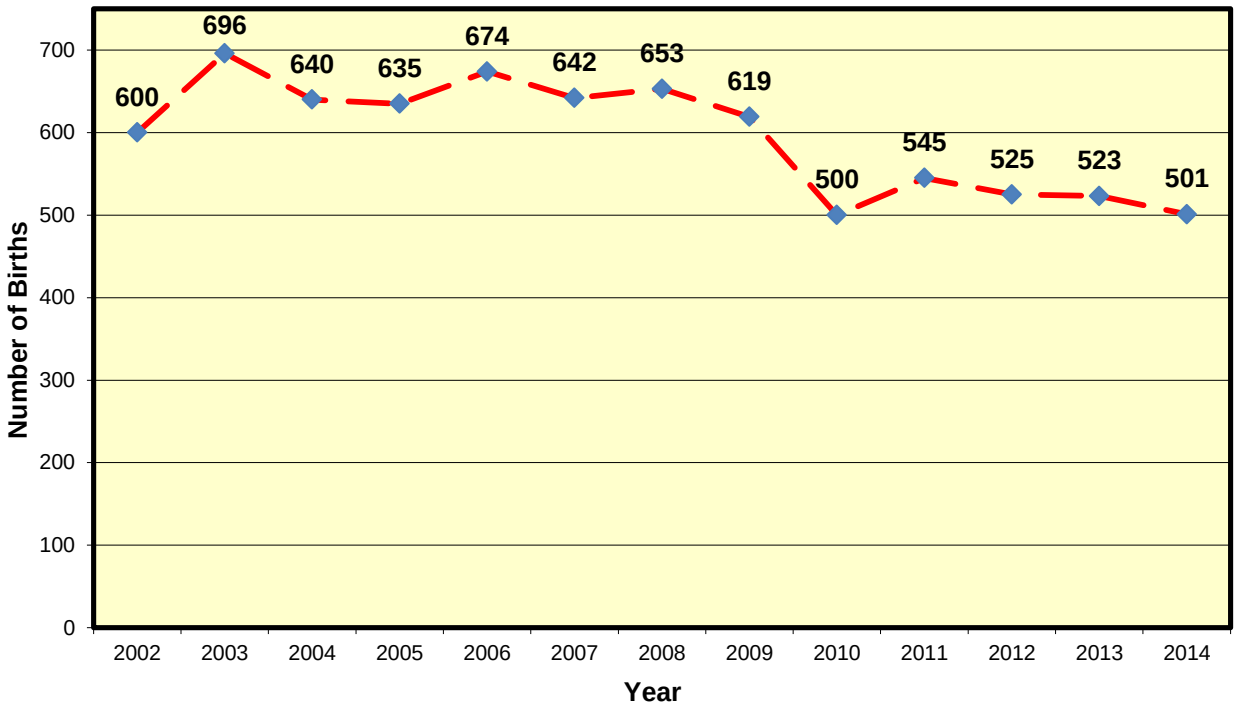
Birth Year[1]	Number of Births West Orange	Kindergarten Students Five Years Later	Birth-to-Kindergarten Survival Ratio
2002	600	422	0.703
2003	696	533	0.766
2004	640	482	0.753
2005	635	479	0.754
2006	674	517	0.767
2007	642	492	0.766
2008	653	541	0.828
2009	619	501	0.809
2010	500	438	0.876
2011	545	448	0.822
2012	525	N/A	N/A
2013	523	N/A	N/A
2014	501	N/A	N/A

Note: [1]Birth data were provided by the New Jersey Center for Health Statistics from 2002-2014.

Birth-to-kindergarten survival ratios have been below 1.000 in each of the last ten years. Birth-to-kindergarten survival ratios have been fairly consistent in the district, ranging from 0.703 to 0.876. However, in the last four years, birth-to-kindergarten survival ratios have increased, ranging from 0.809 to 0.876. This may reflect that a greater number of families with children under the age of 5 are moving into the community to enroll their children in kindergarten, or that fewer families are moving out of West Orange, or that more parents are choosing to enroll their child in public school rather than private or parochial school.

Geocoded birth data were provided by the New Jersey Center for Health Statistics ("NJCHS") from 2002-2014 by assigning geographic coordinates to a birth mother based on her street address. Births for 2015 and 2016 were not yet available. As shown in Figure 9, the number of births has been declining. After peaking at 696 births in 2003, births have declined to 501 in 2014, which is a 28% decline.

Figure 9
West Orange Historical Birth Data
2002-2014



Using mapping software, elementary school attendance area boundaries, and NJCHS birth data by Census blocks, the number of births from 2004-2014 was determined for each elementary school attendance area and is displayed in Table 6. In some instances, the address of the mother within West Orange was unknown. The greatest number of unknown births occurred in 2008, accounting for 26 of the 653 births in that year. For the purposes of projecting enrollment, the unknown births were redistributed into the seven elementary attendance areas using proportional allocations of the births in each school attendance area with respect to the total number of births.

Table 6
Births by Elementary School Attendance Area in the West Orange Public Schools 2004-2014

Birth Year	Gregory	Hazel Avenue	Kelly	Mt. Pleasant	Redwood	St. Cloud	Washington	Unknown
2004	84	69	96	59	137	100	86	9
2005	104	83	100	62	125	82	73	6
2006	110	72	97	90	130	91	77	7
2007	81	67	84	72	148	97	74	19
2008	92	66	109	78	118	94	70	26
2009	93	61	89	82	114	90	82	8
2010	66	68	73	57	106	69	41	20
2011	66	57	95	73	98	74	57	25
2012	62	63	74	79	94	66	62	25
2013	74	51	90	52	93	74	76	13
2014	72	53	70	59	84	81	57	13

For comparison purposes, Figures 10 and 11 show the number of births by elementary attendance zone in 2004 and 2014. As discussed previously, there is an area in the center of West Orange that is not associated with an attendance zone, as it contains a golf course. In both 2004 and 2014, the number of births was greatest in the Redwood attendance area. In addition, the deviation in the number of births by attendance area has declined from 2004-2014. In 2004, the number of births by attendance area ranged from 59-137, with three attendance areas having more than 95 births. However, in 2014, births in the seven attendance areas ranged from 53-84, which is a much tighter range than ten years prior.

Figure 12 shows the differences in the birth counts by attendance area from 2004-2014. The northern parts of West Orange, represented by the Redwood and Kelly attendance areas, have had the largest declines in the annual number of births over this time period. Finally, Figure 13 shows the aggregated number of births by attendance zone from 2004-2014. The Redwood attendance area had the largest number of births over this time period.

Figure 10
West Orange Births by Elementary Attendance Area
2004

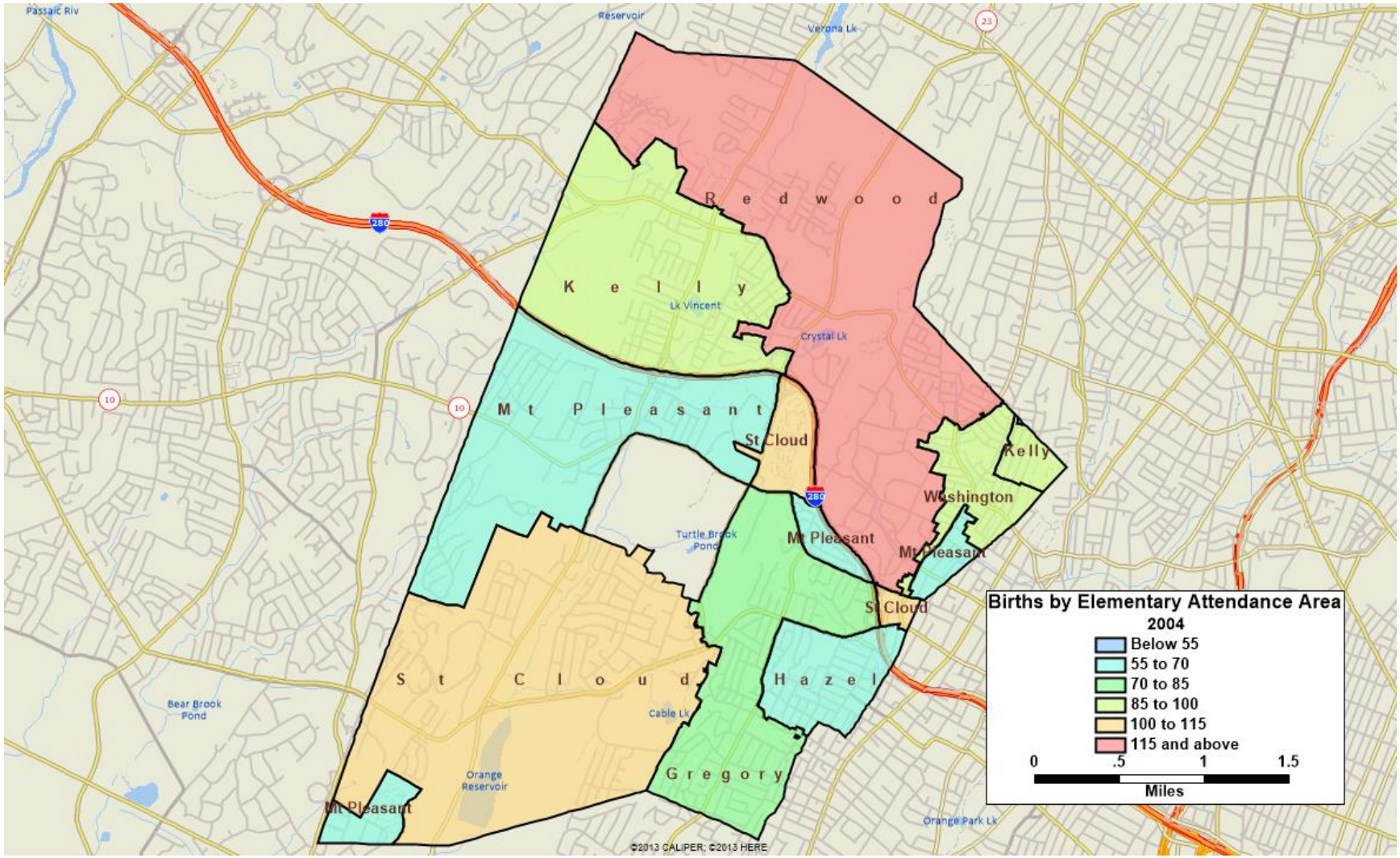


Figure 11
West Orange Births by Elementary Attendance Area
2014

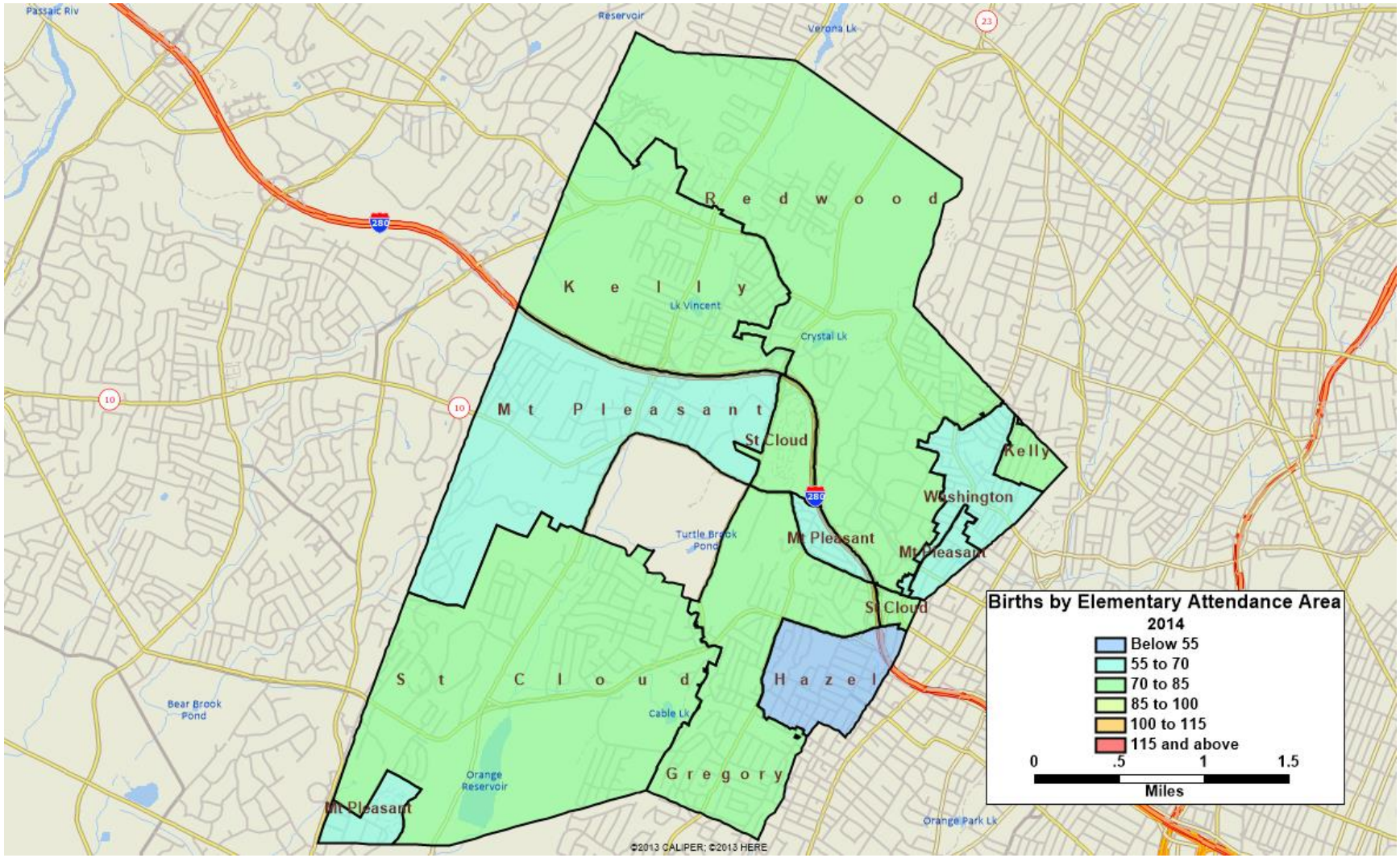


Figure 12
Change in the Number of Births by Elementary Attendance Area
2004-2014

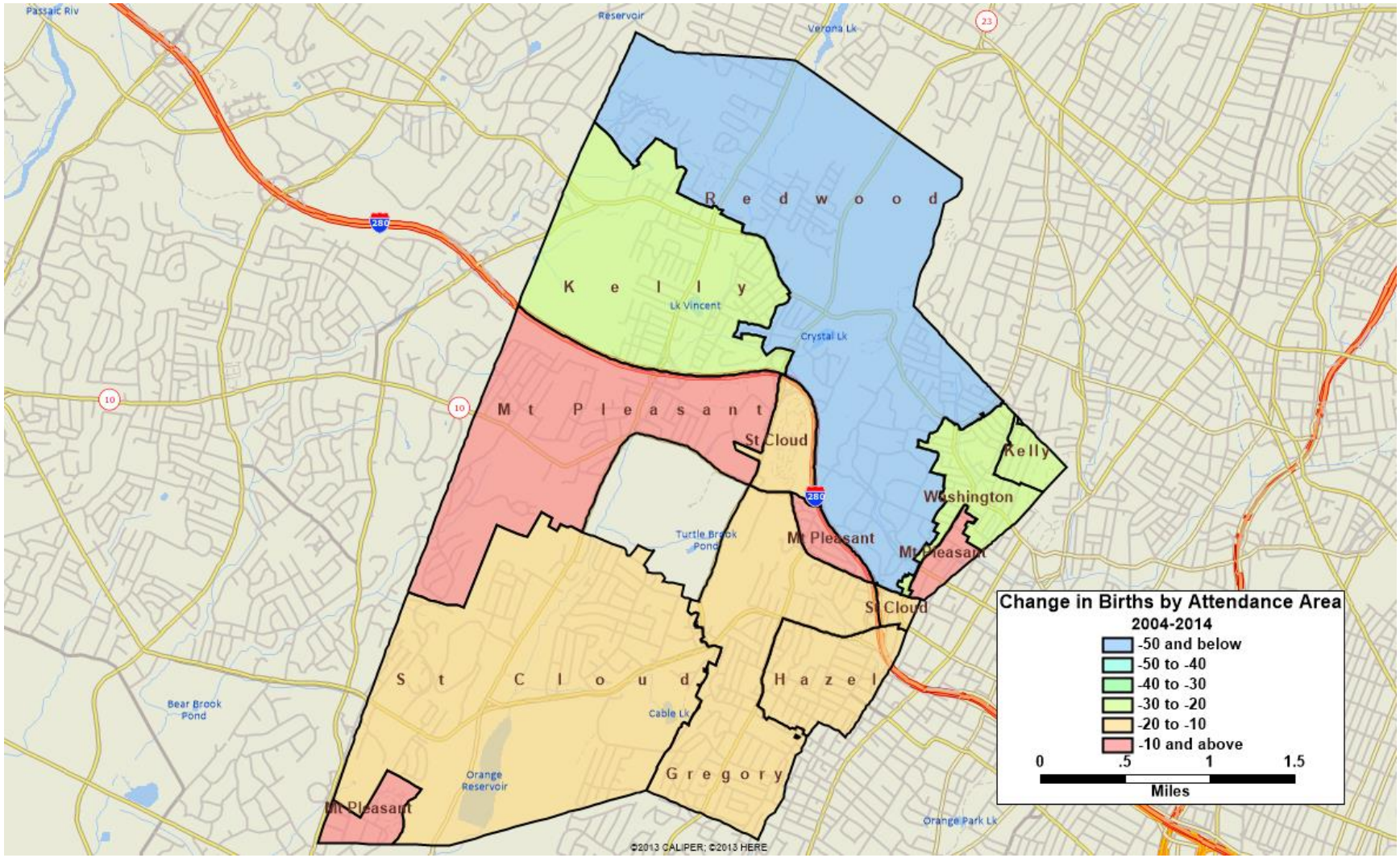
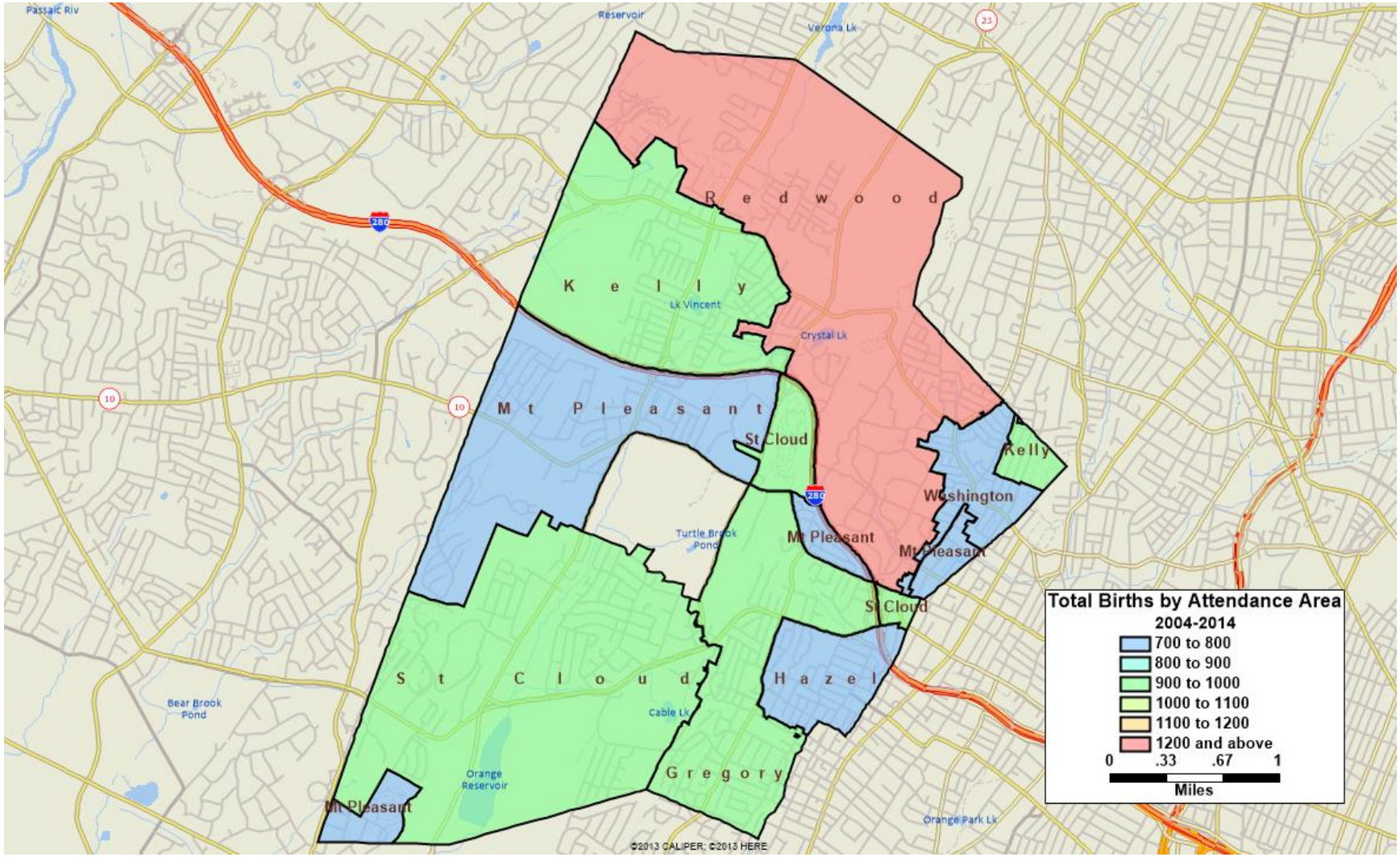


Figure 13
West Orange Total Number of Births by Elementary Attendance Area
2004-2014



The fertility rate in West Orange is slightly below the rate in both Essex County and the State of New Jersey. According to the 2011-2015 ACS, the fertility rate of women aged 15 to 50 in West Orange was 53 births per 1,000 women. In comparison, as reported by the NJCHS, the 2014 fertility rate in Essex County was 61.5 births per 1,000 women (ages 15-49) and was 59.6 births per 1,000 women in New Jersey. However, it should be noted that while the municipal, county, and state rates are all based on a sample, the municipal data has a margin of error that is much higher than the county and state data and may not reflect the "true" fertility rate in the community.

Figures 14 and 15 show the age pyramids of males and females in West Orange from both the 2000 and 2010 Censuses. The largest number of individuals in West Orange in 2000 was aged 35-39 for females and 40-44 for males. As these individuals advance in age, the largest cohort in 2010 was aged 45-49 for females and 50-54 for males. As shown in Table 7, the greatest declines (shaded red), both in number and percentage points, occurred in the 30-34 age group for males and females. There was also a significant decline in the 35-39 age group, and to a lesser extent the 25-29 age group, which correspond to the ages when many females have their children. The greatest gains (shaded blue), both in number and percentage points, occurred in the 55-59 age group for males and 60-64 age group for females. The combination of low fertility rates and declining percentages of females in the 25-29, 30-34, and 35-39 age groups have likely led to the declining birth rate in the township.

Figure 14
Population Pyramid of West Orange
2000 Census

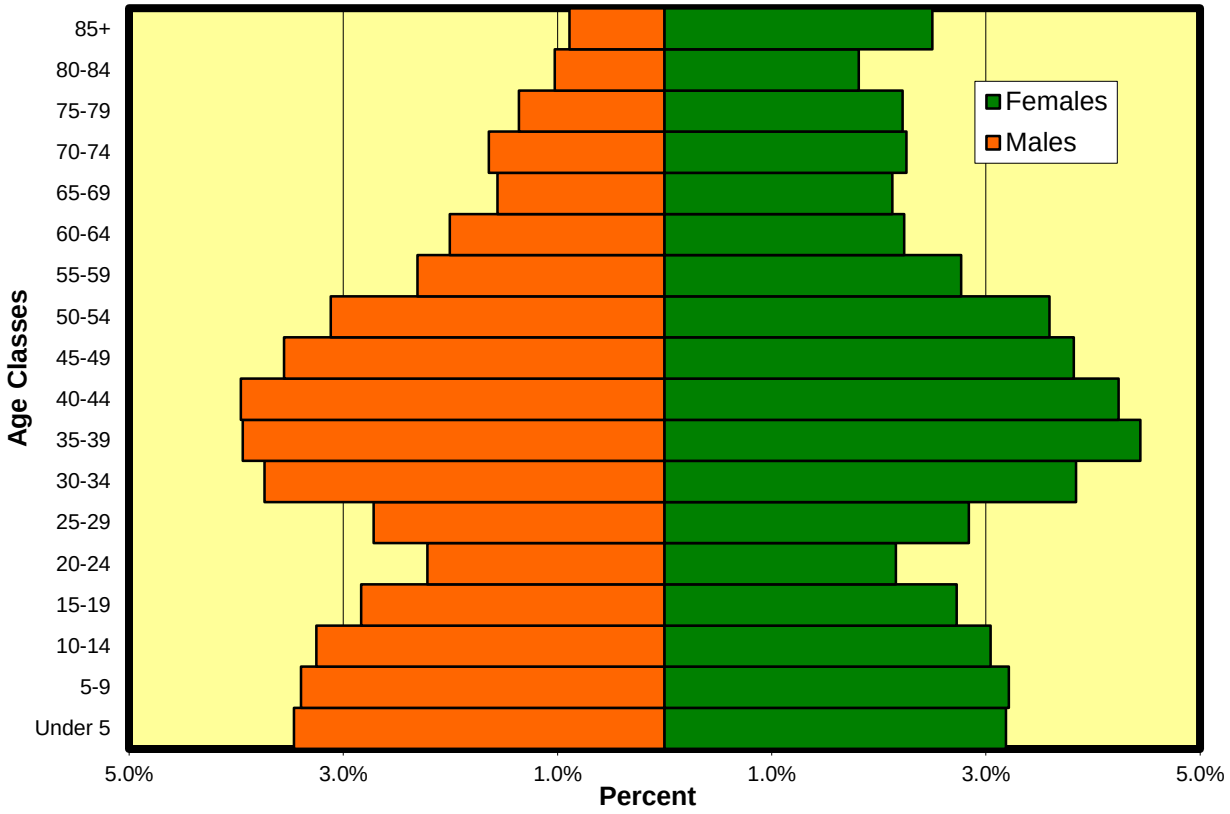


Figure 15
Population Pyramid of West Orange
2010 Census

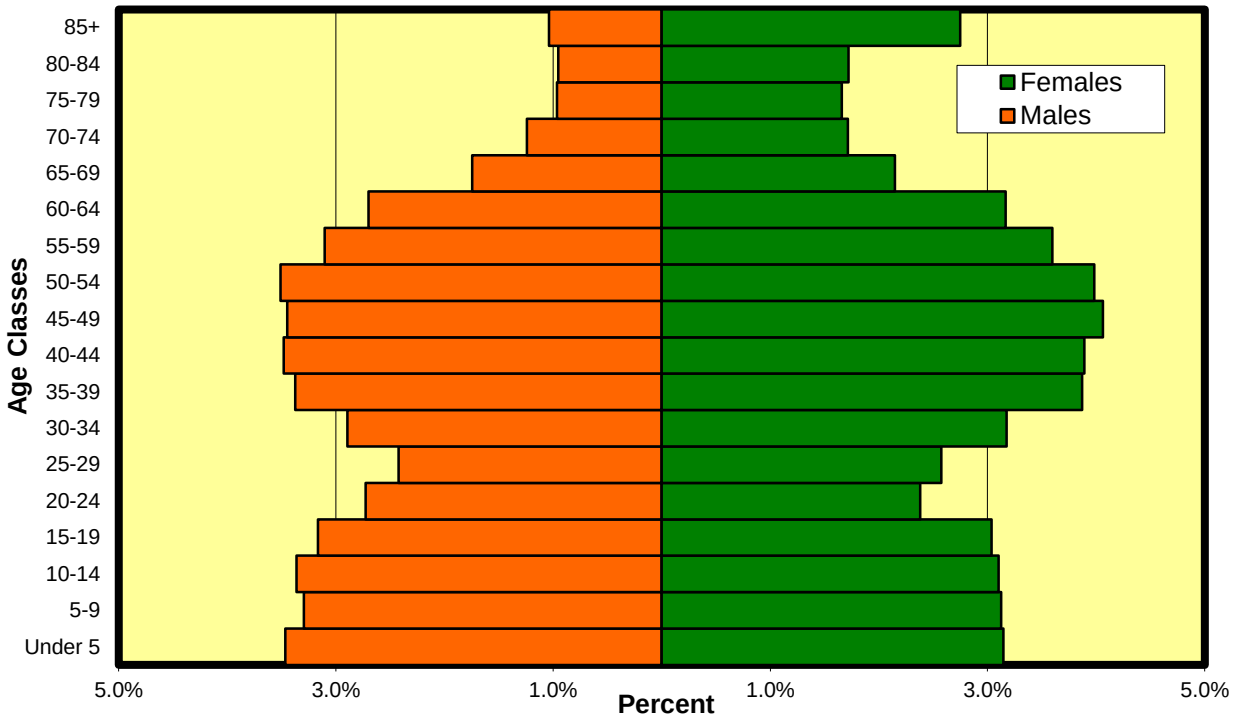


Table 7

Numerical and Percentage Point Change of Males and Females in West Orange 2000 to 2010

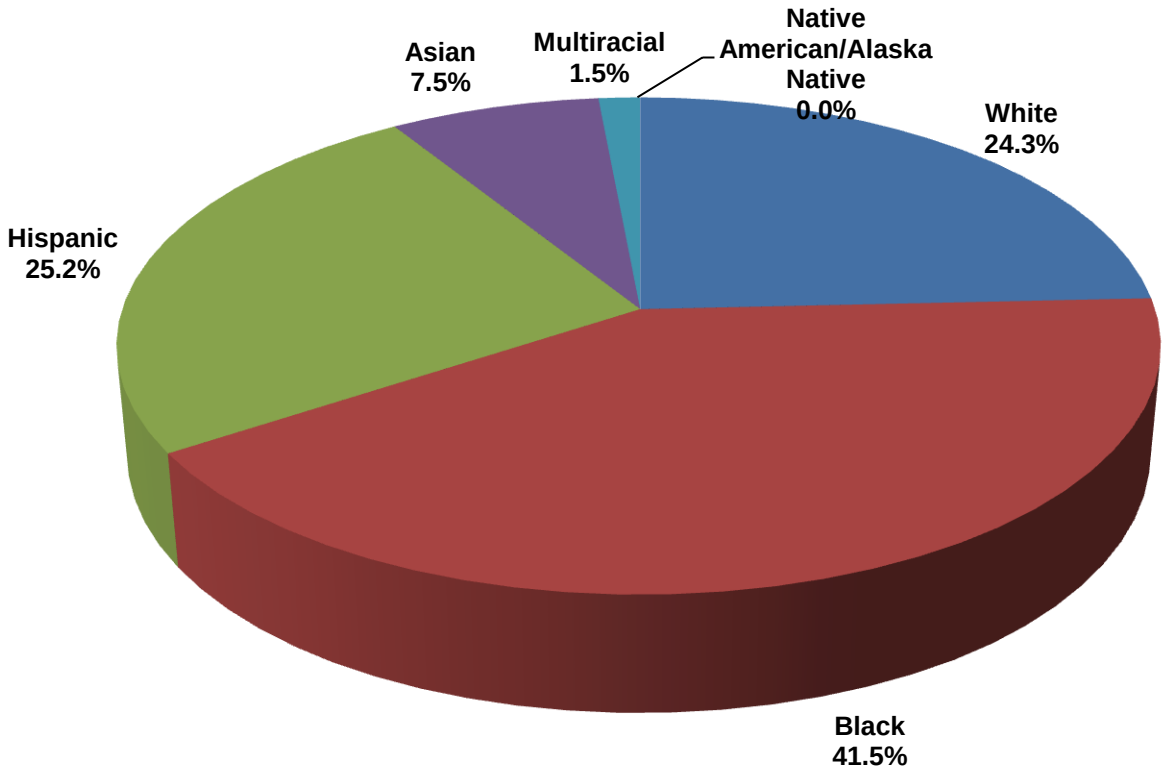
	Males		Females	
Age Group	**Numerical Change**	**Percentage Point Change**	**Numerical Change**	**Percentage Point Change**
Under 5	+46	0.0	+22	0.0
5-9	-3	-0.1	0	-0.1
10-14	+93	+0.1	+65	+0.1
15-19	+189	+0.3	+177	+0.3
20-24	+265	+0.5	+129	+0.2
25-29	-102	-0.3	-86	-0.3
30-34	-342	-0.8	-259	-0.7
35-39	-212	-0.6	-208	-0.6
40-44	-170	-0.5	-107	-0.3
45-49	-3	-0.1	+160	+0.2
50-54	+221	+0.4	+226	+0.4
55-59	+397	+0.8	+418	+0.8
60-64	+345	+0.7	+459	+0.9
65-69	+106	+0.2	+36	0.0
70-74	-164	-0.4	-223	-0.5
75-79	-166	-0.4	-232	-0.6
80-84	-21	-0.1	-19	-0.1
85+	+80	+0.1	+147	+0.2

Notes: Cells shaded blue reflect the greatest gains over the ten-year period.
Cells shaded red reflect the greatest losses over the ten-year period.

Historical Enrollments by Race

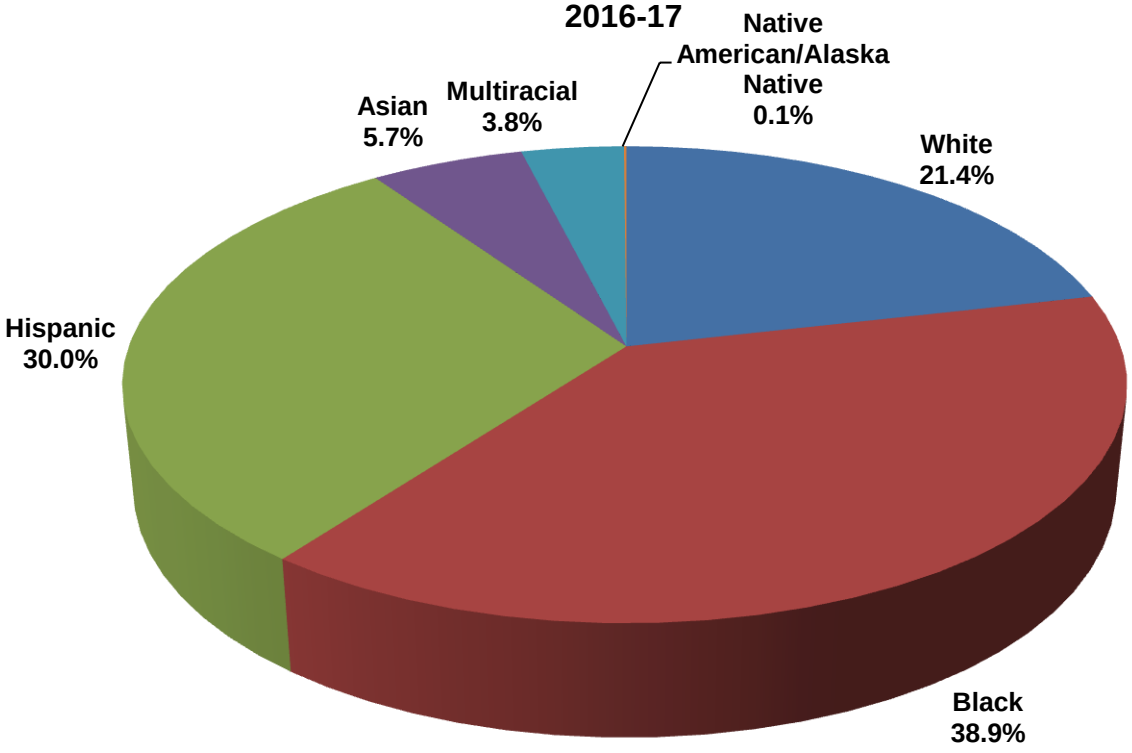
In Figure 16 below, the 2011-12 total enrollment is shown by race for the West Orange Public Schools. In the NJDOE enrollment database, the races listed are White, Hispanic/Latino ("Hispanic"), Asian or Native Hawaiian/Other Pacific Islander ("Asian"), Black or African American ("Black"), Native American or Alaska Native, and Two or more races ("Multiracial"). The district did not have any Native American or Alaska Native students. As the chart shows, the district's largest race in 2011-12 was Black (41.5%) followed by Hispanic, who accounted for one-quarter of the student population.

Figure 16
West Orange Public Schools Enrollment by Race
2011-12



In Figure 17 below, the 2016-17 total enrollment is shown by race for the West Orange Public Schools. Blacks are still the majority race in the district, consisting of 38.9% of the student population. However, the percentage of Blacks has declined by 2.6 percentage points since 2011-12. Hispanics made up a larger share of the population, 30.0%, in 2016-17, which is a gain of 4.8 percentage points from 2011-12. The percentages of Whites and Asians have declined slightly (2.9 and 1.8 percentage points respectively) while the percentage of students who are Multiracial increased (2.3 percentage points). The number and percentage of Native American or Alaska Native students were insignificant.

Figure 17
West Orange Public Schools Enrollment by Race
2016-17



In Table 8, enrollments by race from 2011-12 are displayed for each of the schools in the district, as well as the districtwide totals. The largest race in each school is shaded blue. At the elementary level, Whites were the largest race in Gregory, Redwood, and St. Cloud. As shown in Figure 18, the White percentage ranged from a low of 3.2% at Washington to a high of 40.9% at St. Cloud. Blacks were the largest race in Kelly and Mt. Pleasant. As shown in Figure 19, the Black percentage ranged from a low of 27.2% at St. Cloud to a high of 42.9% at Washington. Hispanics were the largest race at Hazel Avenue and Washington and ranged from a low of 12.4% at St. Cloud to a high of 49.9% at Washington as shown in Figure 20. Of the four major racial subgroups, Asians are the smallest at each elementary school, with the exception of St. Cloud. As shown in Figure 21, the Asian percentage ranged from a low of 2.5% at Washington to a high of 16.3% at Mt. Pleasant.

Table 8
Enrollments by Race and School in the West Orange Public Schools 2011-12

School	White	Black	Hispanic	Asian	Alaska Native/ Native American	Multiracial	Total
Gregory E.S.	215	210	108	36	0	21	**590**
	36.4%	35.6%	18.3%	6.1%	0.0%	3.6%	**100.0%**
Hazel Avenue E.S.	53	138	157	14	0	6	**368**
	14.4%	37.5%	42.7%	3.8%	0.0%	1.6%	**100.0%**
Kelly E.S.	94	161	134	25	0	10	**424**
	22.2%	38.0%	31.6%	5.9%	0.0%	2.4%	**100.0%**
Mt. Pleasant E.S.	113	140	82	68	0	13	**416**
	27.2%	33.7%	19.7%	16.3%	0.0%	3.1%	**100.0%**
Redwood E.S.	196	186	135	44	0	13	**574**
	34.1%	32.4%	23.5%	7.7%	0.0%	2.3%	**100.0%**
St. Cloud E.S.	158	105	48	62	0	13	**386**
	40.9%	27.2%	12.4%	16.1%	0.0%	3.4%	**100.0%**
Washington E.S.	13	173	201	10	0	6	**403**
	3.2%	42.9%	49.9%	2.5%	0.0%	1.5%	**100.0%**
Edison M.S.	103	214	121	32	0	5	**475**
	21.7%	45.1%	25.5%	6.7%	0.0%	1.1%	**100.0%**
Liberty M.S	115	228	164	43	0	1	**551**
	20.9%	41.4%	29.8%	7.8%	0.0%	0.2%	**100.0%**
Roosevelt M.S	103	249	85	24	0	3	**464**
	22.2%	53.7%	18.3%	5.2%	0.0%	0.6%	**100.0%**
West Orange H.S	478	1,003.5	470	148	0	9	**2,108.5**
	22.7%	47.6%	22.3%	7.0%	0.0%	0.4%	**100.0%**
Total	**1,641**	**2,807.5**	**1,705**	**506**	**0**	**100**	**6,759.5**
	24.3%	**41.5%**	**25.2%**	**7.5%**	**0.0%**	**1.5%**	**100.0%**

Source: New Jersey Department of Education (http://www.nj.gov/education/data/enr/)
Note: Cells highlighted blue are the largest race in the school.

Figure 18
West Orange Public Schools White Percentage by Elementary School
2011-12

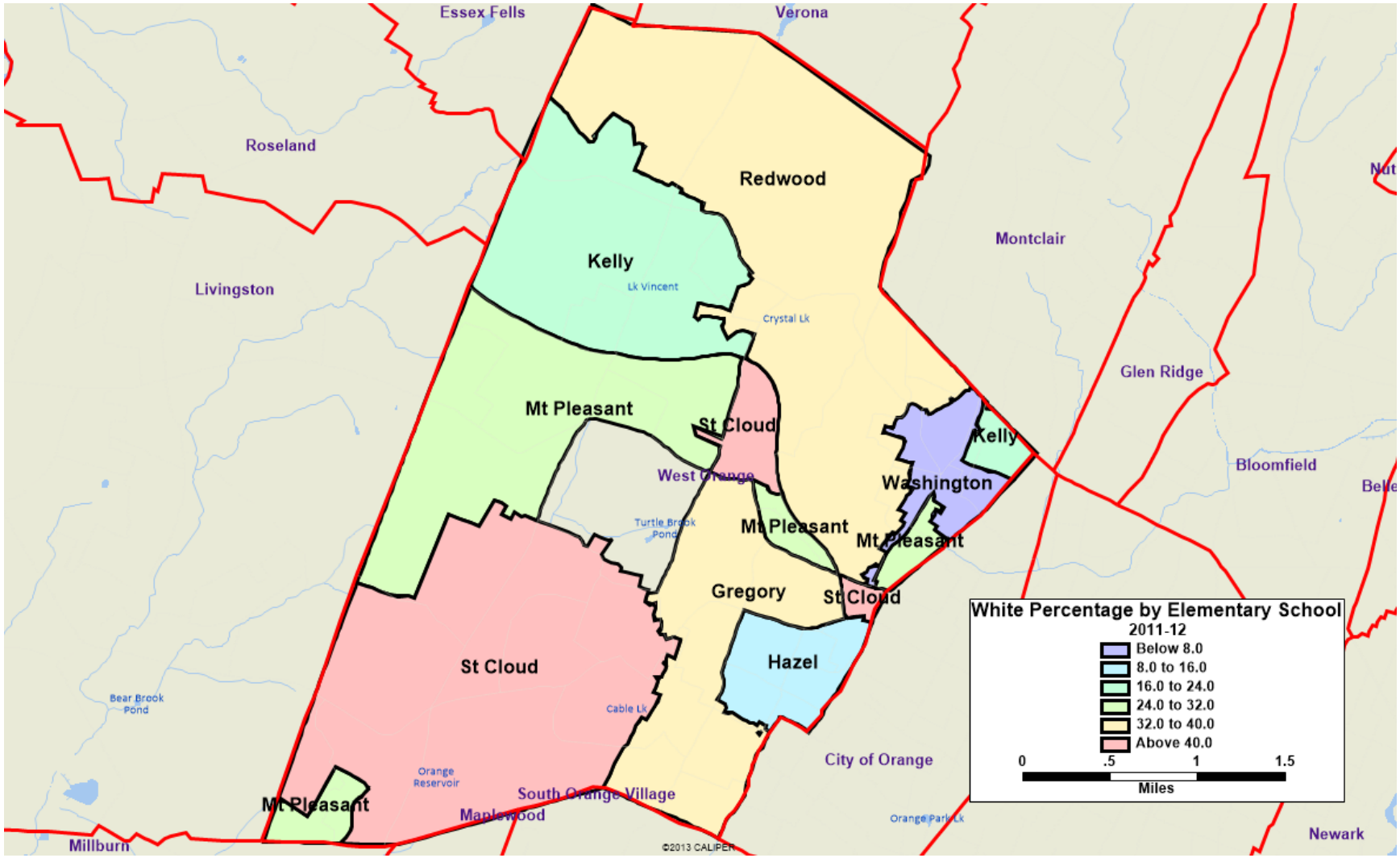


Figure 19
West Orange Public Schools Black Percentage by Elementary School
2011-12

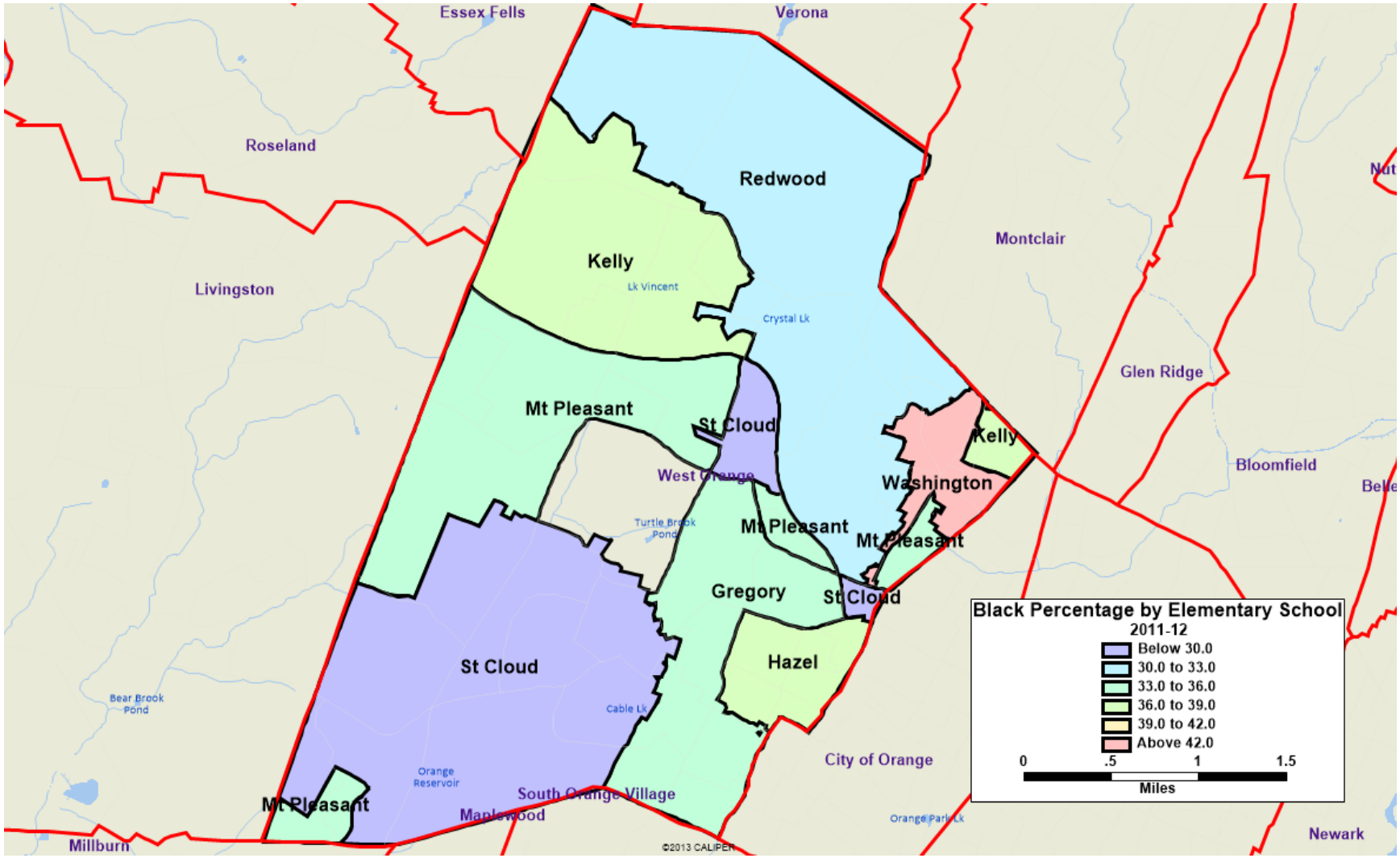


Figure 20
West Orange Public Schools Hispanic Percentage by Elementary School
2011-12

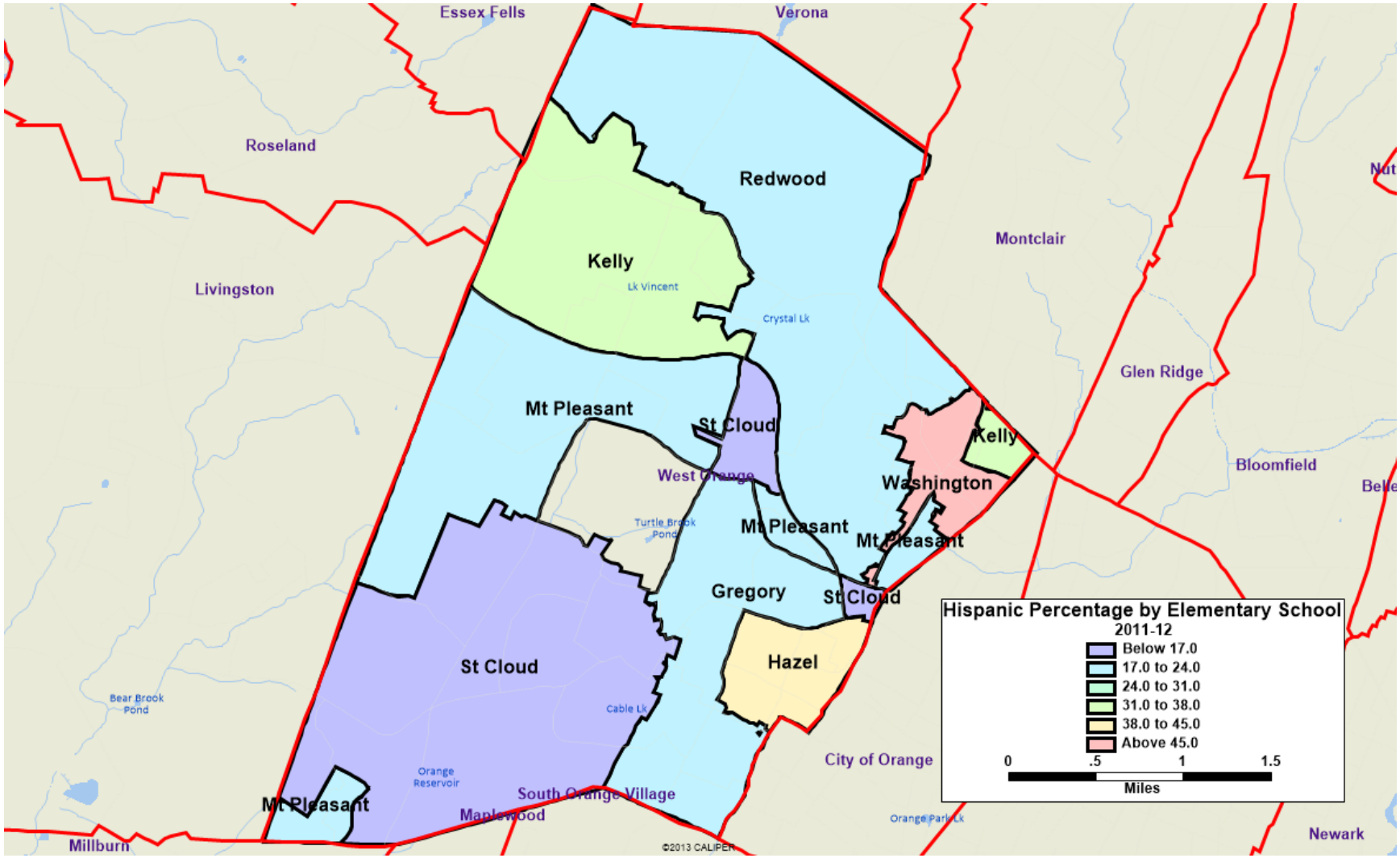
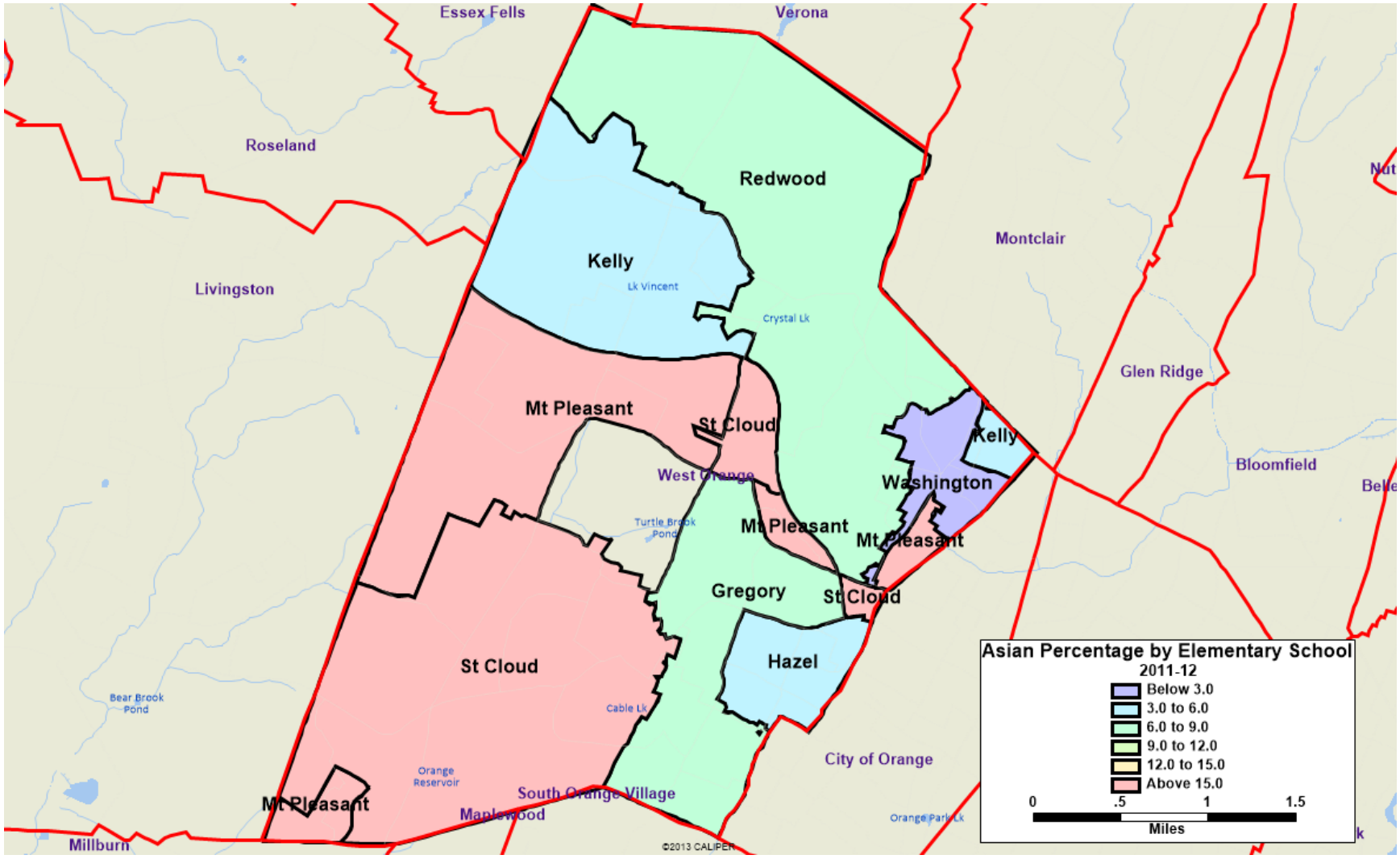


Figure 21
West Orange Public Schools Asian Percentage by Elementary School
2011-12



In the three middle schools, Blacks were the largest race in each of the schools, ranging from a low of 41.4% in Liberty to a high of 53.7% in Roosevelt. Hispanics were the second largest racial subgroup at Edison and Liberty while Whites were the second largest racial subgroup at Roosevelt.

At West Orange High School, Blacks were the largest racial subgroup in 2011-12, representing 47.6% of the population, while Whites were second-largest (22.7%).

In Table 9 following, enrollments by race from 2016-17 are displayed for each of the schools in the district, as well as the districtwide totals. The largest race in each school is shaded blue. At the elementary level, while Whites continue to be the largest race in Gregory and St. Cloud, they are no longer the largest race in Redwood. With the exception of Gregory, each of the elementary schools had a percentage point decline in the White population with the largest occurring at Hazel Avenue (5.2 percentage points). As shown in Figure 22, the White percentage ranges from a low of 3.0% at Washington to a high of 37.3% at Gregory. Blacks continue to be the largest race in Redwood and Mt. Pleasant but are no longer the largest race in Kelly. As shown in Figure 23, the Black percentage is fairly uniform, ranging from a low of 31.3% at St. Cloud to a high of 38.3% at Washington. The Black percentage declined in four of the elementary schools, with the largest occurring in Hazel Avenue (5.7 percentage points). Hispanics are the largest race in Hazel Avenue, Kelly, and Washington. As shown in Figure 24, the Hispanic percentage ranges from a low of 15.3% at St. Cloud to a high of 53.6% at Washington. In the last five years, Hazel Avenue and Mt. Pleasant had significant gains in the Hispanic population, increasing by 7.5 and 7.4 percentage points respectively. With respect to Asians, the lowest percentage is in Washington (1.6%) and the highest is in Mt. Pleasant (10.4%) as shown in Figure 25. The largest change in the Asian population occurred at St. Cloud, which decreased by 9.0 percentage points.

In the three middle schools, Blacks are the largest racial subgroup in 2016-17, ranging from 38.6% in Edison to 41.0% in Roosevelt. The racial composition in Liberty is nearly the same in 2016-17 as compared to 2011-12. However, in Edison and Roosevelt, the Black percentage has declined (6.4 and 12.6 percentage points respectively) while the Hispanic percentage has increased (4.9 and 9.1 percentage points respectively). Hispanics are the second largest racial subgroup in each school. The racial percentages of both the White and Asian student populations in the schools did not change significantly from 2011-12 to 2016-17.

At West Orange High School, Blacks are the largest racial subgroup in 2016-17, representing 46.1% of the population, while Hispanics are second-largest (28.0%). In the last five years, Whites declined by 4.2 percentage points while Hispanics increased by 5.7 percentage points. The racial percentages of both the Black and Asian student populations have not changed significantly since 2011-12.

Table 9
Enrollments by Race and School in the West Orange Public Schools
2016-17

School	White	Black	Hispanic	Asian	Alaska Native/ Native American	Multiracial	Total
Gregory E.S.	188	161	101	16	1	37	**504**
	37.3%	31.9%	20.0%	3.2%	0.2%	7.3%	**100.0%**
Hazel Avenue E.S.	31	107	169	10	0	20	**337**
	9.2%	31.8%	50.1%	3.0%	0.0%	5.9%	**100.0%**
Kelly E.S.	81	156	173	22	0	24	**456**
	17.8%	34.2%	37.9%	4.8%	0.0%	5.3%	**100.0%**
Mt. Pleasant E.S.	83	123	99	38	1	21	**365**
	22.7%	33.7%	27.1%	10.4%	0.3%	5.8%	**100.0%**
Redwood E.S.	168	186	138	46	2	33	**573**
	29.3%	32.5%	24.1%	8.0%	0.3%	5.8%	**100.0%**
St. Cloud E.S.	133	115	56	26	0	37	**367**
	36.2%	31.3%	15.3%	7.1%	0.0%	10.1%	**100.0%**
Washington E.S.	13	166	232	7	1	14	**433**
	3.0%	38.3%	53.6%	1.6%	0.2%	3.2%	**100.0%**
Edison M.S.	104	188	148	25	0	22	**493**
	21.4%	38.6%	30.4%	5.1%	0.0%	4.5%	**100.0%**
Liberty M.S	109	216	157	38	0	13	**533**
	20.5%	40.5%	29.5%	7.1%	0.0%	2.4%	**100.0%**
Roosevelt M.S	138	229	153	31	0	7	**553**
	24.7%	41.0%	27.4%	5.6%	0.0%	1.3%	**100.0%**
West Orange H.S	370	924	561	121	1	26	**2,003**
	18.5%	46.1%	28.0%	6.0%	0.0%	1.3%	**100.0%**
Total	**1,418**	**2,571**	**1,987**	**380**	**6**	**254**	**6,616**
	21.4%	**38.9%**	**30.0%**	**5.7%**	**0.1%**	**3.8%**	**100.0%**

Source: New Jersey Department of Education (http://www.nj.gov/education/data/enr/)
Cells highlighted blue are the largest race in the school.

Figure 22
West Orange Public Schools White Percentage by Elementary School
2016-17

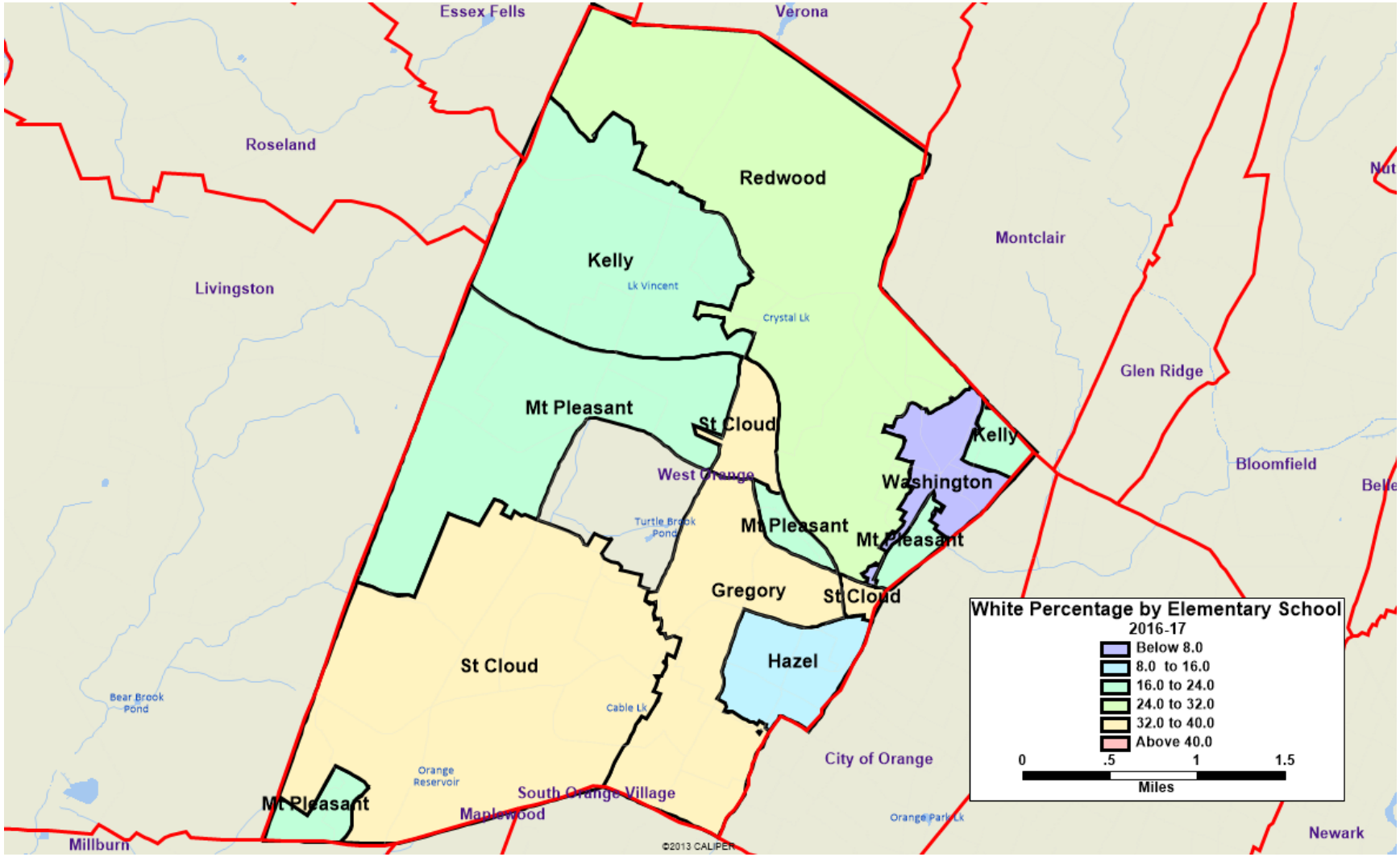


Figure 23
West Orange Public Schools Black Percentage by Elementary School
2016-17

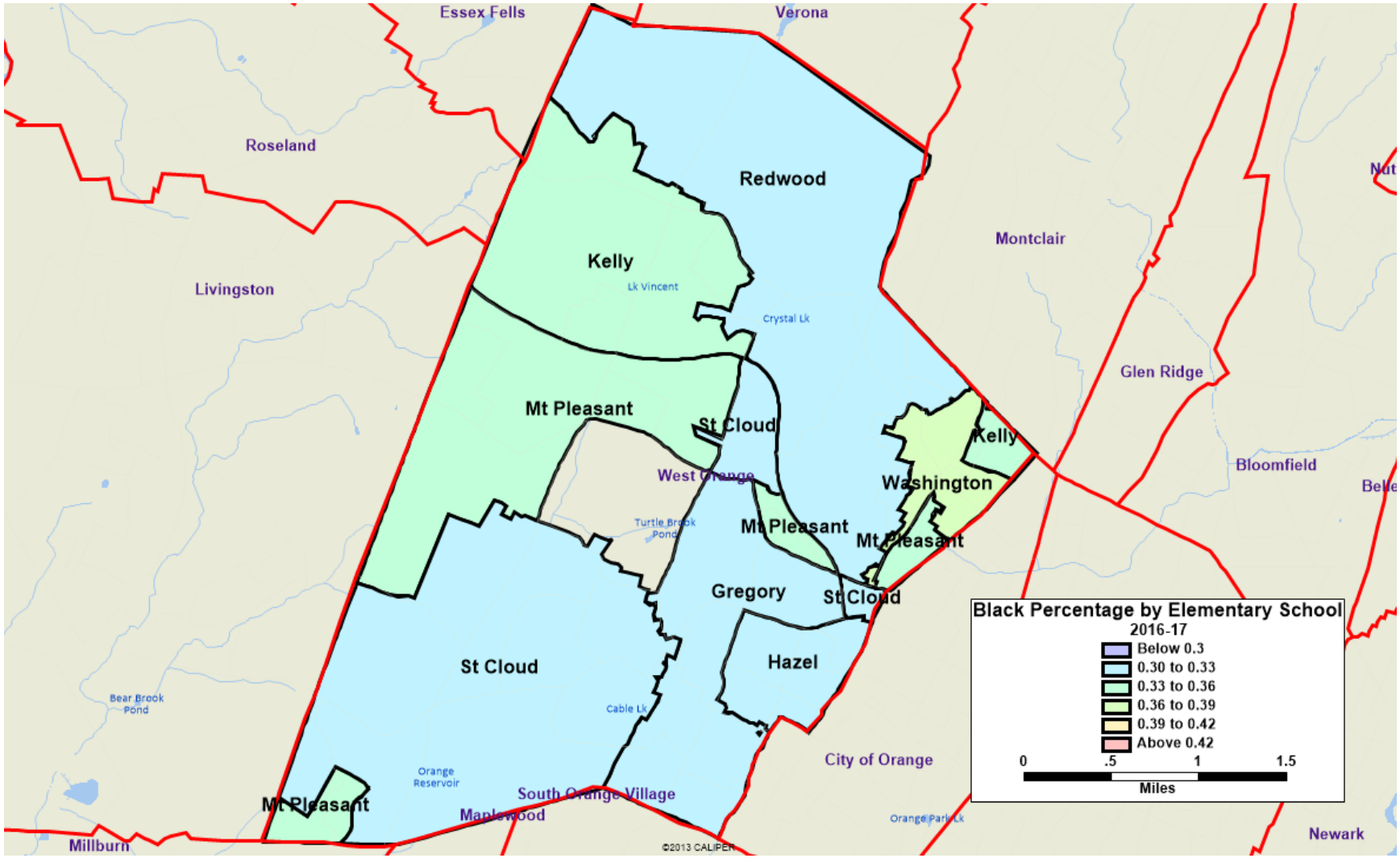


Figure 24
West Orange Public Schools Hispanic Percentage by Elementary School
2016-17

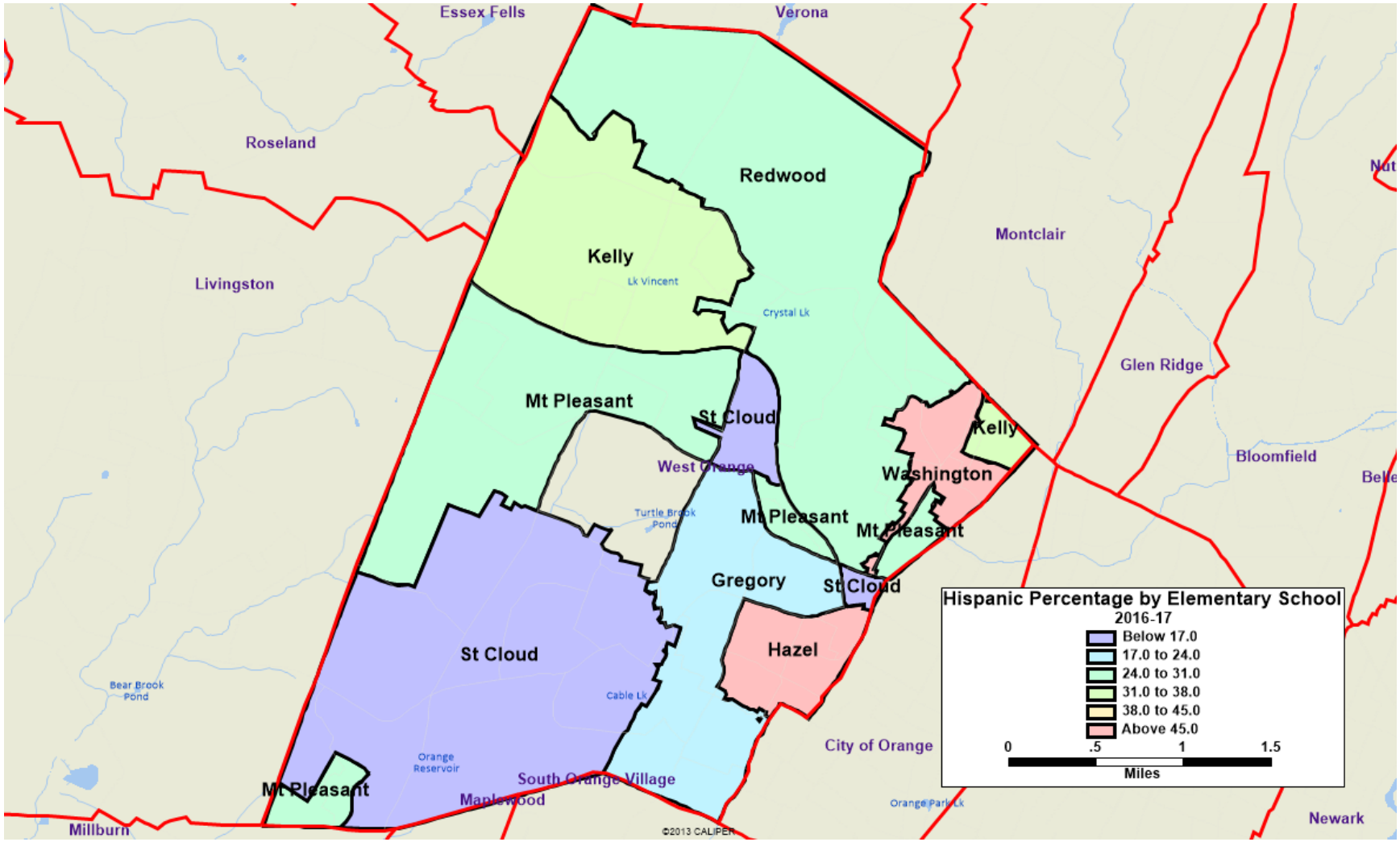
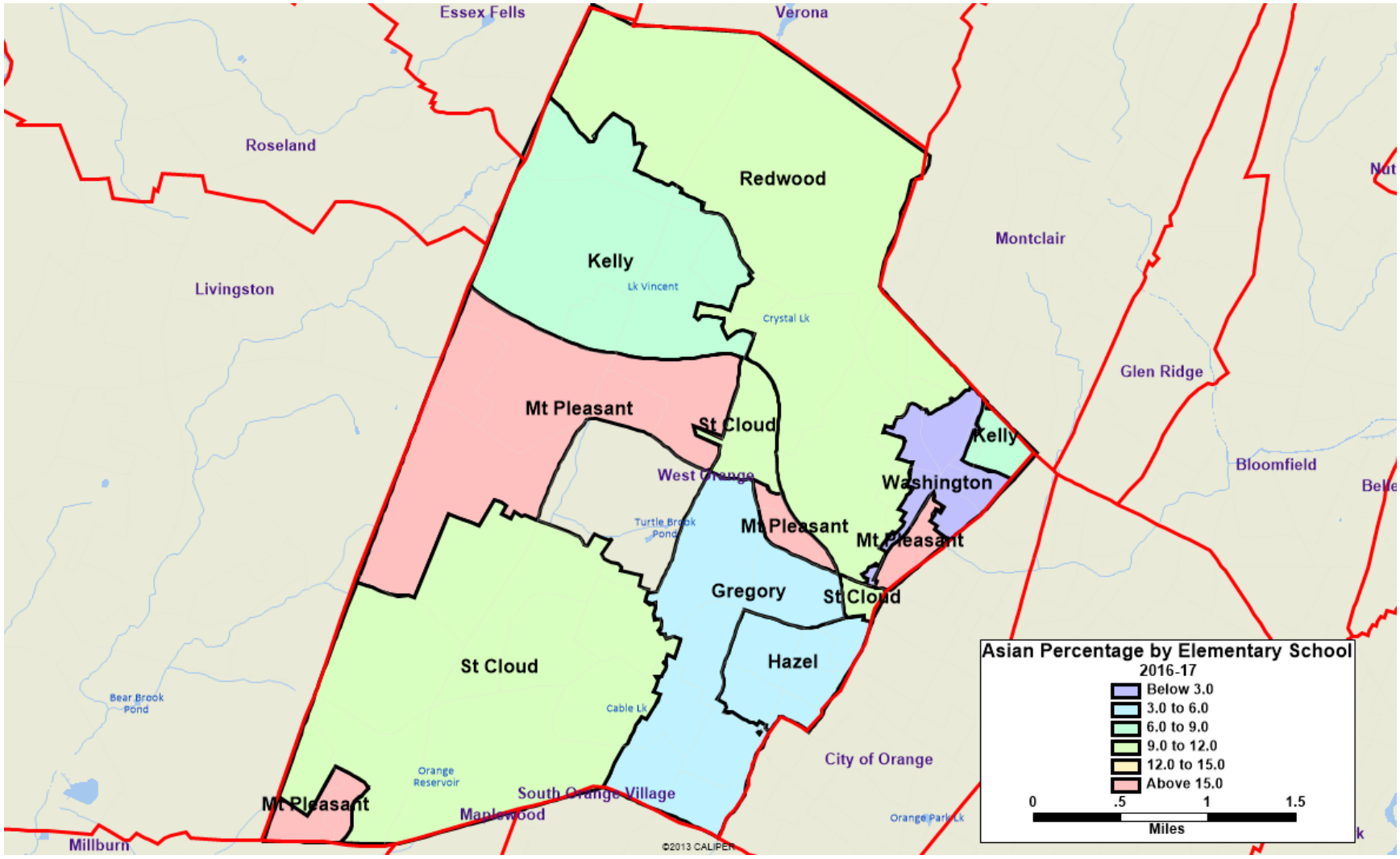


Figure 25
West Orange Public Schools Asian Percentage by Elementary School
2016-17



Economically Disadvantaged Students

As a proxy for measuring poverty in the school district, counts of students receiving free or reduced lunch were compiled from 2011-12 through 2016-17. Figure 26 below partitions the district's total number of students that were economically disadvantaged by school in 2011-12. Nearly one-third (32.6%) of the district's economically disadvantaged population attended West Orange High School, which is not surprising as it is the largest school in the district. At the middle school level, each of the schools had a similar percentage of the district's economically disadvantaged population, ranging from a low of 7.3% at Roosevelt to a high of 9.2% at Liberty. Finally, at the elementary level, Washington had the greatest percentage (12.7%) of the district's economically disadvantaged population while St. Cloud had the smallest percentage (1.5%).

Figure 26
West Orange Public Schools
Economically Disadvantaged by School
2011-12

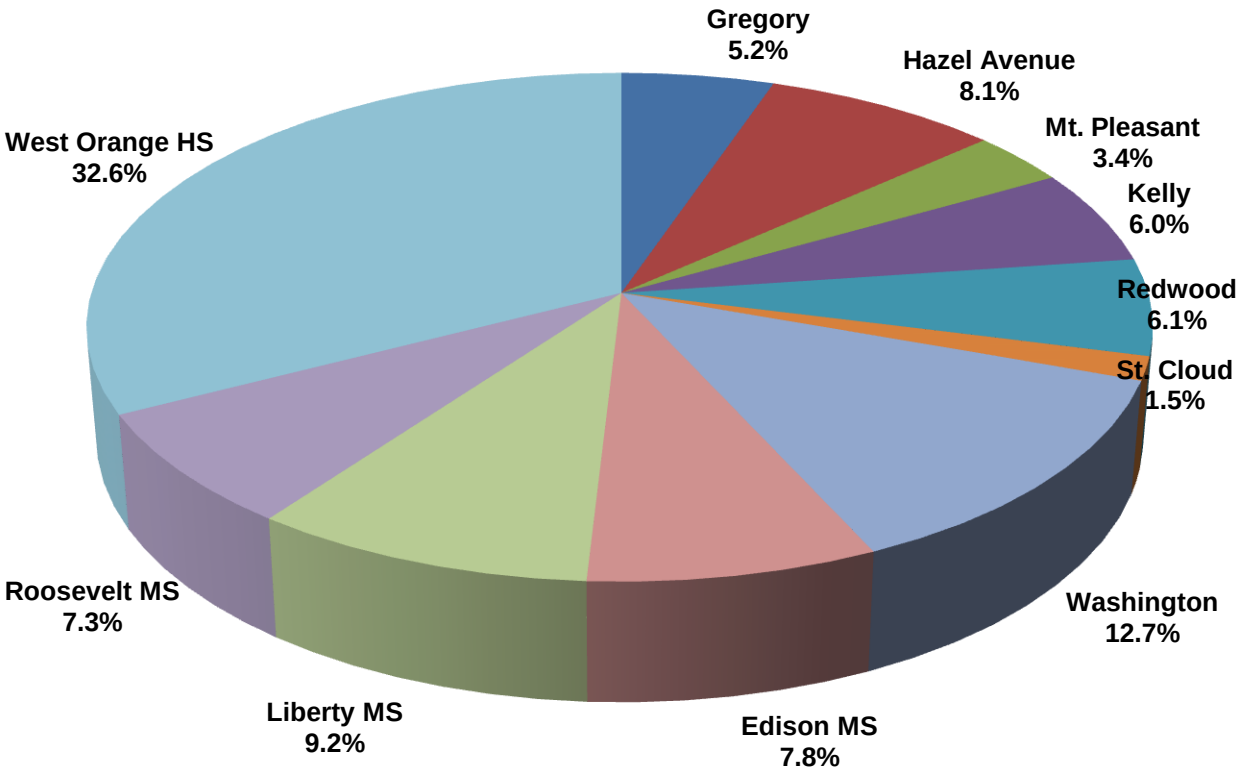
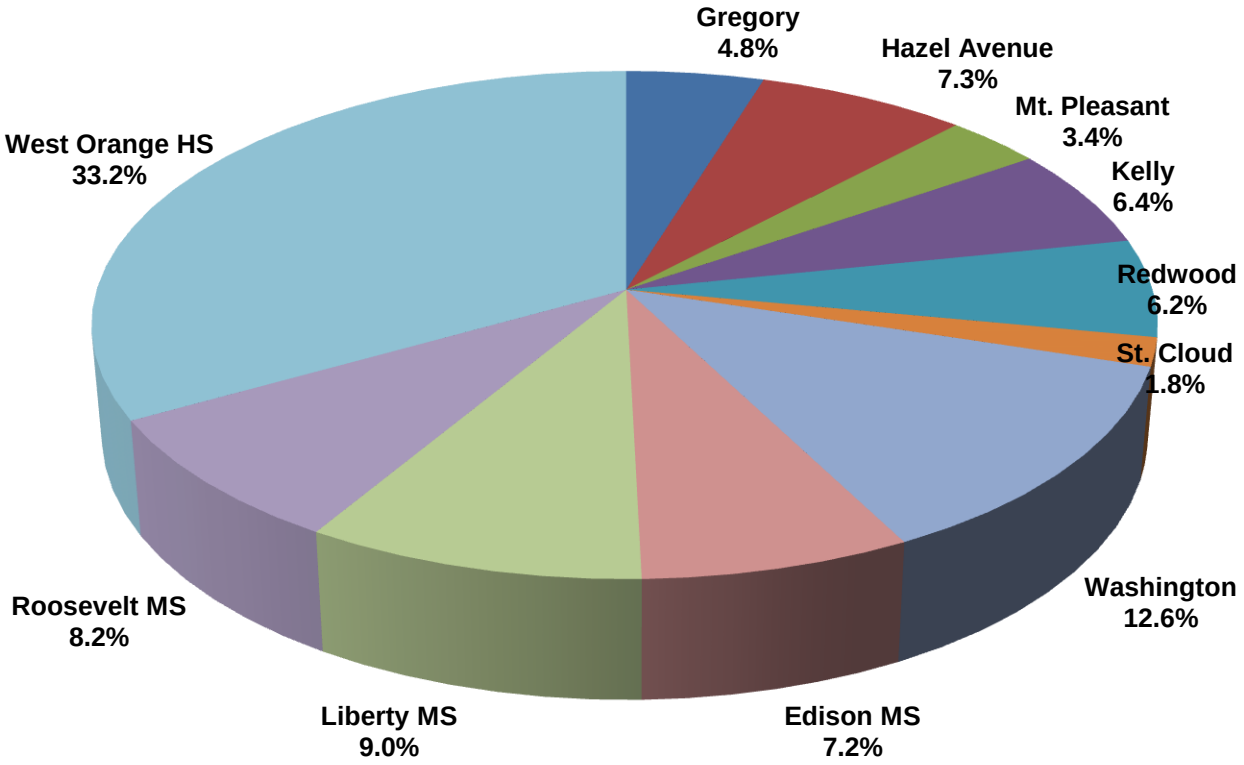


Figure 27 below partitions the district's total number of students that are economically disadvantaged by school in 2016-17. One-third (33.2%) of the district's economically disadvantaged population attends West Orange High School, which is nearly unchanged from 2011-12. At the middle school level, each of the schools has a similar percentage of the district's economically disadvantaged population as compared to 2011-12, ranging from a low of 7.2% at Edison to a high of 9.0% at Liberty. At the elementary level, each of the schools has a similar percentage of the district's economically disadvantaged population as compared to 2011-12. Washington has the greatest percentage (12.6%) of the district's economically disadvantaged population while St. Cloud has the smallest percentage (1.8%).

Figure 27
West Orange Public Schools
Economically Disadvantaged by School
2016-17



Since the size of the school often dictates the percentage of the district's apportioned economically disadvantaged population, the total number of economically disadvantaged students was compiled by school from 2011-12 through 2016-17 as well as the *within school* percentages in Table 10. The table also shows the overall percentage of students that are economically disadvantaged with respect to the district's total enrollment and the change in the number and percentage points of students that are economically disadvantaged over this time period for each school. At the district level, the number and percentage of students that are economically disadvantaged have been generally increasing. Whereas 2,591 students (38.3%)

were economically disadvantaged in the school district in 2011-12, the number increased to 2,859 (43.2%) in 2016-17, a gain of 268 economically disadvantaged students despite a decline of 148.5 students in the overall student population.

Table 10
West Orange Public Schools Number of Economically Disadvantaged Students and Within School Percentages 2011-12 to 2016-17

	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	Numerical & Percentage Point Change
Gregory	136	126	128	132	135	136	**0**
	23.1%	21.9%	22.4%	24.2%	25.9%	27.0%	**+3.9**
Hazel Avenue	211	204	212	241	242	208	**-3**
	57.3%	53.7%	56.4%	63.3%	66.1%	61.7%	**+4.4**
Mt. Pleasant	88	92	77	101	103	96	**+8**
	21.2%	21.7%	18.6%	25.6%	27.1%	26.3%	**+5.1**
Kelly	156	162	206	193	179	182	**+26**
	36.8%	34.6%	41.9%	43.4%	42.6%	39.9%	**+3.1**
Redwood	159	126	162	182	159	178	**+19**
	27.7%	22.1%	27.4%	32.2%	29.1%	31.1%	**+3.4**
St. Cloud	39	36	58	65	64	52	**+13**
	10.1%	9.5%	14.7%	16.2%	16.5%	14.2%	**+4.1**
Washington	329	326	349	372	369	360	**+31**
	81.6%	78.6%	78.4%	84.9%	85.0%	83.1%	**+1.5**
Edison MS	201	199	161	232	254	206	**+5**
	42.3%	40.4%	35.9%	42.6%	49.1%	42.3%	**+0.0**
Liberty MS	238	224	227	214	234	258	**+20**
	43.2%	44.2%	45.1%	47.7%	47.1%	48.4%	**+5.2**
Roosevelt MS	190	189	203	225	223	235	**+45**
	40.9%	38.7%	39.4%	43.2%	41.7%	42.1%	**+1.2**
West Orange HS	844	770.5	809	979.5	1,012	948	**+104**
	40.0%	36.0%	38.2%	48.0%	48.7%	47.3%	**+7.3**
Total	**2,591**	**2.454.5**	**2,592**	**2,936.5**	**2,974**	**2,859**	**+268**
Total District Enrollment	**6,759.5**	**6,835**	**6,868**	**6,727**	**6,681.5**	**6,611**	
Percent of Total	**38.3%**	**35.9%**	**37.7%**	**43.7%**	**44.5%**	**43.2%**	

Source: New Jersey Department of Education (http://www.nj.gov/education/data/enr/)

With the exception of Gregory and Hazel Avenue, all of the elementary schools have a greater number of economically disadvantaged students in 2016-17 as compared to 2011-12. The largest increases over this time period occurred in Washington (+31) and Kelly (+26). In the last five years, the number of economically disadvantaged students has also increased in each of the three middle schools with the largest gain occurring in Roosevelt (+45). West Orange High School also experienced a large increase (+104) in the number of economically disadvantaged students since 2011-12.

Figures 28 and 29 show the percentage of students that are economically disadvantaged within each elementary school for 2011-12 and 2016-17 for comparison purposes. At the elementary level, the percentage of students who are economically disadvantaged has been generally increasing in each of the schools. In 2016-17, Washington and Hazel Avenue have the highest percentages of economically disadvantaged students at 83.1% and 61.7% respectively. St. Cloud has the lowest percentage of economically disadvantaged students at 14.2% in 2016-17. Over the five-year period, Mt. Pleasant had the largest percentage point gain (+5.1) in the percentage of economically disadvantaged students.

While the percentage of economically disadvantaged students at Edison and Roosevelt has been fairly stable from 2011-12 to 2016-17, the percentage has been increasing at Liberty. In 2016-17, nearly half of the students (48.4%) at Liberty are economically disadvantaged, which a gain of 5.2 percentage points from 2011-12.

At West Orange High School, the percentage of economically disadvantaged students has been fairly stable in the last three years. In 2016-17, nearly half (47.3%) of the students are economically disadvantaged as compared to 40.0% in 2011-12, a gain of 7.3 percentage points.

Figure 28
West Orange Public Schools Economically Disadvantaged Percentage by Elementary School 2011-12

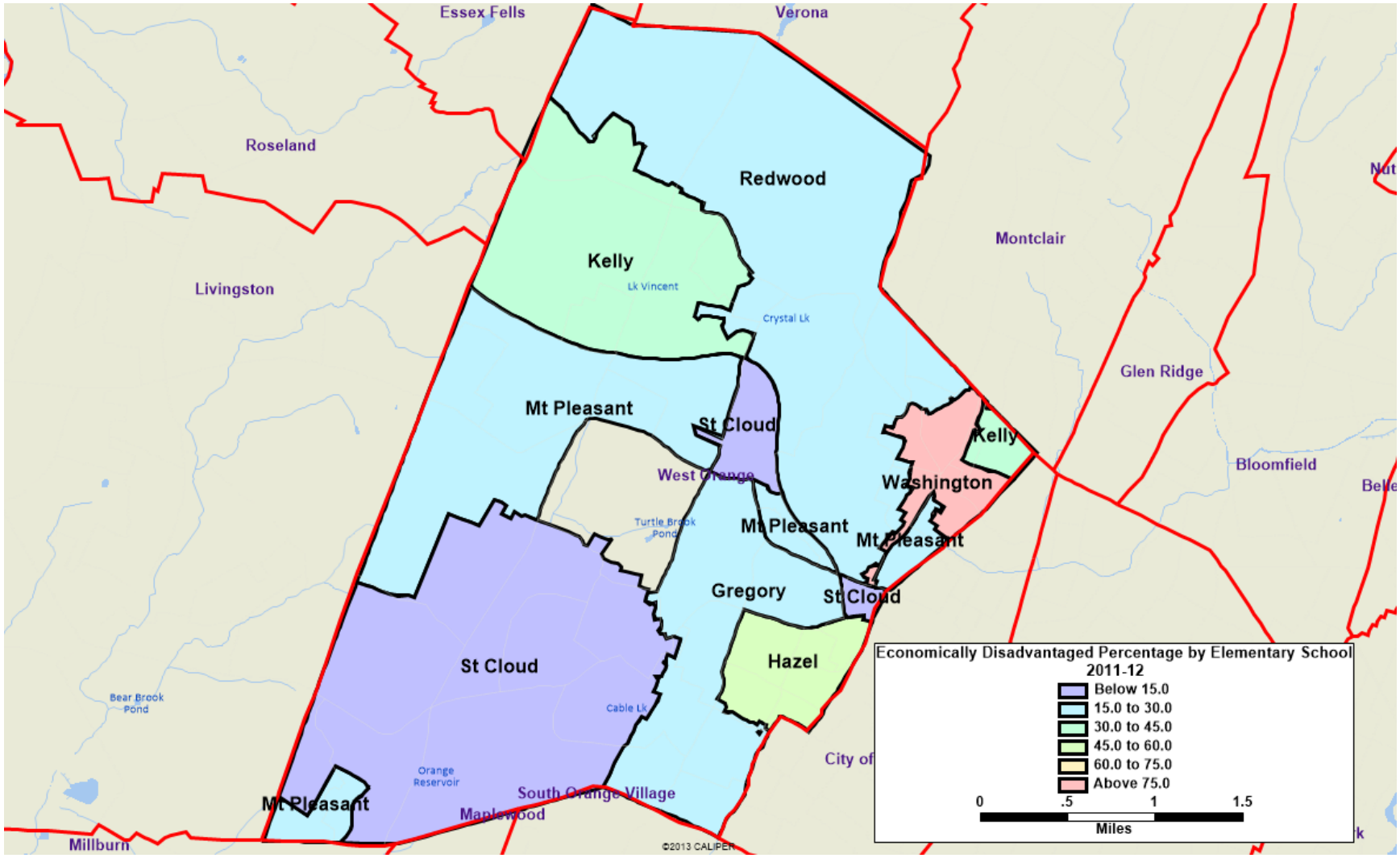
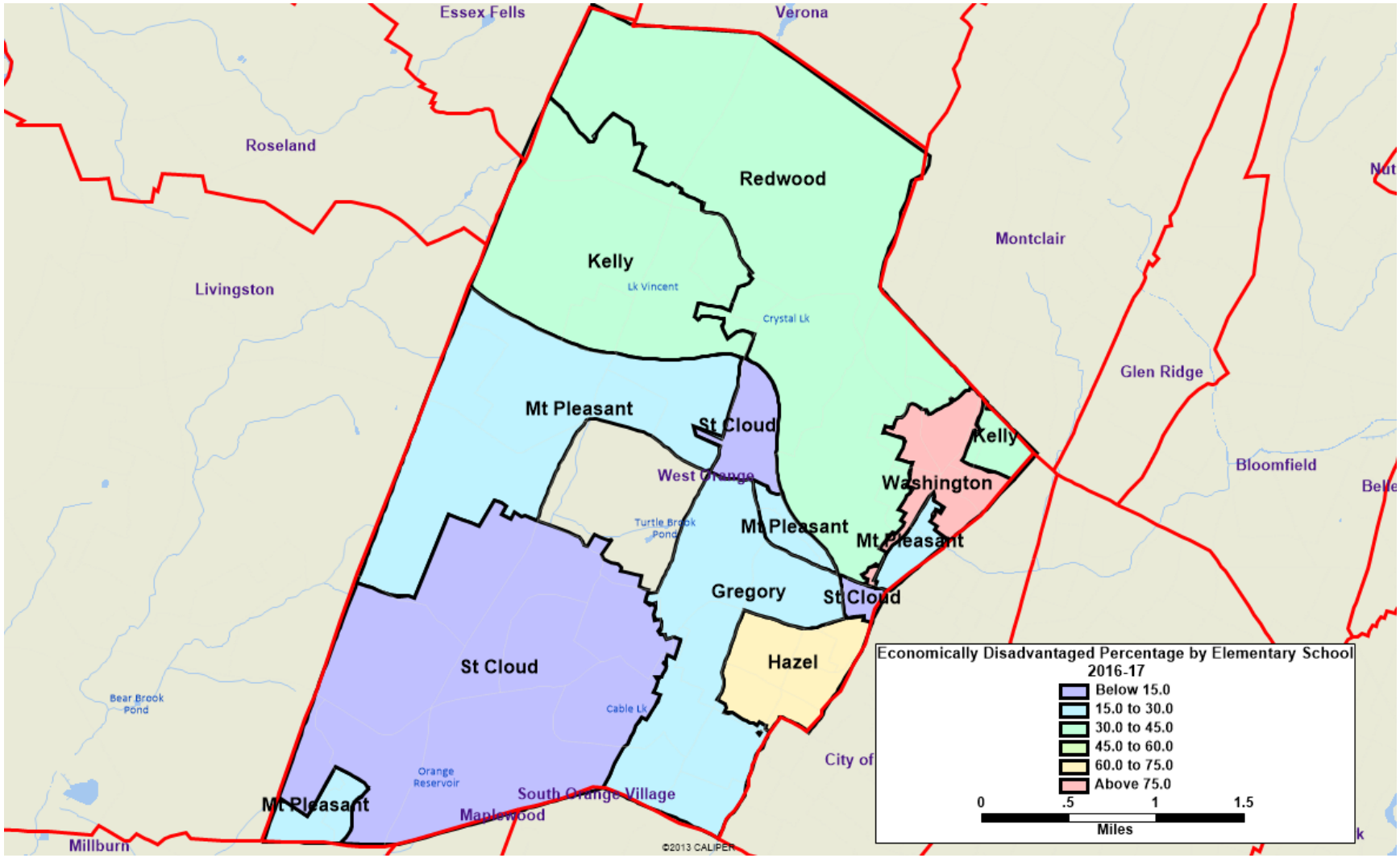


Figure 29
West Orange Public Schools Economically Disadvantaged Percentage by Elementary School 2016-17



Special Education Students

The West Orange Public Schools provided counts of students receiving special education services from 2011-12 through 2016-17. Figure 30 below partitions the district's special education students by school in 2011-12. Out-of-district placements were excluded. Approximately one-third (32.0%) of the district's special education population attended West Orange High School, which is the highest percentage of any school in the district. At the elementary level, 13.8% of the district's special education students attended Kelly, which is the highest percentage of the district's seven elementary schools. At the middle school level, the percentages were very similar, ranging from 7.0% to 7.8%.

Figure 30
West Orange Public Schools
Special Education Students by School
2011-12

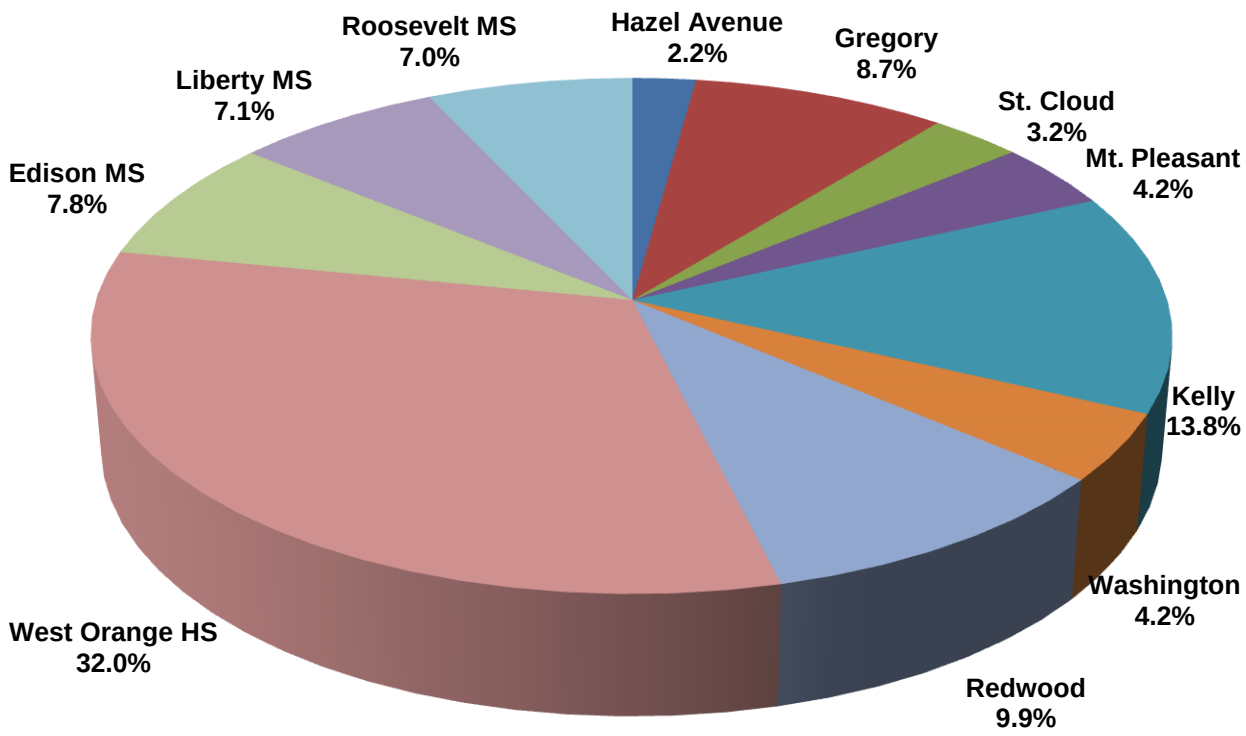
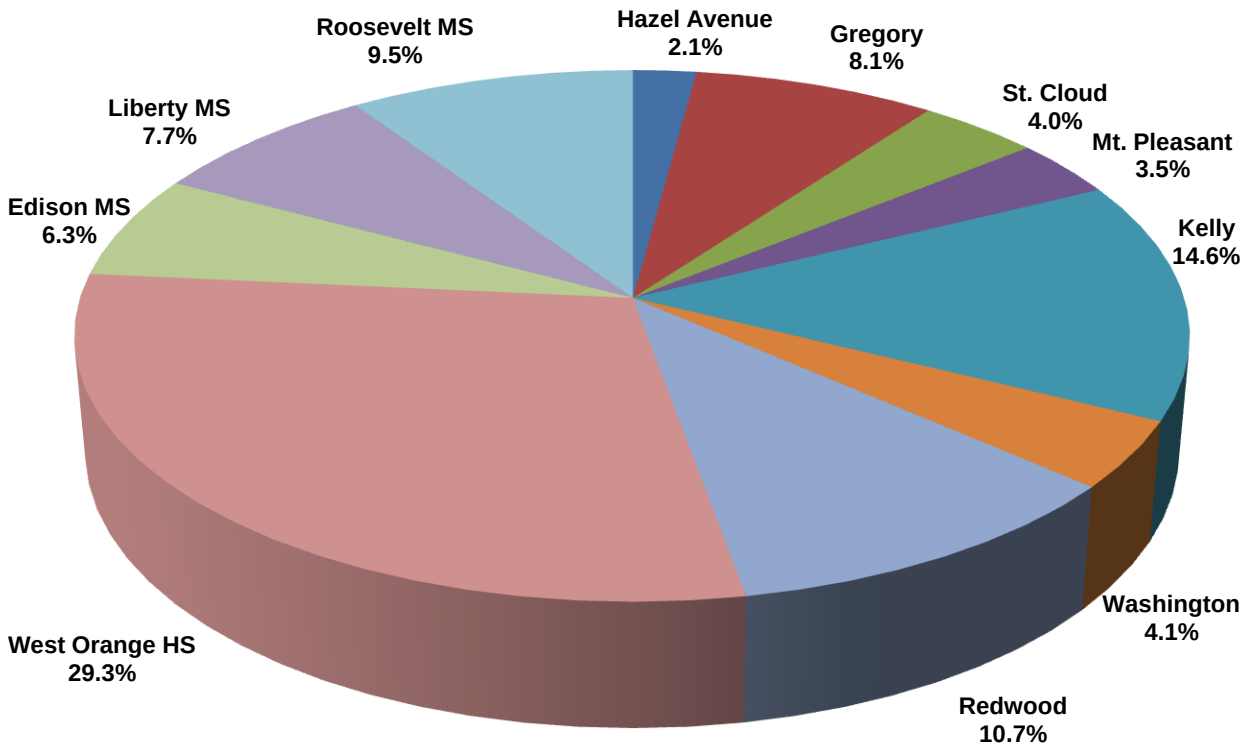


Figure 31 below partitions the district's special education students by school in 2016-17. Out-of-district placements were also excluded. In general, the percentages by schools are very similar to 2011-12. At West Orange High School, 29.3% of the district's special education population is educated there, which is a slightly lower percentage than 2011-12. At the elementary level, each of the schools has a similar percentage of the district's special education population as compared to 2011-12. Kelly has the highest percentage (14.6%) of the district's seven elementary schools. At the middle school level, the percentages range from 6.3% at Edison to 9.5% at Roosevelt, which are fairly similar to the 2011-12 percentages.

Figure 31
West Orange Public Schools
Special Education Students by School
2016-17



In Table 11, the number and percentage of special education students *within each school* is shown from 2011-12 to 2016-17. The table also shows the overall percentage of special education students with respect to the district's total enrollment and the change in the number and percentage points of special education students over this time period for each school. In 2011-12, 1,298 students (19.2%) received special education in the school district. In 2016-17, the number dropped to 1,191 (18.0%), a decline of 107 special education students.

Table 11
West Orange Public Schools Number of Special Education Students and Within School Percentages 2011-12 to 2016-17

	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	Numerical & % Point Change
Gregory	113	108	110	107	101	96	**-17**
	19.2%	18.8%	19.3%	19.6%	19.4%	19.0%	**-0.2**
Hazel Avenue	28	29	37	30	28	25	**-3**
	7.6%	7.6%	9.8%	7.9%	7.7%	7.4%	**-0.2**
Mt. Pleasant	54	52	53	37	44	42	**-12**
	13.0%	12.3%	12.8%	9.4%	11.6%	11.5%	**-1.5**
Kelly	179	201	196	177	159	174	**-5**
	42.2%	42.9%	39.8%	39.8%	37.9%	38.2%	**-4.0**
Redwood	129	121	129	126	119	128	**-1**
	22.5%	21.3%	21.8%	22.3%	21.8%	22.3%	**-0.2**
St. Cloud	41	38	47	43	44	48	**+7**
	10.6%	10.1%	11.9%	10.7%	11.3%	13.1%	**+2.5**
Washington	55	54	59	40	43	49	**-6**
	13.6%	13.0%	13.3%	9.1%	9.9%	11.3%	**-2.3**
Edison MS	101	84	79	99	93	75	**-26**
	21.3%	17.0%	17.6%	18.2%	18.0%	15.4%	**-5.9**
Liberty MS	92	87	89	76	82	92	**0**
	16.7%	17.2%	17.7%	16.9%	16.5%	17.3%	**+0.6**
Roosevelt MS	91	93	102	100	107	113	**+22**
	19.6%	19.0%	19.8%	19.2%	20.0%	20.3%	**+0.7**
West Orange HS	415	414	408	364	353	349	**-66**
	19.7%	19.4%	19.3%	17.8%	17.0%	17.4%	**-2.3**
Total	**1,298**	**1,281**	**1,309**	**1,199**	**1,173**	**1,191**	**-107**
Total District Enrollment	**6,759.5**	**6,835**	**6,868**	**6,727**	**6,681.5**	**6,611**	
Percent of Total	**19.2%**	**18.7%**	**19.1%**	**17.8%**	**17.6%**	**18.0%**	

Source: West Orange Public Schools

Note: Does not include out-of-district special education students

Figures 32 and 33 show the percentage of special education students within each elementary school for 2011-12 and 2016-17 for comparison purposes. In general, each elementary school has a similar number and percentage of special education students in 2016-17 as compared to 2011-12. In 2011-12 and 2016-17, Hazel Avenue had the lowest percentage of special education students while Kelly had the highest.

At the middle school level, Roosevelt had a small increase (+22) in the number of special education students since 2011-12 while Edison had a small decline (-26). While the percentage of special education students at Liberty and Roosevelt has been fairly stable from 2011-12 to 2016-17, the percentage has been decreasing at Edison. In 2016-17, 15.4% of students at Edison receive special education, which a decline of 5.9 percentage points from 2011-12, the largest change of any school in the district.

From 2011-12 to 2016-17, the number of special education students at West Orange High School has declined from 415 to 349. In 2016-17, 17.4% of the students receive special education as compared to 19.7% in 2011-12, a decline of 2.3 percentage points.

Figure 32
West Orange Public Schools Special Education Percentage by Elementary School
2011-12

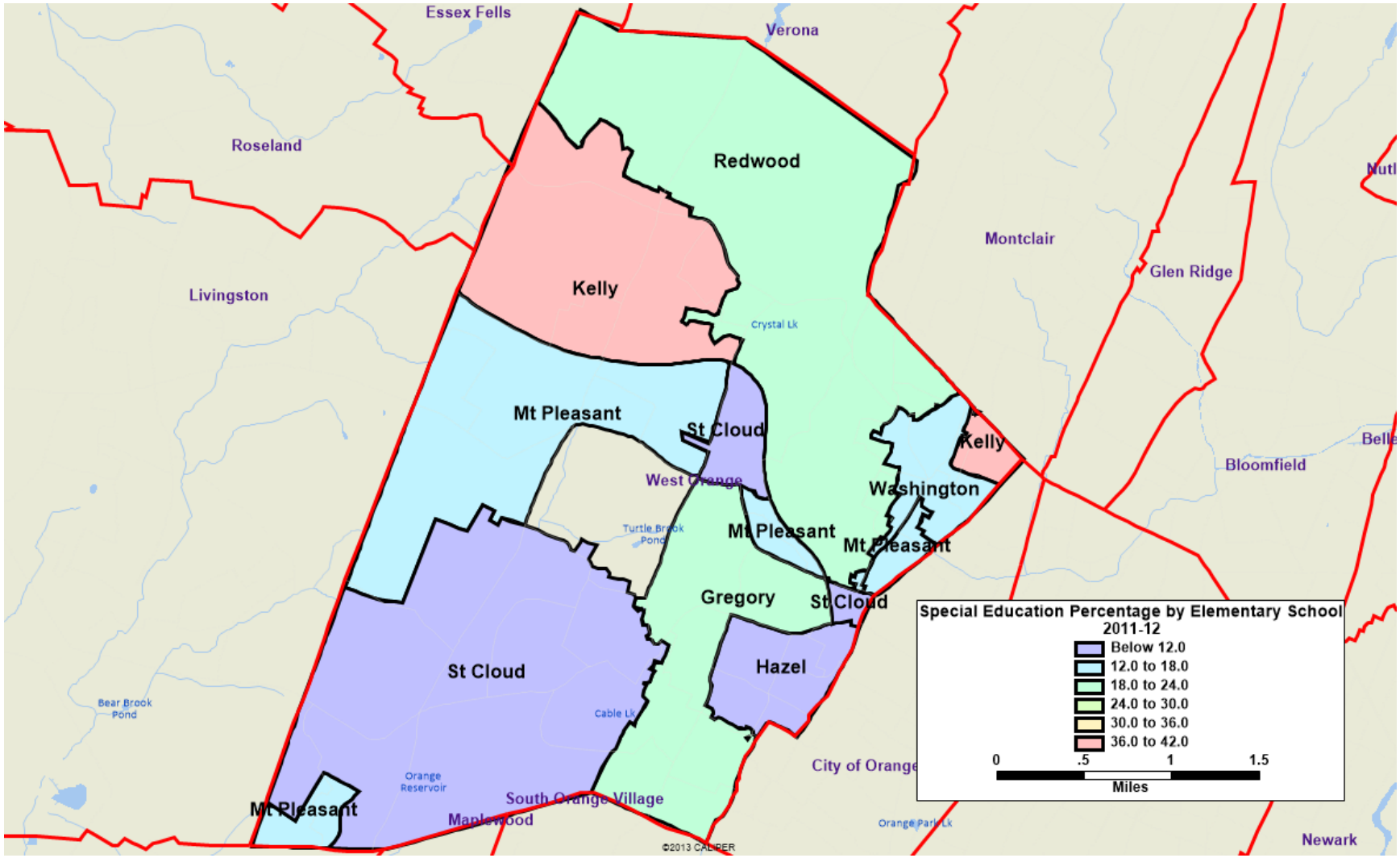
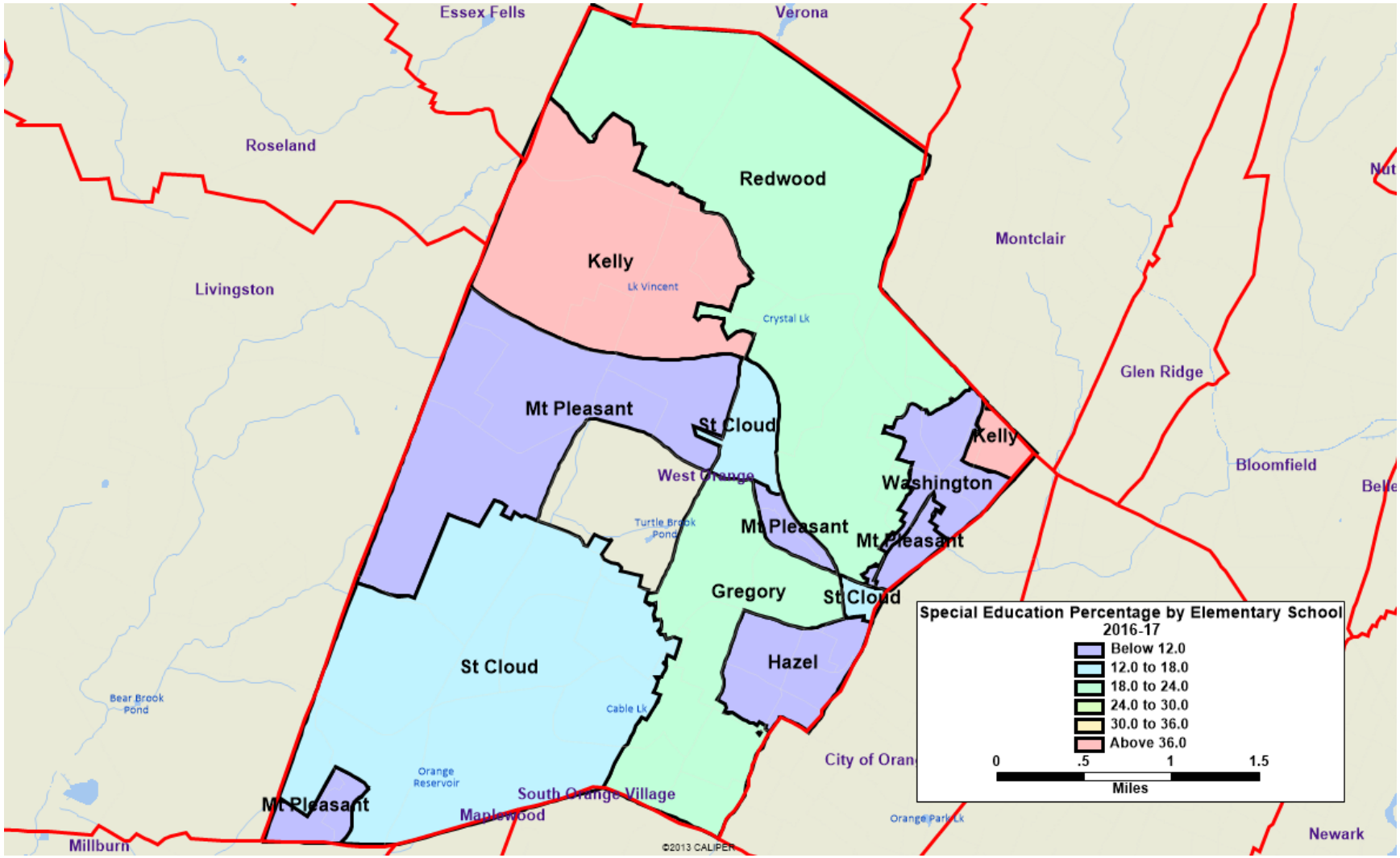


Figure 33
West Orange Public Schools Special Education Percentage by Elementary School
2016-17



English Language Learners

With respect to the district's English Language Learners ("ELL") population, Figure 34 below partitions the district's ELL population by school in 2011-12. Nearly one-third (31.7%) of the district's ELL population attended West Orange High School. At the elementary level, Hazel Avenue had the greatest percentage (12.9%) of the district's ELL population while Kelly had the smallest percentage (4.0%). Finally, at the middle school level, each of the schools had a similar percentage of the district's ELL population, ranging from a low of 3.6% at Edison to a high of 4.8% at Liberty.

Figure 34
West Orange Public Schools
English Language Learners by School
2011-12

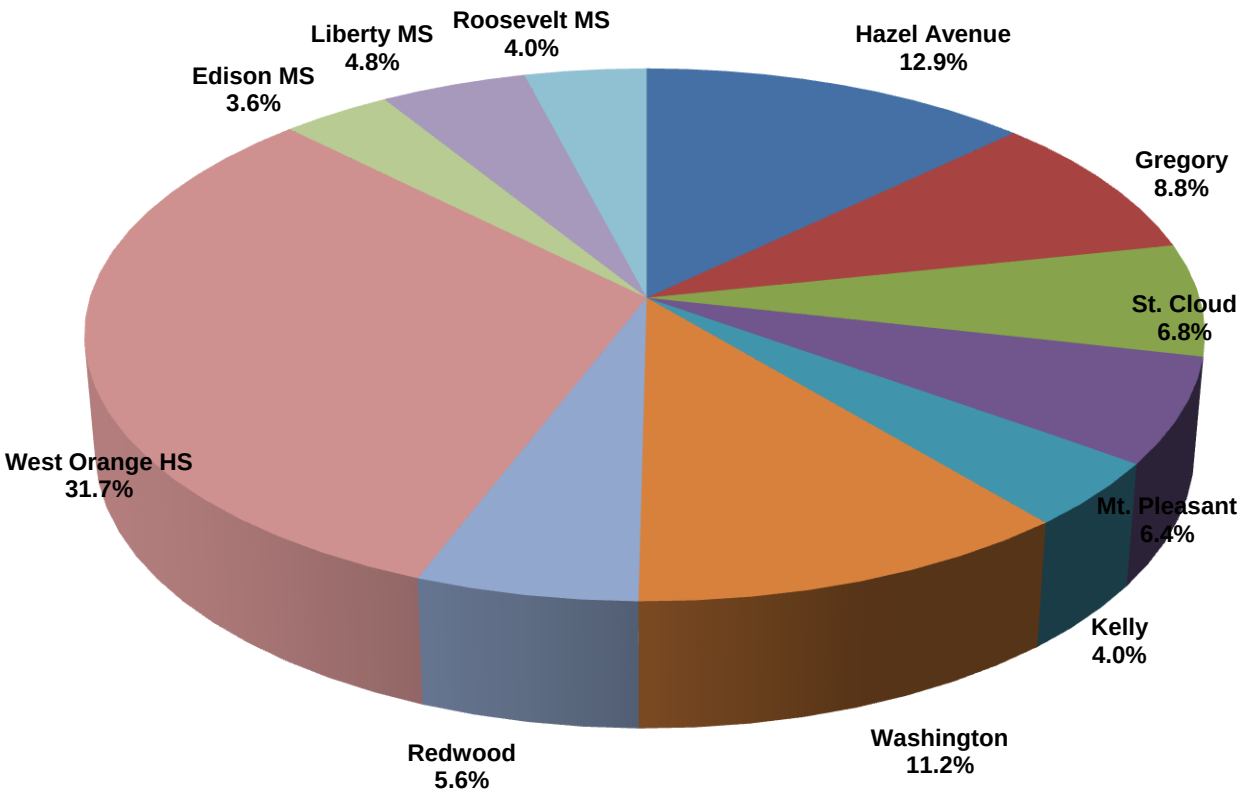
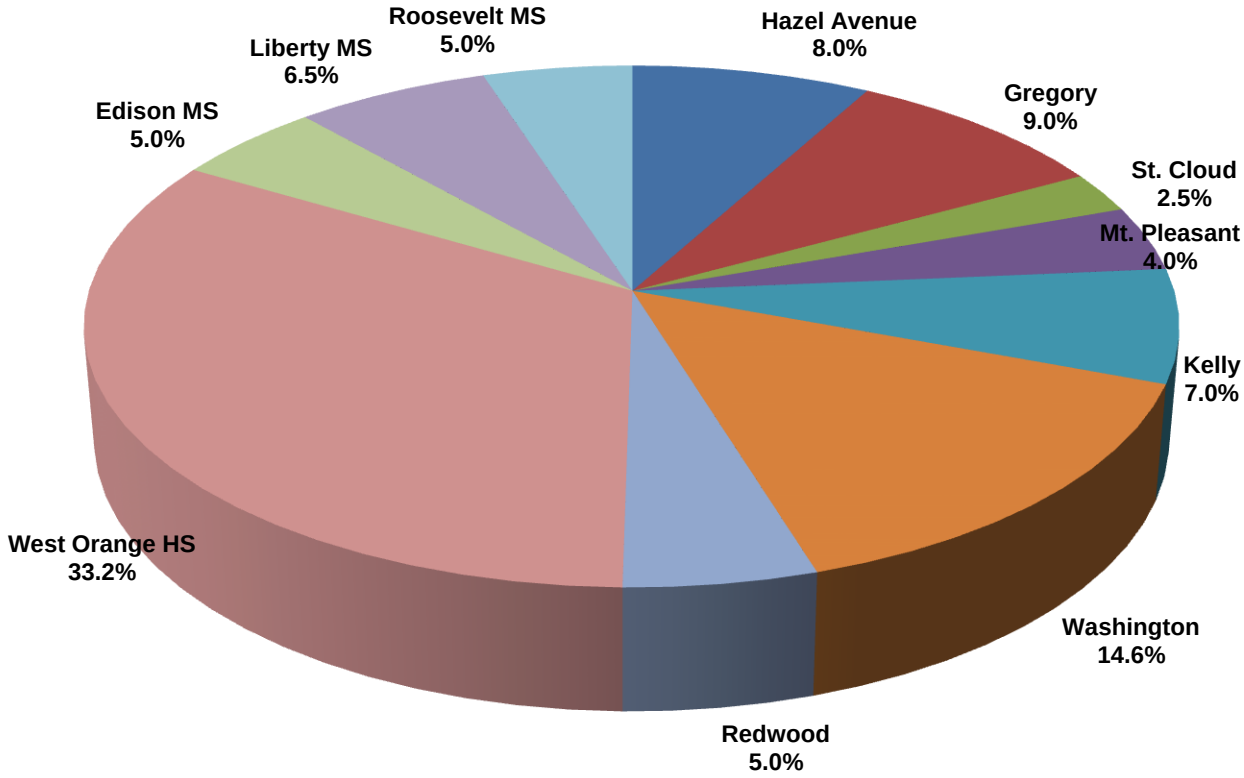


Figure 35 below partitions the district's ELL population by school for 2016-17. One-third (33.2%) of the district's ELL students attends West Orange High School. At the elementary level, St. Cloud has the smallest percentage (2.5%) of the district's ELL students while Washington has the largest (14.6%). At the middle school level, the percentage of the district's ELL students is fairly similar, ranging from 5.0% at Edison and Roosevelt to 6.5% at Liberty.

Figure 35
West Orange Public Schools
English Language Learners by School
2016-17



In Table 12, the number and percentage of ELL students *within each school* is shown from 2011-12 to 2016-17. The table also shows the overall percentage of ELL students with respect to the district's total enrollment and the change in the number and percentage points of ELL students over this time period for each school. At the district level, the number and percentage of ELL students has declined. In 2011-12, there were 249 ELL students representing 3.7% of the student population as compared to 199 ELL students in 2016-17 representing 3.0% of the district's population. At the elementary school level, Hazel Avenue had the largest ELL percentage in 2011-12 at 8.7% while Washington had the largest percentage (9.4%) in 2016-17 as shown in Figures 36 and 37. At the middle school level, the ELL percentage has not changed significantly in any of the schools and was approximately 2% in each school in 2011-12 and

2016-17. In 2016-17, Liberty has the highest ELL percentage (2.4%) while Roosevelt has the lowest (1.8%). In West Orange High School, the ELL percentage is 3.3% in 2016-17, which is similar to the 2011-12 percentage (3.7%).

Table 12
West Orange Public Schools Number of English Language Learners and Within School Percentages 2011-12 to 2016-17

	2011-12	2012-13[1]	2013-14	2014-15	2015-16	2016-17	Numerical & % Point Change
Gregory	22	N/A	24	17	15	18	**-4**
	3.7%	N/A	4.2%	3.1%	2.9%	3.6%	**-0.1**
Hazel Avenue	32	N/A	39	34	30	16	**-16**
	8.7%	N/A	10.4%	8.9%	8.2%	4.7%	**-4.0**
Mt. Pleasant	16	N/A	11	16	6	8	**-8**
	3.8%	N/A	2.7%	4.1%	1.6%	2.2%	**-1.6**
Kelly	10	N/A	27	20	16	14	**+4**
	2.4%	N/A	5.5%	4.5%	3.8%	3.1%	**+0.7**
Redwood	14	N/A	15	14	8	10	**-4**
	2.4%	N/A	2.5%	2.5%	1.5%	1.7%	**-0.7**
St. Cloud	17	N/A	13	16	13	5	**-12**
	4.4%	N/A	3.3%	4.0%	3.4%	1.4%	**-3.0**
Washington	28	N/A	46	38	37	29	**+1**
	6.9%	N/A	10.3%	8.7%	8.5%	9.4%	**+2.5**
Edison MS	9	N/A	6	10	9	10	**+1**
	1.9%	N/A	1.3%	1.8%	1.7%	2.1%	**+0.2**
Liberty MS	12	N/A	21	14	14	13	**+1**
	2.2%	N/A	4.2%	3.1%	2.8%	2.4%	**+0.2**
Roosevelt MS	10	N/A	12	12	7	10	**0**
	2.2%	N/A	2.3%	2.3%	1.3%	1.8%	**-0.4**
West Orange HS	79	N/A	71	94	87	66	**-13**
	3.7%	N/A	3.4%	4.6%	4.2%	3.3%	**-0.4**
Total	**249**	**N/A**	**285**	**285**	**242**	**199**	**-50**
Total District Enrollment	**6,759.5**	**6,835**	**6,868**	**6,727**	**6,681.5**	**6,611**	
Percent of Total	**3.7%**	**N/A**	**4.1%**	**4.2%**	**3.6%**	**3.0%**	

Source: New Jersey Department of Education (http://www.nj.gov/education/data/enr/).
Note: [1]Data for 2012-13 was unavailable.

Figure 36
West Orange Public Schools English Language Learner Percentage by Elementary School 2011-12

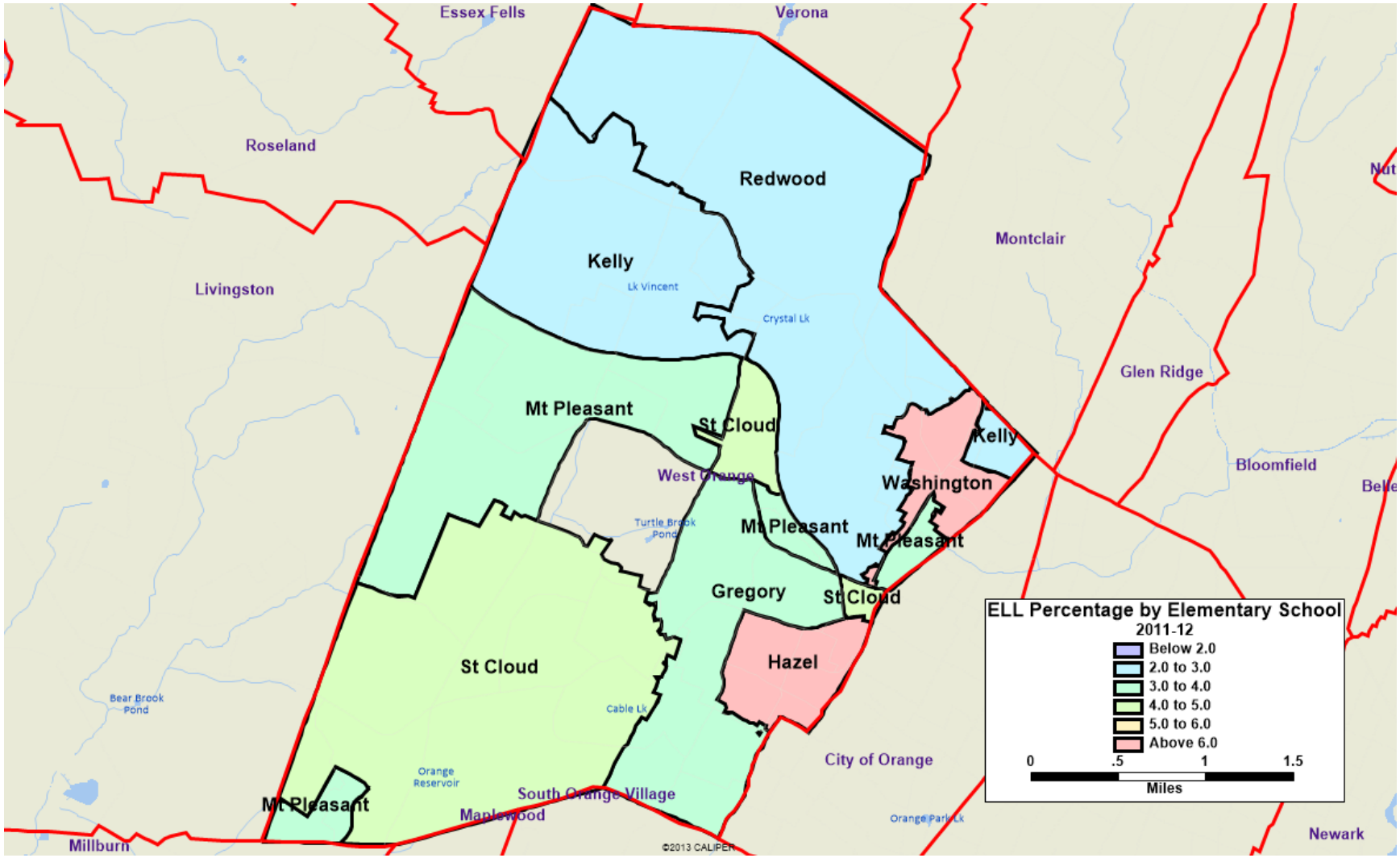
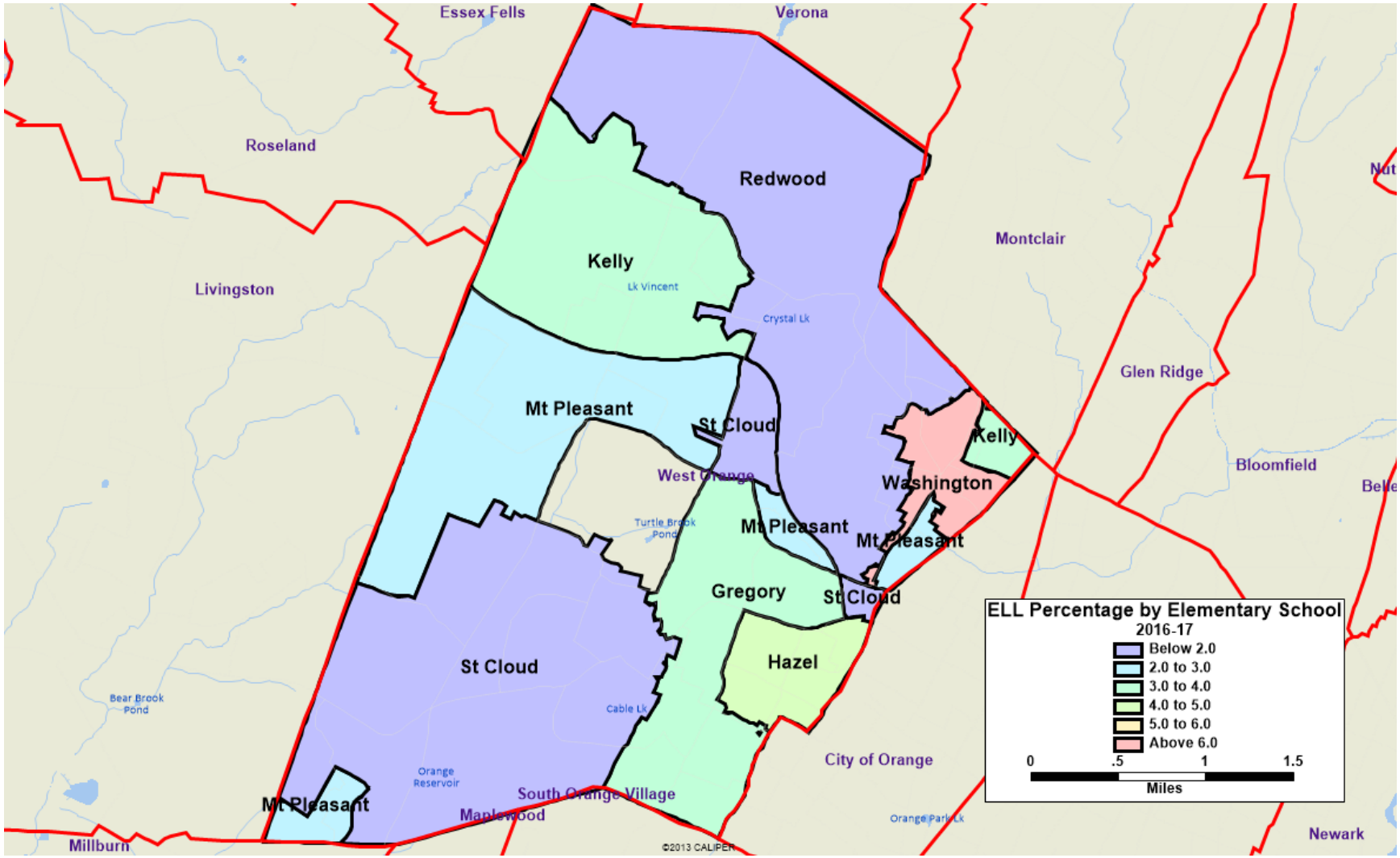


Figure 37
West Orange Public Schools English Language Learner Percentage by Elementary School 2016-17



Attrition Rates

The number and percentage of students who left the West Orange Public Schools (also known as attrition rate) from 2011-12 to 2016-17 is shown by school in Table 13. The table also shows the overall attrition rate with respect to the district's total enrollment and the change in the number and percentage points of students who exited an individual school over this time period.

With the exception of the 2015-16 school year when the school district completed a re-registration of students resulting in a high number (523) of students leaving the district, the number leaving has been fairly stable, ranging from 194-268 students per year. The district's attrition rate has also been fairly stable, ranging from 2.8-3.9%. At the elementary school level, the number and percentage of students exiting in 2016-17 are very similar to 2011-12. Mt. Pleasant had the highest attrition rate in 2011-12 at 5.3% while Kelly has the highest (4.8%) in 2016-17 as shown in Figures 38 and 39. In 2016-17, St. Cloud has the lowest (0.8%) attrition rate of any of the elementary schools.

At the middle school level, the number of students exiting and the attrition rate also has not changed significantly in any of the schools. In 2016-17, Edison and Liberty have similar percentages, 3.7% and 3.6% respectively, while Roosevelt was lower at 1.8%.

Districtwide, West Orange High School had the greatest number (81) of students leave in 2016-17, representing 4.0% of the school's student population. However, the number of students exiting and the attrition rate in the school are similar to those from 2011-12 (93 and 4.4% respectively).

Table 13
West Orange Public Schools Number of Students Exiting by School and Within School Percentages
2011-12 to 2016-17

	2011-12	2012-13	2013-14	2014-15	2015-16[1]	2016-17	Numerical & % Point Change
Gregory	11	18	18	11	41	11	**0**
	1.9%	3.1%	3.2%	2.0%	7.9%	2.2%	**+0.3**
Hazel Avenue	8	10	13	9	28	9	**1**
	2.2%	2.6%	3.5%	2.4%	7.7%	2.7%	**+0.5**
Mt. Pleasant	22	16	7	10	34	10	**-12**
	5.3%	3.8%	1.7%	2.5%	8.9%	2.7%	**-2.6**
Kelly	21	28	28	16	30	22	**+1**
	5.0%	6.0%	5.7%	3.6%	7.1%	4.8%	**-0.2**
Redwood	26	22	9	15	48	22	**-4**
	4.5%	3.9%	1.5%	2.7%	8.8%	3.8%	**-0.7**
St. Cloud	10	18	11	21	58	3	**-7**
	2.6%	4.8%	2.8%	5.2%	14.9%	0.8%	**-1.8**
Washington	15	21	9	12	33	17	**+2**
	3.7%	5.1%	2.0%	2.7%	7.6%	3.9%	**+0.2**
Edison MS	8	8	10	27	43	18	**+10**
	1.7%	1.6%	2.2%	5.0%	8.3%	3.7%	**+2.0**
Liberty MS	20	17	10	8	44	19	**-1**
	3.6%	3.4%	2.0%	1.8%	8.9%	3.6%	**0.0**
Roosevelt MS	14	13	13	13	26	10	**-4**
	3.0%	2.7%	2.5%	2.5%	4.9%	1.8%	**-1.2**
West Orange HS	93	97	66	72	138	81	**-12**
	4.4%	4.5%	3.1%	3.5%	6.6%	4.0%	**-0.4**
Total	**248**	**268**	**194**	**214**	**523**	**222**	**-26**
Total District Enrollment	**6,759.5**	**6,835**	**6,868**	**6,727**	**6,681.5**	**6,611**	
Percent of Total	**3.7%**	**3.9%**	**2.8%**	**3.2%**	**7.8%**	**3.4%**	

Source: West Orange Public Schools

Note: [1]High attrition rate was caused by a re-registration of students by school district.

Figure 38
West Orange Public Schools Exiting Percentage by Elementary School 2011-12

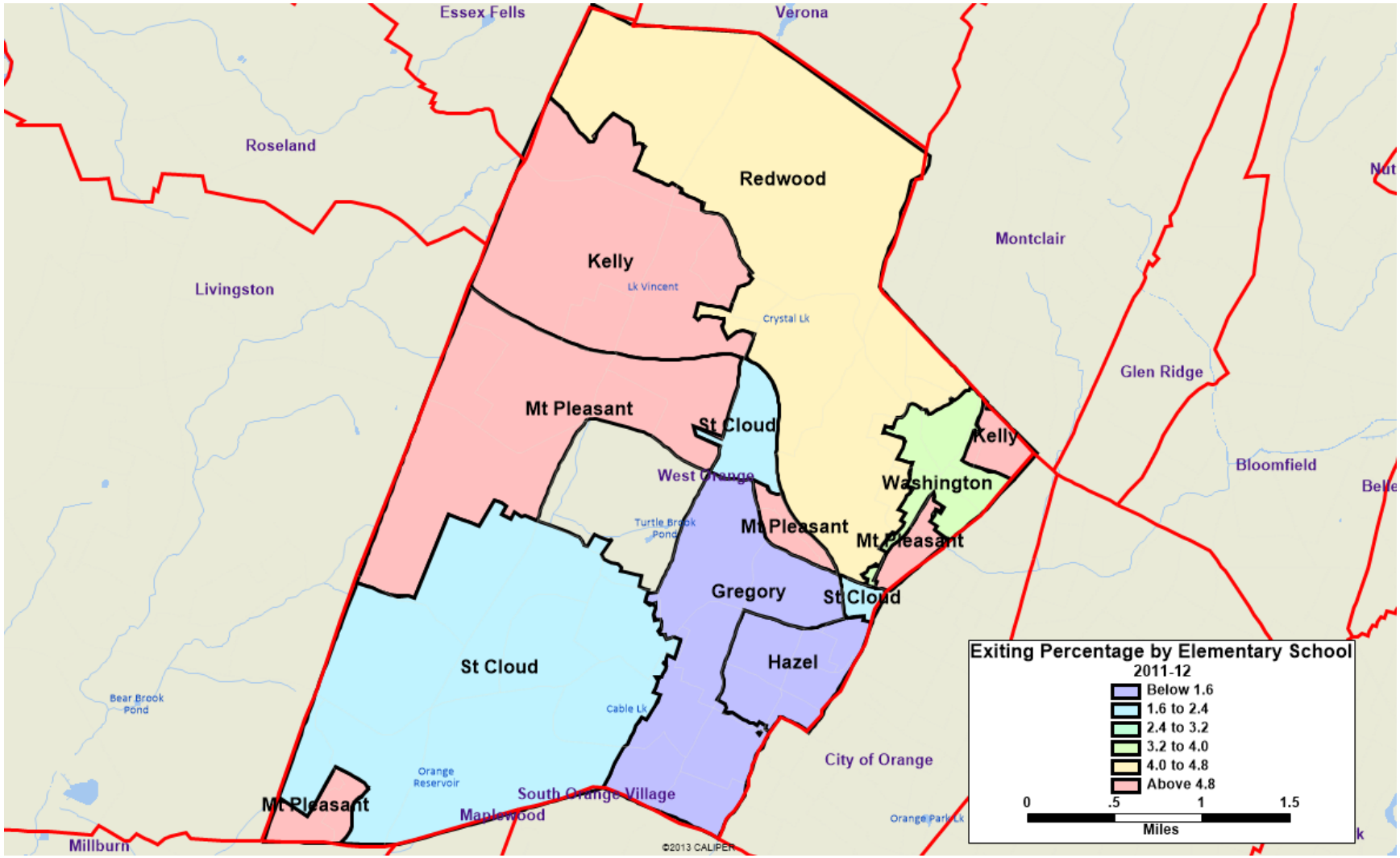
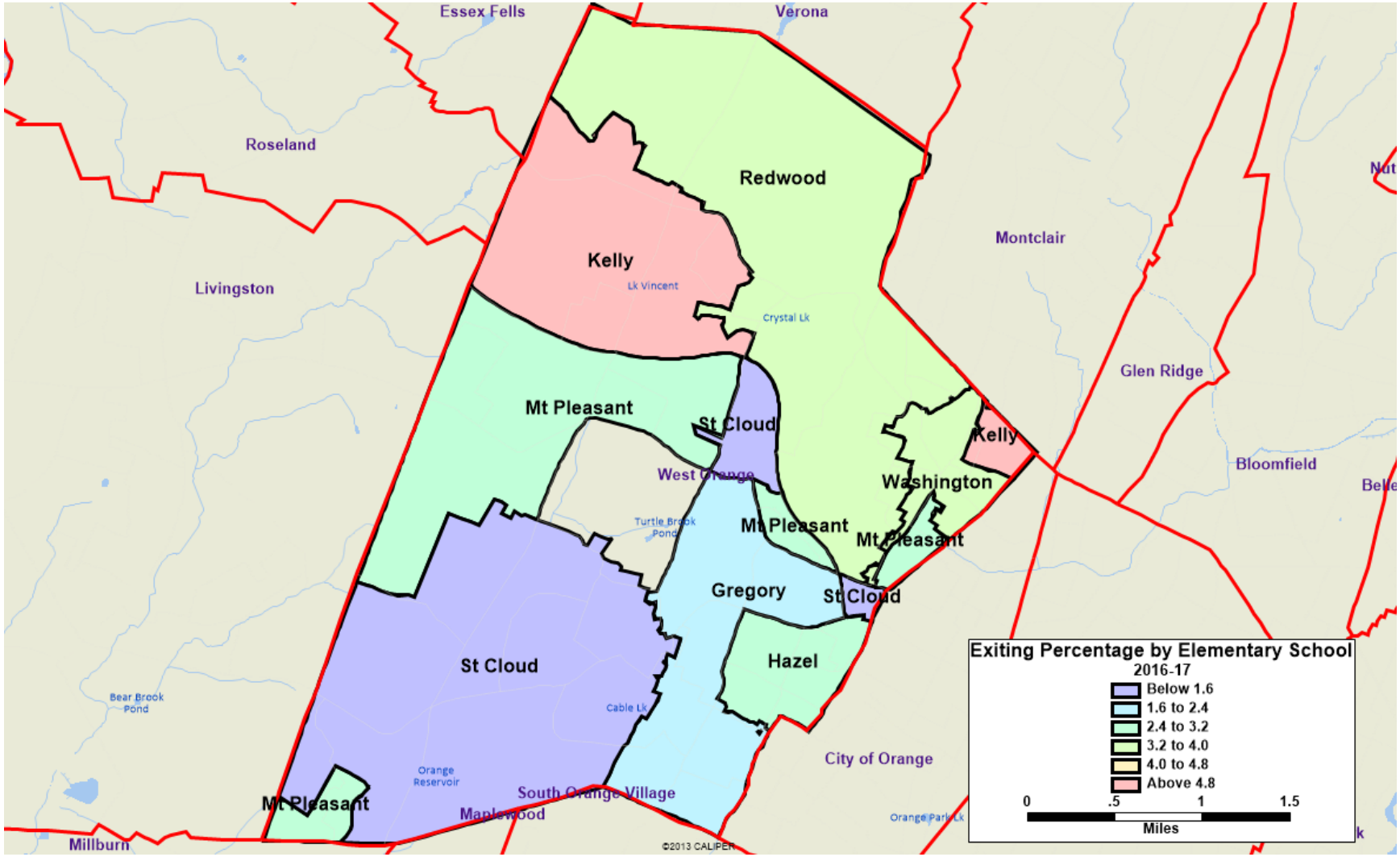


Figure 39
West Orange Public Schools Exiting Percentage by Elementary School 2016-17



New Housing in West Orange

Representatives from West Orange provided information regarding planned residential development in the community. As shown in Table 14, 756 housing units are planned in West Orange. The table does not include new houses built on single in-fill lots, which averages approximately two units per year. As part of the Downtown Redevelopment, there are plans to redevelop the former Edison Storage Battery Building. The first phase of the redevelopment, known as Edison Lofts, will include a mix of retail and residential units. A total of 333 rental units are proposed with a mix of studio, one-bedroom, two-bedroom, and three-bedroom apartment units and is likely to be completed in late 2018 or early 2019. Main Street Development Phase II is planned on Lakeside Avenue, Babcock Place, and Watchung Avenue and will consist of 296 market-rate and affordable townhouses. This development is expected to begin construction in 2019 and not be completed until 2025.

Table 14
Planned Residential Developments in West Orange

Subdivision/ Developer	Elementary/ Middle School Attendance Areas	Location	Number of Units	Housing Type	Notes
Main Street Development Edison Lofts Phase I	Washington or Redwood/Liberty	175-177 Main Street	333	Apartments	Mixed-use development to be located at former Edison Storage Battery. 41 Studio, 196 1-BR, 87 2-BR, 9 3-BR. Residential over new Retail: 22 1-BR, 12 2-BR Likely to be completed in late 2018/ early 2019.
Main Street Development Phase II	Washington or Redwood/Liberty	Lakeside Avenue, Babcock Place, and Watchung Avenue	296	Townhouse	252 are market-rate for-sale units 172 2-BR Units 80 3-BR Units 44 are Low-Moderate Income Rental Units 8 1-BR 27 2-BR 9 3-BR Final construction is not expected to be completed until 2025.
Colonial Woods	Mt. Pleasant/Liberty	Colonial Woods Drive	27	Single-Family	Two homes finished. No timeline on completion of other homes.
Valley Road Residential	Hazel Avenue/Roosevelt	Mitchell Street and Joyce Street	100	Market-rate and affordable Apartments	55 affordable units, 45 market-rate units 33 1-BR, 59 2-BR, 8 3-BR. Not yet under construction
Total		**756 Housing Units**			

Source: Township of West Orange

In the Colonial Woods development on Colonial Woods Drive, a total of 27 detached single-family homes are planned. Two homes have been constructed in this development.

A fourth development, Valley Road Residential, consisting of 100 market-rate and affordable apartment units on Mitchell and Joyce Streets, is planned but is not yet under construction. The apartments will be a mix of one-bedroom, two-bedroom, and three-bedroom units.

In addition, Table A1 in the Appendix lists potential residential developments in West Orange. Some of these developments are either in litigation or are in very early stages of planning with unknown housing types (detached single-family, townhouse, apartment, etc.), unit totals, or bedroom distributions. Due to the uncertainty of whether these developments will ever be constructed, they are not discussed here, nor is the potential impact on the school district considered.

Student Yield Analysis of One- to Four-Family Homes

To determine the number of children per housing unit (student yield) of all one- to four-family homes in West Orange, the township's parcel-level database (excluding townhouses and condominiums, which were analyzed separately) was joined to the school district's 2016-17 student database. A total of 12,870 one- to four-family homes were identified. The simplest way to compute student yields is to divide the total number of students by the total number of homes. However, one drawback of this computation is that the student yield would include homes owned by all age segments of the population, such as empty-nesters and senior citizens, which would lower the overall student yield. Yields computed in this fashion are likely underestimating the future number of children in proposed developments or from home resales, where families with children are likely to be the buyers.

Instead, the length of ownership of the housing unit was considered, as student yields are typically highest from 0-10 years of ownership and are lowest at 20 or more years of ownership. It should be noted that the forthcoming student yield distribution is a snapshot in time. If the percentage of children in the population changes, or the demographics of the community change where ethnic groups of larger sizes enter, or if the school district's reputation changes and more or less children attend the district, student yields are likely to change as well.

To determine length of ownership, parcel-level records of all one- to four-family homes in West Orange were downloaded from the Monmouth County Tax Board[1] database. Besides the property address, other variables include block and lot, sale dates and prices, and in most instances, the year that the home was built. Since student yields by length of ownership were analyzed, it was necessary to know the year of the most recent sale. Determining the most recent sale date was not always obvious. Some of the most recent sale dates had a sales price of $1 or $100. These "paper sales" were coded as a non-usable deed transaction. These transactions include sales between members of the immediate family, resulting in a change in title but often not a change of the occupant. In these instances, this data were excluded from the analysis and the next most recent sale date was used instead.

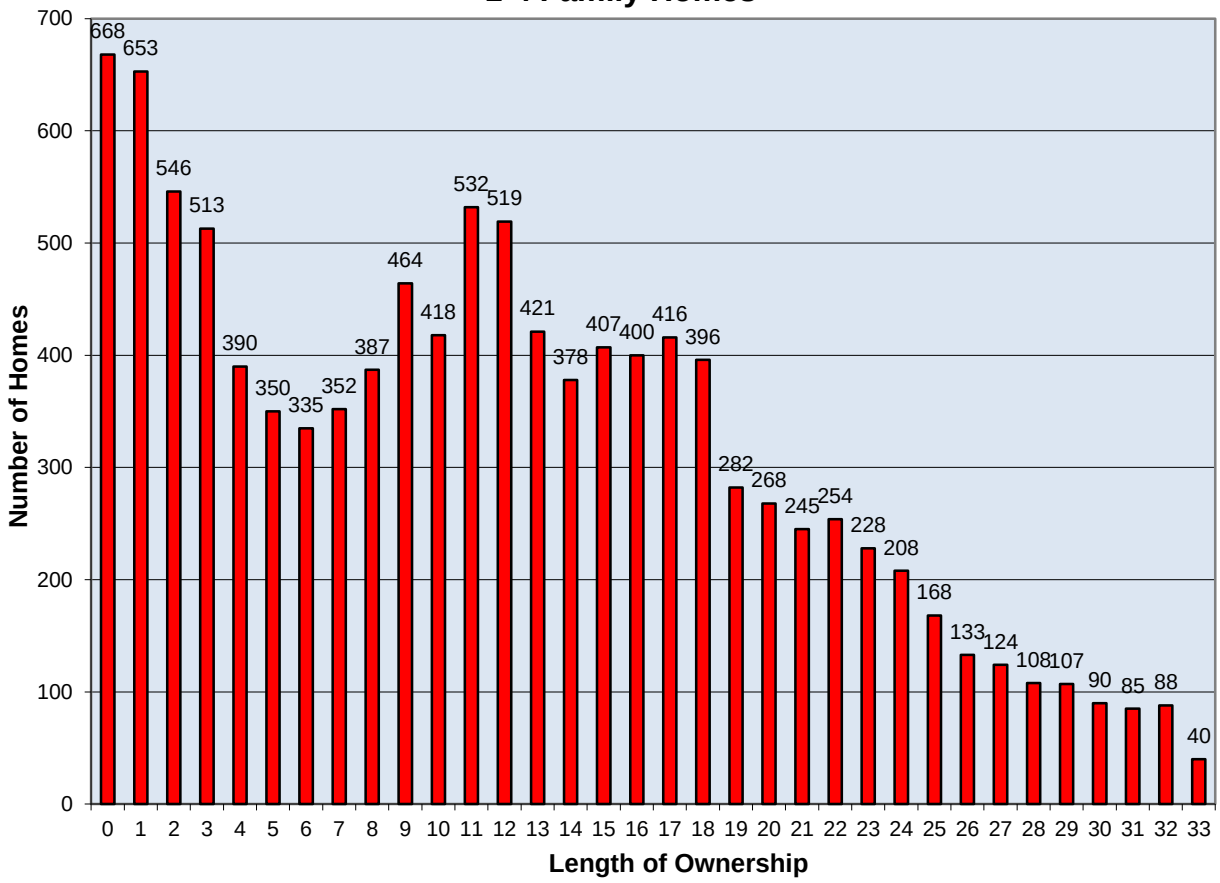
[1] The Monmouth County database provides information for all municipalities in the state.

One of the limitations of the database was the lack of recorded sales prior to 1983. Since many of the homes were never sold since 1983, the length of ownership exceeded 33 years (using data through 2016) but the exact length of ownership was unknown. The community also had many homes constructed after 1983 that had never been sold. However, in these instances, the length of ownership could be computed by simply subtracting the year that the home was built from the current year.

Current Distribution of One- to Four-Family Homes by Length of Ownership

Figure 40 shows the current length of ownership distribution of one- to four-family homes in West Orange. In general, the number of homes begins to decline through six years of ownership before increasing through eleven years of ownership. After eleven years of ownership, the number of homes at each length of ownership begins to decline. A total of 1,897 homes (14.7%) have never been sold, and therefore have been owned 34 or more years, which is a relatively large percentage of the housing population. This is not shown in the figure, as it would skew the end of the distribution.

Figure 40
Current Length of Ownership in West Orange
1-4 Family Homes



Student Yields by Length of Ownership in One- to Four-Family Homes

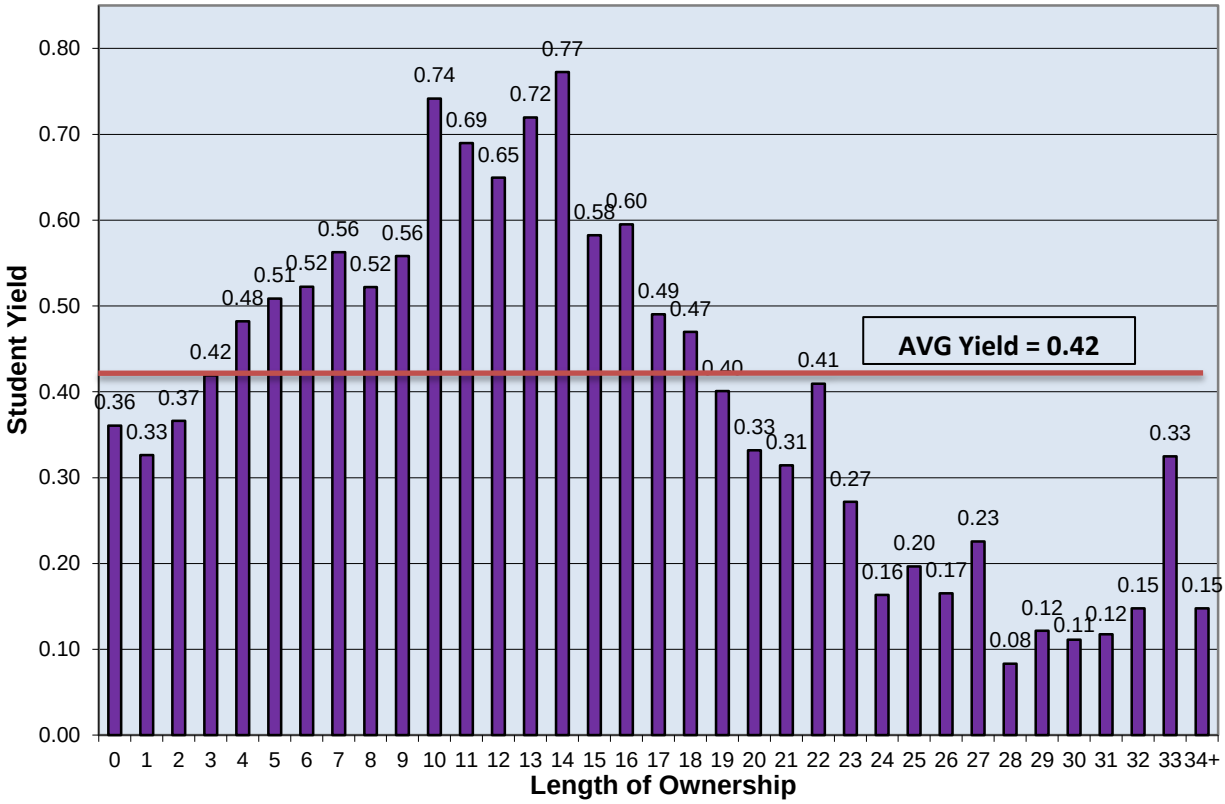
Student yields by length of ownership of one- to four-family homes was determined by joining the parcel-level property database with 2016-17 student address data, which was provided by the school district. Table 15 following shows the student yields by length of ownership for the PK-12 student population (public school students only). It is expected that longer-held homes will have fewer children, as they would have graduated from the district.

Table 15
Student Yields by Current Length of Ownership in One- to Four-Family Homes

Years of Ownership	Number of Housing Units	Number of Students in 2016-17	Student Yield
0	668	241	0.36
1	653	213	0.33
2	546	200	0.37
3	513	215	0.42
4	390	188	0.48
5	350	178	0.51
6	335	175	0.52
7	352	198	0.56
8	387	202	0.52
9	464	259	0.56
10	418	310	0.74
11	532	367	0.69
12	519	337	0.65
13	421	303	0.72
14	378	292	0.77
15	407	237	0.58
16	400	238	0.60
17	416	204	0.49
18	396	186	0.47
19	282	113	0.40
20	268	89	0.33
21	245	77	0.31
22	254	104	0.41
23	228	62	0.27
24	208	34	0.16
25	168	33	0.20
26	133	22	0.17
27	124	28	0.23
28	108	9	0.08
29	107	13	0.12
30	90	10	0.11
31	85	10	0.12
32	88	13	0.15
33	40	13	0.33
34+	1897	280	0.15

Figure 41 shows that, in general, student yields slowly increase with length of ownership, peaking at 0.77 children per housing unit with 14 years of ownership. Student yields then gradually decline as length of ownership increases. After 24 years of ownership, student yields are typically below 0.20 children per home.

Figure 41
Student Yields by Length of Ownership in West Orange
1-4 Family Homes



Since the length of ownership is a distribution, how can one determine what is the likely student yield in a home resale or newly constructed unit? Since the distribution is a snapshot in time, what is a reasonable student yield to use? Computing the average over the entire length of ownership period underestimates the number of children, since there are so few children at longer lengths of ownership as children graduate from the school district. Unfortunately, there is no research-based metric to determine what part of the distribution should be used to estimate future schoolchildren. Instead, we propose computing an average using all of the years up to the peak student yield, which estimates the maximum impact before student yields begin to decline.

As discussed above, the average student yield (0.42) computed from the entire housing stock likely underestimates the actual student yield when a family either moves into a new home or a resale. If an average student yield is computed for the first 14 years of ownership when the peak student yield occurs, the yield increases to 0.53. This is likely a better estimate of the student yield of one- to four-family homes in West Orange. As West Orange has many duplexes, the length of ownership of the house may not be indicative of the owner characteristics as many

homes might be renter-occupied. However, this distribution provides a reasonable estimate of the number of children in homes of this type.

Student Yield Analysis for Townhouses/Condominiums

Student yields were also computed for townhouses/condominiums in West Orange by joining the township's parcel-level database with student addresses from the 2016-17 year. Lengths of ownership were not computed as there were not enough units at each length of ownership to conduct a meaningful analysis. In Table A2 in the Appendix, student yields are shown by property address or the name of development for townhouse/condominium complexes in West Orange. While large developments have been listed in the Appendix, it is possible that there are other, smaller complexes that have not been identified. In Table 16 following, the student yields from the Appendix were aggregated and summarized by elementary attendance area. While there were more than 2,800 townhouse/condominium units in West Orange, no units were located in the Washington attendance area. The Redwood attendance area had the greatest number of units, accounting for 35% of the township's townhouses/condominiums. The Mt. Pleasant and St. Cloud attendance areas also contain a significant number of units. As shown below, the average student yield for townhouse/condominium units in West Orange is 0.11 children per unit. While the Gregory and Hazel attendance areas had the highest yields at 0.19 and 0.18 respectively, the sample size was small in each area. Excluding the Washington attendance area, student yields ranged from 0.09 to 0.19 in the elementary attendance areas.

Table 16
Student Yields for Townhouses/Condominiums by Elementary Attendance Area

Attendance Area	Number of Units[1]	Number of Students[2]	Student Yield
Gregory	81	15	0.19
Hazel Avenue	28	5	0.18
Kelly	364	32	0.09
Mt. Pleasant	678	66	0.10
Redwood	979	106	0.11
St. Cloud	678	81	0.12
Washington	0	0	0.00
Total	**2,808**	**305**	**0.11**

Note: [1]As derived from West Orange property database
[2]Based on 2016-17 enrollment

Student Yield Analysis for Apartments

In addition, student yields were computed for apartment complexes in West Orange. In Table A3 in the Appendix, student yields are shown by property address or the name of the development for each apartment complex in West Orange. The table is not an all-inclusive list of all apartment units but contains most of the larger developments. In Table 17 following, the student yields from the Appendix were aggregated and summarized by elementary attendance area. As shown below, the average student yield is 0.21 children per unit in West Orange. The Mt. Pleasant and St. Cloud attendance areas had the lowest student yield (0.15) while the Kelly attendance area had the highest student yield (0.77). The Mt. Pleasant attendance area had the greatest number of apartment units, accounting for nearly 41% of the 1,973 apartment units in West Orange.

Table 17
Student Yields for Apartments by Elementary Attendance Area

Attendance Area	Number of Units[1]	Number of Students[2]	Student Yield
Gregory	551	98	0.18
Hazel Avenue	57	20	0.35
Kelly	69	53	0.77
Mt. Pleasant	804	122	0.15
Redwood	190	60	0.32
St. Cloud	237	35	0.15
Washington	65	34	0.52
Total	**1,973**	**422**	**0.21**

Note: [1]As derived from West Orange property database
[2]Based on 2016-17 enrollment

Historical Residential Construction

With respect to historical new construction, the number of certificates of occupancy ("COs") issued for new homes in West Orange from 2012-2016 is shown in Table 18. During this timeframe, 81 COs were issued for single- or two-family homes while 83 were issued for multi-family homes for a total of 164 COs, which is an average of 33 new units per year.

Table 18
Number of Residential Certificates of Occupancy by Year

Year	West Orange			
	1&2 Family	Multi-Family	Mixed Use	Total
2012	25	83	0	**108**
2013	12	0	0	**12**
2014	11	0	0	**11**
2015	25	0	0	**25**
2016	8	0	0	**8**
Total	**81**	**83**	**0**	**164**

Source: New Jersey Department of Community Affairs

To project the number of public school children per housing unit, several assumptions were made:

1. All detached single-family homes (Colonial Woods) were assumed to have the following student yield multiplier: 0.53[2].

2. All market-rate apartment units in Edison Lofts were assumed to have the student yield multiplier for apartments: (0.21 as shown in Table 17).

3. All affordable townhouse rental units in Main Street Development Phase II were assumed to have the following student yield multipliers: 1-bedroom = 0.14, 2-bedroom = 0.62, 3-bedroom = 1.27.

4. All market-rate townhouse units Main Street Development Phase II were assumed to have the student yield multiplier as shown in Table 16: 0.11.

5. All market-rate apartment units in Valley Road Residential were assumed to have the student yield multiplier for apartments in the Hazel Avenue attendance area as shown in Table 17: 0.35.

6. It was assumed that Edison Lofts, Colonial Woods, and Valley Road Residential would be constructed and occupied over a two-year period (2018-2019).

[2] As derived from the current length of ownership discussed previously.

7. It was assumed that Main Street Development Phase II would be constructed and occupied over a five-year period (2021-2025).

Based on these student yields, the number of children in grades K-12 anticipated from each development is as follows:

- Main Street Development Phase 1 (Edison Lofts) – 70
- Main Street Development Phase 2 – 57
- Colonial Woods – 14
- Valley Road Residential – 52

However, not all children from Main Street Development Phase II would enter the school district within the projection period (2017-18 through 2021-22). Since Phase II is projected to be constructed from 2021-2025, only 20% of the children (12) shown above are projected to enter the school district during the projection period. Therefore a total of 148 public school children are projected to be generated from the new housing developments during the projection period.

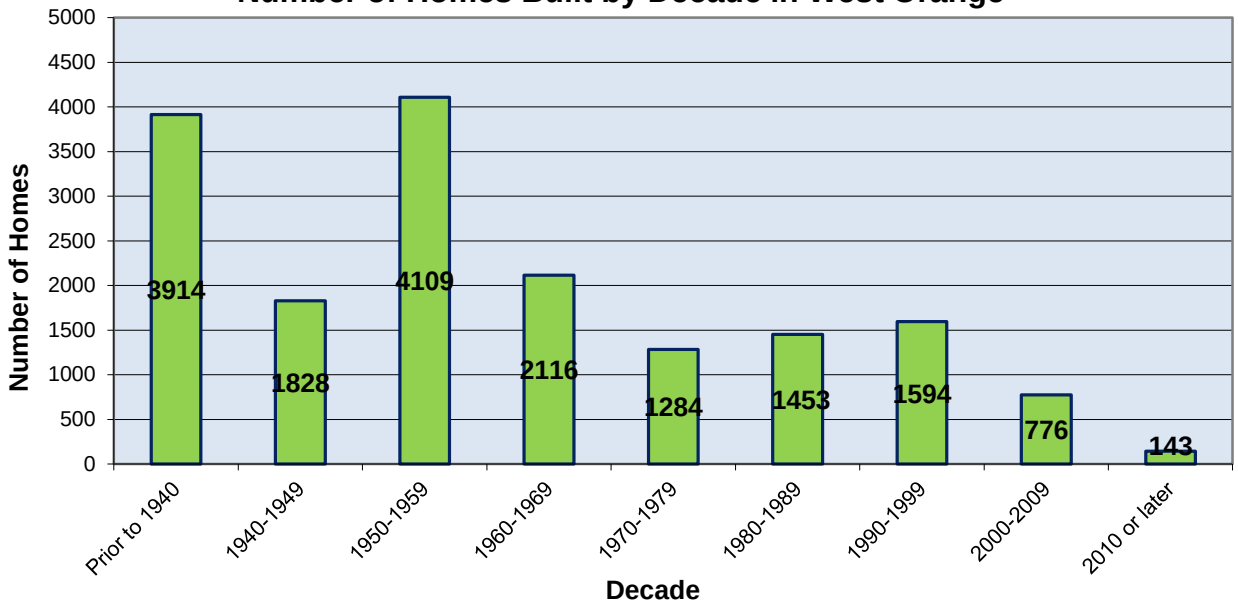
When determining the impact of future new housing, it should be clearly stated that the enrollment projections utilize cohort survival ratios that do take into account prior new home construction growth. Children who move into new homes during the historical period are captured by the survival ratios. Therefore, it is not appropriate to add all of the new children generated from new housing units without considering the historical period, as double counting would occur. Instead, the estimated number of public school children generated from new housing over the historical period (2012-2016) needs to be subtracted from the estimated number of children from future new housing. The net number of children is then added into the baseline enrollment projections.

In the forthcoming section, the baseline enrollment projections were adjusted for the additional children anticipated from the new housing developments. Assumptions were made regarding the timeline of unit occupation and the distribution of children per grade level.

Distribution of Homes by Year Built

Figure 42 shows the number of homes built by decade in West Orange. As shown in the figure, West Orange has an older housing stock with more than half (57%) of the homes being built prior to 1960. From 1970 to 2000, the number of homes built in each decade was fairly consistent, ranging from 1,300-1,600 new housing units per decade. West Orange had the largest number of homes built in the 1950s, which corresponds to the sizable population gain in West Orange (+39.5%) as shown previously in Table 1.

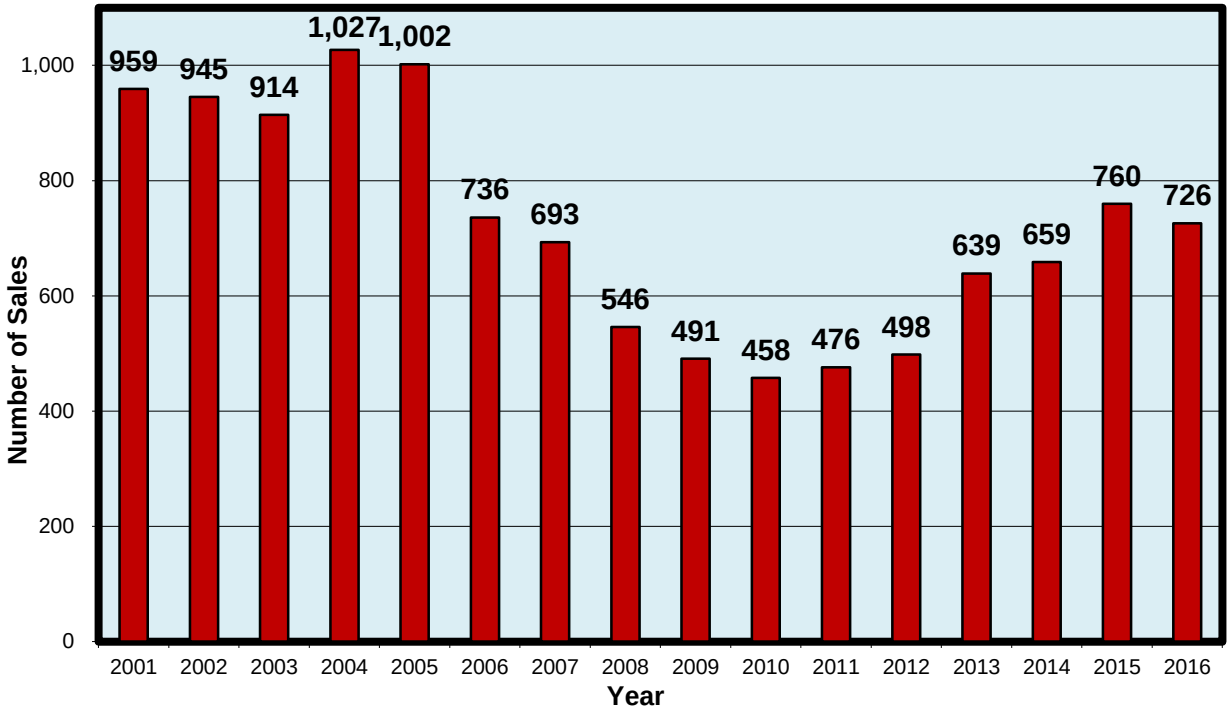
Figure 42
Number of Homes Built by Decade in West Orange



Home Sales

In Figure 43 below, the number of annual home sales in West Orange is shown from 2001-2016. After peaking at 1,027 home sales in 2004, the number of sales declined to 458 in 2010 due to the housing market crash and banking crisis. After 2010, home sales have increased but are still below the number of sales that occurred in the early and mid-2000s.

Figure 43
West Orange Home Sales
2001-2016



Enrollment Projections

Enrollment projections were calculated at the school level using cohort-survival ratios based on the last six years of historical enrollment data. Enrollments were computed for each grade from the 2017-18 school year through the 2021-22 school year. Enrollments were adjusted for new housing growth in the Hazel Avenue, Mt. Pleasant, and Washington elementary attendance areas, as well as for each of the middle schools and high school according to the proposed housing outlined in Table 14.

Enrollments for the self-contained special education/ungraded classes were computed by calculating the historical proportion of self-contained special education/ungraded students with respect to the regular education subtotals at each school and multiplying that value by the future regular education subtotals. The proportions will be shown in the forthcoming tables.

With respect to grade-level pre-kindergarten students at Kelly, an average of the last two historical years was used to estimate the future pre-kindergarten enrollment in the school. Pre-kindergarten enrollment has been 19 and 21 students respectively in the last two years. It was estimated that there would be 20 students in the program annually in the future.

To compute the number of 7^{th} grade students in Liberty and Roosevelt coming from Edison, the 2016-17 student address database for the school district was geocoded to determine the number of children in grades 2-6 that would attend Liberty and Roosevelt in the future based on their residence, assuming no inward or outward migration of students. The projected number of 7^{th} grade students for the district was then multiplied by the proportion of students that would attend each school (based on the current 2^{nd} – 6^{th} grades) to determine the number of future 7^{th} grade students in each school.

On September 10, 2010, New Jersey Governor Chris Christie signed into law the Choice Program, which took effect in the 2011-12 school year. This enables students the choice in attending a school outside their district of residence if the selected school is participating in the choice program. The choice school sets the number of openings per grade level. The West Orange Public Schools does not participate in the program and therefore has no impact on the enrollment projections.

As part of the School Funding Reform Act of 2008 ("SFRA"), all school districts in New Jersey are to provide expanded Abbott-quality pre-school programs for at-risk 3- and 4-year olds as outlined in N.J.A.C. 6A:13A. The State of New Jersey intends to provide aid for the full-day program based on projected enrollment. School districts categorized as District Factor Group[3] ("DFG") A, B, and CD with a concentration of at-risk pupils equal to or greater than 40 percent, must offer a pre-school program to all pre-school aged children regardless of income, known as "Universal" pre-school. For all other school districts, a pre-school program must be offered only to at-risk children, known as "Targeted" preschool. School districts may educate the pre-school

[3]Introduced by the New Jersey Department of Education in 1975, DFG provides a system of ranking school districts in the state by their socio-economic status. While the system is no longer used, the number of pre-kindergarten students was determined by the former DFG rankings.

children in district, by outside providers, or through Head Start programs. School districts were required to offer these programs to at least 90% of the eligible pre-school children by 2013-14.

Due to budgetary constraints, the NJDOE postponed the roll-out of the program, which was scheduled for the 2009-10 school year. According to a recent conversation with Ms. Karin Garver, Educational Program Development Specialist in the NJDOE Early Childhood Education, there are no plans in the imminent future by the State Legislature to fund the program, which would prevent school districts from implementing the program. Since it is unclear if and when the program will be funded and subsequently mandated, the forthcoming enrollment projections do not include additional pre-kindergarten students from the SFRA. The pre-school program would have been rolled out over a five-year period according to the following schedule:

- At least 20% of the eligible pre-school universe in Year 1
- At least 35% of the universe in Year 2
- At least 50% of the universe in Year 3
- At least 65% of the universe in Year 4
- At least 90% of the universe in Year 5

The universe of pre-school children in "Universal" districts is computed by multiplying the 1st grade enrollment in 2007-08 by two. The universe of pre-school children in "Targeted" districts is computed by multiplying the 1st grade enrollment in 2007-08 by two and then multiplying by the percentage of students having free or reduced lunch in the district. The West Orange Public Schools is a "Targeted" district since its DFG is "GH" with a concentration of at-risk pupils less than 40 percent (27.45%). In Table 19 following, the estimated number of total eligible pre-school students is provided with the estimated five-year rollout. For the purpose of this study, it has been assumed that the district would educate its pre-school children in-house. As the table shows, there is the potential for 231 pre-kindergarten students as a result of the SFRA. Since it is unclear if and when the program will be funded and subsequently mandated, the forthcoming enrollment projections do not include additional pre-kindergarten students from the SFRA.

Table 19
Estimated Number of Eligible Pre-School Students as Per School Funding Reform Act of 2008

DFG (2000)	Total eligible	Year 1	Year 2	Year 3	Year 4	Year 5
GH	**231**	46	81	116	150	208

Source: New Jersey Department of Education, Division of Early Childhood Education

Projected PK-12 enrollments follow in Figure 44 and Table 20. Total enrollment is projected to decline in 2017-18, remain fairly stable for three years, and then decline in the last year of the projection period. In 2021-22, enrollment is projected to be 6,456, which would be a decline of 160 students from the 2016-17 enrollment of 6,616.

Figure 44
West Orange Public Schools Projected Enrollments
2017-18 to 2021-22

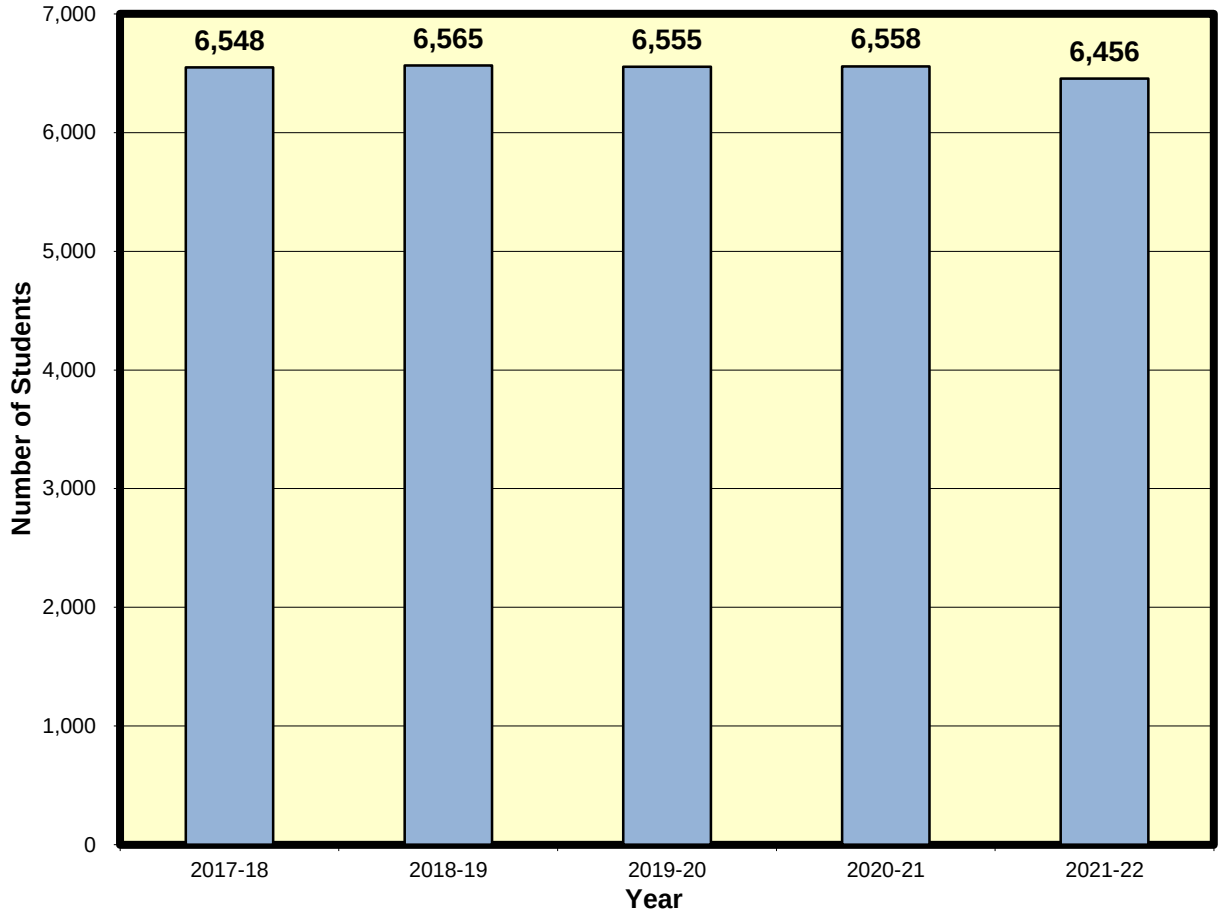


Table 20
West Orange Public Schools Projected Enrollments
2017-18 to 2021-22

Year	PK RE	K	1	2	3	4	5	6	7	8	9	10	11	12	SE	PK-12 Total
2017-18	20	439	437	426	514	478	473	474	470	496	567	438	481	469	366	**6,548**
2018-19	20	448	437	445	426	518	487	473	486	477	533	570	417	459	369	**6,565**
2019-20	20	431	444	442	445	430	527	486	485	492	511	536	544	399	363	**6,555**
2020-21	20	438	421	446	437	444	433	521	492	487	523	509	508	517	362	**6,558**
2021-22	20	442	430	421	441	437	450	429	529	495	518	522	483	482	357	**6,456**

Projected Enrollment by Grade Configuration

In Table 21 following, projected enrollments are shown by grade configuration (PK-5, 6-8, and 9-12). It should be noted that the students from the three middle schools were grouped together for reporting purposes. Ungraded special education students were reassigned into each of the grade configurations.

At the elementary level containing grades PK-5, enrollment is projected to slowly decline throughout the five-year projection period. In 2021-22, enrollment is projected to be 2,816, which would represent a decline of 219 students from the 2016-17 enrollment of 3,035.

For grades 6-8, enrollment is projected to decline for the first two years of the projection period before stabilizing. Enrollment is projected to be 1,537 in 2021-22, which would represent a decline of 41 students from the 2016-17 enrollment of 1,578.

For grades 9-12 at West Orange High School, enrollment is projected to slowly increase for the first four years of the projection period before reversing trend. In 2021-22, enrollment is projected to be 2,103, which would be a gain of 100 students from the 2016-17 enrollment of 2,003.

Table 21
Projected Enrollments for Grades PK-5, 6-8, and 9-12

Historical	PK-5	6-8	9-12
2016-17	**3,035**	**1,578**	**2,003**
Projected	**PK-5**	**6-8**	**9-12**
2017-18	2,970	1,525	2,053
2018-19	2,969	1,518	2,078
2019-20	2,921	1,546	2,088
2020-21	2,816	1,584	2,158
2021-22	2,816	1,537	2,103
5-year Change	**-219**	**-41**	**+100**

Projections by School

Gregory Elementary School

Historical enrollments for Gregory Elementary School ("Gregory") from 2011-12 to 2016-17, and projected enrollments from 2017-18 to 2021-22, are shown below in Table 22. Enrollment has been slowly declining in Gregory for the last five years. In 2016-17, enrollment is 504, which is a loss of 86 students since 2011-12. Enrollment is projected to slowly decline throughout the projection period before stabilizing. In 2021-22, enrollment is projected to be 433, which would be a decline of 71 students from the 2016-17 enrollment.

Table 22
Historical and Projected Enrollments of Gregory Elementary School

Year	PK	K	1	2	3	4	5	SE[2]	PK-5 Total
Historical[1]									
2011-12	0	118	86	92	96	80	79	39	**590**
2012-13	0	83	99	86	94	90	85	38	**575**
2013-14	0	91	76	92	82	97	93	40	**571**
2014-15	0	89	83	77	84	81	94	38	**546**
2015-16	0	69	95	83	75	85	75	39	**521**
2016-17	0	78	66	95	77	71	81	36	**504**
CSR 6-Yr. Ratios		1.0147[3]	0.9381	0.9885	0.9580	0.9832	0.9888	0.0749[4]	
Projected									
2017-18	0	66	73	65	91	76	70	33	**474**
2018-19	0	77	62	72	62	89	75	33	**470**
2019-20	0	77	72	61	69	61	88	32	**460**
2020-21	0	72	72	71	58	68	60	30	**431**
2021-22	0	72	68	71	68	57	67	30	**433**

Notes: [1]Data as provided by the New Jersey Department of Education (http://www.nj.gov/education/data/enr/)
[2]Self-contained special education enrollment/Ungraded Students
[3]Birth-to-kindergarten ratio
[4]Average proportion of self-contained special education/Ungraded students with respect to PK-5 subtotals

Hazel Avenue Elementary School

Historical enrollments for Hazel Avenue Elementary School ("Hazel Avenue") from 2011-12 to 2016-17, and projected enrollments from 2017-18 to 2021-22, are shown below in Table 23. Enrollment had been rather stable before declining in 2015-16 and 2016-17. In 2016-17, enrollment is 337, which is a decline of 31 students from the 2011-12 enrollment of 368. Enrollments are projected to decline before reversing trend in the last year of the projection period. In 2021-22, enrollment is projected to be 315, which would be a decline of 22 students from the 2016-17 enrollment.

Table 23
Historical and Projected Enrollments of Hazel Avenue Elementary School

Year	PK	K	1	2	3	4	5	SE[2]	PK-5 Total
Historical[1]									
2011-12	0	50	74	71	59	57	57	0	**368**
2012-13	0	58	60	69	70	61	62	0	**380**
2013-14	0	68	57	58	70	65	58	0	**376**
2014-15	0	60	65	63	59	68	66	0	**381**
2015-16	0	46	62	65	59	61	73	0	**366**
2016-17	0	52	40	66	64	56	59	0	**337**
CSR 6-Yr. Ratios		0.8322[3]	1.0083	1.0138	0.9878	0.9834	1.0189	0.0000[4]	
Projected									
2017-18	0	55	52	41	65	63	57	0	**333**
2018-19	0	46	57	56	42	66	66	0	**333**
2019-20	0	50	48	60	57	43	69	0	**327**
2020-21	0	51	50	49	59	56	44	0	**309**
2021-22	0	50	51	51	48	58	57	0	**315**

Notes: [1]Data as provided by the New Jersey Department of Education (http://www.nj.gov/education/data/enr/)
[2]Self-contained special education enrollment/Ungraded Students
[3]Birth-to-kindergarten ratio
[4]Average proportion of self-contained special education/Ungraded students with respect to PK-5 subtotals

Kelly Elementary School

Historical enrollments for Kelly (formerly known as Pleasantdale) Elementary School ("Kelly") from 2011-12 to 2016-17, and projected enrollments from 2017-18 to 2021-22, are shown below in Table 24. After peaking at 492 students in 2013-14, enrollment declined to 420 in 2015-16 before increasing to 456 in 2016-17. Enrollments are projected to be fairly stable throughout the projection period, ranging from 445-476. In 2021-22, enrollment is projected to be 453, which would be a loss of three (3) students from the 2016-17 enrollment.

Table 24
Historical and Projected Enrollments of Kelly Elementary School

Year	PK	K	1	2	3	4	5	SE[2]	PK-5 Total
Historical[1]									
2011-12	26	45	41	55	55	45	47	110	**424**
2012-13	26	63	49	48	58	57	41	126	**468**
2013-14	28	67	48	51	47	55	70	126	**492**
2014-15	28	58	54	44	51	46	61	103	**445**
2015-16	19	56	53	57	37	52	50	96	**420**
2016-17	21	65	58	57	56	35	54	110	**456**
CSR 6-Yr. Ratios		0.6699[3]	0.9213	1.0518	0.9714	0.9858	1.0747	0.3051[4]	
Projected									
2017-18	20	52	60	61	55	55	38	104	**445**
2018-19	20	62	48	63	59	54	59	111	**476**
2019-20	20	50	57	50	61	58	58	108	**462**
2020-21	20	56	46	60	49	60	62	108	**461**
2021-22	20	57	52	48	58	48	64	106	**453**

Notes: [1]Data as provided by the New Jersey Department of Education (http://www.nj.gov/education/data/enr/)
[2]Self-contained special education enrollment/Ungraded Students
[3]Birth-to-kindergarten ratio based on the last five years of historical data
[4]Average proportion of self-contained special education/Ungraded students with respect to PK-5 subtotals based on the last three years of historical data

Mt. Pleasant Elementary School

Historical enrollments for Mt. Pleasant Elementary School ("Mt. Pleasant") from 2011-12 to 2016-17, and projected enrollments from 2017-18 to 2021-22, are shown below in Table 25. Enrollment has declined in Mt. Pleasant for the last four years. In 2016-17, enrollment is 365, which is a loss of 51 students since 2011-12. Enrollments are projected to slowly decline throughout the projection period. In 2021-22, enrollment is projected to be 338, which would be a loss of 27 students from the 2016-17 enrollment.

Table 25
Historical and Projected Enrollments of Mt. Pleasant Elementary School

Year	PK	K	1	2	3	4	5	SE[2]	PK-5 Total
Historical[1]									
2011-12	0	74	63	64	75	70	50	20	**416**
2012-13	0	66	75	64	66	68	71	14	**424**
2013-14	0	66	68	72	62	62	70	14	**414**
2014-15	0	65	62	66	62	63	67	9	**394**
2015-16	0	58	63	57	68	63	62	9	**380**
2016-17	0	54	64	58	57	65	57	10	**365**
CSR 6-Yr. Ratios		0.8312[3]	1.0112	0.9573	0.9783	0.9668	1.0026	0.0290[4]	
Projected									
2017-18	0	69	55	61	57	55	65	10	**372**
2018-19	0	46	71	54	61	55	55	10	**352**
2019-20	0	53	48	69	54	59	55	10	**348**
2020-21	0	56	54	46	68	52	59	9	**344**
2021-22	0	57	57	52	45	66	52	9	**338**

Notes: [1]Data as provided by the New Jersey Department of Education (http://www.nj.gov/education/data/enr/)
[2]Self-contained special education enrollment/Ungraded Students
[3]Birth-to-kindergarten ratio
[4]Average proportion of self-contained special education/Ungraded students with respect to PK-5 subtotals based on the last five years of historical data

Redwood Elementary School

Historical enrollments for Redwood Elementary School ("Redwood") from 2011-12 to 2016-17, and projected enrollments from 2017-18 to 2021-22, are shown below in Table 26. Enrollment in Redwood has oscillated up and down in the last six years with no distinct pattern. In 2016-17, enrollment is 573, which is nearly identical to the enrollment in 2011-12. Enrollments are projected to decline throughout the projection period, predominantly due to the declining birth rate in the attendance area. In 2021-22, enrollment is projected to be 468, which would be a loss of 105 students from the 2016-17 enrollment.

Table 26
Historical and Projected Enrollments of Redwood Elementary School

Year	PK	K	1	2	3	4	5	SE[2]	PK-5 Total
Historical[1]									
2011-12	0	108	87	79	102	72	85	41	**574**
2012-13	0	94	93	89	83	105	67	38	**569**
2013-14	0	97	103	88	89	78	100	36	**591**
2014-15	0	80	97	97	87	85	84	36	**566**
2015-16	0	79	79	90	94	84	85	35	**546**
2016-17	0	85	76	91	96	102	90	33	**573**
CSR 6-Yr. Ratios		0.7574[3]	0.9813	0.9981	1.0150	0.9950	1.0063	0.0685[4]	
Projected									
2017-18	0	75	83	76	92	96	103	36	**561**
2018-19	0	72	74	83	77	92	97	34	**529**
2019-20	0	67	71	74	84	77	93	32	**498**
2020-21	0	71	66	71	75	84	77	30	**474**
2021-22	0	70	70	66	72	75	85	30	**468**

Notes: [1]Data as provided by the New Jersey Department of Education (http://www.nj.gov/education/data/enr/)
[2]Self-contained special education enrollment/Ungraded Students
[3]Birth-to-kindergarten ratio based on the last four years of historical data
[4]Average proportion of self-contained special education/Ungraded students with respect to PK-5 subtotals

St. Cloud Elementary School

Historical enrollments for St. Cloud Elementary School ("St. Cloud") from 2011-12 to 2016-17, and projected enrollments from 2017-18 to 2021-22, are shown below in Table 27. Enrollment had been rather stable, ranging from 377-401 before declining in 2016-17. Enrollment is 367 in 2016-17, which is a decline of 19 students from the 2011-12 enrollment of 386. Enrollments are projected to be fairly stable throughout the projection period, ranging from 352-364. In 2021-22, enrollment is projected to be 354, which would be a decline of 13 students from the 2016-17 enrollment.

Table 27
Historical and Projected Enrollments of St. Cloud Elementary School

Year	PK	K	1	2	3	4	5	SE[2]	PK-5 Total
Historical[1]									
2011-12	0	52	68	69	76	60	61	0	**386**
2012-13	0	60	49	62	69	76	61	0	**377**
2013-14	0	80	67	50	60	68	69	0	**394**
2014-15	0	74	76	64	58	62	67	0	**401**
2015-16	0	74	72	66	61	58	57	0	**388**
2016-17	0	57	60	71	58	66	55	0	**367**
CSR 6-Yr. Ratios		0.8470[3]	0.9586	0.9484	0.9919	1.0202	0.9555	0.0000[4]	
Projected									
2017-18	0	58	55	57	70	59	63	0	**362**
2018-19	0	64	56	52	57	71	56	0	**356**
2019-20	0	72	61	53	52	58	68	0	**364**
2020-21	0	64	69	58	53	53	55	0	**352**
2021-22	0	65	61	65	58	54	51	0	**354**

Notes: [1]Data as provided by the New Jersey Department of Education (http://www.nj.gov/education/data/enr/)
[2]Self-contained special education enrollment/Ungraded Students
[3]Birth-to-kindergarten ratio based on the last four years of historical data
[4]Average proportion of self-contained special education/Ungraded students with respect to PK-5 subtotals

Washington Elementary School

Historical enrollments for Washington Elementary School ("Washington") from 2011-12 to 2016-17, and projected enrollments from 2017-18 to 2021-22, are shown below in Table 28. After increasing to 445 students in 2013-14, enrollments have been rather stable, ranging from 433-438. In 2016-17, enrollment is 433, which is a gain of 30 students from the 2011-12 enrollment of 403. Enrollments are projected to slowly increase through 2019-20 before stabilizing. In 2021-22, enrollment is projected to be 455, which would be a gain of 22 students from the 2016-17 enrollment.

Table 28
Historical and Projected Enrollments of Washington Elementary School

Year	PK	K	1	2	3	4	5	SE[2]	PK-5 Total
Historical[1]									
2011-12	0	70	72	64	78	49	70	0	**403**
2012-13	0	68	73	75	67	81	51	0	**415**
2013-14	0	72	70	74	70	72	86	1	**445**
2014-15	0	75	65	77	78	71	72	0	**438**
2015-16	0	56	82	68	72	84	72	0	**434**
2016-17	0	57	62	84	71	75	84	0	**433**
CSR 6-Yr. Ratios		0.9914[3]	1.0351	1.0452	1.0027	1.0492	1.0233	0.0004[4]	
Projected									
2017-18	0	64	59	65	84	74	77	0	**423**
2018-19	0	81	69	65	68	91	79	0	**453**
2019-20	0	62	87	75	68	74	96	0	**462**
2020-21	0	68	64	91	75	71	76	0	**445**
2021-22	0	71	71	68	92	79	74	0	**455**

Notes: [1]Data as provided by the New Jersey Department of Education (http://www.nj.gov/education/data/enr/)
[2]Self-contained special education enrollment/Ungraded Students
[3]Birth-to-kindergarten ratio
[4]Average proportion of self-contained special education/Ungraded students with respect to PK-5 subtotals

Edison Middle School

Historical enrollments for Edison Middle School ("Edison") from 2011-12 to 2016-17, and projected enrollments from 2017-18 to 2021-22, are shown below in Table 29. As Edison only contains grade 6, its enrollment is determined solely by one grade. In the last six years, enrollment has ranged from 449-545. In 2016-17, enrollment is 487 students, which is a gain of 12 students from the 2011-12 enrollment of 475. Enrollment is projected to increase to 543 in 2020-21 before declining by 96 students in 2021-22 due to a small rising 6th grade cohort. Enrollment is projected to be 447 in 2021-22, which would be a loss of 40 students from the 2016-17 enrollment.

Table 29
Historical and Projected Enrollments of Edison Middle School

Year	6	SE[2]	Total
Historical[1]			
2011-12	458	17	**475**
2012-13	472	21	**493**
2013-14	432	17	**449**
2014-15	525	20	**545**
2015-16	491	26	**517**
2016-17	464	23	**487**
CSR 6-Yr. Ratios	0.9878[3]	0.0436[4]	
Projected			
2017-18	474	21	**495**
2018-19	473	20	**493**
2019-20	486	21	**507**
2020-21	521	22	**543**
2021-22	429	18	**447**

Notes: [1]Data as provided by the New Jersey Department of Education (http://www.nj.gov/education/data/enr/)
[2]Self-contained special education enrollment/Ungraded Students
[3]Grade 5-6 ratio based on aggregated 5th grade enrollment
[4]Average proportion of self-contained special education/Ungraded students with respect to grade 6

Liberty Middle School

Historical enrollments for Liberty Middle School ("Liberty") from 2011-12 to 2016-17, and projected enrollments from 2017-18 to 2021-22, are shown below in Table 30. After declining to 449 students in 2014-15, enrollments have increased in each of the last two years. In 2016-17, enrollment is 533, which is a loss of 18 students from the 2011-12 enrollment of 551. After a decline in enrollment in the first year of the projection period, enrollment is projected to slowly increase. In 2021-22, enrollment is projected to be 562, which would be a gain of 29 students from the 2016-17 enrollment.

Table 30
Historical and Projected Enrollments of Liberty Middle School

Year	7	8	SE[2]	7-8 Total
Historical[1]				
2011-12	232	301	18	**551**
2012-13	252	236	19	**507**
2013-14	232	251	20	**503**
2014-15	203	222	24	**449**
2015-16	274	205	18	**497**
2016-17	230	275	28	**533**
CSR 6-Yr. Ratios		0.9967	0.0477[3]	
Projected				
2017-18	240	229	22	**491**
2018-19	255	243	23	**521**
2019-20	268	257	24	**549**
2020-21	257	267	24	**548**
2021-22	280	257	25	**562**

Notes: [1]Data as provided by the New Jersey Department of Education (http://www.nj.gov/education/data/enr/)
[2]Self-contained special education enrollment/Ungraded Students
[3]Average proportion of self-contained special education/Ungraded students with respect to 7-8 subtotals based on the last four years of historical data

Roosevelt Middle School

Historical enrollments for Roosevelt Middle School ("Roosevelt") from 2011-12 to 2016-17, and projected enrollments from 2017-18 to 2021-22, are shown below in Table 31. Enrollments have been steadily increasing in the school. In 2016-17, enrollment is 553, which is a gain of 89 students from the 2011-12 enrollment of 464. Enrollment is projected to decline for the first three years of the projection period before reversing trend. In 2021-22, enrollment is projected to be 527, which would be a loss of 26 students from the 2016-17 enrollment.

Table 31
Historical and Projected Enrollments of Roosevelt Middle School

Year	7	8	SE[2]	7-8 Total
Historical[1]				
2011-12	226	202	36	**464**
2012-13	220	232	37	**489**
2013-14	238	232	45	**515**
2014-15	236	240	45	**521**
2015-16	260	234	41	**535**
2016-17	263	258	37	**553**
CSR 6-Yr. Ratios		1.0147	0.0850[3]	
Projected				
2017-18	230	267	42	**539**
2018-19	231	234	39	**504**
2019-20	217	235	38	**490**
2020-21	235	220	38	**493**
2021-22	248	238	41	**527**

Notes: [1]Data as provided by the New Jersey Department of Education (http://www.nj.gov/education/data/enr/)
[2]Self-contained special education enrollment/Ungraded Students
[3]Average proportion of self-contained special education/Ungraded students with respect to 7-8 subtotals

West Orange High School

Historical enrollments for West Orange High School from 2011-12 to 2016-17, and projected enrollments from 2017-18 to 2021-22, are shown below in Table 32. In general, enrollment has been declining in the school. In 2016-17, enrollment is 2,003 students, which is a decline of 105.5 students from 2011-12. Enrollment is projected to increase in the first four years of the projection period before reversing trend. In 2021-22, enrollment is projected to be 2,103, which would be a gain of 100 students from the 2016-17 enrollment.

Table 32
Historical and Projected Enrollments of West Orange High School

Year	9	10	11	12	SE[2]	9-12 Total
Historical[1]						
2011-12	501	569	483	471	84.5	**2,108.5**
2012-13	551	506	520	466.5	94.5	**2,138**
2013-14	515	542.5	475.5	489	96	**2,118**
2014-15	507	499.5	497.5	436	101	**2,041**
2015-16	495	503.5	488.5	485	105.5	**2,077.5**
2016-17	439.5	508.5	494.5	462	98.5	**2,003**
CSR 6-Yr. Ratios	1.0636[3]	0.9970	0.9462	0.9488	0.0502[4]	
Projected						
2017-18	567	438	481	469	98	**2,053**
2018-19	533	570	417	459	99	**2,078**
2019-20	511	536	544	399	98	**2,088**
2020-21	523	509	508	517	101	**2,158**
2021-22	518	522	483	482	98	**2,103**

Notes: [1]Data as provided by the New Jersey Department of Education http://www.nj.gov/education/data/enr/)
[2]Self-contained special education enrollment/Ungraded Students
[3]Grade 8-9 ratio based on aggregated 8th grade enrollment
[4]Average proportion of self-contained special education/Ungraded students with respect to 9-12 subtotals based on the last five years of historical data

Capacity Analysis

Table 33 shows the educational capacities of the school buildings in the West Orange Public Schools in comparison to both the current 2016-17 enrollments and the enrollment projections in the 2021-22 school year. Using capacities from the district's LRFP, the differences between capacity and current/projected number of students were computed. Positive values indicate available extra seating while negative values indicate inadequate seating (also known as "unhoused students"). Small shortages of seating currently exist in most elementary schools with the exception of Kelly, which has 29 surplus seats in 2016-17. The greatest number of unhoused students at the elementary level currently exists in Redwood (-75). With the exception of Washington, all of the elementary schools are projected to have surplus seating in 2021-22 due to declining enrollment.

At the middle school level, Edison and Liberty are near capacity while Roosevelt has a surplus of 67 seats in 2016-17. By 2021-22, Edison is projected to have 28 surplus seats while the number of surplus seats at Roosevelt is projected to increase to 98 due to declining enrollment. Liberty is projected to be slightly above capacity.

In West Orange High School, there are currently 643 surplus seats in 2016-17. By 2021-22, the surplus of seating is projected to decrease to 543 due to increasing enrollment in the school.

Table 33
Capacity Analysis

School	Capacity[1,2]	Actual Enrollment 2016-17	Difference	Projected Enrollment 2021-22	Difference
Gregory (K-5)	481	504	**-23**	433	**+48**
Hazel Avenue (K-5)	332	337	**-5**	315	**+17**
Kelly (PK-5)	485	456	**+29**	453	**+32**
Mt. Pleasant (K-5)	348	365	**-17**	338	**+10**
Redwood (K-5)	498	573	**-75**	468	**+30**
St. Cloud (K-5)	362	367	**-5**	354	**+8**
Washington (K-5)	427	433	**-6**	455	**-28**
Edison Middle School (Grade 6)	475	487	**-12**	447	**+28**
Liberty Middle School (6-8)	540	533	**+7**	562	**-22**
Roosevelt Middle School (6-8)	625	558	**+67**	527	**+98**
West Orange High School (9-12)	2,646	2,003	**+643**	2,103	**+543**

Notes: [1]West Orange Public Schools Long Range Facilities Plan, dated October 2005
[2]As the capacities were last calculated in 2005, the actual capacities of the buildings in 2017 may have changed if the buildings' instructional spaces are being used differently than in 2005.

Geocoding and Mapping

Student addresses from the school district were geocoded or "pin-mapped" for 2016-17. While it was our intention to map student addresses from 2011-12 for comparative purposes, the data was unavailable from the school district. A very small number of student addresses were unable to be located as the addresses were incomplete or no physical address was provided (P.O. boxes were listed instead of a physical address).

Figure 45 shows the residential locations of all students in 2016-17 while Figures 46 and 47 display the elementary and middle school student populations respectively. A very small number of students do not attend their neighborhood school due to specialized programs offered in some of the schools. In order to show relative concentrations of where students live, student counts (PK-12) were aggregated by census block, which are small geographical areas derived from census tracts as created by the United States Census Bureau. Figure 48 shows the number of students per census block in 2016-17. Since all census blocks are not the same size, the greatest number of students are typically located in the largest census blocks. The greatest number of children per census block (colored dark blue) in 2016-17 is located in the northern section of the township in the Redwood attendance area and the eastern section of the township in the Washington attendance area.

Figure 49 shows the density of students in square miles by census block. In an effort to control for the different census block sizes, the number of students in each census block in 2016-17 was divided by the block's geographical area to determine the density of students (students per square mile). The greatest student densities are in the eastern section of the township, in an area that predominantly sends to Washington, Kelly, and Hazel Avenue.

To see which sections of West Orange have the most children per housing unit (student yield), the number of children per census block group was divided by the number of housing units in each block group as shown in Figure 50. The yields could not be computed at the block level since the number of houses by block was unavailable. Instead, the next largest Census geography was used, which is the block group. In 2016-17, student yields were greatest in the Hazel Avenue attendance area, and to a lesser extent, the Kelly, Washington, and Gregory attendance areas in the eastern section of the township. Student yields were lowest in the northern, central, and western sections of the township, corresponding predominantly to the Redwood, Mt. Pleasant, and Kelly attendance areas.

Figure 45
West Orange Public Schools – PK-12 Students
2016-17

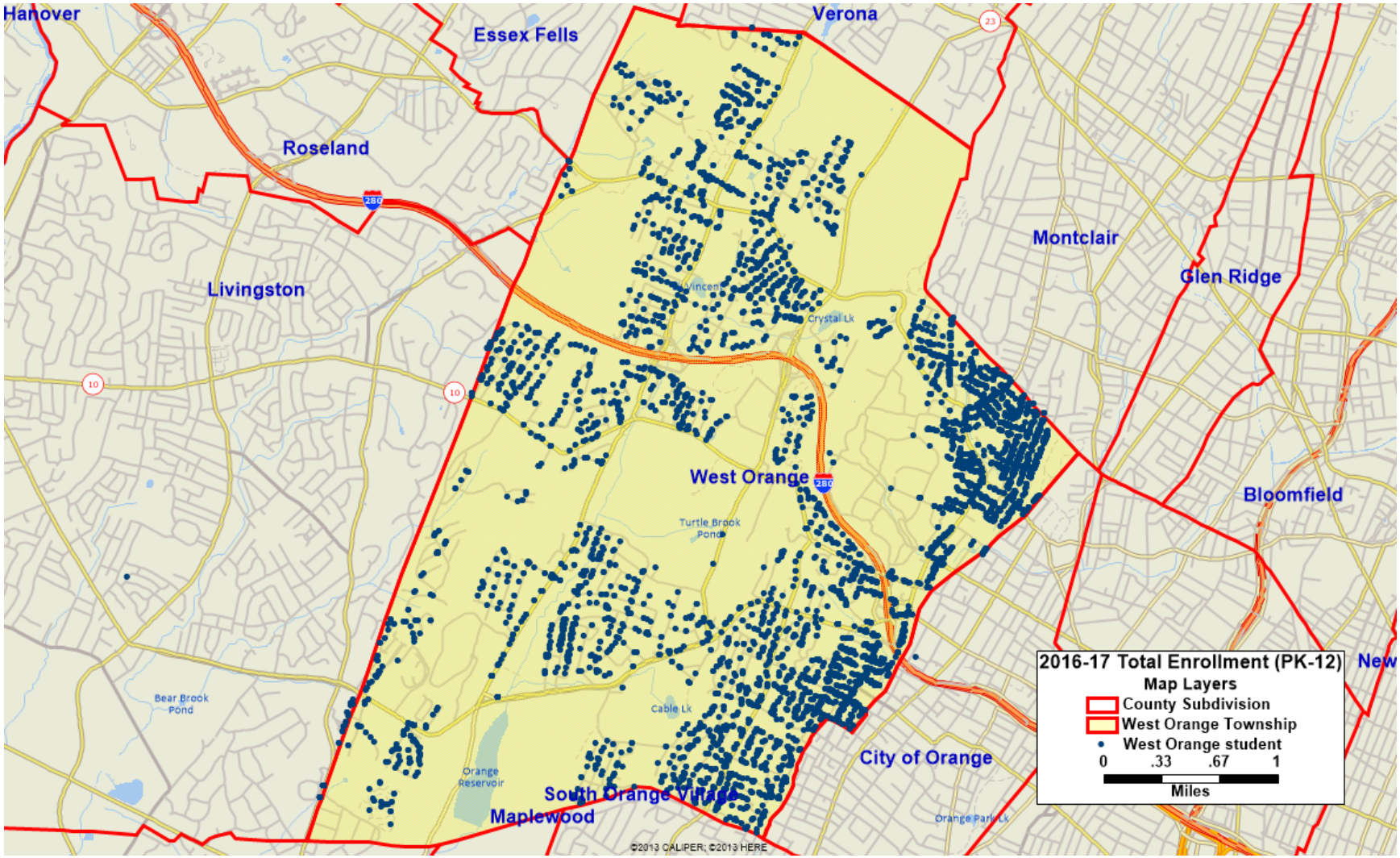


Figure 46
West Orange Public Schools – Elementary Students
2016-17

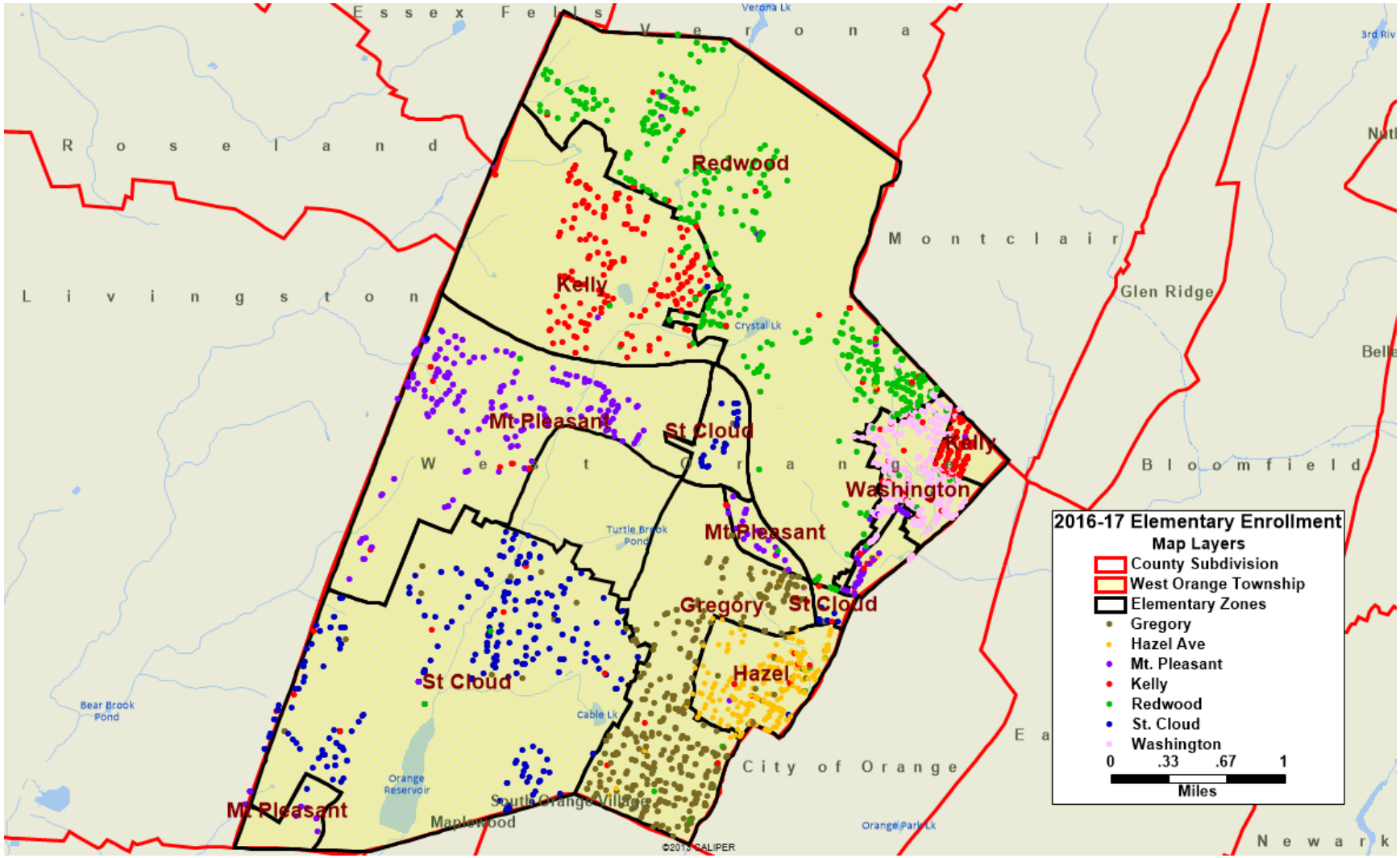


Figure 47
West Orange Public Schools – Middle School Students
2016-17

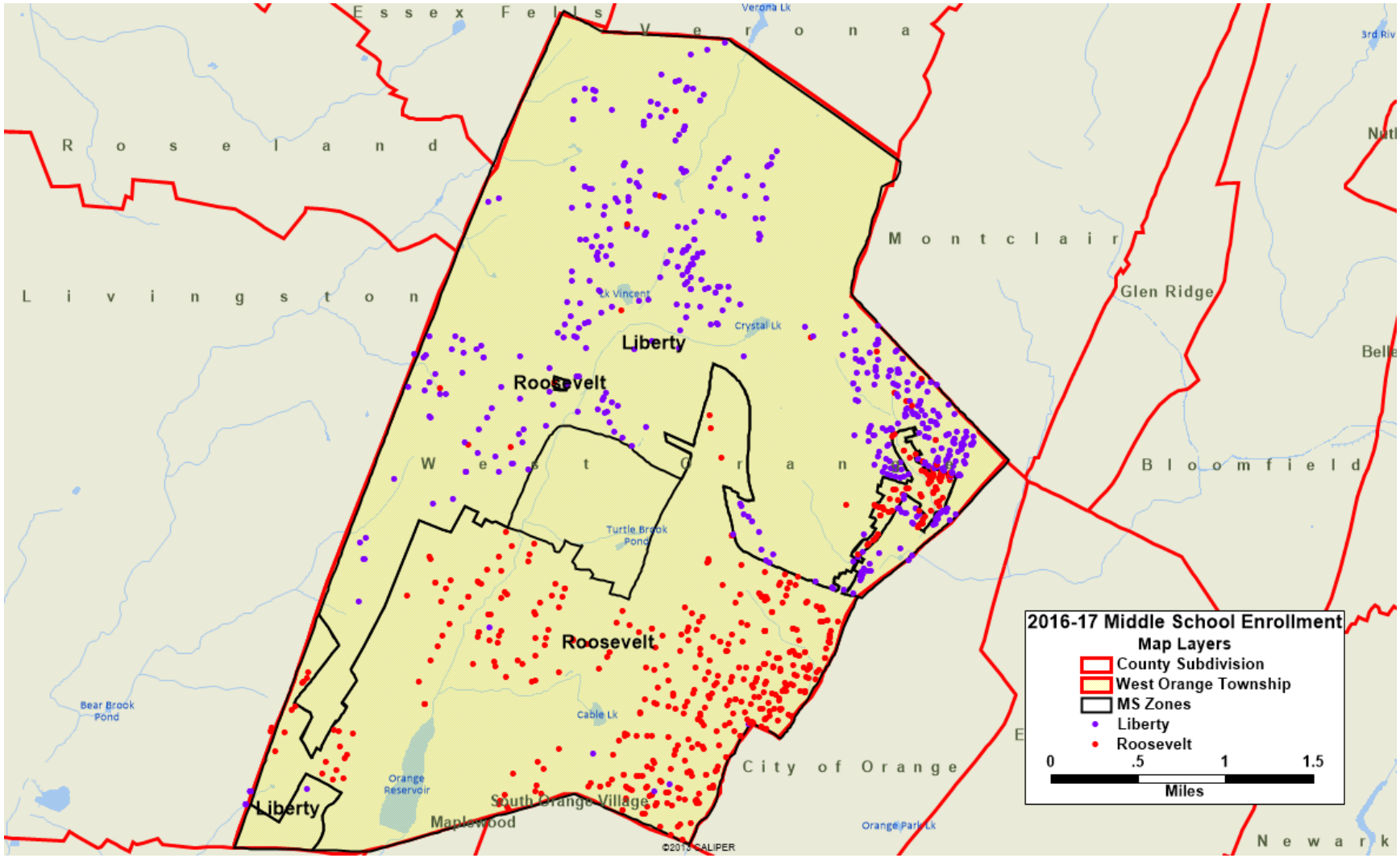


Figure 48
West Orange Public Schools PK-12 Students by Census Block
2016-17

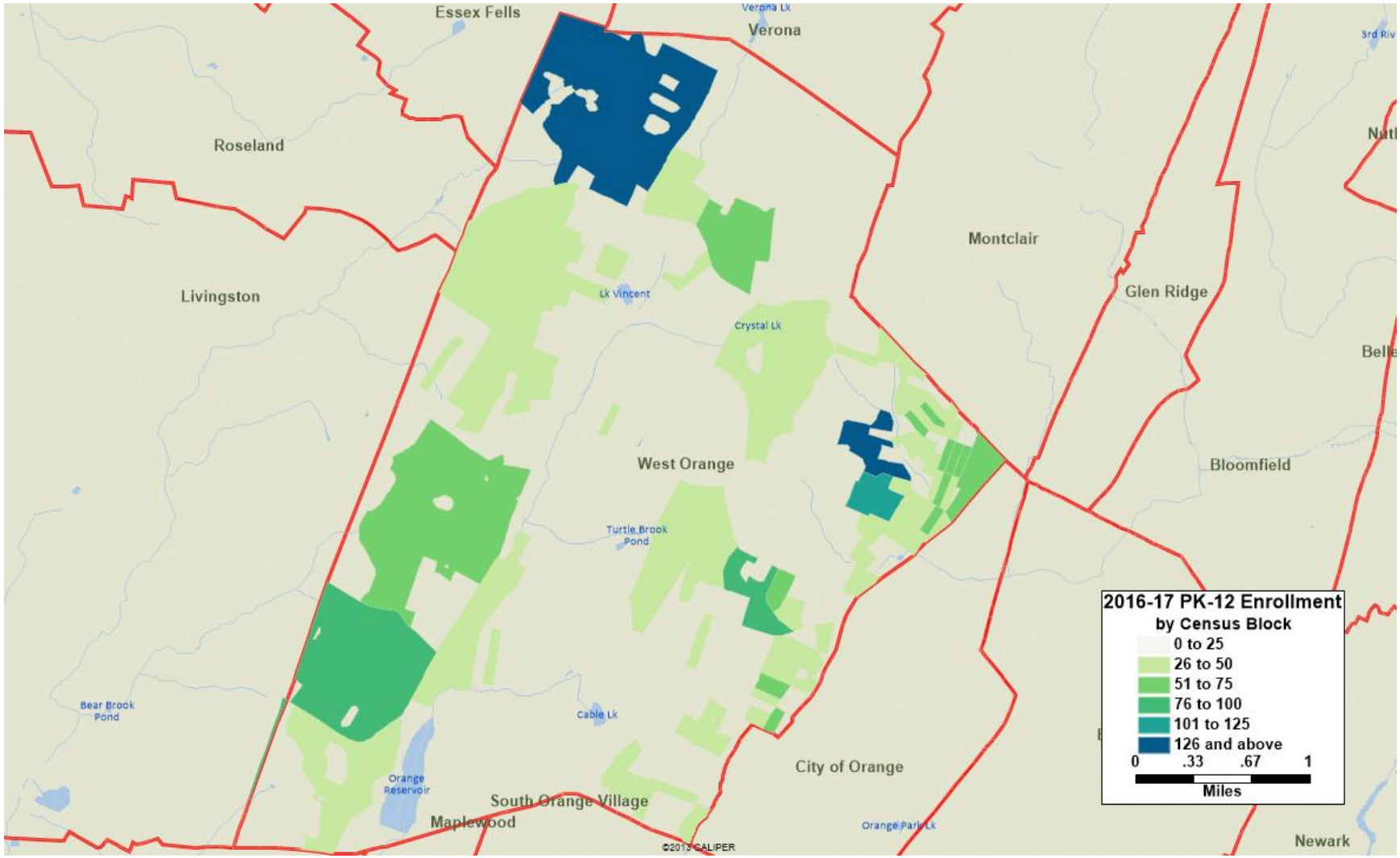


Figure 49
West Orange Public Schools Student Density by Census Block
2016-17

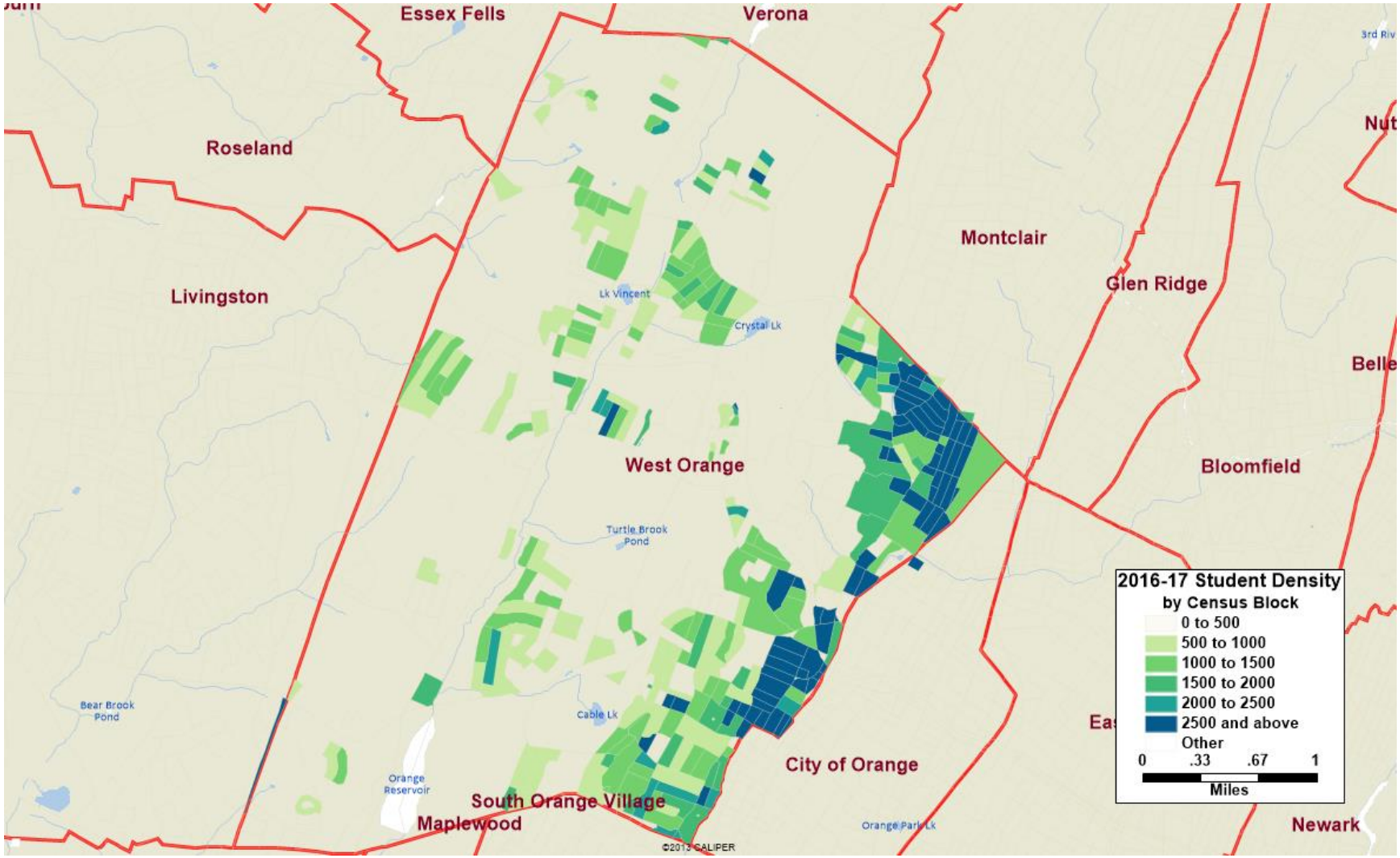
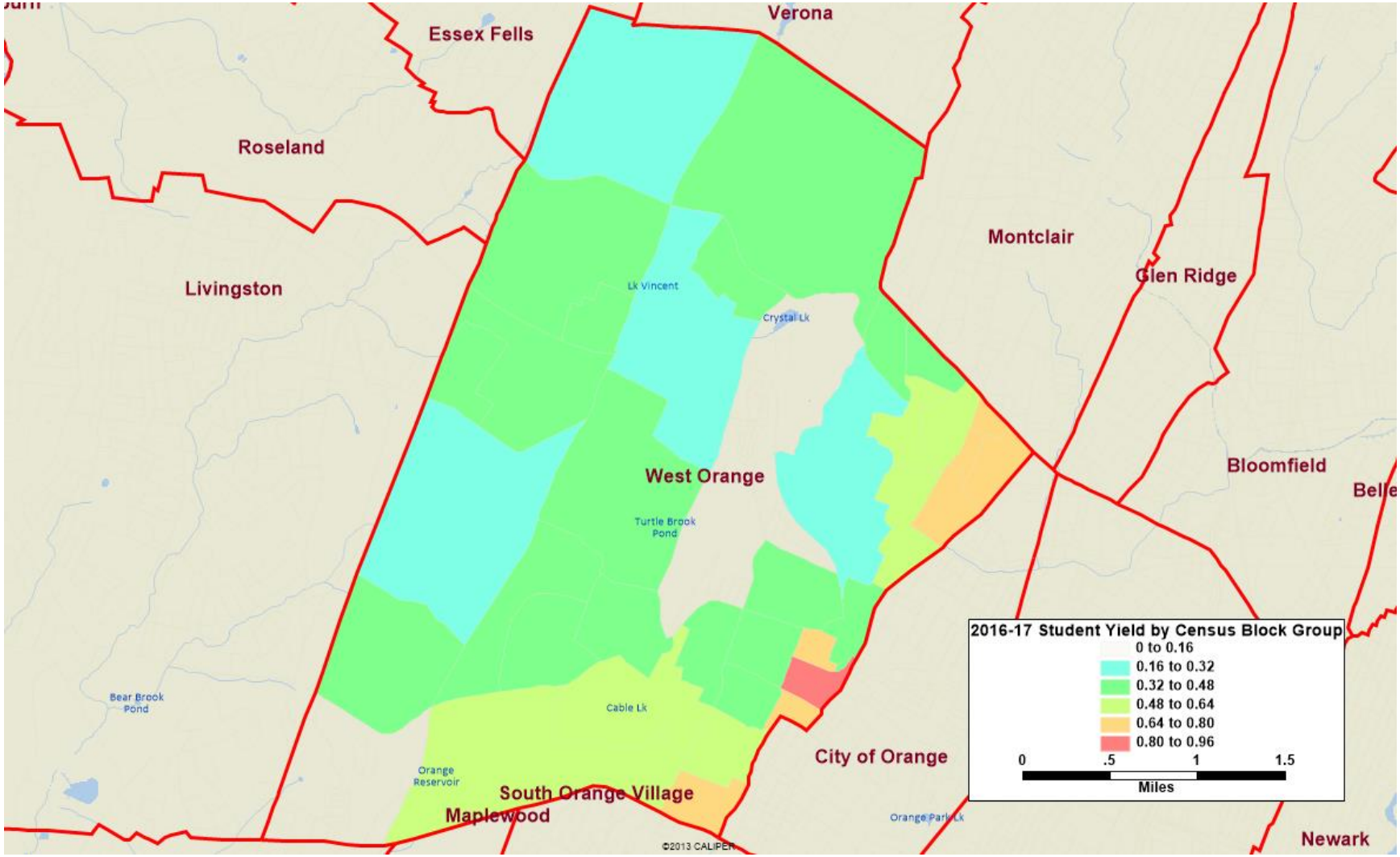


Figure 50
West Orange Public Schools Student Yield by Census Block Group
2016-17



Appendix

Table A1
Potential Residential Developments in West Orange

Subdivision/ Developer	Elementary/ Middle School Attendance Areas	Location	Number of Units	Housing Type	Notes
Highlands Tract	Kelly or Redwood/ Liberty	Sullivan Drive, Marmon Terrace, Nestro Road, Mayfair Drive, and Rosemont Terrace	Land approved for roughly 60 Single-Family homes/ Developer wants 782 rental units	Town wants single family units, Developer wants Market-rate and affordable Apartments	Land approved for roughly 60 single-family homes. Developer wants 782 rental units. Continued litigation likely.
The Redwoods	Redwood/Liberty	Pleasant Valley Way	Approved for 68, Developer wants 128	Market-rate and affordable Apartments	The approval on record is for condo sales. The application before the Zoning Board that was postponed is for rental apartments.
Valley Road Residential	Hazel/Roosevelt	Mitchell Street and Joyce Street	100	Market-rate and affordable Apartments	100 units have been informally discussed but really too early to say for sure. Any project may be contingent upon additional property. The town wants to build but there are a lot of factors involved. 100 units is only speculative at this point.
Executive Drive	Redwood or Mt. Pleasant/Liberty	Rooney Circle	Unknown	Market-rate and affordable Apartments	New ownership intends to redevelop site.
Essex Green Shopping Center	Redwood or Mt. Pleasant/Liberty	Prospect Avenue	Unknown	Unknown	New ownership intends to redevelop site.

Table A2
Student Yields for Townhouses/Condominiums in West Orange

Development	Elementary Attendance Area	Approx. Year Built	Number of Units[1]	Number of Students[2]	Student Yield
24 Hutton Avenue (Llewellyn Gates)	Gregory	1956	81	15	0.19
17A South Valley Road (the Condos at West Orange)	Hazel	1880	17	2	0.12
587-591 Valley Road	Hazel	1987	6	0	0.00
9-21 Tompkins Street	Hazel	2008	5	3	0.60
43 Conforti Avenue (Crestmont Gardens)	Kelly	1960	98	5	0.05
Crystal Woods	Kelly	1993	266	27	0.10
Bel Air at West Orange	Mt. Pleasant	2007	250	34	0.14
Scenic Hill	Mt. Pleasant	1992	345	20	0.06
263-269 Mt. Pleasant Avenue	Mt. Pleasant	1990	4	0	0.00
Essex Green Villas	Mt. Pleasant	1980	79	12	0.15
10 Smith Manor Boulevard (Crown View Manor)	Redwood	1993	179	1	0.01
Smith Manor Boulevard (The Villas at Crown View)	Redwood	1998	100	22	0.22
West Essex Highlands	Redwood	1989	299	54	0.18
Woodland Condominiums	Redwood	late 1980s	174	4	0.02
Forest Creek	Redwood	1999	41	6	0.15
45 Wilfred Street	Redwood	1968	36	2	0.06
The Pointe at Crystal Lake	Redwood	2000	150	17	0.11
Villas at Eagle Ridge	St. Cloud	mid 1980s	408	54	0.13
Vizcaya	St. Cloud	2009	127	0	0.00
Normandie Estates	St. Cloud	1997	46	10	0.22
Hilltop Villas	St. Cloud	1984	36	0	0.00
Briar Hill Villas	St. Cloud	1980	41	15	0.37
Barringer Court	St. Cloud	1984	20	2	0.10
Total			**2,808**	**305**	**0.11**

Note: [1]As derived from West Orange property database
[2]Based on 2016-17 enrollment

Table A3
Student Yields for Apartments in West Orange

Development	Elementary Attendance Area	Approx. Year Built	Number of Units[1]	Number of Students[2]	Student Yield
160 Randolph Place (Hutton Lafayette at West Orange)	Gregory	1951	234	26	0.11
200 Mt. Pleasant Avenue (Crest Ridge Apartments)	Gregory	1967	178	14	0.08
125 Northfield Avenue (Hutton Park Gardens)	Gregory	1945	85	45	0.53
21 Hutton Avenue	Gregory	1945	10	7	0.70
275 Northfield Avenue	Gregory	1960	44	6	0.14
27-29 Freeman Street	Hazel	1910	11	13	1.18
90 Northfield Avenue (Devon Gardens)	Hazel	N/A	40	5	0.13
9 Freeman Street	Hazel	1946	6	2	0.33
101 High Street	Kelly	1921	6	2	0.33
16 Ridge Avenue	Kelly	1911	6	8	1.33
18 Chestnut Street	Kelly	1910	7	6	0.86
20 Ridge Avenue	Kelly	1931	6	5	0.83
29 Ridge Avenue	Kelly	1945	8	8	1.00
3-5 Chestnut Street	Kelly	1921	6	2	0.33
30 Ridge Avenue	Kelly	1910	6	7	1.17
41 Watchung Avenue	Kelly	1921	6	1	0.17
45 Watson Avenue	Kelly	1931	6	5	0.83
47 Watson Avenue	Kelly	1931	6	4	0.67
99-101 High Street	Kelly	1921	6	5	0.83
Old Short Hills Road (West Mill Gardens)	Mt. Pleasant	1965	635	78	0.12
6 Summit Street (Summit House)	Mt. Pleasant	1971	108	5	0.05
31-33 Park Avenue	Mt. Pleasant	1931	10	2	0.20
77 Ashland Avenue	Mt. Pleasant	1916	7	5	0.71
79 Ashland Avenue	Mt. Pleasant	1916	5	3	0.60
83 Ashland Avenue	Mt. Pleasant	1916	5	8	1.60
85 Ashland Avenue	Mt. Pleasant	1916	6	6	1.00
88 Ashland Avenue	Mt. Pleasant	1926	4	3	0.75
91 Ashland Avenue	Mt. Pleasant	1912	6	3	0.50
90-92 Ashland Avenue	Mt. Pleasant	1911	6	7	1.17
95 Ashland Avenue	Mt. Pleasant	1916	12	2	0.17
Susan Court (Eagle Rock Apts)	Redwood	1960	130	40	0.31
120 Elm Street	Redwood	1926	4	2	0.50

234 Eagle Rock Avenue (Llewelyn Terrace Apartments)	Redwood	1957	50	4	0.08
45-49 Harrison Avenue	Redwood	1945	6	14	2.33
595 Northfield Ave (Northfield Townhouses)	St. Cloud	1955	100	14	0.14
26 Lindsley Avenue	St. Cloud	1932	6	3	0.50
1480 Pleasant Valley Way (Northfield Townhouses)	St. Cloud	N/A	103	15	0.15
425 Northfield Avenue (Rockspring Apartments)	St. Cloud	N/A	28	3	0.11
100 Chestnut Street	Washington	1950	8	4	0.50
230 Watchung Avenue	Washington	1931	6	2	0.33
269 Main Street	Washington	1909	12	3	0.25
284 Watchung Avenue	Washington	1911	6	5	0.83
288 Main Street	Washington	N/A	8	4	0.50
409-411 Main Street	Washington	1926	8	12	1.50
61-63 Chestnut Street	Washington	1915	6	3	0.50
84 Chestnut Street	Washington	1929	6	1	0.17
93 Franklin Avenue	Washington	1925	5	0	0.00
Total			**1,973**	**422**	**0.21**

Note: [1]As derived from West Orange property database

[2]Based on 2016-17 enrollment