

METHODOLOGY

Overview

This report examines overcrowding in New York City's public school buildings in detail:

- Identifies all school buildings with utilization rates above 90% and all school buildings with temporary spaces.
- Analyzes where these buildings are located and the number of students attending school in these buildings and all temporary spaces.
- Examines how overcrowding has changed in overcrowded school buildings over a ten year period.
- Evaluates potential impact on overcrowding of DOE enrollment projections through 2016.
- Identifies where new school buildings are planned and the potential effect on overcrowding.

All data used in creating this report are publicly available:

- School capacity and utilization data contained in New York City Department of Education/New York City School Construction Authority Enrollment – Capacity – Utilization Reports.
- The 2006/07 and 2007/08 SINI/SRAP school lists issued by New York State Department of Education.
- Enrollment projections contained in Enrollment Projections 2007 to 2016 New York City Public Schools prepared by The Grier Partnership and Statistical Forecasting LLC.
- Plan for building new schools in the Department of Education Five Year Capital Plans.

Data Sources

This report presents a school building-based analysis of overcrowding in New York City's public schools. Data is provided by location - borough and district, by school level - elementary, middle school and high school buildings - and by number of students attending the overcrowded school buildings. Data on enrollment, capacity and utilization for the base year are from the 2006-07 school year. The historical analysis of these school buildings uses data from the 1997-8 through 2006-07 school years. DOE commissions enrollment projections annually from 2 independent demographers; the projections used are for the period 2007 through 2016. The school system is required by law to develop five year capital plans; this report utilized the current five year capital plan which covers the five years from July 1, 2004 through June 30, 2009 and the proposed new five year capital plan for the five years beginning July 1, 2009.

All of the data in this report is publicly available; CFE has not independently verified any of the data. The following provides an overview of the reports and the data they contain.

School System Space Inventory. Information on the school system's space inventory is published in the "DOE/SCA Enrollment - Capacity - Utilization Report" (Utilization Report) for the 2006-2007 school year⁵, the base year used for this report. As the analysis for this report was being completed, the 2007/08 report⁶ was released. The data from the 2007/08 Report was used only to examine the priority schools identified in this report. The Utilization Reports for the school years 1997-98 through 2006/07 were used to examine overcrowding over a ten year period⁷.

This annual report provides the following information for each school building and

⁵ New York City Department of Education & School Construction Authority, "Enrollment-Capacity-Utilization Report 2006-2007 School Year," November, 2007. http://schools.nyc.gov/Offices/SCA/Reports/CapPlan/Blue_Book-07_Classic.htm

⁶ New York City Department of Education & School Construction Authority, "Enrollment-Capacity-Utilization Report 2007-2008 School Year," November 2008. <http://schools.nyc.gov/Offices/SCA/Reports/CapPlan/ECURReport07-08Classic.htm>

⁷ New York City Board of Education, Division of School Facilities, "Capacity-Enrollment-Utilization 1997-1998", June 1998.
New York City Board of Education, Division of School Facilities, "Capacity-Enrollment-Utilization 1998-1999", May 1999.
New York City Board of Education, Division of School Facilities, "Capacity-Enrollment-Utilization 1999-2000", September 2000.
CFE only has excel spread sheets of the 2000-2001 Utilization Report; no title page exists.
New York City Board of Education, Division of School Facilities, "Enrollment-Capacity-Utilization Report 2001-2002", June 2003.
New York City Department of Education & School Construction Authority, "Enrollment-Capacity-Utilization Report 2002-2003 School Year," September 2003.
New York City Department of Education & School Construction Authority, "Enrollment-Capacity-Utilization Report 2003-2004 School Year," September 2004.
New York City Department of Education & School Construction Authority, "Enrollment-Capacity-Utilization Report 2004-2005 School Year," December 2005.
New York City Department of Education & School Construction Authority, "Enrollment-Capacity-Utilization Report 2005-2006 School Year," November 2006.

school organization⁸: enrollment, capacity, the number of seats over or under the maximum capacity and the utilization rate.

- Enrollment data is derived from the audited register.
- Capacity. The capacity of a school is calculated based on system-wide room standards and data provided by the principals of each school in an annual survey document. In the survey the school reports on what each room is used for. The report provides both a historical and target capacity⁹.
- Utilization Rate. This is a comparison of the enrollment to the capacity for each school. If there are more students enrolled than the current capacity, the utilization rate will be above 100%. If fewer students are enrolled than the listed capacity, the utilization rate will be below 100%.

The Utilization Report provides a district-wide utilization summary for all spaces used for educational purposes in the district as well as separate summaries for the elementary level district-wide, middle schools, PS/IS organizations, City-wide special education and high schools, if there are high schools occupying elementary or middle school buildings. The Utilization Report provides borough-wide summaries at the high school level. The summary includes information on all spaces occupied by the different school levels in the high school buildings and the over-all capacity of all educational spaces.

The core unit of the public school system is the DOE school building. However, in a system as vast and as complex as New York City's, schools also occupy leased spaces, generally, privately owned spaces that DOE leases or licenses for a set period of time. Leases can include stand-alone buildings, a portion of an office or former commercial or industrial building or available classrooms of another institution. Because of overcrowding over the years, there are mini-schools, temporary classroom buildings and transportables or trailers, generally located in school yards. There are also annexes to schools which can be located in another school's building, a lease or mini-school or other temporary space. All of these are important to the analysis of existing overcrowding.

⁸ Some school buildings house multiple schools; the Enrollment-Capacity-Utilization Report provides information for the entire building and then breaks it down for individual school organizations within the school building.

⁹ Historical capacity is calculated according to standard class sizes that are published in the Utilization Report. Target capacity calculates capacity based on class sizes of 20 in grades Kindergarten through 3rd grade. In the 2006/07 Report class sizes were changed for grades 4-8 to 28. For grades 9-12, class size remains the same at 34. Programming efficiency requirements for grades 6-12 are modified.

As cited above, the Utilization Report provides both historical and target capacity. Historical and target capacities are calculated as follows:

1. Elementary grades: pre-K through 5.

Historical Capacity. Class sizes are pre-K: 18, K-3: 25, 4-5: 29 or 31, depending on Title 1 status. Adjustments to capacity are made for cluster rooms, depending on total enrollment of the school, funded support rooms and a parents' and teachers' room.

Target Capacity. Class sizes are reduced for grades K-3: 20 and 4-5: 28. There are increased adjustments to capacity for cluster rooms. Targeted capacity is a lower number than historical because there are fewer students per classroom in all grades except pre-kindergarten than in the historical capacity calculation.

2. Middle school grades 6-8.

Historical Capacity. Class sizes are 28 or 30, depending on Title 1 status. Adjustments to capacity are made for parents' and teachers' rooms. Also, dedicated rooms are programmed 60% of the time and represent 29% of all classrooms. Non-dedicated rooms are programmed all of the time and represent 71% of all classrooms.

Target Capacity. Class size for all middle school grades is 28. Regular classrooms can be programmed for use 7 out of 8 periods a day or 87.5% of the time. Specialty rooms are programmed for use 5 periods a day or 67.5% of the time. Targeted capacity at the middle school level is not always a lower number than historical capacity as at the elementary school level.

3. High school grades 9-12.

Historical Capacity. Regular instructional and specialty spaces have a capacity of 34; shops have a capacity of 25 and there is no capacity assigned to a science lab. All classrooms are programmed 85% of the time.

Target Capacity. Regular instructional rooms have a capacity of 34, shops 25 and science labs now have a capacity of 34. Regular instructional rooms are now programmed 87.5% of the time and specialty rooms are programmed 67.5% of the time. Targeted capacity generally results in a higher capacity number than historical capacity.

Use of Target and Historical Capacity. The base year for this report is the 2006/07 school year. This report also utilized the data in Utilization Reports for 10 years dating back to 1997/98. The capacity used for much of

this analysis is the targeted capacity as defined above. Targeted capacity was used because it reflects current DOE room and school standards. However, the Utilization Report for 2006/07 is the first year that the new formula to calculate targeted capacity figures for the middle school and high school buildings has been published. At the elementary school level, the 2006/07 Utilization Report is the first year that the standards for all elementary grades as described above have been published.

The analysis of the overcrowded school buildings and the school buildings with temporary spaces identified in the Findings section was done using the new targeted standards in the 2006/07 Utilization Report. The analysis and comparison of data in the full ten years of the Utilization Reports utilize the historical capacity numbers for consistency over this 10 year period. The analyses that utilize the historical data in the Findings section include:

- The 10 year analysis of the overcrowded school buildings;
- The identification of the school buildings that have become more overcrowded over 10 years;
- The school buildings that have become less overcrowded over 10 years;
- The comparison of the overcrowded school buildings in 1997/98, 2001/02 and 2006/07.

Since the report for the school year 2003/2004, the Utilization Report provides a list of new school openings. Prior to this date, there is no publicly available annual report on new school openings¹⁰.

The Utilization Report has been criticized for over-stating a school's capacity. Judge Leland DeGrasse declared in his 2001 decision in *CFE v. The State of New York* — "Overcrowding is even worse than indicated above because the ECU¹¹ formulas actually overstate schools' capacity. This inflation occurs because the formulas adjust for overcrowding by adding to schools' capacity non-classroom spaces if such space is in fact used for classrooms. For example if a crowded school is forced to convert its gymnasiums or auditoriums into classroom space, the capacity formula indicates increased capacity."¹² CFE did not modify the capacity data contained in the Utilization Report as there is no published data base to identify non-classroom spaces being used for educational purposes.

The DOE Capital Plan FY2005-2009, the Proposed February 2008 Amendment to the

¹⁰Data on school openings prior to September 2004 are from the personal files of CFE's consultant.

¹¹ECU: Enrollment - Capacity - Utilization

¹²CFE et al vs The State of New York, 719NYS 2d 475, Index #111070/93, Decision, Jan. 10, 2001.

*Capital Plan and the Proposed Capital Plan FY 2010-2014*¹³ provided information on the new classroom space that is underway or planned to be built. The FY 2005-2009 Capital Plan and its February 2008 Amendment articulate the City's strategy to build 63,000 new seats in 20 community school districts across the City as well as high schools in all boroughs except Manhattan. With these new seats, the DOE's stated goal is to eliminate existing overcrowding, accommodate projected enrollment growth, reduce class size to 20 in grades K through 3, and remove some of the temporary spaces - transportable and mini-schools older than 20 years - by 2012.

The proposed Capital Plan for 2010-2014 provides for 25,194 new seats in 17 community school districts in all 5 boroughs and in Brooklyn and Queens at the high school level. The goal in creating new seats is to reduce overcrowding and to reduce class sizes at all grade levels. The total number of 25,194 seats includes approximately 8,000 seats rolled over from the 2005-09 Capital Plan.

The Capital Plan is the school system's statement of major physical improvements needed and expected to be accomplished over a five-year period. The proposed Capital Plan for 2010-2014 has a cost of \$11.3 billion. In addition to new schools, the Plan also includes new schools under its charter/partnership program and a replacement program for existing facilities. Another major category is investment in the existing buildings: capital improvement program for repairs and replacements to existing buildings, educationally driven improvements and mandatory programs.

Enrollment Projections for 2007-2016. The school system publishes annual enrollment projections for a rolling forward 10 year period. The Department of Education and the School Construction Authority utilize outside demographers to prepare these projections. For the 2007 through 2016 analysis DOE/SCA issued reports by two demographers: The Grier Partnership and Statistical Forecasting LLC.¹⁴ This report utilizes the percentage changes in enrollment projected for 2011 and 2016 by both reports.

The enrollment projections provide an analysis of future enrollment by grade and school level, community school district, borough and racial make-up. The methodology used is the cohort survival which "...is a simulation model that reproduces the way in which pupils enter, leave, and move through the school system - grade-by-grade and year-by-year - using recent data on enrollments and births."¹⁵ Both reports utilize this methodology although the Grier report modifies

¹³ NYC Department of Education, "Children First 2005-2009 Five Year Capital Plan," June 2004.

<http://schools.nyc.gov/Offices/SCA/Reports/CapPlan/does5yearplanapproved.htm>

NYC Department of Education, "Children First 2005-2009 Five Year Capital Plan Proposed 2008 Amendment," February 2008.

http://schools.nyc.gov/Offices/SCA/Reports/Proposed_2008_Amendment.htm

NYC Department of Education, "Building on Success Proposed 2010-2014 Five Year Capital Plan," February 2009.

http://schools.nyc.gov/Offices/SCA/Reports/CapPlan/DoEDFY_201014Five-YearCapitalPlan-Proposed-February2009.htm

¹⁴ The Grier Partnership, "Enrollment Projections 2007 To 2016 New York City Public Schools," January 2008.

<http://schools.nyc.gov/Offices/SCA/Reports/CapPlan/grier07-16.htm>

Statistical Forecasting LLC, "Enrollment Projections for 2007-2016 for The New York City Public Schools," November 2007.

<http://schools.nyc.gov/Offices/SCA/Reports/CapPlan/SFEnrollmentProjections2007-2016.htm>

¹⁵ Grier, p. 47.

this model, when needed, to identify trends more quickly. Statistical Forecasting uses the cohort simulation model in combination with grade progression differences (GPD). The GPD is used when there are small cohorts of a particular race in a district. “In the GPD method, the change in the number of students, as opposed to the ratio, is computed for each grade progression from one year to the next.”¹⁶ Statistical Forecasting also includes an analysis on new housing starts which is not in the Grier analysis.

The Grier analysis shows that only 2 community school districts will have increased enrollments during this 10 year period so that the enrollment in 2016 is greater than the registers for the 2006/07 school year; these 2 districts are District 2 in Manhattan and District 20 in Brooklyn. All other districts’ enrollment will be less in 2016 than in 2006; there are 10 districts with the greatest losses - greater than 20%: Districts 1, 4 and 6 in Manhattan and Districts 13, 14, 16, 17, 18, 23 and 32 in Brooklyn. By 2016 this report projects that the declines in the high school enrollment will be greater than 20% in Manhattan, Bronx and Brooklyn by 2016. Queens’ and Staten Island’s losses will be 19.2% and 11.7%, respectively, by 2016.

The Statistical Forecasting analysis shows that 8 community school districts will increase enrollments through this period – Districts 2 and 3 in Manhattan, District 8 in the Bronx, Districts 15 and 20 in Brooklyn, Districts 24 and 26 in Queens and District 31 in Staten Island. There are 4 districts with a projected loss greater than 20% over this 10 year period - District 6 in Manhattan and Districts 14, 17 and 23 in Brooklyn. At the high school level, this report predicts similar declines as the Grier analysis: declines greater than 20% in Manhattan, Bronx and Brooklyn; Queens’ losses will be 19% and Staten Island’s 12.1%

It is difficult to analyze the difference between the two reports as the methodologies differ as noted above. The enrollment numbers that each uses for the base year of 2006 also differ.¹⁷ For 3 districts that Statistical Forecasting identifies as increasing enrollments, the Grier report states that the losses in these 3 districts are relatively modest, as follows:

- District 15: -0.4%
- District 24: -6.2%
- District 31: -4.6%

The Grier Report and Statistical Forecasting agree that there will be significant

¹⁶ Statistical, p. 93.

¹⁷ The Grier Report states that its enrollment numbers for the community school districts contain all students in grades preK-8 and special education students located in elementary or middle schools. Statistical Forecasting’s report states that the enrollment projections for the community school districts “...include grades PK-8, GED students and special education students (for all grade levels).” (Statistical, p.32.) At the high school level the Grier Report’s numbers include all students in grades 9-12, “...students enrolled in regional special education classes in the city’s high schools... and pupils enrolled in GED classes, either in the high schools or at ‘alternative sites’...” (Grier, p.32.) Statistical’s report does not include students in the alternative high schools not housed in DOE facilities. This report is not clear on where the enrollment in the alternative high schools is included. (Statistical, p.34).

decreases in enrollment in Districts 6, 14 and 17. The Grier Report calculates a 17.5% decline for District 10 and a 16.9% decline for District 29; Statistical Forecasting projects a 9% reduction for District 10 and 14% for District 29¹⁸.

At the high school level, Statistical Forecasting projects the greatest decline in Brooklyn followed by Manhattan. Bronx is third followed by Queens and Staten Island. This is the same pattern identified in the Grier Report although the percentage declines are slightly greater in Statistical Forecasting than in the Grier Report except for Queens. Again, the base year enrollment numbers differ in both reports.

Neither of the enrollment reports comment on the potential change in regular high school enrollment due to a reduced drop-out rate and an increased graduation rate over this 10 year period. Because the cohort survival method is essential to good projections, DOE and its demographers will have to watch carefully any trend changes. Both demographers note that they modify their analysis to capture shifts and/or to provide more targeted analysis.

Approach to Analysis

HOW THE SCHOOLS ARE CHOSEN

Overcrowded schools are defined by having utilization rates greater than 100% based on the data in the school system's Utilization Report. The Utilization Report published for the 2006/07 school year is the source of the data for the master list of schools in this report. Only school buildings were examined in this report, not school organizations, except for the analysis on the SINI/SRAP schools.

School buildings analyzed in this report included:

- All school buildings with utilization rates above 100% of their targeted capacity;
- All school buildings with utilization rates between 90% and 100% were identified separately;
- All school buildings with temporary structures regardless of whether the main buildings and temporary structures were overcrowded or not.

There are 391 school buildings at all grade levels in the 2006/07 Report that have utilization rates above 100% of their targeted capacity. There are another 169 school buildings with utilization rates between 90% and 100% at all grade levels in the 2006/07 Report. These buildings are not overcrowded but they are identified in this report because they have very little flexibility in their use of space. A number of these buildings are at 100% utilization.

¹⁸The data in the Statistical Forecasting Report does not provide percentage changes in 2011 and 2016-17. CFE calculated these percentages using data in the Statistical Report.

There are 215 school buildings with associated temporary structures - transportables (classrooms in trailers), mini-schools, temporary classroom buildings and annexes. The number of temporary structures that are adjuncts to these 215 buildings total 252. Not all of these school buildings are over-crowded; there are 91 school buildings that are both overcrowded and have temporary structures. These 91 school buildings also appear on the list of 391 overcrowded school buildings. Of the 215 school buildings with temporary structures there are 42 school buildings with utilization rates between 90% and 100%.

ANALYZING AND CALCULATING EXISTING OVERCROWDING CONDITIONS

The overcrowded school buildings were identified by school level, community school district, borough and number of students attending these schools. The number and percentage of overcrowded buildings within a district were calculated. These buildings were also examined by the degree of overcrowding in these school buildings: 100% to 110%, 110% to 125%, 125% to 150% and above 150%. School level, locations and number of students affected were identified. Large school buildings, those with enrollments greater than 1,000 that are overcrowded were identified. Also examined were a sub-set of these large overcrowded buildings with enrollments greater than 1,000 - those overcrowded by more than 300 students.

School buildings not yet overcrowded but with utilization rates between 90% and 100% were also identified and analyzed by school level, community school district, borough and number of students attending these school buildings.

The school buildings with temporary structures were also similarly analyzed – by school level, community school district, and borough and by number of students in these buildings and temporary structures. The report also examined the school buildings with temporary structures that have utilization rates between 90% and 100% by school level, community school district, borough and number of students.

The 91 overcrowded school buildings with temporary structures are examined as a group and then analyzed further at various ranges of utilization rates: 100% to 110%, 110% to 125%, 125% to 150% and above 150%. For all categories, school levels are identified, locations examined and the number of students calculated.

As noted, school buildings with temporary structures are examined in this report regardless of their level of overcrowding. There are a group of 97 school buildings with temporary structures where both the building and temporary structures have utilization rates above 90%. School levels, locations and the number of students are identified. There are also large school buildings with enrollments greater than 1,000 that also have temporary structures; these are similarly identified as well as school buildings with enrollments greater than 1,000 when the enrollment in the temporary structures is included.

SINI/SRAP SCHOOLS IN OVERCROWDED SCHOOL BUILDINGS

This report examines the Schools In Need of Improvement (SINI) and Schools Requiring Academic Progress (SRAP) that are overcrowded and the schools with temporary structures that appear on New York State's lists for the 2006/07 and 2007/08 school years¹⁹. There are a total of 92 low performing schools that were overcrowded in 2006/07 and 105 in 2007/08. Seventy five schools have temporary structures in 2007/08 and there are 52 schools with temporary structures in 2006/07. School levels, locations and students enrolled in these schools are identified. Also included in the analysis are the numbers of schools that are on both SINI/SRAP lists.

ANALYZING HISTORICAL ENROLLMENT IN OVERCROWDED BUILDINGS AND BUILDINGS WITH TEMPORARY SPACES

This report examined data from 10 years of "DOE/SCA Enrollment Capacity Utilization Reports" from 1997/98 to 2006/07. As explained above, the targeting method for capacity and utilization rates did not exist for the entire 10 year period. In order to analyze ten years of overcrowding using the data in these Reports, it was necessary to use the historical capacity and utilization rates. There are 129 school buildings of the 391 overcrowded school buildings in 2006/07 that have been overcrowded for each of the 10 years; another 113 of these buildings have had utilization rates between 90% and 100% for this period. In this report enrollment, school levels and location are analyzed.

A similar analysis was done for the buildings with temporary spaces which found that 31 buildings with temporary spaces have been overcrowded for the 10 years. Another 42 school buildings have had utilization rates greater than 90% for each of the 10 years.

Schools that have become more overcrowded over the 10 year period were identified by examining data in 3 years: 1997/98, 2001/02 and 2006/07. There are 33 school buildings that have become increasingly more overcrowded. School levels and locations for these 33 buildings as well as over-all enrollment are identified. There are another 42 overcrowded school buildings that have become less overcrowded during these 10 years when examined in 1997/98, 2001/02 and 2006/07. School levels and locations for these 42 buildings as well as over-all enrollment are identified. Note that this analysis was not restricted to the 391 overcrowded school buildings. The base year was 1997/98 using historical capacity. As a result, there are 2 school buildings on the list of schools that have become increasingly overcrowded and 1 school building on the list of school buildings with decreasing overcrowding that do not appear on the list of 391 overcrowded school buildings due to the difference between targeted and historical capacities.

¹⁹ 2006/07 SINI/SRAP list issued by New York State Education Department on September 12, 2006.

<http://www.emsc.nysed.gov/irts/pressRelease/20060912/home.html>

2007/08 SINI/SRAP list issued by New York State Education Department on December 19, 2007.

<http://www.emsc.nysed.gov/irts/accountability/>

Overall overcrowding in 2006/07 was compared with all overcrowded school buildings five years earlier in 2001/02. As in the previous analyses using the 10 years of Utilization Reports, the historical capacity and utilization rates are used. The list of overcrowded school buildings in 2006/07 used for this 5 year look back differs from the list of 391 overcrowded school buildings that is the basis for much of the analysis in this report. This latter list, as has been described previously, uses the targeted capacity and utilization rates, reflecting current DOE standards.

In 2006/07 there were 249 overcrowded school buildings using the historical data and another 180 school buildings with utilization rates between 90% and 100%. Five years earlier in 2001/02 there were 461 overcrowded school buildings and another 211 school buildings with utilization rates between 90% and 100%. This report analyzes the differences between these 2 years by school levels, location and number of students attending the overcrowded school buildings.

ANALYZING THE AGE OF TEMPORARY STRUCTURES

The analysis includes an examination of how long the 252 temporary spaces identified in this report existed using the 10 years of “DOE/SCA Enrollment Capacity Utilization Reports” from 1997/98 to 2006/07. It is assumed that some of the temporary structures that have been in existence for at least 10 years are older than the available data, however, there is no data available to determine the exact age of the temporary structures.

The report examines the age of the temporary structures and where they are located; it does not analyze changes in enrollment over this 10 year period. The summary shows a year by year aging of the temporary spaces organized by district and borough. The analysis discovered that 169 or 67% of the total number of temporary spaces are at least 10 years old. Queens has the greatest number of temporary structures - 94 - and the highest number of temporary structures that are at least 10 years old: 63 out of a total of 94 temporary structures. District 10 in the Bronx has the greatest number of temporary structures in a single district; it has 25 and 20 of them are at least 10 years old.

OVERCROWDING IN NEW SCHOOL BUILDINGS

DOE has an ongoing program to create new capacity through construction of new school buildings, additions to existing schools and leased space. Have these new buildings solved the overcrowding problem in the neighborhoods in which they are located and are these new buildings also overcrowded? This report identified 207 new buildings and additions that have been completed since the early 1990's. Leased space is generally not included in this analysis as there is no publicly available data base; there are several leases included based on information on new school openings in the recent Utilization Reports, as described previously. Of the 207 new buildings

and additions, 98 are overcrowded. School levels, locations by community school district and borough, and number of students affected are examined.

POTENTIAL IMPACT OF ENROLLMENT PROJECTIONS ON OVERCROWDING

Enrollment in the public schools began to decline in 2000 and is expected to continue to decline through 2016. The 1,000,000 students in the public school system are a diverse population and change is driven by race, birth rates, economics, new housing development and other external factors. Enrollments will not change uniformly throughout the City and at all school levels. Some neighborhoods are projected to continue to experience growth in public school enrollments exacerbating existing overcrowding while other neighborhoods are projected to have significant reductions in enrollment.

Analyses of the potential impact of enrollment shifts were applied to the overcrowding on a district basis for the elementary and middle school levels and on a borough level for the high school buildings. The school buildings that were evaluated are the 391 overcrowded school buildings in 2006/07 that have been identified previously. Using the projections from the Grier Report and Statistical Forecasting the percentage change from 2006/07 to 2011/12 and then the change between 2011/12 and 2016/17 were calculated. For each community school district the total capacity of the overcrowded elementary and middle school buildings in that district that are identified in the 2006/07 Utilization Report are kept constant in 2011 and 2016. The 2006-07 enrollments for the overcrowded school buildings by district are compared with the potential enrollment of those buildings adjusted by the projected percentage change for the entire district in 2011 and 2016. The projected enrollments in 2011 and 2016 are then compared with the capacity of these buildings in 2006. The same analysis is undertaken for the high school buildings on a borough basis and for the school buildings with temporary spaces.

UNDERUTILIZED SCHOOL BUILDINGS

There are a significant number of school buildings with excess capacity with utilization rates below 75%. There are 314 school buildings in this category; this report examined 308 of these buildings: 266 with utilization rates between 50% and 75% and 42 with utilization rates below 50% (See Tables 81–84). An examination of these buildings by enrollment, school level and location is included to demonstrate the potential opportunity to relieve some overcrowded school buildings. This report compares the number of overcrowded buildings with the buildings with available space at the district level for elementary and middle school buildings and at the borough level for high school buildings.

CAPITAL PLAN IMPACT ON OVERCROWDING

The current DOE 5 year capital plan is in its final year and DOE has issued a draft proposed capital plan for the 5 years beginning July 1, 2009. This report examines the potential impact of the new capacity recently completed and other capacity projects currently funded and underway. The analysis also includes the impact of the approximately 25,000 new seats proposed in the new capital plan.

This report examines the benefit of new school seats on the capacity needs of the overcrowded school buildings identified in this report. The new seats are targeted only for these overcrowded buildings; there has been no analysis of location except to look at the cumulative needs of the overcrowded buildings on a district level and to apply the benefits of the new school seats to the district's total need for new seats to eliminate overcrowding. For high schools the analysis was done on a borough basis. No other factors that could increase enrollment and create a need for additional capacity, such as new housing, class size reduction, pre-kindergarten and other educational initiatives are included in this analysis.

The report examines the benefits of creating new schools from two perspectives:

- Evaluating to what extent the DOE's proposed new capacity projects could eliminate the overcrowding from the 2006/07 Utilization Report. Capacity needs were kept constant and compared with the number of new seats completed since the 2006/07 Utilization Report was issued, currently in construction or planned. As a result, new seats that were completed beginning in September 2007 were included in the analysis in this report. The analysis shows that the construction program alone cannot solve the capacity needs in many parts of the City.
- Analyzing the combined impact of the enrollment projections for 2011 and 2016, using both the Grier Report's and Statistical Forecasting Report's enrollment projections and the new schools in both the current and proposed capital plans on overcrowding. Enrollment was adjusted by the projected change in enrollment for 2011 for each district and at the borough level for the high schools. The 2006-07 capacity of the overcrowded school buildings was adjusted by any new schools built in 2007 and 2008; the adjusted capacity was then compared with the projected 2011 enrollment to determine if a capacity need still existed. All of the capacity projects that are underway and the projects that are identified in the new capital plan are combined to adjust the capacity further; the analysis compares this further adjusted capacity with the projected 2016 enrollment for each district and at the borough level for the high schools.

A number of other factors will affect the conclusions of this analysis, such as, prioritizing different capacity needs, e.g., class size reduction; changing the number of new seats that will be built in a particular district and enrollment shifts that differ from the projections.

This report also examines the extent to which the school system relies upon temporary structures to house its students. The final analysis in this report evaluates the potential to remove students from temporary spaces. The analysis shows that there are a number of districts which may have additional capacity available once the overcrowding in the 391 school buildings is reduced as a result of the potential impact of enrollment changes and the construction of new schools. Any excess capacity identified in this analysis is applied to the existing temporary structures on a district basis to determine if some of the temporary spaces could be removed. This strategy has the potential to remove temporary structures in whole or in part in a number of districts and boroughs at the high school level.