



# Central Bucks School District Enrollment, Capacity, and Attendance Boundary Study

Redistricting: Enrollment, Programming, Capacity, and Condition

November 3, 2022

**CR**

Crabtree, Rohrbaugh & Associates



Purpose, Team, Process, and Goals



**In July of 2020 the Central Bucks School District solicited proposals to conduct a study of enrollment projections and school zone boundary change scenarios. CRA was selected as the firm to complete the study. The team assigned to the project includes:**



**Brian Hanes, AIA, LEED AP**  
Principal | Director of Contract  
Administration



**John Beddia, AIA, LEED AP**  
Principal / Managing Partner



**Frederick Withum, III, Ed.D**  
Director of Educational Planning



**Leah Shiley, MBA**  
Principal / Director of Client Relations



CR

70+

Professional  
Staff

200+

studies in the  
past 10 years

\$4B

in educational  
projects

CORPORATE INFORMATION

ESTABLISHED FIRM  
CLIENT ORIENTED APPROACH  
COMPANY CULTURE  
DIVERSE EXPERIENCE



Albert Gallatin School District  
Amelia County Public Schools  
Annville Cleona School District  
Armstrong School District  
Bald Eagle Area School District  
Bellefonte Area School District  
Bermudian Springs School District  
Bethlehem Center School District  
Blue Mountain School District  
Big Spring School District  
Brandywine Heights School District  
Brookville Area School District  
Camp Hill School District  
Capital Area Intermediate Unit  
Carlisle Area School District  
Catasauqua School District  
Centennial School District  
Central PA Inst. of Science & Tech  
Central Dauphin School District  
Central Valley School District  
Chambersburg Area School District  
Clarion Area School District  
Clarke County Public Schools  
Clearfield Area School District  
Clearfield Co. Career Technology Center  
Coatesville Area School District  
Connellsville Area School District  
Coudersport Area School District  
Culpeper County Public Schools  
Cumberland Perry Vo-Tech  
Cumberland Valley School District  
Dallas School District  
Dallastown Area School District  
Danville Area School District  
Donegal School District  
Dover Area School District

Eastern Lancaster Co. School District  
Eastern Lebanon Co. School District  
Eastern York School District  
Elizabethtown Area School District  
Everett Area School District  
Fannett-Metal School District  
Fairfax County Public Schools  
Fayette Co. Area Vocational Tech. School  
Fluvanna County Public Schools  
Franklin County Career & Tech. Center  
Garrett County Public Schools  
Gettysburg Area School District  
Gettysburg Montessori Charter School  
Greencastle-Antrim School District  
Halifax Area School District  
Hanover Public School District  
Harrisburg School District  
Hazleton Area School District  
Hempfield School District  
Iroquois School District  
Jersey City Public Schools  
Jersey Shore School District  
Juniata County School District  
Juniata Mennonite School  
Juniata Valley School District  
King George Public Schools  
Lampeter-Strasburg School District  
Lancaster Country Day School  
Lewisburg Area School District  
Line Mountain School District  
Littlestown Area School District  
Lower Merion School District  
Manheim Central School District  
Manheim Township School District  
Matawan-Aberdeen Regional SD  
Mechanicsburg Area School District  
Mecklenburg County Public Schools

Madison County Public Schools  
Middletown Area School District  
Mid-West School District  
Millersburg Area School District  
Minersville Area School District  
Monroe Career & Technical School  
Moshannon Valley School District  
Mount Carmel School District  
Northeastern York School District  
Northern Tioga County School District  
Northern Potter School District  
North Pocono School District  
North Schuylkill School District  
Northern Tier Career Center  
Northern York County School District  
Northumberland Vo-Tech  
Otto-Eldred School District  
Penn Cambria School District  
Penn Manor School District  
Penn's Valley Area School District  
Pequea Valley School District  
Phoenixville Area School District  
Philipsburg-Osceola School District  
Pocono Mountain School District  
Polytechnic School District  
Preston County Schools  
Pottstown School District  
Port Allegany School District  
Prince George's County Public Schools  
Queen Anne's County Public Schools  
Richmond City Public Schools  
Red Lion Area School District  
Seneca Highlands AVTS & IU  
Seneca Valley School District  
School District of Philadelphia  
Schuylkill Valley School District

Shamokin Area School District  
Shippensburg School District  
Southern Huntingdon County SD  
South Middleton School District  
South Western School District  
South Eastern School District  
Southern Columbia School District  
Southern York County School District  
Spring-Ford School District  
Spring Grove Area School District  
Susquehanna Township School District  
Susquenita School District  
Talbot County Public Schools  
Troy Area School District  
Trinity High School  
Tulpehocken Area School District  
Tussey Mountain School District  
Tuscarora School District  
Twin Valley School District  
Uniontown Area School District  
Upper Adams School District  
Warrior Run School District  
Warren County School District  
Waynesboro School District  
Washington County Public Schools  
West Shore Christian Academy  
West Shore School District  
Westmoreland County Public Schools  
Williams Valley School District  
Wilson School District  
Wyomissing Area School District  
Wyalusing Area School District  
York Catholic School  
York County School of Technology  
York Suburban School District  
Vida Charter School  
Vista School

The overall goal of this study is to develop recommendations to effectively and efficiently integrate programming, enrollment, capacity, and the condition of facilities for the benefit of all Central Bucks School District stakeholders, especially students.





## STUDY APPROACH



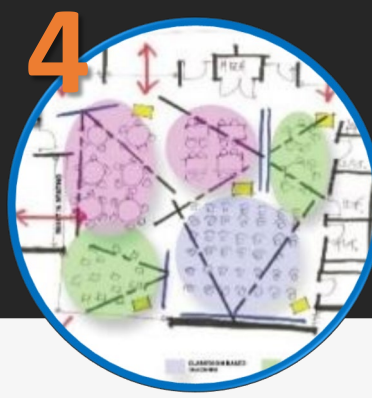
✓ **DEFINE GOALS**



✓ **INFORMATION GATHERING**



✓ **ANALYZE DATA**



**COMMUNITY**



**RECOMMENDATIONS**

**Educational  
Visioning**

**Guiding Principles**

**Establish  
Benchmarks**

**Enrollment  
Analysis**

**Current Use of  
Space**

**Educational  
Program**

**Building Capacity  
Analysis**

**Space Analysis**

**Educational  
Adequacy**

**Program  
Compliance**

**Community  
Engagement**

**Cost Estimating**

**Operational  
Savings**

**Short and Long  
Term Planning**

**Prioritize Projects**

**Final Report**

**Board**

**Board**

**Board**

**Board**

**Board**

# CENTRAL BUCKS SCHOOL DISTRICT GOALS FOR REDISTRICTING:

1. Increase efficiencies and cost savings.
2. Consider shuttering schools that are in greatest need of capital improvements.
3. Target all elementary schools at 80% of capacity.
4. Target secondary schools at 75% of capacity.
5. Change the district grade alignment to K-5, 6-8, 9-12.
6. To avoid threat of future redistricting over next decade maintain available seats in the limited areas of growth
7. Create boundaries that allow transportation to maintain current average length of bus runs.
8. Create as few elementary to middle school splits as possible.
9. Create as few middle to high school splits as possible.
10. Provide for redistricting in one or two phases.

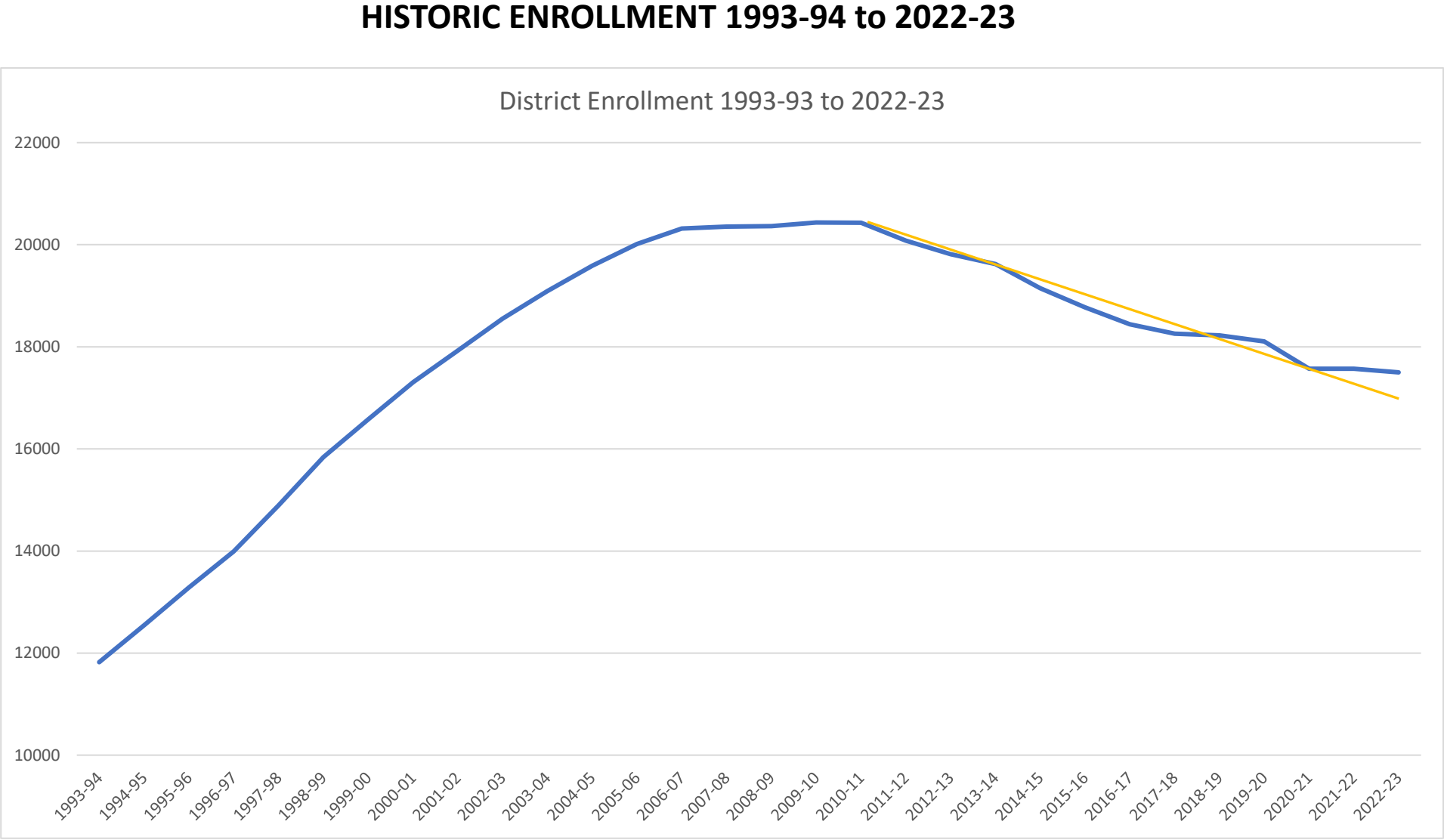




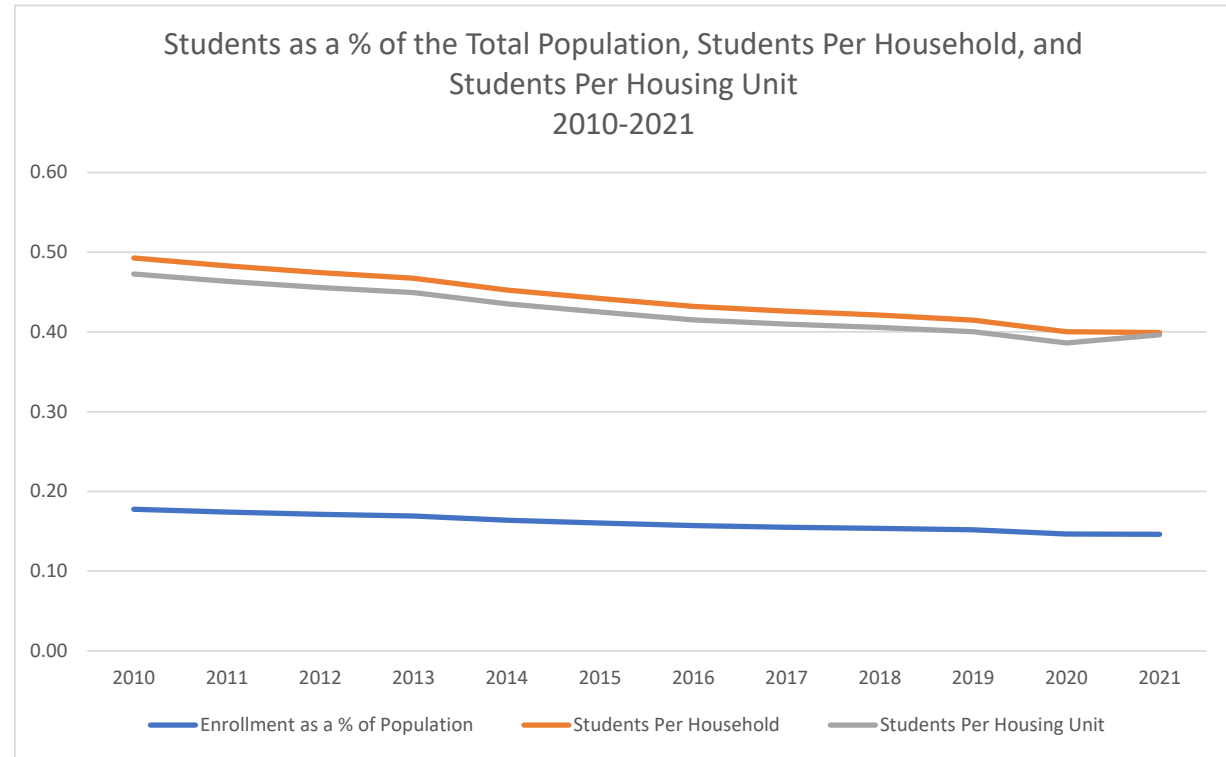
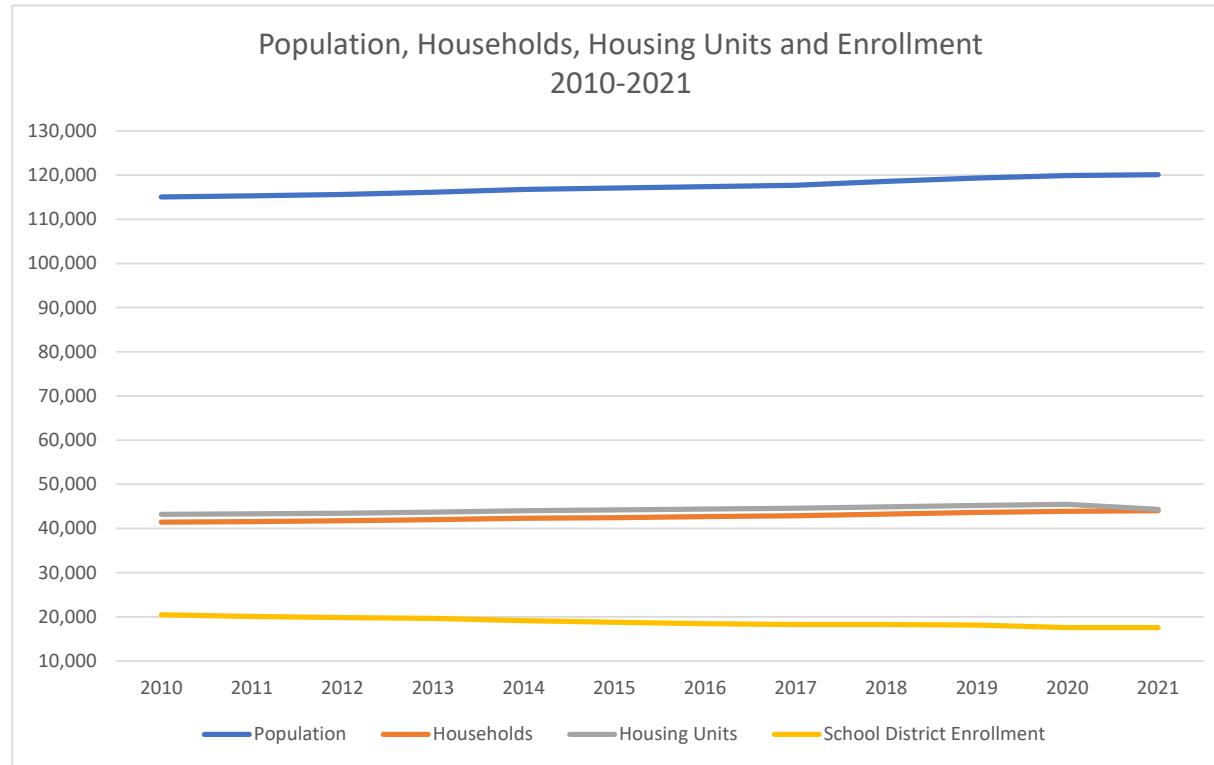
Information Gathering:

Historic Enrollment, Enrollment Projections,  
Facility Index, Capacity, and Demographics

	Total	Year to Year Change
1993-94	11824	
1994-95	12549	725
1995-96	13284	735
1996-97	13992	708
1997-98	14897	905
1998-99	15837	940
1999-00	16575	738
2000-01	17305	730
2001-02	17924	619
2002-03	18549	625
2003-04	19089	540
2004-05	19,586	497
2005-06	20,015	429
2006-07	20,315	300
2007-08	20,357	42
2008-09	20,364	7
2009-10	20,436	72
2010-11	20,432	-4
2011-12	20,081	-351
2012-13	19,814	-267
2013-14	19,621	-193
2014-15	19,145	-476
2015-16	18,772	-373
2016-17	18,441	-331
2017-18	18,257	-184
2018-19	18,224	-33
2019-20	18,104	-120
2020-21	17,571	-533
2021-22	17,573	2
2022-23	17,499	-74

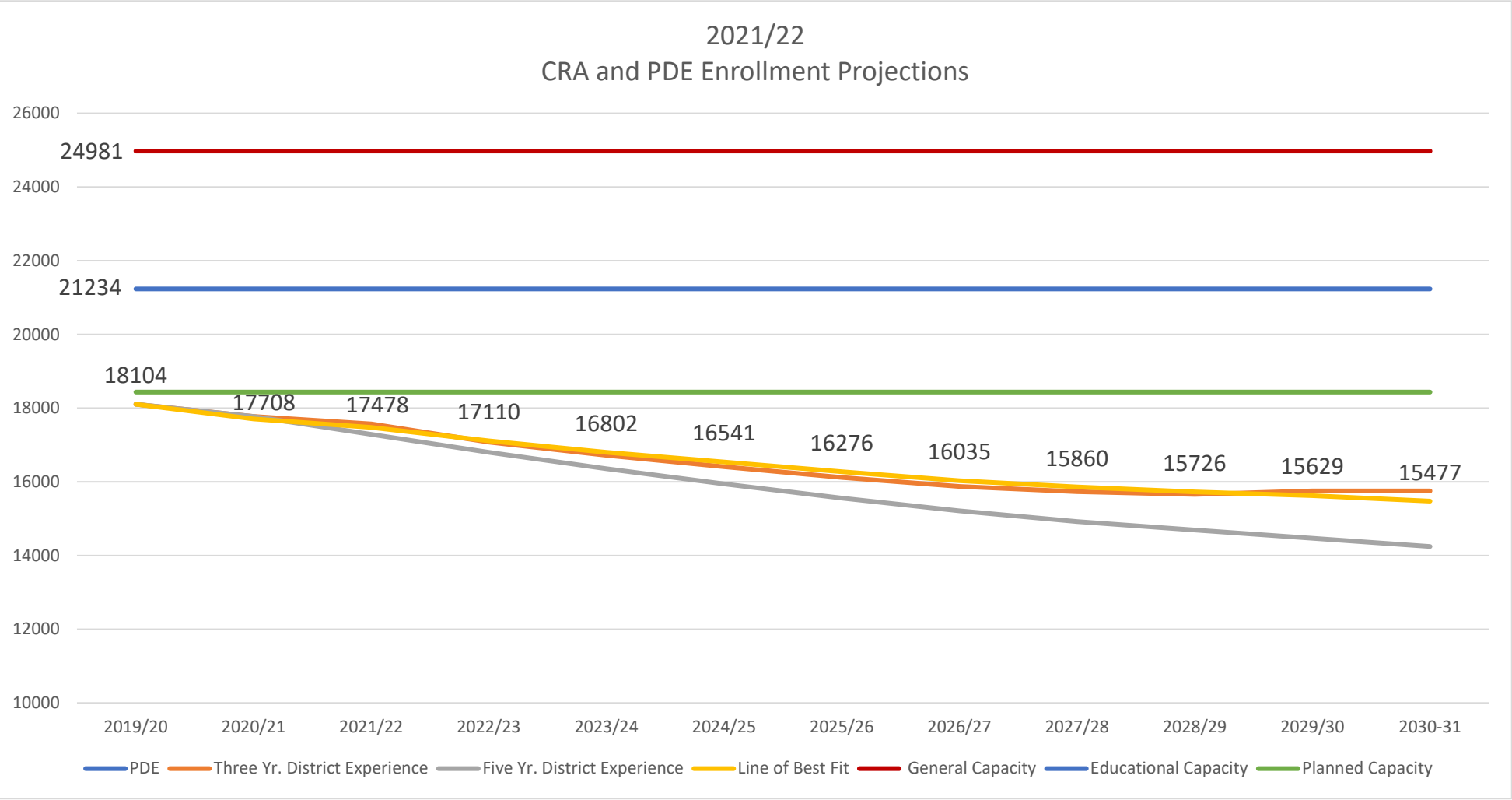


# Population, Households, Housing Units and Enrollment 2010-2021



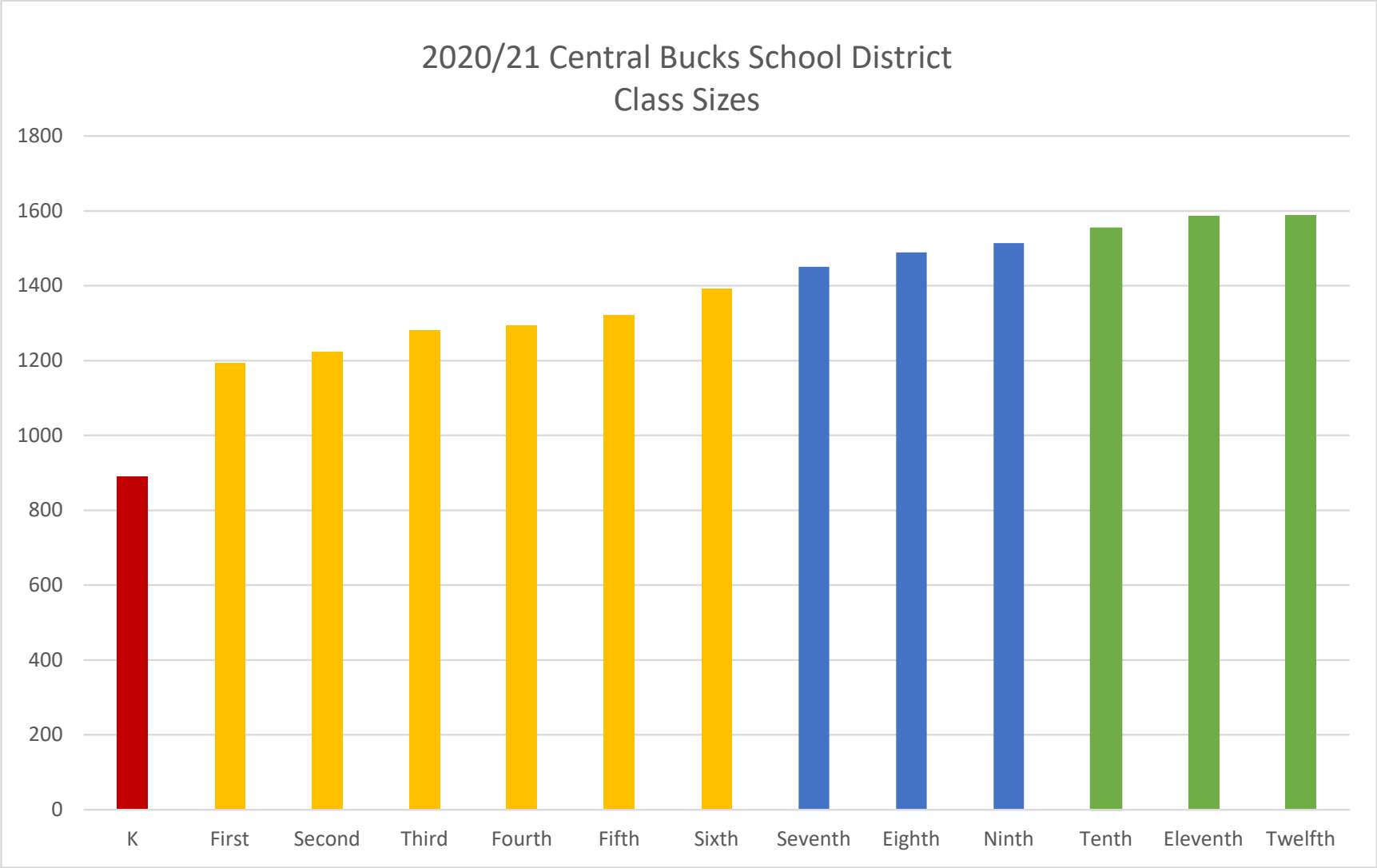
- It is worth noting that the number of students per residential property has declined from 0.47 to 0.40 since 2010 with an average over that time period of 0.43 students per residential unit.
- If a housing development of 100 homes were constructed the district can anticipate an additional 43 students. That is the equivalent of 3.31 students per grade level.
- While the type of development will yield numbers above or below the 0.43 students per unit average, 0.43 students per residential unit is a fair approximation for planning.

# CRA and PDE Enrollment Projections





# Central Bucks School District Class Sizes 2021/22





# The Central Bucks School District Facility Condition Index



PennState

FCI Data

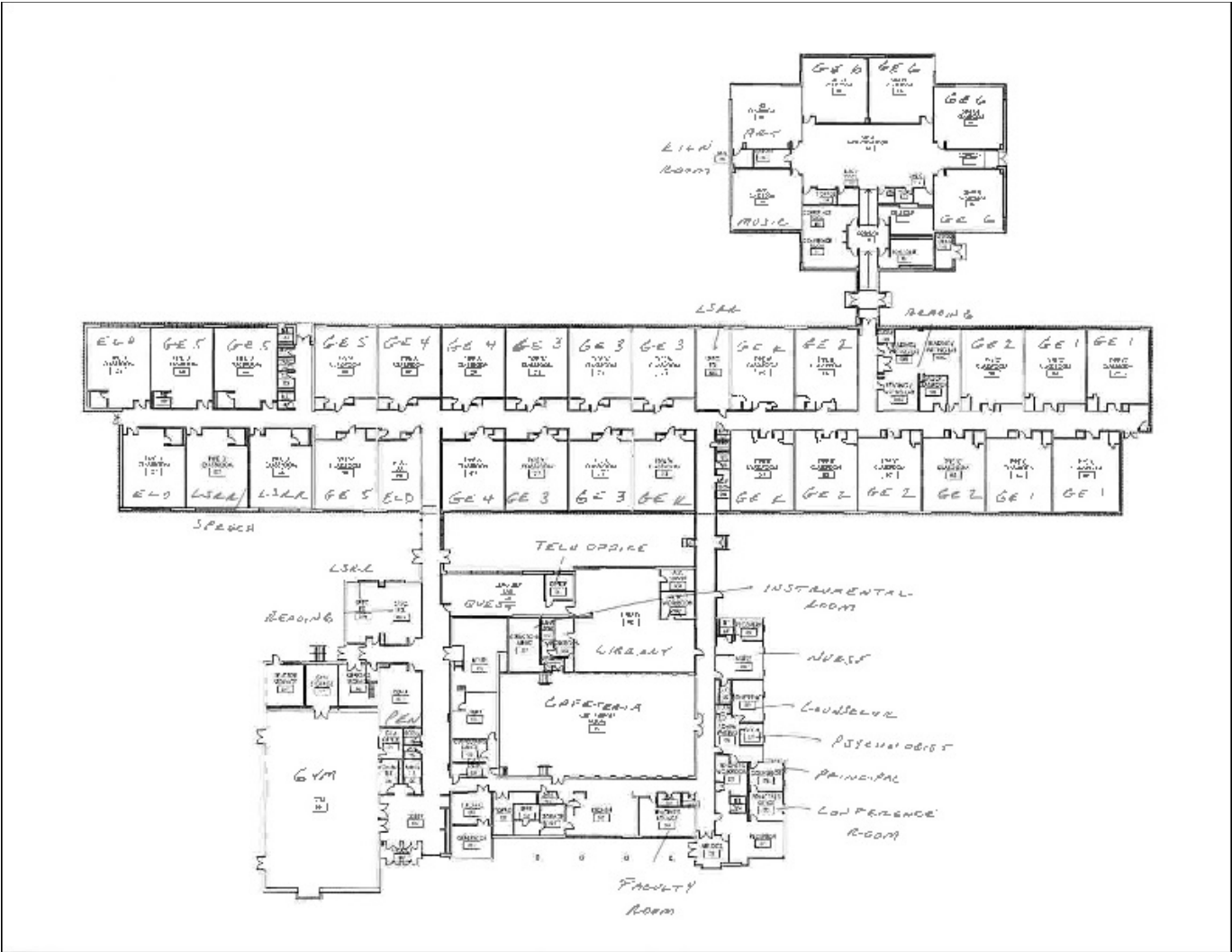
Charts

Facility Condition Index Data

Export

	Facility	Identifier	Last Assessment	Policy Deficiency	Program Deficiency	Physical Deficiency	Total Deficiency	Replacement Value	Physical Deficiency FCI %	Total Deficiency FCI % ▼
	Doyle Elementary School	DOYLE-ELEM	1-Jul-2020	\$2,219,776	\$0	\$2,817,320	\$5,037,097	\$11,161,058	25.2 %	45.1 %
	Gayman Elementary School	GAYMAN-ELEM	1-Apr-2021	\$2,011,930	\$0	\$2,718,818	\$4,730,748	\$12,994,736	20.9 %	36.4 %
	Kutz Elementary School	KUTZ-ELEM	17-Aug-2020	\$2,185,244	\$0	\$3,210,867	\$5,396,110	\$15,724,362	20.4 %	34.3 %
	Titus Elementary School	TITUS-ELEM	17-Jun-2019	\$1	\$0	\$4,168,359	\$4,168,360	\$15,945,786	26.1 %	26.1 %
	Pine Run Elementary School	PINE-ELEM	9-Jul-2019	\$16,780	\$0	\$3,998,503	\$4,015,283	\$15,952,003	25.1 %	25.2 %
	Warwick Elementary School	WARWICK-ELEM	15-Jul-2020	\$0	\$0	\$4,346,892	\$4,346,892	\$17,510,539	24.8 %	24.8 %
	Buckingham Elementary School	BUCKINGHAM-ELEM	27-Jul-2020	\$724,364	\$0	\$2,787,325	\$3,511,689	\$14,407,361	19.3 %	24.4 %
	Linden Elementary School	LINDEN-ELEM	7-Jul-2020	\$0	\$0	\$2,874,695	\$2,874,695	\$13,247,649	21.7 %	21.7 %
	Groveland Elementary School	GROVELAND-ELEM	29-Jun-2021	\$18,226	\$0	\$6,224,038	\$6,242,264	\$30,629,059	20.3 %	20.4 %
	Barclay Elementary School	BARCLAY-ELEM	14-Feb-2019	\$770,682	\$0	\$2,242,619	\$3,013,301	\$15,026,167	14.9 %	20.1 %
	Mill Creek Elementary School	MILL-ELEM	14-Jul-2021	\$19,702	\$0	\$5,724,144	\$5,743,846	\$30,109,460	19.0 %	19.1 %
	Bridge Valley Elementary School	BRIDGE-ELEM	25-Aug-2021	\$32,276	\$0	\$5,035,655	\$5,067,931	\$32,780,755	15.4 %	15.5 %
	Jamison Elementary School	JAMISON-ELEM	24-Aug-2020	\$0	\$0	\$2,204,245	\$2,204,245	\$22,426,794	9.8 %	9.8 %
	Simon Butler Elementary School	SIMON-ELEM	16-Jun-2021	\$10,270	\$0	\$1,370,914	\$1,381,184	\$19,472,344	7.0 %	7.1 %
	Cold Spring Elementary School	COLD-ELEM	22-Jul-2019	\$6,353	\$0	\$840,658	\$847,011	\$21,674,945	3.9 %	3.9 %

# Calculating Educational Capacity



Central Bucks School District John Barclay Elementary School		Grade Alignment: Current Enrollment:		K-6 673
Educational Spaces	No. of Rooms	Capacity	Total Educ. Capacity	
Pre-K/Kindergarten Classrooms				
Pre-K/Kindergarten Classrooms (Half-Day)	3	40	120	
Pre-K/Kindergarten Classrooms (Full -Day)	0	20	0	
1st Grade Classrooms <660 Sq. Ft.	4	22	88	
2nd Grade Classrooms <660 Sq. Ft.	5	24	120	
3rd Grade Classrooms <660 Sq. Ft.	5	26	130	
4th Grade Classrooms <660 Sq. Ft.	3	26	78	
5th Grade Classrooms <660 Sq. Ft.	4	26	104	
6th Grade Classrooms <660 Sq. Ft.	4	26	104	
Reading Room/Literature Lab	0	25	0	
Unassigned Classrooms (Flex Classroom)	0	25	0	
TOTAL	28		744	
Small Group Classrooms <660 Sq. Ft.				
Storage	0	0	0	
Office/Workroom	0	0	0	
TOTAL	0		0	
Full Size Special Education Classrooms >660 Square Feet				
Learning Support Classrooms (LS)	2	15	30	
Autistic Support (AS)	0	15	0	
Emotional Support (ES)	0	15	0	
Life Skills (Life Skills)	0	15	0	
Multiple Disabilities Support (MDS)	0	15	0	
Occupational and Physical Therapy (OT/PT)	0	15	0	
Sensory Room	0	15	0	
Isolation Room	0	15	0	
Basic Skills (Basic Skills)	0	15	0	
Speech (Spch)	0	15	0	
TOTAL	2		30	
Full Size Support Classrooms >660 Square Feet				
English Language Development (ELD)	2	15	30	
Math Support	0	15	0	
Reading Support	0	15	0	
PEN	0	15	0	
TOTAL	2		30	
Small Group Special Education Classrooms <660 Sq. Ft.				
Learning Support Classrooms (LS)	2	15	30	
Autistic Support (AS)	0	15	0	
Emotional Support (ES)	0	15	0	
Life Skills (Life Skills)	0	15	0	
Occupational and Physical Therapy (OT/PT)	0	15	0	
Sensory Room / Isolation Room	0	15	0	
Basic Skills (Basic Skills)	0	15	0	
Speech (Spch)	0	15	0	
TOTAL	2		30	
Small Group Support Classrooms <660 Sq. Ft.				
English Language Development (ELD)	1	15	15	
Math Support	0	15	0	
Reading Support	3	15	45	
PEN	1	15	15	
TOTAL	5		75	
Labs (Counted as Full Size Classrooms Unless Academic Room Left Empty When Used)				
Computer Lab (Quest)	1	0	0	
Computer Lab (General)	0	0	0	
Innovation Lab	0	0	0	
TV Studio	0	0	0	
TOTAL	1		0	
Art, Music, PE (Counted as Full Size Classrooms Unless Academic Room Left Empty When Used)				
Art Classrooms	1	0	0	
Music Classrooms	1	0	0	
Band Room	0	0	0	
Chorus Room	0	0	0	
Orchestra Room	0	0	0	
Gymnasium	1	0	0	
Multipurpose Room with Stage and/or Cafeteria)	0	0	0	
TOTAL	3		0	
Support Spaces				
Large Group Instruction	0	0	0	
Library	1	0	0	
Cafeteria	1	0	0	
Multipurpose Room Separate from Gym and/or Cafeteria)	0	0	0	
Auditorium	0	0	0	
TOTAL	2		0	
Total Full Size Classrooms Regardless of Use		36		
Total Small Group Classrooms Regardless of Use		7		

# Elementary Enrollment and Capacity

- The Central Bucks School District is currently operating 15 elementary schools at 77% of their capacity.
- Standard planning practices target efficient elementary schools to operate at 90% of capacity.
- The 90% target is often lowered based on the distribution of students in the district, instructional practices, and number of support and special education students.
- Because schools operating above 90% or below 80% are considered educationally and financially inefficient, redistricting is necessary.

Elementary School	K-6 Enrollment (10/2021)	Capacity with Specials, Supprt, and Regional Classes	% of Capacity Utilized
Barclay Elementary School	695	650	106.92%
Butler Elementary School	817	800	102.13%
Warwick Elementary School	522	550	94.91%
Titus Elementary School	591	625	94.56%
Doyle Elementary School	437	500	87.40%
Buckingham Elementary School	454	550	82.55%
Kutz Elementary School	484	625	77.44%
Jamison Elementary School	558	750	74.40%
Cold Spring Elementary School	477	650	73.38%
Groveland Elementary School	816	1,150	70.96%
Mill Creek Elementary School	721	1,075	67.07%
Linden Elementary School	394	600	65.67%
Pine Run Elementary School	483	775	62.32%
Bridge Valley Elementary School	683	1,125	60.71%
Gayman Elementary School	416	725	57.38%
<b>ELEM. SCHOOLS TOTALS/AVERAGE</b>	<b>8,548</b>	<b>11,150</b>	<b>76.66%</b>



# Secondary Enrollment and Capacity

- The Central Bucks School District is currently operating 5 middle schools at 54% of their capacity.
- The Central Bucks School District is currently operating 3 high schools at 61% of their capacity.
- Standard planning practices target efficient secondary schools to operate at 85% of capacity.
- The 85% target is often lower by the size, number, and locations of the schools, distribution of students in the district, instructional practices, and number of support and special education programs required by law.

	Total Capacity	2021/22 Enrollment	Capacity Utilized
<b>Secondary School</b>			
Holicong Middle School	1850	956	51.68%
Lenape Middle School	1625	866	53.29%
Tamanend Middle School	1390	841	60.50%
Tohickon Middle School	1800	878	48.78%
Unami Middle School	1420	806	56.76%
Middle School Totals:	8085	4347	53.77%
Central Bucks High School East	1926	1385	71.91%
Central Bucks High School South	2748	1722	62.66%
Central Bucks High School West	1940	1507	77.68%
High School Totals:	6614	4614	69.76%
Secondary Schools Totals:	14699	8961	60.96%

# Secondary Enrollment and Capacity

- Schools operating above 85% or below 70% are considered educationally and/or financially inefficient.
- Given the number of secondary schools in the Central Bucks School District, their sizes, locations, the geographic distribution of students, and the locations of the elementary school's students attend the consolidation of secondary schools is nearly impossible.
- When altering elementary attendance boundaries, secondary boundaries will need to be examined.

	Total Capacity	2021/22 Enrollment	Capacity Utilized
<b>Secondary School</b>			
Holicong Middle School	1850	956	51.68%
Lenape Middle School	1625	866	53.29%
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Secondary Schools Totals:	14699	8961	60.96%

# Consideration: Realign Grades to K-5, 6-8, 9-12

The District requested that an analysis be completed to determine if a change in grade realignment is possible.

If for educational reasons the district wishes to explore the feasibility of a K-5, 6-8, 9-12 alignment it is feasible.

The analysis finds that the District has the capacity to realign grades within its educational program if it desires to do so.

The District has the capacity to change the grade alignment from K-6, 7-9, 10-12 to K-5, 6-8, and 9-12.

- This allows for further efficiencies at the elementary schools.
- The middle schools remain three grade buildings with more than adequate space to serve the projected enrollment.
- The High Schools have just enough room to accept the ninth grade and the enrollment models indicate the high school student body will continue to decline.

# Recommendation II: Close Linden

- Doyle along with its sister middle and high schools create a K-12 grouping in the geographic and demographic center of the district.
- Kutz is in better physical condition and though smaller than Linden is more efficiently enrolled.
- The cost of bringing Linden to physical and educational standards is costly and the market value of the land is reported as being high.
- Linden is the elementary school, that if consolidated, creates the greatest efficiencies and return on the investment.



# NEXT STEPS



Crabtree, Rohrbaugh & Associates  
[www.cra-architects.com](http://www.cra-architects.com)