



## UPPER ADAMS SCHOOL DISTRICT



# District Wide Feasibility Study

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CRA Project No. 2832



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## SECTION 1 - FORWARD

Crabtree, Rohrbaugh & Associates is pleased to present this Facilities Study Report to the Upper Adams School District. This report has been developed to assist the School District Board of Directors, staff and community in the decision making process regarding the future utilization and disposition of its educational facilities. Additionally, the report will provide an update as to the current overall status of the school district, with respect to demographics and enrollment, as well as the current status of district wide facilities.

As such, this report should be viewed as a starting point, or benchmark; providing a framework from which both a short and long term facilities master plan can be implemented for any recommended or desirable facility improvements. Any recommendations that result in upgrades to the present facilities should be structured to align with the School District's Mission, Beliefs and Educational Programs.

### Crabtree, Rohrbaugh & Associates Report Team

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***“Society is changing rapidly and education is being challenged to follow suit. As we expand our knowledge of how we learn, we must also expand our concept of what constitutes a stimulating and creative learning environment. The single most difficult task in this transformative process is that of altering the public's image of a school facility. Expanding the planning and design process to involve all of the stakeholders and incorporate the societal issues of today makes sense.”***

***“At Crabtree, Rohrbaugh & Associates, we believe in a transparent educational facility design process, with a learner-centered focus and client driven, collaborative approach, one which builds and supports community linkages, an important step in the transformation process.***

***“As such, the information contained within this report is to be considered as preliminary information, providing a benchmark from which more detailed planning and informed decision-making can begin.***

## **Principles of the Report**

In the Commonwealth of Pennsylvania, the Departments of Education, Environmental Protection and Labor & Industry have established guidelines for school programs, school sites, buildings and supporting facilities needed to provide a well-rounded, complete and safe educational experience for the students. These guidelines include:

- Curriculum regulations, including Chapter 4 standards that will continue to impact facilities.
- School sites must be of adequate size to provide for the safety of the students, provide outdoor play areas, bus loading and unloading and parking for staff and visitors.
- Learning environments should be learner-centered, developmentally and age appropriate, safe, comfortable, accessible, flexible, and equitable, in addition to being cost effective.
- School facilities should meet the educational, physical, intellectual, social and emotional needs of students and create an environment that will encourage students to learn.
- Flexibility, including spaces to provide for the various teaching and learning styles, is essential to educational facilities.

## **Assumptions**

### **General**

- The Upper Adams School District desires to provide an educational opportunity for all students and will support the limited funding required to maintain quality educational environments at all levels.
- The goal of this report is to provide the Upper Adams School District with an overview and evaluation of the current district educational facilities, including an evaluation of school district demographics and enrollment, as well as a review of each physical plant and any educational related needs, and a comparison of options that address any identified needs.

### **Organization / Academic**

- Providing space for special programming, social services, special education and specialty programs such as art, music, reading support and other resource activities will reduce the functional capacity of the school buildings.
- The class size guidelines of the Upper Adams School District will have an effect on the functional capacity of the facilities.
- As teaching strategies change and programs are adjusted to meet the different learning styles of students, facilities are affected. Some students learn best in large groups, while others learn best in visual presentations or through written or spoken communications. Having a school environment that allows for these various types of learning and demonstration of competencies, requires flexibility and adaptability of physical space.

### **District Facilities**

- The District's school facilities should be safe and accessible to all students and adults, be adequately sized to meet educational planning standards and criteria, and provide for a comfortable environment to facilitate year-round use and the inclusion of technology as a teaching tool.
- The District's school facilities should include a variety of learning spaces such as instructional classrooms, small and large group learning areas, specialized instruction space and laboratories.
- The facility sites should be safe and accessible and provide for efficient and safe movement of vehicular and pedestrian traffic. Adequate parking and bus drop-off areas should be provided and ideally separated to insure safety and efficiency. Athletic fields and playgrounds should be provided to reinforce the educational program.
- Each school should be a permanent part of the community. The potential use of temporary classroom units should be considered as short-term solutions only.
- The District's elementary and intermediate schools should provide opportunities for students to have hands-on experiences as part of the learning process, which requires adequate space.
- The Middle School experience is intended to provide a transition from the self-contained, nurturing environment of the elementary school to the departmental configuration of the high school. Students are introduced to departmental teaching, interdisciplinary teaching, flexible scheduling, collaborative learning, and flexible grouping. As an educational facility the Middle School should support and enhance the needs of young adolescent students such as, diversity in experiencing teaching, curriculum and scheduling, self exploration and self definition, meaningful participation in school and community, need for physical activity, positive social interaction with peers and adults, and the need for structure and clear limits.
- The High School is dedicated to the concept of group instruction, however must have the facilities to reinforce the emphasis on individualized learning that has emerged. New courses of study and expansion and development of educational curriculum offerings in the high school have created the need for more specialized rooms, often requiring larger, more flexible space.
- The appearance of the District's facilities provides a first and lasting impression of the school system to both children and adults. The quality of the educational opportunities is inferred. Continuing efforts should be made to maintain the interior and exterior of all school facilities.

## **PDE REQUIREMENTS**

The following list summarizes the nature and content of the study as required by the Pa Department of Education.

### ***Section 3 –***

- 1 Overview of the school district including such factors as geography, population and wealth. Overview of the school district including such factors as any distinguishing characteristics that will have an impact on facilities such as geographically separate population centers.

Overview of the school district's educational program that highlights any special facility needs including any instructional practices or planned curriculums that will require special design features

- 2 An analysis of projected enrollment
- 3 A review as to whether projections 5 to 10 years into the future are reasonable and reliable

### ***Section 4 -***

- 4 The likely enrollment for each building and for each grade structure

### ***Section 5 -***

- 5 An analysis of each building's capacity as it relates to the educational program including, not only how many students can building house, but if each building provides the types of educational space dictated by the educational program

### ***Section 6 -***

- 6 An analysis of each building's physical condition including the condition and projected useful life of each building's major components (heating, ventilation, air conditioning, plumbing and electrical), any code related issues, whether the building is accessible, structurally sound and energy efficient.

### ***Section 7 -***

- 7 Costs to upgrade each building to current standards

### ***Section 8 -***

- 8 An analysis of construction options including the pros and cons of each alternative
- 9 Cost estimates for each option

### ***Section 9 –***

- 10 Documentation regarding the author's credentials.

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**SECTION 2 - EXECUTIVE SUMMARY**

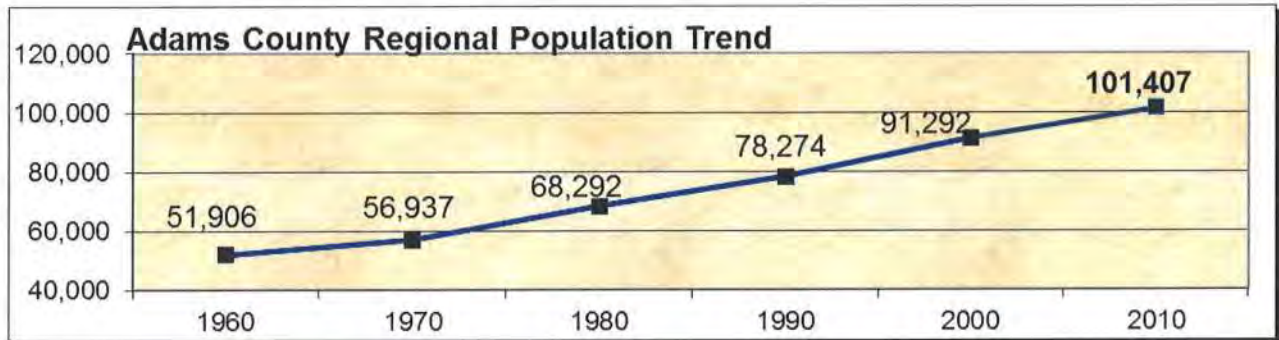
**Introduction**

The goal of this District Wide Feasibility Study is to provide the Upper Adams School District (UASD) with an overview and evaluation of district facilities, program deficiencies, as well as a review of facility options that can be developed to address both short term and long term identified facility needs. As such, this report is developed to provide the School Board of Directors with information and resources to be able to implement a long range plan to guide facility renovations and or additions and upgrades.

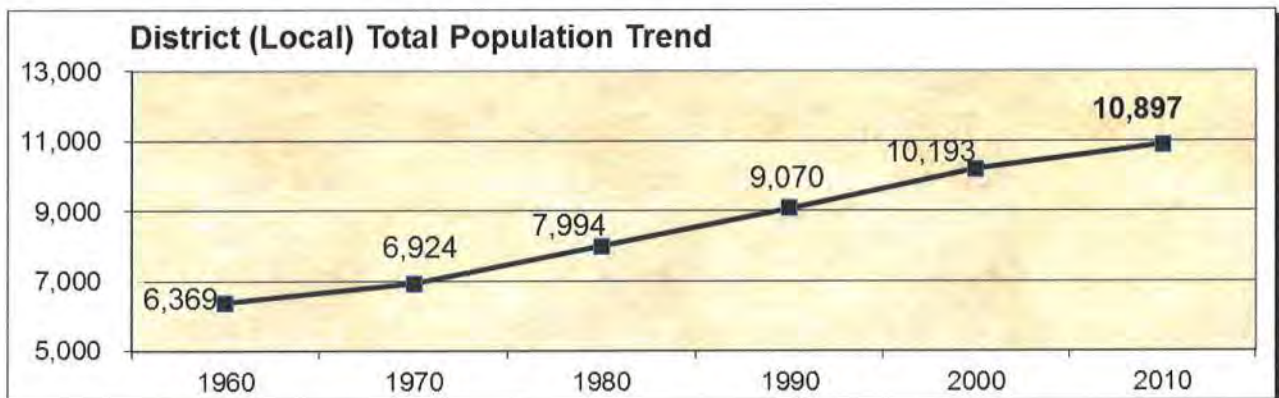
Below is a brief summary of the information contained within this report.

**A. Demographics**

- County population has consistently increased in population an average of 13.9% each decade from 1990 - 2010. Projections through 2020 and beyond dictate continued increase.



- District (Local) population has consistently increased in population an average of 9.6% each decade from 1990 - 2010. Projections through 2020 and beyond dictate continued increase.



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From 2000 – 2015 student enrollment in the District decreased 162 students or an 8.9% decrease. Student Population has decreased in the last fifteen (15) years however the 'rate of decrease' has slowed.

Upper Adams School District	1990	1995	2000	2005	2010	2015
<b>District's Total K-12 Students</b> public enrollment only	<b>1,715</b>	<b>1,732</b> 17	<b>1,827</b> 95	<b>1,827</b> -	<b>1,681</b> (146)	<b>1,665</b> (16)
increase/decrease from previous period: per year:		1.0%	5.5% 1.10%	0.00% 0.00%	-7.99% -1.60%	-0.95% -0.32%

- Utilizing data from the US Census, State Data Center and County Planning, population trends were identified and analyzed. In five (5) years from 2010 to 2015, the district population trend decreased from 15.4% students per population to 14.4%. Continuing this declining percentage ratio to project future enrollment, this chart projects 2020 and 2025 enrollment that is close to the Pa Dept of Education projections.

HISTORICAL TREND - PROJECTION METHOD	2000	2005*	2010	2015*	Projections	Projections
					2020	2025*
<b>District Total Population</b> increase from previous decade	10,193	<b>10,545</b> 3.5%	10,897 3.3%	<b>11,570</b> 6.2%	<b>12,244</b> 12.4%	<b>13,046</b> 12.8%
<b>District Total K-12 Students</b> rate of increase/decrease from prev. interval student increase / decrease per year	1,827	1,827 -	1,681 (146)	1,665 (16)	<b>1,641</b> (40) <b>-2.4%</b>	<b>1,618</b> (47) <b>-2.8%</b>
<b>% Students per Population</b>	<b>17.9%</b>	<b>17.3%</b>	<b>15.4%</b>	<b>14.4%</b>	<b>13.4%</b>	<b>12.4%</b>

- By contrast, the Pa Department of Education's (PDE) latest projections indicate that by the year 2020, the District's K-12 enrollment could be approximately 1,589 or 52 students less than the Census based historical trends (1,641) dictate for the same school year. This is the equivalent of two (2) additional general classrooms district wide. This may tend to indicate that PDE projection data may be reasonable and reliable.

PDE - PROJECTION METHOD	1990	1995	2000	2005	2010	Current Year	Projections
						2015	2020
<b>*Total K-12 Student Projections</b> difference increase / decrease	1,715	1,732 17	1,827 95	1,827 -	1,681 (146)	<b>1,665</b> <b>(16)</b>	<b>1,589</b> <b>(76)</b>
		1.0%	5.5%	0.0%	-8.0%	-1.0%	-4.6%



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This study analyzes four (4) methodologies of enrollment projections. In each case, District K-12 student population may see a slight decrease, from the most recent 2015 enrollment, over the next 5 year period.

**Current Enrollment**            1,665

<b>2020=</b>	<b>1,641</b>	<b>1,648</b>	<b>1,589</b>	<b>1,636</b>
	<b>METHOD #1</b>	<b>METHOD #2</b>	<b>METHOD #3</b>	<b>METHOD #4</b>
	<b>Student %</b>	<b>Annual</b>	<b>PDE</b>	<b>Cohort</b>
	<b>of</b>	<b>Rates</b>		<b>Survival</b>
	<b>projected</b>			
	<b>population</b>			

**B. Building Capacities**

- Based on the CURRENT use of school space, for year 2015-16:

The K - 3 Enrollment is 91% of the Elementary School Capacity.

The 4 – 6 Intermediate Enrollment is 94% of the 4 - 6 Building Capacity.

The 7 – 12 Middle / High School Enrollment is 84% of the Building Capacity.

**Capacity of Existing Buildings based on CURRENT Use of**

**K - 3 Elementary School**

School	Current Bldg Capacity*	Current 2/2016 Enrollment	Utilization Rate
			% Full Current Enrollment
Biglerville ES	550	498	91%
	<b>550</b>	<b>498</b>	<b>91%</b>
<b>Capacity Available***</b>			<b>52</b>

**4 - 6 Intermediate Schools**

School	Current Bldg Capacity	Current 2/2016 Enrollment	Utilization Rate
			% Full Current Enrollment
Arendtsville ES	225	202	90%
Bendersville ES	175	174	99%
	<b>400</b>	<b>376</b>	<b>94%</b>
<b>Capacity Available***</b>			<b>24</b>

**7 - 12 Middle / High School**

School	Current Bldg Capacity	Current 2/2016 Enrollment	Utilization Rate
			% Full Current Enrollment
Middle / High School	940	791	84%
	<b>940</b>	<b>791</b>	<b>84%</b>
<b>Capacity Available***</b>			<b>149</b>

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Building Capacities

- Based on the addition of just four (4) General Classroom spaces, the PLANNED use of school space is as follows:

The K - 3 Enrollment decreases to 77% of the Elementary School Capacity.  
 The 4 – 6 Intermediate Enrollment decreases to 75% of the 4 - 6 Building Capacity.  
 The 7 – 12 Middle / High School Enrollment remains at 84% of the Building Capacity.

**Capacity of Existing Buildings based on PLANNED Use of Space**  
**K - 3 Elementary School**

School	Current Bldg Capacity*	Utilization Rate	
		Current 2/2016 Enrollment	% Full Current Enrollment
Biglerville ES	650	498	77%
<i>THE ADDITION OF (4) GENERAL CL RMS</i>	<b>650</b>	<b>498</b>	<b>77%</b>
<b>Capacity Available</b>		152	

**4 - 6 Intermediate Schools**

School	Current Bldg Capacity	Utilization Rate	
		Current 2/2016 Enrollment	% Full Current Enrollment
Arendtsville ES	275	202	73%
Bendersville ES	225	174	77%
<i>THE ADDITION OF (4) GENERAL CL RMS</i>	<b>500</b>	<b>376</b>	<b>75%</b>
<b>Capacity Available</b>		124	

**7 - 12 Middle / High School**

School	Current Bldg Capacity	Utilization Rate	
		Current 2/2016 Enrollment	% Full Current Enrollment
Middle / High School	940	791	84%
<b>Capacity Available</b>	<b>940</b>	<b>791</b>	<b>84%</b>
		149	

Grade Group Capacities



**C. Building Assessments**

The Pa Department of Education requires that each district facility study identify items that are required to bring District buildings up to current construction standards. It should be noted that existing conditions that would not comply with current Codes are frequently grandfathered by the local Code Authority and would need to be upgraded to current Codes during a major construction project or due to the need for replacement. Other critical issues which we evaluate include life safety and building code compliance, handicap accessibility (ADA), energy efficiency, structural systems and aesthetics.

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Included in this study are reports for each District building which analyzes the physical condition including the projected useful life of each building's major architectural and building systems components, whether the building is accessible, structurally sound, energy efficient, ADA and building code compliant. Site investigations were conducted to evaluate various site, architectural, plumbing, heating, air conditioning, ventilation, electrical power and special systems at each building.

Below is an excerpt of the building assessment reports contained within this study.

<b>Building Considerations</b>	
<b>Site Conditions</b>	
<u>Site Size:</u>	The site size is approximately 16.5 acres.
	 An aerial photograph showing a school campus with several buildings, parking lots, and surrounding residential areas. The text "Google earth" is visible in the bottom right corner of the image.
<u>General Condition of Site:</u>	The overall general conditions of the site are good.
<u>Topography:</u>	Majority of site is level. Some moderate sloping conditions at the building pad down to play areas. Site topography accommodates adequate drainage.
	 A ground-level photograph of a school playground area. The playground has colorful equipment and is surrounded by a paved area. In the background, there are trees and a cloudy sky.
<u>Site Circulation:</u>	Staff, student, and public entry is separate from delivery services. Separation of bus and parent / student drop-off vehicular traffic appears adequate. Bus drop-off is at the rear of the building and parent / student drop-off in front.

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Exterior Envelope	
<p><u>Exterior Walls:</u></p>	<p>Exterior walls of the original building consist of a combination of masonry veneer and Exterior Insulated Finish System (EIFS). Exterior walls of the 1989 addition consist of masonry veneer. The exterior walls are in good condition with few areas of settlement, staining, mold/mildew buildup are evident. The EIFS appears to be in good condition with few areas of staining. Masonry veneer and cast stone window sills are in fair condition with many areas in need of repointing and cleaning as some cracking, dirt and mold/mildew buildup are evident.</p> <p><u>Recommendations:</u></p> <p><i>Re-pointing and cleaning of cast stone window sills and specific areas of masonry veneer is recommended with any proposed building improvement project.</i></p>



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**D. Facility Options / Estimated Costs**

Crabtree, Rohrbaugh & Associates has developed these preliminary facility options and recommendations for the School District facilities, to assist the Upper Adams School District Board of Directors and administration in the decision-making process regarding the future utilization of the educational buildings.

As such, this report should be viewed as a starting point, or benchmark; providing a framework from which decisions regarding prioritized facility upgrades can be made. Any recommendations that result in upgrades to the present facilities should be structured to align with the School District's Mission, Beliefs and Educational Programs.

The information presented outlines various options that the Upper Adams School District can take to address the more pressing facility needs at the 4-6 buildings and other facility needs at other District buildings.

Below is an excerpt of the Options Analysis contained within this report.

<b>Option 2</b>														
Biglerville ES	Deferred Maintenance	K-3	486	550	64,000									
Bendersville ES	Closed													
<b>Arendtsville ES Additions/Renovations</b>		<b>4-6</b>												
	Comprehensive Reno - AES*		368	450	38,900	110		\$ 4,279,000	\$ 200,000	\$ 358,320	\$ 4,837,320	\$ 1,064,210	\$ 5,901,530	
	(B) General Cirm Addition				23,000	165	\$ 3,795,000	\$ 450,000	\$ 339,600	\$ 4,584,600	\$ 1,008,612	\$ 5,593,212		
	(1) Science Classroom				1,000	170	\$ 170,000	\$ 50,000	\$ 17,600	\$ 237,600	\$ 52,272	\$ 289,872		
	(1) Administration Expansion				1,000	170	\$ 170,000	\$ 50,000	\$ 17,600	\$ 237,600	\$ 52,272	\$ 289,872		
	Core Expansions													
	Library Expansion				1,000	170	\$ 170,000	\$ 50,000	\$ 17,600	\$ 237,600	\$ 52,272	\$ 289,872		
	Kitchen Expansion				1,200	170	\$ 204,000	\$ 50,000	\$ 20,320	\$ 274,320	\$ 60,350	\$ 334,670		
	Raze Exist Café / Build New Gymnasium				7,000	190	\$ 1,330,000	\$ 150,000	\$ 118,400	\$ 1,598,400	\$ 351,648	\$ 1,950,048		
	<b>Total Option 2 Package***</b>											<b>\$ 12,007,440</b>	<b>\$ 2,641,637</b>	<b>\$ 14,649,077</b>

**E. Summary**

The information contained within this district wide feasibility study has been developed to:

- Address the present and foreseeable projected student enrollment.
- Identify and address existing facility needs at all district owned buildings in order to renovate and modernize the facility and to extend the useful life of the physical plant and operational systems a minimum of 20 years.
- Provide preliminary construction and projecting cost information as a means of budgeting for any major project, designed to address the school district's facility needs in a prioritized and structured approach.

Short - Term Life-Cycle Renewal & Capital Improvements

The short-term improvements are not intended to be 20 – 25 year comprehensive building upgrades or expansion projects, rather address program enhancements or the more urgent, or

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critical needs of a facility; typically driven by deferred maintenance, equipment failure, non-conformance with current building codes and changes in technology.

Long – Term Facility Renewal & Master Plan options

The long term improvements are intended to be 20 – 25 year comprehensive building renovation and addition projects to provide capacity to each building as well as program support spaces. Each facility will need to be further evaluated for site impacts such as play area reconfiguration and meet current zoning and stormwater management requirements. Renovations will include accessibility upgrades and also meet current building codes and ordinances.

**Section 3 - PDE Requirement**

**OVERVIEW – GEOGRAPHY, POPULATION AND WEALTH**  
**OVERVIEW - DISTINGUISHING CHARACTERISTICS, ANY IMPACT ON FACILITIES**  
**OVERVIEW – DISTRICT’S EDUCATIONAL PROGRAM, ANY SPECIAL FACILITY NEEDS**

**Geography, Distinguishing Characteristics**

- The Upper Adams School District (UASD) located in the northern section of Adams County, Pennsylvania; encompassing 90 square miles land area with a total Local population of approximately 10,897 persons according to the 2010 Census and a 2020 projected 12,244 persons resulting in a moderate increase of approximately 12.4% during this estimated ten (10) year period.
- The district is bordered Cumberland County to the north, Bermudian Springs SD to the east and Gettysburg Area SD to the west and south. The District is strategically located between four (4) major population centers – Harrisburg, the state capital to the north, York to the east, Chambersburg to the west and Gettysburg to the south. The major population center of the school district is Menallen Township, a municipality of approximately 4,000 (2010 Census).

- Upper Adams SD encompasses six (6) moderately sized municipalities:

Upper Adams SD –           Arendtsville Borough  
  Bendersville Borough  
  Biglerville Borough  
  Butler Township  
  Menallen Township  
  Tyrone Township\*

\*Part of Tyrone Township is in Conewago Valley SD

- Of these municipalities, there are three (3) main population areas:

Butler Township  
Menallen Township  
Tyrone Township

- The least populated center within the district is Bendersville Borough (664 persons).
- The District facilities currently include one (1) K-3 elementary school, two (2) 4-6 intermediate schools and one (1) middle / high school.
- The District is bordered by Big Spring SD and Carlisle Area SD to the north, Bermudian Springs SD to the east and Gettysburg Area SD to the west and south. UASD is one of the larger sized school districts in Adams County relative to land area, second only to Gettysburg Area SD at 185 square miles land area.

**Population**

- For Regional and Municipal population characteristics, please see the Census Analysis following this overview.

**Wealth**

- Menallen Township is the only municipality in the Upper Adams SD that was reported in the 2010 Census data as having a median household income\* higher than the Pennsylvania median household income levels (\$52,267) and that of Adams County (\$58,465). The average median household income level amongst all municipalities is \$68,548.

**Menallen Township had the highest median household income at \$61,364. Butler Township is a distant second at \$52,216.**

**Biglerville Borough had the lowest median household income level at \$43,125 followed by Bendersville Borough at \$49,216.**

- Of the District municipalities as of 2010, Butler Township has the highest per capita income at \$30,688 while Bendersville Borough has the lowest per capita income at \$21,324. The average per capita income amongst all municipalities is \$24,947.
- The 2010 census data indicated that an average of 8.1% of the District Local population of residents were living below the poverty level. This is a slight decrease from 8.4% level in 2000 yet significantly lower than the 2010 13.1% county level.
- All municipalities in the Upper Adams SD with the exception of Tyrone Township were reported in the 2010 Census data as having median housing values\* that were higher than Pennsylvania median housing values (\$164,900). However, all municipalities in the UASD have median housing values lower than that of Adams County (\$204,000). The average median housing value amongst all municipalities is \$204,356.

**Butler Township had the highest median housing value at \$197,500 followed closely by Menallen Township at \$193,100.**

**Tyrone Township had the lowest median housing value at \$164,300 followed by Biglerville Borough at \$176,300.**

- The District unemployment rate at the time of the 2010 census was an average of 6.8%, slightly lower than the state rate at 8.5% yet higher than the county rate at 5.7%.

\* Median income divides the population into two equal groups. Two facts emerge: 1) the dollar figure itself and 2) half of the people earn that amount or more, and half earn that much or less.

\*Median housing values divides the value distribution into two equal parts: one-half of the cases falling below the median value of the property (house and lot) and one-half above the median.



### **State Financial Aid**

- The current (2015-2016) financial aid ratio utilized by the Upper Adams School District, as determined by the Pennsylvania Department of Education is the **Market Value Aid Ratio (MVAR) - 0.6139.**

### **District Educational Program and Facility Needs**

This section analyzes the School District's Educational program/curriculum as it relates to the spaces, rooms and facilities required to implement the curriculum and highlights any special facility needs including any instructional practices or planned curriculums that will require special design features.

Classroom instruction is organized to provide students a core curriculum in the sciences and the arts. English, arts, music, physical education, mathematics, social studies and the sciences are offered at all grade levels as well as remedial and enrichment programs.

The Upper Adams School District offers comprehensive K-12 educational programs including internal curriculum for special needs students and honors programs for accelerated students.

Quality programs for students result when curriculum, instruction and assessment are one and the same. As such, the district's academic program is built around a vertical continuum for curriculum from Kindergarten to grade 12. Continuity also exists in the monitoring of curriculum to ensure that teachers within a grade level or subject area are teaching and assessing the planned curriculum.

The development of new knowledge and societal demands necessitate that curriculum development be a continuous process. Curriculum development is not complete until the curriculum is used in the classroom.

The District has a process in place to bridge curriculum development and delivery in the classroom. Curriculum content is designed to achieve long-range goals for students in all domains – cognitive, social, emotional and physical – and to prepare students to function as fully contributing members of a democratic society and a competitive global economy.

Special needs or goals have been identified for the following facilities. All other District facilities having received recent renovations or new construction meet the Board's current and projected needs and do not require any unique or special design features.

### **Arendtsville Intermediate School**

1. Flex or break out areas or learning pods, personalized space, small group, large group – facilities should support 21<sup>st</sup> Century learning skills – critical thinking, creativity, collaboration, communication and need to be included as special needs.
2. Adequate power, effective climate control, furnishings and data shall be provided so that technology will be accessible from within the classroom.

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3. Scheduling issues and current size of the Multipurpose Room dictate the need for a new Gym for the separation of cafeteria and PE functions. The gymnasium and support facilities shall be sized appropriately and made accessible to the public for their use.
4. The use of technology has grown from being a part of the curriculum to becoming a tool used in every program and integral to daily operations. To support this growth the facility design must incorporate adequate power, appropriate networks, sufficient space, proper furnishings, and effective climate control to address heat generation
5. Additional classroom support space to better accommodate current high capacity levels and the possibility of long term growth.
6. Additional faculty support space to better accommodate large group meetings and staff trainings.
7. Site circulation – increased parking capacity for community / parent events should be considered as special needs.
8. Considerations for curriculum improvements include - the current Science program for the 6<sup>th</sup> grade class by providing a designated Science classroom designed for lab experiments and appropriate sized lab support for Computer based teaching.
9. Creating a more technology based Media Center with areas for small production and work space with appropriate support space for technology and material storage.
10. Additional building storage capacity is required, perhaps a Central Receiving Area to accommodate furnishings and / or curricular material.

No other special design features have been identified at this time.

**Bendersville Intermediate School**

1. Flex or break out areas or learning pods, personalized space, small group, large group – facilities should support 21<sup>st</sup> Century learning skills – critical thinking, creativity, collaboration, communication and need to be included as special needs.
2. Adequate power, effective climate control, furnishings and data shall be provided so that technology will be accessible from within the classroom.
3. Scheduling issues and current size of the Multipurpose Room dictate the need for a new Gym for the separation of cafeteria and PE functions. The gymnasium and support facilities shall be sized appropriately and made accessible to the public for their use.
4. The use of technology has grown from being a part of the curriculum to becoming a tool used in every program and integral to daily operations. To support this growth the facility design must incorporate adequate power, appropriate networks, sufficient space, proper furnishings, and effective climate control to address heat generation
5. Additional classroom support space to better accommodate current high capacity levels and the possibility of long term growth.
6. Additional faculty support space to better accommodate large group meetings and staff trainings.

**UPPER ADAMS SCHOOL DISTRICT**  
District Wide Feasibility Study

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7. Site circulation – increased parking capacity for community / parent events should be considered as special needs.
8. Considerations for curriculum improvements include - the current Science program for the 6<sup>th</sup> grade class by providing a designated Science classroom designed for lab experiments and appropriate sized lab support for Computer based teaching.
9. Creating a more technology based Media Center with areas for small production and work space with appropriate support space for technology and material storage.
10. Additional building storage capacity is required, perhaps a Central Receiving Area to accommodate furnishings and / or curricular material.
11. Reconfiguration of existing classroom space to better accommodate educational programmatic needs with regard to space size and adjacency and enhance student learning.

No other special design features have been identified at this time.

**Biglerville Elementary School**

1. Flex or break out areas or learning pods, personalized space, small group, large group – facilities should support 21<sup>st</sup> Century learning skills – critical thinking, creativity, collaboration, communication and need to be included as special needs.
2. Adequate power, effective climate control, furnishings and data shall be provided so that technology will be accessible from within the classroom.
3. Shared Gym and Cafeteria creates scheduling issues as the space is not large enough for both PE and Food Service. With the divider closed the Cafeteria is not large enough as food needs to be prepared in bulk and held for students versus making fresh food.
4. Additional classroom support space to better accommodate current high capacity levels and the possibility of long term growth.
5. Planning for the potential growth of the Pre-K curriculum should be considered a long term special need.
6. Additional faculty support space to better accommodate large group meetings and staff trainings.
7. The use of technology has grown from being a part of the curriculum to becoming a tool used in every program and integral to daily operations. To support this growth the facility design must incorporate adequate power, appropriate networks, sufficient space, proper furnishings and effective climate control to address heat generation.
8. Site circulation – increased parking capacity for community / parent events and improvements to traffic flow and parent / student drop-off zone should all be considered as special needs.
9. Additional building storage capacity is required, perhaps a Central Receiving Area to accommodate furnishings and / or curricular material.

No other special design features have been identified at this time.

## **UPPER ADAMS SCHOOL DISTRICT**

### District Wide Feasibility Study

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#### **Middle School / High School**

1. The MS science rooms need to be updated to incorporate technology and changes to program delivery methods. Power and data shall be incorporated into the student workstations.
2. Central information hub for students; flexible learning environments – all for 21<sup>st</sup> Century learning need to be included as special needs.
3. The industrial arts / vocational ag areas need to be updated to support the curriculum. New equipment, power, ventilation and data requirements utilized in the classroom environment shall be considered.
4. The use of technology has grown from being a part of the curriculum to becoming a tool used in every program and integral to daily operations. To support this growth the facility design must incorporate adequate power, appropriate networks, sufficient space, proper furnishings, and effective climate control to address heat generation
5. Centralized location and entrance for MS identity. Sufficient programmatic space to accommodate the administration and staff for adequate supervision of the daily building operations.

No other special design features have been identified at this time.

## SECTION 3 - PDE Requirement

### ANALYSIS OF PROJECTED ENROLLMENT

#### REVIEW WHETHER PROJECTIONS 5-10 YEARS INTO FUTURE ARE REASONABLE AND RELIABLE

Beginning on the following pages, projected enrollment is analyzed and a review of whether Pa Department of Education projections 5-10 years into the future are reasonable and reliable. Several methodologies are developed and analyzed as a means of comparison of the K-12 enrollment. These methodologies are identified below.

#### **Projection Assumptions**

Student projections, like any population projections, are based upon certain beliefs about how an area will grow or decline. A basic fact of projection methodology is that future trends in community development may be derived from past development, or in other words; the community will develop the way in the future that it has developed in the immediate past. The projection methods looked at within this report assumes that past trends are an indicator and indicate development trends of the future. Based upon a review of historical trends vs. recent trends, it appears that the school district enrollments may be in a decreasing mode, which ultimately means that averages and ratios of past performance may be the most accurate information from which to base projections.

Demographic and Enrollment methods reviewed include:

**1. Current Enrollment Plus 10% or 15%**

The PA Department of Education reimbursement process is based upon school district enrollment and capacity calculations. The department will reimburse a school district based upon the higher of; 1) PDE enrollment projections, 2) School District enrollment projections, or 3) Current enrollment plus 10%, (15% for districts with a total enrollment of under 1,500). This methodology allows School Districts the opportunity to manage fluctuating enrollments while providing for necessary facility upgrades.

**2. Census Based Enrollment Projections**

This method of projection is based upon the assumption that an observable ratio between total population and school enrollments has existed in the past and will continue in future populations. There are definable historic trends, however if the school district is in a transitional trend period, these historical averages and percentages should be monitored annually, evaluated, and updated.

**3. PA. Department of Education Enrollment Projections**

The enrollment projection model used by the Pennsylvania Department of Education (PDE) is patterned after projection models variously called educational progression or school retention. Projection models of this nature are based on the concept that students progress routinely from one grade to another and that any internal policies and external factors that influenced grade progression in the past will continue to influence the progression of students from grade to grade in the future.

**4. CRA Cohort Survival Projections**

CRA reviewed the birth rate and cohort survival ratios for the most recent five (5) year period between 2006 and 2011. CRA calculated 3 and 5 year mean averages for the retention and birth rates. CRA then projected enrollment through the year 2019-20 school year utilizing the five (5) year mean average.





**Section 3 - PDE Requirement / Analysis of Projected Enrollment**

**Upper Adams School District  
Methodology Analysis Summary**

**1 Current District Enrollment** Year **2015-16** **1,665**

**1A Current Enrollment plus 10%** Year **2015-16** **1,832**

**2 Census Based Trends - Potential Population**

County population has seen continued growth the last several decades. County population projections indicate continued growth in the next decade yet at a slower rate.

Local (District) population has seen continued growth the last several decades. Local (District) population projections indicate continued growth in the next decade and at a higher rate.

District total students as a percentage of the total District population has been decreasing over the past several decades. Trends indicate the percentage may continue to decrease through 2020 as the relationship between local District population increases and District K-12 enrollment decreases.

**Students projected by Census Based Trends:**

Year **2020** **1,641**

**3 Annual Rates**

Between 2010-2015, the student enrollment decreased at a rate of 0.21% per year. If this five (5) year rate annual decrease of 0.21% is applied, the projections would be as follows:

Year **2020** **1,648**

**4 PA Dept. of Education Enrollment Projections**

REVISED: 7/2011 (2010 Enrollments)  
PDE projections based on resident live births and retention rates by grade per year  
PDE projects continuing decrease in K-12 population through 2020.

Year **2020** **1,589**

**5 Cohort Survival Projections**

The cohort survival method utilizes birth data and historical cohort survival ratios to project future enrollments. The cohort survival forecast indicates that the K-12 enrollment may continue to decrease through school year 2020.

Year **2020** **1,636**





Analysis of Projected Enrollment  
**Demographic Analysis - Upper Adams School District**  
**Student Population derived from Total Population**

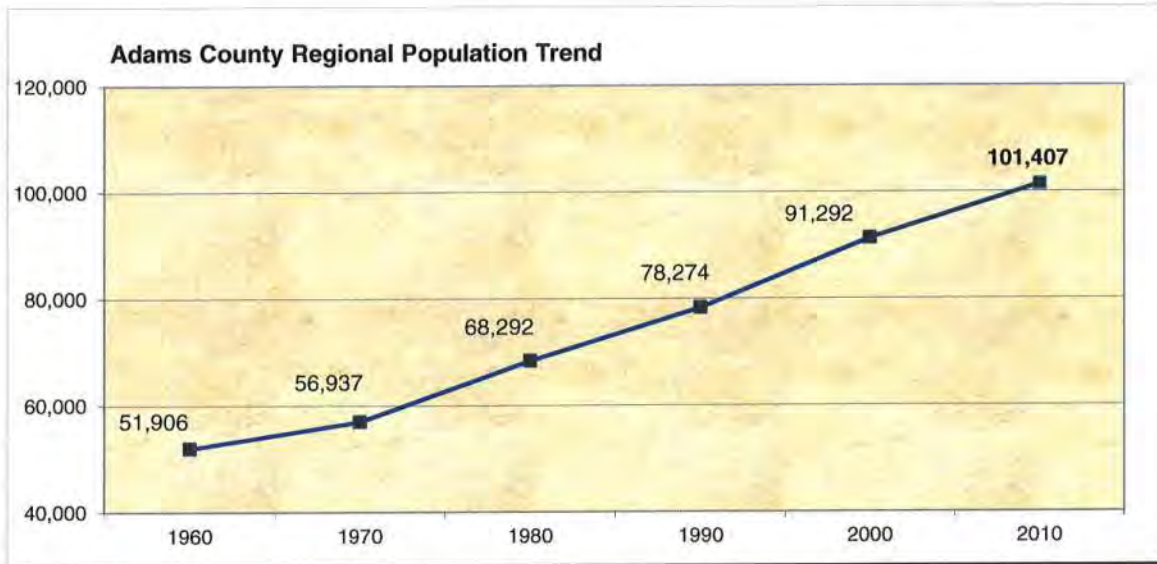
This method identifies the historic ratio of Total Students compared to Total District Population and then applies the ratio *trend* to project a Student Population.

**1 What is the Regional Population trend ?**

Adams County has consistently **increased** in population an average of 13.86% each decade since 1990. The 'rate of increase' has fluctuated over the past four (4) decades.

Region	1960	1970	1980	1990	2000	2010 Census 2010
Adams County	51,906	56,937	68,292	78,274	91,292	101,407
rate of increase / decrease		9.7%	19.9%	14.6%	16.6%	11.1%
increase/decrease		5,031	11,355	9,982	13,018	10,115

Two (2) decade (1990/2010) average **13.86%**



**Trends:**

Each decade, Adams County population has **consistently increased**. However, each decade the 'rate of increase' has fluctuated as follows:

- 1970-1980 **accelerated**
- 1980-1990 **decelerated**
- 1990-2000 **accelerated**
- 2000-2010 **decelerated**

Estimated population trends indicate that the Regional population will continue to increase but still at a fluctuating rate. (13.9% through 2020)

\*Source: US Census / Center for Rural Pa / Adams Cty Office of Planning & Development

**2 What is the Local Population trend ?**

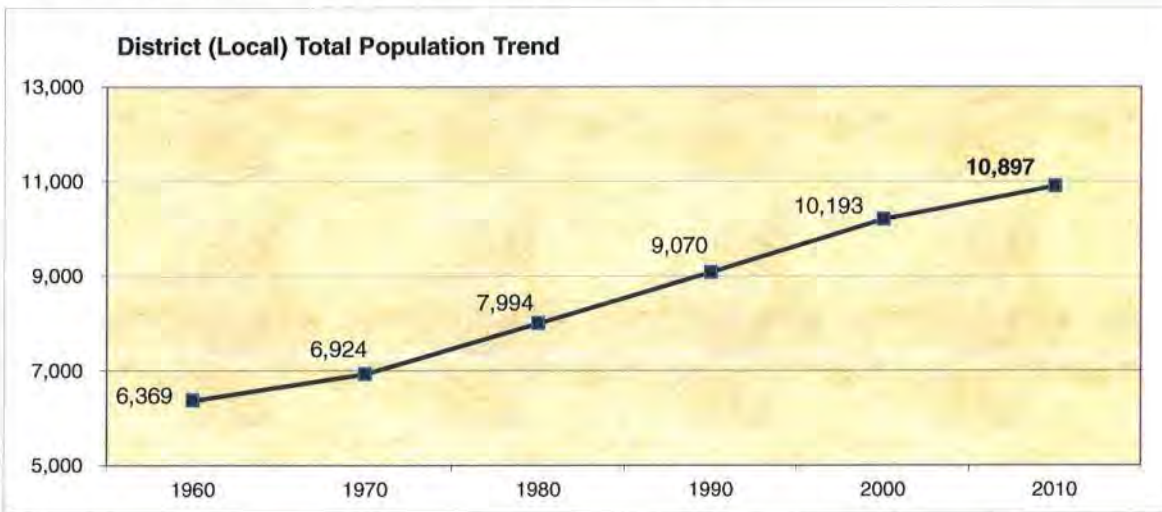
Overall, the Local Population (School District) has increased approx 9.64% each decade since 1990. The 'rate of increase' has slowed the last several decades.

Local (School District)	1960	1970	1980	1990	2000	2010
Arendtsville Borough	588	589	600	693	850	942
rate of increase/decrease		0.2%	1.9%	15.5%	22.7%	10.8%
		1	11	93	157	92
Bendersville Borough	484	528	533	560	576	641
rate of increase/decrease		9.1%	0.9%	5.1%	2.9%	11.3%
		44	5	27	16	65
Biglerville Borough	923	977	991	993	1,101	1,210
rate of increase/decrease		5.9%	1.4%	0.2%	10.9%	9.9%
		54	14	2	108	109
Butler Township	1,504	1,757	2,166	2,514	2,693	2,567
rate of increase/decrease		16.8%	23.3%	16.1%	7.1%	-4.7%
		253	409	348	179	-126
Menallen Township	1,827	1,937	2,354	2,700	2,964	3,515
rate of increase/decrease		6.0%	21.5%	14.7%	9.8%	18.6%
		110	417	346	264	551
Tyrone Township*						
total UA/Conewago V	1,186	1,291	1,534	1,829	2,283	2,298
estimated UA population	1,043	1,136	1,350	1,610	2,009	2,022
rate of increase/decrease		8.9%	18.8%	19.3%	24.8%	0.6%
		93	214	260	399	13
<b>District Total Pop.</b>	<b>6,369</b>	<b>6,924</b>	<b>7,994</b>	<b>9,070</b>	<b>10,193</b>	<b>10,897</b>
rate of increase/decrease		8.7%	15.5%	13.5%	12.4%	6.9%
increase/decrease		555	1,070	1,076	1,123	704

Two (2) decade (1990/2010) average **9.64%**

\* Part of Tyrone Twp is in both Upper Adams SD and Conewago Valley SD.

\*\* Estimated UASD population in Tyrone Twp. at 88% per municipality



**Trends:**

Each decade, the District's total population has **consistently increased**

However, each decade the 'rate of increase' has slowed the past several decades.

The 'rate of increase' in the 2000/2010 decade decreased almost half the previous decade.

- 1970 to 1980 **accelerated**
- 1980 to 1990 **decelerated**
- 1990 to 2000 **decelerated**
- 2000 to 2010 **decelerated**

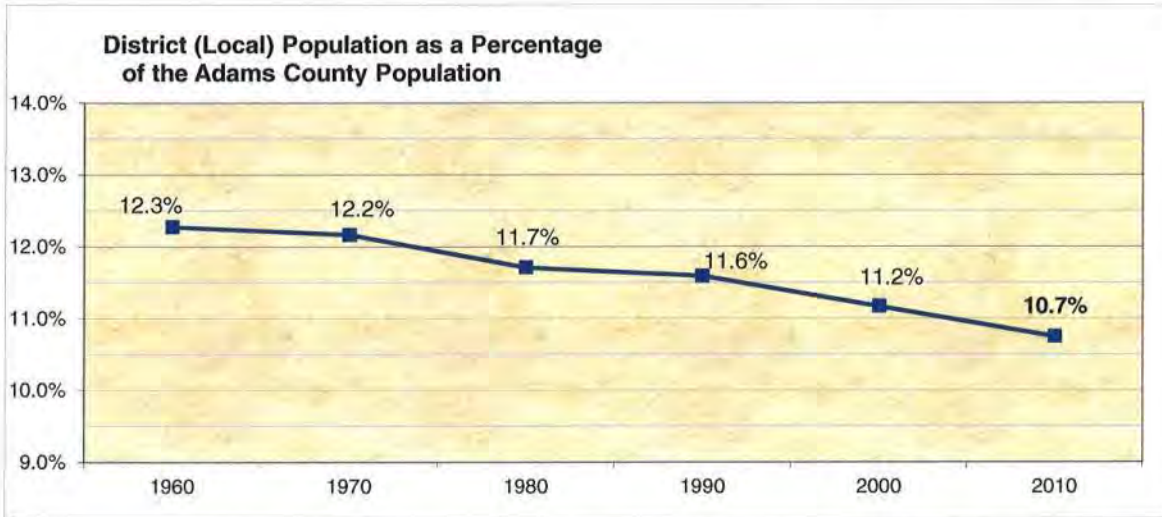
**3 Is there any relationship between Regional and Local (District) Population?**

Since 1990 the District population has been averaging 11.0% of the Regional population but consistently decreasing the past several decades.

**District / County Population Ratio Trend**  
 Percentage of the County Population that represents the School District Total Population

	1960	1970	1980	1990	2000	2010
Adams County	51,906	56,937	68,292	78,274	91,292	101,407
rate of increase/decrease		9.7%	19.9%	14.6%	16.6%	11.1%
Local (District) Total Pop.	6,369	6,924	7,994	9,070	10,193	10,897
rate of increase/decrease		8.7%	15.5%	13.5%	12.4%	6.9%
<b>% of County Pop.</b>	<b>12.3%</b>	<b>12.2%</b>	<b>11.7%</b>	<b>11.6%</b>	<b>11.2%</b>	<b>10.7%</b>
rate of increase/decrease		-0.1% decrease	-0.5% decrease	-0.1% decrease	-0.4% decrease	-0.4% decrease

Two (2) decade (1990/2010) average **11.0%**



**Trends:**

The percentage of Local to Regional population has averaged approx 11.0% over the last two (2) decades. Trends have dictated that the ratio between County & Local populations has consistently decreased the last several decades.

By comparison, the percentage of Local to Regional population at Gettysburg ASD has averaged approx 30%+.

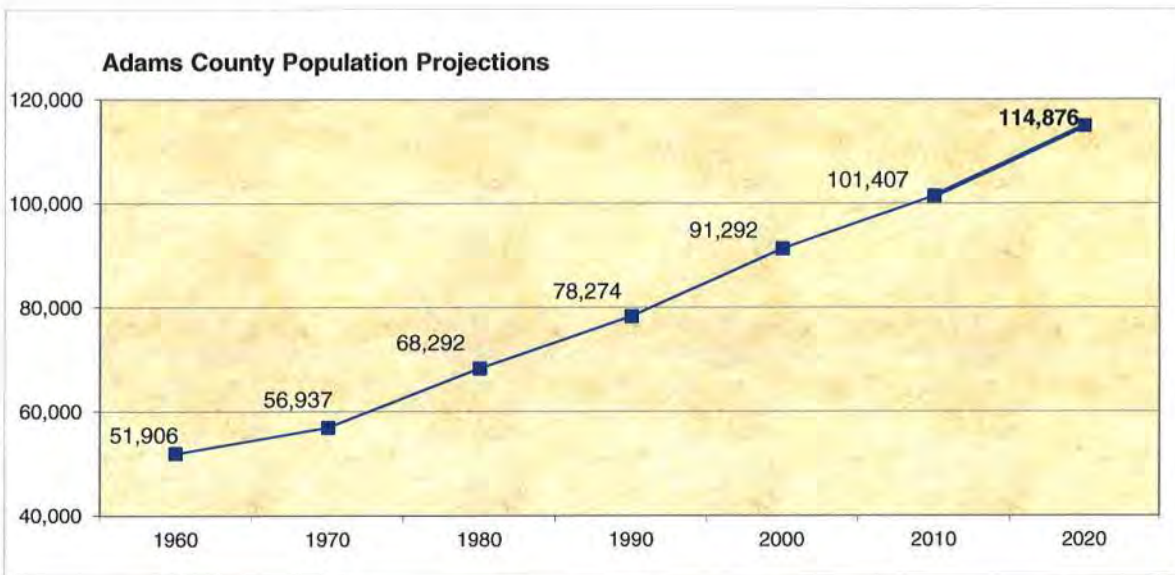
Source: US Census / Center for Rural Pa / Adams Cty Office of Planning & Development

**4 Are there any agencies that project County population?**

Yes, the **Adams County Planning & Development** projects the County population.

Region	1960	1970	1980	1990	2000	2010	Projection
							2020
<b>Adams County</b>	51,906	56,937	68,292	78,274	91,292	101,407	<b>114,876</b>
rate of increase/decrease		9.7%	19.9%	14.6%	16.6%	11.1%	<b>13.3%</b>
		5,031	11,355	9,982	13,018	10,115	<b>13,469</b>

Two (2) decade (1990/2010) average **13.86%**



**Trends:**

ACP&D projects that the Adams County population will continue to increase to the year 2020 and the 'rate of increase' shall increase yet slower than the previous 2 decade average.

The population increase is projected to continue through 2030 yet at a **slower rate**.

2030 Projection - 128,893  
 12.2% increase from year 2020

**5 Are there any agencies that project Municipal Population?**

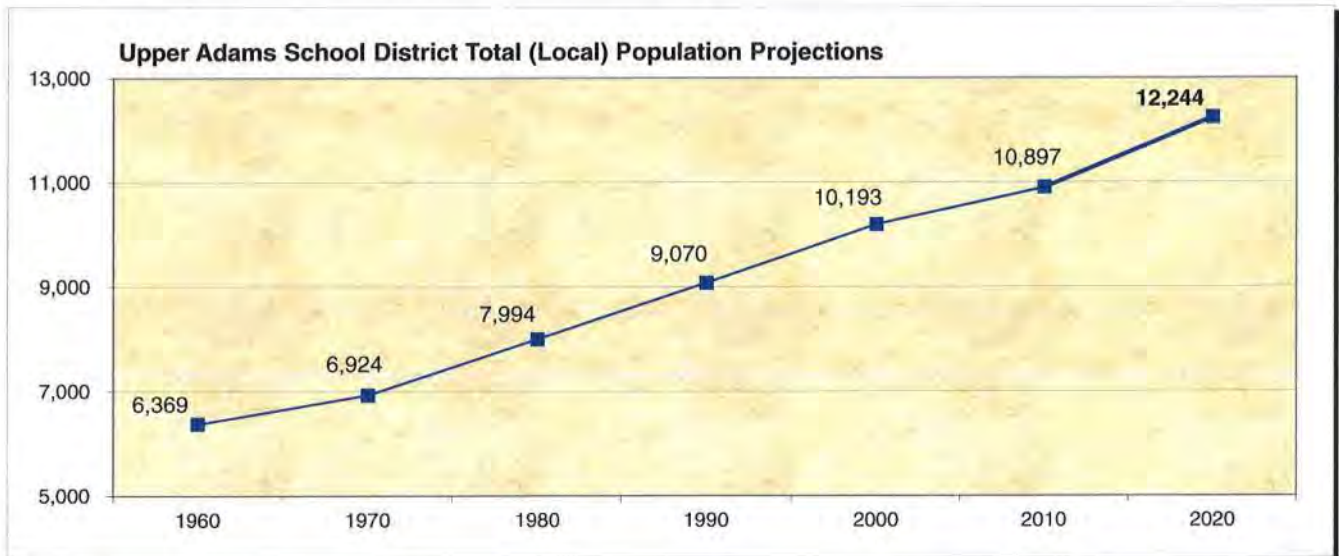
Yes, the **Adams County Planning & Development** projects the Municipal population.

Local (School District)	1960	1970	1980	1990	2000	2010	Projection
							2020
Arendtsville Borough	588	589	600	693	850	942	1,021
rate of increase/decrease		0.2%	1.9%	15.5%	22.7%	10.8%	8.4%
		1	11	93	157	92	79
Bendersville Borough	484	528	533	560	576	641	664
rate of increase/decrease		9.1%	0.9%	5.1%	2.9%	11.3%	3.6%
		44	5	27	16	65	23
Biglerville Borough	923	977	991	993	1,101	1,210	1,295
rate of increase/decrease		5.9%	1.4%	0.2%	10.9%	9.9%	7.0%
		54	14	2	108	109	85
Butler Township	1,504	1,757	2,166	2,514	2,693	2,567	2,950
rate of increase/decrease		16.8%	23.3%	16.1%	7.1%	-4.7%	14.9%
		253	409	348	179	-126	383
Menallen Township	1,827	1,937	2,354	2,700	2,964	3,515	4,037
rate of increase/decrease		6.0%	21.5%	14.7%	9.8%	18.6%	14.9%
		110	417	346	264	551	522
Tyrone Township*							
total UA/Conewago V	1,186	1,291	1,534	1,829	2,283	2,298	2,587
estimated UA population	1,043	1,136	1,350	1,610	2,009	2,022	2,277
rate of increase/decrease		8.9%	18.8%	19.3%	24.8%	0.6%	12.6%
		93	214	260	399	13	255
<b>District Total Pop.</b>	<b>6,369</b>	<b>6,924</b>	<b>7,994</b>	<b>9,070</b>	<b>10,193</b>	<b>10,897</b>	<b>12,244</b>
rate of increase/decrease		8.7%	15.5%	13.5%	12.4%	6.9%	12.4%
increase/decrease		555	1,070	1,076	1,123	704	1,347

Two (2) decade (1990/2010) average **9.64%**

\* Part of Tyrone Twp is in both Upper Adams SD and Conewago Valley SD.

\*\* Estimated UASD population in Tyrone Twp. at 88% per municipality



**Trends:**

ACP&D projects that the District population will continue to grow at a **higher rate by the year 2020** with a projected 12.4% increase in population over the next decade and higher than the previous 2 decade average.

The population increase is projected to continue through 2030 with a continued increase in the 'rate of increase'.

2030 Projection - 13,848  
13.1% increase from year 2020

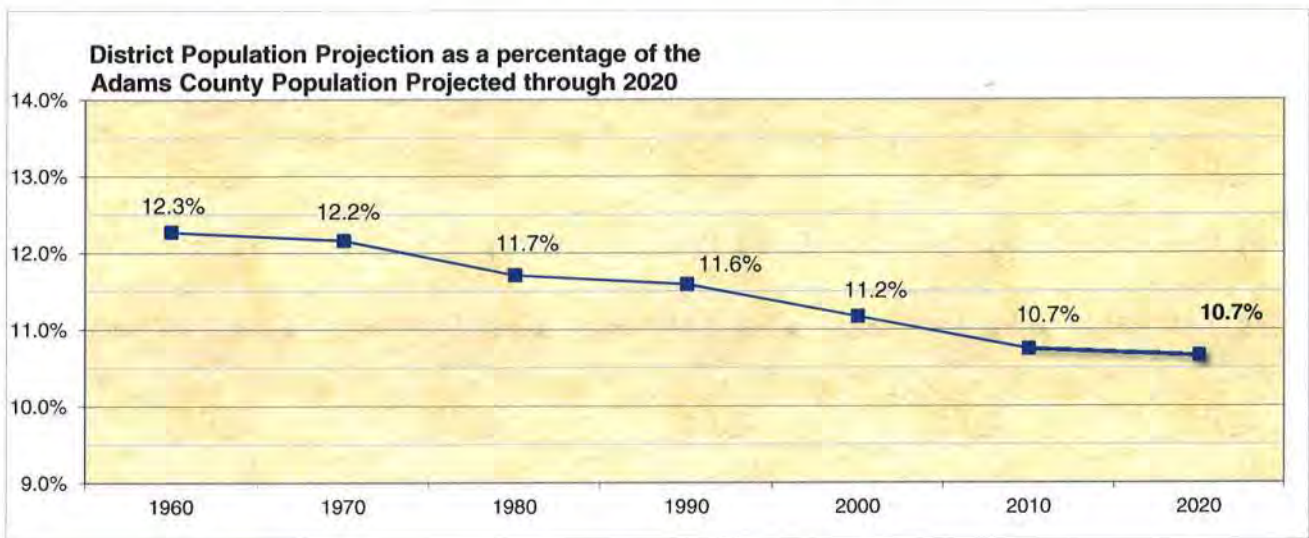
## 6 How does the County/District Population Ratio compare with the 2020 projections

Since 1990 the District population has been averaging 11.0% of the County Population as noted in Category #3. Projections by county planners indicate that the County / District population ratio will remain stable through 2020.

### District / County Population Ratio Projections Percentage of the County Population that represents the School District Total Population

	1960	1970	1980	1990	2000	2010	Projected 2020
Adams County	51,906	56,937	68,292	78,274	91,292	101,407	114,876
District Total Pop.	6,369	6,924	7,994	9,070	10,193	10,897	12,244
<b>% of County Pop.</b>	12.3%	12.2%	11.7%	11.6%	11.2%	10.7%	10.7%
rate of increase / decrease		-0.1%	-0.5%	-0.1%	-0.4%	-0.4%	-0.1%
		decrease	decrease	decrease	decrease	decrease	stable

Two (2) decade (1990/2010) average 11.0%



#### Trends:

Trends have dictated that the County / District Population ratio has decreased the last several decades. However, trends dictate the percentage / ratio is projected to be **stable through 2020 and beyond**.

The 'rate of decrease' however has fluctuated.

The County / District population increase is projected to continue through 2030 however trends dictate stability in the population ratio through 2030.

2030 Projection -	128,893	County population
	13,848	Local District population
	10.7%	projected ration stable from 2020

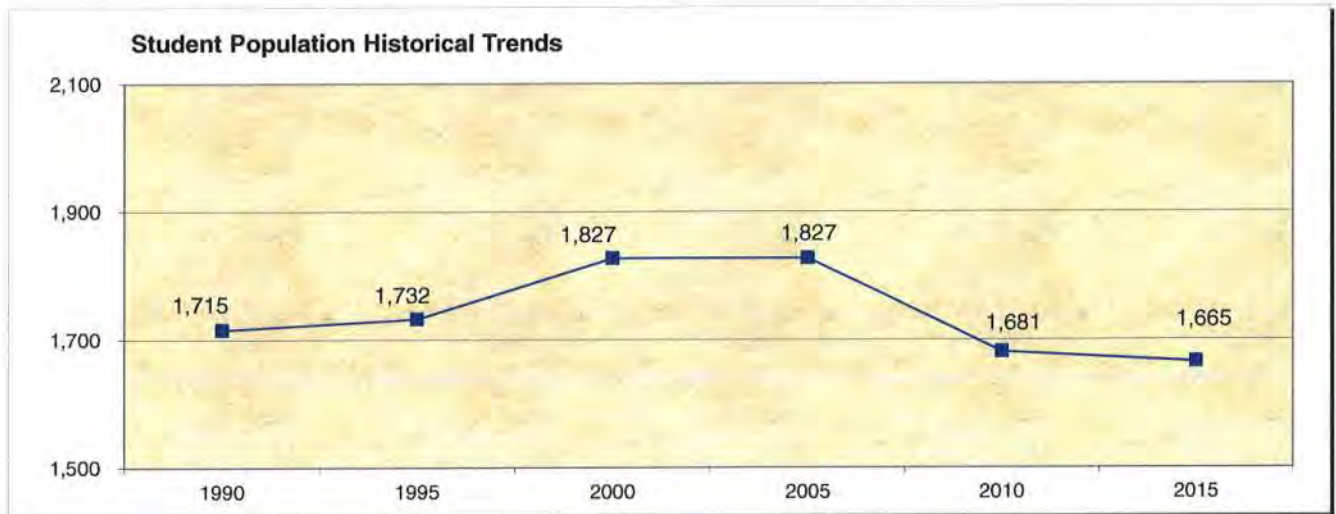
## 7 What is the District's K-12 Student Population Trend ?

(162) student DECREASE overall between 2000 to 2015.

Upper Adams School District	1990	1995	2000	2005	2010	2015
<b>District's Total K-12 Students</b> public enrollment only	<b>1,715</b>	<b>1,732</b> 17	<b>1,827</b> 95	<b>1,827</b> -	<b>1,681</b> (146)	<b>1,665</b> (16)
increase/decrease from previous period: per year:		1.0%	5.5% 1.10%	0.00% 0.00%	-7.99% -1.60%	-0.95% -0.32%

Between **2000 and 2015**, student population **decreased** approximately -8.9%  
Student Population has decreased in the last fifteen (15) years however the '*rate of decrease*' has slowed.

Detailed Historical Enrollment Chart						
Academic Year Starting	1990	1995	2000	2005	2010	2015
Kindergarten	148	142	131	123	134	135
1	146	145	145	128	133	107
2	168	136	146	130	116	110
3	143	121	144	132	153	146
<b>Elem Total</b>	<b>605</b>	<b>544</b>	<b>566</b>	<b>513</b>	<b>536</b>	<b>498</b>
4	159	121	147	119	125	114
5	129	137	158	124	113	127
6	115	139	145	148	114	135
<b>Intermediate Total</b>	<b>403</b>	<b>397</b>	<b>450</b>	<b>391</b>	<b>352</b>	<b>376</b>
7	132	154	143	154	123	114
8	126	136	147	162	127	151
<b>Middle School Total</b>	<b>258</b>	<b>290</b>	<b>290</b>	<b>316</b>	<b>250</b>	<b>265</b>
9	121	168	132	176	129	152
10	106	125	144	153	132	132
11	110	103	127	147	143	119
12	112	105	118	131	139	123
<b>High School Total</b>	<b>449</b>	<b>501</b>	<b>521</b>	<b>607</b>	<b>543</b>	<b>526</b>
<b>District Total</b>	<b>1,715</b>	<b>1,732</b>	<b>1,827</b>	<b>1,827</b>	<b>1,681</b>	<b>1,665</b>



### Trends:

Trends have dictated that the student population has decreased the last decade. However, the '*rate of decrease*' has slowed.

	2009	2010	2011	2012	2015
<b>District's Total Home School Students</b>	52	49	47	52	45
increase / decrease from previous		(3)	(2)	5	(7)
	2009	2010	2011	2012	2015
<b>District's Total Cyber/Charter Students</b>	44	47	48	72	123
increase / decrease from previous		3	1	24	51

**8 Is there any relationship between Local (District) and District K-12 population ?**

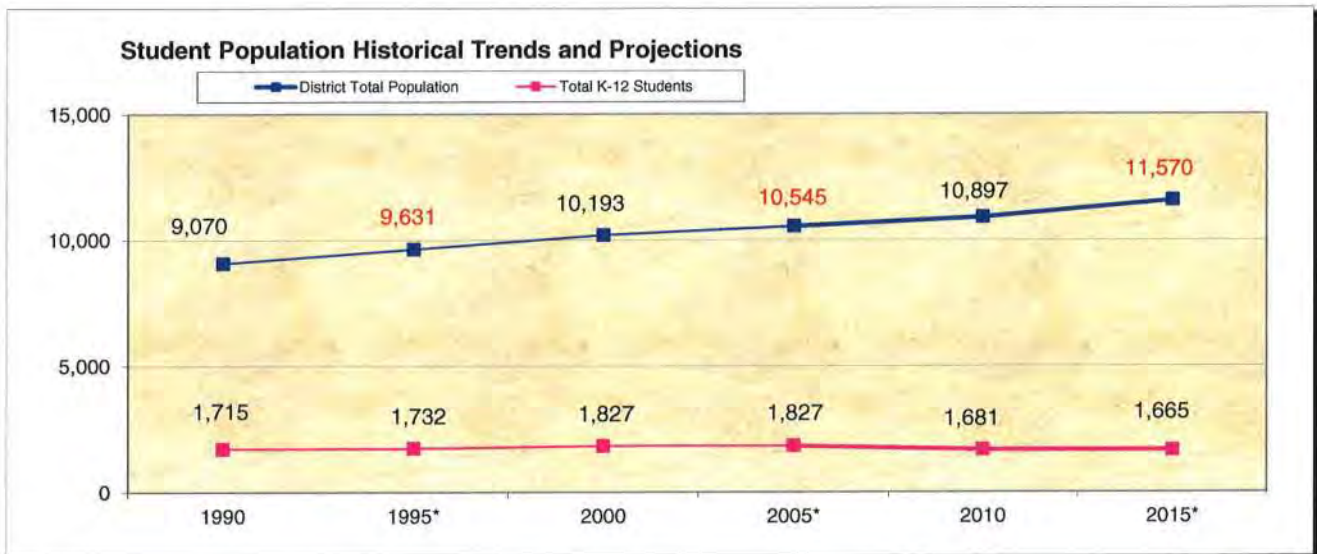
Yes, the percentage of student per local population has consistently decreased between 2000 - 2015 or 17.9% to 14.4% of the district population for the last 15 years, averaging approximately 16.3%.

**HISTORICAL TREND - PROJECTION METHOD**

	1990	1995*	2000	2005*	2010	2015*
<b>District Total Local Population</b>	9,070	9,631	10,193	10,545	10,897	11,570
<b>District Total K-12 Students</b>	1,715	1,732	1,827	1,827	1,681	1,665
<b>% Students per Local Population</b>	<b>18.9%</b>	<b>18.0%</b>	<b>17.9%</b>	<b>17.3%</b>	<b>15.4%</b>	<b>14.4%</b>
		-0.9%	-0.1%	-0.6%	-1.9%	-1.0%

\* district population numbers = estimated / interpolated

2010-2015 (5) year average **14.9%**  
 annual decline 2010-2015 **0.21%**



**Trends:**

The percentage of K-12 students to Local population has averaged 14.9% the past five (5) year period. However, trends indicate this percentage has been significantly declining over the same time period with a 0.21% annual decline.

\* District Population projected by method of interpolation

Source: US Census / Center for Rural Pa / Adams Cty Office of Planning & Development / Upper Adams SD



**9 How does the Local (District) and District K-12 population compare with the 2020 projections ?**

In five (5) years from 2010 to 2015, the district population trend decreased from 15.4% students per population to 14.4% students. Continuing this declining percentage ratio to project future enrollment, this chart projects 2020 and 2025 enrollment that is close to the Pa Dept of Education projections.

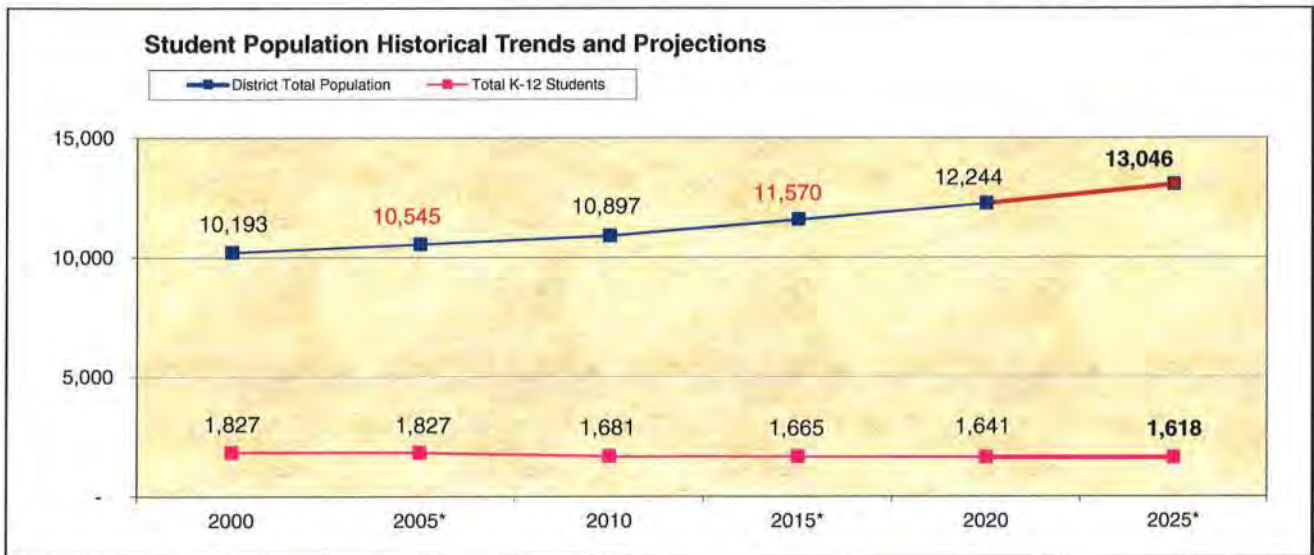
**HISTORICAL TREND - PROJECTION METHOD**

	2000	2005*	2010	2015*	Projections 2020	Projections 2025*
<b>District Total Population</b>	10,193	10,545	10,897	11,570	12,244	13,046
increase from previous decade		3.5%	3.3%	6.2%	12.4%	12.8%
<b>District Total K-12 Students</b>	1,827	1,827	1,681	1,665	1,641	1,618
rate of increase/decrease from prev. interval		-	(146)	(16)	(40)	(47)
student increase / decrease per year		0.0%	-8.0%	-1.0%	-2.4%	-2.8%
<b>% Students per Population</b>	<b>17.9%</b>	<b>17.3%</b>	<b>15.4%</b>	<b>14.4%</b>	<b>13.4%</b>	<b>12.4%</b>
		-0.6%	-1.9%	-1.0%	-1.0%	-1.0%

Note: The average percentage of students for a typical Pennsylvania population is approx. 14%

2010-2015 (5) year average annual decline 2010-2015      14.9%  
 0.21%

\* district population numbers = estimated / interpolated



**Trends:**

As noted in Category #7, in the last fifteen (15) since 2000, the District K-12 student population has declined 8.9%. Therefore, sufficient data may exist to continue the annual decline of the student percentage to 2020 / 2025. Therefore, projections may dictate that the percentage of students per District total population may continue to decrease at 1.0% / 5 year period to 2020.

Projected K-12 enrollment per student population trends for the **2020** year -      **1,641**  
 PDE K-12 enrollment projections for the same **2020** year -      **1,589**

-52

Even though the 2015 District Local population (11,570) noted in Category #8 above is interpolated / estimated, the percentage of students per local population in 2015 has already declined by 1%. This may further substantiate projecting the decline to 2025 to project a 1,618 K-12 student enrollment.

This chart above may then tend to indicate that the Pa Dept of Education enrollment projections may be deemed reasonable and reliable.

The decline in the percentage of students to District population may be attributed in large part to the home schooled students, parochial and private school enrollment, cyberschool retention rates, fewer families with children, families with children moving out, retirement couples moving in, etc.

**9A Is this Enrollment Projection close to being reasonable and reliable?**

Between 2010-2015, the student enrollment decreased at a rate of 0.21% per year.

If this five (5) year rate annual decrease of 0.21% is applied, the projections would be as follows:

2015 =	1,665		actual student enrollment year 2015
		% of	
		Population	
2020 =	1,648	13.46%	17 projected less students than the 2015 enrollment 1.05% projected <u>decrease</u> since 2015 (5 years) 0.21% actual average <u>decrease per year</u> since 2010
		% of	
		Population	
2025 =	1,630	12.49%	35 projected less students than the 2015 enrollment 2.1% projected <u>decrease</u> since 2015 (10 years) 0.21% actual average <u>decrease per year</u> since 2000

Note that this projection yields a moderate decrease in student population and it indicates that PDE's 2020 K-12 projections may be deemed reasonable and reliable.

The data above indicates that the future student population will decrease as the relationship between enrollment and population decreases annually at 0.24% per year and even as the District total population continues to increase as projected. The accuracy of this analysis depends on the accuracy of the Census and State agency estimates. Many unknown factors can affect this type of analysis and no projection or estimate is 100% accurate.

**Trends:**

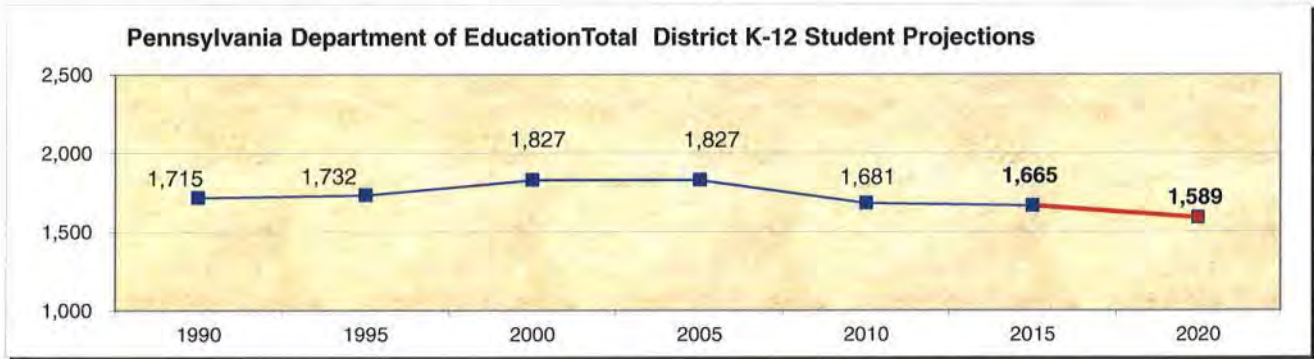
The projections in the category #9 above of 1,641 students through the 2020 school year may be a more reliable projection due to recent trends in the percentage of students to district population. The method above does indicate more students in 2020 than what PDE projects for the same 2020 school year. The difference between the 2020 PDE projection of 1,589 students and 1,641 is 52 students or the equivalent of two (2) additional classrooms district wide.

**10 Are there any agencies that project District enrollment ?**

Pa Department of Education (PDE) projects District enrollment. PDE projections indicate K-12 student population DECREASING through 2020, and the 'rate of decrease' will increase.

**PDE - PROJECTION METHOD**

	1990	1995	2000	2005	2010	Current Year 2015	Projections 2020
<b>*Total K-12 Student Projections</b>	1,715	1,732	1,827	1,827	1,681	<b>1,665</b>	<b>1,589</b>
difference		17	95	-	(146)	<b>(16)</b>	<b>(76)</b>
increase / decrease		1.0%	5.5%	0.0%	-8.0%	-1.0%	-4.6%
per year					-1.60%	-0.24%	-0.76%
						Year 2010 - 2020	-5.5%
							-0.5%



**11 Are there other Student Enrollment Trends ?**

**Kindergarten** Students as a percentage of the Total Student Enrollment has averaged :

**8.0%**

The ratio has slightly increased the past five (5) year period.

over the past 5 years

**% BASED - PROJECTION METHOD**

	1995	2000	2005	2010	2015	% Students Projections 2020	% Students Projections 2025
<b>Total K-12 Enrollment</b>	1,732	1,827	1,827	1,681	1,665	1,641	1,618
<b>Kindergarten</b>	142	131	123	134	135	<b>132</b>	<b>130</b>
difference		(11)	(8)	11	1	(3)	(2)
increase / decrease		-7.7%	-6.1%	8.9%	0.7%	-2.3%	-1.4%
<b>% Students</b>	<b>8.2%</b>	<b>7.2%</b>	<b>6.7%</b>	<b>8.0%</b>	<b>8.1%</b>	<b>8.0%</b>	<b>8.0%</b>

The chart uses the 5 year average of 8.0% to project the Kindergarten Enrollment in the year 2025 to reflect the slight increase in the percentage of K Students.

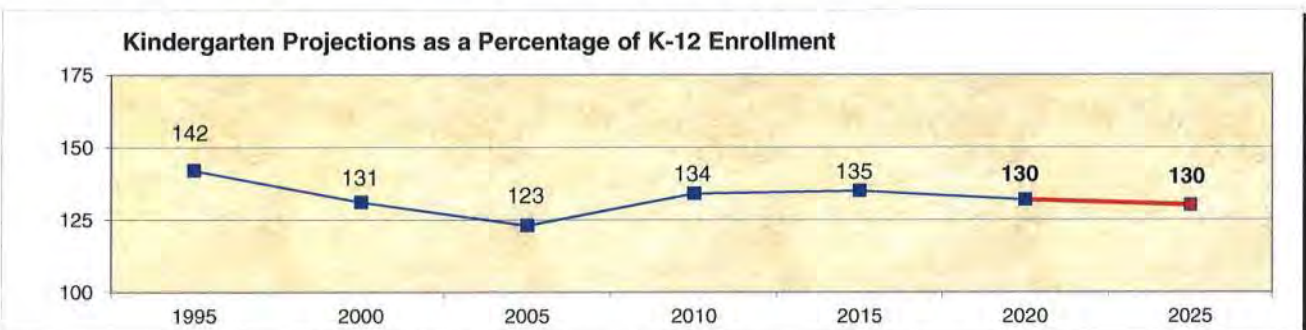
Projected Year 2010 - 2025

-2.9%

By Comparison, PDE 2020 Kindergarten Projection =

**106**

-0.20%



**11A Are there other Student Enrollment Trends ?**

**K - 3 Students** as a percentage of the Total Student Enrollment has averaged :

**30.9%**

The ratio has slightly decreased the past five (5) year period.

over the past 5 years

**% BASED - PROJECTION METHOD**

	1995	2000	2005	2010	2015	% Students Projections 2020	% Students Projections 2025
<b>Total K-12 Enrollment</b>	1,732	1,827	1,827	1,681	1,665	1,641	1,618
<b>K-3 Enrollment</b>	544	566	513	536	498	507	500
difference increase / decrease		22 4.0%	(53) -9.4%	23 4.5%	(38) -7.1%	9 1.8%	(7) -1.4%
<b>% Students</b>	<b>31.4%</b>	<b>31.0%</b>	<b>28.1%</b>	<b>31.9%</b>	<b>29.9%</b>	<b>30.9%</b>	<b>30.9%</b>

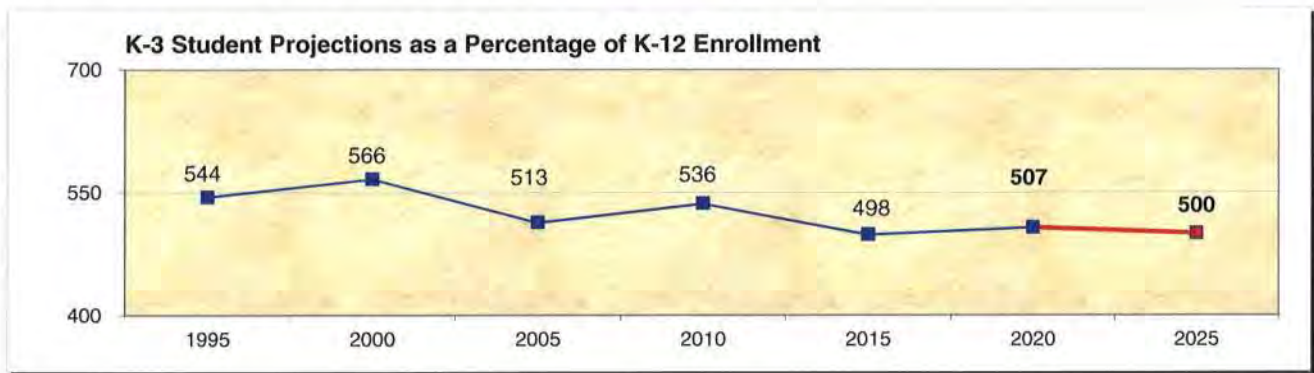
The chart uses the 5 year average 30.9% to project the Grade K-3 Enrollment in the year 2025 to reflect the slight decrease in the percentage of Grade K - 3 Students.

Projected Year 2010 - 2025

-6.7%

**By Comparison, PDE 2020 K - 3 Projection = 448**

-0.45%



**4 - 6 Students** as a percentage of the Total Student Enrollment has averaged :

**21.8%**

The ratio has slightly decreased the past five (5) year period.

over the past 5 years

**% BASED - PROJECTION METHOD**

	1995	2000	2005	2010	2015	% Students Projections 2020	% Students Projections 2025
<b>Total K-12 Enrollment</b>	1,732	1,827	1,827	1,681	1,665	1,641	1,618
<b>4-6 Enrollment</b>	397	450	391	352	376	357	352
difference increase / decrease		53 13.4%	(59) -13.1%	(39) -10.0%	24 6.8%	(19) -5.0%	(5) -1.4%
<b>% Students</b>	<b>22.9%</b>	<b>24.6%</b>	<b>21.4%</b>	<b>20.9%</b>	<b>22.6%</b>	<b>21.8%</b>	<b>21.8%</b>

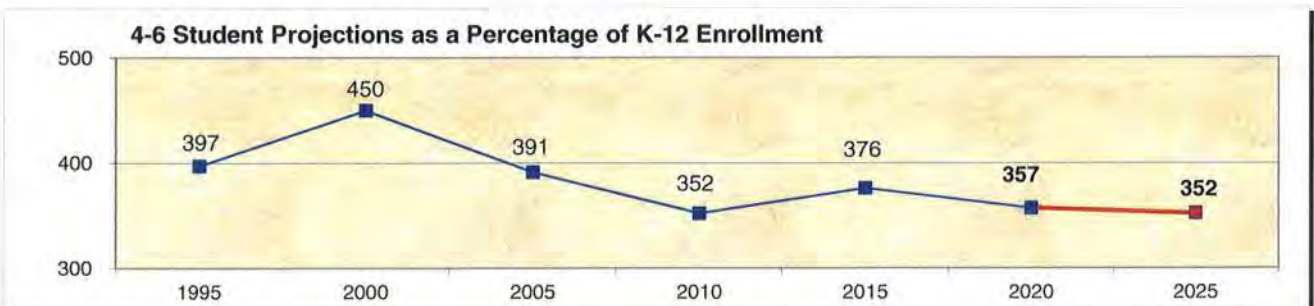
The chart uses the 5 year average 21.8% to project the Grade 4-6 Enrollment in the year 2025 to reflect the slight increase in the percentage of Grade 4 - 6 Students.

Projected Year 2010 - 2025

0.0%

**By Comparison, PDE 2020 4 - 6 Projection = 389**

0.00%



**11B Are there other Student Enrollment Trends ?**

**7 - 8 Students** as a percentage of the Total Student Enrollment has averaged :  
The ratio has slightly decreased the past five (5) year period.

**12.8%**  
over the past 5 years

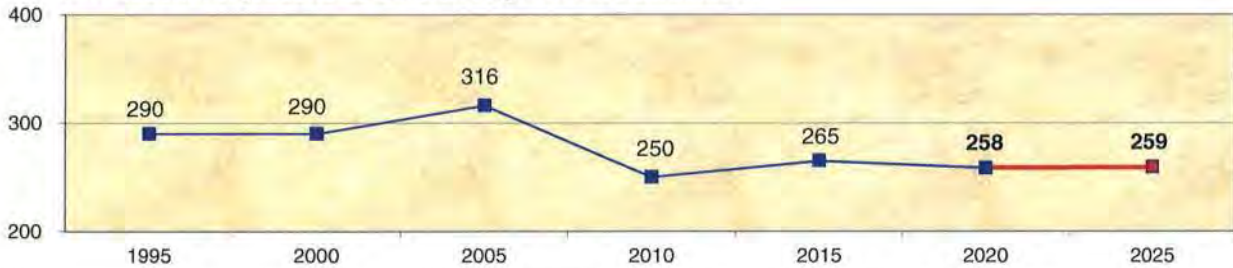
% BASED - PROJECTION METHOD						% Students Projections	% Students Projections
	1995	2000	2005	2010	2015	2020	2025
<b>Total K-12 Enrollment</b>	1,995	2,000	2,005	2,010	2,015	2,020	2,025
<b>7-8 Enrollment</b>	290	290	316	250	265	<b>258</b>	<b>259</b>
difference increase / decrease		-	26	(66)	15	<b>(7)</b>	<b>1</b>
		0.0%	9.0%	-20.9%	6.0%	-2.5%	0.2%
<b>% Students</b>	<b>14.5%</b>	<b>14.5%</b>	<b>15.8%</b>	<b>12.4%</b>	<b>13.2%</b>	<b>12.8%</b>	<b>12.8%</b>

The chart uses the 5 year average 12.8% to project the Grade 7-8 Enrollment in the year 2025 to reflect the slight increase in the percentage of Grade 7 - 8 Students.

Projected Year 2010 - 2025 **3.6%**  
0.24%

By Comparison, PDE 2020 7 - 8 Projection = **228**

**7-8 Student Projections as a Percentage of K-12 Enrollment**



**9 - 12 Students** as a percentage of the Total Student Enrollment has averaged :  
The ratio has slightly decreased the past five (5) year period.

**26.6%**  
over the past 5 years

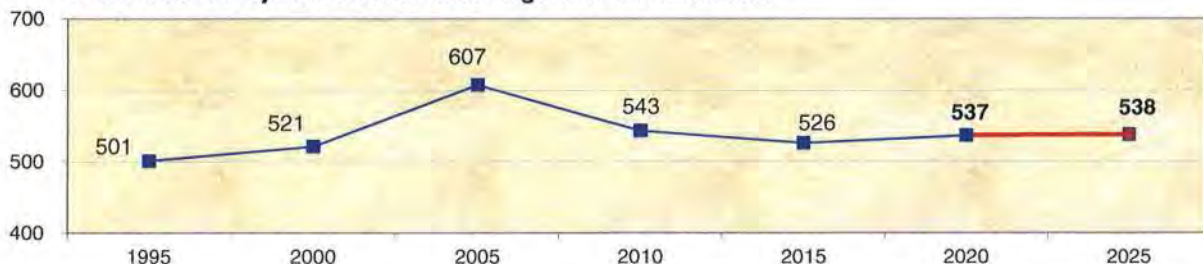
% BASED - PROJECTION METHOD						% Students Projections	% Students Projections
	1995	2000	2005	2010	2015	2020	2025
<b>Total K-12 Enrollment</b>	1,995	2,000	2,005	2,010	2,015	2,020	2,025
<b>9-12 Enrollment</b>	501	521	607	543	526	<b>537</b>	<b>538</b>
difference increase / decrease		20	86	(64)	(17)	<b>11</b>	<b>1</b>
		4.0%	16.5%	-10.5%	-3.1%	2.0%	0.2%
<b>% Students</b>	<b>25.1%</b>	<b>26.1%</b>	<b>30.3%</b>	<b>27.0%</b>	<b>26.1%</b>	<b>26.6%</b>	<b>26.6%</b>

The chart uses the 5 year average 26.6% to project the Grade 9-12 Enrollment in the year 2025 to reflect the slight decrease in the percentage of Grade 9 - 12 Students.

Projected Year 2010 - 2025 **-1.0%**  
-0.06%

By Comparison, PDE 2020 9 - 12 Projection = **524**

**9-12 Student Projections as a Percentage of K-12 Enrollment**

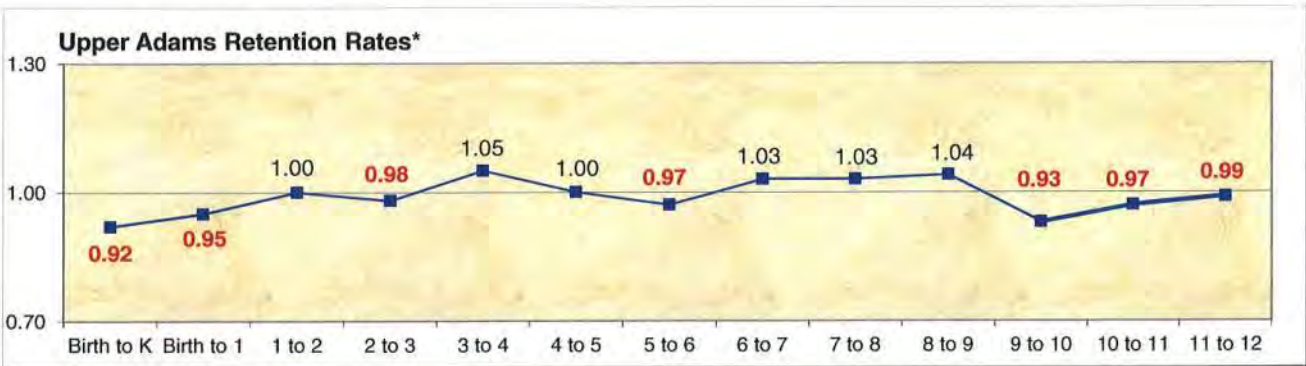
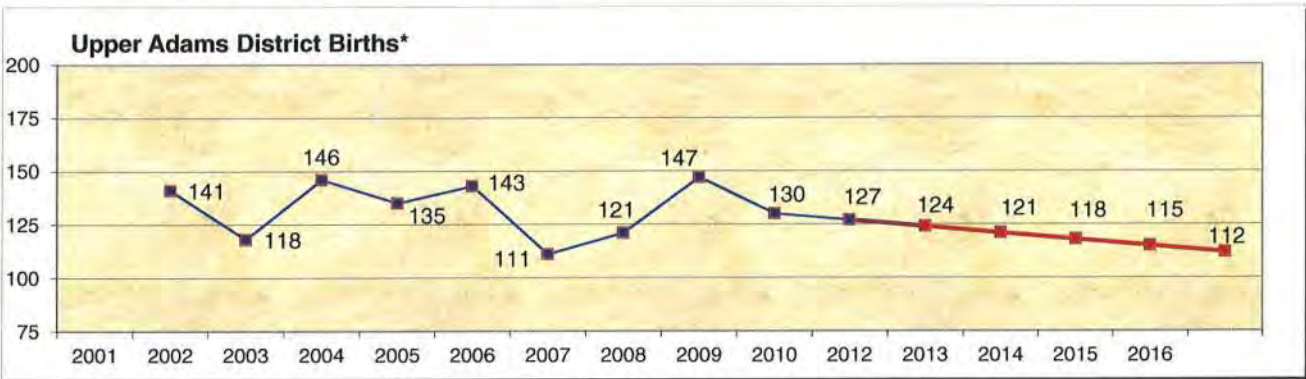


**12 Does the District's birth and retention rates support the projections in student population as a percentage of total District population?**

Annual district births have been fluctuating for the last 10 years however with a slight decrease the past few school years. The PA Department of Education's projected Births indicate that District Births will continue to **decrease** which may affect future student enrollment projections.

	Year	Births	Change from Previous Year	District Population*	Births as a % of the Population
<b>Actual Births</b>	2000			10,193	
	2001			10,263	
	2002	141	#DIV/0!	10,334	1.37%
	2003	118	-16.31%	10,404	1.14%
	2004	146	23.73%	10,475	1.40%
	2005	135	-7.53%	10,545	1.28%
	2006	143	5.93%	10,615	1.35%
	2007	111	-22.38%	10,686	1.04%
	2008	121	9.01%	10,756	1.12%
	2009	147	21.49%	10,827	1.36%
	2010	130	-11.56%	10,897	1.19%
	2011	127	-2.31%	11,032	1.15%
Historical 10 Year Average		<b>132</b>		10,657	1.24%
<b>Projected Births</b>	2012	124	-2.36%	11,166	1.11%
	2013	121	-2.42%	11,301	1.07%
	2014	118	-2.48%	11,436	1.03%
	2015	115	-2.54%	11,571	0.99%
	2016	112	-2.61%	11,705	0.96%
Projected Births 5 Year Average		<b>118</b>		11,436	1.03%
<b>AVERAGE</b>		<b>125</b>			

\* With exception of 2000, 2010, population based on projections derived by method of mathematical interpolation



Retention rates **more than 1.00** indicate that the group is **increasing** compared to the previous year  
 Retention rates **less than 1.00** indicate that the group is **decreasing** compared to the previous year  
 PDE's retention rates are based on the previous 4 year retention rate data.

\* PA Department of Education (Public School Enrollment Report) & Resident Live Birth File, 2011 PA Dept. of Health

### 13 What does the Cohort Survival rate tell us about future K-12 enrollment ?

The Cohort Survival Ratio method is an enrollment projection method which essentially compares the number of students in a particular grade to the number of students in the previous grade during the previous year. Ratios are computed for each grade, averaged from a set number of historical years and are then used to project future enrollments. The ratios indicate whether a change in the number of students is indicative of enrollment that is stable, increasing or decreasing.

The cohort survival method utilizes birth data and historical cohort survival ratios to project future enrollments. Through year 2020, enrollment may **continue to decrease** from current 2015 enrollments at approx 1.7%.

#### K-12 Enrollment History 2005-2010

Year	2010	2011	2012	2013	2014	2015
K	134	101	144	115	112	135
1	133	127	110	145	119	107
2	116	130	126	116	139	110
3	153	116	139	125	117	146
4	125	151	110	134	129	114
5	113	130	150	101	131	127
6	114	116	127	147	104	135
7	123	116	126	132	155	114
8	127	141	120	128	136	151
9	129	147	132	128	153	152
10	132	114	139	123	121	132
11	143	137	114	124	127	119
12	139	136	132	115	134	123
Total	1,681	1,662	1,669	1,633	1,677	1,665

Example Calc	110
divided by	116
	94.83%

#### Cohort Survival Ratios (%)

Year	2011	2012	2013	2014	2015	Mean last 5 years	Mean Last 3 years
B-K	70.63%	129.73%	95.04%	76.19%	103.85%	95.09%	91.69%
K to 1	94.78%	108.91%	100.69%	103.48%	104.67%	102.51%	102.95%
1 to 2	97.74%	99.21%	105.45%	95.86%	108.18%	101.29%	103.17%
2 to 3	100.00%	106.92%	99.21%	100.86%	95.21%	100.44%	98.42%
3 to 4	98.69%	94.83%	96.40%	103.20%	102.63%	99.15%	100.74%
4 to 5	104.00%	99.34%	91.82%	97.76%	101.57%	98.90%	97.05%
5 to 6	102.65%	97.69%	98.00%	102.97%	97.04%	99.67%	99.34%
6 to 7	101.75%	108.62%	103.94%	105.44%	91.23%	102.20%	100.20%
7 to 8	114.63%	103.45%	101.59%	103.03%	102.65%	105.07%	102.42%
8 to 9	115.75%	93.62%	106.67%	119.53%	89.47%	105.01%	105.22%
9 to 10	88.37%	94.56%	93.18%	94.53%	115.91%	97.31%	101.21%
10 to 11	103.79%	100.00%	89.21%	103.25%	101.68%	99.59%	98.05%
11 to 12	95.10%	96.35%	100.88%	108.06%	103.25%	100.73%	104.06%

#### Cohort Survival Ratio Choices for Forecast Percentage (%)

(Based on 5 Year Mean)

Year	Choice for Forecast year 1 (2016)	Choice for Forecast year 2 (2017)	Choice for Forecast year 3 (2018)	Choice for Forecast year 4 (2019)	Choice for Forecast year 5 (2020)	year
B-K	95.09%	95.09%		95.09%	95.09%	95.09%
K to 1	102.51%	102.51%		102.51%	102.51%	102.51%
1 to 2	101.29%	101.29%		101.29%	101.29%	101.29%
2 to 3	100.44%	100.44%		100.44%	100.44%	100.44%
3 to 4	99.15%	99.15%		99.15%	99.15%	99.15%
4 to 5	98.90%	98.90%		98.90%	98.90%	98.90%
5 to 6	99.67%	99.67%		99.67%	99.67%	99.67%
6 to 7	102.20%	102.20%		102.20%	102.20%	102.20%
7 to 8	105.07%	105.07%	105.07%	105.07%	105.07%	105.07%
8 to 9	105.01%	105.01%		105.01%	105.01%	105.01%
9 to 10	97.31%	97.31%		97.31%	97.31%	97.31%
10 to 11	99.59%	99.59%		99.59%	99.59%	99.59%
11 to 12	100.73%	100.73%		100.73%	100.73%	100.73%

(Based on 5 Year Mean)

Year	Choice for Forecast year 6 (2021)
B-K	95.09%
K to 1	102.51%
1 to 2	101.29%
2 to 3	100.44%
3 to 4	99.15%
4 to 5	98.90%
5 to 6	99.67%
6 to 7	102.20%
7 to 8	105.07%
8 to 9	105.01%
9 to 10	97.31%
10 to 11	99.59%
11 to 12	100.73%

**13A What does the cohort survival rate tell us about future K-12 enrollment ? (cont.)**

**K-12 Enrollment Forecast**

5 Yr Mean

Year	2016	2017	2018	2019	2020	2021
K	121	118	115	112	109	106
1	138	124	121	118	115	112
2	108	140	125	122	119	117
3	110	109	141	126	123	120
4	145	110	108	140	125	122
5	113	143	108	107	138	123
6	127	112	143	108	106	138
7	138	129	115	146	110	109
8	120	145	136	121	153	116
9	159	126	152	143	127	161
10	148	154	122	148	139	123
11	131	147	154	122	148	138
12	120	132	148	155	123	149
<b>Total</b>	<b>1,678</b>	<b>1,690</b>	<b>1,688</b>	<b>1,667</b>	<b>1,636</b>	<b>1,634</b>

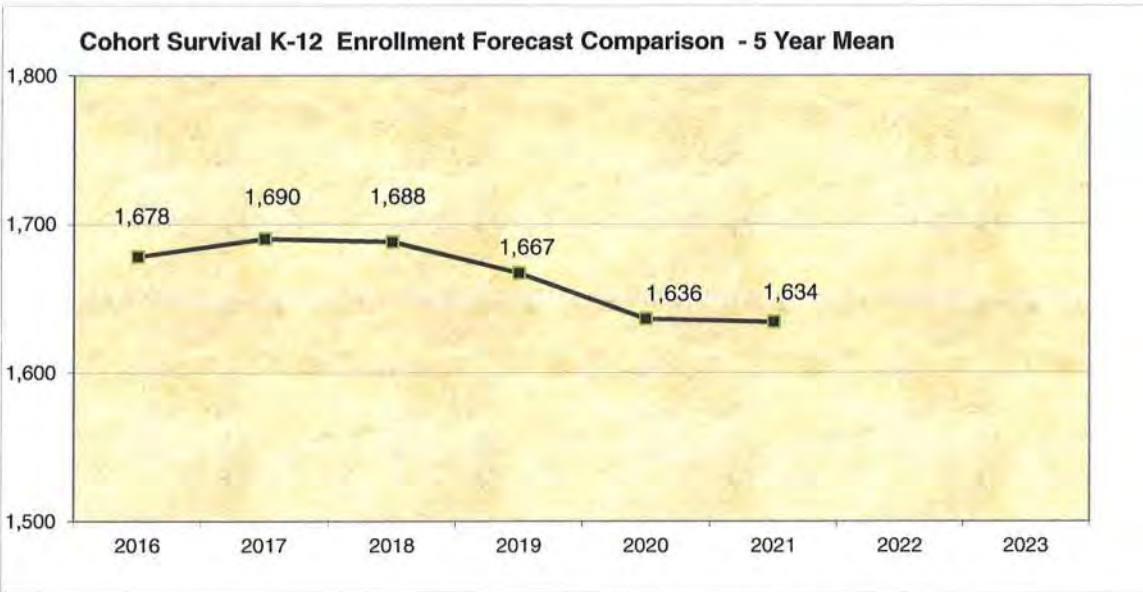
Example Calculation

$$\begin{array}{r}
 \phantom{x} 129 \\
 \times 105.07\% \\
 \hline
 136
 \end{array}$$

**Note:** Any cohort survival forecast longer than five years will be based on children not yet born. Accordingly, it is not recommended to attempt to forecast enrollment beyond five years using the cohort survival method.

**Trend:**

The cohort survival forecast indicates that the K - 12 enrollment will steadily decrease through 2020.





## 14 Trends - Census Analysis Summary

Based on historic trends and County Population projections and other methodologies analyzed, District K-12 Student population may see a slight decrease from the most recent 2015 enrollment over the next 5 year period.

**Current Enrollment** 1,665

2020=	1,641	1,648	1,589	1,636
	<u>METHOD #1</u>	<u>METHOD #2</u>	<u>METHOD #3</u>	<u>METHOD #4</u>
	Student % of projected population	Annual Rates	PDE	Cohort Survival

### METHOD #1

Student %  
Local Population  
Category #9

The projections are derived from recognizing the student enrollment trend of the Total District Population during the past ten (10) years and applying this percentage. This method recognizes that student enrollment may continue to decrease over the next 5 - 10 years.

### METHOD #2

Annual Rates  
Category #9A

Between 2010-2015, the student enrollment decreased at a rate of 0.21% per year.  
If this five (5) year rate annual decrease of 0.21% is applied, the projections would be as follows:

2015 =	1,665		actual student enrollment year 2015
		% of Population	
2020 =	1,648	13.46%	17 projected less students than the 2015 enrollment 1.05% projected <u>decrease</u> since 2015 (5 years) 0.21% actual average <u>decrease per year</u> since 2000
		% of Population	
2025 =	1,630	12.49%	35 projected less students than the 2015 enrollment 2.1% projected <u>decrease</u> since 2015 (10 years) 0.21% actual average <u>decrease per year</u> since 2000

### METHOD #3

PDE Projections  
Category #10

PDE Projections  
PDE projections based on resident live births and retention rates by grade per year  
PDE projects continuing decrease in K-12 population through 2020.

### METHOD #4

Cohort Survival  
Category #13

Cohort Survival -  
The cohort survival method utilizes birth data and historical cohort survival ratios to project future enrollments. The cohort survival forecast indicates that the K-12 enrollment may continue to decrease through school year 2020.

County population has seen continued growth the last several decades. County population projections indicate continued growth in the next decade yet at a slower rate.

Local (District) population has seen continued growth the last several decades. Local (District) population projections indicate continued growth in the next decade and at a higher rate.

District total students as a percentage of the total District population has been decreasing over the past several decades. Trends indicate the percentage may continue to decrease through 2020 as the relationship between local District population increases and District K-12 enrollment decreases.

## UPPER ADAMS SCHOOL DISTRICT

### District Wide Feasibility Study

#### Section 4 - PDE Requirement

#### PROBABLE ENROLLMENT FOR EACH GRADE STRUCTURE AND BUILDING

The information listed on the following charts identifies different methods of planning for future enrollment for each grade structure and building as analyzed in the previous Section 3 – Census Analysis.

#### **Grade Structure K-3, 4-6, 7-8, 9-12:**

It is significant to note that the probable enrollment method totals on the following page could be considered inconsistent in defining an actual total enrollment. Historic trends indicate a decrease in enrollment over the past several years and census based future K-12 projections tend to indicate the same long term which may mean that lower PDE projection data district wide through 2020 might be considered reasonable and reliable.

However, for the purposes of this study, it is clear that the method that forecasts the greatest enrollment possibility for all of UASD's grade structure is *Current Enrollment plus 10%*, as perhaps the safest method of planning enrollment and allowing for additional capacity, yet avoiding overbuilding at the same time. In addition, this method should be considered as a probable enrollment for the purposes of any reimbursable project and in order to accommodate any PDE projection inconsistencies and provide some space flexibility in the event enrollment exceeds other projected levels.

This enrollment estimate must be balanced with a project budget acceptable to the District. A District does not want to plan too much or too little space, however when planning for future facility needs, it is generally desirable to provide some additional space rather than to fall short of your space needs. This may give the facilities some additional capacity to accommodate any future growth or educational program modifications. The District should consider various options that would be implemented if lower enrollments actually occur, such as smaller class size, program flexibility and developing additional curriculum electives.

**UASD - Probable Enrollment Each Grade Structure and Building**

**K-3, 4-6, 7-8, 9-12**

	A	B*	C*	D*	E*	F	G
	Current Enrollment 2015	2020 Enrollment Projected District Pop %	2020 Annual Rates	2020 Enroll % Students per Total K-12 Projections	2020 Cohort Survival	2020 PDE Projected Enrollment	Current Enrollment PLUS 10%
Grades K - 3	498	491	493	507	489	448	548
Grades 4 - 6	376	371	372	357	369	389	414
Grades 7 - 8	265	261	262	258	260	228	292
Grades 9 - 12	526	518	520	537	517	524	579

**District Total      1,665      1,641      1,648      1,659      1,636      1,589      1,833**

\*Estimated values based in information provided by U.S Census Bureau, Center for Rural Pa and UASD

**Analysis:**

The District should consider the following for Probable Enrollment as the safest method of planning enrollment and allowing for additional capacity:

Kindergarten through Grades 12 = **Current Enrollment Plus 10%**

In order to accommodate any current PDE projection errors and provide some space flexibility in the event enrollment exceeds this level.

Grades	Current Enrollment	Probable Enrollment	Current Total Bldg Capacity	Capacity Surplus / Deficit
		<b>Current Enrollment Plus 10%</b>		
Grades K - 3	498	548	550	2
Grades 4 - 6	376	414	400	-14
Grades 7 - 12	791	871	940	69
<b>Total Students</b>		<b>1,833</b>		

**Section 5 - PDE Requirement**

**BUILDING CAPACITY AS IT RELATES TO THE EDUCATIONAL PROGRAM**

This section describes each building's capacity, or how many students the building can house, both in its existing condition as well as its requested use. The capacity of each building strongly relies on the District's educational program needs. Buildings that were constructed several years ago may not always meet the standards of today's educational concepts and goals, including class size, technological advancements, special needs, community use, flexibility and curriculum changes, just to name a few.

The Pennsylvania Department of Education (PDE) has established a process of determining the capacity of elementary and secondary buildings. These standards designate a predetermined amount of student capacity for various types of spaces. Ultimately, these PDE capacities are mainly intended for reimbursement purposed through the Plancon process. Depending on how the District wishes to utilize a building, there may be some differences of opinions regarding how much capacity the building actually contains.

The educational programs offered in schools today require flexible and varied spaces. Depending on the program usage, spaces may have different capacities even though they may be similar in size.

The capacity for each space is determined by:

- Maximum class size guidelines or policies from the School Board or recommendations of the Pennsylvania Department of Education.
- Specialized programs such as kindergarten and special education.
- Spaces which are used for all students for specialized instruction, such as art or music on the elementary level; or specialized services such as reading support or other small group interventions; are not counted as part of the instructional capacity of a building.
- Spaces which fall below the PDE recommended classroom size of 660 square feet are not counted as part of the instructional capacity of the facility.
- Current space utilization
- PDE applies a 90% utilization factor to the rated Full Time Equivalent (FTE) for secondary schools and allows for no utilization factor at the elementary level. This calculation is, in large part, related to financial reimbursement calculations rather than educational programming.

Historically school districts throughout North America have determined the capacity of school by counting the number of classrooms in a building and multiplying by an average class size. In facility planning terminology we have used the term, "design capacity", to describe this methodology. Even though at first glance this seems only to be common sense, this methodology does not take into account the programmatic implications of school facilities. In an elementary school there is a need for libraries/media centers, administrative areas, special education classrooms, and specialized spaces for specific program areas such as science, art and music. In a secondary school, in theory it may be possible to use every classroom every

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period of every day, but from a practical perspective it is not likely. In facility planning terminology, taking program issues into consideration, we use the term, “functional capacity”.

Public schools use space in school buildings for special purposes such as community activities or district-wide special education programs when space is available in a building. The location of this type of program impacts the number of students the building can accommodate. For planning purposes, functional capacity assumes these special programs could be moved to another location. Therefore functional capacity is defined as the number of students the building can accommodate assuming a “traditional” educational program. The formula used for determining capacity should reflect the programs of the public schools yet should be kept simple for planning purposes. The method for determining functional capacity is different for elementary, middle and high schools.

For educational planning purposes relative to determining realistic, or “functional” capacity in schools, the following are the recommended “Functional Capacity” calculations:

- ✓ **The “Functional Capacity” at the Elementary Level is 95%**
- ✓ **The “Functional Capacity” at the Secondary level is 90%**

#### **Capacity of Existing Buildings based on Current and Planned Use of Space**

The Pennsylvania Department of Education has established standards to calculate the capacity of a school facility. In these standards a unit student capacity is assigned to various areas of the facility. However, special and support spaces, distribution of students by grade levels, course selections on the middle and high school levels and attendance areas create situations in which it is not possible for a school district to place as many students in each unit of the facility as identified in the PDE standards.

For the Upper Adams School District, the current and planned building capacities are analyzed as noted on the following pages:

**Building Capacity as it relates to Enrollment Projection by Grade Group**

The following capacities are based on PDE's method of 25 students per classroom for Elementary Schools. The secondary schools utilize similar PDE classroom capacities that are specifically outlined at the end of this section.

**Capacity of Existing Buildings based on CURRENT Use of Space**

		Utilization Rate				Utilization Rate				Utilization Rate				K - 3	
		Current Enrollment	% Full Current Enrollment	Enrollment Per % Local 2020 Pop	2020 Annual Rates	% Full Annual Rates	2020 Enroll % Students per Total K-12	% Full Students per Total K-12	2020 Cohort Projection	% Full Cohort Projection	PDE 2020 Projection	% Full PDE 2020 Enrollment	Additional Space Required ?		
School	Biglerville ES	498	91%	491	493	90%	507	92%	489	89%	448	81%	Yes		
		498	91%	491	493	90%	507	92%	489	89%	448	81%	Long Term		
<b>Capacity Available***</b>		52		59	57		43		61		102		Yes		

**4 - 6 Intermediate Schools**

		Utilization Rate				Utilization Rate				Utilization Rate				4 - 6	
		Current Enrollment	% Full Current Enrollment	Enrollment Per % Local 2020 Pop	2020 Annual Rates	% Full Annual Rates	2020 Enroll % Students per Total K-12	% Full Students per Total K-12	2020 Cohort Projection	% Full Cohort Projection	PDE 2020 Projection	% Full PDE 2020 Enrollment	Additional Space Required ?		
School	Arendtsville ES	202	90%	199	200	89%	192	85%	198	88%	209	93%	Yes		
	Bendersville ES	174	99%	171	172	98%	165	94%	171	98%	180	103%	Long Term		
<b>Capacity Available***</b>		376	94%	371	372	93%	357	89%	369	92%	389	97%	Yes		
		24		29	28		43		31		11				

**7 - 12 Middle / High School**

		Utilization Rate				Utilization Rate				Utilization Rate				7 - 12	
		Current Enrollment	% Full Current Enrollment	Enrollment Per % Local 2020 Pop	2020 Annual Rates	% Full Annual Rates	2020 Enroll % Students per Total K-12	% Full Students per Total K-12	2020 Cohort Projection	% Full Cohort Projection	PDE 2020 Projection	% Full PDE 2020 Enrollment	Additional Space Required ?		
School	Middle / High School	791	84%	779	783	83%	795	85%	777	83%	752	80%	No		
		791	84%	779	783	83%	795	85%	777	83%	752	80%	Long Term		
<b>Capacity Available***</b>		149		161	157		145		163		188		No**		

Total Enrollment 1,665 1,641 1,648 1,659 1,636 1,589

### Elementary / Intermediate Level\*

Short term, additional space may be required in terms of general classrooms and should be considered for both existing and desired programmatic needs. Such spaces typically include special education, art/music, computer classrooms, additional library and administrative space and auxiliary space, which do not receive capacity at the elementary level.

Long term, capacity to enrollment at the elementary buildings approaching school year 2020 is considered tight.

Suggested: Add/convert spaces to accommodate District's Educational Program as needed.

### Secondary Level\*\*

Short term, additional space is **not required in terms of general classrooms** but should be considered for both existing and desired programmatic needs. Such spaces typically include, special education classrooms, science, art, family and consumer science, music, tech. ed. and computer rooms, phys. ed./athletics, library, cafeteria, administrative and auxiliary space, some of which do not receive PDE capacity.

Long term, capacity to enrollment at the secondary buildings approaching school year 2020 is adequate.

**\*\*\* Please note that this analysis is comparing enrollment and capacity only; it does not consider additional space required due to educational program needs.**

**Building Capacity as it relates to Enrollment Projection by Grade Group**

The following capacities are based on PDE's method of 25 students per classroom for Elementary Schools. The secondary schools utilize similar PDE classroom capacities that are specifically outlined at the end of this section.

Capacity of Existing Buildings based on <b>PLANNED Use of Space</b>												<b>K - 3</b>		
School	Current Bldg Capacity*	Utilization Rate			Utilization Rate			Utilization Rate			Utilization Rate			
		Current Enrollment	Enrollment Per % Local 2020 Pop	% Full Per % Local 2020 Pop	2020 Annual Rates	% Full Annual Rates	2020 Enroll % Students per Total K-12	% Full % Students per Total K-12	2020 Cohort Projection	% Full Cohort Projection	PDE 2020 Projection	% Full PDE 2020 Enrollment	Additional Space Required ?	
Biglerville ES	650	498	491	75%	493	76%	507	78%	489	75%	448	69%	NO	
<b>THE ADDITION OF (4) GENERAL CLRMS</b>	<b>650</b>	<b>498</b>	<b>491</b>	<b>75%</b>	<b>493</b>	<b>76%</b>	<b>507</b>	<b>78%</b>	<b>489</b>	<b>75%</b>	<b>448</b>	<b>69%</b>	Long Term	
<b>Capacity Available</b>		152	159		157		143		161		202		<b>NO</b>	

Capacity of Existing Buildings based on <b>PLANNED Use of Space</b>												<b>4 - 6</b>		
School	Current Bldg Capacity	Utilization Rate			Utilization Rate			Utilization Rate			Utilization Rate			
		Current Enrollment	Enrollment Per % Local 2020 Pop	% Full Per % Local 2020 Pop	2020 Annual Rates	% Full Annual Rates	2020 Enroll % Students per Total K-12	% Full % Students per Total K-12	2020 Cohort Projection	% Full Cohort Projection	PDE 2020 Projection	% Full PDE 2020 Enrollment	Additional Space Required ?	
Arendtsville ES	275	202	199	72%	200	73%	192	70%	198	72%	209	78%	Yes	
Bendersville ES	225	174	171	76%	172	77%	165	73%	171	76%	180	80%	Yes	
<b>THE ADDITION OF (4) GENERAL CLRMS</b>	<b>500</b>	<b>376</b>	<b>371</b>	<b>74%</b>	<b>372</b>	<b>74%</b>	<b>357</b>	<b>71%</b>	<b>369</b>	<b>74%</b>	<b>389</b>	<b>78%</b>	Long Term	
<b>Capacity Available</b>		124	129		128		143		131		111		<b>Yes</b>	

Capacity of Existing Buildings based on <b>PLANNED Use of Space</b>												<b>7 - 12</b>		
School	Current Bldg Capacity	Utilization Rate			Utilization Rate			Utilization Rate			Utilization Rate			
		Current Enrollment	Enrollment Per % Local 2020 Pop	% Full Per % Local 2020 Pop	2020 Annual Rates	% Full Annual Rates	2020 Enroll % Students per Total K-12	% Full % Students per Total K-12	2020 Cohort Projection	% Full Cohort Projection	PDE 2020 Projection	% Full PDE 2020 Enrollment	Additional Space Required ?	
Middle / High School	940	791	779	83%	783	83%	795	85%	777	83%	752	80%	No	
<b>Capacity Available</b>	<b>940</b>	<b>791</b>	<b>779</b>	<b>83%</b>	<b>783</b>	<b>83%</b>	<b>795</b>	<b>85%</b>	<b>777</b>	<b>83%</b>	<b>752</b>	<b>80%</b>	Long Term	
		149	161		157		145		163		188		<b>No**</b>	

Total Enrollment 1,665 1,641 1,648 1,659 1,636 1,589

**Elementary / Intermediate Level\***

At Biglerville ES, with the addition of just four (4) General Classrooms to the Educational Program, the utilization rate of the building decreased significantly to more manageable levels, with regard to enrollment vs capacity and compared to the previous Current Usage utilization.

At Arendtsville ES and Bendersville ES, with the addition of just four (4) total General Classrooms, (2 GC's at each building), the utilization rate of the building decreased significantly to more manageable levels, with regard to enrollment vs capacity and compared to the previous Current Usage utilization.



**ELEMENTARY BUILDING CAPACITY**

District/CTC:	Project Name: <b>Feasibility Study</b>	Grades:
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		SCHOOL: <b>Biglerville Elementary</b>			
		PRESENT		PLANNED	
#1	#2	#3	#4	#5	#6
NAME OF SPACE	UNIT CAP	NO. OF UNITS	TOTAL FTE	NO. OF UNITS	TOTAL FTE
HALF-TIME KINDRGRTN	50				
FULL-TIME KINDRGRTN	25	6	150	6	150
REG CLSRM 660+ SQ FT	25	16	400	16	400
NATATORIUM	XX		XXXXXX		XXXXXX
BUILDING TOTAL	XX	XXXXXX	550	XXXXXX	550

		SCHOOL: [REDACTED]			
		PRESENT		PLANNED	
#3	#4	#5	#6		
NO. OF UNITS	TOTAL FTE	NO. OF UNITS	TOTAL FTE		
		XXXXXX			XXXXXX
XXXXXX			XXXXXX		

		SCHOOL: <b>Arendtsville ES</b>			
		PRESENT		PLANNED	
#1	#2	#3	#4	#5	#6
NAME OF SPACE	UNIT CAP	NO. OF UNITS	TOTAL FTE	NO. OF UNITS	TOTAL FTE
HALF-TIME KINDRGRTN	50				
FULL-TIME KINDRGRTN	25				
REG CLSRM 660+ SQ FT	25	9	225		
NATATORIUM	XX		XXXXXX		XXXXXX
BUILDING TOTAL	XX	XXXXXX	225	XXXXXX	

		SCHOOL: [REDACTED]			
		PRESENT		PLANNED	
#3	#4	#5	#6		
NO. OF UNITS	TOTAL FTE	NO. OF UNITS	TOTAL FTE		
		XXXXXX			XXXXXX
XXXXXX			XXXXXX		

		SCHOOL: <b>Bendersville ES</b>			
		PRESENT		PLANNED	
#1	#2	#3	#4	#5	#6
NAME OF SPACE	UNIT CAP	NO. OF UNITS	TOTAL FTE	NO. OF UNITS	TOTAL FTE
HALF-TIME KINDRGRTN	50				
FULL-TIME KINDRGRTN	25				
REG CLSRM 660+ SQ FT	25	7	175		
NATATORIUM	XX		XXXXXX		XXXXXX
BUILDING TOTAL	XX	XXXXXX	175	XXXXXX	

		SCHOOL: [REDACTED]			
		PRESENT		PLANNED	
#3	#4	#5	#6		
NO. OF UNITS	TOTAL FTE	NO. OF UNITS	TOTAL FTE		
		XXXXXX			XXXXXX
XXXXXX			XXXXXX		

		SCHOOL: [REDACTED]			
		PRESENT		PLANNED	
#1	#2	#3	#4	#5	#6
NAME OF SPACE	UNIT CAP	NO. OF UNITS	TOTAL FTE	NO. OF UNITS	TOTAL FTE
HALF-TIME KINDRGRTN	50				
FULL-TIME KINDRGRTN	25				
REG CLSRM 660+ SQ FT	25				
NATATORIUM	XX		XXXXXX		XXXXXX
BUILDING TOTAL	XX	XXXXXX		XXXXXX	

		SCHOOL: [REDACTED]			
		PRESENT		PLANNED	
#3	#4	#5	#6		
NO. OF UNITS	TOTAL FTE	NO. OF UNITS	TOTAL FTE		
		XXXXXX			XXXXXX
XXXXXX			XXXXXX		

**MIDDLE/SECONDARY BUILDING CAPACITY**

District/CTC:		Project Name: Feasibility Study				Grades:			
		SCHOOL: Middle/High School				SCHOOL: _____			
		PRESENT		PLANNED		PRESENT		PLANNED	
#1	#2	#3	#4	#5	#6	#3	#4	#5	#6
NAME OF SPACE	UNIT CAP	NO. OF UNITS	TOTAL FTE	NO. OF UNITS	TOTAL FTE	NO. OF UNITS	TOTAL FTE	NO. OF UNITS	TOTAL FTE
REG CLSRM 660+ SQ FT	25	23	575	23	575				
SCIENCE CLSRM 660+ SQ FT	25								
SCIENCE LAB	20	7	140	7	140				
PLANETARIUM W/CLSRM	20								
ALTERNATIVE ED ROOM	20								
BUSINESS CLSRM 660+	25								
BUSINESS LAB	20								
COMPUTER LAB	20	3	60	3	60				
TV INSTRUCTIONAL STUDIO	20								
ART CLASSROOM	20	2	40	2	40				
MUSIC CLASSROOM	25								
BAND ROOM	25	1	25	1	25				
ORCHESTRA ROOM	25								
CHORAL ROOM	25	1	25	1	25				
FAMILY/CONSMR SCIENCE	20	1	20	1	20				
IA/SHOP 1800+ SQ FT	20								
TECH ED 1800+ SQ FT	20	1	20	1	20				
VO AG SHOP W/CLRM	20	1	20	1	20				
DRIVER'S ED 660+ SQ FT	20	1	20	1	20				
GYM 6500-7500 SQ FT	66	1.0	66	1.0	66				
2500 SQ FT AUX GYM	33	1	33	1	33				
NATATORIUM	XXX		XXXXXX		XXXXXX		XXXXXX		XXXXXX
OTHER:	20								
BUILDING TOTAL	XXX	XXXXXX	1,044	XXXXXX	1,044	XXXXXX		XXXXXX	
MS/SEC UTILIZATION (BLDG TOTAL X .9)	XXX	XXXXXX	940	XXXXXX	940	XXXXXX		XXXXXX	
		SCHOOL: _____				SCHOOL: _____			
		PRESENT		PLANNED		PRESENT		PLANNED	
#1	#2	#3	#4	#5	#6	#3	#4	#5	#6
NAME OF SPACE	UNIT CAP	NO. OF UNITS	TOTAL FTE	NO. OF UNITS	TOTAL FTE	NO. OF UNITS	TOTAL FTE	NO. OF UNITS	TOTAL FTE
REG CLSRM 660+ SQ FT	25								
SCIENCE CLSRM 660+ SQ FT	25								
SCIENCE LAB	20								
PLANETARIUM W/CLSRM	20								
ALTERNATIVE ED ROOM	20								
BUSINESS CLSRM 660+	25								
BUSINESS LAB	20								
COMPUTER LAB	20								
TV INSTRUCTIONAL STUDIO	20								
ART CLASSROOM	20								
MUSIC CLASSROOM	25								
BAND ROOM	25								
ORCHESTRA ROOM	25								
CHORAL ROOM	25								
FAMILY/CONSMR SCIENCE	20								
IA/SHOP 1800+ SQ FT	20								
TECH ED 1800+ SQ FT	20								
VO AG SHOP W/CLRM	20								
DRIVER'S ED 660+ SQ FT	20								
GYM 6500-7500 SQ FT	66								
2500 SQ FT AUX GYM	33								
NATATORIUM	XXX		XXXXXX		XXXXXX		XXXXXX		XXXXXX
OTHER:	20								
BUILDING TOTAL	XXX	XXXXXX		XXXXXX		XXXXXX		XXXXXX	
MS/SEC UTILIZATION (BLDG TOTAL X .9)	XXX	XXXXXX		XXXXXX		XXXXXX		XXXXXX	

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#### **SECTION 6 - PDE Requirement**

#### **EXISTING FACILITY ANALYSIS / EVALUATION**

The Pa Department of Education requires that each district facility study identify items that are required to bring District buildings up to current construction standards. It should be noted that existing conditions that would not comply with current Codes are frequently grandfathered by the local Code Authority and would need to be upgraded to current Codes during a major construction project or due to the need for replacement. Other critical issues which we evaluate include life safety and building code compliance, handicap accessibility (ADA), energy efficiency, structural systems and aesthetics.

Included in this report is an analysis of each building's physical condition including the projected useful life of each building's major architectural and building systems components, whether the building is accessible, structurally sound, energy efficient, ADA and building code compliant. Site investigations were conducted to evaluate various site, architectural, plumbing, heating, air conditioning, ventilation, electrical power and special systems at each building.

In general, this report is a 'snapshot' of the existing building conditions observed on December 23, 2014 when Crabtree Rohrbaugh & Associates and CenterPoint Engineering walked through each of the District's buildings.



## **EDUCATIONAL FACILITIES EVALUATION CRITERIA**

### **Methodology and Approach**

In order to adequately assess the educational facilities it is imperative that a baseline, or benchmark be established, from which evaluations and any subsequent recommendations are based upon. In completing the facilities assessment and evaluation, Crabtree, Rohrbaugh & Associates, working with School District staff, developed and utilized several tools to assist in the process. They include the following:

- Building surveys and documentation
- Meetings with staff
- Use of an Evaluation Criteria as a benchmarking tool
- Lifespan of Building Components

### **Evaluation Criteria**

The criteria is based on the educational program needs as well as life cycle costs and life span expectations, maintenance needs, energy efficiency, and current applicable accessibility, life safety and building code considerations.

The following building codes are applicable:

- PA Uniform Construction Code (UCC):
- International Building Code 2006
- International Electrical Code 2006 (utilizes National Electric Code– 2002 standards)
- International Energy Conservation Code 2006
- International Existing Building Code 2006
- International Fire Code 2006
- International Fuel Gas Code 2006
- International Mechanical Code 2006
- International Plumbing Code 2006
- International Residential Code 2006
- International Urban-Wildland Interface Code 2006
- ADAAG ( Americans with Disabilities Accessibility Guidelines)
- ASHRAE Standards

NOTE: Existing facilities meet codes applicable at the time of their construction. Code issues identified in this report are those that would be required to meet current codes. Several of the code required upgrades are considered safety issues and should be addressed by the school district.

The evaluative criteria for the review of the educational facilities are organized into the following categories:

- **ADA AND BUILDING CODE CRITERIA**
- **EDUCATIONAL PROGRAM CRITERIA**
- **PHYSICAL PLANT CRITERIA**

**The Cost Estimate**

The estimated costs listed for each item of work are preliminary based on visual observation of the condition present during the site inspections. In general, the costs are allowances for all work associated with the improvement. For example, providing a sprinkler system includes allowances for ceiling removal and replacement, cutting and patching, supplying water to the site, and reconfiguring space to provide the equipment. Cost are based on all work included in the report is performed under one contract. **COSTS SHOULD BE ADJUSTED FOR INFLATION FROM THE DATE OF THIS REPORT.**

**I. ADA, SAFETY AND BUILDING CODE CRITERIA**

**A. ADA Compliance**

Recommendations in this report regarding upgrades related to the Americans with Disabilities Act are made when buildings or areas of a building can be made accessible without “undue burden”. “Section 35.150 requires that each service, program, or activity conducted by a public entity, when viewed in its entirety, be readily accessible to and usable by individuals with disabilities.”

ADA Regulation for Title II, as printed in the Federal Register (7/26/91).

**1. Exterior Routes** At least one accessible route shall be provided within the boundary of the site from accessible parking spaces, passenger loading areas and public streets and walks to an accessible building entrance. At least one accessible route shall connect accessible buildings, accessible facilities, accessible elements and accessible spaces that are on the same site. Handicapped access to grade (accessible entrances) shall be provided at a minimum of 50% of all public entrances.

**2. Parking** Property configured and marked accessible parking spaces shall be provided per code requirements.

<b>Total Parking in Lot</b>	<b>Required Minimum Number of Accessible Spaces</b>
1 to 25	1
26 to 50	2
51 to 75	3
76 to 100	4
101 to 150	5
151 to 200	6
201 to 300	7
301 to 400	8
401 to 500	9
501 to 1000	2 percent of total

- 3. Exterior Signage** Proper signage shall be provided on-site to designate handicapped accessible route(s) to the building and related facilities. If a particular entrance is not made accessible, appropriate accessible signage indicating the location of the nearest accessible entrance(s) shall be installed at or near the inaccessible entrance, such that a person with disabilities will not be required to retrace the approach route from the inaccessible entrance.
- 4. Interior Routes** At least one accessible route shall connect accessible building or facility entrances with available programs within the building. The path of travel to an altered area and the restrooms, telephones, and drinking fountains serving the altered area, shall be readily accessible to and usable by individuals with disabilities.
- 5. Railings** Handrails and railings on stairs and/or ramps shall be designed to meet code requirements. Ramps shall have a maximum slope of 1 to 12.
- 6. Elevator** One passenger elevator shall serve each level providing programs to the public including mezzanines, in all multi-story buildings.
- 7. Doors** At each accessible entrance to a building, at least one door shall meet code width and maneuvering clearances. Door openings are to be a minimum clear width of 32" and a minimum clearance of 4'-0" shall exist between pairs of entrance doors in vestibules. Each door that is an element of an accessible route or means of egress shall meet the width and maneuvering clearances per code requirements.
- 8. Egress/ Area of Rescue Assistance** Areas of Rescue Assistance shall be provided where there is no direct egress to grade. The total number of areas per story shall be not less than 1 for every 200 persons of calculated occupant load served by the area of rescue assistance. Area of Rescue Assistance may not be required if the building is fully sprinklered.
- 9. Interior Signage** Proper signage shall be placed throughout the building to adequately identify accessible routes and areas of rescue assistance. Room identification signs throughout the building shall be in compliance with ADA.
- 10. Hardware** Door locksets to all accessible spaces should be lever-type accessible units. Door closers should meet pull load requirements.
- 11. Restrooms** Existing toilet room facilities on each level of a building shall be accessible or an accessible toilet room shall be provided near the existing facilities. Additional toilet facilities shall be accessible when required by the program or service provided.
- 12. Fountains** At least one accessible drinking fountain should be provided on each level of a building and 50% of the total number of drinking fountains provided shall be accessible. Two drinking fountains mounted side by side or on a single post, are usable by people with disabilities and people who find it difficult to bend over. Knee clearances shall not be required at units used primarily by children ages 12 and younger where clear floor space for a parallel approach is provided and where the spout is no higher than 30 in, measured from the floor or ground surface to the spout outlet.

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**13. Fire Alarm** Visual strobe alarms are to be provided in toilet rooms and other general use areas. (Meeting rooms, lobbies, corridors and common use areas.)

**14. Telephone** If public pay telephones are provided, they are to be accessible. An accessible telephone shall meet the maneuvering clearances per ADA requirements and be mounted at the proper height. TDD or equally effective telecommunication systems shall be available to communicate with individuals with impaired hearing or speech.

**15. Seating** In places of assembly with fixed seating, accessible wheelchair locations shall be provided. At least one companion fixed seat shall be provided next to each wheelchair seating area. When the seating capacity exceeds 300, wheelchair spaces shall be provided in more than one location.

<b>Capacity of Seating in Assembly Area</b>	<b>Number of Required Wheelchair Locations</b>
4 to 25	1
26 to 50	2
51 to 300	4
301 to 500	6
over 500	6 plus 1 additional space for each total seating capacity increase of 100

**16. Workstations** Accessible workstations in core spaces in the elementary school level such as art rooms, the library/media center, computer labs and other core subject spaces in the secondary level should be provided.

**17. Performance Areas** An accessible route shall connect wheelchair-seating locations with performing areas, including stages and spaces used by the performers such as dressing rooms or locker rooms. An Assistive Listening System (ALS) should be provided and located within 50 feet viewing distance of the stage or performing area and shall have a complete view of the stage.

**B. Site Code Compliance**

**1. Security** Vehicular routes and pedestrian paths should be clear in terms of field of view. Pedestrian paths shall be well lighted.

**2. Vehicular Circulation** Safe drop-off facilities should be provided for each bus, automobile, and service vehicle traffic. Cross traffic between vehicles and pedestrians should be eliminated or minimized.



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- 3. Parking**                      Vehicular parking shall be designed to meet local municipal authority requirements. An adequate amount of parking should be available for students, staff and visitors.
  
- 4. Fencing**                      Fences should have properly functioning gates and contain no rust or loose posts or fabric.
  
- 5. Drainage**                      Storm water management shall be designed to meet local municipal authority requirements. Wet and dry ponds shall be properly marked and separated from student activities. Walks and drives shall be properly drained to prevent icy conditions in winter.

**C. Building Code Compliance**

- 1. Security**                      Entries shall be observable and promote scrutiny of visitors. Access to roof and other high areas shall be secured.
  
- 2. Means of Egress**           Interior elements comprising *means of egress* shall be continuous and unobstructed from any space within the building to the *exit discharge* in accordance with local building codes.
  
- 3. Fire Alarm System**        There should be a NFPA 70 panel, connected to the local fire department for alarm with localized alarm stations as required with available spare parts and maintenance service.
  
- 4. Annunciator**                There should be a NFPA 70 remote panel in an easily accessed area, well protected, with available parts and maintenance service.
  
- 5. Fire Suppression System**    An automatic fire suppression system shall be installed throughout all buildings in accordance with local building codes.
  
- 6. Fire Extinguishers**        Fire extinguishers shall be an approved type to meet local building code criteria for number and spacing and shall be mounted at the proper height. Fire extinguishers shall be annually serviced by licensed personnel and inspected monthly by building operations employees.

**II. PROGRAM RELATED CRITERIA**

**Educational Specification**

Program revisions should meet the intent of the educational specifications, the long range or strategic plan and the district technology plan within the framework of a limited budget.

Technology should be incorporated into all areas of the curriculum within the parameters of the PASD technology plan.

The media center should be equipped with current technology to allow for on-line searching and centralized media distribution.

Public use facilities should be easily accessible and located near building entrances, adjacent to vehicular parking.

## **A. Elementary / Intermediate Schools**

**1. Layout** The elementary / intermediate schools should support the educational programs and contain sufficient space to accommodate specialized support programs and services.

**2. Site** The elementary / intermediate schools should be located on a site adequately sized to provide for safe student pick-up and drop-off, visitor and staff parking, and athletic fields for student and community use. In addition, adequate and safe play structures should be provided for student use.

According to the Planning guidelines, an elementary school site should contain a minimum of 10 acres, plus one additional acre for each 100 students.

**3. Core Spaces** Core spaces for special subjects and support spaces should be centrally located and easily accessible. Core spaces shall meet or exceed Pennsylvania Department of Education guidelines.

All schools should have a room designed for separate art and music instruction. Schools with a student capacity of 250 or more students should have a separate room for each art and music.

All schools should have a space suitable for physical education. Schools with a capacity in excess of 250 students should have a separate room suitable for physical education, or have a multi-purpose room large enough to allow for simultaneous use of each side of the multi-purpose room.

## **B. Middle School**

**1. Layout** The middle school should support the educational programs and contain sufficient space to accommodate specialized support programming and services.

**2. Site** The middle school should be located on a site adequately sized to provide for safe student pick-up and drop-off, visitor and staff parking and athletic fields for students and community use.

According to the Pennsylvania Department of Education guidelines, a middle school site should contain a minimum of 20 acres, plus one additional acre for each 100 students.

**3. Core Spaces** Core spaces for special subjects and support spaces should be centrally located and easily accessible. Core spaces shall meet or exceed Pennsylvania Department of Education guidelines.

## **C. High School**

**1. Layout** The high school should facilitate specialization by students to achieve their future educational career goals. The senior high school should support the educational program and contain sufficient space to accommodate specialized support programming and services.

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- 2. Site** The senior high school should be located on a site adequately sized to provide for safe student pick-up and drop-off; visitor, staff and student parking and athletic fields for student and community use.
- According to the Pennsylvania Department of Education guidelines, a high school site should contain a minimum of 30 acres plus one additional acre for each 100 students.
- 3. Core Spaces** Core spaces for the special subjects and supporting spaces used by all students should be centrally located and easily accessible. Core spaces shall meet or exceed Pennsylvania Department of Education guidelines.

### **III. PHYSICAL PLANT CRITERIA**

#### **A. Site Condition**

- 1. Paving** Asphalt paving should be in good condition, showing no signs of deterioration or cracking. Storm water should be diverted to drainage inlets with no ponding.
- 2. Walkways** Concrete sidewalks should be in good condition, showing no signs of deterioration, major cracks or tripping hazards.
- 3. Play Equipment** Play equipment should be located in a safe area of the site with no broken or rusted equipment. It should be age appropriate.
- 4. Service Area** The service area should be properly located near food services, mechanical rooms and receiving/ storage areas. The service area should be separate from pedestrian and play areas, with trash and recycling containers away from the building and properly screened.
- 5. Student Loading** Adequate space should be provided for bus loading, as well as staff and visitor parking. Vehicular and pedestrian traffic are to be separated as much as possible.
- 6. Landscaping** Landscaping should be attractive, conducive to activity and well- maintained.

#### **B. Building Condition**

- 1. Foundations** All footings shall bear on suitable soil; concrete slabs on compact grade.
- 2. Structural System** Structural systems should be intact with no uncertified modifications. There should be no evidence of cracking or settling of structural components.
- 3. Energy** Buildings should meet or exceed ASHRAE 90.1 Standards.
- 4. Roofing System** Roofing systems should be in maintainable condition with adequate slope to roof drains or gutters and no ponding, roof leaks or visible damage.
- 5. Exterior**

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- |                               |  |
|-------------------------------|--|
| <b>Envelope</b>               | Exterior walls should be masonry cavity wall on masonry backup with adequate insulation or masonry cavity wall on metal stud and reinforced gypsum drywall with adequate insulation.   |
| <b>6. Exterior Trim</b>       | Exterior trim should be heavy gauge metal or wood with no rotted areas, completely painted and properly fastened.  |
| <b>7. Windows</b>             | Windows should be clear or tinted glass units, in thermally broken aluminum frames, or aluminum clad wood with undamaged finish. Windows should be easily operable and have proper caulking.   |
| <b>8. Exterior Doors</b>      | Exterior doors and frames should be galvanized hollow metal or finished aluminum. In addition, they must swing in the direction of egress travel, and be accessible.   |
| <b>9. Interior Walls</b>      | Interior partitions should be structurally sound, free of finish defects and have adequate acoustical properties.  |
| <b>10. Interior Doors</b>     | Interior doors should be solid core wood in painted metal frames. Doors should have undamaged finish and swing in the direction of egress.   |
| <b>11. Interior Glass</b>     | Interior glass should be 1/4' tempered or safety glass, or wire glass where required.  |
| <b>12. Kitchen Equipment</b>  | Equipment should be properly located to accommodate both safety and traffic. Equipment should be stainless steel in good working condition and in compliance with all applicable codes.  |
| <b>13. Athletic Equipment</b> | Athletic equipment and bleachers should be in good working condition and meet the minimum code safety requirements. Basketball backstops and related equipment should be in good working condition with appropriate safety measures for operation. |

**C. Interior Finishes Condition**

- |                              |  |
|------------------------------|--|
| <b>1. Terrazzo</b>           | Floors should contain no large cracks and have smooth transition to adjacent floor surfaces with no stains or deteriorated areas.  |
| <b>2. Resilient Flooring</b> | Resilient floor surfaces should be free of defects, with no cracks, open seams or missing tiles. Asbestos containing floor tiles should be identified and be included in the School District's operation and maintenance plan. |
| <b>3. Carpeting</b>          | Carpet should have tight seams, with no unraveling or exposed/frayed ends. They should have anti microbial treatment and be stain resistant where applicable. Area rugs should be non-slip type with no tripping hazards.      |
| <b>4. Ceramic Tile</b>       | Ceramic tile should be free of cracked, loose, missing or broken tiles with adequate waterproof grout.   |
| <b>5. Wood Flooring</b>      | Wood floors should have appropriate finish and smooth transition to adjacent floor surfaces. They must allow for movement without buckling or spreading. There should be no squeaky or soft spots.                             |

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- 6. Ceiling Tile** Ceilings should contain no stained, broken or warped tiles, and the grid should be adequately tied to structure.
- 7. Gypsum Wallboard** Wallboard should have smooth, clean surface with no damage or stains and appropriate transition to adjacent ceiling materials. Wallboard should not be used in areas subject to high student use or abuse.
- 8. Paint** Painted surfaces should have a smooth finish, with no peeling or stains. Appropriate colors should be chosen for reduction of glare, for light reflectivity and overall compatibility with use of space. Lead based paint should not be present.

**D. Specialties Condition**

- 1. Casework** Cabinets should have a solid wood or particleboard core with a high-density plastic laminate finish. Chemical resistant countertops should be provided in science labs where appropriate. Surfaces should be undamaged with properly functioning hardware.
- 2. Chalkboards** Chalkboards should be porcelain on steel, solid construction with no surface cracks or brittle areas. Liquid chalk surface boards are to be provided in computer classrooms and areas with computer and technology equipment.
- 3. Toilet Partitions** Partitions should be painted, galvanized metal or solid phenolic construction. Partitions should be floor supported or overhead braced. Panel surfaces should not be dented, bent or rusted and all hardware should be present and in good working condition.
- 4. Lockers** Lockers should be heavy gauge metal with painted finish. Athletic lockers should be extra-heavy duty or all welded construction, properly vented. Lockers should be in good physical condition with no dents or rust and all hardware should be present and in good operating condition.
- 5. Operable Partitions** Partitions should be secured properly to the building structure. They should be easy and safe to operate. The sound transmission rating is to be suitable for it's intended use.
- 6. Acoustics** Acoustic separation should be provided between assembly spaces and instructional areas. Large assembly areas, such as gymnasiums, multi-purpose rooms, cafeterias, music rooms and library's should be designed to properly attenuate and distribute sound in order to reinforce the program use.

**E. HVAC Condition**

- 1. System Design** HVAC System installed should be one that is the most ideal and current for the type of building.  
  
Equipment and air distribution should contain fire protection devices such as fire dampers and duct smoke detectors to meet current local code and life safety requirements.
- 2. Ventilation** Outside air quantities should be designed per local code requirements.

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- 3. Exhaust** Proper quantities of exhaust air should be provided in toilet rooms, science rooms, mechanical rooms, kitchen, maintenance closets, storage rooms and copy rooms.
- 4. Distribution** HVAC piping and ductwork should be in good condition
- 5. Equipment** HVAC equipment should be well maintained and in good working condition to operate within the system design. Equipment should be designed to meet local building code requirements.
- 6. Energy** Automatic temperature control systems should be current and have energy management capabilities.

**F. Plumbing Condition**

- 1. Distribution** Sanitary drainage, domestic water and gas piping should be in good condition and operating within system design. Hot water supply shall be provided to every hand sink within classrooms and restrooms.
- 2. Plumbing Fixtures** Plumbing fixtures should be well maintained and in good working condition to operate within the system design. They shall accommodate the adult or child dimensions and anthropometrics, respectively for their users.
- 3. Equipment** Plumbing equipment should be well maintained and in good working condition to operate within the system design.

**G. Electrical Condition**

- 1. Interior Fixtures** Light fixtures should have energy efficient long life lamps with non-PCB ballasts. Fixtures should have undamaged finishes and lens with no cracked or discolored items.

Illumination levels should meet the minimum criteria based on foot-candle (fc) levels established by the Illuminating Engineers Society (IES). Applicable parameters are as follows:

Classrooms	50-100 fc
Libraries	20-50 fc
Offices	20-50 fc
Office task	50-100 fc
Toilets	10-20 fc
Corridors	10-20 fc
Cafeterias	10-20 fc
Kitchens	50-100 fc
Laboratories	50-100 fc
M.P. rooms	30 fc
Parking	1-2 fc

- 2. Exterior Lighting** There should be high-pressure sodium wall mounted lights around the perimeter of building and the lights should be photocell or time clock controlled.

There should be 400 watts high-pressure sodium lights mounted on 35' high light poles providing 1 to fc to all parking areas.

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- 3. Power Supply** Power supply should be 480/277 volts, 3 phase, 4 wire from power company. The transformer should be located in a safe isolated area.
- 4. Service** Service box should have a functional panel cover and lock, available replacement branch devices and expansion capacity.
- 5. Distribution** Equipment should have functional panel covers and locks with 480 volts, 3 phase for power to HVAC and other heavy equipment; 277 volts, 3 phase for interior or lighting distribution; available replacement parts. All panel schedules shall be accurately labeled.
- 6. Transformers** There should be 480 120/208 volts, 3 phase step-down transformers for power to receptacles and other small 12 volt equipment.
- 7. Wiring** There should be no signs of deteriorating insulation or loose connections.
- 8. Receptacles** Receptacles should be grounded type with no broken covers. They should be appropriately located for program needs. Shutter type safety receptacles should be provided in play areas; Ground fault interrupters are required at wet areas.
- 9. Emergency Generator/  
Battery packs** Emergency generators should be properly located and sized to meet desired emergency load requirements.
- 10. Public Address  
System** System should be fully automatic; main power should control all speakers and provides signals to bell system for fire drills and alarms.
- 11. Speakers/Call  
Intercom System** Speakers should be provided in every classroom for two-way communications and safety.
- 12. Clocks/Bells** Analog or digital clocks should be installed in each instructional space and should also be connected to the master clock system. Clocks and bells should be on the automatic system.
- 13. Telephone  
System** A telephone system should be provided and available within the capabilities of the Public Address System. Specific functioning and use of the system should be programmed from the central control unit.
- 14. Television/ AV  
CATV System** There should be empty conduits or cable trays to instructional areas to allow for television cables. Wiring and installation of a television system should be per the educational specifications. Every instructional space should be served by the system.
- 15. Data Transfer  
System**

Data systems should be implemented to meet the educational needs of the facilities and a long-range technology plan. Systems should be flexible and adaptable for future technological changes.

A building-wide cable distribution system should be provided for installation of present and future low voltage special systems cable. Provide racks for LAN distribution equipment at designated network hub locations.





Upper Adams School District					
Typical Life Expectancies of Building Materials and Components					
General Building Systems	Range of Years				
	10 - 20	20 - 30	30 - 40	40 - 50	50 +
<b>Site Work</b>					
Concrete pads and sidewalks					
Bituminous paving					
Site water lines					
Site sewer lines					
Site stormwater systems					
Site sewage system					
Site electrical lines					
Fencing					
Playground equipment					
<b>Foundations &amp; Structure</b>					
Foundation Walls / Footings					
Concrete slab on grade					
Concrete floor & metal deck system					
Steel floor structure					
Steel roof structure					
<b>Building Envelope Systems</b>					
Exterior wall- masonry					
Exterior wall- wood cladding					
Aluminum windows					
Aluminum / hollow metal doors					
Trim- soffit, fascia, etc.					
Roofing- built-up system					
Roofing- single ply EPDM					
Roofing- asphalt shingles					
Roofing- seamed metal					
Skylights					
Rainwater gutters / spouting					
Rainwater downspouts					
<b>Interiors</b>					
Walls- masonry					
Walls- drywall/plaster & stud					
Floors- terrazzo					
Floors- wood					
Floors- vinyl					
Floors- ceramic					
Floors- carpet					
Ceilings- drywall/plaster					
Ceilings- acoustical tile					
Wall / ceiling paint					
Interior doors- wood w/ metal frame					
Interior door hardware					
Operable partitions					
<b>Specialties, Equipment &amp; Furnishings</b>					
Casework- wood					
Casework- plastic laminate					
Chalkboards & tackboards					
Projection screens					
Lockers					
Kitchen equipment					
Toilet partitions					
Toilet accessories					
Cafeteria tables					
Auditorium seating					
Library furniture					
Gymnasium bleachers					

**Typical Life Expectancies of Building Materials and Components**

Mechanical, Plumbing & Electrical	Range of Years				
	10 - 20	20 - 30	30 - 40	40 - 50	50 +
<b>Heating, Ventilation &amp; Air Conditioning</b>					
Boilers					
Unit ventilators					
Fan coil units					
Steam heat system					
Gas heat system					
Oil heat system					
Central air conditioning system					
Local (window) air conditioning system					
Ductwork, diffusers, grilles, etc.					
Dampers					
Burners					
Expansion tanks					
<b>Plumbing Systems</b>					
Domestic water piping- copper					
Domestic water piping- PVC					
Sanitary piping- cast iron					
Sanitary piping- PVC					
Gas-fired tanks					
Electric-fired tanks					
Steam-fired tanks					
Backflow preventers					
Pumps- constant pressure					
Pumps- recirculation					
Pumps- sewer					
Neutralization tanks					
Expansion loops					
Mixing valves					
Gas piping (low pressure)					
Gas meter / regulator					
Sprinklers					
Standpipe					
Fixtures- toilets, urinals, laboratories					
Fixtures- water coolers, drinking fountains					
<b>Electrical Systems</b>					
Power supply					
Power service					
Distribution panels					
Wiring, receptacles & switches					
Transformers					
Lighting- exterior					
Lighting- interior					
Generator					
Exit signs					
Fire alarm panel					
Fire alarm- graphic annunciator					
Smoke / heat detection system					
Public address system					
Telephone system					
Television system					
Security system					
Clock / bell system					
Speakers					
Communications wiring					

**UPPER ADAMS SCHOOL DISTRICT**  
**District Wide Feasibility Study**

**School: Arendtsville Elementary School**

This report is a summary of the architectural and educational program conditions at the time of the scheduled walk-through on December 23, 2014.





*Arendtsville Elementary School*


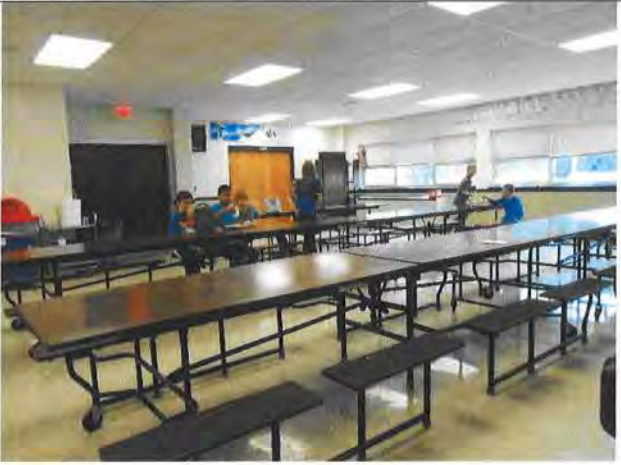
**Overview:**



<u>Address:</u>	136 Fohl Street, Arendtsville, PA 17303
<u>Original Construction:</u>	1955
<u>Architectural Area:</u>	38,900 SF
<u>Addition/Renovations:</u>	1969, 1989
<u>Municipalities Served:</u>	Arendtsville Borough
<u>Current Grade Grouping:</u>	Grade 4 - 6
<u>Current PDE Bldg Capacity</u>	225

**Educational Space Considerations:**

Educational considerations noted below are based on PDE and general planning/ design guidelines.

<u>Regular Classrooms:</u>	The average classroom size is approximately 830 SF.
	
<u>Special Education Classrooms:</u>	The average classroom size is approximately 830 SF.
<u>Learning Support Space:</u>	There are approximately three (3) Learning Support rooms located in the building, each approximately 830 SF. There are approximately two (2) Small Group Rooms ie: Speech, Reading.
<u>Art/ Band Classrooms:</u>	The building currently has two separate rooms for Art and Music. The Art classroom is approximately 1,050 SF. The Band classroom is approximately 975 SF.
<u>Library:</u> ± 1,548 SF	The designed Library is approximately 1,548 SF. Per PDE guidelines, the Library is adequately sized for the current building capacity.
	
<u>Computer Rooms:</u> ± 400 SF	There is one (1) computer room located in the building. The space is inadequate to accommodate the current building

	capacity.
<u>Gymnasium/ Multipurpose:</u> ± 2,240 SF	The Gymnasium / Multi-purpose Room is approximately 2,240 SF. The Platform is approximately 400 SF. The stage area is not accessible for persons with disabilities. The size of the Gymnasium appears dated, is inadequate for an Elementary sized gym use and lacks current design guidelines for structural height. It is our understanding the capacity to accommodate both parents and students in the space during special events is severely inadequate as participants must stand in the corridor.
	
<u>Cafeteria:</u> ± 1,548 SF	A separate Cafeteria exists, is approximately 1,548 SF and is adequately sized per the current building code and building capacity based on 3 serving periods. However, the space does appear inadequate to accommodate the number of students per period.
	
<u>Kitchen:</u> ± 960 SF	The Kitchen is approximately 960 SF. Per PDE guidelines, the Kitchen is adequately sized for the current building capacity.

	
<p><u>Administration / Nurse:</u> ± 775 SF</p>	<p>The Administration area is approximately 775 SF. The Nurses Suite is approximately 725 SF. Both space appear adequate to accommodate the building capacity.</p>
	
<p><u>Storage:</u></p>	<p>The general building storage appears to be inadequate.</p>
<p><u>Miscellaneous:</u></p>	<p>There are currently two (2) faculty rooms.</p>
<p><u>Security:</u></p>	<p>Main entrance has a secure vestibule that is operated by the staff in the Admin Suite.</p> <p><u>Recommendations:</u></p> <p><u>Reconfigure Administration space to better accommodate the visual control of visitors from the main office.</u></p>



Building Codes:

The project is governed under the current UBC, L&I, ADA and municipal requirements.



The wood framed storage room constructed adjacent the existing Kitchen and Cafeteria is technically in violation of code non-combustible building type and egress / exiting requirements.

Recommendations:



*Please see recommendations throughout report below to bring the facility in to full compliance with current ADA regulations.*


*Remove and replace existing wood framed storage room to another building location so not to violate existing building code non-combustible and egress / exit requirements.*



<b>Building Considerations</b>	
<b>Site Conditions</b>	
<u>Site Size:</u>	The site size is approximately 16.5 acres.
	
<u>General Condition of Site:</u>	The overall general conditions of the site are good.
<u>Topography:</u>	Majority of site is level. Some moderate sloping conditions at the building pad down to play areas. Site topography accommodates adequate drainage.
	
<u>Site Circulation:</u>	Staff, student, and public entry is separate from delivery services. Separation of bus and parent / student drop-off vehicular traffic appears adequate. Bus drop-off is at the rear of the building and parent / student drop-off in front.
<u>Site Entrance:</u>	Main entrance is on the South facade and is accessed from Fohl Road. Easy access to/from building areas.



	
<p><u>Off Street Parking:</u></p>	<p>Existing parking appears to be minimal. Approximately fifty five (55) parking spaces and two (2) Handicapped spaces are currently provided.</p> <p><i><u>Recommendations:</u></i></p> <p><i>Additional parking spaces recommended to accommodate building occupant load and events/activities.</i></p>
<p><u>Play areas:</u></p>	<p>Hard surface and soft surface play areas are located on the eastern part of the site and appear to be in good condition. The site does accommodate an expansive area for student play and activity during the day. Additional mulching recommended at soft play landing areas. Play equipment appears in good condition.</p>
	
<p><u>Storm Water Management:</u></p>	<p>Adequate drainage occurs around the majority of the building. There are no structured storm water management facilities currently existing.</p>

	<p><u>Recommendations:</u></p> <p><i>With any proposed building improvement project, new stormwater management practices shall be required to bring the property up to current land development compliance.</i></p>
<u>Accessibility, Walkways and Curbing:</u>	Site and walkways are ADA accessible and appear to be in fair condition with some evidence of wear and cracking in certain locations.
<u>Site Lighting:</u>	<p>Site lighting is non-existent.</p> <p><u>Recommendations:</u></p> <p><i>New site lighting – both parking lot and building wall-packs – is recommended for safety and security reasons.</i></p>
<b>Building Structure</b>	
<u>Structural System:</u>	Original building is masonry load bearing with steel and wood framing. The 1989 addition is masonry with steel roof framing as the building overall generally appears to be in fair condition.
	
<u>Roof System:</u>	The building roof consists of rubber membrane and appears to be in fair overall condition.
<b>Exterior Envelope</b>	
<u>Exterior Walls:</u>	Exterior walls are masonry veneer and Exterior Insulated Finish System (EIFS). The exterior walls are in good condition with few areas of settlement, staining, mold/mildew buildup are evident. The EIFS appears to be in good condition with few areas of staining. Cast stone window sills are in fair condition with many sills in need of repointing and cleaning as rust, dirt and mold/mildew buildup are evident.

Recommendations:

*Re-pointing and cleaning of cast stone window sills and specific areas of masonry veneer is recommended with any proposed building improvement project.*



Exterior Doors:

Exterior doors are aluminum and hollow metal. Overall all doors are in fair condition with a dated appearance. Doors on the original construction do not meet current ADA clearance requirements.

Recommendations:

*Replacement of all exterior aluminum and hollow metal doors with any proposed building improvement project.*

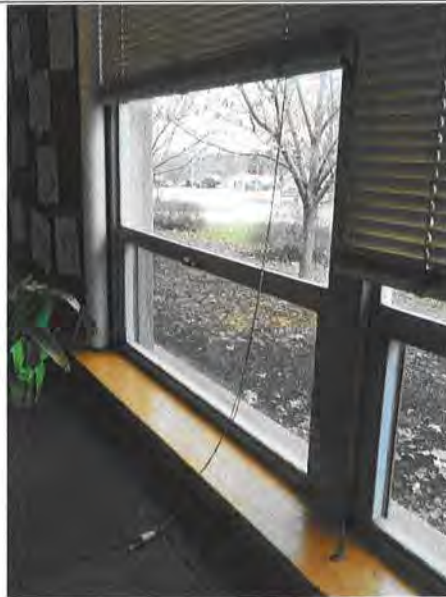


Windows:

Windows in the original building are aluminum frame with single pane glass and in poor condition. Windows in the 1989 addition are aluminum frame with insulated glass and appear to be in fair condition. Some windows and caulking show evidence of cracking at the sills and splitting from adjacent wall jambs.

Recommendations:

*Replacement of all windows with thermal efficient product with any proposed building improvement project.*



**Interior Envelope**


Interior Walls:

Interior wall materials include painted plaster walls and glazed block wainscot in the original building corridors. Painted CMU is located in the 1989 addition.

The student toilets in the original construction consist of ceramic glazed block wainscot with plaster finish above. In the 1989 addition, the walls consist of painted CMU with ceramic tile wainscot.

Classrooms consist of painted plaster walls and painted CMU. Wall finishes appear to be in good condition.

In the original building, glass block trimmed with wood finish dot the corridors above the glazed tile wainscot with the initial design concept to bring borrowed natural light into the corridors from the exterior ribbon classroom windows.

	<p><u>Recommendations:</u></p> <p><i>Repainting of majority of the building areas due to past water leakage and dated appearance with any proposed building improvement project.</i></p>
	
<p><u>Ceilings:</u></p>	<p>Ceiling materials include acoustical tile ceilings, gypsum wallboard, and exposed roof deck.</p>
<p><u>Flooring:</u></p>	<p>Flooring materials consist of terrazzo in the corridors in the 1989 addition, vinyl composition tile (VCT) is located in the original building corridors. The terrazzo is in good condition, the VCT is in fair condition with many areas in need of replacement.</p> <p>VCT is located in the following areas – Classrooms, Art Room, Cafeteria and is in fair condition.</p> <p>Carpeting is located in the following areas - Library, Administration, Music and Computer. The carpeting in each space is in fair condition.</p> <p>The Gymnasium flooring consists of a VCT and is in fair condition.</p> <p>The Kitchen flooring consists of a poured seamless synthetic system and is in fair condition.</p> <p>The student toilet flooring consists of a poured seamless synthetic system in the original construction and is in poor condition. Student toilet flooring in the 1989 addition is ceramic tile and is in good condition.</p> <p><u>Recommendations:</u></p> <p><i>With any proposed building improvement project, replace the VCT and Carpet floor finishes in the corridors, Art Room, Cafeteria and Classrooms. Replace the VCT in the Gymnasium with a poured synthetic system. Replace the original toilet room floors with a ceramic tile system.</i></p>



Doors: Wood, hollow metal, and aluminum doors with hollow metal/aluminum frames in fair condition. Wire glass frames exist in some areas and would need to be replaced with any renovation project. Some doors still have original antiquated door closers. ADA clearance requirements are not met at entrances to many general classrooms in the building.



Casework: Built-in casework in classrooms is in good condition.







Interior Finishes:

Chalkboards, whiteboards, and smart boards are in good condition. Many chalkboards were resurfaced in the 1989 renovation.

Recommendations:

*Existing chalkboards should be replaced to match the other marker boards in the building due to the potential for chalk dust to lead to allergies and computer issues. However, it appears that the chalkboards are not used extensively given the smart boards.*





Toilet Rooms:

Many toilet rooms throughout are currently non-compliant per current accessibility codes. Toilets in the Nurse's suite are not in compliance with ADA. Individual toilet rooms within a few of the classrooms are too small and do not meet ADA. Toilet fixtures appear to be in fair condition yet dated. Metal toilet partitions appear to be in fair to poor condition with some loose dividers and missing accessories.

Recommendations:

*Fixture replacement and interior finish upgrades and ADA clearance compliance with any proposed building improvement project.*

	
<p><u>Kitchen Equipment:</u></p>	<p>The Kitchen equipment appears to be in good condition with some of the equipment installed with the 1989 renovations.</p>
	
<p><u>Miscellaneous Storage:</u></p>	<p>Building storage appears inadequate for the building size and quantity.</p>
<p><u>Miscellaneous Equipment &amp; Furnishings:</u></p>	<p>Wall mounted televisions in classrooms and fire extinguishers do not meet current accessibility and clearance standards.</p> <p><u>Recommendations:</u></p> <p><i>Replacement and remounting of accessories and fire extinguishers to correct ADA clearance heights.</i></p>

**MEP FACILITY ASSESSMENT SUMMARY**

**III. PHYSICAL PLANT**

General

- This report is a “snapshot” of the MEP systems in the condition they were in on December 23, 2014 when CenterPoint Engineering walked through the building and talked with maintenance personnel. The recommendations included herein are representative of a condition in which no architectural modifications will be performed to the building.

**E. HVAC**

System

- The HVAC system was installed in 2007 and is in good condition.



- The system is a 2-pipe heating only system with unit ventilators.
- Heating hot water is generated by a pair of natural gas-fired Thermal Solution boilers. They were installed in 2007 and are in good condition.

## Arendtsville Elementary School



- Heating hot water is circulated throughout the building by a pair of base-mounted pumps. In-line pumps are installed to maintain flow through the boilers. The pumps appear to be in good condition.



- Heating hot water is distributed throughout the building through copper piping. The piping is insulated and was reported to be in good condition. The piping is located above the ceilings and is accessible.

## **Arendtsville Elementary School**

- Recommendation:
  - ASHRAE Handbook HVAC Applications (2007) table 4 on page 36.3 lists service life estimates for boilers are 30 years, pumps as 20 years, ductwork as 30 years, rooftop units as 15 years, coils as 20 years, and electronic controls as 15 years, and pneumatic controls as 20 years.

### Ventilation

- Combustion air louvers are provided for the boilers.
- Outdoor air is provided to the building through the HVAC system.
- The kitchen hood has both exhaust and makeup air.
- Recommendations:
  - None.

### Air Conditioning

- The library and computer lab are air conditioned with packaged rooftop units. They were installed in 1988 and are in fair condition.
- The office and principal office have self-contained wall units. They were installed in 2007 and are in good condition.
- The cafeteria is air conditioned with split system unit ventilators. They are in good condition.
- Recommendation:
  - Packaged rooftop units replacement should be considered within the next 5 years.

### Automatic Temperature Control

- The building is controlled by a central DDC automatic temperature control system. The system was installed in 2007 and is in good condition. It is part of the district wide Automated Logic control system. There are some actuators which are still pneumatically driven.



## Arendtsville Elementary School

- Recommendations:
  - None.

### F. Plumbing

#### Plumbing Fixtures

- Water closets are wall-mounted fixtures with manual flush valves.



- Urinals are wall-mounted fixtures with manual flush valves.



## Arendtsville Elementary School

- Lavatories are wall-mounted fixtures with lever handles.



- All fixtures were original to their period of construction except for a few which were replaced. Fixtures appeared to be in fair to good condition.
- Based on the age of the fixtures, we assume that they do not meet current Code required flow rates.
- Fixtures did not appear to have anti-scald valves to meet current Code requirements.
- Recommendations:
  - None.

### Domestic Water System

- Domestic water is provided by the Arendtsville Municipal Authority.
- There is a 3" water service into the building. It is not protected by a backflow preventer. However, a pressure reducing valve is installed.



- Domestic water piping is distributed throughout the building in copper piping. It is original to the period of construction and was reported to be in fair condition.

## **Arendtsville Elementary School**

- Domestic water piping is insulated and is located above the ceilings.
- Recommendation:
  - Perform pipe inspections in various areas of the system to determine the condition of the piping system for future use.

### Hot Water Generating System

- Domestic hot water is generated by natural gas-fired storage type units.
- The kitchen unit was installed in 2005 and stores water at 140 degrees F.
- The remainder of the building is served by a unit that was installed in 2007 and stores water at 120 degrees F.



- There are no mixing valves in the system but there is a recirculating system.
- Recommendation:
  - Consider storing water at 140 degrees F and adding a mixing valve.

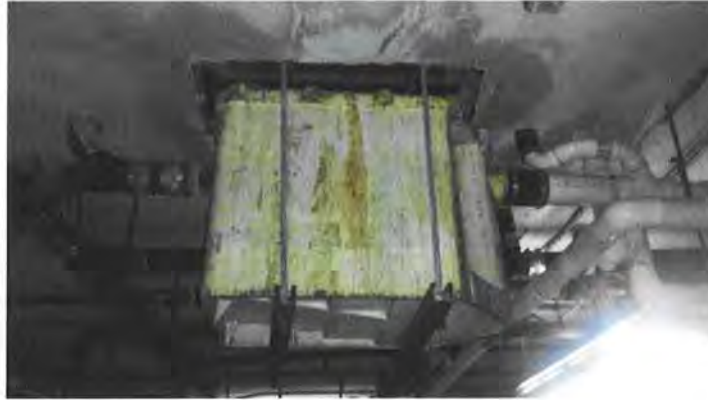
### Sanitary Sewer System

- Sewer is discharged to a public system maintained by the Arendtsville Municipal Authority.
- Waste piping is cast iron.
- The waste piping was installed at the time of construction for each area and was reported by maintenance staff as being in good condition. The system is only snaked when there is an issue.



## Arendtsville Elementary School

- Kitchen sinks are piped indirectly to prevent bacteria from traveling up waste pipe into the sink.
- The kitchen is served by a steel in-floor type grease interceptor. It is cleaned once a year.



- Recommendation:
  - Perform a camera review of the underground sanitary mains to determine any pipe issues.

### Rainwater System

- The building roof is drained by internal roof drains.
- The rainwater drainage piping is cast iron. It was installed at the time of construction for each area with no reported issues.
- Recommendations:
  - None.

### Natural Gas

- The building is served by Columbia Gas.



## **Arendtsville Elementary School**

- Natural gas is provided for the boilers, water heaters, kitchen, and emergency generator.
- Natural gas is distributed through black steel piping.
- Maintenance staff reported no issues with this system.
- Recommendations:
  - None.

### Fuel Oil

- The building is not served by a fuel oil system.
- Recommendations:
  - None.

### Propane Gas

- The building is not served by a propane system.
- Recommendations:
  - None.

### Sprinkler System

- The building is not served by an automatic sprinkler system.
- Recommendation:
  - Consider the addition of an automatic sprinkler system.

## **G. Electrical**

### Electric Distribution System

- Electric service is provided by Met Ed.
- The service size is 800 amp, 120/208 volt.



## Arendtsville Elementary School

- Distribution equipment is manufactured by Square D and was installed in 1988. It is in fair to good condition with no issues reported.
- The transformers are pole-mounted with an overhead service.



- Recommendations:
  - None.

### Emergency Generator

- The building is served by a natural gas-fired 50 KW emergency generator manufactured by Kohler. The generator is outdoors. It was installed in 1988 and is in fair condition.
- The unit serves lighting and walk-in coolers.



## **Arendtsville Elementary School**

- Recommendation:
  - Replace the unit to incorporate additional emergency items such as heating system, wiring closets, etc.

### Paging and Intercommunication

- The entire building is served by a paging and intercom system.
- The head end is located in the office.



- The system was installed 6 to 7 years ago and is in good condition.
- Recommendations:
  - None.

### Data Network

- The system is served by Century Link.
- The building is fully covered with a wired and wireless network system.
- Recommendation:
  - Upgrade wiring closets with emergency power and HVAC systems.

### Lighting

- Lighting throughout the building is T8.
- Lighting was installed in 2007 and is in good condition.

## Arendtsville Elementary School

- Recommendations:
  - None.

### Fire Alarm

- The system is manufactured by Simplex.



- The fire alarm control panel was replaced in 2013. The terminal devices were installed in 1988.

## Arendtsville Elementary School



- The system does not dial out in the case of an event.
- Maintenance reported no issues with the system.
- Recommendations:
  - None.

### Telephone System

- The telephone system is part of a district-wide system provided by Century Link.
- The system was installed approximately 6 years ago.
- Maintenance staff reported the system to be in good condition.
- Recommendations:
  - None.

### Security Systems

- The building has a limited security system manufactured by Stanley.
- The system was installed approximately 3 to 4 years ago.
- Main exterior doors and playground doors are protected with card access.
- Motion sensors are located in corridors.
- Every exterior door is provided with a sensor which shows its status on a monitor in the main office.
- Recommendation:
  - There should be further discussions with the Owner to determine if coverage is adequate for their needs.

## **Arendtsville Elementary School**

### Clock System

- The building is not served with a master clock system.
- Recommendations:
  - None.

### Sound Systems

- The multipurpose room has a sound system. It was installed in 1988 and is reported to be in fair condition with no issues.
- Recommendation:
  - A review should occur with the Owner to determine sound system requirements.

### Physical Plant Summary:

#### 1. Pipe Samples/Scoping:

Estimated construction cost: \$8,000

**Arendtsville Elementary School**

2. Replace packaged rooftop equipment:

Estimated cost: \$25,000 each

3. Add master mixing valve:

Estimated cost: \$4,725

4. Automatic Sprinkler System:

Estimated cost: \$3/SF

5. Replace emergency generator:

Estimated cost: \$100,000 (can vary based on connected load)



**UPPER ADAMS SCHOOL DISTRICT**  
**District Wide Feasibility Study**

**School: Bendersville Elementary School**

This report is a summary of the architectural and educational program conditions at the time of the scheduled walk-through on December 23, 2014.





*Bendersville Elementary School*

**Overview:**

<u>Address:</u>	137 Carlisle Street, Bendersville, PA 17306
<u>Original Construction:</u>	1951
<u>Architectural Area:</u>	38,500 SF
<u>Addition/Renovations:</u>	1989
<u>Municipalities Served:</u>	Bendersville Borough
<u>Current Grade Grouping:</u>	Grade 4 - 6
<u>Current PDE Bldg Capacity</u>	175

**Educational Space Considerations:**

Educational considerations noted below are based on PDE and general planning/ design guidelines.

<p><u>Regular Classrooms:</u></p>	<p>The average classroom size is approximately 850 SF.</p>
	
<p><u>Special Education Classrooms:</u></p>	<p>The average classroom size is approximately 792 SF.</p>
<p><u>Learning Support Space:</u></p>	<p>There are approximately two (2) Learning Support rooms located in the building. There are approximately four (4) full size Small Group Rooms ie: LIU, Reading and ESL spaces, all at approximately 792 SF. One Speech room is approx 120 SF.</p>
	
<p><u>Art/ Music Classrooms:</u></p>	<p>The building currently has two separate rooms for Art and Music. The Art classroom is approximately 850 SF. The Music classroom is approximately 792 SF. A separate Band classroom is also indicated on the current floor plan.</p>



Library:  
± 1,080 SF

The designed Library is approximately 1,080 SF. Per PDE guidelines, the Library is adequately sized for the current building capacity.



Computer Rooms:  
± 450 SF

There is one (1) computer room located in the building adjacent the Library. The space is inadequate to accommodate the current building capacity.



Gymnasium/ Multipurpose:  
± 2,418 SF



The Gymnasium / Multi-purpose Room is approximately 2,418 SF. The Platform is approximately 780 SF. The platform area is not accessible for persons with disabilities. The size of the Gymnasium is inadequate for an Elementary sized gym use and lacks current design guidelines for structural height.



Cafeteria:  
± 1,485 SF

A separate Cafeteria exists, is approximately 1,485 SF and is adequately sized for the current building capacity.



<p><u>Kitchen:</u> ± 1,155 SF</p>	<p>The Kitchen is approximately 1,155 SF. Per PDE guidelines, the Kitchen is adequately sized for the current building capacity.</p>
	
<p><u>Administration / Nurse:</u> ± 546 SF</p>	<p>The Administration area is approximately 546 SF and is inadequate per current design guidelines. The Nurses Suite is approximately 792 SF.</p>
	
<p><u>Storage:</u></p>	<p>The general building storage appears to be inadequate.</p>
<p><u>Miscellaneous:</u></p>	<p>There is currently one (1) faculty room.</p>



Security:

Main entrance does not have a locked secured vestibule pursuant to current design guidelines.

Recommendations:

*Reconfigure Administration space to create a locked secured vestibule per current design guidelines.*





Building Codes:


The project is governed under the current UBC, L&I, ADA and municipal requirements.

Recommendations:

*Please see recommendations throughout report below to bring the facility in to full compliance with current ADA regulations.*

<b>Building Considerations</b>	
<b>Site Conditions</b>	
<u>Site Size:</u>	The site size is approximately 4.5 acres.
	
<u>General Condition of Site:</u>	The overall general conditions of the site are good.
<u>Topography:</u>	The building pad and parking areas of the site are level. Some moderate sloping conditions begin at the south side of the building's hard surface play area down to the fields. Site topography accommodates adequate drainage, even around the rear of the building as swales are evident to drain the water runoff.
	



	
<p><u>Site Circulation:</u></p>	<p>Staff, student, and public entry is separate from delivery services. Separation of bus and vehicular traffic currently non-existent.</p> <p><i>Recommendations:</i></p> <p><i>Separate areas for bus and parent / student drop-off, however improvements for bus / vehicular separation are limited given the restricted size of the driveway area.</i></p>
<p><u>Site Entrance:</u></p>	<p>Main entrance is on the NW facade and is accessed from Rampike Hill Road. The existing bus loop appears to be inadequately sized per current design standards.</p>
<p><u>Off Street Parking:</u></p>	<p>Existing parking appears to be minimal. Approximately forty two (42) parking spaces and two (2) Handicapped spaces are currently provided.</p> <p><i>Recommendations:</i></p> <p><i>Additional parking spaces recommended to accommodate Municipal zoning.</i></p>
<p><u>Play areas:</u></p>	<p>Hard surface and soft surface play areas are located on the southern area of the building and appear to be in fair condition. Several areas of wear and cracking of the macadam surface are evident. Play equipment appears in good condition.</p> <p><i>Recommendations:</i></p> <p><i>Resurface existing hard surface play area. Additional mulching recommended at soft play landing areas.</i></p>





Storm Water Management:

Adequate drainage occurs around the majority of the building. There are no structured storm water management facilities currently existing.


Recommendations:

*With any proposed building improvement project, new storm water management practices shall be required to bring the property up to current land development compliance.*

Accessibility, Walkways and Curbing:

Majority of the walkways around the immediate building entrances are ADA accessible and appear to be in fair condition with some evidence of wear and cracking in certain locations. A steep bituminous pedestrian walkway exists from below Rampike Hill Road up to the front entrance. This walkway is non-ADA compliant.



<p><u>Site Lighting:</u></p>	<p>Site lighting is non-existent.</p> <p><u>Recommendations:</u></p> <p><i>New site lighting – both parking lot and building wall-packs – is recommended for safety and security reasons.</i></p>
<p><b>Building Structure</b></p>	
<p><u>Structural System:</u></p>	<p>Original building is masonry load bearing with steel and wood framing. The 1989 addition is masonry with steel roof framing as the building overall generally appears to be in fair condition.</p>
<p><u>Roof System:</u></p>	<p>The original building roof consists of a modified bitumen with gravel surface. The 1989 addition is comprised of a rubber membrane and appears to be in fair overall condition.</p>
<p><b>Exterior Envelope</b></p>	
<p><u>Exterior Walls:</u></p>	<p>Exterior walls of the original building consist of a combination of masonry veneer and Exterior Insulated Finish System (EIFS). Exterior walls of the 1989 addition consist of masonry veneer. The exterior walls are in good condition with few areas of settlement, staining, mold/mildew buildup are evident. The EIFS appears to be in good condition with few areas of staining. Masonry veneer and cast stone window sills are in fair condition with many areas in need of repointing and cleaning as some cracking, dirt and mold/mildew buildup are evident.</p> <p><u>Recommendations:</u></p> <p><i>Re-pointing and cleaning of cast stone window sills and specific areas of masonry veneer is recommended with any proposed building improvement project.</i></p>
	



Exterior Doors:

Exterior doors are aluminum and hollow metal. Overall all doors are in fair condition with a dated appearance. Doors on the original construction do not meet current ADA clearance requirements.

Recommendations:

*Replacement of all exterior aluminum and hollow metal doors with any proposed building improvement project.*



Windows: Windows in the original building are aluminum frame with single pane glass and in poor condition. Windows in the 1989 addition are aluminum frame with insulated glass and appear to be in fair condition.

*Recommendations:*  
*Replacement of all windows with thermal efficient product with any proposed building improvement project.*




**Interior Envelope**

Interior Walls: Interior wall materials include painted plaster walls and glazed block wainscot in the original building corridors. Painted CMU is located in the 1989 addition.

The student toilets in the original construction consist of ceramic glazed block wainscot with plaster finish above. In the 1989 addition, the walls consist of painted CMU with ceramic tile wainscot.

Classrooms consist of painted plaster walls and painted CMU. Wall finishes appear to be in good condition.

	<p><u>Recommendations:</u></p> <p><i>Repainting of majority of the building areas due to dated appearance with any proposed building improvement project. Explore options to rehabilitate the glazed tile wainscot.</i></p>
	
<p><u>Ceilings:</u></p>	<p>Ceiling materials include acoustical tile ceilings, gypsum wallboard, and exposed roof deck.</p>
<p><u>Flooring:</u></p>	<p>Flooring materials consist of terrazzo in the corridors in the 1989 addition, vinyl composition tile (VCT) is located in the original building corridors. The terrazzo is in good condition, the VCT is in fair condition with many areas in need of replacement.</p> <p>VCT is located in the following areas – classrooms, Art Room, Cafeteria and in fair condition.</p> <p>Carpeting is located in the following areas - Library, Administration, Band, Computer and a few Special Needs classrooms. The carpeting in each space is in fair condition.</p> <p>The Gymnasium flooring consists of a poured synthetic system and is in good condition.</p> <p>The Kitchen flooring consists of a quarry tile and is in fair condition.</p> <p>The student toilet flooring consists of a poured seamless synthetic system in the original construction and is in good condition. Student toilet flooring in the 1989 addition is ceramic tile and is in good condition.</p> <p><u>Recommendations:</u></p> <p><i>Replace the VCT and Carpet floor finishes throughout the building with any proposed building improvement project.</i></p>



Doors: Wood, hollow metal, and aluminum doors with hollow metal/aluminum frames appear to be in good condition. Wire glass frames exist in some areas and would need to be replaced with any renovation project. Even though interior classroom doors have ADA compliant lever set hardware, ADA clearance requirements are not met at entrances to many general classrooms in the building.



Casework: Built-in metal and laminate casework in classrooms in the original and 1989 construction is in good to fair condition.







Interior Finishes:

Chalkboards, whiteboards, and smart boards are in fair condition. Many chalkboards were resurfaced in the 1989 renovation.

Recommendations:

*Existing chalkboards should be replaced to match the other marker boards in the building due to the potential for chalk dust to lead to allergies and computer issues. However, it appears that the chalkboards are not used extensively given the smart boards.*



Toilet Rooms:

Many toilet rooms throughout are currently non-compliant per current accessibility codes. Individual toilet rooms within a few of the classrooms are too small and do not meet ADA. Toilet fixtures appear to be in fair condition yet dated. Metal toilet partitions appear to be in good to fair condition.

Recommendations:

*Fixture replacement and interior finish upgrades and ADA clearance compliance with any proposed building improvement project.*



**Kitchen Equipment:**

The Kitchen equipment appears to be in good condition with some of the equipment installed with the 1989 renovations.



**Miscellaneous Storage:**

Building storage appears inadequate for the building size and quantity.

Miscellaneous Equipment & Furnishings:

Wall mounted televisions in classrooms and fire extinguishers do not meet current accessibility and clearance standards.

Recommendations:

*Replacement and remounting of accessories and fire extinguishers to correct ADA clearance heights.*





## MEP FACILITY ASSESSMENT SUMMARY

### III. PHYSICAL PLANT

#### General

- This report is a “snapshot” of the MEP systems in the condition they were in on December 23, 2014 when CenterPoint Engineering walked through the building and talked with maintenance personnel. The recommendations included herein are representative of a condition in which no architectural modifications will be performed to the building.

#### E. HVAC

##### System

- The HVAC system was installed in 2007 and is in good condition.
- The system is a 2-pipe heating only system with unit ventilators.



- Heating hot water is generated by a pair of natural gas-fired Thermal Solution boilers. They were installed in 2007 and are in good condition.



## Bendersville Elementary School

- Heating hot water is circulated throughout the building by a pair of base-mounted pumps. In-line pumps are installed to maintain flow through the boilers. The pumps appear to be in good condition.



- Heating hot water is distributed throughout the building through copper piping. The piping is insulated and was reported to be in good condition. The piping is located above the ceilings and is accessible.
- Recommendation:
  - ASHRAE Handbook HVAC Applications (2007) table 4 on page 36.3 lists service life estimates for boilers are 30 years, pumps as 20 years, ductwork as 30 years, rooftop units as 15 years, coils as 20 years, and electronic controls as 15 years, and pneumatic controls as 20 years.

### Ventilation

- Combustion air louvers are provided for the boilers.
- Outdoor air is provided to the building through the HVAC system.
- The kitchen hood has both exhaust and makeup air.
- Recommendations:
  - None.

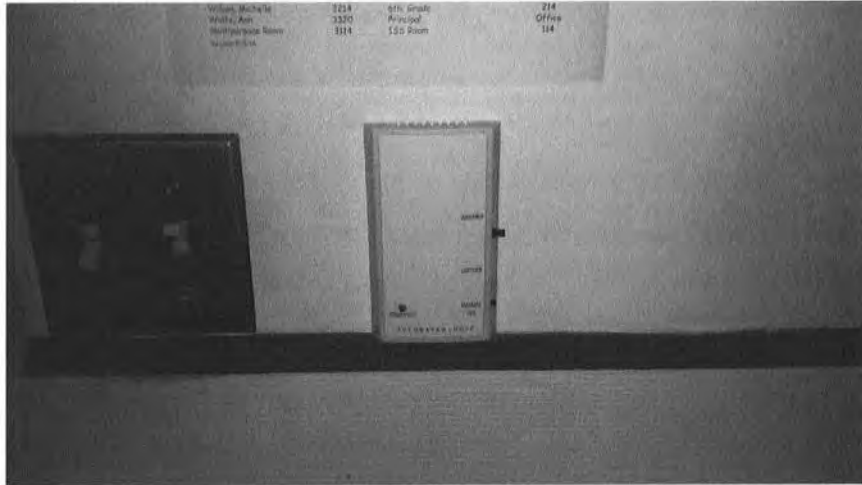
### Air Conditioning

- The principal's office is air conditioned with a split system.
- The library and computer lab are air conditioned with packaged rooftop units.
- These systems were reported to have been installed in 1988. They are in fair condition.
- Recommendation:
  - Packaged rooftop unit and split system replacement should be considered within the next 5 years.

## Bendersville Elementary School

### Automatic Temperature Control

- The building is controlled by a central DDC automatic temperature control system. The system was installed in 2007 and is in good condition. It is part of the district wide Automated Logic control system. There are some actuators which are still pneumatically driven.



- Recommendations:
  - None.

## **F. Plumbing**

### Plumbing Fixtures

- Water closets are wall-mounted fixtures with manual flush valves.



## Bendersville Elementary School

- Urinals are wall-mounted fixtures with manual flush valves.



- Lavatories are wall-mounted fixtures with lever handles.



- All fixtures were original to their period of construction except for a few which were replaced. Fixtures appeared to be in fair to good condition.
- Based on the age of the fixtures, we assume that they do not meet current Code required flow rates.
- Fixtures did not appear to have anti-scald valves to meet current Code requirements.
- Recommendations:
  - None.

### Domestic Water System

- Domestic water is provided by the Opossum Municipal Authority.
- There is a 3" water service into the building. It is not protected by a backflow preventer. However, a pressure reducing valve is installed.



## Bendersville Elementary School



- Domestic water piping is distributed throughout the building in copper piping. It is original to the period of construction and was reported to be in fair condition.
- Domestic water piping is insulated and is located above the ceilings.
- Recommendation:
  - Perform pipe inspections in various areas of the system to determine the condition of the piping system for future use.

### Hot Water Generating System

- Domestic hot water is generated by natural gas-fired storage type units.
- The kitchen unit was installed in 2005 and stores water at 140 degrees F.

## Bendersville Elementary School



- The remainder of the building is served by a unit that was installed in 2007 and stores water at 120 degrees F.
- There are no mixing valves in the system but there is a recirculating system.
- Recommendation:
  - Consider storing water at 140 degrees F and adding a mixing valve.

### Sanitary Sewer System

- Sewer is discharged to a public system maintained by the Opossum Municipal Authority.
- Waste piping is cast iron.
- The waste piping was installed at the time of construction for each area and was reported by maintenance staff as being in good condition. The system is only snaked when there is an issue.
- Kitchen sinks are piped indirectly to prevent bacteria from traveling up waste pipe into the sink.
- The kitchen is served by a steel in-floor type grease interceptor. It is cleaned once a year.

## Bendersville Elementary School



- Recommendation:
  - Perform a camera review of the underground sanitary mains to determine any pipe issues.

### Rainwater System

- The building roof is drained by internal roof drains.
- The rainwater drainage piping is cast iron. It was installed at the time of construction for each area with no reported issues.
- Recommendations:
  - None.

## Bendersville Elementary School

### Natural Gas

- The building is served by Columbia Gas.



- Natural gas is provided for the boilers, water heaters, kitchen, and emergency generator.
- Natural gas is distributed through black steel piping.
- Maintenance staff reported no issues with this system.
- Recommendations:
  - None.

### Fuel Oil

- The building is not served by a fuel oil system.
- Recommendations:
  - None.

### Propane Gas

- The building is not served by a propane system.
- Recommendations:
  - None.

### Sprinkler System

- The building is not served by an automatic sprinkler system.
- Recommendations:
  - Consider the addition of an automatic sprinkler system.

## Bendersville Elementary School

### G. Electrical

#### Electric Distribution System

- Electric service is provided by Met Ed.
- The service size is 800 amp, 120/208 volt.



- Distribution equipment is manufactured by Square D and was installed in 1988. It is in fair to good condition with no issues reported.
- The transformers are pole-mounted with an overhead service.

## Bendersville Elementary School



- Recommendations:
  - None.

### Emergency Generator

- The building is served by a natural gas-fired 50 KW emergency generator manufactured by Kohler. The generator is outdoors. It was installed in 1988 and is in fair condition.



- The unit serves lighting and walk-in coolers.
- Recommendation:
  - Replace the unit to incorporate additional emergency items such as heating system, wiring closets, etc.

### Paging and Intercommunication

- The entire building is served by a paging and intercom system.
- The head end is located in the office.

## Bendersville Elementary School



- The system was installed 6 to 7 years ago and is in good condition.
- Recommendations:
  - None.

### Data Network

- The system is served by Century Link.
- The building is fully covered with a wired and wireless network system.
- Recommendation:
  - Upgrade wiring closets with emergency power and HVAC systems.

### Lighting

- Lighting throughout the building is T8.
- Lighting was installed in 2007 and is in good condition.
- Recommendations:
  - None.

### Fire Alarm

- The system is manufactured by Simplex.
- The fire alarm control panel was replaced in 2012. The terminal devices were installed in 1988.

## Bendersville Elementary School



- The system does not dial out in the case of an event.
- Maintenance reported no issues with the system.





## **Bendersville Elementary School**

- Recommendations:
  - None.

### Telephone System

- The telephone system is part of a district-wide system provided by Century Link.
- The system was installed approximately 6 years ago.
- Maintenance staff reported the system to be in good condition.
- Recommendations:
  - None.

### Security Systems

- The building has a limited security system manufactured by Stanley.
- The system was installed approximately 3 to 4 years ago.
- Main exterior doors and playground doors are protected with card access.
- Motion sensors are located in corridors.
- Every exterior door is provided with a sensor which shows its status on a monitor in the main office.
- Recommendation:
  - There should be further discussions with the Owner to determine if coverage is adequate for their needs.

### Clock System

- The building is not served with a master clock system.
- Recommendations:
  - None.

### Sound Systems

- The multipurpose room has a sound system. It was installed in 1988 and is reported to be in fair condition with no issues.
- Recommendation:
  - A review should occur with the Owner to determine sound system requirements.

### Physical Plant Summary:

#### 1. Pipe Samples/Scoping:

Estimated construction cost: \$8,000

#### 2. Replace packaged rooftop/split system equipment:

Estimated cost: \$25,000/\$15,000 each

#### 3. Add master mixing valves:

**Bendersville Elementary School**

Estimated cost: \$4,725

4. Automatic Sprinkler System:

Estimated cost: \$3/SF

5. Replace emergency generator:

Estimated cost: \$100,000 (can vary based on connected load)

**UPPER ADAMS SCHOOL DISTRICT  
District Wide Feasibility Study**

**School: Biglerville Elementary School**

This report is a summary of the architectural and educational program conditions at the time of the scheduled walk-through on December 23, 2014.



*Biglerville Elementary School*

**Overview:**

Address:	3270 Biglerville Road, Biglerville, PA 17307
Original Construction:	1993
Architectural Area:	64,000 SF
Addition/Renovations:	2005 – Classroom Additions
Municipalities Served:	Butler Township
Current Grade Grouping:	Kindergarten, 1 <sup>st</sup> - 3 <sup>th</sup> Grade
Current PDE Bldg Capacity:	550

**Educational Space Considerations:**

Educational considerations noted below are based on PDE and general planning/ design guidelines.

Regular Classrooms:

The average classroom size is approximately 880 SF.



Special Education Classrooms:

The average classroom size is approximately 880 SF.

Learning Support Space:

There are approximately seven (7) Learning Support rooms located in the building, each approximately 880 SF. There are approximately seven Small Group Rooms ie: ESL, Title 1, IST, Reading, etc.



Art/ Music Classrooms:

The building currently has two separate rooms for Art and Music. The Art classroom is approximately 1,035 SF. The Music classroom is approximately 918 SF.

Kindergarten Classrooms:

The average size is approximately 1,100 SF



<p><u>Library:</u> ± 2,480 SF</p>	<p>The designed Library is approximately 2,480 SF. Per PDE guidelines, the Library is adequately sized for the current building capacity.</p>
	
<p><u>Computer Rooms:</u> ± 800 SF</p>	<p>There are two computer rooms located in the building, each approximately 800 SF.</p>
<p><u>Gymnasium/ Multipurpose:</u> ± 5,100 SF</p>	<p>The Gymnasium / Multi-purpose space is approximately 5,100 SF and is adequately sized for the current building capacity</p>
	
<p><u>Cafeteria:</u></p>	<p>No separate Cafeteria exists and is considered part of the Multipurpose Room</p>
<p><u>Kitchen:</u> ± 1,780 SF</p>	<p>The Kitchen is approximately 1,780 SF. Per PDE guidelines, the Kitchen is adequately sized for the current building capacity.</p>



Administration / Nurse:  
± 1,230 SF

The Administration area is approximately 1,230 SF. The Nurses Suite is approximately 800 SF.



Storage:

The general building storage appears to be inadequate.

Miscellaneous:



There is one main faculty room.



Security:

Main entrance does not have a locked secured vestibule design concept.

Recommendations:

*Reconfigure Administration to accommodate a locked secured vestibule so visitors entering the building must pass from the vestibule into the Main office first before being allowed into the building circulation.*

	
<p><u>Building Codes:</u></p>	<p>The project is governed under the current UBC, L&amp;I, ADA and municipal requirements.</p>
<p><b>Building Considerations</b></p>	
<p><b>Site Conditions</b></p>	
<p><u>Site Size:</u></p>	<p>The site size is approximately 88 acres.</p>
<p><u>General Condition of Site:</u></p>	<p>The overall general conditions of the site are good.</p>
<p><u>Topography:</u></p>	<p>Level conditions with some gentle sloping for adequate drainage.</p>
	

<p><u>Site Circulation:</u></p>	<p>Staff, student, and public entry is separate from delivery services. Separation of bus and parent student traffic is inadequate. The District states that the parent/student drop-off gets backed up as the loop is not large enough to accommodate the building capacity and the parking is not large enough to accommodate on-site parent events or activities.</p>
<p><u>Site Entrance:</u></p>	<p>Main entrance is on the SE facade and is accessed from Biglerville Road. Access and egress to / from the site is via the same location. At times this concept could create a traffic backlog of vehicles entering / leaving the site.</p>
	
<p><u>Play areas:</u></p>	<p>Hard surface and soft surface play areas are located on the north part of the site and appear to be in good condition. Additional mulching recommended at soft play landing areas. Play equipment appears in good condition.</p>
	





Storm Water Management:

Adequate drainage and storm water management procedures occur around the majority of the building.

Parking:

Parking space count is adequate for the facility.

Accessibility, Walkways and Curbing:

Site and walkways are ADA accessible and appear to be in fair condition with some evidence of wear and cracking in certain locations.

Site Lighting:

Site lighting appears to be in good condition.



**Building Structure**

Structural System:

Steel frame building with load bearing masonry walls generally appear to be in good condition.

Roof System:

The building roof consists of pitched metal roof and membrane and appears to be in good overall condition.



**Exterior Envelope**

Exterior Walls:

Exterior walls are various patterns and colors of masonry veneer around the entire building perimeter and appear to be in good condition. Some evidence of building settlement in a few areas. Some cast stone window heads have shown evidence of minor cracking which is a non-structural concern.



Exterior Doors: Exterior doors are aluminum and hollow metal. Overall all doors are in good condition.

Windows: Existing vinyl clad windows are in fair condition. However there are areas where the vinyl wrapped wood has completely dry rotted and is in need of repair if not complete replacement.

Recommendations:

*Complete replacement of window systems where frames have deteriorated to a dry rot condition.*



**Interior Envelope**

Interior Walls:

Interior wall materials include painted CMU and gypsum wallboard horizontal decorative banding. Wall finishes are in good condition yet few areas of water stains most likely due to roof or mechanical leaks.



Ceilings: Ceiling materials include acoustical tile ceilings, gypsum wallboard, and exposed roof deck. Some evidence of water stains on ceiling tile in a few areas.

Flooring: Flooring materials consist of carpeting in a majority of the building, ie: classrooms, corridors, Library, faculty room, etc. Poured synthetic flooring system is located in the Gymnasium. VCT is located in classroom sink and cubby locations. The carpet in the above noted locations is showing evidence of wear, some staining but otherwise in good condition.





Doors: Wood, Hollow metal, and aluminum doors with hollow metal/aluminum frames in good condition.



Casework: Built-in casework in classrooms is in good condition.






Interior Finishes:

Chalkboards, whiteboards, and smart boards are in good condition.

Recommendations:

*Existing chalkboards should be replaced to match the other marker boards in the building due to the potential for chalk dust to lead to allergies and computer issues. However, it appears that the chalkboards are not used extensively given the smart boards.*



<u>Toilet Rooms:</u>	Many toilet rooms throughout are currently compliant per current accessibility codes and are in good condition.
	
<u>Kitchen Equipment:</u>	The kitchen equipment appears to be in good condition.
	
<u>Miscellaneous Storage:</u>	Building storage appears inadequate for the building size and quantity.
	
<u>Miscellaneous Equipment &amp; Furnishings:</u>	Wall mounted televisions in classrooms and fire extinguishers meet current accessibility and clearance standards.



## MEP FACILITY ASSESSMENT SUMMARY

### III. PHYSICAL PLANT

#### General

- This report is a “snapshot” of the MEP systems in the condition they were in on December 23, 2014 when CenterPoint Engineering walked through the building and talked with maintenance personnel. The recommendations included herein are representative of a condition in which no architectural modifications will be performed to the building.

#### E. HVAC

##### System

- The HVAC system is VAV with hot water tempering coils. Air is distributed through indoor air handling units. The systems are original to their areas of construction (1993 and 2007). The systems are in good condition.
- Heating hot water is generated by three natural gas-fired Paterson Kelley boilers. Burners were replaced last year and resolved some ongoing issues that they were experiencing. The boilers are in good condition.



- Heating hot water is circulated throughout the building by a pair of base-mounted pumps. In-line pumps are installed to maintain flow through the boilers. The pumps appear to be in good condition.

## Biglerville Elementary School



- Heating hot water is distributed throughout the building through copper piping. The piping is insulated and was reported to be in fair condition. The piping is located above ceilings and is accessible. The one issue that maintenance reported was leaking at dielectric fittings.
- Recommendations:
  - ASHRAE Handbook HVAC Applications (2007) table 4 on page 36.3 lists service life estimates for boilers are 30 years, pumps as 20 years, ductwork as 30 years, rooftop units as 15 years, coils as 20 years, and electronic controls as 15 years, and pneumatic controls as 20 years.
  - Replace boilers in the next 10 years.
  - Replace dielectric fittings
  - Replace air handlers in the next 10 years.

### Ventilation

- Combustion air louvers are provided for the boilers.
- Outdoor air is provided for the emergency generator.
- Outdoor air is provided to the building through the HVAC system.
- The kitchen hood has both exhaust and makeup air.
- Recommendations:
  - None.

### Air Conditioning

- The entire building is air conditioned through the VAV air handling units. The units are provided with DX coils connected to condensing units. They are original to the period of construction of each area.

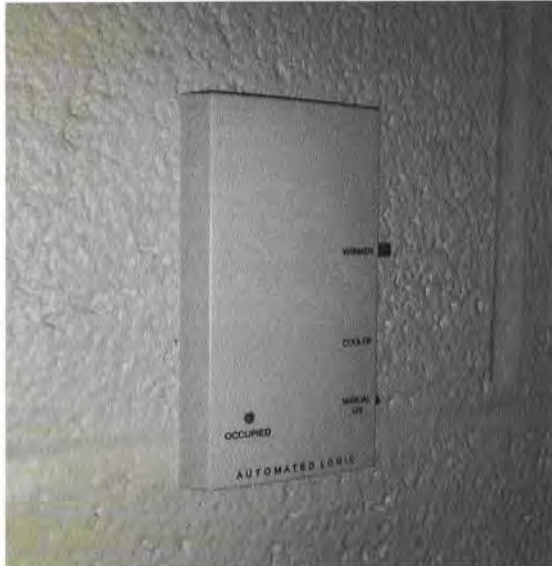


## Biglerville Elementary School

- Recommendation:
  - Replace condensing units in the next 10 years.

### Automatic Temperature Control

- The building is controlled by a central DDC automatic temperature control system. The system was installed at the time of construction for each area and is in good condition. There are some actuators which are still pneumatically driven.



- Recommendations:
  - None.

## **F. Plumbing**

### Plumbing Fixtures

- Water closets are wall-mounted fixtures with manual flush valves.



## Biglerville Elementary School

- Urinals are wall-mounted fixtures with manual flush valves.



- Lavatories are wall-mounted fixtures with lever and wrist blade handles.



- All fixtures were original to their period of construction except for a few which were replaced. Fixtures appeared to be in fair to good condition.
- Based on the age of the fixtures, we assume that they do not meet current Code required flow rates.
- Fixtures did not appear to have anti-scald valves to meet current Code requirements.
- Recommendations:
  - None.

### Domestic Water System

- Domestic water is provided by Biglerville Borough.

## Biglerville Elementary School

- There is a 4" water service into the building. It is protected by a double-check type backflow preventer. Water pressure at the service entrance was noted as 110 psi, but no pressure reducing valve was observed.



- Domestic water piping is distributed throughout the building in copper piping. It is original to the period of construction and was reported to be in fair to good condition.
- Domestic water piping is insulated and is located above ceilings.
- Water is conditioned with a water softening system. The system was installed in 1993 and was reported to be in fair to good condition.



## Biglerville Elementary School

- Recommendation:
  - Install pressure reducing valve at water service entrance.

### Hot Water Generating System

- Domestic hot water is generated by natural gas-fired storage type units.



- The kitchen unit was installed in 2009 and stores water at 140 degrees F.
- The remainder of the building is served by two units (1993 and 2014) and store water at 120 degrees F.
- There are no mixing valves in the system but there is a recirculating system.
- Recommendation:
  - Consider storing water at 140 degrees F and adding a mixing valve.

### Sanitary Sewer System

- Sewer is discharged to a public system maintained by Biglerville Borough.
- Waste piping is cast iron underground and PVC aboveground.

## Biglerville Elementary School



- The waste piping was installed at the time of construction for each area and was reported by maintenance staff as being in good condition. The system is only snaked when there is an issue.
- Kitchen sinks are piped directly allowing bacteria to travel up waste pipe into the sink.
- A steel in-floor type grease interceptor is in the kitchen.



## Biglerville Elementary School

- Recommendations:
  - Perform a camera review of the underground sanitary mains to determine any pipe issues.
  - Modify kitchen sinks to allow for indirect waste connections.

### Rainwater System

- The building roof is drained through gutters and downspouts. It is original to construction per area of the building.
- Maintenance staff reported that the system leaks at the joints.
- Recommendation:
  - The Architect should be consulted for remediation recommendations.

### Natural Gas

- The building is served by Columbia Gas.



- Natural gas is provided for the boilers, water heaters, kitchen, and emergency generator.
- Natural gas is distributed through black steel piping.



## Biglerville Elementary School



- Maintenance staff reported no issues with this system.
- Recommendations:
  - None.

### Fuel Oil

- The building is not served by a fuel oil system.
- Recommendations:
  - None.

### Propane Gas

- The building is not served by a propane system.
- Recommendations:
  - None.

### Sprinkler System

- The building is not served by an automatic sprinkler system.
- Recommendation:
  - Consider the addition of an automatic sprinkler system.

## Biglerville Elementary School

### G. Electrical

#### Electric Distribution System

- Electric service is provided by Met Ed.



- The service size is 1600 amp, 480/277 volt.



- Distribution equipment is original to the time of construction for each area and was reported to be in fair to good condition with no issues.
- The transformer is pad-mounted with an underground service.



## Biglerville Elementary School

- Recommendations:
  - None.

### Emergency Generator

- The building is served by a natural gas-fired 50 KW emergency generator manufactured by Kohler. The generator is outdoors. It was installed in 1988 and is in fair condition.



- The unit serves lighting and walk-in coolers.
- Recommendation:
  - Replace the unit to incorporate additional emergency items such as heating system, wiring closets, etc.

### Paging and Intercommunication

- The entire building is served by a paging and intercom system.
- The head end is located in the office.



## Biglerville Elementary School

- Recommendations:
  - None.

### Data Network

- The system is served by Century Link.
- The building is fully covered with a wired and wireless network system.
- Recommendation:
  - Upgrade wiring closets with emergency power and HVAC systems.

### Lighting

- Lighting throughout the building is T8.
- Lighting was installed in 2007 and is in good condition.
- Recommendations:
  - None.

### Fire Alarm

- The fire alarm system is original to the time of construction for each area of the building. Maintenance reported no issues with the system.



- The system does not dial out in the case of an event.



- Recommendations:
  - None.

### Telephone System

- The telephone system is part of a district-wide system provided by Century Link.
- The system was installed approximately 6 years ago.
- Maintenance staff reported the system to be in good condition.
- Recommendations:
  - None.

### Security Systems

- The building has a limited security system manufactured by Stanley.
- The system was installed approximately 3 to 4 years ago.
- Main exterior doors and playground doors are protected with card access.
- Motion sensors are located in corridors.
- Every exterior door is provided with a sensor which shows its status on a monitor in the main office.
- Recommendation:
  - There should be further discussions with the Owner to determine if coverage is adequate for their needs.

## **Biglerville Elementary School**

### Clock System

- The building is not served with a master clock system.
- Recommendations:
  - None.

### Sound Systems

- The multipurpose room has a sound system. It was installed in 1993 and is reported to be in fair condition with no issues.
- Recommendation:
  - A review should occur with the Owner to determine sound system requirements.

### **Physical Plant Summary:**

1. Pipe Samples/scoping:  
Estimated construction cost: \$8,000
2. Replace boilers:  
Estimated cost: \$25,000 each
3. Replace dielectric fittings:  
Estimated cost: \$250 each
4. Replace VAV air handling units:  
Estimated cost: \$75,000 each
5. Replace condensing units:  
Estimated cost: \$20,000 each
6. Install pressure reducing valve:  
Estimated cost: \$5,375
7. Add master mixing valve:  
Estimated cost: \$4,725
8. Modify kitchen sinks for indirect waste.  
Estimated cost: \$7,500

**Biglerville Elementary School**

9. Automatic Sprinkler System:

Estimated cost: \$3/SF

10. Replace emergency generator:

Estimated cost: \$100,000 (can vary based on connected load)





**UPPER ADAMS SCHOOL DISTRICT  
District Wide Feasibility Study**

**School: Middle / High School**

This report is a summary of the architectural and educational program conditions at the time of the scheduled walk-through on December 23, 2014.



*Middle / High School*

**Overview:**

Address:	161 N Main Street, Biglerville, PA 17307
Original Construction:	Circa 1950
Architectural Area:	196,000 SF
Addition/Renovations:	Circa 60's, 70's, 2000
Municipalities Served:	All
Current Grade Grouping:	7 - 12
Current PDE Bldg Capacity:	940

**Educational Space Considerations:**

Educational considerations noted below are based on PDE and general planning/ design guidelines.

Regular Classrooms:

There are approximately (23) 7-12 general classrooms. The average classroom size is approximately 840 SF.



Learning Support Space:

There are approximately eleven (11) MS/HS Learning Support rooms located in the building, each approximately 800 SF. This includes (2) Lifeskills, (2) ESL, (2) Gifted, (1) Autistic and (4) Learning Support spaces. The average classroom size is approximately 800 SF.

Pre-School Classroom:  
± 1,600 SF



The current Pre-School Classroom is approximately 1,600 SF.



Art Classrooms:  
1,165 SF & 1,430 SF

The building currently has two rooms for MS Art and HS Art. The Art classroom are approximately 1,165 SF and 1,430 SF respectively. Both spaces appear to be sufficient in size for the curriculum.



<p><u>Library:</u> ± 5,377 SF</p>	<p>The designed Library is approximately 5,377 SF. Per PDE guidelines, the Library is adequately sized for the current building capacity and in good condition.</p>
	
<p><u>Auditorium:</u> ± 7,300 SF</p>	<p>The Auditorium, which seats approximately 800, is 7,300 SF. The space appears to be slightly undersized for the building capacity yet in good condition.</p>
	
<p><u>Business Computer Classrooms:</u> ± 900 SF</p>	<p>There are three (3) Business computer rooms located in the building, each approximately 900 SF.</p>
<p><u>Science Labs / Classrooms:</u> ± 800 – 1,100 SF</p>	<p>There are seven (7) Science Lab/Classrooms. Four HS Science labs are approximately 1,100 SF. Three MS spaces are approximately 800 SF. The MS science spaces are undersized per current design guidelines, appear dated and in fair condition.</p>

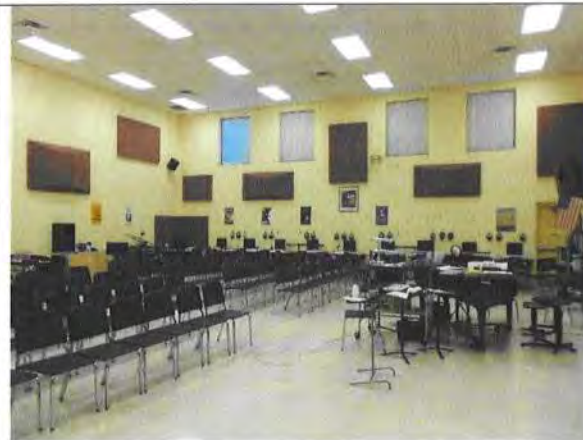


Band:  
± 2,000 SF

The Band room is approximately 2,000 SF. The space is slightly undersized per current design guidelines for the building capacity.





Choral: The Choral room is approximately 1,800 SF.  
± 1,800 SF



Family Consumer Science: The Family Consumer Science room is approximately 1,200 SF.  
± 1,200 SF



Tech Ed – Graphics/Computer: The Tech Ed lab consists of a Graphics / Computer based lab. The space is approximately 2,100 SF.  
± 2,100 SF

<p><u>Vo-Ag Shop / Classroom:</u> ± 4,960 SF</p>	<p>The Vo-Ag shop / classroom is approximately 4,960 SF and is adequate per current design guidelines.</p>
<p><u>Gymnasium:</u> ± 5,100 SF</p>	<p>There are two (2) Gymnasium spaces in the building. Both are approx 9,400 SF and 9,800 SF respectively, adequately sized for the current building capacity and appear in good condition.</p>
	
<p><u>Gymnasium:</u></p>	
	
<p><u>Locker Rooms:</u> ± 5,100 SF</p>	<p>The Boy's and Girl's Locker Rooms are approximately 2,400 SF each. Both spaces are in fair to poor condition, appear dated and in need of update. Team Rooms are approximately 800 SF, in fair condition, appear dated and in need of update.</p>



Recommendations:  
*Retrofit Boy's and Girl's Locker rooms and Team Rooms with new engineering systems as required, new student and athletic lockers and updated finishes.*

Cafeteria:  
 ± 4,000 SF

The Cafeteria / Kitchen are shared by grades 7-12. The Cafeteria / Food Court space is approximately 4,700 SF and per Code, adequate in size to support the number of daily servings. The space overall appears to be in good condition.





Kitchen:  
± 3,600 SF

The Kitchen is approximately 3,600 SF. Per PDE guidelines, the Kitchen is adequately sized for the current building capacity.







HS Administration /  
Guidance:  
± 3,200 SF

The HS Administration area is approximately 3,200 SF and adequate to support the HS capacity. There is a separate locked exterior security entrance allowing visitors to enter directly into the office area first to sign in before being allowed into the building circulation.



<p><u>MS Administration:</u> ± 400 SF</p>	<p>The MS Administration office is approximately 400 SF and is located in a converted Guidance office. The space is very inadequate to accommodate the MS capacity. The office does not accommodate the number of program spaces required to operate the MS on a daily basis. There is no centralized location for the MS Administration nor centralized entrance point into the MS building.</p>
	
<p><u>District Administration Office:</u> ± 4,100 SF</p>	<p>The DAO is approximately 4,100 SF. The office appears dated, lacks sufficient entrance security and inadequate space to support the required functions.</p>
	



Nurse:  
± 900 SF

The Nurse's area is approximately 900 SF and is in good condition. The space appears to accommodate all required programmatic functions.



Storage:

The general building storage appears to be adequate.

Miscellaneous:

There is one main faculty room at approximately 700 SF.

Security:

The HS main entrance does have a separate locked secured entrance however it does not have a current design standard locked secured vestibule design concept.

The District Administration Office (DAO) does not have a locked secured vestibule design concept as visitors enter the building via an existing buzzer system.

Recommendations:

*Reconfigure DAO to accommodate a locked secured vestibule so visitors entering the building must pass from the vestibule into the Main office first before being allowed into the building circulation.*



Building Codes:

The project is governed under the current UBC, L&I, ADA and municipal requirements.

As noted, the new 2000 construction appears to be in compliance with ADA accessibility and other code requirements.

However, with the MS, some ADA accessibility issues that may need to be addressed with any proposed building improvement project include:

- 1) Fire extinguisher cabinets are mounted too high for ADA accessibility.
- 2) Recessed classroom doors do not provide proper width for accessibility.
- 3) Some toilet stalls do not meet current ADA accessibility requirements.





**Building Considerations**

**Site Conditions**

Site Size: The site size is approximately 35 acres.

General Condition of Site: The overall general conditions of the site are good.

Topography:



Level conditions with some gentle sloping for adequate drainage.



Site Circulation:

Staff, student, and public entry is separate from delivery services. Separation of bus and vehicular traffic currently exists.



<u>Site Entrance:</u>	Main entrance is on the SW corner of the site with easy access from Main Street. Access and egress to / from the site is via the same location.
<u>Athletic Fields:</u>	The football stadium / track and tennis courts are located south of the building and appear to be in good condition. Other athletic fields are located on the northeastern part of the site and appear to be in fair condition.
	
<u>Storm Water Management:</u>	Adequate drainage and storm water management procedures occur around the majority of the building.
<u>Parking:</u>	Parking space count appears adequate for the building capacity. Zoning criteria would need to be verified with any additional improvements to determine required number of parking spaces.
	





Accessibility, Walkways and Curbing:

Site and walkways are ADA accessible and appear to be in fair condition.

Site Lighting:

Site lighting appears to be adequate and in good condition.

**Building Structure**

Structural System:

Steel frame building with load bearing masonry walls generally appear to be in good condition.

Roof System:

The building roofs consist of pitched shingle, flat ballasted membrane and metal panel. The older original roof sections of the building appear to be in fair conditions with ongoing capital maintenance repairs and replacement.





**Exterior Envelope**

Exterior Walls:

Exterior walls are various patterns and colors of masonry veneer around the entire building perimeter and both original and 2000 construction appear to be in good condition.



Exterior Doors:

Exterior doors are aluminum and hollow metal. Overall, all doors are in good to fair condition.



<p><u>Windows:</u></p>	<p>Existing vinyl clad windows around the building perimeter and courtyard area are in good condition.</p>
	
	
<p><b>Interior Envelope</b></p>	
<p><u>Interior Walls:</u></p>	<p>Interior wall materials include painted concrete masonry units (CMU) in the HS building. The MS corridors consist of painted plaster above a glazed tile wainscot. Exposed masonry veneer line the walls adjacent the District Offices. Overall, wall finishes are in good condition with no sign of any water damage throughout the building.</p>



Ceilings: Ceiling materials include acoustical tile ceilings, gypsum wallboard, and exposed roof deck. Some evidence of water stains on ceiling tile in a few areas.

Flooring: Flooring materials consist of carpeting in various areas of the building, ie: HS office, MS classrooms, MS science, MS Pre-

school corridor area, Library, faculty room, etc. The carpet in the above noted locations is showing evidence of wear, some staining but otherwise in good to fair condition.

Poured synthetic flooring system is located in one of the Gymnasiums while the other Gym has a wood flooring system. The flooring appears to be in good condition.

Vinyl floor tile (VCT) is located in the HS classrooms, Cafeteria, Art and Music areas and corridors throughout the building with exception of the areas noted above and the HS main entrance which is a poured terrazzo floor system. The VCT flooring appears to be in good to fair condition with some evidence of wear, discoloration and replacement of tile in some areas.

A poured synthetic flooring system is located in the Kitchen and Food Court and is in good condition.

Ceramic tile is located in student toilets. The ceramic tile in the MS toilets is in poor condition.

Recommendations:

*Remove existing classroom carpet and replace with VCT.*





Doors: Wood, Hollow metal, and aluminum doors with hollow metal/aluminum frames are in good condition. Much of the door glass consists of wire frame which with current building codes is no longer permitted. Majority of the doors do have ADA compliant lever sets.





Casework: Built-in casework in HS classrooms and science labs is in good condition. The casework in the MS classrooms is in fair to poor condition.







*Recommendations:*



*Replace MS classroom casework with any building improvement project.*

Interior Finishes:

Chalkboards, whiteboards, and smart boards are in good condition.

The MS corridor lockers are small, inefficient and do not accommodate students books, supplies and backpacks.



	<p><u>Recommendations:</u></p> <p>Replace MS corridor student lockers with a wider capacity type with any building improvement project.</p>
<p><u>Toilet Rooms:</u></p>	<p>Many MS toilet rooms are non-compliant per current accessibility codes, dated and are in fair to poor condition.</p> <p>The main locker room toilets are non-compliant per current accessibility codes, dated and are in fair to poor condition.</p> <p>The HS toilet rooms meet current accessibility guidelines and are in good condition.</p>
	
	
	<p><u>Recommendations:</u></p> <p>Upgrade MS student toilets with new fixtures and finishes with any building improvement project.</p>
<p><u>Kitchen Equipment:</u></p>	<p>The kitchen equipment appears to be in good condition.</p>
<p><u>Miscellaneous Storage:</u></p>	<p>Building storage appears inadequate for the building size and quantity.</p>

## MEP FACILITY ASSESSMENT SUMMARY

### III. PHYSICAL PLANT

#### General

This report is a “snapshot” of the MEP systems in the condition they were in on December 23, 2014 when CenterPoint Engineering walked through the building and talked with maintenance personnel. The recommendations included herein are representative of a condition in which no architectural modifications will be performed to the building.

#### E. HVAC

##### System

- The HVAC system is packaged rooftop VAV with hot water tempering coils.



- The system was installed in 2001 and is in good condition.
- Heating hot water is generated by 3 natural gas-fired boilers. Two boilers, installed in 2001, handle the building load in winter conditions. A third boiler, installed in 2007, handles the building during the shoulder months.



- Heating hot water is circulated throughout the building with base-mounted pumps and in-line pumps. Maintenance staff reported no issues with these pumps.



- Heating hot water is distributed throughout the building in copper piping. During the 2001 construction project, some of the piping from 1973 was reused. This piping was reported to have minor leaking. The piping is insulated and is located above ceilings and is accessible.
- Maintenance staff indicated that they have a power issue which has resulted in burning out motor drives and compressors.
- Recommendation:
  - ASHRAE Handbook HVAC Applications (2007) table 4 on page 36.3 lists service life estimates for boilers are 30 years, pumps as 20 years, ductwork as 30 years, rooftop units as 15 years, coils as 20 years, and electronic controls as 15 years, and pneumatic controls as 20 years.

## Upper Adams Middle School/Biglerville High School

### Ventilation

- Combustion air louvers are provided for the boilers.
- Outdoor air is provided for the emergency generator.
- Outdoor air for the building is provided through the HVAC system.
- The kitchen hood has both exhaust and makeup air.
- Is there a smoke evacuation system?
  
- Recommendations:
  - None.

### Air Conditioning

- The entire building is air conditioned with the exception of the gymnasiums and locker rooms.
- Air conditioning is done with the packaged rooftop units mentioned above.
  
- Recommendation:
  - Replace rooftop units within the next 10 years.

### Automatic Temperature Control

- The building is controlled by a central automatic temperature control system manufactured by Automated Logic. It was installed in 2001. The system is a DDC system with some minimal pneumatic actuation. The system is in good condition with no issues.
  
- Recommendations:
  - None.

## **F. Plumbing**

### Plumbing Fixtures

- Water closets are wall-mounted fixtures with manual flush valves.

Upper Adams Middle School/Biglerville High School



- Urinals are wall-mounted fixtures with manual flush valves.



- Lavatories are wall-mounted fixtures with a variety of handles.



## Upper Adams Middle School/Biglerville High School

- All fixtures were original to their period of construction except for a few which were replaced. Fixtures appeared to be in fair to good condition.
- Based on the age of the fixtures, we assume that they do not meet current Code required flow rates.
- Fixtures did not appear to have anti-scald valves to meet current Code requirements.
- Recommendations:
  - None.

### Domestic Water System

- Domestic water is provided by Biglerville Borough.
- There is a 4" water service into the building. It is protected by a double-check type backflow preventer.



- Domestic water piping is distributed throughout the building in copper piping. It was reported to be in good condition.
- Domestic water piping is insulated and is located above ceilings.
- Domestic hot water is conditioned with a water softening system. The system was installed in 2001 and was reported to be in fair to good condition.



- Maintenance indicated that there are minor leaks in the hot water recirculation system.
- Recommendations:
  - None.

#### Hot Water Generating System

- Domestic hot water is generated by a boiler and storage tank. The boiler was installed in 2007 and the tank was installed in 1990. Both are in good condition with no issues reported.
- Water is stored at 140 degrees F and mixed down for distribution to the building.
- A hot water recirculation system also exists.



- Recommendation:
  - Drain and inspect the tank.



## Upper Adams Middle School/Biglerville High School

### Sanitary Sewer System

- Sewer is discharged to a public system maintained by Biglerville Borough.
- Waste piping is cast iron.
- The piping was installed at the time of construction for each area and was reported by maintenance staff as being in good condition. The system is only snaked when there is an issue.
- The kitchen waste piping is protected by an automatic type grease interceptor. It is cleaned once a year.



- Recommendations:
  - None.

### Rainwater System

- The building roof is drained by both internal roof drains and gutter and downspouts. They are original to the building.
- Maintenance staff reported that the gutters and downspouts leak at the joints.
- Recommendation:
  - The Architect should be consulted for remediation recommendations.

### Natural Gas

## Upper Adams Middle School/Biglerville High School

- The building is served by Columbia Gas.
- Natural gas is provided for the boilers, water heaters, rooftop units, kitchen, and emergency generator.
- Natural gas is distributed through black steel piping.
- Maintenance staff reported no issues with this system.



- Recommendations:
  - None.

### Fuel Oil

- The building is not served by a fuel oil system.
- Recommendations:
  - None.

### Propane Gas

- The building is not served by a propane system.
- Recommendations:
  - None.

### Sprinkler System

- The middle school basement and lobby area outside the auditorium are protected by an automatic sprinkler system. Maintenance staff reported no issues with this system. It is original to the periods of construction for these areas.



- Recommendation:
  - Extend system to the entire building.

**G. Electrical**

Electric Distribution System

- Electric service is provided by Met Ed.



- The service size is 3000 amp, 480/277 volt.



- Distribution equipment is manufactured by Cutlet Hammer and was installed in 2001. It is in good condition with no issues.
- The transformer is pad mounted with underground service.



- Recommendations:
  - None.

#### Emergency Generator

- The building is served by a 35 KW natural gas-fired emergency generator manufactured by Onan. The generator is indoors. It was installed in 2001 and is in good condition.
- The unit serves lights, walk-ins, computer servers.



## Upper Adams Middle School/Biglerville High School

- Recommendation:
  - Replace the unit to incorporate additional emergency items such as heating system, wiring closets, etc.

### Paging and Intercommunication

- The entire building is served by a paging and intercom system.



- The head end is located in the office.



## Upper Adams Middle School/Biglerville High School

- Recommendations:
  - None.

### Data Network

- The system is served by Century Link.
- The building is fully covered with a wired and wireless network system.
- Recommendations:
  - None.

### Lighting

- Lighting throughout the building is T8.
- Lighting was installed in 2007 and is in good condition.
- Recommendations:
  - None.

### Fire Alarm

- The fire alarm system was installed in 2001 and is in good condition.



## Upper Adams Middle School/Biglerville High School

The system dials out to the County Controller in the case of an event.



- Recommendations:
  - None.

### Telephone System

- The telephone system is part of a district-wide system provided by Century Link.
- The system was installed approximately 6 years ago.
- Maintenance staff reported the system to be in good condition.
- Recommendations:
  - None.

### Security Systems

- The building has a limited security system manufactured by Stanley.
- The system was installed approximately 3 to 4 years ago.
- Main exterior doors and playground doors are protected with card access.
- Motion sensors are located in corridors.
- Every exterior door is provided with a sensor which shows its status on a monitor in the main office.
- Recommendation:
  - There should be further discussions with the Owner to determine if coverage is adequate for their needs.

## Upper Adams Middle School/Biglerville High School

### Clock System

- The building has a master clock system that was installed in 2001 and is in good condition.



- Recommendations:
  - None.

### Sound Systems

- The auditorium, cafeteria, and both gymnasiums have a sound system. They were reported to be in fair condition with no issues.
- Recommendation:
  - A review should occur with the Owner to determine sound system requirements.

### Physical Plant Summary:

1. Pipe Samples/Scoping:
  - Estimated construction cost: \$8,000
2. Replace rooftop units:
  - Estimated cost: \$25,000 each
3. Extend automatic Sprinkler System:
  - Estimated cost: \$3/SF
4. Replace emergency generator:
  - Estimated cost: \$100,000 (can vary based on connected load)



## UPPER ADAMS SCHOOL DISTRICT

### District Wide Feasibility Study

#### Section 7 - PDE Requirement

#### **COSTS TO UPGRADE EACH BUILDING TO CURRENT STANDARDS**

The following identifies a possible list of improvements to meet current construction standards for each respective building. This list allows the district to identify improvements that will satisfy educational programmatic and physical needs and/or meet qualifications for state reimbursement or become part of a district wide capital improvement program. No item listed is a requirement except for any potential code related improvement. ADA accessibility improvements would be an example.

The primary intent of this section is to give the district an idea of the magnitude of potential building improvement costs. This list is not and should not be considered a renovation scope of work.

The probable construction costs identified are preliminary costs only. Some items could be scheduled as deferred maintenance repairs / replacement. Probable costs are prepared to allow the District to identify the approximate value of various construction options. Probable costs are not intended to be an actual indicator of actual project costs and should be identified as preliminary costs only. Costs are based on historical data and building construction cost information. Final project descriptions and more precise costs can be developed as the District develops and finalizes the educational program and scope of improvements.

COSTS SHOULD BE ADJUSTED FOR INFLATION & MARKET CONDITIONS FROM THE DATE OF THIS REPORT.

The Potential Total Project Costs noted in the following pages include:

- Construction Costs (Bid Costs) - based on a \$/per SF for renovations, additions or new construction
- Site Improvement Allowance – allowance until such time a more accurate site scope of work can be defined given such factors as topography, regulatory agency requirements utility requirements and availability, etc.
- Potential Project Ancillary “Soft” Costs – “soft” costs are indirect costs associated with a building construction project and vary by project and project cost. These “soft” costs are typically based on a percentage of the construction costs. Typical range of “soft” costs is between 18% - 25% of the construction costs dependent on size and scope of work/project.

These “soft” costs include, but not limited to the following:

Professional Fees  
Financing Costs  
Moveable Fixtures and Equipment  
Consultant Fees  
Project Supervision  
Testing and Inspections  
Permits, Agency Approvals  
Project Printing  
Project Construction Contingency

Upper Adams School District

**Arendtsville Elementary School**

**Budgetary Worksheet - POTENTIAL COSTS TO UPGRADE TO CURRENT STANDARDS / Renovation Only**

The following list identifies potential improvement that should be considered to maintain efficient, safe and effective operation of the existing building.

			38,900	Existing SF			
	Unit	SF Quant	Unit Cost	Low Range Cost	Unit Cost	High Range Costs	
<b>Optional Building Improvements</b>							
<b>1 Building Engineering Systems</b>							
2							
2	HVAC System Renovations <u>EXCLUDES BLDG WIDE COOLING</u>	SF	38,900	1.0	\$38,900	1.5	\$58,350
3	Plumbing (fixture replacement, pipe scoping)	SF	38,900	1.0	\$38,900	1.5	\$58,350
4	Fire Protection (as required)	SF	38,900	2.5	\$97,250	3.0	\$116,700
5	Electrical System:	SF	38,900	3.0	\$116,700	4.5	\$175,050
6	(Upgrades - Emergency Generator, Distribution, Data Network						
7	Communications, Building Security)						
8							
<b>9 Exterior - Energy Envelope</b>							
10	Roof (deferred maintenance) (EPDM)	100%	38,900	3.0	\$116,700	5.0	\$194,500
11	Window Replacement	SF	3,000	50	\$150,000	65	\$195,000
12	Storefront Replacement	SF	1,200	45	\$54,000	55	\$66,000
13	Walls (repointing, cleaning)	ALLOW	2000	28	\$56,000	32	\$64,000
14							
<b>15 Interior Upgrades</b>							
16	Secured Entrance Vestibule Upgrades	ALLOW			\$20,000		\$35,000
17	Probable Code Related Upgrades	ALLOW			\$20,000		\$35,000
18	ADA Compliance / Fire Rating						
19	Acoustical Tile Ceilings (original construction only)	60%	23,340	2.25	\$52,515	2.5	\$58,350
20	Interior Doors (original construction only)	ALLOW			\$15,000		\$20,000
21	Wall Finishes	75%	29,175	1.5	\$43,763	2.0	\$58,350
22	Floor Finishes (original construction only)	60%	23,340	2	\$46,680	2.5	\$58,350
23	Abatement Contingency	LS			\$25,000		\$45,000
24							
<b>25 Specialties</b>							
26	Food Service Upgrade	ALLOW			\$10,000		\$25,000
27	Classroom Casework	ALLOW			\$10,000		\$15,000
28	Library Furnishings	ALLOW			\$30,000		\$45,000
29	Markerboard / Tackbd (New)	ALLOW			\$15,000		\$25,000
30	Toilet Partitions	ALLOW			\$15,000		\$25,000
31	Window Treatment (New Blinds)	ALLOW			\$10,000		\$20,000
32							
	Subtotal				\$981,408		\$1,393,000
33							
34	<b>Site Improvement Allowance</b> (parking expansion)	ALLOW			\$200,000		\$300,000
35					<b>\$1,181,408</b>		<b>\$1,693,000</b>
36	Estimating Contingency	10%			\$118,141		\$169,300
37	Construction Escalation	5%			\$59,070		\$84,650
38	<b>Subtotal RENOVATION CONSTRUCTION COSTS</b>				<b>\$1,358,619</b>	to	<b>\$1,946,950</b>
39					\$30		\$42
40							
41	Probable Project Ancillary ('Soft') Costs	25%			\$339,655		\$486,738
<b>Potential Total Project Costs</b>					<b>\$1,698,273</b>	to	<b>\$2,433,688</b>
					low range		high range

**Upper Adams School District  
Arendtsville Elementary School**

**Budgetary Worksheet - POTENTIAL COSTS TO UPGRADE TO CURRENT STANDARDS with Ed Programming**

The following list identifies potential improvement that should be considered to maintain efficient, safe and effective operation of the existing building.

				38,900	Existing SF		
	Unit	SF Quant	Unit Cost	Low Range Cost	Unit Cost	High Range Costs	
<b>Optional Building Additions per District Educational Program Input</b>							
1	New Gymnasium - Demolish Existing Café, Convert MP Room to Café	SF	5,500	175	\$962,500	190	\$1,045,000
2	Classroom Addition - includes new Science Clrm and	SF	8,000	165	\$1,320,000	175	\$1,400,000
3	(4) General Clrms - 2 displaced and 2 new for additional capacity						
4	Library Addition	SF	600	165	\$99,000	175	\$105,000
5							
6							
7	Estimating / Escalation Contingency			10%	\$238,150		\$255,000
8	<b>Subtotal New ADDITIONS</b>				<b>\$2,619,650</b>	to	<b>\$2,805,000</b>
<b>Optional Building Improvements</b>							
<b>1 Building Engineering Systems</b>							
2	HVAC System Renovations <b>INCLUDES BUILDING WIDE COOLING</b>	LS	38,900		\$1,122,500		\$1,367,000
3	Plumbing (fixture replacement, pipe scoping)	SF	38,900	1.0	\$38,900	1.5	\$58,350
4	Fire Protection (as required)	SF	38,900	2.5	\$97,250	3.0	\$116,700
5	Electrical System:	SF	38,900	3.0	\$116,700	4.5	\$175,050
6	(Upgrades - Emergency Generator, Distribution, Data Network						
7	Communications, Building Security)						
8							
<b>9 Exterior - Energy Envelope</b>							
10	Roof (deferred maintenance) (EPDM)	100%	38,900	3.0	\$116,700	5.0	\$194,500
11	Window Replacement	SF	3,000	50	\$150,000	65	\$195,000
12	Storefront Replacement	SF	1,200	45	\$54,000	55	\$66,000
13	Walls (repainting, cleaning)	ALLOW	2000	28	\$56,000	32	\$64,000
14							
<b>15 Interior Upgrades</b>							
16	Secured Entrance Vestibule Upgrades	ALLOW			\$20,000		\$35,000
17	Probable Code Related Upgrades	ALLOW			\$20,000		\$35,000
18	ADA Compliance / Fire Rating						
19	Acoustical Tile Ceilings (original construction only)	60%	23,340	2.25	\$52,515	2.5	\$58,350
20	Interior Doors (original construction only)	ALLOW			\$15,000		\$20,000
21	Wall Finishes	75%	29,175	1.5	\$43,763	2.0	\$58,350
22	Floor Finishes (original construction only)	60%	23,340	2	\$46,680	2.5	\$58,350
23	Abatement Contingency	LS			\$25,000		\$45,000
24							
<b>25 Specialties</b>							
26	Food Service Upgrade	ALLOW			\$10,000		\$25,000
27	Classroom Casework	ALLOW			\$10,000		\$15,000
28	Library Furnishings	ALLOW			\$30,000		\$45,000
29	Markerboard / Tackbd (New)	ALLOW			\$15,000		\$25,000
30	Toilet Partitions	ALLOW			\$15,000		\$25,000
31	Window Treatment (New Blinds)	ALLOW			\$10,000		\$20,000
32							
33	Subtotal				\$2,065,008		\$2,701,650
34	<b>Site Improvement Allowance</b> (parking expansion, new construction)	ALLOW			\$350,000		\$450,000
35					\$2,415,008		\$3,151,650
36	Estimating Contingency	10%			\$241,501		\$315,165
37	Construction Escalation	5%			\$120,750		\$157,583
38	<b>Subtotal RENOVATION CONSTRUCTION COSTS</b>				<b>\$2,777,259</b>	to	<b>\$3,624,398</b>
39	Renovation Cost/SF				\$62		\$82
40	<b>Subtotal RENOVATION + ADDITIONS CONSTRUCTION COSTS</b>				<b>\$5,396,909</b>		<b>\$6,429,398</b>
41	Probable Project Ancillary ("Soft") Costs	22%			\$1,187,320		\$1,414,467
<b>Potential Total Project Costs - Renovations + Additions</b>					<b>\$6,584,229</b>	to	<b>\$7,843,865</b>

**Upper Adams School District  
Bendersville Elementary School**

**Budgetary Worksheet - POTENTIAL COSTS TO UPGRADE TO CURRENT STANDARDS / Renovation Only**

The following list identifies potential improvement that should be considered to maintain efficient, safe and effective operation of the existing building.

			38,500	Existing SF				
	Unit	SF Quant	Unit Cost	Low Range Cost	Unit Cost	High Range Costs		
<b>Optional Building Improvements</b>								
<b>1 Building Engineering Systems</b>								
2	HVAC System Renovations	EXCLUDES BLDG WIDE COOLING	SF	38,500	1.0	\$38,500	1.5	\$57,750
3	Plumbing (fixture replacement, pipe scoping)		SF	38,500	1.0	\$38,500	1.5	\$57,750
4	Fire Protection (as required)		SF	38,500	2.5	\$96,250	3.0	\$115,500
5	Electrical System:		SF	38,500	3.0	\$115,500	4.5	\$173,250
6	(Upgrades - Emergency Generator, Distribution, Data Network							
7	Communications, Building Security)							
8								
<b>9 Exterior - Energy Envelope</b>								
10	Roof (deferred maintenance) (EPDM / Ballasted)		100%	38,500	3.0	\$115,500	5.0	\$192,500
11	Window Replacement		SF	2,500	50	\$125,000	65	\$162,500
12	Storefront Replacement		SF	750	45	\$33,750	55	\$41,250
13	Door Replacement Hollow Metal		SF	275	58	\$15,950	62	\$17,050
14	Walls (repointing, cleaning)		SF	2000	28	\$56,000	32	\$64,000
15								
<b>16 Interior Upgrades</b>								
17	Secured Entrance Vestibule Upgrades		ALLOW			\$20,000		\$35,000
18	Probable Code Related Upgrades		ALLOW			\$20,000		\$35,000
19	ADA Compliance / Fire Rating							
20	Acoustical Tile Ceilings (original construction only)		40%	15,400	2.25	\$34,650	2.5	\$38,500
21	Interior Doors (original construction only)		ALLOW			\$15,000		\$20,000
22	Wall Finishes		75%	28,875	1.5	\$43,313	2.0	\$57,750
23	Floor Finishes (original construction only)		40%	15,400	2	\$30,800	2.5	\$38,500
24	Abatement Contingency		LS			\$25,000		\$45,000
25								
<b>26 Specialties</b>								
27	Food Service Upgrade		ALLOW			\$10,000		\$25,000
28	Classroom Casework		ALLOW			\$50,000		\$75,000
29	Library Furnishings		ALLOW			\$30,000		\$45,000
30	Markerboard / Tackbd (New)		ALLOW			\$15,000		\$25,000
31	Toilet Partitions		ALLOW			\$15,000		\$25,000
32	Window Treatment (New Blinds)		ALLOW			\$10,000		\$20,000
33	Subtotal					\$953,713		\$1,366,300
34								
35	<b>Site Improvement Allowance</b> (parking expansion)		ALLOW			\$200,000		\$300,000
36						<b>\$1,153,713</b>		<b>\$1,666,300</b>
37	Estimating Contingency		10%			\$115,371		\$166,630
38	Construction Escalation		5%			\$57,686		\$83,315
39	<b>Subtotal RENOVATION CONSTRUCTION COSTS</b>					<b>\$1,326,769</b>	to	<b>\$1,916,245</b>
40	Renovation Cost/SF					\$29		\$42
41								
42	Probable Project Ancillary ('Soft') Costs		25%			\$331,692		\$479,061
<b>Potential Total Project Costs</b>						<b>\$1,658,462</b>	to	<b>\$2,395,306</b>
						low range		high range

Upper Adams School District

**Bendersville Elementary School**

**Budgetary Worksheet - POTENTIAL COSTS TO UPGRADE TO CURRENT STANDARDS with Ed Programming**

The following list identifies potential improvement that should be considered to maintain efficient, safe and effective operation of the existing building.

			38,500	Existing SF			
	Unit	SF Quant	Unit Cost	Low Range Cost	Unit Cost	High Range Costs	
<b>Optional Building Additions per District Educational Program Input</b>							
1	New Gymnasium - Demolish Existing MP Room	SF	5,500	175	\$962,500	190	\$1,045,000
2	Classroom Addition - includes new Science Clrm and (3) General Clrms displaced w/ new educational program	SF	5,500	165	\$907,500	175	\$962,500
4	Library Expansion	SF	500	165	\$82,500	175	\$87,500
5	Kitchen Expansion	SF	500	165	\$82,500	175	\$87,500
6	Cafeteria / Stage Expansion - Addition	SF	2,000	165	\$330,000	175	\$350,000
7					\$2,365,000		\$2,532,500
8	Estimating / Escalation Contingency		8%		\$189,200		\$202,600
<b>Subtotal New ADDITIONS</b>					\$2,554,200	to	\$2,735,100
<b>Optional Building Improvements</b>							
<b>1 Building Engineering Systems</b>							
2	HVAC System Renovations <b>INCLUDES BUILDING WIDE COOLING</b>	LS	38,500		\$1,112,500		\$1,355,000
3	Plumbing (fixture replacement, pipe scoping)	SF	38,500	1.0	\$38,500	1.5	\$57,750
4	Fire Protection (as required)	SF	38,500	2.5	\$96,250	3.0	\$115,500
5	Electrical System:	SF	38,500	3.0	\$115,500	4.5	\$173,250
6	(Upgrades - Emergency Generator, Distribution, Data Network						
7	Communications, Building Security)						
8							
<b>9 Exterior - Energy Envelope</b>							
10	Roof (deferred maintenance) (EPDM / Ballasted)	100%	38,500	3.0	\$115,500	5.0	\$192,500
11	Window Replacement	SF	2,500	50	\$125,000	65	\$162,500
12	Storefront Replacement	SF	750	45	\$33,750	55	\$41,250
13	Door Replacement Hollow Metal	SF	275	58	\$15,950	62	\$17,050
14	Walls (repointing, cleaning)	SF	2000	28	\$56,000	32	\$64,000
15							
<b>16 Interior Upgrades</b>							
17	Secured Entrance Vestibule Upgrades	ALLOW			\$20,000		\$35,000
18	Probable Code Related Upgrades	ALLOW			\$20,000		\$35,000
19	ADA Compliance / Fire Rating						
20	Acoustical Tile Ceilings (original construction only)	40%	15,400	2.25	\$34,650	2.5	\$38,500
21	Interior Doors (original construction only)	ALLOW			\$15,000		\$20,000
22	Wall Finishes	75%	28,875	1.5	\$43,313	2.0	\$57,750
23	Floor Finishes (original construction only)	40%	15,400	2	\$30,800	2.5	\$38,500
24	Abatement Contingency	LS			\$25,000		\$45,000
25							
<b>26 Specialties</b>							
27	Food Service Upgrade	ALLOW			\$10,000		\$25,000
28	Classroom Casework	ALLOW			\$50,000		\$75,000
29	Library Furnishings	ALLOW			\$30,000		\$45,000
30	Markerboard / Tackbd (New)	ALLOW			\$15,000		\$25,000
31	Toilet Partitions	ALLOW			\$15,000		\$25,000
32	Window Treatment (New Blinds)	ALLOW			\$10,000		\$20,000
33							
34	Subtotal				\$2,027,713		\$2,663,550
35	<b>Site Improvement Allowance</b> (parking expansion, new construction)	ALLOW			\$350,000		\$450,000
36					\$2,377,713		\$3,113,550
37	Estimating Contingency	10%			\$237,771		\$311,355
38	Construction Escalation	5%			\$118,886		\$155,678
39	<b>Subtotal RENOVATION CONSTRUCTION COSTS</b>				\$2,734,369	to	\$3,580,583
40	Renovation Cost/SF				\$62		\$81
41	<b>Subtotal RENOVATION + ADDITIONS CONSTRUCTION COSTS</b>				\$5,288,569		\$6,315,683
42	Probable Project Ancillary ('Soft') Costs		22%		\$1,163,485		\$1,389,450
<b>Potential Total Project Costs</b>					\$6,452,055	to	\$7,705,133

Upper Adams School District

**Biglerville Elementary School**

**Budgetary Worksheet - POTENTIAL COSTS TO UPGRADE TO CURRENT STANDARDS / Renovation Only**

The following list identifies potential improvement that should be considered to maintain efficient, safe and effective operation of the existing building.

				64,000	Existing SF	
	Unit	SF Quant	Unit Cost	Low Range Cost	Unit Cost	High Range Costs
<b>Optional Building Improvements</b>						
<b>1 Building Engineering Systems</b>						
2						
3						
4						
5	Electrical System:	SF	64,000	2.0	\$128,000	2.5 \$160,000
6	(Upgrades - Emergency Generator, Distribution, Data Network					
7	Communications, Building Security)					
8						
<b>9 Exterior - Energy Envelope</b>						
10	Roof (deferred maintenance) (SSM)					
11	Window Replacement (select windows w/ deterioration)	SF	1,000	50	\$50,000	65 \$65,000
12	Storefront Replacement					
13	Door Replacement Hollow Metal					
14	Walls (caulking, cleaning)	ALLOW			\$7,500	\$15,000
15						
<b>16 Interior Upgrades</b>						
17	Secured Entrance Vestibule Upgrades	ALLOW			\$30,000	\$50,000
18	Probable Code Related Upgrades					
19	ADA Compliance / Fire Rating					
20	Acoustical Tile Ceilings (original construction only)					
21	Interior Doors (original construction only)					
22	Wall Finishes					
23	Floor Finishes (original construction only)					
24	Abatement Contingency					
25						
<b>26 Specialties</b>						
27	Food Service Upgrade					
28	Classroom Casework					
29	Library Furnishings					
30	Markerboard / Tackbd (New)					
31	Toilet Partitions					
32	Window Treatment (New Blinds)					
33		Subtotal			\$215,500	\$290,000
34						
35	<b>Site Improvement Allowance</b>	ALLOW			\$200,000	\$300,000
36	(parking & drop-off expansion, site access improvements)				<b>\$415,500</b>	<b>\$590,000</b>
37	Estimating Contingency	10%			\$41,550	\$59,000
38	Construction Escalation	5%			\$20,775	\$29,500
39	<b>Subtotal RENOVATION CONSTRUCTION COSTS</b>				<b>\$477,825</b>	<b>to \$678,500</b>
40					\$4	\$6
41	Renovation Cost/SF					
42	Probable Project Ancillary ('Soft') Costs	25%			<b>\$119,456</b>	<b>\$169,625</b>
<b>Potential Total Project Costs</b>					<b>\$597,281</b>	<b>to \$848,125</b>
					low range	high range

Upper Adams School District  
**Biglerville Elementary School**

**Budgetary Worksheet - POTENTIAL COSTS TO UPGRADE TO CURRENT STANDARDS with Ed Programming**

The following list identifies potential improvement that should be considered to maintain efficient, safe and effective operation of the existing building.

				64,000	Existing SF		
	Unit	SF Quant	Unit Cost	Low Range Cost	Unit Cost	High Range Costs	
<b>Optional Building Additions per District Educational Program Input</b>							
1	New Gymnasium / Lobby	SF	6,600	175	\$1,155,000	190	\$1,254,000
2	Classroom Addition - includes (4) General Classrooms	SF	4,600	165	\$759,000	175	\$805,000
3	Large Group Meeting	SF	500	165	\$82,500	175	\$87,500
4							
5							
6	Estimating / Escalation Contingency	10%			\$199,650		\$214,650
7	<b>Subtotal New ADDITIONS</b>				<b>\$2,196,150</b>	to	<b>\$2,361,150</b>
<b>Optional Building Improvements</b>							
1	<b>Building Engineering Systems</b>						
2	HVAC System Renovations (deferred maintenance)						
3	Plumbing (deferred maintenance)						
4	Fire Protection						
5	Electrical System:	SF	64,000	2.0	\$128,000	2.5	\$160,000
6	(Upgrades - Emergency Generator, Distribution, Data Network						
7	Communications, Building Security)						
8							
9	<b>Exterior - Energy Envelope</b>						
10	Roof (deferred maintenance) (SSM)						
11	Window Replacement (select windows w/ deterioration)	SF	1,000	50	\$50,000	65	\$65,000
12	Storefront Replacement						
13	Door Replacement Hollow Metal						
14	Walls (caulking, cleaning)	ALLOW			\$7,500		\$15,000
15							
16	<b>Interior Upgrades</b>						
17	Secured Entrance Vestibule Upgrades	ALLOW			\$30,000		\$50,000
18	Probable Code Related Upgrades						
19	ADA Compliance / Fire Rating						
20	Acoustical Tile Ceilings (original construction only)						
21	Interior Doors (original construction only)						
22	Wall Finishes						
23	Floor Finishes (original construction only)						
24	Abatement Contingency						
25							
26	<b>Specialties</b>						
27	Food Service Upgrade						
28	Classroom Casework						
29	Library Furnishings						
30	Markerboard / Tackbd (New)						
31	Toilet Partitions						
32	Window Treatment (New Blinds)						
33	Subtotal				\$215,500		\$290,000
34							
35	<b>Site Improvement Allowance</b>	ALLOW			\$350,000		\$450,000
36	(parking & drop-off expansion, site access improvements, new const)				\$565,500		\$740,000
37	Estimating Contingency	10%			\$56,550		\$74,000
38	Construction Escalation	5%			\$28,275		\$37,000
39	<b>Subtotal RENOVATION CONSTRUCTION COSTS</b>				<b>\$650,325</b>	to	<b>\$851,000</b>
40	Renovation Cost/SF				\$5		\$6
41	<b>Subtotal RENOVATION + ADDITIONS CONSTRUCTION COSTS</b>				<b>\$2,846,475</b>		<b>\$3,212,150</b>
42	Probable Project Ancillary ('Soft') Costs	22%			\$626,225		\$706,673
<b>Potential Total Project Costs</b>					<b>\$3,472,700</b>	to	<b>\$3,918,823</b>

Upper Adams School District

Middle / High School

**Budgetary Worksheet - POTENTIAL COSTS TO UPGRADE TO CURRENT STANDARDS / Renovation Only**

The following list identifies potential improvement that should be considered to maintain efficient, safe and effective operation of the existing building.

MS/Original Const SF 69,000  
 High School SF 127,000  
 196,000 Total MS/HS Exist SF

Unit	SF Quant	Unit Cost	Low Range Cost	Unit Cost	High Range Costs
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**Optional Building Improvements**

<b>1 Building Engineering Systems</b>											
2	HVAC System Renovations (deferred maintenance)										
3	Plumbing (deferred maintenance)										
4	Fire Protection										
5	Electrical System:	SF	196,000	1.0	\$196,000	1.5	\$294,000				
6	(Upgrades - Emergency Generator, Distribution, Data Network										
7	Communications, Building Security)										
8											
<b>9 Exterior - Energy Envelope</b>											
10	Roof (deferred maintenance)	100%	196,000	1.0	\$196,000	1.5	\$294,000				
11	Window Replacement (select windows w/ deterioration)										
12	Storefront Replacement										
13	Door Replacement Hollow Metal										
14	Walls (repainting, cleaning)	SF	2,200	28	\$61,600	32	\$70,400				
15											
<b>16 Interior Upgrades</b>											
17	Probable Code Related Upgrades					ALLOW	\$20,000	\$35,000			
18	Acoustical Tile Ceilings (original construction only)					85%	58,650	2.25	\$131,963	2.5	\$146,625
19	Interior Doors (original construction only)					ALLOW	\$35,000	\$50,000			
20	Wall Finishes (original construction only)					100%	69,000	1.5	\$103,500	2.5	\$172,500
21	Floor Finishes (original construction only)					85%	58,650	2	\$117,300	2.5	\$146,625
22	Abatement Contingency					LS	\$20,000	\$35,000			
23											
<b>24 Specialties</b>											
25	Greenhouse	SF	2000	14	\$28,000	16	\$32,000				
26	Food Service Upgrade										
27	Classroom Casework (original construction only)					ALLOW	\$50,000	\$75,000			
28	Library Furnishings										
29	Markerboard / Tackbd (New)										
30	Toilet Partitions (original construction only)					ALLOW	\$20,000	\$35,000			
31	Corridor Lockers (original construction only)					EA	275	250	\$68,750	300	\$82,500
32	Athletic Lockers (original construction only)					ALLOW	\$125,000	\$150,000			
33	Window Treatment (New Blinds) (original construction only)					ALLOW	\$10,000	\$20,000			
34	Subtotal						\$1,183,113	\$1,638,650			
35											
<b>36 Site Improvement Allowance</b>											
						ALLOW	\$200,000	\$300,000			
37							<b>\$1,383,113</b>	<b>\$1,938,650</b>			
38	Estimating Contingency					10%	\$138,311	\$193,865			
39	Construction Escalation					5%	\$69,156	\$96,933			
40	<b>Subtotal RENOVATION CONSTRUCTION COSTS</b>						<b>\$1,590,579</b>	<b>to \$2,229,448</b>			
41	Renovation Cost/SF						\$7	\$10			
42	Probable Project Ancillary ('Soft') Costs					25%	<b>\$397,645</b>	<b>\$557,362</b>			

<b>Potential Total Project Costs</b>			<b>\$1,988,224</b>	to	<b>\$2,786,809</b>
			low range		high range



**Section 8 - PDE Requirement**

**ANALYSIS OF CONSTRUCTION / FACILITY OPTIONS - INTRODUCTION**

Crabtree, Rohrbaugh & Associates has developed these preliminary facility options and recommendations for the School District facilities, to assist the Upper Adams School District Board of Directors and administration in the decision-making process regarding the future utilization of the educational buildings.

As such, this report should be viewed as a starting point, or benchmark; providing a framework from which decisions regarding prioritized facility upgrades can be made. Any recommendations that result in upgrades to the present facilities should be structured to align with the School District's Mission, Beliefs and Educational Programs.

The information presented outlines various options that the Upper Adams School District can take to address the more pressing facility needs at the Intermediate 4-6 buildings and other facility needs at other district buildings.

The information has been developed to:

- Address the present and foreseeable projected student enrollment
- Identify and address existing facility needs at all district owned buildings in order to renovate and modernize the facility and to extend the useful life of the physical plant and operational systems a minimum of 20 years.
- Provide preliminary construction and projecting cost information as a means of budgeting for any major project, designed to address the school district's facility needs in a prioritized and structured approach.

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**In researching the various options, the following planning assumptions have been made:**

1. District enrollment historically has remained stable the last several years. PDE enrollment projections for 2020 indicate a decrease in growth at a rate of about 4.6% over the next five year period.
2. Building equity is the goal with regard to educational program throughout the district.
3. The District desires to keep current grade configurations: K-3, 4-6, 7-8, 9-12.
4. Enrollment analysis dictates a decrease in enrollment overall and building capacity vs grade enrollment dictates very little surplus capacity in the elementary buildings by 2020 if projections hold true.

## **OPTION DEVELOPMENT / SUMMARY**

The information presented in this section details various options that the Upper Adams School District can take to address the facility needs and improvements as defined in the information contained within this study.

The PA Department of Education encourages all schools wishing to implement a building improvement project to bring the entire building up to prevailing educational and reasonably current construction standards and code compliance as a condition of reimbursement.

PDE recognizes that every 20 years a building facility should be brought up to prevailing educational and reasonably current construction standards and code compliance. That is why measures for reimbursement are set in place at that time to help with the financial burden. *(However, as of this writing, the state has placed a moratorium on the Plancon reimbursement process in order to develop a feasibility study to determine whether the process should be restructured or eliminated altogether.)*

This section presents several different building options in which multiple alternatives are grouped into "packages" which point out the scope of work as well as the total cost for each option. One of these options, or a variation thereof, should meet both the District's educational program as well as budget limits.

The options, as outlined within this section, have been developed to:

- Respond to the facility needs as identified in this study
- Address the current and future educational programmatic and physical demands of the building
- Determine the financial implication of different program accommodations, organizational considerations and physical plant upgrades
- Provide a statement of probable construction costs
- Provide a solid base of information from which to develop a master plan of improvements for the Upper Adams School District

Construction and design recommendations were developed for the District's elementary schools and middle and high school.

Based on the District's desired educational program, additions should be considered to accommodate current and future curriculum, as well as community and recreational usage.

### **No option presented is intended to be a final solution.**

The facility options presented in this study should be viewed as conceptual. The options serve to facilitate the discussion of the overall building layout, and the relationship of elements necessary to reinforce, even enhance the educational programs. The final solution may encompass select components of one or more options whereas the construction costs and floor plan detail are dependent on the final program as well.

The following cost estimate sheets are based on a comprehensive list of improvements to meet current construction standards for the school. This list allows the school to identify improvements that will satisfy educational programmatic and physical needs and /or meet qualifications for state reimbursement.

## UPPER ADAMS SCHOOL DISTRICT

### District Wide Feasibility Study

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The probable construction costs identified are preliminary costs only. Probable costs are prepared to allow the District to identify the approximate value of various construction options. Probable costs are not intended to be an actual indicator of actual project costs and should be identified as preliminary costs only. Costs are based on historical data and building construction cost information. It is not necessary to implement all items on these cost estimates other than code deficient items as required for upgrade. Final project descriptions and more precise costs can be developed as the District develops and finalizes the educational program and scope of improvements.

**COSTS SHOULD BE ADJUSTED FOR INFLATION & MARKET CONDITIONS FROM THE DATE OF THIS REPORT.** A prioritization of improvements may be necessary to finalize a program or final option/solution.

The Potential Total Project Costs noted in the following pages include:

- Construction Costs (Bid Costs) - based on a \$/per SF for renovations, additions or new construction
- Site Improvement Allowance – allowance until such time a more accurate site scope of work can be defined given such factors as topography, regulatory agency requirements utility requirements and availability, etc.
- Potential Project “Soft” Costs – “soft” costs are indirect costs associated with a building construction project and vary by project and project cost. These “soft” costs are typically based on a percentage of the construction costs. Typical range of “soft” costs is between 18% - 25% of the construction costs dependent on size and scope of work/project.

These “soft” costs include, but not limited to the following:

Professional Fees  
Financing Costs  
Moveable Fixtures and Equipment  
Consultant Fees  
Project Supervision  
Testing and Inspections  
Permits, Agency Approvals  
Project Printing  
Project Construction Contingency

The List of Building Options is as follows:

**Option 1 - All Buildings Remain Open – Intermediate School Cooling Options**

Maintain Current Grade Grouping - K-3, 4-6, 7-12

All buildings remain open with deferred maintenance only.

An engineering analysis was completed in order to determine various means of adding cooling to the Intermediate 4 – 6 buildings.

The following spreadsheet documents four (4) scenarios for cooling the 4 – 6 buildings with a low to high range of cost.

Advantages:

Provides thermal comfort to 4-6 students / staff during late spring and early fall time periods.

Least costly

Summer time construction, no educational disruption

Maintains neighborhood schools

Disadvantages:

Does not address educational program needs

Not a future oriented solution

Deferred maintenance costs will increase as buildings age.

A 5-10 year capital improvements plan should be implemented

**Option 2 – Building Closure / Additions & Renovations**

Maintain Current Grade Grouping - K-3, 4-6, 7-12

K-3 Biglerville ES - Deferred Maintenance as required

Bendersville ES – Closed, Consolidate to Arendtsville ES

4-6 Arendtsville ES - Consolidate Bendersville ES with Additions & Renovations

7-12 Middle / High School - Deferred Maintenance as required

Advantages:

Takes undersized site at Bendersville ES out of service

Addresses most if not all educational programmatic needs

Addresses the need for additional capacity with future enrollments

Transportation issues need to be addressed

Site circulation deficiencies can be addressed

Better equity for all 4-6 students

Core space sizes addressed to accommodate building capacity

## UPPER ADAMS SCHOOL DISTRICT

### District Wide Feasibility Study

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#### Disadvantages:

Educational disruption with construction work

Loss of neighborhood school

Higher initial construction cost

Transportation issues need to be addressed

For remaining buildings, deferred maintenance costs will increase as buildings age

A 5-10 year capital improvements plan should be implemented

Does not address educational program and site deficiencies at Biglerville ES and Middle School

### **Option 3 – Building Closures / New 4 – 6 Intermediate School**

Maintain Current Grade Grouping - K-3, 4-6, 7-12

K-3 Biglerville ES - Deferred Maintenance as required

Bendersville ES - Closed

Arendtsville ES - Closed

4-6 NEW Building Consolidated Intermediate School  
• Site to be determined

7-12 Middle / High School - Deferred Maintenance as required

#### Advantages:

No educational disruption with new construction

Takes undersized site at Bendersville ES out of service

Addresses educational programmatic needs and long term educational goals

Adjacencies significantly improved

Student commons / public spaces centrally located

Addresses the need for additional capacity with future enrollments

Transportation issues need to be addressed

Site circulation deficiencies can be addressed

Better equity for all 4-6 students

More equal classroom sizes

Core space sizes addressed to accommodate building capacity

#### Disadvantages:

Loss of neighborhood schools

Highest initial construction cost

Transportation issues need to be addressed

For remaining buildings, deferred maintenance costs will increase as buildings age.

A 5-10 year capital improvements plan should be implemented

Does not address educational program and site deficiencies at Biglerville ES and Middle School

**Upper Adams School District**

**Arendtsville ES & Bendersville ES Mechanical Improvements**

**OPTION 1 - Intermediate School Cooling Options**

7/14/2015

**A Scenario 1**

**OPEN DAMPERS 100% @ Unit Vents at Nighttime to Allow Air Flow**

Program a Nighttime Sequence - if nighttime air temperatures drop below a certain degree, dampers automatically close

**Advantages:**

Minimal Costs for Programming Sequence

**Disadvantages:**

Brings in what ever the air quality is at that time (ie: warm humid air) which does not help with the relief effort  
May receive some relief during the first half of the day yet heat builds back up the 2nd half - back to square 1

**B Scenario 2**

**DUCTLESS SPLIT SYSTEM - FOR EXISTING CLASSROOMS ONLY**

Cooling only system with outdoor condensing unit associated with one or multiple classroom / indoor units. Wall mounted type units would be utilized.

Connection via system of refrigerant piping. Outdoor air is introduced into the classroom via the existing unit ventilator.  
Maintain existing unit vents for heating purposes

**Advantages:**

Individual space temperature control  
No additional floor space requirement  
Most maintenance staffs are familiar with refrigerant systems

**Disadvantages:**

Electrical service upgrade required

**Opinion of Probable Costs Summary**  
Minimal Costs for Programming Sequence

**Opinion of Probable Costs Summary**  
Approx \$20,000 - \$28,000 per group of four (4) classrooms / construction costs only

<b>Arendtsville ES</b> - this estimate assumes approx (15) total classrooms to be cooled		low range	high range
Mechanical Construction Costs -	\$	80,000	\$ 112,000
Electrical Construction Costs -	\$	75,000	\$ 100,000
Miscellaneous Architectural Const Costs -	\$	30,000	\$ 50,000
subtotal Const Costs	\$	185,000	\$ 262,000
Escalation/Contingency/Prj Soft Costs	\$	74,000	\$ 104,800
<b>Potential Total Proj Costs*</b>	<b>\$</b>	<b>259,000</b>	<b>to \$ 366,800</b>

<b>Bendersville ES</b> - this estimate assumes approx (15) total classrooms to be cooled		low range	high range
Mechanical Construction Costs -	\$	80,000	\$ 112,000
Electrical Construction Costs -	\$	75,000	\$ 100,000
Miscellaneous Architectural Const Costs -	\$	30,000	\$ 50,000
subtotal Const Costs	\$	185,000	\$ 262,000
Escalation/Contingency/Prj Soft Costs	\$	74,000	\$ 104,800
<b>Potential Total Proj Costs*</b>	<b>\$</b>	<b>259,000</b>	<b>to \$ 366,800</b>
<b>Both Schools - Potential Total Proj Costs*</b>	<b>\$</b>	<b>518,000</b>	<b>to \$ 733,600</b>

\* dependent on the number of general classrooms to be cooled

**c Scenario 3**

**BUILDING WIDE COOLING**

Rooftop VAV w/ DX Cooling

**Advantages - Rooftop VAV:**

Individual space temperature control

No equipment in classroom

VAV system - more accurate temp control yet consumes more energy

**Disadvantages - Rooftop VAV:**

Electrical service upgrade required

Equipment on roof - winter maintenance / aesthetics

Multiple classrooms per RTU - if one unit goes down, impacts multiple classrooms

VAV system - more accurate temp control yet consumes more energy

Increased structural costs to support RTU's / framing

Requires removal of existing unit vent system which is only 7- 8 years old

**Opinion of Probable Costs Summary**

<b>Arendtsville ES -</b>	38,900	sf					
Mechanical Construction Costs -	25		low range		high range		
Electrical Construction Costs -			\$ 9972,500	30	\$ 1,167,000		
Miscellaneous Architectural Const Costs -			\$ 75,000		\$ 100,000		
			\$ 75,000		\$ 150,000		
			subtotal Const Costs		\$ 1,122,500		\$ 1,417,000
Escalation/Contingency/Proj Soft Costs			\$ 449,000		\$ 566,800		
<b>Potential Total Proj Costs</b>			<b>\$ 1,571,500</b>	to	<b>\$ 1,983,800</b>		
<b>Bendersville ES -</b>	38,500	sf					
Mechanical Construction Costs -	25		low range		high range		
Electrical Construction Costs -			\$ 962,500	30	\$ 1,155,000		
Miscellaneous Architectural Const Costs -			\$ 75,000		\$ 100,000		
			\$ 90,000		\$ 150,000		
			subtotal Const Costs		\$ 1,127,500		\$ 1,405,000
Escalation/Contingency/Proj Soft Costs			\$ 451,000		\$ 562,000		
<b>Potential Total Proj Costs</b>			<b>\$ 1,578,500</b>	to	<b>\$ 1,967,000</b>		

**Both Schools - Potential Total Proj Costs\* \$ 3,150,000 to \$3,950,800**

**d Scenario 4**

**BUILDING WIDE COOLING**

High Efficiency Vertical Units

**Advantages - High Efficiency Vertical Units:**

Individual space unit and temperature control

Indoor units for maintenance in winter

**Disadvantages - High Efficiency Vertical Units:**

Indoor units for maintenance

Possible classroom disruption for maintenance

Noise in classroom from unit

Requires removal of existing unit vent system which is only 7- 8 years old

**Opinion of Probable Costs Summary**

<b>Arendtsville ES -</b>	38,900	sf					
Mechanical Construction Costs -	25		low range		high range		
Electrical Construction Costs -			\$ 9972,500	30	\$ 1,167,000		
Miscellaneous Architectural Const Costs -			\$ 75,000		\$ 100,000		
			\$ 75,000		\$ 100,000		
			subtotal Const Costs		\$ 1,122,500		\$ 1,367,000
Escalation/Contingency/Proj Soft Costs			\$ 449,000		\$ 546,800		
<b>Potential Total Proj Costs</b>			<b>\$ 1,571,500</b>	to	<b>\$ 1,913,800</b>		
<b>Bendersville ES -</b>	38,500	sf					
Mechanical Construction Costs -	25		low range		high range		
Electrical Construction Costs -			\$ 962,500	30	\$ 1,155,000		
Miscellaneous Architectural Const Costs -			\$ 75,000		\$ 100,000		
			\$ 75,000		\$ 100,000		
			subtotal Const Costs		\$ 1,112,500		\$ 1,355,000
Escalation/Contingency/Proj Soft Costs			\$ 445,000		\$ 542,000		
<b>Potential Total Proj Costs</b>			<b>\$ 1,557,500</b>	to	<b>\$ 1,897,000</b>		

**Both Schools - Potential Total Proj Costs\* \$ 3,129,000 to \$3,810,800**

**Upper Adams School District**

**'Very Rough' Opinion of Probable Total Project Costs**

**OPTION 2 & 3 - Building Closure / Consolidation**

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Building	Project Type	Gr	Current Planned Enroll	Total Bldg SF**	SF per Student	Reno Cost SF	New Cost/SF	New Const Costs	Renovation Const Costs	Site Allowance	Contingency / Escalation	High Range Total Const Costs	Project Soft' Costs	High Range Total Project Costs
<b>A Option 2</b>														
Biglerville ES	Deferred Maintenance	K-3	486	64,000										
Bendersville ES	Closed													
<b>Arendtsville ES Additions/Renovations 4-6</b>														
	Comprehensive Reno - AES*		368	38,900		110	165	\$ 3,795,000	\$ 4,279,000	\$ 200,000	8%	\$ 4,837,320	\$ 1,064,210	\$ 5,901,530
	(8) General Cirm Addition			23,000			170	\$ 170,000		\$ 450,000		\$ 4,584,600	\$ 1,008,612	\$ 5,593,212
	(1) Science Classroom			1,000			170	\$ 170,000		\$ 50,000	\$ 17,600	\$ 237,600	\$ 52,272	\$ 289,872
	(1) Administration Expansion			1,000			170	\$ 170,000		\$ 50,000	\$ 17,600	\$ 237,600	\$ 52,272	\$ 289,872
	Core Expansions													
	Library Expansion			1,000			170	\$ 170,000		\$ 50,000	\$ 17,600	\$ 237,600	\$ 52,272	\$ 289,872
	Kitchen Expansion			1,200			170	\$ 204,000		\$ 50,000	\$ 20,320	\$ 274,320	\$ 60,350	\$ 334,670
	Raze Exist Café / Build New Gymnasium			7,000			190	\$ 1,330,000		\$ 150,000	\$ 118,400	\$ 1,598,400	\$ 351,648	\$ 1,950,048
	<b>Potential Total Project Costs***</b>											<b>\$ 12,007,440</b>	<b>\$ 2,641,637</b>	<b>\$ 14,649,077</b>
MS/HS	Deferred Maintenance	7-12	791	196,000										\$ -
	* includes building wide cooling													
	389 PDE Projected Enroll -2020/21													
<b>B Option 3</b>														
Biglerville ES	Deferred Maintenance	K-3	486	64,000										
Bendersville ES	Closed													
Arendtsville ES	Closed													
<b>New 4 - 6 ES Building Option* on Biglerville ES site</b>														
	New Building Construction		368	80,000	178		160	\$ 12,800,000		\$ 1,500,000	8%	\$ 15,444,000	\$ 3,088,800	\$ 18,532,800
	<b>Potential Total Project Costs***</b>											<b>\$ 15,444,000</b>	<b>\$ 3,088,800</b>	<b>\$ 18,532,800</b>
MS/HS	Deferred Maintenance	7-12	791	196,000										\$ -
	For Both Options 2 and 3 -													
	Estimated <b>GROSS</b> Reimbursement Value		\$	3,250,000										\$ 3,883,723
	Estimated <b>NET</b> Reimbursement Value		\$	0.6139										Difference Opt 2 & 3
				1,995,175										\$ -
	389 PDE Projected Enroll -2020/21													
	* includes building wide cooling													
	** includes grossing factors for SF totals													
	*** all construction costs dependent on final educational program													



# UPPER ADAMS SCHOOL DISTRICT

## District Wide Feasibility Study

### Section 9 - PDE Requirement

### AUTHOR'S CREDENTIALS

#### M. Scott Vencil

##### Education:

Bachelor of Science in Architecture  
Texas Tech University

##### Professional Affiliation:

American Institute of Architects  
Council of Educational Facility Planners

##### Pennsylvania School District Feasibility Studies completed:

Clarion Area School District  
Southern York County School District  
Susquenita School District  
Mt. Carmel School District  
Pottstown School District  
Phoenixville Area School District  
Clearfield County Career & Technology Center  
Northern Tier Career Center  
Seneca-Highlands Career Center  
Chambersburg Area School District  
Wyalusing Area School District  
Tussey Mountain School District  
Dallas Area School District  
Clearfield Area School District  
Warrior Run School District  
Albert Gallatin Area School District  
Gettysburg Area School District  
Northern York County School District  
Southern Tioga School District  
Elizabethtown Area School District  
Dallastown Area School District  
Upper Adams School District

##### Pennsylvania School District Building Improvement Projects completed to date:

Clarion Area School District – Jr/Sr High School Additions/Renovations  
Downingtown Area School District – Capital Improvements  
Mt. Carmel Area School District – Jr/Sr High School Additions/Renovations  
Phoenixville Area School District – HS Additions/Renovations  
Central Pa Institute of Science & Technology – Additions/Renovations  
Northern Tier Career Center – Additions/Renovations  
Seneca-Highlands Career Center – Additions/Renovations  
Wyalusing Area School District – Jr/Sr High School Additions/Renovations  
Wyalusing Area School District – New Wyalusing Elementary School  
Tussey Mountain School District – Jr/Sr High School Additions/Renovations  
Clearfield Area School District – Five (5) Capital Improvements Projects  
Tussey Mountain School District Elementary School Building Improvements  
    Defiance Elementary School Additions/Renovations  
    Robertsdale Elementary School Renovations  
    Saxton Liberty Elementary School Additions/Renovations  
Warrior Run School District MS/HS Additions/Renovations  
Albert Gallatin ASD – George Plava ES Additions/Renovations  
Gettysburg Area School District  
    Adams County Tech Prep – New Construction  
    Franklin Township Elementary School Additions/Renovations  
    James Gettys Elementary School Additions/Renovations  
    New 6-8 Middle School  
SUN Area Technical School Additions/Renovations  
Northern York County SD – Wellsville ES Additions/Renovations