

FIVE YEAR CAPITAL AND EQUIPMENT PLAN 2018-2022



OBJECTIVE OF THE PLAN

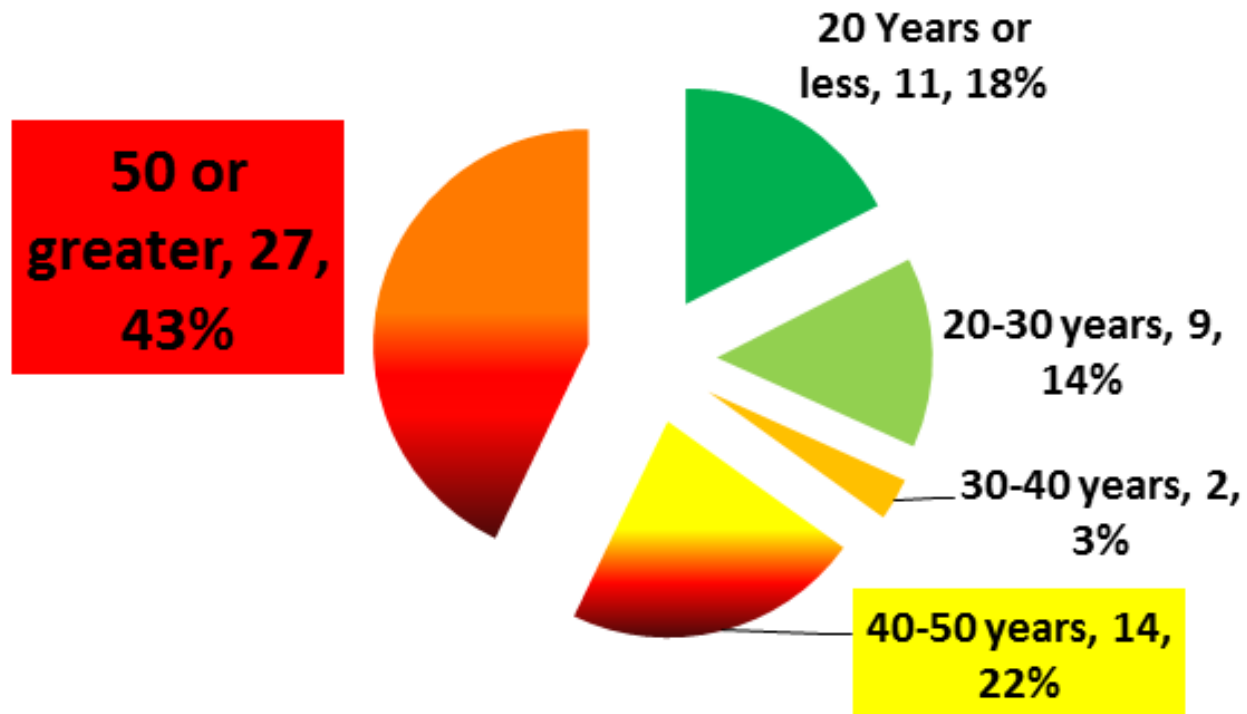
- To develop a comprehensive strategy to:
 - Maintain the District's \$1 billion dollars in buildings and infrastructure
 - Provide every student/teacher with access to the most current technology in the classroom
 - Supply eligible students with transportation services aboard equipment that is safe and cost effective
 - Furnish equipment for employees and students that stimulates growth, improves efficiencies and reduces costs where applicable

Buildings and Infrastructure

- According to Benjamin Handler from the University of Michigan, school buildings have a five-phase life-cycle:
 - First 20 years – maintenance costs limited to minor repairs
 - 20 – 30 years – require increased annual maintenance and equipment replacement
 - 30 – 40 years – original equipment should all be replaced; roofs, lights, etc.
 - 40-50 years – accelerated deterioration, school may not meet needs, not effective
 - 50 or greater – Building should be abandoned

School District U-46 Buildings

Phase in Life Cycle, Number of Buildings and Percent of Inventory



Adequate Funding for Infrastructure

- According to the National Council on School Facilities, school districts should plan on spending 3% of the current replacement value per year on maintenance and operations (\$36 million per year for U-46).
- We currently spend 1.25% or approximately \$15 million per year.

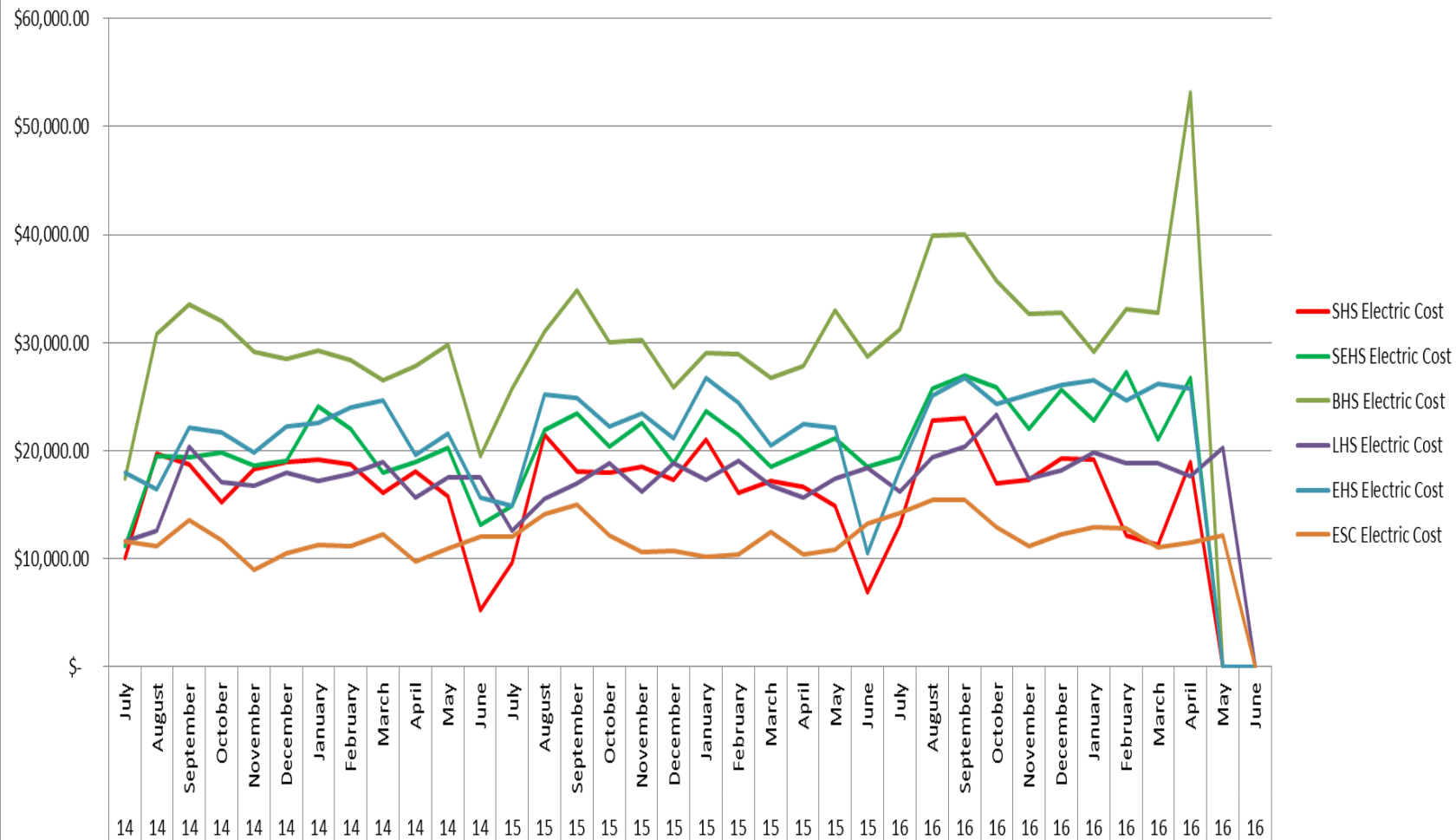
BHS Vs All Other Secondary Buildings - 3 Year Electric Usage kWh

The chart displays the monthly electric usage in thousands of kWh for six different building categories over a 25-month period from July 2014 to June 2016. The Y-axis represents usage in thousands of kWh, ranging from 0.000 to 600.000. The X-axis shows the months and years. The data series are: SHS Electric Usage (red), SEHS Electric Usage (green), BHS Electric Usage (olive), LHS Electric Usage (purple), EHS Electric Usage (blue), and ESC Electric Usage (orange). BHS consistently shows the highest electric usage, peaking at approximately 540,000 kWh in mid-2015. SEHS and EHS also show significant usage, generally between 200,000 and 400,000 kWh. SHS, LHS, and ESC show lower usage levels, generally between 100,000 and 300,000 kWh. All series show a sharp decline in May and June 2016, with usage dropping to near zero.

Month	SHS Electric Usage	SEHS Electric Usage	BHS Electric Usage	LHS Electric Usage	EHS Electric Usage	ESC Electric Usage
July 14	120,000	150,000	220,000	150,000	230,000	150,000
August 14	250,000	250,000	410,000	160,000	210,000	140,000
September 14	250,000	250,000	460,000	280,000	290,000	170,000
October 14	230,000	280,000	470,000	220,000	290,000	140,000
November 14	260,000	280,000	390,000	240,000	290,000	120,000
December 14	260,000	260,000	400,000	260,000	310,000	140,000
January 14	260,000	350,000	430,000	230,000	300,000	140,000
February 14	260,000	310,000	410,000	240,000	310,000	140,000
March 14	220,000	230,000	350,000	260,000	330,000	160,000
April 14	230,000	240,000	360,000	200,000	240,000	120,000
May 14	180,000	260,000	380,000	210,000	270,000	120,000
June 14	70,000	150,000	150,000	220,000	190,000	140,000
July 14	100,000	180,000	340,000	150,000	180,000	150,000
August 14	280,000	290,000	410,000	210,000	330,000	190,000
September 14	230,000	310,000	470,000	190,000	330,000	190,000
October 14	230,000	270,000	420,000	230,000	270,000	150,000
November 14	260,000	310,000	390,000	190,000	300,000	120,000
December 14	230,000	260,000	350,000	250,000	270,000	130,000
January 14	300,000	330,000	420,000	230,000	360,000	120,000
February 14	210,000	290,000	410,000	250,000	320,000	120,000
March 14	230,000	250,000	360,000	220,000	250,000	150,000
April 14	220,000	270,000	390,000	200,000	280,000	130,000
May 14	170,000	270,000	440,000	220,000	270,000	130,000
June 14	80,000	180,000	360,000	220,000	120,000	150,000
July 14	150,000	240,000	400,000	190,000	240,000	170,000
August 14	290,000	340,000	540,000	250,000	320,000	200,000
September 14	300,000	360,000	530,000	240,000	340,000	190,000
October 14	200,000	340,000	460,000	290,000	320,000	140,000
November 14	240,000	270,000	400,000	200,000	320,000	120,000
December 14	250,000	330,000	440,000	230,000	330,000	130,000
January 14	250,000	340,000	440,000	250,000	330,000	160,000
February 14	200,000	290,000	380,000	240,000	270,000	160,000
March 14	190,000	220,000	370,000	180,000	270,000	110,000
April 14	190,000	280,000	370,000	180,000	270,000	110,000
May 14	10,000	0	0	220,000	0	110,000
June 14	0	0	0	0	0	0

Secondary Buildings Electric Costs

BHS vs All Other Secondary Buildings - 3 Year Electric Cost



Infrastructure Recommendation

- Develop a funding strategy that will:
 - Allocate \$25 million per year to repair and/or replace:
 - Parking lots
 - Tuck pointing
 - Roofs
 - Mechanical Systems
 - Athletic Facilities
 - Ceiling Tiles
 - Life Safety Items
 - Kitchens
 - Sidewalks
 - Windows
 - Playgrounds
 - Flooring
 - Lights
 - Water Pipes
 - Lockers/Hall Storage
 - Elevators

Integrating Technology and Curriculum

- There are hundreds of studies that have attempted to answer the question, **does technology lead to higher levels of student learning.**
- Research does not allow us to unequivocally state that technology is a cost-effective method to improve student achievement (NAESP).
 - Complex relationship
 - Research methodology problems (controlling variables)
 - Most research does point towards a correlative relationship

Integrating Technology and Curriculum

- Studies definitively point to the following:
 - Technology effectiveness is tied to **instructional design, content and teaching strategies employed by the teacher** (Glenn & Melmed 1996).
 - Computer technology **stimulates teacher-student interaction, cooperative learning, collaboration, problem-solving and student inquiry** (Stratham & Torell 1996).

What Has Changed

- Last year the decision was made to integrate the technology request with the curriculum proposals.
 - The benefits include:
 - Directing technology towards the classroom
 - Integrating technology training with the introduction of the new curriculum
 - Moving away from the lab concept
 - Development of cost-effective solutions with the introduction of new technology

Funding Necessary to Support The Future of Our Students

- Currently the District has over 17,000 (Approximately \$11 million in inventory) computers in the District utilized in labs, computer carts, and various other employee uses.
- What is the future direction?
 - **Continue to support curriculum needs with \$1.5 million per year**
 - **Introduce a one-to-one program at all middle schools for 2018-2019 at a cost of \$2.4 million**
 - **Roll up the plan by one grade level per year until we have equipped all secondary students with a device by 2022-2023. Cost per year of \$1.2 million**
 - **Equip all classrooms with projection systems and other supportive technology at \$500,000 per year for the next five years**

Transportation and Support Vehicles

Type of Vehicle	Number of Vehicles	Average Age	Industry Average Replacement Cycle	Equipment Beyond Life Cycle
Large Buses	184	5.34	10-12 Years	0
Small Buses	166	4.47	10-12 Years	0
Support Vehicles	86	7.72	10 Years	18
Utility	32	11.32	Varies by Type	8

Equipment Facts

- Using vehicles beyond their life cycle:
 - After 10-12 years the maintenance costs tend to exceed annual cost of replacing with a new vehicle.
 - On average a vehicle loses approximately 1% of its fuel efficiency each year. Our average efficiency loss each year or increased fuel costs for the fleet is approximately \$19,000 for each year of ownership.
 - Average maintenance cost per year per bus is \$5,500 and the average cost of labor is \$1,500 per bus.

Annual Funding to Maintain Fleet

Type of Vehicle	Number to be Replaced Per Yr.	Average Cost Per Vehicle	Total Cost Per Year	Annual Lease Cost (5 -Year)
Large Buses	19	\$90,000	\$1,710,000	\$355,680
Small Buses	17	\$79,000	\$1,343,000	\$279,344
Support Vehicles	18	\$38,000	\$684,000	\$142,272
Utility	6	Varies	\$300,000	\$62,400
Total Needed to Maintain our Fleet of Vehicles			\$4,037,000	\$839,696

Class Room Furniture and Office Furnishings

- The District has 1,952 classrooms
- The average cost of the furnishings per room:
 - Elementary Schools \$15,000
 - Middle Schools \$18,000
 - High Schools \$18,000

Current Value for all locations is **\$32,013,000**

Average age of school furnishings is over twenty-five years old

Proposed Furniture Replacement Plan

- Develop a plan to replace all furnishings every 20 years
 - We would need to replace approximately 98 classrooms and four schools' office furnishings per year
 - To fund the plan we would need \$1.7 million per year

Total Funds Necessary to Fund Plan Each Year for The Next Five Years

Category	Proposed Amount Necessary per Year	Net Over Five Year Period	Short Fall Over Five Year Period
Infrastructure & Capital	\$25,000,000	\$125,000,000	\$110,000,000
Technology	\$2,500,000	\$12,500,000	\$7,500,000
Buses	\$3,053,000	\$15,265,000	\$15,265,000
Equipment/Vehicles	\$984,000	\$4,920,000	\$3,920,000
Classroom and Office Furniture	\$1,700,000	\$8,500,000	\$6,000,000
Total	\$33,237,000	\$166,185,000	\$142,685,000

Current Obstacles

- Lack of State Funding Plan
- Insufficient resource options to fund major capital projects
- The age and needs of our infrastructure as noted in earlier slides
- Lack of understanding regarding the resource needs to maintain 60 facilities, 350 buses, over 15,000 computers, 118 support vehicles and equipment and the equipment to support 1,952 classrooms

Options For Discussion

- Future Tax Levies
- Exploring Future Debt Options
- Deplete the District's Reserves (currently we have \$115 million in working cash and \$102 million in surplus balance)
- Begin Leasing program for Tech and Vehicles (may not have the funds in the short term to fund leases)
- Re-allocate resources