Operations and Maintenance Summary

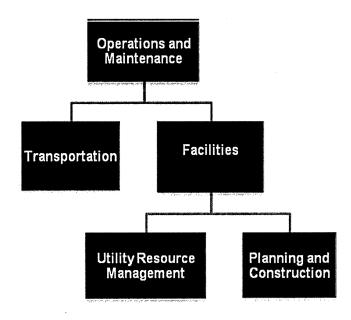
Program Overview

The Operations and Maintenance program is comprised of various non-instructional areas of the school system that enable teaching and learning. Operations and Maintenance includes departments that are responsible for efficiently and effectively delivering Facilities Management, Planning and Construction, Student Transportation, and Community Services. Departments deliver services to schools and HCPS stakeholders in support of the Harford County Board of Education Strategic Plan Goal #4 to provide safe, secure, and healthy learning environments that are conducive to effective teaching and learning.

The primary purposes of Operations and Maintenance are to:

- Provide the technical skills and expertise to establish and deliver a comprehensive maintenance program for all school facilities.
- Manage a capital improvement program to plan, design, construct, and modernize educational facilities for the students and staff.
- Provide energy management resources through the coordination of administration and policy between the central office management team and the individual facility managers.
- Provide transportation to eligible students enrolled in our schools.
- Administer the program for the use of public school facilities by the community by providing funds for custodial overtime, materials and supplies, and fees associated with the community use of our facilities.

PROGRAM COMPONENT ORGANIZATION



| | FY13 | FY14 FY15 | | FY15 | FY16 | Change | |
|-----------------------------|---------------|---------------|---------------|---------------|---------------|--------------|--|
| | Actual | Actual | Actual | Budget | Budget | FY15- FY16 | |
| OPERATIONS AND MAINTENANCE | \$ 66,984,483 | \$ 68,041,156 | \$ 66,032,780 | \$ 68,036,493 | \$ 68,547,748 | \$ 511,255 | |
| Facilities Management | \$ 21,478,610 | \$ 21,285,372 | \$ 21,300,382 | \$ 21,726,521 | \$ 21,858,565 | \$ 132,044 | |
| Planning and Construction | \$ 818,624 | \$ 786,683 | \$ 788,744 | \$ 857,063 | \$ 873,680 | \$ 16,617 | |
| Transportation | \$ 31,218,016 | \$ 30,411,148 | \$ 30,336,181 | \$ 30,749,648 | \$ 30,452,527 | \$ (297,121) | |
| Utility Resource Management | \$ 13,469,233 | \$ 15,557,953 | \$ 13,607,473 | \$ 14,703,261 | \$ 15,362,976 | \$ 659,715 | |

Summary Report

| Operations and Maintenance | | | | | | | | | | |
|----------------------------|----------------|----------------|----------------|----------------|-----------------|----------------|--|--|--|--|
| By Object Code | FY13 Actual | FY14 Actual | FY15 Actual | FY15 Budget | 15-16 Change | FY16 Budget | | | | |
| Salaries | \$22,840,688 | \$22,732,703 | \$22,493,547 | \$22,982,198 | \$409,431 | \$23,391,629 | | | | |
| Contracted Services | \$26,153,089 | \$25,344,733 | \$25,004,847 | \$25,840,374 | (\$293,356) | \$25,547,018 | | | | |
| Supplies | \$4,363,981 | \$4,420,127 | \$4,802,863 | \$4,314,308 | (\$66,000) | \$4,248,308 | | | | |
| Other Charges | \$13,350,323 | \$15,458,139 | \$13,431,704 | \$14,553,777 | \$661,180 | \$15,214,957 | | | | |
| Equipment | \$276,402 | \$85,455 | \$299,820 | \$345,836 | (\$200,000) | \$145,836 | | | | |
| Total: | \$66,984,483 | \$68,041,157 | \$66,032,780 | \$68,036,493 | \$511,255 | \$68,547,748 | | | | |

| Budget | ed Full Time Ed | quivalent F | Positions | | |
|-----------------------------|-----------------|-------------|-----------|--------|-------|
| | FY13 | FY14 | FY15 | 15-16 | FY16 |
| Assistant Supervisor | 9.0 | 9.0 | 9.0 | 0.0 | 9.0 |
| Bus Attendant | 91.0 | 91.0 | 91.0 | 0.0 | 91.0 |
| Bus Driver | 103.4 | 103.4 | 103.4 | 0.0 | 103.4 |
| Bus Instructor/Trainer | 4.0 | 4.0 | 4.0 | 0.0 | 4.0 |
| Clerical 12 Month | 11.0 | 11.0 | 11.0 | 0.0 | 11.0 |
| Custodian | 337.9 | 337.9 | 339.9 | (10.0) | 329.9 |
| Director | 2.0 | 2.0 | 2.0 | 0.0 | 2.0 |
| Facilities Maint Technician | 87.0 | 87.0 | 87.0 | 0.0 | 87.0 |
| Plan/Construction | 2.0 | 2.0 | 2.0 | 0.0 | 2.0 |
| Specialist 12 Month | 2.0 | 2.0 | 2.0 | 0.0 | 2.0 |
| Supervisor | 4.0 | 4.0 | 4.0 | 0.0 | 4.0 |
| Vehicle Mechanic/Helper | 12.0 | 12.0 | 12.0 | 0.0 | 12.0 |
| | 665.3 | 665.3 | 667.3 | (10.0) | 657.3 |

| By State Category | FY13 Actual | FY14 Actual | FY15 Actual | FY15 Budget | 15-16 Change | FY16 Budget | FY16 FTE |
|---------------------|----------------|----------------|----------------|----------------|-----------------|----------------|-------------|
| | | STUDENT ' | TRANSPORTA | TION | | | |
| Contracted Services | \$22,829,776 | \$21,979,026 | \$21,647,254 | \$22,218,379 | \$(368,556) | \$21,849,823 | |
| Equipment | \$38,779 | \$1,280 | \$95,266 | \$94,441 | \$(90,000) | \$4,441 | |
| Other Charges | \$36,089 | \$28,613 | \$25,292 | \$29,452 | \$3,000 | \$32,452 | |
| Salaries | \$6,306,792 | \$6,311,665 | \$6,387,552 | \$6,408,695 | \$218,562 | \$6,627,257 | |
| Supplies | \$1,457,084 | \$1,539,904 | \$1,576,841 | \$1,415,000 | \$(66,000) | \$1,349,000 | |
| TOTAL: | \$30,668,519 | \$29,860,488 | \$29,732,205 | \$30,165,967 | \$(302,994) | \$29,862,973 | 217.4 |
| | | OPERA | TION OF PLAN | IT . | | | |
| Contracted Services | \$695,299 | \$939,126 | \$905,224 | \$1,071,935 | \$75,200 | \$1,147,135 | |
| Equipment | \$121,678 | \$8,099 | \$151,226 | \$166,768 | \$(110,000) | \$56,768 | |
| Other Charges | \$13,286,058 | \$15,407,646 | \$13,380,996 | \$14,494,154 | \$658,180 | \$15,152,334 | |
| Salaries | \$10,783,921 | \$10,686,544 | \$10,453,264 | \$10,720,884 | \$54,412 | \$10,775,296 | |
| Supplies | \$1,014,792 | \$998,734 | \$1,096,735 | \$1,061,146 | \$0 | \$1,061,146 | |
| TOTAL: | \$25,901,748 | \$28,040,150 | \$25,987,445 | \$27,514,887 | \$677,792 | \$28,192,679 | 335.3 |
| | | MAINTEN | IANCE OF PLA | ANT | | | |
| Contracted Services | \$2,603,247 | \$2,426,581 | \$2,448,482 | \$2,500,060 | \$0 | \$2,500,060 | |
| Equipment | \$97,845 | \$65,189 | \$50,352 | \$84,627 | \$0 | \$84,627 | |
| Other Charges | \$28,176 | \$21,879 | \$25,416 | \$30,171 | \$0 | \$30,171 | |
| Salaries | \$5,424,901 | \$5,389,127 | \$5,324,752 | \$5,462,505 | \$139,709 | \$5,602,214 | |
| Supplies | \$1,772,610 | \$1,762,553 | \$2,010,185 | \$1,698,162 | \$0 | \$1,698,162 | |
| | | | 239 | | | | |

| By State Category | FY13 Actual | FY14 Actual | FY15 Actual | FY15 Budget | 15-16 Change | FY16 Budget | FY16 FTE | | |
|--|--|-----------------------------------|--|-------------------------------|--------------------------|-------------------------------|-------------|--|--|
| TOTAL: | \$9,926,780 | \$9,665,330 | \$9,859,186 | \$9,775,525 | \$139,709 | \$9,915,234 | 103.0 | | |
| COMMUNITY SERVICES | | | | | | | | | |
| Salaries Supplies | \$320,934 \$119,494 | \$337,367 \$118,935 | \$325,774 \$118,340 | \$390,114 \$140,000 | \$(3,252) \$0 | \$386,862 \$140,000 | | | |
| TOTAL: | \$440,428 | \$456,302 | \$444,114 | \$530,114 | \$(3,252) | \$526,862 | 1.6 | | |
| | | CAPI | TAL OUTLAY | | | | | | |
| Contracted Services Equipment Salaries Supplies | \$24,767 \$18,100 \$4,140 \$0 | \$0 \$10,887 \$8,000 \$0 | \$3,887 \$2,976 \$2,204 \$763 | \$50,000 \$0 \$0 \$0 | \$0 \$0 \$0 \$0 | \$50,000 \$0 \$0 \$0 | | | |
| TOTAL: | \$47,007 | \$18,887 | \$9,830 | \$50,000 | \$0 | \$50,000 | 0.0 | | |
| Grand Total: | \$66,984,483 | \$68,041,157 | \$66,032,780 | \$68,036,493 | \$511,255 | \$68,547,748 | 657.3 | | |

Facilities Management

Program Overview

The mission of the Facilities Management Department is to provide the best learning environment for students of Harford County Public Schools. This is in addition to our vision to provide clean and optimally maintained buildings. We strive to accomplish our mission and vision by providing the technical skills and expertise to establish and deliver a comprehensive maintenance program for all school facilities, as well as, develop and provide a Preventive Maintenance Program to ensure the efficient operation of building systems and to extend the useful life of these systems. The Facilities Management Department develops and administers a long range Capital Improvements program to ensure that equipment such as boilers, rooftop units, environmental issues, parking lots and roadways, grounds improvement, and all aspects of school facilities building systems are replaced or repaired in a timely manner.

Included in the operations of our department are the custodians, who are needed to maintain the schools and central office in a clean and healthy environment. Over 6,000,000 square feet of floors must be cleaned, most of which is done on a daily basis. Custodians also change lighting tubes, provide lawn maintenance, clear snow and ice from sidewalks, move furniture within the building for assemblies and special programs, remove trash, clean the cafeteria between lunch periods, and operate the heating and air conditioning system.

Additionally, school buildings are an extension of the community. Schools are used for over 2,500 activities by outside groups each year. Activities such as Parks and Recreation, Boys and Girls Scouts, community association meetings, cultural events, before school and after school daycare, general and primary elections, church services, and other civic events are held in the public school facilities.

Accomplishments – FY 2014

- Removal of underground storage tanks at Norrisville ES and William S. James ES. (Board Goal 4)
- Carpet replacement at North Bend ES. (Board Goal 4)
- Stream restoration at Fallston MS. (Board Goal 4)
- Exterior door replacement at Aberdeen MS. (Board Goal 4)
- Stage rigging repairs and extensive concrete work at C. Milton Wright HS. (Board Goal 4)
- Stage partition replacement at Church Creek ES. (Board Goal 4)
- Stage curtain replacement at Norrisville ES. (Board Goal 4)
- Extensive repairs throughout the system to stormwater management facilities. (Board Goal 4)
- Installation of water bottle filling stations in numerous locations. (Board Goal 4)

Goals - FY 2016

- Active participation in EPA's Tools for Schools across HCPS. (Board Goal 4)
- Inspection of all school buildings. (Board Goal 4)
- Inspection and preventative maintenance of all storm water management facilities. (Board Goal 4)
- Work collaboratively with schools and departmental to support their needs. (Board Goal 4)
- Evaluation of site/building conditions to include for program adequacy. (Board Goal 4)

Objectives - FY 2016

- Provide an environment where every child feels comfortable going to school. (Board Goal 4)
- Obtain and optimize use of adequate resources. (Board Goal 4)
- Improve operational efficiency and effectiveness. (Board Goal 4)
- Recruit and retain a high quality diverse work force. (Board Goal 3)
- Provide a diverse, highly trained, skilled work force to apply modern technologies to building systems, contributing to the quality of instruction and student achievement. (Board Goal 3)
- Provide advice, resources, and consultation to all the stakeholders of the school system. (Board Goal 2)
- Develop a maintenance program that evaluates and prioritizes the needs of each facility to include structural, mechanical integrity, energy efficiency, operational and maintenance efficiencies to meet health and safety requirements. (Board Goal 4)
- Provide modern aesthetically pleasing facilities. (Board Goal 4)
- Minimize operating/utility costs via an efficient work force and providing modern efficient building systems (all aspects of physical plant). (Board Goal 4)
- Maintain a program that addresses emergencies, both planned and unplanned. (Board Goal 4)

Facilities Management

FACILITIES COST REDUCTION STRATEGIES

- Performance contracting phase 3 has just been completed at 27 schools and includes upgrades such as lighting, kitchen equipment, LCD projectors, building controls, transformers, and plumbing fixtures, as well as installation of sensors and high speed hand dryers. This initiative is budget neutral using energy savings to pay for the project.
- Soap dispensers are provided at no charge to HCPS by the vendor supplying our soap.
- Conversion to hand dryers can result in \$10,000 less spent on paper products, less oversight by custodial staff and reduced emergency response from Facilities.
- Recycle parts and equipment where possible, such as: breakers, fire alarm panel components, transformers, split systems, plumbing fixtures, doors, door hardware, bleachers, furniture, chalk/white boards.
- Work collaboratively with Harford County Government in the following areas:
 - o Artificial turf upkeep
 - o Recycling for ball fields/buildings
 - Playground permitting and installation
 - o Rain gardens/ storm water management facilities
 - Emergency communication
 - o Emergency repairs parts & labor
 - o Vehicle wash
 - o Salt from shops throughout county during weather events
- Electronic recycling and destruction of confidential materials at no charge.
- Closed the loop on composting food scraps to compost to athletic fields.

FY 2016 Funding Adjustments

The changes to Facilities Management for fiscal 2016 include:

Wage Adjustments of \$430.704:

- Salary/wage adjustments of \$585,995.
- Turnover savings, (\$155,291).

Cost Saving Measures of (\$268,660):

- Reduction of 10.0 FTE custodial positions, (\$251,040).
- Salary/wage adjustments, (\$13,620).
- Reduction in negotiated lease for the Route 40 transportation lot, (\$4,000).

Cost of Doing Business of \$80,000:

Projected 5% increase in property insurance, \$80,000.

Reversal of FY15 Transfers, (\$110,000):

• Reversal of year end transfer to grounds equipment, (\$110,000).

The increase in expenditures from the fiscal 2015 budget for Facilities Management is \$132,044.

| | Facilities Management | | | | | | | | | | |
|---------------------|-----------------------|----------------|----------------|----------------|-----------------|----------------|--|--|--|--|--|
| By Object Code | FY13 Actual | FY14 Actual | FY15 Actual | FY15 Budget | 15-16 Change | FY16 Budget | | | | | |
| Salaries | \$15,588,592 | \$15,528,896 | \$15,223,851 | \$15,662,215 | \$166,044 | \$15,828,259 | | | | | |
| Contracted Services | \$2,790,402 | \$2,762,727 | \$2,631,411 | \$2,863,296 | (\$4,000) | \$2,859,296 | | | | | |
| Supplies | \$2,457,133 | \$2,407,301 | \$2,723,042 | \$2,429,308 | \$0 | \$2,429,308 | | | | | |
| Other Charges | \$425,248 | \$520,623 | \$523,000 | \$522,662 | \$80,000 | \$602,662 | | | | | |
| Equipment | \$217,235 | \$65,825 | \$199,079 | \$249,040 | (\$110,000) | \$139,040 | | | | | |
| Total: | \$21,478,610 | \$21,285,372 | \$21,300,382 | \$21,726,521 | \$132,044 | \$21,858,565 | | | | | |

| Budgeted Full Time Equivalent Positions | | | | | | | | | |
|---|-------|-------|-------|--------|-------|--|--|--|--|
| | FY13 | FY14 | FY15 | 15-16 | FY16 | | | | |
| Assistant Supervisor | 4.0 | 4.0 | 4.0 | 0.0 | 4.0 | | | | |
| Clerical 12 Month | 5.0 | 5.0 | 5.0 | 0.0 | 5.0 | | | | |
| Custodian | 337.9 | 337.9 | 339.9 | (10.0) | 329.9 | | | | |
| Director | 1.0 | 1.0 | 1.0 | 0.0 | 1.0 | | | | |
| Facilities Maint Technician | 87.0 | 87.0 | 87.0 | 0.0 | 87.0 | | | | |
| | 434.9 | 434.9 | 436.9 | (10.0) | 426.9 | | | | |

| By State Category | FY13 Actual | FY14 Actual | FY15 Actual | FY15 Budget | 15-16 Change | FY16 Budget | FY16 FTE | | | |
|----------------------|--------------------|----------------|----------------|----------------|-----------------|----------------|-------------|--|--|--|
| | OPERATION OF PLANT | | | | | | | | | |
| Contracted Services | \$689,576 | \$923,024 | \$816,208 | \$944,215 | \$(4,000) | \$940,215 | | | | |
| Equipment | \$121,632 | \$3,405 | \$150,440 | \$166,268 | \$(110,000) | \$56,268 | | | | |
| Other Charges | \$419,181 | \$514,671 | \$514,644 | \$516,244 | \$80,000 | \$596,244 | | | | |
| Salaries | \$10,656,543 | \$10,593,760 | \$10,378,323 | \$10,628,100 | \$52,077 | \$10,680,177 | | | | |
| Supplies | \$936,835 | \$883,603 | \$970,811 | \$968,646 | \$0 | \$968,646 | | | | |
| TOTAL: | \$12,823,767 | \$12,918,462 | \$12,830,425 | \$13,223,473 | \$18,077 | \$13,241,550 | 334.3 | | | |
| MAINTENANCE OF PLANT | | | | | | | | | | |
| Contracted Services | \$2,100,826 | \$1,839,703 | \$1,815,204 | \$1,919,081 | \$0 | \$1,919,081 | | | | |
| Equipment | \$95,603 | \$62,419 | \$48,639 | \$82,772 | \$0 | \$82,772 | | | | |
| Other Charges | \$6,067 | \$5,953 | \$8,356 | \$6,418 | \$0 | \$6,418 | | | | |
| Salaries | \$4,611,114 | \$4,597,769 | \$4,519,754 | \$4,644,001 | \$117,219 | \$4,761,220 | | | | |
| Supplies | \$1,400,803 | \$1,404,763 | \$1,633,891 | \$1,320,662 | \$0 | \$1,320,662 | | | | |
| TOTAL: | \$8,214,414 | \$7,910,607 | \$8,025,843 | \$7,972,934 | \$117,219 | \$8,090,153 | 91.0 | | | |
| | | COMMU | NITY SERVICI | ES | | | | | | |
| Salaries | \$320,934 | \$337,367 | \$325,774 | \$390,114 | \$(3,252) | \$386,862 | | | | |
| Supplies | \$119,494 | \$118,935 | \$118,340 | \$140,000 | \$0 | \$140,000 | | | | |
| TOTAL: | \$440,428 | \$456,302 | \$444,114 | \$530,114 | \$(3,252) | \$526,862 | 1.6 | | | |
| Grand Total: | \$21,478,610 | \$21,285,372 | \$21,300,382 | \$21,726,521 | \$132,044 | \$21,858,565 | 426.9 | | | |

Planning and Construction

Program Overview

The purpose of the Planning and Construction Department is to plan, construct, modernize, and improve educational facilities for the students and staff of the Harford County Public Schools. The department utilizes demographic data and other pertinent information to plan new facilities or expansions to accommodate a growing student population. In addition, this department plans for and constructs improvements, modernizations, and additions to existing facilities that are old and obsolete, and that do not meet current educational program requirements.

Through the development of the annual Capital Improvement Program, the Planning and Construction Department analyzes population trends, birth numbers, student enrollment patterns, and residential growth in Harford County and assists in the planning of new school facilities to accommodate student enrollment.

The development of a sound educational program, coupled with a modern physical environment is translated into a community school building at either the elementary, middle, or secondary level.

Accomplishments - FY 2014

- Completed design and construction of Magnolia Middle School HVAC systemic renovation. (Board Goal 4)
- Completed design and construction of North Harford Elementary School HVAC systemic renovation. (Board Goal 4)
- Completed design for Youth's Benefit Elementary Replacement School. (Board Goal 4)
- Completed design and construction on Norrisville Elementary School HVAC systemic renovation. (Board Goal 4)
- Completed design and construction of roof replacement at George D. Lisby Elementary School. (Board Goal 4)
- Completed design and construction of Edgewood Middle School Computer Laboratory project. (Board Goal 4)
- Completed design and started construction on Fallston High School HVAC systemic renovation. (Board Goal 4)

Goals - FY 2016

- Continue construction for Youth's Benefit Elementary Replacement School. (Board Goal 4)
- Complete design and start construction on Havre de Grace Middle/High Replacement School. (Board Goal 4)
- Receive state local planning approval and start design of Joppatowne HS limited renovation project. (Board Goal 4)
- Complete design and construction of roof replacement at Churchville Elementary School. (Board Goal 4)
- Complete design and start installation of air conditioning at the Center for Educational Opportunity. (Board Goal 4)
- Complete design and start construction on Prospect Mill Elementary School HVAC and Open Space Renovation Project. (Board Goal 4)
- Complete design and start construction on Open Space Renovation Projects. (Board Goal 4)
- Complete design and start construction on North Harford Middle School Domestic Water Improvements. (Board Goal 4)

Objectives - FY 2016

- The development of a sound educational program, coupled with a modern physical environment is translated into a community school building at either the elementary, middle, or secondary level. (Board Goal 4)
- Facilities are designed and constructed to provide a safe, secure, and healthy teaching and learning environment. (Board Goal 4)
- Facilities are designed and constructed that are attractive, affordable, and flexible in their design to accommodate differentiated teaching and learning styles as required. (Board Goal 4)
- Facilities are designed and constructed to allow students, teachers, and staff the opportunity to access the most current advances in technology. (Board Goal 4)
- Design and construction quality school facilities within budget and on schedule. (Board Goal 4)

Planning and Construction

SUSTAINABLE DESIGN STRATEGIES

HCPS uses Sustainable Design Strategies in the design and construction of our school buildings. The following list highlights some of the sustainable design strategies used in major capital projects that are either modernization, replacement, or new facilities.

SITE

- On modernization and replacement projects, an attempt to use the existing site is always developed, negating the need for additional land procurement and development.
- Specimen trees are saved where possible. Use of native plants reduces irrigation requirements.
- Storm Water Management for both quality and quantity through the use of bio-retention facilities, micro pools with forebays.
- Design as to not disturb sensitive areas such as the Chesapeake Bay Critical Area.
- The use of high reflective concrete at pedestrian paths and plaza help reduce heat islands.
- Develop projects in cooperative partnership with Parks and Recreation eliminating unnecessary "dual development".
- The installation of bike racks on site to encourage "green transportation."

BUILDING

- Multi-story construction is implemented on most buildings, which creates a compact footprint, minimizing site disturbance. The compact footprint also reduces storm water management requirements.
- Building design to include the use of natural light and day lighting techniques to develop a high performance school, maximize energy savings and enhance student performance.
- Glazing: All glazing is tinted double-pane, low E, thermally broken.
- Interior building finishes with high indoor air quality benefits such as, low V.O.C. paints and carpet products and the use of mold resistant gypsum board.
- Careful selection of roofing materials, whether a low sloped roof covered with a highly reflective white chip aggregate or a sloped metal roof of high SRI color or even a Polyvinyl-Chloride (PVC) Roofing Membrane system.

RECYCLING

- During construction/demolition Recycling of demolished rubble for use on site as fill. Use of construction material with recycled content such as flooring, drywall, metals, wood.
- Post occupancy Recycling dumpster utilized, single stream recycling has reduced landfill waste in half.
- Additional space designed to allow multiple dumpsters on site.

LIGHTING AND POWER

- The use of multi-level switching of lamps is used in fixtures for classrooms, conference rooms and office applications.
- Installation of high performance T8 and T5 lamps, ballasting of fixtures for dimming capabilities in concert with day lighting strategies.
- Installation of LED lighting systems on building exteriors and interiors, site lighting and parking lots.
- The design and installation of full automatic shutoff of lighting systems using a combination of interior occupancy sensors and the Energy Management System auto-off of site lighting and interior public spaces.
- The installation of daylight sensors are used with fixtures adjacent to windows and clerestory glazing.

WATER CONSERVATION

- Native and drought resistant plants that reduce the need for an irrigation system or extensive watering planted in appropriate area around the building perimeter.
- Dual flush toilets closets reduces water consumption.
- Low flow water fixtures.

Planning and Construction

SUSTAINABLE DESIGN STRATEGIES (cont.)

ENERGY EFFICIENCY/ INDOOR AIR QUALITY

- Total energy heat recovery wheels to capture and reuse waste heat to precondition outside air for the aerobics room, weight room, locker rooms, gymnasium and auditorium and other areas with high exhaust requirements.
- Use of dedicated outside air systems utilizing total energy recovery wheels to pre-condition/dehumidify outside air to meet ventilation requirements in classrooms.
- Use of a flat plate and frame heat exchanger capturing waste heat from the condenser water system to provide free summer reheat when needed for dehumidification.
- Use of multiple high efficiency water cooled chillers using magnetic bearing, variable speed compressors.
- Use of variable speed pumping on condenser water loop, secondary chilled water and heating water loop based on the building demand.
- Variable supply air flow using CO₂ sensors for assembly spaces to match space loads as determined by the number of occupants (dining, auditorium, gym).
- Air flow measurement of outdoor air, supply air and return air for all systems.
- HVAC systems selection based on life cycle cost analysis factoring operational and maintenance costs rather than first cost basis (i.e. geothermal systems).
- Lighting control through the EMS for site lights, corridor lights, stairwell lights and dining area lights.
- Use of multiple high efficiency condensing boilers and domestic hot water heaters that are 90%+ efficient.
- Use of Variable Refrigerant Flow HVAC Systems for increased flexibility, and high efficiency.
- Heating water supply temperature reset based on outdoor air temperature.
- Complete automation of building systems performance while minimizing energy consumption.
- Metering of cooling systems, heating systems, electrical consumption in KW and makeup water for all HVAC systems for better energy management.
- Commissioning of Building Energy Systems.
- Use of low (no) emitting material for flooring, paint and glass.
- Construction IAQ Management Plan for the construction phase and prior to occupancy.

FY 2016 FUNDING ADJUSTMENTS

The changes to Planning and Construction for fiscal 2016 include:

Wage Adjustments of \$16,617:

- Salary/wage adjustments of \$17,614.
- Turnover savings, (\$997).

The increase in expenditures from the fiscal 2015 budget for Planning and Construction is \$16.617.

| Planning and Construction | | | | | | | | | |
|---------------------------|----------------|----------------|----------------|----------------|-----------------|----------------|--|--|--|
| By Object Code | FY13 Actual | FY14 Actual | FY15 Actual | FY15 Budget | 15-16 Change | FY16 Budget | | | |
| Salaries | \$677,850 | \$666,538 | \$678,022 | \$689,323 | \$16,617 | \$705,940 | | | |
| Contracted Services | \$91,764 | \$86,009 | \$80,815 | \$134,132 | \$0 | \$134,132 | | | |
| Supplies | \$6,559 | \$4,554 | \$8,158 | \$8,000 | \$0 | \$8,000 | | | |
| Other Charges | \$22,109 | \$15,927 | \$17,060 | \$23,753 | \$0 | \$23,753 | | | |
| Equipment | \$20,342 | \$13,657 | \$4,689 | \$1,855 | \$0 | \$1,855 | | | |
| Total: | \$818,624 | \$786,683 | \$788,744 | \$857,063 | \$16,617 | \$873,680 | | | |

| Budgeted Full Time Equivalent Positions | | | | | | | | |
|---|--|------|------|------|-------|------|--|--|
| | | FY13 | FY14 | FY15 | 15-16 | FY16 | | |
| Assistant Supervisor | | 4.0 | 4.0 | 4.0 | 0.0 | 4.0 | | |
| Clerical 12 Month | | 2.0 | 2.0 | 2.0 | 0.0 | 2.0 | | |
| Director | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | |
| Plan/Construction | | 2.0 | 2.0 | 2.0 | 0.0 | 2.0 | | |
| Supervisor | | 1.0 | 1.0 | 1.0 | 0.0 | 1.0 | | |
| | | 9.0 | 9.0 | 9.0 | 0.0 | 9.0 | | |

| By State Category | FY13 Actual | FY14 Actual | FY15 Actual | FY15 Budget | 15-16 Change | FY16 Budget | FY16 FTE |
|---------------------|----------------|----------------|----------------|----------------|-----------------|----------------|-------------|
| | | MAINTEN | ANCE OF PLA | NT | | | |
| Contracted Services | \$66,997 | \$86,009 | \$76,928 | \$84,132 | \$0 | \$84,132 | |
| Equipment | \$2,242 | \$2,770 | \$1,713 | \$1,855 | \$0 | \$1,855 | |
| Other Charges | \$22,109 | \$15,927 | \$17,060 | \$23,753 | \$0 | \$23,753 | |
| Salaries | \$673,711 | \$658,538 | \$675,818 | \$689,323 | \$16,617 | \$705,940 | |
| Supplies | \$6,559 | \$4,554 | \$7,396 | \$8,000 | \$0 | \$8,000 | |
| TOTAL: | \$771,617 | \$767,797 | \$778,914 | \$807,063 | \$16,617 | \$823,680 | 9.0 |
| | | CAPIT | TAL OUTLAY | | | | |
| Contracted Services | \$24,767 | \$0 | \$3,887 | \$50,000 | \$0 | \$50,000 | |
| Equipment | \$18,100 | \$10,887 | \$2,976 | \$0 | \$0 | \$0 | |
| Salaries | \$4,140 | \$8,000 | \$2,204 | \$0 | \$0 | \$0 | |
| Supplies | \$0 | \$0 | \$763 | \$0 | \$0 | \$0 | |
| TOTAL: | \$47,007 | \$18,887 | \$9,830 | \$50,000 | \$0 | \$50,000 | 0.0 |
| Grand Total: | \$818,624 | \$786,683 | \$788,744 | \$857,063 | \$16,617 | \$873,680 | 9.0 |

Transportation

Program Overview

The mission of the Transportation Department is to provide transportation to eligible students enrolled in Harford County Public Schools. In planning and carrying out this mission, major consideration is given to the safety of the children transported, to maintaining effective and efficient service that takes children to and from school in an environment that is conducive to learning, and to providing co-curricular and extra-curricular transportation for a multitude of projects.

Approximately 33,000 students are provided direct transportation to and from school in accordance with policies established by the Board of Education. Additionally, thousands of runs for co-curricular, extra-curricular, special programs and field trips are provided through out, what is now, a twelve-month school year.

The McKinney-Vento Homeless Assistance Act requires schools to identify children and youth in situations where they are displaced from their homes and provide appropriate services. One such service is providing students with transportation to their school of origin. The McKinney-Vento Act is an unfunded federally mandate program. Under this Act, HCPS has transported students that were housed as far as 75 miles away from their school of origin.

Accomplishments - FY 2014

- Enhanced the in-service training of drivers and attendants by expanding the behind the wheel segment during the summer. The result was fewer accidents during the start-up weeks of school. (Board Goal 3)
- Reduced the operating budget though modifications in the transportation delivery model. (Board Goal 4)
- Increased the fiscal efficiencies of co and extra-curricular field trip buses by combining multiple schools on a common carrier. (Board Goal 4)

Goals - FY 2016

- Improve fiscal and service efficiencies by the implementation of an automated routing system. (Board Goal 4)
- Reduce the number of preventable accidents through continuing skills in-service-training focusing on safety.
 (Board Goal 3)
- Reduce the consumption of fuel through more efficient routing, minimizing idling and reducing deadhead miles. (Board Goal 4)

Objectives - FY 2016

- To continue to develop and implement bus routes that deliver students to and from school and extra-curricular activities, in a safe and more efficient manner. (Board Goal 4)
- Educate, train and evaluate drivers in compliance with COMAR. (Board Goal 3)
- Evaluate, train and supervise school bus contractors. (Board Goal 3)
- Comply with all Federal, State and local laws. (Board Goal 4)
- Supervise the operation and maintenance of contractor and system owned vehicles. (Board Goal 4)

HCPS buses travel an average ...



... of 43,951 miles per school day!!

Transportation

In fiscal 2014, there were a total of 496 school buses including spares, 381 were contractor owned and 115 were county owned.

| Tra | nsportatio | on Facts | | | |
|-------------------------------------|-------------|-------------|-------------|-------------|-------------|
| | FY10 | FY11 | FY12 | FY13 | FY14 |
| Number of School Buses | 487 | 494 | 505 | 510 | 498 |
| Miles Traveled Annually | 7.6 Million | 7.7 Million | 8.3 Million | 8.3 Million | 7.9 Million |
| Number of Bus Accidents | 60 | 69 | 73 | 47 | 74 |
| # of Preventable Accidents | 35 | 23 | 34 | 21 | 40 |
| % of Preventable Accidents to Total | 58% | 33% | 46% | 44% | 54% |

FY 2016 Funding Adjustments

The changes to Transportation for fiscal 2016 include:

Wage Adjustments of \$224,435:

- Salary/wage adjustments of \$230,508.
- Turnover savings, (\$6,073).

Base Budget Adjustment net changes of (\$0):

- Increase the following accounts: Contracted Repairs/Maintenance Special Education Vehicles \$25,000;
 Contracted Medical Services \$6,000; and Mileage, Parking and Tolls \$3,000.
- Reduce the following accounts: Contracted Field Trip Transportation (\$20,000); Contracted Transportation (\$10,000); Contracted Equipment Repairs (\$2,000); Copier/Machine Rentals (\$1,000); and Repairs/Maintenance Supplies (\$1,000).

Cost Saving Measures of (\$735,556):

- Reduction in contracted bus service due to a favorable year end variance from efficiencies in service and route mapping, (\$300,000).
- Reversal of one time purchase of routing software, (\$180,000).
- Reduction in contracted bus service due to the one year extension of the bus useful life, (\$174,056).
- Transportation savings due to the elimination of delayed openings for HSA testing, (\$75,000).
- Reduction in transportation for AVID program, (\$6,500).

Cost of Doing Business of \$114,000:

Increase PVA for 15 contracted buses as a replacement contingency, \$114,000.

Reversal of FY15 Transfers, \$100,000:

- Reversal of year end transfer for bus contracts, \$100,000.
- Reversal of year end transfer for software, \$90,000.
- Reversal of year end transfer for fuel oil, \$85,000.
- Reversal of year end transfer for repair/maintenance supplies, \$25,000.
- Reversal of year end transfer for repair/maintenance of vehicles, (\$175,000).
- Reversal of year end transfer for consultants, (\$25,000).

The decrease in expenditures from the fiscal 2015 budget for Transportation is (\$297,121).

| Transportation | | | | | | | | |
|---------------------|----------------|----------------|----------------|----------------|-----------------|----------------|--|--|
| By Object Code | FY13 Actual | FY14 Actual | FY15 Actual | FY15 Budget | 15-16 Change | FY16 Budget | | |
| Salaries | \$6,446,868 | \$6,444,485 | \$6,516,733 | \$6,537,876 | \$224,435 | \$6,762,311 | | |
| Contracted Services | \$22,873,949 | \$22,043,629 | \$21,753,151 | \$22,303,379 | (\$368,556) | \$21,934,823 | | |
| Supplies | \$1,822,332 | \$1,893,141 | \$1,945,739 | \$1,784,500 | (\$66,000) | \$1,718,500 | | |
| Other Charges | \$36,089 | \$28,613 | \$25,292 | \$29,452 | \$3,000 | \$32,452 | | |
| Equipment | \$38,779 | \$1,280 | \$95,266 | \$94,441 | (\$90,000) | \$4,441 | | |
| Total: | \$31,218,016 | \$30,411,148 | \$30,336,181 | \$30,749,648 | (\$297,121) | \$30,452,527 | | |

| Budgeted Full Time Equivalent Positions | | | | | | | |
|---|-------|-------|-------|-------|-------|--|--|
| | FY13 | FY14 | FY15 | 15-16 | FY16 | | |
| Bus Attendant | 91.0 | 91.0 | 91.0 | 0.0 | 91.0 | | |
| Bus Driver | 103.4 | 103.4 | 103.4 | 0.0 | 103.4 | | |
| Bus Instructor/Trainer | 4.0 | 4.0 | 4.0 | 0.0 | 4.0 | | |
| Clerical 12 Month | 4.0 | 4.0 | 4.0 | 0.0 | 4.0 | | |
| Director | 1.0 | 1.0 | 1.0 | 0.0 | 1.0 | | |
| Specialist 12 Month | 2.0 | 2.0 | 2.0 | 0.0 | 2.0 | | |
| Supervisor | 3.0 | 3.0 | 3.0 | 0.0 | 3.0 | | |
| Vehicle Mechanic/Helper | 12.0 | 12.0 | 12.0 | 0.0 | 12.0 | | |
| | 220.4 | 220.4 | 220.4 | 0.0 | 220.4 | | |

| By State Category | FY13 Actual | FY14 Actual | FY15 Actual | FY15 Budget | 15-16 Change | FY16 Budget | FY16 FTE | | | |
|---------------------|------------------------|----------------|----------------|----------------|-----------------|----------------|-------------|--|--|--|
| | STUDENT TRANSPORTATION | | | | | | | | | |
| Contracted Services | \$22,829,776 | \$21,979,026 | \$21,647,254 | \$22,218,379 | \$(368,556) | \$21,849,823 | | | | |
| Equipment | \$38,779 | \$1,280 | \$95,266 | \$94,441 | \$(90,000) | | | | | |
| Other Charges | \$36,089 | \$28,613 | \$25,292 | \$29,452 | \$3,000 | \$32,452 | | | | |
| Salaries | \$6,306,792 | \$6,311,665 | \$6,387,552 | \$6,408,695 | \$218,562 | \$6,627,257 | | | | |
| Supplies | \$1,457,084 | \$1,539,904 | \$1,576,841 | \$1,415,000 | \$(66,000) | \$1,349,000 | | | | |
| TOTAL: | \$30,668,519 | \$29,860,488 | \$29,732,205 | \$30,165,967 | \$(302,994) | \$29,862,973 | 217.4 | | | |
| | | MAINTEN | IANCE OF PLA | ANT | | | | | | |
| Contracted Services | \$44,173 | \$64,603 | \$105,897 | \$85,000 | \$0 | \$85,000 | | | | |
| Salaries | \$140,076 | \$132,820 | \$129,181 | \$129,181 | \$5,873 | \$135,054 | | | | |
| Supplies | \$365,248 | \$353,236 | \$368,898 | \$369,500 | \$0 | \$369,500 | | | | |
| TOTAL: | \$549,497 | \$550,660 | \$603,976 | \$583,681 | \$5,873 | \$589,554 | 3.0 | | | |
| Grand Total: | \$31,218,016 | \$30,411,148 | \$30,336,181 | \$30,749,648 | \$(297,121) | \$30,452,527 | 220.4 | | | |

Utility Resource Management

Program Overview

The Office of Resource Conservation has developed a multi-faceted approach to managing utility resources. This approach provides for energy resource optimization through coordination between the Building Automation team and the individual facility managers, improvements to the operation and maintenance of the equipment, and capital improvements.

The overall goal is to optimize energy use without adversely affecting indoor air quality, comfort, and safety of our building occupants. This is currently being accomplished through the collection and analysis of energy consumption data using utility tracking and accounting software. We are also working with administrators, teachers, students, and custodial personnel to promote energy conservation awareness. In addition, we are monitoring heating and air conditioning systems via computerized energy management programs.

Accomplishments - FY 2014

- Energy Efficiency Upgrades Johnson Controls Performance Contracting Project: (Board Goal 4)
 - Comprehensive lighting retrofits at 27 schools to include interior and exterior lighting as well as occupancy and daylight sensors.
 - High efficiency transformers installed in 18 schools to improve energy efficiency.
 - Boiler system upgrades at Abingdon ES, William S. James ES, Bel Air MS, and C. Milton Wright HS.
 - Natural gas conversions from oil at C. Milton Wright HS, Abingdon ES and William S. James ES.
 - Building envelope insulation and weather stripping at 27 different schools.
 - Building automation projects at 11 schools to improve response time and climate.
 - Water conservation equipment such as low flow restrictors installed in 27 schools.
- To date received \$1,807,407 in Smart Energy Rebates for over 130 submitted projects that will lower energy consumption by over 9.8 million kilowatt hours annually, and yield over \$500,000 in energy cost reductions.
- Participated in the Load Response Program for 17 sites resulting in a savings of over \$106,000.
- Secured \$3,346,000 in Energy Efficiency Initiative grant funds from the state.
- Over 250 hand dryers have been installed in the school buildings to reduce paper towel usage and operational
 costs.
- First public school district in the state to develop a comprehensive commercial composting program, including 12 schools in the program.
- Recognized at the Annual Green Difference Awards in Philadelphia for our composting program.
- Conservation and sustainability presentations to students in elementary, middle, and high schools.
- Sustainability presentations given to several school and government organizations by request.
- Recognized by The Maryland Energy Administration, Baltimore Gas & Electric, and Association of Energy Engineers (AEE) for energy efficiency projects.
- Recipient of the Corporate Energy Management Award for AEE Region II for 2014. Presented at the World Energy Engineering Congress in Washington, DC.

Goals - FY 2016

- Continue to install energy efficient equipment. (Board Goal 4)
- Continue to participate in utility sponsored credit and rebate programs. (Board Goal 4)
- Continue to upgrade lighting and electrical infrastructure. (Board Goal 4)
- Continue to investigate and implement water conservation technology. (Board Goal 4)
- Investigate and implement a comprehensive building automation platform to assist in monitoring and reducing energy consumption. (Board Goal 4)
- Establish a yearly training agenda and schedule for school based personnel. (Board Goal 3)

Objectives - FY 2016

- Reduce operational cost without adversely affecting the comfort and safety of our building occupants. (Board Goal 4)
- Partner with other agencies to expand sustainability initiatives. (Board Goal 4)
- Pursue grants and other stimulus funds to upgrade our infrastructure. (Board Goal 4)
- Improve the learning environment. (Board Goal 3)

Utility Resource Management

ENERGY COST SAVING INITIATIVES

HCPS is entering the sixth year of their Energy and Resource Conservation Initiative. The goal is to align our Operations with the classroom curriculum, improve financial management systems by eliminating inefficiencies, and recognize savings while improving building operations and maintenance programs. HCPS coordinates all conservation initiatives through various conservation strategies.

- Innovative Policies and Procedures: In June of 2008, HCPS approved a comprehensive energy management plan. The goal of the plan was to reduce resource and energy consumption while creating a more environmentally sustainable organization. Through this plan HCPS adopted new policies and procedures, which established specific criteria and requirements relating to energy use, conservation, and sustainability at all levels of the HCPS operations. Through this initiative HCPS established a Resource Conservation Committee to identify short and long-term opportunities, and respond to the needs of the schools. Temporary subcommittees are formed to investigate and address sustainability issues. The Resource Conservation Manager is responsible for implementing the energy conservation program, working closely with the committee and site teams, and providing training and education to the students, faculty, and staff.
- Behavior Modification and Training: "Grass Roots" Energy Conservation Initiative: HCPS is aware that no conservation effort will be successful without Ownership, Pride, Participation, and Cooperation of the building occupants, users, and all stakeholders. HCPS also acknowledges the need to have programs that enhance the opportunities for success and savings. Linking energy conservation efforts to teaching and instruction is a priority. Resource conservation activities are designed to include each local school, teacher, and student and have a focus on establishing and strengthening partnerships with organizations internal and external to our HCPS for the purpose of educating our staff and students as we continue to improve the efficient use of our resources through the following initiatives:
 - Twenty-two HCPS schools have joined the Maryland Green Schools program. Additional schools are actively engaged in obtaining similar accreditation status.
 - Provide ongoing training workshops for Leadership in Energy and Environmental Design (LEED) for the HCPS Facilities Department.
 - The Resource Conservation Committee working in tandem with the Earth & Environmental Science programs to focus on sustainability issues inside the school buildings and provide real world problem solving opportunities for our students.
- Water Conservation Efforts: Conserve water usage through various improvements to school building and grounds (i.e. fixtures, synthetic turf). Include water conservation methods on all capital projects through design standards.
- Alternative Energy Program: Solar electric generation sites are active on the roof tops of six schools. These systems to date have resulted in over \$90,000 in utility savings.
- Energy Procurement Strategies: Participate in the purchasing consortium with the Baltimore Regional Purchasing Cooperative in which school districts and municipalities jointly procure natural gas and electricity to maximize savings. HCPS currently utilizes the Harford County Government propane gas contract to reduce per gallon cost of the product.
- Improved Practices: HCPS developed a centralized data base to track and evaluate all utility bills, a green cleaning program with guidelines and training for our custodial staff, a sustainability review process for our new construction programs to insure that we are critically analyzing our new facilities during the design and construction phase, and implemented a full scale single stream recycling program and centralized data base to track and evaluate all waste disposal bills.

Utility Resource Management

FY 2016 Funding Adjustments

The changes to Utility Resources for fiscal 2016 include:

Wage Adjustments of \$2,335:

• Salary/wage adjustments of \$2,335.

Cost Saving Measures of (\$450,000):

- Electricity savings based on actual usage, (\$250,000).
- Anticipated energy savings resulting from performance contract leases, (\$200,000).

Cost of Doing Business of \$897,380:

- Increase in annual maintenance contract for Johnson Controls, \$818,180.
- Cost of the 2015 energy management contract, \$79,200.

Reversal of FY15 Transfers, \$210,000:

• Reversal of year end transfer for heating oil, \$210,000.

The increase in expenditures from the fiscal 2015 budget for Utility Resource Management is \$659,715.

| Utility Resource Management | | | | | | | | |
|-----------------------------|----------------|----------------|----------------|----------------|-----------------|----------------|--|--|
| By Object Code | FY13 Actual | FY14 Actual | FY15 Actual | FY15 Budget | 15-16 Change | FY16 Budget | | |
| Salaries | \$127,378 | \$92,784 | \$74,941 | \$92,784 | \$2,335 | \$95,119 | | |
| Contracted Services | \$396,975 | \$452,369 | \$539,469 | \$539,567 | \$79,200 | \$618,767 | | |
| Supplies | \$77,957 | \$115,131 | \$125,924 | \$92,500 | \$0 | \$92,500 | | |
| Other Charges | \$12,866,877 | \$14,892,976 | \$12,866,352 | \$13,977,910 | \$578,180 | \$14,556,090 | | |
| Equipment | \$46 | \$4,694 | \$786 | \$500 | \$0 | \$500 | | |
| Total: | \$13,469,233 | \$15,557,953 | \$13,607,473 | \$14,703,261 | \$659,715 | \$15,362,976 | | |

| Budgeted Full Time Equivalent Positions | | | | | | | |
|---|-----|-----|-----|-----|-----|--|--|
| FY13 FY14 FY15 15-16 | | | | | | | |
| Assistant Supervisor | 1.0 | 1.0 | 1.0 | 0.0 | 1.0 | | |
| Facilities Maint Technician | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | |
| | 1.0 | 1.0 | 1.0 | 0.0 | 1.0 | | |

| By State Category | FY13 Actual | FY14 Actual | FY15 Actual | FY15 Budget | 15-16 Change | FY16 Budget | FY16 FTE | | |
|---------------------|----------------|----------------|----------------|----------------|-----------------|----------------|-------------|--|--|
| OPERATION OF PLANT | | | | | | | | | |
| Contracted Services | \$5,723 | \$16,103 | \$89,016 | \$127,720 | \$79,200 | \$206,920 | | | |
| Equipment | \$46 | \$4,694 | \$786 | \$500 | \$0 | \$500 | | | |
| Other Charges | \$12,866,877 | \$14,892,976 | \$12,866,352 | \$13,977,910 | \$578,180 | \$14,556,090 | | | |
| Salaries | \$127,378 | \$92,784 | \$74,941 | \$92,784 | \$2,335 | \$95,119 | | | |
| Supplies | \$77,957 | \$115,131 | \$125,924 | \$92,500 | \$0 | \$92,500 | | | |
| TOTAL: | \$13,077,981 | \$15,121,687 | \$13,157,020 | \$14,291,414 | \$659,715 | \$14,951,129 | 1.0 | | |
| | | MAINTEN | IANCE OF PLA | \NT | | | | | |
| Contracted Services | \$391,252 | \$436,266 | \$450,453 | \$411,847 | \$0 | \$411,847 | | | |
| TOTAL: | \$391,252 | \$436,266 | \$450,453 | \$411,847 | \$0 | \$411,847 | 0.0 | | |
| Grand Total: | \$13,469,233 | \$15,557,953 | \$13,607,473 | \$14,703,261 | \$659,715 | \$15,362,976 | 1.0 | | |