



Facilities Maintenance, Custodial, and Grounds Opportunities Review

Howard County Public School System

Preliminary Highlights for Internal Discussion/Decision-Making

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Introduction

The District Management Council (DMC) has conducted a Facilities Maintenance, Custodial, and Grounds Opportunities Review on behalf of the Howard County Public School System. The review focuses equally on the quality of services and on the cost effective use of limited financial resources, with the goal of supporting academic achievement for students in the district by making the most of limited resources. The study is conducted under the framework of the continuous improvement model. It does not try to determine what is good or bad, but rather creates a road map to help move a district to the next level of performance. This process acknowledges that all systems can improve and that opportunities for improvement are built upon the district's current strengths, history, structure, and resources.

The review compares current practice in the district to best practices drawn from similar systems around the country. It also incorporates a number of well-tested analytical tools. In all cases, the evaluation recognizes that providing high quality services, managing costs, and respecting children, parents, and staff while increasing student achievement are all important. Addressing one, while ignoring the others, is not an option.

The review respects the reality that school districts are complex organizations tasked with a multitude of expectations, unfunded mandates, priorities, and responsibilities. Although a large variety of thoughtful ideas for improvement are possible, a short, targeted plan is more beneficial than a long laundry list of observations, options, and possible actions. To that end, a small number of high-potential, high-impact opportunities are recommended.

Not all opportunities listed in the document can be addressed at once. Additionally, any of these opportunities would typically take 1-3 years of careful planning, research, communication, coordination, and roll-out, with a commitment from the leadership to provide focus and stability during the implementation process.

The research for this project included extensive in-person interviews, a deep look at hard data, a schedule sharing survey with staff in each of the three departments, benchmarking against best practices and like communities, and other research.

The Facilities Maintenance, Custodial, and Grounds Opportunities Review highlights many of the strengths in the district and pinpoints inter-related opportunities to maintain—or improve—the high quality of services while utilizing scarce resources more effectively.

COMMENDATIONS

The district has much to be proud of and many strengths that create a strong foundation for continuous improvement.

1. The district is committed to providing high quality customer service.

A consistent message during the extensive interviews and focus groups was a deep commitment to customer service. In all three departments, field workers, supervisors, and central office staff noted that they are passionate about “fostering an environment that is safe for students” and that “allows teachers and principals to focus” on student learning.

The district has made it a priority to measure the quality of the customer service provided as well. Each year, the Facilities, Planning, and Management Office conducts a customer satisfaction survey. Last year, the survey showed that respondents rated the department’s responsiveness to issues a 4.3 out of 5.0, which reflects the Building Services, Custodial, and Grounds Departments’ deep emphasis on customer service.

2. The leadership and staff in the district embrace a culture of continuous improvement in how they deliver services.

The district has embedded the idea of continuous improvement in its culture, and interviews highlighted a series of forward thinking initiatives to improve the effectiveness of services provided in the Building Services, Custodial, and Grounds Departments. First, the district has implemented leadership training programs for Custodial Supervisors and Building Services and Grounds Leadmen to provide growth opportunities for staff, while helping to fill leadership roles with high capacity staff members.

Second, the Custodial Department is piloting a team cleaning model for delivering services that will shift the district’s practices to more closely align with industry best practices. Interviews indicated that the team cleaning initiative represents a significant shift in the way custodial staff work, but staff understood that it would help them be more effective.

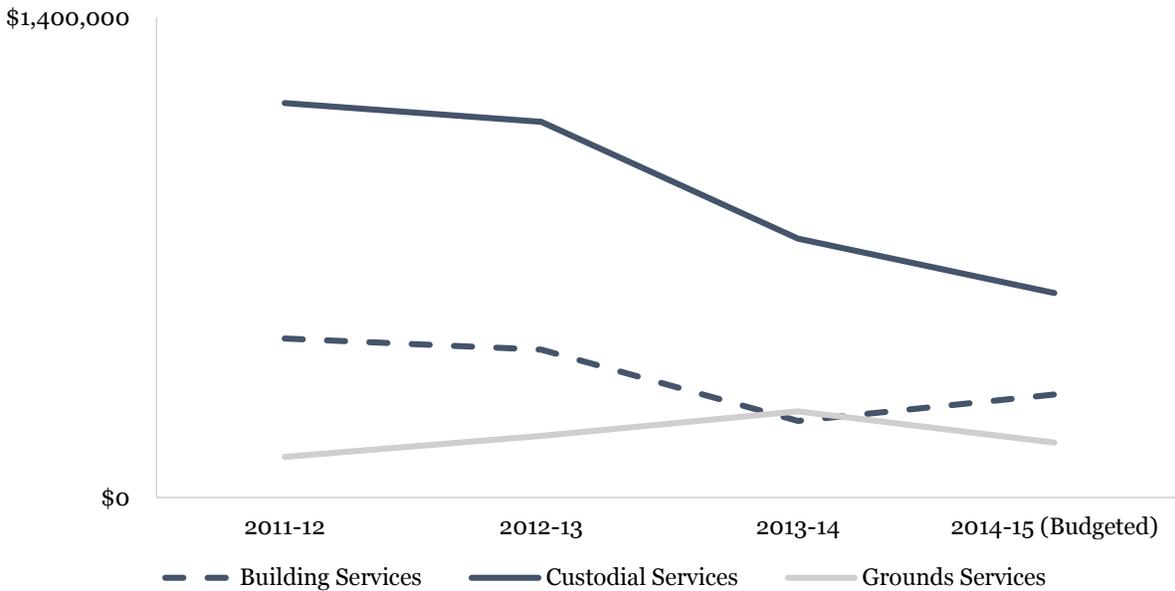
Last, all three departments implemented a Lean Six Sigma approach to their internal processes and service delivery. Interviews indicated the effectiveness of the training provided to staff and the communications around the importance of the shift to a “lean” approach to increase effectiveness and efficiency. Despite the positive feedback from the annual customer service surveys, the district continues to focus on improving its services and how it delivers them.

3. The district proactively seeks opportunities to utilize resources more effectively.

Similar to its continuous focus on improving its services, interviews indicated that the district is proactive in seeking opportunities to use its resources more effectively. The district made a concerted effort to reduce the amount of overtime, which resulted in a significant decrease in the amount spent and budgeted for overtime.

Overtime Payments, By Year

Building Services, Custodial, and Grounds Departments



- The district has reduced overtime payments by 35% and 48% in the Building Services and Custodial Departments, respectively, since 2011-12.

Additionally, interviews indicated that the Custodial Department has provided robust guidance and training for staff on how to use their time efficiently. This proactive management has resulted in a high level of productivity for custodial staff, illustrated by the results of the schedule sharing survey. Day Custodians reported spending more than 85% of their time on cleaning or attending to the cafeteria, and Night Custodians reported over 85% of their time cleaning or shoveling snow.

4. The district effectively manages and minimizes the need for emergency jobs, specifically in the Building Services and Grounds Departments.

Although interviews indicated that some district staff were concerned about a possible decrease in preventative maintenance due to recent staffing shifts, data from the schedule sharing survey suggest that the district has maintained the focus on planned and preventative—rather than emergency—maintenance.

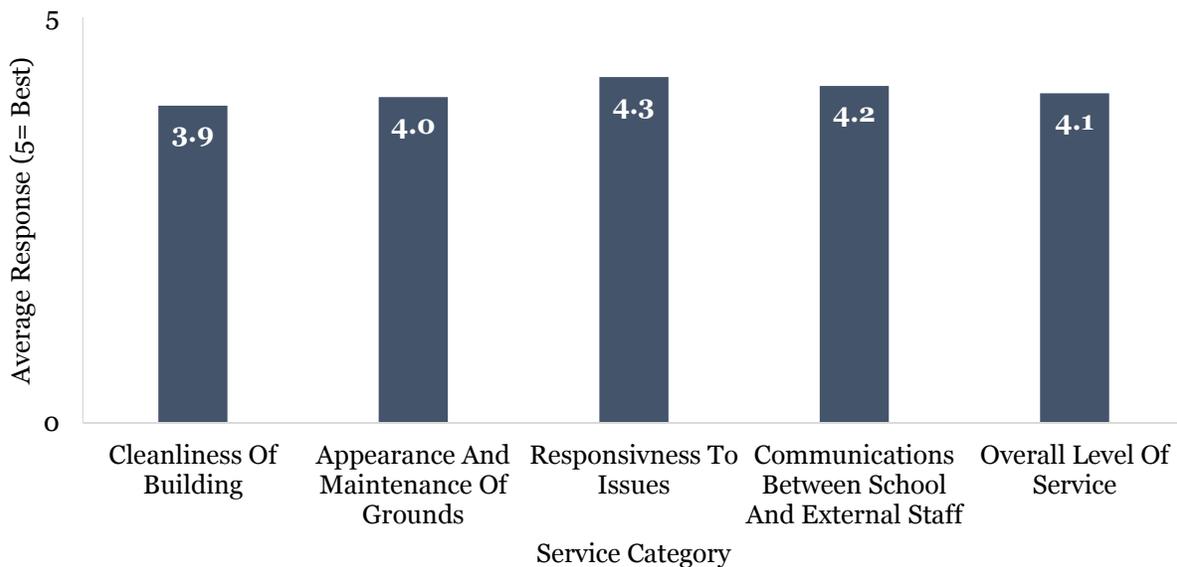
The schedule sharing data show that district staff spend significantly more time on either preventative maintenance or planned work orders than on emergency maintenance. Building Services field workers reported spending about 4% of their total week on emergency jobs, compared to over 50% on preventative maintenance and planned work orders combined. Groundskeepers reported that, aside from snow removal, they spent less than 5% of their week on emergency jobs.

DISTRICT BACKGROUND

Howard County Public Schools is a high-performing district overall, including the quality of services provided by the Building Services, Custodial, and Grounds Departments. The Facilities, Planning, and Management Office, which oversees Building Services, Custodial, and Grounds, conducts an annual customer satisfaction survey, and it received very positive feedback in SY 2013-14.

Howard County Customer Satisfaction Survey, 2013-14

Facilities, Planning, and Management Office



- The customer satisfaction survey indicated that school-based staff rate the services from the Facilities, Planning, and Management Office overall as a 4.1 out of 5.0.

To provide the high quality services in the Building Services, Custodial, and Grounds Departments, the district employs a variety of staff.

Building Services Roles

Manager/Assistant Managers (4.0 FTE): Central office administrators that lead the department by setting priorities, providing training to staff, and managing the department's budget.

Other Administrators (3.0 FTE): Other central office administrators, including Facilities Liaison as well as project and energy management administrators.

Leadmen (6.0 FTE): Office staff who report directly to Assistant Managers and manage field workers. They are primarily responsible for managerial and administrative tasks rather than technical work, although they typically have technical expertise.

Field Workers (75.0 FTE): The staff who are in the field completing planned work orders and responding to emergencies. There are a variety of different technical skillsets in this category, ranging from HVAC Technicians to Plumbers to Carpenters to Welders, among others.

Support Staff (4.0 FTE): Secretaries that support either Leadmen or central office administrators in the department.

Custodial Services Roles

Manager/Assistant Managers (5.0 FTE): Central office administrators that lead the department by setting priorities, providing training to staff, and managing the department's budget.

Other Administrators (1.0 FTE): Other central office administrator specifically focused on training staff.

Custodial Supervisors (159.0 FTE): Building-based supervisors who manage custodial staff at their building, but spend the majority of their time cleaning and overseeing the cafeteria.

Custodians (258.0 FTE): Custodial staff at each building who primarily are responsible for cleaning the building.

Other Custodial Field Workers (10.0 FTE): Other staff members in the Custodial Services Department who specifically focus on facilities maintenance repairs.

Support Staff (2.0 FTE): Secretaries that support central office administrators in the department.

Grounds Services Roles

Manager/Assistant Managers (3.0 FTE): Central office administrators that lead the department by setting priorities, providing training to staff, and managing the department's budget.

Leadmen (6.0 FTE): Office staff who report directly to Assistant Managers and manage field workers. They are primarily responsible for managerial and administrative tasks rather than technical work, although they typically have technical expertise.

Groundskeepers (35.0 FTE): District-based field workers who are primarily responsible for maintaining athletic fields and other district grounds as well as snow removal.

Other Grounds Field Workers (6.0 FTE): Other district-based field workers who have a specific skillset such as a Mechanic or an Irrigation Technician.

Support Staff (1.0 FTE): A secretary that supports either Leadmen or central office administrators in the department.

However, the district invests more resources into each of the three departments than similar districts do.

Building Services – Cost Benchmarking

	Howard County	Like District Median	Multiple	Percentile
Cost Per Square Foot	\$1.78	\$1.03	1.7x	91%
Cost Per Student	\$296	\$189	1.6x	86%

- The district spends 1.7x more per square foot and 1.6x more per student for facilities maintenance services than other similar districts.

Custodial Services – Cost Benchmarking

	Howard County	Like District Median	Multiple	Percentile
Cost Per Square Foot	\$3.03	\$1.87	1.6x	90%
Cost Per Student	\$502	\$283	1.8x	86%

- The district spends 1.6x more per square foot and 1.8x more per student for custodial services than other similar districts.

Grounds Services – Cost Benchmarking

	Howard County	Like District Median	Multiple	Percentile
Cost Per Acre	\$3,159	\$2,199	1.4x	64%

- The district spends 1.4x more per acre for grounds services than other similar districts.

The Facilities Maintenance, Custodial, and Grounds Opportunities Review identifies a short list of high-leverage areas where the district could begin increasing the cost effectiveness in how it provides facilities maintenance, custodial, and grounds services while maintaining the high quality services provided by each department.

OPPORTUNITIES

1. Increase the amount of direct supervision/management while reducing the overall headcount of supervisors and managers.

Leading maintenance and operations departments is a challenging task. The district has invested a significant amount of resources in staff who are intended to primarily manage and supervise maintenance and grounds field workers and custodians to keep the departments running effectively and efficiently. However, the district has invested more resources in office staff than similar districts when controlling for the number of field workers and custodians and despite this larger than average investment, some staff report only limited direct supervision.

District Investment in Office Staff

	Howard County Office Staff FTE	Per 100 Field Workers		
		Howard County*	Like Districts	Multiple
Building Services	17.0	22.7	10.7	2.1X
Custodial Services	8.0	1.9	1.5	1.3X
Grounds Services	10.0	24.4	7.5	3.3X

- Building Services Office Staff include the Manager, Assistant Managers, Other Administrators, Support Staff, and Leadmen
- Custodial Services Office Staff include the Manager, Assistant Managers, Other Administrators, and Support Staff
- Grounds Services Office Staff include the Manager, Assistant Managers, Leadmen, and Support Staff

**The calculation of office staff per 100 field workers in the district does not include the Executive Director of Facilities, Management, and Planning or the Director of Facilities, who are additional central office staff.*

Time Investment in Administrative Tasks

Interviews indicated that the role of the office staff, particularly the Leadmen, varies significantly within and across departments and is largely dependent on individual preferences. For instance, some Building Services and Grounds field workers indicated having frequent correspondence about daily tasks with their Leadman while others reported only communicating with their Leadman if a significant issue arose.

The schedule sharing data indicate that Leadmen spend a significant amount of time on tasks that do not leverage their expertise in their field. For instance, Building Services Leadmen spend about 2.5 days per week doing paperwork or ordering supplies.

Building Services Leadmen (6 FTE) – Activities

Activity	Days Per Week	% of Week
Paperwork or ordering supplies	2.5	50%
Meetings with staff not on their team (e.g., other leadmen or assistant managers)	1.0	21%
Other administrative tasks (e.g., scheduling, prioritizing work orders, following up on completed jobs, etc.)	1.0	19%
Meeting with their team	0.5	7%
All other activities (e.g., personal lunch, travel to/from work sites)	<0.5	<5%

Additionally, Building Services field workers spend nearly one full day per week—14% of their time—on administrative tasks (e.g., paperwork, ordering supplies, prioritizing work orders, etc.), despite the fact that Building Services Leadmen are primarily focused on administrative work as well.

Building Services Field Workers (75 FTE) – Activities

Activity	Days Per Week	% of Week
Completing a job (e.g., planned work order, preventative maintenance, emergency call out, etc.)	3.25	66%
Travel to/from work sites and personal breaks	0.75	15%
Administrative tasks (e.g., ordering supplies, paperwork, planning week, etc.)	0.75	14%
Meeting time	0.25	5%

Similarly, the Grounds Department Leadmen spend about 1.5 days per week on paperwork or ordering supplies, but also spent a similar amount of time removing snow or repairing equipment.

Grounds Leadmen (6 FTE) – Activities

Activity	Days Per Week	% of Week
Paperwork or ordering supplies	1.5	33%
Removing snow or cleaning/maintaining/repairing equipment	1.25	25%
Other administrative tasks (e.g., scheduling, prioritizing work orders, following up on completed jobs, etc.)	1.25	24%
Meetings with staff not on their team (e.g., other leadmen or assistant managers)	0.5	8%
All other activities (e.g., personal lunch, travel to/from work sites, etc.)	0.5	8%
Meeting with their team	<0.5	<5%

During focus groups, Leadmen described their own role as “fairly autonomous,” and “without much oversight” from the Assistant Managers. While Assistant Managers were not included in the schedule sharing, the information provided by the Leadmen suggest that there is not frequent oversight from the Assistant Managers.

Leadmen in both the Building Services and Grounds Departments reported that they spend less than 10% of their time communicating with the Assistant Managers in their department. Similarly, Custodial Supervisors reported meeting with an Assistant Manager an average of 5 minutes per week.

Implications for Current Model

When analyzed together, the focus groups, data analysis, and schedule sharing suggest that although the district has invested more than other districts in management and supervisory staff in the Building Services, Custodial, and Grounds Departments, there are not clear expectations for how these staff should provide support and accountability to the teams they manage. The lack of explicit guidelines, particularly for Leadmen and Assistant Managers, has resulted in office staff—and some field workers—spending significant amounts of time on paperwork rather than on high leverage work, such as thoughtful scheduling or work planning with their teams.

To increase the amount of oversight and support for each department, the district could provide guidelines that streamlined or eliminated internal processes for paperwork and expect supervisory staff to spend more time on high leverage work. With supervisory staff spending less time on paperwork, the district could shift toward staffing levels for office staff that more closely align with like districts while increasing the amount of support and oversight in each department.

Potential Financial Impact

If the district shifted its office staffing levels to align with the median of like districts, the district could free up more than \$1.5 million to reinvest within the departments or in other district priorities.

Alternatively, the district could shift administrative work done by the Building Services field workers wholly to the Leadmen, which could free up as many as 10 FTE for field workers to complete additional jobs or for the district to repurpose toward district priorities.

2. Consider proactive scheduling of lunch coverage and travel time.

Districts often struggle to schedule maintenance and operations staff efficiently, as the demands on their positions, such as snow removal and emergency maintenance, are much more unpredictable than demands on other types of staff. In spite of these challenges, Building Services field workers, Groundskeepers, and Custodians in the Howard County Public School System spend the majority of their time completing jobs or maintaining school buildings rather than in meetings or traveling to jobs. This is commendable.

The schedule sharing data provided insight into two areas where the district could potentially realize even greater efficiencies, particularly through more careful management of the departments' scheduling practices.

2a. Cafeteria Coverage

One of the most significant demands on custodial staff is the cafeteria. Custodial Day Supervisors and Day Custodians spend 38% and 28% of their time, respectively, on cafeteria duty and setting up and breaking down the cafeteria for lunch/breakfast. Some schools, depending on size and context, might require two custodial staff to be on cafeteria duty simultaneously. However, there also might be schools that either have fewer students in each lunch period or have additional lunch aides where one or zero custodial staff are necessary for all lunch periods.

Day Custodial Supervisors (79.0 FTE) – Activities

Activity	Days Per Week	% Time Spent
Cafeteria duty or setting up/breaking down cafeteria for lunch/breakfast	2.0	38%
Other Activities (e.g., personal lunch, outdoor work, unlocking classrooms, etc.)	1.25	26%
Cleaning	1.0	21%
Administrative Tasks	0.5	11%
Meetings	<0.5	<5%
Total		100%

Day Custodians (24.5 FTE) – Activities

Activity	Days Per Week	% Time Spent
Cleaning	3.0	58%
Cafeteria duty or setting up/breaking down cafeteria for lunch/breakfast	1.5	28%
Other Activities (e.g., personal lunch, outdoor work, unlocking classrooms, etc.)	0.5	12%
Administrative Tasks	<0.5	<5%
Meetings	<0.5	<5%
Total		100%

Potential Financial Impact

The district could explore the demand for custodial staff at each school further to determine where multiple custodial staff are needed for cafeteria duty, if at all. The district could potentially recapture some of the 35 FTE, or about \$2 million, currently devoted to setting up, monitoring, and breaking down cafeterias for lunch.

2b. Travel Time

Groundskeepers and Building Services field workers alike are responsible for traveling to more than 80 locations spread across the county, which requires significant travel time. However, Groundskeepers spend nearly twice as much time traveling to and from jobs—18% of their week—as Building Services field staff who spend less than 10% of their week traveling despite covering the same geographic area.

Groundskeepers (35.0 FTE) – Activities

Activity	Days Per Week	% Time Spent
Clean/maintain/repair equipment	1.5	31%
Shoveling or plowing snow	1.5	30%
Travel to/from work site	1.0	18%
Meetings	0.5	8%
Maintaining athletic fields/other district land	0.5	7%
Additional work at location (after completing planned work order)	<0.5	<5%
Administrative Tasks	<0.5	<5%
Total		100%

Building Services Field Workers (75.0 FTE) – Activities

Activity	Days Per Week	% Time Spent
Completing a job (e.g., planned work order, emergency call out, etc.)	3.25	66%
Administrative tasks	0.75	14%
Travel to/from work site	0.5	10%
Meetings	<0.5	5%
Personal lunch or daily breaks	<0.5	<5%
Total		100%

Potential Financial Impact

It is likely that thoughtful scheduling could reduce the amount of travel time for Groundskeepers to a level similar to Building Services field workers, which could free up roughly 3 FTE for Groundskeepers to perform their work or nearly \$200,000 to repurpose for other district priorities.

3. Consider utilizing cross-departmental partnerships to reduce the need for multiple skilled staff when only an “extra set of hands” is required.

Interviews indicated that it is often challenging for Building Services staff to determine how many staff will be required to complete a job from the information contained in a work order submission or an emergency call out. Frequently, jobs require more than one staff member to do the work. In some cases two skilled tradesmen are required, but in other cases all that is required is periodically an extra set of hands to hold a part or hand supplies.

The schedule sharing data show that there is a trend within the Building Services Department of multiple similar staff traveling together when completing jobs. It is very rare that staff travel with someone from a different function (e.g., an HVAC Technician and a Carpenter), but between ¼ and 1/3 of the time a Building Services field worker is on a job, at least one other similar staff member is present.

Building Services Field Workers – Similar Staff Members Present

Type of Staff	Working Without Similar Staff	Working With 1+ Similar Staff
Plumbers/HVAC Technicians	71%	29%
Electricians/Electronics Technicians	67%	33%
Carpenters/Painters	65%	35%

The district could likely reduce the need for skilled Building Services staff to travel together by developing an apprenticeship program, as suggested in the focus groups, or by developing more consistent partnership with the Custodial Department. Although focus groups explained that many Custodial Supervisors and Custodians do not have the skillset of Building Services field workers, it is likely that custodial staff could provide extra support, or “extra hands,” for many Building Services jobs.

Potential Financial Impact

The district could free up some portion of the \$1,000,000 incurred by the second person on the job if it could eliminate instances when Building Services staff are traveling with similar staff (i.e. staff with the same skills).

4. Consider modifying the custodial leave policies to increase the amount of staff who work each day.

The district could benefit from taking steps to reduce custodial absenteeism. The district provides between 10 and 20 annual vacation days to staff depending on tenure, 12 sick days per year, and two personal days, resulting in each staff member having the ability to take between 24 and 34 paid days off of work each year. Last school year, there were, on average, 53 custodial absences each day, or about 12% of custodial staff.

Custodial Staff Absenteeism

	Potential Paid Absences Per Day*	Total Absences (SY 13-14)	Absences Per Day
Paid Leave	69	6,686	38
Unpaid Leave	-	1,360	8
Vacant Positions	-	1,310	7
Total	69	9,356	53

**Based on an estimate that assumes a typical custodial staff member is given 28 days of paid time off per year and 440 staff members from SY 13-14.*

During interviews, multiple groups commented on the frequent absences in the Custodial Department, explaining that they pose challenges to managers such as filling absences on short notice, and to the Custodians who are expected to do more when their peers are absent.

In addition to the challenges it poses to managers and staff, custodial absenteeism is also costly for the district. Of the 53 absences each day, 38 were paid absences, which totaled roughly \$1.8 million paid to staff for days they were not at work. Additionally, the district employs “floater” staff, who do not have a primary location, but fill in for Custodial staff who are absent each day. Last year, the district employed 16 FTE of “floater” staff, totaling about \$750,000.

Annual Cost of Custodial Staff Absenteeism

	Positions	Annual Cost
Average. Absences Per Day, Paid Leave	38	\$1,836,331
Floater Positions Employed	16	\$780,328
Total		\$2,616,659

Despite the district spending more than \$2.5 million to cover absentee custodians, 37 positions, on average, were unfilled due to absences each day last year.

5. Consider refining the process for budgeting non-personnel expenditures to more accurately reflect the likely needs of each department.

While it is difficult to predict emergencies or breakdowns, and thus difficult to predict some contracted services and purchases, the Howard County Public School System has seen rapid increases or variances between budgeted and actual expenditures in some non-personnel line items, especially contracted services and supplies and equipment. This indicates that there might be opportunities for more accurate budgeting processes as a way to free up resources.

5a. Contracted Services

The district has experienced significant variance between the amount budgeted and the amount spent for contracted services, particularly in the Building Services and Grounds Departments. Overall, the district does not spend a significant amount on contracted services for Building Services or Grounds, although each department budgeted amounts that varied significantly from the amount that they actually spent.

2013-14 Budgeted vs. Actual Spending – Contracted Services

	2013-14 (Budgeted)	2013-14 (Actual)	Difference	% Variance
Building Services	\$2,485,057	\$773,040	\$1,712,016	69%
Grounds Services	\$715,277	\$1,066,287	-\$351,010	49%

- The Building Services Department set a budget for contracted services that was 69% less than its actual spending, resulting in a \$1.7 million surplus.
- The Grounds Department, on the other hand, set a budget that was nearly 50% less than actual spending, resulting in a deficit of more than \$300,000.

2013-14 Actual vs. 2014-15 Budgeted Spending – Contracted Services

	2013-14 (Actual)	2014-15 (Budgeted)	Difference	% Growth
Building Services	\$773,040	\$4,065,420	\$3,292,380	426%
Grounds Services	\$1,066,287	\$1,434,200	\$367,913	35%

- The Building Services Department set a contracted services budget for SY 15-16 that was more than 400% greater than its actual spending on contracted services in SY 13-14.
- Similarly, the Grounds Department set a contracted services budget for SY 15-16 that was 35% greater than its actual spending on contracted services last year.

Potential Financial Impact

The district could estimate how much it spends on contractors for emergency jobs each year, even though these are likely difficult to predict expenses, and create a line item for this unpredictable spending. In doing so, if the district can more accurately budget its need for contracted services, it could potentially free up roughly than \$3.5 million, assuming the Building Services and Grounds Departments spend similar amounts on contracted services as they did last year.

5b. Supplies and Equipment, Building and Custodial Services

The district has also experienced significant growth in the Building Services and Custodial budgets for supplies and equipment.

Supplies and Equipment Budgeted Spending, By Year

	2012-13	2013-14	2014-15	% Increase
Building Services	\$1,599,390	\$1,678,905	\$2,199,110	37%
Custodial Services	\$1,075,133	\$1,231,708	\$1,387,820	29%

- Building Services increased its supply budget by nearly 40% in the last three years, and the Custodial Department increased its supply budget by nearly 30% in the same time.
- The district spends 1.4x as much on custodial supplies per square foot as the median of like districts.

Potential Financial Impact

The district could explore whether these supply funds were spent or if any surplus funds remain. Additionally, if the district shifted to spending on custodial supplies at the same rate as the median of like districts, it could free up roughly \$400,000.